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AERODYNAMIC PERFORMANCE OF 0.4066-SCALE MODEL OF JT8D REFAN STAGE

Royce D. Moore, George Kovich, and Edward R. Tysl

Lewis Research Center
Cleveland, Ohio 44135

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16. Abstract

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by Royce D. Moore, George Kovich, and Edward R. Tysl

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SUMMARY

A single-stage fan was designed to replace the two-stage fan currently being used in the JT8D engine. The fan design was constrained by noise related considerations and the desire to minimize the number of engine modifications.

The aerodynamic performance of a 0.4066-scale model of the split flow JT8D refan stage is presented over a range of flows at speeds from 40 to 100 percent of design speed. Radial and circumferential measurements of the flow conditions were made. The bypass stage peak efficiency of 0.800 occurred at a total weight flow of 35.82 kilograms per second and a pressure ratio of 1.679. The stall margin of the fan was 15 percent based on pressure ratio and weight flow at stall and peak efficiency conditions. The data indicated that the hub region of the core stators was choked at design speed over the entire flow range tested.

INTRODUCTION

The National Aeronautics and Space Administration is engaged in a program with the Pratt & Whitney Division of United Technologies Corporation to provide the technology required to significantly reduce the noise level of the JT8D engines while maintaining their aerodynamic performance. These engines are used on the Boeing 727 and 737 aircraft and the McDonnell-Douglas DC-9 aircraft. The new fan stage design was constrained by noise related considerations and the desire to minimize the number of engine modifications. The current two-stage fan was replaced by a single-stage fan to be used with the existing core compressor. Booster stages were also added to the inlet to the core compressor. The fan diameter was increased and the spacing between rotor and stator was also increased. The stage was designed by Pratt and Whitney.

To obtain the detailed aerodynamic performance of the new design, a 0.4066-scale model of the split flow fan stage was built to be tested in the Lewis single-stage

compressor facility. The scaled stage consists of the inlet guide vanes, the rotor, the bypass stator, and the core inlet stator.

This report presents the overall and blade-element performances of the scaled fan stage. The stage was designated "stage 65" for tests in the Lewis facility. Data were obtained at speeds of 40 to 100 percent of design speed. Blade-element survey data were taken at 11 radial positions for the inlet guide vanes and the rotor, at 7 radial positions for the bypass stator, and at 3 radial positions for the core stator. The data presented in this report are in tabular as well as plotted form.

TEST STAGE

Aerodynamic Design

The aerodynamic design of the fan stage was accomplished by the Pratt & Whitney Division of United Technologies Corporation (ref. 1). The overall design parameters for this stage are listed in table I. The flow path for this split flow stage is presented in figure 1. The inlet guide vanes consist of NACA-65-series airfoils. The tip section of the inlet guide vanes turned in the direction of rotor rotation and the hub section turned opposite to the rotative direction. The rotor blades used multiple-circular-arc profiles. The bypass and core stator blades used NACA-65-series airfoils. The blade-element design parameters are presented in tables II to V, and the blade geometries are presented in tables VI to IX. The values of the design parameters shown have been interpolated from those supplied by the contractor to the radial positions used for data measurement. The symbols and equations are defined in appendixes A and B. The definitions and units used for the tabular data are presented in appendix C.

Mechanical Design

The mechanical design of the scale model fan was done under contract by the Boeing Company. The 23 inlet guide vanes (fig. 2) were machined from a single piece of 17 percent chromium - 4 percent copper - precipitation hardened (17-4 ph) steel. The rotor had 34 blades (fig. 3), each machined from titanium - 6-percent aluminum - 4-percent vanadium alloy and mounted in a disk of the same material. The bypass stator blades, the core stator blades (fig. 4(a) and (b)) were also machined from single pieces of 17-4ph steel. An assembly showing the 83 bypass stator blades and the 56 core stator blades separated by the flow splitter is shown in figure 4(c). The rotor had a static tip clearance of 0.076 centimeter, which was calculated to give a running clearance of 0.038 centimeter at design conditions.

APPARATUS AND PROCEDURE

Test Facility

With the exception of the addition of a dual throttle valve in the collector, the test facility is the same as that described in reference 2. A schematic view of the facility is shown in figure 5(a). The drive system consists of an electric motor with a variable frequency speed control. The drive motor is coupled to a 5.521 ratio speed-increase gearbox that drives the test rotor. Atmospheric air enters from a line on the roof of the building and flows through the orifice and into the plenum chamber. The air then passes through the stage and collector throttle valves and exhausts to an altitude exhaust system. The flow and bypass ratio can be controlled by adjusting the collector throttle valves (fig. 5(b)) or by adjusting a remote downstream exhaust valve.

Instrumentation

The total weight flow was determined from measurements on a thin-plate orifice. The orifice temperature was determined from an average of two Chromel-Constantan thermocouple readings. The orifice pressures were measured by calibrated transducers.

Radial surveys of the flow were made ahead of the inlet guide vanes (station 0), between the inlet guide vanes and the rotor (station 1), between the rotor and stator (station 2), and downstream of the bypass stator (station 3, see fig. 1). Fixed rakes were located upstream and downstream of the core stator (stations 5 and 6), and downstream of the bypass stators (station 4). At stations 0, 1, 2, and 3 two combination probes and two static-pressure wedge probes were used. The probes were located approximately 90° apart, with the two like probes located opposite each other (fig. 6). The combination probes at stations 1 and 3 were circumferentially traversed one blade gap counterclockwise from the nominal values shown in figure 6. The combination probes (fig. 7(a)) were used to determine total pressure, total temperature, and flow angle. At stations 0, 1, and 3 two 8° C-shaped wedge probes (fig. 7(b)) were used to determine static pressure. At station 2 two 18° wedge probes (fig. 7(c)) were used to measure static pressure. Each probe had associated null-balancing equipment that automatically alined the probe to the direction of flow. Chromel-Constantan thermocouples were used in the combination probes to determine stream temperature. Calibrated transducers were used to measure all pressures.

At stations 4, 5, and 6 total pressures and temperatures were measured with fixed rakes. At station 4 two five-element radial rakes (fig. 8(a)) located 180° apart were used to measure total pressure and total temperature. The rakes were alined with the axial direction. At station 5 two three-element radial rakes were used to measure total

pressure and two three-element rakes (fig. 8(b)) were used for total temperature. The station 5 rakes were set at an angle of 45° from the axial direction. At station 6 total temperature was determined from a three-element radial rake (fig. 8(c)) set at an angle of 15° from the axial direction. At each radial element radius a nine-element circumferential rake (fig. 8(c)) was used to measure total pressure. Each circumferential rake was set at the design flow angle for that particular radius. The locations of the rakes are shown in figure 6.

At each measuring station static pressure taps were installed on both the inner and outer walls of the casing. These pressure taps were at the same axial location as the probes but were offset in the circumferential direction (fig. 6). The rotative speed of the test rotor was determined by an electronic speed counter. The test data were recorded by a central data recording system.

The estimated errors of the data, based on inherent accuracies of the instrumentation and recording system, are as follows:

Weight flow, kg/sec	±0.3
Rotative speed, rpm	±30
Flow angle, deg	±1.0
Temperature, K	±0.6
Total pressure, N/cm^2, at -	
Station 0	±0.02
Station 1	±0.04
Station 2	±0.10
Station 3	±0.10
Station 4	±0.10
Station 5	±0.10
Station 6	±0.10
Static pressure, N/cm^2, at -	
Station 0	±0.04
Station 1	±0.04
Station 2	±0.07
Station 3	±0.07
Station 4	±0.10
Station 5	±0.10
Station 6	±0.10

A further indication of the consistency of the data can be observed by comparing the integrated flows at each measuring station with the orifice flow in table X.

Test Procedure

The stage survey data were taken over a range of flows at 40, 70, 80, 90, 97, and 100 percent of design speed. For each performance point at a given speed and weight flow, data were recorded at 11 radial positions for station 3. At the first radial positions the data from the fixed rakes at stations 4, 5, and 6 were also recorded. At each radial position the two combination probes at stations 1 and 3 were traversed circumferentially to nine locations between blade midgaps. These locations were selected to define the blade wakes. The wedge probes were set at midgap because preliminary studies showed that the static pressure was constant across the gap. Values of pressure, temperature, and flow angle were recorded at each circumferential location. At the last circumferential location, values of pressure, temperature, and flow angle were also recorded for stations 0 and 2. All probes were then traversed to the next radial position and the circumferential traverse procedure repeated.

It was considered to be impractical to map the fan performance over a large range of bypass ratio. Performance was therefore obtained at values of flow and bypass ratio that were of specific interest from the standpoint of engine application. Using the on-line calculated orifice weight flow and bypass flow calculated from fixed instrumentation at station 4, the desired total weight flow and bypass ratio were set and the survey data were taken.

The weight flow at stall was obtained in the following manner: From a condition near stall, the remote downstream throttle valve was slowly closed in small increments. At each increment the weight flow was obtained. The weight flow obtained just before stall occurred is called the stall weight flow. The pressure ratio at stall was obtained by extrapolating the total pressures obtained from the survey data to the stall weight flow.

Calculation Procedure

All the data shown herein have been corrected to standard-day conditions at the entrance to the inlet guide vanes. The blade-element data have been translated from the measuring stations to the blade edges using the translation procedure described in reference 3.

Because of the physical construction of the 8° wedge, static pressure could not be measured at the 5- and 10-percent locations. Thus, a linear interpolation between the outer-wall static pressure and the value of static pressure at 20-percent span was used to obtain the static pressures at 5- and 10-percent spans.

At each radial survey position the nine circumferential values of pressure, temperature, and flow angle at stations 1 and 3 were mass averaged and the blade-element data are based on these averaged values.

To obtain overall performance, the circumferentially averaged values of pressure and temperature were averaged radially. The bypass ratio is calculated from the orifice weight flow and integrated weight flow at station 3. The inlet guide vane (IGV) and rotor overall performance are based on conditions from tip to hub. The bypass stage pressure ratio and temperature ratio are based on the average IGV inlet pressure and temperature from the outer casing to the design split streamline and corresponding values at the bypass stator outlet. The core stage pressure ratio and temperature ratio are based on the average inlet pressure and temperature from the design split streamline to the inner wall and values at the core stator outlet.

RESULTS AND DISCUSSION

The overall performance for the rotor and the bypass and core stages are presented first. Radial distributions of several performance parameters are then presented for the inlet guide vanes, the rotor, the bypass stator, and the core stator at design speed. Blade-element performance as a function of incidence angle is also presented. All the plotted data, together with some additional performance parameters, are listed in tabular form. The overall performance data are presented in table X. The blade-element data are given for the inlet guide vane, rotor, bypass stator, and core stator in tables XI to XIV, respectively.

Overall Performance

The overall performance for the rotor is presented in figure 9, and for the bypass and core stages, in figures 10 and 11, respectively. The data in these figures are presented for speeds from 40 to 100 percent of design. Design point values are shown as solid symbols on the figures.

The rotor was designed for a pressure ratio of 1.704 and efficiency of 0.861 at a total weight flow of 35.01 kilograms per second. At the near design weight flow of 35.28 kilograms per second, the rotor produces a pressure ratio of 1.807. Considering an operating line passing through the design point, a rotor pressure ratio of 1.741 would be obtained at 35.82 kilograms per second. The efficiency at both conditions was 0.87. Rotor peak efficiency of 0.874 occurred at a total weight flow of 36.07 kilograms per second and a pressure ratio of 1.666.

The bypass stage peak efficiency of 0.800 occurred at a total weight flow of 35.82 kilograms per second (fig. 10). At peak efficiency the pressure ratio was 1.679. This point would correspond to a point on the operating line passing through the design point. Because the efficiency and pressure ratio drop off much more rapidly for the stage than

for the rotor for the maximum flow condition, it is likely that the maximum flow is limited by the stator.

Design speed results were as follows: The stall margin was 15 percent, based on the weight flow and pressure ratio at stall and peak efficiency conditions. The core stage weight flow increased slightly with increasing back pressure (fig. 11). It would appear that the core stator was choked for all weight flows tested. The peak efficiency drops off very rapidly as the speed was increased from 97 to 100 percent of design speed. The pressure ratio of 1.637 was obtained at weight flow of 11.05 kilograms per second. However, the efficiency was only 0.795.

For the design Mach number of 0.89 the hub of the core stator was considered to be near the upper Mach number limit acceptable for a NACA-65 series blade profile. At design speed the measured Mach numbers in the hub section were higher than the design value, and at these excessive Mach numbers the performance deteriorate due to shock losses and possible shock induced separation. For these core stators it appears that such shock related losses may have been responsible for the low efficiency.

The fan has satisfactory performance, and it appears that a good operating line can be established. However, some of the flow conditions were somewhat different than design and this will be discussed in the next sections.

Radial Distributions

The radial distributions of several parameters for 100 percent of design speed are presented in figures 12 to 15. In each figure data are presented for four weight flows. The design values are shown by the solid symbols. Adiabatic efficiency, temperature ratio, pressure ratio, incidence angle, meridional velocity ratio, deviation angle, total-loss parameter, total-loss coefficient, and diffusion factor are presented for the rotor as a function of percent span from the rotor outlet blade tip. For the inlet guide vanes and stators all of these parameters are presented except efficiency, temperature ratio, and pressure ratio. Also for the inlet guide vanes outlet flow angle is presented rather than deviation angle.

Inlet guide vanes. - The meridional velocity ratio is significantly higher than design in the tip region (fig. 12). In the tip section the measured flow angles were less than design values. In the hub section the flow angles were less negative than design. This indicates insufficient turning in both the tip and hub sections of the inlet guide vanes. The inlet guide vanes overturned the flow slightly in the midspan region, as indicated by the flow angles being more positive than design. With the exception of the 5- and 95-percent span locations, the losses are less than design. The inlet guide vane parameters are affected only slightly by weight flow.

Rotor. - As the weight flow was reduced, the pressure ratio increased substantially in the bypass portion of the rotor (fig. 13). In the core portion pressure ratio increased slightly with decreasing weight flow except at 80 percent span. At that position pressure ratio decreased with decreasing weight flow. The effect of the splitter was experienced downstream of the rotor as evidenced by the decrease in meridional velocity ratio and increase in diffusion factor at the 60 percent span location. The increase in losses and decrease in efficiency at the 35-percent span location is attributed to the vibration damper. The increased loss level experienced was not included in design efficiency and loss distribution. The deviation angles are less than design values except in the splitter and hub regions.

At the near-design weight flow of 35.28 kilograms per second, the lower than design incidence angles in the hub region were a result of the inlet guide vane underturning. In the tip region the inlet guide vane underturning would have resulted in higher than design incidence angles. However, the high meridional velocity ratio through the inlet guide vanes was sufficient to result in a lower than design incidence angle for the rotor.

At the flow of 35.82 kilograms per second, which approximated an operating line, the radial distribution of total pressure ratio was approximately equal to design except at the 5 and 80 percent span locations. The diffusion factor for this weight flow was also equal to design except in the regions of the damper (35 percent span) and splitter (60 percent span) and at the hub. The diffusion factor is probably high at the splitter because the measurement was taken rather close to the splitter. The losses in the core flow portion of the rotor match design values. The losses in the tip region are significantly lower than design values.

Bypass stators. - The radial distribution of performance for the bypass stator blades is presented in figure 14. The radial distribution of velocity ratio is different from design, and it also varies with weight flow. In the tip region velocity ratio increases with decreasing flow, and in the splitter region it decreases with decreasing flow. For the stage peak efficiency (35.82 kg/sec) the bypass stator losses were the lowest at all radial positions. However, in the region between the dampers and splitter, losses were significantly higher than design values. The radial distribution of diffusion factor is much flatter than design with the tip values less than design and the hub values greater than design. Deviation angles were slightly less than design for all radial positions.

Core stators. - Although the diffusion factor was much lower than design, the core stator losses were significantly greater than design (fig. 15). The gradient of velocity ratio was much steeper than design. Higher than design velocity ratios were measured in the region near the splitter, and near design values were measured at the hub. No measured deviation angles are presented because flow angles were not measured downstream of the core stators.

Variations with Incidence Angle

The variations of selected blade-element parameters with suction surface incidence angle are presented in figures 16, 17, and 18 for the rotor, bypass stators, and core stators, respectively. For the rotor the data are presented for 70, 90, and 100 percent of design speed for blade-element locations of 5.0, 10.0, 20.0, 30.0, 40.0, 50.0, 60.0, 64.0, 80.0, and 95.0 percent of span from the blade tip. For the bypass stator blade-element data are presented at the first six radial positions only; and for the core stator data are presented for the last three radial positions. In addition to all the parameters that were shown in the radial distribution plots, inlet relative Mach number is also presented. Design values are shown by the solid symbols.

Rotor. - At design speed the lowest measured loss and highest element efficiency occurred at a suction surface incidence angles less than design. The absolute value of loss was also less than design values except in the region of the dampers (30 and 40 percent span locations). With the exception of the damper and hub region, the rotor was operating at the lowest loss at the maximum flow condition; at the hub (95 percent span) the losses were highest at maximum flow. At the 40 percent span location the minimum loss condition was achieved at the midflow condition.

Bypass stators. - A minimum loss was defined at each radial position measured. At the 5, 30, and 50 percent span locations the minimum loss occurred at the design incidence angle. At 10 and 20 percent span minimum loss occurred at an incidence angle less than design; whereas at 40 percent span it occurred at incidence angle greater than design. The minimum losses were greater than design except at the 10 and 20 percent span locations. The sharp rise in losses in the tip region of the bypass stator at the lower incidence angle coupled with the decrease in losses with lower incidence angle in the rotor-tip region indicates that the bypass stator was the limiting factor in the maximum flow attainable by the bypass stage.

Core stator. - At the 80 and 95 percent span locations the core stator incidence angles remained essentially unchanged over the complete fan flow range. This indicates that the blade passages at these radial positions were choked over the whole range of flows. At the 64 percent span location the stator did have some range. At the 80 percent span location the stator choked at a higher than design incidence angle, and at the 95 percent span it choked at a lower than design incidence angle. For all three span locations the losses are greater than design.

SUMMARY OF RESULTS

The overall and blade-element performances of the scale model of the split flow JT8D refan stage are presented. Radial and circumferential measurements were made

ahead of the inlet guide vanes, ahead of and behind the rotor, and downstream of both core and bypass stators. Data were taken over the stable operating range of the fan stage at speeds from 40 to 100 percent of design speed. Flow and performance parameters were calculated across 11 blade elements. The following principal results were obtained from this investigation:

1. The fan has satisfactory performance, and it appears that a good operating line can be established.

2. A bypass stage peak efficiency of 0.800 occurred at a total weight flow of 35.82 kilograms per second and a pressure ratio of 1.679. This compares with design values of 0.815, 35.01 kilograms per second, and 1.672, respectively.

3. The hub region of the core stators was choked over the entire flow range tested at design speed.

4. Stall margin for this stage at design speed was 15 percent, based on the weight flow and pressure ratio at the stall and peak efficiency conditions.

5. The rotor peak efficiency of 0.874 occurred at a total weight flow of 36.07 kilograms per second and a pressure ratio of 1.666.

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505-04.

APPENDIX A

SYMBOLS

A_{an} annulus area at rotor leading edge, m^2

A_f frontal area at rotor leading edge, m^2

C_p specific heat at constant pressure, 1004 J/(kg)(K)

D diffusion factor

i_{mc} mean incidence angle, angle between inlet air direction and line tangent to blade mean camber line at leading edge, deg

i_{ss} suction-surface incidence angle, angle between inlet air direction and line tangent to blade suction at leading edge, deg

N rotative speed, rpm

P total pressure, N/cm^2

p static pressure, N/cm^2

r radius, cm

SM stall margin

T total temperature, K

U wheel speed, m/sec

V air velocity, m/sec

W weight flow, kg/sec

Z axial distance referenced from rotor blade hub leading edge, cm

α_c cone angle, deg

α_s slope of streamline, deg

β air angle, angle between air velocity and axial direction, deg

β'_c relative meridional air angle based on cone angle, arctan (tan β'_m cos α_c/cos α_s), deg

γ ratio of specific heats (1.40)

δ ratio of rotor-inlet total pressure to standard pressure of 10.13 N/cm^2

δ^o deviation angle, angle between exit air direction and tangent to blade mean camber line at trailing edge, deg

θ ratio of rotor inlet total temperature to standard temperature of 288.2 K

η efficiency

κ_{mc} angle between blade mean camber line and meridional plane, deg

κ_{ss} angle between blade suction-surface camber line at leading edge and meridional plane, deg

σ solidity, ratio of chord to spacing

$\bar{\omega}$ total loss coefficient

$\bar{\omega}_p$ profile loss coefficient

$\bar{\omega}_s$ shock loss coefficient

Subscripts:

ad adiabatic (temperature rise)

id ideal

LE blade leading edge

m meridional direction

mom momentum rise

p polytropic

TE blade trailing edge

z axial direction

θ tangential direction

Superscripts:

' relative to blade

APPENDIX B

EQUATIONS

Suction-surface incidence angle -

$$i_{ss} = \left(\beta'_c\right)_{LE} - \kappa_{ss} \tag{B1}$$

Mean incidence angle -

$$i_{mc} = \left(\beta'_c\right)_{LE} - \left(\kappa_{mc}\right)_{LE} \tag{B2}$$

Deviation angle -

$$\delta^O = \left(\beta'_c\right)_{TE} - \left(\kappa_{mc}\right)_{TE} \tag{B3}$$

Diffusion factor -

$$D = 1 - \frac{V'_{TE}}{V'_{LE}} + \left| \frac{\left(rV_\theta\right)_{TE} - \left(rV_\theta\right)_{LE}}{(r_{TE} + r_{LE})\sigma(V'_{LE})} \right| \tag{B4}$$

Total loss coefficient -

$$\overline{\omega} = \frac{\left(P'_{id}\right)_{TE} - P'_{TE}}{P'_{LE} - p_{LE}} \tag{B5}$$

Profile loss coefficient -

$$\overline{\omega}_p = \overline{\omega} - \overline{\omega}_s \tag{B6}$$

Total loss parameter -

$$\frac{\overline{\omega} \cos \left(\beta'_m\right)_{TE}}{2\sigma} \tag{B7}$$

Profile loss parameter -

$$\frac{\overline{\omega}_p \cos\left(\beta'_m\right)_{TE}}{2\sigma} \tag{B8}$$

Adiabatic (temperature rise) efficiency -

$$\eta_{ad} = \frac{\left(\frac{P_{TE}}{P_{LE}}\right)^{(\gamma-1)/\gamma} - 1}{\frac{T_{TE}}{T_{LE}} - 1} \tag{B9}$$

Momentum-rise efficiency -

$$\eta_{mom} = \frac{\left(\frac{P_{TE}}{P_{LE}}\right)^{(\gamma-1)/\gamma} - 1}{\frac{\left(UV_\theta\right)_{TE} - \left(UV_\theta\right)_{LE}}{T_{LE} C_p}} \tag{B10}$$

Equivalent weight flow -

$$\frac{W\sqrt{\theta}}{\delta} \tag{B11}$$

Equivalent rotative speed -

$$\frac{N}{\sqrt{\theta}} \tag{B12}$$

Weight flow per unit annulus area -

$$\frac{\left(\frac{W\sqrt{\theta}}{\delta}\right)}{A_{an}} \tag{B13}$$

Weight flow per unit frontal area -

$$\frac{\left(\frac{W\sqrt{\theta}}{\delta}\right)}{A_f} \tag{B14}$$

Head-rise coefficient -

$$\frac{C_p T_{LE}}{U_{tip}^2}\left[\left(\frac{P_{TE}}{P_{LE}}\right)^{(\gamma-1)/\gamma} - 1\right] \tag{B15}$$

Flow coefficient -

$$\left(\frac{V_z}{U_{tip}}\right)_{LE} \tag{B16}$$

Stall margin -

$$SM = \left[\frac{\left(\frac{P_{TE}}{P_{LE}}\right)_{stall}}{\left(\frac{P_{TE}}{P_{LE}}\right)_{ref}} \times \frac{\left(\frac{W\sqrt{\theta}}{\delta}\right)_{ref}}{\left(\frac{W\sqrt{\theta}}{\delta}\right)_{stall}} - 1\right] \times 100 \tag{B17}$$

Polytropic efficiency -

$$\eta_p = \frac{\ln\left(\frac{P_{TE}}{P_{LE}}\right)^{(\gamma-1)/\gamma}}{\ln\left(\frac{T_{TE}}{T_{LE}}\right)} \tag{B18}$$

APPENDIX C

DEFINITIONS AND UNITS USED IN TABLES

ABS	absolute
AERO CHORD	aerodynamic chord, cm
AREA RATIO	ratio of actual flow area to critical area (where local Mach number is one)
BETAM	meridional air angle, deg
CONE ANGLE	angle between axial direction and conical surface representing blade element, deg
DELTA INC	difference between mean camber blade angle and suction-surface blade angle at leading edge, deg
DEV	deviation angle (defined by eq. (B3)), deg
D-FACT	diffusion factor (defined by eq. (B4))
EFF	adiabatic efficiency (defined by eq. (B9))
IN	inlet (leading edge of blade)
INCIDENCE	incidence angle (suction surface defined by eq. (B1) and mean defined by eq. (B2)), deg
KIC	angle between the blade mean camber line at the leading edge and the meridional plane, deg
KOC	angle between the blade mean camber line at the trailing edge and the meridional plane, deg
KTC	angle between the blade mean camber line at the transition point and the meridional plane, deg
LOSS COEFF	loss coefficient (total defined by eq. (B5) and profile defined by eq. (B6))
LOSS PARAM	loss parameter (total defined by eq. (B7) and profile defined by eq. (B8))
MERID	meridional
MERID VEL R	meridional velocity ratio
OUT	outlet (trailing edge of blade)
PERCENT SPAN	percent of blade span from tip at rotor outlet

PHISS	suction-surface camber ahead of assumed shock location, deg
PRESS	pressure, N/cm^2
PROF	profile
RADII	radius, cm
REL	relative to blade
RI	inlet radius (leading edge of blade), cm
RO	outlet radius (trailing edge of blade), cm
RP	radial position
RPM	equivalent rotative speed, rpm
SETTING ANGLE	angle between aerodynamic chord and meriodional plane, deg
SOLIDITY	ratio of aerodynamic chord to blade spacing
SPEED	speed, m/sec
SS	suction surface
STREAMLINE SLOPE	slope of streamline, deg
TANG	tangential
TEMP	temperature, K
TI	thickness of blade at leading edge, cm
TM	thickness of blade at maximum thickness, cm
TO	thickness of blade at trailing edge, cm
TOT	total
TOTAL CAMBER	difference between inlet and outlet blade mean camber lines, deg
VEL	velocity, m/sec
WT FLOW	equivalent weight flow, kg/sec
X FACTOR	ratio of suction-surface camber ahead of assumed shock location of multiple-circular-arc blade section to that of double-circular-arc blade section
ZIC	axial distance to blade leading edge from inlet, cm
ZMC	axial distance to blade maximum thickness point from inlet, cm
ZOC	axial distance to blade trailing edge from inlet, cm
ZTC	axial distance to transition point from inlet, cm

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TABLE I. - DESIGN OVERALL PARAMETERS

FOR STAGE 65

IGV total pressure ratio	0.992
Rotor total pressure ratio	1.704
BP stator total pressure ratio	0.984
Core stator total pressure ratio	0.980
Rotor total temperature ratio	1.191
Rotor adiabatic efficiency	0.861
Rotor polytropic efficiency	0.871
Rotor head-rise coefficient	0.200
Rotor flow coefficient	0.428
Weight flow per unit frontal area	166.56
Weight flow per unit annulus area	185.48
Weight flow	35.01
Bypass ratio	2.032
Bypass stage total pressure ratio	1.672
Core stage total pressure ratio	1.642
Bypass stage total temperature ratio	1.194
Core stage total temperature ratio	1.178
Bypass stage adiabatic efficiency	0.815
Core stage adiabatic efficiency	0.855
Bypass stage polytropic efficiency	0.828
Core stage polytropic efficiency	0.865
Rotative speed	18322.7
Tip speed	487.5

TABLE II. - DESIGN BLADE-ELEMENT PARAMETERS FOR INLET GUIDE VANE 65

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
TIP	25.870	25.870	-0.	10.0	-0.	10.0	288.2	1.000	10.13	0.982
1	25.246	25.258	0.	9.3	0.	9.3	288.2	1.000	10.13	0.985
2	24.566	24.554	-0.	8.5	-0.	8.5	288.2	1.000	10.13	0.988
3	23.045	22.931	-0.	6.8	-0.	6.8	288.2	1.000	10.13	0.992
4	21.421	21.465	-0.	5.0	-0.	5.0	288.2	1.000	10.13	0.995
5	20.585	20.630	-0.	4.0	-0.	4.0	288.2	1.000	10.13	0.995
6	19.744	19.800	-0.	3.1	-0.	3.1	288.2	1.000	10.13	0.996
7	18.045	18.128	-0.	1.2	-0.	1.2	288.2	1.000	10.13	0.995
8	16.328	16.437	-0.	-0.7	-0.	-0.7	288.2	1.000	10.13	0.995
9	15.632	15.752	-0.	-1.5	-0.	-1.5	288.2	1.000	10.13	0.995
10	12.686	12.843	-0.	-6.2	-0.	-6.2	288.2	1.000	10.13	0.994
11	9.445	9.536	-0.	-16.1	-0.	-16.1	288.2	1.000	10.13	0.989
HUB	8.263	8.263	-0.	-20.0	-0.	-20.0	288.2	1.000	10.13	0.984

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
TIP	172.3	178.4	172.3	178.4	172.3	175.6	-0.	31.0	0.	0.
1	172.8	179.5	172.8	179.5	172.8	177.2	0.	29.0	0.	0.
2	173.3	180.6	173.3	180.6	173.3	178.6	-0.	26.7	0.	0.
3	174.4	182.0	174.4	182.0	174.4	180.7	-0.	21.5	0.	0.
4	175.3	182.5	175.3	182.5	175.3	181.8	-0.	15.8	0.	0.
5	175.5	182.4	175.5	182.4	175.5	181.9	-0.	12.9	0.	0.
6	175.6	182.1	175.6	182.1	175.6	181.8	-0.	9.9	0.	0.
7	175.5	181.1	175.5	181.1	175.5	181.0	-0.	3.8	0.	0.
8	175.0	179.5	175.0	179.5	175.0	179.5	-0.	-2.2	0.	0.
9	174.6	179.0	174.6	179.0	174.6	178.9	-0.	-4.7	0.	0.
10	172.5	175.7	172.5	175.7	172.5	174.7	-0.	-18.9	0.	0.
11	171.3	168.6	171.3	168.6	171.3	162.0	-0.	-46.9	0.	0.
HUB	172.0	165.1	172.0	165.1	172.0	155.2	-0.	-56.5	0.	0.

	ABS MACH NO		REL MACH NO		MERID MACH NO		STREAMLINE SLOPE		MERID
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	VEL R
TIP	0.520	0.539	0.520	0.539	0.520	0.531	0.31	-1.15	1.019
1	0.521	0.543	0.521	0.543	0.521	0.536	0.23	-1.47	1.025
2	0.523	0.546	0.523	0.546	0.523	0.540	0.16	-1.71	1.031
3	0.527	0.551	0.527	0.551	0.527	0.547	0.08	-1.75	1.036
4	0.529	0.553	0.529	0.553	0.529	0.551	0.08	-1.48	1.038
5	0.530	0.552	0.530	0.552	0.530	0.551	0.12	-1.28	1.037
6	0.530	0.551	0.530	0.551	0.530	0.550	0.16	-1.05	1.036
7	0.530	0.548	0.530	0.548	0.530	0.548	0.28	-0.52	1.031
8	0.529	0.543	0.529	0.543	0.529	0.543	0.38	0.13	1.026
9	0.527	0.541	0.527	0.541	0.527	0.541	0.44	0.39	1.025
10	0.521	0.531	0.521	0.531	0.521	0.528	0.72	1.27	1.013
11	0.517	0.508	0.517	0.508	0.517	0.488	0.54	0.76	0.946
HUB	0.519	0.497	0.519	0.497	0.519	0.467	0.12	-0.44	0.902

	PERCENT	INCIDENCE	DEV	D-FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN				TOT	PROF	TOT	PROF
TIP	0.	12.0	-3.0	0.102	0.	0.107	0.107	0.080	0.080
1	5.00	11.0	-2.8	0.086	0.	0.090	0.090	0.066	0.066
2	10.00	9.8	-2.6	0.070	0.	0.073	0.073	0.052	0.052
3	20.00	6.6	-1.7	0.040	0.	0.045	0.045	0.030	0.030
4	30.00	4.6	-1.1	0.016	0.	0.028	0.028	0.018	0.018
5	35.00	3.6	-0.9	0.005	0.	0.026	0.026	0.016	0.016
6	40.00	2.6	-0.8	-0.004	0.	0.025	0.025	0.015	0.015
7	50.00	0.9	-0.3	-0.020	0.	0.026	0.026	0.014	0.014
8	60.00	-0.4	0.3	-0.020	0.	0.027	0.027	0.013	0.013
9	64.00	-0.8	0.4	-0.013	0.	0.028	0.028	0.013	0.013
10	80.00	-3.1	0.0	0.024	0.	0.033	0.033	0.013	0.013
11	95.00	-6.8	0.7	0.094	0.	0.069	0.069	0.019	0.019
HUB	100.00	-7.9	-0.1	0.122	0.	0.095	0.095	0.022	0.022

TABLE III. - DESIGN BLADE-ELEMENT PARAMETERS FOR ROTOR 65

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
TIP	25.405	25.029	9.4	55.3	67.3	69.4	288.2	1.227	9.95	1.674
1	24.797	24.334	8.7	51.0	66.5	65.8	288.2	1.220	9.98	1.700
2	24.142	23.640	7.8	47.9	65.7	62.9	288.2	1.213	10.01	1.717
3	22.707	22.250	6.1	44.6	63.6	58.9	288.2	1.202	10.05	1.729
4	21.218	20.861	4.3	43.4	61.5	55.7	288.2	1.195	10.08	1.725
5	20.461	20.166	3.4	43.3	60.5	54.2	288.2	1.192	10.09	1.719
6	19.704	19.472	2.6	43.2	59.5	52.6	288.2	1.188	10.09	1.712
7	18.192	18.082	1.0	43.3	57.7	49.0	288.2	1.182	10.08	1.698
8	16.693	16.693	-0.6	43.9	55.9	44.5	288.2	1.177	10.08	1.687
9	16.092	16.137	-1.2	43.8	55.1	41.8	288.2	1.176	10.08	1.684
10	13.595	13.914	-4.7	42.6	51.8	27.4	288.2	1.174	10.08	1.676
11	10.894	11.830	-11.3	43.6	50.7	7.6	288.2	1.186	10.02	1.711
HUB	9.898	11.135	-13.6	46.4	50.6	-2.7	288.2	1.197	9.97	1.749

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
TIP	193.3	205.8	494.2	332.4	190.7	117.2	31.5	169.2	487.5	480.2
1	195.9	214.3	486.5	329.3	193.7	134.9	29.5	166.5	475.8	466.9
2	199.0	220.9	478.6	325.3	197.2	148.0	27.2	163.9	463.2	453.6
3	207.0	226.6	462.2	312.7	205.8	161.3	21.8	159.1	435.7	426.9
4	213.3	228.6	445.2	294.3	212.7	165.9	16.0	157.2	407.1	400.3
5	215.4	228.5	436.3	283.9	215.0	166.2	13.0	156.8	392.6	386.9
6	216.9	228.3	427.2	273.6	216.7	166.3	9.9	156.4	378.1	373.6
7	218.4	227.9	408.5	252.6	218.4	165.8	3.8	156.4	349.1	347.0
8	218.5	228.4	389.5	230.8	218.5	164.6	-2.2	158.4	320.3	320.3
9	219.0	231.3	382.2	224.1	219.0	167.0	-4.6	160.1	308.8	309.6
10	219.8	252.4	354.5	209.3	219.1	185.9	-17.8	170.8	260.9	267.0
11	208.7	288.7	323.1	210.8	204.6	208.9	-41.0	199.2	209.0	227.0
HUB	200.7	309.0	307.1	213.2	195.1	212.9	-47.3	223.9	189.9	213.7

	ABS MACH NO		REL MACH NO		MERID MACH NO		STREAMLINE SLOPE		MERID PEAK SS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO
TIP	0.587	0.563	1.502	0.909	0.580	0.321	-8.87	-6.66	0.615	1.484
1	0.596	0.590	1.480	0.906	0.589	0.371	-9.46	-7.28	0.697	1.513
2	0.606	0.611	1.457	0.900	0.600	0.409	-9.48	-7.29	0.751	1.536
3	0.632	0.631	1.412	0.871	0.629	0.449	-7.61	-5.65	0.784	1.568
4	0.653	0.639	1.363	0.823	0.651	0.464	-5.14	-3.35	0.780	1.666
5	0.660	0.640	1.337	0.795	0.659	0.466	-3.97	-2.14	0.773	1.691
6	0.665	0.640	1.310	0.767	0.664	0.467	-2.89	-0.90	0.768	1.677
7	0.670	0.641	1.253	0.710	0.670	0.466	-0.80	1.05	0.759	1.589
8	0.670	0.644	1.195	0.651	0.670	0.464	1.56	1.35	0.753	1.486
9	0.672	0.653	1.173	0.633	0.672	0.471	2.64	1.18	0.762	1.483
10	0.675	0.719	1.088	0.596	0.673	0.530	7.52	3.49	0.849	1.549
11	0.638	0.831	0.987	0.607	0.625	0.601	16.04	10.56	1.021	1.601
HUB	0.612	0.894	0.936	0.617	0.594	0.616	20.33	13.66	1.091	1.524

	PERCENT	INCIDENCE		DEV	D-FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
TIP	0.	2.6	1.0	9.3	0.436	0.697	0.244	0.150	0.034	0.021
1	5.00	4.1	2.2	6.7	0.433	0.743	0.205	0.109	0.033	0.018
2	10.00	5.1	2.9	5.1	0.430	0.782	0.173	0.075	0.031	0.013
3	20.00	5.3	2.5	4.1	0.432	0.839	0.128	0.031	0.024	0.006
4	30.00	5.5	1.9	4.4	0.457	0.866	0.108	-0.004	0.023	-0.001
5	35.00	5.6	1.6	4.6	0.471	0.873	0.104	-0.010	0.023	-0.002
6	40.00	5.7	1.4	4.9	0.485	0.881	0.099	-0.007	0.022	-0.002
7	50.00	5.7	0.9	5.9	0.514	0.896	0.088	0.012	0.021	0.003
8	60.00	5.5	0.3	7.3	0.547	0.910	0.080	0.031	0.019	0.008
9	64.00	5.4	-0.1	7.8	0.556	0.913	0.078	0.033	0.019	0.008
10	80.00	5.0	-1.8	10.1	0.564	0.914	0.086	0.040	0.022	0.010
11	95.00	6.2	-1.4	11.9	0.533	0.891	0.132	0.090	0.032	0.022
HUB	100.00	7.3	-0.4	11.7	0.511	0.878	0.167	0.143	0.037	0.032

TABLE IV. - DESIGN BLADE-ELEMENT PARAMETERS FOR BYPASS STATOR 65

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
TIP	24.610	24.130	53.4	10.1	53.4	10.1	353.7	1.000	16.66	0.964
1	24.005	23.627	48.4	2.1	48.4	2.1	351.6	1.000	16.96	0.971
2	23.397	23.111	44.7	-2.0	44.7	-2.0	349.7	1.000	17.18	0.978
3	22.174	22.044	40.3	-1.6	40.3	-1.6	346.3	1.000	17.38	0.990
4	20.968	20.976	38.3	-1.3	38.3	-1.3	344.3	1.000	17.39	0.992
5	20.367	20.445	37.8	-1.2	37.8	-1.2	343.4	1.000	17.33	0.992
6	19.770	19.917	37.3	-1.2	37.3	-1.2	342.4	1.000	17.26	0.992
7	18.592	18.885	36.8	-0.8	36.8	-0.8	340.6	1.000	17.12	0.983
HUB	17.429	17.866	36.8	3.3	36.8	3.3	339.2	1.000	17.02	0.958

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
TIP	213.5	169.0	213.5	169.0	127.2	166.4	171.5	29.5	0.	0.
1	225.3	180.1	225.3	180.1	149.6	179.9	168.5	6.6	0.	0.
2	235.2	190.9	235.2	190.9	167.1	190.8	165.5	-6.7	0.	0.
3	246.6	204.2	246.6	204.2	187.9	204.1	159.6	-5.6	0.	0.
4	252.5	210.1	252.5	210.1	198.1	210.1	156.7	-4.7	0.	0.
5	253.6	212.2	253.6	212.2	200.5	212.1	155.4	-4.3	0.	0.
6	254.0	214.4	254.0	214.4	202.1	214.3	154.0	-4.4	0.	0.
7	253.8	217.7	253.8	217.7	203.3	217.7	152.0	-2.9	0.	0.
HUB	253.1	220.0	253.1	220.0	202.7	219.6	151.6	12.6	0.	0.

	ABS MACH NO		REL MACH NO		MERID MACH NO		STREAMLINE SLOPE		MERID
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	VEL R
TIP	0.585	0.458	0.585	0.458	0.349	0.451	-7.95	-8.86	1.309
1	0.622	0.491	0.622	0.491	0.413	0.490	-5.65	-7.23	1.203
2	0.654	0.523	0.654	0.523	0.465	0.523	-3.74	-5.83	1.142
3	0.692	0.565	0.692	0.565	0.528	0.565	-0.98	-3.78	1.086
4	0.713	0.584	0.713	0.584	0.559	0.584	1.34	-2.15	1.061
5	0.717	0.591	0.717	0.591	0.567	0.591	2.46	-1.42	1.058
6	0.720	0.598	0.720	0.598	0.572	0.598	3.59	-0.74	1.061
7	0.721	0.610	0.721	0.610	0.577	0.610	5.86	0.48	1.071
HUB	0.721	0.618	0.721	0.618	0.577	0.617	7.81	1.36	1.083

	PERCENT	INCIDENCE		DEV	D-FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
TIP	0.	-9.8	-14.0	25.2	0.392	0.	0.175	0.175	0.055	0.055
1	5.00	-6.7	-11.0	18.7	0.394	0.	0.127	0.127	0.039	0.039
2	10.00	-4.0	-8.5	12.3	0.382	0.	0.089	0.089	0.026	0.026
3	20.00	-0.9	-5.5	5.5	0.343	0.	0.037	0.037	0.010	0.010
4	30.00	0.4	-4.2	8.6	0.323	0.	0.028	0.028	0.008	0.008
5	35.00	0.8	-3.9	8.3	0.312	0.	0.027	0.027	0.006	0.006
6	40.00	1.1	-3.6	7.9	0.299	0.	0.028	0.028	0.006	0.006
7	50.00	1.2	-3.5	7.9	0.273	0.	0.060	0.060	0.014	0.014
HUB	60.00	0.8	-3.8	11.9	0.240	0.	0.144	0.144	0.031	0.031

TABLE V. - DESIGN BLADE-ELEMENT PARAMETERS FOR CORE STATOR 65

RP	RADII IN	RADII OUT	ABS BETAM IN	ABS BETAM OUT	REL BETAM IN	REL BETAM OUT	TOTAL TEMP IN	TOTAL TEMP RATIO	TOTAL PRESS IN	TOTAL PRESS RATIO
TIP	16.530	16.274	41.7	22.3	41.7	22.3	339.2	1.000	17.02	0.963
9	16.037	15.772	41.2	18.8	41.2	18.8	338.7	1.000	16.98	0.975
10	14.030	13.832	39.6	15.1	39.6	15.1	338.3	1.000	16.89	0.991
11	12.184	12.033	39.3	10.3	39.3	10.3	341.7	1.000	17.13	0.961
HUB	11.600	11.466	41.5	12.2	41.5	12.2	345.0	1.000	17.44	0.952

RP	ABS VEL IN	ABS VEL OUT	REL VEL IN	REL VEL OUT	MERID VEL IN	MERID VEL OUT	TANG VEL IN	TANG VEL OUT	WHEEL SPEED IN	WHEEL SPEED OUT
TIP	240.3	176.5	240.3	176.5	179.4	163.3	159.9	67.0	0.	0.
9	244.7	184.4	244.2	184.4	183.7	174.8	160.9	59.4	0.	0.
10	266.5	201.4	266.5	201.4	205.2	194.5	170.1	52.4	0.	0.
11	305.5	208.8	305.5	208.8	236.3	205.4	193.5	37.3	0.	0.
HUB	326.5	218.5	326.5	218.5	244.4	213.5	216.4	46.1	0.	0.

RP	ABS MACH NO IN	ABS MACH NO OUT	REL MACH NO IN	REL MACH NO OUT	MERID MACH NO IN	MERID MACH NO OUT	STREAMLINE SLOPE IN	STREAMLINE SLOPE OUT	MERID VEL R
TIP	0.680	0.489	0.680	0.489	0.508	0.453	-4.79	-8.08	0.910
9	0.694	0.513	0.693	0.513	0.521	0.485	-4.84	-7.80	0.950
10	0.764	0.563	0.764	0.563	0.588	0.544	-1.92	-6.55	0.948
11	0.887	0.582	0.887	0.582	0.686	0.573	0.86	-6.16	0.869
HUB	0.953	0.608	0.953	0.608	0.714	0.594	1.92	-6.11	0.874

RP	PERCENT SPAN	INCIDENCE MEAN	INCIDENCE SS	DEV	D-FACT	EFF	LOSS COEFF TOT	LOSS COEFF PROF	LOSS PARAM TOT	LOSS PARAM PROF
TIP	60.00	-7.7	-12.4	14.5	0.354	0.	0.140	0.140	0.048	0.048
9	64.00	-5.5	-10.2	9.5	0.381	0.	0.090	0.090	0.030	0.030
10	80.00	0.2	-4.6	6.0	0.374	0.	0.028	0.028	0.009	0.009
11	95.00	1.4	-3.3	9.1	0.447	0.	0.098	0.098	0.026	0.026
HUB	100.00	8.1	3.5	14.2	0.465	0.	0.109	0.109	0.028	0.028

TABLE VI. - BLADE GEOMETRY FOR INLET GUIDE VANE 65

RP	PERCENT SPAN	RADII RI	RADII RO	BLADE ANGLES KIC	BLADE ANGLES KOC	DELTA INC	CONE ANGLE
TIP	0.	25.870	25.870	-12.00	13.00	-0.	0.057
1	5.	25.246	25.258	-11.01	12.13	0.	0.151
2	10.	24.566	24.554	-9.76	11.09	-0.	-0.146
3	20.	23.045	22.931	-6.61	8.53	-0.	-1.453
4	30.	21.421	21.465	-4.61	6.11	-0.	0.557
5	35.	20.585	20.630	-3.58	4.99	-0.	0.567
6	40.	19.744	19.800	-2.63	3.86	-0.	0.701
7	50.	18.045	18.128	-0.95	1.53	-0.	1.044
8	60.	16.328	16.437	0.40	-1.06	-0.	1.376
9	64.	15.632	15.752	0.81	-1.85	-0.	1.505
10	80.	12.686	12.843	3.05	-6.22	-0.	2.014
11	95.	9.445	9.536	6.75	-16.79	-0.	1.164
HUB	100.	8.263	8.263	7.90	-19.90	-0.	0.057

RP	BLADE THICKNESSES TI	BLADE THICKNESSES TM	BLADE THICKNESSES TO	AXIAL DIMENSIONS ZIC	AXIAL DIMENSIONS ZMC	AXIAL DIMENSIONS ZOC
TIP	0.102	0.325	0.168	-13.254	-11.697	-8.759
1	0.102	0.325	0.127	-13.257	-11.697	-8.754
2	0.102	0.325	0.100	-13.260	-11.697	-8.749
3	0.102	0.325	0.102	-13.265	-11.697	-8.739
4	0.102	0.325	0.102	-13.266	-11.697	-8.732
5	0.102	0.325	0.102	-13.269	-11.696	-8.730
6	0.102	0.325	0.102	-13.270	-11.696	-8.729
7	0.102	0.325	0.102	-13.273	-11.698	-8.727
8	0.102	0.325	0.102	-13.272	-11.697	-8.726
9	0.102	0.325	0.102	-13.272	-11.697	-8.726
10	0.102	0.325	0.102	-13.267	-11.697	-8.816
11	0.102	0.325	0.120	-13.238	-11.697	-8.791
HUB	0.102	0.325	0.168	-13.220	-11.697	-8.862

RP	AERO CHORD	SETTING ANGLE	TOTAL CAMBER	SOLIDITY
TIP	4.648	8.20	-25.00	0.658
1	4.648	7.80	-23.14	0.674
2	4.648	6.90	-20.85	0.692
3	4.648	5.10	-15.14	0.739
4	4.648	4.00	-10.71	0.793
5	4.648	3.20	-8.57	0.825
6	4.648	2.40	-6.49	0.860
7	4.648	0.90	-2.48	0.941
8	4.648	-0.40	1.39	1.039
9	4.648	-0.90	2.66	1.085
10	4.648	-4.10	9.31	1.334
11	4.648	-11.80	23.58	1.794
HUB	4.648	-14.10	27.80	2.059

TABLE VII. - BLADE GEOMETRY FOR ROTOR 65

RP	PERCENT SPAN	RADII RI	RADII RO	BLADE ANGLES KIC	BLADE ANGLES KTC	BLADE ANGLES KOC	DELTA INC	CONE ANGLE
TIP	0.	25.405	25.029	64.63	70.95	59.92	1.59	-9.437
1	5.	24.797	24.334	62.32	68.07	58.86	1.91	-10.857
2	10.	24.142	23.640	60.43	65.15	57.62	2.22	-11.036
3	20.	22.707	22.250	58.14	59.28	54.62	2.84	-8.889
4	30.	21.218	20.861	55.91	53.25	51.16	3.58	-6.749
5	35.	20.461	20.166	54.80	50.52	49.45	3.98	-5.442
6	40.	19.704	19.472	53.80	49.08	47.57	4.28	-4.256
7	50.	18.192	18.082	52.02	48.27	43.07	4.73	-2.014
8	60.	16.693	16.693	50.38	47.95	37.24	5.18	-0.057
9	64.	16.092	16.137	49.67	46.39	34.05	5.47	0.804
10	80.	13.595	13.914	47.01	37.52	17.24	6.77	4.968
11	95.	10.894	11.830	44.86	31.17	-4.37	7.54	13.481
HUB	100.	9.898	11.135	43.73	31.25	-14.38	7.68	17.467

RP	BLADE THICKNESSES TI	TM	TO	AXIAL DIMENSIONS ZIC	ZMC	ZTC	ZOC
TIP	0.031	0.118	0.022	0.643	1.870	2.064	2.905
1	0.031	0.134	0.022	0.595	1.909	2.115	3.004
2	0.031	0.148	0.022	0.545	1.943	2.152	3.121
3	0.031	0.174	0.022	0.444	1.975	2.169	3.366
4	0.031	0.203	0.022	0.334	1.908	2.064	3.351
5	0.031	0.217	0.022	0.301	1.908	2.037	3.398
6	0.031	0.226	0.023	0.257	1.907	2.000	3.422
7	0.031	0.236	0.024	0.321	1.900	1.897	3.447
8	0.031	0.249	0.026	0.319	1.873	1.745	3.484
9	0.031	0.260	0.027	0.292	1.865	1.690	3.531
10	0.033	0.316	0.031	0.132	1.839	1.353	3.798
11	0.045	0.365	0.040	0.013	1.820	1.013	3.919
HUB	0.051	0.375	0.044	-0.	1.807	0.923	3.931

RP	AERO CHORD	SETTING ANGLE	TOTAL CAMBER	SOLIDITY	PHISS	AREA RATIO
TIP	5.886	66.97	4.71	1.263	-1.56	1.052
1	5.742	64.58	3.46	1.265	-1.25	1.044
2	5.667	62.28	2.81	1.284	-0.60	1.039
3	5.609	58.01	3.52	1.350	2.07	1.042
4	5.146	53.60	4.75	1.323	6.98	1.090
5	5.026	51.52	5.35	1.339	8.69	1.100
6	4.910	50.07	6.24	1.356	9.28	1.098
7	4.703	48.02	8.95	1.403	8.69	1.071
8	4.565	45.75	13.14	1.480	7.73	1.041
9	4.521	43.85	15.62	1.518	8.56	1.038
10	4.418	32.95	29.77	1.738	14.04	1.036
11	4.336	20.67	49.23	2.065	16.85	1.043
HUB	4.343	16.36	58.11	2.234	16.06	1.031

TABLE VIII. - BLADE GEOMETRY FOR BYPASS STATOR 65

RP	PERCENT SPAN	RADII RI	RO	BLADE ANGLES KIC	KOC	DELTA INC	CONE ANGLE
TIP	0.	24.610	24.130	63.05	-19.13	4.19	-10.418
1	5.	24.005	23.627	54.96	-16.59	4.34	-7.928
2	10.	23.397	23.111	48.66	-14.36	4.45	-5.840
3	20.	22.174	22.044	41.22	-11.06	4.58	-2.570
4	30.	20.968	20.976	37.95	-9.92	4.65	0.176
5	35.	20.367	20.445	36.99	-9.45	4.65	1.529
6	40.	19.770	19.917	36.28	-9.08	4.65	2.882
7	50.	18.592	18.885	35.62	-8.67	4.66	5.702
HUB	60.	17.429	17.866	35.93	-8.66	4.62	8.463

RP	BLADE THICKNESSES TI	TM	TO	AXIAL DIMENSIONS ZIC	ZMC	ZOC
TIP	0.029	0.144	0.029	12.363	12.959	14.974
1	0.029	0.144	0.029	12.276	13.123	14.991
2	0.029	0.144	0.029	12.211	13.216	15.006
3	0.029	0.144	0.029	12.144	13.216	15.034
4	0.029	0.144	0.029	12.123	13.217	15.040
5	0.029	0.144	0.029	12.120	13.218	15.049
6	0.029	0.144	0.029	12.109	13.217	15.046
7	0.029	0.144	0.029	12.109	13.219	15.046
HUB	0.029	0.144	0.029	12.109	13.219	15.046

RP	AERO CHORD	SETTING ANGLE	TOTAL CAMBER	SOLIDITY	AREA RATIO
TIP	2.840	15.30	82.18	1.557	1.213
1	2.901	17.00	71.56	1.630	1.175
2	2.941	16.00	63.02	1.691	1.144
3	2.987	14.95	52.29	1.807	1.106
4	3.005	14.05	47.66	1.916	1.088
5	3.010	13.85	46.44	1.976	1.083
6	3.012	13.68	45.35	2.031	1.079
7	3.015	13.60	44.29	2.152	1.072
HUB	3.015	13.60	44.59	2.283	1.065

TABLE IX. - BLADE GEOMETRY FOR CORE STATOR 65

RP	PERCENT SPAN	RADII RI	RO	BLADE ANGLES KIC	KOC	DELTA INC	CONE ANGLE
TIP	60.	16.530	16.274	49.30	7.85	4.69	-6.784
9	64.	16.037	15.772	46.64	9.35	4.70	-6.941
10	80.	14.030	13.832	39.35	9.12	4.76	-4.987
11	95.	12.184	12.033	37.87	1.20	4.72	-3.704
HUB	100.	11.600	11.460	33.35	-1.95	4.66	-3.303

RP	BLADE THICKNESSES TI	TM	TO	AXIAL DIMENSIONS ZIC	ZMC	ZOC
TIP	0.017	0.124	0.017	6.578	7.546	8.734
9	0.017	0.124	0.017	6.559	7.549	8.737
10	0.017	0.124	0.017	6.499	7.561	8.766
11	0.017	0.124	0.017	6.467	7.563	8.797
HUB	0.017	0.124	0.017	6.502	7.561	8.793

RP	AERO CHORD	SETTING ANGLE	TOTAL CAMBER	SOLIDITY	AREA RATIO
TIP	2.459	28.00	41.45	1.335	1.099
9	2.466	27.65	37.29	1.384	1.087
10	2.484	24.75	30.23	1.589	1.071
11	2.466	20.00	36.67	1.816	1.044
HUB	2.446	20.80	35.30	1.890	1.010

TABLE X. - OVERALL PERFORMANCE FOR STAGE 65A

(a) 100 Percent of design speed

Parameter	Reading				
	154	135	134	133	156
IGV TOTAL PRESSURE RATIO	0.995	0.995	0.995	0.995	0.995
ROTOR TOTAL PRESSURE RATIO	1.666	1.741	1.807	1.835	1.858
BP STATOR TOTAL PRESSURE RATIO	0.948	0.970	0.963	0.962	0.952
CORE STATOR TOTAL PRESSURE RATIO	0.948	0.925	0.943	0.945	0.934
IGV TOTAL TEMPERATURE RATIO	1.001	1.001	1.001	1.001	1.001
ROTOR TOTAL TEMPERATURE RATIO	1.180	1.198	1.212	1.219	1.228
BP STATOR TOTAL TEMPERATURE RATIO	0.998	0.996	0.995	0.997	0.994
CORE STATOR TOTAL TEMPERATURE RATIO	0.998	1.000	1.000	0.999	0.998
ROTOR ADIABATIC EFFICIENCY	0.874	0.869	0.870	0.864	0.850
ROTOR MOMENTUM-RISE EFFICIENCY	0.844	0.849	0.844	0.829	0.861
ROTOR HEAD-RISE COEFFICIENT	0.226	0.251	0.273	0.282	0.290
FLOW COEFFICIENT	0.380	0.376	0.368	0.359	0.350
WT FLOW PER UNIT FRONTAL AREA	171.58	170.39	167.82	164.84	162.22
WT FLOW PER UNIT ANNULUS AREA	191.07	189.74	186.88	183.56	180.64
WT FLOW AT ORIFICE	36.07	35.82	35.28	34.66	34.11
WT FLOW AT IGV INLET	36.73	36.49	35.95	35.26	34.68
WT FLOW AT ROTOR INLET	37.09	36.80	36.24	35.68	34.86
WT FLOW AT ROTOR OUTLET	37.70	36.47	35.78	35.08	34.60
WT FLOW AT BP STATOR OUTLET	25.39	24.96	24.31	23.61	22.86
WT FLOW AT CORE STATOR INLET	10.73	12.09	12.06	11.96	12.12
WT FLOW AT CORE STATOR OUTLET	12.93	13.29	13.26	12.99	13.49
ROTATIVE SPEED	18316.1	18303.3	18309.7	18306.7	18334.7
PERCENT OF DESIGN SPEED	100.0	99.9	99.9	99.9	100.1
COMPRESSOR PERFORMANCE					
BYPASS STAGE TOTAL PRESSURE RATIO	1.537	1.679	1.762	1.801	1.810
CORE STAGE TOTAL PRESSURE RATIO	1.559	1.587	1.623	1.637	1.623
BYPASS STAGE TOTAL TEMPERATURE RATIO	1.175	1.199	1.220	1.232	1.241
CORE STAGE TOTAL TEMPERATURE RATIO	1.183	1.187	1.189	1.190	1.191
BYPASS STAGE ADIABATIC EFFICIENCY	0.746	0.800	0.800	0.787	0.767
CORE STAGE ADIABATIC EFFICIENCY	0.741	0.755	0.786	0.796	0.777
BYPASS RATIO	2.38	2.30	2.22	2.14	2.03

(b) 97 Percent of design speed

Parameter	Reading		
	124	123	128
IGV TOTAL PRESSURE RATIO	0.995	0.995	0.995
ROTOR TOTAL PRESSURE RATIO	1.709	1.781	1.793
BP STATOR TOTAL PRESSURE RATIO	0.970	0.962	0.958
CORE STATOR TOTAL PRESSURE RATIO	0.964	0.984	0.982
IGV TOTAL TEMPERATURE RATIO	1.000	1.000	1.000
ROTOR TOTAL TEMPERATURE RATIO	1.191	1.208	1.213
BP STATOR TOTAL TEMPERATURE RATIO	0.996	0.997	0.996
CORE STATOR TOTAL TEMPERATURE RATIO	0.998	0.998	0.998
ROTOR ADIABATIC EFFICIENCY	0.865	0.863	0.854
ROTOR MOMENTUM-RISE EFFICIENCY	0.844	0.831	0.833
ROTOR HEAD-RISE COEFFICIENT	0.256	0.280	0.286
FLOW COEFFICIENT	0.373	0.353	0.345
WT FLOW PER UNIT FRONTAL AREA	165.77	159.74	156.52
WT FLOW PER UNIT ANNULUS AREA	184.60	177.88	174.30
WT FLOW AT ORIFICE	34.85	33.59	32.91
WT FLOW AT IGV INLET	35.47	34.11	33.49
WT FLOW AT ROTOR INLET	35.87	34.58	33.84
WT FLOW AT ROTOR OUTLET	35.16	34.37	33.47
WT FLOW AT BP STATOR OUTLET	24.17	23.04	22.25
WT FLOW AT CORE STATOR INLET	11.52	10.96	11.21
WT FLOW AT CORE STATOR OUTLET	12.64	12.20	12.36
ROTATIVE SPEED	17750.3	17774.5	17737.5
PERCENT OF DESIGN SPEED	96.9	97.0	96.8
COMPRESSOR PERFORMANCE			
BYPASS STAGE TOTAL PRESSURE RATIO	1.660	1.745	1.754
CORE STAGE TOTAL PRESSURE RATIO	1.596	1.646	1.644
BYPASS STAGE TOTAL TEMPERATURE RATIO	1.194	1.219	1.226
CORE STAGE TOTAL TEMPERATURE RATIO	1.173	1.176	1.178
BYPASS STAGE ADIABATIC EFFICIENCY	0.804	0.789	0.771
CORE STAGE ADIABATIC EFFICIENCY	0.824	0.869	0.857
BYPASS RATIO	2.26	2.18	2.09

TABLE X. - Continued. OVERALL PERFORMANCE FOR STAGE 65A

(c) 90 Percent of design speed

Parameter	Reading				
	99	85	97	84	89
IGV TOTAL PRESSURE RATIO	0.995	0.995	0.995	0.995	0.996
ROTOR TOTAL PRESSURE RATIO	1.505	1.532	1.611	1.602	1.640
BP STATOR TOTAL PRESSURE RATIO	0.971	0.974	0.971	0.971	0.969
CORE STATOR TOTAL PRESSURE RATIO	0.981	0.981	0.987	0.992	0.990
IGV TOTAL TEMPERATURE RATIO	1.000	1.000	1.000	1.000	1.000
ROTOR TOTAL TEMPERATURE RATIO	1.144	1.150	1.169	1.167	1.178
BP STATOR TOTAL TEMPERATURE RATIO	0.997	0.996	0.997	0.995	0.997
CORE STATOR TOTAL TEMPERATURE RATIO	0.998	0.998	1.000	1.000	1.000
ROTOR ADIABATIC EFFICIENCY	0.860	0.861	0.863	0.862	0.851
ROTOR MOMENTUM-RISE EFFICIENCY	0.852	0.857	0.838	0.855	0.844
ROTOR HEAD-RISE COEFFICIENT	0.213	0.224	0.256	0.254	0.271
FLOW COEFFICIENT	0.376	0.373	0.352	0.353	0.331
WT FLOW PER UNIT FRONTAL AREA	157.98	156.94	150.62	150.51	142.54
WT FLOW PER UNIT ANNULUS AREA	175.92	174.77	167.72	167.61	158.73
WT FLOW AT ORIFICE	33.22	33.00	31.67	31.65	29.97
WT FLOW AT IGV INLET	33.80	33.62	32.17	32.20	30.53
WT FLOW AT ROTOR INLET	34.12	33.90	32.56	32.48	30.80
WT FLOW AT ROTOR OUTLET	33.53	33.33	32.16	32.03	30.50
WT FLOW AT BP STATOR OUTLET	23.26	22.90	21.70	21.95	20.59
WT FLOW AT CORE STATOR INLET	10.69	10.92	10.59	10.47	10.14
WT FLOW AT CORE STATOR OUTLET	11.78	11.87	11.50	11.30	11.02
ROTATIVE SPEED	16485.7	16494.2	16523.3	16473.1	16449.4
PERCENT OF DESIGN SPEED	90.0	90.0	90.2	89.9	89.8
COMPRESSOR PERFORMANCE					
BYPASS STAGE TOTAL PRESSURE RATIO	1.435	1.474	1.579	1.567	1.621
CORE STAGE TOTAL PRESSURE RATIO	1.491	1.501	1.543	1.541	1.540
BYPASS STAGE TOTAL TEMPERATURE RATIO	1.141	1.148	1.175	1.171	1.191
CORE STAGE TOTAL TEMPERATURE RATIO	1.141	1.143	1.149	1.148	1.150
BYPASS STAGE ADIABATIC EFFICIENCY	0.769	0.791	0.795	0.803	0.776
CORE STAGE ADIABATIC EFFICIENCY	0.860	0.860	0.888	0.890	0.876
BYPASS RATIO	2.34	2.27	2.18	2.26	2.20

(d) 80 Percent of design speed

Parameter	Reading				
	114	115	91	92	116
IGV TOTAL PRESSURE RATIO	0.996	0.996	0.997	0.997	0.998
ROTOR TOTAL PRESSURE RATIO	1.347	1.355	1.423	1.422	1.429
BP STATOR TOTAL PRESSURE RATIO	0.968	0.917	0.979	0.974	0.968
CORE STATOR TOTAL PRESSURE RATIO	0.984	0.993	0.992	0.988	0.985
IGV TOTAL TEMPERATURE RATIO	1.001	1.001	1.001	1.001	1.002
ROTOR TOTAL TEMPERATURE RATIO	1.102	1.103	1.123	1.131	1.138
BP STATOR TOTAL TEMPERATURE RATIO	0.999	1.000	0.998	0.997	0.998
CORE STATOR TOTAL TEMPERATURE RATIO	0.997	0.998	0.998	0.998	0.997
ROTOR ADIABATIC EFFICIENCY	0.873	0.875	0.860	0.809	0.780
ROTOR MOMENTUM-RISE EFFICIENCY	0.867	0.875	0.857	0.797	0.757
ROTOR HEAD-RISE COEFFICIENT	0.186	0.189	0.229	0.229	0.253
FLOW COEFFICIENT	0.373	0.366	0.333	0.299	0.274
WT FLOW PER UNIT FRONTAL AREA	143.44	141.55	130.08	118.54	109.86
WT FLOW PER UNIT ANNULUS AREA	159.73	157.62	144.85	132.01	122.33
WT FLOW AT ORIFICE	30.16	29.76	27.35	24.92	23.10
WT FLOW AT IGV INLET	30.66	30.27	27.84	25.39	23.44
WT FLOW AT ROTOR INLET	31.00	30.59	28.12	25.67	23.74
WT FLOW AT ROTOR OUTLET	30.57	30.17	27.89	25.40	23.31
WT FLOW AT BP STATOR OUTLET	21.40	22.15	19.43	17.58	16.08
WT FLOW AT CORE STATOR INLET	9.85	8.91	9.00	8.24	7.77
WT FLOW AT CORE STATOR OUTLET	10.41	9.24	9.29	8.35	7.62
ROTATIVE SPEED	14667.3	14704.4	14616.7	14642.9	14645.5
PERCENT OF DESIGN SPEED	80.0	80.3	79.8	79.9	79.9
COMPRESSOR PERFORMANCE					
BYPASS STAGE TOTAL PRESSURE RATIO	1.275	1.218	1.400	1.389	1.390
CORE STAGE TOTAL PRESSURE RATIO	1.372	1.389	1.388	1.386	1.384
BYPASS STAGE TOTAL TEMPERATURE RATIO	1.099	1.101	1.128	1.138	1.150
CORE STAGE TOTAL TEMPERATURE RATIO	1.106	1.109	1.111	1.112	1.112
BYPASS STAGE ADIABATIC EFFICIENCY	0.729	0.574	0.790	0.711	0.659
CORE STAGE ADIABATIC EFFICIENCY	0.893	0.900	0.884	0.875	0.873
BYPASS RATIO	2.45	2.91	2.45	2.39	2.29

TABLE X. - Concluded. OVERALL PERFORMANCE FOR STAGE 65A

(e) 70 Percent of design speed

Parameter	Reading		
	77	78	86
IGV TOTAL PRESSURE RATIO	0.998	0.998	0.998
ROTOR TOTAL PRESSURE RATIO	0.997	1.289	1.315
BP STATOR TOTAL PRESSURE RATIO	1.233	0.983	0.978
CORE STATOR TOTAL PRESSURE RATIO	0.968	0.996	0.990
IGV TOTAL TEMPERATURE RATIO	0.993	1.000	1.000
ROTOR TOTAL TEMPERATURE RATIO	1.000	1.091	1.104
BP STATOR TOTAL TEMPERATURE RATIO	1.071	0.998	0.998
CORE STATOR TOTAL TEMPERATURE RATIO	1.001	0.999	0.998
ROTOR ADIABATIC EFFICIENCY	0.997	0.829	0.786
ROTOR MOMENTUM-RISE EFFICIENCY	0.870	0.814	0.774
ROTOR HEAD-RISE COEFFICIENT	0.849	0.204	0.223
FLOW COEFFICIENT	0.164	0.316	0.277
WT FLOW PER UNIT FRONTAL AREA	0.365	110.84	98.44
WT FLOW PER UNIT ANNULUS AREA	125.55	123.43	109.62
WT FLOW AT ORIFICE	139.81	23.30	20.70
WT FLOW AT IGV INLET	26.40	23.73	21.04
WT FLOW AT ROTOR INLET	26.88	23.87	21.16
WT FLOW AT ROTOR OUTLET	27.11	23.65	20.92
WT FLOW AT BP STATOR OUTLET	27.01	16.89	14.84
WT FLOW AT CORE STATOR INLET	19.33	7.57	6.68
WT FLOW AT CORE STATOR OUTLET	8.33	7.68	6.65
ROTATIVE SPEED	8.33	12853.9	12839.8
PERCENT OF DESIGN SPEED	12814.8	70.0	70.1
	69.9		
COMPRESSOR PERFORMANCE			
BYPASS STAGE TOTAL PRESSURE RATIO	1.169	1.261	1.289
CORE STAGE TOTAL PRESSURE RATIO	1.272	1.287	1.285
BYPASS STAGE TOTAL TEMPERATURE RATIO	1.067	1.091	1.108
CORE STAGE TOTAL TEMPERATURE RATIO	1.078	1.084	1.086
BYPASS STAGE ADIABATIC EFFICIENCY	0.683	0.748	0.695
CORE STAGE ADIABATIC EFFICIENCY	0.906	0.887	0.868
BYPASS RATIO	2.74	2.6	2.54

(f) 40 Percent of design speed

Parameter	Reading		
	81	82	83
IGV TOTAL PRESSURE RATIO	0.999	0.999	0.999
ROTOR TOTAL PRESSURE RATIO	1.052	1.088	1.092
BP STATOR TOTAL PRESSURE RATIO	0.981	0.994	0.987
CORE STATOR TOTAL PRESSURE RATIO	0.997	0.998	0.997
IGV TOTAL TEMPERATURE RATIO	1.000	1.000	1.001
ROTOR TOTAL TEMPERATURE RATIO	1.017	1.030	1.034
BP STATOR TOTAL TEMPERATURE RATIO	1.001	1.000	0.999
CORE STATOR TOTAL TEMPERATURE RATIO	0.997	0.998	0.998
ROTOR ADIABATIC EFFICIENCY	0.848	0.809	0.741
ROTOR MOMENTUM-RISE EFFICIENCY	0.875	0.840	0.752
ROTOR HEAD-RISE COEFFICIENT	0.113	0.190	0.198
FLOW COEFFICIENT	0.370	0.289	0.226
WT FLOW PER UNIT FRONTAL AREA	76.49	60.29	47.53
WT FLOW PER UNIT ANNULUS AREA	85.17	67.13	52.93
WT FLOW AT ORIFICE	16.08	12.68	9.99
WT FLOW AT IGV INLET	16.35	12.89	10.14
WT FLOW AT ROTOR INLET	16.45	12.95	9.95
WT FLOW AT ROTOR OUTLET	16.26	12.83	10.29
WT FLOW AT BP STATOR OUTLET	12.72	9.57	6.59
WT FLOW AT CORE STATOR INLET	4.29	3.90	3.86
WT FLOW AT CORE STATOR OUTLET	4.20	3.79	3.73
ROTATIVE SPEED	7343.6	7355.5	7376.1
PERCENT OF DESIGN SPEED	40.1	40.1	40.3
COMPRESSOR PERFORMANCE			
BYPASS STAGE TOTAL PRESSURE RATIO	1.020	1.080	1.076
CORE STAGE TOTAL PRESSURE RATIO	1.084	1.088	1.087
BYPASS STAGE TOTAL TEMPERATURE RATIO	1.015	1.030	1.037
CORE STAGE TOTAL TEMPERATURE RATIO	1.024	1.027	1.026
BYPASS STAGE ADIABATIC EFFICIENCY	0.376	0.731	0.566
CORE STAGE ADIABATIC EFFICIENCY	0.958	0.900	0.916
BYPASS RATIO	3.8	3.08	1.93

TABLE XI. - BLADE-ELEMENT DATA AT BLADE EDGES FOR INLET GUIDE VANE 65

(a) 100 Percent of design speed; reading 154

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	25.245	25.258	0.0	7.5	0.0	7.5	289.5	1.002	10.11	0.986
2	24.567	24.554	0.0	7.0	0.0	7.0	289.0	1.002	10.13	0.996
3	23.045	22.931	0.0	6.9	0.0	6.9	288.6	1.001	10.13	0.996
4	21.420	21.466	0.0	6.2	0.0	6.2	288.2	1.002	10.13	0.996
5	20.584	20.630	0.0	5.6	0.0	5.6	287.8	1.003	10.13	0.997
6	19.743	19.799	0.0	5.0	0.0	5.0	287.8	1.002	10.13	0.996
7	18.044	18.128	0.0	2.9	0.0	2.9	287.9	1.002	10.13	0.997
8	16.327	16.436	0.0	1.2	0.0	1.2	287.9	1.001	10.13	0.997
9	15.634	15.753	0.0	0.2	0.0	0.2	287.9	1.001	10.13	0.996
10	12.687	12.842	0.0	-3.7	0.0	-3.7	287.7	1.001	10.13	0.996
11	9.446	9.535	0.0	-12.2	0.0	-12.2	287.6	1.000	10.14	0.986

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	174.2	204.7	174.2	204.7	174.2	203.0	0.0	26.9	0.0	0.0
2	176.3	206.3	176.3	206.3	176.3	204.8	0.0	25.1	0.0	0.0
3	179.9	198.1	179.9	198.1	179.9	196.7	0.0	23.7	0.0	0.0
4	184.6	195.7	184.6	195.7	184.6	194.5	0.0	21.0	0.0	0.0
5	186.4	195.0	186.4	195.0	186.4	194.1	0.0	18.9	0.0	0.0
6	187.7	193.5	187.7	193.5	187.7	192.8	0.0	16.8	0.0	0.0
7	190.0	191.6	190.0	191.6	190.0	191.3	0.0	9.6	0.0	0.0
8	191.9	188.9	191.9	188.9	191.9	188.9	0.0	3.9	0.0	0.0
9	192.5	188.9	192.5	188.9	192.5	188.9	0.0	0.8	0.0	0.0
10	193.1	189.8	193.1	189.8	193.1	189.4	0.0	-12.4	0.0	0.0
11	193.2	188.1	193.2	188.1	193.2	183.9	0.0	-39.7	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.525	0.622	0.525	0.622	0.525	0.617	1.165
2	0.532	0.628	0.532	0.628	0.532	0.624	1.162
3	0.544	0.602	0.544	0.602	0.544	0.598	1.093
4	0.559	0.594	0.559	0.594	0.559	0.591	1.054
5	0.565	0.592	0.565	0.592	0.565	0.590	1.041
6	0.569	0.588	0.569	0.588	0.569	0.585	1.027
7	0.577	0.581	0.577	0.581	0.577	0.581	1.007
8	0.583	0.573	0.583	0.573	0.583	0.573	0.984
9	0.585	0.573	0.585	0.573	0.585	0.573	0.981
10	0.587	0.576	0.587	0.576	0.587	0.575	0.981
11	0.587	0.571	0.587	0.571	0.587	0.558	0.952

	PERCENT	INCIDENCE	DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN				TOT	PROF	TOT	PROF
1	5.00	11.0	-4.6	-.061	0.000	0.083	0.083	0.061	0.061
2	10.00	9.8	-4.1	-.067	0.000	0.023	0.023	0.016	0.016
3	20.00	6.6	-1.7	-.012	0.000	0.022	0.022	0.015	0.015
4	30.00	4.6	0.1	0.012	0.000	0.019	0.019	0.012	0.012
5	35.00	3.6	0.6	0.016	0.000	0.016	0.016	0.010	0.010
6	40.00	2.6	1.1	0.021	0.000	0.018	0.018	0.011	0.011
7	50.00	0.9	1.3	0.019	0.000	0.013	0.013	0.007	0.007
8	60.00	-0.4	2.2	0.025	0.000	0.017	0.017	0.008	0.008
9	64.00	-0.8	2.1	0.021	0.000	0.017	0.017	0.008	0.008
10	80.00	-3.1	2.5	0.041	0.000	0.021	0.021	0.008	0.008
11	95.00	-6.8	4.6	0.084	0.000	0.068	0.068	0.019	0.019

TABLE XI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR INLET GUIDE VANE 65

(b) 100 Percent of design speed; reading 135

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	25.245	25.258	0.0	7.3	0.0	7.3	289.3	1.002	10.11	0.987
2	24.567	24.554	0.0	6.8	0.0	6.8	289.2	1.001	10.13	0.997
3	23.045	22.931	0.0	6.0	0.0	6.0	288.6	1.001	10.13	0.996
4	21.420	21.466	0.0	5.4	0.0	5.4	288.1	1.002	10.13	0.996
5	20.584	20.630	0.0	4.6	0.0	4.6	288.0	1.002	10.13	0.997
6	19.743	19.799	0.0	3.9	0.0	3.9	288.2	1.001	10.13	0.997
7	18.044	18.128	0.0	1.8	0.0	1.8	287.9	1.002	10.13	0.997
8	16.327	16.436	0.0	0.0	0.0	0.0	287.6	1.002	10.13	0.996
9	15.634	15.753	0.0	-0.7	0.0	-0.7	287.6	1.002	10.13	0.997
10	12.687	12.842	0.0	-4.7	0.0	-4.7	287.8	1.001	10.13	0.996
11	9.446	9.535	-0.0	-12.9	-0.0	-12.9	287.5	1.001	10.14	0.987

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	172.4	202.9	172.4	202.9	172.4	201.2	0.0	25.8	0.0	0.0
2	174.9	204.1	174.9	204.1	174.9	202.7	0.0	24.2	0.0	0.0
3	178.2	196.0	178.2	196.0	178.2	194.9	0.0	20.6	0.0	0.0
4	183.0	193.5	183.0	193.5	183.0	192.7	0.0	18.1	0.0	0.0
5	184.8	193.0	184.8	193.0	184.8	192.4	0.0	15.5	0.0	0.0
6	186.4	191.7	186.4	191.7	186.4	191.2	0.0	13.1	0.0	0.0
7	188.6	189.4	188.6	189.4	188.6	189.3	0.0	6.0	0.0	0.0
8	190.1	186.3	190.1	186.3	190.1	186.3	0.0	0.1	0.0	0.0
9	190.8	186.3	190.8	186.3	190.8	186.3	0.0	-2.4	0.0	0.0
10	190.6	186.1	190.6	186.1	190.6	185.4	0.0	-15.2	0.0	0.0
11	190.2	184.6	190.2	184.6	190.2	179.9	-0.0	-41.4	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.519	0.616	0.519	0.616	0.519	0.611	1.167
2	0.527	0.621	0.527	0.621	0.527	0.617	1.159
3	0.538	0.595	0.538	0.595	0.538	0.592	1.094
4	0.554	0.588	0.554	0.588	0.554	0.585	1.053
5	0.560	0.586	0.560	0.586	0.560	0.584	1.041
6	0.565	0.582	0.565	0.582	0.565	0.580	1.026
7	0.572	0.574	0.572	0.574	0.572	0.574	1.003
8	0.577	0.565	0.577	0.565	0.577	0.565	0.980
9	0.580	0.565	0.580	0.565	0.580	0.565	0.976
10	0.579	0.564	0.579	0.564	0.579	0.562	0.973
11	0.578	0.559	0.578	0.559	0.578	0.545	0.946

	PERCENT	INCIDENCE	DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN				TOT	PROF	TOT	PROF
1	5.00	11.0	-4.8	-.066	0.000	0.075	0.075	0.055	0.055
2	10.00	9.8	-4.3	-.067	0.000	0.019	0.019	0.014	0.014
3	20.00	6.6	-2.5	-.022	0.000	0.023	0.023	0.015	0.015
4	30.00	4.6	-0.7	0.005	0.000	0.020	0.020	0.013	0.013
5	35.00	3.6	-0.4	0.006	0.000	0.016	0.016	0.009	0.009
6	40.00	2.6	0.0	0.012	0.000	0.017	0.017	0.010	0.010
7	50.00	1.0	0.3	0.013	0.000	0.013	0.013	0.007	0.007
8	60.00	-0.4	1.0	0.020	0.000	0.017	0.017	0.008	0.008
9	64.00	-0.8	1.1	0.029	0.000	0.017	0.017	0.008	0.008
10	80.00	-3.1	1.5	0.054	0.000	0.021	0.021	0.008	0.008
11	95.00	-6.8	3.8	0.090	0.000	0.065	0.065	0.018	0.018

TABLE XI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR

INLET GUIDE VANE 65

(c) 100 Percent of design speed; reading 134

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	25.245	25.258	0.0	7.3	0.0	7.3	289.3	1.002	10.11	0.987
2	24.567	24.554	0.0	6.6	0.0	6.6	289.1	1.001	10.13	0.996
3	23.045	22.931	0.0	6.1	0.0	6.1	288.6	1.001	10.13	0.996
4	21.420	21.466	0.0	5.4	0.0	5.4	288.0	1.002	10.13	0.996
5	20.584	20.630	0.0	4.8	0.0	4.8	287.9	1.002	10.13	0.997
6	19.743	19.799	0.0	3.8	0.0	3.8	287.9	1.002	10.13	0.997
7	18.044	18.128	0.0	1.7	0.0	1.7	287.9	1.002	10.13	0.997
8	16.327	16.436	0.0	0.1	0.0	0.1	288.0	1.001	10.13	0.997
9	15.634	15.753	0.0	-0.7	0.0	-0.7	287.7	1.001	10.13	0.997
10	12.687	12.842	0.0	-4.7	0.0	-4.7	287.8	1.001	10.13	0.996
11	9.446	9.535	0.0	-12.9	0.0	-12.9	287.8	1.001	10.14	0.987

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	169.1	197.0	169.1	197.0	169.1	195.4	0.0	25.1	0.0	0.0
2	171.5	199.4	171.5	199.4	171.5	198.1	0.0	22.8	0.0	0.0
3	175.2	192.2	175.2	192.2	175.2	191.1	0.0	20.5	0.0	0.0
4	179.8	190.0	179.8	190.0	179.8	189.2	0.0	17.8	0.0	0.0
5	181.4	189.2	181.4	189.2	181.4	188.6	0.0	15.7	0.0	0.0
6	182.9	187.9	182.9	187.9	182.9	187.5	0.0	12.5	0.0	0.0
7	184.7	185.6	184.7	185.6	184.7	185.5	0.0	5.6	0.0	0.0
8	186.3	182.4	186.3	182.4	186.3	182.4	0.0	0.2	0.0	0.0
9	185.8	182.0	185.8	182.0	185.8	182.0	0.0	-2.3	0.0	0.0
10	185.5	181.2	185.5	181.2	185.5	180.6	0.0	-15.0	0.0	0.0
11	185.0	179.2	185.0	179.2	185.0	174.7	0.0	-40.1	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.509	0.597	0.509	0.597	0.509	0.592	1.155
2	0.516	0.606	0.516	0.606	0.516	0.602	1.155
3	0.529	0.583	0.529	0.583	0.529	0.580	1.091
4	0.544	0.576	0.544	0.576	0.544	0.574	1.052
5	0.549	0.574	0.549	0.574	0.549	0.572	1.039
6	0.554	0.570	0.554	0.570	0.554	0.568	1.025
7	0.560	0.562	0.560	0.562	0.560	0.562	1.005
8	0.565	0.552	0.565	0.552	0.565	0.552	0.979
9	0.563	0.551	0.563	0.551	0.563	0.551	0.980
10	0.563	0.548	0.563	0.548	0.563	0.546	0.973
11	0.561	0.542	0.561	0.542	0.561	0.528	0.944

	PERCENT	INCIDENCE	DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN				TOT	PROF	TOT	PROF
1	5.00	11.0	-4.8	-.055	0.000	0.083	0.083	0.061	0.061
2	10.00	9.8	-4.5	-.066	0.000	0.023	0.023	0.016	0.016
3	20.00	6.6	-2.4	-.018	0.000	0.023	0.023	0.015	0.015
4	30.00	4.6	-0.7	0.006	0.000	0.020	0.020	0.013	0.013
5	35.00	3.6	-0.2	0.010	0.000	0.017	0.017	0.010	0.010
6	40.00	2.6	-0.1	0.012	0.000	0.018	0.018	0.010	0.010
7	50.00	0.9	0.2	0.011	0.000	0.013	0.013	0.007	0.007
8	60.00	-0.4	1.1	0.021	0.000	0.017	0.017	0.008	0.008
9	64.00	-0.8	1.1	0.026	0.000	0.016	0.016	0.008	0.008
10	80.00	-3.1	1.5	0.054	0.000	0.021	0.021	0.008	0.008
11	95.00	-6.8	3.9	0.092	0.000	0.065	0.065	0.018	0.018

TABLE XI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR INLET GUIDE VANE 65

(d) 100 Percent of design speed; reading 133

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	25.245	25.258	0.0	7.2	0.0	7.2	289.3	1.002	10.11	0.986
2	24.567	24.554	0.0	6.4	0.0	6.4	289.2	1.001	10.13	0.996
3	23.045	22.931	0.0	6.1	0.0	6.1	288.5	1.001	10.13	0.996
4	21.420	21.466	0.0	5.2	0.0	5.2	288.1	1.002	10.13	0.996
5	20.584	20.630	0.0	4.4	0.0	4.4	287.9	1.002	10.13	0.997
6	19.743	19.799	0.0	3.6	0.0	3.6	287.7	1.002	10.13	0.997
7	18.044	18.128	0.0	1.7	0.0	1.7	287.9	1.001	10.13	0.998
8	16.327	16.436	0.0	-0.1	0.0	-0.1	287.9	1.001	10.13	0.997
9	15.634	15.753	0.0	-0.8	0.0	-0.8	287.8	1.000	10.13	0.997
10	12.687	12.842	0.0	-4.7	0.0	-4.7	287.8	1.000	10.13	0.996
11	9.446	9.535	0.0	-13.1	0.0	-13.1	287.8	1.000	10.13	0.989

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	165.0	191.1	165.0	191.1	165.0	189.6	0.0	23.9	0.0	0.0
2	167.2	193.3	167.2	193.3	167.2	192.1	0.0	21.6	0.0	0.0
3	170.2	186.4	170.2	186.4	170.2	185.3	0.0	19.9	0.0	0.0
4	174.4	184.4	174.4	184.4	174.4	183.7	0.0	16.6	0.0	0.0
5	176.5	184.2	176.5	184.2	176.5	183.6	0.0	14.3	0.0	0.0
6	177.8	183.5	177.8	183.5	177.8	183.1	0.0	11.6	0.0	0.0
7	179.9	181.5	179.9	181.5	179.9	181.4	0.0	5.3	0.0	0.0
8	181.2	178.9	181.2	178.9	181.2	178.9	0.0	-0.4	0.0	0.0
9	181.4	178.8	181.4	178.8	181.4	178.7	0.0	-2.6	0.0	0.0
10	180.5	178.4	180.5	178.4	180.5	177.8	0.0	-14.7	0.0	0.0
11	180.0	176.0	180.0	176.0	180.0	171.4	0.0	-39.8	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.495	0.578	0.495	0.578	0.495	0.574	1.149
2	0.503	0.586	0.503	0.586	0.503	0.582	1.149
3	0.513	0.564	0.513	0.564	0.513	0.561	1.089
4	0.527	0.558	0.527	0.558	0.527	0.556	1.053
5	0.533	0.557	0.533	0.557	0.533	0.556	1.040
6	0.538	0.555	0.538	0.555	0.538	0.554	1.030
7	0.544	0.549	0.544	0.549	0.544	0.549	1.008
8	0.549	0.541	0.549	0.541	0.549	0.541	0.987
9	0.549	0.541	0.549	0.541	0.549	0.540	0.985
10	0.546	0.540	0.546	0.540	0.546	0.538	0.985
11	0.545	0.532	0.545	0.532	0.545	0.518	0.953

	PERCENT	INCIDENCE	DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN				TOT	PROF	TOT	PROF
1	5.00	11.0	-4.9	-.051	0.000	0.091	0.091	0.067	0.067
2	10.00	9.8	-4.7	-.063	0.000	0.024	0.024	0.017	0.017
3	20.00	6.6	-2.4	-.017	0.000	0.024	0.024	0.016	0.016
4	30.00	4.6	-0.9	0.003	0.000	0.021	0.021	0.013	0.013
5	35.00	3.6	-0.5	0.006	0.000	0.018	0.018	0.011	0.011
6	40.00	2.6	-0.2	0.006	0.000	0.017	0.017	0.010	0.010
7	50.00	1.0	0.1	0.007	0.000	0.013	0.013	0.007	0.007
8	60.00	-0.4	0.9	0.014	0.000	0.017	0.017	0.008	0.008
9	64.00	-0.8	1.0	0.021	0.000	0.017	0.017	0.008	0.008
10	80.00	-3.1	1.5	0.042	0.000	0.020	0.020	0.007	0.007
11	95.00	-6.8	3.7	0.084	0.000	0.062	0.062	0.017	0.017

TABLE XI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR INLET GUIDE VANE 65

(e) 100 Percent of design speed; reading 156

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	25.245	25.258	0.0	9.7	0.0	9.7	289.3	1.002	10.10	0.986
2	24.567	24.554	0.0	8.7	0.0	8.7	289.1	1.001	10.13	0.997
3	23.045	22.931	0.0	8.4	0.0	8.4	288.6	1.001	10.13	0.996
4	21.420	21.466	0.0	7.1	0.0	7.1	288.1	1.002	10.13	0.996
5	20.584	20.630	0.0	6.4	0.0	6.4	288.1	1.002	10.13	0.997
6	19.743	19.799	0.0	5.6	0.0	5.6	288.1	1.002	10.13	0.997
7	18.044	18.128	0.0	3.8	0.0	3.8	287.8	1.002	10.13	0.998
8	16.327	16.436	0.0	1.7	0.0	1.7	287.8	1.001	10.13	0.997
9	15.634	15.753	0.0	1.1	0.0	1.1	287.6	1.002	10.14	0.997
10	12.687	12.842	0.0	-3.1	0.0	-3.1	287.8	1.001	10.14	0.996
11	9.446	9.535	0.0	-11.4	0.0	-11.4	287.7	1.001	10.13	0.989

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	159.8	183.1	159.8	183.1	159.8	180.5	0.0	30.7	0.0	0.0
2	162.6	186.9	162.6	186.9	162.6	184.7	0.0	28.4	0.0	0.0
3	165.7	180.3	165.7	180.3	165.7	178.4	0.0	26.3	0.0	0.0
4	170.2	179.1	170.2	179.1	170.2	177.7	0.1	22.2	0.0	0.0
5	172.3	179.0	172.3	179.0	172.3	177.9	0.1	19.8	0.0	0.0
6	174.3	178.4	174.3	178.4	174.3	177.6	0.0	17.5	0.0	0.0
7	176.4	177.0	176.4	177.0	176.4	176.6	0.1	11.7	0.0	0.0
8	177.9	174.5	177.9	174.5	177.9	174.4	0.1	5.2	0.0	0.0
9	177.6	174.2	177.6	174.2	177.6	174.2	0.1	3.2	0.0	0.0
10	177.2	173.6	177.2	173.6	177.2	173.3	0.1	-9.3	0.0	0.0
11	176.3	172.0	176.3	172.0	176.3	168.6	0.1	-34.0	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.479	0.553	0.479	0.553	0.479	0.545	1.129
2	0.488	0.565	0.488	0.565	0.488	0.559	1.136
3	0.498	0.545	0.498	0.545	0.498	0.539	1.076
4	0.513	0.541	0.513	0.541	0.513	0.537	1.044
5	0.520	0.541	0.520	0.541	0.520	0.537	1.033
6	0.526	0.539	0.526	0.539	0.526	0.536	1.019
7	0.533	0.535	0.533	0.535	0.533	0.533	1.001
8	0.538	0.527	0.538	0.527	0.538	0.526	0.981
9	0.537	0.526	0.537	0.526	0.537	0.526	0.981
10	0.536	0.524	0.536	0.524	0.536	0.523	0.978
11	0.533	0.519	0.533	0.519	0.533	0.509	0.956

	PERCENT	INCIDENCE	DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN				TOT	PROF	TOT	PROF
1	5.00	11.0	-2.5	-.003	0.000	0.096	0.096	0.070	0.070
2	10.00	9.8	-2.3	-.023	0.000	0.023	0.023	0.017	0.017
3	20.00	6.6	-0.1	0.019	0.000	0.028	0.028	0.019	0.019
4	30.00	4.6	1.0	0.030	0.000	0.024	0.024	0.015	0.015
5	35.00	3.6	1.4	0.031	0.000	0.020	0.020	0.012	0.012
6	40.00	2.6	1.8	0.035	0.000	0.018	0.018	0.011	0.011
7	50.00	1.0	2.3	0.032	0.000	0.014	0.014	0.007	0.007
8	60.00	-0.4	2.7	0.033	0.000	0.016	0.016	0.007	0.007
9	64.00	-0.8	2.9	0.027	0.000	0.018	0.018	0.008	0.008
10	80.00	-3.1	3.2	0.040	0.000	0.020	0.020	0.008	0.008
11	95.00	-6.8	5.4	0.078	0.000	0.061	0.061	0.017	0.017

TABLE XI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR INLET GUIDE VANE 65

(f) 97 Percent of design speed; reading 124

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	25.245	25.258	0.0	7.3	0.0	7.3	289.3	1.001	10.11	0.987
2	24.567	24.554	0.0	6.5	0.0	6.5	289.0	1.001	10.13	0.996
3	23.045	22.931	0.0	6.0	0.0	6.0	288.6	0.999	10.13	0.996
4	21.420	21.466	0.0	5.1	0.0	5.1	288.1	1.000	10.13	0.996
5	20.584	20.630	0.0	4.5	0.0	4.5	288.0	1.000	10.13	0.997
6	19.743	19.799	0.0	3.6	0.0	3.6	288.0	1.000	10.13	0.997
7	18.044	18.128	0.0	1.6	0.0	1.6	287.7	1.000	10.13	0.998
8	16.327	16.436	0.0	-0.3	0.0	-0.3	287.9	0.999	10.13	0.997
9	15.634	15.753	0.0	-1.1	0.0	-1.1	287.8	0.999	10.13	0.997
10	12.687	12.842	0.0	-5.1	0.0	-5.1	287.9	0.998	10.13	0.996
11	9.446	9.535	0.0	-13.3	0.0	-13.3	287.6	0.999	10.13	0.987

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	166.3	193.3	166.3	193.3	166.3	191.7	0.0	24.6	0.0	0.0
2	168.3	195.1	168.3	195.1	168.3	193.9	0.0	22.0	0.0	0.0
3	171.6	188.2	171.6	188.2	171.6	187.1	0.0	19.7	0.0	0.0
4	175.9	186.2	175.9	186.2	175.9	185.5	0.0	16.5	0.0	0.0
5	178.2	185.8	178.2	185.8	178.2	185.3	0.0	14.4	0.0	0.0
6	179.5	185.0	179.5	185.0	179.5	184.6	0.0	11.7	0.0	0.0
7	181.1	182.5	181.1	182.5	181.1	182.4	0.0	5.0	0.0	0.0
8	182.0	179.3	182.0	179.3	182.0	179.3	0.0	-0.9	0.0	0.0
9	182.3	179.0	182.3	179.0	182.3	179.0	0.0	-3.3	0.0	0.0
10	182.8	178.9	182.8	178.9	182.8	178.2	0.0	-16.0	0.0	0.0
11	182.0	176.8	182.0	176.8	182.0	172.1	0.0	-40.6	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.500	0.585	0.500	0.585	0.500	0.581	1.152
2	0.506	0.592	0.506	0.592	0.506	0.588	1.152
3	0.517	0.570	0.517	0.570	0.517	0.567	1.091
4	0.531	0.564	0.531	0.564	0.531	0.562	1.054
5	0.539	0.563	0.539	0.563	0.539	0.561	1.040
6	0.543	0.561	0.543	0.561	0.543	0.559	1.028
7	0.548	0.553	0.548	0.553	0.548	0.553	1.007
8	0.551	0.543	0.551	0.543	0.551	0.543	0.985
9	0.552	0.542	0.552	0.542	0.552	0.542	0.982
10	0.554	0.542	0.554	0.542	0.554	0.540	0.975
11	0.551	0.535	0.551	0.535	0.551	0.521	0.946

	PERCENT	INCIDENCE	DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN				TOT	PROF	TOT	PROF
1	5.00	11.0	-4.8	-.052	0.000	0.082	0.082	0.061	0.061
2	10.00	9.8	-4.6	-.065	0.000	0.023	0.023	0.017	0.017
3	20.00	6.6	-2.5	-.019	0.000	0.025	0.025	0.016	0.016
4	30.00	4.6	-1.0	0.001	0.000	0.021	0.021	0.014	0.014
5	35.00	3.6	-0.5	0.006	0.000	0.019	0.019	0.012	0.012
6	40.00	2.6	-0.2	0.008	0.000	0.019	0.019	0.011	0.011
7	50.00	1.0	0.0	0.007	0.000	0.013	0.013	0.007	0.007
8	60.00	-0.4	0.7	0.017	0.000	0.017	0.017	0.008	0.008
9	64.00	-0.8	0.8	0.026	0.000	0.018	0.018	0.008	0.008
10	80.00	-3.1	1.1	0.054	0.000	0.019	0.019	0.007	0.007
11	95.00	-6.8	3.5	0.091	0.000	0.068	0.068	0.019	0.019

TABLE XI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR

INLET GUIDE VANE 65

(g) 97 Percent of design speed; reading 123

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	25.245	25.258	0.0	7.2	0.0	7.2	289.0	1.002	10.11	0.987
2	24.567	24.554	0.0	6.4	0.0	6.4	288.9	1.001	10.13	0.997
3	23.045	22.931	0.0	6.2	0.0	6.2	288.6	0.999	10.13	0.996
4	21.420	21.466	0.0	5.1	0.0	5.1	288.2	1.000	10.13	0.996
5	20.584	20.630	0.0	4.4	0.0	4.4	288.0	1.000	10.13	0.997
6	19.743	19.799	0.0	3.6	0.0	3.6	288.0	1.000	10.13	0.997
7	18.044	18.128	0.0	1.6	0.0	1.6	287.8	1.000	10.13	0.998
8	16.327	16.436	0.0	-0.4	0.0	-0.4	287.9	0.999	10.13	0.997
9	15.634	15.753	0.0	-1.2	0.0	-1.2	287.8	0.999	10.13	0.997
10	12.687	12.842	0.0	-5.1	0.0	-5.1	287.9	0.998	10.13	0.997
11	9.446	9.535	0.0	-13.4	0.0	-13.4	287.8	0.998	10.13	0.989

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	157.8	181.4	157.8	181.4	157.8	180.0	0.0	22.7	0.0	0.0
2	160.0	183.9	160.0	183.9	160.0	182.7	0.1	20.4	0.0	0.0
3	163.2	177.6	163.2	177.6	163.2	176.5	0.0	19.2	0.0	0.0
4	166.7	176.1	166.7	176.1	166.7	175.4	0.0	15.6	0.0	0.0
5	168.6	176.0	168.6	176.0	168.6	175.4	0.0	13.5	0.0	0.0
6	170.0	175.2	170.0	175.2	170.0	174.9	0.0	10.9	0.0	0.0
7	171.9	173.6	171.9	173.6	171.9	173.5	0.0	4.7	0.0	0.0
8	172.7	171.4	172.7	171.4	172.7	171.4	0.0	-1.2	0.0	0.0
9	172.8	171.1	172.8	171.1	172.8	171.0	0.0	-3.5	0.0	0.0
10	172.4	170.9	172.4	170.9	172.4	170.2	0.0	-15.1	0.0	0.0
11	172.0	168.4	172.0	168.4	172.0	163.8	0.0	-39.1	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.473	0.547	0.473	0.547	0.473	0.543	1.141
2	0.480	0.556	0.480	0.556	0.480	0.552	1.142
3	0.490	0.536	0.490	0.536	0.490	0.533	1.082
4	0.502	0.532	0.502	0.532	0.502	0.530	1.052
5	0.508	0.532	0.508	0.532	0.508	0.530	1.041
6	0.513	0.529	0.513	0.529	0.513	0.528	1.028
7	0.519	0.524	0.519	0.524	0.519	0.524	1.009
8	0.521	0.518	0.521	0.518	0.521	0.518	0.992
9	0.522	0.517	0.522	0.517	0.522	0.516	0.990
10	0.520	0.516	0.520	0.516	0.520	0.514	0.987
11	0.519	0.508	0.519	0.508	0.519	0.494	0.952

	PERCENT	INCIDENCE	DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN				TOT	PROF	TOT	PROF
1	5.00	11.0	-4.9	-.043	0.000	0.089	0.089	0.066	0.066
2	10.00	9.8	-4.7	-.057	0.000	0.024	0.024	0.017	0.017
3	20.00	6.6	-2.3	-.009	0.000	0.029	0.029	0.020	0.020
4	30.00	4.6	-1.0	0.003	0.000	0.025	0.025	0.015	0.015
5	35.00	3.6	-0.6	0.005	0.000	0.020	0.020	0.012	0.012
6	40.00	2.6	-0.3	0.007	0.000	0.018	0.018	0.011	0.011
7	50.00	1.0	0.0	0.005	0.000	0.014	0.014	0.007	0.007
8	60.00	-0.4	0.6	0.011	0.000	0.017	0.017	0.008	0.008
9	64.00	-0.8	0.7	0.019	0.000	0.018	0.018	0.008	0.008
10	80.00	-3.1	1.1	0.042	0.000	0.021	0.021	0.008	0.008
11	95.00	-6.8	3.4	0.085	0.000	0.064	0.064	0.017	0.017

TABLE XI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR INLET GUIDE VANE 65

(h) 97 Percent of design speed; reading 128

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	25.245	25.258	0.0	7.0	0.0	7.0	289.2	1.001	10.11	0.989
2	24.567	24.554	0.0	6.4	0.0	6.4	288.9	1.001	10.13	0.996
3	23.045	22.931	0.0	6.3	0.0	6.3	288.4	1.000	10.13	0.996
4	21.420	21.466	0.0	5.4	0.0	5.4	288.0	1.001	10.13	0.996
5	20.584	20.630	0.0	4.5	0.0	4.5	287.9	1.001	10.13	0.997
6	19.743	19.799	0.0	3.6	0.0	3.6	288.0	1.000	10.13	0.997
7	18.044	18.128	0.0	1.5	0.0	1.5	287.8	1.000	10.13	0.998
8	16.327	16.436	0.0	-0.4	0.0	-0.4	288.0	0.999	10.13	0.997
9	15.634	15.753	0.0	-1.2	0.0	-1.2	288.0	0.999	10.13	0.997
10	12.687	12.842	0.0	-4.9	0.0	-4.9	287.9	0.999	10.13	0.997
11	9.446	9.535	0.0	-13.1	0.0	-13.1	287.8	0.999	10.13	0.989

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	153.4	175.5	153.4	175.5	153.4	174.2	0.0	21.5	0.0	0.0
2	155.9	177.7	155.9	177.7	155.9	176.6	0.0	19.7	0.0	0.0
3	158.7	171.9	158.7	171.9	158.7	170.9	0.0	18.9	0.0	0.0
4	162.7	170.5	162.7	170.5	162.7	169.8	0.0	15.9	0.0	0.0
5	164.1	170.4	164.1	170.4	164.1	169.8	0.0	13.4	0.0	0.0
6	165.6	170.1	165.6	170.1	165.6	169.8	0.0	10.6	0.0	0.0
7	167.7	168.7	167.7	168.7	167.7	168.7	0.0	4.5	0.0	0.0
8	169.4	167.0	169.4	167.0	169.4	167.0	0.0	-1.3	0.0	0.0
9	169.6	166.7	169.6	166.7	169.6	166.7	0.0	-3.4	0.0	0.0
10	168.7	166.5	168.7	166.5	168.7	165.9	0.0	-14.4	0.0	0.0
11	167.9	164.4	167.9	164.4	167.9	160.1	0.0	-37.3	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.459	0.529	0.459	0.529	0.459	0.525	1.136
2	0.467	0.536	0.467	0.536	0.467	0.533	1.133
3	0.477	0.518	0.477	0.518	0.477	0.515	1.077
4	0.489	0.514	0.489	0.514	0.489	0.512	1.044
5	0.494	0.514	0.494	0.514	0.494	0.512	1.035
6	0.499	0.513	0.499	0.513	0.499	0.512	1.026
7	0.505	0.509	0.505	0.509	0.505	0.509	1.006
8	0.511	0.503	0.511	0.503	0.511	0.503	0.986
9	0.511	0.502	0.511	0.502	0.511	0.502	0.983
10	0.509	0.502	0.509	0.502	0.509	0.500	0.984
11	0.506	0.495	0.506	0.495	0.506	0.482	0.954

	PERCENT	INCIDENCE	DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN				TOT	PROF	TOT	PROF
1	5.00	11.0	-5.1	-.041	0.000	0.085	0.085	0.062	0.062
2	10.00	9.8	-4.7	-.048	0.000	0.027	0.027	0.019	0.019
3	20.00	6.6	-2.2	-.003	0.000	0.030	0.030	0.020	0.020
4	30.00	4.6	-0.8	0.014	0.000	0.027	0.027	0.017	0.017
5	35.00	3.6	-0.5	0.011	0.000	0.022	0.022	0.013	0.013
6	40.00	2.6	-0.3	0.010	0.000	0.019	0.019	0.011	0.011
7	50.00	1.0	-0.0	0.008	0.000	0.014	0.014	0.007	0.007
8	60.00	-0.4	0.6	0.018	0.000	0.017	0.017	0.008	0.008
9	64.00	-0.8	0.7	0.026	0.000	0.017	0.017	0.008	0.008
10	80.00	-3.1	1.3	0.045	0.000	0.019	0.019	0.007	0.007
11	95.00	-6.8	3.7	0.083	0.000	0.067	0.067	0.018	0.018

TABLE XI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR INLET GUIDE VANE 65

(i) 90 Percent of design speed; reading 99

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	25.245	25.258	-0.0	7.1	-0.0	7.1	289.2	1.001	10.11	0.988
2	24.567	24.554	-0.0	6.3	-0.0	6.3	288.9	1.000	10.13	0.996
3	23.045	22.931	-0.0	6.3	-0.0	6.3	288.5	1.000	10.13	0.995
4	21.420	21.466	-0.0	5.4	-0.0	5.4	288.1	1.000	10.13	0.996
5	20.584	20.630	-0.0	4.5	-0.0	4.5	287.9	1.000	10.13	0.997
6	19.743	19.799	-0.0	3.7	-0.0	3.7	288.0	1.000	10.13	0.997
7	18.044	18.128	-0.0	1.6	-0.0	1.6	287.8	1.000	10.13	0.998
8	16.327	16.436	-0.0	-0.3	-0.0	-0.3	287.9	0.999	10.13	0.997
9	15.634	15.753	-0.0	-1.0	-0.0	-1.0	287.9	0.999	10.13	0.997
10	12.687	12.842	-0.0	-4.9	-0.0	-4.9	287.9	0.999	10.13	0.997
11	9.446	9.535	-0.0	-12.6	-0.0	-12.6	287.8	0.999	10.13	0.986

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	154.8	177.1	154.8	177.1	154.8	175.7	-0.0	22.0	0.0	0.0
2	157.3	179.8	157.3	179.8	157.3	178.7	-0.0	19.8	0.0	0.0
3	160.5	173.8	160.5	173.8	160.5	172.8	-0.0	18.9	0.0	0.0
4	164.2	172.6	164.2	172.6	164.2	171.8	-0.1	16.4	0.0	0.0
5	165.5	172.1	165.5	172.1	165.5	171.6	-0.0	13.6	0.0	0.0
6	167.2	171.8	167.2	171.8	167.2	171.4	-0.0	11.1	0.0	0.0
7	169.3	170.7	169.3	170.7	169.3	170.7	-0.0	4.7	0.0	0.0
8	170.9	168.8	170.9	168.8	170.9	168.8	-0.0	-0.9	0.0	0.0
9	171.3	168.8	171.3	168.8	171.3	168.8	-0.0	-2.8	0.0	0.0
10	171.9	168.9	171.9	168.9	171.9	168.3	-0.0	-14.5	0.0	0.0
11	172.0	165.8	172.0	165.8	172.0	161.8	-0.0	-36.2	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.464	0.534	0.464	0.534	0.464	0.530	1.135
2	0.472	0.543	0.472	0.543	0.472	0.539	1.136
3	0.482	0.524	0.482	0.524	0.482	0.521	1.077
4	0.494	0.521	0.494	0.521	0.494	0.518	1.047
5	0.499	0.519	0.499	0.519	0.499	0.518	1.037
6	0.504	0.518	0.504	0.518	0.504	0.517	1.025
7	0.511	0.515	0.511	0.515	0.511	0.515	1.008
8	0.516	0.509	0.516	0.509	0.516	0.509	0.987
9	0.517	0.509	0.517	0.509	0.517	0.509	0.985
10	0.519	0.510	0.519	0.510	0.519	0.508	0.979
11	0.519	0.500	0.519	0.500	0.519	0.488	0.941

	PERCENT	INCIDENCE	DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN				TOT	PROF	TOT	PROF
1	5.00	11.0	-5.0	-.038	0.000	0.089	0.089	0.066	0.066
2	10.00	9.7	-4.8	-.052	0.000	0.028	0.028	0.020	0.020
3	20.00	6.6	-2.3	-.003	0.000	0.031	0.031	0.021	0.021
4	30.00	4.6	-0.7	0.012	0.000	0.025	0.025	0.016	0.016
5	35.00	3.6	-0.5	0.010	0.000	0.020	0.020	0.012	0.012
6	40.00	2.6	-0.2	0.012	0.000	0.017	0.017	0.010	0.010
7	50.00	0.9	0.0	0.007	0.000	0.014	0.014	0.007	0.007
8	60.00	-0.4	0.7	0.015	0.000	0.016	0.016	0.008	0.008
9	64.00	-0.8	0.9	0.023	0.000	0.017	0.017	0.008	0.008
10	80.00	-3.1	1.3	0.049	0.000	0.020	0.020	0.007	0.007
11	95.00	-6.8	4.2	0.095	0.000	0.085	0.085	0.023	0.023

TABLE XI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR INLET GUIDE VANE 65

(j) 90 Percent of design speed; reading 85

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	25.245	25.258	0.0	7.4	0.0	7.4	289.2	1.001	10.11	0.987
2	24.567	24.554	0.0	6.6	0.0	6.6	288.9	1.001	10.13	0.996
3	23.045	22.931	0.0	6.4	0.0	6.4	288.5	1.000	10.13	0.995
4	21.420	21.466	0.0	5.4	0.0	5.4	288.1	1.000	10.13	0.996
5	20.584	20.630	0.0	4.7	0.0	4.7	288.1	1.000	10.13	0.997
6	19.743	19.799	0.0	3.8	0.0	3.8	287.9	1.000	10.13	0.997
7	18.044	18.128	0.0	1.6	0.0	1.6	287.9	0.999	10.13	0.997
8	16.327	16.436	0.0	-0.2	0.0	-0.2	287.8	0.999	10.13	0.997
9	15.634	15.753	0.0	-0.8	0.0	-0.8	287.8	0.998	10.13	0.997
10	12.687	12.842	0.0	-4.7	0.0	-4.7	287.9	0.999	10.13	0.996
11	9.446	9.535	0.0	-12.2	0.0	-12.2	287.8	0.999	10.13	0.986

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	154.1	175.9	154.1	175.9	154.1	174.5	0.1	22.6	0.0	0.0
2	156.5	178.7	156.5	178.7	156.5	177.5	0.1	20.6	0.0	0.0
3	159.7	172.9	159.7	172.9	159.7	171.8	0.1	19.4	0.0	0.0
4	163.5	171.6	163.5	171.6	163.5	170.8	0.1	16.1	0.0	0.0
5	165.0	171.2	165.0	171.2	165.0	170.6	0.1	13.9	0.0	0.0
6	166.2	170.7	166.2	170.7	166.2	170.3	0.0	11.4	0.0	0.0
7	168.0	169.5	168.0	169.5	168.0	169.4	0.1	4.7	0.0	0.0
8	169.6	167.0	169.6	167.0	169.6	166.9	0.1	-0.6	0.0	0.0
9	169.7	167.0	169.7	167.0	169.7	166.9	0.1	-2.4	0.0	0.0
10	169.9	166.9	169.9	166.9	169.9	166.3	0.1	-13.6	0.0	0.0
11	170.1	163.5	170.1	163.5	170.1	159.8	0.1	-34.6	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.461	0.530	0.461	0.530	0.461	0.526	1.132
2	0.469	0.539	0.469	0.539	0.469	0.536	1.134
3	0.480	0.521	0.480	0.521	0.480	0.518	1.075
4	0.492	0.517	0.492	0.517	0.492	0.515	1.045
5	0.497	0.516	0.497	0.516	0.497	0.515	1.034
6	0.501	0.515	0.501	0.515	0.501	0.514	1.024
7	0.506	0.511	0.506	0.511	0.506	0.511	1.009
8	0.512	0.503	0.512	0.503	0.512	0.503	0.984
9	0.512	0.504	0.512	0.504	0.512	0.503	0.984
10	0.513	0.503	0.513	0.503	0.513	0.502	0.979
11	0.513	0.493	0.513	0.493	0.513	0.481	0.940

	PERCENT	INCIDENCE	DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN				TOT	PROF	TOT	PROF
1	5.00	11.0	-4.8	-.033	0.000	0.095	0.095	0.070	0.070
2	10.00	9.8	-4.5	-.047	0.000	0.030	0.030	0.022	0.022
3	20.00	6.6	-2.1	-.001	0.000	0.034	0.034	0.023	0.023
4	30.00	4.6	-0.7	0.013	0.000	0.028	0.028	0.017	0.017
5	35.00	3.6	-0.3	0.014	0.000	0.022	0.022	0.013	0.013
6	40.00	2.6	-0.0	0.013	0.000	0.022	0.022	0.013	0.013
7	50.00	1.0	0.1	0.006	0.000	0.017	0.017	0.009	0.009
8	60.00	-0.4	0.8	0.018	0.000	0.020	0.020	0.010	0.010
9	64.00	-0.8	1.0	0.023	0.000	0.019	0.019	0.009	0.009
10	80.00	-3.1	1.6	0.048	0.000	0.021	0.021	0.008	0.008
11	95.00	-6.8	4.6	0.096	0.000	0.087	0.087	0.024	0.024

TABLE XI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR INLET GUIDE VANE 65

(k) 90 Percent of design speed; reading 97

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	25.245	25.258	0.0	7.1	0.0	7.1	289.2	1.002	10.11	0.988
2	24.567	24.554	-0.0	6.5	-0.0	6.5	288.9	1.001	10.13	0.996
3	23.045	22.931	-0.0	6.7	-0.0	6.7	288.4	1.001	10.13	0.995
4	21.420	21.466	-0.0	5.6	-0.0	5.6	288.1	1.001	10.13	0.996
5	20.584	20.630	0.0	4.5	0.0	4.5	288.0	1.001	10.13	0.997
6	19.743	19.799	-0.0	3.7	-0.0	3.7	288.0	1.000	10.13	0.998
7	18.044	18.128	-0.0	1.4	-0.0	1.4	287.9	0.999	10.13	0.998
8	16.327	16.436	-0.0	-0.2	-0.0	-0.2	287.9	0.999	10.13	0.998
9	15.634	15.753	-0.0	-0.9	-0.0	-0.9	288.0	0.998	10.13	0.998
10	12.687	12.842	-0.0	-5.0	-0.0	-5.0	287.9	0.998	10.13	0.997
11	9.446	9.535	-0.0	-12.8	-0.0	-12.8	287.8	0.999	10.13	0.988

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	146.2	166.2	146.2	166.2	146.2	164.9	0.0	20.5	0.0	0.0
2	148.0	168.5	148.0	168.5	148.0	167.4	-0.0	19.1	0.0	0.0
3	150.9	163.1	150.9	163.1	150.9	162.0	-0.0	19.1	0.0	0.0
4	154.1	161.9	154.1	161.9	154.1	161.2	-0.0	15.7	0.0	0.0
5	155.5	161.8	155.5	161.8	155.5	161.3	0.0	12.7	0.0	0.0
6	156.8	161.4	156.8	161.4	156.8	161.1	-0.0	10.5	0.0	0.0
7	159.1	160.8	159.1	160.8	159.1	160.7	-0.0	3.9	0.0	0.0
8	160.2	159.0	160.2	159.0	160.2	159.0	-0.0	-0.5	0.0	0.0
9	160.6	159.1	160.6	159.1	160.6	159.0	-0.0	-2.5	0.0	0.0
10	159.8	158.4	159.8	158.4	159.8	157.8	-0.0	-13.9	0.0	0.0
11	159.7	154.5	159.7	154.5	159.7	150.7	-0.0	-34.2	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.437	0.499	0.437	0.499	0.437	0.495	1.128
2	0.445	0.507	0.445	0.507	0.443	0.503	1.131
3	0.452	0.490	0.452	0.490	0.452	0.487	1.074
4	0.463	0.487	0.463	0.487	0.463	0.485	1.046
5	0.467	0.487	0.467	0.487	0.467	0.485	1.037
6	0.471	0.486	0.471	0.486	0.471	0.485	1.027
7	0.478	0.484	0.478	0.484	0.478	0.484	1.010
8	0.482	0.478	0.482	0.478	0.482	0.478	0.992
9	0.483	0.479	0.483	0.479	0.483	0.478	0.990
10	0.481	0.477	0.481	0.477	0.481	0.475	0.987
11	0.480	0.464	0.480	0.464	0.480	0.453	0.944

	PERCENT	INCIDENCE	DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN				TOT	PROF	TOT	PROF
1	5.00	11.0	-5.0	-.033	0.000	0.094	0.094	0.069	0.069
2	10.00	9.8	-4.6	-.045	0.000	0.031	0.031	0.023	0.023
3	20.00	6.6	-1.8	0.004	0.000	0.035	0.035	0.024	0.024
4	30.00	4.6	-0.6	0.014	0.000	0.026	0.026	0.017	0.017
5	35.00	3.6	-0.5	0.009	0.000	0.019	0.019	0.011	0.011
6	40.00	2.6	-0.1	0.010	0.000	0.017	0.017	0.010	0.010
7	50.00	0.9	-0.2	0.003	0.000	0.013	0.013	0.007	0.007
8	60.00	-0.4	0.8	0.009	0.000	0.016	0.016	0.008	0.008
9	64.00	-0.8	0.9	0.017	0.000	0.017	0.017	0.008	0.008
10	80.00	-3.1	1.2	0.041	0.000	0.019	0.019	0.007	0.007
11	95.00	-6.8	4.0	0.092	0.000	0.083	0.083	0.023	0.023

TABLE XI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR INLET GUIDE VANE 65

(*l*) 90 Percent of design speed; reading 84

RP	RADII IN	RADII OUT	ABS BETAM IN	ABS BETAM OUT	REL BETAM IN	REL BETAM OUT	TOTAL TEMP IN	TOTAL TEMP RATIO	TOTAL PRESS IN	TOTAL PRESS RATIO
1	25.245	25.258	0.0	7.5	0.0	7.5	289.1	1.001	10.11	0.988
2	24.567	24.554	0.0	6.8	0.0	6.8	288.9	1.001	10.13	0.995
3	23.045	22.931	0.0	7.0	0.0	7.0	288.5	1.001	10.13	0.995
4	21.420	21.466	0.0	5.8	0.0	5.8	288.1	1.001	10.13	0.996
5	20.584	20.630	0.0	4.7	0.0	4.7	288.0	1.000	10.13	0.997
6	19.743	19.799	0.0	3.7	0.0	3.7	288.0	1.000	10.13	0.997
7	18.044	18.128	0.0	1.5	0.0	1.5	287.9	1.000	10.13	0.998
8	16.327	16.436	0.0	-0.0	0.0	-0.0	287.9	0.999	10.13	0.997
9	15.634	15.753	0.0	-0.7	0.0	-0.7	287.9	0.999	10.13	0.997
10	12.687	12.842	0.0	-4.7	0.0	-4.7	287.8	0.999	10.13	0.997
11	9.446	9.535	0.0	-12.4	0.0	-12.4	287.8	1.000	10.13	0.988

RP	ABS VEL IN	ABS VEL OUT	REL VEL IN	REL VEL OUT	MERID VEL IN	MERID VEL OUT	TANG VEL IN	TANG VEL OUT	WHEEL SPEED IN	WHEEL SPEED OUT
1	145.5	165.5	145.5	165.5	145.5	164.1	0.0	21.7	0.0	0.0
2	147.9	168.3	147.9	168.3	147.9	167.1	0.1	20.0	0.0	0.0
3	151.0	163.4	151.0	163.4	151.0	162.2	0.1	20.0	0.0	0.0
4	154.7	162.1	154.7	162.1	154.7	161.3	0.1	16.4	0.0	0.0
5	156.2	162.0	156.2	162.0	156.2	161.5	0.1	13.3	0.0	0.0
6	156.9	161.3	156.9	161.3	156.9	160.9	0.1	10.5	0.0	0.0
7	159.0	160.2	159.0	160.2	159.0	160.2	0.1	4.3	0.0	0.0
8	160.3	158.3	160.3	158.3	160.3	158.3	0.1	-0.1	0.0	0.0
9	160.8	158.0	160.8	158.0	160.8	158.0	0.1	-2.0	0.0	0.0
10	160.6	157.6	160.6	157.6	160.6	157.1	0.1	-12.8	0.0	0.0
11	160.7	154.3	160.7	154.3	160.7	150.7	0.1	-33.0	0.0	0.0

RP	ABS MACH NO IN	ABS MACH NO OUT	REL MACH NO IN	REL MACH NO OUT	MERID MACH NO IN	MERID MACH NO OUT	MERID VEL R
1	0.435	0.497	0.435	0.497	0.435	0.493	1.128
2	0.442	0.506	0.442	0.506	0.442	0.503	1.130
3	0.452	0.491	0.452	0.491	0.452	0.488	1.074
4	0.464	0.487	0.464	0.487	0.464	0.485	1.043
5	0.469	0.487	0.469	0.487	0.469	0.486	1.034
6	0.471	0.485	0.471	0.485	0.471	0.484	1.025
7	0.478	0.482	0.478	0.482	0.478	0.482	1.008
8	0.482	0.476	0.482	0.476	0.482	0.476	0.988
9	0.484	0.475	0.484	0.475	0.484	0.475	0.983
10	0.483	0.474	0.483	0.474	0.483	0.472	0.978
11	0.483	0.463	0.483	0.463	0.483	0.453	0.938

RP	PERCENT SPAN	INCIDENCE MEAN	DEV	D FACT	EFF	LOSS COEFF TOT	LOSS COEFF PROF	LOSS PARAM TOT	LOSS PARAM PROF
1	5.00	11.0	-4.6	-.027	0.000	0.099	0.099	0.073	0.073
2	10.00	9.8	-4.3	-.040	0.000	0.037	0.037	0.026	0.026
3	20.00	6.6	-1.5	0.007	0.000	0.035	0.035	0.024	0.024
4	30.00	4.6	-0.3	0.019	0.000	0.028	0.028	0.017	0.017
5	35.00	3.6	-0.3	0.014	0.000	0.021	0.021	0.013	0.013
6	40.00	2.6	-0.1	0.011	0.000	0.021	0.021	0.012	0.012
7	50.00	1.0	0.0	0.006	0.000	0.016	0.016	0.008	0.008
8	60.00	-0.4	1.0	0.013	0.000	0.018	0.018	0.009	0.009
9	64.00	-0.8	1.1	0.023	0.000	0.020	0.020	0.009	0.009
10	80.00	-3.1	1.6	0.049	0.000	0.021	0.021	0.008	0.008
11	95.00	-6.8	4.4	0.097	0.000	0.083	0.083	0.023	0.023

TABLE XI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR

INLET GUIDE VANE 65

(m) 90 Percent of design speed; reading 89

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	25.245	25.258	0.0	7.7	0.0	7.7	289.1	1.001	10.12	0.989
2	24.567	24.554	0.0	7.5	0.0	7.5	288.7	1.002	10.13	0.996
3	23.045	22.931	0.0	7.9	0.0	7.9	288.3	1.002	10.13	0.996
4	21.420	21.466	0.0	6.3	0.0	6.3	288.0	1.002	10.13	0.997
5	20.584	20.630	0.0	5.0	0.0	5.0	287.9	1.001	10.13	0.998
6	19.743	19.799	0.0	3.9	0.0	3.9	288.0	1.000	10.13	0.998
7	18.044	18.128	0.0	1.7	0.0	1.7	287.9	1.000	10.13	0.998
8	16.327	16.436	0.0	0.0	0.0	0.0	288.0	0.999	10.13	0.998
9	15.634	15.753	0.0	-0.7	0.0	-0.7	287.8	0.999	10.13	0.998
10	12.687	12.842	0.0	-4.6	0.0	-4.6	288.0	0.999	10.13	0.998
11	9.446	9.535	0.0	-12.2	0.0	-12.2	287.9	1.000	10.13	0.989

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	136.9	153.7	136.9	153.7	136.9	152.3	0.1	20.5	0.0	0.0
2	138.7	156.3	138.7	156.3	138.7	155.0	0.0	20.3	0.0	0.0
3	141.4	152.0	141.4	152.0	141.4	150.5	0.1	20.9	0.0	0.0
4	144.1	151.2	144.1	151.2	144.1	150.3	0.1	16.6	0.0	0.0
5	145.5	151.1	145.5	151.1	145.5	150.5	0.1	13.2	0.0	0.0
6	147.0	150.8	147.0	150.8	147.0	150.4	0.0	10.2	0.0	0.0
7	148.4	150.0	148.4	150.0	148.4	149.9	0.1	4.3	0.0	0.0
8	150.2	148.1	150.2	148.1	150.2	148.1	0.1	0.1	0.0	0.0
9	150.3	148.3	150.3	148.3	150.3	148.2	0.1	-1.9	0.0	0.0
10	150.0	148.1	150.0	148.1	150.0	147.6	0.1	-11.8	0.0	0.0
11	149.7	144.7	149.7	144.7	149.7	141.4	0.0	-30.7	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.408	0.460	0.408	0.460	0.408	0.456	1.113
2	0.414	0.468	0.414	0.468	0.414	0.464	1.118
3	0.423	0.455	0.423	0.455	0.423	0.451	1.065
4	0.431	0.453	0.431	0.453	0.431	0.450	1.043
5	0.436	0.453	0.436	0.453	0.436	0.451	1.035
6	0.440	0.452	0.440	0.452	0.440	0.451	1.023
7	0.445	0.450	0.445	0.450	0.445	0.450	1.010
8	0.450	0.444	0.450	0.444	0.450	0.444	0.986
9	0.451	0.445	0.451	0.445	0.451	0.445	0.986
10	0.450	0.444	0.450	0.444	0.450	0.443	0.984
11	0.449	0.433	0.449	0.433	0.449	0.423	0.945

	PERCENT	INCIDENCE	DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN				TOT	PROF	TOT	PROF
1	5.00	11.0	-4.5	-.012	0.000	0.104	0.104	0.077	0.077
2	10.00	9.8	-3.6	-.022	0.000	0.037	0.037	0.026	0.026
3	20.00	6.6	-0.6	0.025	0.000	0.037	0.037	0.025	0.025
4	30.00	4.6	0.2	0.023	0.000	0.027	0.027	0.017	0.017
5	35.00	3.6	0.0	0.016	0.000	0.018	0.018	0.011	0.011
6	40.00	2.6	0.0	0.015	0.000	0.017	0.017	0.010	0.010
7	50.00	1.0	0.1	0.005	0.000	0.013	0.013	0.007	0.007
8	60.00	-0.4	1.0	0.014	0.000	0.015	0.015	0.007	0.007
9	64.00	-0.8	1.1	0.020	0.000	0.017	0.017	0.008	0.008
10	80.00	-3.1	1.7	0.042	0.000	0.018	0.018	0.007	0.007
11	95.00	-6.8	4.6	0.091	0.000	0.085	0.085	0.023	0.023

TABLE XI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR INLET GUIDE VANE 65

(n) 80 Percent of design speed; reading 114

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	25.245	25.258	0.0	7.8	0.0	7.8	289.1	1.003	10.11	0.989
2	24.567	24.554	-0.0	7.2	-0.0	7.2	288.7	1.003	10.13	0.996
3	23.045	22.931	-0.0	6.7	-0.0	6.7	288.3	1.002	10.13	0.997
4	21.420	21.466	-0.0	5.1	-0.0	5.1	288.2	1.001	10.13	0.998
5	20.584	20.630	-0.0	4.1	-0.0	4.1	288.0	1.000	10.13	0.998
6	19.743	19.799	0.0	3.5	0.0	3.5	288.0	1.000	10.13	0.998
7	18.044	18.128	0.0	1.6	0.0	1.6	288.0	0.999	10.13	0.998
8	16.327	16.436	-0.0	-0.2	-0.0	-0.2	287.9	0.999	10.13	0.998
9	15.634	15.753	-0.0	-1.0	-0.0	-1.0	287.9	0.999	10.13	0.998
10	12.687	12.842	0.0	-4.9	0.0	-4.9	287.9	0.999	10.13	0.998
11	9.446	9.535	0.0	-12.8	0.0	-12.8	287.9	1.000	10.13	0.989

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	137.0	153.7	137.0	153.7	137.0	152.3	0.0	20.8	0.0	0.0
2	139.0	156.7	139.0	156.7	139.0	155.4	-0.0	19.7	0.0	0.0
3	141.7	153.9	141.7	153.9	141.7	152.9	-0.0	18.0	0.0	0.0
4	144.8	152.6	144.8	152.6	144.8	152.0	-0.0	13.4	0.0	0.0
5	146.3	152.3	146.3	152.3	146.3	151.9	-0.0	11.0	0.0	0.0
6	147.4	151.9	147.4	151.9	147.4	151.6	0.0	9.2	0.0	0.0
7	149.4	151.2	149.4	151.2	149.4	151.1	0.0	4.2	0.0	0.0
8	150.7	149.4	150.7	149.4	150.7	149.4	-0.0	-0.5	0.0	0.0
9	150.9	149.5	150.9	149.5	150.9	149.4	-0.0	-2.6	0.0	0.0
10	151.6	149.2	151.6	149.2	151.6	148.6	0.0	-12.7	0.0	0.0
11	151.8	146.3	151.8	146.3	151.8	142.7	0.0	-32.4	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.409	0.460	0.409	0.460	0.409	0.456	1.111
2	0.415	0.469	0.415	0.469	0.415	0.466	1.118
3	0.424	0.461	0.424	0.461	0.424	0.458	1.079
4	0.433	0.457	0.433	0.457	0.433	0.456	1.049
5	0.438	0.457	0.438	0.457	0.438	0.456	1.039
6	0.442	0.456	0.442	0.456	0.442	0.455	1.028
7	0.448	0.453	0.448	0.453	0.448	0.453	1.012
8	0.452	0.448	0.452	0.448	0.452	0.448	0.991
9	0.453	0.448	0.453	0.448	0.453	0.448	0.990
10	0.455	0.447	0.455	0.447	0.455	0.446	0.981
11	0.455	0.438	0.455	0.438	0.455	0.428	0.940

	PERCENT	INCIDENCE	DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN				TOT	PROF	TOT	PROF
1	5.00	11.0	-4.4	-.009	0.000	0.097	0.097	0.071	0.071
2	10.00	9.8	-3.9	-.025	0.000	0.038	0.038	0.027	0.027
3	20.00	6.6	-1.8	-.001	0.000	0.025	0.025	0.017	0.017
4	30.00	4.6	-1.1	0.005	0.000	0.020	0.020	0.012	0.012
5	35.00	3.6	-0.8	0.004	0.000	0.015	0.015	0.009	0.009
6	40.00	2.6	-0.4	0.006	0.000	0.016	0.016	0.010	0.010
7	50.00	1.0	0.1	0.003	0.000	0.012	0.012	0.007	0.007
8	60.00	-0.4	0.8	0.010	0.000	0.016	0.016	0.008	0.008
9	64.00	-0.8	0.8	0.018	0.000	0.016	0.016	0.007	0.007
10	80.00	-3.1	1.3	0.047	0.000	0.018	0.018	0.007	0.007
11	95.00	-6.8	4.0	0.096	0.000	0.081	0.081	0.022	0.022

TABLE XI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR INLET GUIDE VANE 65

(o) 80 Percent of design speed; reading 115

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	25.245	25.258	0.0	8.1	0.0	8.1	289.1	1.003	10.11	0.989
2	24.567	24.554	0.0	7.5	0.0	7.5	288.9	1.003	10.13	0.996
3	23.045	22.931	0.0	6.9	0.0	6.9	288.4	1.002	10.13	0.997
4	21.420	21.466	0.0	5.1	0.0	5.1	288.0	1.001	10.13	0.998
5	20.584	20.630	0.0	4.2	0.0	4.2	288.0	1.000	10.13	0.998
6	19.743	19.799	0.0	3.6	0.0	3.6	288.0	1.000	10.13	0.998
7	18.044	18.128	0.0	1.6	0.0	1.6	287.9	1.000	10.13	0.998
8	16.327	16.436	0.0	-0.3	0.0	-0.3	287.9	0.999	10.13	0.998
9	15.634	15.753	0.0	-1.1	0.0	-1.1	287.9	0.999	10.13	0.998
10	12.687	12.842	0.0	-5.0	0.0	-5.0	287.9	1.000	10.13	0.998
11	9.446	9.535	0.0	-12.9	0.0	-12.9	287.9	1.000	10.13	0.989

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	135.0	151.6	135.0	151.6	135.0	150.0	0.0	21.5	0.0	0.0
2	136.9	154.7	136.9	154.7	136.9	153.3	0.0	20.3	0.0	0.0
3	139.4	152.1	139.4	152.1	139.4	151.0	0.0	18.2	0.0	0.0
4	142.5	150.6	142.5	150.6	142.5	150.0	0.0	13.4	0.0	0.0
5	144.0	150.1	144.0	150.1	144.0	149.7	0.0	11.0	0.0	0.0
6	144.9	149.6	144.9	149.6	144.9	149.3	0.0	9.3	0.0	0.0
7	146.8	148.6	146.8	148.6	146.8	148.5	0.0	4.1	0.0	0.0
8	148.3	146.8	148.3	146.8	148.3	146.8	0.0	-0.8	0.0	0.0
9	148.5	146.6	148.5	146.6	148.5	146.6	0.0	-2.7	0.0	0.0
10	149.2	146.0	149.2	146.0	149.2	145.5	0.0	-12.8	0.0	0.0
11	149.4	142.8	149.4	142.8	149.4	139.2	0.0	-31.8	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.402	0.453	0.402	0.453	0.402	0.448	1.111
2	0.408	0.463	0.408	0.463	0.408	0.459	1.120
3	0.417	0.456	0.417	0.456	0.417	0.452	1.083
4	0.426	0.451	0.426	0.451	0.426	0.449	1.053
5	0.431	0.450	0.431	0.450	0.431	0.449	1.040
6	0.434	0.448	0.434	0.448	0.434	0.448	1.030
7	0.440	0.445	0.440	0.445	0.440	0.445	1.012
8	0.445	0.440	0.445	0.440	0.445	0.440	0.990
9	0.445	0.439	0.445	0.439	0.445	0.439	0.987
10	0.447	0.437	0.447	0.437	0.447	0.436	0.975
11	0.448	0.427	0.448	0.427	0.448	0.417	0.932

	PERCENT	INCIDENCE	DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN				TOT	PROF	TOT	PROF
1	5.00	11.0	-4.0	-.005	0.000	0.101	0.101	0.074	0.074
2	10.00	9.8	-3.6	-.023	0.000	0.040	0.040	0.029	0.029
3	20.00	6.6	-1.6	-.003	0.000	0.026	0.026	0.017	0.017
4	30.00	4.6	-1.0	0.002	0.000	0.017	0.017	0.011	0.011
5	35.00	3.6	-0.8	0.004	0.000	0.015	0.015	0.009	0.009
6	40.00	2.6	-0.3	0.005	0.000	0.016	0.016	0.009	0.009
7	50.00	1.0	0.0	0.002	0.000	0.013	0.013	0.007	0.007
8	60.00	-0.4	0.7	0.013	0.000	0.015	0.015	0.007	0.007
9	64.00	-0.8	0.8	0.021	0.000	0.016	0.016	0.007	0.007
10	80.00	-3.1	1.2	0.053	0.000	0.019	0.019	0.007	0.007
11	95.00	-6.8	3.9	0.104	0.000	0.083	0.083	0.025	0.025

TABLE XI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR INLET GUIDE VANE 65

(p) 80 Percent of design speed; reading 91

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	25.245	25.258	0.0	9.4	0.0	9.4	288.9	1.005	10.12	0.990
2	24.567	24.554	0.0	8.8	0.0	8.8	288.6	1.005	10.13	0.996
3	23.045	22.931	0.0	7.6	0.0	7.6	288.3	1.002	10.13	0.998
4	21.420	21.466	0.0	5.5	0.0	5.5	288.1	1.001	10.13	0.998
5	20.584	20.630	0.0	4.6	0.0	4.6	288.0	1.000	10.13	0.999
6	19.743	19.799	0.0	3.9	0.0	3.9	288.0	1.000	10.13	0.999
7	18.044	18.128	0.0	1.8	0.0	1.8	288.0	0.999	10.13	0.999
8	16.327	16.436	0.0	0.1	0.0	0.1	288.0	1.000	10.13	0.998
9	15.634	15.753	0.0	-0.7	0.0	-0.7	288.0	0.999	10.13	0.998
10	12.687	12.842	0.0	-4.5	0.0	-4.5	288.0	0.999	10.13	0.998
11	9.446	9.535	0.0	-12.3	0.0	-12.3	287.9	1.000	10.13	0.992

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	122.1	136.9	122.1	136.9	122.1	135.1	0.0	22.3	0.0	0.0
2	123.7	140.0	123.7	140.0	123.7	138.4	0.0	21.4	0.0	0.0
3	126.4	137.7	126.4	137.7	126.4	136.5	0.1	18.2	0.0	0.0
4	128.9	135.8	128.9	135.8	128.9	135.2	0.0	13.0	0.0	0.0
5	130.0	135.5	130.0	135.5	130.0	135.0	0.1	10.8	0.0	0.0
6	131.1	135.2	131.1	135.2	131.1	134.9	0.1	9.2	0.0	0.0
7	132.7	134.0	132.7	134.0	132.7	133.9	0.1	4.2	0.0	0.0
8	134.2	132.3	134.2	132.3	134.2	132.3	0.1	0.1	0.0	0.0
9	134.7	132.3	134.7	132.3	134.7	132.3	0.1	-1.6	0.0	0.0
10	134.8	131.6	134.8	131.6	134.8	131.2	0.1	-10.3	0.0	0.0
11	134.8	128.8	134.8	128.8	134.8	125.9	0.1	-27.3	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.363	0.408	0.363	0.408	0.363	0.402	1.107
2	0.368	0.417	0.368	0.417	0.368	0.412	1.119
3	0.377	0.411	0.377	0.411	0.377	0.407	1.080
4	0.384	0.405	0.384	0.405	0.384	0.404	1.049
5	0.388	0.405	0.388	0.405	0.388	0.403	1.039
6	0.391	0.404	0.391	0.404	0.391	0.403	1.029
7	0.396	0.400	0.396	0.400	0.396	0.400	1.010
8	0.401	0.395	0.401	0.395	0.401	0.395	0.986
9	0.402	0.395	0.402	0.395	0.402	0.395	0.983
10	0.403	0.393	0.403	0.393	0.403	0.392	0.974
11	0.403	0.384	0.403	0.384	0.403	0.375	0.934

	PERCENT	INCIDENCE	DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN				TOT	PROF	TOT	PROF
1	5.00	11.0	-2.7	0.014	0.000	0.114	0.114	0.083	0.083
2	10.00	9.8	-2.3	-.007	0.000	0.043	0.043	0.031	0.031
3	20.00	6.6	-0.9	0.008	0.000	0.023	0.023	0.016	0.016
4	30.00	4.6	-0.6	0.010	0.000	0.017	0.017	0.011	0.011
5	35.00	3.6	-0.4	0.008	0.000	0.015	0.015	0.009	0.009
6	40.00	2.7	0.0	0.010	0.000	0.015	0.015	0.009	0.009
7	50.00	1.0	0.3	0.007	0.000	0.013	0.013	0.007	0.007
8	60.00	-0.4	1.1	0.014	0.000	0.015	0.015	0.007	0.007
9	64.00	-0.8	1.2	0.023	0.000	0.016	0.016	0.007	0.007
10	80.00	-3.1	1.7	0.052	0.000	0.018	0.018	0.007	0.007
11	95.00	-6.8	4.5	0.101	0.000	0.076	0.076	0.021	0.021

TABLE XI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR INLET GUIDE VANE 65

(q) 80 Percent of design speed; reading 92

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	25.245	25.258	0.0	9.7	0.0	9.7	288.8	1.007	10.12	0.990
2	24.567	24.554	0.0	8.9	0.0	8.9	288.5	1.006	10.13	0.996
3	23.045	22.931	0.0	7.8	0.0	7.8	288.3	1.003	10.13	0.998
4	21.420	21.466	0.0	5.5	0.0	5.5	288.1	1.001	10.13	0.999
5	20.584	20.630	0.0	4.6	0.0	4.6	288.2	1.000	10.13	0.999
6	19.743	19.799	0.0	3.8	0.0	3.8	288.0	1.000	10.13	0.999
7	18.044	18.128	0.0	1.7	0.0	1.7	288.0	1.000	10.13	0.999
8	16.327	16.436	0.0	-0.2	0.0	-0.2	288.0	1.000	10.13	0.999
9	15.634	15.753	0.0	-0.8	0.0	-0.8	288.0	1.000	10.13	0.999
10	12.687	12.842	0.0	-4.4	0.0	-4.4	288.0	1.000	10.13	0.998
11	9.446	9.535	0.0	-12.3	0.0	-12.3	288.0	1.000	10.13	0.994

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	110.1	120.8	110.1	120.8	110.1	119.1	0.1	20.3	0.0	0.0
2	112.0	124.5	112.0	124.5	112.0	123.0	0.0	19.4	0.0	0.0
3	114.0	123.4	114.0	123.4	114.0	122.3	0.0	16.8	0.0	0.0
4	115.9	121.6	115.9	121.6	115.9	121.1	0.0	11.8	0.0	0.0
5	117.0	121.3	117.0	121.3	117.0	120.9	0.0	9.8	0.0	0.0
6	117.7	120.9	117.7	120.9	117.7	120.6	0.0	8.0	0.0	0.0
7	119.2	120.1	119.2	120.1	119.2	120.1	0.1	3.5	0.0	0.0
8	120.2	119.2	120.2	119.2	120.2	119.2	0.1	-0.5	0.0	0.0
9	120.3	119.4	120.3	119.4	120.3	119.4	0.0	-1.7	0.0	0.0
10	120.9	119.9	120.9	119.9	120.9	119.6	0.0	-9.2	0.0	0.0
11	120.9	118.3	120.9	118.3	120.9	115.6	0.1	-25.3	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.327	0.358	0.327	0.358	0.327	0.353	1.081
2	0.333	0.370	0.333	0.370	0.333	0.365	1.098
3	0.339	0.367	0.339	0.367	0.339	0.363	1.072
4	0.345	0.362	0.345	0.362	0.345	0.360	1.045
5	0.348	0.361	0.348	0.361	0.348	0.360	1.033
6	0.350	0.360	0.350	0.360	0.350	0.359	1.025
7	0.355	0.358	0.355	0.358	0.355	0.357	1.007
8	0.358	0.355	0.358	0.355	0.358	0.355	0.992
9	0.358	0.355	0.358	0.355	0.358	0.355	0.992
10	0.360	0.357	0.360	0.357	0.360	0.356	0.989
11	0.360	0.352	0.360	0.352	0.360	0.344	0.956

	PERCENT	INCIDENCE	DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN				TOT	PROF	TOT	PROF
1	5.00	11.0	-2.4	0.040	0.000	0.134	0.134	0.098	0.098
2	10.00	9.8	-2.1	0.013	0.000	0.052	0.052	0.037	0.037
3	20.00	6.6	-0.7	0.017	0.000	0.021	0.021	0.014	0.014
4	30.00	4.6	-0.6	0.014	0.000	0.018	0.018	0.011	0.011
5	35.00	3.6	-0.4	0.014	0.000	0.015	0.015	0.009	0.009
6	40.00	2.6	-0.1	0.012	0.000	0.016	0.016	0.009	0.009
7	50.00	1.0	0.1	0.008	0.000	0.013	0.013	0.007	0.007
8	60.00	-0.4	0.8	0.010	0.000	0.015	0.015	0.007	0.007
9	64.00	-0.8	1.1	0.014	0.000	0.016	0.016	0.007	0.007
10	80.00	-3.1	1.8	0.037	0.000	0.019	0.019	0.007	0.007
11	95.00	-6.8	4.4	0.080	0.000	0.066	0.066	0.018	0.018

TABLE XI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR INLET GUIDE VANE 65

(r) 80 Percent of design speed; reading 116

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	25.245	25.258	-0.0	9.1	-0.0	9.1	288.8	1.009	10.12	0.992
2	24.567	24.554	0.0	8.3	0.0	8.3	288.6	1.008	10.13	0.997
3	23.045	22.931	-0.0	7.3	-0.0	7.3	288.3	1.004	10.13	0.999
4	21.420	21.466	0.0	5.1	0.0	5.1	288.2	1.001	10.13	0.999
5	20.584	20.630	-0.0	4.1	-0.0	4.1	288.2	1.001	10.13	0.999
6	19.743	19.799	0.0	2.9	0.0	2.9	288.0	1.001	10.13	0.999
7	18.044	18.128	0.0	0.9	0.0	0.9	288.0	1.000	10.13	0.999
8	16.327	16.436	0.0	-1.0	0.0	-1.0	288.0	1.000	10.13	0.999
9	15.634	15.753	0.0	-1.6	0.0	-1.6	287.9	1.000	10.13	0.999
10	12.687	12.842	0.0	-5.2	0.0	-5.2	288.0	1.000	10.13	0.999
11	9.446	9.535	0.0	-13.1	0.0	-13.1	287.9	1.000	10.13	0.995

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	100.4	108.1	100.4	108.1	100.4	106.8	-0.0	17.2	0.0	0.0
2	101.9	111.8	101.9	111.8	101.9	110.6	0.0	16.1	0.0	0.0
3	103.8	111.6	103.8	111.6	103.8	110.7	-0.0	14.1	0.0	0.0
4	106.0	110.1	106.0	110.1	106.0	109.7	0.0	9.7	0.0	0.0
5	106.8	109.9	106.8	109.9	106.8	109.6	-0.0	7.8	0.0	0.0
6	107.5	110.0	107.5	110.0	107.5	109.9	0.0	5.6	0.0	0.0
7	109.2	110.5	109.2	110.5	109.2	110.5	0.0	1.7	0.0	0.0
8	110.2	110.3	110.2	110.3	110.2	110.3	0.0	-1.9	0.0	0.0
9	110.1	110.7	110.1	110.7	110.1	110.6	0.0	-3.1	0.0	0.0
10	110.8	111.7	110.8	111.7	110.8	111.3	0.0	-10.2	0.0	0.0
11	110.9	110.6	110.9	110.6	110.9	107.7	0.0	-25.0	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.297	0.319	0.297	0.319	0.297	0.315	1.063
2	0.302	0.331	0.302	0.331	0.302	0.327	1.085
3	0.308	0.331	0.308	0.331	0.308	0.328	1.066
4	0.314	0.327	0.314	0.327	0.314	0.326	1.035
5	0.317	0.326	0.317	0.326	0.317	0.325	1.026
6	0.319	0.327	0.319	0.327	0.319	0.326	1.022
7	0.324	0.328	0.324	0.328	0.324	0.328	1.012
8	0.327	0.328	0.327	0.328	0.327	0.328	1.001
9	0.327	0.329	0.327	0.329	0.327	0.329	1.004
10	0.329	0.332	0.329	0.332	0.329	0.331	1.005
11	0.330	0.329	0.330	0.329	0.330	0.320	0.971

	PERCENT	INCIDENCE	DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN				TOT	PROF	TOT	PROF
1	5.00	11.0	-3.0	0.050	0.000	0.136	0.136	0.100	0.100
2	10.00	9.8	-2.8	0.018	0.000	0.056	0.056	0.040	0.040
3	20.00	6.6	-1.3	0.017	0.000	0.021	0.021	0.014	0.014
4	30.00	4.6	-1.0	0.019	0.000	0.020	0.020	0.013	0.013
5	35.00	3.6	-0.9	0.016	0.000	0.017	0.017	0.010	0.010
6	40.00	2.6	-1.0	0.007	0.000	0.016	0.016	0.009	0.009
7	50.00	1.0	-0.6	-.003	0.000	0.015	0.015	0.008	0.008
8	60.00	-0.4	0.0	0.007	0.000	0.016	0.016	0.008	0.008
9	64.00	-0.8	0.2	0.008	0.000	0.015	0.015	0.007	0.007
10	80.00	-3.1	1.0	0.026	0.000	0.018	0.018	0.007	0.007
11	95.00	-6.8	3.7	0.066	0.000	0.067	0.067	0.018	0.018

TABLE XI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR INLET GUIDE VANE 65

(s) 70 Percent of design speed; reading 77

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	25.245	25.258	0.0	6.7	0.0	6.7	288.7	1.002	10.12	0.991
2	24.567	24.554	0.0	5.8	0.0	5.8	288.8	1.000	10.12	0.999
3	23.045	22.931	0.0	5.7	0.0	5.7	288.4	0.999	10.13	0.998
4	21.420	21.466	0.0	4.8	0.0	4.8	288.0	1.000	10.13	0.998
5	20.584	20.630	0.0	4.3	0.0	4.3	288.0	1.000	10.13	0.998
6	19.743	19.799	0.0	3.3	0.0	3.3	287.9	1.000	10.13	0.998
7	18.044	18.128	0.0	1.6	0.0	1.6	288.0	0.999	10.13	0.999
8	16.327	16.436	0.0	-0.5	0.0	-0.5	288.0	0.999	10.13	0.998
9	15.634	15.753	0.0	-1.2	0.0	-1.2	288.0	0.999	10.13	0.998
10	12.687	12.842	0.0	-5.5	0.0	-5.5	287.9	0.999	10.13	0.998
11	9.446	9.535	0.0	-13.2	0.0	-13.2	287.9	0.999	10.13	0.994

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	118.2	129.3	118.2	129.3	118.2	128.4	0.0	15.1	0.0	0.0
2	118.7	132.7	118.7	132.7	118.7	132.0	0.0	13.4	0.0	0.0
3	121.2	129.9	121.2	129.9	121.2	129.2	0.0	13.0	0.0	0.0
4	124.0	129.4	124.0	129.4	124.0	128.9	0.0	10.7	0.0	0.0
5	124.7	129.2	124.7	129.2	124.7	128.8	0.0	9.7	0.0	0.0
6	125.8	128.8	125.8	128.8	125.8	128.6	0.0	7.4	0.0	0.0
7	127.2	128.1	127.2	128.1	127.2	128.0	0.0	3.6	0.0	0.0
8	128.0	126.3	128.0	126.3	128.0	126.3	0.0	-1.1	0.0	0.0
9	128.6	126.5	128.6	126.5	128.6	126.5	0.0	-2.7	0.0	0.0
10	129.3	126.4	129.3	126.4	129.3	125.9	0.1	-12.1	0.0	0.0
11	129.8	125.6	129.8	125.6	129.8	122.3	0.0	-28.7	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.351	0.385	0.351	0.385	0.351	0.382	1.086
2	0.353	0.395	0.353	0.395	0.353	0.393	1.112
3	0.361	0.387	0.361	0.387	0.361	0.385	1.066
4	0.369	0.386	0.369	0.386	0.369	0.385	1.040
5	0.372	0.385	0.372	0.385	0.372	0.384	1.033
6	0.375	0.384	0.375	0.384	0.375	0.384	1.022
7	0.379	0.382	0.379	0.382	0.379	0.382	1.006
8	0.382	0.377	0.382	0.377	0.382	0.377	0.987
9	0.383	0.377	0.383	0.377	0.383	0.377	0.984
10	0.386	0.377	0.386	0.377	0.386	0.375	0.974
11	0.387	0.375	0.387	0.375	0.387	0.365	0.942

	PERCENT	INCIDENCE	DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN				TOT	PROF	TOT	PROF
1	5.00	11.0	-5.4	0.001	0.000	0.104	0.104	0.077	0.077
2	10.00	9.8	-5.3	-.036	0.000	0.015	0.015	0.011	0.011
3	20.00	6.6	-2.8	0.000	0.000	0.023	0.023	0.015	0.015
4	30.00	4.6	-1.3	0.011	0.000	0.020	0.020	0.013	0.013
5	35.00	3.6	-0.7	0.011	0.000	0.017	0.017	0.010	0.010
6	40.00	2.6	-0.6	0.010	0.000	0.017	0.017	0.010	0.010
7	50.00	1.0	0.1	0.008	0.000	0.014	0.014	0.008	0.008
8	60.00	-0.4	0.5	0.017	0.000	0.016	0.016	0.008	0.008
9	64.00	-0.8	0.6	0.026	0.000	0.018	0.018	0.008	0.008
10	80.00	-3.1	0.7	0.057	0.000	0.019	0.019	0.007	0.007
11	95.00	-6.8	3.6	0.095	0.000	0.057	0.057	0.015	0.015

TABLE XI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR INLET GUIDE VANE 65

(t) 70 Percent of design speed; reading 78

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	25.245	25.258	0.0	6.6	0.0	6.6	288.7	1.001	10.12	0.994
2	24.567	24.554	0.0	5.6	0.0	5.6	288.6	1.001	10.13	0.998
3	23.045	22.931	0.0	5.5	0.0	5.5	288.3	1.000	10.13	0.998
4	21.420	21.466	0.0	4.7	0.0	4.7	288.1	1.000	10.13	0.999
5	20.584	20.630	0.0	4.1	0.0	4.1	288.0	1.000	10.13	0.999
6	19.743	19.799	0.0	3.6	0.0	3.6	288.0	1.000	10.13	0.999
7	18.044	18.128	0.0	1.6	0.0	1.6	288.0	1.000	10.13	0.999
8	16.327	16.436	0.0	-0.6	0.0	-0.6	288.0	1.000	10.13	0.999
9	15.634	15.753	0.0	-1.2	0.0	-1.2	288.0	1.000	10.13	0.999
10	12.687	12.842	0.0	-5.3	0.0	-5.3	288.1	1.000	10.13	0.999
11	9.446	9.535	0.0	-13.5	0.0	-13.5	288.0	1.000	10.13	0.996

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	102.5	111.8	102.5	111.8	102.5	111.0	0.0	12.8	0.0	0.0
2	103.6	114.6	103.6	114.6	103.6	114.1	0.0	11.3	0.0	0.0
3	105.0	112.1	105.0	112.1	105.0	111.5	0.0	10.8	0.0	0.0
4	107.6	111.1	107.6	111.1	107.6	110.8	0.0	9.1	0.0	0.0
5	108.7	111.4	108.7	111.4	108.7	111.1	0.0	8.0	0.0	0.0
6	109.6	111.2	109.6	111.2	109.6	111.0	0.0	6.9	0.0	0.0
7	110.8	110.8	110.8	110.8	110.8	110.8	0.0	3.0	0.0	0.0
8	111.5	110.0	111.5	110.0	111.5	109.9	0.0	-1.1	0.0	0.0
9	111.9	109.9	111.9	109.9	111.9	109.9	0.0	-2.3	0.0	0.0
10	111.5	109.2	111.5	109.2	111.5	108.7	0.1	-10.1	0.0	0.0
11	111.7	108.1	111.7	108.1	111.7	105.1	0.0	-25.2	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.304	0.332	0.304	0.332	0.304	0.329	1.084
2	0.307	0.340	0.307	0.340	0.307	0.339	1.101
3	0.311	0.333	0.311	0.333	0.311	0.331	1.063
4	0.319	0.330	0.319	0.330	0.319	0.329	1.030
5	0.323	0.331	0.323	0.331	0.323	0.330	1.022
6	0.325	0.330	0.325	0.330	0.325	0.330	1.013
7	0.329	0.329	0.329	0.329	0.329	0.329	1.000
8	0.331	0.327	0.331	0.327	0.331	0.327	0.986
9	0.333	0.327	0.333	0.327	0.333	0.327	0.982
10	0.331	0.324	0.331	0.324	0.331	0.323	0.975
11	0.332	0.321	0.332	0.321	0.332	0.312	0.941

	PERCENT	INCIDENCE	DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN				TOT	PROF	TOT	PROF
1	5.00	11.0	-5.5	0.002	0.000	0.101	0.101	0.075	0.075
2	10.00	9.8	-5.4	-.028	0.000	0.028	0.028	0.020	0.020
3	20.00	6.6	-3.0	0.001	0.000	0.025	0.025	0.017	0.017
4	30.00	4.6	-1.4	0.020	0.000	0.019	0.019	0.012	0.012
5	35.00	3.6	-0.9	0.020	0.000	0.017	0.017	0.010	0.010
6	40.00	2.7	-0.3	0.022	0.000	0.019	0.019	0.011	0.011
7	50.00	1.0	0.0	0.014	0.000	0.014	0.014	0.008	0.008
8	60.00	-0.4	0.4	0.019	0.000	0.016	0.016	0.008	0.008
9	64.00	-0.8	0.7	0.027	0.000	0.018	0.018	0.008	0.008
10	80.00	-3.1	0.9	0.055	0.000	0.017	0.017	0.006	0.006
11	95.00	-6.8	3.3	0.095	0.000	0.056	0.056	0.015	0.015

TABLE XI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR

INLET GUIDE VANE 65

(u) 70 Percent of design speed; reading 86

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	25.245	25.258	0.0	7.7	0.0	7.7	288.6	1.001	10.12	0.995
2	24.567	24.554	0.0	6.6	0.0	6.6	288.5	1.001	10.13	0.998
3	23.045	22.931	0.0	5.6	0.0	5.6	288.3	1.000	10.13	0.999
4	21.420	21.466	0.0	4.7	0.0	4.7	288.2	1.000	10.13	0.999
5	20.584	20.630	0.0	4.1	0.0	4.1	288.1	1.000	10.13	0.999
6	19.743	19.799	0.0	3.6	0.0	3.6	288.2	1.000	10.13	0.999
7	18.044	18.128	0.0	1.9	0.0	1.9	288.0	1.000	10.13	0.999
8	16.327	16.436	0.0	0.1	0.0	0.1	288.0	1.000	10.13	0.999
9	15.634	15.753	0.0	-0.6	0.0	-0.6	288.1	1.000	10.13	0.999
10	12.687	12.842	0.0	-4.5	0.0	-4.5	288.1	1.000	10.13	0.999
11	9.446	9.535	0.0	-12.3	0.0	-12.3	287.9	1.000	10.13	0.996

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	89.7	95.6	89.7	95.6	89.7	94.7	0.1	12.8	0.0	0.0
2	90.9	98.5	90.9	98.5	90.9	97.9	0.1	11.2	0.0	0.0
3	92.4	96.9	92.4	96.9	92.4	96.4	0.1	9.5	0.0	0.0
4	94.6	96.9	94.6	96.9	94.6	96.6	0.1	7.9	0.0	0.0
5	95.4	97.2	95.4	97.2	95.4	96.9	0.1	7.0	0.0	0.0
6	96.1	97.3	96.1	97.3	96.1	97.1	0.1	6.2	0.0	0.0
7	97.1	97.5	97.1	97.5	97.1	97.5	0.0	3.3	0.0	0.0
8	97.1	96.8	97.1	96.8	97.1	96.8	0.1	0.2	0.0	0.0
9	97.1	96.6	97.1	96.6	97.1	96.6	0.1	-1.0	0.0	0.0
10	97.6	97.3	97.6	97.3	97.6	97.0	0.1	-7.7	0.0	0.0
11	97.9	96.3	97.9	96.3	97.9	94.1	0.1	-20.5	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.265	0.283	0.265	0.285	0.265	0.280	1.056
2	0.269	0.292	0.269	0.292	0.269	0.290	1.077
3	0.273	0.287	0.273	0.287	0.273	0.285	1.043
4	0.280	0.287	0.280	0.287	0.280	0.286	1.021
5	0.283	0.288	0.283	0.288	0.283	0.287	1.016
6	0.285	0.288	0.285	0.288	0.285	0.288	1.010
7	0.288	0.289	0.288	0.289	0.288	0.289	1.004
8	0.288	0.287	0.288	0.287	0.288	0.287	0.997
9	0.288	0.286	0.288	0.286	0.288	0.286	0.995
10	0.289	0.288	0.289	0.288	0.289	0.287	0.993
11	0.290	0.285	0.290	0.285	0.290	0.279	0.961

	PERCENT	INCIDENCE	DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN				TOT	PROF	TOT	PROF
1	5.00	11.0	-4.4	0.040	0.000	0.104	0.104	0.076	0.076
2	10.00	9.8	-4.5	0.005	0.000	0.031	0.031	0.022	0.022
3	20.00	6.6	-2.9	0.021	0.000	0.025	0.025	0.017	0.017
4	30.00	4.6	-1.4	0.028	0.000	0.023	0.023	0.014	0.014
5	35.00	3.6	-0.9	0.026	0.000	0.020	0.020	0.012	0.012
6	40.00	2.7	-0.2	0.025	0.000	0.021	0.021	0.012	0.012
7	50.00	1.0	0.4	0.013	0.000	0.017	0.017	0.009	0.009
8	60.00	-0.4	1.1	0.003	0.000	0.018	0.018	0.009	0.009
9	64.00	-0.8	1.3	0.010	0.000	0.019	0.019	0.009	0.009
10	80.00	-3.1	1.7	0.033	0.000	0.019	0.019	0.007	0.007
11	95.00	-6.8	4.5	0.075	0.000	0.063	0.063	0.017	0.017

TABLE XI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR INLET GUIDE VANE 65

(v) 40 Percent of design speed; reading 81

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	25.245	25.258	0.0	7.8	0.0	7.8	288.6	1.000	10.13	0.997
2	24.567	24.554	0.0	6.9	0.0	6.9	288.5	1.000	10.13	0.999
3	23.045	22.931	0.0	6.2	0.0	6.2	288.3	1.000	10.13	0.999
4	21.420	21.466	0.0	5.6	0.0	5.6	288.2	1.000	10.13	0.999
5	20.584	20.630	0.0	5.0	0.0	5.0	288.0	1.000	10.13	0.999
6	19.743	19.799	0.0	4.2	0.0	4.2	288.0	1.000	10.13	0.999
7	18.044	18.128	0.0	2.4	0.0	2.4	288.1	1.000	10.13	1.000
8	16.327	16.436	0.0	0.7	0.0	0.7	288.0	1.000	10.13	1.000
9	15.634	15.753	0.0	0.0	0.0	0.0	288.1	1.000	10.13	1.000
10	12.687	12.842	0.0	-4.4	0.0	-4.4	288.0	1.000	10.13	0.999
11	9.446	9.535	0.0	-13.2	0.0	-13.2	288.0	1.000	10.13	0.998

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	68.9	75.2	68.9	75.2	68.9	74.5	0.0	10.2	0.0	0.0
2	69.9	76.9	69.9	76.9	69.9	76.3	0.0	9.3	0.0	0.0
3	70.4	75.1	70.4	75.1	70.4	74.6	0.0	8.2	0.0	0.0
4	72.1	75.1	72.1	75.1	72.1	74.7	0.0	7.3	0.0	0.0
5	72.7	75.0	72.7	75.0	72.7	74.7	0.0	6.5	0.0	0.0
6	73.1	74.7	73.1	74.7	73.1	74.5	0.0	5.5	0.0	0.0
7	73.7	74.0	73.7	74.0	73.7	74.0	0.0	3.1	0.0	0.0
8	74.5	73.1	74.5	73.1	74.5	73.1	0.0	0.9	0.0	0.0
9	74.7	73.1	74.7	73.1	74.7	73.1	0.0	0.0	0.0	0.0
10	74.8	72.7	74.8	72.7	74.8	72.5	0.0	-5.6	0.0	0.0
11	75.1	71.7	75.1	71.7	75.1	69.8	0.0	-16.4	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.203	0.222	0.203	0.222	0.203	0.220	1.082
2	0.206	0.227	0.206	0.227	0.206	0.225	1.092
3	0.208	0.222	0.208	0.222	0.208	0.220	1.060
4	0.213	0.222	0.213	0.222	0.213	0.221	1.036
5	0.215	0.222	0.215	0.222	0.215	0.221	1.027
6	0.216	0.221	0.216	0.221	0.216	0.220	1.019
7	0.218	0.219	0.218	0.219	0.218	0.218	1.004
8	0.220	0.216	0.220	0.216	0.220	0.216	0.981
9	0.221	0.216	0.221	0.216	0.221	0.216	0.979
10	0.221	0.215	0.221	0.215	0.221	0.214	0.969
11	0.222	0.212	0.222	0.212	0.222	0.206	0.928

	PERCENT	INCIDENCE	DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN				TOT	PROF	TOT	PROF
1	5.00	11.0	-4.4	0.018	0.000	0.091	0.091	0.067	0.067
2	10.00	9.8	-4.2	-.005	0.000	0.029	0.029	0.021	0.021
3	20.00	6.6	-2.3	0.012	0.000	0.024	0.024	0.016	0.016
4	30.00	4.6	-0.5	0.023	0.000	0.018	0.018	0.012	0.012
5	35.00	3.6	-0.0	0.023	0.000	0.017	0.017	0.010	0.010
6	40.00	2.6	0.4	0.021	0.000	0.016	0.016	0.010	0.010
7	50.00	1.0	0.9	0.018	0.000	0.011	0.011	0.006	0.006
8	60.00	-0.4	1.7	0.024	0.000	0.013	0.013	0.006	0.006
9	64.00	-0.8	1.9	0.021	0.000	0.015	0.015	0.007	0.007
10	80.00	-3.1	1.8	0.056	0.000	0.016	0.016	0.006	0.006
11	95.00	-6.8	3.6	0.107	0.000	0.058	0.058	0.016	0.016

TABLE XI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR INLET GUIDE VANE 65

(w) 40 Percent of design speed; reading 82

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	25.245	25.258	0.0	8.1	0.0	8.1	288.5	1.000	10.13	0.998
2	24.567	24.554	0.0	7.3	0.0	7.3	288.4	1.000	10.13	0.999
3	23.045	22.931	0.0	6.7	0.0	6.7	288.3	1.000	10.13	1.000
4	21.420	21.466	0.0	5.7	0.0	5.7	288.1	1.001	10.13	1.000
5	20.584	20.630	0.0	5.3	0.0	5.3	288.0	1.000	10.13	1.000
6	19.743	19.799	0.0	4.4	0.0	4.4	288.1	1.000	10.13	1.000
7	18.044	18.128	0.0	2.4	0.0	2.4	288.1	1.000	10.13	1.000
8	16.327	16.436	0.0	0.6	0.0	0.6	287.9	1.000	10.13	1.000
9	15.634	15.753	0.0	-0.1	0.0	-0.1	288.3	1.000	10.13	1.000
10	12.687	12.842	0.0	-4.5	0.0	-4.5	288.0	1.000	10.13	1.000
11	9.446	9.535	0.0	-13.2	0.0	-13.2	288.0	1.000	10.13	0.999

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	53.4	58.0	53.4	58.0	53.4	57.4	0.0	8.1	0.0	0.0
2	54.4	59.5	54.4	59.5	54.4	59.0	0.0	7.6	0.0	0.0
3	55.2	58.3	55.2	58.3	55.2	57.9	0.0	6.8	0.0	0.0
4	56.3	58.2	56.3	58.2	56.3	57.9	0.0	5.8	0.0	0.0
5	56.8	58.2	56.8	58.2	56.8	58.0	0.0	5.4	0.0	0.0
6	57.2	58.0	57.2	58.0	57.2	57.8	0.0	4.4	0.0	0.0
7	57.6	57.8	57.6	57.8	57.6	57.7	0.0	2.4	0.0	0.0
8	58.1	57.3	58.1	57.3	58.1	57.3	0.0	0.6	0.0	0.0
9	58.3	57.2	58.3	57.2	58.3	57.2	0.0	-0.1	0.0	0.0
10	58.5	57.1	58.5	57.1	58.5	57.0	0.0	-4.5	0.0	0.0
11	58.9	56.7	58.9	56.7	58.9	55.2	0.0	-13.0	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.157	0.171	0.157	0.171	0.157	0.169	1.075
2	0.160	0.175	0.160	0.175	0.160	0.174	1.084
3	0.162	0.172	0.162	0.172	0.162	0.171	1.050
4	0.166	0.171	0.166	0.171	0.166	0.171	1.029
5	0.167	0.172	0.167	0.172	0.167	0.171	1.022
6	0.168	0.171	0.168	0.171	0.168	0.170	1.011
7	0.170	0.170	0.170	0.170	0.170	0.170	1.002
8	0.171	0.169	0.171	0.169	0.171	0.169	0.985
9	0.172	0.168	0.172	0.168	0.172	0.168	0.980
10	0.173	0.168	0.173	0.168	0.173	0.168	0.973
11	0.174	0.167	0.174	0.167	0.174	0.163	0.936

	PERCENT	INCIDENCE	DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN				TOT	PROF	TOT	PROF
1	5.00	11.0	-4.1	0.027	0.000	0.091	0.091	0.067	0.067
2	10.00	9.8	-3.8	0.007	0.000	0.030	0.030	0.022	0.022
3	20.00	6.6	-1.8	0.027	0.000	0.025	0.025	0.017	0.017
4	30.00	4.6	-0.4	0.031	0.000	0.017	0.017	0.011	0.011
5	35.00	3.6	0.3	0.031	0.000	0.017	0.017	0.011	0.011
6	40.00	2.6	0.5	0.030	0.000	0.016	0.016	0.009	0.009
7	50.00	1.0	0.8	0.019	0.000	0.011	0.011	0.006	0.006
8	60.00	-0.4	1.6	0.020	0.000	0.014	0.014	0.007	0.007
9	64.00	-0.8	1.7	0.022	0.000	0.015	0.015	0.007	0.007
10	80.00	-3.1	1.7	0.053	0.000	0.016	0.016	0.006	0.006
11	95.00	-6.8	3.6	0.100	0.000	0.056	0.056	0.015	0.015

TABLE XI. - Concluded. BLADE-ELEMENT DATA AT BLADE EDGES FOR INLET GUIDE VANE 65

(x) 40 Percent of design speed; reading 83

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	25.245	25.258	0.0	61.9	0.0	61.9	288.5	1.015	10.13	0.992
2	24.567	24.554	0.0	20.0	0.0	20.0	288.3	1.006	10.13	0.994
3	23.045	22.931	0.0	7.2	0.0	7.2	288.2	1.002	10.13	0.997
4	21.420	21.466	0.0	6.1	0.0	6.1	288.3	1.001	10.13	0.999
5	20.584	20.630	0.0	5.6	0.0	5.6	288.2	1.001	10.13	0.999
6	19.743	19.799	0.0	4.8	0.0	4.8	288.0	1.001	10.13	0.999
7	18.044	18.128	0.0	2.9	0.0	2.9	288.1	1.001	10.13	1.000
8	16.327	16.436	0.0	0.9	0.0	0.9	288.2	1.000	10.13	1.000
9	15.634	15.753	0.0	0.2	0.0	0.2	288.1	1.000	10.13	1.000
10	12.687	12.842	0.0	-3.9	0.0	-3.9	288.0	1.000	10.13	1.000
11	9.446	9.535	0.0	-12.5	0.0	-12.5	288.0	1.000	10.13	0.999

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	41.0	15.1	41.0	15.1	41.0	7.1	0.0	13.3	0.0	0.0
2	41.7	32.3	41.7	32.3	41.7	30.3	0.0	11.1	0.0	0.0
3	42.5	45.3	42.5	45.3	42.5	44.9	0.0	5.7	0.0	0.0
4	43.5	49.0	43.5	49.0	43.5	48.7	0.0	5.2	0.0	0.0
5	44.0	49.4	44.0	49.4	44.0	49.2	0.0	4.8	0.0	0.0
6	44.6	49.9	44.6	49.9	44.6	49.7	0.0	4.2	0.0	0.0
7	45.2	50.4	45.2	50.4	45.2	50.4	0.0	2.6	0.0	0.0
8	46.1	50.4	46.1	50.4	46.1	50.4	0.0	0.8	0.0	0.0
9	45.8	50.4	45.8	50.4	45.8	50.4	0.0	0.2	0.0	0.0
10	46.7	50.5	46.7	50.5	46.7	50.4	0.0	-3.4	0.0	0.0
11	47.3	50.2	47.3	50.2	47.3	49.0	0.0	-10.9	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.121	0.044	0.121	0.044	0.121	0.021	0.173
2	0.123	0.095	0.123	0.095	0.123	0.089	0.726
3	0.125	0.133	0.125	0.133	0.125	0.132	1.056
4	0.128	0.144	0.128	0.144	0.128	0.143	1.119
5	0.129	0.146	0.129	0.146	0.129	0.145	1.119
6	0.131	0.147	0.131	0.147	0.131	0.146	1.115
7	0.133	0.149	0.133	0.149	0.133	0.148	1.113
8	0.136	0.148	0.136	0.148	0.136	0.148	1.094
9	0.135	0.148	0.135	0.148	0.135	0.148	1.100
10	0.138	0.149	0.138	0.149	0.138	0.148	1.078
11	0.139	0.148	0.139	0.148	0.139	0.144	1.035

	PERCENT	INCIDENCE	DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN				TOT	PROF	TOT	PROF
1	5.00	11.0	49.8	0.873	0.000	0.836	0.836	0.292	0.292
2	10.00	9.8	9.0	0.418	0.000	0.536	0.536	0.364	0.364
3	20.00	6.6	-1.3	0.025	0.000	0.230	0.230	0.154	0.154
4	30.00	4.6	-0.0	-.051	0.000	0.114	0.114	0.072	0.072
5	35.00	3.6	0.6	-.058	0.000	0.081	0.081	0.049	0.049
6	40.00	2.6	1.0	-.064	0.000	0.057	0.057	0.033	0.033
7	50.00	1.0	1.4	-.085	0.000	0.038	0.038	0.020	0.020
8	60.00	-0.4	1.9	-.086	0.000	0.027	0.027	0.013	0.013
9	64.00	-0.8	2.1	-.098	0.000	0.028	0.028	0.013	0.013
10	80.00	-3.1	2.4	-.053	0.000	0.023	0.023	0.009	0.009
11	95.00	-6.8	4.3	0.004	0.000	0.055	0.055	0.015	0.015

TABLE XII. - BLADE-ELEMENT DATA AT BLADE EDGES FOR ROTOR 65

(a) 100 Percent of design speed; reading 154

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.795	24.333	6.9	41.6	63.1	62.7	290.1	1.188	9.96	1.615
2	24.143	23.640	6.2	37.0	62.0	61.0	289.5	1.166	10.09	1.584
3	22.708	22.250	6.0	36.1	60.9	56.5	288.9	1.166	10.09	1.613
4	21.219	20.861	5.2	37.9	59.0	51.1	288.6	1.183	10.10	1.649
5	20.462	20.165	4.7	43.1	58.0	51.7	288.5	1.189	10.10	1.596
6	19.705	19.472	4.1	42.9	57.0	48.6	288.5	1.182	10.10	1.616
7	18.191	18.082	2.3	37.7	55.2	42.3	288.3	1.171	10.11	1.675
8	16.693	16.693	0.9	50.8	53.5	44.7	288.2	1.172	10.10	1.701
9	16.091	16.137	0.2	45.7	52.5	34.7	288.1	1.179	10.10	1.716
10	13.597	13.914	-2.7	43.5	47.6	15.0	288.0	1.195	10.09	1.796
11	10.894	11.829	-7.8	43.9	43.9	7.1	287.6	1.189	9.99	1.699

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	229.4	221.2	503.1	360.6	227.8	165.5	27.4	146.7	476.0	467.1
2	234.5	221.8	495.8	365.6	233.1	177.1	25.5	133.6	463.1	453.5
3	230.6	235.9	471.7	345.8	229.3	190.7	24.0	138.9	436.2	427.4
4	233.3	251.5	450.9	316.4	232.3	198.6	21.2	154.4	407.7	400.8
5	234.8	240.9	441.1	283.8	234.0	176.0	19.1	164.6	393.0	387.3
6	234.7	246.8	430.1	273.7	234.1	180.9	16.9	167.9	377.7	373.2
7	235.2	259.9	412.3	278.3	235.0	205.7	9.6	158.9	348.3	346.3
8	234.0	228.5	393.3	203.1	234.0	144.4	3.8	177.1	319.9	319.9
9	235.9	257.8	387.7	218.9	235.9	179.9	0.8	184.6	308.4	309.3
10	248.7	302.3	368.4	227.1	248.4	219.5	-11.7	207.9	260.5	266.5
11	255.5	289.9	351.3	210.5	253.1	208.9	-34.8	201.0	208.9	226.9

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID PEAK SS	
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO
1	0.705	0.617	1.545	1.005	0.699	0.461	0.726	1.460
2	0.722	0.625	1.527	1.031	0.718	0.499	0.760	1.479
3	0.710	0.669	1.452	0.981	0.706	0.541	0.831	1.518
4	0.720	0.713	1.391	0.897	0.717	0.563	0.855	1.609
5	0.725	0.678	1.362	0.799	0.722	0.495	0.752	1.628
6	0.725	0.698	1.328	0.775	0.723	0.512	0.773	1.609
7	0.727	0.744	1.274	0.796	0.726	0.589	0.875	1.525
8	0.722	0.646	1.214	0.574	0.722	0.408	0.617	1.421
9	0.729	0.734	1.198	0.623	0.729	0.512	0.763	1.417
10	0.773	0.872	1.146	0.655	0.773	0.633	0.884	1.445
11	0.798	0.835	1.097	0.606	0.790	0.602	0.826	1.435

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	0.7	-1.3	3.6	0.376	0.782	0.149	0.054	0.027	0.010
2	10.00	1.4	-0.8	3.2	0.346	0.847	0.096	-.000	0.018	-.000
3	20.00	2.7	-0.1	1.7	0.356	0.882	0.079	-.014	0.016	-.003
4	30.00	3.0	-0.6	-0.2	0.409	0.840	0.120	0.017	0.028	0.004
5	35.00	3.1	-0.9	2.1	0.479	0.758	0.187	0.085	0.043	0.020
6	40.00	3.2	-1.1	1.0	0.492	0.807	0.151	0.058	0.037	0.014
7	50.00	3.2	-1.5	-0.7	0.454	0.931	0.055	-.011	0.014	-.003
8	60.00	3.1	-2.1	7.5	0.632	0.955	0.038	-.002	0.009	-.000
9	64.00	2.9	-2.6	0.7	0.592	0.930	0.063	0.025	0.017	0.007
10	80.00	0.7	-6.0	-2.3	0.557	0.932	0.070	0.034	0.019	0.010
11	95.00	-0.6	-8.1	11.3	0.568	0.866	0.142	0.114	0.034	0.027

TABLE XII. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR ROTOR 65

(b) 100 Percent of design speed; reading 135

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.795	24.333	6.7	49.6	63.4	63.4	289.9	1.234	9.98	1.785
2	24.143	23.640	6.1	43.8	62.3	61.5	289.5	1.205	10.10	1.735
3	22.708	22.250	5.2	42.2	61.3	57.2	288.8	1.197	10.09	1.738
4	21.219	20.861	4.6	43.4	59.4	52.1	288.6	1.207	10.10	1.759
5	20.462	20.165	3.9	47.6	58.4	51.9	288.6	1.213	10.10	1.716
6	19.705	19.472	3.2	45.8	57.6	49.5	288.5	1.201	10.10	1.726
7	18.191	18.082	1.5	42.8	55.9	45.0	288.4	1.186	10.11	1.721
8	16.693	16.693	0.0	51.4	54.3	46.0	288.2	1.179	10.10	1.722
9	16.091	16.137	-0.6	45.8	53.4	36.0	288.1	1.181	10.10	1.727
10	13.597	13.914	-3.4	43.4	48.9	17.4	288.1	1.191	10.09	1.774
11	10.894	11.829	-8.5	45.0	45.2	8.0	287.9	1.189	10.00	1.716

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	227.0	227.2	502.8	328.9	225.4	147.4	26.3	172.9	475.7	466.9
2	231.4	224.3	495.2	339.1	230.1	161.8	24.6	155.3	463.1	453.4
3	227.6	234.0	471.9	319.6	226.7	173.2	20.8	157.3	434.7	425.9
4	230.1	246.5	451.0	292.0	229.4	179.2	18.3	169.2	406.6	399.8
5	231.7	241.8	441.7	264.2	231.2	163.1	15.6	178.5	392.0	386.3
6	231.9	243.6	431.9	261.1	231.5	169.7	13.1	174.8	377.7	373.2
7	231.6	245.2	413.3	254.1	231.5	179.8	6.0	166.7	348.3	346.2
8	229.5	223.8	393.5	201.1	229.5	139.5	0.1	175.0	319.7	319.7
9	231.4	253.2	387.7	217.9	231.3	176.4	-2.3	181.6	308.8	309.6
10	240.5	291.5	365.1	221.8	240.1	211.6	-14.4	200.4	260.7	266.8
11	246.2	281.5	345.6	200.9	243.6	198.9	-36.2	199.1	209.0	226.9

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID PEAK SS	
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO
1	0.696	0.622	1.543	0.900	0.692	0.404	0.654	1.467
2	0.712	0.622	1.523	0.941	0.708	0.449	0.703	1.487
3	0.700	0.654	1.451	0.893	0.697	0.484	0.764	1.530
4	0.709	0.689	1.389	0.816	0.707	0.501	0.781	1.622
5	0.714	0.673	1.362	0.736	0.713	0.454	0.706	1.645
6	0.715	0.683	1.332	0.732	0.714	0.476	0.733	1.632
7	0.714	0.692	1.274	0.717	0.714	0.507	0.776	1.548
8	0.707	0.629	1.213	0.565	0.707	0.392	0.608	1.448
9	0.714	0.719	1.196	0.619	0.714	0.501	0.762	1.444
10	0.745	0.838	1.131	0.638	0.744	0.609	0.882	1.478
11	0.765	0.807	1.074	0.576	0.757	0.570	0.817	1.464

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	0.9	-1.0	4.3	0.460	0.770	0.186	0.090	0.033	0.016
2	10.00	1.8	-0.5	3.6	0.416	0.840	0.119	0.022	0.022	0.004
3	20.00	3.1	0.2	2.4	0.428	0.869	0.100	0.005	0.020	0.001
4	30.00	3.4	-0.1	0.8	0.478	0.844	0.129	0.024	0.030	0.005
5	35.00	3.6	-0.4	2.3	0.538	0.782	0.187	0.081	0.043	0.019
6	40.00	3.7	-0.5	1.8	0.532	0.839	0.137	0.039	0.033	0.009
7	50.00	3.9	-0.8	1.9	0.523	0.900	0.085	0.014	0.022	0.004
8	60.00	3.9	-1.2	8.8	0.639	0.940	0.053	0.009	0.013	0.002
9	64.00	3.7	-1.8	1.9	0.594	0.931	0.063	0.022	0.017	0.006
10	80.00	2.0	-4.8	0.1	0.564	0.933	0.069	0.030	0.019	0.008
11	95.00	0.7	-6.9	12.2	0.588	0.884	0.128	0.097	0.031	0.023

TABLE XII. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR ROTOR 65

(c) 100 Percent of design speed; reading 134

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.795	24.333	6.7	53.7	64.2	62.8	289.9	1.267	9.97	1.937
2	24.143	23.640	5.9	48.0	63.1	61.1	289.5	1.227	10.09	1.860
3	22.708	22.250	5.3	46.6	61.9	56.6	288.8	1.219	10.09	1.852
4	21.219	20.861	4.6	47.1	60.1	51.6	288.6	1.226	10.10	1.856
5	20.462	20.165	4.0	51.3	59.1	50.9	288.5	1.233	10.10	1.822
6	19.705	19.472	3.2	49.1	58.3	49.1	288.5	1.214	10.10	1.806
7	18.191	18.082	1.4	47.4	56.7	45.2	288.4	1.199	10.11	1.774
8	16.693	16.693	0.0	53.8	55.1	46.2	288.2	1.187	10.10	1.736
9	16.091	16.137	-0.6	47.7	54.1	35.7	288.1	1.186	10.10	1.727
10	13.597	13.914	-3.5	43.7	50.0	17.8	288.1	1.191	10.09	1.768
11	10.894	11.829	-8.6	45.9	46.4	7.3	288.0	1.189	10.01	1.727

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	219.2	238.5	499.8	308.7	217.7	141.3	25.5	192.1	475.5	466.6
2	224.9	231.8	493.7	321.2	223.7	155.0	23.2	172.3	463.3	453.7
3	222.2	241.3	469.9	301.0	221.2	165.8	20.7	175.3	435.2	426.5
4	224.7	251.5	449.0	275.6	224.0	171.2	18.0	184.2	407.1	400.2
5	225.8	249.7	438.8	247.4	225.2	156.2	15.9	194.8	392.4	386.7
6	225.9	247.1	429.6	247.0	225.6	161.7	12.5	186.9	378.1	373.7
7	225.5	244.7	410.6	235.1	225.4	165.8	5.6	180.0	348.8	346.7
8	223.1	225.1	390.0	191.9	223.1	132.8	0.2	181.7	320.1	320.1
9	224.1	252.2	382.5	209.1	224.1	169.7	-2.2	186.5	307.7	308.6
10	231.3	289.1	358.9	219.6	230.9	209.1	-14.1	199.6	260.6	266.7
11	235.2	281.3	337.1	197.5	232.6	195.9	-35.1	201.8	209.0	226.9

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID PEAK SS	
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO
1	0.670	0.646	1.529	0.837	0.666	0.383	0.649	1.481
2	0.690	0.638	1.515	0.884	0.686	0.427	0.693	1.504
3	0.682	0.670	1.442	0.835	0.679	0.460	0.750	1.541
4	0.690	0.699	1.380	0.766	0.688	0.476	0.764	1.635
5	0.694	0.691	1.349	0.685	0.693	0.432	0.693	1.656
6	0.695	0.689	1.321	0.689	0.694	0.451	0.717	1.647
7	0.693	0.687	1.263	0.660	0.693	0.465	0.735	1.564
8	0.685	0.631	1.199	0.538	0.685	0.372	0.596	1.463
9	0.689	0.714	1.176	0.592	0.689	0.481	0.757	1.454
10	0.714	0.831	1.107	0.631	0.712	0.601	0.906	1.498
11	0.727	0.806	1.042	0.566	0.719	0.561	0.842	1.488

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	1.8	-0.1	3.7	0.512	0.779	0.200	0.103	0.036	0.019
2	10.00	2.5	0.3	3.3	0.465	0.853	0.121	0.021	0.023	0.004
3	20.00	3.7	0.9	1.8	0.480	0.878	0.103	0.007	0.021	0.001
4	30.00	4.1	0.5	0.3	0.525	0.856	0.129	0.022	0.030	0.005
5	35.00	4.3	0.3	1.3	0.587	0.803	0.184	0.076	0.043	0.018
6	40.00	4.5	0.2	1.5	0.574	0.860	0.127	0.027	0.031	0.006
7	50.00	4.7	-0.1	2.1	0.578	0.895	0.096	0.023	0.024	0.006
8	60.00	4.7	-0.4	8.9	0.665	0.915	0.078	0.033	0.018	0.008
9	64.00	4.5	-1.0	1.7	0.616	0.907	0.087	0.047	0.023	0.013
10	80.00	3.1	-3.7	0.5	0.561	0.927	0.077	0.037	0.021	0.010
11	95.00	1.9	-5.7	11.6	0.589	0.894	0.121	0.091	0.029	0.022

TABLE XII. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR ROTOR 65

(d) 100 Percent of design speed; reading 133

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.795	24.333	6.6	56.0	65.0	64.2	289.9	1.277	9.97	1.972
2	24.143	23.640	5.8	50.4	64.0	61.4	289.5	1.244	10.09	1.918
3	22.708	22.250	5.4	49.8	62.8	56.7	288.8	1.234	10.09	1.908
4	21.219	20.861	4.4	49.6	61.0	50.7	288.6	1.240	10.10	1.917
5	20.462	20.165	3.8	53.5	60.1	50.1	288.5	1.244	10.10	1.869
6	19.705	19.472	3.1	51.4	59.1	48.3	288.4	1.223	10.10	1.842
7	18.191	18.082	1.4	49.5	57.5	44.1	288.3	1.205	10.11	1.794
8	16.693	16.693	-0.1	54.4	55.8	44.5	288.1	1.190	10.10	1.755
9	16.091	16.137	-0.7	49.1	54.8	34.4	288.0	1.190	10.10	1.740
10	13.597	13.914	-3.5	44.0	50.5	17.3	287.8	1.190	10.10	1.758
11	10.894	11.829	-8.7	46.6	47.1	4.9	287.7	1.189	10.02	1.732

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	211.7	235.1	497.6	301.6	210.3	131.4	24.3	195.0	475.4	466.5
2	216.8	234.1	491.6	311.8	215.7	149.3	22.0	180.3	463.7	454.0
3	214.1	244.4	466.7	287.0	213.2	157.7	20.1	186.7	435.2	426.5
4	216.5	257.6	445.7	263.4	215.8	167.0	16.8	196.2	406.7	399.9
5	218.2	255.3	436.4	236.5	217.7	151.7	14.4	205.3	392.5	386.8
6	219.1	252.2	426.6	236.3	218.8	157.3	11.7	197.1	377.9	373.4
7	219.1	249.3	407.3	225.6	219.0	161.9	5.3	189.5	348.7	346.6
8	217.6	231.1	387.2	188.7	217.6	134.7	-0.3	187.8	320.0	320.0
9	218.9	256.6	380.1	203.6	218.9	168.0	-2.5	194.0	308.3	309.2
10	226.4	289.9	355.3	218.2	225.9	208.4	-13.9	201.6	260.3	266.3
11	229.0	288.4	332.6	198.7	226.4	198.0	-34.8	209.7	208.8	226.7

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID PEAK SS	
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO
1	0.645	0.634	1.517	0.813	0.641	0.354	0.625	1.498
2	0.663	0.640	1.503	0.853	0.660	0.408	0.692	1.524
3	0.655	0.675	1.427	0.792	0.652	0.435	0.740	1.558
4	0.663	0.713	1.365	0.729	0.661	0.462	0.774	1.653
5	0.669	0.705	1.338	0.653	0.667	0.419	0.697	1.677
6	0.672	0.702	1.309	0.658	0.671	0.438	0.719	1.663
7	0.672	0.699	1.250	0.633	0.672	0.454	0.739	1.578
8	0.667	0.648	1.187	0.529	0.667	0.378	0.619	1.477
9	0.672	0.727	1.167	0.577	0.672	0.476	0.767	1.471
10	0.697	0.834	1.094	0.628	0.696	0.599	0.922	1.508
11	0.706	0.830	1.026	0.572	0.698	0.570	0.875	1.506

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	2.6	0.7	5.1	0.528	0.774	0.211	0.112	0.036	0.019
2	10.00	3.4	1.2	3.5	0.489	0.840	0.139	0.037	0.026	0.007
3	20.00	4.6	1.8	1.9	0.516	0.867	0.118	0.021	0.024	0.004
4	30.00	5.1	1.5	-0.7	0.560	0.852	0.140	0.031	0.034	0.007
5	35.00	5.2	1.2	0.6	0.620	0.803	0.192	0.081	0.046	0.019
6	40.00	5.3	1.0	0.6	0.605	0.856	0.136	0.034	0.033	0.008
7	50.00	5.4	0.7	1.0	0.607	0.886	0.107	0.033	0.027	0.008
8	60.00	5.4	0.3	7.2	0.677	0.917	0.078	0.032	0.019	0.008
9	64.00	5.2	-0.3	0.4	0.635	0.900	0.096	0.054	0.026	0.015
10	80.00	3.6	-3.1	-0.0	0.562	0.918	0.087	0.047	0.024	0.013
11	95.00	2.6	-5.0	9.2	0.586	0.898	0.120	0.089	0.029	0.021

TABLE XII. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR ROTOR 65

(e) 100 Percent of design speed; reading 156

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.795	24.333	8.9	57.7	65.8	64.2	289.7	1.295	9.96	2.024
2	24.143	23.640	8.0	52.0	64.6	61.0	289.3	1.260	10.10	1.964
3	22.708	22.250	7.4	50.6	63.5	56.8	288.8	1.247	10.09	1.941
4	21.219	20.861	6.2	51.6	61.6	51.3	288.7	1.251	10.09	1.946
5	20.462	20.165	5.5	55.0	60.7	51.0	288.7	1.252	10.10	1.897
6	19.705	19.472	4.8	52.2	59.8	49.4	288.5	1.235	10.10	1.865
7	18.191	18.082	3.1	51.0	57.9	45.8	288.4	1.213	10.11	1.804
8	16.693	16.693	1.4	55.5	56.3	43.8	288.2	1.195	10.11	1.774
9	16.091	16.137	0.9	49.3	55.3	33.2	288.1	1.194	10.10	1.762
10	13.597	13.914	-2.3	44.3	51.0	17.8	288.0	1.191	10.10	1.758
11	10.894	11.829	-7.7	46.3	47.2	6.8	288.0	1.189	10.03	1.741

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	201.5	239.2	486.3	293.2	199.0	127.8	31.3	202.2	474.9	466.1
2	208.2	238.7	480.2	302.9	206.2	147.0	28.9	188.1	462.5	452.9
3	205.5	245.1	457.0	283.9	203.8	155.6	26.5	189.4	435.6	426.8
4	208.7	256.7	436.9	254.9	207.5	159.4	22.5	201.2	406.9	400.1
5	210.4	253.5	427.9	231.3	209.5	145.4	20.0	207.6	393.2	387.5
6	211.3	249.0	418.5	234.6	210.6	152.7	17.6	196.7	379.3	374.8
7	212.1	244.2	398.9	220.3	211.8	153.7	11.6	189.7	349.7	347.6
8	210.8	235.0	379.8	184.1	210.7	133.0	5.1	193.7	321.1	321.1
9	211.9	261.8	372.3	203.9	211.8	170.6	3.2	198.6	309.4	310.2
10	218.5	287.7	346.9	216.1	218.3	205.8	-8.8	201.0	260.9	266.9
11	223.2	282.2	325.6	196.4	221.2	195.0	-29.8	203.9	209.2	227.1

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID PEAK SS	
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO
1	0.612	0.641	1.477	0.785	0.605	0.342	0.642	1.486
2	0.635	0.649	1.464	0.824	0.629	0.400	0.713	1.505
3	0.626	0.673	1.395	0.779	0.621	0.427	0.763	1.548
4	0.637	0.707	1.333	0.701	0.633	0.439	0.769	1.644
5	0.643	0.696	1.307	0.636	0.640	0.400	0.694	1.670
6	0.646	0.688	1.279	0.649	0.644	0.422	0.725	1.657
7	0.649	0.681	1.220	0.614	0.648	0.428	0.726	1.568
8	0.645	0.658	1.161	0.516	0.644	0.373	0.631	1.473
9	0.648	0.742	1.139	0.578	0.648	0.483	0.805	1.466
10	0.670	0.826	1.064	0.620	0.670	0.591	0.943	1.507
11	0.686	0.809	1.001	0.563	0.680	0.559	0.882	1.503

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	3.4	1.5	5.1	0.534	0.757	0.242	0.152	0.042	0.026
2	10.00	4.0	1.8	3.1	0.497	0.819	0.168	0.077	0.032	0.014
3	20.00	5.3	2.5	2.0	0.509	0.846	0.145	0.055	0.029	0.011
4	30.00	5.7	2.1	-0.0	0.570	0.833	0.167	0.066	0.040	0.016
5	35.00	5.8	1.9	1.5	0.622	0.797	0.207	0.103	0.049	0.024
6	40.00	6.0	1.7	1.7	0.596	0.828	0.172	0.076	0.041	0.018
7	50.00	5.9	1.2	2.7	0.606	0.862	0.137	0.070	0.034	0.017
8	60.00	5.9	0.7	6.5	0.683	0.911	0.089	0.047	0.022	0.011
9	64.00	5.7	0.2	-0.8	0.625	0.908	0.093	0.055	0.026	0.015
10	80.00	4.1	-2.6	0.5	0.553	0.915	0.094	0.058	0.026	0.016
11	95.00	2.7	-4.9	11.1	0.576	0.906	0.114	0.086	0.027	0.021

TABLE XII. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR ROTOR 65

(f) 97 Percent of design speed; reading 124

RP	RADII IN	RADII OUT	ABS BETAM IN	ABS BETAM OUT	REL BETAM IN	REL BETAM OUT	TOTAL TEMP IN	TOTAL TEMP RATIO	TOTAL PRESS IN	TOTAL PRESS RATIO
1	24.795	24.333	6.7	49.4	64.0	62.5	289.7	1.228	9.98	1.783
2	24.143	23.640	5.9	45.0	62.9	60.8	289.2	1.200	10.09	1.730
3	22.708	22.250	5.3	44.4	61.8	56.9	288.4	1.194	10.09	1.724
4	21.219	20.861	4.4	43.9	60.0	51.8	288.1	1.202	10.10	1.737
5	20.462	20.165	3.8	49.2	59.0	50.9	288.1	1.212	10.10	1.715
6	19.705	19.472	3.0	46.8	58.1	49.3	287.9	1.195	10.10	1.696
7	18.191	18.082	1.3	44.1	56.5	45.4	287.7	1.180	10.11	1.677
8	16.693	16.693	-0.2	51.4	54.9	47.0	287.5	1.170	10.10	1.657
9	16.091	16.137	-0.8	46.2	54.0	37.2	287.4	1.172	10.10	1.655
10	13.597	13.914	-3.8	42.3	49.8	18.6	287.4	1.177	10.10	1.703
11	10.894	11.829	-8.9	45.8	46.2	4.9	287.5	1.180	10.01	1.700

RP	ABS VEL IN	ABS VEL OUT	REL VEL IN	REL VEL OUT	MERID VEL IN	MERID VEL OUT	TANG VEL IN	TANG VEL OUT	WHEEL SPEED IN	WHEEL SPEED OUT
1	214.4	225.9	485.9	317.7	213.0	146.9	25.1	171.6	461.9	453.3
2	219.2	223.1	479.6	323.5	218.1	157.8	22.4	157.7	449.5	440.2
3	216.6	230.2	456.4	301.3	215.7	164.4	19.9	161.2	422.2	413.7
4	219.2	241.3	436.5	280.8	218.6	173.8	16.7	167.4	394.6	388.0
5	220.7	240.6	427.5	249.2	220.2	157.2	14.5	182.1	381.0	375.5
6	221.4	237.8	418.1	249.2	221.1	162.7	11.8	175.5	366.7	362.3
7	220.6	236.0	399.6	241.6	220.6	169.6	5.0	164.1	338.2	336.2
8	218.3	213.3	379.4	195.1	218.3	133.1	-0.9	166.7	309.4	309.4
9	219.4	239.7	372.8	208.6	219.3	166.0	-3.2	172.9	298.2	299.1
10	227.2	280.6	350.9	218.9	226.7	207.5	-15.1	188.9	252.8	258.7
11	230.4	283.0	329.1	198.1	227.7	197.4	-35.5	202.8	202.2	219.5

RP	ABS MACH NO IN	ABS MACH NO OUT	REL MACH NO IN	REL MACH NO OUT	MERID MACH NO IN	MERID MACH NO OUT	MERID PEAK SS VEL R	MERID PEAK SS MACH NO
1	0.655	0.620	1.484	0.872	0.650	0.403	0.690	1.430
2	0.671	0.620	1.469	0.899	0.668	0.438	0.723	1.455
3	0.664	0.644	1.398	0.843	0.661	0.460	0.762	1.495
4	0.673	0.676	1.340	0.786	0.671	0.487	0.795	1.593
5	0.678	0.670	1.313	0.695	0.676	0.438	0.714	1.618
6	0.680	0.667	1.285	0.699	0.679	0.456	0.736	1.605
7	0.678	0.667	1.228	0.682	0.678	0.479	0.769	1.527
8	0.670	0.601	1.165	0.549	0.670	0.375	0.610	1.427
9	0.674	0.681	1.146	0.593	0.674	0.472	0.757	1.424
10	0.701	0.809	1.082	0.631	0.699	0.598	0.915	1.474
11	0.711	0.816	1.016	0.571	0.703	0.569	0.867	1.473

RP	PERCENT SPAN	INCIDENCE MEAN	INCIDENCE SS	DEV	D FACT	EFF	LOSS COEFF TOT	LOSS COEFF PROF	LOSS PARAM TOT	LOSS PARAM PROF
1	5.00	1.6	-0.3	3.4	0.464	0.786	0.177	0.098	0.032	0.018
2	10.00	2.4	0.2	2.9	0.434	0.849	0.115	0.033	0.022	0.006
3	20.00	3.6	0.7	2.1	0.453	0.867	0.104	0.025	0.021	0.005
4	30.00	4.0	0.4	0.5	0.486	0.844	0.132	0.041	0.031	0.010
5	35.00	4.1	0.2	1.3	0.562	0.786	0.189	0.097	0.045	0.023
6	40.00	4.2	-0.0	1.6	0.546	0.833	0.144	0.059	0.035	0.014
7	50.00	4.5	-0.3	2.3	0.537	0.882	0.102	0.041	0.025	0.010
8	60.00	4.5	-0.7	9.7	0.635	0.912	0.077	0.042	0.018	0.010
9	64.00	4.3	-1.2	3.2	0.596	0.901	0.089	0.057	0.023	0.015
10	80.00	2.9	-3.9	1.3	0.545	0.927	0.075	0.042	0.020	0.011
11	95.00	1.7	-5.8	9.2	0.579	0.911	0.101	0.076	0.024	0.018

TABLE XII. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR ROTOR 65

(g) 97 Percent of design speed; reading 123

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.795	24.333	6.6	54.6	65.7	62.9	289.7	1.259	9.98	1.911
2	24.143	23.640	5.8	49.7	64.6	60.6	289.1	1.230	10.10	1.853
3	22.708	22.250	5.5	49.0	63.5	55.8	288.4	1.223	10.09	1.852
4	21.219	20.861	4.4	49.1	61.7	50.2	288.3	1.227	10.09	1.854
5	20.462	20.165	3.8	53.3	60.7	49.8	288.1	1.231	10.10	1.809
6	19.705	19.472	3.0	50.3	59.9	48.1	287.9	1.211	10.10	1.783
7	18.191	18.082	1.3	48.9	58.2	44.0	287.7	1.194	10.11	1.742
8	16.693	16.693	-0.3	54.4	56.5	45.3	287.5	1.180	10.10	1.704
9	16.091	16.137	-1.0	49.1	55.6	35.8	287.4	1.180	10.10	1.685
10	13.597	13.914	-3.8	43.5	51.4	18.4	287.3	1.178	10.10	1.702
11	10.894	11.829	-9.1	46.1	48.1	3.6	287.3	1.182	10.03	1.713

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	199.7	232.9	481.3	295.7	198.4	134.9	23.1	189.9	461.6	453.0
2	204.8	230.4	474.6	303.6	203.7	149.2	20.8	175.6	449.4	440.0
3	202.3	241.0	451.3	281.5	201.4	158.2	19.3	181.9	423.3	414.7
4	204.8	251.9	430.7	257.7	204.2	165.0	15.7	190.3	395.0	388.3
5	206.5	248.8	420.9	229.9	206.0	148.5	13.6	199.6	380.7	375.1
6	207.1	245.2	412.1	234.4	206.8	156.7	10.9	188.6	367.4	363.0
7	207.3	242.5	393.0	221.4	207.3	159.3	4.7	182.8	338.6	336.5
8	206.4	222.1	374.4	183.6	206.4	129.2	-1.2	180.7	311.2	311.2
9	207.2	243.8	366.4	197.0	207.2	159.7	-3.5	184.3	298.8	299.6
10	213.7	278.2	341.7	212.8	213.2	201.9	-14.3	191.5	252.7	258.6
11	215.5	288.3	318.4	200.5	212.8	200.1	-34.2	207.6	202.7	220.1

	ABS MACH NO		REL MACH NO		MERID MACH NO			MERID PEAK SS	
RP	IN	OUT	IN	OUT	IN	OUT		VEL R	MACH NO
1	0.607	0.632	1.461	0.803	0.602	0.366		0.680	1.464
2	0.624	0.635	1.445	0.835	0.620	0.410		0.732	1.487
3	0.616	0.668	1.375	0.780	0.614	0.438		0.785	1.530
4	0.625	0.700	1.314	0.716	0.623	0.459		0.808	1.627
5	0.631	0.690	1.285	0.637	0.629	0.412		0.721	1.649
6	0.633	0.685	1.259	0.655	0.632	0.438		0.758	1.642
7	0.634	0.682	1.201	0.623	0.634	0.448		0.769	1.560
8	0.631	0.624	1.144	0.516	0.631	0.363		0.626	1.469
9	0.634	0.691	1.121	0.558	0.634	0.453		0.771	1.461
10	0.655	0.801	1.048	0.613	0.654	0.581		0.947	1.512
11	0.661	0.833	0.977	0.579	0.653	0.578		0.940	1.497

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	3.2	1.3	3.8	0.521	0.786	0.198	0.115	0.036	0.021
2	10.00	4.0	1.8	2.7	0.486	0.837	0.140	0.056	0.027	0.011
3	20.00	5.3	2.4	1.0	0.508	0.862	0.122	0.039	0.025	0.008
4	30.00	5.7	2.1	-1.1	0.553	0.849	0.143	0.048	0.035	0.012
5	35.00	5.8	1.9	0.2	0.617	0.800	0.194	0.099	0.047	0.024
6	40.00	6.0	1.8	0.4	0.589	0.850	0.141	0.051	0.035	0.013
7	50.00	6.1	1.4	0.9	0.598	0.885	0.108	0.045	0.028	0.012
8	60.00	6.2	1.0	8.1	0.674	0.912	0.083	0.044	0.020	0.010
9	64.00	5.9	0.5	1.8	0.631	0.893	0.103	0.068	0.028	0.018
10	80.00	4.5	-2.3	1.1	0.552	0.919	0.086	0.051	0.023	0.014
11	95.00	3.5	-4.0	7.9	0.560	0.916	0.101	0.077	0.025	0.019

TABLE XII. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR ROTOR 65

(h) 97 Percent of design speed; reading 128

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.795	24.333	6.5	57.2	66.4	63.8	289.5	1.273	10.00	1.941
2	24.143	23.640	5.8	51.8	65.4	61.2	289.1	1.243	10.09	1.881
3	22.708	22.250	5.6	50.7	64.3	56.2	288.5	1.233	10.09	1.879
4	21.219	20.861	4.7	50.7	62.5	50.8	288.2	1.234	10.09	1.874
5	20.462	20.165	3.9	54.8	61.6	50.5	288.1	1.236	10.10	1.829
6	19.705	19.472	3.1	52.1	60.7	49.7	288.1	1.217	10.10	1.783
7	18.191	18.082	1.3	50.2	59.0	45.3	287.8	1.197	10.11	1.744
8	16.693	16.693	-0.4	54.6	57.3	44.2	287.7	1.182	10.11	1.711
9	16.091	16.137	-0.9	49.5	56.4	34.4	287.6	1.182	10.11	1.698
10	13.597	13.914	-3.8	44.0	52.2	18.1	287.6	1.178	10.10	1.701
11	10.894	11.829	-9.0	46.2	48.7	4.6	287.7	1.181	10.03	1.717

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	192.7	232.9	478.9	285.8	191.4	126.1	21.9	195.8	460.8	452.2
2	197.1	230.0	471.2	295.0	196.1	142.2	20.1	180.7	448.5	439.2
3	195.0	240.4	447.4	273.6	194.1	152.1	19.0	186.1	422.1	413.6
4	197.3	249.8	426.2	250.5	196.7	158.2	16.1	193.3	394.2	387.6
5	198.8	246.8	416.6	223.9	198.3	142.4	13.5	201.6	379.9	374.3
6	200.0	239.1	407.6	226.9	199.7	146.8	10.7	188.7	366.1	361.7
7	200.4	237.1	388.7	215.7	200.3	151.7	4.4	182.2	337.5	335.5
8	200.0	224.8	369.9	181.7	200.0	130.2	-1.3	183.2	310.0	310.0
9	200.8	249.0	363.0	195.7	200.8	161.6	-3.3	189.5	299.1	299.9
10	206.9	277.9	336.8	210.4	206.5	200.0	-13.6	193.0	252.5	258.4
11	209.1	282.6	312.8	196.3	206.6	195.7	-32.7	203.9	202.3	219.6

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID PEAK SS	
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO
1	0.584	0.629	1.451	0.771	0.580	0.340	0.659	1.480
2	0.599	0.628	1.431	0.806	0.595	0.389	0.726	1.501
3	0.593	0.663	1.359	0.755	0.590	0.419	0.783	1.541
4	0.600	0.691	1.297	0.693	0.598	0.438	0.804	1.639
5	0.605	0.682	1.268	0.619	0.604	0.393	0.718	1.664
6	0.609	0.664	1.242	0.631	0.608	0.408	0.735	1.653
7	0.611	0.665	1.185	0.605	0.611	0.425	0.757	1.574
8	0.609	0.632	1.127	0.511	0.609	0.366	0.651	1.481
9	0.612	0.706	1.107	0.555	0.612	0.458	0.805	1.481
10	0.632	0.800	1.029	0.605	0.631	0.575	0.969	1.531
11	0.640	0.814	0.957	0.565	0.632	0.564	0.947	1.486

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	4.0	2.1	4.7	0.545	0.765	0.225	0.141	0.039	0.025
2	10.00	4.9	2.7	3.3	0.505	0.813	0.169	0.083	0.032	0.016
3	20.00	6.1	3.2	1.4	0.525	0.845	0.143	0.060	0.029	0.012
4	30.00	6.5	3.0	-0.5	0.568	0.838	0.158	0.063	0.038	0.015
5	35.00	6.7	2.7	1.0	0.630	0.797	0.203	0.107	0.048	0.025
6	40.00	6.8	2.6	2.0	0.603	0.828	0.167	0.077	0.040	0.018
7	50.00	6.9	2.2	2.2	0.608	0.874	0.122	0.058	0.031	0.015
8	60.00	6.9	1.7	7.0	0.677	0.913	0.084	0.045	0.020	0.011
9	64.00	6.8	1.3	0.3	0.636	0.897	0.102	0.066	0.028	0.018
10	80.00	5.3	-1.5	0.9	0.553	0.920	0.086	0.051	0.024	0.014
11	95.00	4.2	-3.4	8.9	0.561	0.925	0.093	0.072	0.022	0.017

TABLE XII. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR ROTOR 65

(i) 90 Percent of design speed; reading 99

RP	RADII IN	RADII OUT	ABS BETAM IN	ABS BETAM OUT	REL BETAM IN	REL BETAM OUT	TOTAL TEMP IN	TOTAL TEMP RATIO	TOTAL PRESS IN	TOTAL PRESS RATIO
1	24.795	24.333	6.6	40.0	64.5	62.6	289.5	1.149	9.98	1.471
2	24.143	23.640	5.8	37.7	63.4	61.6	289.0	1.138	10.09	1.447
3	22.708	22.250	5.6	36.7	62.2	57.3	288.4	1.138	10.09	1.467
4	21.219	20.861	4.7	36.5	60.3	51.3	288.2	1.150	10.09	1.512
5	20.462	20.165	3.9	41.7	59.3	50.3	288.0	1.160	10.10	1.489
6	19.705	19.472	3.2	39.8	58.5	48.3	288.0	1.149	10.11	1.500
7	18.191	18.082	1.3	36.5	56.8	45.0	287.8	1.139	10.11	1.502
8	16.693	16.693	-0.2	46.3	55.0	48.5	287.6	1.134	10.11	1.511
9	16.091	16.137	-0.8	42.1	54.0	40.1	287.5	1.138	10.10	1.517
10	13.597	13.914	-3.7	39.1	49.8	21.1	287.5	1.143	10.10	1.560
11	10.894	11.829	-8.6	43.8	46.4	6.2	287.6	1.155	9.99	1.561

RP	ABS VEL IN	ABS VEL OUT	REL VEL IN	REL VEL OUT	MERID VEL IN	MERID VEL OUT	TANG VEL IN	TANG VEL OUT	WHEEL SPEED IN	WHEEL SPEED OUT
1	194.5	197.6	448.9	329.3	193.2	151.3	22.5	127.1	427.6	419.6
2	199.7	196.8	443.5	327.1	198.7	155.7	20.1	120.3	416.6	407.9
3	197.5	207.8	421.1	308.4	196.6	166.7	19.1	124.2	391.5	383.6
4	200.1	225.1	402.5	289.5	199.5	180.9	16.6	134.0	366.2	360.0
5	201.2	222.0	393.5	259.3	200.7	165.8	13.7	147.6	352.1	347.0
6	202.3	224.0	386.2	258.5	201.9	172.1	11.1	143.4	340.3	336.3
7	203.2	223.8	370.6	254.2	203.2	179.9	4.6	133.0	314.6	312.7
8	202.5	191.8	353.1	199.8	202.5	132.4	-0.9	138.7	288.3	288.3
9	203.8	215.1	346.9	208.8	203.8	159.6	-2.8	144.2	277.9	278.7
10	210.6	258.4	325.5	215.0	210.1	200.6	-13.7	163.0	234.9	240.4
11	211.8	265.7	303.9	193.1	209.4	191.9	-31.7	183.7	188.5	204.7

RP	ABS MACH NO IN	ABS MACH NO OUT	REL MACH NO IN	REL MACH NO OUT	MERID MACH NO IN	MERID MACH NO OUT	MERID VEL R	PEAK SS MACH NO
1	0.590	0.557	1.361	0.928	0.586	0.426	0.783	1.323
2	0.607	0.558	1.348	0.927	0.604	0.441	0.784	1.349
3	0.601	0.592	1.281	0.878	0.598	0.475	0.848	1.394
4	0.610	0.642	1.226	0.825	0.607	0.515	0.907	1.501
5	0.613	0.629	1.199	0.735	0.612	0.470	0.826	1.528
6	0.617	0.639	1.177	0.737	0.616	0.491	0.852	1.525
7	0.620	0.641	1.131	0.729	0.620	0.516	0.886	1.457
8	0.618	0.545	1.078	0.568	0.618	0.376	0.654	1.369
9	0.622	0.615	1.059	0.597	0.622	0.457	0.783	1.369
10	0.645	0.750	0.997	0.624	0.643	0.582	0.954	1.437
11	0.649	0.769	0.931	0.559	0.641	0.556	0.917	1.375

RP	PERCENT SPAN	INCIDENCE MEAN	INCIDENCE SS	DEV	D FACT	EFF	LOSS COEFF TOT	LOSS COEFF PROF	LOSS PARAM TOT	LOSS PARAM PROF
1	5.00	2.1	0.2	3.6	0.357	0.783	0.138	0.095	0.025	0.017
2	10.00	2.8	0.6	3.7	0.349	0.809	0.115	0.070	0.021	0.013
3	20.00	4.0	1.1	2.5	0.359	0.839	0.103	0.059	0.021	0.012
4	30.00	4.3	0.7	0.0	0.390	0.833	0.121	0.066	0.029	0.015
5	35.00	4.5	0.5	0.7	0.467	0.756	0.189	0.132	0.045	0.032
6	40.00	4.6	0.4	0.6	0.456	0.823	0.134	0.081	0.033	0.020
7	50.00	4.7	-0.0	1.9	0.437	0.890	0.083	0.048	0.021	0.012
8	60.00	4.6	-0.6	11.3	0.568	0.932	0.054	0.035	0.012	0.008
9	64.00	4.4	-1.1	6.1	0.538	0.917	0.068	0.051	0.017	0.013
10	80.00	2.9	-3.8	3.8	0.497	0.945	0.052	0.033	0.014	0.009
11	95.00	1.9	-5.6	10.5	0.541	0.878	0.135	0.127	0.033	0.031

TABLE XII. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR ROTOR 65

(j) 90 Percent of design speed; reading 85

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.795	24.333	6.8	42.6	64.7	62.4	289.6	1.163	9.98	1.525
2	24.143	23.640	6.1	39.7	63.5	61.4	289.1	1.149	10.09	1.493
3	22.708	22.250	5.7	39.0	62.3	57.3	288.5	1.148	10.08	1.508
4	21.219	20.861	4.7	38.9	60.6	51.5	288.2	1.159	10.09	1.548
5	20.462	20.165	4.0	43.9	59.6	50.3	288.0	1.168	10.10	1.531
6	19.705	19.472	3.3	41.8	58.7	48.6	287.9	1.155	10.10	1.530
7	18.191	18.082	1.3	38.8	56.9	45.3	287.7	1.143	10.11	1.519
8	16.693	16.693	-0.2	46.5	55.3	47.8	287.5	1.138	10.10	1.525
9	16.091	16.137	-0.7	42.0	54.3	39.3	287.4	1.141	10.10	1.529
10	13.597	13.914	-3.5	39.5	50.1	20.7	287.5	1.145	10.10	1.563
11	10.894	11.829	-8.4	43.8	46.6	5.9	287.5	1.156	9.99	1.564

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	193.1	201.3	448.2	320.1	191.7	148.1	23.0	136.3	428.1	420.1
2	198.3	199.4	442.2	319.9	197.1	153.4	20.9	127.4	416.8	408.1
3	196.2	208.8	420.7	300.4	195.3	162.2	19.5	131.4	392.2	384.3
4	198.8	224.9	403.0	280.9	198.1	175.0	16.2	141.2	367.1	360.9
5	199.9	223.3	394.1	252.1	199.4	160.9	14.0	154.8	353.9	348.8
6	200.7	222.7	385.3	250.7	200.4	165.9	11.5	148.6	340.5	336.5
7	201.5	220.6	368.8	244.2	201.4	171.9	4.7	138.3	313.7	311.8
8	200.0	194.5	351.6	199.3	199.9	133.9	-0.6	141.0	288.5	288.5
9	201.2	218.1	344.9	209.4	201.2	162.0	-2.4	145.9	277.8	278.6
10	207.5	259.0	322.8	213.8	207.1	200.0	-12.8	164.5	234.8	240.3
11	208.4	266.4	300.3	193.2	206.2	192.2	-30.3	184.4	188.1	204.2

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID PEAK SS
RP	IN	OUT	IN	OUT	IN	OUT	VEL R MACH NO
1	0.585	0.564	1.358	0.897	0.581	0.415	0.772 1.326
2	0.602	0.563	1.344	0.903	0.599	0.433	0.778 1.349
3	0.597	0.592	1.279	0.852	0.594	0.460	0.831 1.399
4	0.605	0.638	1.227	0.797	0.603	0.497	0.884 1.510
5	0.609	0.631	1.200	0.712	0.607	0.455	0.807 1.538
6	0.612	0.633	1.174	0.713	0.611	0.472	0.828 1.529
7	0.614	0.630	1.125	0.698	0.614	0.491	0.853 1.458
8	0.610	0.552	1.072	0.566	0.610	0.380	0.670 1.378
9	0.614	0.624	1.052	0.599	0.614	0.463	0.805 1.376
10	0.635	0.751	0.987	0.620	0.633	0.580	0.966 1.433
11	0.637	0.771	0.919	0.559	0.631	0.556	0.932 1.363

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	2.3	0.3	3.4	0.384	0.788	0.145	0.102	0.027	0.019
2	10.00	3.0	0.8	3.5	0.369	0.814	0.120	0.075	0.022	0.014
3	20.00	4.1	1.3	2.5	0.383	0.844	0.106	0.061	0.021	0.012
4	30.00	4.6	1.0	0.2	0.419	0.838	0.122	0.065	0.029	0.015
5	35.00	4.7	0.8	0.8	0.492	0.768	0.187	0.129	0.045	0.031
6	40.00	4.8	0.5	0.9	0.480	0.833	0.131	0.078	0.032	0.019
7	50.00	4.9	0.1	2.2	0.466	0.885	0.090	0.055	0.023	0.014
8	60.00	5.0	-0.2	10.5	0.569	0.928	0.059	0.040	0.013	0.009
9	64.00	4.7	-0.8	5.3	0.535	0.917	0.070	0.053	0.018	0.014
10	80.00	3.2	-3.5	3.5	0.497	0.941	0.057	0.039	0.015	0.011
11	95.00	2.1	-5.4	10.2	0.535	0.874	0.144	0.137	0.035	0.033

TABLE XII. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR ROTOR 65

(k) 90 Percent of design speed; reading 97

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.795	24.333	6.6	50.7	66.2	61.8	289.6	1.208	9.99	1.697
2	24.143	23.640	6.0	46.6	65.1	60.8	289.2	1.184	10.09	1.643
3	22.708	22.250	6.0	46.0	63.9	56.8	288.6	1.176	10.09	1.636
4	21.219	20.861	4.9	46.1	62.2	50.8	288.3	1.182	10.10	1.657
5	20.462	20.165	3.9	50.0	61.3	49.7	288.1	1.187	10.11	1.632
6	19.705	19.472	3.2	46.4	60.4	47.4	288.0	1.172	10.11	1.621
7	18.191	18.082	1.2	45.6	58.7	44.6	287.7	1.158	10.11	1.583
8	16.693	16.693	-0.1	51.1	56.9	46.5	287.5	1.148	10.11	1.562
9	16.091	16.137	-0.7	46.1	55.9	38.0	287.4	1.150	10.11	1.557
10	13.597	13.914	-3.9	41.8	52.0	20.4	287.4	1.148	10.11	1.567
11	10.894	11.829	-8.9	45.0	48.7	4.0	287.5	1.157	10.01	1.580

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED.	
RP	IN	OUT	IN	OUT	IN	-OUT	IN	OUT	IN	OUT
1	181.6	215.2	446.3	288.8	180.4	136.3	20.9	166.5	429.2	421.2
2	185.9	209.1	439.1	294.5	184.9	143.7	19.4	151.9	417.7	409.0
3	183.9	216.1	415.9	274.1	182.9	150.1	19.2	155.5	392.7	384.8
4	186.1	229.5	397.1	252.1	185.4	159.2	15.8	165.3	367.0	360.8
5	187.4	228.7	388.8	227.3	187.0	147.0	12.8	175.3	353.7	348.6
6	188.3	228.4	380.3	232.9	188.0	157.5	10.5	165.4	341.1	337.0
7	189.5	222.9	364.1	218.8	189.4	155.8	3.9	159.3	314.8	312.9
8	188.8	200.6	345.5	182.9	188.8	125.9	-0.5	156.2	288.8	288.8
9	190.0	221.5	339.3	194.9	190.0	153.7	-2.5	159.5	278.6	279.4
10	194.7	255.2	315.4	203.0	194.3	190.3	-13.1	170.1	235.3	240.8
11	194.1	270.6	290.7	191.7	191.8	191.3	-29.9	191.4	188.6	204.7

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID PEAK SS	
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO
1	0.548	0.594	1.347	0.797	0.544	0.376	0.756	1.368
2	0.562	0.582	1.328	0.821	0.559	0.400	0.777	1.390
3	0.557	0.606	1.258	0.769	0.553	0.421	0.820	1.434
4	0.564	0.646	1.203	0.709	0.562	0.448	0.859	1.545
5	0.568	0.642	1.179	0.638	0.567	0.412	0.786	1.576
6	0.571	0.646	1.154	0.658	0.570	0.445	0.838	1.571
7	0.575	0.633	1.106	0.621	0.575	0.442	0.823	1.504
8	0.573	0.568	1.049	0.518	0.573	0.357	0.667	1.419
9	0.577	0.631	1.031	0.556	0.577	0.438	0.809	1.422
10	0.593	0.738	0.960	0.587	0.591	0.550	0.979	1.455
11	0.591	0.784	0.884	0.556	0.584	0.554	0.997	1.375

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	3.7	1.8	2.7	0.480	0.784	0.181	0.133	0.034	0.025
2	10.00	4.6	2.3	2.9	0.445	0.830	0.132	0.083	0.025	0.016
3	20.00	5.7	2.9	2.0	0.461	0.858	0.113	0.066	0.023	0.013
4	30.00	6.2	2.6	-0.5	0.506	0.853	0.127	0.067	0.030	0.016
5	35.00	6.4	2.4	0.1	0.570	0.802	0.179	0.116	0.043	0.028
6	40.00	6.5	2.3	-0.2	0.537	0.862	0.121	0.062	0.030	0.016
7	50.00	6.6	1.9	1.5	0.551	0.886	0.100	0.059	0.025	0.015
8	60.00	6.5	1.3	9.3	0.624	0.916	0.075	0.053	0.017	0.012
9	64.00	6.3	0.8	3.9	0.583	0.901	0.091	0.070	0.024	0.018
10	80.00	5.1	-1.7	3.1	0.525	0.925	0.076	0.058	0.020	0.016
11	95.00	4.2	-3.3	8.3	0.530	0.887	0.137	0.131	0.033	0.032

TABLE XII. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR ROTOR 65

(*l*) 90 Percent of design speed; reading 84

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.795	24.333	7.0	49.8	66.1	61.7	289.5	1.202	9.99	1.680
2	24.143	23.640	6.3	45.8	65.0	60.8	289.1	1.179	10.09	1.626
3	22.708	22.250	6.3	45.4	63.8	56.9	288.6	1.174	10.09	1.626
4	21.219	20.861	5.1	44.9	62.0	51.3	288.3	1.179	10.09	1.640
5	20.462	20.165	4.1	49.2	61.1	50.2	288.1	1.185	10.10	1.620
6	19.705	19.472	3.2	45.7	60.3	48.1	288.0	1.170	10.10	1.612
7	18.191	18.082	1.3	45.0	58.6	45.6	287.7	1.157	10.11	1.575
8	16.693	16.693	-0.0	50.9	56.9	47.6	287.5	1.148	10.11	1.557
9	16.091	16.137	-0.6	45.9	56.0	39.1	287.5	1.149	10.10	1.555
10	15.597	13.914	-3.6	41.7	51.9	21.6	287.5	1.147	10.10	1.562
11	10.894	11.829	-8.6	45.0	48.6	5.6	287.7	1.158	10.01	1.577

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	180.8	213.6	443.2	291.0	179.4	137.8	22.1	163.1	427.4	419.4
2	185.7	207.5	436.9	296.5	184.5	144.6	20.3	148.8	416.3	407.7
3	184.2	214.5	414.2	275.7	183.1	150.5	20.2	152.8	391.7	383.8
4	186.3	226.0	395.5	256.2	185.6	160.0	16.6	159.6	365.8	359.7
5	187.7	225.5	387.4	230.1	187.2	147.3	13.4	170.7	352.6	347.5
6	188.0	224.7	379.2	235.3	187.7	157.0	10.5	160.7	340.0	336.0
7	188.7	218.2	362.3	220.4	188.7	154.3	4.3	154.3	313.6	311.7
8	187.9	196.3	343.8	183.5	187.9	123.8	-0.1	152.4	287.9	287.9
9	188.6	216.9	337.4	194.8	188.6	151.1	-2.0	155.6	277.8	278.6
10	193.6	250.1	313.5	200.8	193.2	186.7	-12.1	166.3	234.8	240.2
11	194.0	263.3	289.8	187.2	191.8	186.3	-28.9	186.1	188.3	204.5

	ABS MACH NO		REL MACH NO		MERID MACH NO				MERID PEAK SS	
RP	IN	OUT	IN	OUT	IN	OUT			VEL R	MACH NO
1	0.546	0.591	1.337	0.805	0.541	0.381			0.768	1.357
2	0.562	0.579	1.321	0.828	0.558	0.404			0.784	1.380
3	0.557	0.602	1.253	0.774	0.554	0.422			0.822	1.424
4	0.565	0.636	1.198	0.720	0.562	0.450			0.862	1.535
5	0.569	0.633	1.175	0.645	0.568	0.413			0.787	1.568
6	0.570	0.635	1.150	0.665	0.569	0.443			0.836	1.567
7	0.573	0.619	1.100	0.625	0.573	0.438			0.818	1.499
8	0.570	0.555	1.044	0.519	0.570	0.350			0.659	1.416
9	0.573	0.617	1.025	0.555	0.573	0.430			0.801	1.423
10	0.589	0.722	0.954	0.580	0.588	0.539			0.966	1.444
11	0.590	0.760	0.881	0.540	0.583	0.538			0.971	1.365

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	3.7	1.8	2.6	0.468	0.791	0.173	0.128	0.032	0.024
2	10.00	4.5	2.3	2.9	0.434	0.833	0.128	0.081	0.024	0.015
3	20.00	5.5	2.7	2.1	0.451	0.857	0.114	0.068	0.023	0.014
4	30.00	6.0	2.5	0.0	0.488	0.848	0.131	0.073	0.031	0.017
5	35.00	6.3	2.3	0.6	0.557	0.799	0.181	0.120	0.043	0.029
6	40.00	6.5	2.2	0.5	0.525	0.861	0.121	0.064	0.030	0.016
7	50.00	6.6	1.8	2.5	0.539	0.882	0.103	0.064	0.026	0.016
8	60.00	6.5	1.3	10.4	0.616	0.913	0.078	0.057	0.018	0.013
9	64.00	6.4	0.9	5.1	0.577	0.901	0.091	0.071	0.023	0.018
10	80.00	5.1	-1.7	4.3	0.525	0.926	0.075	0.059	0.020	0.016
11	95.00	4.0	-3.5	10.0	0.539	0.880	0.147	0.142	0.035	0.034

TABLE XII. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR ROTOR 65

(m) 90 Percent of design speed; reading 89

RP	RADII IN	RADII OUT	ABS BETAM IN	ABS BETAM OUT	REL BETAM IN	REL BETAM OUT	TOTAL TEMP IN	TOTAL TEMP RATIO	TOTAL PRESS IN	TOTAL PRESS RATIO
1	24.795	24.333	7.2	55.7	67.8	64.0	289.5	1.227	10.00	1.742
2	24.143	23.640	6.9	50.9	66.7	60.9	289.2	1.205	10.09	1.713
3	22.708	22.250	7.1	50.3	65.5	57.0	288.9	1.197	10.09	1.696
4	21.219	20.861	5.6	49.8	63.8	51.1	288.5	1.196	10.10	1.705
5	20.462	20.165	4.4	53.5	62.9	50.5	288.2	1.198	10.11	1.671
6	19.705	19.472	3.4	49.8	62.1	48.1	288.1	1.183	10.11	1.658
7	18.191	18.082	1.4	48.8	60.4	45.1	287.8	1.165	10.12	1.614
8	16.693	16.693	0.0	53.1	58.7	46.1	287.7	1.152	10.11	1.578
9	16.091	16.137	-0.6	48.5	57.8	37.1	287.6	1.152	10.11	1.573
10	13.597	13.914	-3.5	43.0	53.7	21.8	287.7	1.146	10.11	1.548
11	10.894	11.829	-8.6	46.1	50.3	4.6	287.9	1.156	10.02	1.582

RP	ABS VEL IN	ABS VEL OUT	REL VEL IN	REL VEL OUT	MERID VEL IN	MERID VEL OUT	TANG VEL IN	TANG VEL OUT	WHEEL SPEED IN	WHEEL SPEED OUT
1	167.1	211.6	439.3	272.4	165.8	119.3	20.8	174.7	427.6	419.7
2	171.5	213.3	430.7	276.9	170.2	134.5	20.7	165.6	416.3	407.6
3	170.2	219.0	407.2	257.0	168.8	140.0	21.1	168.4	391.7	383.8
4	172.5	229.9	388.8	236.2	171.7	148.3	16.8	175.6	365.5	359.4
5	173.7	227.6	380.5	212.8	173.2	135.4	13.3	182.9	352.1	347.0
6	174.4	226.3	372.4	218.7	174.1	146.2	10.2	172.7	339.4	335.4
7	175.2	220.0	354.9	205.6	175.1	145.0	4.3	165.4	312.9	311.1
8	174.3	201.8	336.1	174.9	174.3	121.3	0.1	161.3	287.4	287.4
9	175.5	222.3	329.7	184.7	175.4	147.2	-1.8	166.6	277.3	278.1
10	180.1	245.7	304.0	193.6	179.7	179.7	-11.1	167.6	234.0	239.5
11	179.9	262.4	278.6	182.5	177.9	181.9	-26.8	189.0	187.6	203.7

RP	ABS MACH NO IN	ABS MACH NO OUT	REL MACH NO IN	REL MACH NO OUT	MERID MACH NO IN	MERID MACH NO OUT	MERID PEAK SS VEL R	MERID PEAK SS MACH NO
1	0.502	0.578	1.320	0.745	0.498	0.326	0.719	1.399
2	0.516	0.589	1.296	0.765	0.512	0.372	0.790	1.416
3	0.512	0.609	1.226	0.714	0.508	0.389	0.829	1.460
4	0.520	0.642	1.172	0.660	0.518	0.414	0.864	1.574
5	0.524	0.635	1.148	0.594	0.523	0.378	0.782	1.609
6	0.527	0.636	1.124	0.614	0.526	0.411	0.840	1.609
7	0.529	0.622	1.072	0.581	0.529	0.410	0.828	1.543
8	0.527	0.571	1.015	0.495	0.527	0.343	0.696	1.470
9	0.530	0.633	0.996	0.526	0.530	0.419	0.839	1.474
10	0.545	0.708	0.920	0.558	0.544	0.518	1.000	1.450
11	0.544	0.757	0.843	0.527	0.538	0.525	1.023	1.356

RP	PERCENT SPAN	INCIDENCE MEAN	INCIDENCE SS	DEV	D FACT	EFF	LOSS COEFF TOT	LOSS COEFF PROF	LOSS PARAM TOT	LOSS PARAM PROF
1	5.00	5.4	3.5	4.9	0.517	0.757	0.222	0.172	0.038	0.030
2	10.00	6.2	4.0	3.1	0.486	0.809	0.165	0.116	0.031	0.022
3	20.00	7.3	4.5	2.2	0.501	0.827	0.155	0.107	0.031	0.022
4	30.00	7.8	4.2	-0.2	0.545	0.839	0.153	0.091	0.036	0.022
5	35.00	8.1	4.1	0.9	0.606	0.799	0.196	0.130	0.046	0.031
6	40.00	8.3	4.0	0.4	0.572	0.848	0.145	0.083	0.036	0.020
7	50.00	8.4	3.7	2.0	0.582	0.890	0.103	0.061	0.026	0.015
8	60.00	8.4	3.2	8.9	0.642	0.919	0.076	0.051	0.018	0.012
9	64.00	8.2	2.7	3.1	0.608	0.910	0.088	0.064	0.023	0.017
10	80.00	6.9	0.1	4.5	0.534	0.910	0.095	0.081	0.025	0.022
11	95.00	5.8	-1.8	8.9	0.538	0.897	0.133	0.130	0.032	0.031

TABLE XII. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR ROTOR 65

(n) 80 Percent of design speed; reading 114

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.795	24.333	7.3	34.2	65.3	62.7	289.8	1.097	10.01	1.292
2	24.143	23.640	6.7	32.2	64.0	61.2	289.6	1.090	10.09	1.283
3	22.708	22.250	6.0	31.3	62.6	57.1	288.8	1.093	10.10	1.302
4	21.219	20.861	4.5	31.9	60.9	51.1	288.3	1.106	10.11	1.346
5	20.462	20.165	3.6	36.3	60.0	49.9	288.2	1.115	10.11	1.332
6	19.705	19.472	3.0	33.9	59.1	47.5	288.0	1.105	10.11	1.348
7	18.191	18.082	1.4	30.9	57.3	45.3	287.8	1.094	10.12	1.343
8	16.693	16.693	-0.2	41.3	55.5	49.8	287.7	1.094	10.11	1.350
9	16.091	16.137	-0.8	38.9	54.6	42.6	287.7	1.097	10.11	1.355
10	13.597	13.914	-3.8	36.6	50.6	23.6	287.7	1.106	10.11	1.394
11	10.894	11.829	-9.0	41.2	47.5	4.3	287.8	1.125	10.03	1.453

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	167.1	172.7	396.2	311.4	165.8	142.8	21.2	97.2	381.1	374.0
2	171.9	175.3	390.1	307.8	170.7	148.4	20.0	93.4	370.8	363.0
3	172.7	185.9	372.6	292.2	171.7	158.8	18.2	96.5	348.8	341.8
4	174.3	202.9	357.5	274.1	173.8	172.2	13.6	107.3	326.1	320.6
5	175.3	200.0	350.1	250.1	175.0	161.1	11.1	118.5	314.3	309.8
6	175.9	204.6	342.3	251.6	175.7	169.9	9.3	114.0	303.1	299.5
7	176.7	201.3	326.9	245.5	176.7	172.8	4.2	103.2	279.3	277.6
8	176.1	165.3	311.2	192.5	176.1	124.2	-0.5	109.1	256.1	256.1
9	177.0	184.2	305.9	194.8	177.0	143.3	-2.6	115.6	246.9	247.6
10	181.5	225.4	285.5	197.6	181.2	181.0	-12.0	134.3	208.7	213.5
11	182.0	254.1	265.9	191.7	179.8	191.1	-28.4	167.4	167.5	181.9

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID PEAK SS	
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO
1	0.502	0.495	1.190	0.892	0.498	0.409	0.861	1.177
2	0.517	0.505	1.174	0.886	0.514	0.427	0.869	1.202
3	0.520	0.537	1.123	0.844	0.517	0.459	0.925	1.270
4	0.526	0.586	1.079	0.792	0.524	0.497	0.991	1.410
5	0.529	0.575	1.057	0.718	0.528	0.463	0.921	1.451
6	0.531	0.592	1.034	0.728	0.531	0.491	0.967	1.454
7	0.534	0.585	0.988	0.713	0.534	0.502	0.978	1.391
8	0.532	0.475	0.941	0.553	0.532	0.357	0.705	1.275
9	0.535	0.531	0.925	0.562	0.535	0.414	0.810	1.266
10	0.550	0.657	0.864	0.576	0.549	0.528	0.999	1.270
11	0.551	0.742	0.805	0.560	0.544	0.558	1.063	1.217

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	2.9	0.9	3.6	0.289	0.779	0.112	0.102	0.020	0.018
2	10.00	3.5	1.3	3.3	0.283	0.820	0.086	0.076	0.016	0.014
3	20.00	4.3	1.5	2.3	0.292	0.846	0.080	0.068	0.016	0.014
4	30.00	4.9	1.4	-0.2	0.331	0.839	0.100	0.076	0.024	0.018
5	35.00	5.2	1.2	0.3	0.399	0.744	0.174	0.147	0.042	0.035
6	40.00	5.3	1.0	-0.1	0.377	0.848	0.100	0.075	0.025	0.019
7	50.00	5.2	0.5	2.2	0.357	0.937	0.041	0.027	0.010	0.007
8	60.00	5.2	-0.0	12.6	0.501	0.957	0.029	0.026	0.006	0.006
9	64.00	5.0	-0.5	8.6	0.491	0.934	0.048	0.046	0.012	0.011
10	80.00	3.7	-3.0	6.4	0.457	0.937	0.055	0.054	0.014	0.014
11	95.00	2.9	-4.6	8.7	0.463	0.902	0.112	0.112	0.027	0.027

TABLE XII. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR ROTOR 65

(o) 80 Percent of design speed; reading 115

RP	RADII IN	RADII OUT	ABS BETAM IN	ABS BETAM OUT	REL BETAM IN	REL BETAM OUT	TOTAL TEMP IN	TOTAL TEMP RATIO	TOTAL PRESS IN	TOTAL PRESS RATIO
1	24.795	24.333	7.6	33.9	65.6	62.1	289.9	1.099	10.01	1.300
2	24.143	23.640	7.0	32.2	64.4	60.7	289.6	1.093	10.09	1.294
3	22.708	22.250	6.2	31.3	62.9	56.6	288.9	1.095	10.10	1.311
4	21.219	20.861	4.5	32.0	61.3	50.6	288.3	1.107	10.11	1.351
5	20.462	20.165	3.7	36.3	60.5	49.2	288.1	1.116	10.11	1.341
6	19.705	19.472	3.1	32.3	59.5	46.6	288.0	1.106	10.11	1.361
7	18.191	18.082	1.3	30.8	57.9	44.2	287.8	1.097	10.12	1.359
8	16.693	16.693	-0.3	44.6	56.2	51.6	287.8	1.099	10.11	1.371
9	16.091	16.137	-0.9	42.6	55.3	46.1	287.7	1.102	10.11	1.376
10	13.597	13.914	-3.9	39.4	51.4	27.7	287.8	1.105	10.11	1.390
11	10.894	11.829	-9.1	43.1	48.2	5.4	287.9	1.126	10.03	1.457

RP	ABS VEL IN	ABS VEL OUT	REL VEL IN	REL VEL OUT	MERID VEL IN	MERID VEL OUT	TANG VEL IN	TANG VEL OUT	WHEEL SPEED IN	WHEEL SPEED OUT
1	164.6	176.3	395.4	313.0	163.2	146.4	21.9	98.3	382.0	374.9
2	169.5	178.6	389.4	308.4	168.3	151.1	20.6	95.3	371.8	364.1
3	170.5	188.8	371.9	292.6	169.5	161.3	18.4	98.2	349.4	342.4
4	171.8	205.5	356.7	274.3	171.3	174.2	13.5	109.0	326.4	320.9
5	172.5	203.4	349.3	250.9	172.1	163.9	11.1	120.5	315.1	310.5
6	172.9	209.9	340.7	257.9	172.7	177.4	9.3	112.2	303.0	299.4
7	173.4	206.7	326.0	247.5	173.3	177.5	4.1	105.9	280.2	278.5
8	172.6	160.6	310.4	184.3	172.6	114.4	-0.8	112.8	257.2	257.2
9	173.3	172.5	304.5	183.0	173.2	126.9	-2.6	116.7	247.8	248.5
10	177.2	206.2	283.4	180.1	176.7	159.5	-12.1	130.8	209.5	214.4
11	176.9	242.1	262.4	177.4	174.7	176.6	-27.9	165.5	167.9	182.3

RP	ABS MACH NO IN	ABS MACH NO OUT	REL MACH NO IN	REL MACH NO OUT	MERID MACH NO IN	MERID MACH NO OUT	MERID PEAK SS VEL R	MERID PEAK SS MACH NO
1	0.494	0.505	1.186	0.897	0.490	0.419	0.897	1.188
2	0.510	0.514	1.171	0.887	0.506	0.435	0.898	1.213
3	0.513	0.545	1.120	0.845	0.510	0.466	0.951	1.280
4	0.518	0.594	1.076	0.792	0.516	0.503	1.017	1.422
5	0.520	0.585	1.054	0.721	0.519	0.471	0.952	1.465
6	0.522	0.608	1.028	0.747	0.521	0.514	1.027	1.466
7	0.524	0.601	0.984	0.720	0.523	0.516	1.024	1.406
8	0.521	0.460	0.937	0.528	0.521	0.328	0.663	1.293
9	0.523	0.495	0.920	0.525	0.523	0.364	0.733	1.281
10	0.536	0.597	0.857	0.521	0.534	0.462	0.902	1.283
11	0.535	0.703	0.793	0.515	0.528	0.513	1.011	1.220

RP	PERCENT SPAN	INCIDENCE MEAN	INCIDENCE SS	DEV	D FACT	EFF	LOSS COEFF TOT	LOSS COEFF PROF	LOSS PARAM TOT	LOSS PARAM PROF
1	5.00	3.2	1.3	3.0	0.284	0.788	0.109	0.099	0.020	0.018
2	10.00	3.9	1.6	2.8	0.282	0.824	0.087	0.076	0.017	0.014
3	20.00	4.7	1.8	1.8	0.291	0.849	0.081	0.068	0.016	0.014
4	30.00	5.3	1.7	-0.7	0.331	0.839	0.101	0.077	0.024	0.018
5	35.00	5.6	1.6	-0.3	0.398	0.752	0.171	0.143	0.042	0.035
6	40.00	5.7	1.4	-1.1	0.354	0.868	0.088	0.062	0.022	0.016
7	50.00	5.8	1.1	1.1	0.352	0.948	0.034	0.020	0.009	0.005
8	60.00	5.8	0.7	14.4	0.530	0.951	0.036	0.032	0.008	0.007
9	64.00	5.7	0.2	12.0	0.528	0.936	0.049	0.047	0.011	0.011
10	80.00	4.5	-2.2	10.4	0.511	0.935	0.057	0.056	0.015	0.014
11	95.00	3.7	-3.8	9.7	0.507	0.902	0.114	0.114	0.028	0.028

TABLE XII. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR ROTOR 65

(p) 80 Percent of design speed; reading 91

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.795	24.333	8.8	47.0	67.7	61.9	290.2	1.146	10.02	1.468
2	24.143	23.640	8.2	43.2	66.5	60.8	289.9	1.129	10.09	1.436
3	22.708	22.250	6.9	43.1	65.2	57.0	288.9	1.128	10.11	1.435
4	21.219	20.861	4.9	42.6	63.8	51.5	288.3	1.134	10.12	1.453
5	20.462	20.165	4.0	45.6	63.0	49.9	288.1	1.139	10.12	1.440
6	19.705	19.472	3.4	43.0	62.1	48.3	288.0	1.128	10.12	1.434
7	18.191	18.082	1.6	40.9	60.5	46.7	287.9	1.113	10.12	1.402
8	16.693	16.693	0.0	47.6	58.9	49.5	287.8	1.108	10.12	1.385
9	16.091	16.137	-0.6	45.2	58.0	42.6	287.9	1.110	10.12	1.385
10	13.597	13.914	-3.5	41.8	54.0	26.5	287.9	1.106	10.11	1.377
11	10.894	11.829	-8.7	44.0	50.7	4.3	288.0	1.123	10.05	1.453

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	148.0	185.7	386.1	269.0	146.3	126.7	22.8	135.7	380.1	373.0
2	152.7	182.0	379.1	271.7	151.1	132.6	21.8	124.6	369.5	361.8
3	153.3	188.4	362.6	252.5	152.2	137.6	18.4	128.7	347.5	340.5
4	153.8	199.4	347.2	235.7	153.2	146.8	13.2	134.9	324.8	319.3
5	154.4	199.3	338.9	216.7	154.0	139.5	10.9	142.3	312.8	308.3
6	155.0	198.5	330.9	218.0	154.7	145.1	9.3	135.5	301.8	298.2
7	155.0	190.1	314.9	209.3	155.0	143.7	4.2	124.4	278.3	276.6
8	154.2	167.3	298.4	173.7	154.2	112.9	0.1	123.5	255.6	255.6
9	154.9	182.4	292.7	174.6	154.9	128.6	-1.5	129.4	246.8	247.5
10	158.0	204.6	268.5	170.6	157.7	152.7	-9.7	136.2	207.7	212.5
11	157.9	241.8	246.4	174.3	156.1	173.9	-23.9	168.0	166.7	181.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID PEAK SS
RP	IN	OUT	IN	OUT	IN	OUT	VEL R MACH NO
1	0.442	0.521	1.152	0.756	0.437	0.356	0.866 1.241
2	0.456	0.515	1.134	0.769	0.452	0.375	0.878 1.263
3	0.459	0.535	1.086	0.718	0.456	0.391	0.904 1.340
4	0.461	0.567	1.042	0.671	0.460	0.418	0.958 1.490
5	0.463	0.566	1.017	0.616	0.462	0.396	0.906 1.535
6	0.465	0.567	0.994	0.623	0.464	0.414	0.938 1.537
7	0.465	0.545	0.945	0.600	0.465	0.412	0.927 1.436
8	0.463	0.478	0.896	0.496	0.463	0.322	0.732 1.318
9	0.465	0.523	0.879	0.500	0.465	0.368	0.830 1.306
10	0.475	0.592	0.807	0.494	0.474	0.441	0.968 1.280
11	0.475	0.703	0.740	0.507	0.469	0.506	1.114 1.200

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	5.3	3.4	2.8	0.417	0.796	0.152	0.140	0.028	0.026
2	10.00	6.0	3.8	2.9	0.387	0.844	0.107	0.095	0.020	0.018
3	20.00	7.0	4.1	2.2	0.415	0.849	0.109	0.093	0.022	0.019
4	30.00	7.8	4.3	0.2	0.452	0.838	0.130	0.099	0.030	0.023
5	35.00	8.1	4.1	0.4	0.504	0.792	0.175	0.141	0.042	0.034
6	40.00	8.3	4.0	0.6	0.481	0.851	0.122	0.090	0.030	0.022
7	50.00	8.5	3.8	3.6	0.471	0.894	0.084	0.070	0.021	0.017
8	60.00	8.5	3.3	12.2	0.557	0.902	0.081	0.078	0.018	0.017
9	64.00	8.4	2.9	8.5	0.551	0.884	0.101	0.098	0.024	0.024
10	80.00	7.2	0.4	9.3	0.522	0.906	0.090	0.090	0.023	0.023
11	95.00	6.2	-1.4	8.6	0.487	0.917	0.107	0.107	0.026	0.026

TABLE XII. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR ROTOR 65

(q) 80 Percent of design speed; reading 92

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.795	24.333	9.2	50.0	70.4	63.5	290.7	1.156	10.02	1.459
2	24.143	23.640	8.4	47.6	69.1	61.2	290.2	1.144	10.09	1.445
3	22.708	22.250	7.1	48.6	67.7	58.4	289.1	1.141	10.12	1.430
4	21.219	20.861	5.0	48.5	66.4	52.0	288.3	1.147	10.12	1.453
5	20.462	20.165	4.1	51.8	65.7	51.9	288.2	1.147	10.12	1.429
6	19.705	19.472	3.3	49.7	64.9	48.8	288.1	1.140	10.12	1.434
7	18.191	18.082	1.4	43.4	63.4	47.1	288.0	1.118	10.12	1.397
8	16.693	16.693	-0.1	52.3	61.7	52.1	288.0	1.111	10.12	1.381
9	16.091	16.137	-0.7	49.6	60.8	45.9	287.9	1.111	10.12	1.380
10	13.597	13.914	-3.5	45.1	56.7	27.5	288.0	1.109	10.12	1.386
11	10.894	11.829	-8.8	45.5	53.1	4.8	288.0	1.122	10.08	1.455

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	130.1	182.1	382.8	262.5	128.4	117.2	20.7	139.4	381.4	374.2
2	135.2	184.5	375.3	258.4	133.7	124.5	19.7	136.2	370.4	362.7
3	136.7	187.1	358.1	236.0	135.6	123.7	17.0	140.4	348.4	341.4
4	136.9	199.8	341.3	215.3	136.4	132.5	11.9	149.6	324.7	319.2
5	137.4	196.0	332.9	196.6	137.0	121.3	9.9	154.0	313.3	308.7
6	137.7	198.6	324.3	195.1	137.5	128.6	8.0	151.4	301.7	298.1
7	138.0	188.7	308.0	201.3	138.0	137.1	3.5	129.7	278.9	277.2
8	138.0	162.4	291.2	161.8	138.0	99.4	-0.3	128.5	256.1	256.1
9	138.9	173.2	284.6	161.3	138.9	112.4	-1.6	131.8	246.8	247.5
10	142.9	198.4	259.9	157.8	142.6	140.0	-8.7	140.6	208.6	213.5
11	144.0	234.7	236.7	165.1	142.3	164.5	-22.1	167.5	167.1	181.4

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID PEAK SS	
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO
1	0.386	0.508	1.137	0.733	0.381	0.327	0.912	1.327
2	0.402	0.519	1.116	0.726	0.398	0.350	0.931	1.346
3	0.408	0.528	1.068	0.666	0.404	0.349	0.912	1.419
4	0.409	0.565	1.019	0.609	0.407	0.375	0.971	1.570
5	0.410	0.554	0.995	0.556	0.409	0.343	0.885	1.615
6	0.412	0.564	0.969	0.554	0.411	0.365	0.935	1.591
7	0.412	0.540	0.921	0.576	0.412	0.392	0.994	1.487
8	0.412	0.463	0.870	0.461	0.412	0.283	0.720	1.364
9	0.415	0.495	0.851	0.461	0.415	0.321	0.809	1.344
10	0.428	0.571	0.778	0.455	0.427	0.403	0.981	1.304
11	0.431	0.681	0.709	0.479	0.426	0.477	1.156	1.205

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	8.0	6.1	4.4	0.435	0.732	0.212	0.193	0.037	0.034
2	10.00	8.6	6.4	3.3	0.431	0.768	0.177	0.157	0.033	0.030
3	20.00	9.5	6.7	3.6	0.467	0.762	0.189	0.166	0.037	0.032
4	30.00	10.5	6.9	0.7	0.520	0.765	0.206	0.165	0.048	0.038
5	35.00	10.8	6.9	2.4	0.570	0.728	0.246	0.200	0.057	0.046
6	40.00	11.1	6.8	1.1	0.560	0.778	0.201	0.163	0.049	0.040
7	50.00	11.4	6.6	4.0	0.492	0.852	0.126	0.108	0.031	0.026
8	60.00	11.3	6.2	14.8	0.594	0.875	0.110	0.106	0.023	0.022
9	64.00	11.2	5.7	11.8	0.588	0.866	0.123	0.121	0.028	0.028
10	80.00	9.8	3.1	10.2	0.560	0.894	0.110	0.110	0.028	0.028
11	95.00	8.5	1.0	9.2	0.503	0.926	0.101	0.101	0.024	0.024

TABLE XII. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR ROTOR 65

(r) 80 Percent of design speed; reading 116

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.795	24.333	8.7	58.7	72.4	66.9	291.3	1.171	10.04	1.458
2	24.143	23.640	7.8	55.3	71.3	63.1	290.8	1.166	10.10	1.456
3	22.708	22.250	6.7	54.6	69.9	59.3	289.3	1.157	10.12	1.445
4	21.219	20.861	4.6	52.8	68.7	51.7	288.5	1.160	10.12	1.471
5	20.462	20.165	3.6	54.6	68.0	52.3	288.3	1.155	10.12	1.439
6	19.705	19.472	2.6	53.7	67.2	49.5	288.2	1.148	10.12	1.439
7	18.191	18.082	0.8	43.4	65.5	47.0	288.1	1.119	10.12	1.403
8	16.693	16.693	-0.8	54.3	63.8	54.1	288.1	1.110	10.12	1.378
9	16.091	16.137	-1.4	52.8	62.8	49.0	288.0	1.110	10.12	1.375
10	13.597	13.914	-4.2	47.4	58.8	27.6	288.0	1.112	10.12	1.399
11	10.894	11.829	-9.4	46.6	55.0	5.3	288.0	1.121	10.08	1.454

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	116.2	180.1	380.6	238.6	114.9	93.7	17.5	153.8	380.3	373.2
2	121.0	186.6	373.8	234.8	119.9	106.3	16.4	153.4	370.5	362.8
3	123.2	190.7	355.7	216.3	122.4	110.6	14.3	155.3	348.3	341.2
4	123.6	204.5	338.5	199.7	123.2	123.7	9.9	162.9	325.2	319.7
5	124.0	197.5	329.9	187.2	123.7	114.4	7.9	161.0	313.7	309.1
6	124.9	199.1	321.8	181.6	124.7	117.9	5.6	160.5	302.2	298.6
7	126.5	189.4	305.1	201.9	126.5	137.8	1.7	130.1	279.4	277.7
8	127.2	158.3	287.7	157.7	127.2	92.5	-1.9	128.5	256.2	256.2
9	128.2	165.6	280.6	152.9	128.2	100.2	-3.0	131.9	246.6	247.3
10	132.5	195.9	255.1	149.7	132.1	132.6	-9.6	144.1	208.6	213.5
11	133.8	229.2	230.3	158.0	132.0	157.3	-21.9	166.7	166.9	181.2

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID PEAK SS	
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO
1	0.344	0.498	1.125	0.660	0.340	0.259	0.816	1.391
2	0.359	0.519	1.107	0.653	0.355	0.295	0.886	1.416
3	0.366	0.534	1.057	0.606	0.364	0.310	0.904	1.486
4	0.368	0.576	1.007	0.562	0.367	0.348	1.004	1.643
5	0.369	0.556	0.982	0.527	0.368	0.322	0.925	1.670
6	0.372	0.563	0.958	0.514	0.372	0.333	0.945	1.647
7	0.377	0.541	0.909	0.577	0.377	0.394	1.089	1.534
8	0.379	0.450	0.858	0.449	0.379	0.263	0.727	1.404
9	0.382	0.472	0.837	0.436	0.382	0.286	0.782	1.379
10	0.395	0.563	0.761	0.430	0.394	0.381	1.004	1.330
11	0.399	0.664	0.688	0.458	0.394	0.456	1.192	1.216

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	10.0	8.1	7.8	0.513	0.665	0.288	0.262	0.045	0.041
2	10.00	10.8	8.6	5.2	0.513	0.681	0.273	0.246	0.048	0.043
3	20.00	11.7	8.8	4.4	0.537	0.705	0.257	0.226	0.049	0.043
4	30.00	12.7	9.1	0.4	0.579	0.729	0.257	0.204	0.060	0.048
5	35.00	13.1	9.1	2.8	0.604	0.708	0.279	0.224	0.064	0.051
6	40.00	13.4	9.1	1.9	0.612	0.742	0.247	0.200	0.059	0.048
7	50.00	13.5	8.8	3.9	0.488	0.856	0.126	0.103	0.031	0.025
8	60.00	13.4	8.2	16.9	0.605	0.869	0.117	0.111	0.023	0.022
9	64.00	13.2	7.7	15.0	0.614	0.864	0.127	0.123	0.027	0.027
10	80.00	11.9	5.2	10.3	0.588	0.896	0.115	0.115	0.029	0.029
11	95.00	10.5	3.0	9.6	0.518	0.936	0.090	0.090	0.022	0.022

TABLE XII. - Continued. BLADE-ELEMENT DATA AT BLADE

EDGES FOR ROTOR 65

(s) 70 Percent of design speed; reading 77

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.795	24.333	6.3	29.2	66.4	61.8	289.2	1.061	10.03	1.183
2	24.143	23.640	5.4	27.1	65.1	60.8	288.8	1.059	10.11	1.177
3	22.708	22.250	5.2	27.4	63.7	56.9	288.2	1.062	10.11	1.191
4	21.219	20.861	4.3	28.6	62.0	51.1	287.9	1.072	10.12	1.224
5	20.462	20.165	3.8	32.7	61.0	49.1	287.9	1.080	10.12	1.221
6	19.705	19.472	2.9	28.9	60.3	46.9	287.8	1.072	10.12	1.236
7	18.191	18.082	1.4	27.7	58.5	44.5	287.8	1.065	10.12	1.233
8	16.693	16.693	-0.4	38.8	56.9	51.6	287.8	1.068	10.12	1.238
9	16.091	16.137	-1.0	38.0	56.0	46.8	287.8	1.071	10.12	1.244
10	13.597	13.914	-4.3	35.8	52.2	27.3	287.7	1.078	10.11	1.274
11	10.894	11.829	-9.4	40.0	48.6	4.4	287.7	1.095	10.08	1.332

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	139.6	154.6	346.6	285.3	138.8	135.0	15.3	75.4	332.9	326.7
2	144.5	154.9	341.7	282.4	143.8	138.0	13.6	70.5	323.6	316.9
3	144.3	163.7	324.8	266.2	143.7	145.4	13.1	75.2	304.4	298.3
4	146.1	178.7	310.4	249.8	145.7	156.8	10.9	85.6	284.9	280.1
5	146.9	178.9	302.5	230.1	146.6	150.6	9.8	96.5	274.5	270.5
6	147.2	184.7	296.5	236.5	147.0	161.7	7.4	89.2	264.9	261.8
7	147.7	181.9	282.2	225.7	147.6	161.1	3.6	84.5	244.1	242.6
8	146.7	138.9	268.5	174.4	146.7	108.3	-1.1	87.1	223.7	223.7
9	147.7	149.0	263.7	171.2	147.6	117.3	-2.6	91.8	215.9	216.5
10	151.1	186.2	245.6	169.9	150.7	151.0	-11.4	108.9	182.5	186.8
11	153.3	226.7	228.6	174.2	151.2	173.7	-25.2	145.6	146.3	158.8

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID PEAK SS	
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO
1	0.417	0.449	1.034	0.829	0.414	0.392	0.973	1.087
2	0.432	0.451	1.022	0.822	0.430	0.402	0.959	1.127
3	0.432	0.477	0.972	0.776	0.430	0.424	1.012	1.212
4	0.438	0.521	0.930	0.728	0.436	0.457	1.076	1.315
5	0.440	0.520	0.906	0.668	0.439	0.437	1.028	1.328
6	0.441	0.540	0.889	0.691	0.441	0.472	1.100	1.319
7	0.443	0.533	0.846	0.661	0.443	0.472	1.091	1.225
8	0.440	0.402	0.805	0.504	0.440	0.313	0.738	1.128
9	0.443	0.431	0.791	0.496	0.443	0.339	0.795	1.118
10	0.453	0.543	0.737	0.495	0.452	0.440	1.002	1.122
11	0.460	0.664	0.686	0.511	0.454	0.509	1.149	1.064

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	4.0	2.1	2.7	0.244	0.809	0.075	0.074	0.014	0.014
2	10.00	4.6	2.4	2.9	0.237	0.812	0.073	0.072	0.014	0.014
3	20.00	5.5	2.7	2.1	0.250	0.832	0.073	0.071	0.015	0.014
4	30.00	6.0	2.4	-0.2	0.285	0.828	0.092	0.087	0.022	0.021
5	35.00	6.2	2.2	-0.4	0.345	0.736	0.160	0.156	0.039	0.038
6	40.00	6.4	2.2	-0.8	0.304	0.873	0.072	0.069	0.018	0.017
7	50.00	6.4	1.7	1.4	0.302	0.954	0.026	0.026	0.007	0.007
8	60.00	6.5	1.3	14.4	0.461	0.921	0.051	0.051	0.011	0.011
9	64.00	6.3	0.8	12.7	0.469	0.907	0.064	0.064	0.014	0.014
10	80.00	5.3	-1.5	10.0	0.451	0.919	0.068	0.068	0.017	0.017
11	95.00	4.1	-3.5	8.7	0.424	0.896	0.118	0.118	0.028	0.028

TABLE XII. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR ROTOR 65

(t) 70 Percent of design speed; reading 78

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.795	24.333	6.2	42.4	69.5	63.1	289.1	1.099	10.06	1.284
2	24.143	23.640	5.3	40.1	68.4	61.8	288.8	1.092	10.11	1.270
3	22.708	22.250	5.0	41.6	67.3	58.7	288.2	1.093	10.12	1.277
4	21.219	20.861	4.2	42.5	65.8	51.3	288.1	1.105	10.12	1.312
5	20.462	20.165	3.7	45.7	64.8	51.1	288.0	1.104	10.12	1.293
6	19.705	19.472	3.2	41.6	63.9	48.3	288.0	1.095	10.12	1.298
7	18.191	18.082	1.4	36.6	62.3	46.9	288.0	1.080	10.12	1.277
8	16.693	16.693	-0.5	47.6	60.6	52.0	288.0	1.079	10.12	1.274
9	16.091	16.137	-1.0	45.7	59.8	46.8	287.9	1.080	10.12	1.273
10	13.597	13.914	-4.2	42.0	56.1	27.9	288.0	1.083	10.12	1.286
11	10.894	11.829	-9.7	43.3	52.6	6.1	288.0	1.093	10.09	1.333

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	120.3	153.5	341.6	250.4	119.6	113.3	13.1	103.6	333.1	326.9
2	124.3	153.3	336.5	248.4	123.8	117.3	11.5	98.7	324.4	317.6
3	123.9	158.2	319.9	228.0	123.4	118.3	10.9	105.0	306.0	299.8
4	124.7	175.7	303.1	207.5	124.4	129.6	9.2	118.7	285.5	280.7
5	125.8	171.5	295.2	190.7	125.6	119.7	8.1	122.8	275.3	271.3
6	126.3	174.1	286.8	195.5	126.1	130.1	7.0	115.6	264.6	261.5
7	126.9	167.2	272.7	196.5	126.8	134.3	3.0	99.6	244.5	243.0
8	126.8	140.0	258.6	153.5	126.8	94.5	-1.0	103.4	224.3	224.3
9	127.3	148.7	253.0	151.8	127.3	103.9	-2.3	106.4	216.4	217.0
10	129.2	175.5	231.0	147.5	128.9	130.4	-9.6	117.4	182.1	186.4
11	130.4	207.8	211.9	152.0	128.6	151.2	-22.0	142.7	146.4	158.9

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID PEAK SS	
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO
1	0.357	0.438	1.015	0.714	0.355	0.323	0.947	1.219
2	0.370	0.439	1.001	0.711	0.368	0.336	0.948	1.259
3	0.369	0.454	0.952	0.654	0.367	0.339	0.959	1.312
4	0.372	0.504	0.903	0.595	0.371	0.371	1.042	1.394
5	0.375	0.491	0.880	0.546	0.374	0.343	0.953	1.403
6	0.376	0.501	0.855	0.563	0.376	0.375	1.032	1.375
7	0.378	0.484	0.813	0.569	0.378	0.389	1.059	1.283
8	0.378	0.403	0.771	0.441	0.378	0.272	0.745	1.180
9	0.380	0.428	0.754	0.437	0.380	0.299	0.816	1.166
10	0.386	0.508	0.689	0.427	0.384	0.378	1.012	1.140
11	0.389	0.605	0.632	0.443	0.384	0.440	1.176	1.066

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	7.1	5.2	4.0	0.371	0.750	0.155	0.152	0.028	0.027
2	10.00	7.9	5.7	3.9	0.361	0.771	0.136	0.131	0.025	0.024
3	20.00	9.1	6.3	3.9	0.395	0.777	0.144	0.139	0.028	0.027
4	30.00	9.8	6.2	0.0	0.451	0.772	0.176	0.169	0.042	0.040
5	35.00	10.0	6.0	1.6	0.498	0.734	0.212	0.205	0.050	0.048
6	40.00	10.1	5.8	0.6	0.457	0.812	0.147	0.143	0.036	0.035
7	50.00	10.3	5.5	3.8	0.405	0.905	0.069	0.069	0.017	0.017
8	60.00	10.3	5.1	14.8	0.543	0.909	0.071	0.071	0.015	0.015
9	64.00	10.1	4.7	12.7	0.542	0.895	0.086	0.086	0.019	0.019
10	80.00	9.2	2.4	10.6	0.521	0.903	0.095	0.095	0.024	0.024
11	95.00	8.1	0.6	10.4	0.476	0.918	0.106	0.106	0.025	0.025

TABLE XII. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR ROTOR 65

(u) 70 Percent of design speed; reading 86

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.795	24.333	7.3	59.5	72.4	67.3	289.0	1.138	10.07	1.330
2	24.143	23.640	6.2	52.0	71.3	62.6	288.7	1.124	10.12	1.324
3	22.708	22.250	5.2	48.2	70.2	58.6	288.3	1.110	10.12	1.317
4	21.219	20.861	4.2	48.5	68.7	51.7	288.2	1.116	10.12	1.342
5	20.462	20.165	3.7	50.6	67.9	51.0	288.1	1.115	10.12	1.329
6	19.705	19.472	3.2	48.9	67.0	48.0	288.1	1.110	10.12	1.331
7	18.191	18.082	1.7	41.4	65.3	46.6	288.1	1.089	10.12	1.300
8	16.693	16.693	0.1	53.8	63.7	53.5	288.0	1.085	10.12	1.285
9	16.091	16.137	-0.5	52.3	62.9	48.6	288.0	1.086	10.12	1.284
10	13.597	13.914	-3.6	47.7	59.0	28.9	288.0	1.087	10.12	1.293
11	10.894	11.829	-8.9	46.7	55.2	5.9	287.9	1.093	10.10	1.336

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	102.6	157.6	335.7	207.1	101.7	79.9	13.1	135.8	333.0	326.8
2	106.5	160.5	330.2	215.2	105.8	98.9	11.4	126.4	324.2	317.5
3	106.7	162.5	313.9	208.2	106.2	108.3	9.6	121.1	305.0	298.8
4	108.4	176.4	297.5	188.8	108.1	116.9	8.0	132.1	285.2	280.4
5	109.3	174.1	289.5	175.9	109.1	110.6	7.1	134.5	275.2	271.2
6	110.0	176.5	281.2	173.4	109.8	116.0	6.2	133.0	265.0	261.9
7	111.1	167.2	265.9	182.8	111.1	125.5	3.2	110.5	244.8	243.3
8	111.1	140.0	250.4	139.0	111.1	82.7	0.2	112.9	224.6	224.6
9	111.3	146.2	244.3	135.1	111.3	89.3	-0.9	115.7	216.5	217.1
10	114.6	168.5	221.8	129.4	114.4	113.3	-7.2	124.6	182.8	187.1
11	115.9	199.5	200.4	137.6	114.5	136.9	-17.9	145.1	146.6	159.2

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID PEAK SS	
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO
1	0.304	0.442	0.994	0.581	0.301	0.224	0.786	1.315
2	0.316	0.453	0.979	0.608	0.314	0.279	0.934	1.336
3	0.316	0.463	0.931	0.593	0.315	0.308	1.020	1.376
4	0.322	0.503	0.883	0.538	0.321	0.333	1.081	1.451
5	0.325	0.496	0.860	0.501	0.324	0.315	1.014	1.459
6	0.327	0.505	0.835	0.496	0.326	0.332	1.056	1.430
7	0.330	0.482	0.790	0.526	0.330	0.362	1.130	1.327
8	0.330	0.401	0.744	0.398	0.330	0.237	0.745	1.215
9	0.331	0.419	0.726	0.388	0.331	0.256	0.802	1.198
10	0.341	0.486	0.660	0.373	0.340	0.327	0.991	1.156
11	0.345	0.580	0.596	0.400	0.341	0.398	1.196	1.057

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	10.0	8.1	8.2	0.526	0.617	0.320	0.313	0.049	0.048
2	10.00	10.8	8.6	4.8	0.482	0.672	0.259	0.250	0.046	0.045
3	20.00	12.0	9.2	3.8	0.467	0.743	0.198	0.190	0.038	0.037
4	30.00	12.7	9.1	0.4	0.522	0.755	0.215	0.203	0.050	0.048
5	35.00	13.0	9.0	1.5	0.555	0.733	0.241	0.231	0.057	0.054
6	40.00	13.2	8.9	0.4	0.548	0.775	0.205	0.199	0.051	0.049
7	50.00	13.3	8.5	3.5	0.456	0.876	0.103	0.102	0.025	0.025
8	60.00	13.3	8.1	16.2	0.597	0.869	0.116	0.116	0.023	0.023
9	64.00	13.2	7.8	14.6	0.604	0.860	0.130	0.130	0.028	0.028
10	80.00	12.1	5.3	11.6	0.589	0.880	0.132	0.132	0.033	0.033
11	95.00	10.6	3.1	10.2	0.517	0.931	0.097	0.097	0.023	0.023

TABLE XII. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR ROTOR 65

(v) 40 Percent of design speed; reading 81

RP	RADII IN	RADII OUT	ABS BETAM IN	ABS BETAM OUT	REL BETAM IN	REL BETAM OUT	TOTAL TEMP IN	TOTAL TEMP RATIO	TOTAL PRESS IN	TOTAL PRESS RATIO
1	24.795	24.333	7.4	15.2	66.1	62.9	288.7	1.009	10.10	1.020
2	24.143	23.640	6.5	14.7	65.0	61.4	288.5	1.009	10.12	1.021
3	22.708	22.250	5.7	15.4	63.8	57.2	288.4	1.011	10.12	1.030
4	21.219	20.861	5.1	18.3	61.7	51.2	288.2	1.015	10.13	1.041
5	20.462	20.165	4.5	21.7	61.0	49.1	288.0	1.018	10.13	1.043
6	19.705	19.472	3.8	18.6	60.2	46.1	288.0	1.017	10.13	1.054
7	18.191	18.082	2.1	20.0	58.5	42.0	288.1	1.017	10.13	1.060
8	16.693	16.693	0.6	38.0	56.8	51.0	288.0	1.020	10.13	1.063
9	16.091	16.137	0.0	36.1	56.0	52.2	288.1	1.021	10.13	1.069
10	13.597	13.914	-3.5	35.5	52.3	30.9	288.0	1.025	10.13	1.083
11	10.894	11.829	-9.7	40.1	49.5	6.7	287.9	1.032	10.11	1.102

RP	ABS VEL IN	ABS VEL OUT	REL VEL IN	REL VEL OUT	MERID VEL IN	MERID VEL OUT	TANG VEL IN	TANG VEL OUT	WHEEL SPEED IN	WHEEL SPEED OUT
1	80.5	86.8	196.8	184.1	79.8	83.8	10.3	22.8	190.2	186.7
2	82.8	89.6	194.4	181.0	82.3	86.7	9.4	22.8	185.6	181.7
3	82.4	97.1	185.5	172.8	81.9	93.6	8.2	25.9	174.6	171.1
4	83.6	106.8	175.8	161.8	83.2	101.4	7.4	33.5	162.3	159.5
5	83.9	107.6	172.5	152.6	83.7	99.9	6.6	39.8	157.4	155.1
6	84.0	115.0	168.6	157.3	83.8	109.0	5.5	36.6	151.8	150.0
7	83.9	116.9	160.5	147.9	83.8	109.8	3.1	40.1	140.0	139.1
8	83.4	80.6	152.0	100.9	83.4	63.5	0.9	49.6	128.0	128.0
9	83.7	76.4	149.8	100.7	83.7	61.8	0.0	45.0	124.2	124.5
10	85.0	100.3	138.9	95.2	84.8	81.7	-5.3	58.3	104.7	107.1
11	85.3	124.6	129.5	96.0	84.1	95.3	-14.4	80.2	84.1	91.3

RP	ABS MACH NO IN	ABS MACH NO OUT	REL MACH NO IN	REL MACH NO OUT	MERID MACH NO IN	MERID MACH NO OUT	MERID PEAK SS VEL R	MERID PEAK SS MACH NO
1	0.238	0.255	0.581	0.542	0.236	0.246	1.050	0.611
2	0.245	0.264	0.574	0.533	0.243	0.255	1.053	0.640
3	0.243	0.286	0.548	0.509	0.242	0.276	1.142	0.684
4	0.247	0.314	0.520	0.476	0.246	0.298	1.218	0.731
5	0.248	0.317	0.510	0.449	0.247	0.294	1.194	0.747
6	0.248	0.339	0.498	0.464	0.248	0.321	1.301	0.738
7	0.248	0.345	0.475	0.436	0.248	0.324	1.310	0.688
8	0.247	0.236	0.450	0.295	0.246	0.186	0.762	0.629
9	0.248	0.223	0.443	0.294	0.248	0.181	0.738	0.627
10	0.251	0.294	0.411	0.279	0.251	0.239	0.963	0.628
11	0.252	0.365	0.383	0.281	0.249	0.280	1.133	0.605

RP	PERCENT SPAN	INCIDENCE MEAN	INCIDENCE SS	DEV	D FACT	EFF	LOSS COEFF TOT	LOSS COEFF PROF	LOSS PARAM TOT	LOSS PARAM PROF
1	5.00	3.7	1.8	3.8	0.089	0.664	0.049	0.049	0.009	0.009
2	10.00	4.4	2.2	3.5	0.095	0.675	0.050	0.050	0.009	0.009
3	20.00	5.6	2.7	2.4	0.103	0.805	0.038	0.038	0.008	0.008
4	30.00	5.8	2.2	-0.1	0.135	0.749	0.079	0.079	0.019	0.019
5	35.00	6.1	2.2	-0.5	0.187	0.677	0.121	0.121	0.030	0.030
6	40.00	6.4	2.1	-1.5	0.134	0.873	0.048	0.048	0.012	0.012
7	50.00	6.5	1.7	-1.0	0.160	0.987	0.005	0.005	0.001	0.001
8	60.00	6.4	1.2	13.8	0.444	0.882	0.062	0.062	0.013	0.013
9	64.00	6.4	0.9	18.1	0.427	0.896	0.061	0.061	0.012	0.012
10	80.00	5.5	-1.3	13.6	0.448	0.911	0.070	0.070	0.017	0.017
11	95.00	5.0	-2.6	11.0	0.441	0.886	0.127	0.127	0.031	0.031

TABLE XII. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES FOR ROTOR 65

(w) 40 Percent of design speed; reading 82

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.795	24.333	7.7	44.6	71.4	64.8	288.6	1.034	10.11	1.083
2	24.143	23.640	6.9	38.9	70.4	62.1	288.4	1.030	10.13	1.083
3	22.708	22.250	6.2	39.0	69.3	59.0	288.4	1.030	10.13	1.083
4	21.219	20.861	5.2	39.8	67.8	52.0	288.3	1.034	10.13	1.094
5	20.462	20.165	4.8	42.9	67.0	50.3	288.1	1.034	10.13	1.092
6	19.705	19.472	3.9	38.9	66.2	48.3	288.1	1.031	10.13	1.091
7	18.191	18.082	2.1	36.5	64.7	46.5	288.1	1.027	10.13	1.085
8	16.693	16.693	0.5	47.1	62.9	52.9	288.0	1.026	10.13	1.082
9	16.091	16.137	-0.1	48.0	62.2	50.6	288.2	1.027	10.13	1.083
10	13.597	13.914	-3.6	44.8	58.6	30.9	287.9	1.028	10.13	1.088
11	10.894	11.829	-9.7	44.8	55.2	7.6	288.0	1.031	10.12	1.101

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	62.0	84.6	192.7	141.4	61.4	60.2	8.3	59.4	191.0	187.4
2	64.0	86.8	189.3	144.4	63.5	67.6	7.7	54.5	186.0	182.1
3	63.8	89.2	179.5	134.4	63.4	69.3	6.9	56.1	174.8	171.3
4	64.6	99.2	170.4	123.7	64.3	76.2	5.8	63.4	163.7	160.9
5	65.0	99.6	165.9	114.3	64.8	72.9	5.4	67.9	158.1	155.8
6	65.0	99.9	160.9	116.8	64.9	77.7	4.4	62.7	151.7	149.9
7	65.3	96.6	152.4	112.8	65.2	77.6	2.4	57.5	140.1	139.3
8	65.1	78.3	143.1	88.5	65.1	53.4	0.6	57.4	128.0	128.0
9	65.3	79.7	140.1	84.0	65.3	53.3	-0.1	59.3	123.8	124.2
10	66.6	94.8	127.5	78.4	66.5	67.3	-4.2	66.9	104.6	107.1
11	67.2	114.2	116.3	81.7	66.3	81.0	-11.3	80.5	84.2	91.4

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID PEAK SS	
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO
1	0.183	0.246	0.568	0.411	0.181	0.175	0.980	0.732
2	0.189	0.253	0.558	0.420	0.187	0.197	1.064	0.743
3	0.188	0.260	0.529	0.392	0.187	0.202	1.093	0.765
4	0.190	0.289	0.503	0.361	0.190	0.222	1.185	0.811
5	0.192	0.290	0.489	0.333	0.191	0.213	1.126	0.816
6	0.192	0.291	0.474	0.341	0.191	0.227	1.198	0.800
7	0.193	0.282	0.450	0.330	0.192	0.227	1.190	0.746
8	0.192	0.229	0.422	0.258	0.192	0.156	0.820	0.679
9	0.193	0.232	0.413	0.245	0.193	0.155	0.816	0.672
10	0.197	0.277	0.376	0.229	0.196	0.197	1.012	0.655
11	0.198	0.334	0.343	0.239	0.196	0.237	1.222	0.609

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	9.0	7.1	5.7	0.370	0.671	0.192	0.192	0.032	0.032
2	10.00	9.9	7.7	4.2	0.332	0.755	0.131	0.131	0.024	0.024
3	20.00	11.1	8.3	4.2	0.351	0.778	0.127	0.127	0.024	0.024
4	30.00	11.9	8.3	0.7	0.400	0.776	0.159	0.159	0.037	0.037
5	35.00	12.2	8.2	0.8	0.450	0.748	0.190	0.190	0.045	0.045
6	40.00	12.4	8.1	0.6	0.407	0.812	0.138	0.138	0.034	0.034
7	50.00	12.6	7.9	3.4	0.389	0.875	0.088	0.088	0.022	0.022
8	60.00	12.6	7.4	15.7	0.515	0.870	0.100	0.100	0.020	0.020
9	64.00	12.6	7.1	16.6	0.541	0.847	0.128	0.128	0.027	0.027
10	80.00	11.7	4.9	13.6	0.548	0.886	0.115	0.115	0.028	0.028
11	95.00	10.7	3.2	11.9	0.495	0.906	0.127	0.127	0.031	0.031

TABLE XII. - Concluded. BLADE-ELEMENT DATA AT BLADE EDGES FOR ROTOR 65

(x) 40 Percent of design speed; reading 83

RP	RADII IN	RADII OUT	ABS BETAM IN	ABS BETAM OUT	REL BETAM IN	REL BETAM OUT	TOTAL TEMP IN	TOTAL TEMP RATIO	TOTAL PRESS IN	TOTAL PRESS RATIO
1	24.795	24.333	60.8	73.0	87.6	66.4	292.8	1.050	10.04	1.146
2	24.143	23.640	19.1	71.8	79.5	70.8	290.1	1.049	10.07	1.111
3	22.708	22.250	6.7	64.1	73.8	67.9	288.7	1.043	10.11	1.085
4	21.219	20.861	5.5	52.4	71.1	57.6	288.5	1.039	10.12	1.085
5	20.462	20.165	5.0	48.5	70.3	53.5	288.4	1.037	10.12	1.086
6	19.705	19.472	4.3	42.0	69.3	50.7	288.3	1.032	10.12	1.086
7	18.191	18.082	2.6	38.0	67.6	47.6	288.3	1.027	10.13	1.083
8	16.693	16.693	0.8	48.6	65.9	53.4	288.2	1.027	10.13	1.082
9	16.091	16.137	0.2	49.4	65.2	50.4	288.1	1.027	10.13	1.084
10	13.597	13.914	-3.1	46.7	61.6	29.6	288.1	1.028	10.13	1.090
11	10.894	11.829	-9.2	45.7	58.0	6.6	288.0	1.031	10.12	1.103

RP	ABS VEL IN	ABS VEL OUT	REL VEL IN	REL VEL OUT	MERID VEL IN	MERID VEL OUT	TANG VEL IN	TANG VEL OUT	WHEEL SPEED IN	WHEEL SPEED OUT
1	15.5	115.5	178.0	84.4	7.6	33.7	13.5	110.4	191.4	187.8
2	34.5	98.8	178.1	93.9	32.6	30.9	11.2	93.8	186.3	182.4
3	49.5	86.6	176.1	100.8	49.2	37.9	5.7	77.9	174.9	171.3
4	54.3	91.5	167.0	104.3	54.1	55.9	5.2	72.5	163.3	160.5
5	55.1	94.6	162.6	105.4	54.9	62.7	4.8	70.8	157.9	155.6
6	55.9	95.2	157.9	111.8	55.7	70.8	4.2	63.7	152.0	150.2
7	56.9	94.3	149.0	110.2	56.9	74.3	2.6	58.0	140.3	139.5
8	57.2	78.6	140.4	87.2	57.2	52.0	0.8	59.0	129.0	129.0
9	57.5	81.0	137.2	82.7	57.5	52.7	0.2	61.4	124.7	125.1
10	58.8	96.5	123.4	76.1	58.7	66.2	-3.2	70.3	105.4	107.8
11	59.6	115.4	111.0	81.2	58.8	80.6	-9.5	82.5	84.6	91.8

RP	ABS MACH NO IN	ABS MACH NO OUT	REL MACH NO IN	REL MACH NO OUT	MERID MACH NO IN	MERID MACH NO OUT	MERID PEAK SS VEL R	MERID PEAK SS MACH NO
1	0.045	0.332	0.519	0.243	0.022	0.097	4.458	0.959
2	0.101	0.285	0.522	0.271	0.095	0.089	0.949	0.858
3	0.146	0.251	0.518	0.292	0.145	0.110	0.770	0.828
4	0.160	0.266	0.492	0.303	0.159	0.162	1.033	0.848
5	0.162	0.275	0.479	0.307	0.162	0.182	1.142	0.852
6	0.165	0.277	0.465	0.326	0.164	0.206	1.271	0.834
7	0.168	0.275	0.439	0.322	0.168	0.217	1.306	0.772
8	0.169	0.229	0.414	0.254	0.169	0.152	0.908	0.708
9	0.169	0.236	0.404	0.241	0.169	0.154	0.917	0.699
10	0.173	0.282	0.364	0.222	0.173	0.193	1.127	0.671
11	0.176	0.338	0.327	0.238	0.173	0.236	1.371	0.612

RP	PERCENT SPAN	INCIDENCE MEAN	INCIDENCE SS	DEV	D FACT	EFF	LOSS COEFF TOT	LOSS COEFF PROF	LOSS PARAM TOT	LOSS PARAM PROF
1	5.00	25.2	23.3	7.4	0.738	0.786	0.210	0.210	0.033	0.033
2	10.00	19.0	16.8	13.0	0.651	0.620	0.357	0.357	0.046	0.046
3	20.00	15.6	12.8	13.2	0.578	0.551	0.375	0.375	0.052	0.052
4	30.00	15.2	11.6	6.3	0.526	0.611	0.325	0.325	0.066	0.066
5	35.00	15.4	11.4	4.0	0.502	0.654	0.288	0.288	0.064	0.064
6	40.00	15.5	11.2	3.1	0.430	0.736	0.208	0.208	0.049	0.049
7	50.00	15.5	10.8	4.6	0.392	0.841	0.119	0.119	0.029	0.029
8	60.00	15.6	10.4	16.2	0.519	0.854	0.118	0.118	0.024	0.024
9	64.00	15.6	10.1	16.3	0.545	0.857	0.123	0.123	0.026	0.026
10	80.00	14.7	7.9	12.3	0.557	0.885	0.126	0.126	0.032	0.032
11	95.00	13.4	5.9	10.9	0.476	0.919	0.119	0.119	0.029	0.029

TABLE XIII. - BLADE-ELEMENT DATA AT BLADE EDGES

FOR BYPASS STATOR 65

(a) 100 Percent of design speed; reading 154

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.006	23.627	38.7	-0.1	38.7	-0.1	344.5	0.998	16.09	0.927
2	23.396	23.111	33.6	-1.9	33.6	-1.9	337.5	1.007	15.99	0.955
3	22.174	22.045	31.4	-3.4	31.4	-3.4	336.9	1.004	16.28	0.963
4	20.968	20.975	31.8	-2.9	31.8	-2.9	341.4	0.994	16.65	0.950
5	20.366	20.444	37.2	-3.0	37.2	-3.0	342.9	0.990	16.13	0.978
6	19.769	19.916	36.4	-3.0	36.4	-3.0	341.0	0.994	16.32	0.965
7	18.593	18.885	29.2	-2.6	29.2	-2.6	337.5	0.995	16.93	0.927

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	237.9	230.7	237.9	230.7	185.6	230.7	148.7	-0.5	0.0	0.0
2	244.0	237.3	244.0	237.3	203.3	237.2	135.0	-7.8	0.0	0.0
3	267.7	250.0	267.7	250.0	228.5	249.5	139.4	-14.9	0.0	0.0
4	291.3	264.4	291.3	264.4	247.5	264.0	153.6	-13.6	0.0	0.0
5	269.3	270.2	269.3	270.2	214.5	269.8	162.9	-14.2	0.0	0.0
6	278.4	283.2	278.4	283.2	224.0	282.8	165.3	-14.7	0.0	0.0
7	316.4	335.6	316.4	335.6	276.1	335.3	154.5	-15.4	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.667	0.646	0.667	0.646	0.521	0.646	1.243
2	0.694	0.670	0.694	0.670	0.578	0.670	1.167
3	0.769	0.711	0.769	0.711	0.657	0.710	1.092
4	0.840	0.756	0.840	0.756	0.714	0.755	1.067
5	0.767	0.774	0.767	0.774	0.611	0.773	1.258
6	0.799	0.817	0.799	0.817	0.642	0.816	1.263
7	0.930	1.001	0.930	1.001	0.812	1.000	1.214

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	-16.4	-20.7	16.5	0.224	0.000	0.283	0.283	0.087	0.087
2	10.00	-15.2	-19.6	12.5	0.201	0.000	0.165	0.165	0.049	0.049
3	20.00	-9.9	-14.4	7.6	0.226	0.000	0.116	0.116	0.032	0.032
4	30.00	-6.1	-10.8	7.0	0.242	0.000	0.135	0.135	0.035	0.035
5	35.00	0.2	-4.4	6.4	0.163	0.000	0.067	0.067	0.017	0.017
6	40.00	0.2	-4.5	6.1	0.141	0.000	0.103	0.103	0.025	0.025
7	50.00	-6.4	-11.0	6.1	0.063	0.000	0.170	0.170	0.040	0.040

TABLE XIII. - Continued. BLADE-ELEMENT DATA AT

BLADE EDGES FOR BYPASS STATOR 65

(b) 100 Percent of design speed; reading 135

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.006	23.627	46.9	-0.4	46.9	-0.4	357.6	0.988	17.81	0.955
2	23.396	23.111	40.5	-2.1	40.5	-2.1	348.3	1.003	17.52	0.982
3	22.174	22.045	37.8	-2.9	37.8	-2.9	345.7	1.003	17.54	0.989
4	20.968	20.975	37.9	-1.7	37.9	-1.7	348.4	0.994	17.76	0.967
5	20.366	20.444	42.0	-2.0	42.0	-2.0	350.1	0.987	17.33	0.981
6	19.769	19.916	39.8	-2.2	39.8	-2.2	346.5	0.992	17.43	0.969
7	18.593	18.885	35.7	-1.8	35.7	-1.8	342.1	0.994	17.39	0.955

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	240.1	209.3	240.1	209.3	164.1	209.3	175.2	-1.3	0.0	0.0
2	241.8	213.4	241.8	213.4	183.9	213.3	157.0	-7.7	0.0	0.0
3	257.7	220.6	257.7	220.6	203.6	220.4	157.9	-11.2	0.0	0.0
4	274.3	224.3	274.3	224.3	216.6	224.2	168.4	-6.6	0.0	0.0
5	265.9	224.6	263.9	224.6	196.0	224.5	176.7	-8.0	0.0	0.0
6	269.1	226.6	269.1	226.6	206.9	226.4	172.2	-8.8	0.0	0.0
7	277.6	233.0	277.6	233.0	225.3	232.9	162.1	-7.4	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.660	0.573	0.660	0.573	0.451	0.573	1.275
2	0.675	0.589	0.675	0.589	0.513	0.588	1.160
3	0.727	0.613	0.727	0.613	0.574	0.612	1.082
4	0.776	0.624	0.776	0.624	0.613	0.624	1.035
5	0.741	0.626	0.741	0.626	0.550	0.626	1.146
6	0.762	0.634	0.762	0.634	0.586	0.633	1.094
7	0.795	0.657	0.795	0.657	0.645	0.657	1.034

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	-8.2	-12.6	16.2	0.356	0.000	0.176	0.176	0.054	0.054
2	10.00	-8.3	-12.7	12.3	0.320	0.000	0.069	0.069	0.020	0.020
3	20.00	-5.5	-8.0	8.1	0.326	0.000	0.037	0.037	0.010	0.010
4	30.00	-0.1	-4.7	8.2	0.349	0.000	0.102	0.102	0.026	0.026
5	35.00	5.1	0.4	7.4	0.325	0.000	0.062	0.062	0.016	0.016
6	40.00	3.5	-1.1	6.9	0.323	0.000	0.098	0.098	0.024	0.024
7	50.00	0.1	-4.5	6.9	0.301	0.000	0.133	0.133	0.031	0.031

TABLE XIII. - Continued. BLADE-ELEMENT DATA AT

BLADE EDGES FOR BYPASS STATOR 65

(c) 100 Percent of design speed; reading 134

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.006	23.627	51.1	-0.4	51.1	-0.4	367.2	0.983	19.31	0.947
2	23.396	23.111	44.8	-1.7	44.8	-1.7	355.3	1.004	18.77	0.974
3	22.174	22.045	42.2	-2.2	42.2	-2.2	352.2	1.002	18.69	0.978
4	20.968	20.975	41.8	-0.7	41.8	-0.7	353.8	0.994	18.74	0.959
5	20.366	20.444	46.0	-1.2	46.0	-1.2	355.7	0.984	18.40	0.963
6	19.769	19.916	43.3	-1.6	43.3	-1.6	350.2	0.993	18.24	0.960
7	18.593	18.885	40.7	-0.5	40.7	-0.5	345.7	0.995	17.93	0.952

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	250.2	202.7	250.2	202.7	157.1	202.7	194.7	-1.3	0.0	0.0
2	247.3	203.1	247.3	203.1	175.6	203.0	174.1	-6.2	0.0	0.0
3	261.7	206.9	261.7	206.9	193.8	206.7	175.9	-7.8	0.0	0.0
4	275.1	206.5	275.1	206.5	205.1	206.5	183.3	-2.7	0.0	0.0
5	268.2	203.2	268.2	203.2	186.4	203.1	192.9	-4.3	0.0	0.0
6	268.4	200.8	268.4	200.8	195.3	200.7	184.1	-5.5	0.0	0.0
7	268.6	196.5	268.6	196.5	203.7	196.5	175.1	-1.8	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.681	0.548	0.681	0.548	0.427	0.548	1.290
2	0.684	0.553	0.684	0.553	0.486	0.552	1.156
3	0.732	0.567	0.732	0.567	0.542	0.566	1.067
4	0.772	0.567	0.772	0.567	0.575	0.567	1.007
5	0.748	0.558	0.748	0.558	0.520	0.558	1.090
6	0.755	0.553	0.755	0.553	0.549	0.553	1.028
7	0.761	0.544	0.761	0.544	0.577	0.544	0.964

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	-4.0	-8.3	16.2	0.432	0.000	0.199	0.199	0.061	0.061
2	10.00	-4.0	-8.4	12.6	0.395	0.000	0.096	0.096	0.028	0.028
3	20.00	1.0	-3.6	8.9	0.404	0.000	0.074	0.074	0.020	0.020
4	30.00	3.8	-0.8	9.2	0.426	0.000	0.127	0.127	0.033	0.033
5	35.00	9.0	4.4	8.2	0.428	0.000	0.121	0.121	0.031	0.031
6	40.00	7.0	2.4	7.5	0.425	0.000	0.128	0.128	0.032	0.032
7	50.00	5.1	0.4	8.1	0.420	0.000	0.151	0.151	0.035	0.035

TABLE XIII. - Continued. BLADE-ELEMENT DATA AT

BLADE EDGES FOR BYPASS STATOR 65

(d) 100 Percent of design speed; reading 133

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.006	23.627	53.6	-0.4	53.6	-0.4	370.1	0.985	19.66	0.955
2	23.396	23.111	47.2	-1.5	47.2	-1.5	360.0	1.001	19.36	0.973
3	22.174	22.045	45.6	-1.0	45.6	-1.0	356.3	1.004	19.26	0.973
4	20.968	20.975	44.4	-0.8	44.4	-0.8	357.8	0.994	19.35	0.949
5	20.366	20.444	48.4	-1.3	48.4	-1.3	358.8	0.985	18.88	0.957
6	19.769	19.916	45.7	-1.4	45.7	-1.4	352.6	0.995	18.60	0.958
7	18.593	18.885	42.9	-0.2	42.9	-0.2	347.4	0.997	18.14	0.951

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	245.5	199.3	245.5	199.3	145.6	199.3	197.7	-1.4	0.0	0.0
2	248.3	199.0	248.3	199.0	168.8	198.9	182.2	-5.0	0.0	0.0
3	262.1	198.3	262.1	198.3	183.3	198.3	187.3	-3.6	0.0	0.0
4	278.9	194.2	278.9	194.2	199.2	194.2	195.2	-2.6	0.0	0.0
5	271.8	189.8	271.8	189.8	180.3	189.8	203.3	-4.2	0.0	0.0
6	271.1	186.3	271.1	186.3	189.2	186.3	194.1	-4.5	0.0	0.0
7	270.5	176.7	270.5	176.7	198.0	176.7	184.3	-0.5	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.664	0.536	0.664	0.536	0.394	0.536	1.368
2	0.683	0.538	0.683	0.538	0.464	0.537	1.178
3	0.728	0.538	0.728	0.538	0.509	0.538	1.082
4	0.779	0.528	0.779	0.528	0.556	0.528	0.975
5	0.755	0.517	0.755	0.517	0.501	0.517	1.052
6	0.761	0.509	0.761	0.509	0.531	0.509	0.984
7	0.765	0.484	0.765	0.484	0.560	0.484	0.892

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	-1.5	-5.8	16.2	0.439	0.000	0.174	0.174	0.053	0.053
2	10.00	-1.6	-6.0	12.9	0.423	0.000	0.099	0.099	0.029	0.029
3	20.00	4.4	-0.2	10.0	0.445	0.000	0.091	0.091	0.025	0.025
4	30.00	6.5	1.8	9.2	0.489	0.000	0.156	0.156	0.041	0.041
5	35.00	11.5	6.8	8.2	0.494	0.000	0.138	0.138	0.035	0.035
6	40.00	9.5	4.8	7.7	0.493	0.000	0.132	0.132	0.033	0.033
7	50.00	7.3	2.7	8.5	0.504	0.000	0.154	0.154	0.036	0.036

TABLE XIII. - Continued. BLADE-ELEMENT DATA AT

BLADE EDGES FOR BYPASS STATOR 65

(e) 100 Percent of design speed; reading 156

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.006	23.627	55.4	-0.3	55.4	-0.3	375.1	0.980	20.16	0.949
2	23.396	23.111	48.9	-0.8	48.9	-0.8	364.5	0.997	19.83	0.962
3	22.174	22.045	46.5	-1.1	46.5	-1.1	360.0	1.000	19.59	0.956
4	20.968	20.975	46.7	-1.9	46.7	-1.9	361.3	0.990	19.64	0.929
5	20.366	20.444	50.0	-2.0	50.0	-2.0	361.5	0.983	19.16	0.939
6	19.769	19.916	46.6	-1.3	46.6	-1.3	356.4	0.991	18.83	0.947
7	18.593	18.885	44.7	-0.5	44.7	-0.5	349.9	0.995	18.24	0.948

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	249.1	201.4	249.1	201.4	141.6	201.4	205.0	-1.1	0.0	0.0
2	252.3	199.1	252.3	199.1	166.0	199.0	190.0	-2.8	0.0	0.0
3	262.1	192.5	262.1	192.5	180.5	192.5	190.0	-3.7	0.0	0.0
4	275.3	183.4	275.3	183.4	189.0	183.3	200.2	-6.1	0.0	0.0
5	268.1	177.4	268.1	177.4	172.2	177.2	205.5	-6.2	0.0	0.0
6	266.5	174.2	266.5	174.2	183.0	174.2	193.7	-4.0	0.0	0.0
7	262.4	164.1	262.4	164.1	186.5	164.1	184.5	-1.5	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.670	0.539	0.670	0.539	0.381	0.539	1.423
2	0.690	0.536	0.690	0.536	0.454	0.536	1.199
3	0.724	0.519	0.724	0.519	0.499	0.519	1.066
4	0.763	0.496	0.763	0.496	0.524	0.495	0.970
5	0.741	0.480	0.741	0.480	0.476	0.480	1.029
6	0.742	0.473	0.742	0.473	0.509	0.473	0.952
7	0.737	0.447	0.737	0.447	0.524	0.447	0.880

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	0.3	-4.1	16.3	0.447	0.000	0.198	0.198	0.061	0.061
2	10.00	0.1	-4.3	13.6	0.438	0.000	0.140	0.140	0.041	0.041
3	20.00	5.2	0.7	10.0	0.471	0.000	0.148	0.148	0.041	0.041
4	30.00	8.7	4.1	8.0	0.529	0.000	0.221	0.221	0.058	0.058
5	35.00	13.1	8.4	7.5	0.538	0.000	0.200	0.200	0.051	0.051
6	40.00	10.4	5.7	7.8	0.528	0.000	0.173	0.173	0.043	0.043
7	50.00	9.1	4.4	8.2	0.538	0.000	0.170	0.170	0.040	0.040

TABLE XIII. - Continued. BLADE-ELEMENT DATA AT

BLADE EDGES FOR BYPASS STATOR 65

(f) 97 Percent of design speed; reading 124

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.006	23.627	46.8	-0.6	46.8	-0.6	355.9	0.988	17.79	0.949
2	23.396	23.111	41.7	-2.2	41.7	-2.2	347.0	1.003	17.47	0.976
3	22.174	22.045	40.1	-3.0	40.1	-3.0	344.4	1.002	17.39	0.985
4	20.968	20.975	38.5	-1.6	38.5	-1.6	346.4	0.995	17.53	0.969
5	20.366	20.444	43.8	-1.7	43.8	-1.7	349.1	0.985	17.32	0.973
6	19.769	19.916	40.9	-2.1	40.9	-2.1	344.2	0.993	17.12	0.974
7	18.593	18.885	37.3	-1.9	37.3	-1.9	339.5	0.995	16.95	0.963

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	238.8	203.4	238.8	203.4	163.6	203.4	174.0	-2.0	0.0	0.0
2	239.7	206.7	239.7	206.7	179.0	206.5	159.4	-7.9	0.0	0.0
3	251.1	212.8	251.1	212.8	192.0	212.5	161.7	-11.3	0.0	0.0
4	267.3	216.3	267.3	216.3	209.0	216.2	166.5	-6.0	0.0	0.0
5	260.4	217.0	260.4	217.0	187.9	216.9	180.3	-6.3	0.0	0.0
6	260.8	217.7	260.8	217.7	197.0	217.5	170.9	-8.0	0.0	0.0
7	263.7	219.6	263.7	219.6	209.9	219.5	159.6	-7.2	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.658	0.558	0.658	0.558	0.451	0.558	1.243
2	0.670	0.570	0.670	0.570	0.501	0.570	1.154
3	0.708	0.591	0.708	0.591	0.541	0.590	1.106
4	0.756	0.602	0.756	0.602	0.591	0.602	1.034
5	0.732	0.605	0.732	0.605	0.528	0.604	1.154
6	0.738	0.609	0.738	0.609	0.558	0.608	1.104
7	0.753	0.618	0.753	0.618	0.600	0.618	1.046

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	-8.3	-12.7	16.0	0.376	0.000	0.203	0.203	0.062	0.062
2	10.00	-7.1	-11.5	12.2	0.345	0.000	0.092	0.092	0.027	0.027
3	20.00	-1.1	-5.7	8.0	0.344	0.000	0.053	0.053	0.015	0.015
4	30.00	0.6	-4.0	8.3	0.359	0.000	0.099	0.099	0.026	0.026
5	35.00	6.8	2.2	7.8	0.348	0.000	0.091	0.091	0.023	0.023
6	40.00	4.7	0.0	7.0	0.334	0.000	0.087	0.087	0.021	0.021
7	50.00	1.6	-3.0	6.8	0.313	0.000	0.117	0.117	0.027	0.027

TABLE XIII. - Continued. BLADE-ELEMENT DATA AT

BLADE EDGES FOR BYPASS STATOR 65

(g) 97 Percent of design speed; reading 123

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.006	23.627	52.1	-0.3	52.1	-0.3	364.6	0.987	19.08	0.950
2	23.396	23.111	46.5	-1.5	46.5	-1.5	355.7	1.002	18.71	0.970
3	22.174	22.045	44.8	-1.4	44.8	-1.4	352.8	1.002	18.68	0.969
4	20.968	20.975	43.9	-0.6	43.9	-0.6	353.8	0.994	18.71	0.954
5	20.366	20.444	48.3	-1.2	48.3	-1.2	354.5	0.986	18.27	0.963
6	19.769	19.916	44.6	-1.6	44.6	-1.6	348.8	0.996	18.01	0.964
7	18.593	18.885	42.4	-0.1	42.4	-0.1	343.6	0.998	17.61	0.954

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	243.8	195.6	243.8	195.6	149.7	195.6	192.5	-1.0	0.0	0.0
2	244.8	194.9	244.8	194.9	168.6	194.9	177.4	-5.2	0.0	0.0
3	259.1	196.2	259.1	196.2	183.9	196.1	182.5	-4.7	0.0	0.0
4	273.0	194.7	273.0	194.7	196.6	194.6	189.4	-2.0	0.0	0.0
5	264.9	191.4	264.9	191.4	176.4	191.4	197.6	-4.1	0.0	0.0
6	264.7	187.4	264.7	187.4	188.5	187.3	185.8	-5.2	0.0	0.0
7	263.6	177.6	263.6	177.6	194.6	177.6	177.8	-0.4	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.664	0.528	0.664	0.528	0.408	0.528	1.307
2	0.676	0.529	0.676	0.529	0.466	0.529	1.156
3	0.723	0.535	0.723	0.535	0.513	0.535	1.066
4	0.765	0.532	0.765	0.532	0.551	0.532	0.990
5	0.739	0.524	0.739	0.524	0.492	0.524	1.085
6	0.745	0.515	0.745	0.515	0.531	0.514	0.993
7	0.748	0.490	0.748	0.490	0.552	0.490	0.912

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	-3.0	-7.3	16.3	0.443	0.000	0.196	0.196	0.060	0.060
2	10.00	-2.3	-6.7	12.8	0.426	0.000	0.115	0.115	0.034	0.034
3	20.00	3.5	-1.0	9.7	0.443	0.000	0.107	0.107	0.030	0.030
4	30.00	6.0	1.3	9.3	0.470	0.000	0.144	0.144	0.038	0.038
5	35.00	11.3	6.6	8.2	0.470	0.000	0.122	0.122	0.031	0.031
6	40.00	8.3	3.7	7.5	0.469	0.000	0.116	0.116	0.028	0.028
7	50.00	6.8	2.1	8.5	0.482	0.000	0.149	0.149	0.035	0.035

TABLE XIII. - Continued. BLADE-ELEMENT DATA AT

BLADE EDGES FOR BYPASS STATOR 65

(h) 97 Percent of design speed; reading 128

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.006	23.627	54.9	-0.4	54.9	-0.4	368.5	0.985	19.41	0.950
2	23.396	23.111	48.7	-1.2	48.7	-1.2	359.5	0.999	18.98	0.969
3	22.174	22.045	46.7	-1.1	46.7	-1.1	355.8	1.000	18.95	0.959
4	20.968	20.975	45.7	-1.3	45.7	-1.3	355.8	0.993	18.91	0.940
5	20.366	20.444	49.9	-1.7	49.9	-1.7	356.1	0.985	18.47	0.949
6	19.769	19.916	46.7	-1.4	46.7	-1.4	350.6	0.994	18.01	0.962
7	18.593	18.885	43.9	-0.4	43.9	-0.4	344.6	0.997	17.63	0.952

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	242.6	194.8	242.6	194.8	139.6	194.8	198.4	-1.3	0.0	0.0
2	243.0	193.1	243.0	193.1	160.3	193.1	182.6	-3.9	0.0	0.0
3	256.7	189.8	256.7	189.8	176.2	189.8	186.8	-3.5	0.0	0.0
4	268.6	183.8	268.6	183.8	187.5	183.8	192.3	-4.2	0.0	0.0
5	261.1	179.1	261.1	179.1	168.4	179.0	199.6	-5.3	0.0	0.0
6	255.5	175.2	255.5	175.2	175.3	175.2	185.8	-4.2	0.0	0.0
7	255.5	164.6	255.5	164.6	184.1	164.6	177.2	-1.2	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.657	0.524	0.657	0.524	0.378	0.524	1.395
2	0.667	0.522	0.667	0.522	0.440	0.522	1.204
3	0.713	0.515	0.713	0.515	0.489	0.515	1.077
4	0.749	0.500	0.749	0.500	0.523	0.500	0.980
5	0.726	0.488	0.726	0.488	0.468	0.488	1.063
6	0.714	0.479	0.714	0.479	0.490	0.479	0.999
7	0.722	0.452	0.722	0.452	0.520	0.452	0.894

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	-0.2	-4.6	16.2	0.452	0.000	0.199	0.199	0.061	0.061
2	10.00	-0.0	-4.5	13.2	0.434	0.000	0.119	0.119	0.035	0.035
3	20.00	5.4	0.8	10.0	0.466	0.000	0.142	0.142	0.039	0.039
4	30.00	7.8	3.1	8.6	0.507	0.000	0.192	0.192	0.050	0.050
5	35.00	12.9	8.2	7.7	0.512	0.000	0.174	0.174	0.044	0.044
6	40.00	10.4	5.8	7.7	0.497	0.000	0.131	0.131	0.032	0.032
7	50.00	8.3	3.6	8.3	0.517	0.000	0.163	0.163	0.038	0.038

TABLE XIII. - Continued. BLADE-ELEMENT DATA AT

BLADE EDGES FOR BYPASS STATOR 65

(i) 90 Percent of design speed; reading 99

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.006	23.627	37.4	-0.2	37.4	-0.2	332.6	0.998	14.69	0.947
2	23.396	23.111	34.5	-2.0	34.5	-2.0	328.8	1.003	14.60	0.976
3	22.174	22.045	32.5	-3.5	32.5	-3.5	328.2	1.002	14.80	0.985
4	20.968	20.975	31.2	-2.9	31.2	-2.9	331.5	0.997	15.26	0.969
5	20.366	20.444	36.1	-2.6	36.1	-2.6	334.0	0.989	15.05	0.980
6	19.769	19.916	33.8	-2.8	33.8	-2.8	330.9	0.995	15.15	0.972
7	18.593	18.885	29.6	-2.8	29.6	-2.8	327.6	0.996	15.19	0.966

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	212.3	208.4	212.3	208.4	168.7	208.4	128.9	-0.6	0.0	0.0
2	214.4	216.5	214.4	216.5	176.6	216.4	121.5	-7.5	0.0	0.0
3	231.7	229.3	231.7	229.3	195.3	228.9	124.6	-14.0	0.0	0.0
4	257.3	244.3	257.3	244.3	220.1	244.0	133.3	-12.2	0.0	0.0
5	248.0	250.7	248.0	250.7	200.3	250.4	146.2	-11.5	0.0	0.0
6	254.2	259.8	254.2	259.8	211.4	259.5	141.3	-12.7	0.0	0.0
7	261.6	287.3	261.6	287.3	227.4	286.9	129.4	-14.3	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.601	0.590	0.601	0.590	0.478	0.590	1.235
2	0.611	0.617	0.611	0.617	0.504	0.616	1.225
3	0.666	0.658	0.666	0.658	0.561	0.656	1.172
4	0.743	0.703	0.743	0.703	0.635	0.702	1.109
5	0.710	0.723	0.710	0.723	0.574	0.722	1.250
6	0.734	0.753	0.734	0.753	0.610	0.753	1.228
7	0.762	0.849	0.762	0.849	0.662	0.848	1.262

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	-17.7	-22.1	16.4	0.207	0.000	0.242	0.242	0.074	0.074
2	10.00	-14.2	-18.7	12.4	0.169	0.000	0.106	0.106	0.031	0.031
3	20.00	-8.7	-13.3	7.6	0.176	0.000	0.056	0.056	0.016	0.016
4	30.00	-6.7	-11.4	7.1	0.198	0.000	0.099	0.099	0.026	0.026
5	35.00	-0.9	-5.5	6.8	0.150	0.000	0.071	0.071	0.018	0.018
6	40.00	-2.5	-7.2	6.3	0.127	0.000	0.093	0.093	0.023	0.023
7	50.00	-6.0	-10.6	5.8	0.029	0.000	0.108	0.108	0.025	0.025

TABLE XIII. - Continued. BLADE-ELEMENT DATA AT

BLADE EDGES FOR BYPASS STATOR 65

(j) 90 Percent of design speed; reading 85

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.006	23.627	40.0	-0.4	40.0	-0.4	336.7	0.997	15.23	0.956
2	23.396	23.111	36.5	-1.9	36.5	-1.9	332.2	1.002	15.06	0.982
3	22.174	22.045	34.8	-3.3	34.8	-3.3	331.0	1.001	15.21	0.990
4	20.968	20.975	33.6	-2.4	33.6	-2.4	333.9	0.996	15.62	0.972
5	20.366	20.444	38.4	-2.3	38.4	-2.3	336.6	0.986	15.46	0.977
6	19.769	19.916	35.9	-2.5	35.9	-2.5	332.5	0.993	15.45	0.973
7	18.593	18.885	32.1	-2.6	32.1	-2.6	328.9	0.994	15.35	0.968

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	215.2	202.5	215.2	202.5	164.9	202.5	138.2	-1.3	0.0	0.0
2	216.2	208.3	216.2	208.3	173.7	208.2	128.7	-6.9	0.0	0.0
3	230.8	218.1	230.8	218.1	189.4	217.8	131.9	-12.4	0.0	0.0
4	253.8	229.4	253.8	229.4	211.4	229.2	140.5	-9.6	0.0	0.0
5	246.8	232.5	246.8	232.5	193.5	232.3	153.2	-9.3	0.0	0.0
6	249.6	235.6	249.6	235.6	202.2	235.4	146.3	-10.1	0.0	0.0
7	253.1	247.8	253.1	247.8	214.4	247.5	134.5	-11.1	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.606	0.569	0.606	0.569	0.464	0.569	1.228
2	0.614	0.589	0.614	0.589	0.493	0.588	1.198
3	0.660	0.620	0.660	0.620	0.541	0.619	1.150
4	0.729	0.654	0.729	0.654	0.607	0.653	1.084
5	0.704	0.664	0.704	0.664	0.552	0.663	1.200
6	0.717	0.676	0.717	0.676	0.581	0.675	1.164
7	0.732	0.718	0.732	0.718	0.621	0.717	1.154

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	-15.1	-19.5	16.2	0.259	0.000	0.199	0.199	0.061	0.061
2	10.00	-12.2	-16.7	12.5	0.223	0.000	0.078	0.078	0.023	0.023
3	20.00	-6.4	-11.0	7.8	0.228	0.000	0.041	0.041	0.011	0.011
4	30.00	-4.3	-9.0	7.5	0.250	0.000	0.095	0.095	0.025	0.025
5	35.00	1.4	-3.3	7.2	0.224	0.000	0.080	0.080	0.020	0.020
6	40.00	-0.4	-5.0	6.6	0.210	0.000	0.094	0.094	0.023	0.023
7	50.00	-3.5	-8.2	6.1	0.154	0.000	0.106	0.106	0.025	0.025

TABLE XIII. - Continued. BLADE-ELEMENT DATA AT

BLADE EDGES FOR BYPASS STATOR 65

(k) 90 Percent of design speed; reading 97

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.006	23.627	48.1	-0.4	48.1	-0.4	349.8	0.989	16.96	0.951
2	23.396	23.111	43.4	-2.1	43.4	-2.1	342.3	1.002	16.58	0.978
3	22.174	22.045	41.9	-2.7	41.9	-2.7	339.4	1.002	16.50	0.985
4	20.968	20.975	41.0	-1.0	41.0	-1.0	340.7	0.997	16.73	0.967
5	20.366	20.444	44.8	-1.3	44.8	-1.3	342.1	0.988	16.50	0.972
6	19.769	19.916	40.6	-1.8	40.6	-1.8	337.4	0.996	16.39	0.969
7	18.593	18.885	39.1	-1.3	39.1	-1.3	333.3	0.996	16.01	0.968

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	226.7	188.5	226.7	188.5	151.3	188.5	168.8	-1.4	0.0	0.0
2	223.2	189.2	223.2	189.2	162.1	189.0	153.5	-6.8	0.0	0.0
3	233.6	192.8	233.6	192.8	173.8	192.6	156.0	-8.9	0.0	0.0
4	250.7	196.3	250.7	196.3	189.3	196.3	164.5	-3.4	0.0	0.0
5	246.2	195.5	246.2	195.5	174.7	195.5	173.5	-4.4	0.0	0.0
6	250.5	194.2	250.5	194.2	190.2	194.1	163.0	-6.1	0.0	0.0
7	245.5	191.8	245.5	191.8	190.4	191.8	155.0	-4.5	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.628	0.519	0.628	0.519	0.419	0.519	1.246
2	0.625	0.523	0.625	0.523	0.454	0.523	1.167
3	0.659	0.536	0.659	0.536	0.491	0.535	1.108
4	0.711	0.547	0.711	0.547	0.537	0.547	1.037
5	0.695	0.546	0.695	0.546	0.493	0.546	1.119
6	0.714	0.544	0.714	0.544	0.542	0.544	1.021
7	0.703	0.540	0.703	0.540	0.545	0.540	1.007

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	-7.0	-11.3	16.2	0.401	0.000	0.210	0.210	0.064	0.064
2	10.00	-5.3	-9.8	12.3	0.366	0.000	0.097	0.097	0.029	0.029
3	20.00	0.7	-3.9	8.4	0.371	0.000	0.058	0.058	0.016	0.016
4	30.00	3.0	-1.6	8.9	0.392	0.000	0.115	0.115	0.030	0.030
5	35.00	7.8	3.2	8.2	0.389	0.000	0.101	0.101	0.026	0.026
6	40.00	4.3	-0.3	7.3	0.390	0.000	0.108	0.108	0.027	0.027
7	50.00	3.5	-1.1	7.3	0.368	0.000	0.115	0.115	0.027	0.027

TABLE XIII. - Continued. BLADE-ELEMENT DATA AT

BLADE EDGES FOR BYPASS STATOR 65

(l) 90 Percent of design speed; reading 84

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.006	23.627	47.2	-0.5	47.2	-0.5	348.0	0.990	16.78	0.952
2	23.396	23.111	42.6	-2.3	42.6	-2.3	340.9	1.001	16.40	0.979
3	22.174	22.045	41.3	-2.8	41.3	-2.8	338.8	1.000	16.40	0.983
4	20.968	20.975	39.8	-1.1	39.8	-1.1	339.9	0.996	16.56	0.970
5	20.366	20.444	44.0	-1.5	44.0	-1.5	341.4	0.987	16.36	0.973
6	19.769	19.916	39.9	-1.9	39.9	-1.9	336.9	0.994	16.29	0.968
7	18.593	18.885	38.5	-1.7	38.5	-1.7	333.0	0.994	15.92	0.969

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	225.3	190.2	225.3	190.2	153.1	190.2	165.4	-1.5	0.0	0.0
2	221.9	191.3	221.9	191.3	163.2	191.2	150.3	-7.5	0.0	0.0
3	232.2	195.6	232.2	195.6	174.4	195.4	153.3	-9.5	0.0	0.0
4	247.9	200.6	247.9	200.6	190.3	200.5	158.8	-3.8	0.0	0.0
5	243.4	200.1	243.4	200.1	175.1	200.0	169.1	-5.2	0.0	0.0
6	246.9	198.9	246.9	198.9	189.5	198.8	158.3	-6.5	0.0	0.0
7	240.9	199.0	240.9	199.0	188.4	198.9	150.1	-6.0	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.626	0.525	0.626	0.525	0.425	0.525	1.243
2	0.622	0.531	0.622	0.531	0.458	0.530	1.171
3	0.656	0.546	0.656	0.546	0.492	0.545	1.121
4	0.703	0.561	0.703	0.561	0.540	0.560	1.054
5	0.687	0.560	0.687	0.560	0.495	0.560	1.142
6	0.704	0.559	0.704	0.559	0.540	0.558	1.049
7	0.689	0.562	0.689	0.562	0.539	0.562	1.056

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	-7.9	-12.2	16.1	0.385	0.000	0.205	0.205	0.063	0.063
2	10.00	-6.1	-10.5	12.1	0.349	0.000	0.090	0.090	0.027	0.027
3	20.00	0.1	-4.5	8.3	0.352	0.000	0.069	0.069	0.019	0.019
4	30.00	1.9	-2.8	8.8	0.362	0.000	0.105	0.105	0.027	0.027
5	35.00	7.0	2.4	8.0	0.359	0.000	0.100	0.100	0.025	0.025
6	40.00	3.6	-1.0	7.2	0.358	0.000	0.113	0.113	0.028	0.028
7	50.00	2.9	-1.7	6.9	0.323	0.000	0.115	0.115	0.027	0.027

TABLE XIII. - Continued. BLADE-ELEMENT DATA AT

BLADE EDGES FOR BYPASS STATOR 65

(m) 90 Percent of design speed; reading 89

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.006	23.627	53.3	-0.1	53.3	-0.1	355.3	0.991	17.43	0.967
2	23.396	23.111	47.9	-1.1	47.9	-1.1	348.6	1.000	17.28	0.974
3	22.174	22.045	46.3	-1.3	46.3	-1.3	345.9	0.999	17.11	0.979
4	20.968	20.975	45.0	-0.3	45.0	-0.3	345.1	0.995	17.22	0.960
5	20.366	20.444	48.6	-0.9	48.6	-0.9	345.2	0.988	16.89	0.966
6	19.769	19.916	44.2	-1.2	44.2	-1.2	340.9	0.994	16.77	0.963
7	18.593	18.885	42.5	-0.1	42.5	-0.1	335.3	0.998	16.33	0.959

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	220.8	183.0	220.8	183.0	131.8	183.0	177.1	-0.2	0.0	0.0
2	225.5	181.5	225.5	181.5	151.2	181.5	167.3	-3.4	0.0	0.0
3	233.6	181.4	233.6	181.4	161.3	181.4	168.9	-4.0	0.0	0.0
4	247.2	179.8	247.2	179.8	174.9	179.8	174.7	-1.1	0.0	0.0
5	241.5	176.2	241.5	176.2	159.7	176.2	181.1	-2.9	0.0	0.0
6	244.0	172.9	244.0	172.9	174.9	172.8	170.1	-3.6	0.0	0.0
7	238.1	162.5	238.1	162.5	175.5	162.5	160.9	-0.2	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.605	0.499	0.605	0.499	0.361	0.499	1.389
2	0.626	0.497	0.626	0.497	0.419	0.497	1.201
3	0.653	0.499	0.653	0.499	0.451	0.499	1.124
4	0.695	0.496	0.695	0.496	0.492	0.496	1.028
5	0.677	0.487	0.677	0.487	0.448	0.487	1.103
6	0.690	0.479	0.690	0.479	0.494	0.479	0.988
7	0.678	0.452	0.678	0.452	0.500	0.452	0.926

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	-1.7	-6.1	16.5	0.419	0.000	0.149	0.149	0.046	0.046
2	10.00	-0.8	-5.3	13.3	0.420	0.000	0.111	0.111	0.033	0.033
3	20.00	5.1	0.5	9.8	0.429	0.000	0.086	0.086	0.024	0.024
4	30.00	7.0	2.4	9.6	0.458	0.000	0.145	0.145	0.038	0.038
5	35.00	11.6	7.0	8.5	0.463	0.000	0.130	0.130	0.033	0.033
6	40.00	8.0	3.3	7.9	0.466	0.000	0.136	0.136	0.033	0.033
7	50.00	6.9	2.2	8.6	0.474	0.000	0.153	0.153	0.036	0.036

TABLE XIII. - Continued. BLADE-ELEMENT DATA AT

BLADE EDGES FOR BYPASS STATOR 65

(n) 80 Percent of design speed; reading 114

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.006	23.627	31.8	0.1	31.8	0.1	318.1	0.999	12.93	0.939
2	23.396	23.111	29.3	-1.5	29.3	-1.5	315.6	1.002	12.94	0.968
3	22.174	22.045	27.6	-3.4	27.6	-3.4	315.6	1.002	13.15	0.974
4	20.968	20.975	27.2	-3.0	27.2	-3.0	318.8	0.997	13.61	0.964
5	20.366	20.444	31.1	-2.8	31.1	-2.8	321.3	0.992	13.47	0.981
6	19.769	19.916	28.2	-2.8	28.2	-2.8	318.3	0.998	13.63	0.972
7	18.593	18.885	24.8	-2.8	24.8	-2.8	314.8	1.001	13.59	0.971

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	186.8	206.0	186.8	206.0	158.7	206.0	98.5	0.2	0.0	0.0
2	192.5	216.7	192.5	216.7	167.8	216.6	94.4	-5.8	0.0	0.0
3	209.1	228.3	209.1	228.3	185.4	227.9	96.8	-13.4	0.0	0.0
4	233.9	247.8	233.9	247.8	208.1	247.5	106.8	-12.8	0.0	0.0
5	227.1	258.9	227.1	258.9	194.4	258.6	117.4	-12.6	0.0	0.0
6	237.3	270.9	237.3	270.9	209.0	270.6	112.3	-13.1	0.0	0.0
7	239.4	325.1	239.4	325.1	217.3	324.7	100.4	-15.7	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.537	0.596	0.537	0.596	0.456	0.596	1.298
2	0.557	0.632	0.557	0.632	0.486	0.631	1.291
3	0.609	0.668	0.609	0.668	0.539	0.667	1.229
4	0.683	0.729	0.683	0.729	0.608	0.728	1.189
5	0.659	0.765	0.659	0.765	0.564	0.764	1.330
6	0.695	0.806	0.695	0.806	0.612	0.805	1.294
7	0.706	1.001	0.706	1.001	0.641	1.000	1.494

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	-23.2	-27.6	16.7	0.060	0.000	0.344	0.344	0.105	0.105
2	10.00	-19.4	-23.8	12.8	0.029	0.000	0.166	0.166	0.049	0.049
3	20.00	-13.7	-18.2	7.7	0.055	0.000	0.118	0.118	0.033	0.033
4	30.00	-10.8	-15.4	7.0	0.074	0.000	0.135	0.135	0.035	0.035
5	35.00	-5.9	-10.5	6.7	0.004	0.000	0.076	0.076	0.019	0.019
6	40.00	-8.0	-12.7	6.3	-.012	0.000	0.103	0.103	0.025	0.025
7	50.00	-10.8	-15.5	5.9	-.246	0.000	0.102	0.102	0.024	0.024

TABLE XIII. - Continued. BLADE-ELEMENT DATA AT

BLADE EDGES FOR BYPASS STATOR 65

(o) 80 Percent of design speed; reading 115

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.006	23.627	31.4	-6.7	31.4	-6.7	318.5	0.998	13.01	0.889
2	23.396	23.111	29.4	-7.8	29.4	-7.8	316.4	1.000	13.05	0.908
3	22.174	22.045	27.6	-8.7	27.6	-8.7	316.3	1.001	13.25	0.913
4	20.968	20.975	27.2	-7.7	27.2	-7.7	319.2	0.999	13.66	0.926
5	20.366	20.444	31.0	-7.7	31.0	-7.7	321.6	0.992	13.56	0.936
6	19.769	19.916	26.6	-7.9	26.6	-7.9	318.5	0.999	13.77	0.927
7	18.593	18.885	24.6	-8.4	24.6	-8.4	315.7	1.002	13.75	0.922

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	190.9	386.6	190.9	386.6	162.9	384.0	99.6	-44.8	0.0	0.0
2	196.3	376.4	196.3	376.4	171.1	372.9	96.3	-51.2	0.0	0.0
3	212.7	303.0	212.7	303.0	188.5	299.5	98.5	-46.0	0.0	0.0
4	237.2	329.2	237.2	329.2	211.0	326.3	108.4	-43.9	0.0	0.0
5	231.4	329.4	231.4	329.4	198.3	326.4	119.3	-44.2	0.0	0.0
6	246.5	329.0	246.5	329.0	220.4	325.9	110.5	-45.0	0.0	0.0
7	247.3	328.4	247.3	328.4	224.9	324.9	103.0	-48.0	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.549	1.236	0.549	1.236	0.469	1.227	2.358
2	0.568	1.197	0.568	1.197	0.495	1.186	2.180
3	0.619	0.918	0.619	0.918	0.549	0.907	1.589
4	0.693	1.009	0.693	1.009	0.617	1.000	1.547
5	0.672	1.009	0.672	1.009	0.576	1.000	1.646
6	0.724	1.009	0.724	1.009	0.647	1.000	1.479
7	0.731	1.011	0.731	1.011	0.664	1.000	1.445

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	-23.6	-28.0	9.9	-.792	0.000	0.600	0.600	0.183	0.183
2	10.00	-19.4	-23.8	6.5	-.695	0.000	0.468	0.468	0.137	0.137
3	20.00	-13.6	-18.2	2.3	-.236	0.000	0.383	0.383	0.105	0.105
4	30.00	-10.7	-15.4	2.3	-.220	0.000	0.269	0.269	0.070	0.070
5	35.00	-5.9	-10.6	1.7	-.245	0.000	0.243	0.243	0.061	0.061
6	40.00	-9.6	-14.3	1.2	-.179	0.000	0.246	0.246	0.060	0.060
7	50.00	-11.0	-15.7	0.3	-.186	0.000	0.262	0.262	0.060	0.060

TABLE XIII. - Continued. BLADE-ELEMENT DATA AT

BLADE EDGES FOR BYPASS STATOR 65

(p) 80 Percent of design speed; reading 91

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.006	23.627	44.5	-0.5	44.5	-0.5	332.5	0.995	14.71	0.963
2	23.396	23.111	40.2	-2.4	40.2	-2.4	327.3	1.003	14.49	0.985
3	22.174	22.045	39.2	-3.3	39.2	-3.3	325.8	1.001	14.51	0.988
4	20.968	20.975	37.8	-1.8	37.8	-1.8	327.0	0.997	14.70	0.976
5	20.366	20.444	40.4	-1.8	40.4	-1.8	328.0	0.991	14.57	0.981
6	19.769	19.916	37.5	-2.1	37.5	-2.1	324.7	0.996	14.51	0.979
7	18.593	18.885	34.7	-1.9	34.7	-1.9	320.5	0.997	14.19	0.979

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	196.4	176.5	196.4	176.5	140.2	176.5	137.6	-1.7	0.0	0.0
2	195.1	179.4	195.1	179.4	149.0	179.2	125.9	-7.6	0.0	0.0
3	204.4	183.9	204.4	183.9	158.4	183.6	129.2	-10.6	0.0	0.0
4	219.2	189.5	219.2	189.5	173.3	189.4	134.2	-5.9	0.0	0.0
5	217.2	191.3	217.2	191.3	165.3	191.2	140.9	-6.0	0.0	0.0
6	219.3	191.5	219.3	191.5	174.0	191.4	133.4	-7.0	0.0	0.0
7	212.4	188.1	212.4	188.1	174.5	188.0	121.0	-6.3	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.553	0.496	0.553	0.496	0.395	0.496	1.259
2	0.554	0.506	0.554	0.506	0.423	0.506	1.203
3	0.584	0.522	0.584	0.522	0.452	0.521	1.159
4	0.628	0.539	0.628	0.539	0.497	0.538	1.093
5	0.621	0.545	0.621	0.545	0.473	0.545	1.157
6	0.631	0.547	0.631	0.547	0.500	0.547	1.100
7	0.614	0.540	0.614	0.540	0.504	0.539	1.077

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	-10.6	-15.0	16.0	0.320	0.000	0.195	0.195	0.060	0.060
2	10.00	-8.5	-13.0	11.9	0.284	0.000	0.081	0.081	0.024	0.024
3	20.00	-2.1	-6.6	7.7	0.290	0.000	0.060	0.060	0.017	0.017
4	30.00	-0.2	-4.8	8.1	0.302	0.000	0.103	0.103	0.027	0.027
5	35.00	3.5	-1.2	7.7	0.290	0.000	0.083	0.083	0.021	0.021
6	40.00	1.2	-3.4	7.0	0.284	0.000	0.088	0.088	0.022	0.022
7	50.00	-0.9	-5.5	6.8	0.253	0.000	0.095	0.095	0.022	0.022

TABLE XIII. - Continued. BLADE-ELEMENT DATA AT

BLADE EDGES FOR BYPASS STATOR 65

(q) 80 Percent of design speed; reading 92

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.006	23.627	47.5	-0.6	47.5	-0.6	335.9	0.997	14.62	0.975
2	23.396	23.111	44.6	-1.4	44.6	-1.4	332.0	1.003	14.56	0.979
3	22.174	22.045	44.8	-1.9	44.8	-1.9	329.9	1.002	14.46	0.985
4	20.968	20.975	43.8	-1.4	43.8	-1.4	330.8	0.992	14.70	0.964
5	20.366	20.444	47.0	-1.4	47.0	-1.4	330.7	0.988	14.46	0.974
6	19.769	19.916	44.4	-1.4	44.4	-1.4	328.3	0.990	14.51	0.964
7	18.593	18.885	37.3	-1.4	37.3	-1.4	321.9	0.998	14.14	0.968

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	191.5	166.3	191.5	166.3	129.3	166.3	141.3	-1.8	0.0	0.0
2	196.0	166.5	196.0	166.5	139.5	166.4	137.7	-4.0	0.0	0.0
3	199.7	168.3	199.7	168.3	141.6	168.2	140.8	-5.5	0.0	0.0
4	214.9	169.0	214.9	169.0	155.1	169.0	148.8	-4.1	0.0	0.0
5	208.6	168.3	208.6	168.3	142.4	168.3	152.4	-4.0	0.0	0.0
6	213.3	166.5	213.3	166.5	152.5	166.4	149.1	-4.0	0.0	0.0
7	208.2	159.3	208.2	159.3	165.6	159.3	126.2	-3.8	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.536	0.463	0.536	0.463	0.362	0.463	1.286
2	0.553	0.465	0.553	0.465	0.393	0.465	1.193
3	0.566	0.472	0.566	0.472	0.401	0.472	1.188
4	0.611	0.476	0.611	0.476	0.441	0.476	1.090
5	0.592	0.475	0.592	0.475	0.404	0.475	1.182
6	0.609	0.471	0.609	0.471	0.435	0.471	1.091
7	0.599	0.452	0.599	0.452	0.477	0.452	0.961

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	-7.6	-11.9	16.0	0.363	0.000	0.141	0.141	0.043	0.043
2	10.00	-4.1	-8.6	13.0	0.366	0.000	0.113	0.113	0.034	0.034
3	20.00	3.6	-1.0	9.2	0.360	0.000	0.078	0.078	0.022	0.022
4	30.00	5.9	1.2	8.5	0.399	0.000	0.163	0.163	0.043	0.043
5	35.00	10.0	5.3	8.1	0.383	0.000	0.123	0.123	0.031	0.031
6	40.00	8.1	3.4	7.7	0.396	0.000	0.163	0.163	0.040	0.040
7	50.00	1.7	-3.0	7.3	0.379	0.000	0.147	0.147	0.034	0.034

TABLE XIII. - Continued. BLADE-ELEMENT DATA AT

BLADE EDGES FOR BYPASS STATOR 65

(r) 80 Percent of design speed; reading 116

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.006	23.627	56.6	-0.4	56.6	-0.4	341.2	0.997	14.64	0.975
2	23.396	23.111	52.6	-0.7	52.6	-0.7	339.2	0.998	14.70	0.972
3	22.174	22.045	51.0	-1.2	51.0	-1.2	334.9	1.000	14.62	0.975
4	20.968	20.975	48.3	-0.7	48.3	-0.7	334.6	0.989	14.89	0.950
5	20.366	20.444	50.0	-0.8	50.0	-0.8	333.0	0.987	14.57	0.966
6	19.769	19.916	48.7	-1.0	48.7	-1.0	330.8	0.986	14.57	0.959
7	18.593	18.885	37.2	-0.5	37.2	-0.5	322.4	0.999	14.21	0.963

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	186.9	154.3	186.9	154.3	103.0	154.3	155.9	-1.1	0.0	0.0
2	195.1	154.4	195.1	154.4	118.5	154.4	155.0	-1.9	0.0	0.0
3	200.5	154.9	200.5	154.9	126.1	154.9	155.9	-3.2	0.0	0.0
4	216.9	153.1	216.9	153.1	144.1	153.1	162.0	-1.8	0.0	0.0
5	208.1	151.4	208.1	151.4	133.9	151.4	159.4	-2.1	0.0	0.0
6	210.5	149.3	210.5	149.3	139.0	149.2	158.1	-2.6	0.0	0.0
7	209.1	139.4	209.1	139.4	166.5	139.4	126.5	-1.3	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.518	0.425	0.518	0.425	0.285	0.425	1.499
2	0.544	0.426	0.544	0.426	0.330	0.426	1.302
3	0.564	0.430	0.564	0.430	0.354	0.430	1.229
4	0.613	0.427	0.613	0.427	0.408	0.427	1.062
5	0.588	0.424	0.588	0.424	0.378	0.424	1.131
6	0.597	0.419	0.597	0.419	0.395	0.419	1.074
7	0.602	0.393	0.602	0.393	0.479	0.393	0.837

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	1.5	-2.9	16.2	0.434	0.000	0.149	0.149	0.046	0.046
2	10.00	3.9	-0.6	13.6	0.448	0.000	0.154	0.154	0.046	0.046
3	20.00	9.8	5.2	9.9	0.447	0.000	0.128	0.128	0.035	0.035
4	30.00	10.4	5.8	9.2	0.491	0.000	0.221	0.221	0.058	0.058
5	35.00	13.0	8.4	8.6	0.469	0.000	0.164	0.164	0.042	0.042
6	40.00	12.4	7.8	8.1	0.478	0.000	0.189	0.189	0.047	0.047
7	50.00	1.6	-3.1	8.1	0.474	0.000	0.172	0.172	0.040	0.040

TABLE XIII. - Continued. BLADE-ELEMENT DATA AT

BLADE EDGES FOR BYPASS STATOR 65

(s) 70 Percent of design speed; reading 77

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.006	23.627	27.0	0.6	27.0	0.6	306.8	1.003	11.87	0.938
2	23.396	23.111	24.6	-1.2	24.6	-1.2	305.7	1.003	11.90	0.965
3	22.174	22.045	24.2	-2.8	24.2	-2.8	305.9	1.002	12.05	0.965
4	20.968	20.975	24.5	-2.6	24.5	-2.6	308.6	1.000	12.38	0.972
5	20.366	20.444	27.9	-2.4	27.9	-2.4	310.9	0.994	12.36	0.984
6	19.769	19.916	24.0	-2.6	24.0	-2.6	308.4	1.000	12.51	0.975
7	18.593	18.885	22.3	-3.0	22.3	-3.0	306.4	1.002	12.48	0.971

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	168.1	192.3	168.1	192.3	149.7	192.3	76.4	1.9	0.0	0.0
2	170.9	202.5	170.9	202.5	155.4	202.4	71.2	-4.1	0.0	0.0
3	184.6	210.2	184.6	210.2	168.4	210.0	75.5	-10.4	0.0	0.0
4	205.6	231.1	205.6	231.1	187.1	230.9	85.2	-10.7	0.0	0.0
5	204.2	241.8	204.2	241.8	180.5	241.6	95.6	-10.1	0.0	0.0
6	216.3	250.6	216.3	250.6	197.6	250.3	87.9	-11.5	0.0	0.0
7	216.3	279.7	216.3	279.7	200.1	279.3	82.2	-14.6	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.490	0.564	0.490	0.564	0.436	0.564	1.284
2	0.500	0.597	0.500	0.597	0.454	0.597	1.303
3	0.541	0.622	0.541	0.622	0.494	0.621	1.247
4	0.605	0.687	0.605	0.687	0.550	0.686	1.234
5	0.598	0.721	0.598	0.721	0.529	0.720	1.338
6	0.639	0.751	0.639	0.751	0.584	0.750	1.267
7	0.641	0.852	0.641	0.852	0.593	0.851	1.396

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	-28.0	-32.4	17.2	-.007	0.000	0.408	0.408	0.125	0.125
2	10.00	-24.1	-28.6	13.2	-.053	0.000	0.222	0.222	0.066	0.066
3	20.00	-17.1	-21.7	8.2	-.010	0.000	0.192	0.192	0.053	0.053
4	30.00	-13.5	-18.1	7.3	-.003	0.000	0.130	0.130	0.034	0.034
5	35.00	-9.1	-13.7	7.1	-.053	0.000	0.073	0.073	0.018	0.018
6	40.00	-12.3	-16.9	6.5	-.046	0.000	0.106	0.106	0.026	0.026
7	50.00	-13.3	-17.9	5.7	-.189	0.000	0.119	0.119	0.028	0.028

TABLE XIII. - Continued. BLADE-ELEMENT DATA AT

BLADE EDGES FOR BYPASS STATOR 65

(t) 70 Percent of design speed; reading 78

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.006	23.627	40.1	-0.7	40.1	-0.7	317.6	1.000	12.92	0.976
2	23.396	23.111	37.2	-2.2	37.2	-2.2	315.2	1.004	12.84	0.989
3	22.174	22.045	37.9	-2.7	37.9	-2.7	315.1	1.002	12.92	0.991
4	20.968	20.975	37.9	-2.1	37.9	-2.1	318.2	0.992	13.28	0.969
5	20.366	20.444	40.9	-2.0	40.9	-2.0	317.9	0.991	13.08	0.984
6	19.769	19.916	36.3	-1.9	36.3	-1.9	315.4	0.995	13.14	0.979
7	18.593	18.885	30.8	-2.3	30.8	-2.3	311.0	0.999	12.93	0.985

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	163.2	155.1	163.2	155.1	124.9	155.1	105.0	-1.9	0.0	0.0
2	164.8	158.9	164.8	158.9	131.2	158.8	99.7	-6.0	0.0	0.0
3	171.5	165.0	171.5	165.0	135.3	164.8	105.4	-7.9	0.0	0.0
4	192.2	170.9	192.2	170.9	151.7	170.8	118.1	-6.3	0.0	0.0
5	185.9	175.4	185.9	175.4	140.6	175.3	121.6	-6.1	0.0	0.0
6	192.2	178.6	192.2	178.6	154.8	178.5	113.9	-6.1	0.0	0.0
7	189.2	183.0	189.2	183.0	162.5	182.9	96.9	-7.3	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.466	0.443	0.466	0.443	0.357	0.443	1.242
2	0.473	0.455	0.473	0.455	0.377	0.454	1.210
3	0.493	0.473	0.493	0.473	0.389	0.473	1.218
4	0.554	0.491	0.554	0.491	0.437	0.491	1.126
5	0.535	0.505	0.535	0.505	0.404	0.505	1.247
6	0.556	0.516	0.556	0.516	0.448	0.516	1.153
7	0.551	0.532	0.551	0.532	0.473	0.532	1.125

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	-15.0	-19.4	15.9	0.252	0.000	0.177	0.177	0.054	0.054
2	10.00	-11.5	-16.0	12.2	0.226	0.000	0.077	0.077	0.023	0.023
3	20.00	-3.3	-7.9	8.3	0.221	0.000	0.061	0.061	0.017	0.017
4	30.00	-0.0	-4.7	7.8	0.280	0.000	0.164	0.164	0.043	0.043
5	35.00	3.9	-0.8	7.4	0.230	0.000	0.089	0.089	0.023	0.023
6	40.00	0.1	-4.6	7.1	0.224	0.000	0.113	0.113	0.028	0.028
7	50.00	-4.8	-9.5	6.4	0.159	0.000	0.078	0.078	0.018	0.018

TABLE XIII. - Continued. BLADE-ELEMENT DATA AT

BLADE EDGES FOR BYPASS STATOR 65

(u) 70 Percent of design speed; reading 86

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.006	23.627	57.5	-0.1	57.5	-0.1	328.8	0.990	13.40	0.980
2	23.396	23.111	49.2	-1.1	49.2	-1.1	324.6	0.998	13.39	0.982
3	22.174	22.045	44.6	-1.9	44.6	-1.9	320.1	1.004	13.32	0.988
4	20.968	20.975	44.0	-1.3	44.0	-1.3	321.7	0.992	13.58	0.968
5	20.366	20.444	45.8	-1.2	45.8	-1.2	321.4	0.989	13.45	0.975
6	19.769	19.916	43.7	-1.2	43.7	-1.2	319.8	0.990	13.47	0.969
7	18.593	18.885	35.5	-1.2	35.5	-1.2	313.7	0.999	13.16	0.974

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	163.2	141.3	163.2	141.3	87.6	141.3	137.6	-0.2	0.0	0.0
2	168.6	142.0	168.6	142.0	110.1	141.9	127.7	-2.8	0.0	0.0
3	173.2	144.4	173.2	144.4	123.4	144.3	121.5	-4.8	0.0	0.0
4	189.1	146.8	189.1	146.8	136.0	146.8	131.5	-3.3	0.0	0.0
5	185.7	147.0	185.7	147.0	129.4	146.9	133.2	-3.1	0.0	0.0
6	189.5	146.1	189.5	146.1	136.9	146.1	131.0	-3.2	0.0	0.0
7	185.2	138.8	185.2	138.8	150.9	138.8	107.5	-2.9	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.458	0.397	0.458	0.397	0.246	0.397	1.613
2	0.477	0.400	0.477	0.400	0.312	0.400	1.289
3	0.495	0.408	0.495	0.408	0.352	0.408	1.169
4	0.541	0.417	0.541	0.417	0.389	0.417	1.079
5	0.531	0.418	0.531	0.418	0.370	0.418	1.136
6	0.544	0.417	0.544	0.417	0.393	0.417	1.067
7	0.536	0.397	0.536	0.397	0.437	0.397	0.920

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	2.4	-1.9	16.5	0.395	0.000	0.148	0.148	0.045	0.045
2	10.00	0.5	-4.0	13.2	0.388	0.000	0.128	0.128	0.038	0.038
3	20.00	3.3	-1.3	9.2	0.369	0.000	0.077	0.077	0.021	0.021
4	30.00	6.1	1.4	8.6	0.410	0.000	0.179	0.179	0.047	0.047
5	35.00	8.8	4.2	8.3	0.394	0.000	0.145	0.145	0.037	0.037
6	40.00	7.5	2.8	7.8	0.402	0.000	0.171	0.171	0.042	0.042
7	50.00	-0.1	-4.8	7.5	0.388	0.000	0.148	0.148	0.034	0.034

TABLE XIII. - Continued. BLADE-ELEMENT DATA AT

BLADE EDGES FOR BYPASS STATOR 65

(v) 40 Percent of design speed; reading 81

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.006	23.627	14.1	1.5	14.1	1.5	291.2	1.002	10.30	0.971
2	23.396	23.111	13.5	0.2	13.5	0.2	291.1	1.002	10.34	0.980
3	22.174	22.045	13.7	-1.4	13.7	-1.4	291.4	1.002	10.43	0.982
4	20.968	20.975	15.8	-1.6	15.8	-1.6	292.7	1.001	10.54	0.986
5	20.366	20.444	18.7	-2.1	18.7	-2.1	293.2	1.000	10.56	0.990
6	19.769	19.916	15.6	-2.5	15.6	-2.5	293.1	1.000	10.68	0.979
7	18.593	18.885	16.5	-2.6	16.5	-2.6	292.9	1.002	10.73	0.981

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	94.7	118.1	94.7	118.1	91.8	118.1	23.1	3.1	0.0	0.0
2	98.9	126.1	98.9	126.1	96.2	126.1	23.0	0.4	0.0	0.0
3	109.4	133.3	109.4	133.3	106.3	133.3	26.0	-3.2	0.0	0.0
4	122.1	146.2	122.1	146.2	117.5	146.1	33.3	-4.0	0.0	0.0
5	123.2	152.7	123.2	152.7	116.7	152.6	39.4	-5.5	0.0	0.0
6	133.7	155.5	133.7	155.5	128.8	155.4	36.1	-6.8	0.0	0.0
7	137.1	167.0	137.1	167.0	131.5	166.9	39.0	-7.5	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.279	0.349	0.279	0.349	0.270	0.349	1.286
2	0.292	0.373	0.292	0.373	0.284	0.373	1.310
3	0.323	0.395	0.323	0.395	0.314	0.395	1.254
4	0.361	0.434	0.361	0.434	0.347	0.434	1.244
5	0.364	0.454	0.364	0.454	0.345	0.454	1.307
6	0.396	0.463	0.396	0.463	0.381	0.462	1.207
7	0.406	0.498	0.406	0.498	0.389	0.498	1.269

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	-40.9	-45.2	18.1	-.182	0.000	0.548	0.548	0.168	0.168
2	10.00	-35.2	-39.7	14.5	-.206	0.000	0.344	0.344	0.102	0.102
3	20.00	-27.5	-32.1	9.7	-.145	0.000	0.263	0.263	0.073	0.073
4	30.00	-22.1	-26.8	8.3	-.117	0.000	0.168	0.168	0.044	0.044
5	35.00	-18.3	-23.0	7.4	-.147	0.000	0.115	0.115	0.029	0.029
6	40.00	-20.6	-25.3	6.6	-.084	0.000	0.201	0.201	0.049	0.049
7	50.00	-19.1	-23.8	6.1	-.140	0.000	0.178	0.178	0.041	0.041

TABLE XIII. - Continued. BLADE-ELEMENT DATA AT

BLADE EDGES FOR BYPASS STATOR 65

(w) 40 Percent of design speed; reading 82

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.006	23.627	42.5	-0.7	42.5	-0.7	298.5	0.999	10.95	0.995
2	23.396	23.111	36.4	-2.5	36.4	-2.5	297.2	1.001	10.96	0.995
3	22.174	22.045	35.7	-3.1	35.7	-3.1	296.9	1.001	10.97	0.998
4	20.968	20.975	35.7	-2.0	35.7	-2.0	298.0	0.998	11.08	0.991
5	20.366	20.444	38.5	-1.8	38.5	-1.8	298.0	0.997	11.06	0.993
6	19.769	19.916	34.2	-1.8	34.2	-1.8	297.1	0.999	11.05	0.994
7	18.593	18.885	31.4	-2.2	31.4	-2.2	295.9	0.999	10.99	0.994

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	89.2	90.4	89.2	90.4	65.7	90.4	60.3	-1.0	0.0	0.0
2	92.9	91.5	92.9	91.5	74.7	91.4	55.1	-4.0	0.0	0.0
3	96.4	95.7	96.4	95.7	78.3	95.5	56.3	-5.2	0.0	0.0
4	108.0	100.5	108.0	100.5	87.7	100.5	63.1	-3.4	0.0	0.0
5	107.9	102.6	107.9	102.6	84.5	102.6	67.2	-3.2	0.0	0.0
6	109.8	103.3	109.8	103.3	90.8	103.2	61.7	-3.2	0.0	0.0
7	107.4	103.7	107.4	103.7	91.7	103.6	55.9	-4.0	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.259	0.263	0.259	0.263	0.191	0.263	1.375
2	0.271	0.266	0.271	0.266	0.218	0.266	1.223
3	0.281	0.279	0.281	0.279	0.228	0.278	1.220
4	0.315	0.293	0.315	0.293	0.256	0.293	1.146
5	0.315	0.300	0.315	0.300	0.247	0.299	1.214
6	0.321	0.302	0.321	0.302	0.265	0.302	1.137
7	0.315	0.303	0.315	0.303	0.269	0.303	1.129

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	-12.6	-16.9	15.9	0.198	0.000	0.114	0.114	0.035	0.035
2	10.00	-12.4	-16.8	11.8	0.204	0.000	0.103	0.103	0.031	0.031
3	20.00	-5.5	-10.1	7.9	0.185	0.000	0.043	0.043	0.012	0.012
4	30.00	-2.2	-6.9	8.0	0.230	0.000	0.139	0.139	0.036	0.036
5	35.00	1.5	-3.1	7.7	0.214	0.000	0.099	0.099	0.025	0.025
6	40.00	-2.0	-6.7	7.3	0.204	0.000	0.093	0.093	0.023	0.023
7	50.00	-4.2	-8.9	6.5	0.164	0.000	0.087	0.087	0.020	0.020

TABLE XIII. - Concluded. BLADE-ELEMENT DATA AT

BLADE EDGES FOR BYPASS STATOR 65

(x) 40 Percent of design speed; reading 83

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	24.006	23.627	71.8	-1.4	71.8	-1.4	307.6	0.984	11.51	0.950
2	23.396	23.111	70.2	-1.9	70.2	-1.9	304.4	0.991	11.19	0.976
3	22.174	22.045	61.4	-2.5	61.4	-2.5	301.1	0.996	10.97	0.995
4	20.968	20.975	48.4	-0.8	48.4	-0.8	299.6	0.996	10.98	0.993
5	20.366	20.444	44.0	-0.6	44.0	-0.6	298.9	0.996	10.99	0.992
6	19.769	19.916	37.2	-0.6	37.2	-0.6	297.7	0.998	11.00	0.991
7	18.593	18.885	32.8	-0.4	32.8	-0.4	296.1	1.000	10.96	0.991

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	117.8	67.6	117.8	67.6	36.8	67.6	111.9	-1.6	0.0	0.0
2	100.7	66.9	100.7	66.9	34.1	66.9	94.8	-2.2	0.0	0.0
3	89.0	66.3	89.0	66.3	42.6	66.2	78.2	-2.8	0.0	0.0
4	96.4	66.6	96.4	66.6	64.0	66.6	72.1	-0.9	0.0	0.0
5	100.8	67.6	100.8	67.6	72.5	67.6	70.1	-0.7	0.0	0.0
6	103.6	68.5	103.6	68.5	82.5	68.5	62.7	-0.7	0.0	0.0
7	104.3	65.9	104.3	65.9	87.7	65.9	56.4	-0.5	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.339	0.194	0.339	0.194	0.106	0.194	1.836
2	0.290	0.193	0.290	0.193	0.098	0.193	1.961
3	0.258	0.191	0.258	0.191	0.123	0.191	1.554
4	0.280	0.193	0.280	0.193	0.186	0.193	1.041
5	0.293	0.196	0.293	0.196	0.211	0.196	0.933
6	0.302	0.199	0.302	0.199	0.241	0.199	0.830
7	0.305	0.192	0.305	0.192	0.256	0.192	0.752

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	5.00	16.8	12.4	15.2	0.724	0.000	0.650	0.650	0.199	0.199
2	10.00	21.5	17.1	12.5	0.622	0.000	0.420	0.420	0.124	0.124
3	20.00	20.2	15.6	8.6	0.508	0.000	0.120	0.120	0.033	0.033
4	30.00	10.5	5.8	9.1	0.507	0.000	0.133	0.133	0.035	0.035
5	35.00	7.1	2.4	8.8	0.507	0.000	0.143	0.143	0.036	0.036
6	40.00	1.0	-3.7	8.5	0.489	0.000	0.144	0.144	0.035	0.035
7	50.00	-2.8	-7.5	8.3	0.493	0.000	0.152	0.152	0.035	0.035

TABLE XIV. - BLADE-ELEMENT DATA AT BLADE EDGES

FOR CORE STATOR 65

(a) 100 Percent of design speed; reading 154

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	16.038	15.771	47.0	18.7	47.0	18.7	335.8	1.008	16.23	0.994
2	14.031	13.833	45.9	15.4	45.9	15.4	342.8	0.987	16.47	0.946
3	12.184	12.032	35.7	11.6	35.7	11.6	342.6	1.009	17.29	0.909

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	253.9	262.7	253.9	262.7	173.2	248.9	185.6	84.3	0.0	0.0
2	287.7	274.8	287.7	274.8	200.3	264.9	206.5	73.0	0.0	0.0
3	329.2	258.2	329.2	258.2	267.2	253.0	192.3	51.9	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.727	0.751	0.727	0.751	0.496	0.712	1.437
2	0.826	0.790	0.826	0.790	0.575	0.762	1.322
3	0.966	0.729	0.966	0.729	0.784	0.714	0.947

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	64.00	0.2	-4.5	9.4	0.113	0.000	0.019	0.019	0.006	0.006
2	80.00	6.4	1.7	6.3	0.193	0.000	0.149	0.149	0.045	0.045
3	95.00	-2.2	-6.9	10.4	0.334	0.000	0.202	0.202	0.055	0.055

(b) 100 Percent of design speed; reading 135

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	16.038	15.771	40.9	19.4	40.9	19.4	337.1	1.008	17.39	0.953
2	14.031	13.833	41.2	16.2	41.2	16.2	343.0	0.990	17.46	0.914
3	12.184	12.032	35.1	12.5	35.1	12.5	342.9	1.011	17.34	0.903

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	279.2	279.6	279.2	279.6	211.1	263.7	182.7	92.7	0.0	0.0
2	302.1	289.5	302.1	289.5	227.1	278.0	199.2	80.8	0.0	0.0
3	332.5	260.1	332.5	260.1	272.1	253.9	191.0	56.5	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.807	0.804	0.807	0.804	0.610	0.758	1.249
2	0.873	0.837	0.873	0.837	0.657	0.803	1.224
3	0.977	0.733	0.977	0.733	0.800	0.716	0.933

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	64.00	-5.9	-10.6	10.1	0.118	0.000	0.136	0.136	0.046	0.046
2	80.00	1.8	-3.0	7.1	0.167	0.000	0.219	0.219	0.066	0.066
3	95.00	-2.9	-7.6	11.4	0.330	0.000	0.211	0.211	0.057	0.057

TABLE XIV. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR CORE STATOR 65

(c) 100 Percent of design speed; reading 134

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	16.038	15.771	42.0	18.5	42.0	18.5	340.2	1.000	17.48	0.959
2	14.031	13.833	40.9	15.3	40.9	15.3	342.8	0.992	17.55	0.939
3	12.184	12.032	35.7	11.1	35.7	11.1	342.9	1.013	17.30	0.924

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	281.1	256.7	281.1	256.7	209.1	243.4	187.9	81.6	0.0	0.0
2	302.9	268.6	302.9	268.6	228.8	259.0	198.5	71.1	0.0	0.0
3	332.6	249.5	332.6	249.5	270.1	244.8	194.1	48.2	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.808	0.730	0.808	0.730	0.601	0.692	1.164
2	0.876	0.768	0.876	0.768	0.662	0.741	1.132
3	0.978	0.700	0.978	0.700	0.794	0.686	0.906

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	64.00	-4.8	-9.5	9.2	0.226	0.000	0.116	0.116	0.040	0.040
2	80.00	1.5	-3.3	6.3	0.248	0.000	0.156	0.156	0.047	0.047
3	95.00	-2.2	-7.0	10.0	0.372	0.000	0.165	0.165	0.045	0.045

(d) 100 Percent of design speed; reading 133

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	16.038	15.771	43.6	18.4	43.6	18.4	342.2	0.998	17.58	0.964
2	14.031	13.833	41.2	15.1	41.2	15.1	342.7	0.993	17.67	0.949
3	12.184	12.032	37.2	11.8	37.2	11.8	343.1	1.014	17.41	0.908

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	283.5	249.0	283.5	249.0	205.5	236.2	195.4	78.7	0.0	0.0
2	304.6	264.3	304.6	264.3	229.1	255.2	200.7	69.0	0.0	0.0
3	334.7	218.6	334.7	218.6	266.7	214.0	202.2	44.5	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.813	0.705	0.813	0.705	0.589	0.668	1.150
2	0.882	0.754	0.882	0.754	0.664	0.728	1.114
3	0.985	0.606	0.985	0.606	0.785	0.593	0.802

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	64.00	-3.2	-7.9	9.1	0.273	0.000	0.103	0.103	0.035	0.035
2	80.00	1.8	-3.0	6.0	0.270	0.000	0.127	0.127	0.039	0.039
3	95.00	-0.8	-5.5	10.6	0.478	0.000	0.199	0.199	0.054	0.054

TABLE XIV. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR CORE STATOR 65

(e) 100 Percent of design speed; reading 156

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	16.038	15.771	43.9	19.3	43.9	19.3	343.8	1.000	17.64	0.951
2	14.031	13.833	40.5	16.3	40.5	16.3	343.0	0.987	17.72	0.927
3	12.184	12.032	35.7	12.5	35.7	12.5	343.0	1.013	17.46	0.920

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	288.4	277.2	288.4	277.2	207.7	261.7	200.1	91.5	0.0	0.0
2	308.2	284.0	308.2	284.0	234.2	272.6	200.2	79.7	0.0	0.0
3	337.0	256.3	337.0	256.3	273.8	250.3	196.5	55.4	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.827	0.791	0.827	0.791	0.596	0.747	1.260
2	0.894	0.820	0.894	0.820	0.679	0.787	1.164
3	0.993	0.721	0.993	0.721	0.807	0.704	0.914

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	64.00	-2.8	-7.5	10.0	0.178	0.000	0.135	0.135	0.046	0.046
2	80.00	1.1	-3.7	7.2	0.204	0.000	0.181	0.181	0.055	0.055
3	95.00	-2.3	-7.0	11.3	0.356	0.000	0.171	0.171	0.046	0.046

(f) 97 Percent of design speed; reading 124

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	16.038	15.771	40.5	18.3	40.5	18.3	336.4	1.000	16.82	0.972
2	14.031	13.833	40.9	15.0	40.9	15.0	338.5	0.999	16.78	0.972
3	12.184	12.032	37.8	10.5	37.8	10.5	339.4	0.999	16.74	0.940

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	268.1	231.7	268.1	231.7	204.0	220.0	174.0	72.6	0.0	0.0
2	286.7	248.9	286.7	248.9	216.7	240.4	187.8	64.4	0.0	0.0
3	319.3	231.7	319.3	231.7	252.2	227.7	195.8	42.4	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.771	0.657	0.771	0.657	0.587	0.624	1.079
2	0.829	0.708	0.829	0.708	0.627	0.684	1.109
3	0.937	0.654	0.937	0.654	0.740	0.643	0.903

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	64.00	-6.3	-11.0	9.0	0.275	0.000	0.085	0.085	0.029	0.029
2	80.00	1.5	-3.3	5.9	0.269	0.000	0.077	0.077	0.023	0.023
3	95.00	-0.1	-4.8	9.4	0.408	0.000	0.140	0.140	0.038	0.038

TABLE XIV. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR CORE STATOR 65

(g) 97 Percent of design speed; reading 123

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	16.038	15.771	45.4	18.2	45.4	18.2	339.7	0.999	16.99	0.991
2	14.031	13.833	43.2	14.9	43.2	14.9	338.3	0.998	16.93	0.989
3	12.184	12.032	40.5	10.4	40.5	10.4	339.6	0.997	16.94	0.967

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	260.9	209.2	260.9	209.2	183.1	198.8	185.8	65.3	0.0	0.0
2	278.4	221.2	278.4	221.2	203.1	213.7	190.5	56.9	0.0	0.0
3	309.4	208.1	309.4	208.1	235.3	204.7	200.9	37.7	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.744	0.586	0.744	0.586	0.522	0.557	1.086
2	0.802	0.623	0.802	0.623	0.585	0.602	1.052
3	0.903	0.583	0.903	0.583	0.687	0.573	0.870

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	64.00	-1.3	-6.0	8.9	0.368	0.000	0.028	0.028	0.010	0.010
2	80.00	3.7	-1.0	5.8	0.359	0.000	0.033	0.033	0.010	0.010
3	95.00	2.5	-2.2	9.3	0.474	0.000	0.080	0.080	0.022	0.022

(h) 97 Percent of design speed; reading 128

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	16.038	15.771	45.1	18.2	45.1	18.2	340.6	0.999	17.02	0.991
2	14.031	13.833	42.5	14.9	42.5	14.9	339.5	0.998	16.92	0.990
3	12.184	12.032	38.6	10.6	38.6	10.6	339.4	0.998	17.02	0.956

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	269.3	216.4	269.3	216.4	190.1	205.6	190.8	67.6	0.0	0.0
2	284.6	228.6	284.6	228.6	209.8	220.9	192.3	58.8	0.0	0.0
3	315.7	209.3	315.7	209.3	246.6	205.8	197.1	38.3	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.770	0.606	0.770	0.606	0.543	0.576	1.082
2	0.821	0.645	0.821	0.645	0.605	0.623	1.053
3	0.925	0.587	0.925	0.587	0.723	0.577	0.834

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	64.00	-1.6	-6.3	8.9	0.365	0.000	0.028	0.028	0.010	0.010
2	80.00	3.1	-1.7	5.8	0.346	0.000	0.027	0.027	0.008	0.008
3	95.00	0.7	-4.0	9.4	0.477	0.000	0.105	0.105	0.028	0.028

TABLE XIV. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR CORE STATOR 65

(i) 90 Percent of design speed; reading 99

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	16.038	15.771	38.6	18.2	38.6	18.2	325.8	1.001	15.08	0.990
2	14.031	13.833	38.1	15.0	38.1	15.0	329.2	0.993	15.48	0.987
3	12.184	12.032	36.7	9.9	36.7	9.9	331.7	1.003	15.61	0.966

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	232.6	208.4	232.6	208.4	181.8	197.9	145.0	65.2	0.0	0.0
2	262.1	234.4	262.1	234.4	206.2	226.5	161.8	60.5	0.0	0.0
3	297.5	244.1	297.5	244.1	238.4	240.5	177.9	41.8	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.671	0.596	0.671	0.596	0.525	0.566	1.089
2	0.761	0.676	0.761	0.676	0.599	0.653	1.098
3	0.875	0.699	0.875	0.699	0.701	0.689	1.009

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	64.00	-8.2	-12.9	8.9	0.231	0.000	0.038	0.038	0.013	0.013
2	80.00	-1.3	-6.1	5.9	0.229	0.000	0.040	0.040	0.012	0.012
3	95.00	-1.2	-5.9	8.7	0.307	0.000	0.086	0.086	0.023	0.023

(j) 90 Percent of design speed; reading 85

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	16.038	15.771	37.8	18.2	37.8	18.2	326.8	1.001	15.30	0.985
2	14.031	13.833	37.8	15.0	37.8	15.0	329.4	0.995	15.57	0.985
3	12.184	12.032	36.1	9.9	36.1	9.9	332.2	1.003	15.61	0.974

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	239.6	211.8	239.6	211.8	189.3	201.2	146.9	66.3	0.0	0.0
2	266.8	234.4	266.8	234.4	210.9	226.4	163.4	60.5	0.0	0.0
3	302.7	243.2	302.7	243.2	244.5	239.6	178.5	41.8	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.692	0.605	0.692	0.605	0.547	0.575	1.063
2	0.776	0.675	0.776	0.675	0.614	0.652	1.073
3	0.892	0.696	0.892	0.696	0.720	0.686	0.980

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	64.00	-8.9	-13.6	8.9	0.240	0.000	0.054	0.054	0.019	0.019
2	80.00	-1.7	-6.4	5.9	0.245	0.000	0.045	0.045	0.014	0.014
3	95.00	-1.8	-6.5	8.7	0.322	0.000	0.064	0.064	0.017	0.017

TABLE XIV. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR CORE STATOR 65

(k) 90 Percent of design speed; reading 97

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	16.038	15.771	42.2	18.1	42.2	18.1	328.6	1.002	15.73	0.988
2	14.031	13.833	40.5	14.9	40.5	14.9	329.6	0.997	15.79	0.986
3	12.184	12.032	38.7	9.7	38.7	9.7	333.5	1.004	16.05	0.988

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	239.3	193.3	239.3	193.3	177.2	183.7	160.8	60.1	0.0	0.0
2	260.3	207.9	260.3	207.9	197.9	201.0	169.1	53.5	0.0	0.0
3	297.0	230.5	297.0	230.5	231.9	227.2	185.6	38.9	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.689	0.547	0.689	0.547	0.510	0.520	1.037
2	0.755	0.592	0.755	0.592	0.574	0.572	1.016
3	0.871	0.655	0.871	0.655	0.680	0.645	0.980

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	64.00	-4.5	-9.2	8.8	0.347	0.000	0.043	0.043	0.015	0.015
2	80.00	1.1	-3.7	5.8	0.343	0.000	0.045	0.045	0.014	0.014
3	95.00	0.7	-4.0	8.5	0.361	0.000	0.030	0.030	0.008	0.008

(l) 90 Percent of design speed; reading 84

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	16.038	15.771	42.3	18.1	42.3	18.1	328.4	1.002	15.65	0.991
2	14.031	13.833	40.2	14.9	40.2	14.9	329.6	0.996	15.72	0.989
3	12.184	12.032	38.2	9.8	38.2	9.8	333.1	1.005	15.87	0.999

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	232.9	188.0	232.9	188.0	172.2	178.7	156.9	58.5	0.0	0.0
2	256.0	203.4	256.0	203.4	195.5	196.5	165.3	52.3	0.0	0.0
3	291.9	225.0	291.9	225.0	229.5	221.7	180.4	38.1	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.669	0.531	0.669	0.531	0.495	0.505	1.038
2	0.741	0.578	0.741	0.578	0.566	0.559	1.005
3	0.854	0.638	0.854	0.638	0.671	0.629	0.966

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	64.00	-4.4	-9.1	8.8	0.348	0.000	0.034	0.034	0.012	0.012
2	80.00	0.8	-4.0	5.8	0.346	0.000	0.036	0.036	0.011	0.011
3	95.00	0.2	-4.5	8.6	0.365	0.000	0.004	0.004	0.001	0.001

TABLE XIV. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR CORE STATOR 65

(m) 90 Percent of design speed; reading 89

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	16.038	15.771	45.6	18.1	45.6	18.1	330.4	1.001	15.71	0.998
2	14.031	13.833	41.7	14.9	41.7	14.9	329.7	0.995	15.57	0.993
3	12.184	12.032	39.2	10.2	39.2	10.2	333.2	1.007	16.04	0.980

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	234.7	190.3	234.7	190.3	164.1	180.9	167.8	59.2	0.0	0.0
2	251.4	196.5	251.4	196.5	187.8	189.9	167.1	50.5	0.0	0.0
3	290.8	205.8	290.8	205.8	225.5	202.6	183.6	36.4	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.673	0.537	0.673	0.537	0.470	0.510	1.102
2	0.726	0.558	0.726	0.558	0.542	0.539	1.011
3	0.850	0.579	0.850	0.579	0.659	0.570	0.898

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	64.00	-1.1	-5.8	8.8	0.359	0.000	0.008	0.008	0.003	0.003
2	80.00	2.2	-2.5	5.8	0.366	0.000	0.022	0.022	0.007	0.007
3	95.00	1.2	-3.5	9.0	0.433	0.000	0.053	0.053	0.014	0.014

(n) 80 Percent of design speed; reading 114

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	16.038	15.771	35.1	18.2	35.1	18.2	315.3	0.999	13.62	0.986
2	14.031	13.833	34.9	14.9	34.9	14.9	317.9	0.997	13.97	0.986
3	12.184	12.032	35.3	9.6	35.3	9.6	323.9	0.999	14.77	0.984

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	201.7	178.5	201.7	178.5	164.9	169.5	116.1	55.7	0.0	0.0
2	232.8	205.2	232.8	205.2	190.8	198.3	133.4	52.9	0.0	0.0
3	282.1	244.1	282.1	244.1	230.2	240.7	163.2	40.7	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.586	0.515	0.586	0.515	0.479	0.489	1.028
2	0.681	0.595	0.681	0.595	0.558	0.575	1.039
3	0.835	0.710	0.835	0.710	0.681	0.700	1.046

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	64.00	-11.6	-16.3	8.9	0.226	0.000	0.068	0.068	0.023	0.023
2	80.00	-4.5	-9.3	5.9	0.229	0.000	0.051	0.051	0.016	0.016
3	95.00	-2.6	-7.3	8.4	0.256	0.000	0.045	0.045	0.012	0.012

TABLE XIV. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR CORE STATOR 65

(o) 80 Percent of design speed; reading 115

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	16.038	15.771	41.0	18.1	41.0	18.1	316.0	1.001	13.77	0.993
2	14.031	13.833	37.9	14.9	37.9	14.9	318.7	0.998	13.98	0.994
3	12.184	12.032	38.2	9.6	38.2	9.6	324.3	0.998	14.75	0.995

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	179.2	144.9	179.2	144.9	135.3	137.7	117.5	45.0	0.0	0.0
2	211.5	169.0	211.5	169.0	167.0	163.4	129.9	43.4	0.0	0.0
3	261.6	210.6	261.6	210.6	205.7	207.6	161.6	35.2	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.516	0.413	0.516	0.413	0.390	0.393	1.018
2	0.613	0.484	0.613	0.484	0.484	0.467	0.979
3	0.766	0.605	0.766	0.605	0.602	0.596	1.009

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	64.00	-5.8	-10.5	8.8	0.340	0.000	0.042	0.042	0.014	0.014
2	80.00	-1.6	-6.3	5.8	0.331	0.000	0.029	0.029	0.009	0.009
3	95.00	0.2	-4.5	8.5	0.329	0.000	0.016	0.016	0.004	0.004

(p) 80 Percent of design speed; reading 91

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	16.038	15.771	42.6	18.1	42.6	18.1	318.2	0.999	13.83	0.995
2	14.031	13.833	38.1	14.9	38.1	14.9	320.0	0.995	14.06	0.986
3	12.184	12.032	38.8	9.7	38.8	9.7	323.3	1.002	14.61	1.000

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	192.4	151.3	192.4	151.3	141.7	143.8	130.1	46.9	0.0	0.0
2	220.0	169.2	220.0	169.2	173.1	163.5	135.7	43.5	0.0	0.0
3	261.5	207.7	261.5	207.7	203.7	204.8	164.0	34.9	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.554	0.431	0.554	0.431	0.408	0.410	1.015
2	0.638	0.484	0.638	0.484	0.502	0.468	0.945
3	0.767	0.596	0.767	0.596	0.597	0.587	1.005

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	64.00	-4.2	-8.9	8.8	0.373	0.000	0.028	0.028	0.010	0.010
2	80.00	-1.4	-6.1	5.8	0.364	0.000	0.057	0.057	0.017	0.017
3	95.00	0.9	-3.8	8.5	0.343	0.000	0.000	0.000	0.000	0.000

TABLE XIV. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR CORE STATOR 65

(q) 80 Percent of design speed; reading 92

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	16.038	15.771	47.9	18.1	47.9	18.1	318.7	0.999	13.88	0.995
2	14.031	13.833	42.1	14.9	42.1	14.9	320.5	0.994	14.07	0.992
3	12.184	12.032	40.7	10.5	40.7	10.5	322.6	1.005	14.65	0.983

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	178.9	135.0	178.9	135.0	119.8	128.3	132.8	42.0	0.0	0.0
2	208.6	154.0	208.6	154.0	154.8	148.8	139.8	39.7	0.0	0.0
3	250.2	167.9	250.2	167.9	189.8	165.1	163.0	30.5	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.513	0.383	0.513	0.383	0.343	0.364	1.071
2	0.602	0.439	0.602	0.439	0.447	0.424	0.961
3	0.731	0.475	0.731	0.475	0.554	0.468	0.870

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	64.00	1.2	-3.5	8.8	0.431	0.000	0.030	0.030	0.010	0.010
2	80.00	2.6	-2.1	5.9	0.415	0.000	0.036	0.036	0.011	0.011
3	95.00	2.7	-2.0	9.3	0.476	0.000	0.057	0.057	0.015	0.015

(r) 80 Percent of design speed; reading 116

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	16.038	15.771	50.4	18.2	50.4	18.2	319.3	0.998	13.90	0.995
2	14.031	13.833	44.7	15.0	44.7	15.0	320.6	0.993	14.17	0.992
3	12.184	12.032	42.5	12.2	42.5	12.2	322.7	1.005	14.58	0.975

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	172.3	126.6	172.3	126.6	109.8	120.3	132.8	39.6	0.0	0.0
2	203.4	147.8	203.4	147.8	144.5	142.8	143.2	38.3	0.0	0.0
3	239.4	130.9	239.4	130.9	176.4	127.9	161.8	27.6	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.493	0.358	0.493	0.358	0.314	0.340	1.095
2	0.586	0.420	0.586	0.420	0.416	0.406	0.988
3	0.696	0.367	0.696	0.367	0.513	0.359	0.725

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	64.00	3.7	-1.0	8.9	0.464	0.000	0.032	0.032	0.011	0.011
2	80.00	5.3	0.5	5.9	0.438	0.000	0.041	0.041	0.012	0.012
3	95.00	4.6	-0.1	11.0	0.609	0.000	0.089	0.089	0.024	0.024

TABLE XIV. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR CORE STATOR 65

(s) 70 Percent of design speed; reading 77

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	16.038	15.771	34.5	18.1	34.5	18.1	308.1	0.999	12.56	0.990
2	14.031	13.833	33.6	14.9	33.6	14.9	310.5	0.995	12.88	0.992
3	12.184	12.032	36.5	9.6	36.5	9.6	315.0	1.000	13.46	0.998

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	162.6	135.2	162.6	135.2	134.0	128.5	92.2	42.1	0.0	0.0
2	195.4	162.6	195.4	162.6	162.8	157.2	108.1	41.8	0.0	0.0
3	239.7	199.7	239.7	199.7	192.8	196.8	142.5	33.5	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.472	0.390	0.472	0.390	0.389	0.371	0.959
2	0.571	0.472	0.571	0.472	0.476	0.456	0.965
3	0.707	0.580	0.707	0.580	0.568	0.572	1.021

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	64.00	-12.2	-16.9	8.8	0.283	0.000	0.070	0.070	0.024	0.024
2	80.00	-5.9	-10.6	5.8	0.276	0.000	0.042	0.042	0.013	0.013
3	95.00	-1.5	-6.2	8.5	0.294	0.000	0.006	0.006	0.002	0.002

(t) 70 Percent of design speed; reading 78

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	16.038	15.771	41.9	18.1	41.9	18.1	311.1	0.997	12.84	0.994
2	14.031	13.833	39.5	14.9	39.5	14.9	311.6	0.999	12.94	0.999
3	12.184	12.032	38.5	9.8	38.5	9.8	315.0	1.001	13.45	0.999

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	160.5	123.3	160.5	123.3	119.5	117.3	107.1	38.2	0.0	0.0
2	183.4	144.5	183.4	144.5	141.6	139.6	116.6	37.1	0.0	0.0
3	223.2	176.6	223.2	176.6	174.7	174.0	139.0	29.9	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.464	0.354	0.464	0.354	0.345	0.336	0.981
2	0.533	0.415	0.533	0.415	0.411	0.402	0.986
3	0.654	0.509	0.654	0.509	0.511	0.501	0.996

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	64.00	-4.9	-9.6	8.7	0.389	0.000	0.045	0.045	0.015	0.015
2	80.00	0.0	-4.7	5.8	0.351	0.000	0.008	0.008	0.003	0.003
3	95.00	0.6	-4.2	8.6	0.345	0.000	0.005	0.005	0.001	0.001

TABLE XIV. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR CORE STATOR 65

(u) 70 Percent of design speed; reading 86

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	16.038	15.771	51.3	18.2	51.3	18.2	311.8	0.999	12.93	0.996
2	14.031	13.833	44.7	15.0	44.7	15.0	312.8	0.995	13.04	0.995
3	12.184	12.032	41.6	10.8	41.6	10.8	314.5	1.005	13.44	0.985

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	149.3	110.6	149.3	110.6	93.3	105.0	116.6	34.5	0.0	0.0
2	176.1	126.9	176.1	126.9	125.1	122.6	123.9	32.9	0.0	0.0
3	212.4	134.1	212.4	134.1	158.9	131.7	141.0	25.2	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.430	0.316	0.430	0.316	0.268	0.300	1.125
2	0.509	0.364	0.509	0.364	0.362	0.351	0.980
3	0.620	0.382	0.620	0.382	0.464	0.375	0.829

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	64.00	4.6	-0.1	8.9	0.461	0.000	0.035	0.035	0.012	0.012
2	80.00	5.3	0.5	5.9	0.444	0.000	0.032	0.032	0.010	0.010
3	95.00	3.6	-1.1	9.7	0.520	0.000	0.066	0.066	0.018	0.018

(v) 40 Percent of design speed; reading 81

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	16.038	15.771	38.9	18.1	38.9	18.1	294.5	0.998	10.83	0.999
2	14.031	13.833	33.8	14.9	33.8	14.9	295.5	0.996	10.96	0.999
3	12.184	12.032	36.2	9.7	36.2	9.7	297.5	0.997	11.17	0.997

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	73.1	63.6	73.1	63.6	56.9	60.4	45.9	19.7	0.0	0.0
2	102.8	86.2	102.8	86.2	85.4	83.3	57.2	22.1	0.0	0.0
3	132.9	108.2	132.9	108.2	107.2	106.7	78.5	18.2	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.213	0.186	0.213	0.186	0.166	0.176	1.062
2	0.301	0.252	0.301	0.252	0.250	0.244	0.975
3	0.390	0.317	0.390	0.317	0.315	0.312	0.995

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	64.00	-7.9	-12.6	8.7	0.262	0.000	0.043	0.043	0.015	0.015
2	80.00	-5.6	-10.4	5.8	0.271	0.000	0.015	0.015	0.005	0.005
3	95.00	-1.7	-6.4	8.5	0.312	0.000	0.027	0.027	0.007	0.007

TABLE XIV. - Concluded. BLADE-ELEMENT DATA AT BLADE EDGES

FOR CORE STATOR 65

(w) 40 Percent of design speed; reading 82

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	16.038	15.771	46.9	18.1	46.9	18.1	295.9	0.998	10.96	0.999
2	14.031	13.833	41.3	14.9	41.3	14.9	296.0	0.998	11.02	0.999
3	12.184	12.032	39.5	10.0	39.5	10.0	297.3	0.999	11.15	0.997

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	81.7	63.9	81.7	63.9	55.8	60.7	59.7	19.8	0.0	0.0
2	100.5	76.3	100.5	76.3	75.5	73.7	66.4	19.7	0.0	0.0
3	123.2	89.1	123.2	89.1	95.0	87.7	78.4	15.4	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.238	0.186	0.238	0.186	0.163	0.177	1.088
2	0.294	0.222	0.294	0.222	0.221	0.215	0.977
3	0.361	0.260	0.361	0.260	0.278	0.256	0.923

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	64.00	0.2	-4.5	8.8	0.397	0.000	0.014	0.014	0.005	0.005
2	80.00	1.9	-2.9	5.9	0.389	0.000	0.013	0.013	0.004	0.004
3	95.00	1.6	-3.2	8.8	0.419	0.000	0.032	0.032	0.009	0.009

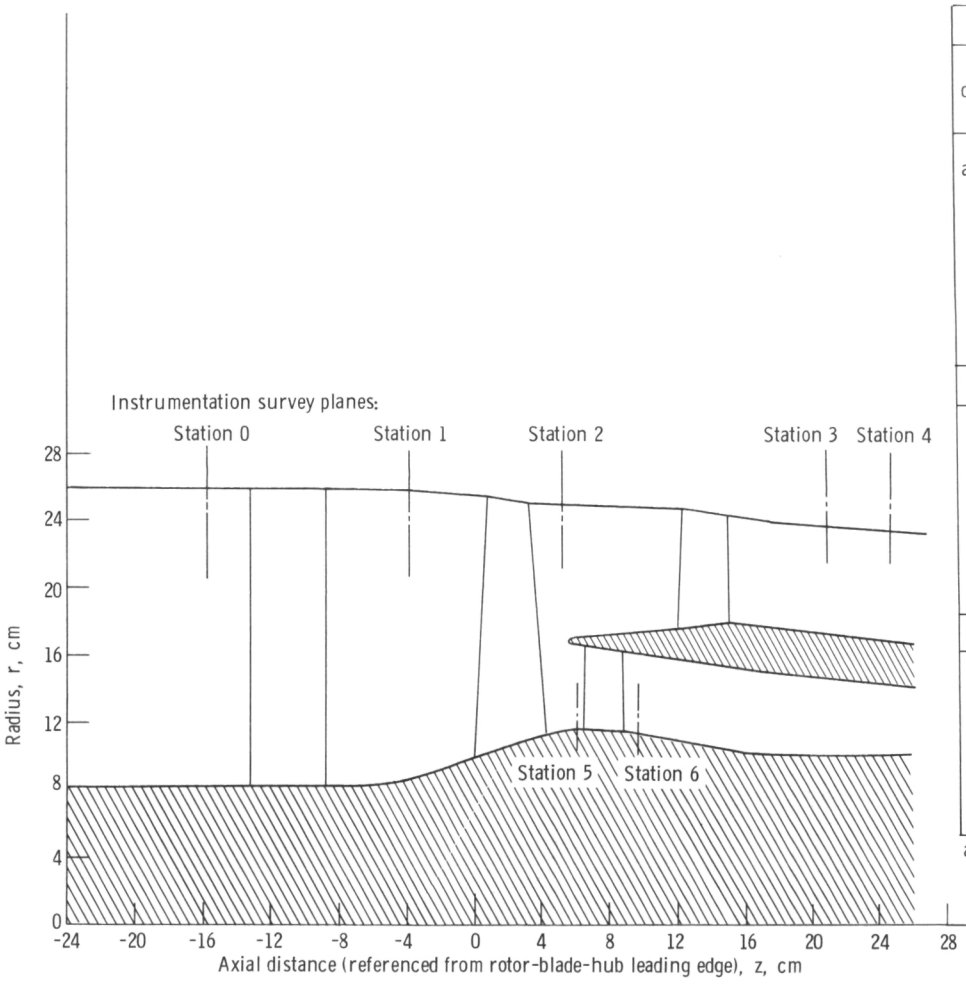
(x) 40 Percent of design speed; reading 83

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
1	16.038	15.771	47.9	18.1	47.9	18.1	295.6	0.998	10.95	0.999
2	14.031	13.833	43.2	15.0	43.2	15.0	295.8	0.998	11.01	0.999
3	12.184	12.032	40.3	10.1	40.3	10.1	296.8	1.000	11.14	0.997

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	83.2	64.1	83.2	64.1	55.8	60.9	61.8	19.9	0.0	0.0
2	101.9	75.2	101.9	75.2	74.3	72.7	69.8	19.4	0.0	0.0
3	123.8	85.5	123.8	85.5	94.4	84.2	80.1	15.0	0.0	0.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID
RP	IN	OUT	IN	OUT	IN	OUT	VEL R
1	0.243	0.187	0.243	0.187	0.163	0.178	1.093
2	0.298	0.219	0.298	0.219	0.217	0.212	0.978
3	0.363	0.249	0.363	0.249	0.277	0.245	0.892

	PERCENT	INCIDENCE		DEV	D FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
1	64.00	1.2	-3.5	8.8	0.414	0.000	0.031	0.031	0.011	0.011
2	80.00	3.8	-1.0	5.9	0.419	0.000	0.022	0.022	0.007	0.007
3	95.00	2.4	-2.3	8.9	0.456	0.000	0.040	0.040	0.011	0.011



Flow path coordinates		
Axial distance, z, cm	Radius, r, cm	
	Inner	Outer
-23.754	8.262	25.871
[a]-15.748	8.262	25.871
-8.572	8.262	25.871
[a]-3.924	8.573	25.716
0	9.873	------
.724	------	25.406
3.200	------	24.992
4.234	11.205	------
[a]5.204	11.412	24.915
Bypass		
6.198	------	24.889
6.713	17.133	------
9.294	17.273	24.837
12.187	17.428	24.657
15.131	17.866	24.115
17.556	17.609	23.857
[a]20.828	17.247	23.572
[a]24.638	16.808	23.289
Core		
[a]6.096	11.567	16.576
6.713	11.592	16.524
8.882	11.464	16.266
[a]9.644	11.360	16.137
12.187	------	15.698
12.392	10.865	------
13.426	10.668	15.491

[a]Instrumentation survey planes.

Figure 1. - Flow path for stage 65, showing axial location of instrumentation.

Figure 2. - Inlet guide vanes.

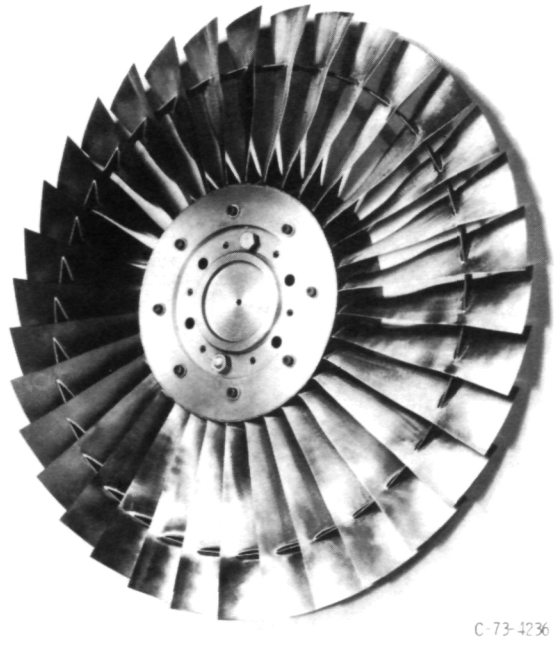
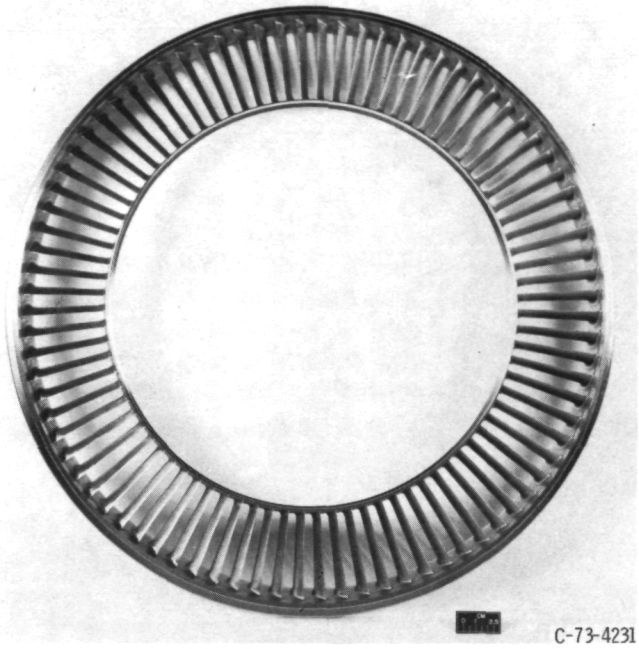
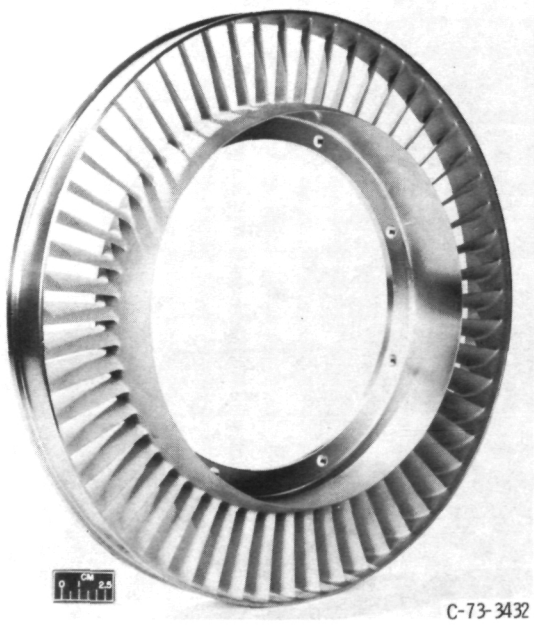


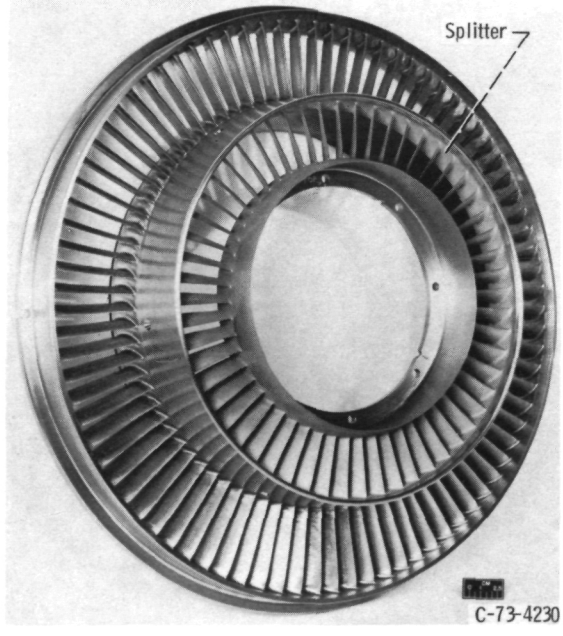
Figure 3. - Rotor.



(a) Bypass stator.

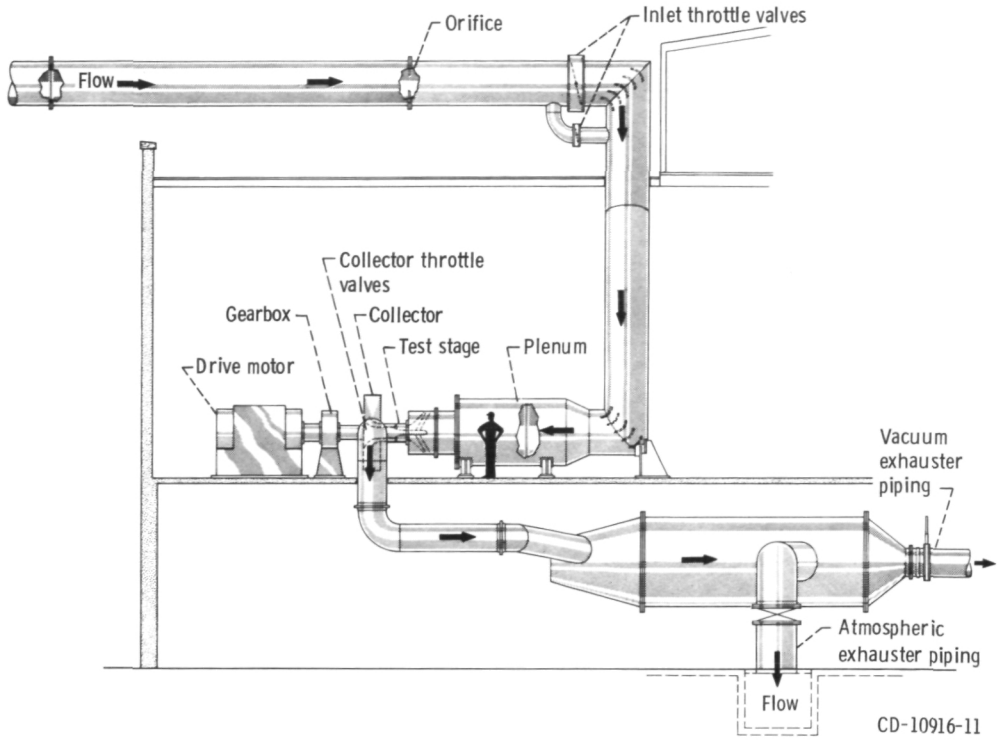


(b) Core stator.

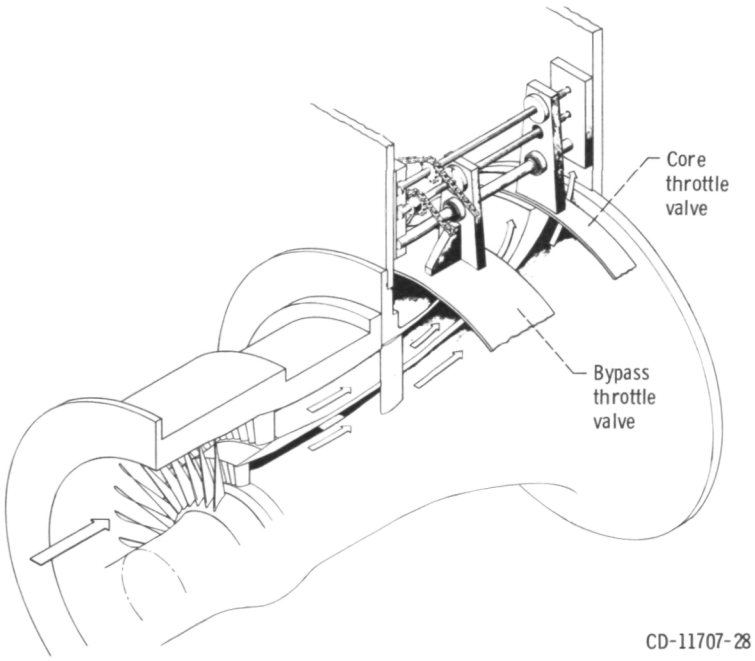


(c) Stator assembly showing splitter.

Figure 4. - Stators.



(a) Compressor test facility.



(b) Collector throttle valves.

Figure 5. - Single-stage compressor test facility.

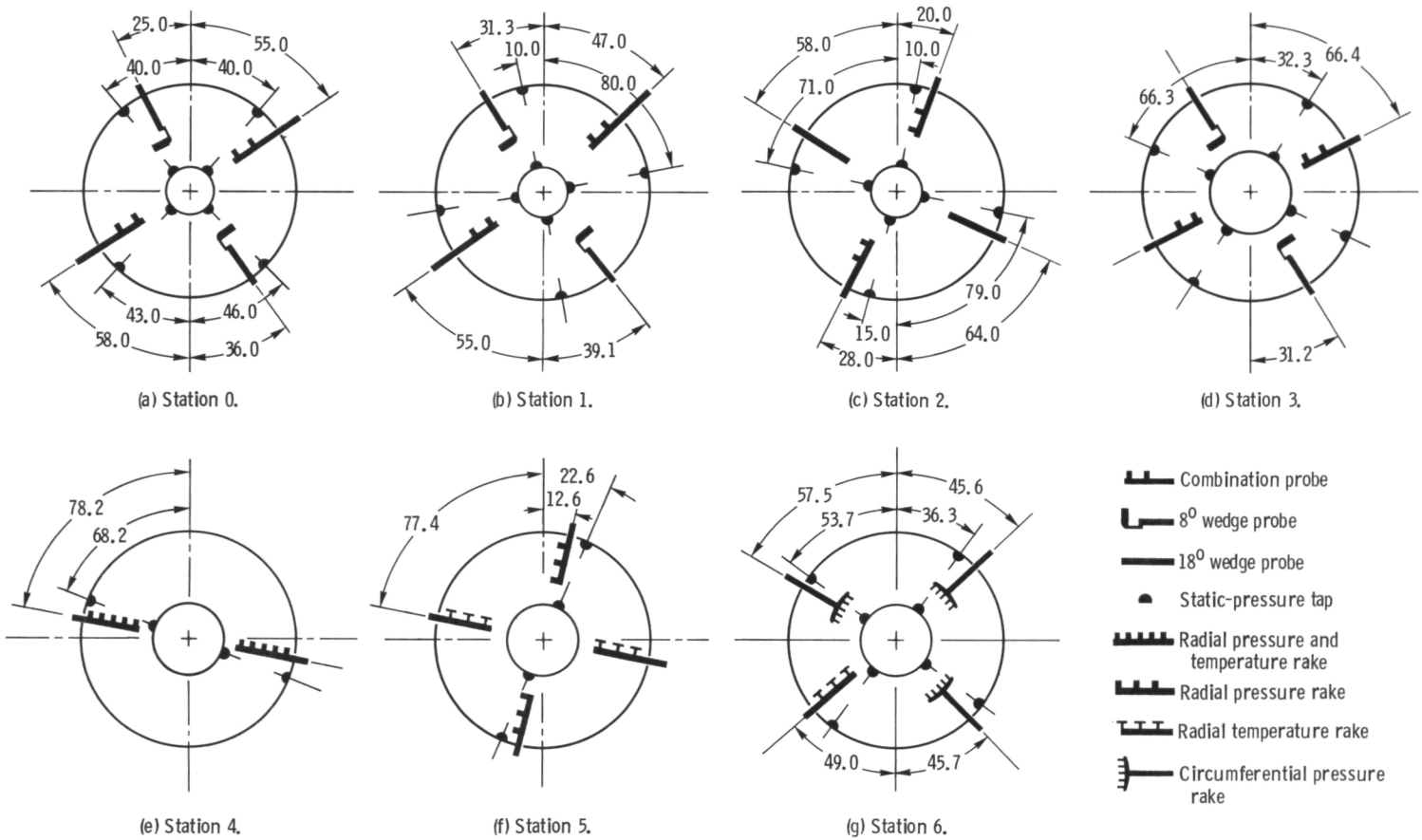
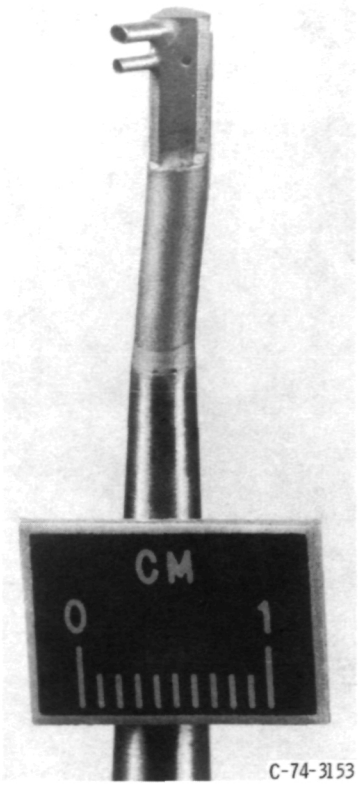
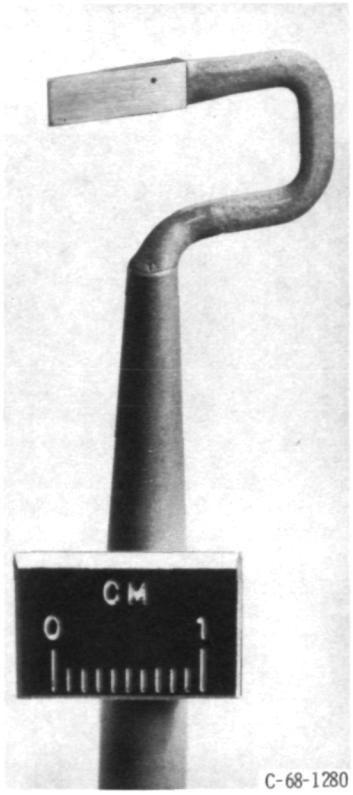


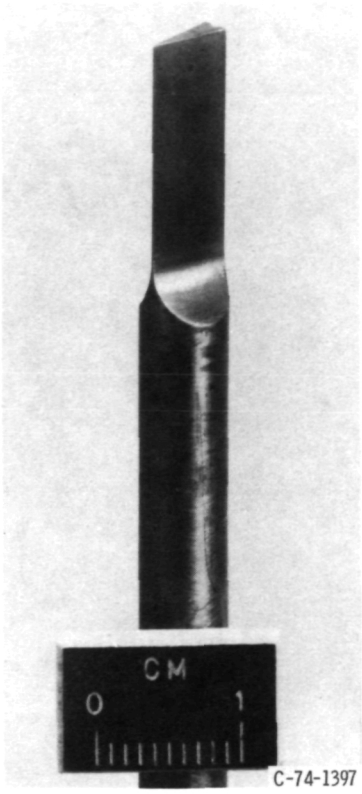
Figure 6. - Circumferential location of instrumentation at measuring stations - facing downstream. (Angles are in degrees.)



(a) Combination total pressure, total temperature, and flow angle probe (double barrel probe).

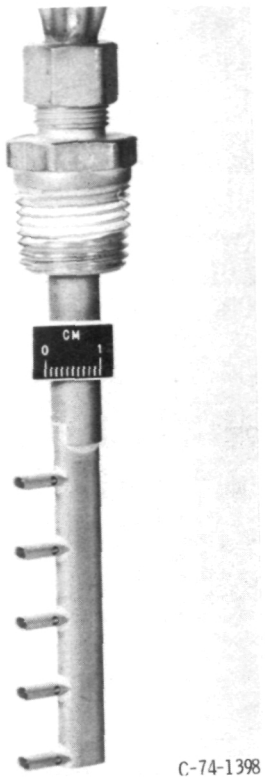


(b) 8^{0} static-pressure wedge probe.



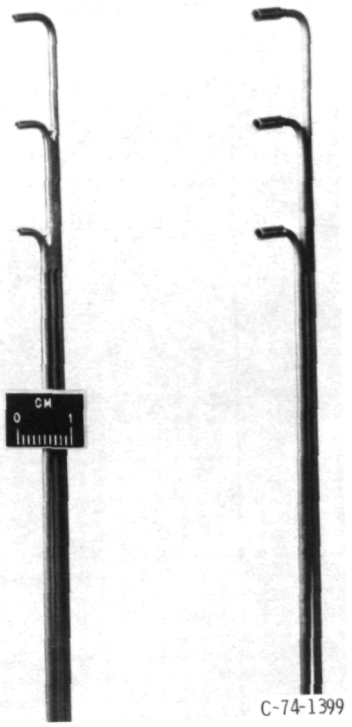
(c) 18^{0} static-pressure wedge probe.

Figure 7. - Sensing probes.



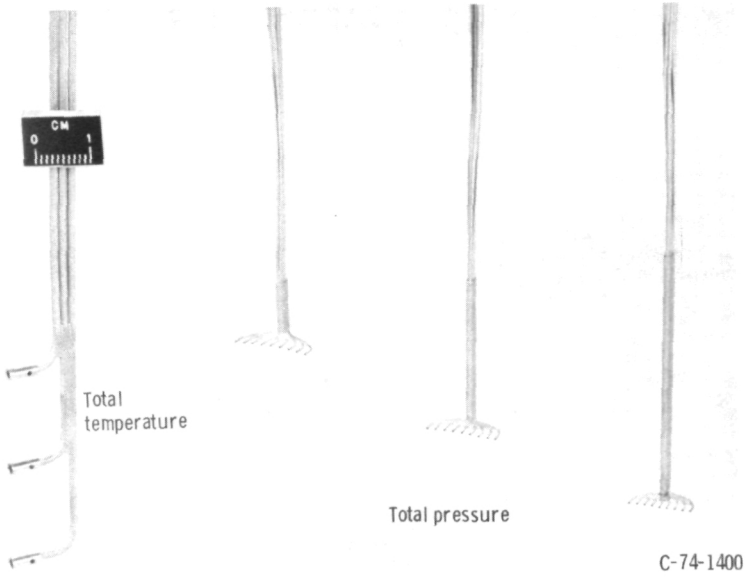
C-74-1398

(a) Station 4.



C-74-1399

(b) Station 5.



C-74-1400

(c) Station 6.

Figure 8. - Stationary rakes.

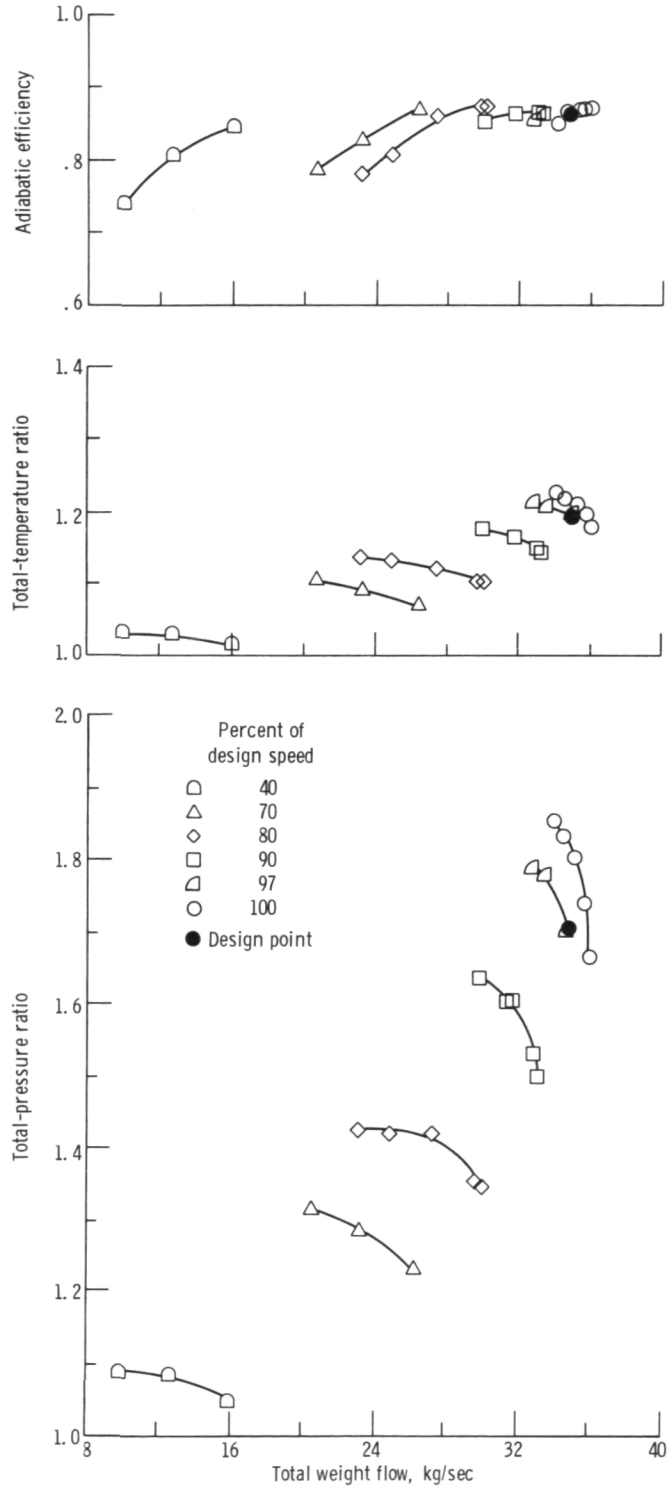


Figure 9. - Overall performance for rotor 65.

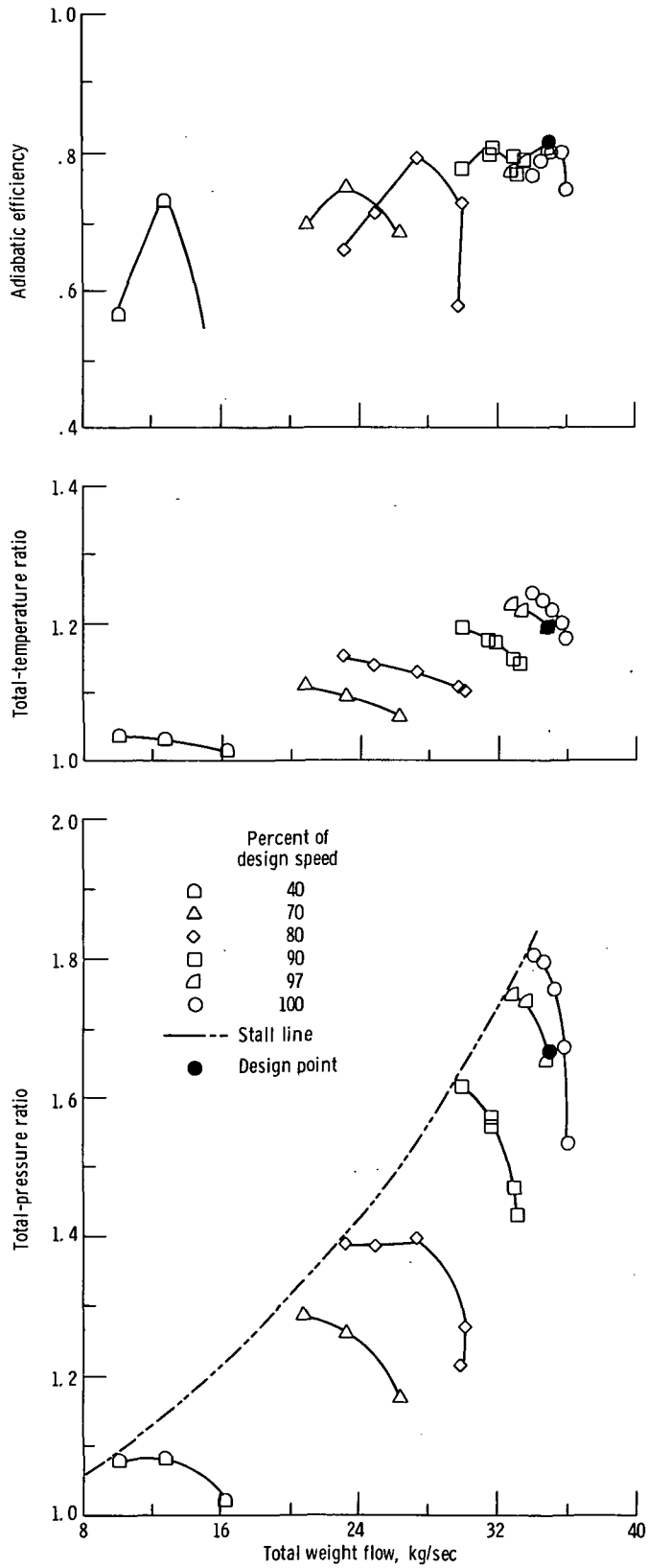


Figure 10. - Overall performance for bypass stage 65.

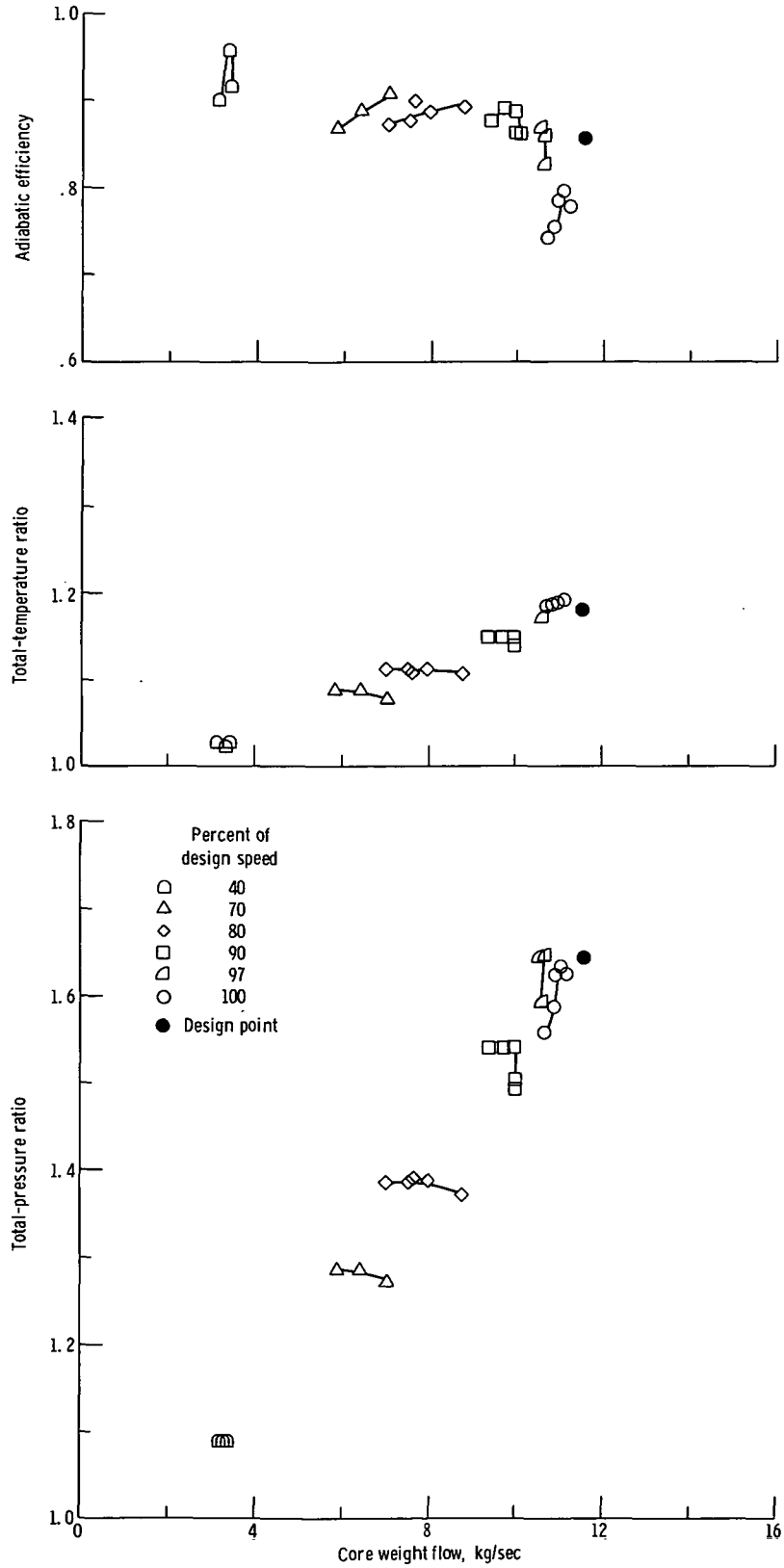


Figure 11. - Overall performance of core stage 65.

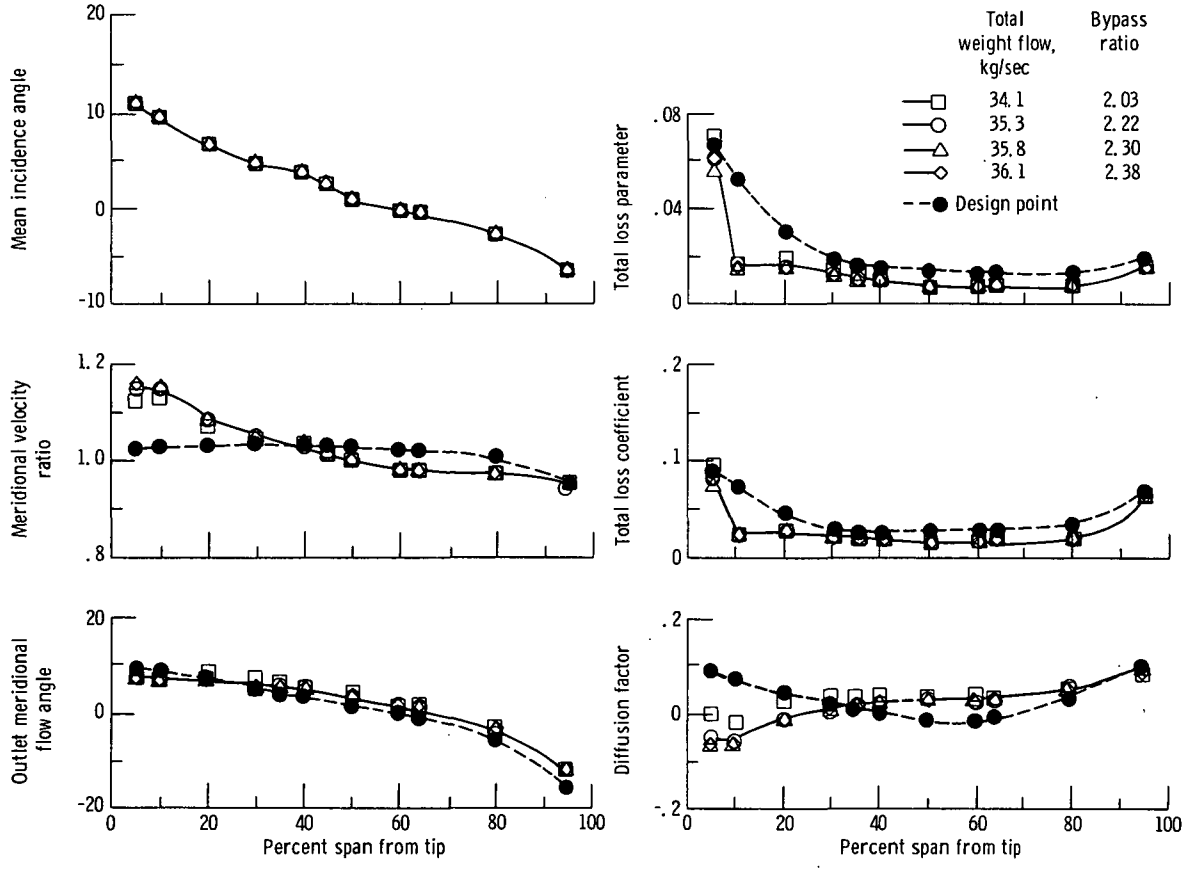
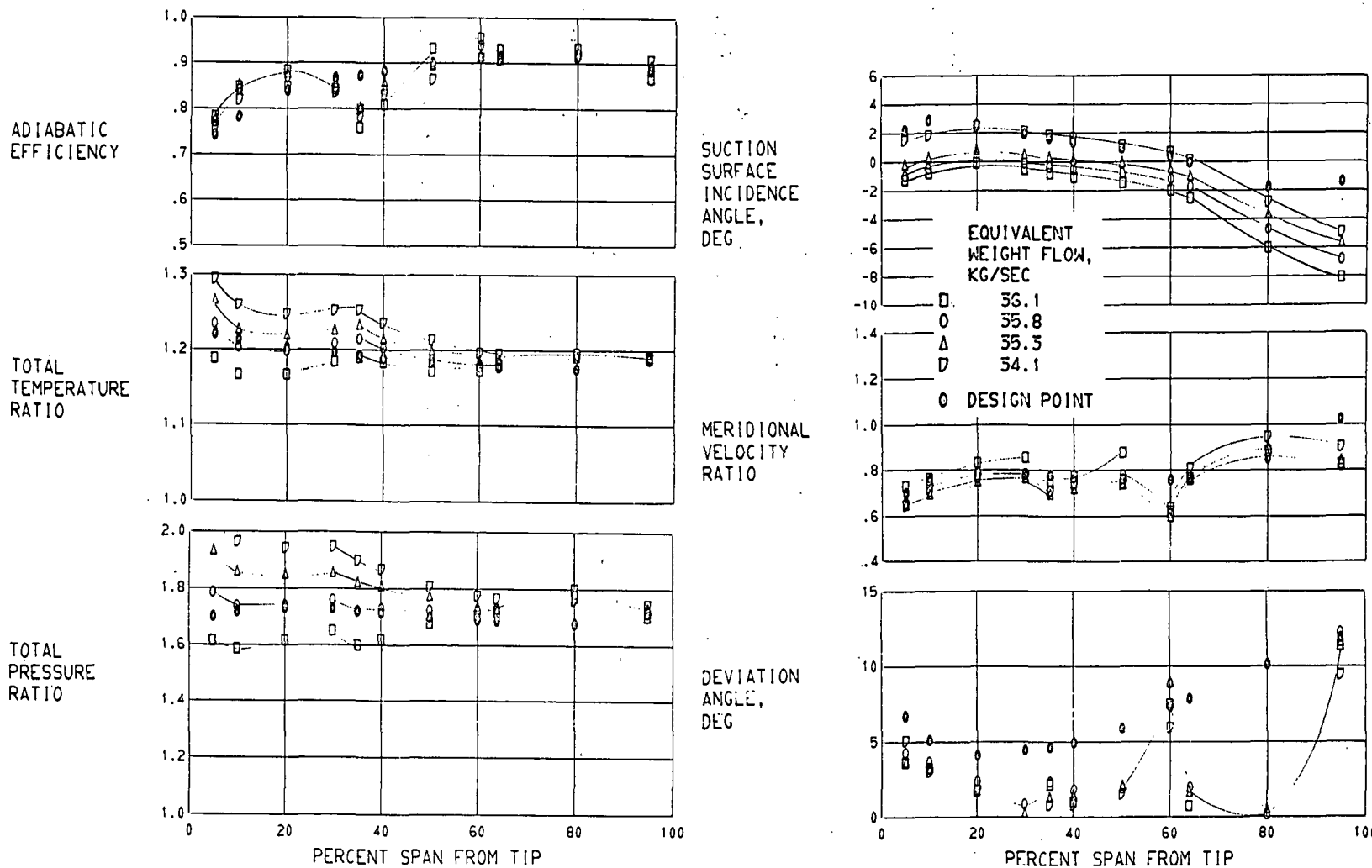


Figure 12. - Radial distribution of performance for inlet guide vane 65. 100 Percent design speed.


ADIABATIC EFFICIENCY
TOTAL TEMPERATURE RATIO
TOTAL PRESSURE RATIO
SUCTION SURFACE INCIDENCE ANGLE, DEG
MERIDIONAL VELOCITY RATIO
DEVIATION ANGLE, DEG
EQUIVALENT WEIGHT FLOW, KG/SEC
□ 56.1
○ 55.8
△ 55.3
▽ 54.1
0 DESIGN POINT
PERCENT SPAN FROM TIP
PERCENT SPAN FROM TIP

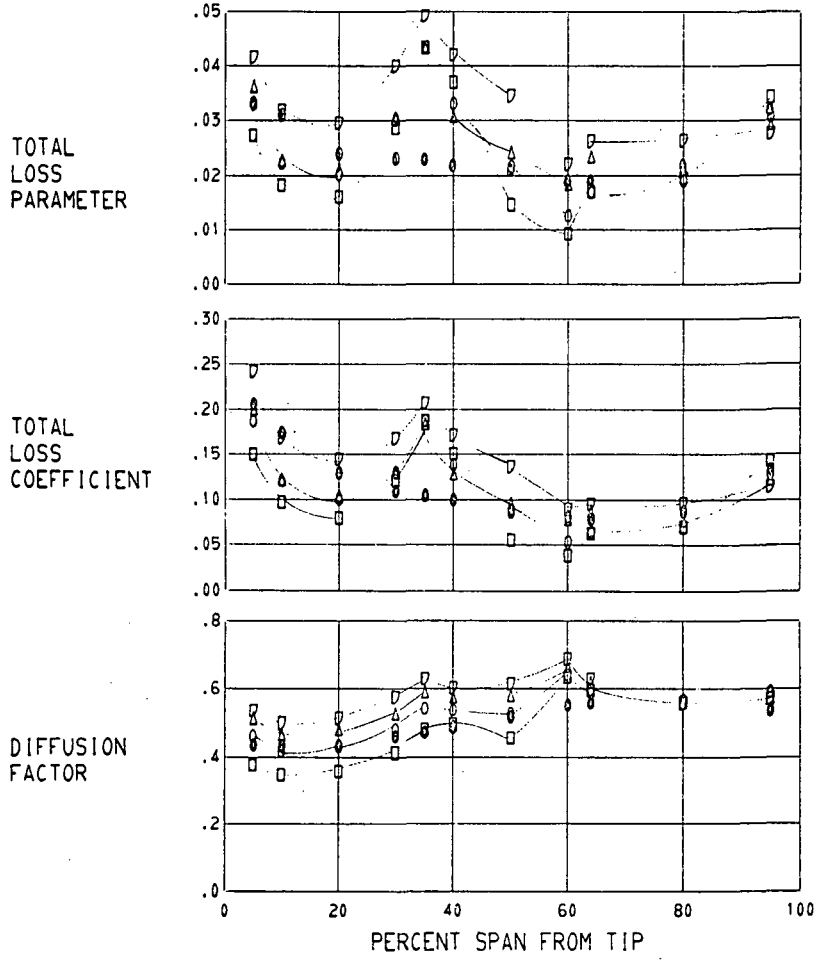


FIGURE 13. - RADIAL DISTRIBUTION OF PERFORMANCE FOR ROTOR 65, 100 PERCENT DESIGN SPEED.

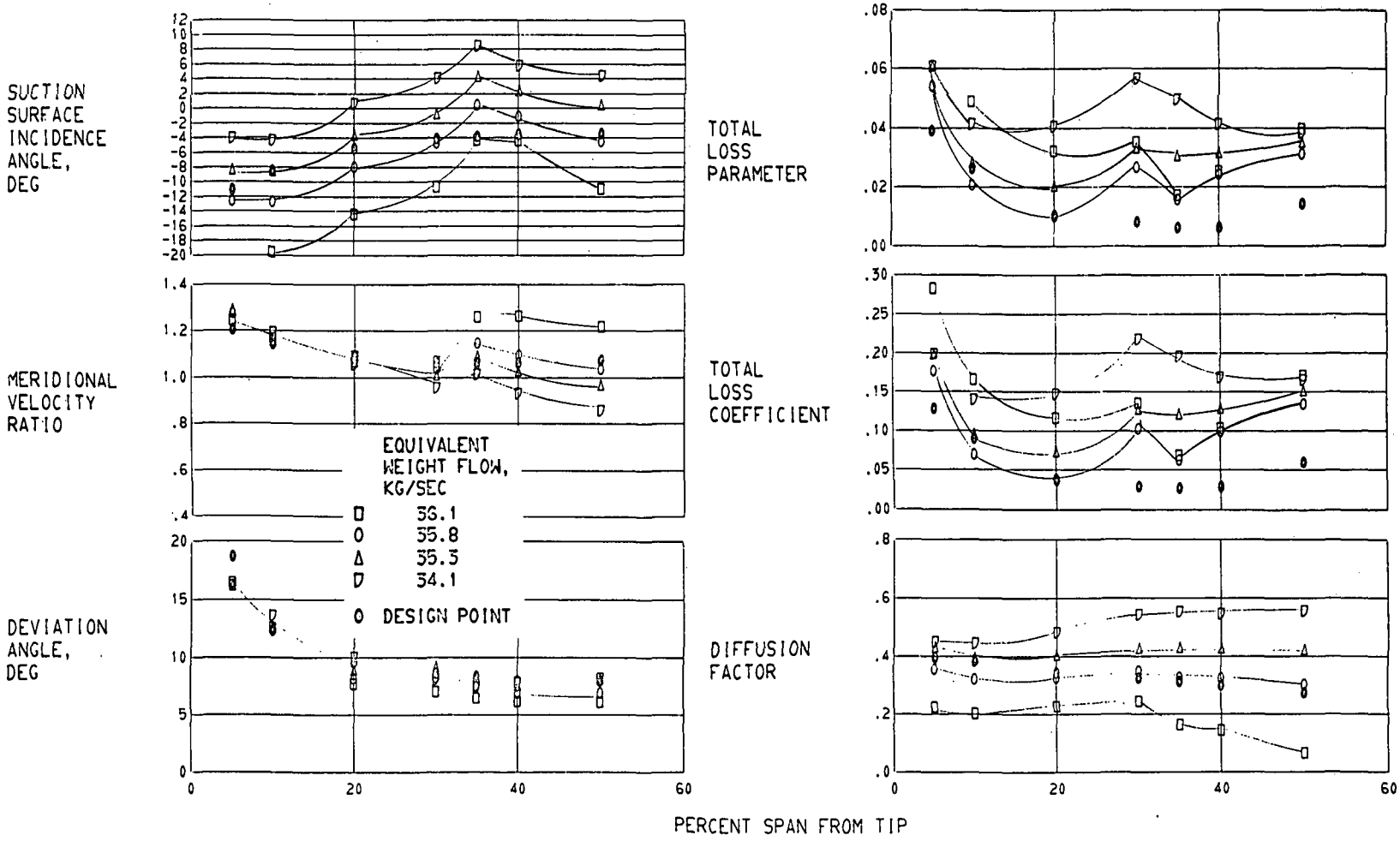


FIGURE 14. - RADIAL DISTRIBUTION OF PERFORMANCE FOR BYPASS STATOR 65. 100 PERCENT DESIGN SPEED.

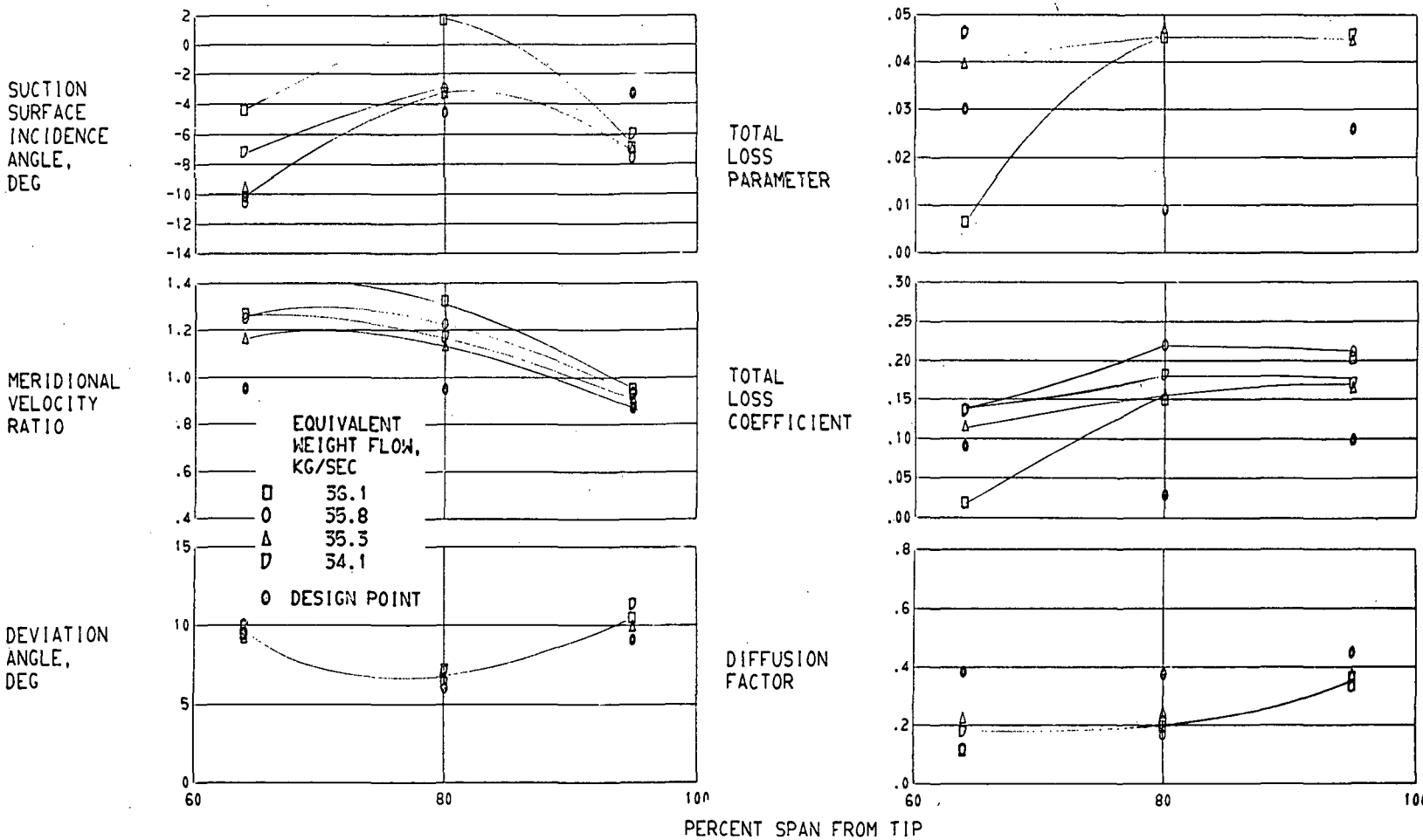
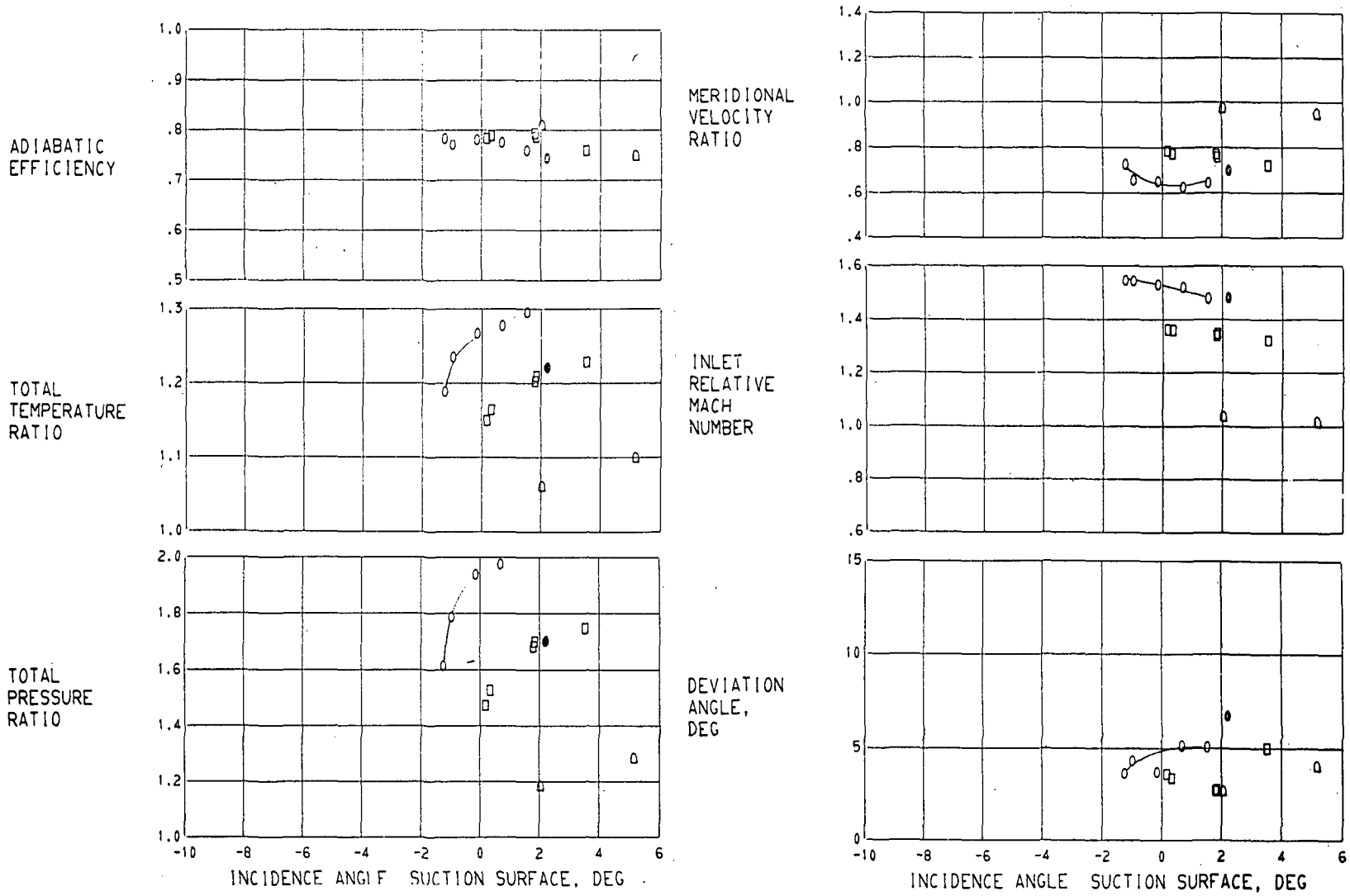
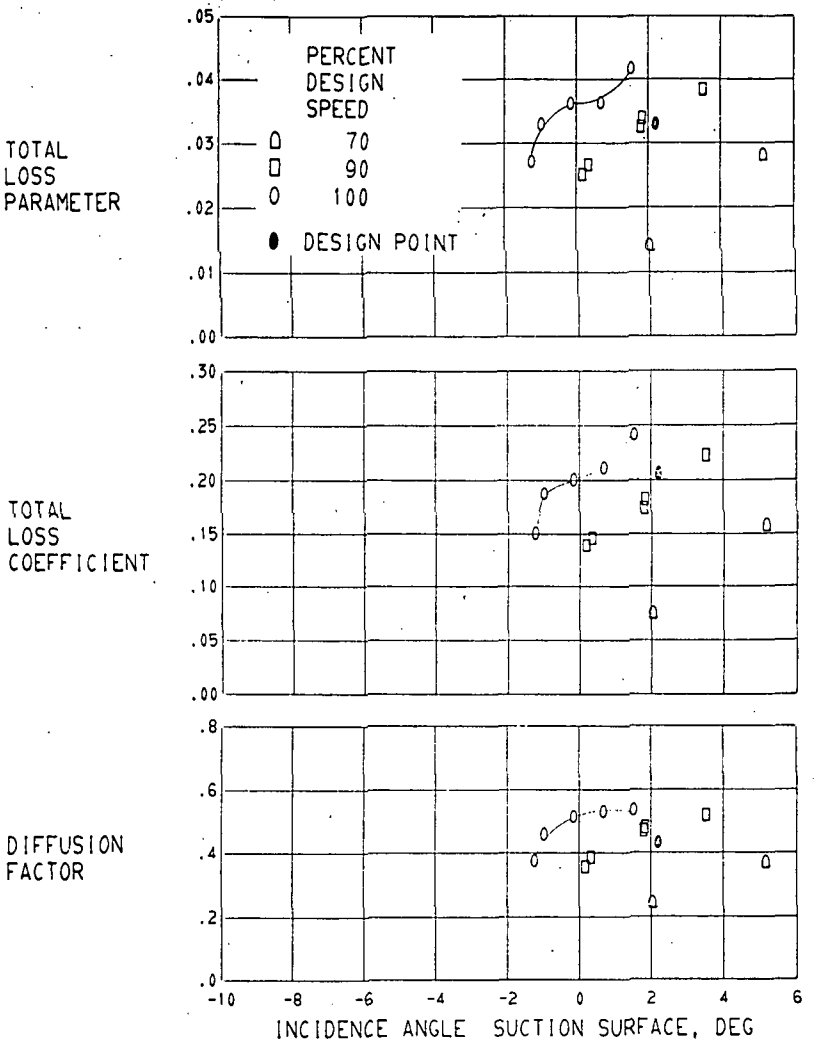


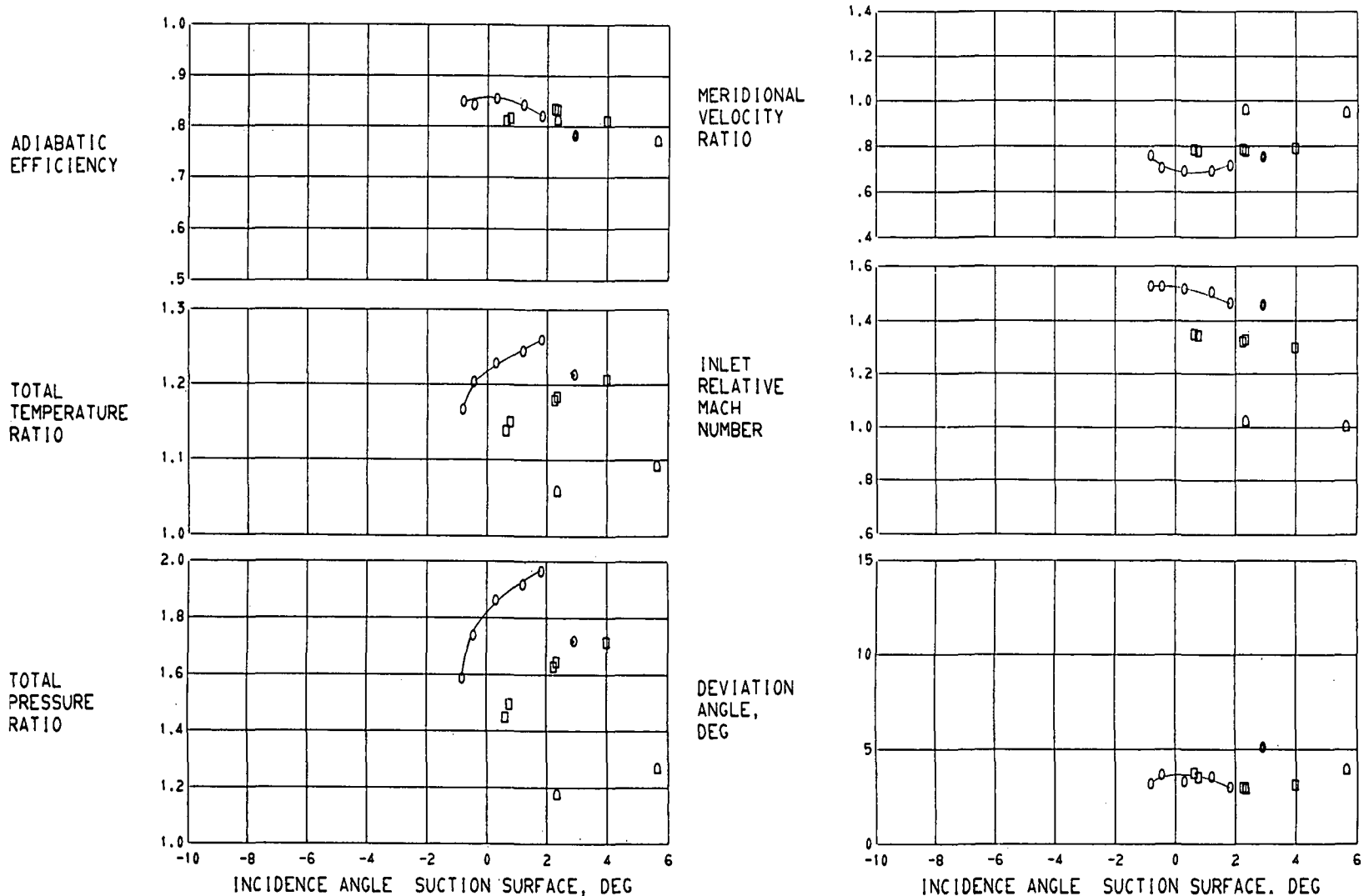
FIGURE 15. - RADIAL DISTRIBUTION OF PERFORMANCE FOR CORE STATOR 65. 100 PERCENT DESIGN SPEED.

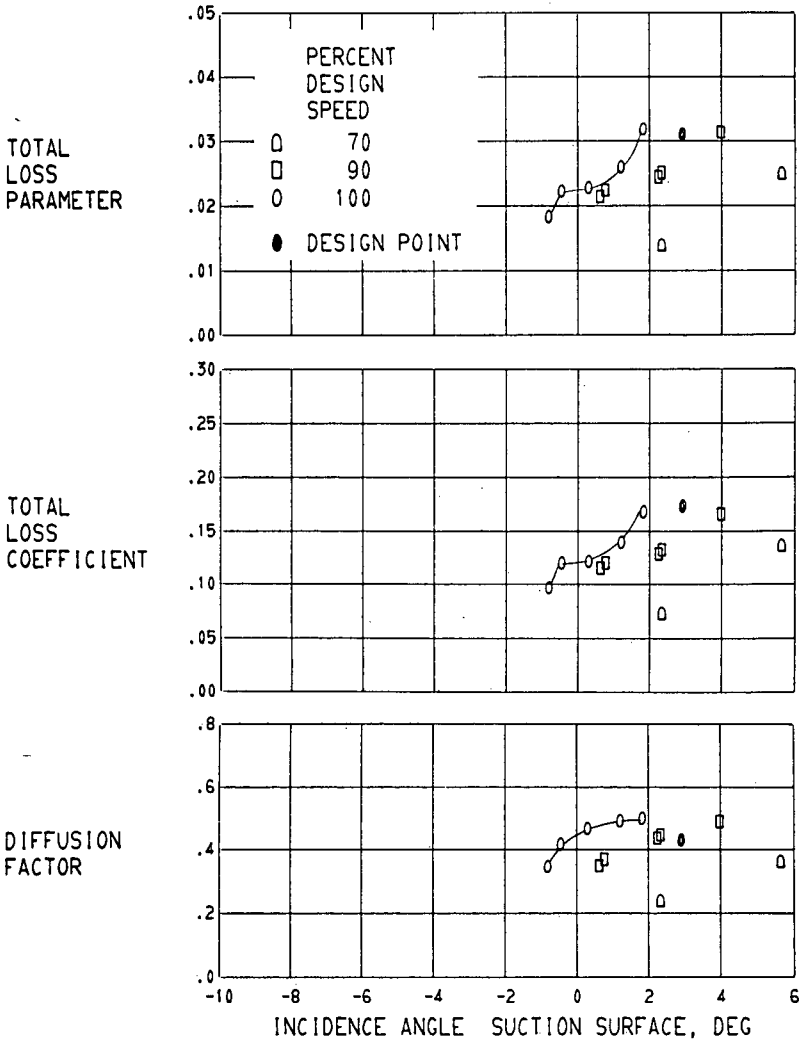

ADIABATIC EFFICIENCY
TOTAL TEMPERATURE RATIO
TOTAL PRESSURE RATIO
MERIDIONAL VELOCITY RATIO
INLET RELATIVE MACH NUMBER
DEVIATION ANGLE, DEG
INCIDENCE ANGLE SUCTION SURFACE, DEG
INCIDENCE ANGLE SUCTION SURFACE, DEG



(A) 5.0 PERCENT SPAN.

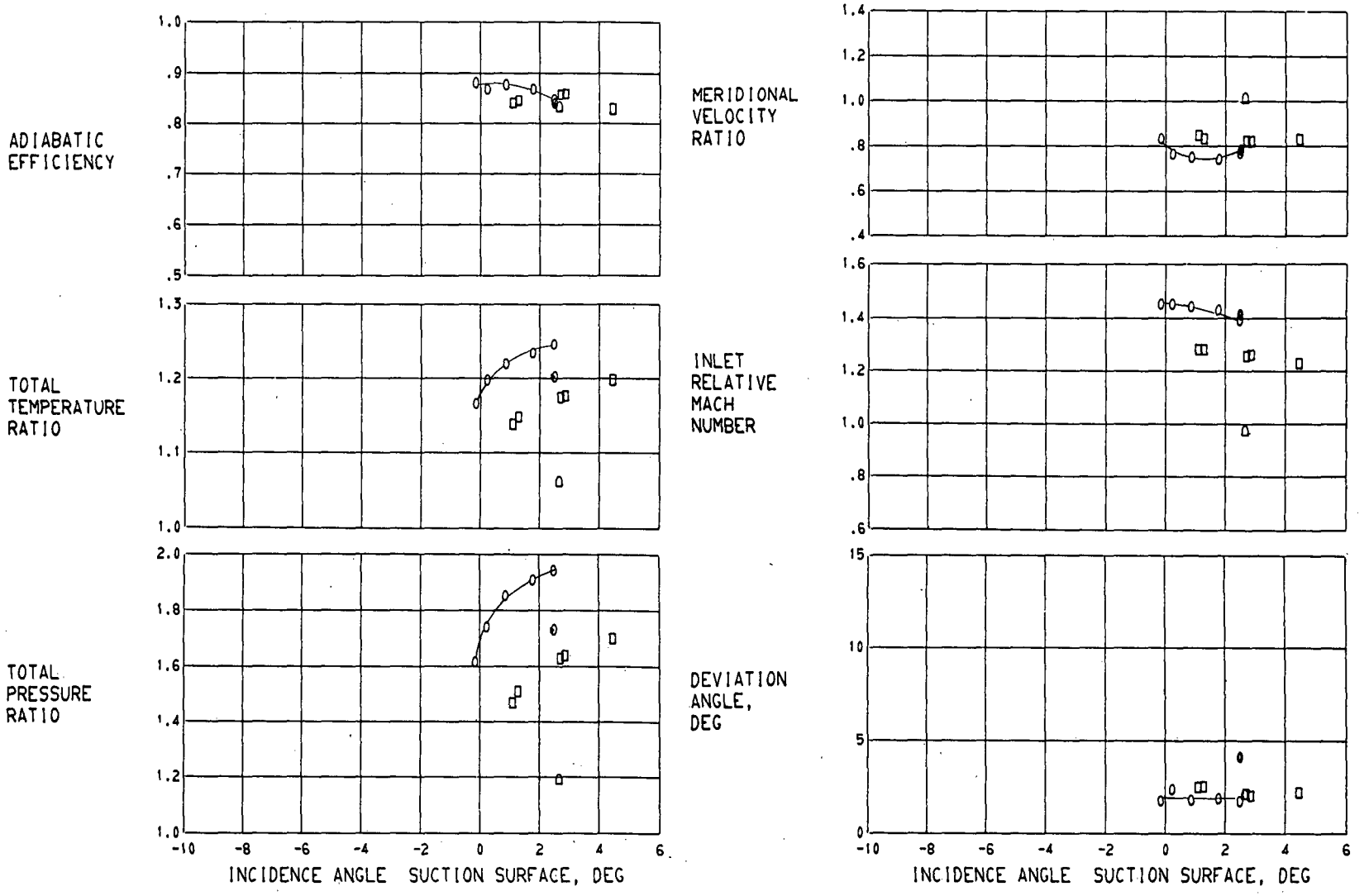
FIGURE 16. - BLADE-ELEMENT PERFORMANCE FOR ROTOR 65.

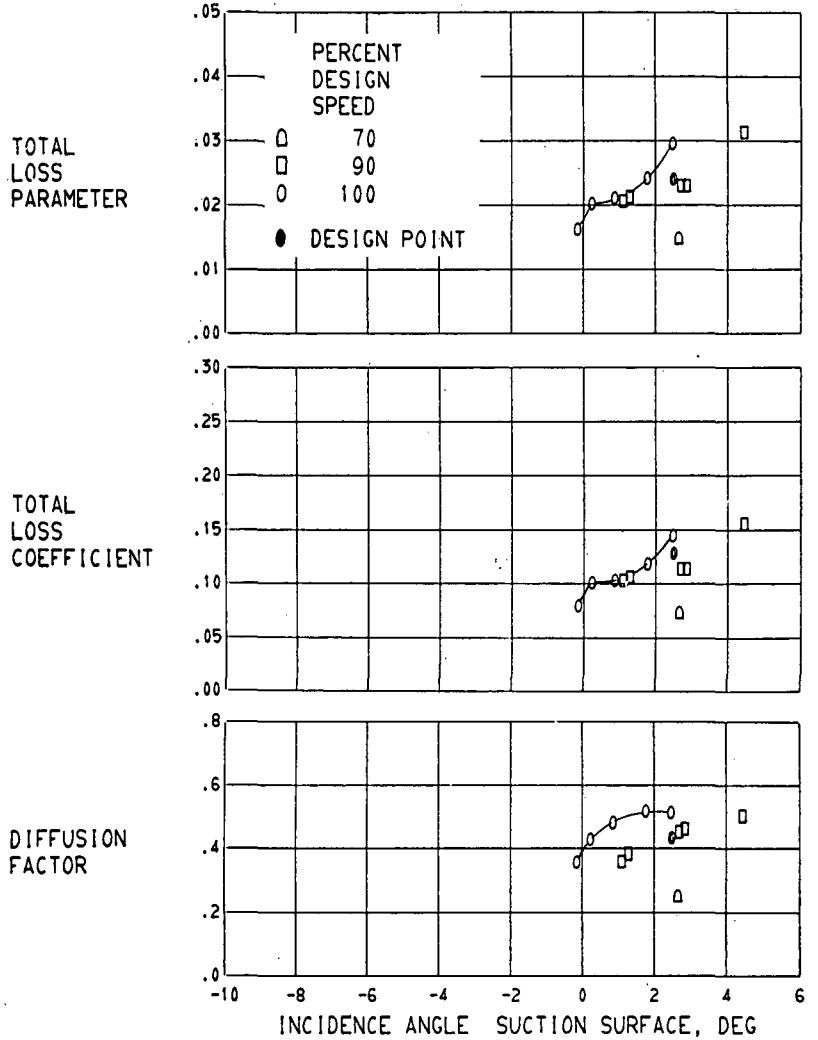

ADIABATIC EFFICIENCY
TOTAL TEMPERATURE RATIO
TOTAL PRESSURE RATIO
INCIDENCE ANGLE SUCTION SURFACE, DEG
MERIDIONAL VELOCITY RATIO
INLET RELATIVE MACH NUMBER
DEVIATION ANGLE, DEG
INCIDENCE ANGLE SUCTION SURFACE, DEG



(B) 10.0 PERCENT SPAN.

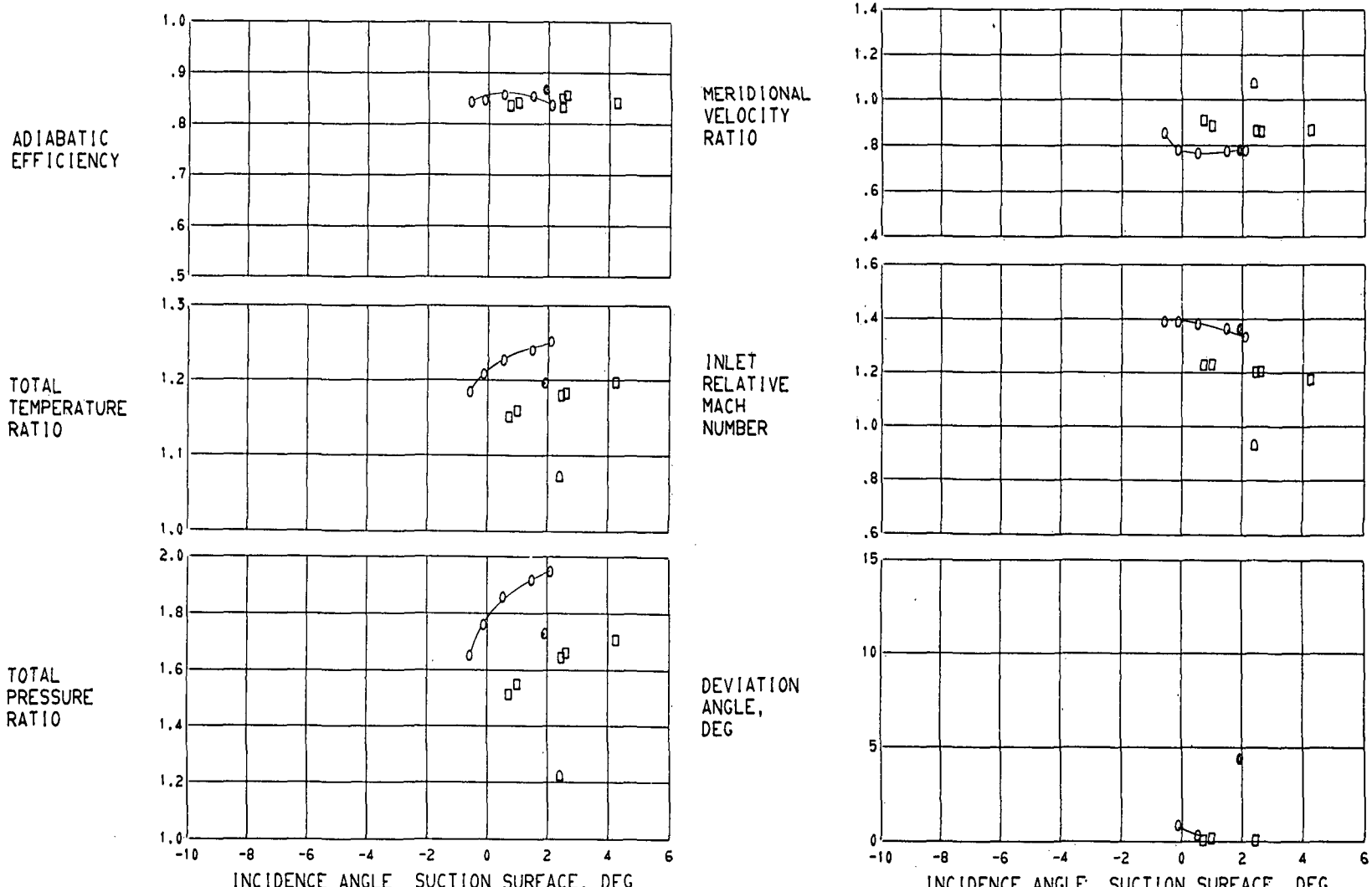
FIGURE 16. - CONTINUED. BLADE-ELEMENT PERFORMANCE FOR ROTOR 65.

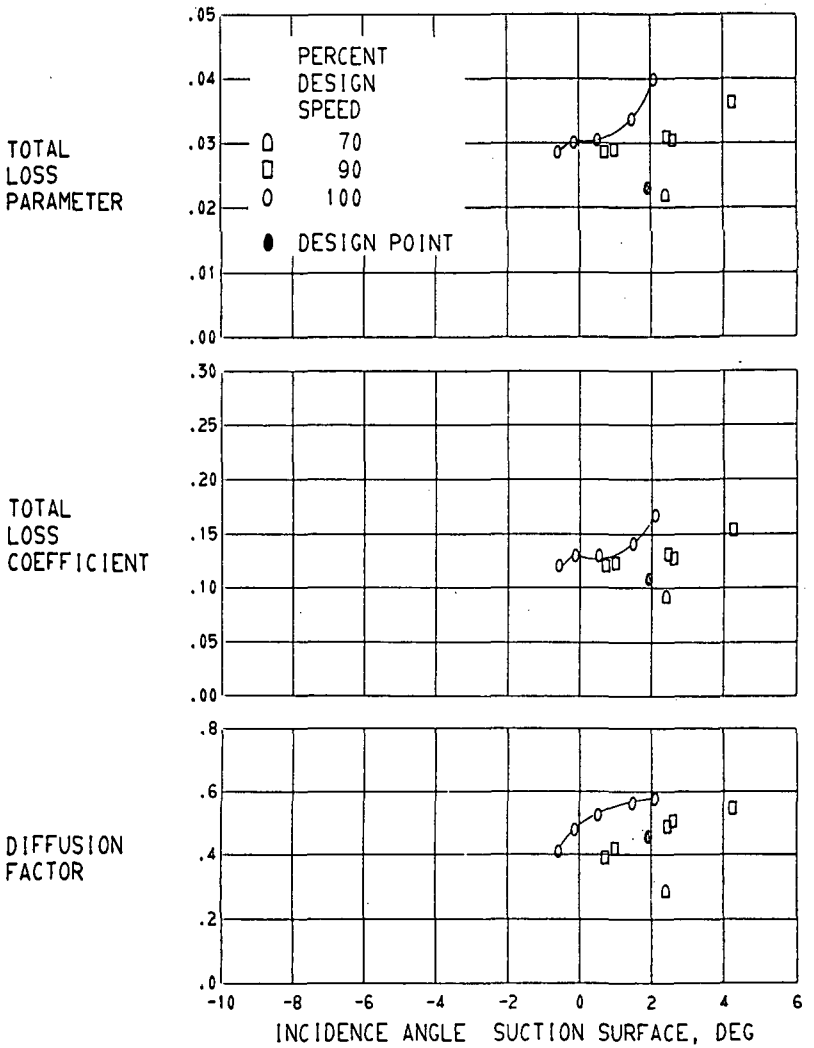

ADIABATIC EFFICIENCY
TOTAL TEMPERATURE RATIO
TOTAL PRESSURE RATIO
MERIDIONAL VELOCITY RATIO
INLET RELATIVE MACH NUMBER
DEVIATION ANGLE, DEG
INCIDENCE ANGLE SUCTION SURFACE, DEG
INCIDENCE ANGLE SUCTION SURFACE, DEG



(C) 20.0 PERCENT SPAN.

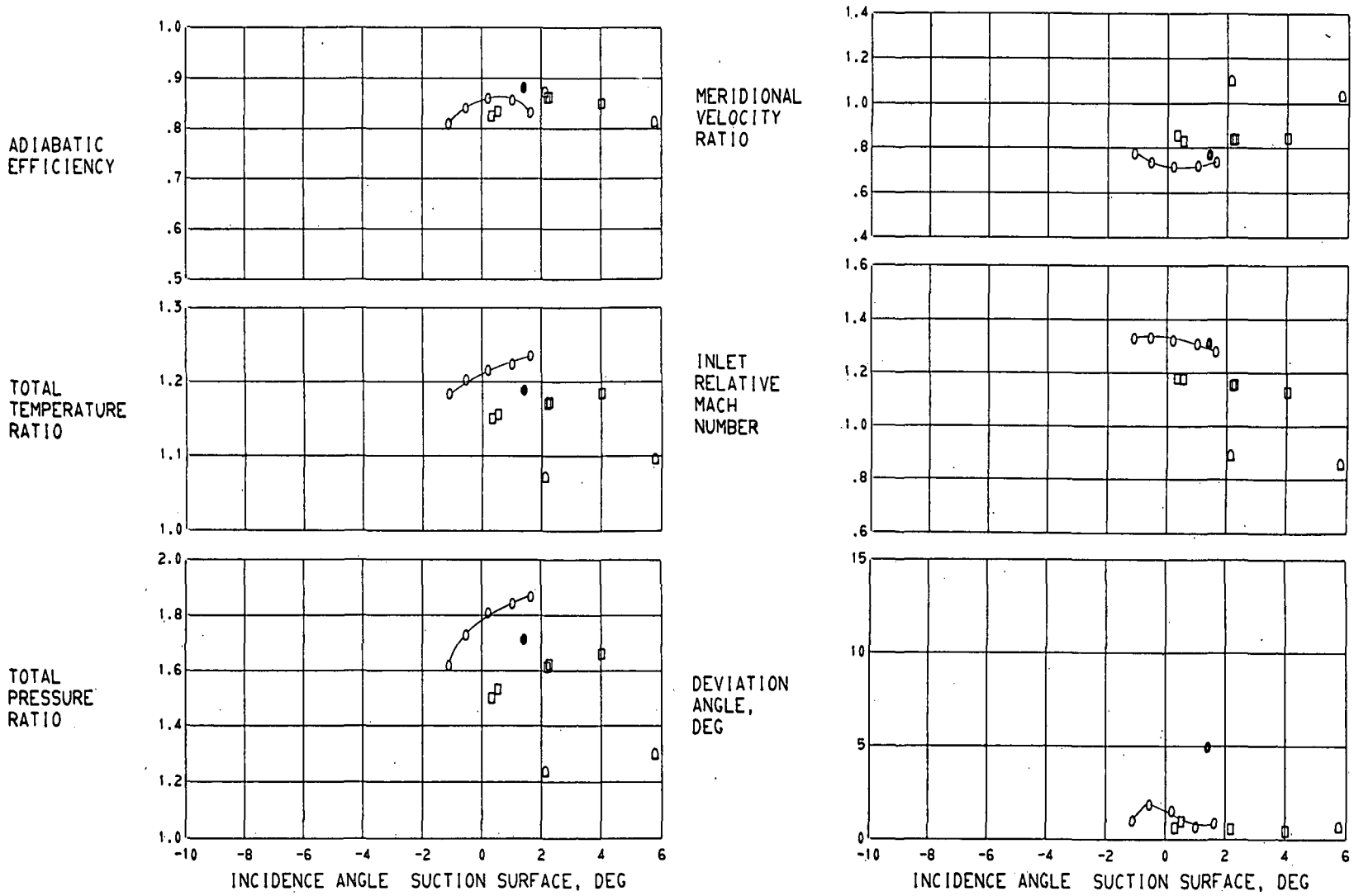
FIGURE 16. - CONTINUED. BLADE-ELEMENT PERFORMANCE FOR ROTOR 65.

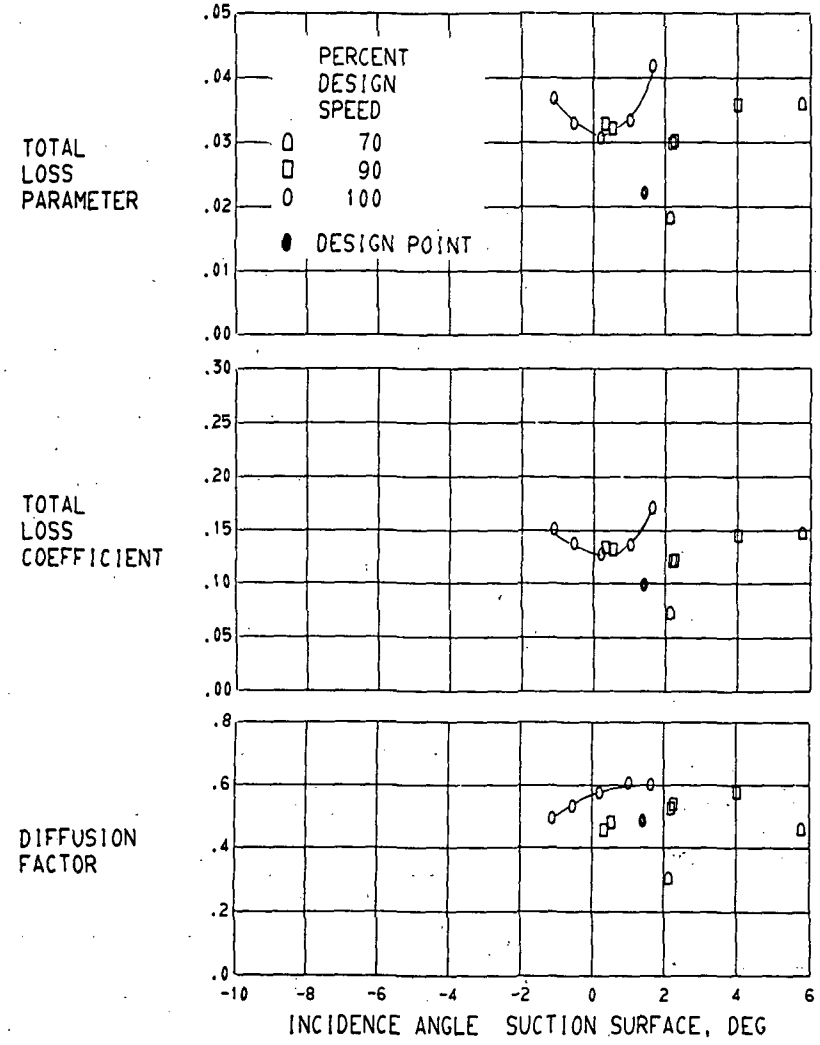

ADIABATIC EFFICIENCY
TOTAL TEMPERATURE RATIO
TOTAL PRESSURE RATIO
INCIDENCE ANGLE SUCTION SURFACE, DEG
MERIDIONAL VELOCITY RATIO
INLET RELATIVE MACH NUMBER
DEVIATION ANGLE, DEG
INCIDENCE ANGLE SUCTION SURFACE, DEG



(D) 30.0 PERCENT SPAN.

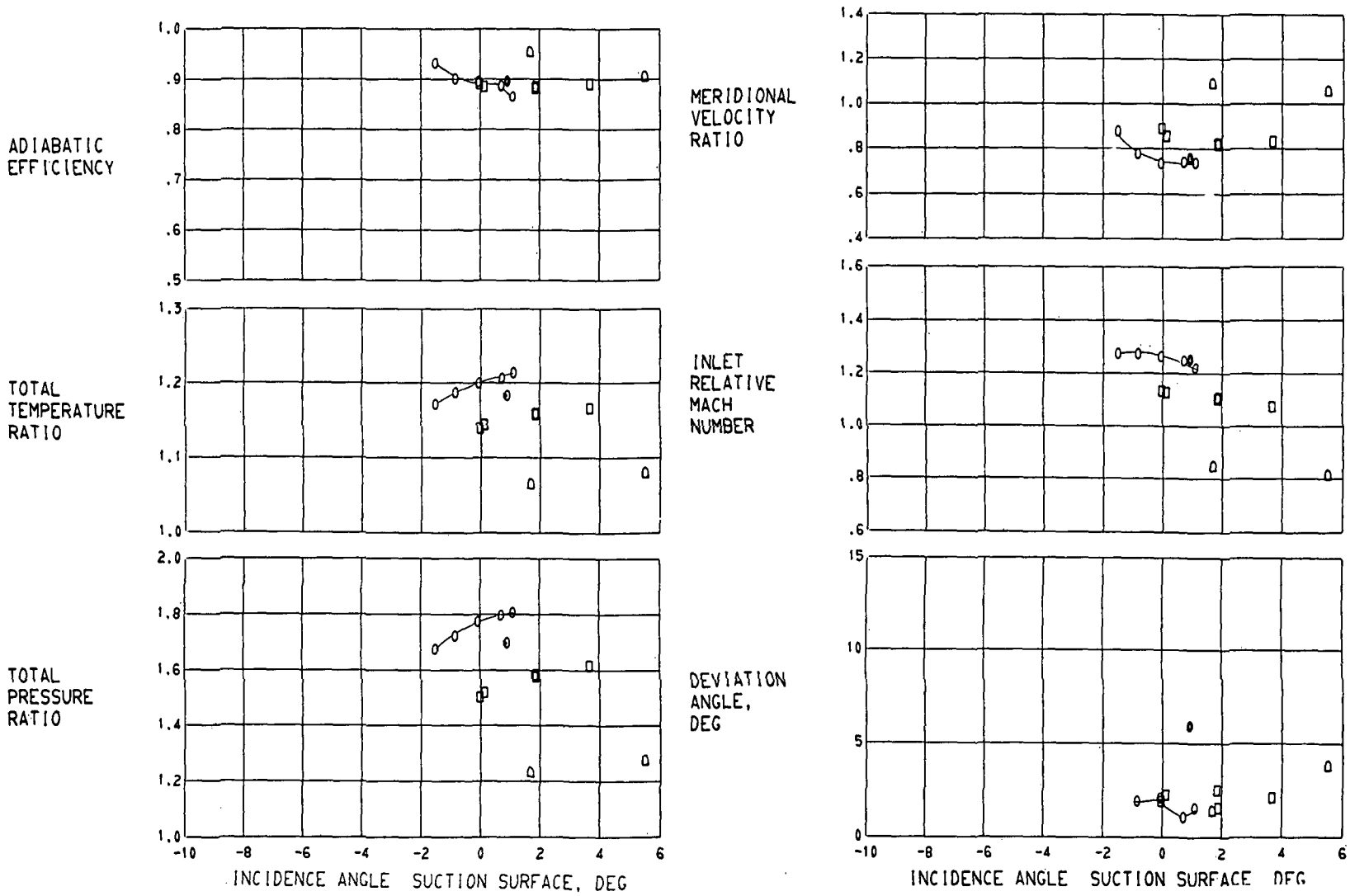
FIGURE 16. - CONTINUED. BLADE-ELEMENT PERFORMANCE FOR ROTOR 65.

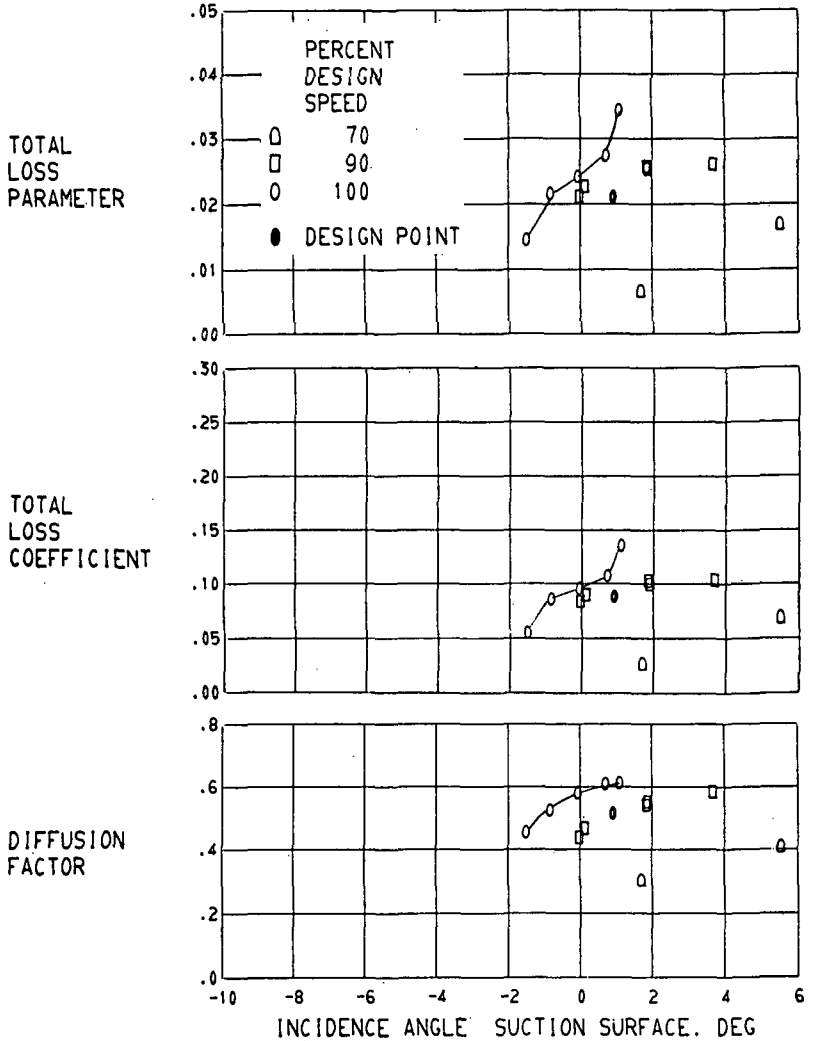

ADIABATIC EFFICIENCY
TOTAL TEMPERATURE RATIO
TOTAL PRESSURE RATIO
MERIDIONAL VELOCITY RATIO
INLET RELATIVE MACH NUMBER
DEVIATION ANGLE, DEG
INCIDENCE ANGLE SUCTION SURFACE, DEG
INCIDENCE ANGLE SUCTION SURFACE, DEG



(E) 40.0 PERCENT SPAN.

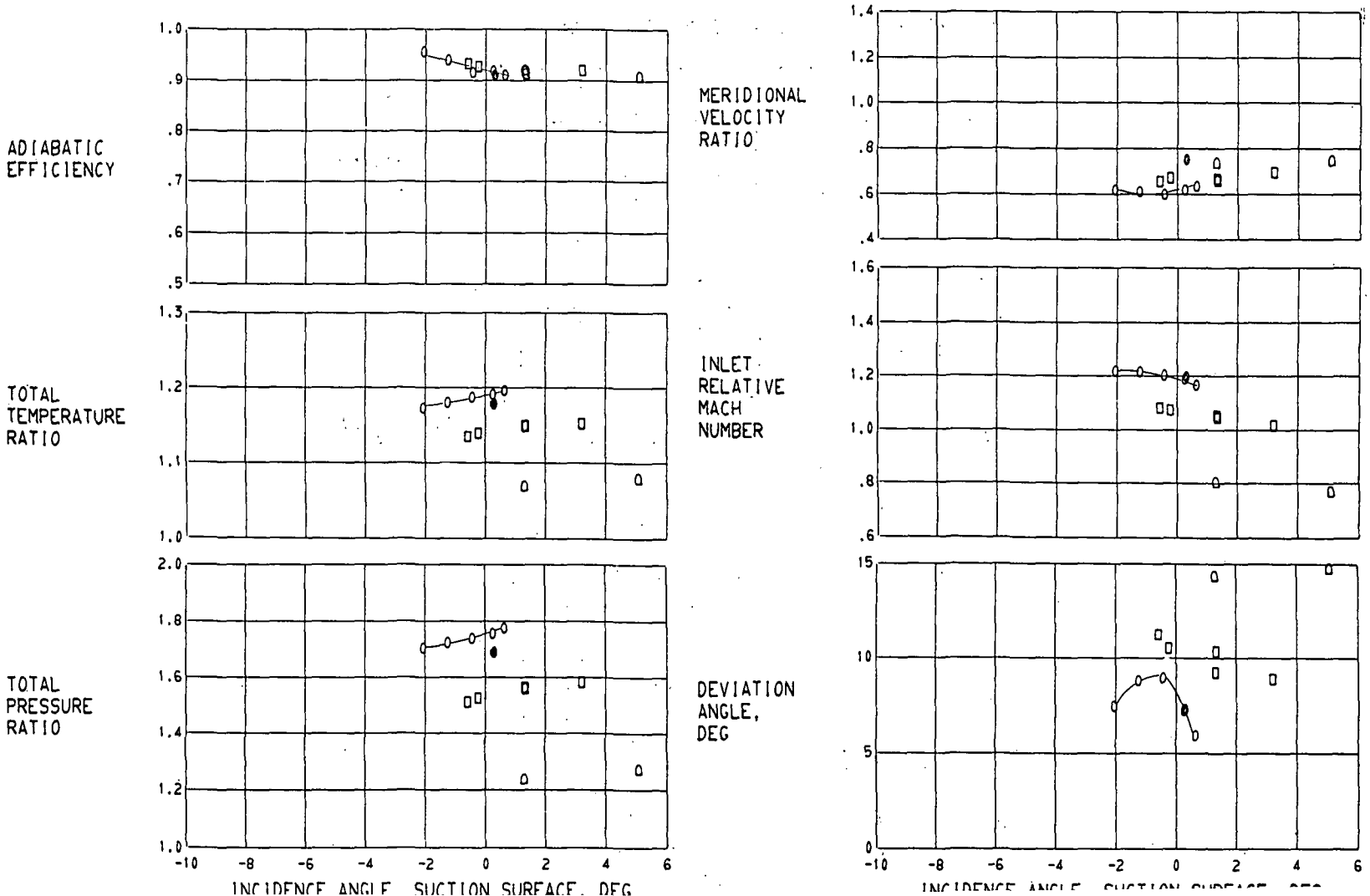
FIGURE 16. - CONTINUED. BLADE-ELEMENT PERFORMANCE FOR ROTOR 65.

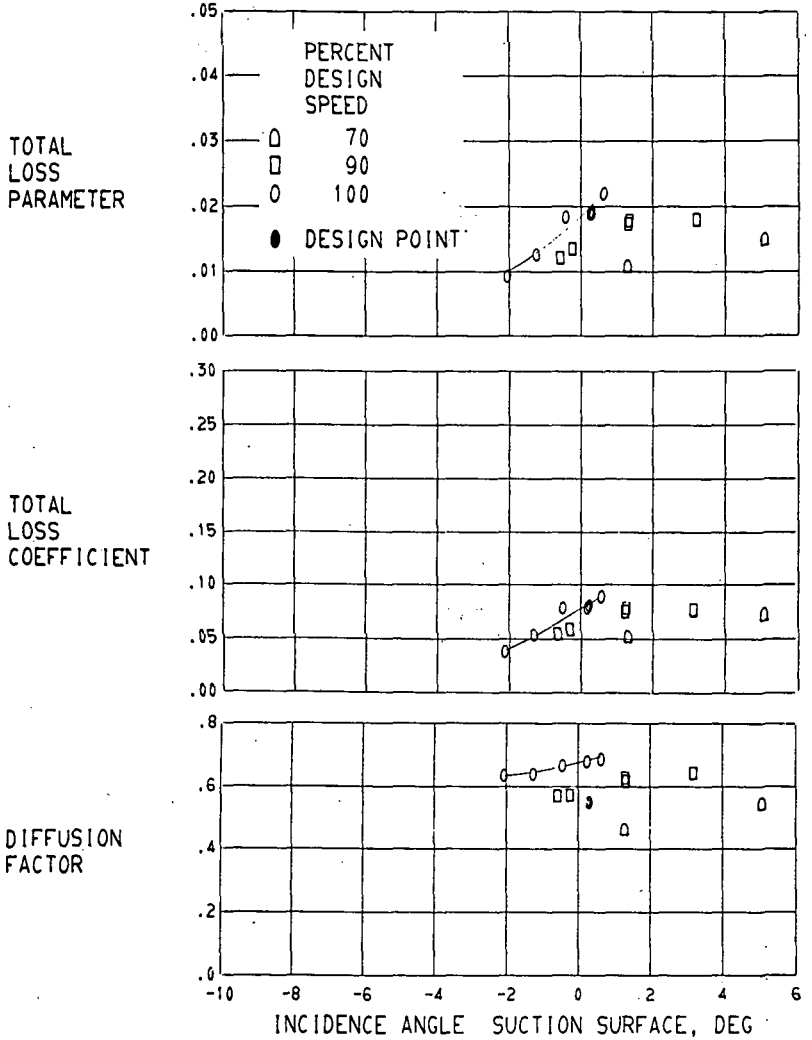

ADIABATIC EFFICIENCY
TOTAL TEMPERATURE RATIO
TOTAL PRESSURE RATIO
MERIDIONAL VELOCITY RATIO
INLET RELATIVE MACH NUMBER
DEVIATION ANGLE, DEG
INCIDENCE ANGLE SUCTION SURFACE, DEG
INCIDENCE ANGLE SUCTION SURFACE DEG



(F) 50.0 PERCENT SPAN.

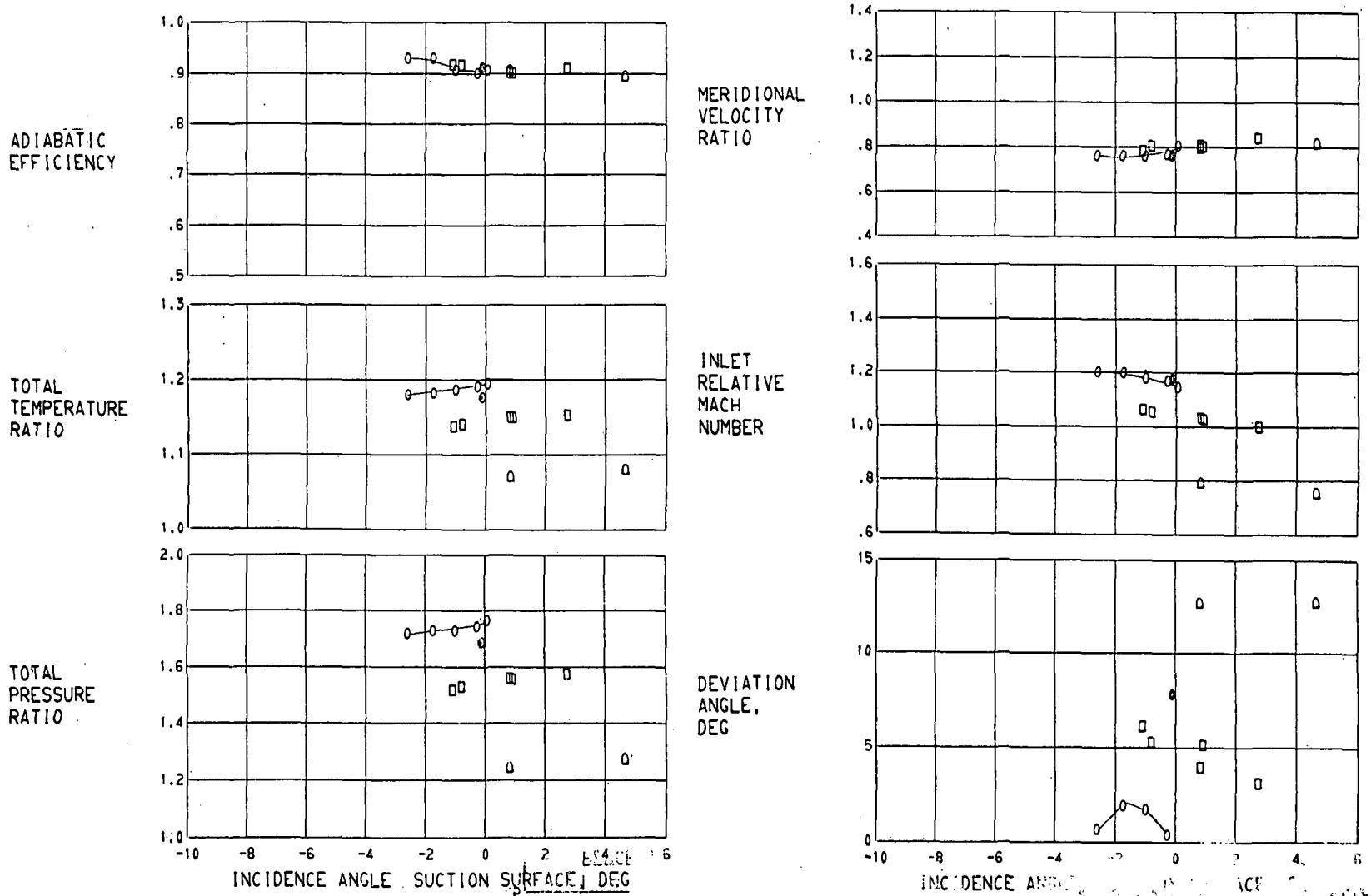
FIGURE 16. - CONTINUED. BLADE-ELEMENT PERFORMANCE FOR ROTOR 65.

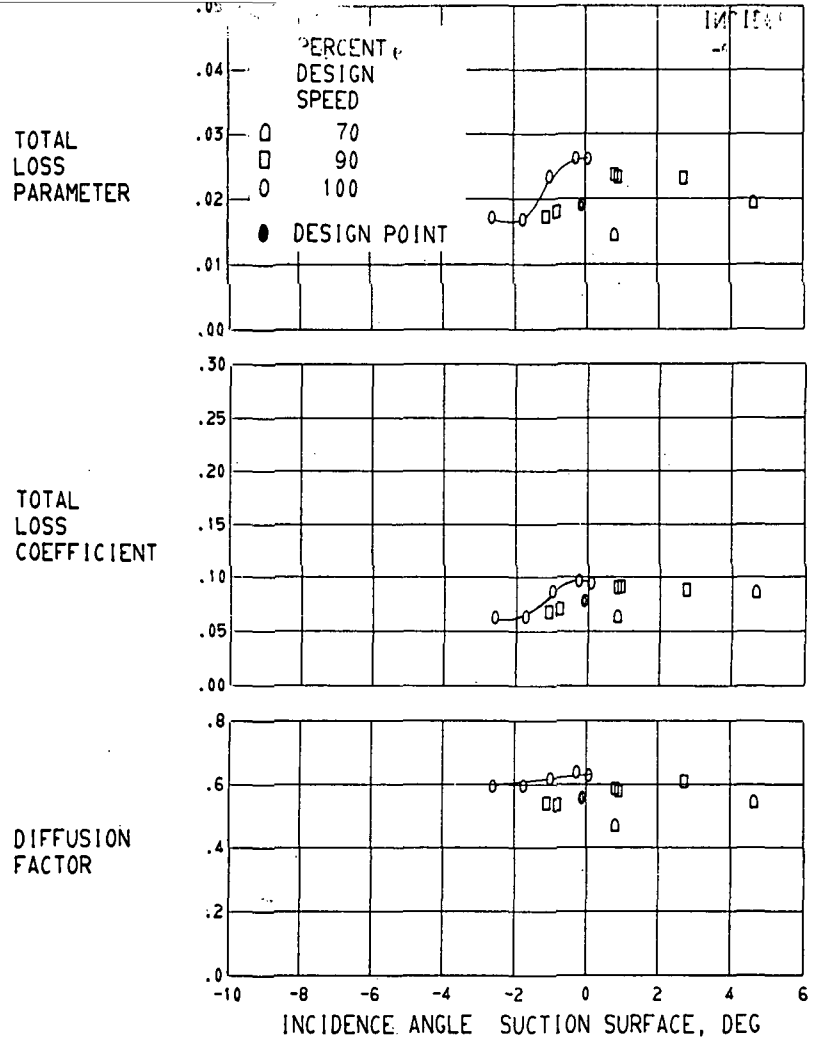

ADIABATIC EFFICIENCY
TOTAL TEMPERATURE RATIO
TOTAL PRESSURE RATIO
MERIDIONAL VELOCITY RATIO
INLET RELATIVE MACH NUMBER
DEVIATION ANGLE, DEG
INCIDENCE ANGLE, SUCTION SURFACE, DEG



(G) 60.0 PERCENT SPAN.

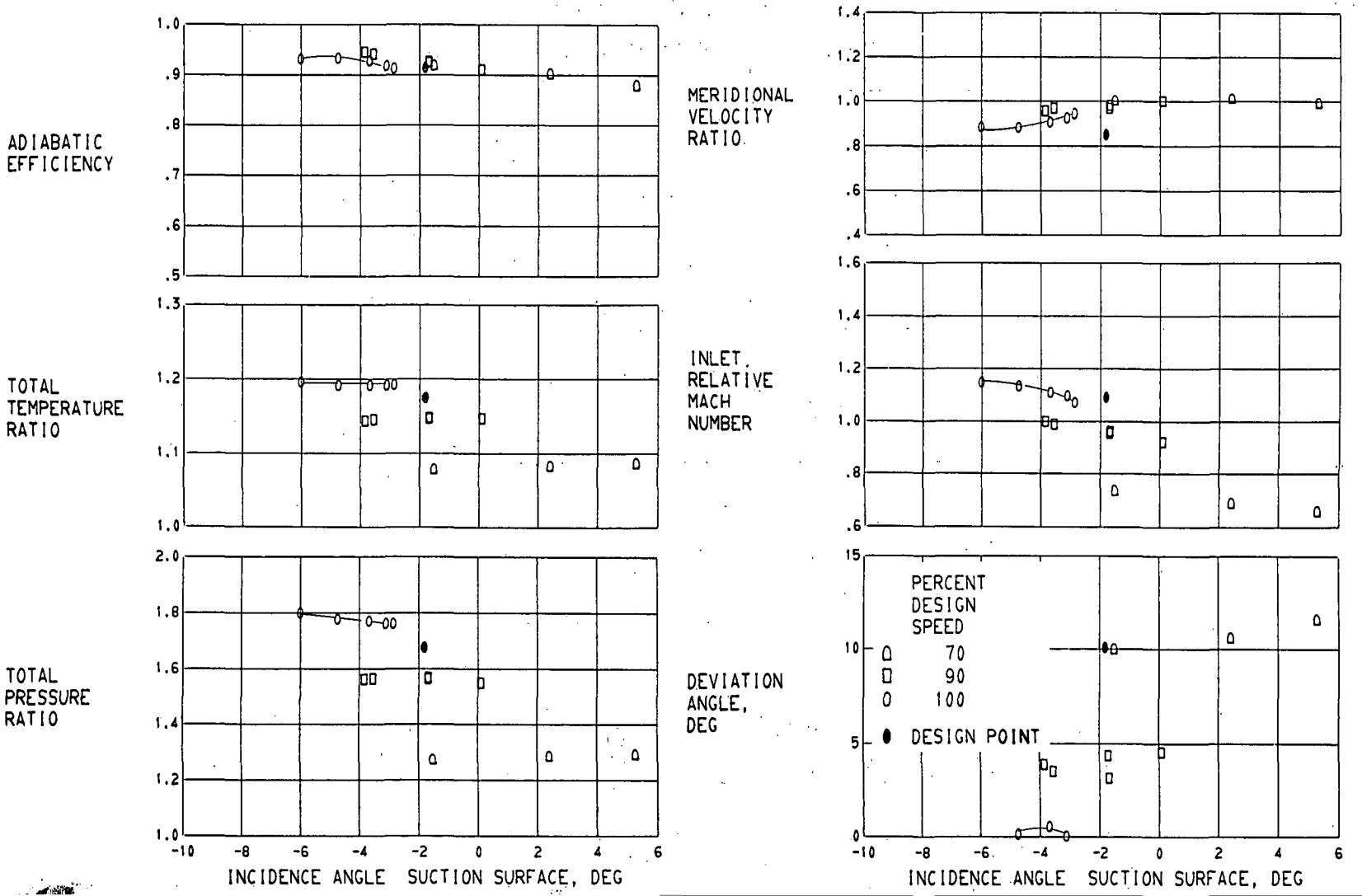
FIGURE 16. - CONTINUED. BLADE-ELEMENT PERFORMANCE FOR ROTOR 65.

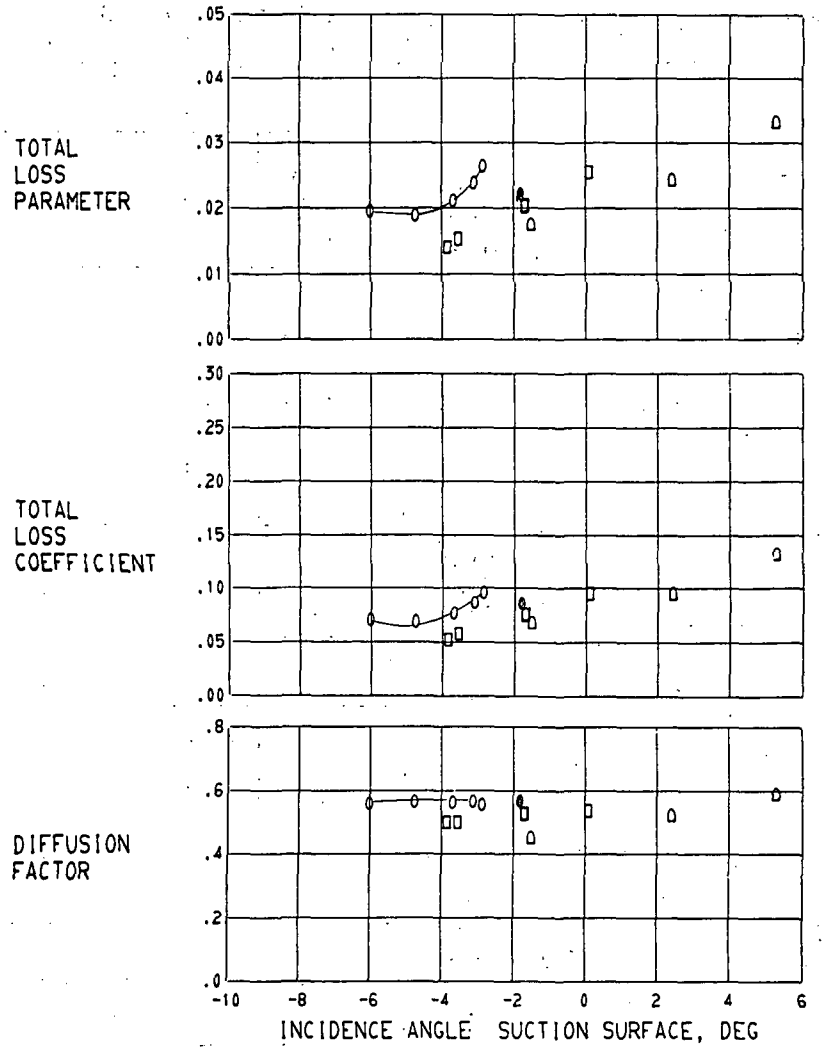

ADIABATIC EFFICIENCY
TOTAL TEMPERATURE RATIO
TOTAL PRESSURE RATIO
MERIDIONAL VELOCITY RATIO
INLET RELATIVE MACH NUMBER
DEVIATION ANGLE, DEG
INCIDENCE ANGLE, SUCTION SURFACE, DEG



(H) 64.0 PERCENT SPAN.

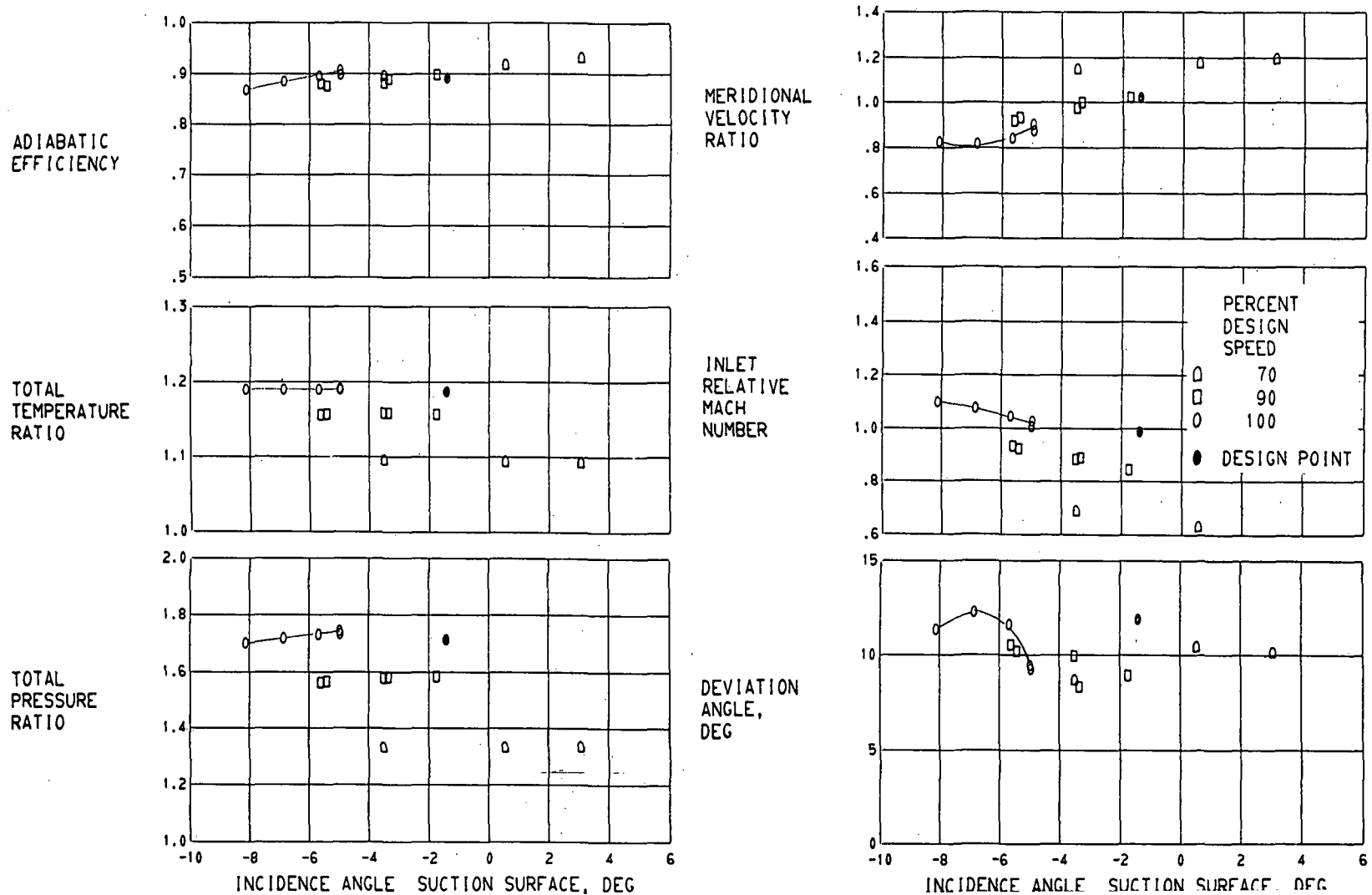
FIGURE 16. - CONTINUED. BLADE-ELEMENT PERFORMANCE FOR ROTOR 65.

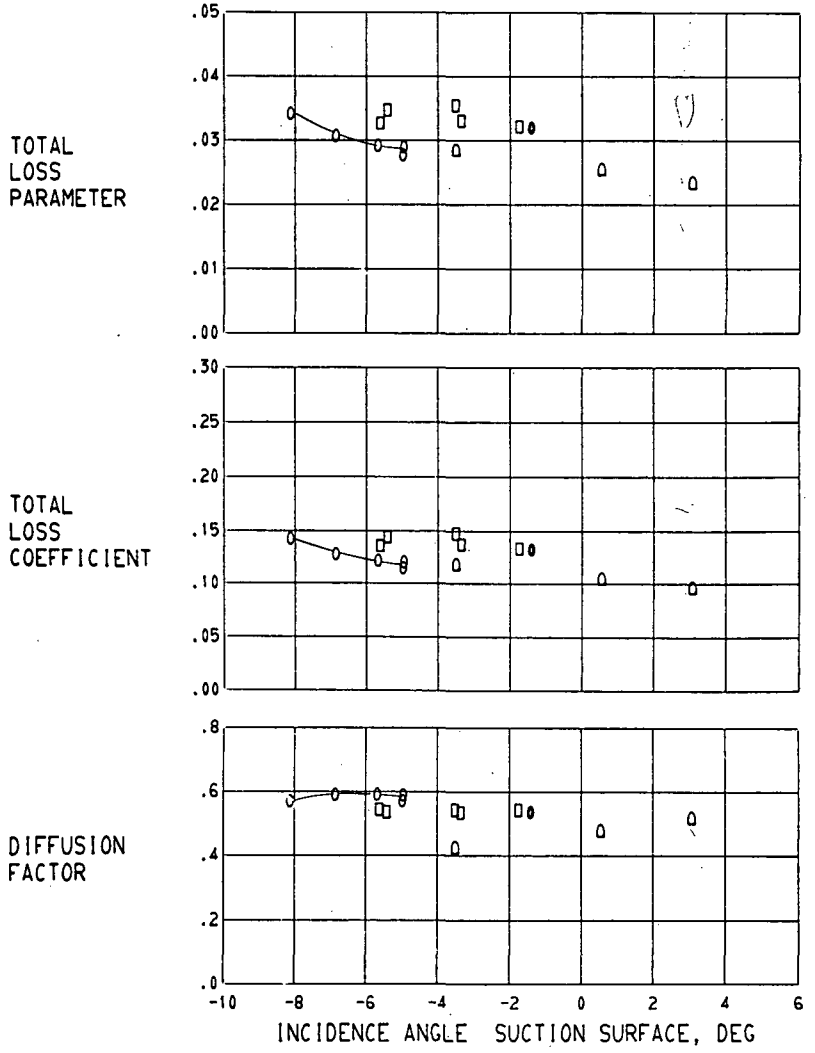

ADIABATIC EFFICIENCY
TOTAL TEMPERATURE RATIO
TOTAL PRESSURE RATIO
MERIDIONAL VELOCITY RATIO
INLET RELATIVE MACH NUMBER
DEVIATION ANGLE, DEG
PERCENT DESIGN SPEED
70
90
100
DESIGN POINT
INCIDENCE ANGLE SUCTION SURFACE, DEG
INCIDENCE ANGLE SUCTION SURFACE, DEG



(I) 80.0 PERCENT SPAN.

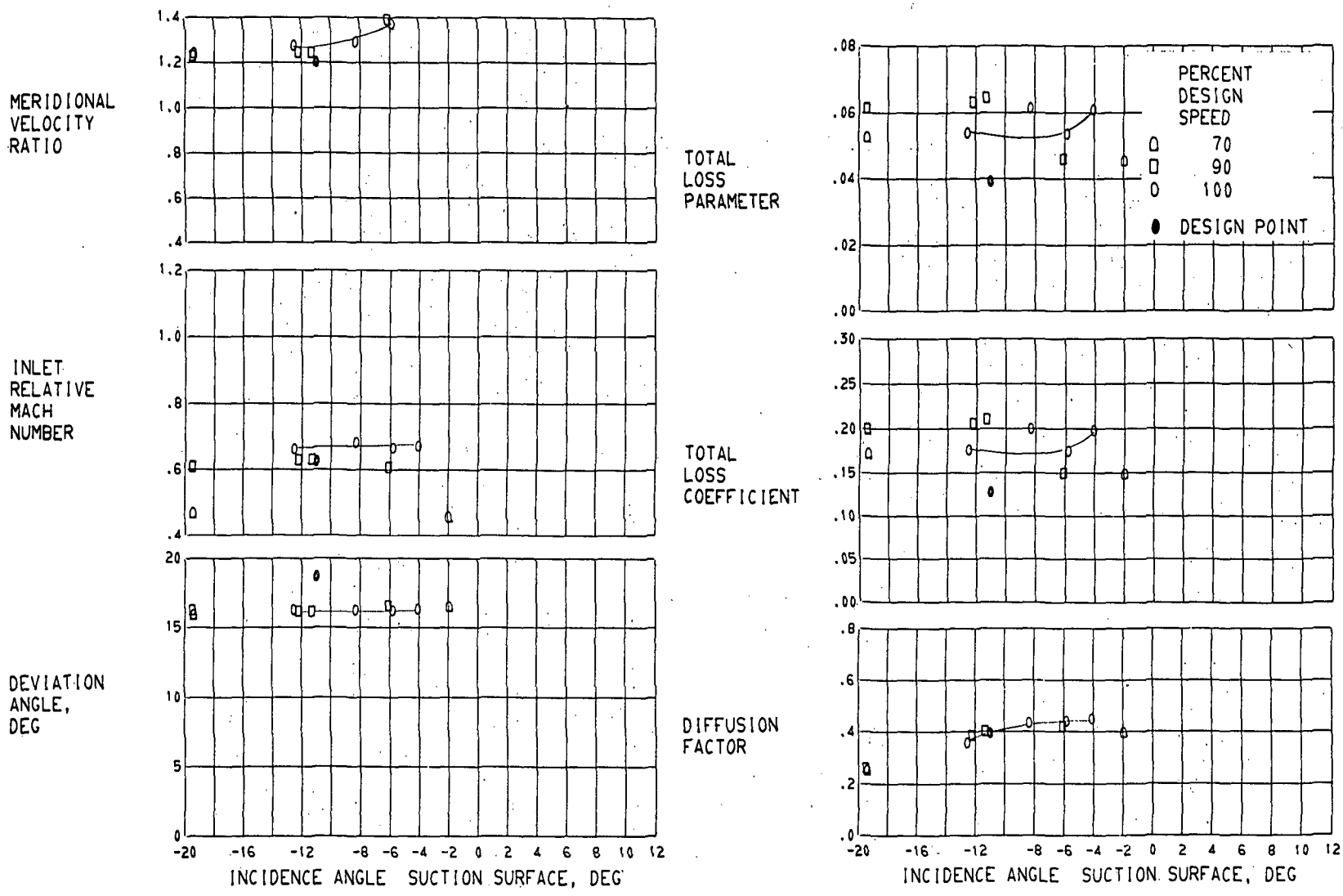
FIGURE 16. - CONTINUED. BLADE-ELEMENT PERFORMANCE FOR ROTOR 65.


ADIABATIC EFFICIENCY
TOTAL TEMPERATURE RATIO
TOTAL PRESSURE RATIO
MERIDIONAL VELOCITY RATIO
INLET RELATIVE MACH NUMBER
DEVIATION ANGLE, DEG
PERCENT DESIGN SPEED
70
90
100
DESIGN POINT
INCIDENCE ANGLE SUCTION SURFACE, DEG
INCIDENCE ANGLE SUCTION SURFACE, DEG



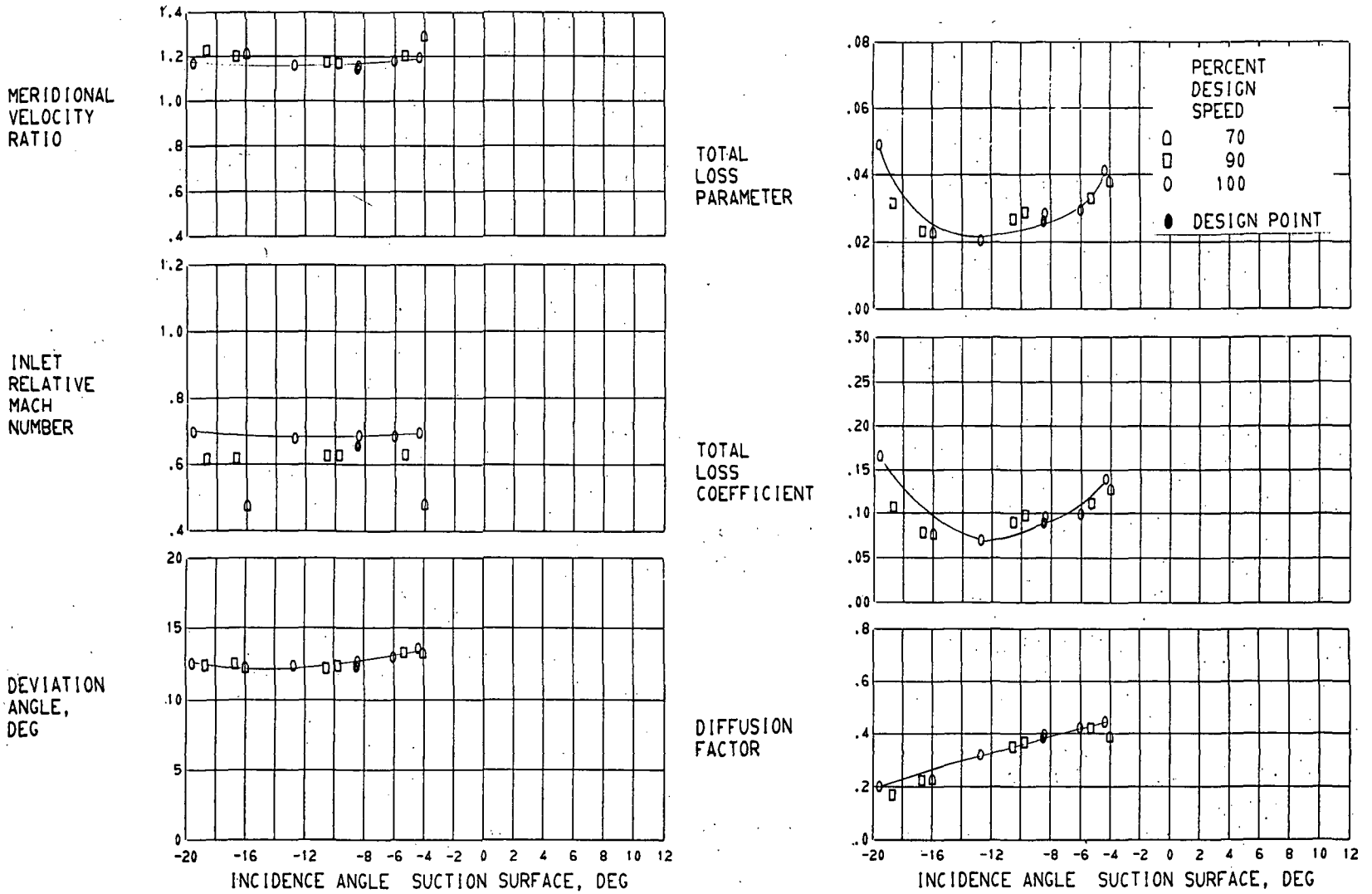
(J) 95.0 PERCENT SPAN.

FIGURE 16. - CONCLUDED. BLADE-ELEMENT PERFORMANCE FOR ROTOR 65.



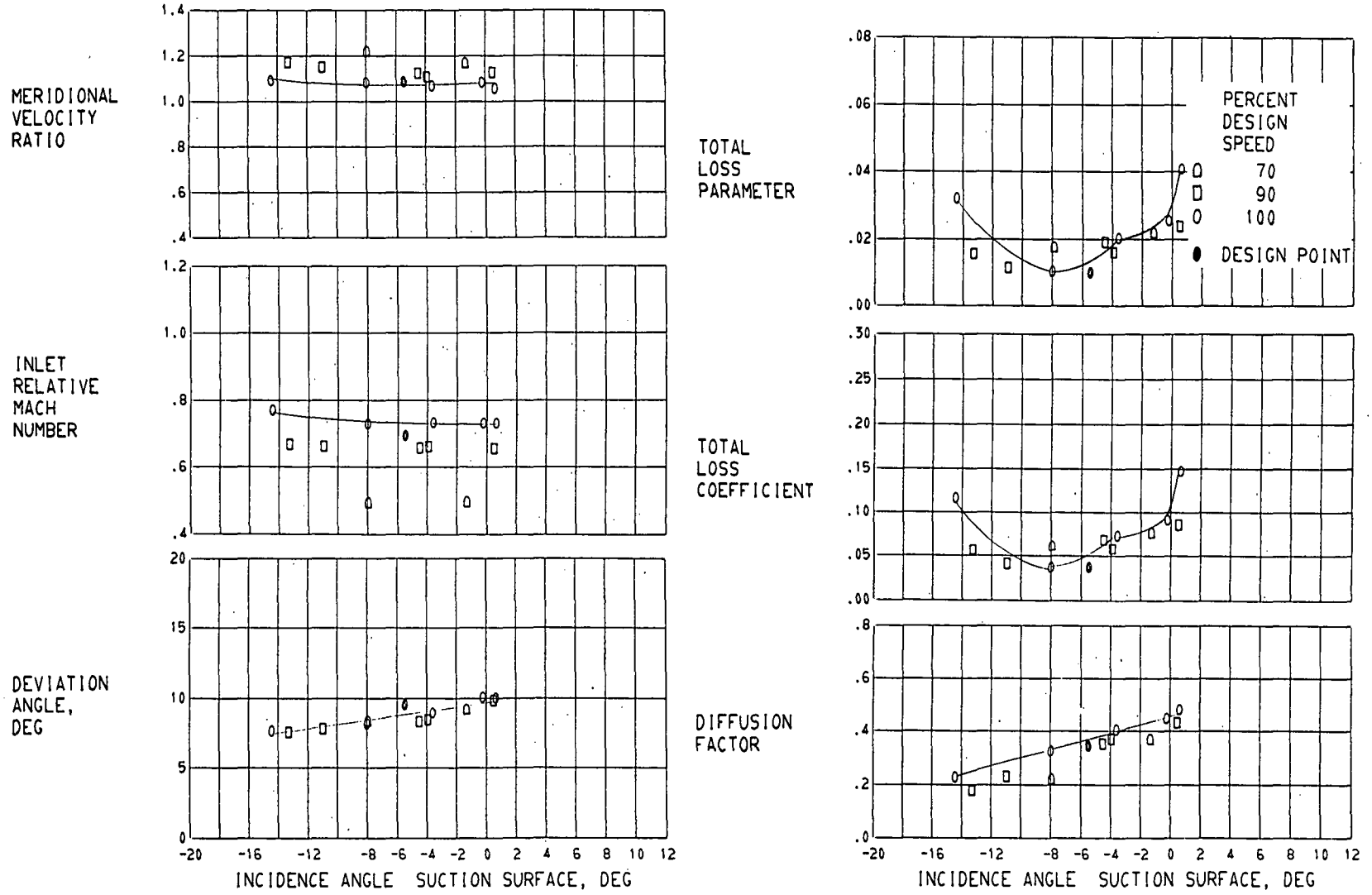
(A) 5.0 PERCENT SPAN.

FIGURE 17. - BLADE-ELEMENT PERFORMANCE FOR BYPASS STATOR 65.



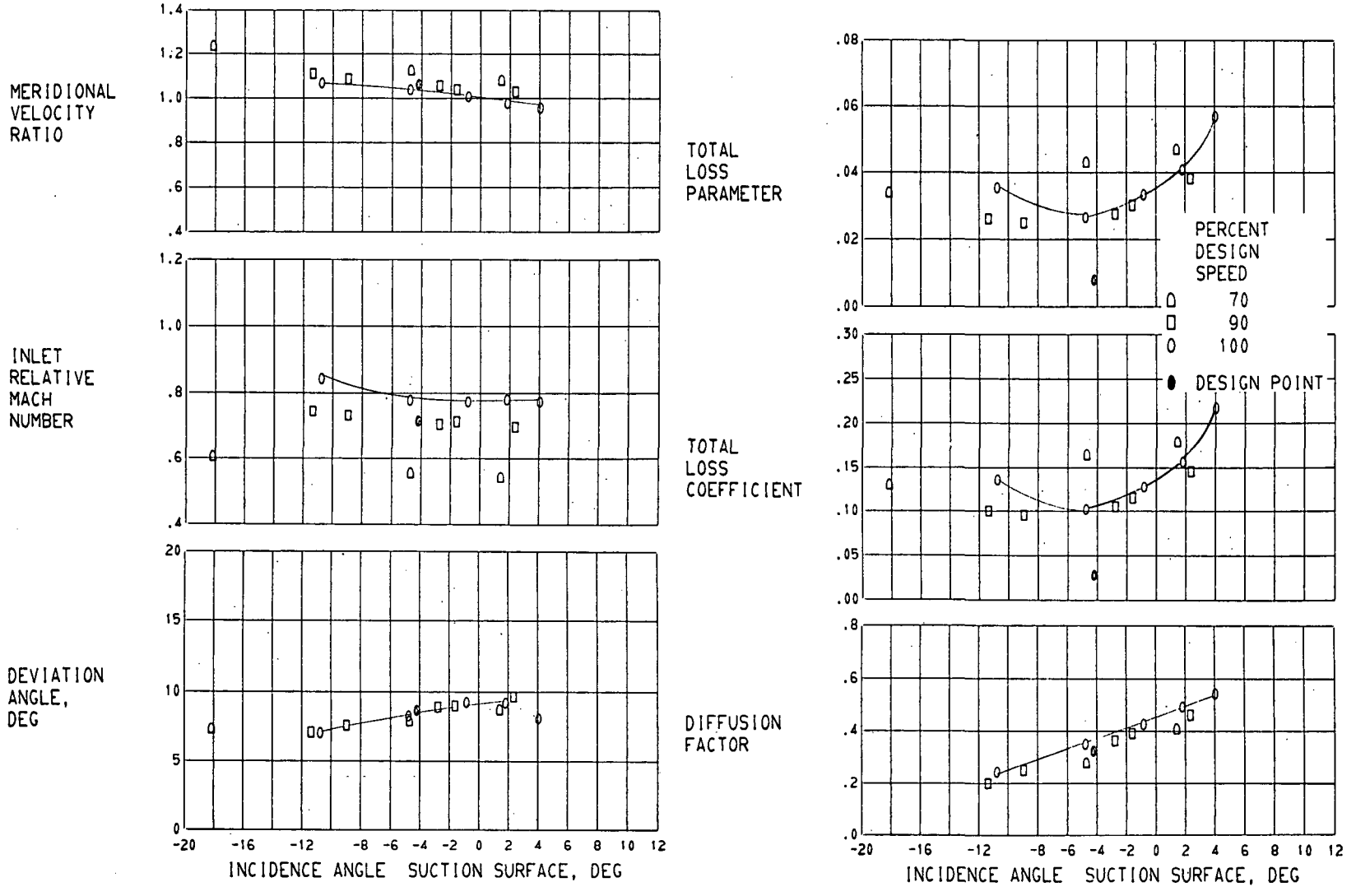
(B) 10.0 PERCENT SPAN.

FIGURE 17. - CONTINUED. BLADE-ELEMENT PERFORMANCE FOR BYPASS STATOR 65.



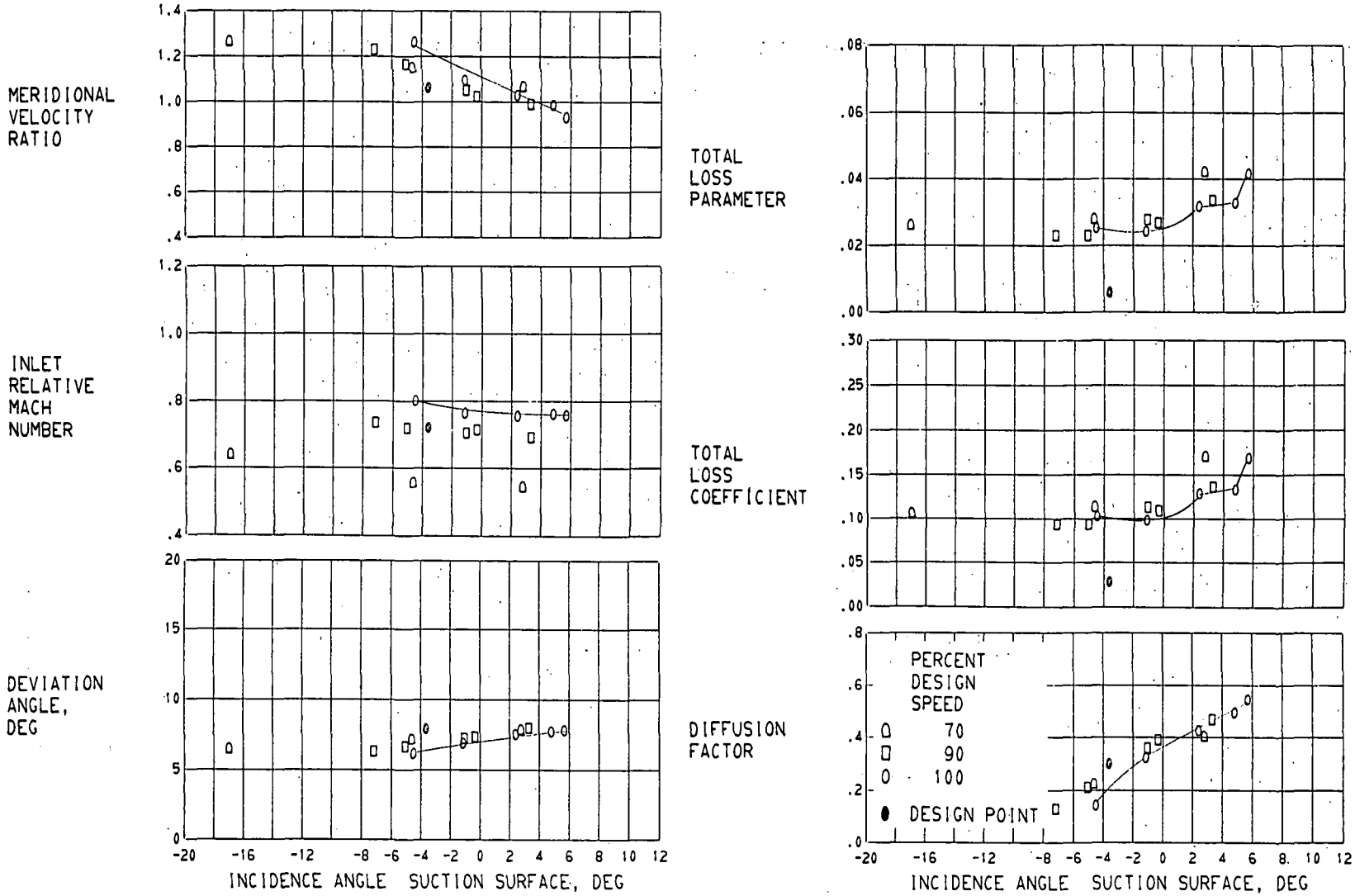
(C) 20.0 PERCENT SPAN.

FIGURE 17. - CONTINUED. BLADE-ELEMENT PERFORMANCE FOR BYPASS STATOR 65.



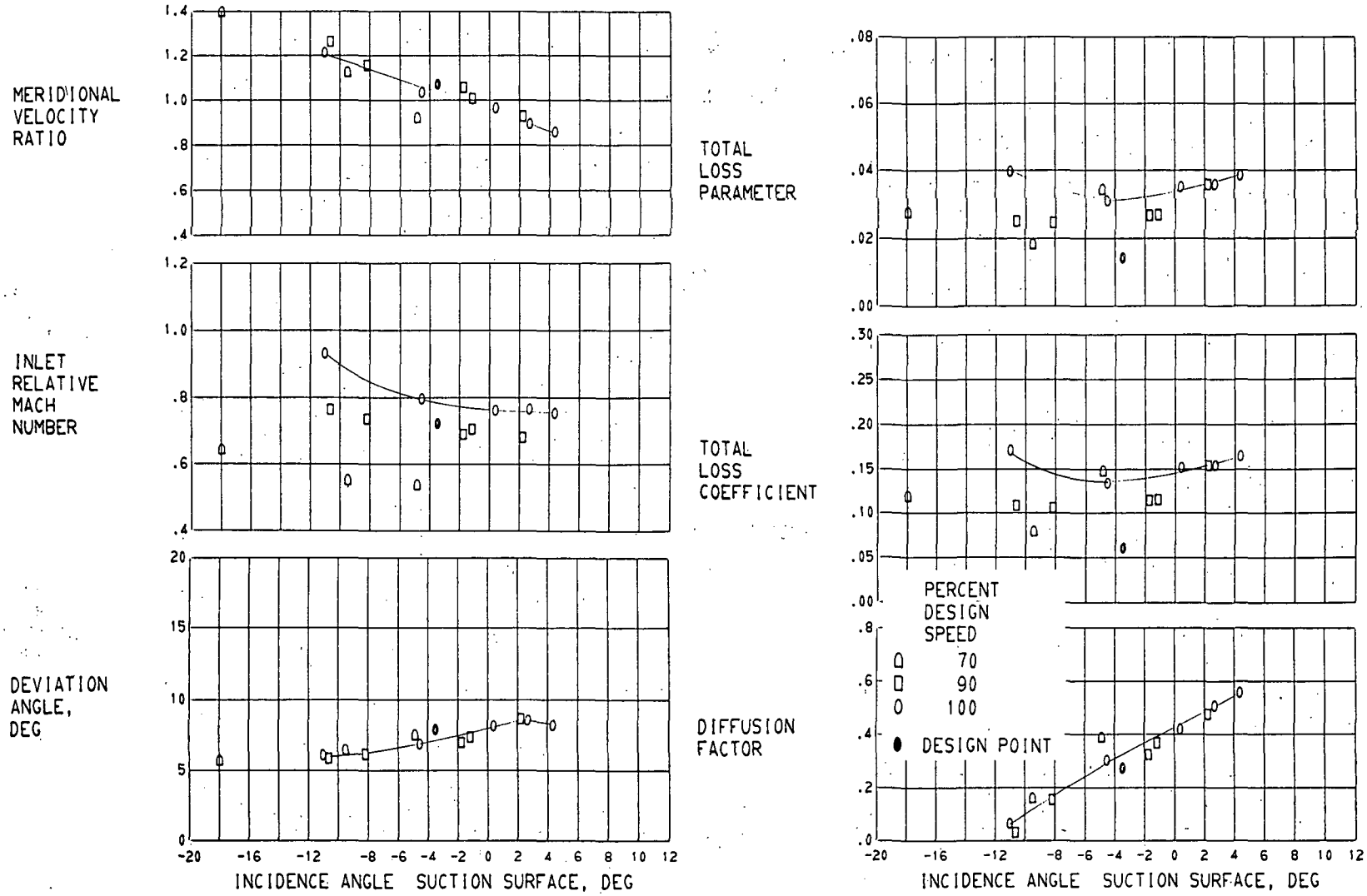
(D) 30.0 PERCENT SPAN.

FIGURE 17. - CONTINUED. BLADE-ELEMENT PERFORMANCE FOR BYPASS STATOR 65.



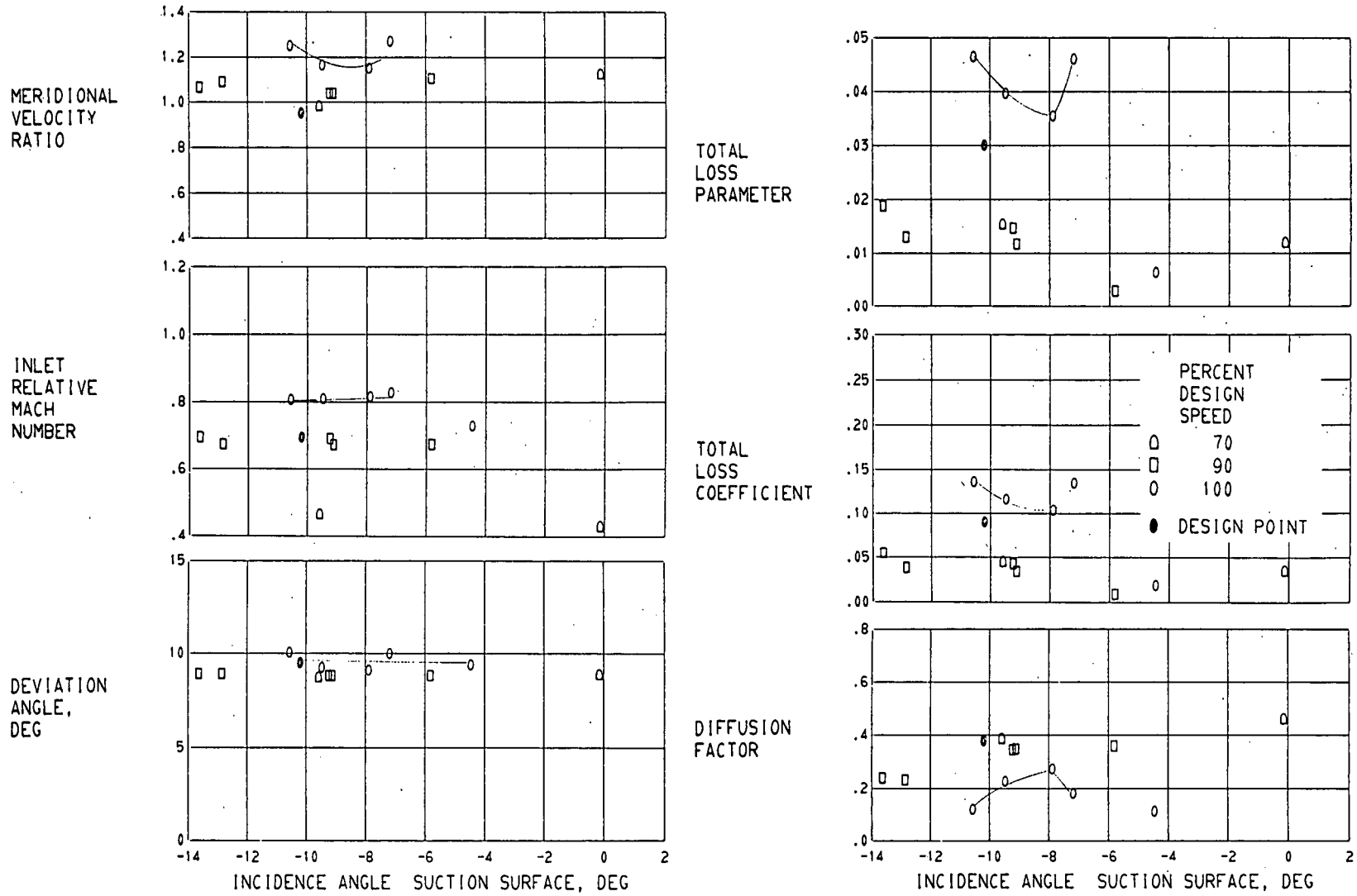
(E) 40.0 PERCENT SPAN.

FIGURE 17. - CONTINUED. BLADE-ELEMENT PERFORMANCE FOR BYPASS STATOR 65.



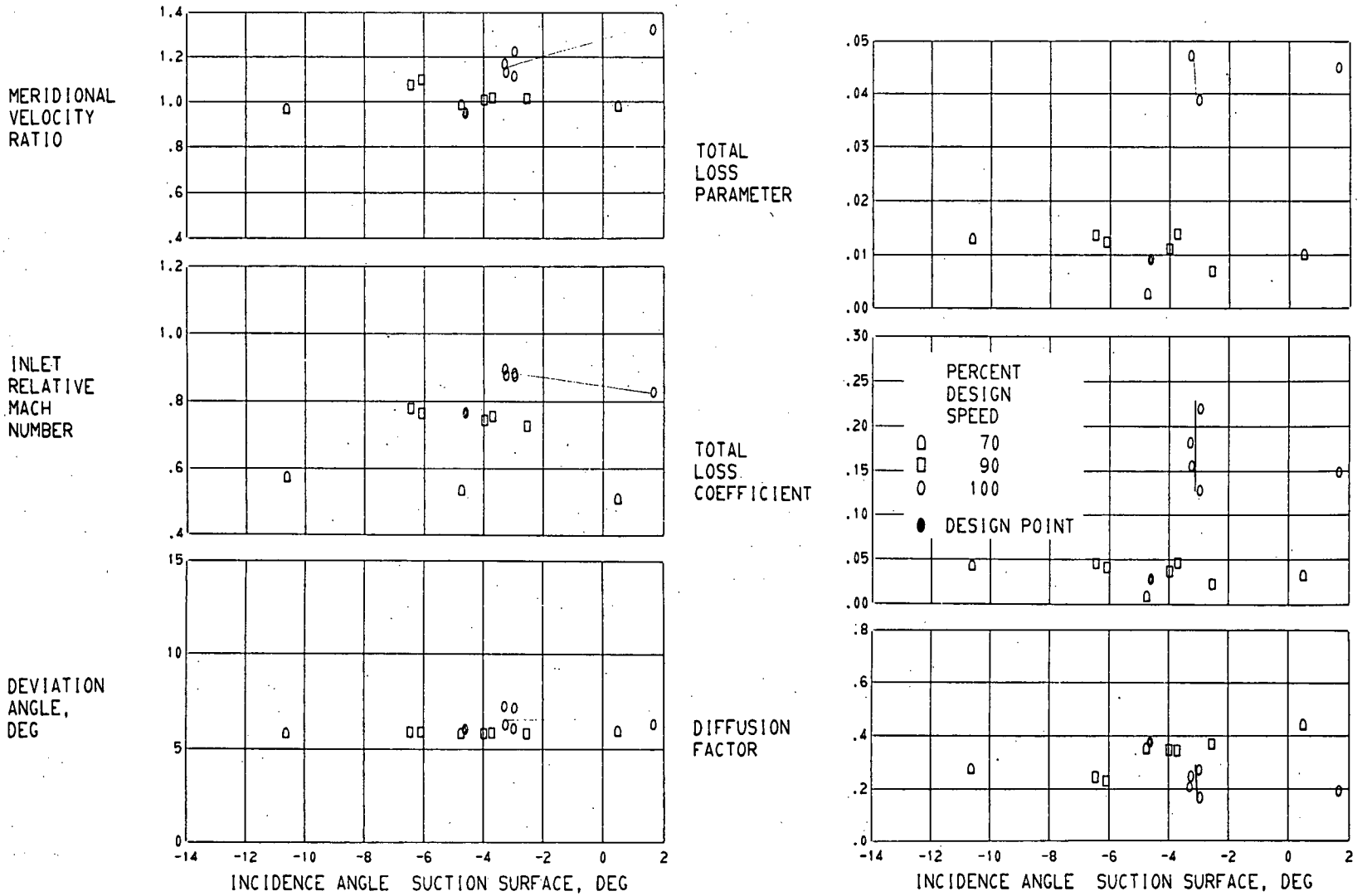
(F) 50.0 PERCENT SPAN.

FIGURE 17. - CONCLUDED. BLADE-ELEMENT PERFORMANCE FOR BYPASS STATOR 65.



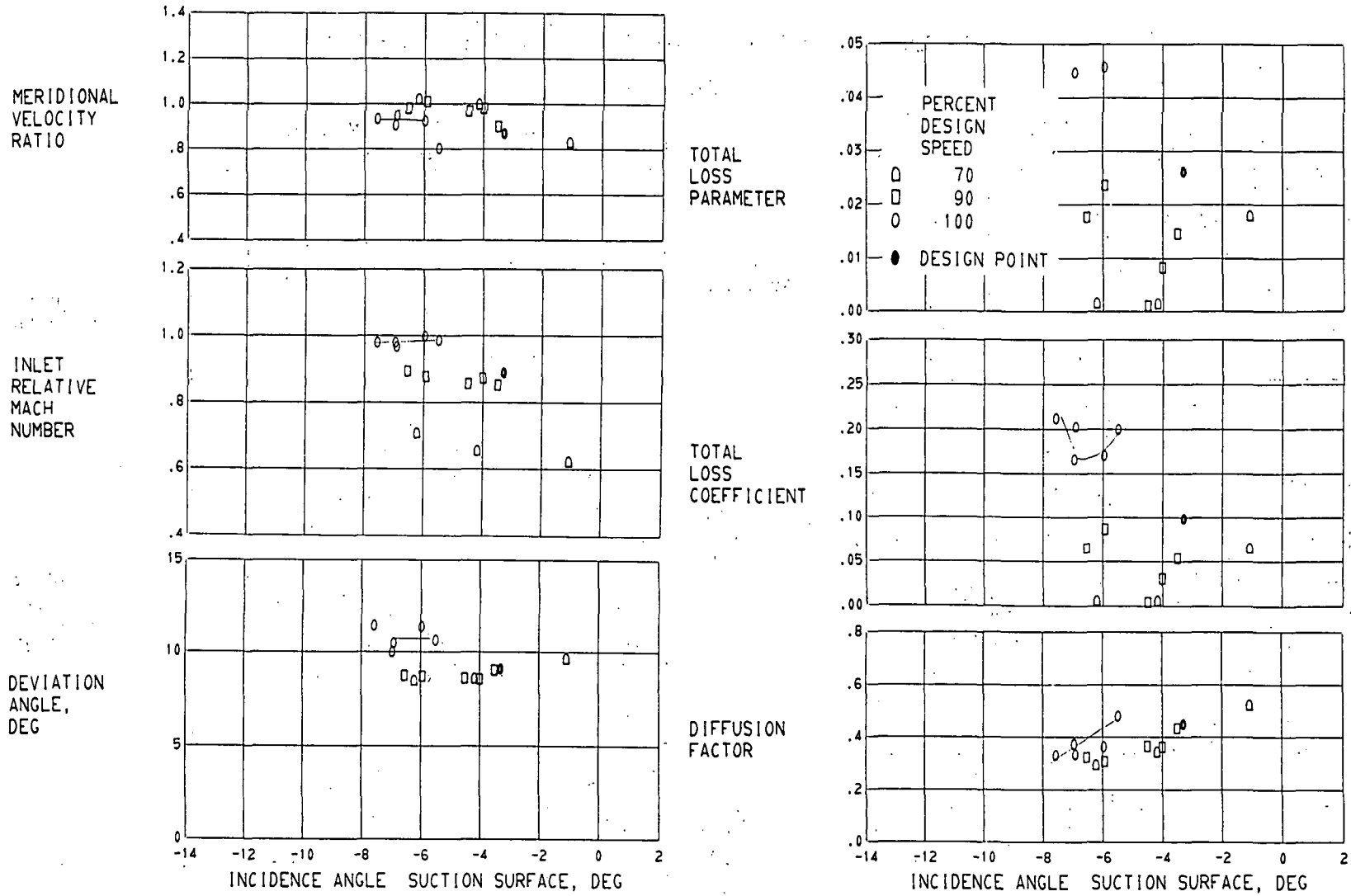
(A) 64.0 PERCENT SPAN.

FIGURE 18. - BLADE-ELEMENT PERFORMANCE FOR CORE STATOR 65.



(B) 80.0 PERCENT SPAN.

FIGURE 18. - CONTINUED. BLADE-ELEMENT PERFORMANCE FOR CORE STATOR 65.



(C) 95.0 PERCENT SPAN.

FIGURE 18. - CONCLUDED. BLADE-ELEMENT PERFORMANCE FOR CORE STATOR 65.

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