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SINGLE STAGE EXPERIMENTAL EVALUATION OF COMPRESSOR BLADING WITH SLOTS AND VORTEX GENERATORS

PART II - DATA AND PERFORMANCE FOR STAGE 5 WITHOUT SLOTS OR VORTEX GENERATORS

By

J. A. Brent and B. A. Jones

Prepared For
National Aeronautics and Space Administration
Contract NAS3-10481

Pratt & Whitney Aircraft
DIVISION OF UNITED AIRCRAFT CORPORATION
FLORIDA RESEARCH AND DEVELOPMENT CENTER
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ABSTRACT

Stage 5 of a series of highly-loaded slotted stages was tested without slots or vortex generators to establish a performance baseline for comparison with the results of subsequent tests planned with the addition of slots and vortex generators. Failure of the rotor due to bending flutter at high negative incidence angles precluded the latter series of tests. The rotor had an inlet hub/tip ratio of 0.8 and a design tip velocity of 757 feet per second. At design equivalent rotor speed, the rotor achieved a maximum efficiency of approximately 84% and a corresponding pressure ratio of 1.365. High stator losses resulted in substantially lower stage performance.

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SUMMARY

An 0.8 hub/tip ratio, single-stage, subsonic compressor was designed and tested to establish baseline performance data for comparison with the results of subsequent tests planned for this stage, with slots added to the rotor and stator blades, and vortex generators added to the walls. A rotor blade failure occurred near the end of the baseline test program. Because of the poor performance of the stage and the rotor blade failure, the test program with slots and vortex generators for this stage was canceled.

The stage was designed with zero rotor prewhirl, axial discharge flow, and constant exit total pressure across the span. It was assumed that the rotor and stator blade element losses would be reduced by the addition of slots and vortex generators, and the design velocity diagrams and predicted performance were based on this assumption. Accordingly, the rotor design pressure ratio was 1.414 and the predicted adiabatic efficiency was 89.3% at a rotor tip velocity of 757 feet per second. The stage design pressure ratio (with slots and vortex generators) was 1.375 and the stage predicted adiabatic efficiency was 81.7%. Without slots and vortex generators the rotor predicted pressure ratio was 1.404 and the adiabatic efficiency was 87.3%. The stage predicted pressure ratio and adiabatic efficiency were 1.353 and 78.1%, respectively. The rotor and stator blading were designed with 65-series airfoil sections. Blade aspect ratios, solidities, and maximum thickness distributions were generally consistent with design practice for a compressor middle stage. At design equivalent rotor speed, the rotor achieved a maximum adiabatic efficiency of approximately 84%, and a corresponding pressure ratio of 1.365. High stator losses resulted in a stage maximum efficiency of 70%

and corresponding pressure ratio of approximately 1.30. Rotor failure occurred during operation at 110% of design equivalent rotor speed and was attributed to high blade stresses caused by bending flutter at high negative incidence angles.

INTRODUCTION

Experience with highly loaded, axial flow compressors has shown that the region of the flow path most critical to achieving high performance is that area adjacent to the walls. In the wall region, the three-dimensional aspects of the flow are extremely significant, whereas at midstream the flow is more nearly two-dimensional. The three-dimensional effects present with a highly-loaded stage result in a marked reduction in adiabatic efficiency and associated low total pressure ratio and flow near the wall. Because these factors generally represent a conversion of kinetic energy into internal energy at an increase in entropy, the diffusion limits for a conventional blade row are reached near the wall and stall or compressor surge is induced. Further, the wall diffusion limits prevent the utilization of the full-loading capacity of the mid-stream portion of the blade, as the stalled regions near the walls cause an increase of the midspan velocity with a corresponding decrease in midspan loading. These factors indicated that advanced compressor design concepts for the increase of allowable stage loading and stable, low-loss operating range should be addressed to the problem of three-dimensional flow near the walls.

Previous attempts to increase allowable stage loading limits by means of slotted blading under NASA Contract NAS3-7603 (Reference 1) indicated good performance for the blade midspan regions, but poor performance near the walls. The relative effectiveness of the slots at midspan and their ineffectiveness near the wall was attributed to the chordal placement of the slots and their inability to sufficiently reduce the three-dimensional flows in the wall region. To attain the full potential of highly loaded blading, methods must be developed to reduce the three-dimensional flow losses in this region.

A single-stage experimental investigation was initiated with the following three approaches for the improvement of blade element performance in the wall region.

1. Addition of blade end slots and secondary flow fences to Stage 3 of Contract NAS3-7603

2. Design and test of two new stages, designated 4 and 5, with relatively high work input (blade camber) near the walls to compensate for the high losses

3. Evaluation of blade slots and wall vortex generators added to Stages 4 and 5 to reduce the wall losses.

Experimental results obtained with Stage 3, modified with blade end slots and secondary flow fences, and including discussion of the design modifications, are presented in Reference 2. Discussion of the aerodynamic and mechanical design of Stages 4 and 5 is presented in Reference 3. This report presents the data and performance obtained with Stage 5 without blade slots or wall vortex generators. Rotor 5 failed during test due to bending flutter at high negative incidence angles. Because of the poor performance of this stage, it was decided not to rebuild the blading, and tests with slots and vortex generators were canceled for this stage.

TEST EQUIPMENT

Facility

A schematic of the compressor test facility is shown in figure 1. The compressor is driven by a single-stage turbine, powered by exhaust gases from a J75 slave engine, with compressor speed controlled by means of the engine throttle. The slave engine exhaust gas is also used to power an ejector for compressor wall boundary layer suction. Air enters the compressor test rig through a 103-ft combined inlet duct, plenum and bellmouth inlet, and is exhausted through an exit diffuser to the atmosphere. The inlet duct contains a flow measuring orifice designed and installed in accordance with ASME standards. An area contraction ratio from plenum to compressor inlet of approximately 10:1 provided stagnation conditions in the plenum. The inlet duct and plenum were mounted on a track and could be rolled away from the compressor rig inlet to facilitate configuration changes.

Compressor Test Rig

A schematic of the single stage compressor rig is shown in figure 2, and the flowpath dimensions are given in figure 3. The hub/tip ratio

at the rotor inlet is 0.798, the test section has a constant hub diameter of 32.85 inches, and the outer wall converges from a diameter of 41.14 inches at the rotor leading edge to 39.99 inches at the stator exit. Relatively high convergence was provided at the rotor and stator tip to control the diffusion factors. Rotor bearing loads are transmitted to the rig support through struts located in the inlet and exhaust case assemblies. The inlet struts are sufficiently far upstream so their wakes are dissipated ahead of the rotor. The stage design specifications of zero rotor prewhirl and axial discharge flow eliminated the need for inlet and exit guide vanes. Flowrate was varied with a set of motor-driven throttle vanes located in the exhaust case.

Porous walls were installed for boundary layer suction at the rotor tip and the stator hub and tip as shown in figure 4. The porous wall was 0.060-inch thick, and had 0.066-inch diameter holes on 0.187-inch centers, providing an 11% open area.

Instrumentation

Instrumentation was provided to obtain overall and blade element performance data for each blade row. The locations of axial instrumentation stations are indicated in figure 3. Axial and circumferential locations of the instrumentation are shown in figure 5.

Airflow was measured with the ASME standard thin plate orifice located in the inlet duct. Rotor speed was measured with an electromagnetic sensor mounted adjacent to a 60-tooth gear on the rotor shaft. Gear tooth passing frequency was displayed as rpm on a digital computer. Rotor rpm was also recorded on magnetic tape. Inlet total temperature was measured in the inlet plenum by means of six half-shielded total temperature probes; inlet total pressure was measured in the plenum by means of five Kiel-type total pressure probes. Six equally spaced static pressure taps were located on both the inner and outer walls, upstream of the rotor (station 0). From a rig calibration over a wide range of weight flows, a correlation between these static pressures and weight flow was derived and used to check subsequent weight flow measurements.

Stage exit total temperature was measured at nine radial positions at each of four circumferential locations, using shielded thermocouples installed in radial rakes at stations 2A and 3. The stage exit temperature distributions measured with these radial rakes were used for rotor performance calculations. Redundant total temperature measurements at stations 1, 2, and 2A were provided by means of thermocouples in the 20-degree wedge traverse probes located at each of these stations.

One 20-degree wedge traverse probe was provided at station 1 to measure rotor inlet total pressure and air angle. Two 20-degree wedge traverse probes were located at station 2 (rotor exit) for total pressure and air angle measurement; rotor exit total pressure was also measured at five radial positions at one circumferential location with a Kiel head rake. Three circumferential total pressure rakes were installed at station 2A (stator exit) for total pressure measurement. One probe had circumferential rakes located at 5, 30, and 85% span; the second probe had rakes at 15, 50, and 95% span; and the third probe had rakes at 10, 70, and 90% span. Two 20-degree wedge probes were located at station 2A for the measurement of stator exit air angle. Five rotor blades were each instrumented with three strain gages. These strain gage outputs were displayed on oscilloscopes and visually monitored during tests. Gage locations were determined with the aid of stresscoat and verified by a fatigue test.

Static pressures at stations 1, 2, and 2A were measured by means of 8-degree wedge traverse probes. Four inner wall and four outer wall static pressure taps, approximately equally spaced, were located at each of these axial stations. The pressure taps ahead of and behind the stator were located on extensions of the midchannel streamlines. Stations 2 and 2A also had four inner and four outer wall taps installed across a vane gap to measure the static pressure variation across the gap. Twenty static pressure taps were equally spaced between 20 and 83% chord at 10 and 90% span on two stator blades, as shown in figure 6.

Total pressure and temperature rakes are shown in figure 7. A typical circumferential total pressure rake is shown in figure 8. Twenty-degree and 8-degree wedge traverse probes are shown in figure 9. Steady-state pressure data were measured with a multichannel pressure transducer

scanning system that includes automatic data recording on computer cards. Steady-state temperature measurements were also automatically recorded on computer cards by a multichannel scanning system in conjunction with a temperature reference oven and a digital voltmeter. Traverse and transient pressure data were recorded on magnetic tape, at up to 600 samples per minute per channel. Two static pressure taps located in the plenum, two of the outer wall pressure taps at station 0, and the total pressure radial rake at station 2A (188 degrees in figure 5), were close-coupled to transducers for transient recording during operation into and out of stall. A high-response pressure transducer, mounted in a total pressure probe at 10% span from the tip behind the rotor was used to detect the initiation of rotating stall. The Kistler output was recorded on magnetic tape and correlated in time with the transient recording of bellmouth static and stage exit total pressures.

Blading Design

Design Approach

An important premise for the Stage 5 blading design was the assumption that slots and vortex generators would reduce the rotor and stator blade element losses below the levels of loss that were established as a function of loading from the data of Reference 4 through 9 (see Reference 3). Additionally, it was specified that the rotor inlet and stator exit velocities were to be axial, and that the stator exit total pressure was to be constant across the span. A design rotor tip velocity of 757 feet per second provided the desired tip inlet relative Mach number of approximately 0.8.

The design velocity diagrams were calculated by means of a computer program which solves the continuity, energy, and radial equilibrium equations for an axisymmetric flow. Radial gradients of enthalpy and entropy were included in the calculation, and the influence of wall and streamline curvature on the radial distribution of static pressure were taken into account.

Rotor and stator design velocity diagrams were selected in accordance with the foregoing assumption, design requirements and calculation procedure. NACA series 65 blade sections with A = 1.0 meanlines were selected for the rotor and stator blading to be consistent with the blading

used under the Contract NAS3-7603 program (Reference 1). Other blade geometry variables such as chord length, aspect ratio, solidity, and maximum thickness were the same as, or very similar to, those for the NAS3-7603 blading (slight departures in aspect ratio and hub/tip ratio resulted from the wall convergence at the rotor and stator tip that was provided to limit the diffuser factors).

Design incidence (minimum loss) and deviation angles were calculated using the appropriate equations in Reference 10. For the rotor, two degrees were subtracted from the calculated incidence angles in accordance with the minimum loss incidence results obtained under the NAS3-7603 program.

Rotor and stator design velocity diagram data, blade element geometry data, and predicted performance for Stage 5, designed on the assumption that there would be reduced losses due to slots and vortex generators, are presented in Reference 3.

Design Predictions Without Slots And Vortex Generators

Velocity diagrams and overall performance were calculated for the Stage 5 blading without assuming reduced losses due to slots and vortex generators to provide comparative data for test results obtained with the baseline stage. The results of these calculations, together with the Reference 3 design geometry data, are presented in tables B1 and B2 of Appendix B. Symbols and performance variables are defined in Appendix A.

PROCEDURES

Test Procedures

Wall Bleed Flow Selection

Provision was made for wall boundary layer bleed at the rotor tip and the stator hub and tip. Since the rotor and stator bleed flows were independently controlled, the rotor bleed flow was selected prior to determining the stator bleed flow. With the compressor operating at near design conditions, total pressures at 5% span from the tip downstream of the rotor, and 5 and 95% span downstream of the stator, were

monitored as the rotor and then the stator bleed flows were varied between zero and maximum. The maximum bleed flow (limited by the perforated shroud effective flow areas) provided the largest improvement in the observed total pressures and was therefore selected for both the rotor and stator.

Performance Tests

Overall and blade element performance data were obtained at 50, 70, 90 and 100% of design equivalent rotor speed. Four data points were recorded on each of the 50 and 70% speed lines, six on the 90% speed line, and ten on the 100% speed line to define stage performance between maximum attainable flow and near stall. The near stall point was determined on the basis of flow, stage exit pressure, and blade stresses monitored on oscilloscopes. At each test point, traverse surveys were followed by the recording of fixed pressure and temperature instrumentation data with the traverse probes withdrawn. Blade stresses were monitored during steady-state and stall transient operation at all rotor speeds.

The influence of wall boundary layer bleed flow on performance was evaluated at design equivalent rotor speed. Overall and blade element data were recorded for three bleed valve positions (fully open, half open, and closed) with the test rig throttle vanes positioned for stage operation at near design flow with maximum bleed flow. Overall and blade element data were also recorded for two bleed valve positions (fully open and half open) with the throttle vanes positioned for stage operation at near stall flow with maximum bleed. Stable operation of the stage at the latter throttle vane position could not be maintained with zero bleed.

Transient measurements of bellmouth static pressure, rotor speed, and stator exit total pressure were recorded ten times per second to define stall characteristics as the stage was operated into and out of stall. The output from a Kistler pressure transducer, mounted in a total pressure probe behind the rotor, was also recorded and correlated in time with the other transient measurements to detect the initiation of rotating stall. A typical plot of the transient data is compared with an oscillograph record of the Kistler transducer signal in figure 10.

Data Reduction Procedures

Steady-State Data

Data reduction was accomplished in two steps. The first step involved the use of two computer programs to: (1) convert millivolt readings to appropriate engineering units, and (2) provide a tabulated and plotted arrray of pressure, temperature and air angle data at each axial station. Conversion of data to absolute values, appropriate Mach number corrections, and correction of pressures and temperatures to NASA standard day conditions were performed in the second computer program.

The second step in the data reduction procedure involved the calculation of overall and blade element performance variables for the rotor and stator blades. The array of data provided in step one above was analyzed for the selection of radial distributions of pressure, temperature and air angle at each axial station for the overall and blade element performance computer program.

Pressure ratios were calculated for the rotor, and the rotor-stator stage. The rotor and stator exit total pressures were weighted according to local mass flow to obtain average values. The stator wake total pressures at each radial measuring station were mass averaged using the local total pressure in the wake and the 8-degree wedge probe static pressure to define local Mach number. Mass flux was then obtained from the relationship

$$\bar{m} = \frac{W\sqrt{T}}{PA} = \sqrt{\gamma g/R}\ M \left[1 + \frac{\gamma - 1}{2} M^2\right]^{1/2} p/P$$

where T is the measured total temperature and A is the flow area associated with each total pressure tube. With the radial distribution of total pressure and mass flux calculated, the total pressures were mass-averaged in the radial direction. Behind the rotor, the total pressures obtained with the 20-degree wedge probes and the one Kiel probe were arithmetically averaged and the resulting radial distribution was mass-flow-averaged using the 8-degree wedge probe static pressure and stator exit radial temperature distribution to define weight flow.

Wall static pressure data at each station was used to check the 8-degree wedge probe data. In addition to the four equally-spaced static pressure taps in the outer wall at stations 2 and 2A, four taps were spaced across one stator gap to check the static pressure gradient associated with stator leading edges and/or wakes. These wall static pressures are compared with the 8-degree wedge probe data extrapolated to the wall in figure 11. The extrapolated pressures generally agree favorably with the local wall static pressure.

Stator exit total temperatures were used for the calculation of rotor blade element data and rotor efficiency.

Performance and velocity diagram calculations were performed for each blade row along design streamlines that pass through 5, 10, 15, 30, 50, 70, 85, 90, and 95% span at the rotor exit instrumentation station. The measured static pressures were used in conjunction with measured total pressures, total temperatures, and flow angles to define the velocity distributions at each axial station. The performance and velocity diagram data were calculated directly from the measurements obtained at the instrumentation stations. Translation of these measurements to the blade-row leading and trailing edges was not considered necessary because, with the small wall convergence, the data at the instrumentation stations very nearly approximates that at the leading and trailing edges.

Stall Transient Data

Bellmouth static pressure at incipient stall was determined from plots similar to the one shown in figure 10, and the corresponding weight flow was determined from the correlation of bellmouth static pressure and orifice flow shown in figure 12. Stage exit total pressure, also obtained from plots similar to the one shown in figure 10, were arithmetically averaged to obtain the general shape of the pressure ratio-flow characteristic up to the point of incipient stall. The steady-state data were extrapolated to the stall flow using the shape of the transient data curve as a guide line. Incipient stall points were determined in this manner for each rotor speed.

PRESENTATION OF DATA

Overall Performance

Overall performance data are presented in terms of pressure ratio and adiabatic efficiency as functions of corrected weight flow ($W\sqrt{\theta}/\delta$ and equivalent rotor speed ($N/\sqrt{\theta}$). Definition of the symbols and performance variables are presented in Appendix A. Overall performance for the rotor and stage are presented in figures 13 and 14. The solid symbol on the stall line is the stall point determined from the transient data. Also shown in these figures is the effect of boundary layer bleed flow on overall performance. Overall performance and bleed flow data for the steady-state data points are presented in table B-3 of Appendix B.

The rotor achieved an efficiency of 83.5% and a pressure ratio of 1.351 at design equivalent rotor speed and design corrected flow (110 lb/sec). Maximum rotor efficiency and corresponding pressure ratio were 84% and 1.365 respectively, compared with respective design values (without slots and vortex generators) of 87.3% and 1.404. The stage pressure ratio and efficiency at design equivalent rotor speed and flow conditions (see figure 14) were 1.277 and 66.8%, respectively, and maximum stage efficiency and pressure ratio were 70% and 1.30. Predicted pressure ratio is 1.353 and efficiency is 78.1% for Stage 5 without slots and vortex generators. The relatively poor rotor and stage performance is attributed to high total pressure loss at the rotor hub and tip, at the stator tip, and reduced midspan work due to the increased midspan axial velocity caused by the high losses near the wall. As indicated in figure 13, bleed flow had little effect on rotor pressure ratio. The improvement in efficiency between zero and maximum bleed is attributed to a decrease in mass average temperature, the result of bleeding high temperature air at the walls. The indicated improvement in efficiency includes the effect of both rotor and stator bleed flow, since stator exit temperature was used to calculate rotor efficiency. Both the pressure ratio and the efficiency of the stage were improved with bleed flow, as shown in figure 14. The improvement in stage pressure ratio was due to a reduction of the stator losses with increased bleed flow.

Rotor Blade Element Performance

The rotor relative inlet air angle and Mach number distributions for design equivalent rotor speed are shown in figure 15. The design distributions (without slots and vortex generators) are included for comparison and, as indicated, the test data for near design corrected weight flow (110.97 lb/sec) agrees closely with the design values between 10 and 90% span. Within 5% span from the walls, the relative air angle increases rather sharply due to the low axial velocities in the wall boundary layer.

Rotor diffusion factor, deviation angle, and loss coefficient are shown as functions of incidence angle in figures 16 through 24. The losses in the hub and tip regions (15% of the span from either wall) are high, with loss coefficients of 0.25 to 0.35. Corresponding diffusion factors approximate values between 0.7 and 0.8. Between 30 and 70% span, the losses and diffusion factor are substantially lower. Deviation angles are 3 to 6 degrees greater than the indicated design values across the span.

An influence of rotor speed on loss coefficient is indicated for the data for the outer 50% of span. The higher loss coefficients at the higher rotor speed is probably due to the contribution of local shock-induced loss at inlet relative Mach numbers above the critical Mach number. For the blade section in the tip region, the estimated average critical Mach number is 0.68. At this Mach number, the loss coefficient is 40% larger than the loss coefficient at a Mach number of 0.40 (based on unpublished Pratt & Whitney Aircraft cascade data correlation). The inlet relative Mach number over the outer 50% span is equal to or greater than 0.68 for the data that corresponds to 90 and 100% of design equivalent rotor speed.

The variation of loss coefficient with the lower rotor speeds (50 and 70% of design equivalent rotor speed) in the outer 15% span region (figures 16, 17, and 18) may have been caused by the rotor tip bleed. At the lower corrected flows associated with the lower equivalent rotor speeds, the percentage of bleed flow was higher, as shown in figure 25. A second possible cause for the large variation of loss coefficient with

equivalent rotor speed in the outer 15% span region could be simply a Mach number dependency of secondary flow development in the wall adjacent flow at Mach numbers below the critical Mach number.

The effect of rotor tip bleed flow on blade element performance is indicated in figures 16, 17, and 18. Bleed flow resulted in a reduction of loss coefficient in the tip region, the amount of the reduction diminishing to zero at approximately 15% span. Examination of rotor inlet axial velocities and relative air angles in the tip region indicates that the higher bleed flows resulted in larger rotor incidence angles at a constant flow. However, it was observed at 5% span from the tip that the axial velocity ratio across the rotor, V_{z2}/V_{z1}, increased as the bleed flow was increased (Table I).

The corresponding loss coefficients at 5% span (see figure 16) vary from 0.43 at an incidence angle of -12.4 degrees for 0.12% bleed flow, to 0.265 at an incidence angle of -8.8 degrees for 1.24% bleed flow.

Table I. Rotor Axial Velocity Ratios at 5% Span From the Tip

Orifice Flow	Rotor Tip Bleed Flow (% Orifice Flow)	V_{z2}/V_{z1}
102.3	0.12*	0.793
101.5	0.66	0.837
101.8	1.24	1.055

*Bleed valve leakage in closed position

Loss parameter versus diffusion factor is presented in figures 26 through 30. Correlation curves for the minimum loss data of References 4 through 9 and the Stage 5 design curves, are included in the figures for comparison with the data. The design curves are more optimistic than the data correlation curves because of the expected improvement from slots and wall vortex generators. For design equivalent rotor speed, the loss parameter values at 30 and 50% of span from the tip that correspond to minimum loss in figures 19 and 20 are approximately equal to the corresponding data correlation values. At the other span locations, the minimum loss parameter values are larger than the data correlation values.

Stator Blade Element Performance

The stator inlet Mach number and air angle distributions for design equivalent rotor speed are shown in figure 31. The stator was operating with less than design incidence, at 25 to 75% span over the entire flow range. Design incidence at the tip section occurred at a flow of 116.37 pounds per second whereas design incidence at the hub section occurred at a flow of 110.97 pounds per second.

Stator diffusion factor, deviation angle, and loss coefficient are presented as functions of incidence angle in figures 32 through 40. The diffusion factors are lower than the indicated design values across the entire span, primarily because of the relatively large deviation angles seen in the figures and the associated high exit tangential velocities (see Table B-4 of Appendix B). The low diffusion factors in the hub region are also attributed to relatively high axial velocities compared to the tip region velocities and to the hub design axial velocity. Stator losses are high relative to the indicated predicted losses (without slots and vortex generators) across the entire span. There is an apparent Mach number effect on the minimum or choking incidence angle at all radial positions, and the effect on minimum loss appears to be minimal.

The effect of bleed flow on stator performance for design equivalent rotor speed is also indicated in figures 32 through 40. Increasing the bleed flow had little effect on the stator tip region performance, apparently because the high rotor tip loss precluded the effectiveness of the stator tip bleed. However, increasing the bleed flow produced a noticeable reduction of loss coefficient in the hub region.

Loss parameter is shown as a function of diffusion factor in figures 41 through 45. Correlation curves for the minimum loss data of References 4 through 9, and the Stage 5 design curves are included in the figures for comparison with the data. The design curves are more optimistic than the data correlation curves because of the expected improvement from slots and vortex generators. For design equivalent rotor speed, the loss parameter values corresponding to minimum loss are larger than the data correlation values except at midspan, where they are approximately equal.

Pressure coefficient distributions for the stator suction surface at 10 and 90% span from the tip are shown in figures 46 and 47. Data are shown for only one of the two sets of static pressure taps at 10% span because of the difference in level between the two sets. At near-design incidence, the static pressure rise at the hub was greater than the static pressure rise at the tip. This observation is consistent with the stator loss data. A slight effect of hub bleed flow on pressure rise is noticeable in figure 47. At approximately -5 degrees incidence the static pressure coefficient at 83% chord is slightly greater than the static pressure coefficient without bleed flow. The abrupt change in static pressure coefficient in the midchord region in figure 47 is thought to be associated with the stator vane spindle attachment. In this region the shroud bleed holes are blocked. It is noted that the abrupt change in static pressure coefficient does not occur for the near stall or zero bleed flow distributions.

CONCLUSION

Blade element and overall performance data were obtained over a range of rotor speeds from 50 to 100% of design equivalent rotor speed for a rotor and stator that were highly cambered near the walls to compensate for high wall losses. Poor performance of this stage, and failure of the rotor near the end of the baseline test program precluded testing this stage at 110% of design equivalent rotor speed or subsequent tests of the stage with slots and wall vortex generators added to reduce wall losses. The rotor failure was attributed to high rotor blade stresses caused by bending flutter at high negative incidence angles. The rotor produced a maximum efficiency and corresponding pressure ratio of 84% and 1.365, respectively, compared with respective design predictions (without slots and vortex generators) of 87.3% and 1.404 . High stator losses resulted in a stage maximum efficiency of 70% and corresponding pressure ratio of 1.30 compared with respective design predictions (without slots and vortex generators) of 78.1% and 1.353. Therefore, the relatively high blade work near the walls for rotor 5 did not adequately compensate for the secondary flow and associated high losses that were generated in these regions. The resultant losses in the blade-end regions were larger than those indicated in the correlation of data from References 4 through 9.

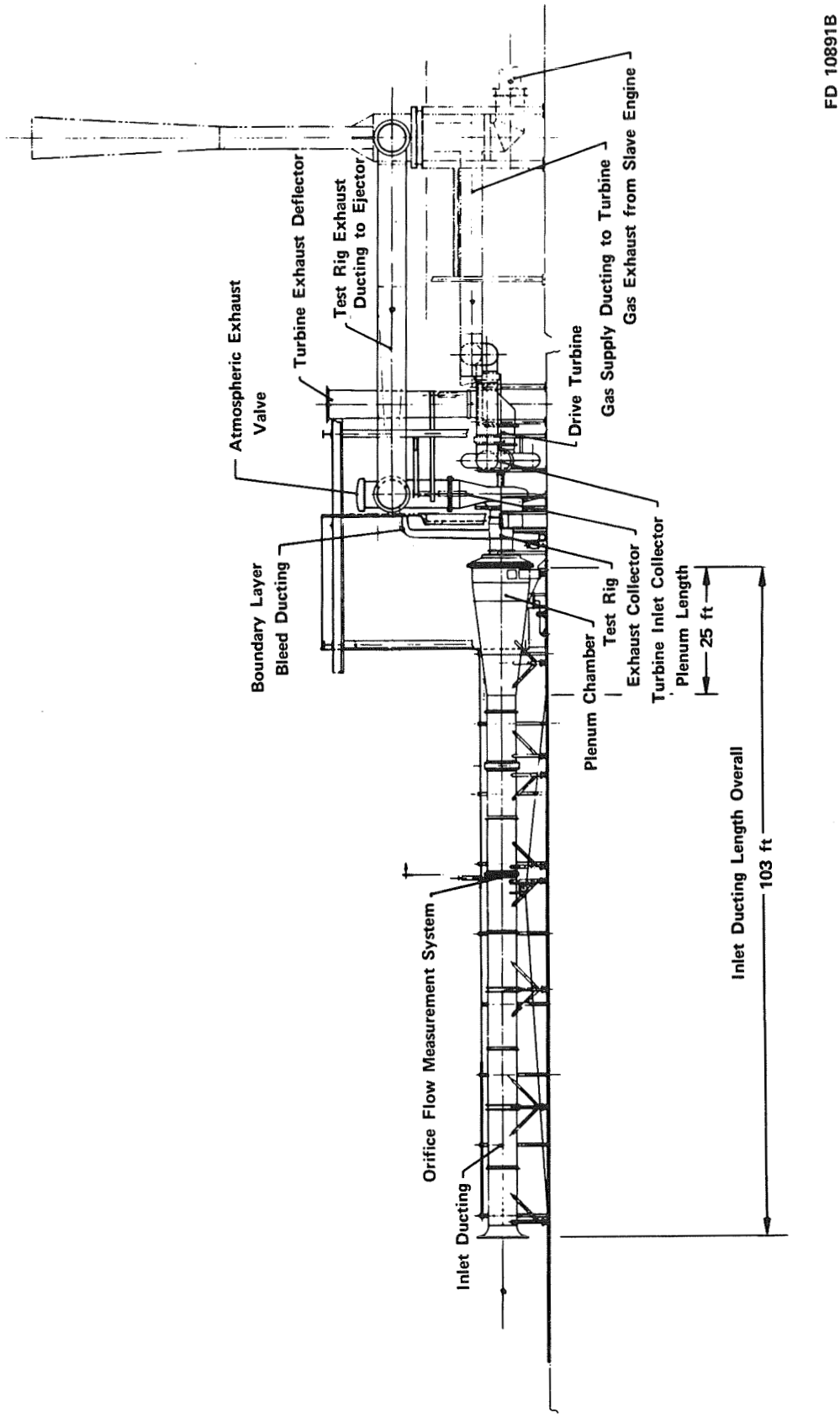

Figure 1. Compressor Research Facility

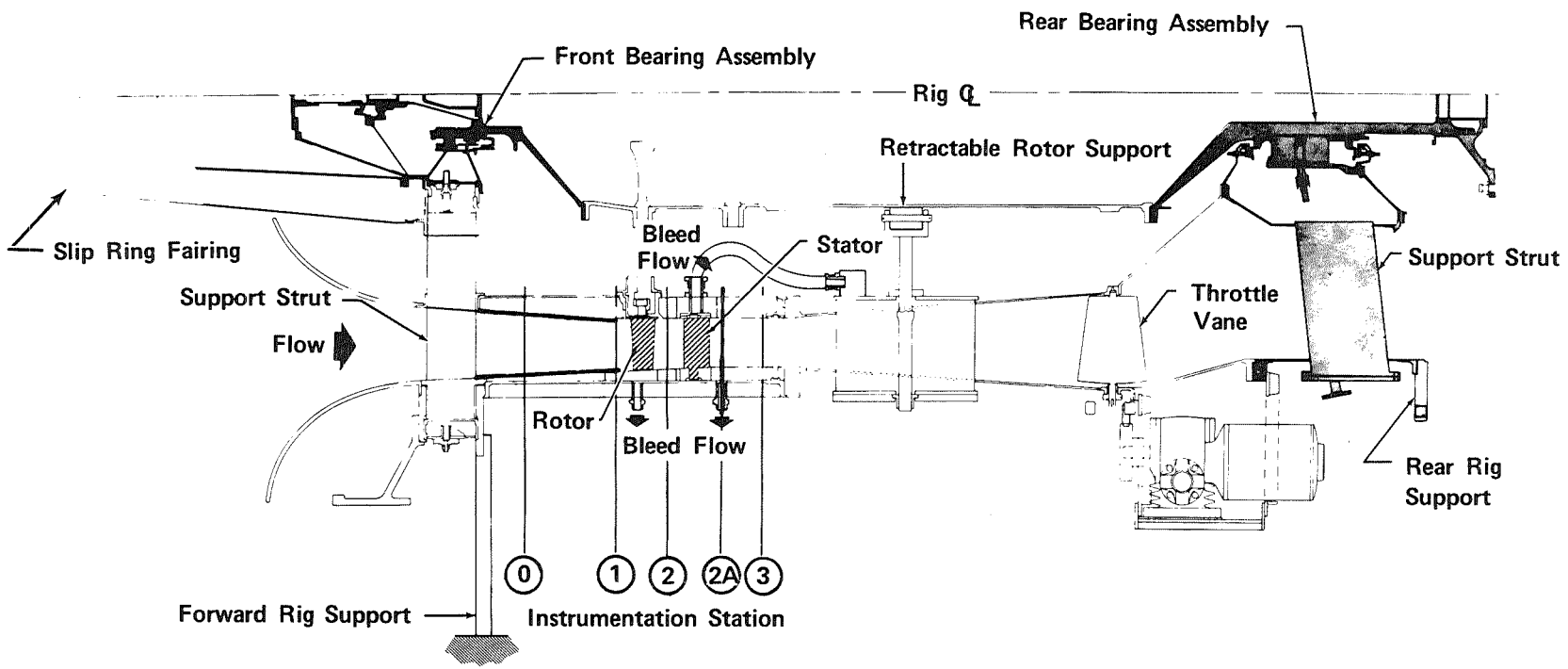

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Figure 2. Single Stage Compressor Rig

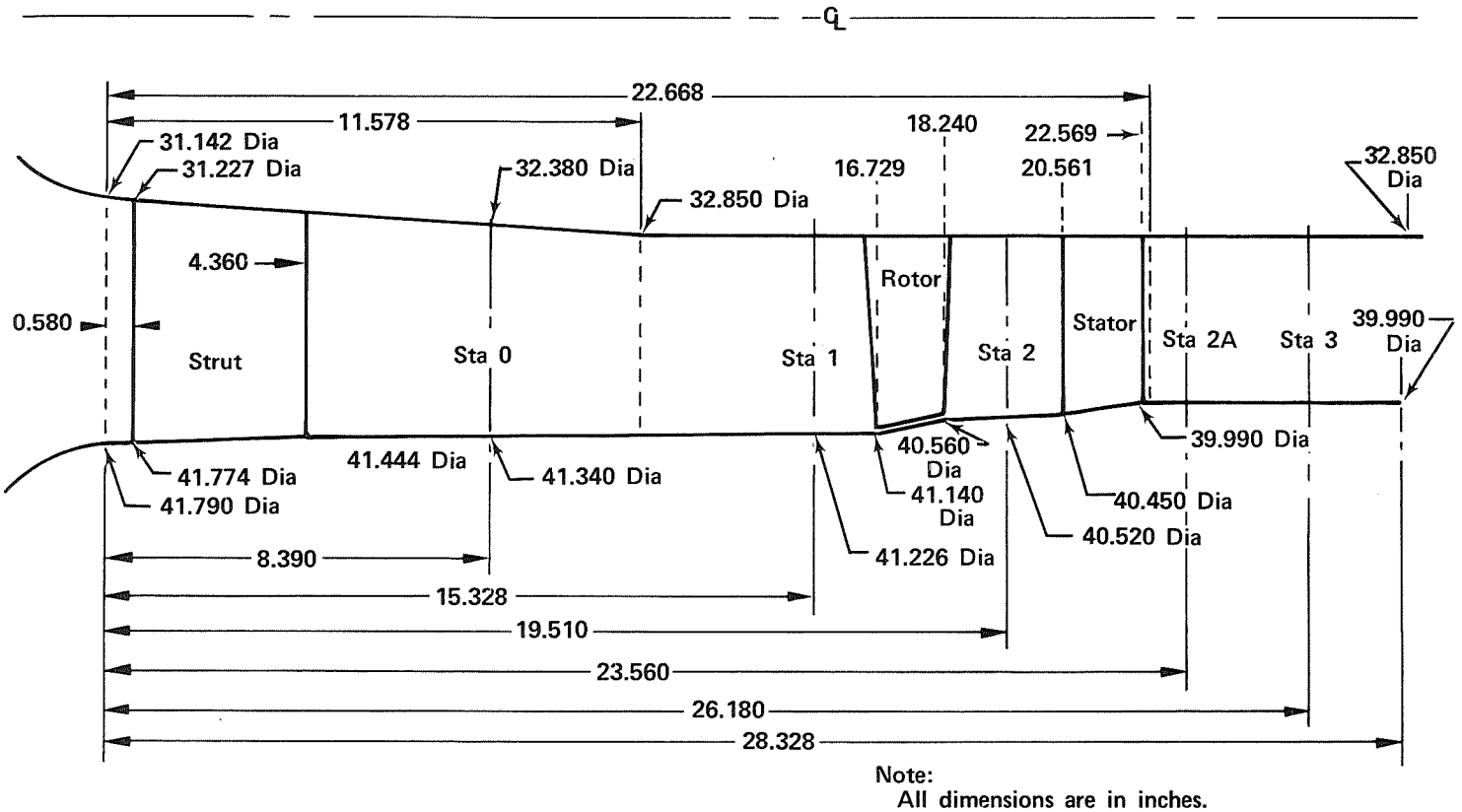

Figure 3. Flowpath Dimensions

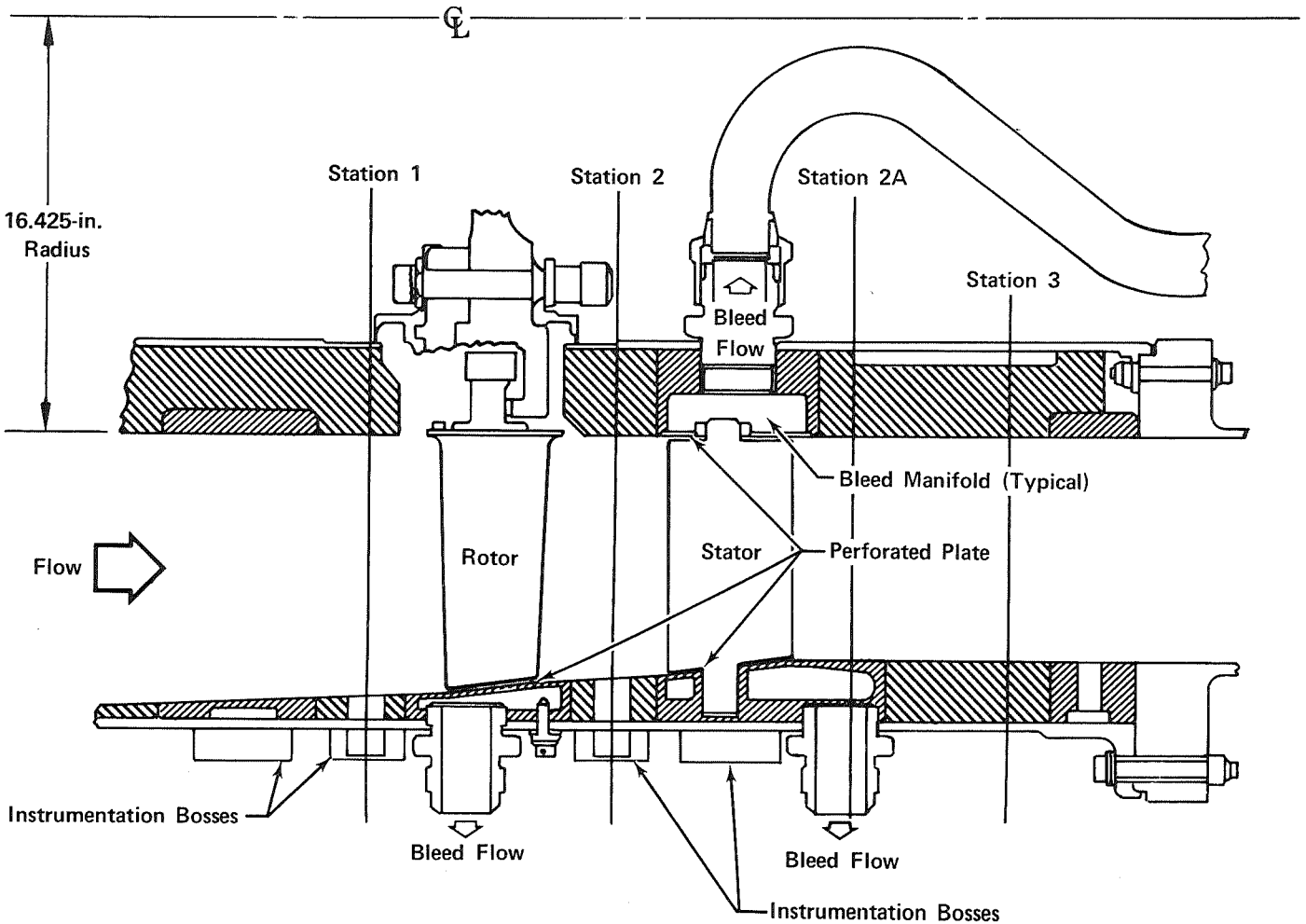

Figure 4. Boundary Layer Bleed System

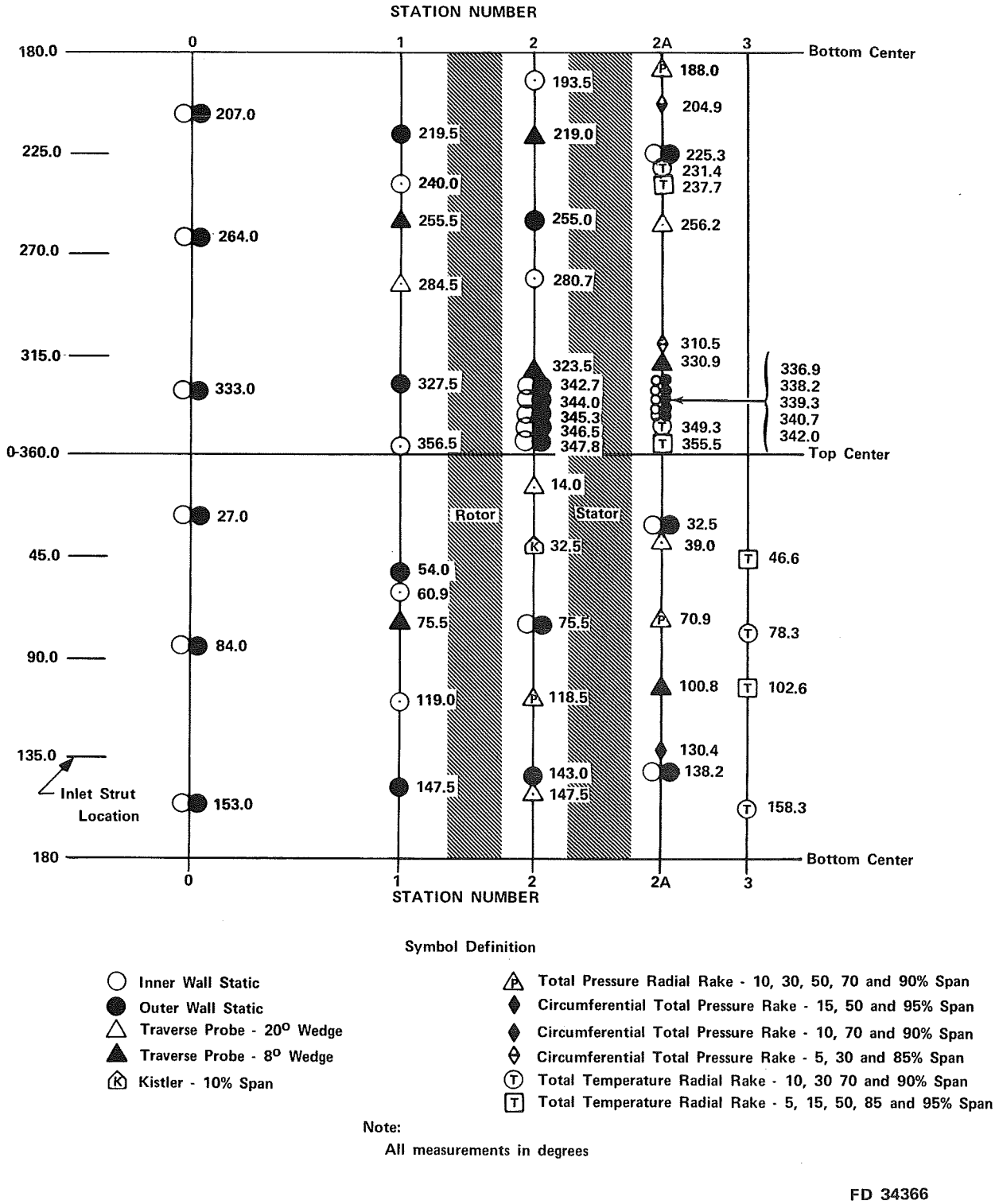

Figure 5. Instrumentation Layout

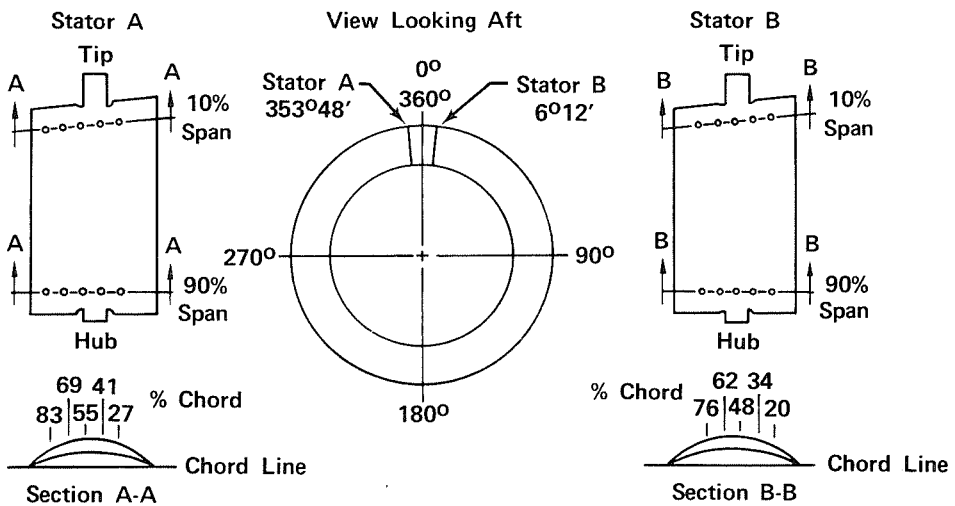

Figure 6. Stator Static Pressure Instrumentation

FD 34362

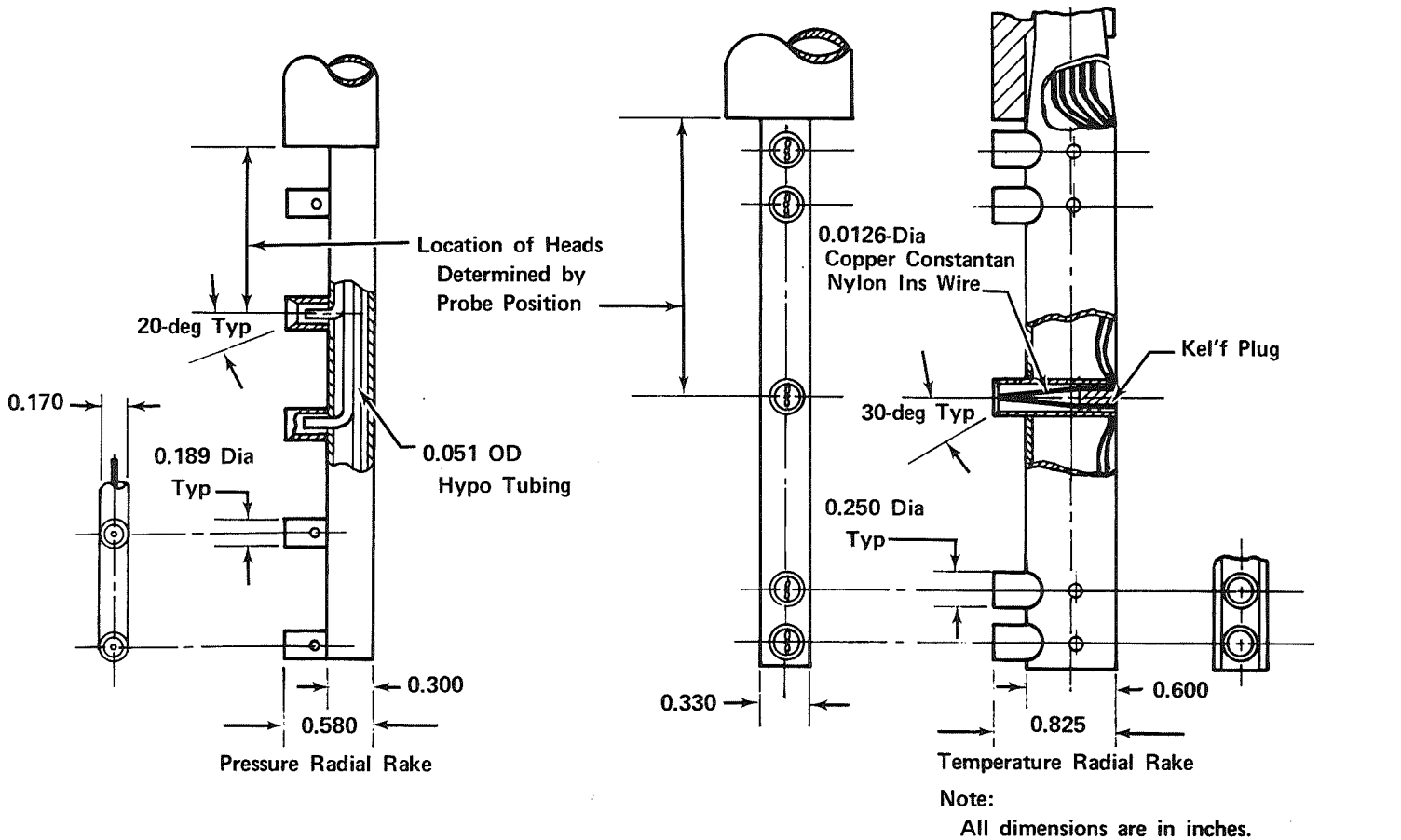

Figure 7. Total Pressure and Temperature Rakes

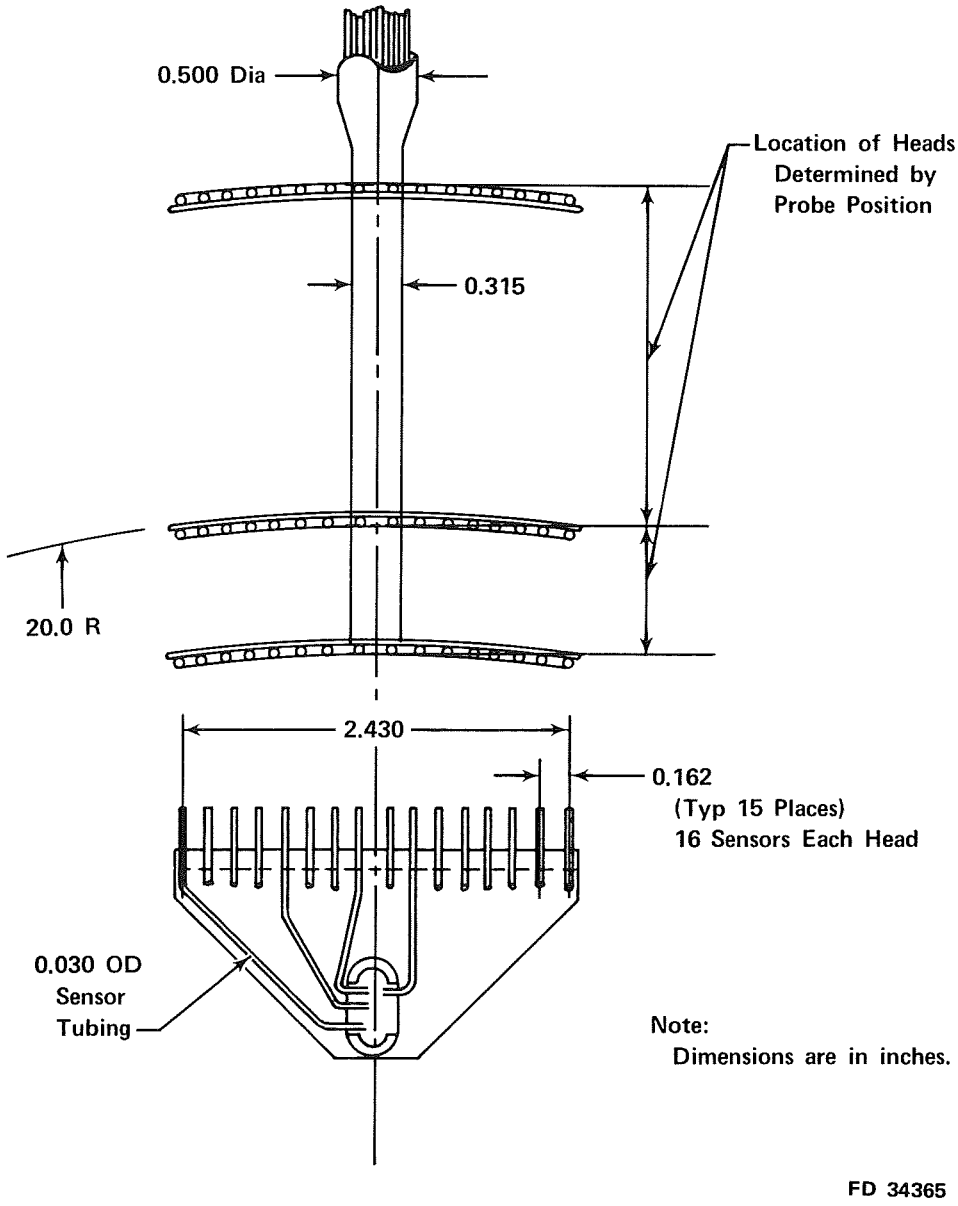

Figure 8. Circumferential Total Pressure Rake

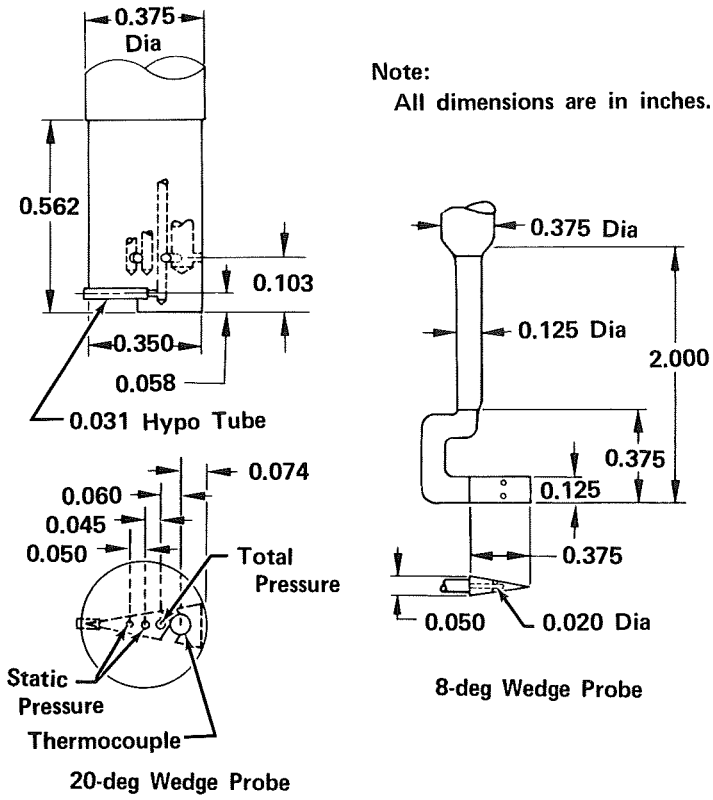

Figure 9. Wedge Traverse Probes

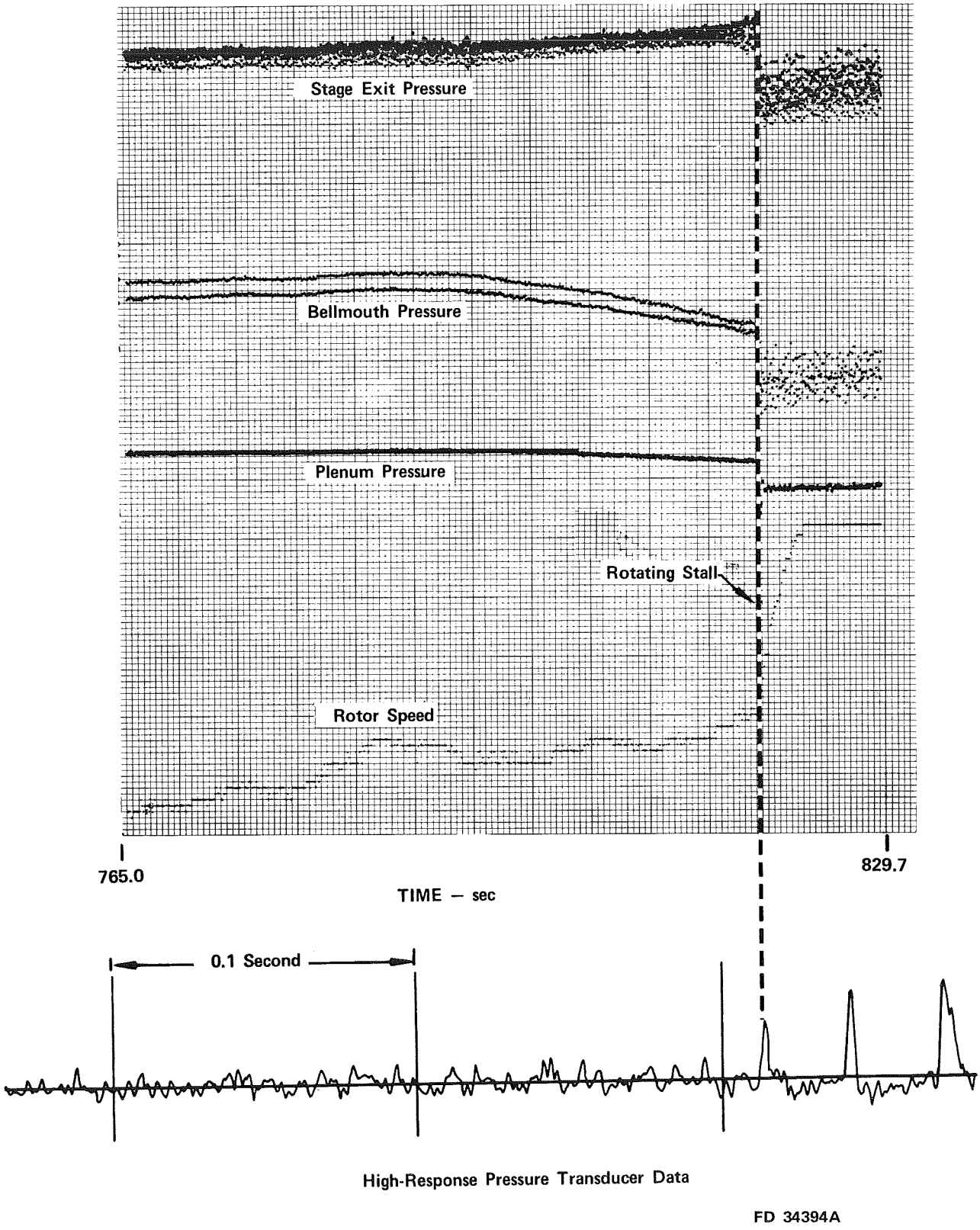

Figure 10. Typical Stall Transient Data

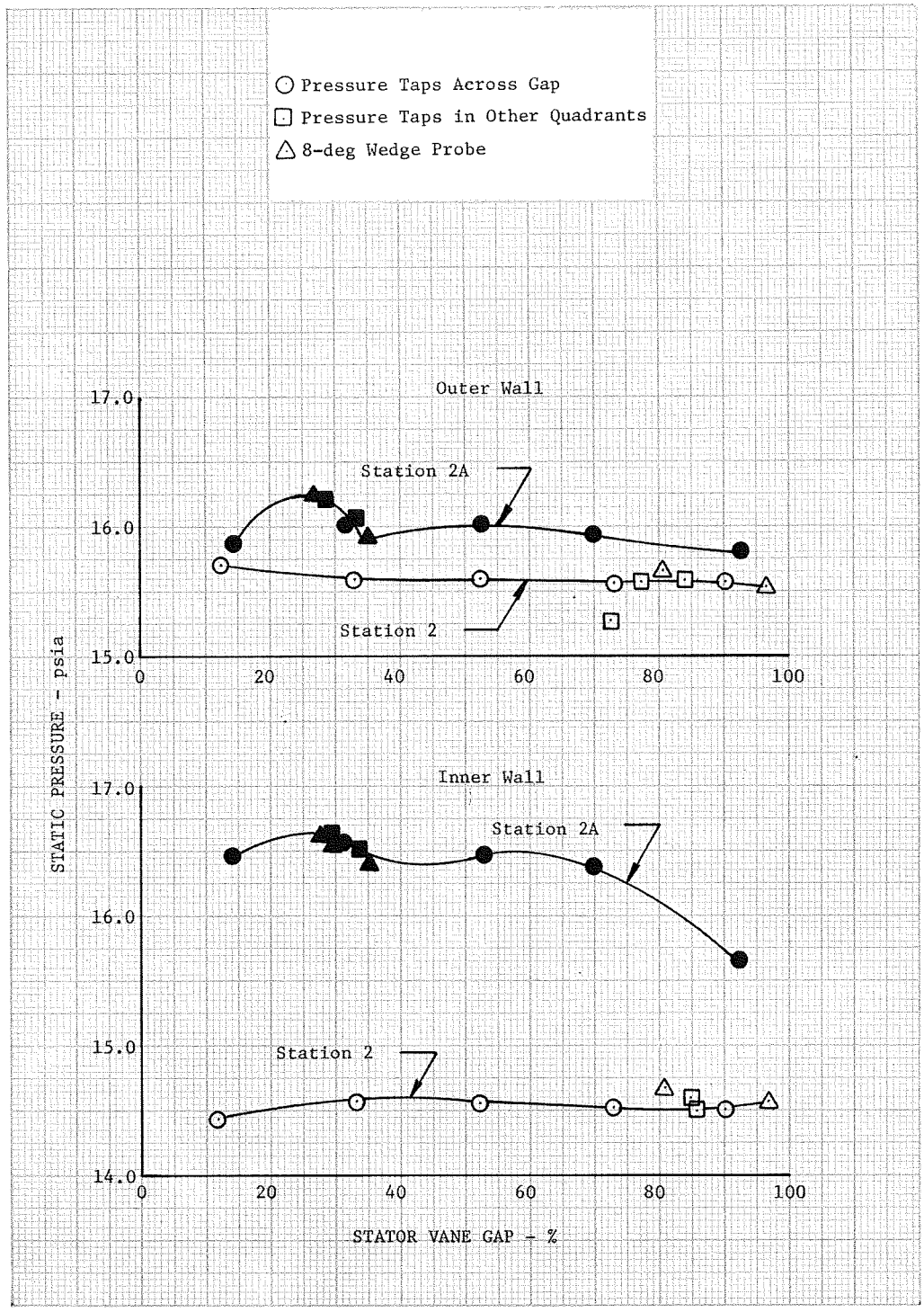

Figure 11. Comparison of Stator Inlet and Exit Wall Static Pressures at Near Design Flow Conditions

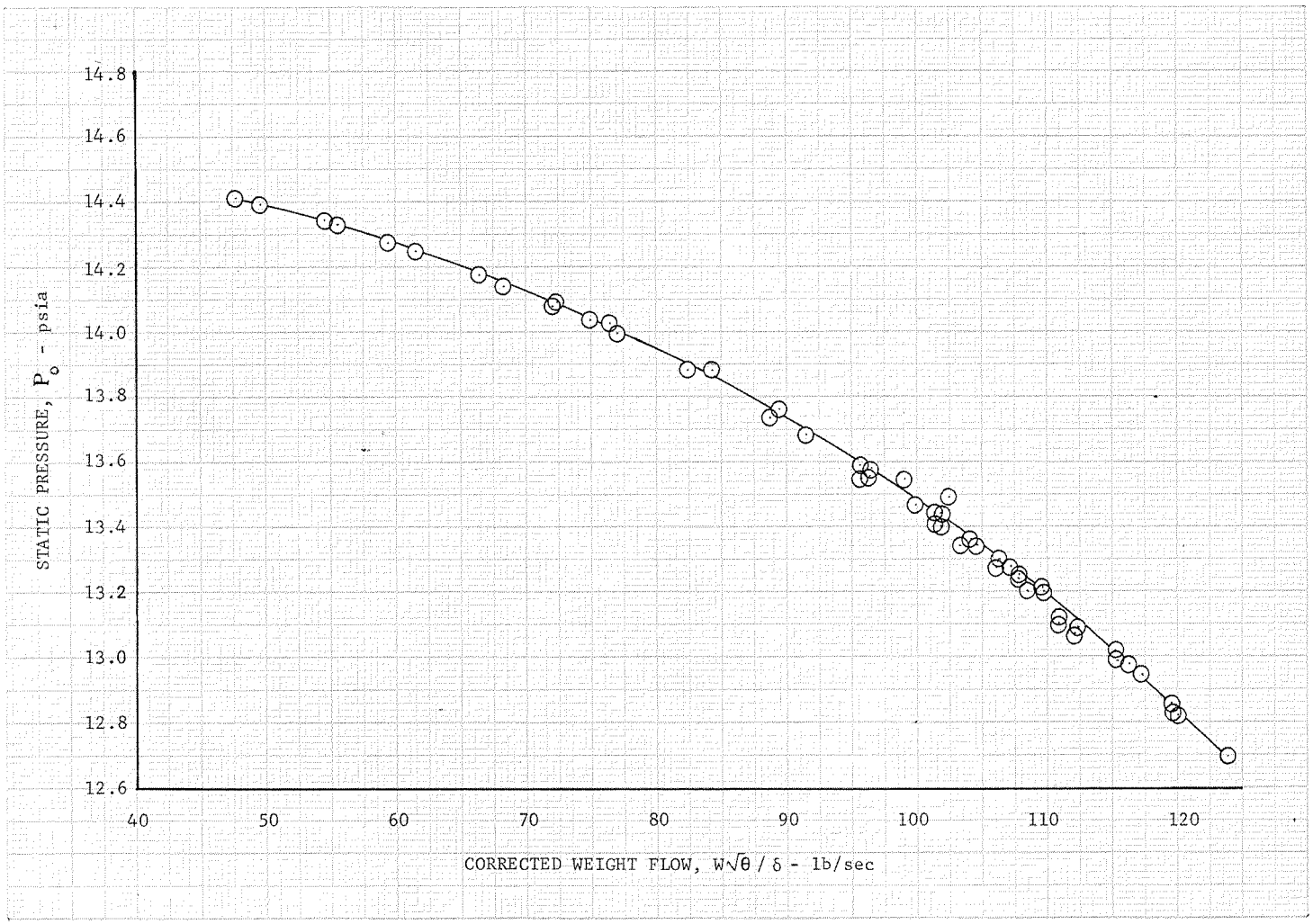

Figure 12. Station 0 Corrected Static Pressure vs Corrected Weight Flow

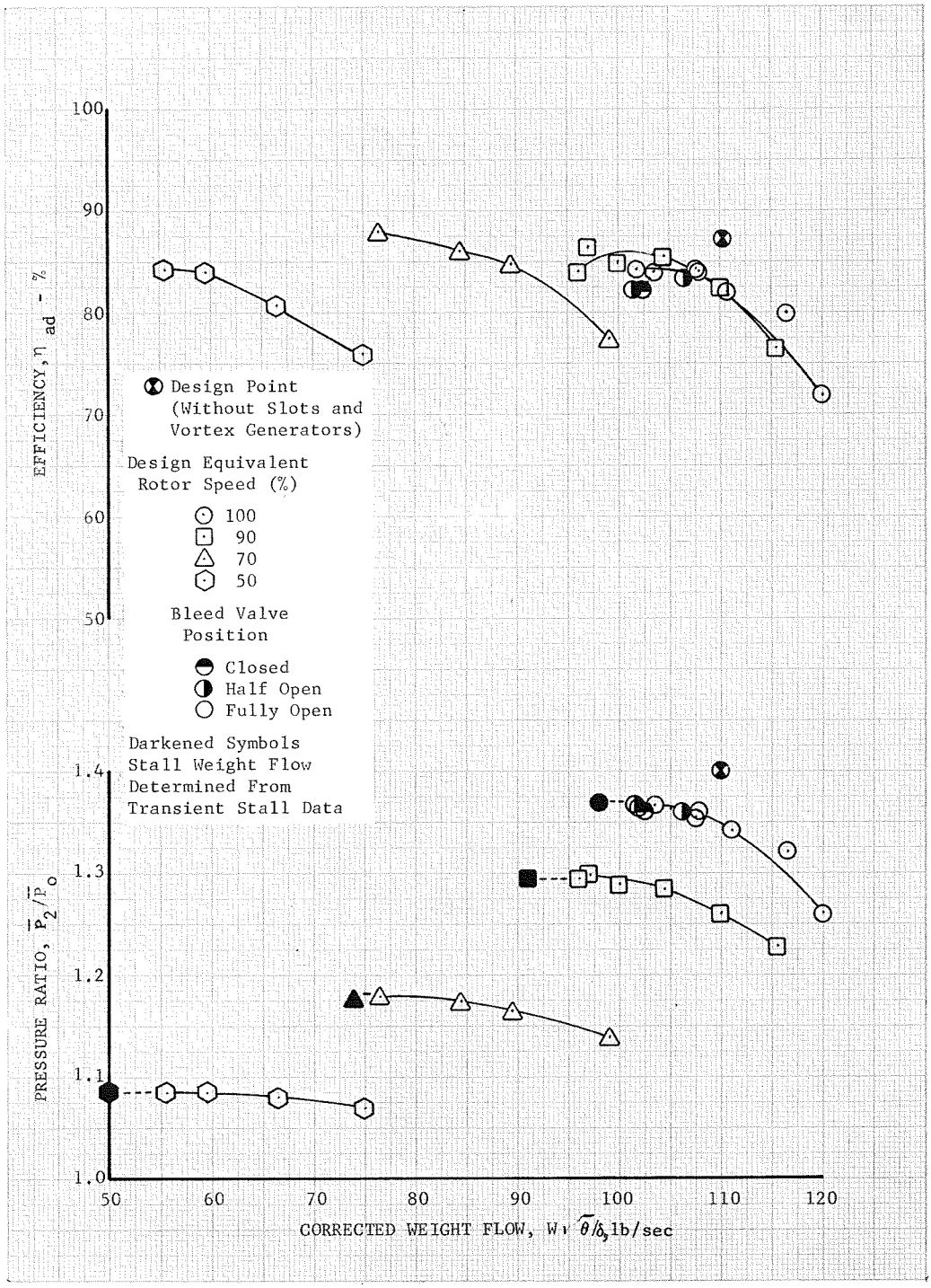

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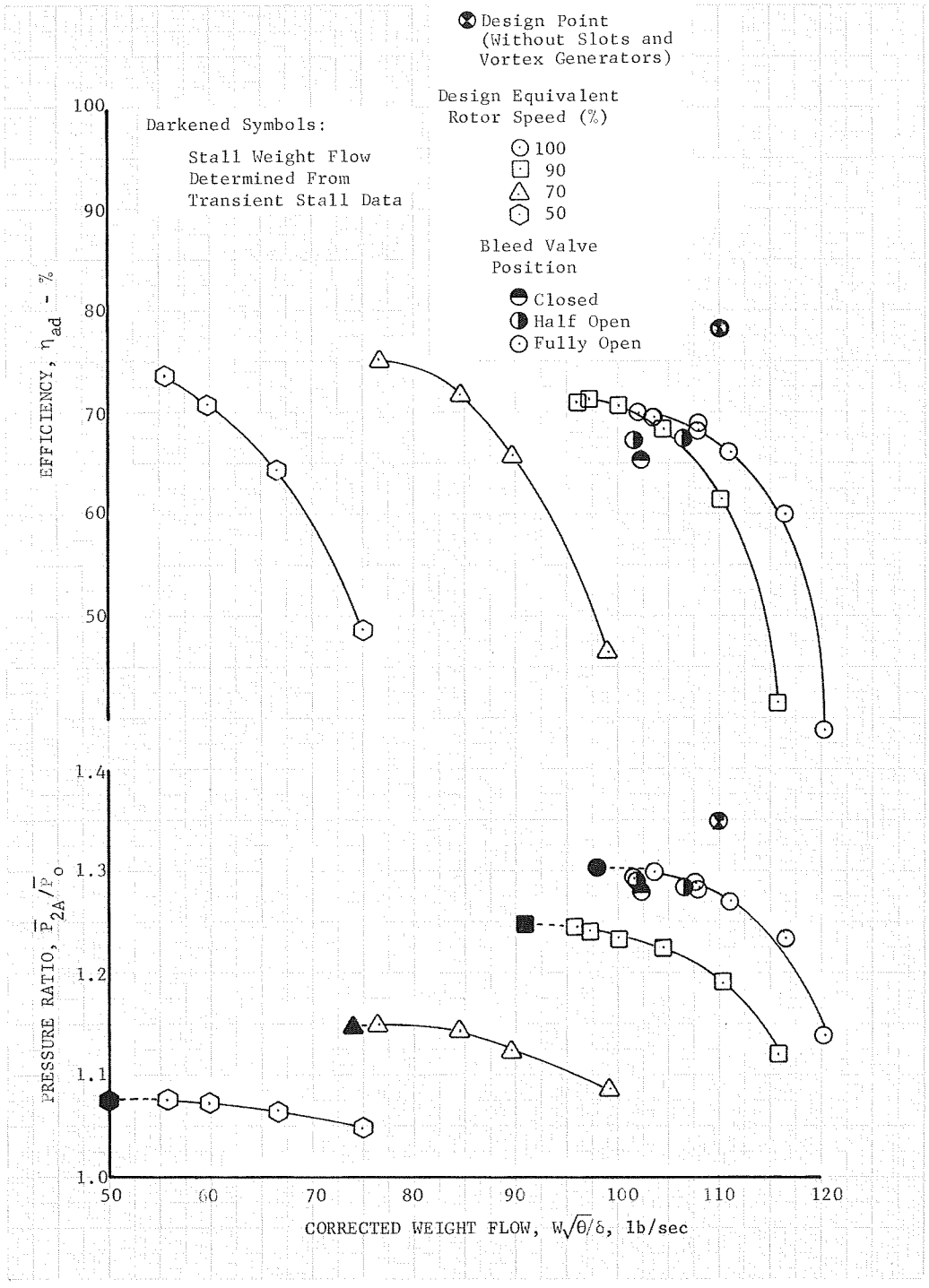
Figure 13. Overall Performance - Rotor



DF 76995

Figure 14. Overall Performance - Stage

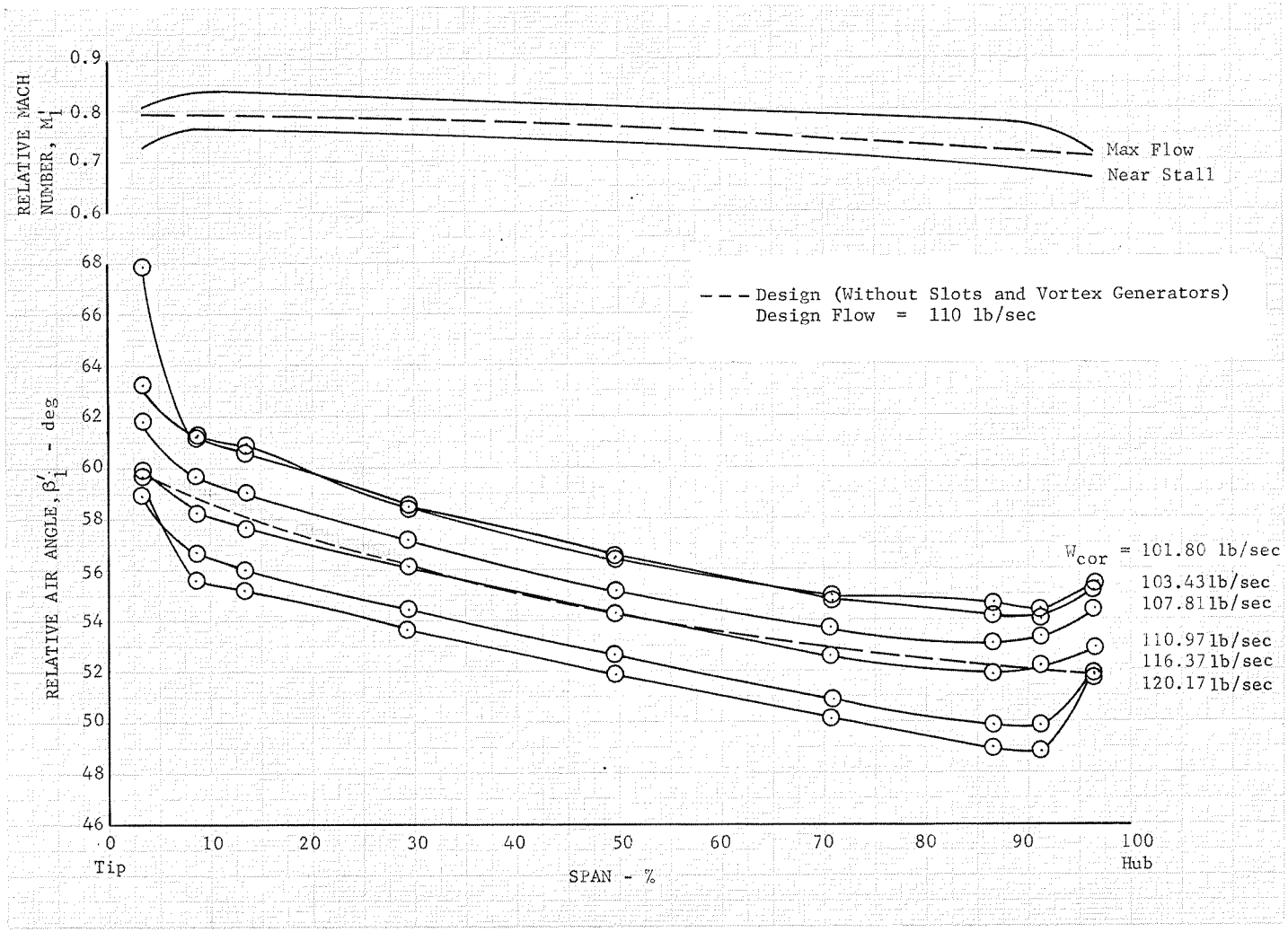


Figure 15. Rotor Inlet Relative Air Angle and Mach Number Distributions - Design Equivalent Rotor Speed

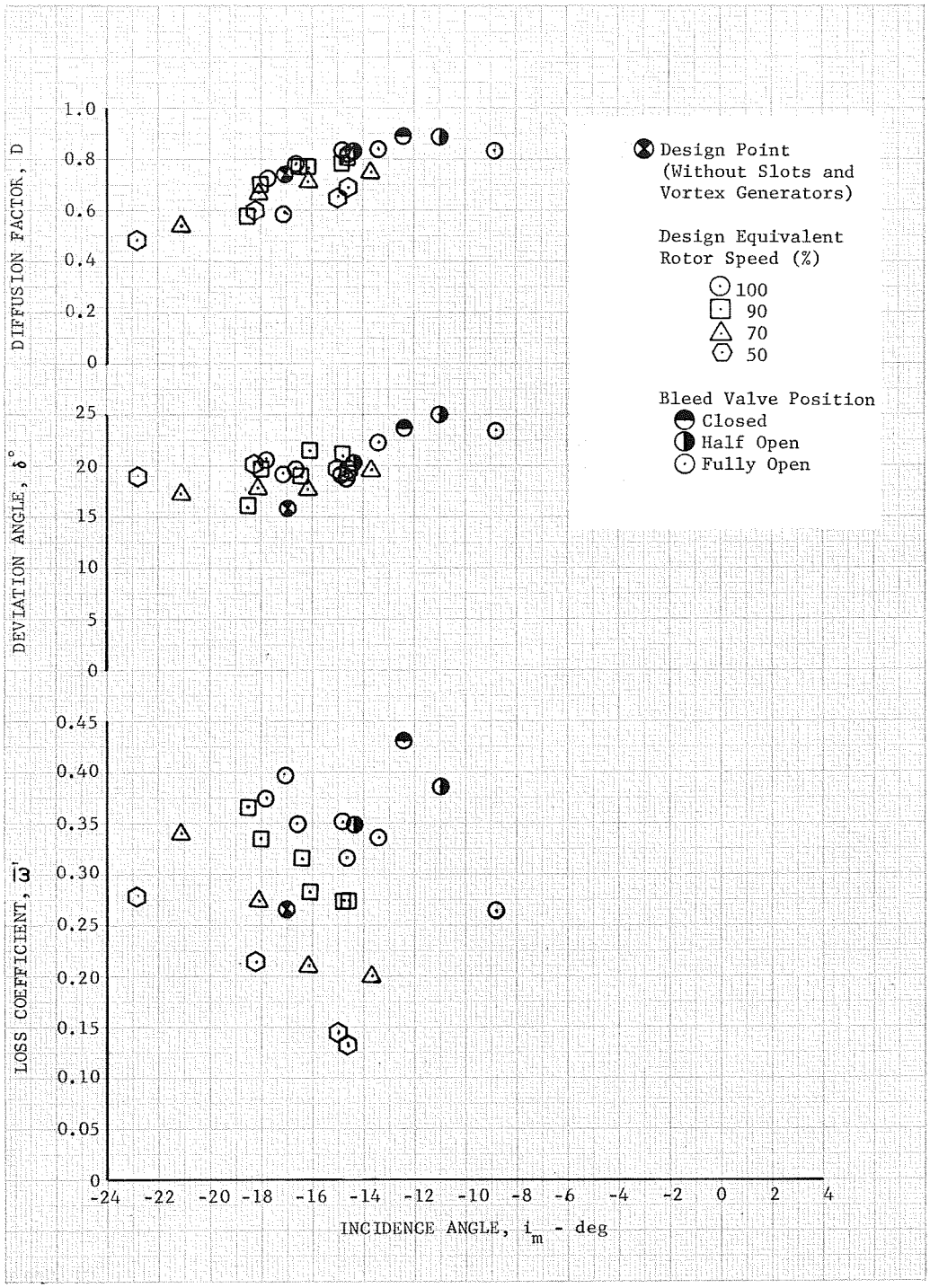
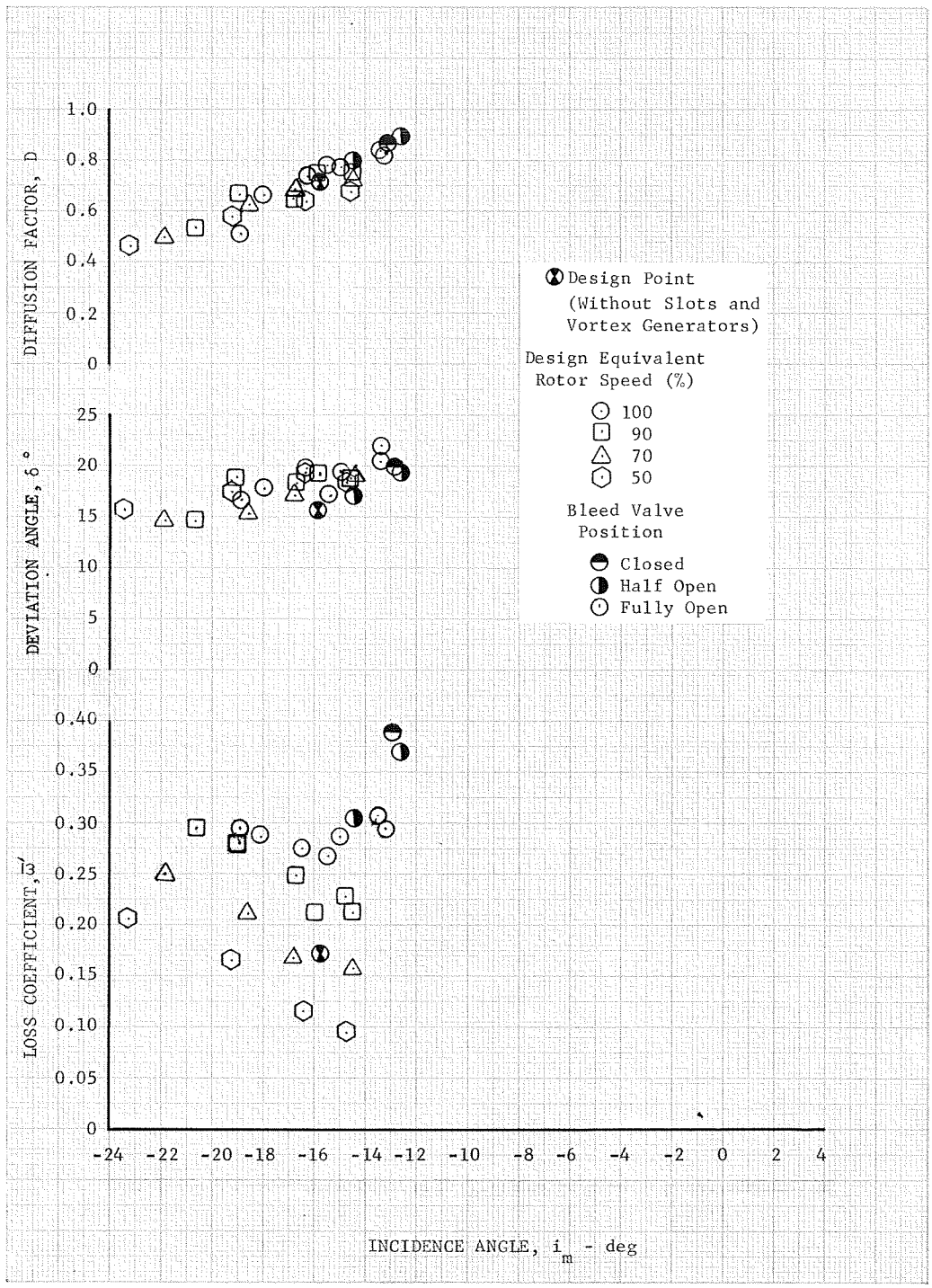


Figure 16. Rotor Blade Element Performance - 5% Span From Tip



DF 76994

Figure 17. Rotor Blade Element Performance - 10% Span From Tip

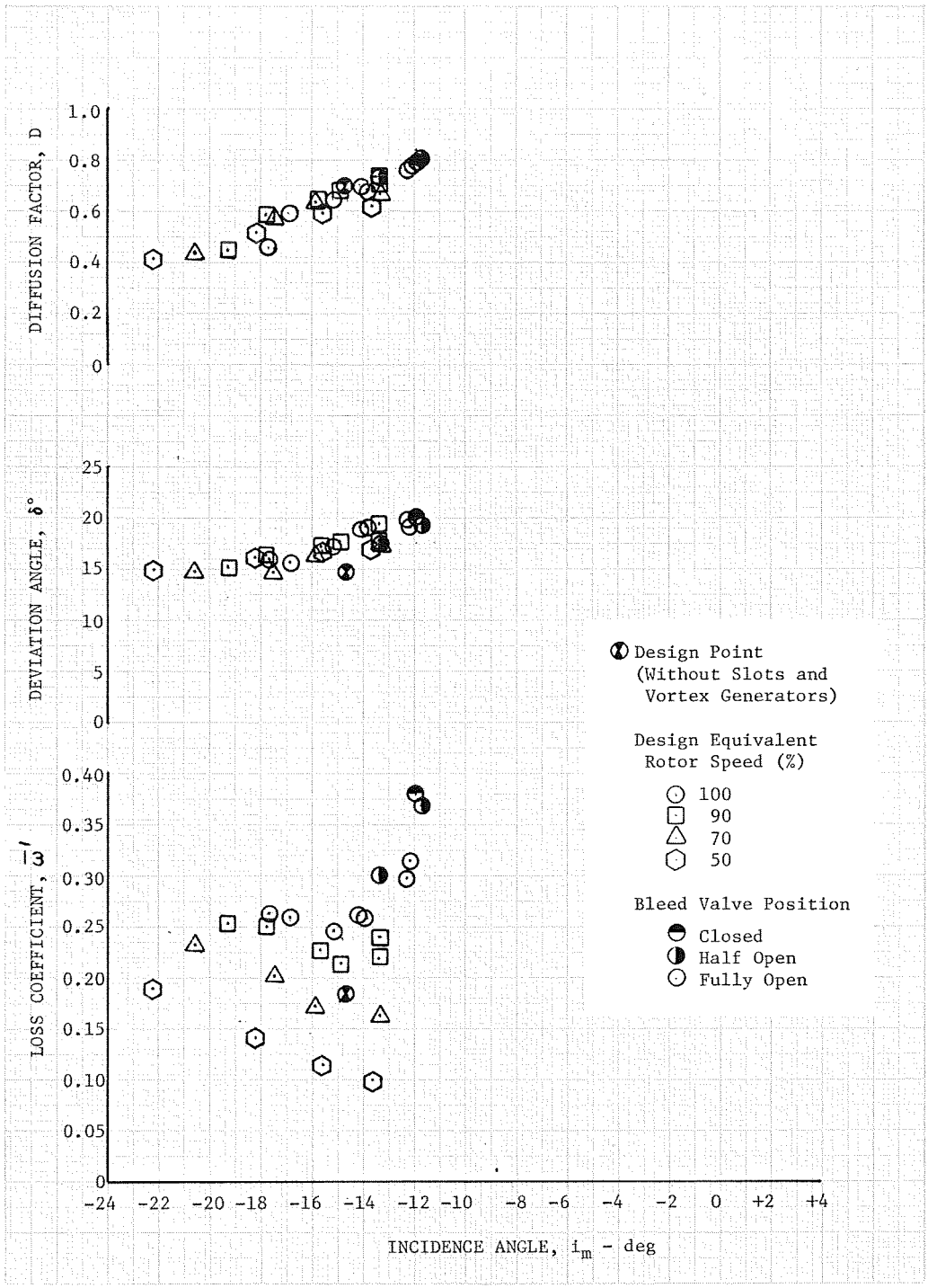
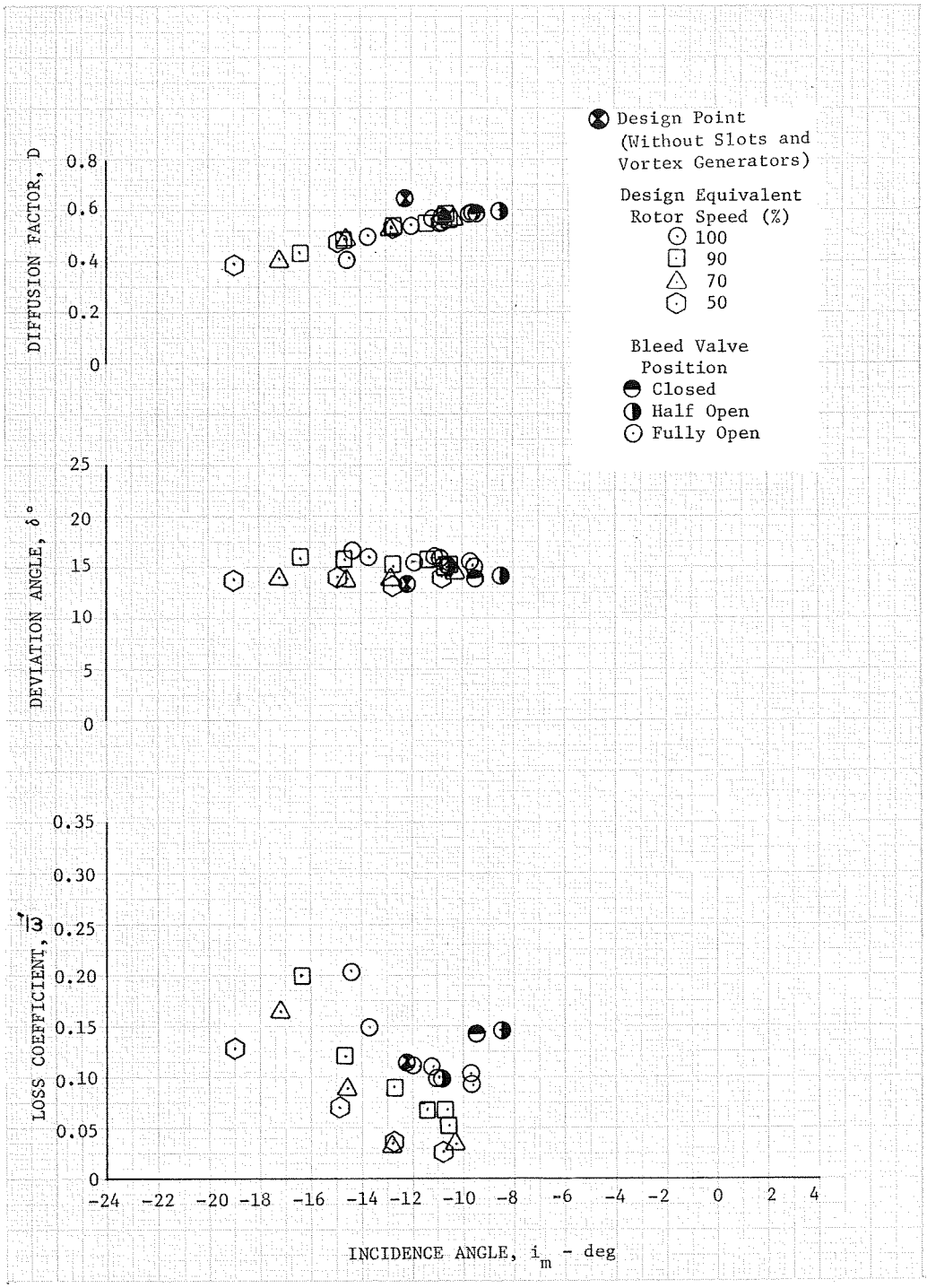


Figure 18. Rotor Blade Element Performance - 15% Span From Tip



DF 76992

Figure 19. Rotor Blade Element Performance - 30% Span From Tip

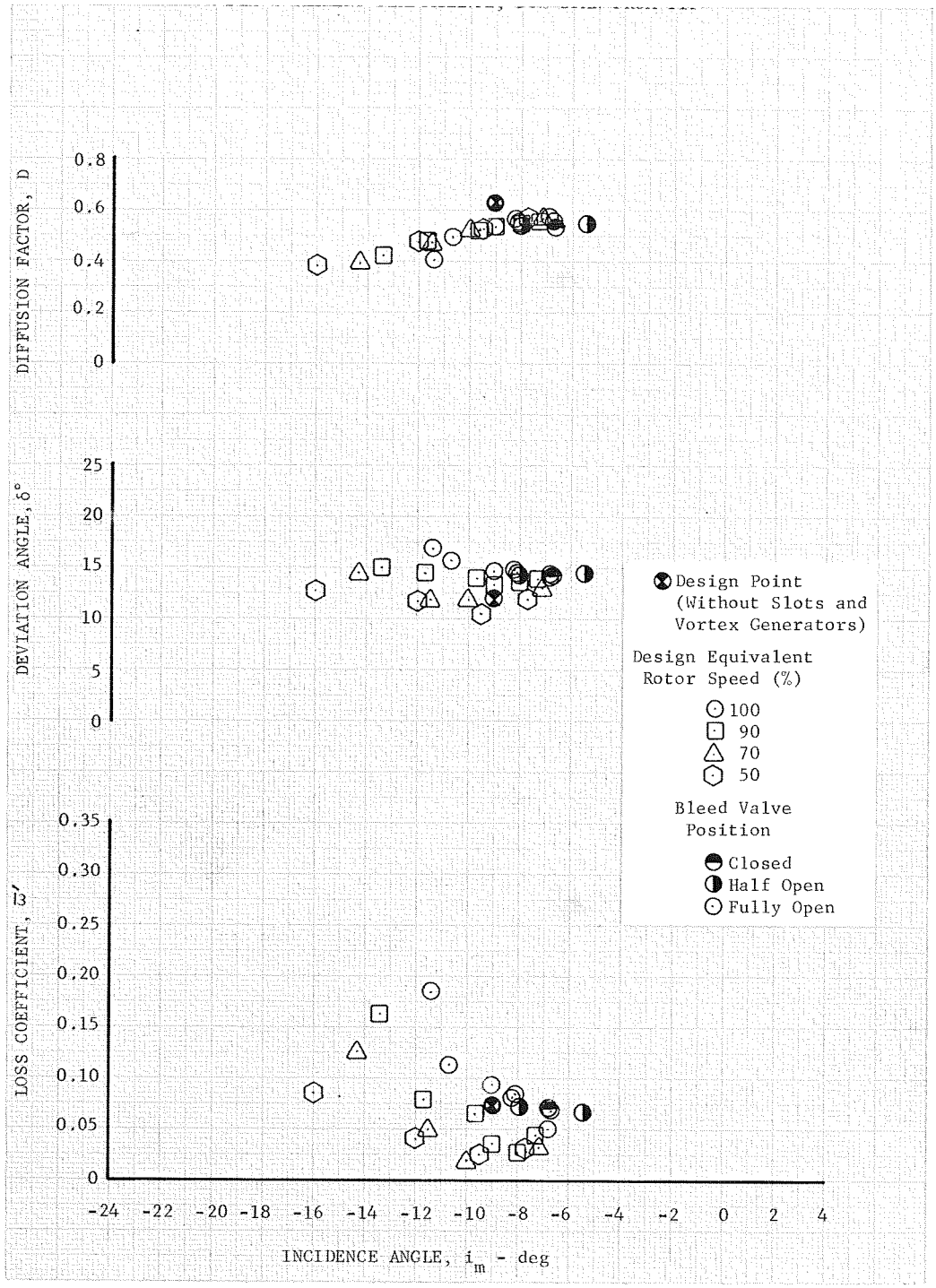


Figure 20. Rotor Blade Element Performance - 50% Span From Tip

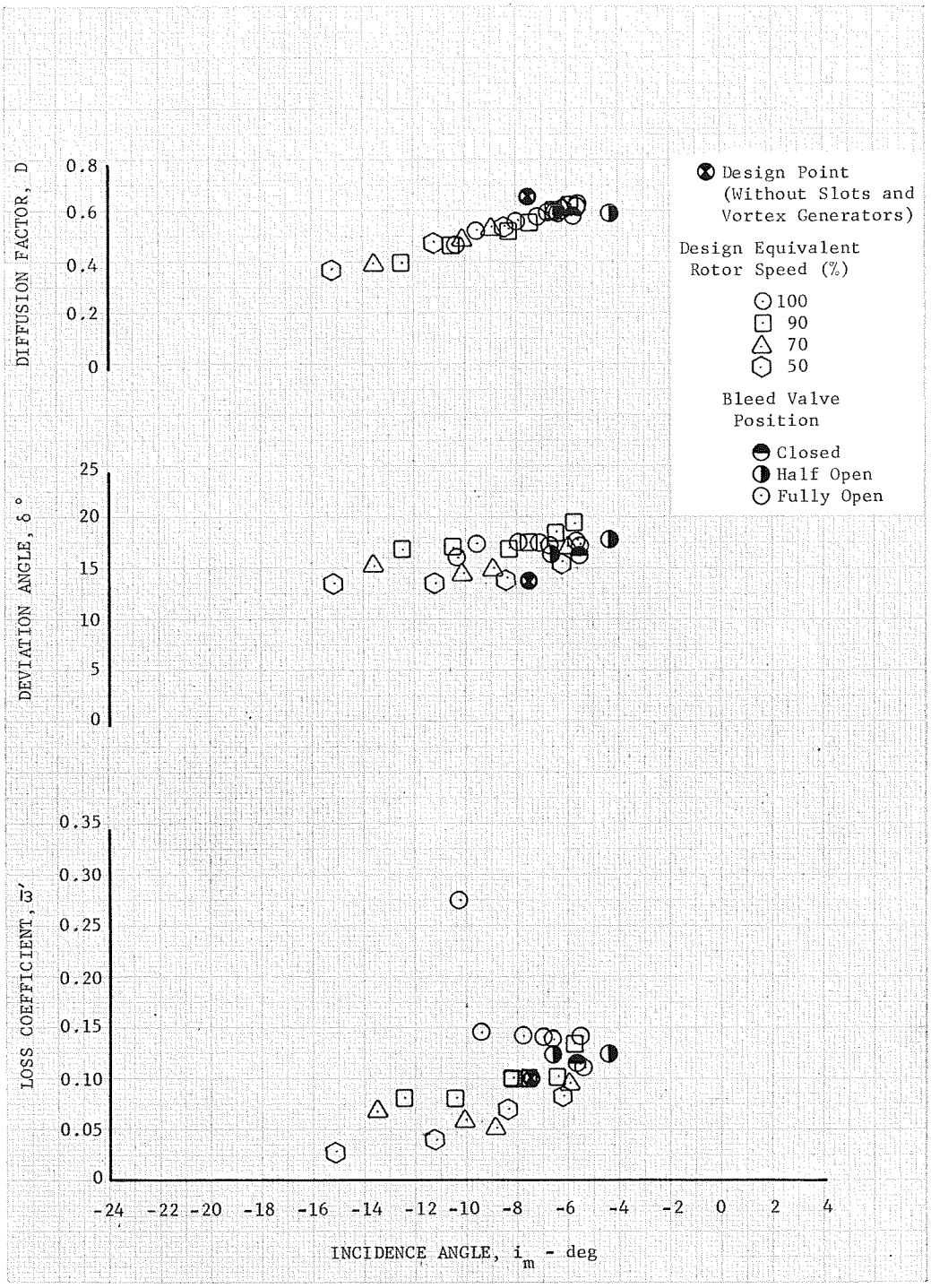


Figure 21. Rotor Blade Element Performance - 70% Span From Tip

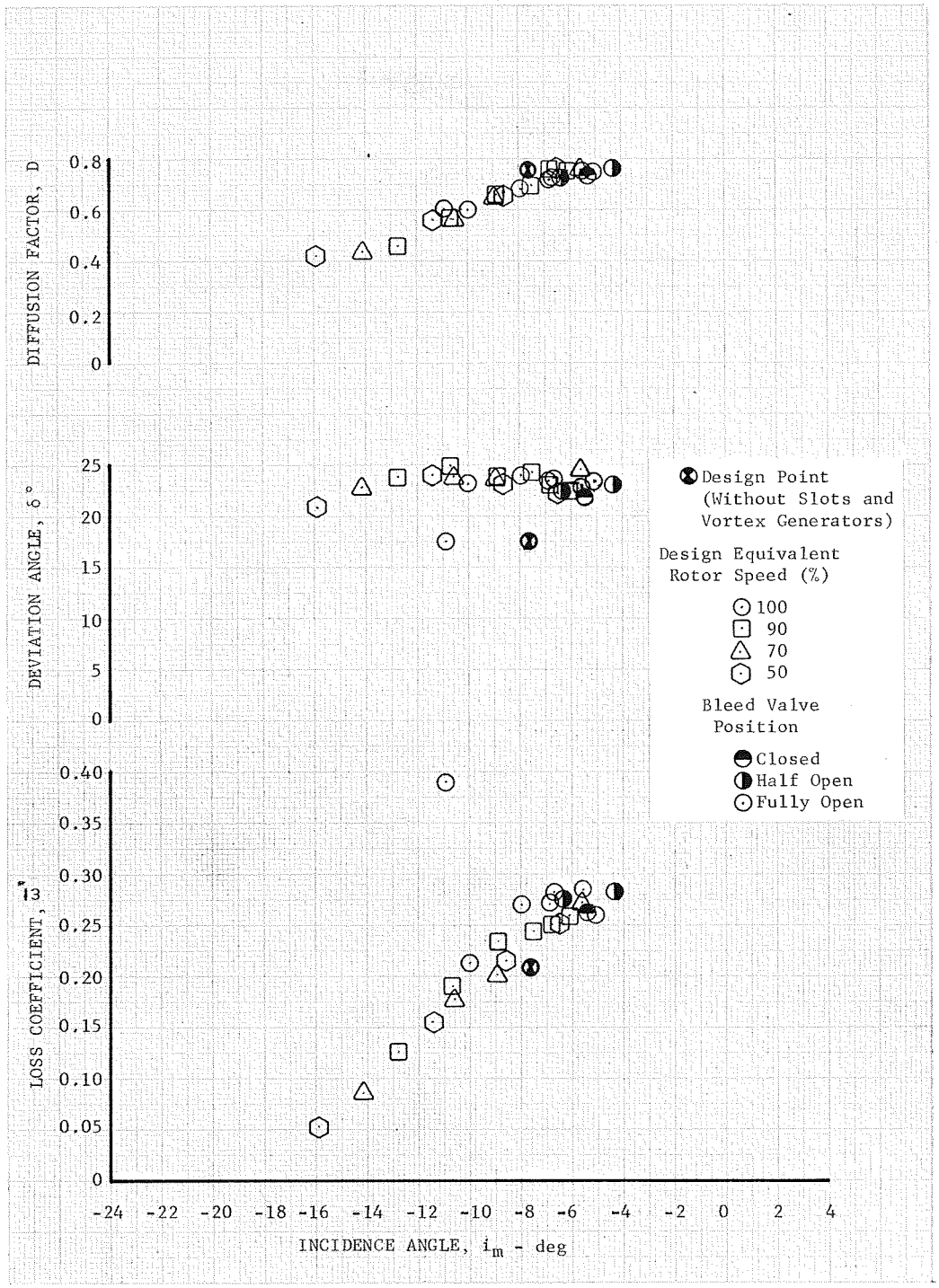
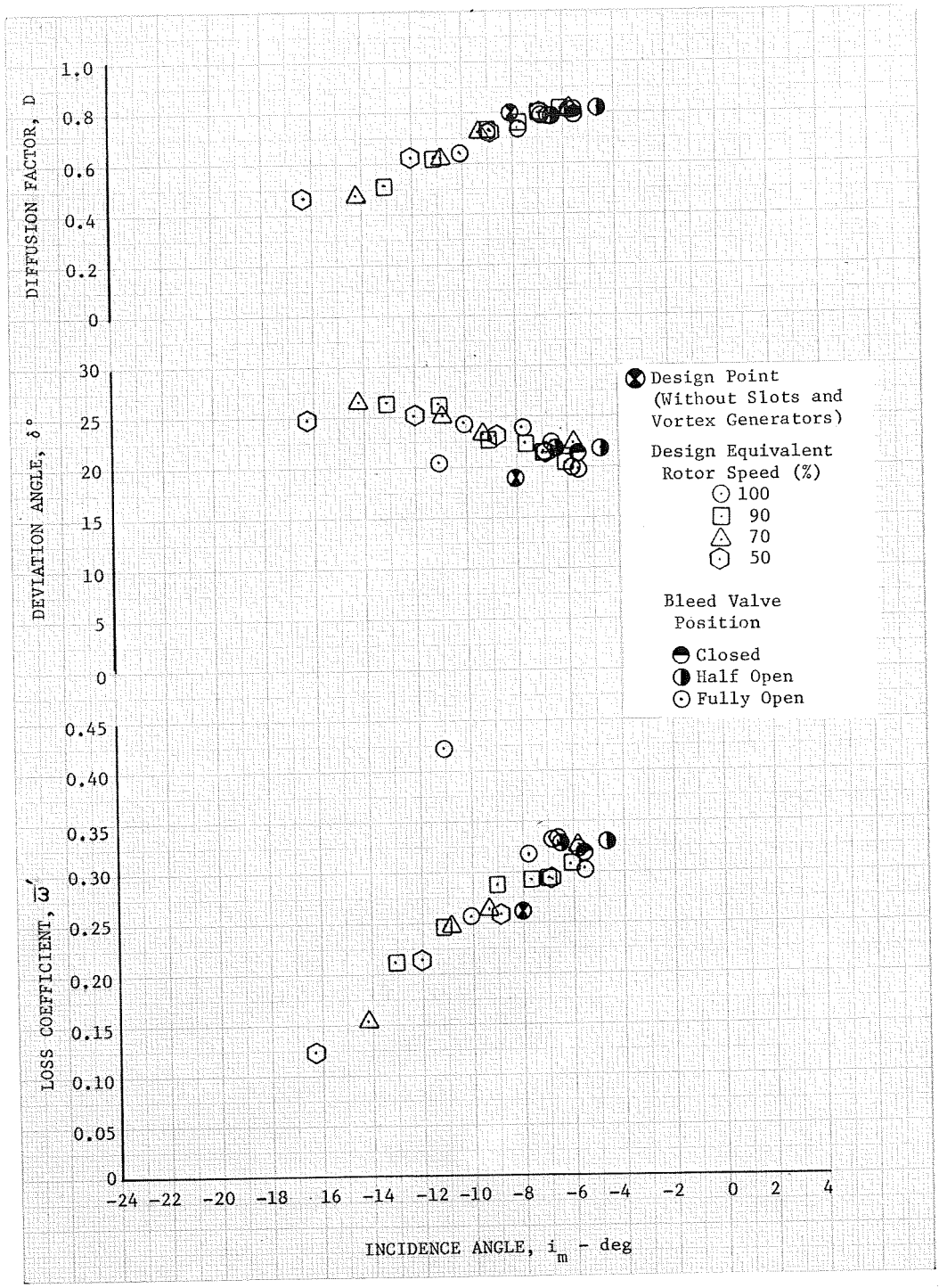


Figure 22. Rotor Blade Element Performance - 85% Span From Tip



DF 76987

Figure 23. Rotor Blade Element Performance - 90% Span From Tip

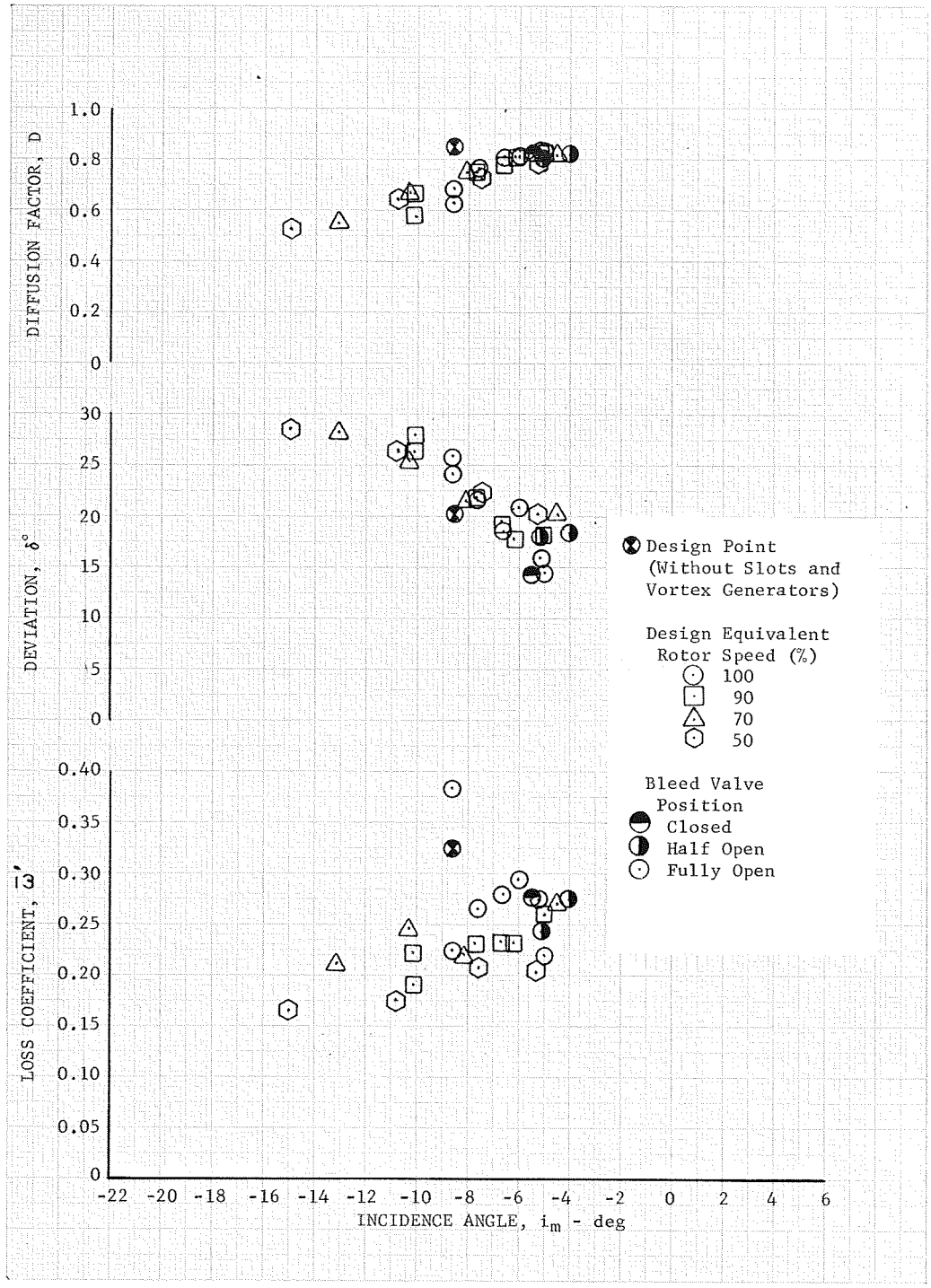


Figure 24. Rotor Blade Element Performance - 95% Span From Tip

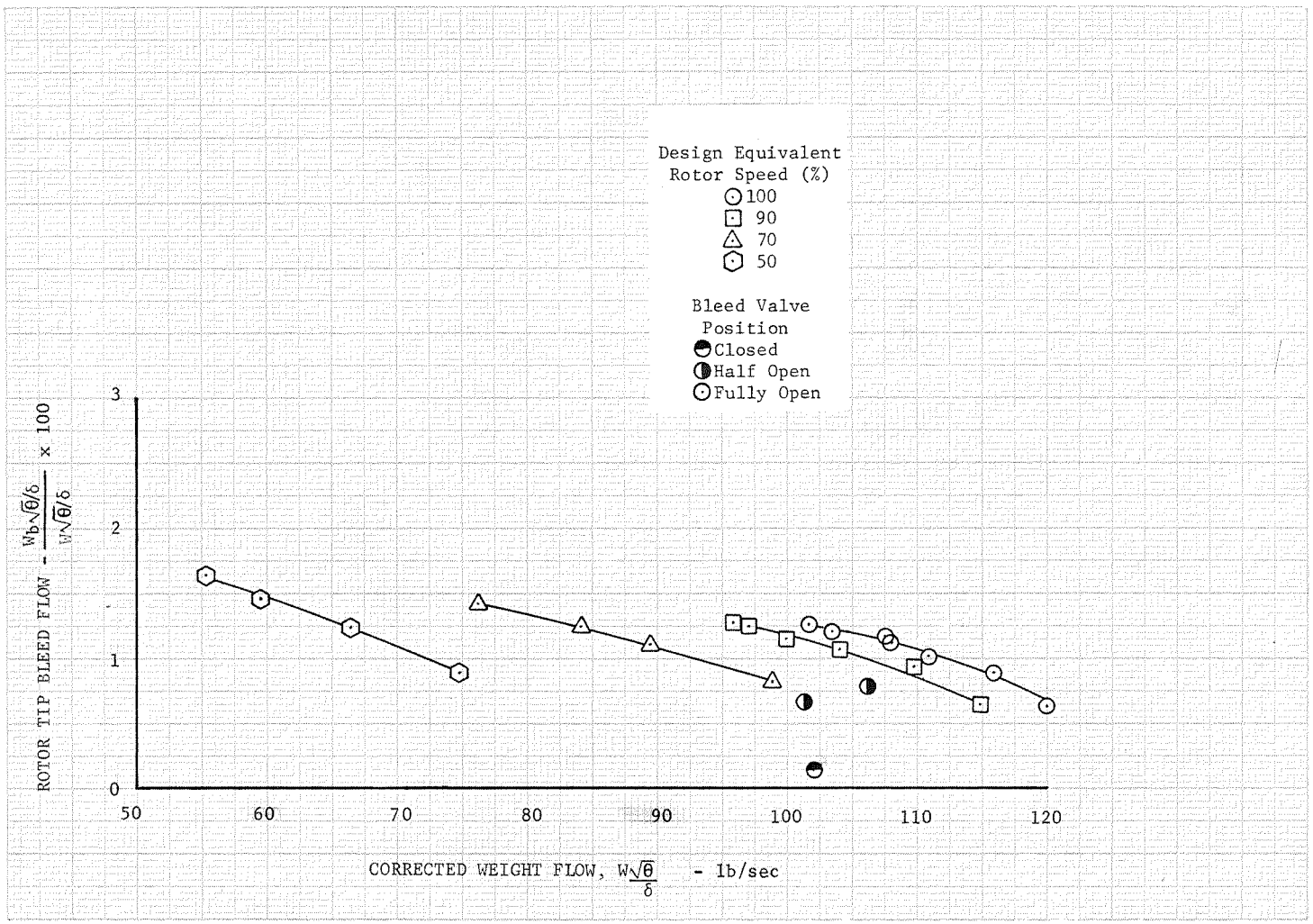
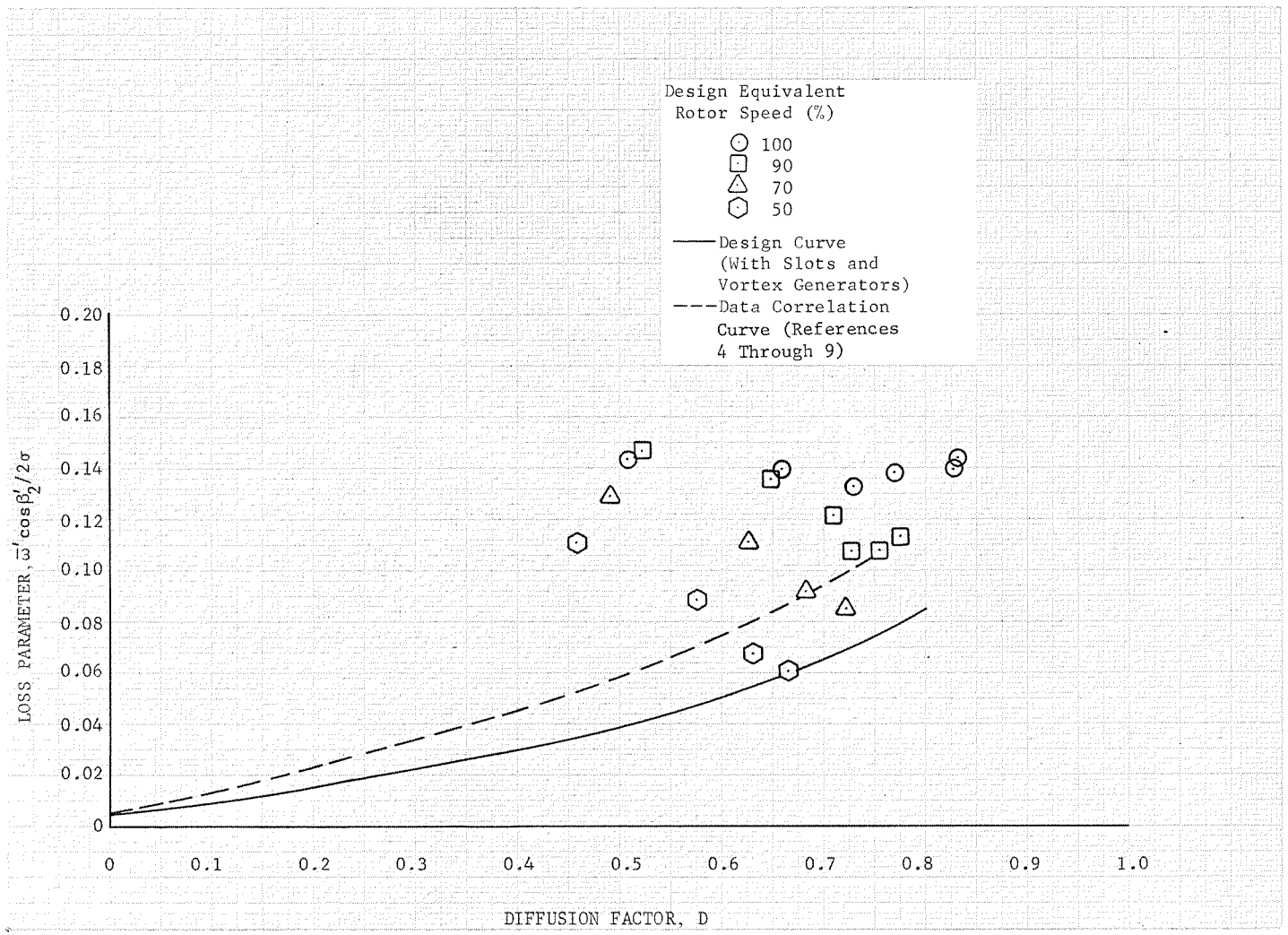
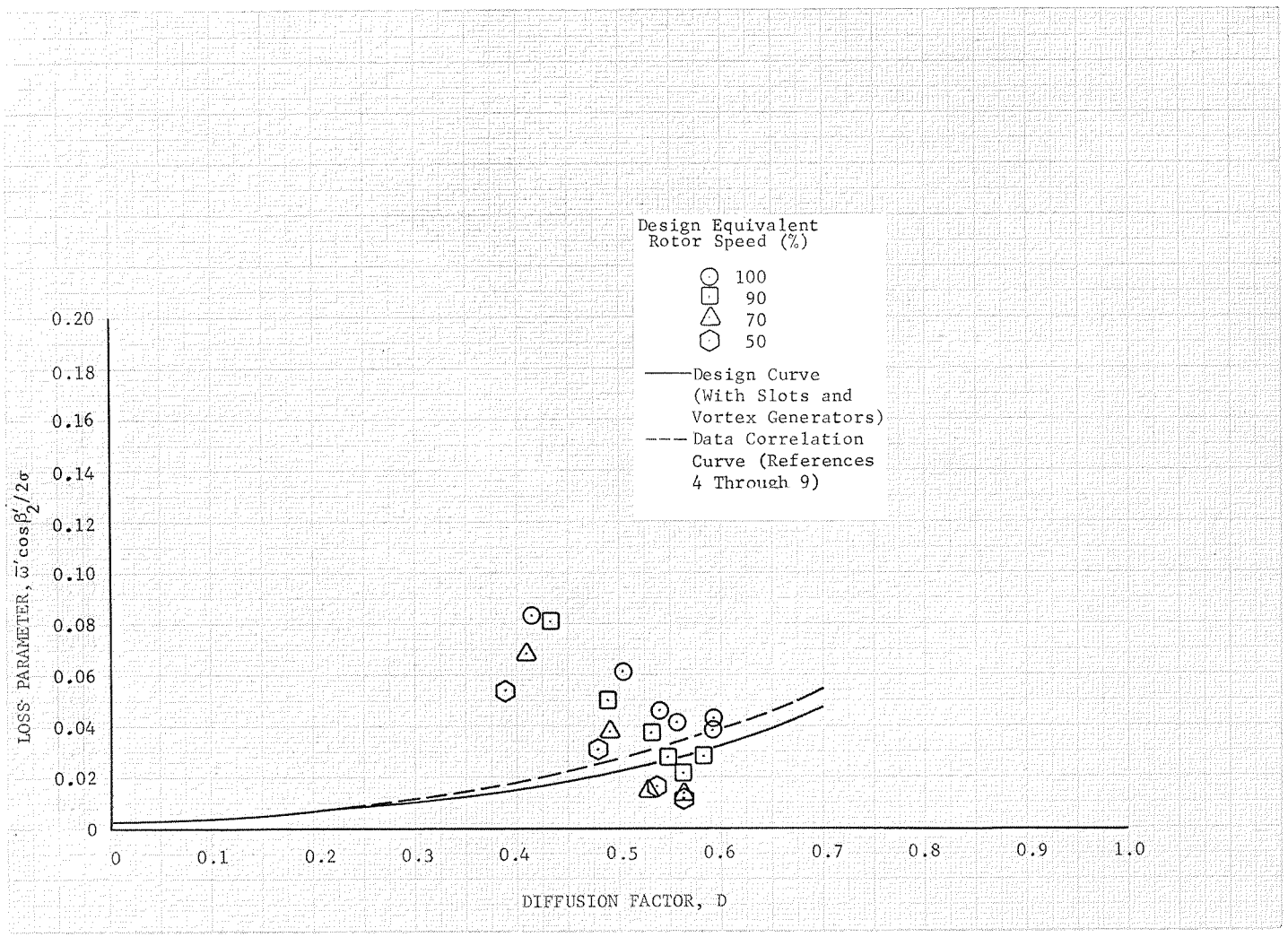


Figure 25. Variation of Rotor Tip Bleed Flow With Equivalent Rotor Speed and Corrected Flow



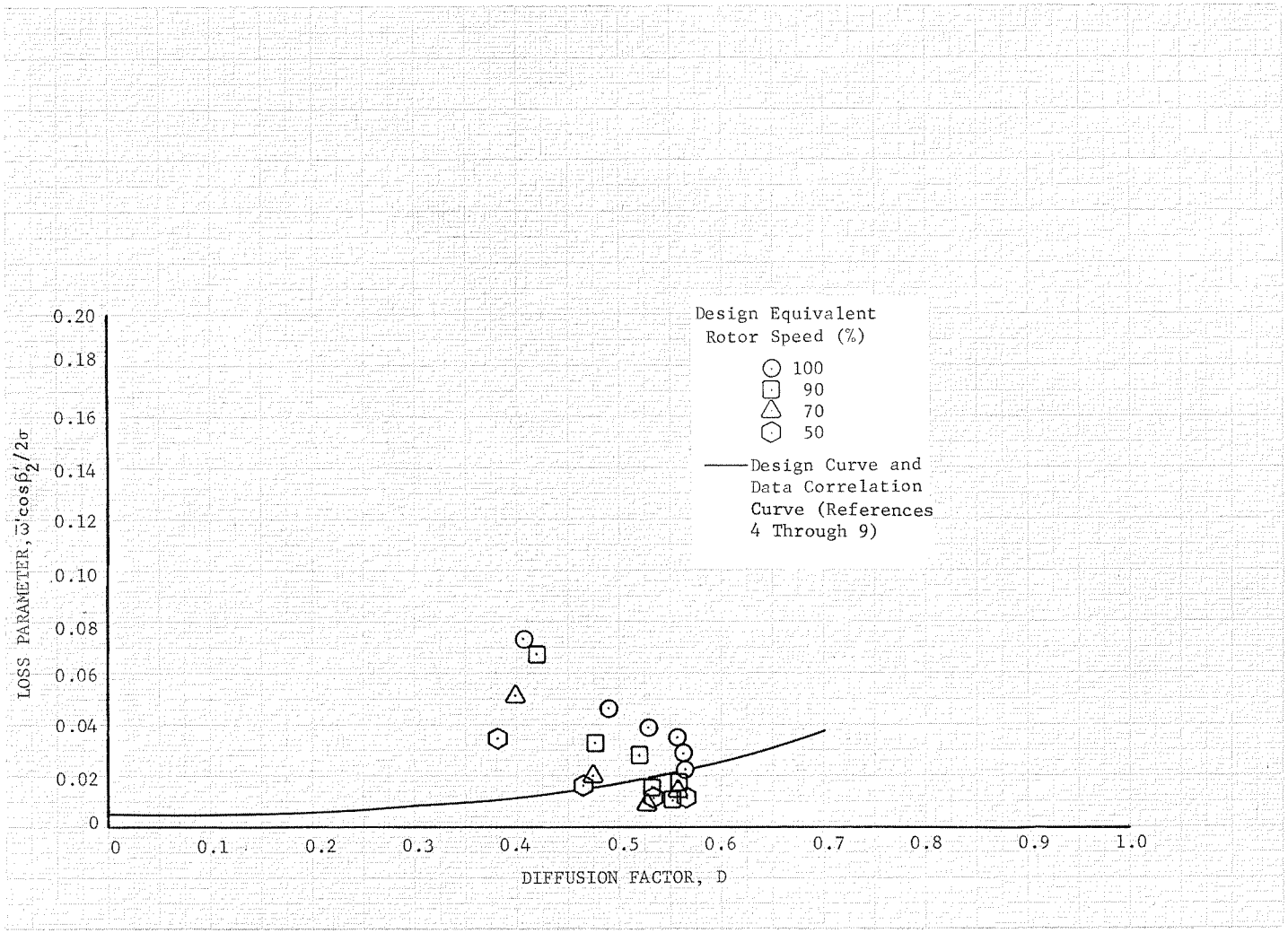
DF 77011

Figure 26. Rotor Loss Parameter vs Diffusion Factor - 10% Span From Tip



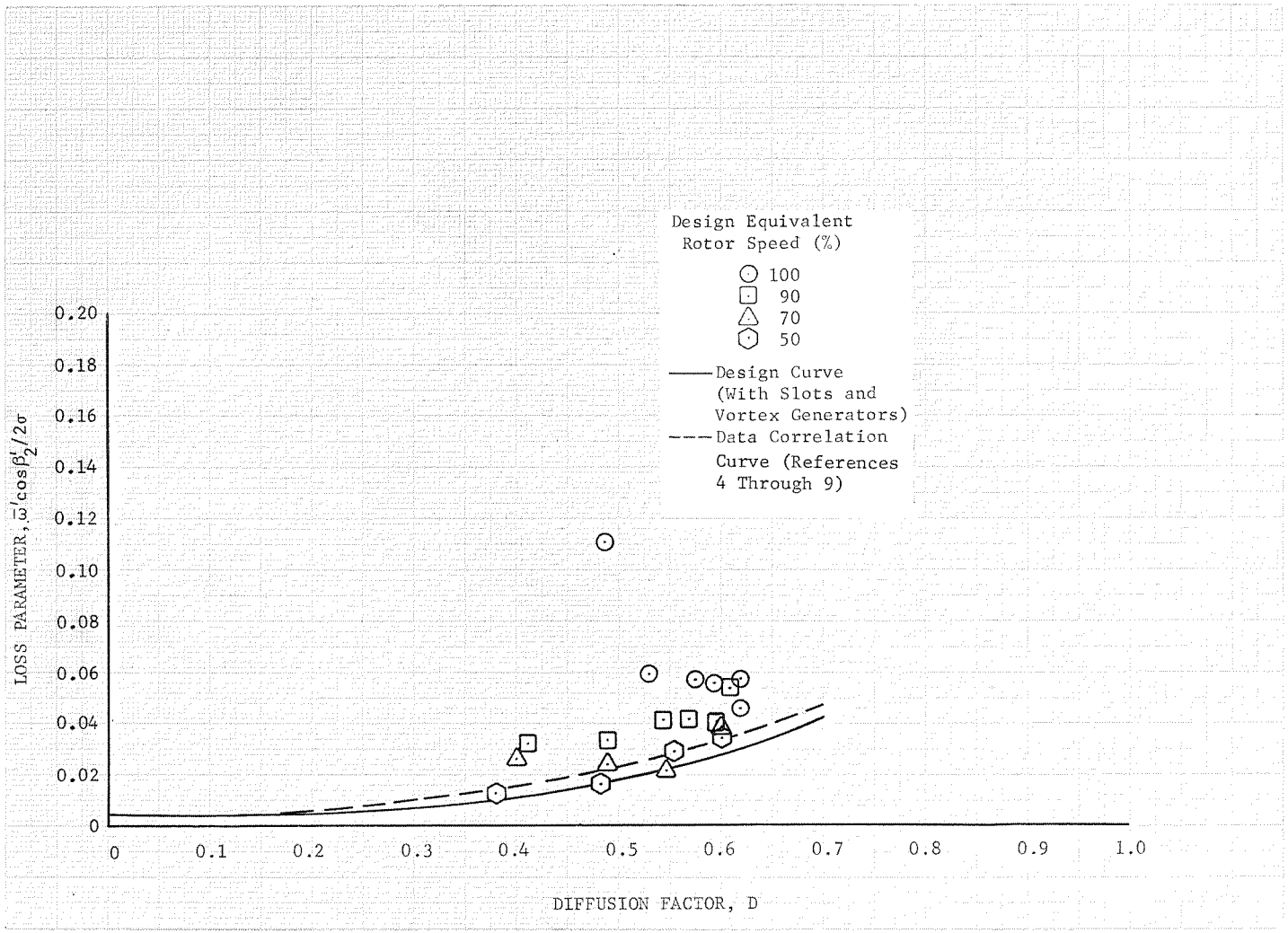
DF 77013

Figure 27. Rotor Loss Parameter vs Diffusion Factor - 30% Span From Tip



DF 77014

Figure 28. Rotor Loss Parameter vs Diffusion Factor - 50% Span From Tip



DF 77015

Figure 29. Rotor Loss Parameter vs Diffusion Factor - 70% Span From Tip

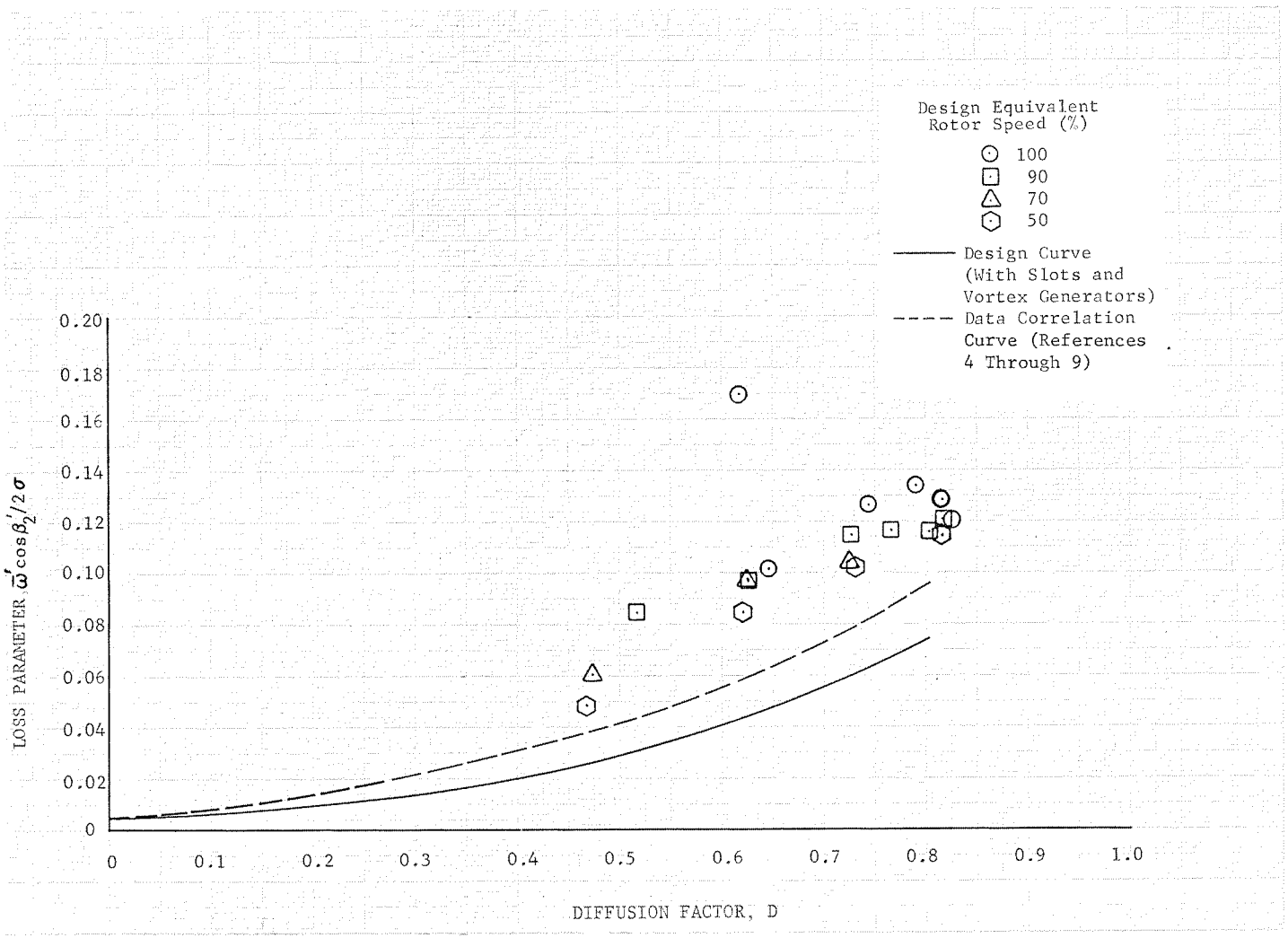
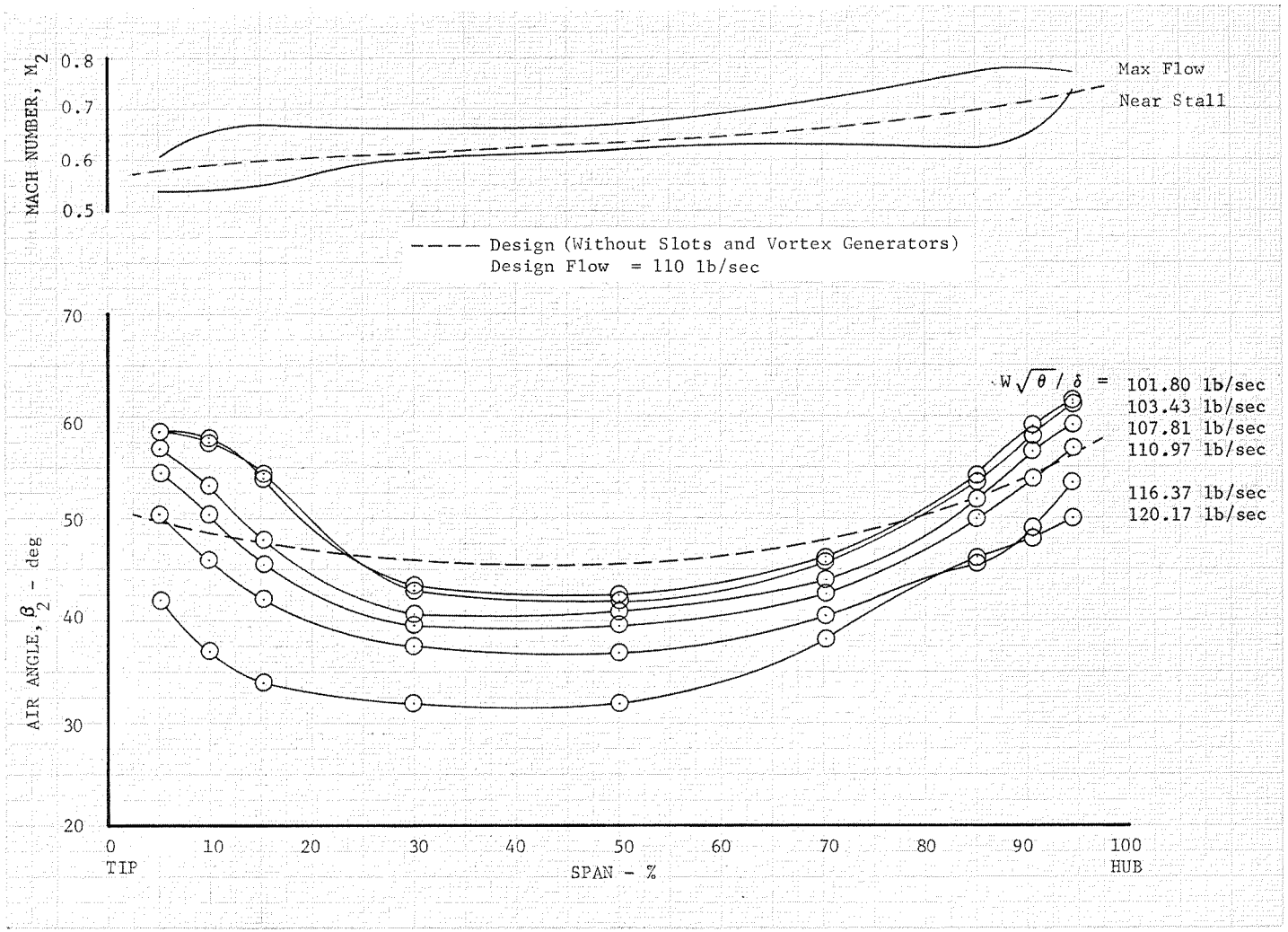


Figure 30. Rotor Loss Parameter vs Diffusion Factor - 90% Span From Tip



DF 77019

Figure 31. Stator Inlet Air Angle and Mach Number Distribution - Design Equivalent Rotor Speed

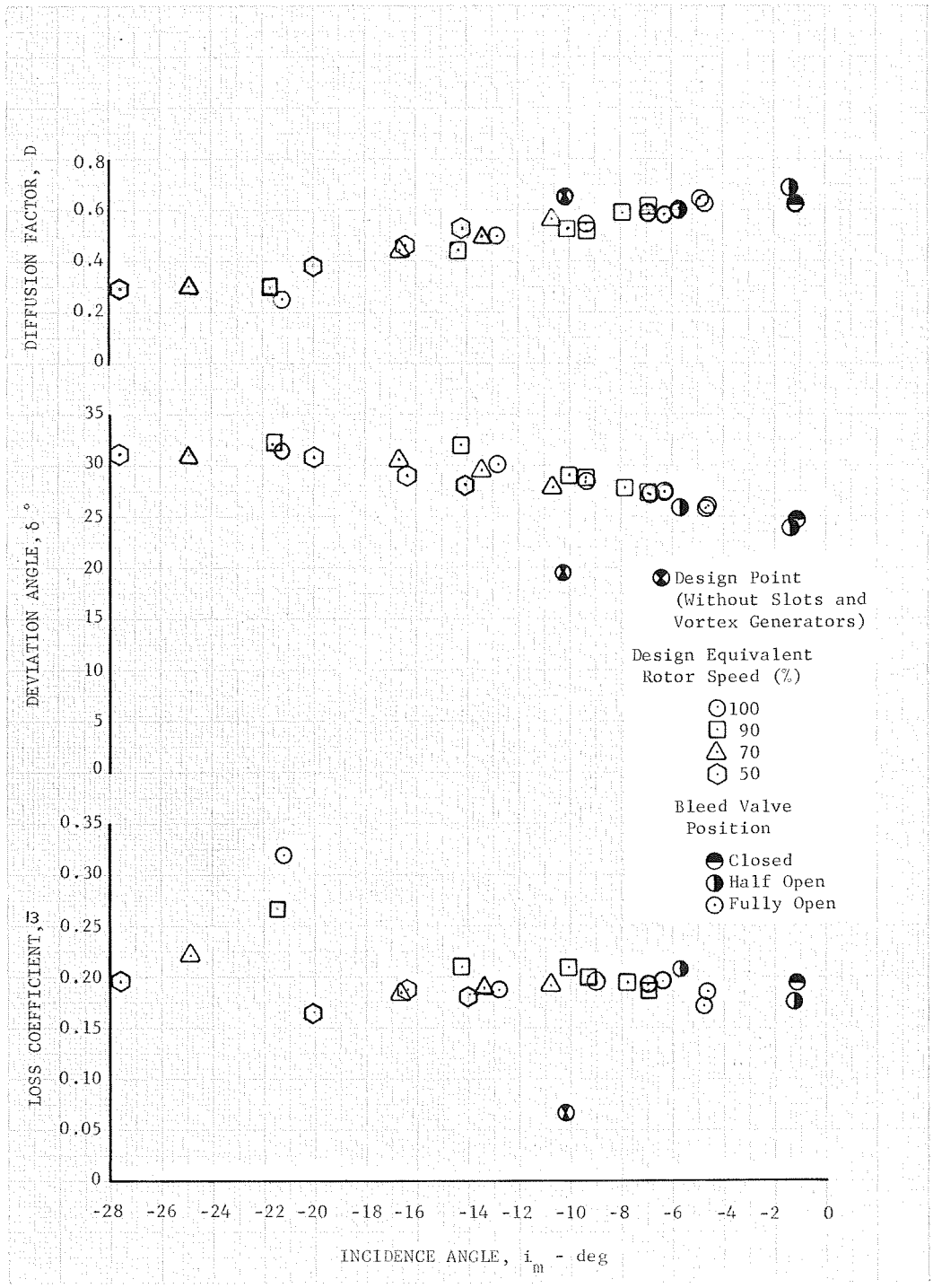


Figure 32. Stator Blade Element Performance - 5% Span From Tip

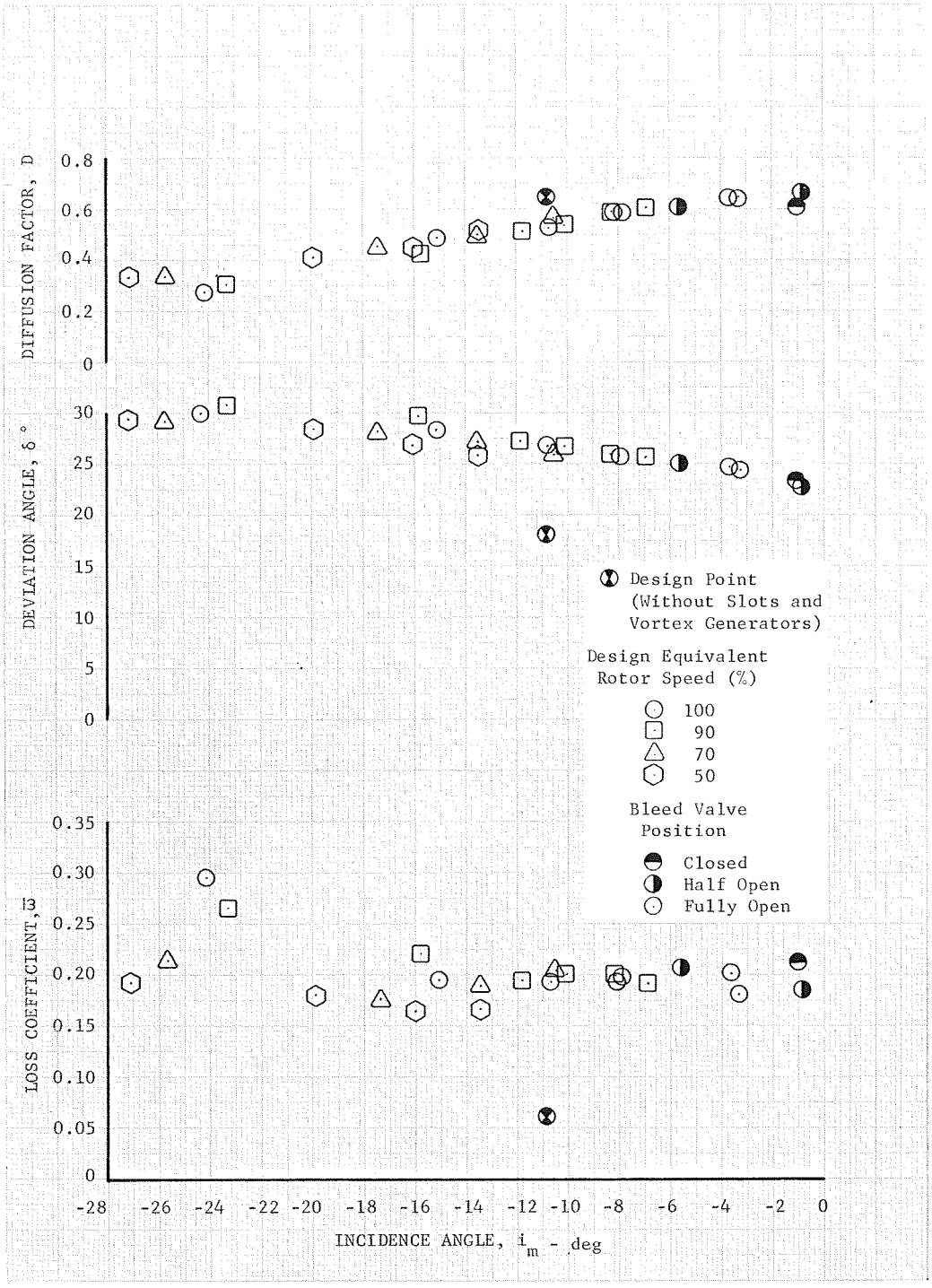


Figure 33. Stator Blade Element Performance - 10% Span From Tip

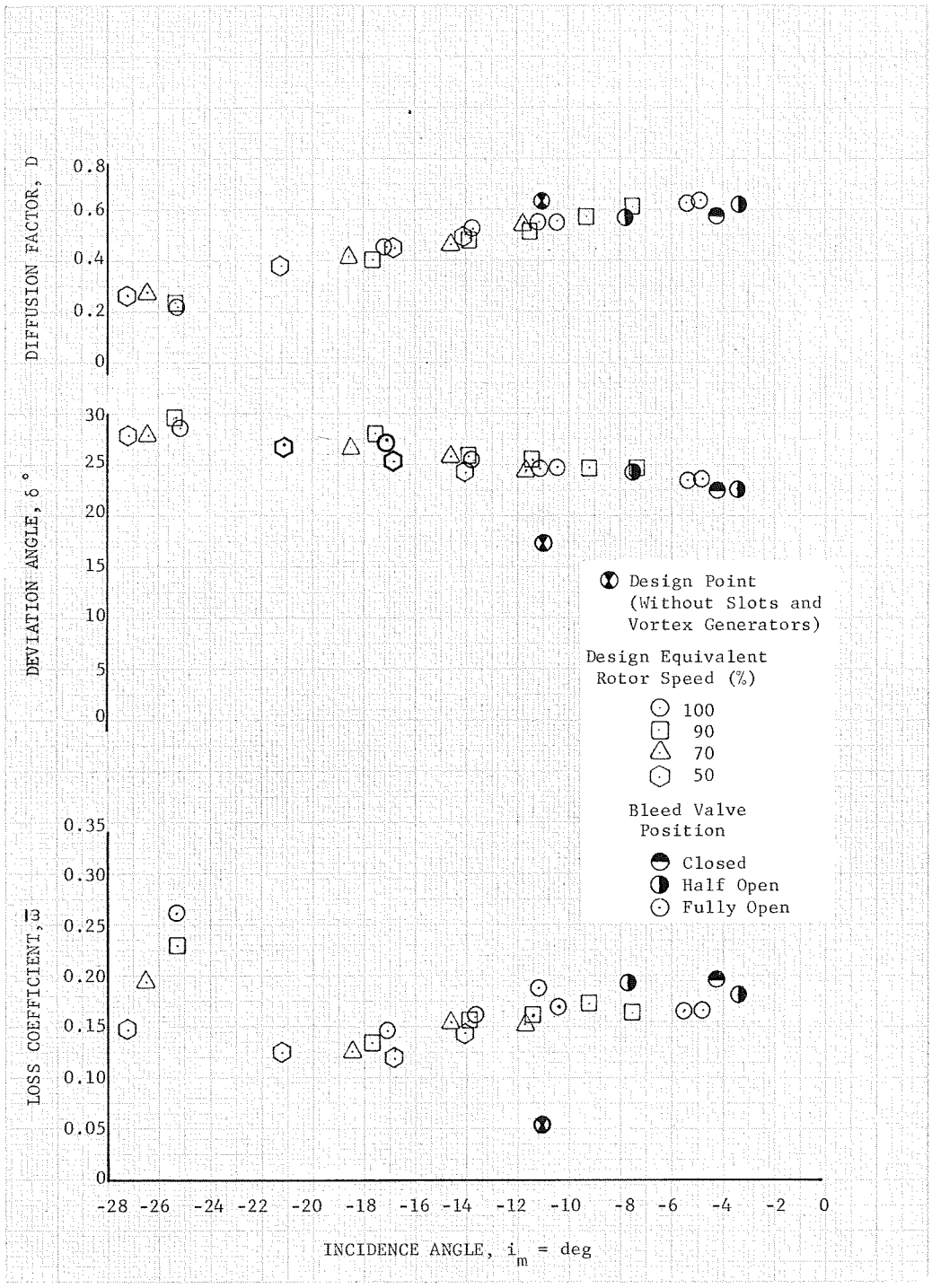
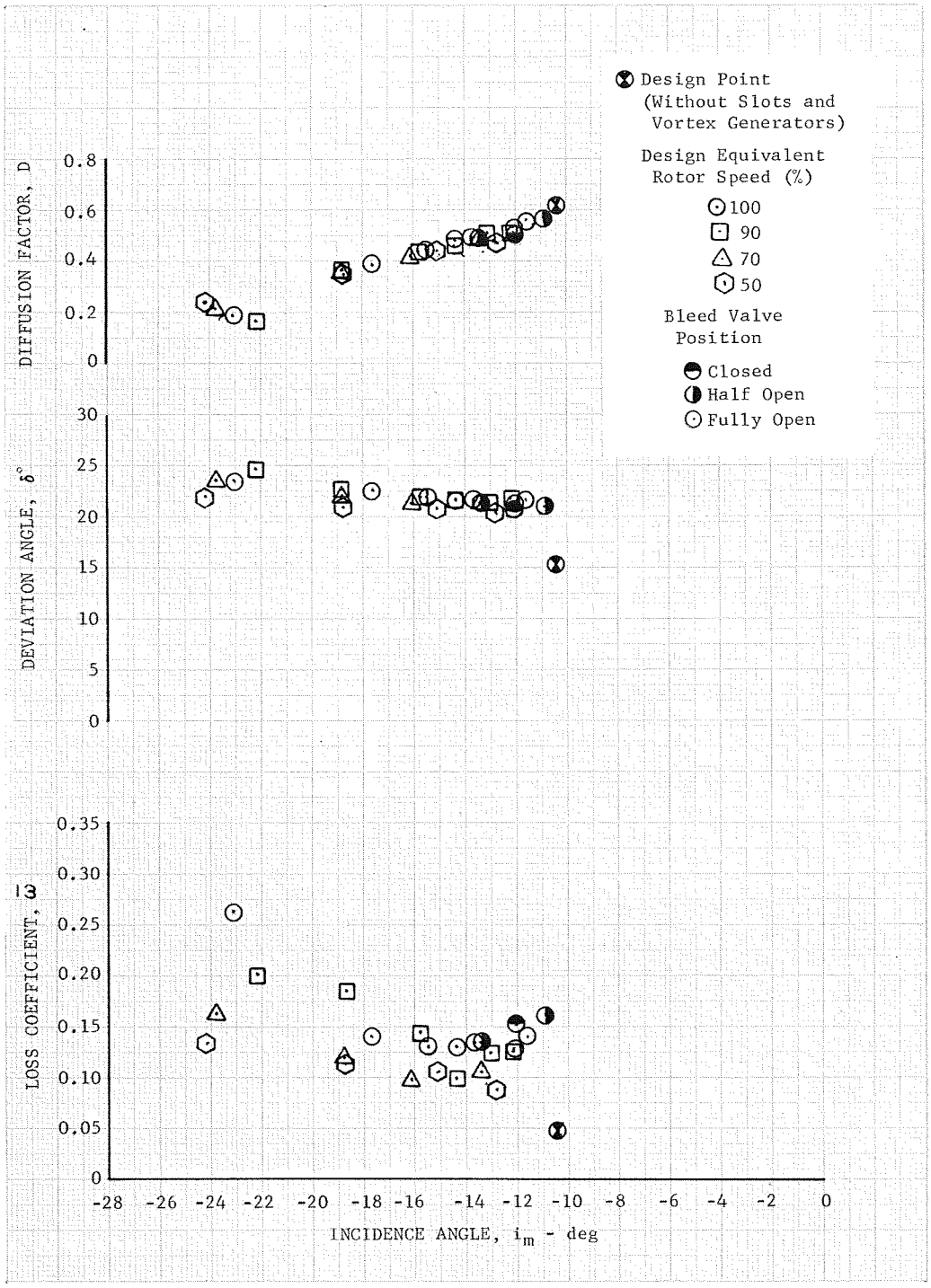


Figure 34. Stator Blade Element Performance - 15% Span From Tip



DF 77005

Figure 35. Stator Blade Element Performance - 30% Span From Tip

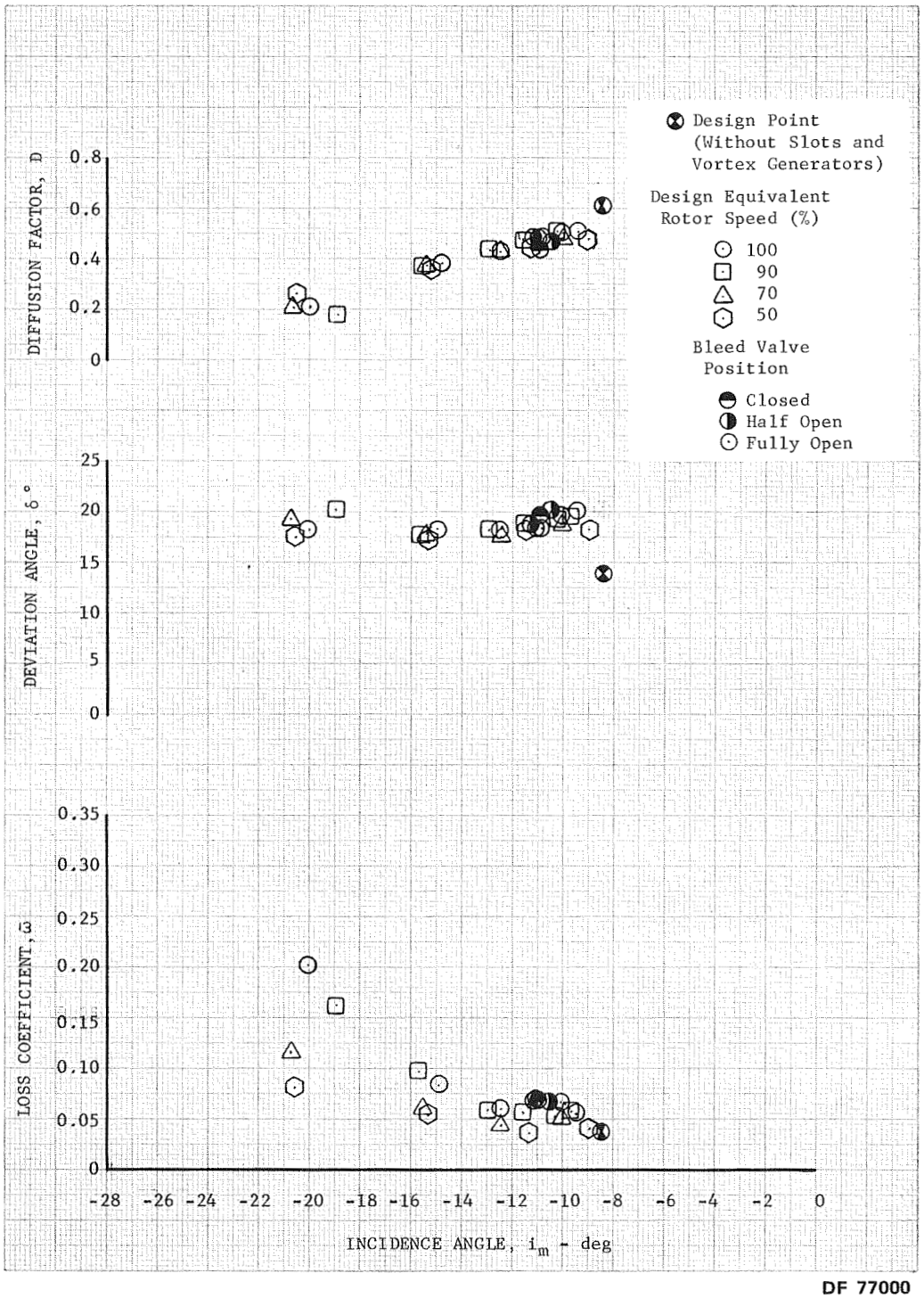


Figure 36. Stator Blade Element Performance - 50% Span From Tip

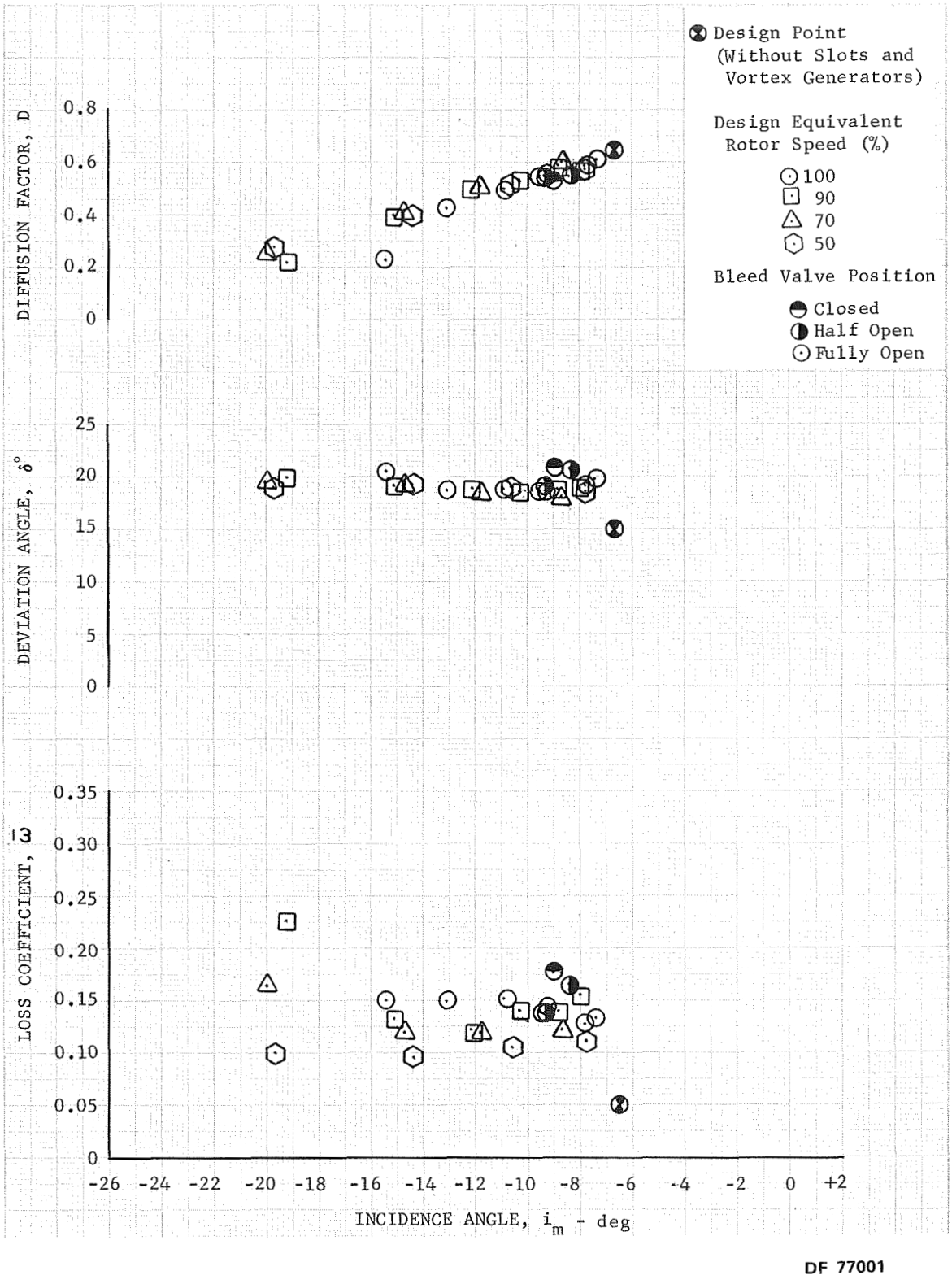


Figure 37. Stator Blade Element Performance - 70% Span From Tip

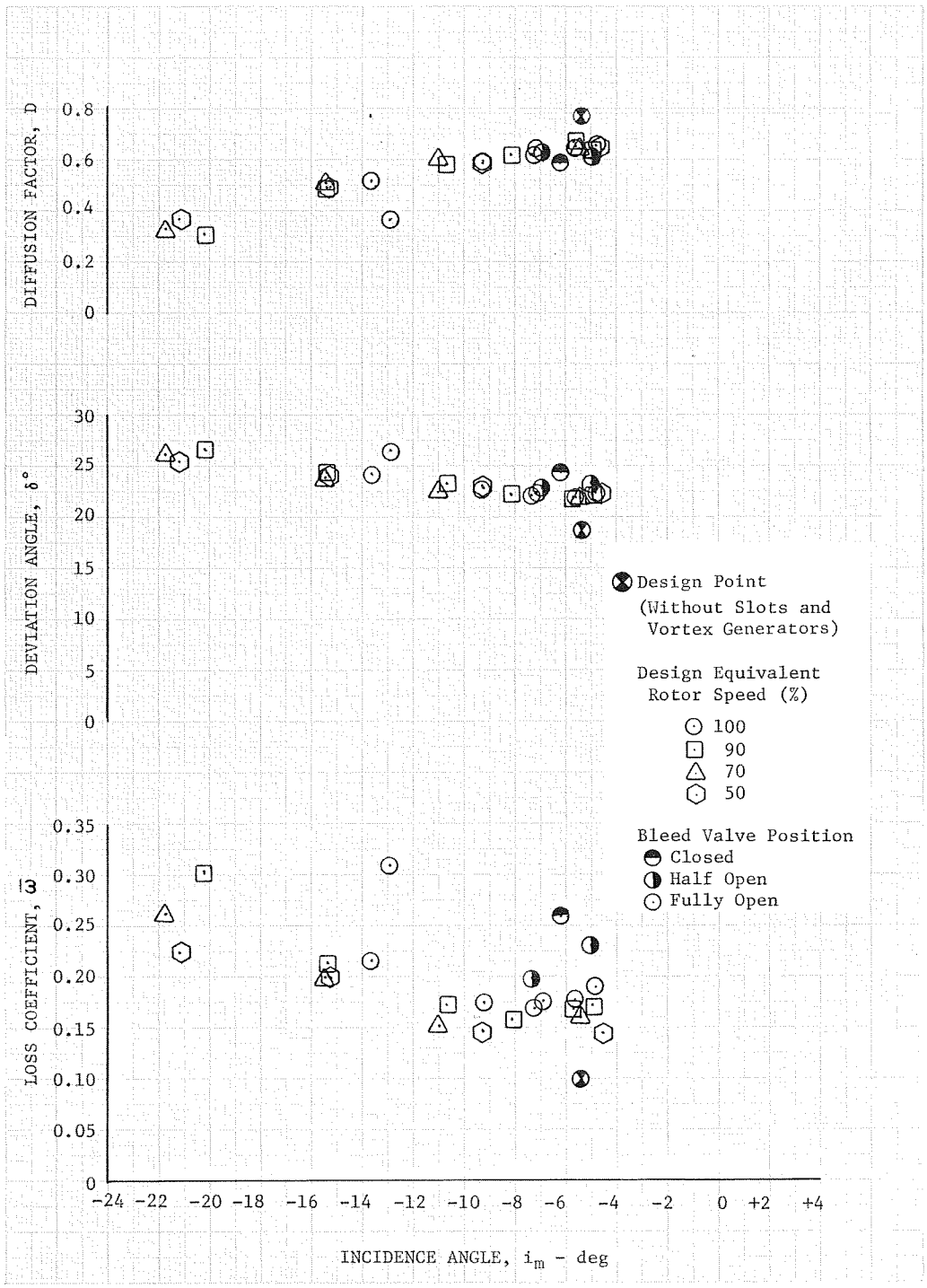


Figure 38. Stator Blade Element Performance - 85% Span From Tip

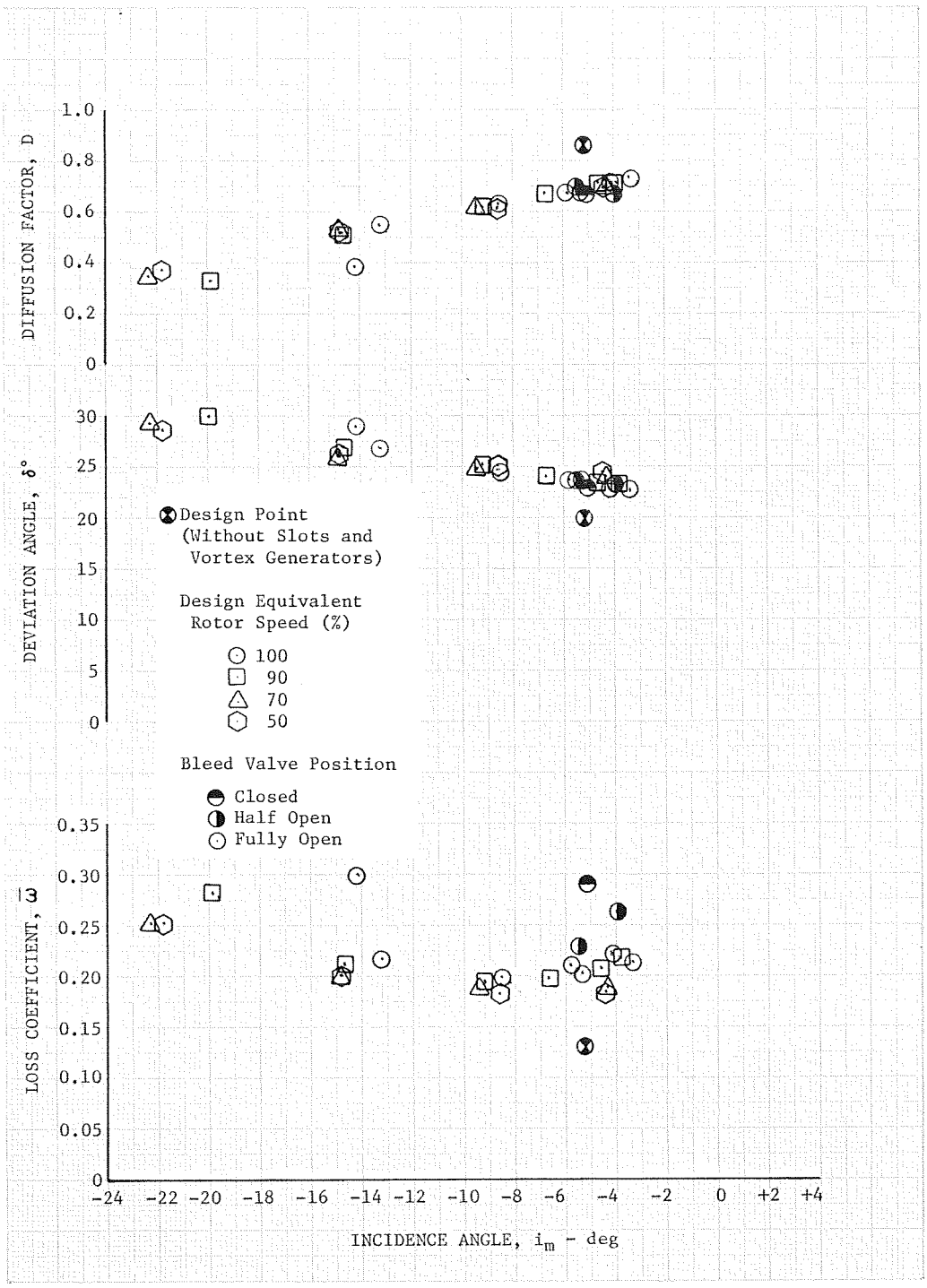


Figure 39. Stator Blade Element Performance - 90% Span From Tip

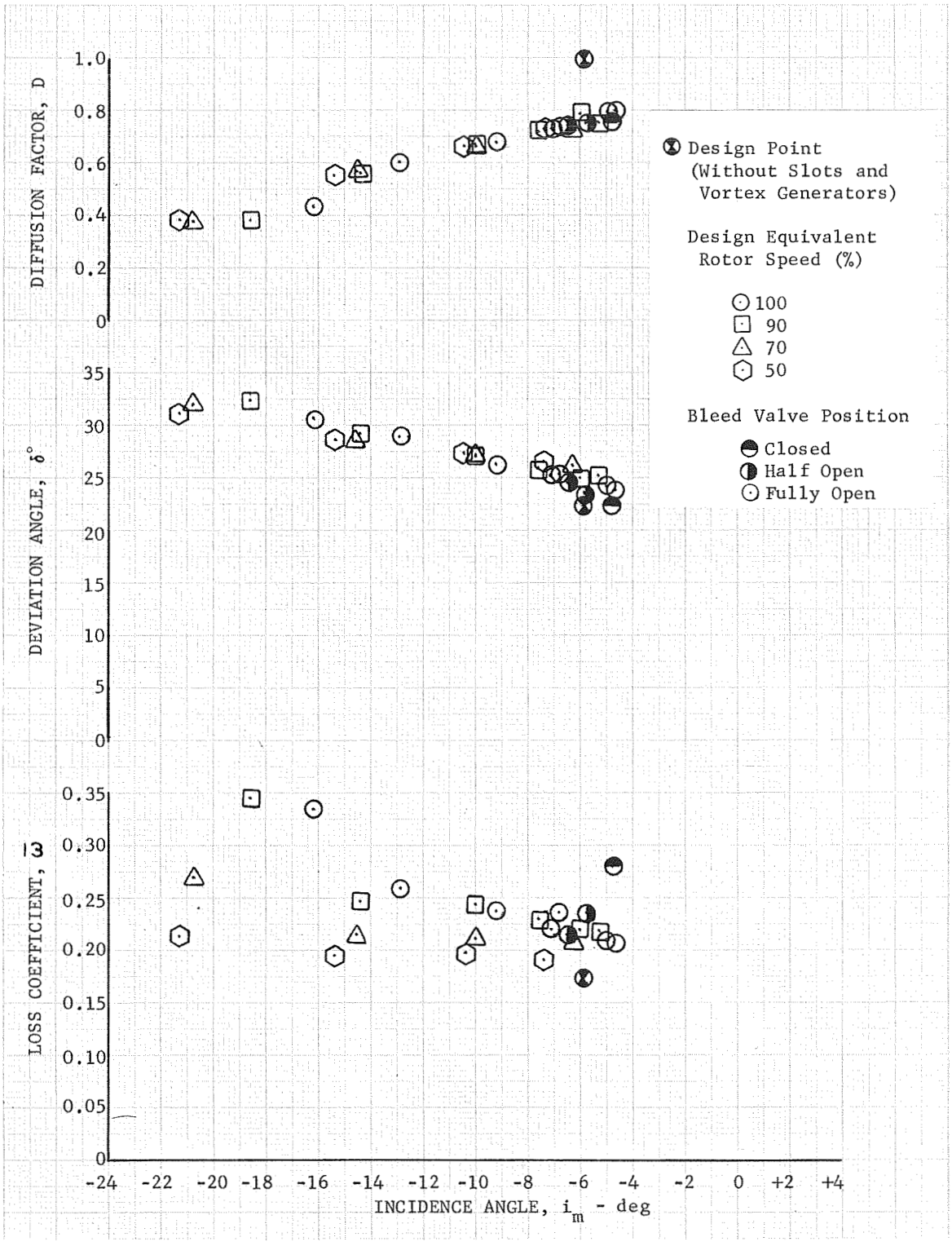


Figure 40. Stator Blade Element Performance - 95% Span From Tip

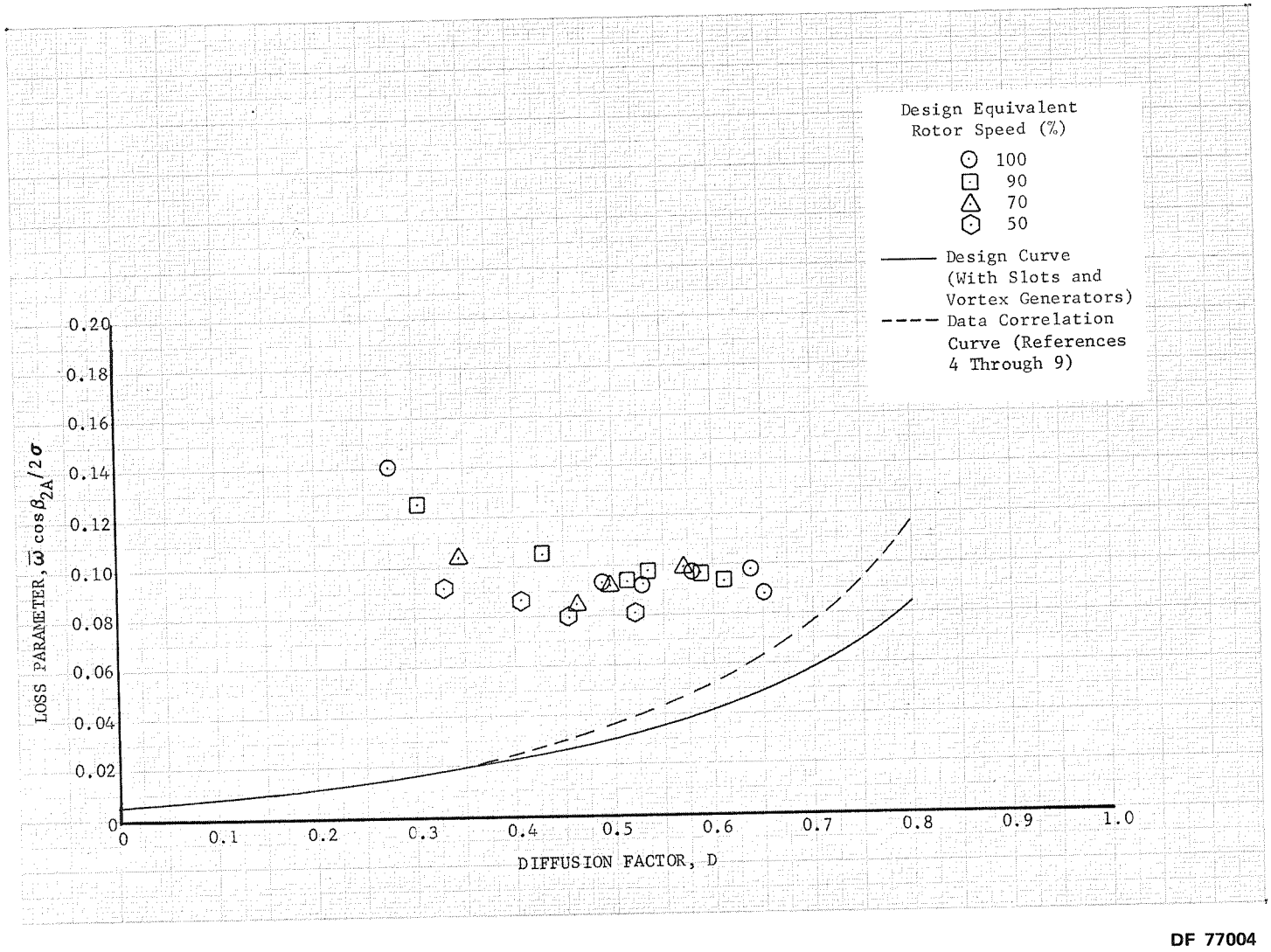
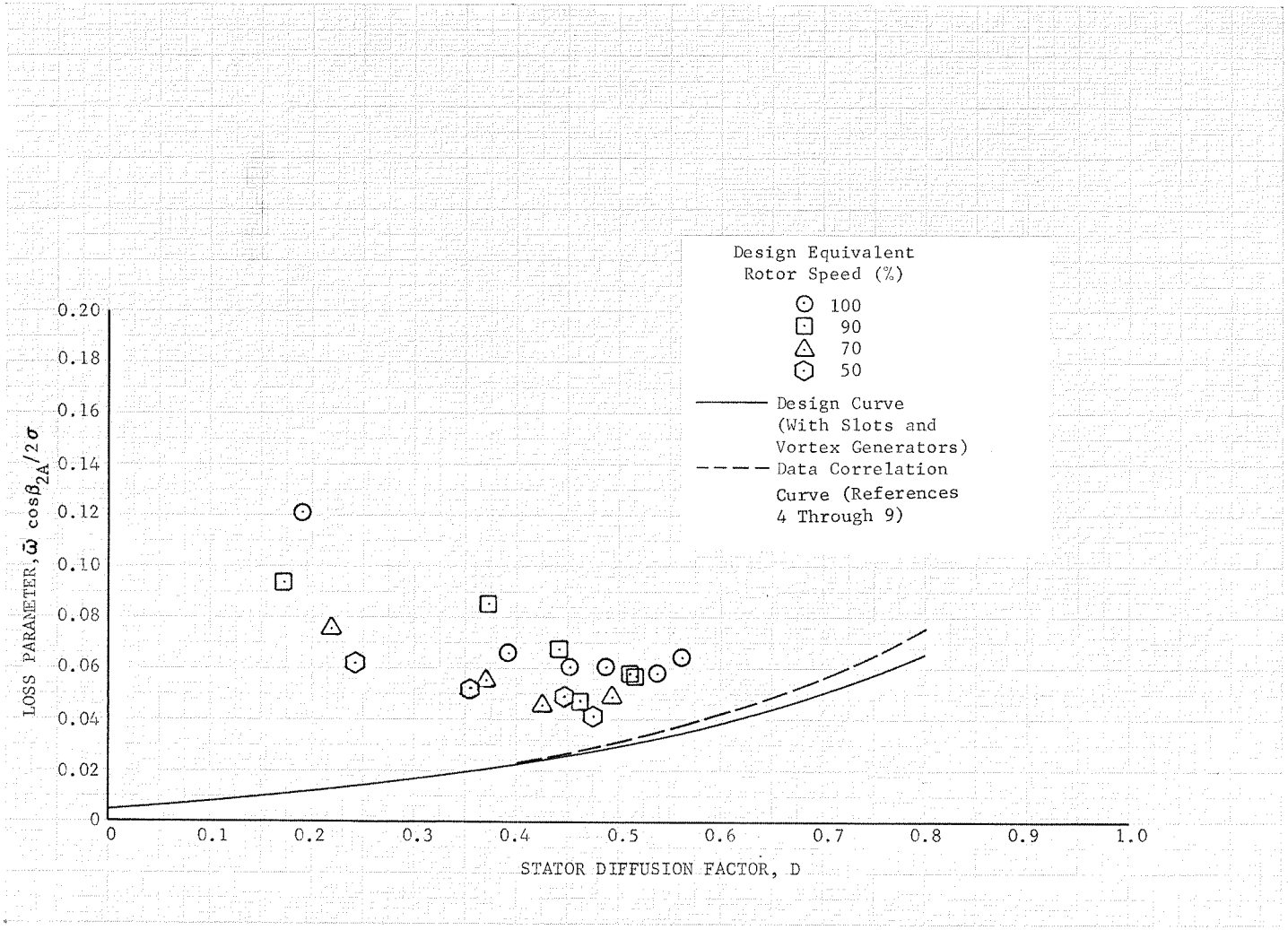
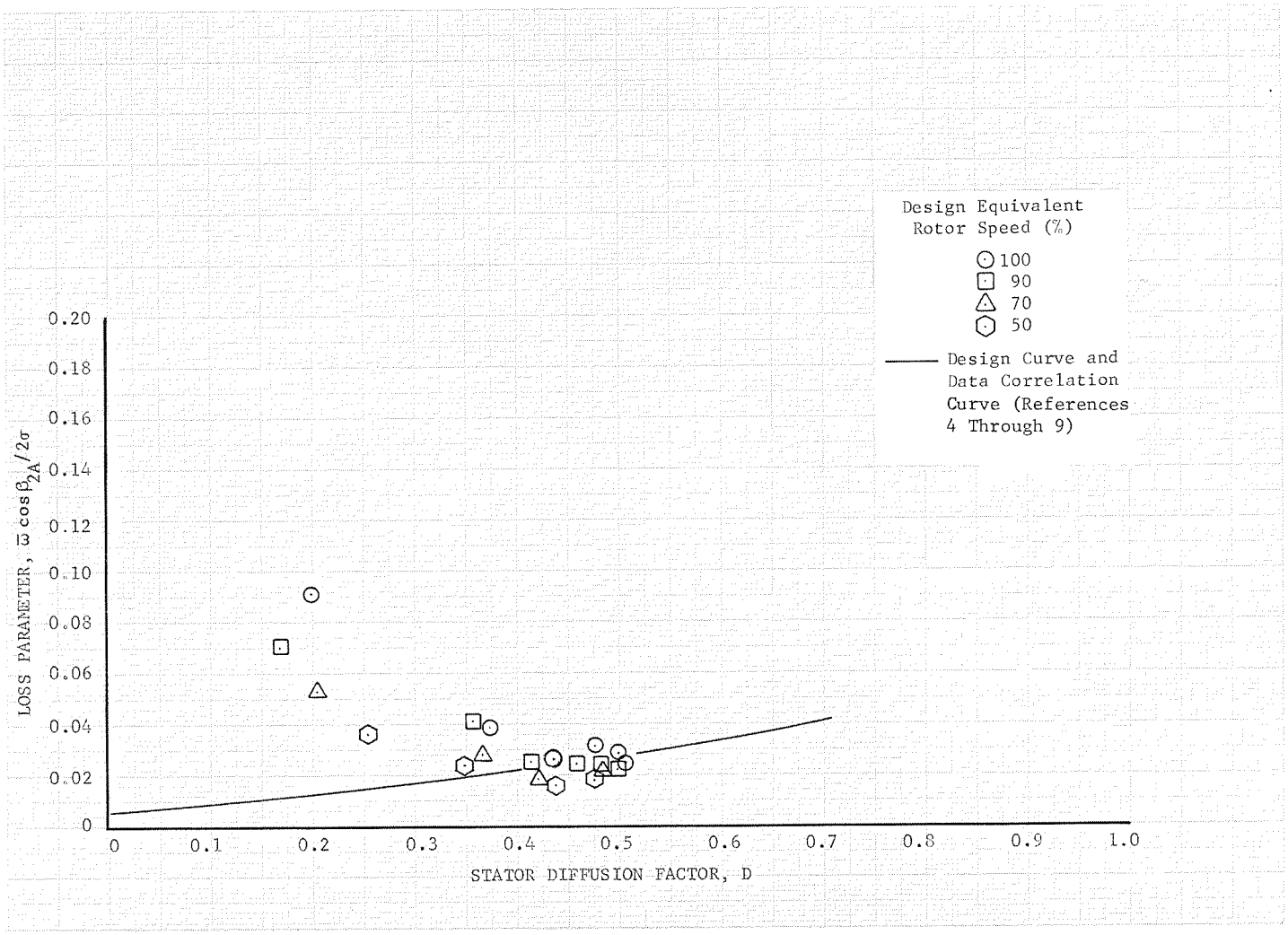


Figure 41. Stator Loss Parameter vs Diffusion Factor - 10% Span From Tip



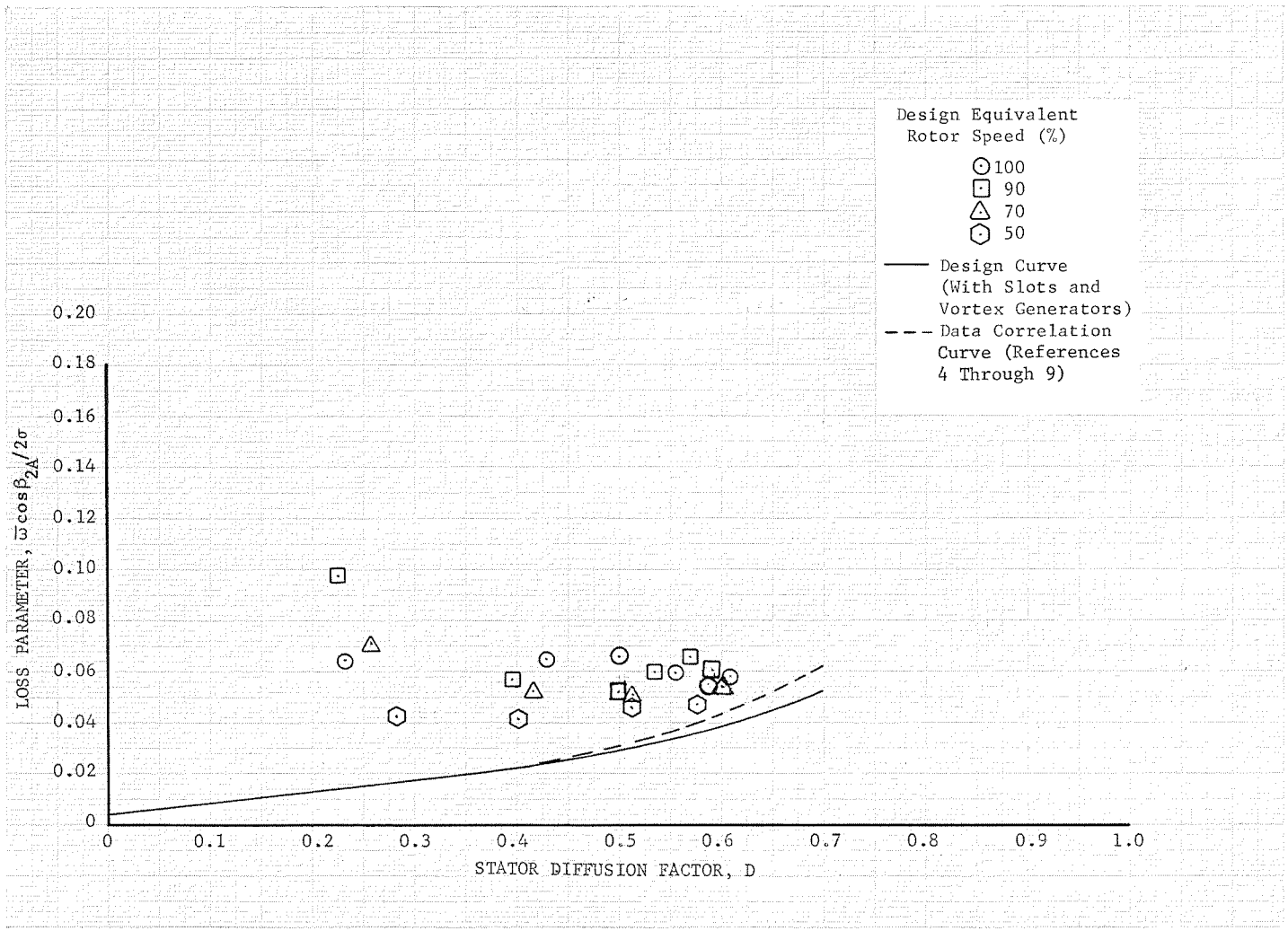
DF 77009

Figure 42. Stator Loss Parameter vs Diffusion Factor - 30% Span From Tip



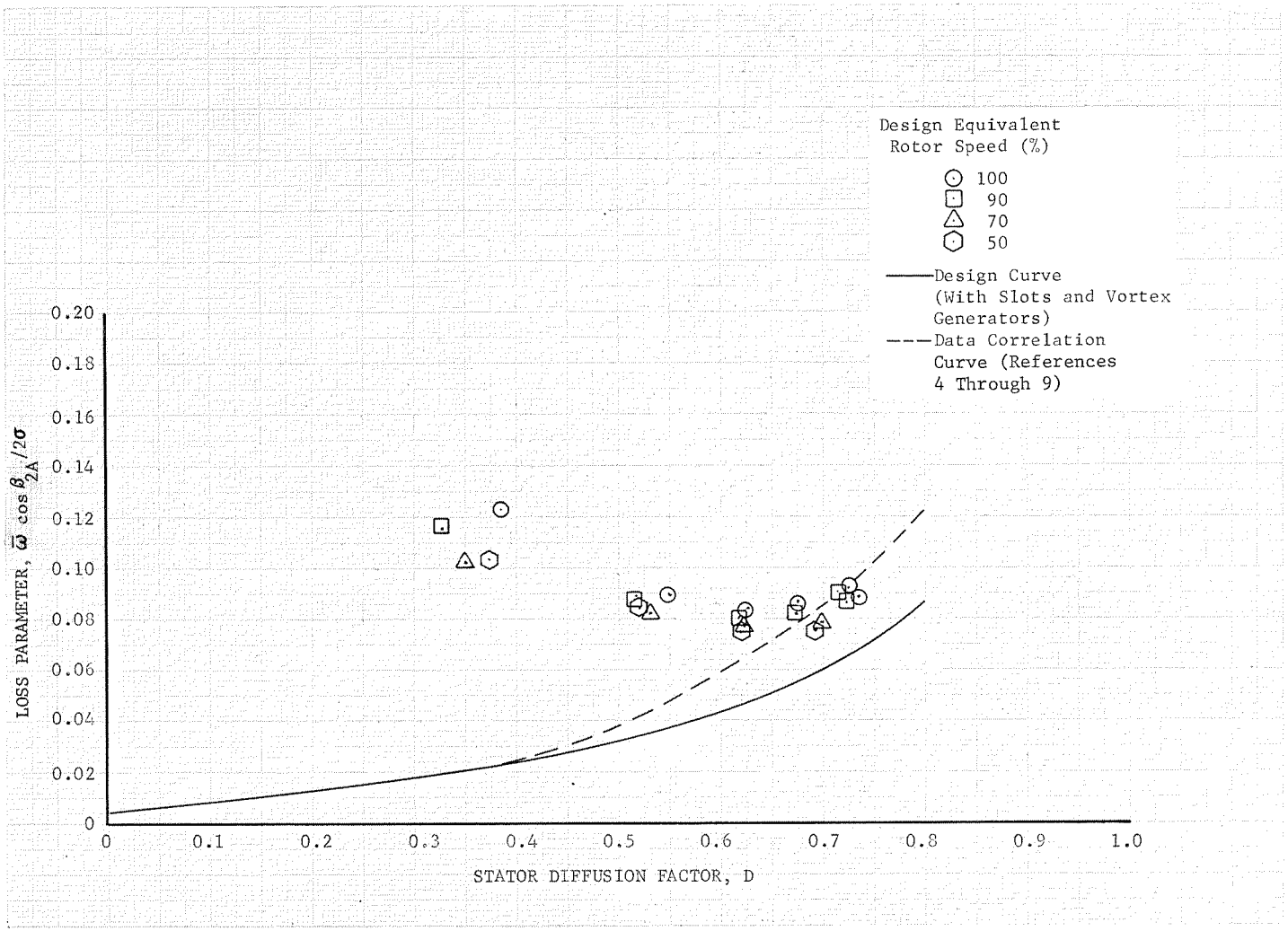
DF 76997

Figure 43. Stator Loss Parameter vs Diffusion Factor - 50% Span From Tip



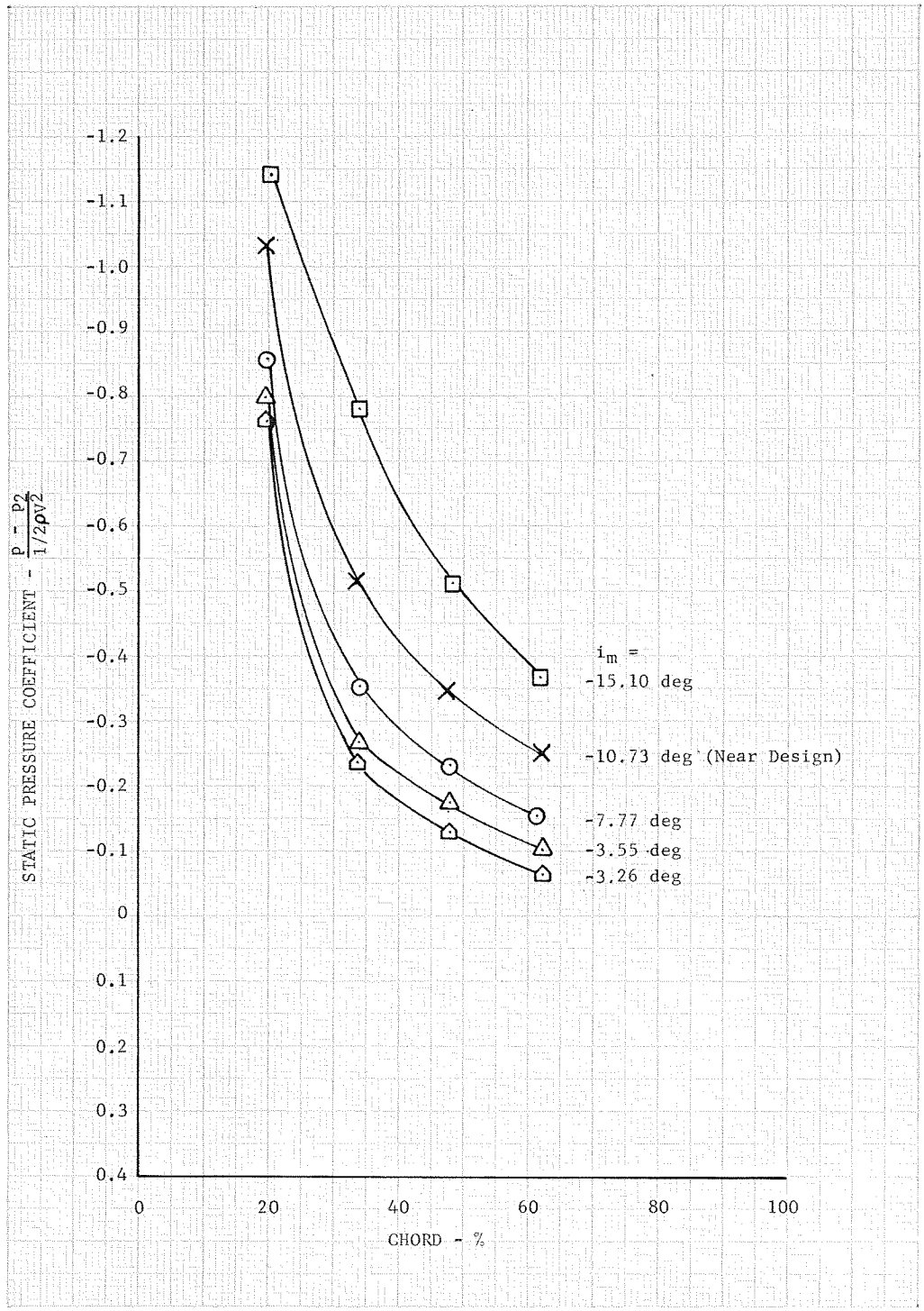
DF 76998

Figure 44. Stator Loss Parameter vs Diffusion Factor - 70% Span From Tip



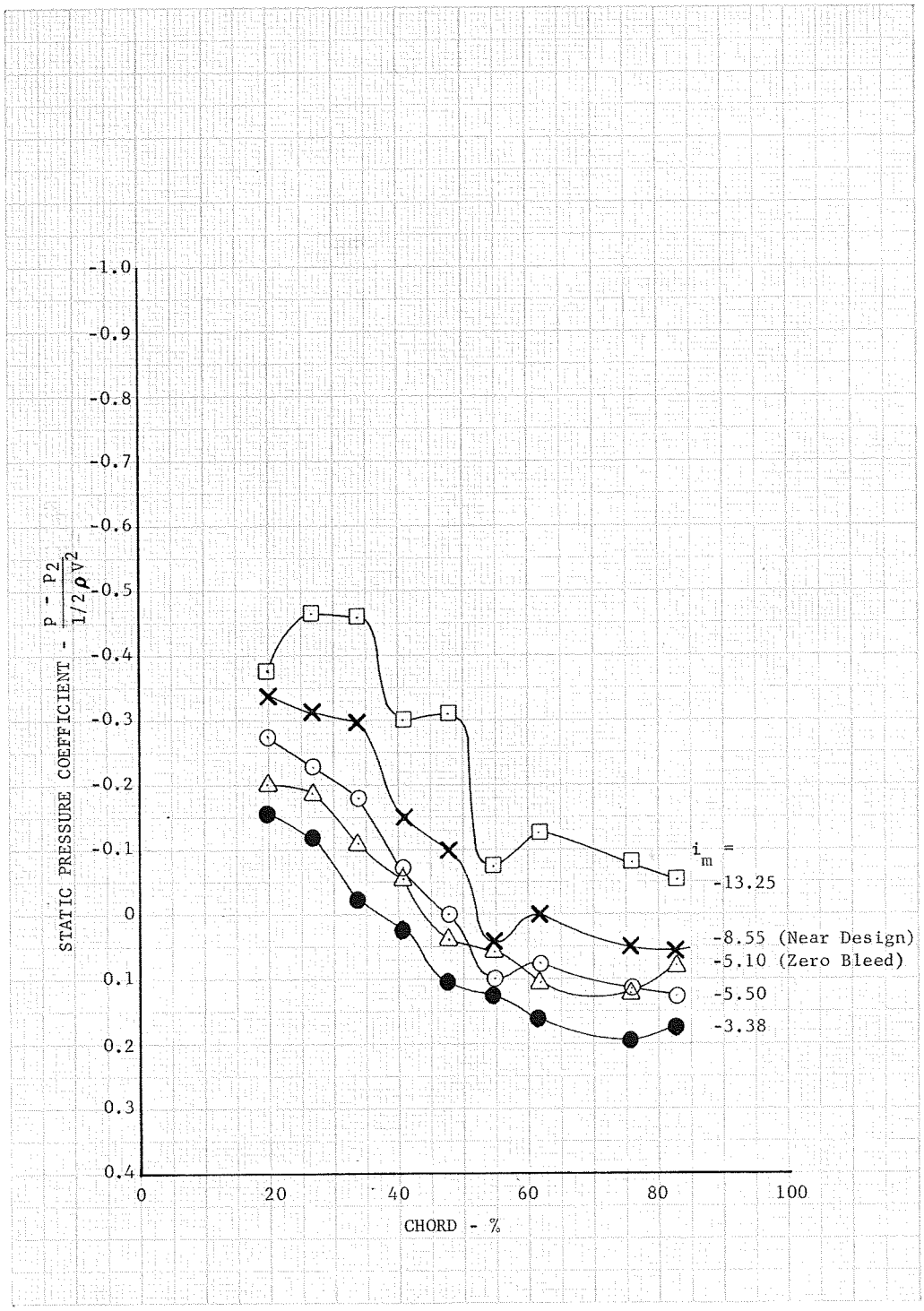
DF 76999

Figure 45. Stator Loss Parameter vs Diffusion Factor - 90% Span From Tip



DF 77020

Figure 46. Stator Static Pressure Coefficients, 10% Span From Tip, 100% Design Equivalent Rotor Speed



DF 77010

Figure 47. Stator Static Pressure Coefficients, 90% Span From Tip, 100% Design Equivalent Rotor Speed

APPENDIX A
DEFINITION OF SYMBOLS AND PERFORMANCE VARIABLES

A_A	Flowpath annular area, ft^2
a_o'	Inlet relative stagnation velocity of sound, ft/sec
c	Chord length, in.
C_p	Static pressure coefficient
d	Diameter
D	Diffusion factor
i_m	Incidence angle, deg (based on equivalent circular arc meanline)
M	Absolute Mach number
N	Rotor speed, rpm
O	Minimum blade passage gap, in.
O*	Critical blade passage gap, in.
P	Total pressure, psia
p	Static pressure, psia
t	Blade maximum thickness, in.
T	Total temperature, °R
T_s	Static temperature, °R
U	Rotor speed, ft/sec
V	Velocity, ft/sec
W	Actual flowrate, lb_m/sec
β	Air angle, deg from axial direction
γ	Ratio of specific heats
γ°	Blade-chord angle, deg from axial direction
δ	Ratio of total pressure to NASA standard sea level pressure of 14.694 psia
δ°	Deviation angle, deg
η_{ad}	Adiabatic efficiency
θ	Ratio of total temperature to NASA standard sea level temperature of 518.7°R

κ	Blade metal angle, deg from axial direction (based on equivalent circular arc meanline)
ρ	Density, lb_f sec^2/ft^4
σ	Solidity, c/S
ϕ	Blade camber angle, $\kappa_1 - \kappa_2$, deg
$\bar{\omega}$	Loss coefficient
$\bar{\omega} \cos \beta/2\sigma$	Loss parameter

Subscripts:

0	Guide vane inlet
1	Rotor inlet
2	Rotor exit
2A	Stator exit
3	Stator exit (1.0 chord length downstream from Station 2A)
f	Force
fs	Free stream value
id	Isentropic condition
L	Local
m	Mean or mass
le	Leading edge
te	Trailing edge
s	Static condition
z	Axial component
θ	Tangential component

Superscripts:

'	Related to rotor blade
-	Mass average value

Definition of Overall Performance Variables

Pressure Ratio:

Rotor: $\frac{\bar{P}_2}{\bar{P}_1}$ Stage: $\frac{\bar{P}_{2A}}{\bar{P}_1}$

Corrected Flow

$W\sqrt{\theta}/\delta$

Corrected Specific Flow:

$$\frac{W\sqrt{\theta}}{\delta A_A}$$

Equivalent Rotor Speed:

$N/\sqrt{\theta}$

Adiabatic Efficiency:

Rotor: $\frac{(\bar{P}_2/\bar{P}_1)^{\frac{\gamma-1}{\gamma}} - 1}{\bar{T}_{2A}/518.7 - 1}$ Stage: $\frac{(\bar{P}_{2A}/\bar{P}_1)^{\frac{\gamma-1}{\gamma}} - 1}{\bar{T}_{2A}/518.7 - 1}$

Adiabatic Efficiency:

Rotor: $\eta_{ad} = \frac{\left[(P_2/\bar{P}_1)^{\frac{\gamma-1}{\gamma}} - 1\right]}{T_2/518.7 - 1}$

Polytropic Efficiency:

Rotor: $\eta_p = \frac{\frac{\gamma-1}{\gamma} \ln (P_2/P_1)}{\ln(T_2/518.7)}$ Stator: $\eta_p = \frac{\frac{\gamma-1}{\gamma} \ln (P_{2A}/P_2)}{\ln\left(T_{s_{2A}}/T_{s_2}\right)}$

Definition of Blade Element Performance Variables

Incidence Angle:

Rotor: $i_m = \beta'_1 - \kappa_{1e}$ Stator: $i_m = \beta_2 - \kappa_{1e}$

Diffusion Factor:

Rotor: $$D = 1 - \frac{V'_2}{V'_1} + \frac{d_2 V_{\theta 2} - d_1 V_{\theta 1}}{(d_1 + d_2)\, V'_1 \sigma}$$

Stator: $$D = 1 - \frac{V_{2A}}{V_2} + \frac{d_2 V_{\theta 2} - d_{2A} V_{\theta 2A}}{(d_2 + d_{2A})\, V_2 \sigma}$$

Deviation Angle:

Rotor: $\delta^\circ = \beta'_2 - \kappa_{te}$ Stator: $\delta^\circ = \beta_{2A} - \kappa_{te}$

Loss Coefficient:

Rotor: $$\bar{\omega}' = \frac{\bar{P}'_{2id} - P'_2}{\bar{P}'_1 - p_1}$$

where:

$$P'_{2id} = P'_1 \left\{ 1 + \frac{\gamma - 1}{2} \left(\frac{U_2^2}{a'^2_{0_1}} \right) \left[1 - \left(\frac{d_1}{d_2} \right)^2 \right] \right\}^{\frac{\gamma}{\gamma - 1}}$$

P' is found from $p/P' = \left[1 + \frac{\gamma - 1}{2} M'^2 \right]^{\frac{\gamma}{\gamma - 1}}$

and M' is calculated using trigonometric functions and the measurements of U, β, P, and p.

Stator: $$\bar{\omega} = \frac{P_{2_1} - \bar{P}_A}{P_{2_1} - P_2}$$

where:

P_{2_1} = the wake rake freestream total pressure

Stator Static Pressure Coefficient:

$$C_p = \frac{p_L - p_2}{1/2\, \rho_2 V_2^2}$$

APPENDIX B
TABULATED PERFORMANCE

Rotor and stator blade element design data are presented in tables B-1 and B-2. The overall performance, rotor performance, and the rotor and stator bleed flow rates are presented in table B-3. Table B-4 presents blade element data for each test point. Definitions of velocity diagram and performance variables as tabulated in the computer printouts are presented in Appendix A. The span locations in table B-4 correspond to design streamlines.

Table B-1. Rotor 5 Blade Element Design Data Along Design Streamlines

GEOMETRY DATA

Airfoil: NACA 65(A = 1.0)
No. of Blades: 60

Aspect Ratio: 1.820
Chord Length: 2.21 in.

Percent Span From Tip Leading Edge	Trailing Edge	κ_{1e}	κ_{te}	ϕ	γ^{o}	0/0*	σ	t/c
96.41	94.75	60.40	-31.00	91.40	14.70	1.039	1.276	0.078
91.20	89.25	59.90	-22.60	82.50	18.65	1.060	1.258	0.076
86.77	84.80	59.70	-17.00	76.70	21.35	1.079	1.243	0.074
70.84	69.00	60.37	- 2.40	62.77	28.99	1.142	1.197	0.068
50.30	49.40	63.22	7.00	56.22	35.11	1.194	1.143	0.060
29.94	29.75	68.07	9.85	58.22	38.96	1.229	1.093	0.052
13.65	14.40	72.80	10.40	62.40	41.60	1.266	1.060	0.046
9.22	10.00	74.35	10.20	64.15	42.28	1.277	1.050	0.044
3.41	4.70	76.60	9.65	66.95	43.13	1.293	1.040	0.042

VELOCITY DIAGRAM DATA

Equivalent Rotor Speed: 4210 rpm

Corrected Weight Flow: 110 lb/sec

Percent Span From Tip Leading Edge	Trailing Edge	V'_{1e}	V_{z1e}	$V'_{\theta 1e}$	β'_{1e}	U_{1e}	V'_{te}	V_{z1e}	$V'_{\theta te}$	β'_{te}	U_{te}
96.39	94.83	775.3	479.3	608.8	51.77	608.8	384.2	373.9	-69.0	-10.8	610.6
92.31	89.41	781.5	481.2	614.9	51.94	614.9	418.9	419.6	-31.5	- 5.1	618.2
87.50	84.37	788.8	483.7	622.5	52.13	622.5	447.1	447.1	2.5	- 0.1	625.6
71.70	69.38	811.8	491.1	646.6	52.79	646.6	503.3	494.1	93.5	10.8	646.8
50.24	49.48	838.7	490.8	679.6	54.15	679.6	529.9	500.6	73.0	19.1	675.3
28.85	29.59	857.4	475.6	712.6	56.19	712.4	529.6	485.0	209.5	23.2	703.7
13.10	14.86	866.5	454.7	736.8	58.21	736.5	510.2	458.6	219.0	25.2	724.7
8.65	9.88	868.7	448.1	743.3	58.74	743.2	497.8	444.7	217.5	25.7	731.7
3.37	4.91	870.8	441.4	751.4	59.61	751.3	481.3	427.7	214.0	26.2	738.8

DESIGN PERFORMANCE DATA

Pressure Ratio: 1.401

Efficiency = 87.3%

Percent Span from Tip Leading Edge	Trailing Edge	$\Delta\beta$	M'_{1e}	i_m	D_F	$\bar{\omega}'$	Loss Parameter	δ°	P_{te} psia	T_{te} R
96.39	94.83	62.57	0.708	- 8.63	0.851	0.325	0.125	20.20	20.684	587.9
92.31	89.41	57.04	0.714	- 8.06	0.801	0.262	0.104	19.00	20.801	586.0
87.50	84.37	52.23	0.721	- 7.57	0.759	0.210	0.085	17.70	20.882	583.8
71.70	69.38	41.99	0.742	- 7.51	0.663	0.101	0.041	13.80	20.828	578.1
50.24	49.48	35.05	0.766	- 9.07	0.632	0.074	0.030	12.00	20.603	575.0
28.85	29.59	32.99	0.784	-12.21	0.650	0.115	0.048	13.30	20.479	576.6
13.10	14.86	33.01	0.790	-14.79	0.692	0.187	0.080	14.80	20.335	579.5
8.65	9.88	33.04	0.791	-15.86	0.715	0.221	0.095	15.50	20.263	581.0
3.37	4.91	33.41	0.793	-16.99	0.745	0.264	0.114	16.60	20.184	583.0

Table B-2. Stator 5 Blade Element Design Data Along Design Streamlines

GEOMETRY DATA

Airfoil: NACA 65(A = 1.0)
No. of Blades: 58

Aspect Ratio: 1.689
Chord Length: 2.182 in.
Thickness, t/c = 0.090

Percent Span From Tip Leading Edge	Trailing Edge	κ_{1e}	κ_{te}	ϕ	γ^c	0/0*	σ
94.74	94.90	66.30	-22.42	88.72	21.90	1.311	1.214
90.13	90.40	62.35	-20.42	82.77	20.87	1.255	1.200
84.87	85.00	59.20	-18.60	77.80	20.23	1.201	1.187
70.39	70.10	53.65	-15.12	68.77	19.32	1.126	1.151
50.66	49.80	51.95	-13.80	65.75	19.13	1.101	1.105
30.92	30.00	55.03	-15.17	70.20	19.95	1.131	1.063
15.79	15.00	59.20	-17.22	76.42	21.10	1.188	1.032
10.53	10.00	61.10	-18.15	79.25	21.57	1.212	1.021
5.13	5.00	63.30	-19.40	82.70	22.00	1.238	1.010

VELOCITY DIAGRAM DATA

Percent Span From Tip Leading Edge	Trailing Edge	V_{1e}	V_{z1e}	$V_{\theta 1e}$	β_{1e}	V_{te}	V_{zte}	$V_{\theta te}$	β_{te}
94.73	94.40	784.5	388.7	679.5	60.41	283.5	278.5	0.0	0.0
89.86	88.38	782.8	427.9	655.0	57.01	381.0	373.5	0.0	0.0
84.59	82.84	778.9	463.6	626.0	53.58	439.0	441.5	0.0	0.0
70.03	68.49	759.9	520.4	554.0	46.77	509.5	507.5	0.0	0.0
50.73	48.88	732.8	531.2	504.5	43.53	515.0	515.5	0.0	0.0
30.83	28.71	708.6	503.6	498.0	44.59	507.0	506.5	0.0	0.0
15.81	13.87	683.3	454.7	509.0	48.17	496.5	495.5	0.0	0.0
10.54	8.54	671.6	427.8	516.5	50.33	492.5	491.5	0.0	0.0
5.01	5.18	660.3	395.6	527.5	53.12	490.0	489.0	0.0	0.0

DESIGN PERFORMANCE DATA

Stage Pressure Ratio: 1.353
Stage Efficiency: 78.1%

Percent Span From Tip Leading Edge	Trailing Edge	$\Delta\beta$	M_{1e}	i_m	D_F	Loss Parameter	$\bar{\omega}$	P_{te} psia	δ°
94.73	94.40	60.41	0.690	- 5.89	0.999	0.422	0.174	18.310	22.40
89.86	88.38	57.01	0.690	- 5.19	0.864	0.316	0.132	19.035	20.30
84.59	82.84	53.58	0.688	- 5.42	0.775	0.237	0.100	19.560	18.50
70.03	68.49	46.77	0.674	- 6.73	0.649	0.116	0.050	20.190	15.00
50.73	48.88	43.53	0.649	- 8.42	0.610	0.079	0.036	20.200	13.80
30.83	28.71	44.59	0.626	-10.44	0.618	0.094	0.044	20.045	15.27
15.81	13.87	48.17	0.600	-11.03	0.636	0.118	0.057	19.810	17.20
10.54	8.54	50.33	0.588	-10.77	0.646	0.129	0.063	19.700	18.20
5.01	5.18	53.12	0.576	-10.18	0.654	0.137	0.068	19.630	19.40

Table B-3. Overall Performance, Rotor 5-Stator 5

Corrected Weight Flow lb/sec	Rotor Tip Bleed Flow lb/sec	Rotor Tip Bleed Flow %	Stator Hub & Tip Bleed Flow lb/sec	Stator Hub & Tip Bleed Flow %	P_2/P_o	Rotor η_{ad} %	Rotor η_p %	P_{2A}/P_o	Stage η_{ad} %	Stage η_p %
50% Design Equivalent Rotor Speed										
74.89	0.65	0.868	1.29	1.723	1.0723	0.7611	0.7635	1.0458	0.4862	0.4894
66.54	0.80	1.202	1.85	2.780	1.0812	0.8079	0.8100	1.0645	0.6447	0.6478
59.72	0.85	1.423	2.05	3.433	1.0864	0.8399	0.8418	1.0725	0.7076	0.7105
55.56	0.89	1.602	2.15	3.870	1.0864	0.8425	0.8444	1.0751	0.7345	0.7372
70% Design Equivalent Rotor Speed										
99.11	0.75	6.757	1.29	1.302	1.1421	0.7760	0.7802	1.0835	0.4645	0.4705
89.55	0.98	1.094	2.31	2.580	1.1642	0.8477	0.8509	1.1258	0.6570	0.6627
84.36	1.04	1.233	2.57	3.046	1.1740	0.8616	0.8647	1.1437	0.7179	0.7232
76.47	1.08	1.412	2.74	3.583	1.1775	0.8824	0.8851	1.1500	0.7516	0.7565
90% Design Equivalent Rotor Speed										
115.65	0.72	0.623	1.15	0.994	1.2283	0.7648	0.7716	1.1198	0.4149	0.4242
110.23	1.01	0.916	2.46	2.232	1.2591	0.8229	0.8286	1.1900	0.6156	0.6250
104.51	1.11	1.062	2.90	2.775	1.2846	0.8544	0.8595	1.2240	0.6841	0.6930
99.94	1.14	1.141	3.10	3.102	1.2876	0.8508	0.8561	1.2357	0.7074	0.7160
97.15	1.19	1.225	3.19	3.284	1.2976	0.8635	0.8685	1.2420	0.7131	0.7218
95.88	1.20	1.252	3.24	3.379	1.2940	0.8409	0.8466	1.2453	0.7110	0.7199

Table B-3. Overall Performance, Rotor 5-Stator 5 (Continued)

Corrected Weight Flow lb/sec	Rotor Tip Bleed Flow lb/sec	Rotor Tip Bleed Flow %	Stator Hub & Tip Bleed Flow lb/sec	Stator Hub & Tip Bleed Flow %	P_2/P_o	Rotor η_{ad} %	Rotor η_p %	P_{2A}/P_o	Stage η_{ad} %	Stage η_p %
100% Design Equivalent Rotor Speed										
120.17	0.76	0.632	1.07	0.890	1.2628	0.7189	0.7280	1.1365	0.3880	0.3989
116.37	1.03	0.885	2.68	2.303	1.3208	0.8018	0.8095	1.2336	0.5986	0.6103
110.97	1.12	1.009	3.12	2.812	1.3416	0.8203	0.8276	1.2699	0.6610	0.6722
107.81	1.20	1.113	3.28	3.042	1.3576	0.8390	0.8459	1.2845	0.6810	0.6921
107.66	1.22	1.133	3.35	3.112	1.3562	0.8422	0.8488	1.2854	0.6878	0.6987
106.26	0.76	0.715	2.05	1.929	1.3602	0.8343	0.8414	1.2854	0.6748	0.6861
103.43	1.23	1.189	3.47	3.355	1.3679	0.8393	0.8463	1.2997	0.6964	0.7074
102.28	0.12	0.117	0.28	0.274	1.3628	0.8230	0.8306	1.2810	0.6520	0.6639
101.80	1.26	1.238	3.49	3.428	1.3673	0.8427	0.8495	1.2994	0.6996	0.7105
101.47	0.67	0.660	1.96	1.932	1.3671	0.8225	0.8302	1.2956	0.6752	0.6869

Nomenclature Used for Blade Element Data Tabulation

Exit Percent Span from Tip	PCT SPAN
Exit Diameter	DIA
Absolute Flow Angle	BETA
Relative Flow Angle	BETA (PR)
Absolute Velocity	V
Axial Velocity	VZ
Absolute Tangential Velocity	V - THETA
Relative Velocity	V (PR)
Relative Tangential Velocity	V - THETA PR
Rotor Speed	U
Absolute Mach Number	M
Relative Mach Number	M (PR)
Relative Turning Angle	TURN (PR)
Loss Coefficient	UUBAR
Loss Parameter	LOSS PARA
Diffusion Factor	DFAC
Polytropic Efficiency	EFFP
Adiabatic Efficiency	EFF
Incidence	INCID
Deviation	DEVM
Total Pressure	P
Total Temperature	T

Note: Where applicable the appropriate instrumentation station is noted.

Table B-4. Blade Element Performance

PERCENT EQUIVALENT DESIGN SPEED = 49.90 EQUIVALENT ROTOR SPEED = 2101.00 CORRECTED WEIGHT FLOW = 74.89 PRESSURE RATIO =1.0458

INLET	PCT SPAN	96.42	91.17	86.46	70.64	49.46	29.30	13.25	8.59	3.28	PCT SPAN
	DIA	33.150	33.590	33.985	35.310	37.085	38.775	40.120	40.510	40.955	DIA
STATION 0	BETA 0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	BETA 0
STATION 1	BETA 1	1.150	1.150	1.150	1.150	1.150	1.150	1.150	1.150	1.150	BETA 1
	V 0	280.58	280.58	280.58	280.58	280.58	280.58	280.58	280.58	280.58	V 0
	V 1	293.73	316.85	317.65	315.45	308.59	303.24	297.01	293.27	270.84	V 1
	VZ 0	280.58	280.58	280.58	280.58	280.58	280.58	280.58	280.58	280.58	VZ 0
	VZ 1	293.68	316.79	317.54	315.34	308.34	303.00	296.85	293.11	270.76	VZ 1
	V-THETA 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	V-THETA 0
	V-THETA 1	5.90	6.36	6.37	6.33	6.19	6.08	5.96	5.88	5.44	V-THETA 1
	M 0	0.2529	0.2529	0.2529	0.2529	0.2529	0.2529	0.2529	0.2529	0.2529	M 0
	M 1	0.2650	0.2861	0.2869	0.2848	0.2786	0.2737	0.2680	0.2645	0.2440	M 1
	TURN	-1.15	-1.15	-1.15	-1.15	-1.15	-1.15	-1.15	-1.15	-1.15	TURN
	UUBAR	0.1508	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	0.0078	0.0219	0.1751	UUBAR
	DFAC	-0.047	-0.125	-0.132	-0.124	-0.100	-0.081	-0.059	-0.045	0.035	DFAC
	EFFP	0.3403	1.0000	1.0000	0.9998	1.0000	1.0002	0.9407	0.8131	-0.6637	EFFP
	INCID	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	INCID
	DEVM	-1.150	-1.150	-1.150	-1.150	-1.149	-1.149	-1.150	-1.150	-1.150	DEVM
	P 0	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	P 0
	P 1	14.572	14.694	14.694	14.694	14.694	14.694	14.689	14.680	14.582	P 1
	T 0	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 0
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
ROTOR 5	PCT SPAN	95.01	90.00	85.01	70.01	50.01	30.01	15.02	10.01	5.02	PCT SPAN
	DIA	33.233	33.617	34.000	35.150	36.684	38.218	39.368	39.752	40.135	DIA
STATION 1	BETA 1	1.150	1.150	1.150	1.150	1.150	1.150	1.150	1.150	1.150	BETA 1
STATION 2	BETA 2	45.000	40.520	38.020	33.970	31.470	30.830	32.000	34.050	35.600	BETA 2
	BETA(PR) 1	45.419	43.590	43.863	45.184	47.269	49.067	50.634	51.271	53.805	BETA(PR) 1
	BETA(PR) 2	-2.458	1.800	3.947	11.161	19.548	23.655	25.450	25.781	28.779	BETA(PR) 2
	V 1	293.73	316.85	317.65	315.45	308.59	303.24	297.01	293.27	270.84	V 1
	V 2	450.17	457.55	465.05	446.26	407.97	394.62	386.94	379.81	357.83	V 2
	VZ 1	293.68	316.79	317.54	315.34	308.34	303.00	296.85	293.11	270.76	VZ 1
	VZ 2	318.32	347.79	366.33	369.94	347.72	338.56	327.86	314.48	290.81	VZ 2
	V-THETA 1	5.90	6.36	6.37	6.33	6.19	6.08	5.96	5.88	5.44	V-THETA 1
	V-THETA 2	318.32	297.25	286.41	249.24	212.83	202.06	204.87	212.52	208.20	V-THETA 2
	V(PR) 1	418.4	437.4	440.4	447.4	454.5	462.6	468.1	468.6	458.5	V(PR) 1
	V(PR) 2	318.6	348.0	367.3	377.3	369.3	370.0	363.5	349.5	332.0	V(PR) 2
	VTHETA PR1	-296.0	-301.6	-305.2	-317.4	-333.8	-349.4	-361.8	-365.5	-370.0	VTHETA PR1
	VTHETA PR2	13.7	-10.9	-25.3	-73.0	-123.5	-148.3	-156.0	-151.9	-159.7	VTHETA PR2
	U 1	303.90	307.93	311.55	323.70	339.97	355.46	367.79	371.37	375.45	U 1
	U 2	304.66	308.16	311.69	322.23	336.29	350.36	360.90	364.42	367.93	U 2
	M 1	0.2650	0.2861	0.2869	0.2848	0.2786	0.2737	0.2680	0.2645	0.2440	M 1
	M 2	0.4033	0.4103	0.4175	0.4007	0.3660	0.3537	0.3467	0.3401	0.3199	M 2
	M(PR) 1	0.3774	0.3950	0.3978	0.4040	0.4103	0.4175	0.4223	0.4226	0.4131	M(PR) 1
	M(PR) 2	0.2854	0.3120	0.3297	0.3387	0.3313	0.3316	0.3256	0.3130	0.2968	M(PR) 2
	TURN(PR)	47.677	41.791	39.912	34.025	27.721	25.420	25.202	25.502	25.042	TURN(PR)
	UUBAR	0.1662	0.1236	0.0522	0.0280	0.0855	0.1282	0.1891	0.2584	0.2789	UUBAR
	LOSS PARA	0.0654	0.0492	0.0210	0.0115	0.0350	0.0532	0.0796	0.1096	0.1162	LOSS PARA
	DFAC	0.5328	0.4693	0.4223	0.3823	0.3839	0.3905	0.4197	0.4557	0.4840	DFAC
	EFFP	0.8026	0.7945	0.8689	0.8875	0.8360	0.7519	0.7009	0.6482	0.6122	EFFP
	EFF	0.8001	0.7920	0.8672	0.8861	0.8344	0.7497	0.6985	0.6455	0.6093	EFF
	INCID	-14.981	-16.310	-15.842	-15.191	-15.968	-19.020	-22.175	-23.089	-22.797	INCID
	DEVM	28.542	24.800	20.947	13.554	12.531	13.780	15.023	15.560	19.111	DEVM
	P 1	14.572	14.694	14.694	14.694	14.694	14.694	14.689	14.680	14.582	P 1
	P 2	15.937	16.021	16.097	15.978	15.724	15.628	15.559	15.481	15.349	P 2
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
	T 2	535.500	535.080	534.490	532.880	530.850	530.990	531.010	530.990	531.260	T 2
STATOR 5	PCT SPAN	94.40	90.62	85.08	70.31	50.14	29.97	15.27	9.94	5.18	PCT SPAN
	DIA	33.250	33.520	33.915	34.970	36.410	37.850	38.900	39.280	39.620	DIA
STATION 2	BETA 2	45.000	40.520	38.020	33.970	31.470	30.830	32.000	34.050	35.600	BETA 2
STATION 2A	BETA 2A	8.820	8.140	6.920	3.820	3.500	6.920	10.670	11.580	11.780	BETA 2A
	V 2	450.17	457.55	465.05	446.26	407.97	394.62	386.94	379.81	357.83	V 2
	V 2A	387.00	387.03	394.51	417.02	390.35	374.41	345.94	326.72	314.17	V 2A
	VZ 2	318.32	347.79	366.33	369.94	347.72	338.56	327.86	314.48	290.81	VZ 2
	VZ 2A	382.42	383.13	391.64	416.10	389.62	371.68	339.96	320.07	307.56	VZ 2A
	V-THETA 2	318.32	297.25	286.41	249.24	212.83	202.06	204.87	212.52	208.20	V-THETA 2
	V-THETA 2A	59.34	54.80	47.53	27.78	23.83	45.11	64.05	65.59	64.14	V-THETA 2A
	M 2	0.4033	0.4103	0.4175	0.4007	0.3660	0.3537	0.3467	0.3401	0.3199	M 2
	M 2A	0.3452	0.3454	0.3524	0.3737	0.3498	0.3352	0.3092	0.2917	0.2802	M 2A
	TURN(PR)	36.180	32.376	31.096	30.134	27.946	23.880	21.299	22.445	23.799	TURN(PR)
	UUBAR	0.2140	0.2534	0.2242	0.1002	0.0814	0.1328	0.1493	0.1931	0.1968	UUBAR
	LOSS PARA	0.0873	0.1043	0.0937	0.0434	0.0366	0.0619	0.0708	0.0922	0.0947	LOSS PARA
	DFAC	0.3777	0.3750	0.3683	0.2816	0.2535	0.2395	0.2837	0.3305	0.3224	DFAC
	EFFP	0.2364	0.1613	0.1294	0.0688	-0.3002	-0.5128	-0.3161	-0.1336	-0.1240	EFFP
	EFF	-0.0000	-0.0000	0.0017	-0.0000**********		-0.0000**********				EFF
	INCID	-21.300	-21.834	-21.184	-19.696	-20.504	-24.230	-27.231	-27.075	-27.721	INCID
	DEVM	31.240	28.560	25.520	18.940	17.300	22.090	27.890	29.730	31.180	DEVM
	P 2	15.944	16.024	16.017	15.931	15.672	15.590	15.376	15.315	15.258	P 2
	P 2A	15.581	15.575	15.627	15.768	15.563	15.423	15.218	15.117	15.069	P 2A
	T 2	535.500	535.080	534.490	532.880	530.850	530.990	531.010	530.990	531.260	T 2
	T 2A	535.500	535.080	534.490	532.880	530.850	530.990	531.010	530.990	531.260	T 2A

Table B-4. Blade Element Performance (Continued)

PERCENT EQUIVALENT DESIGN SPEED = 49.81 EQUIVALENT ROTOR SPEED = 2097.00 CORRECTED WEIGHT FLOW = 66.54 PRESSURE RATIO =1.0645

INLET	PCT SPAN	96.42	91.17	86.46	70.64	49.46	29.30	13.25	8.59	3.28	PCT SPAN
	DIA	33.150	33.590	33.985	35.310	37.085	38.775	40.120	40.510	40.955	DIA
STATION 0	BETA 0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	BETA 0
STATION 1	BETA 1	0.953	0.852	0.819	0.789	0.751	0.714	0.684	0.675	0.666	BETA 1
	V 0	247.63	247.63	247.63	247.63	247.63	247.63	247.63	247.63	247.63	V 0
	V 1	254.47	274.65	273.74	276.00	269.61	263.09	258.57	254.75	229.00	V 1
	VZ 0	247.63	247.63	247.63	247.63	247.63	247.63	247.63	247.63	247.63	VZ 0
	VZ 1	254.44	274.62	273.67	275.94	269.43	262.91	258.46	254.64	228.97	VZ 1
	V-THETA 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	V-THETA 0
	V-THETA 1	4.23	4.08	3.91	3.80	3.53	3.28	3.09	3.00	2.66	V-THETA 1
	M 0	0.2229	0.2229	0.2229	0.2229	0.2229	0.2229	0.2229	0.2229	0.2229	M 0
	M 1	0.2291	0.2475	0.2467	0.2488	0.2429	0.2370	0.2329	0.2294	0.2060	M 1
	TURN	-0.95	-0.85	-0.82	-0.79	-0.75	-0.71	-0.68	-0.67	-0.67	TURN
	UUBAR	0.1960	0.0080	0.0080	0.0080	0.0120	0.0180	0.0220	0.0360	0.2220	UUBAR
	DFAC	-0.028	-0.109	-0.105	-0.115	-0.089	-0.062	-0.044	-0.029	0.075	DFAC
	EFFP	0.2256	0.9671	0.9657	0.9684	0.9400	0.8796	0.8073	0.6226	-1.9767	EFFP
	INCID	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	INCID
	DEVM	-0.953	-0.852	-0.819	-0.789	-0.751	-0.714	-0.684	-0.675	-0.666	DEVM
	P 0	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	P 0
	P 1	14.596	14.690	14.690	14.690	14.688	14.685	14.683	14.676	14.583	P 1
	T 0	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 0
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
ROTOR 5	PCT SPAN	95.01	90.00	85.01	70.01	50.01	30.01	15.02	10.01	5.02	PCT SPAN
	DIA	33.233	33.617	34.000	35.150	36.684	38.218	39.368	39.752	40.135	DIA
STATION 1	BETA 1	0.953	0.852	0.819	0.789	0.751	0.714	0.684	0.675	0.666	BETA 1
STATION 2	BETA 2	50.870	47.580	43.890	39.270	36.760	36.310	38.060	41.200	43.270	BETA 2
	BETA(PR) 1	49.611	47.838	48.290	49.165	51.258	53.205	54.624	55.293	58.393	BETA(PR) 1
	BETA(PR) 2	-4.742	2.240	6.844	10.958	18.613	23.881	26.628	27.370	29.703	BETA(PR) 2
	V 1	254.47	274.65	273.74	276.00	269.61	263.09	258.57	254.75	229.00	V 1
	V 2	420.36	402.32	398.99	410.97	386.81	368.80	356.47	347.19	333.74	V 2
	VZ 1	254.44	274.62	273.67	275.94	269.43	262.91	258.46	254.64	228.97	VZ 1
	VZ 2	265.28	271.37	287.52	318.05	309.70	296.96	280.47	261.09	242.91	VZ 2
	V-THETA 1	4.23	4.08	3.91	3.80	3.53	3.28	3.09	3.00	2.66	V-THETA 1
	V-THETA 2	326.08	296.98	276.59	260.04	231.35	218.22	219.60	228.57	228.66	V-THETA 2
	V(PR) 1	392.7	409.1	411.3	422.0	430.6	439.1	446.5	447.3	436.9	V(PR) 1
	V(PR) 2	266.2	271.6	289.6	324.1	327.1	325.1	314.0	294.2	279.8	V(PR) 2
	VTHETA PR1	-295.1	-303.3	-307.0	-319.3	-335.8	-351.5	-364.0	-367.7	-372.1	VTHETA PR1
	VTHETA PR2	22.0	-16.6	-34.5	-61.6	-104.3	-131.5	-140.6	-135.2	-138.6	VTHETA PR2
	U 1	303.32	307.34	310.96	323.08	339.32	354.79	367.09	370.66	374.73	U 1
	U 2	304.08	307.59	311.10	321.62	335.65	349.69	360.21	363.73	367.23	U 2
	M 1	0.2291	0.2475	0.2467	0.2488	0.2429	0.2370	0.2329	0.2294	0.2060	M 1
	M 2	0.3760	0.3596	0.3568	0.3679	0.3460	0.3296	0.3184	0.3099	0.2975	M 2
	M(PR) 1	0.3536	0.3687	0.3707	0.3804	0.3880	0.3955	0.4021	0.4028	0.3930	M(PR) 1
	M(PR) 2	0.2381	0.2428	0.2590	0.2902	0.2926	0.2905	0.2805	0.2626	0.2495	M(PR) 2
	TURN(PR)	54.353	45.599	41.442	38.210	32.644	29.333	28.014	27.937	28.706	TURN(PR)
	UUBAR	0.1757	0.2140	0.1546	0.0394	0.0398	0.0714	0.1415	0.2120	0.2136	UUBAR
	LOSS PARA	0.0689	0.0854	0.0618	0.0161	0.0164	0.0296	0.0590	0.0886	0.0882	LOSS PARA
	DFAC	0.6452	0.6213	0.5630	0.4842	0.4691	0.4796	0.5206	0.5774	0.6029	DFAC
	EFFP	0.8642	0.7717	0.7945	0.8938	0.8824	0.8261	0.7953	0.7428	0.7442	EFFP
	EFF	0.8624	0.7690	0.7921	0.8925	0.8810	0.8242	0.7932	0.7403	0.7416	EFF
	INCID	-10.789	-12.062	-11.414	-11.209	-11.979	-14.881	-18.186	-19.066	-18.209	INCID
	DEVM	26.258	25.239	23.843	13.351	11.597	14.005	16.200	17.148	20.034	DEVM
	P 1	14.596	14.690	14.690	14.690	14.688	14.685	14.683	14.676	14.583	P 1
	P 2	16.028	15.918	15.911	16.034	15.925	15.845	15.770	15.712	15.642	P 2
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
	T 2	535.000	534.350	533.810	533.420	532.460	532.520	532.180	532.490	532.850	T 2
STATOR 5	PCT SPAN	94.40	90.02	85.08	70.31	50.14	29.97	15.27	9.94	5.18	PCT SPAN
	DIA	33.250	33.520	33.915	34.970	36.410	37.850	38.900	39.280	39.620	DIA
STATION 2	BETA 2	50.870	47.580	43.890	39.270	36.760	36.310	38.060	41.200	43.270	BETA 2
STATION 2A	BETA 2A	6.280	5.840	5.260	4.320	3.410	5.730	9.380	10.480	11.420	BETA 2A
	V 2	420.36	402.32	398.99	410.97	386.81	368.80	356.47	347.19	333.74	V 2
	V 2A	307.97	304.10	307.93	347.45	347.40	325.39	301.53	291.81	287.22	V 2A
	VZ 2	265.28	271.37	287.52	318.05	309.70	296.96	280.47	261.09	242.91	VZ 2
	VZ 2A	306.12	302.52	306.63	346.46	346.78	323.77	297.50	286.95	281.53	VZ 2A
	V-THETA 2	326.08	296.98	276.59	260.04	231.35	218.22	219.60	228.57	228.66	V-THETA 2
	V-THETA 2A	33.69	30.94	28.23	26.17	20.66	32.49	49.14	53.08	56.87	V-THETA 2A
	M 2	0.3760	0.3596	0.3568	0.3679	0.3460	0.3296	0.3184	0.3099	0.2975	M 2
	M 2A	0.2737	0.2703	0.2739	0.3098	0.3101	0.2901	0.2686	0.2597	0.2555	M 2A
	TURN(PR)	44.590	41.736	38.626	34.933	33.324	30.547	28.647	30.693	31.828	TURN(PR)
	UUBAR	0.1958	0.2054	0.1991	0.0960	0.0535	0.1140	0.1246	0.1806	0.1668	UUBAR
	LOSS PARA	0.0803	0.0849	0.0833	0.0415	0.0241	0.0533	0.0593	0.0866	0.0803	LOSS PARA
	DFAC	0.5543	0.5197	0.4907	0.4023	0.3491	0.3558	0.3872	0.4083	0.3952	DFAC
	EFFP	0.5460	0.5948	0.6079	0.6930	0.8213	0.5362	0.4139	0.4372	0.5277	EFFP
	EFF	-0.0000	-0.0000	0.0017	-0.0000	**********	-0.0000	**********	**********	**********	EFF
	INCID	-15.430	-14.774	-15.314	-14.397	-15.216	-18.753	-21.173	-19.927	-20.052	INCID
	DEVM	28.700	26.260	23.860	19.440	17.210	20.900	26.600	28.630	30.820	DEVM
	P 2	15.983	15.959	15.967	16.040	15.948	15.854	15.711	15.724	15.687	P 2
	P 2A	15.700	15.671	15.689	15.902	15.879	15.722	15.585	15.539	15.524	P 2A
	T 2	535.000	534.350	533.810	533.420	532.460	532.520	532.180	532.490	532.850	T 2
	T 2A	535.000	534.350	533.810	533.420	532.460	532.520	532.180	532.490	532.850	T 2A

Table B-4. Blade Element Performance (Continued)

PERCENT EQUIVALENT DESIGN SPEED = 49.67 EQUIVALENT ROTOR SPEED = 2091.00 CORRECTED WEIGHT FLOW = 59.72 PRESSURE RATIO =1.0725

INLET	PCT SPAN	96.42	91.17	86.46	70.64	49.46	29.30	13.25	8.59	3.28	PCT SPAN
	DIA	33.150	33.590	33.985	35.310	37.085	38.775	40.120	40.510	40.955	DIA
STATION 0	BETA 0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	BETA 0
STATION 1	BETA 1	0.925	0.846	0.784	0.716	0.717	0.769	0.745	0.726	0.705	BETA 1
	V 0	221.21	221.21	221.21	221.21	221.21	221.21	221.21	221.21	221.21	V 0
	V 1	226.47	245.22	247.66	249.93	245.93	242.61	233.77	227.93	200.80	V 1
	VZ 0	221.21	221.21	221.21	221.21	221.21	221.21	221.21	221.21	221.21	VZ 0
	VZ 1	226.44	245.19	247.60	249.87	245.76	242.45	233.67	227.83	200.77	VZ 1
	V-THETA 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	V-THETA 0
	V-THETA 1	3.66	3.62	3.39	3.12	3.08	3.25	3.04	2.89	2.47	V-THETA 1
	M 0	0.1989	0.1989	0.1989	0.1989	0.1989	0.1989	0.1989	0.1989	0.1989	M 0
	M 1	0.2037	0.2207	0.2229	0.2250	0.2214	0.2184	0.2103	0.2050	0.1805	M 1
	TURN	-0.92	-0.85	-0.78	-0.72	-0.72	-0.77	-0.74	-0.73	-0.70	TURN
	UUBAR	0.1725	0.0225	-0.0000	0.0050	0.0100	0.0075	0.0075	0.0250	0.2351	UUBAR
	DFAC	-0.024	-0.109	-0.120	-0.130	-0.112	-0.097	-0.057	-0.030	0.092	DFAC
	EFFP	0.2204	0.9118	0.9993	0.9824	0.9598	0.9644	0.9406	0.7141	-3.1479	EFFP
	INCID	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	INCID
	DEVM	-0.925	-0.846	-0.784	-0.716	-0.717	-0.769	-0.745	-0.726	-0.705	DEVM
	P 0	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	P 0
	P 1	14.625	14.685	14.694	14.692	14.690	14.691	14.691	14.684	14.600	P 1
	T 0	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 0
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
ROTOR 5	PCT SPAN	95.01	90.00	85.01	70.01	50.01	30.01	15.02	10.01	5.02	PCT SPAN
	DIA	33.233	33.617	34.000	35.150	36.684	38.218	39.368	39.752	40.135	DIA
STATION 1	BETA 1	0.925	0.846	0.784	0.716	0.717	0.769	0.745	0.726	0.705	BETA 1
STATION 2	BETA 2	55.850	53.740	49.860	43.020	40.720	39.930	42.470	45.130	46.940	BETA 2
	BETA(PR) 1	52.843	51.605	51.085	51.932	53.758	55.329	57.230	58.148	61.592	BETA(PR) 1
	BETA(PR) 2	-8.566	0.136	6.291	11.865	17.638	23.052	27.251	28.602	29.509	BETA(PR) 2
	V 1	226.47	245.22	247.66	249.93	245.93	242.61	233.77	227.93	200.80	V 1
	V 2	408.08	379.73	371.29	383.80	374.86	360.40	340.64	331.87	327.92	V 2
	VZ 1	226.44	245.19	247.60	249.87	245.76	242.45	233.67	227.83	200.77	VZ 1
	VZ 2	229.08	224.58	239.34	280.51	283.96	276.17	251.10	234.02	223.81	VZ 2
	V-THETA 1	3.66	3.62	3.39	3.12	3.08	3.25	3.04	2.89	2.47	V-THETA 1
	V-THETA 2	337.71	306.18	283.82	261.76	244.41	231.16	229.85	235.08	239.51	V-THETA 2
	V(PR) 1	374.9	389.7	394.2	405.3	415.8	426.3	431.8	431.8	422.0	V(PR) 1
	V(PR) 2	231.7	224.6	240.8	286.8	298.2	300.4	282.7	266.7	257.3	V(PR) 2
	VTHETA PR1	-298.8	-302.8	-306.7	-319.0	-335.3	-350.5	-363.0	-366.7	-371.2	VTHETA PR1
	VTHETA PR2	34.5	-0.5	-26.4	-58.9	-90.3	-117.5	-129.3	-127.6	-126.7	VTHETA PR2
	U 1	302.45	306.47	310.07	322.16	338.35	353.77	366.04	369.60	373.66	U 1
	U 2	303.21	306.71	310.21	320.70	334.69	348.69	359.18	362.69	366.18	U 2
	M 1	0.2037	0.2207	0.2229	0.2250	0.2214	0.2184	0.2103	0.2050	0.1805	M 1
	M 2	0.3647	0.3390	0.3315	0.3430	0.3350	0.3218	0.3037	0.2957	0.2920	M 2
	M(PR) 1	0.3372	0.3507	0.3548	0.3648	0.3743	0.3837	0.3884	0.3884	0.3792	M(PR) 1
	M(PR) 2	0.2071	0.2005	0.2150	0.2563	0.2665	0.2683	0.2521	0.2377	0.2291	M(PR) 2
	TURN(PR)	61.409	56.869	44.791	40.069	36.119	32.285	29.998	29.561	32.100	TURN(PR)
	UUBAR	0.2078	0.2590	0.2143	0.0699	0.0269	0.0380	0.1161	0.1615	0.1451	UUBAR
	LOSS PARA	0.0809	0.1031	0.0858	0.0285	0.0111	0.0158	0.0481	0.0668	0.0600	LOSS PARA
	DFAC	0.7333	0.7329	0.6757	0.5574	0.5336	0.5354	0.5878	0.6330	0.6545	DFAC
	EFFP	0.8593	0.7906	0.7849	0.8712	0.9286	0.9056	0.8140	0.7943	0.8187	EFFP
	EFF	0.8579	0.7882	0.7824	0.8696	0.9277	0.9045	0.8119	0.7920	0.8165	EFF
	INCID	-7.557	-8.895	-8.620	-8.442	-9.479	-12.757	-15.579	-16.210	-15.010	INCID
	DEVM	22.434	23.136	23.290	14.258	10.622	13.178	16.823	18.379	19.840	DEVM
	P 1	14.625	14.685	14.694	14.692	14.690	14.691	14.691	14.684	14.600	P 1
	P 2	16.102	15.930	15.891	16.007	16.026	15.985	15.894	15.862	15.852	P 2
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
	T 2	534.800	534.180	533.700	533.490	532.780	532.700	533.230	533.300	533.810	T 2
STATOR 5	PCT SPAN	94.40	90.62	85.08	70.31	50.14	29.97	15.27	9.94	5.18	PCT SPAN
	DIA	33.250	33.520	33.915	34.970	36.410	37.850	38.900	39.280	39.620	DIA
STATION 2	BETA 2	55.850	53.740	49.860	43.020	40.720	39.930	42.470	45.130	46.940	BETA 2
STATION 2A	BETA 2A	5.020	4.730	4.390	3.950	4.030	5.720	8.120	8.930	9.720	BETA 2A
	V 2	408.08	379.73	371.29	383.80	374.86	360.40	340.64	331.87	327.92	V 2
	V 2A	266.52	262.97	263.54	291.79	311.92	296.33	278.37	275.31	271.36	V 2A
	VZ 2	229.08	224.58	239.34	280.51	283.96	276.17	251.10	234.02	223.81	VZ 2
	VZ 2A	265.49	262.07	262.77	291.10	311.15	294.86	275.58	271.97	267.47	VZ 2A
	V-THETA 2	337.71	306.18	283.82	261.76	244.41	231.16	229.85	235.08	239.51	V-THETA 2
	V-THETA 2A	23.32	21.68	20.17	20.10	21.92	29.53	39.32	42.74	45.82	V-THETA 2A
	M 2	0.3647	0.3390	0.3315	0.3430	0.3350	0.3218	0.3037	0.2957	0.2920	M 2
	M 2A	0.2364	0.2334	0.2340	0.2595	0.2778	0.2637	0.2474	0.2447	0.2410	M 2A
	TURN(PR)	50.830	49.006	45.466	39.053	36.663	34.176	34.316	36.173	37.198	TURN(PR)
	UUBAR	0.1983	0.1834	0.1477	0.1060	0.0360	0.1049	0.1196	0.1659	0.1890	UUBAR
	LOSS PARA	0.0815	0.0760	0.0620	0.0459	0.0161	0.0490	0.0571	0.0799	0.0915	LOSS PARA
	DFAC	0.6648	0.6197	0.5895	0.5139	0.4373	0.4422	0.4551	0.4554	0.4657	DFAC
	EFFP	0.6129	0.7255	0.7618	0.7642	0.8728	0.6835	0.5892	0.5845	0.5748	EFFP
	EFF	-0.0000	-0.0000	0.0017	-0.0000	**********	-0.0000	**********	**********	**********	EFF
	INCID	-10.450	-8.614	-9.344	-10.647	-11.257	-15.134	-16.764	-15.997	-16.382	INCID
	DEVM	27.440	25.150	22.990	19.070	17.830	20.890	25.340	27.080	29.120	DEVM
	P 2	16.044	15.982	15.925	16.010	16.020	15.983	15.870	15.898	15.909	P 2
	P 2A	15.775	15.749	15.748	15.877	15.977	15.867	15.755	15.737	15.726	P 2A
	T 2	534.800	534.180	533.700	533.490	532.780	532.700	533.230	533.300	533.810	T 2
	T 2A	534.800	534.180	533.700	533.490	532.780	532.700	533.230	533.300	533.810	T 2A

Table B-4. Blade Element Performance (Continued)

PERCENT EQUIVALENT DESIGN SPEED = 49.48 EQUIVALENT ROTOR SPEED = 2083.00 CORRECTED WEIGHT FLOW = 55.56 PRESSURE RATIO =1.0751

INLET	PCT SPAN	96.42	91.17	86.46	70.64	49.46	29.30	13.25	8.59	3.28	PCT SPAN
	DIA	33.150	33.590	33.985	35.310	37.085	38.775	40.120	40.510	40.955	DIA
STATION 0	BETA 0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	BETA 0
STATION 1	BETA 1	1.705	1.678	1.655	1.577	1.472	1.372	1.294	1.275	1.279	BETA 1
	V 0	205.26	205.26	205.26	205.26	205.26	205.26	205.26	205.26	205.26	V 0
	V 1	205.85	225.15	226.51	227.34	226.81	222.97	215.39	211.33	195.64	V 1
	VZ 0	205.26	205.26	205.26	205.26	205.26	205.26	205.26	205.26	205.26	VZ 0
	VZ 1	205.76	225.06	226.38	227.21	226.59	222.77	215.26	211.20	195.57	VZ 1
	V-THETA 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	V-THETA 0
	V-THETA 1	6.12	6.59	6.54	6.26	5.82	5.34	4.86	4.70	4.37	V-THETA 1
	M 0	0.1845	0.1845	0.1845	0.1845	0.1845	0.1845	0.1845	0.1845	0.1845	M 0
	M 1	0.1850	0.2025	0.2037	0.2045	0.2040	0.2005	0.1937	0.1900	0.1758	M 1
	TURN	-1.70	-1.68	-1.65	-1.58	-1.47	-1.37	-1.29	-1.27	-1.28	TURN
	UUBAR	0.2146	0.0116	0.0087	0.0116	0.0174	0.0261	0.0348	0.0348	0.2001	UUBAR
	DFAC	-0.003	-0.097	-0.104	-0.108	-0.105	-0.086	-0.049	-0.030	0.047	DFAC
	EFFP	0.0258	0.9464	0.9620	0.9516	0.9281	0.8747	0.7460	0.6359	-0.8639	EFFP
	INCID	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	INCID
	DEVM	-1.705	-1.678	-1.655	-1.577	-1.471	-1.371	-1.294	-1.275	-1.279	DEVM
	P 0	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	P 0
	P 1	14.620	14.690	14.691	14.690	14.688	14.685	14.682	14.682	14.625	P 1
	T 0	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 0
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
ROTOR 5	PCT SPAN	95.01	90.00	85.01	70.01	50.01	30.01	15.02	10.01	5.02	PCT SPAN
	DIA	33.233	33.617	34.000	35.150	36.684	38.218	39.368	39.752	40.135	DIA
STATION 1	BETA 1	1.705	1.678	1.655	1.577	1.472	1.372	1.294	1.275	1.279	BETA 1
STATION 2	BETA 2	58.890	57.510	54.590	45.880	43.120	42.260	45.250	47.660	49.360	BETA 2
	BETA(PR) 1	55.120	53.004	53.176	54.168	55.624	57.306	59.107	59.841	62.003	BETA(PR) 1
	BETA(PR) 2	-10.621	-1.631	5.282	13.433	18.805	24.013	27.539	28.286	29.443	BETA(PR) 2
	V 1	205.85	225.15	226.51	227.34	226.81	222.97	215.39	211.33	195.64	V 1
	V 2	397.81	367.21	355.79	361.43	357.89	346.82	332.33	328.12	323.94	V 2
	VZ 1	205.76	225.06	226.38	227.21	226.59	222.77	215.26	211.20	195.57	VZ 1
	VZ 2	205.54	195.07	206.14	251.54	261.10	256.51	233.83	220.90	210.91	VZ 2
	V-THETA 1	6.12	6.59	6.54	6.26	5.82	5.34	4.86	4.70	4.37	V-THETA 1
	V-THETA 2	340.59	311.09	289.96	259.39	244.50	233.08	235.88	242.43	245.73	V-THETA 2
	V(PR) 1	359.8	374.0	377.7	388.1	401.4	412.5	419.3	420.4	416.6	V(PR) 1
	V(PR) 2	205.1	195.2	207.1	258.8	276.1	281.1	264.0	251.0	242.3	V(PR) 2
	VTHETA PR1	-295.2	-298.7	-302.3	-314.7	-331.2	-347.1	-359.8	-363.5	-367.9	VTHETA PR1
	VTHETA PR2	38.5	5.6	-19.1	-60.1	-88.9	-114.3	-121.9	-118.9	-119.0	VTHETA PR2
	U 1	301.29	305.29	308.88	320.93	337.06	352.42	364.64	368.19	372.23	U 1
	U 2	302.05	305.54	309.02	319.47	333.41	347.36	357.81	361.30	364.78	U 2
	M 1	0.1850	0.2025	0.2037	0.2045	0.2040	0.2005	0.1937	0.1900	0.1758	M 1
	M 2	0.3553	0.3276	0.3175	0.3229	0.3197	0.3094	0.2961	0.2921	0.2882	M 2
	M(PR) 1	0.3234	0.3364	0.3397	0.3491	0.3610	0.3710	0.3770	0.3780	0.3743	M(PR) 1
	M(PR) 2	0.1868	0.1742	0.1848	0.2312	0.2466	0.2508	0.2352	0.2235	0.2156	M(PR) 2
	TURN(PR)	65.742	54.635	47.890	40.738	36.819	33.303	31.587	31.570	32.577	TURN(PR)
	UUBAR	0.2048	0.2932	0.2551	0.0830	0.0272	0.0266	0.0994	0.1438	0.1332	UUBAR
	LOSS PARA	0.0792	0.1167	0.1023	0.0336	0.0112	0.0110	0.0411	0.0596	0.0552	LOSS PARA
	DFAC	0.7852	0.8025	0.7541	0.6042	0.5692	0.5666	0.6249	0.6666	0.6909	DFAC
	EFFP	0.9112	0.7528	0.8050	0.9081	0.9432	0.8976	0.8399	0.7990	0.8022	EFFP
	EFF	0.9099	0.7504	0.8028	0.9070	0.9425	0.8963	0.8381	0.7967	0.7998	EFF
	INCID	-5.280	-6.696	-6.529	-6.206	-7.612	-10.780	-13.701	-14.517	-14.599	INCID
	DEVM	20.379	21.369	22.281	15.826	11.789	14.137	17.111	18.063	19.774	DEVM
	P 1	14.620	14.690	14.691	14.690	14.688	14.685	14.682	14.682	14.625	P 1
	P 2	16.115	15.924	15.871	15.960	16.005	15.992	15.940	15.928	15.923	P 2
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
	T 2	534.780	534.000	533.120	532.410	532.370	532.970	533.410	534.030	534.650	T 2
STATOR 5	PCT SPAN	94.40	90.62	85.08	70.31	50.14	29.97	15.27	9.94	5.18	PCT SPAN
	DIA	33.250	33.520	33.915	34.970	36.410	37.850	38.900	39.280	39.620	DIA
STATION 2	BETA 2	58.890	57.510	54.590	45.880	43.120	42.260	45.250	47.660	49.360	BETA 2
STATION 2A	BETA 2A	4.250	4.120	3.760	3.620	4.080	5.270	7.020	7.970	8.620	BETA 2A
	V 2	397.81	367.21	355.79	361.43	357.89	346.82	332.33	328.12	323.94	V 2
	V 2A	241.45	234.52	240.72	259.21	290.05	280.03	261.32	258.37	255.58	V 2A
	VZ 2	205.54	195.07	206.14	251.54	261.10	256.51	233.83	220.90	210.91	VZ 2
	VZ 2A	240.79	233.91	240.20	258.70	289.32	278.85	259.36	255.87	252.69	VZ 2A
	V-THETA 2	340.59	311.09	289.96	259.39	244.50	233.08	235.88	242.43	245.73	V-THETA 2
	V-THETA 2A	17.89	16.85	15.79	16.37	20.64	25.72	31.94	35.82	38.31	V-THETA 2A
	M 2	0.3553	0.3276	0.3175	0.3229	0.3197	0.3094	0.2961	0.2921	0.2882	M 2
	M 2A	0.2140	0.2079	0.2137	0.2304	0.2582	0.2490	0.2321	0.2293	0.2266	M 2A
	TURN(PR)	54.640	53.786	50.826	42.242	39.013	36.956	38.196	39.663	40.718	TURN(PR)
	UUBAR	0.1924	0.1853	0.1436	0.1112	0.0392	0.0878	0.1457	0.1684	0.1860	UUBAR
	LOSS PARA	0.0792	0.0768	0.0603	0.0481	0.0175	0.0410	0.0698	0.0812	0.0904	LOSS PARA
	DFAC	0.7277	0.6953	0.6483	0.5755	0.4735	0.4752	0.5123	0.5220	0.5287	DFAC
	EFFP	0.6350	0.7730	0.8455	0.7985	0.9540	0.8060	0.6602	0.6489	0.6222	EFFP
	EFF	-0.0000	-0.0000	0.0017	-0.0000**********		-0.0000**********				EFF
	INCID	-7.410	-4.444	-4.614	-7.787	-8.857	-12.804	-13.984	-13.467	-13.962	INCID
	DEVM	26.670	24.540	22.360	18.740	17.880	20.440	24.240	26.120	28.020	DEVM
	P 2	16.041	15.993	15.942	15.972	16.031	16.012	15.953	15.962	15.966	P 2
	P 2A	15.796	15.765	15.778	15.847	15.987	15.920	15.814	15.802	15.792	P 2A
	T 2	534.780	534.000	533.120	532.410	532.370	532.970	533.410	534.030	534.650	T 2
	T 2A	534.780	534.060	533.120	532.410	532.370	532.970	533.410	534.030	534.650	T 2A

Table B-4. Blade Element Performance (Continued)

PERCENT EQUIVALENT DESIGN SPEED = 70.07 EQUIVALENT ROTOR SPEED = 2950.00 CORRECTED WEIGHT FLOW = 99.11 PRESSURE RATIO =1.0835

INLET	PCT SPAN	96.42	91.17	86.46	70.64	49.46	29.30	13.25	8.59	3.28	PCT SPAN
	DIA	33.150	33.590	33.985	35.310	37.085	38.775	40.120	40.510	40.955	DIA
STATION 0	BETA 0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	BETA 0
STATION 1	BETA 1	-0.470	-0.465	-0.461	-0.450	-0.433	-0.420	-0.408	-0.404	-0.400	BETA 1
	V 0	381.54	381.54	381.54	381.54	381.54	381.54	381.54	381.54	381.54	V 0
	V 1	396.73	425.64	431.94	429.97	418.98	408.41	403.33	401.03	363.87	V 1
	VZ 0	381.54	381.54	381.54	381.54	381.54	381.54	381.54	381.54	381.54	VZ 0
	VZ 1	396.72	425.63	431.86	429.89	418.72	408.15	403.18	400.88	363.83	VZ 1
	V-THETA 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	V-THETA 0
	V-THETA 1	-3.25	-3.45	-3.47	-3.38	-3.16	-2.99	-2.87	-2.83	-2.54	V-THETA 1
	M 0	0.3458	0.3458	0.3458	0.3458	0.3458	0.3458	0.3458	0.3458	0.3458	M 0
	M 1	0.3599	0.3869	0.3928	0.3910	0.3807	0.3708	0.3661	0.3639	0.3295	M 1
	TURN	0.47	0.47	0.46	0.45	0.43	0.42	0.41	0.40	0.40	TURN
	UUBAR	0.1851	0.0231	-0.0000	-0.0000	0.0043	0.0103	0.0129	0.0291	0.2246	UUBAR
	DFAC	-0.040	-0.116	-0.132	-0.127	-0.098	-0.070	-0.057	-0.051	0.046	DFAC
	EFFP	0.3149	0.9178	0.9999	1.0000	0.9806	0.9372	0.9060	0.7911	-0.7262	EFFP
	INCID	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	INCID
	DEVM	0.470	0.465	0.461	0.450	0.433	0.420	0.408	0.404	0.400	DEVM
	P 0	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	P 0
	P 1	14.478	14.667	14.694	14.694	14.689	14.682	14.679	14.660	14.432	P 1
	T 0	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 0
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
ROTOR 5	PCT SPAN	95.01	90.00	85.01	70.01	50.01	30.01	15.02	10.01	5.02	PCT SPAN
	DIA	33.233	33.617	34.000	35.150	36.684	38.218	39.368	39.752	40.135	DIA
STATION 1	BETA 1	-0.470	-0.465	-0.461	-0.450	-0.433	-0.420	-0.408	-0.404	-0.400	BETA 1
STATION 2	BETA 2	45.500	40.080	37.440	33.670	31.240	31.280	32.800	35.390	38.470	BETA 2
	BETA(PR) 1	47.302	45.678	45.595	46.806	48.931	50.893	52.174	52.557	55.517	BETA(PR) 1
	BETA(PR) 2	-2.657	3.370	5.850	12.946	21.179	23.994	25.117	24.766	26.975	BETA(PR) 2
	V 1	396.73	425.64	431.94	429.97	418.98	408.41	403.33	401.03	363.87	V 1
	V 2	628.40	628.17	634.98	606.97	555.97	547.30	541.98	535.99	506.42	V 2
	VZ 1	396.72	425.63	431.86	429.89	418.72	408.15	403.18	400.88	363.83	VZ 1
	VZ 2	440.45	480.60	504.12	504.94	475.02	467.34	455.19	436.68	396.31	VZ 2
	V-THETA 1	-3.25	-3.45	-3.47	-3.38	-3.16	-2.99	-2.87	-2.83	-2.54	V-THETA 1
	V-THETA 2	448.21	404.41	385.99	336.37	288.14	283.92	293.35	310.22	314.90	V-THETA 2
	V(PR) 1	585.0	605.2	617.2	628.1	637.5	647.2	657.5	660.1	642.6	V(PR) 1
	V(PR) 2	440.9	481.5	506.8	518.4	509.9	512.1	503.2	481.3	445.0	V(PR) 2
	VTHETA PR1	-430.0	-435.8	-440.9	-457.9	-480.5	-502.1	-519.3	-524.3	-529.7	VTHETA PR1
	VTHETA PR2	20.4	-28.3	-51.7	-116.1	-184.1	-208.0	-213.4	-201.5	-201.7	VTHETA PR2
	U 1	426.70	432.36	437.45	454.50	477.35	499.10	516.42	521.44	527.16	U 1
	U 2	427.77	432.71	437.64	452.44	472.19	491.93	506.74	511.68	516.61	U 2
	M 1	0.3599	0.3869	0.3928	0.3910	0.3807	0.3708	0.3661	0.3639	0.3295	M 1
	M 2	0.5633	0.5635	0.5710	0.5460	0.4991	0.4910	0.4862	0.4807	0.4527	M 2
	M(PR) 1	0.5308	0.5538	0.5613	0.5712	0.5793	0.5877	0.5968	0.5990	0.5819	M(PR) 1
	M(PR) 2	0.3952	0.4326	0.4558	0.4664	0.4577	0.4594	0.4514	0.4316	0.3977	M(PR) 2
	TURN(PR)	49.559	42.309	39.741	33.863	27.753	26.907	27.073	27.841	28.557	TURN(PR)
	UUBAR	0.2115	0.1535	0.0851	0.0647	0.1262	0.1653	0.2325	0.3015	0.3410	UUBAR
	LOSS PARA	0.0832	0.0610	0.0341	0.0263	0.0511	0.0684	0.0982	0.1289	0.1445	LOSS PARA
	DFAC	0.5505	0.4703	0.4331	0.3994	0.3978	0.4081	0.4428	0.4921	0.5401	DFAC
	EFFP	0.8210	0.7968	0.8761	0.9006	0.8096	0.7779	0.7521	0.7226	0.6869	EFFP
	EFF	0.8166	0.7921	0.8730	0.8984	0.8062	0.7741	0.7481	0.7183	0.6821	EFF
	INCID	-13.098	-14.222	-14.109	-13.568	-14.306	-17.194	-20.636	-21.763	-21.085	INCID
	DEVM	28.343	26.305	22.849	15.339	14.161	14.118	14.691	14.546	17.308	DEVM
	P 1	14.478	14.667	14.694	14.694	14.689	14.682	14.679	14.660	14.432	P 1
	P 2	17.210	17.268	17.412	17.167	16.647	16.552	16.443	16.335	16.060	P 2
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
	T 2	550.860	549.970	548.220	544.940	542.120	542.050	541.550	541.370	542.280	T 2
STATOR 5	PCT SPAN	94.40	90.62	85.08	70.31	50.14	29.97	15.27	9.94	5.18	PCT SPAN
	DIA	33.250	33.520	33.915	34.970	36.410	37.850	38.900	39.280	39.620	DIA
STATION 2	BETA 2	45.500	40.080	37.440	33.670	31.240	31.280	32.800	35.390	38.470	BETA 2
STATION 2A	BETA 2A	9.470	8.870	7.560	4.330	5.220	8.450	10.470	11.140	11.700	BETA 2A
	V 2	628.40	628.17	634.98	606.97	555.97	547.30	541.98	535.99	506.42	V 2
	V 2A	536.47	541.15	554.94	578.63	551.34	526.39	483.41	459.96	452.23	V 2A
	VZ 2	440.45	480.60	504.12	504.94	475.02	467.34	455.19	436.68	396.31	VZ 2
	VZ 2A	529.16	534.68	550.12	576.98	549.05	520.67	475.36	451.30	442.83	VZ 2A
	V-THETA 2	448.21	404.41	385.99	336.37	288.14	283.92	293.35	310.22	314.90	V-THETA 2
	V-THETA 2A	88.27	83.44	73.01	43.69	50.16	77.35	87.85	88.87	91.71	V-THETA 2A
	M 2	0.5633	0.5635	0.5710	0.5460	0.4991	0.4910	0.4862	0.4807	0.4527	M 2
	M 2A	0.4768	0.4815	0.4952	0.5191	0.4948	0.4714	0.4316	0.4100	0.4025	M 2A
	TURN(PR)	36.030	31.206	29.876	29.324	25.996	22.800	22.299	24.224	26.748	TURN(PR)
	UUBAR	0.2685	0.2516	0.2615	0.1637	0.1169	0.1632	0.1949	0.2171	0.2207	UUBAR
	LOSS PARA	0.1092	0.1034	0.1091	0.0708	0.0525	0.0758	0.0925	0.1038	0.1063	LOSS PARA
	DFAC	0.3826	0.3516	0.3339	0.2567	0.2028	0.2170	0.2932	0.3454	0.3263	DFAC
	EFFP	0.0759	0.0038	-0.0872	-0.7341	-5.3150	-1.3599	-0.4946	-0.3100	-0.4638	EFFP
	EFF	-0.0000	-0.0000	0.0017	-0.0000	**********	-0.0000	**********	**********	**********	EFF
	INCID	-20.800	-22.274	-21.764	-19.996	-20.734	-23.780	-26.431	-25.736	-24.851	INCID
	DEVM	31.890	29.290	26.160	19.450	19.020	23.620	27.690	29.290	31.100	DEVM
	P 2	17.171	17.123	17.303	17.119	16.651	16.462	16.035	15.871	15.802	P 2
	P 2A	16.286	16.317	16.428	16.611	16.346	16.066	15.636	15.453	15.394	P 2A
	T 2	550.860	549.970	548.220	544.940	542.120	542.050	541.550	541.370	542.280	T 2
	T 2A	550.860	549.970	548.220	544.940	542.120	542.050	541.550	541.370	542.280	T 2A

Table B-4. Blade Element Performance (Continued)

PERCENT EQUIVALENT DESIGN SPEED = 69.62 EQUIVALENT ROTOR SPEED = 2931.00 CORRECTED WEIGHT FLOW = 89.55 PRESSURE RATIO =1.1258

INLET	PCT SPAN	96.42	91.17	86.46	70.64	49.46	29.30	13.25	8.59	3.28	PCT SPAN
	DIA	33.150	33.590	33.985	35.310	37.085	38.775	40.120	40.510	40.955	DIA
STATION 0	BETA 0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	BETA 0
STATION 1	BETA 1	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	BETA 1
	V 0	340.53	340.53	340.53	340.53	340.53	340.53	340.53	340.53	340.53	V 0
	V 1	356.37	375.99	376.84	378.03	375.99	368.45	357.44	352.05	322.77	V 1
	VZ 0	340.53	340.53	340.53	340.53	340.53	340.53	340.53	340.53	340.53	VZ 0
	VZ 1	356.37	375.98	376.78	377.96	375.75	368.22	357.31	351.92	322.73	VZ 1
	V-THETA 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	V-THETA 0
	V-THETA 1	-2.49	-2.62	-2.63	-2.64	-2.62	-2.57	-2.49	-2.46	-2.25	V-THETA 1
	M 0	0.3079	0.3079	0.3079	0.3079	0.3079	0.3079	0.3079	0.3079	0.3079	M 0
	M 1	0.3225	0.3407	0.3415	0.3426	0.3407	0.3337	0.3235	0.3185	0.2916	M 1
	TURN	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	TURN
	UUBAR	0.1497	-0.0000	-0.0000	-0.0000	-0.0000	0.0032	0.0107	0.0267	0.1861	UUBAR
	DFAC	-0.047	-0.104	-0.107	-0.110	-0.104	-0.082	-0.050	-0.034	0.052	DFAC
	EFFP	0.3579	1.0000	0.9998	0.9999	1.0000	0.9821	0.9084	0.7284	-1.3008	EFFP
	INCID	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	INCID
	DEVM	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	DEVM
	P 0	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	P 0
	P 1	14.554	14.694	14.694	14.694	14.694	14.691	14.684	14.669	14.520	P 1
	T 0	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 0
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
ROTOR 5	PCT SPAN	95.01	90.00	85.01	70.01	50.01	30.01	15.02	10.01	5.02	PCT SPAN
	DIA	33.233	33.617	34.000	35.150	36.684	38.218	39.368	39.752	40.135	DIA
STATION 1	BETA 1	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	BETA 1
STATION 2	BETA 2	51.760	47.500	43.750	38.960	36.580	36.240	40.700	43.710	46.640	BETA 2
	BETA(PR) 1	50.115	48.575	49.249	50.235	51.765	53.546	55.277	55.938	58.469	BETA(PR) 1
	BETA(PR) 2	-5.482	2.234	6.922	12.289	18.834	23.804	25.158	25.564	27.524	BETA(PR) 2
	V 1	356.37	375.99	376.84	378.03	375.99	368.45	357.44	352.05	322.77	V 1
	V 2	585.40	563.04	558.07	563.42	539.68	516.54	499.74	490.59	473.32	V 2
	VZ 1	356.37	375.98	376.78	377.96	375.75	368.22	357.31	351.92	322.73	VZ 1
	VZ 2	362.34	380.36	403.10	437.94	433.11	416.29	378.61	354.45	324.85	VZ 2
	V-THETA 1	-2.49	-2.62	-2.63	-2.64	-2.62	-2.57	-2.49	-2.46	-2.25	V-THETA 1
	V-THETA 2	459.79	415.09	385.88	354.13	321.42	305.12	325.65	338.84	344.00	V-THETA 2
	V(PR) 1	555.7	572.9	577.2	590.9	607.3	619.8	627.4	628.4	617.1	V(PR) 1
	V(PR) 2	364.0	380.7	406.1	448.5	458.0	455.5	418.7	393.2	366.5	V(PR) 2
	VTHETA PR1	-426.4	-432.2	-437.3	-454.2	-476.9	-498.5	-515.6	-520.5	-526.0	VTHETA PR1
	VTHETA PR2	34.8	-14.8	-48.9	-95.4	-147.7	-183.6	-177.8	-169.5	-169.3	VTHETA PR2
	U 1	423.95	429.58	434.63	451.58	474.28	495.89	513.09	518.08	523.77	U 1
	U 2	425.01	429.92	434.82	449.53	469.15	488.77	503.47	508.38	513.28	U 2
	M 1	0.3225	0.3407	0.3415	0.3426	0.3407	0.3337	0.3235	0.3185	0.2916	M 1
	M 2	0.5231	0.5027	0.4987	0.5042	0.4827	0.4612	0.4454	0.4368	0.4208	M 2
	M(PR) 1	0.5030	0.5191	0.5231	0.5355	0.5503	0.5614	0.5678	0.5686	0.5575	M(PR) 1
	M(PR) 2	0.3253	0.3399	0.3629	0.4014	0.4096	0.4067	0.3732	0.3501	0.3259	M(PR) 2
	TURN(PR)	55.597	46.745	42.324	37.949	32.931	29.751	30.136	30.387	30.962	TURN(PR)
	UUBAR	0.2467	0.2465	0.1778	0.0588	0.0484	0.0884	0.2006	0.2581	0.2751	UUBAR
	LOSS PARA	0.0567	0.0581	0.0711	0.0239	0.0199	0.0366	0.0847	0.1096	0.1160	LOSS PARA
	DFAC	0.6729	0.6259	0.5676	0.4919	0.4765	0.4884	0.5743	0.6276	0.6702	DFAC
	EFFP	0.8574	0.7906	0.8236	0.9174	0.9289	0.8806	0.8236	0.7963	0.8040	EFFP
	EFF	0.8538	0.7860	0.8197	0.9155	0.9273	0.8780	0.8200	0.7922	0.8000	EFF
	INCID	-10.285	-10.921	-10.455	-10.139	-11.472	-14.540	-17.532	-18.421	-18.133	INCID
	DEVM	25.518	25.234	23.921	14.682	11.817	13.929	14.731	15.343	17.855	DEVM
	P 1	14.554	14.694	14.694	14.694	14.694	14.691	14.684	14.669	14.520	P 1
	P 2	17.328	17.139	17.141	17.332	17.203	17.030	16.900	16.831	16.708	P 2
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
	T 2	549.750	548.370	547.170	546.070	544.470	544.170	544.620	544.930	545.230	T 2
STATOR 5	PCT SPAN	94.40	90.62	85.08	70.31	50.14	29.97	15.27	9.94	5.18	PCT SPAN
	DIA	33.250	33.520	33.915	34.970	36.410	37.850	38.900	39.280	39.620	DIA
STATION 2	BETA 2	51.760	47.500	43.750	38.960	36.580	36.240	40.700	43.710	46.640	BETA 2
STATION 2A	BETA 2A	5.940	5.600	5.160	4.160	3.670	6.830	9.330	10.220	11.030	BETA 2A
	V 2	585.40	563.04	558.07	563.42	539.68	516.54	499.74	490.59	473.32	V 2
	V 2A	422.43	418.68	420.26	469.22	474.40	444.96	412.89	395.71	390.61	V 2A
	VZ 2	362.34	380.36	403.10	437.94	433.11	416.29	378.61	354.45	324.85	VZ 2
	VZ 2A	420.16	416.68	418.55	467.98	473.43	441.80	407.42	389.43	383.40	VZ 2A
	V-THETA 2	459.79	415.09	385.88	354.13	321.42	305.12	325.65	338.84	344.00	V-THETA 2
	V-THETA 2A	43.72	40.86	37.80	34.04	30.37	52.92	66.94	70.21	74.73	V-THETA 2A
	M 2	0.5231	0.5027	0.4987	0.5042	0.4827	0.4612	0.4454	0.4368	0.4208	M 2
	M 2A	0.3726	0.3697	0.3715	0.4167	0.4221	0.3952	0.3657	0.3500	0.3453	M 2A
	TURN(PR)	45.820	41.896	38.586	34.783	32.884	29.377	31.336	33.463	35.588	TURN(PR)
	UUBAR	0.2156	0.2008	0.1993	0.1200	0.0620	0.1205	0.1273	0.1781	0.1821	UUBAR
	LOSS PARA	0.0885	0.0831	0.0835	0.0520	0.0279	0.0562	0.0606	0.0854	0.0879	LOSS PARA
	DFAC	0.5716	0.5334	0.5099	0.4146	0.3658	0.3695	0.4260	0.4628	0.4573	DFAC
	EFFP	0.5450	0.5895	0.5763	0.6382	0.6972	0.5160	0.3700	0.3377	0.3586	EFFP
	EFF	-0.0000	-0.0000	0.0017	-0.0000	**********	-0.0000	**********	**********	**********	EFF
	INCID	-14.540	-14.854	-15.454	-14.707	-15.396	-18.823	-18.534	-17.417	-16.682	INCID
	DEVM	28.360	26.020	23.760	19.280	17.470	22.000	26.550	28.370	30.430	DEVM
	P 2	17.246	17.145	17.142	17.327	17.167	16.992	16.687	16.660	16.626	P 2
	P 2A	16.628	16.558	16.608	16.996	17.012	16.718	16.440	16.322	16.292	P 2A
	T 2	549.750	548.370	547.170	546.070	544.470	544.170	544.620	544.930	545.230	T 2
	T 2A	549.750	548.370	547.170	546.070	544.470	544.170	544.620	544.930	545.230	T 2A

Table B-4. Blade Element Performance (Continued)

PERCENT EQUIVALENT DESIGN SPEED = 65.48 EQUIVALENT ROTOR SPEED = 2925.00 CORRECTED WEIGHT FLOW = 84.36 PRESSURE RATIO =1.1437

INLET	PCT SPAN	96.42	91.17	86.46	70.64	49.46	29.30	13.25	8.59	3.28	PCT SPAN
	DIA	33.150	33.590	33.985	35.310	37.085	38.775	40.120	40.510	40.955	DIA
STATION 0	BETA 0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	BETA 0
STATION 1	BETA 1	0.014	-0.026	-0.032	-0.055	-0.083	-0.112	-0.133	-0.140	-0.148	BETA 1
	V 0	318.94	318.94	318.94	318.94	318.94	318.94	318.94	318.94	318.94	V 0
	V 1	326.93	353.63	354.81	359.65	354.51	343.40	334.45	326.58	296.74	V 1
	VZ 0	318.94	318.94	318.94	318.94	318.94	318.94	318.94	318.94	318.94	VZ 0
	VZ 1	326.93	353.63	354.76	359.59	354.30	343.20	334.34	326.47	296.71	VZ 1
	V-THETA 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	V-THETA 0
	V-THETA 1	0.08	-0.12	-0.20	-0.35	-0.51	-0.67	-0.78	-0.80	-0.77	V-THETA 1
	M 0	0.2881	0.2881	0.2881	0.2881	0.2881	0.2881	0.2881	0.2881	0.2881	M 0
	M 1	0.2954	0.3200	0.3211	0.3255	0.3208	0.3106	0.3023	0.2951	0.2677	M 1
	TURN	-0.01	0.02	0.03	0.06	0.08	0.11	0.13	0.14	0.15	TURN
	UUBAR	0.1726	0.0085	-0.0000	0.0012	0.0061	0.0085	0.0122	0.0316	0.1994	UUBAR
	DFAC	-0.025	-0.105	-0.112	-0.128	-0.112	-0.077	-0.049	-0.024	0.070	DFAC
	EFFP	0.2328	0.9653	0.9999	0.9957	0.9758	0.9507	0.8949	0.6142	-2.2745	EFFP
	INCID	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	INCID
	DEVM	-0.014	0.026	0.032	0.055	0.083	0.112	0.133	0.140	0.148	DEVM
	P 0	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	P 0
	P 1	14.552	14.687	14.694	14.693	14.689	14.687	14.684	14.668	14.530	P 1
	T 0	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 0
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
ROTOR 5	PCT SPAN	95.01	90.00	85.01	70.01	50.01	30.01	15.02	10.01	5.02	PCT SPAN
	DIA	33.233	33.617	34.000	35.150	36.684	38.218	39.368	39.752	40.135	DIA
STATION 1	BETA 1	0.014	-0.026	-0.032	-0.055	-0.083	-0.112	-0.133	-0.140	-0.148	BETA 1
STATION 2	BETA 2	56.270	52.900	48.220	41.830	39.610	38.970	44.670	47.640	49.930	BETA 2
	BETA(PR) 1	52.300	50.489	50.733	51.434	53.213	55.295	56.897	57.770	60.454	BETA(PR) 1
	BETA(PR) 2	-9.406	0.286	6.522	12.573	18.671	23.993	26.800	27.237	27.391	BETA(PR) 2
	V 1	326.93	353.63	354.81	359.65	354.51	343.40	334.45	326.58	296.74	V 1
	V 2	573.41	535.98	528.01	538.66	521.72	500.66	473.28	467.47	466.32	V 2
	VZ 1	326.93	353.63	354.76	359.59	354.30	343.20	334.34	326.47	296.71	VZ 1
	VZ 2	318.40	323.29	351.77	401.23	401.71	388.97	336.38	314.84	300.08	VZ 2
	V-THETA 1	0.08	-0.12	-0.20	-0.35	-0.51	-0.67	-0.78	-0.80	-0.77	V-THETA 1
	V-THETA 2	476.89	427.47	393.71	359.12	332.44	314.64	332.53	345.28	356.74	V-THETA 2
	V(PR) 1	534.6	553.8	560.5	576.8	591.8	602.9	612.2	612.2	601.7	V(PR) 1
	V(PR) 2	322.7	323.3	354.1	411.3	424.4	426.2	377.2	354.4	338.2	V(PR) 2
	VTHETA PR1	-423.9	-426.6	-433.9	-451.0	-473.8	-495.5	-512.8	-517.8	-523.5	VTHETA PR1
	VTHETA PR2	52.7	-1.6	-40.2	-89.5	-135.7	-173.1	-169.9	-162.1	-155.5	VTHETA PR2
	U 1	423.08	428.70	433.74	450.65	473.31	494.87	512.04	517.02	522.70	U 1
	U 2	424.14	429.04	433.93	448.61	468.19	487.77	502.44	507.34	512.23	U 2
	M 1	0.2954	0.3200	0.3211	0.3255	0.3208	0.3106	0.3023	0.2951	0.2677	M 1
	M 2	0.5116	0.4772	0.4705	0.4810	0.4657	0.4459	0.4202	0.4146	0.4132	M 2
	M(PR) 1	0.4830	0.5036	0.5072	0.5221	0.5355	0.5452	0.5534	0.5531	0.5428	M(PR) 1
	M(PR) 2	0.2880	0.2879	0.3156	0.3673	0.3788	0.3795	0.3349	0.3143	0.2997	M(PR) 2
	TURN(PR)	61.706	56.209	44.207	38.864	34.541	31.311	30.116	30.546	33.079	TURN(PR)
	UUBAR	0.2212	0.2039	0.2000	0.0514	0.0195	0.0352	0.1721	0.2176	0.2117	UUBAR
	LOSS PARA	0.0859	0.1051	0.0801	0.0209	0.0080	0.0145	0.0716	0.0911	0.0894	LOSS PARA
	DFAC	0.7479	0.7247	0.6514	0.5458	0.5260	0.5282	0.6354	0.6849	0.7176	DFAC
	EFFP	0.9112	0.7907	0.8203	0.9286	0.9664	0.9142	0.8206	0.7953	0.8333	EFFP
	EFF	0.9088	0.7921	0.8163	0.9268	0.9656	0.9122	0.8167	0.7909	0.8294	EFF
	INCID	-8.100	-9.411	-8.971	-8.940	-10.024	-12.791	-15.912	-16.589	-16.148	INCID
	DEVM	21.594	23.280	23.521	14.966	11.655	14.117	16.372	17.015	17.723	DEVM
	P 1	14.552	14.687	14.694	14.693	14.689	14.687	14.684	14.668	14.530	P 1
	P 2	17.552	17.193	17.143	17.377	17.365	17.271	17.064	17.042	17.061	P 2
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
	T 2	550.100	548.850	547.310	546.180	545.010	545.650	546.550	547.420	548.060	T 2
STATOR 5	PCT SPAN	94.40	90.02	85.08	70.31	50.14	29.97	15.27	9.94	5.18	PCT SPAN
	DIA	33.250	33.520	33.915	34.970	36.410	37.850	38.900	39.280	39.620	DIA
STATION 2	BETA 2	56.270	52.900	48.220	41.830	39.610	38.970	44.670	47.640	49.930	BETA 2
STATION 2A	BETA 2A	4.820	4.420	3.850	3.420	3.730	6.180	8.450	9.250	10.170	BETA 2A
	V 2	573.41	535.98	528.01	538.66	521.72	500.66	473.28	467.47	466.32	V 2
	V 2A	375.53	367.33	362.23	408.02	439.01	416.16	386.58	375.22	376.00	V 2A
	VZ 2	318.40	323.29	351.77	401.23	401.71	388.97	336.38	314.84	300.08	VZ 2
	VZ 2A	374.20	366.23	361.41	407.30	438.08	413.75	382.38	370.34	370.10	VZ 2A
	V-THETA 2	476.89	427.47	393.71	359.12	332.44	314.64	332.53	345.28	356.74	V-THETA 2
	V-THETA 2A	31.55	28.31	24.32	24.34	28.56	44.80	56.81	60.31	66.39	V-THETA 2A
	M 2	0.5116	0.4772	0.4705	0.4810	0.4657	0.4459	0.4202	0.4146	0.4132	M 2
	M 2A	0.3302	0.3232	0.3191	0.3608	0.3894	0.3684	0.3412	0.3307	0.3312	M 2A
	TURN(PR)	51.450	48.476	44.366	38.393	35.853	32.757	36.186	38.363	39.738	TURN(PR)
	UUBAR	0.2123	0.1883	0.1532	0.1193	0.0419	0.0989	0.1556	0.1913	0.1882	UUBAR
	LOSS PARA	0.0873	0.0781	0.0643	0.0516	0.0188	0.0462	0.0742	0.0920	0.0910	LOSS PARA
	DFAC	0.6655	0.6250	0.6089	0.5131	0.4229	0.4236	0.4668	0.4971	0.5028	DFAC
	EFFP	0.6625	0.7054	0.7037	0.7255	0.8794	0.6643	0.5693	0.5008	0.4913	EFFP
	EFF	-0.0000	-0.0000	0.0017	-0.0000**********		-0.0000**********				EFF
	INCID	-10.030	-9.454	-10.984	-11.837	-12.367	-16.093	-14.564	-13.487	-13.392	INCID
	DEVM	27.240	24.840	22.450	18.540	17.530	21.350	25.670	27.400	29.570	DEVM
	P 2	17.431	17.254	17.099	17.355	17.374	17.240	17.071	17.049	17.060	P 2
	P 2A	16.847	16.775	16.736	17.054	17.273	17.025	16.766	16.684	16.704	P 2A
	T 2	550.100	548.850	547.310	546.180	545.010	545.650	546.550	547.420	548.060	T 2
	T 2A	550.100	548.850	547.310	546.180	545.010	545.650	546.550	547.420	548.060	T 2A

Table B-4. Blade Element Performance (Continued)

PERCENT EQUIVALENT DESIGN SPEED = 70.24 EQUIVALENT ROTOR SPEED = 2957.00 CORRECTED WEIGHT FLOW = 76.47 PRESSURE RATIO =1.1500

INLET	PCT SPAN	96.42	91.17	86.46	70.64	49.46	29.30	13.25	8.59	3.28	PCT SPAN
	DIA	33.150	33.590	33.985	35.310	37.085	38.775	40.120	40.510	40.955	DIA
STATION 0	BETA 0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	BETA 0
STATION 1	BETA 1	-0.030	-0.030	-0.030	-0.030	-0.030	-0.030	-0.030	-0.030	-0.030	BETA 1
	V 0	286.90	286.90	286.90	286.90	286.90	286.90	286.90	286.90	286.90	V 0
	V 1	289.43	313.65	316.45	326.74	321.94	315.21	305.62	299.89	270.77	V 1
	VZ 0	286.90	286.90	286.90	286.90	286.90	286.90	286.90	286.90	286.90	VZ 0
	VZ 1	289.43	313.65	316.41	326.69	321.74	315.01	305.52	299.79	270.75	VZ 1
	V-THETA 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	V-THETA 0
	V-THETA 1	-0.15	-0.16	-0.17	-0.17	-0.17	-0.16	-0.16	-0.16	-0.14	V-THETA 1
	M 0	0.2587	0.2587	0.2587	0.2587	0.2587	0.2587	0.2587	0.2587	0.2587	M 0
	M 1	0.2610	0.2832	0.2858	0.2952	0.2908	0.2846	0.2758	0.2706	0.2440	M 1
	TURN	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	TURN
	UUBAR	0.1886	-0.0000	-0.0000	0.0090	0.0195	0.0210	0.0150	0.0284	0.1931	UUBAR
	DFAC	-0.009	-0.093	-0.103	-0.139	-0.122	-0.099	-0.065	-0.045	0.056	DFAC
	EFFP	0.8877	0.9999	1.0000	0.9714	0.9322	0.9103	0.9027	0.7702	-1.3824	EFFP
	INCID	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	INCID
	DEVM	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030	DEVM
	P 0	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	P 0
	P 1	14.568	14.694	14.694	14.688	14.681	14.680	14.684	14.675	14.565	P 1
	T 0	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 0
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
ROTOR 5	PCT SPAN	95.01	90.00	85.01	70.01	50.01	30.01	15.02	10.01	5.02	PCT SPAN
	DIA	33.233	33.617	34.000	35.150	36.684	38.218	39.368	39.752	40.135	DIA
STATION 1	BETA 1	-0.030	-0.030	-0.030	-0.030	-0.030	-0.030	-0.030	-0.030	-0.030	BETA 1
STATION 2	BETA 2	60.030	58.000	53.740	44.960	42.000	41.620	47.570	50.580	52.600	BETA 2
	BETA(PR) 1	55.923	54.117	54.197	54.367	56.092	57.811	59.458	60.170	62.876	BETA(PR) 1
	BETA(PR) 2	-10.769	-0.618	7.629	14.905	19.966	24.469	27.750	29.147	29.393	BETA(PR) 2
	V 1	289.43	313.65	316.45	326.74	321.94	315.21	305.62	299.89	270.77	V 1
	V 2	555.94	514.95	495.40	506.90	504.26	491.27	464.94	455.42	455.75	V 2
	VZ 1	289.43	313.65	316.41	326.69	321.74	315.01	305.52	299.79	270.75	VZ 1
	VZ 2	277.72	272.87	292.99	358.57	374.54	367.02	313.52	289.08	276.73	VZ 2
	V-THETA 1	-0.15	-0.16	-0.17	-0.17	-0.17	-0.16	-0.16	-0.16	-0.14	V-THETA 1
	V-THETA 2	481.60	436.68	399.44	358.07	337.24	326.08	342.99	351.68	361.95	V-THETA 2
	V(PR) 1	516.6	535.1	540.9	560.8	576.8	591.4	601.3	602.7	593.9	V(PR) 1
	V(PR) 2	282.7	272.9	295.6	371.3	398.8	403.6	354.6	331.2	317.8	V(PR) 2
	VTHETA PR1	-427.9	-433.6	-438.7	-455.8	-478.7	-500.5	-517.8	-522.8	-528.6	VTHETA PR1
	VTHETA PR2	52.8	2.9	-39.2	-95.4	-136.1	-167.0	-164.9	-161.2	-155.9	VTHETA PR2
	U 1	427.71	433.39	438.49	455.58	478.48	500.29	517.64	522.67	528.42	U 1
	U 2	428.78	433.74	438.68	453.52	473.31	493.10	507.94	512.89	517.84	U 2
	M 1	0.2610	0.2832	0.2858	0.2952	0.2908	0.2846	0.2758	0.2706	0.2440	M 1
	M 2	0.4555	0.4579	0.4405	0.4517	0.4497	0.4372	0.4125	0.4036	0.4034	M 2
	M(PR) 1	0.4659	0.4832	0.4884	0.5067	0.5211	0.5341	0.5427	0.5438	0.5351	M(PR) 1
	M(PR) 2	0.2520	0.2427	0.2629	0.3309	0.3556	0.3592	0.3146	0.2935	0.2813	M(PR) 2
	TURN(PR)	66.692	54.735	46.565	39.466	36.127	33.352	31.728	31.038	33.500	TURN(PR)
	UUBAR	0.2698	0.3271	0.2754	0.0969	0.0331	0.0342	0.1635	0.2077	0.2005	UUBAR
	LOSS PARA	0.1043	0.1302	0.1100	0.0390	0.0135	0.0141	0.0675	0.0854	0.0831	LOSS PARA
	DFAC	0.8204	0.8152	0.7510	0.6033	0.5614	0.5655	0.6739	0.7227	0.7518	DFAC
	EFFP	0.9237	0.8049	0.8114	0.9231	0.9944	0.9584	0.8687	0.8471	0.8640	EFFP
	EFF	0.9216	0.8005	0.8074	0.9213	0.9943	0.9574	0.8657	0.8436	0.8607	EFF
	INCID	-4.477	-5.783	-5.508	-6.007	-7.145	-10.274	-13.350	-14.188	-13.726	INCID
	DEVM	20.231	22.382	24.628	17.297	12.949	14.594	17.322	18.924	19.724	DEVM
	P 1	14.568	14.694	14.694	14.688	14.681	14.680	14.684	14.675	14.565	P 1
	P 2	17.572	17.200	17.062	17.275	17.391	17.402	17.237	17.194	17.235	P 2
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
	T 2	549.670	548.520	546.720	545.410	544.570	545.680	546.780	547.170	548.390	T 2
STATOR 5	PCT SPAN	94.40	90.62	85.08	70.31	50.14	29.97	15.27	9.94	5.18	PCT SPAN
	DIA	33.250	33.520	33.915	34.970	36.410	37.850	38.900	39.280	39.620	DIA
STATION 2	BETA 2	60.030	58.000	53.740	44.960	42.000	41.620	47.570	50.580	52.600	BETA 2
STATION 2A	BETA 2A	3.790	3.620	3.270	3.020	4.650	6.130	7.320	7.960	8.530	BETA 2A
	V 2	555.94	514.95	495.40	506.90	504.26	491.27	464.94	455.42	455.75	V 2
	V 2A	337.09	327.59	335.44	349.69	399.42	385.01	348.98	344.22	350.67	V 2A
	VZ 2	277.72	272.87	292.99	358.57	374.54	367.02	313.52	289.08	276.73	VZ 2
	VZ 2A	336.35	326.94	334.89	349.21	398.10	382.81	346.14	340.90	346.79	VZ 2A
	V-THETA 2	481.60	436.68	399.44	358.07	337.24	326.08	342.99	351.68	361.95	V-THETA 2
	V-THETA 2A	22.28	20.68	19.13	18.42	32.38	41.11	44.46	47.67	52.01	V-THETA 2A
	M 2	0.4555	0.4579	0.4405	0.4517	0.4497	0.4372	0.4125	0.4036	0.4034	M 2
	M 2A	0.2959	0.2877	0.2952	0.3084	0.3535	0.3401	0.3073	0.3029	0.3084	M 2A
	TURN(PR)	56.240	54.376	50.466	41.922	37.323	35.456	40.216	42.593	44.049	TURN(PR)
	UUBAR	0.2093	0.1907	0.1589	0.1217	0.0488	0.1064	0.1552	0.2071	0.1929	UUBAR
	LOSS PARA	0.0862	0.0791	0.0667	0.0527	0.0219	0.0496	0.0743	0.1000	0.0938	LOSS PARA
	DFAC	0.7345	0.7005	0.6465	0.6018	0.4824	0.4905	0.5618	0.5722	0.5679	DFAC
	EFFP	0.6345	0.7454	0.8446	0.7619	0.8998	0.7255	0.5911	0.5788	0.5647	EFFP
	EFF	-0.0000	-0.0000	0.0017	-0.0000**********		-0.0000**********				EFF
	INCID	-6.270	-4.354	-5.464	-8.707	-9.977	-13.444	-11.664	-10.547	-10.721	INCID
	DEVM	26.210	24.640	21.870	18.140	18.450	21.300	24.540	26.110	27.930	DEVM
	P 2	17.438	17.288	17.236	17.244	17.411	17.385	17.161	17.232	17.247	P 2
	P 2A	16.898	16.832	16.870	16.973	17.300	17.159	16.877	16.846	16.892	P 2A
	T 2	549.670	548.520	546.720	545.410	544.570	545.680	546.780	547.170	548.390	T 2
	T 2A	549.670	548.520	546.720	545.410	544.570	545.680	546.780	547.170	548.390	T 2A

Table B-4. Blade Element Performance (Continued)

PERCENT EQUIVALENT DESIGN SPEED = 89.79 EQUIVALENT ROTOR SPEED = 3780.00 CORRECTED WEIGHT FLOW = 115.65 PRESSURE RATIO =1.1198

INLET	PCT SPAN	96.42	91.17	86.46	70.64	49.46	29.30	13.25	8.59	3.28	PCT SPAN
	DIA	33.150	33.590	33.985	35.310	37.085	38.775	40.120	40.510	40.955	DIA
STATION 0	BETA 0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	BETA 0
STATION 1	BETA 1	0.456	0.438	0.422	0.370	0.298	0.232	0.178	0.162	0.145	BETA 1
	V 0	457.37	457.37	457.37	457.37	457.37	457.37	457.37	457.37	457.37	V 0
	V 1	450.50	516.53	519.72	523.87	513.62	504.49	489.38	486.82	420.31	V 1
	VZ 0	457.37	457.37	457.37	457.37	457.37	457.37	457.37	457.37	457.37	VZ 0
	VZ 1	450.49	516.51	519.62	523.78	513.31	504.18	489.21	486.65	420.27	VZ 1
	V-THETA 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	V-THETA 0
	V-THETA 1	3.59	3.95	3.83	3.38	2.67	2.04	1.52	1.38	1.06	V-THETA 1
	M 0	0.4167	0.4167	0.4167	0.4167	0.4167	0.4167	0.4167	0.4167	0.4167	M 0
	M 1	0.4103	0.4729	0.4760	0.4799	0.4701	0.4614	0.4470	0.4446	0.3819	M 1
	TURN	-0.46	-0.44	-0.42	-0.37	-0.30	-0.23	-0.18	-0.16	-0.14	TURN
	UUBAR	0.3637	0.0193	-0.0000	-0.0000	0.0018	0.0018	0.0066	0.0224	0.3281	UUBAR
	DFAC	0.015	-0.129	-0.136	-0.145	-0.123	-0.103	-0.070	-0.064	0.081	DFAC
	EFFP	-0.0548	0.9392	0.9999	0.9999	0.9936	0.9922	0.9591	0.8651	-1.0030	EFFP
	INCID	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	INCID
	DEVM	-0.456	-0.438	-0.422	-0.370	-0.298	-0.232	-0.178	-0.162	-0.145	DEVM
	P 0	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	P 0
	P 1	14.092	14.662	14.694	14.694	14.691	14.691	14.683	14.657	14.151	P 1
	T 0	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 0
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
ROTOR 5	PCT SPAN	95.01	90.00	85.01	70.01	50.01	30.01	15.02	10.01	5.02	PCT SPAN
	DIA	33.233	33.617	34.000	35.150	36.684	38.218	39.368	39.752	40.135	DIA
STATION 1	BETA 1	0.456	0.438	0.422	0.370	0.298	0.232	0.178	0.162	0.145	BETA 1
STATION 2	BETA 2	47.700	42.450	38.960	34.460	33.060	32.860	33.940	37.800	41.770	BETA 2
	BETA(PR) 1	50.329	46.802	46.973	47.866	49.873	51.660	53.461	53.876	58.071	BETA(PR) 1
	BETA(PR) 2	-2.576	3.505	6.763	14.545	21.877	25.908	25.758	24.649	25.765	BETA(PR) 2
	V 1	450.50	516.53	519.72	523.87	513.62	504.49	489.38	486.82	420.31	V 1
	V 2	777.88	769.99	777.85	743.80	686.42	663.66	677.89	672.52	645.39	V 2
	VZ 1	450.49	516.51	519.62	523.78	513.31	504.18	489.21	486.65	420.27	VZ 1
	VZ 2	523.52	568.10	604.79	613.02	574.90	557.00	561.93	531.08	481.14	VZ 2
	V-THETA 1	3.59	3.95	3.83	3.38	2.67	2.04	1.52	1.38	1.06	V-THETA 1
	V-THETA 2	575.34	519.66	489.05	420.69	374.20	359.79	378.17	411.95	429.73	V-THETA 2
	V(PR) 1	705.7	754.6	761.6	780.8	796.7	813.0	821.8	825.6	794.7	V(PR) 1
	V(PR) 2	524.2	569.3	609.1	633.7	620.0	619.8	624.5	584.8	534.6	V(PR) 2
	VTHETA PR1	-543.2	-550.1	-556.7	-579.0	-609.0	-637.5	-660.2	-666.8	-674.4	VTHETA PR1
	VTHETA PR2	27.2	-34.8	-71.7	-159.1	-230.8	-270.6	-271.1	-243.7	-232.2	VTHETA PR2
	U 1	546.75	554.01	560.53	582.38	611.66	639.53	661.71	668.15	675.49	U 1
	U 2	548.12	554.46	560.77	579.74	605.04	630.34	649.31	655.64	661.96	U 2
	M 1	0.4103	0.4729	0.4760	0.4799	0.4701	0.4614	0.4470	0.4446	0.3819	M 1
	M 2	0.6563	0.6900	0.6994	0.6692	0.6154	0.5943	0.6082	0.6030	0.5762	M 2
	M(PR) 1	0.6427	0.6908	0.6975	0.7153	0.7292	0.7435	0.7507	0.7540	0.7221	M(PR) 1
	M(PR) 2	0.4693	0.5101	0.5477	0.5701	0.5559	0.5550	0.5604	0.5244	0.4773	M(PR) 2
	TURN(PR)	53.305	43.297	40.206	33.326	27.998	25.763	27.721	29.238	32.321	TURN(PR)
	UUBAR	0.1516	0.2132	0.1249	0.0790	0.1633	0.1986	0.2539	0.3438	0.3673	UUBAR
	LOSS PARA	0.0753	0.0847	0.0499	0.0319	0.0658	0.0809	0.1067	0.1472	0.1573	LOSS PARA
	DFAC	0.5765	0.5175	0.4569	0.4105	0.4233	0.4353	0.4517	0.5236	0.5812	DFAC
	EFFP	0.8772	0.7838	0.8583	0.8854	0.7774	0.7519	0.7623	0.7363	0.7715	EFFP
	EFF	0.8720	0.7761	0.8530	0.8815	0.7712	0.7454	0.7561	0.7296	0.7652	EFF
	INCID	-10.071	-13.098	-12.731	-12.508	-13.364	-16.427	-19.348	-20.484	-18.531	INCID
	DEVM	28.024	26.505	23.762	16.937	14.858	16.031	15.331	14.429	16.098	DEVM
	P 1	14.092	14.662	14.694	14.694	14.691	14.691	14.683	14.657	14.151	P 1
	P 2	18.800	18.770	19.010	18.650	17.830	17.610	17.605	17.470	17.130	P 2
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
	T 2	569.760	567.570	565.130	560.180	556.960	555.680	555.210	555.270	556.730	T 2
STATOR 5	PCT SPAN	94.40	90.62	85.08	70.31	50.14	29.97	15.27	9.94	5.18	PCT SPAN
	DIA	33.250	33.520	33.915	34.970	36.410	37.850	38.900	39.280	39.620	DIA
STATION 2	BETA 2	47.700	42.450	38.960	34.460	33.060	32.860	33.940	37.800	41.770	BETA 2
STATION 2A	BETA 2A	9.870	9.520	8.180	4.730	6.070	9.520	12.180	12.660	12.720	BETA 2A
	V 2	777.88	769.99	777.85	743.80	686.42	663.66	677.89	672.52	645.39	V 2
	V 2A	669.29	686.68	701.73	733.80	706.03	668.97	632.18	605.20	600.79	V 2A
	VZ 2	523.52	568.10	604.79	613.02	574.90	557.00	561.93	531.08	481.14	VZ 2
	VZ 2A	659.39	677.23	694.60	731.30	702.07	659.76	617.95	590.49	586.04	VZ 2A
	V-THETA 2	575.34	519.66	489.05	420.69	374.20	359.79	378.17	411.95	429.73	V-THETA 2
	V-THETA 2A	114.73	113.57	99.85	60.51	74.66	110.64	133.38	132.64	132.29	V-THETA 2A
	M 2	0.6563	0.6900	0.6994	0.6692	0.6154	0.5943	0.6082	0.6030	0.5762	M 2
	M 2A	0.5517	0.6095	0.6253	0.6594	0.6344	0.5994	0.5645	0.5388	0.5341	M 2A
	TURN(PR)	37.830	32.926	30.776	29.714	26.965	23.309	21.728	25.114	29.028	TURN(PR)
	UUBAR	0.3472	0.2816	0.3032	0.2263	0.1582	0.2019	0.2282	0.2645	0.2657	UUBAR
	LOSS PARA	0.1411	0.1155	0.1263	0.0979	0.0710	0.0935	0.1076	0.1258	0.1274	LOSS PARA
	DFAC	0.3839	0.3281	0.3089	0.2243	0.1697	0.1700	0.2440	0.3049	0.2985	DFAC
	EFFP	-0.2935	-0.4704	-0.6265	-6.3958	3.5510	14.3267	-1.4983	-0.9258	-1.4479	EFFP
	EFF	-0.0000	-0.0000	0.0017	-0.0000	**********	-0.0000	**********	**********	**********	EFF
	INCID	-18.600	-19.904	-20.244	-19.206	-18.915	-22.201	-25.292	-23.326	-21.552	INCID
	DEVM	32.290	29.940	26.780	19.850	19.870	24.690	29.400	30.810	32.120	DEVM
	P 2	18.500	18.306	18.652	18.620	17.770	17.418	16.920	16.696	16.681	P 2
	P 2A	16.798	16.595	17.154	17.532	17.143	16.701	16.188	15.894	15.883	P 2A
	T 2	569.760	567.570	565.130	560.180	556.960	555.680	555.210	555.270	556.730	T 2
	T 2A	569.760	567.570	565.130	560.180	556.960	555.680	555.210	555.570	556.730	T 2A

Table B-4. Blade Element Performance (Continued)

PERCENT EQUIVALENT DESIGN SPEED = 85.83 EQUIVALENT ROTOR SPEED = 3782.00 CORRECTED WEIGHT FLOW = 110.23 PRESSURE RATIO =1.1900

INLET	PCT SPAN	96.42	91.17	86.46	70.64	49.46	29.30	13.25	8.59	3.28	PCT SPAN
	DIA	33.150	33.590	33.985	35.310	37.085	38.775	40.120	40.510	40.955	DIA
STATION 0	BETA 0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	BETA 0
STATION 1	BETA 1	0.475	0.454	0.437	0.378	0.302	0.227	0.215	0.197	0.178	BETA 1
	V 0	431.74	431.74	431.74	431.74	431.74	431.74	431.74	431.74	431.74	V 0
	V 1	451.56	482.08	484.15	489.33	484.36	473.74	461.99	458.41	411.63	V 1
	VZ 0	431.74	431.74	431.74	431.74	431.74	431.74	431.74	431.74	431.74	VZ 0
	VZ 1	451.54	482.06	484.06	489.24	484.05	473.45	461.83	458.25	411.59	VZ 1
	V-THETA 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	V-THETA 0
	V-THETA 1	3.74	3.82	3.69	3.23	2.55	1.88	1.73	1.58	1.28	V-THETA 1
	M 0	0.3926	0.3926	0.3926	0.3926	0.3926	0.3926	0.3926	0.3926	0.3926	M 0
	M 1	0.4113	0.4401	0.4421	0.4470	0.4423	0.4322	0.4211	0.4177	0.3738	M 1
	TURN	-0.48	-0.45	-0.44	-0.38	-0.30	-0.23	-0.21	-0.20	-0.18	TURN
	UUBAR	0.1971	0.0175	0.0013	-0.0000	0.0040	0.0074	0.0196	0.0263	0.2382	UUBAR
	DFAC	-0.046	-0.117	-0.121	-0.133	-0.122	-0.097	-0.070	-0.062	0.047	DFAC
	EFFP	0.3358	0.9376	0.9952	0.9999	0.9856	0.9671	0.8881	0.8382	-0.6758	EFFP
	INCID	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	INCID
	DEVM	-0.475	-0.454	-0.437	-0.378	-0.302	-0.227	-0.215	-0.197	-0.176	DEVM
	P 0	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	P 0
	P 1	14.402	14.668	14.692	14.694	14.688	14.683	14.665	14.655	14.341	P 1
	T 0	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 0
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
ROTOR 5	PCT SPAN	95.01	90.00	85.01	70.01	50.01	30.01	15.02	10.01	5.02	PCT SPAN
	DIA	33.233	33.617	34.000	35.150	36.684	38.218	39.368	39.752	40.135	DIA
STATION 1	BETA 1	0.475	0.454	0.437	0.378	0.302	0.227	0.215	0.197	0.178	BETA 1
STATION 2	BETA 2	51.900	47.680	43.800	38.520	36.370	36.330	41.620	45.330	49.060	BETA 2
	BETA(PR) 1	50.270	48.791	49.014	49.825	51.541	53.421	55.031	55.507	58.610	BETA(PR) 1
	BETA(PR) 2	-4.685	3.314	8.057	14.598	21.302	25.632	26.873	29.093	29.604	BETA(PR) 2
	V 1	451.56	482.08	484.15	489.33	484.36	473.74	461.99	458.41	411.63	V 1
	V 2	744.75	712.75	706.42	702.03	667.87	644.72	623.28	595.37	587.50	V 2
	VZ 1	451.54	482.06	484.06	489.24	484.05	473.45	461.83	458.25	411.59	VZ 1
	VZ 2	459.54	479.84	509.83	549.05	537.44	519.00	465.63	418.36	384.85	VZ 2
	V-THETA 1	3.74	3.82	3.69	3.23	2.55	1.98	1.73	1.58	1.28	V-THETA 1
	V-THETA 2	586.07	526.97	488.91	437.05	395.80	381.66	413.70	423.21	443.65	V-THETA 2
	V(PR) 1	706.4	731.7	738.1	758.4	778.5	794.6	805.9	809.3	790.2	V(PR) 1
	V(PR) 2	461.1	480.7	515.0	567.7	577.3	576.2	522.5	479.1	442.9	V(PR) 2
	VTHETA PR1	-543.3	-550.5	-557.1	-579.5	-609.4	-638.0	-660.3	-666.9	-674.6	VTHETA PR1
	VTHETA PR2	37.7	-27.8	-72.2	-143.0	-209.6	-249.0	-236.0	-232.8	-218.7	VTHETA PR2
	U 1	547.04	554.30	560.82	582.69	611.98	639.87	662.06	668.50	675.84	U 1
	U 2	548.41	554.75	561.07	580.05	605.36	630.68	649.65	655.99	662.31	U 2
	M 1	0.4113	0.4401	0.4421	0.4470	0.4423	0.4322	0.4211	0.4177	0.3738	M 1
	M 2	0.6642	0.6346	0.6303	0.6276	0.5971	0.5744	0.5541	0.5278	0.5198	M 2
	M(PR) 1	0.6434	0.6686	0.6739	0.6928	0.7108	0.7250	0.7346	0.7374	0.7177	M(PR) 1
	M(PR) 2	0.4112	0.4286	0.4595	0.5075	0.5162	0.5133	0.4645	0.4248	0.3918	M(PR) 2
	TURN(PR)	54.555	45.478	40.954	35.232	30.240	27.800	28.177	26.428	29.023	TURN(PR)
	UUBAR	0.2218	0.2476	0.1879	0.0782	0.0784	0.1209	0.2505	0.3272	0.3363	UUBAR
	LOSS PARA	0.0870	0.0584	0.0749	0.0315	0.0318	0.0493	0.1042	0.1347	0.1390	LOSS PARA
	DFAC	0.6723	0.6275	0.5671	0.4891	0.4767	0.4897	0.5878	0.6510	0.7030	DFAC
	EFFP	0.8779	0.7822	0.8213	0.8962	0.9244	0.8505	0.8022	0.7360	0.7809	EFFP
	EFF	0.8728	0.7745	0.8150	0.8925	0.9218	0.8457	0.7962	0.7287	0.7742	EFF
	INCID	-10.130	-11.109	-10.690	-10.549	-11.696	-14.665	-17.778	-18.853	-17.992	INCID
	DEVM	26.315	26.313	25.056	16.990	14.284	15.755	16.446	18.869	19.935	DEVM
	P 1	14.402	14.668	14.692	14.694	14.688	14.683	14.665	14.655	14.341	P 1
	P 2	19.188	18.745	18.725	18.866	18.578	18.344	18.086	17.772	17.722	P 2
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
	T 2	569.470	567.360	564.370	561.720	557.770	558.980	558.920	559.020	560.470	T 2
STATOR 5	PCT SPAN	94.40	90.62	85.08	70.31	50.14	29.97	15.27	9.94	5.18	PCT SPAN
	DIA	33.250	33.520	33.915	34.970	36.410	37.850	38.900	39.280	39.620	DIA
STATION 2	BETA 2	51.900	47.680	43.800	38.520	36.370	36.330	41.620	45.330	49.060	BETA 2
STATION 2A	BETA 2A	6.830	6.636	5.830	4.030	3.640	7.540	10.720	11.630	12.380	BETA 2A
	V 2	744.75	712.75	706.42	702.03	667.87	644.72	623.28	595.37	587.50	V 2
	V 2A	540.07	538.27	543.39	595.13	592.01	551.07	521.22	498.89	492.22	V 2A
	VZ 2	459.54	479.84	509.83	549.05	537.44	519.00	465.63	418.36	384.85	VZ 2
	VZ 2A	536.23	534.67	540.58	593.65	590.81	546.31	512.12	488.65	480.78	VZ 2A
	V-THETA 2	586.07	526.97	488.91	437.05	395.80	381.66	413.70	423.21	443.65	V-THETA 2
	V-THETA 2A	64.23	62.15	55.20	41.82	37.59	72.31	96.95	100.57	105.53	V-THETA 2A
	M 2	0.6642	0.6346	0.6303	0.6276	0.5971	0.5744	0.5541	0.5278	0.5198	M 2
	M 2A	0.4719	0.4711	0.4771	0.5263	0.5253	0.4866	0.4592	0.4387	0.4320	M 2A
	TURN(PR)	45.070	41.046	37.966	34.473	32.704	28.757	30.866	33.673	36.658	TURN(PR)
	UUBAR	0.2484	0.2123	0.2144	0.1325	0.0935	0.1855	0.1371	0.2206	0.2125	UUBAR
	LOSS PARA	0.1017	0.0877	0.0898	0.0573	0.0421	0.0864	0.0650	0.1053	0.1020	LOSS PARA
	DFAC	0.5639	0.5166	0.4896	0.3974	0.3571	0.3723	0.4115	0.4288	0.4482	DFAC
	EFFP	0.4502	0.5050	0.4886	0.5503	0.5858	0.3737	0.3107	0.3542	0.3663	EFFP
	EFF	-0.0000	-0.0000	0.0017	-0.0000	**********	-0.0000	**********	**********	**********	EFF
	INCID	-14.400	-14.674	-15.404	-15.147	-15.606	-18.733	-17.614	-15.797	-14.262	INCID
	DEVM	29.250	27.050	24.430	19.150	17.440	22.710	27.940	29.780	31.780	DEVM
	P 2	18.877	18.587	18.601	18.800	18.543	18.328	17.722	17.809	17.743	P 2
	P 2A	17.733	17.676	17.685	18.226	18.174	17.649	17.305	17.123	17.105	P 2A
	T 2	569.470	567.360	564.370	561.720	557.770	558.980	558.920	559.020	560.470	T 2
	T 2A	569.470	567.360	564.370	561.720	557.770	558.980	558.920	559.020	560.470	T 2A

Table B-4. Blade Element Performance (Continued)

PERCENT EQUIVALENT DESIGN SPEED = 90.48 EQUIVALENT ROTOR SPEED = 3809.00 CORRECTED WEIGHT FLOW = 104.51 PRESSURE RATIO =1.2240

INLET	PCT SPAN	96.42	91.17	86.46	70.64	49.46	29.30	13.25	8.59	3.28	PCT SPAN
	DIA	33.150	33.590	33.985	35.310	37.085	38.775	40.120	40.510	40.955	DIA
STATION 0	BETA 0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	BETA 0
STATION 1	BETA 1	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100	BETA 1
	V 0	405.55	405.55	405.55	405.55	405.55	405.55	405.55	405.55	405.55	V 0
	V 1	420.59	455.18	461.62	458.35	455.61	446.61	432.56	425.86	390.19	V 1
	VZ 0	405.55	405.55	405.55	405.55	405.55	405.55	405.55	405.55	405.55	VZ 0
	VZ 1	420.59	455.18	461.55	458.28	455.33	446.33	432.41	425.71	390.16	VZ 1
	V-THETA 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	V-THETA 0
	V-THETA 1	-0.73	-0.79	-0.81	-0.80	-0.79	-0.78	-0.75	-0.74	-0.68	V-THETA 1
	M 0	0.3682	0.3682	0.3682	0.3682	0.3682	0.3682	0.3682	0.3682	0.3682	M 0
	M 1	0.3822	0.4147	0.4208	0.4177	0.4151	0.4066	0.3934	0.3871	0.3539	M 1
	TURN	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	TURN
	UUBAR	0.2132	0.0274	0.0053	-0.0000	-0.0000	0.0091	0.0160	0.0236	0.1797	UUBAR
	DFAC	-0.037	-0.122	-0.138	-0.130	-0.123	-0.101	-0.067	-0.050	0.038	DFAC
	EFFP	0.2717	0.9098	0.9833	0.9999	1.0000	0.9611	0.9013	0.8220	-0.7701	EFFP
	INCID	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	INCID
	DEVM	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	DEVM
	P 0	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	P 0
	P 1	14.414	14.658	14.687	14.694	14.694	14.682	14.673	14.663	14.458	P 1
	T 0	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 0
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
ROTOR 5	PCT SPAN	95.01	90.00	85.01	70.01	50.01	30.01	15.02	10.01	5.02	PCT SPAN
	DIA	33.233	33.617	34.000	35.150	36.684	38.218	39.368	39.752	40.135	DIA
STATION 1	BETA 1	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100	BETA 1
STATION 2	BETA 2	56.280	53.180	48.520	41.550	39.090	39.270	45.380	49.370	53.320	BETA 2
	BETA(PR) 1	52.679	50.846	50.786	52.051	53.580	55.326	57.066	57.723	60.204	BETA(PR) 1
	BETA(PR) 2	-9.099	-0.333	6.417	14.411	20.961	24.911	27.590	28.196	28.713	BETA(PR) 2
	V 1	420.59	455.18	461.62	458.35	455.61	446.61	432.56	425.86	390.19	V 1
	V 2	743.52	701.02	686.08	683.03	657.46	640.43	606.84	596.51	590.88	V 2
	VZ 1	420.59	455.18	461.55	458.28	455.33	446.33	432.41	425.71	390.16	VZ 1
	VZ 2	412.76	420.10	454.40	510.99	510.00	495.45	426.00	388.27	352.86	VZ 2
	V-THETA 1	-0.73	-0.79	-0.81	-0.80	-0.79	-0.78	-0.75	-0.74	-0.68	V-THETA 1
	V-THETA 2	618.43	561.15	513.97	452.88	414.32	405.09	431.68	452.52	473.75	V-THETA 2
	V(PR) 1	693.7	726.9	730.1	745.3	767.1	784.7	795.4	797.3	785.2	V(PR) 1
	V(PR) 2	416.0	426.2	457.3	527.9	546.6	546.8	481.1	440.9	402.6	V(PR) 2
	VTHETA PR1	-551.7	-559.1	-565.6	-587.6	-617.1	-645.2	-667.5	-674.0	-681.3	VTHETA PR1
	VTHETA PR2	66.1	2.4	-51.1	-131.3	-195.4	-230.1	-222.6	-208.2	-193.3	VTHETA PR2
	U 1	550.95	558.26	564.83	586.85	616.35	644.44	666.79	673.27	680.67	U 1
	U 2	552.33	558.71	565.08	584.19	609.68	635.18	654.29	660.67	667.04	U 2
	M 1	0.3822	0.4147	0.4208	0.4177	0.4151	0.4066	0.3934	0.3871	0.3539	M 1
	M 2	0.6624	0.6228	0.6102	0.6088	0.5857	0.5692	0.5368	0.5268	0.5209	M 2
	M(PR) 1	0.6304	0.6568	0.6655	0.6791	0.6989	0.7144	0.7235	0.7248	0.7121	M(PR) 1
	M(PR) 2	0.3724	0.3733	0.4068	0.4705	0.4869	0.4860	0.4256	0.3894	0.3549	M(PR) 2
	TURN(PR)	61.778	51.181	44.365	37.644	32.621	30.425	29.496	29.541	31.507	TURN(PR)
	UUBAR	0.2318	0.2875	0.2329	0.0999	0.0660	0.0907	0.2279	0.2938	0.3162	UUBAR
	LOSS PARA	0.0901	0.1145	0.0932	0.0403	0.0268	0.0372	0.0942	0.1219	0.1319	LOSS PARA
	DFAC	0.7492	0.7277	0.6576	0.5446	0.5214	0.5356	0.6463	0.7122	0.7717	DFAC
	EFFP	0.9337	0.8199	0.8346	0.9067	0.9412	0.9163	0.8267	0.8006	0.8207	EFFP
	EFF	0.9307	0.8131	0.8286	0.9032	0.9391	0.9132	0.8209	0.7940	0.8144	EFF
	INCID	-7.721	-9.052	-8.919	-8.323	-9.657	-12.760	-15.743	-16.636	-16.399	INCID
	DEVM	21.901	22.667	23.416	16.803	13.943	15.035	17.162	17.973	19.044	DEVM
	P 1	14.414	14.658	14.687	14.694	14.694	14.682	14.673	14.663	14.458	P 1
	P 2	19.661	19.045	18.880	19.034	18.958	18.883	18.553	18.464	18.448	P 2
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
	T 2	570.390	568.250	565.270	562.770	560.410	561.040	562.510	563.170	564.630	T 2
STATOR 5	PCT SPAN	94.40	90.62	85.08	70.31	50.14	29.97	15.27	9.94	5.18	PCT SPAN
	DIA	33.250	33.520	33.915	34.970	36.410	37.850	38.900	39.280	39.620	DIA
STATION 2	BETA 2	56.280	53.180	48.520	41.550	39.090	39.270	45.380	49.370	53.320	BETA 2
STATION 2A	BETA 2A	4.650	4.850	4.710	3.780	4.140	6.730	8.600	9.190	9.590	BETA 2A
	V 2	743.52	701.02	686.08	683.03	657.46	640.43	606.84	596.51	590.88	V 2
	V 2A	485.59	484.24	483.42	524.08	553.82	520.43	484.03	474.73	474.85	V 2A
	VZ 2	412.76	420.10	454.40	510.99	510.00	495.45	426.00	388.27	352.86	VZ 2
	VZ 2A	484.39	482.50	481.79	522.94	552.37	516.85	478.58	468.64	468.21	VZ 2A
	V-THETA 2	618.43	561.15	513.97	452.88	414.32	405.09	431.68	452.52	473.75	V-THETA 2
	V-THETA 2A	39.40	40.94	39.70	34.55	39.98	60.99	72.38	75.82	79.11	V-THETA 2A
	M 2	0.6624	0.6228	0.6102	0.6088	0.5857	0.5692	0.5368	0.5268	0.5209	M 2
	M 2A	0.4225	0.4217	0.4221	0.4601	0.4885	0.4575	0.4237	0.4151	0.4146	M 2A
	TURN(PR)	51.630	48.326	43.806	37.753	34.923	32.506	36.746	40.153	43.709	TURN(PR)
	UUBAR	0.2439	0.1956	0.1727	0.1218	0.0571	0.1454	0.1579	0.1956	0.2097	UUBAR
	LOSS PARA	0.1003	0.0810	0.0724	0.0527	0.0257	0.0678	0.0753	0.0941	0.1016	LOSS PARA
	DFAC	0.6677	0.6185	0.5868	0.4993	0.4161	0.4414	0.4907	0.5146	0.5278	DFAC
	EFFP	0.5348	0.6338	0.6545	0.6968	0.8186	0.5719	0.4774	0.4503	0.4161	EFFP
	EFF	-0.0000	-0.0000	0.0017	-0.0000	**********	-0.0000	**********	**********	**********	EFF
	INCID	-10.020	-9.174	-10.684	-12.117	-12.887	-15.794	-13.854	-11.757	-10.001	INCID
	DEVM	27.070	25.270	23.310	18.900	17.940	21.900	25.820	27.340	28.990	DEVM
	P 2	19.283	18.935	18.763	18.939	18.946	18.808	18.352	18.365	18.384	P 2
	P 2A	18.152	18.099	18.058	18.437	18.722	18.277	17.862	17.762	17.744	P 2A
	T 2	570.390	568.250	565.270	562.770	560.410	561.040	562.510	563.170	564.630	T 2
	T 2A	570.390	568.250	565.270	562.770	560.410	561.040	562.510	563.170	564.630	T 2A

Table B-4. Blade Element Performance (Continued)

PERCENT EQUIVALENT DESIGN SPEED = 90.00 EQUIVALENT ROTOR SPEED = 3789.00 CORRECTED WEIGHT FLOW = 99.94 PRESSURE RATIO =1.2357

INLET	PCT SPAN	96.42	91.17	86.46	70.64	49.46	29.30	13.25	8.59	3.28	PCT SPAN
	DIA	33.150	33.590	33.985	35.310	37.085	38.775	40.120	40.510	40.955	DIA
STATION 0	BETA 0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	BETA 0
STATION 1	BETA 1	1.145	1.073	1.015	0.853	0.665	0.600	0.600	0.600	0.600	BETA 1
	V 0	385.19	385.19	385.19	385.19	385.19	385.19	385.19	385.19	385.19	V 0
	V 1	397.28	425.23	430.33	436.34	438.65	419.52	413.93	407.34	381.61	V 1
	VZ 0	385.19	385.19	385.19	385.19	385.19	385.19	385.19	385.19	385.19	VZ 0
	VZ 1	397.20	425.15	430.20	436.23	438.35	419.25	413.77	407.18	381.55	VZ 1
	V-THETA 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	V-THETA 0
	V-THETA 1	7.94	7.96	7.62	6.49	5.09	4.39	4.33	4.26	4.00	V-THETA 1
	M 0	0.3492	0.3492	0.3492	0.3492	0.3492	0.3492	0.3492	0.3492	0.3492	M 0
	M 1	0.3605	0.3865	0.3913	0.3970	0.3991	0.3812	0.3760	0.3698	0.3459	M 1
	TURN	-1.15	-1.07	-1.01	-0.85	-0.66	-0.60	-0.60	-0.60	-0.60	TURN
	UUBAR	0.1944	0.0337	0.0118	0.0017	0.0050	0.0084	0.0101	0.0320	0.1388	UUBAR
	DFAC	-0.031	-0.104	-0.117	-0.133	-0.139	-0.089	-0.075	-0.058	0.009	DFAC
	EFFP	0.2558	0.8730	0.9570	0.9945	0.9841	0.9590	0.9419	0.7962	-0.1628	EFFP
	INCID	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	INCID
	DEVM	-1.145	-1.073	-1.015	-0.853	-0.665	-0.600	-0.600	-0.600	-0.600	DEVM
	P 0	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	P 0
	P 1	14.463	14.654	14.680	14.692	14.688	14.684	14.682	14.656	14.529	P 1
	T 0	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 0
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
ROTOR 5	PCT SPAN	95.01	90.00	85.01	70.01	50.01	30.01	15.02	10.01	5.02	PCT SPAN
	DIA	33.233	33.617	34.000	35.150	36.684	38.218	39.368	39.752	40.135	DIA
STATION 1	BETA 1	1.145	1.073	1.015	0.853	0.665	0.600	0.600	0.600	0.600	BETA 1
STATION 2	BETA 2	58.680	55.660	51.050	43.380	40.520	40.670	47.850	51.000	54.040	BETA 2
	BETA(PR) 1	53.669	52.103	52.182	52.923	54.211	56.635	57.875	58.539	60.453	BETA(PR) 1
	BETA(PR) 2	-11.478	-0.500	7.283	15.237	20.322	25.583	28.103	29.268	31.134	BETA(PR) 2
	V 1	397.28	425.23	430.33	436.34	438.65	419.52	413.93	407.34	381.61	V 1
	V 2	733.82	677.16	655.15	656.99	651.62	623.04	592.14	581.90	570.13	V 2
	VZ 1	397.20	425.15	430.20	436.23	438.35	419.25	413.77	407.18	381.55	VZ 1
	VZ 2	381.45	381.97	411.83	477.36	495.07	472.24	397.15	366.06	334.71	VZ 2
	V-THETA 1	7.94	7.96	7.62	6.49	5.09	4.39	4.33	4.26	4.00	V-THETA 1
	V-THETA 2	626.89	559.11	509.48	451.10	423.13	405.76	438.77	452.05	461.36	V-THETA 2
	V(PR) 1	670.4	693.1	701.6	723.6	749.7	762.4	778.2	780.2	773.7	V(PR) 1
	V(PR) 2	385.2	382.0	415.2	495.0	528.4	524.1	450.7	419.9	391.2	V(PR) 2
	VTHETA PR1	-540.1	-547.4	-554.2	-577.3	-608.0	-636.7	-659.0	-665.5	-673.1	VTHETA PR1
	VTHETA PR2	77.5	3.3	-52.6	-130.0	-183.4	-226.1	-212.1	-205.2	-202.2	VTHETA PR2
	U 1	548.66	555.33	561.86	583.77	613.11	641.05	663.29	669.74	677.09	U 1
	U 2	549.43	555.78	562.11	581.12	606.48	631.84	650.86	657.20	663.54	U 2
	M 1	0.3605	0.3865	0.3913	0.3970	0.3991	0.3812	0.3760	0.3698	0.3459	M 1
	M 2	0.6533	0.6002	0.5806	0.5834	0.5799	0.5524	0.5227	0.5126	0.5011	M 2
	M(PR) 1	0.6083	0.6300	0.6380	0.6583	0.6822	0.6928	0.7068	0.7084	0.7013	M(PR) 1
	M(PR) 2	0.3465	0.3386	0.3680	0.4396	0.4702	0.4647	0.3978	0.3699	0.3439	M(PR) 2
	TURN(PR)	65.148	52.603	44.895	37.691	33.889	31.063	29.791	29.285	29.336	TURN(PR)
	UUBAR	0.2336	0.2530	0.2436	0.1021	0.0370	0.0676	0.2139	0.2611	0.2828	UUBAR
	LOSS PARA	0.0901	0.1167	0.0973	0.0410	0.0151	0.0276	0.0880	0.1073	0.1151	LOSS PARA
	DFAC	0.7833	0.7656	0.6963	0.5711	0.5362	0.5492	0.6787	0.7294	0.7725	DFAC
	EFFP	0.9456	0.8110	0.8013	0.8649	0.9630	0.9138	0.8360	0.8056	0.7966	EFFP
	EFF	0.9432	0.8039	0.7943	0.8600	0.9616	0.9106	0.8303	0.7989	0.7895	EFF
	INCID	-6.731	-7.737	-7.523	-7.451	-9.026	-11.451	-14.934	-15.820	-16.149	INCID
	DEVM	19.522	22.500	24.282	17.628	13.305	15.706	17.675	19.045	21.464	DEVM
	P 1	14.463	14.654	14.680	14.692	14.688	14.684	14.682	14.656	14.529	P 1
	P 2	19.750	18.958	18.722	18.908	19.121	18.947	18.687	18.602	18.516	P 2
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
	T 2	569.900	567.960	565.690	563.780	560.920	561.730	563.270	564.470	565.830	T 2
STATOR 5	PCT SPAN	94.40	90.62	85.08	70.31	50.14	29.97	15.27	9.94	5.18	PCT SPAN
	DIA	33.250	33.520	33.915	34.970	36.410	37.850	38.900	39.280	39.620	DIA
STATION 2	BETA 2	58.680	55.660	51.050	43.380	40.520	40.670	47.850	51.000	54.040	BETA 2
STATION 2A	BETA 2A	3.540	3.690	3.630	3.530	4.660	6.560	8.070	8.630	9.130	BETA 2A
	V 2	733.82	677.16	655.15	656.99	651.62	623.04	592.14	581.90	570.13	V 2
	V 2A	452.34	440.61	450.51	489.38	526.62	499.93	459.96	459.08	459.99	V 2A
	VZ 2	381.45	381.97	411.83	477.36	495.07	472.24	397.15	366.06	334.71	VZ 2
	VZ 2A	451.48	439.70	449.61	488.45	524.88	496.66	455.41	453.88	454.16	VZ 2A
	V-THETA 2	626.89	559.11	509.48	451.10	423.13	405.76	438.77	452.05	461.36	V-THETA 2
	V-THETA 2A	27.93	28.36	28.52	30.13	42.78	57.11	64.57	68.89	72.99	V-THETA 2A
	M 2	0.6533	0.6002	0.5806	0.5834	0.5799	0.5524	0.5227	0.5126	0.5011	M 2
	M 2A	0.3925	0.3827	0.3923	0.4281	0.4633	0.4385	0.4017	0.4005	0.4008	M 2A
	TURN(PR)	55.140	51.966	47.416	39.833	35.833	34.076	39.746	42.343	44.889	TURN(PR)
	UUBAR	0.2295	0.1977	0.1580	0.1405	0.0563	0.0988	0.1632	0.2028	0.2004	UUBAR
	LOSS PARA	0.0945	0.0820	0.0663	0.0608	0.0253	0.0461	0.0780	0.0977	0.0972	LOSS PARA
	DFAC	0.7203	0.6759	0.6218	0.5340	0.4568	0.4622	0.5308	0.5347	0.5311	DFAC
	EFFP	0.5654	0.6900	0.7623	0.7819	0.8409	0.6943	0.5297	0.5136	0.5280	EFFP
	EFF	-0.0000	-0.0000	0.0017	-0.0000	**********	-0.0000	**********	**********	**********	EFF
	INCID	-7.620	-6.694	-8.154	-10.287	-11.457	-14.394	-11.384	-10.127	-9.281	INCID
	DEVM	25.960	24.110	22.230	18.650	18.460	21.730	25.290	26.780	28.530	DEVM
	P 2	19.300	18.947	18.803	19.049	19.095	18.858	18.532	18.611	18.592	P 2
	P 2A	18.273	18.139	18.186	18.482	18.877	18.516	18.039	17.990	17.992	P 2A
	T 2	569.900	567.960	565.690	563.780	560.920	561.730	563.270	564.470	565.830	T 2
	T 2A	569.900	567.960	565.690	563.780	560.920	561.730	563.270	564.470	565.830	T 2A

Table B-4. Blade Element Performance (Continued)

PERCENT EQUIVALENT DESIGN SPEED = 90.62 EQUIVALENT ROTOR SPEED = 3815.00 CORRECTED WEIGHT FLOW = 97.15 PRESSURE RATIO =1.2420

INLET	PCT SPAN	96.42	91.17	86.46	70.64	49.46	29.30	13.25	8.59	3.28	PCT SPAN
	DIA	33.150	33.590	33.985	35.310	37.085	38.775	40.120	40.510	40.955	DIA
STATION 0	BETA 0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	BETA 0
STATION 1	BETA 1	1.267	1.231	1.200	1.093	0.948	0.812	0.722	0.674	0.639	BETA 1
	V 0	372.98	372.98	372.98	372.98	372.98	372.98	372.98	372.98	372.98	V 0
	V 1	391.98	416.08	421.22	423.27	422.98	407.02	392.21	383.73	363.03	V 1
	VZ 0	372.98	372.98	372.98	372.98	372.98	372.98	372.98	372.98	372.98	VZ 0
	VZ 1	391.89	415.99	421.06	423.12	422.66	406.74	392.05	383.57	362.97	VZ 1
	V-THETA 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	V-THETA 0
	V-THETA 1	8.67	8.94	8.82	8.07	6.99	5.76	4.94	4.51	4.05	V-THETA 1
	M 0	0.3379	0.3379	0.3379	0.3379	0.3379	0.3379	0.3379	0.3379	0.3379	M 0
	M 1	0.3555	0.3780	0.3828	0.3847	0.3844	0.3695	0.3557	0.3479	0.3287	M 1
	TURN	-1.27	-1.23	-1.20	-1.09	-0.95	-0.81	-0.72	-0.67	-0.64	TURN
	UUBAR	0.1657	0.0367	0.0179	0.0107	0.0215	0.0143	0.0305	0.0421	0.1514	UUBAR
	DFAC	-0.051	-0.116	-0.129	-0.135	-0.134	-0.091	-0.052	-0.029	0.027	DFAC
	EFFP	0.3974	0.8752	0.9418	0.9658	0.9334	0.9334	0.7853	0.5935	-0.5713	EFFP
	INCID	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	INCID
	DEVM	-1.267	-1.231	-1.200	-1.093	-0.947	-0.812	-0.722	-0.674	-0.639	DEVM
	P 0	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	P 0
	P 1	14.509	14.653	14.674	14.682	14.670	14.678	14.660	14.647	14.525	P 1
	T 0	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 0
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
ROTOR 5	PCT SPAN	95.01	90.00	85.01	70.01	50.01	30.01	15.02	10.01	5.02	PCT SPAN
	DIA	33.233	33.617	34.000	35.150	36.684	38.218	39.368	39.752	40.135	DIA
STATION 1	BETA 1	1.267	1.231	1.200	1.093	0.948	0.812	0.722	0.674	0.639	BETA 1
STATION 2	BETA 2	60.330	57.710	53.470	44.820	41.770	41.920	50.050	53.000	55.450	BETA 2
	BETA(PR) 1	54.165	52.908	52.907	53.874	55.297	57.550	59.399	60.202	61.826	BETA(PR) 1
	BETA(PR) 2	-13.330	-1.597	5.995	16.012	20.462	25.052	29.897	30.282	30.715	BETA(PR) 2
	V 1	391.98	416.08	421.22	423.27	422.98	407.02	392.21	383.73	363.03	V 1
	V 2	736.02	673.86	653.53	644.28	646.92	626.65	577.26	575.58	575.80	V 2
	VZ 1	391.89	415.99	421.06	423.12	422.66	406.74	392.05	383.57	362.97	VZ 1
	VZ 2	364.33	359.96	388.99	456.87	482.23	465.97	370.49	346.27	326.47	VZ 2
	V-THETA 1	8.67	8.94	8.82	8.07	6.99	5.76	4.94	4.51	4.05	V-THETA 1
	V-THETA 2	639.52	569.63	525.11	454.00	430.71	418.38	442.31	459.52	474.13	V-THETA 2
	V(PR) 1	669.8	689.8	698.2	717.7	742.5	758.2	770.2	771.9	768.8	V(PR) 1
	V(PR) 2	374.4	360.2	391.2	475.6	515.1	514.9	427.7	401.3	380.0	V(PR) 2
	VTHETA PR1	-543.1	-550.2	-556.9	-579.7	-610.3	-639.7	-662.9	-669.8	-677.7	VTHETA PR1
	VTHETA PR2	86.3	10.0	-40.9	-131.1	-179.9	-217.8	-213.0	-202.2	-194.0	VTHETA PR2
	U 1	551.82	559.14	565.72	587.77	617.32	645.45	667.84	674.33	681.74	U 1
	U 2	553.20	559.59	565.97	585.11	610.64	636.18	655.32	661.71	668.09	U 2
	M 1	0.3555	0.3780	0.3828	0.3847	0.3844	0.3695	0.3557	0.3479	0.3287	M 1
	M 2	0.6552	0.5970	0.5790	0.5714	0.5748	0.5552	0.5085	0.5064	0.5057	M 2
	M(PR) 1	0.6075	0.6206	0.6345	0.6524	0.6749	0.6883	0.6986	0.6998	0.6960	M(PR) 1
	M(PR) 2	0.3333	0.3191	0.3466	0.4218	0.4577	0.4561	0.3768	0.3530	0.3337	M(PR) 2
	TURN(PR)	67.515	54.505	46.909	37.868	34.836	32.509	29.523	29.936	31.128	TURN(PR)
	UUBAR	0.2325	0.2942	0.2513	0.1007	0.0251	0.0524	0.2190	0.2626	0.2746	UUBAR
	LOSS PARA	0.0891	0.1171	0.1007	0.0403	0.0102	0.0215	0.0886	0.1068	0.1122	LOSS PARA
	DFAC	0.8123	0.8017	0.7376	0.5955	0.5528	0.5655	0.7069	0.7551	0.7935	DFAC
	EFFP	0.9694	0.8805	0.8319	0.8797	0.9725	0.9379	0.8351	0.8201	0.8233	EFFP
	EFF	0.9679	0.8802	0.8258	0.8752	0.9715	0.9355	0.8293	0.8137	0.8168	EFF
	INCID	-6.211	-6.992	-6.797	-6.500	-7.940	-10.535	-13.409	-14.156	-14.776	INCID
	DEVM	17.670	21.403	22.994	18.402	13.444	15.175	19.467	20.058	21.046	DEVM
	P 1	14.509	14.653	14.674	14.682	14.670	14.678	14.660	14.647	14.525	P 1
	P 2	20.010	19.116	18.892	18.961	19.265	19.200	18.727	18.743	18.781	P 2
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
	T 2	570.250	568.010	565.720	563.630	561.930	562.920	564.020	565.230	567.080	T 2
STATOR 5	PCT SPAN	94.40	90.82	85.08	70.31	50.14	29.97	15.27	9.94	5.18	PCT SPAN
	DIA	33.250	33.520	33.915	34.970	36.410	37.850	38.900	39.280	39.620	DIA
STATION 2	BETA 2	60.330	57.710	53.470	44.820	41.770	41.920	50.050	53.000	55.450	BETA 2
STATION 2A	BETA 2A	2.560	2.970	3.310	3.650	4.980	6.470	7.290	7.850	8.260	BETA 2A
	V 2	736.02	673.86	653.53	644.28	646.92	626.65	577.26	575.58	575.80	V 2
	V 2A	413.00	416.31	425.31	449.83	498.32	477.45	436.59	432.89	440.93	V 2A
	VZ 2	364.33	359.96	388.99	456.87	482.23	465.97	370.49	346.27	326.47	VZ 2
	VZ 2A	412.59	415.75	424.60	448.92	496.44	474.40	433.06	428.84	436.35	VZ 2A
	V-THETA 2	639.52	569.63	525.11	454.00	430.71	418.38	442.31	459.52	474.13	V-THETA 2
	V-THETA 2A	18.45	21.57	24.56	28.64	43.26	53.80	55.40	59.12	63.35	V-THETA 2A
	M 2	0.6552	0.5970	0.5790	0.5714	0.5748	0.5552	0.5085	0.5064	0.5057	M 2
	M 2A	0.3573	0.3610	0.3697	0.3925	0.4370	0.4176	0.3804	0.3767	0.3832	M 2A
	TURN(PR)	57.770	54.736	50.156	41.152	36.763	35.416	42.726	45.124	47.169	TURN(PR)
	UUBAR	0.2210	0.2078	0.1691	0.1390	0.0515	0.1243	0.1732	0.2006	0.1961	UUBAR
	LOSS PARA	0.0910	0.0863	0.0710	0.0602	0.0232	0.0579	0.0829	0.0969	0.0953	LOSS PARA
	DFAC	0.7870	0.7211	0.6721	0.5892	0.5016	0.5131	0.5698	0.5897	0.5880	DFAC
	EFFP	0.5546	0.7121	0.7659	0.7691	0.8013	0.6531	0.6217	0.5724	0.5486	EFFP
	EFF	-0.0000	-0.0000	0.0017	-0.0000	**********	-0.0000	**********	**********	**********	EFF
	INCID	-5.970	-4.044	-5.734	-8.847	-10.207	-13.144	-9.184	-8.126	-7.871	INCID
	DEVM	24.980	23.390	21.910	18.770	18.780	21.640	24.510	26.000	27.660	DEVM
	P 2	19.242	19.164	18.978	18.991	19.104	19.046	18.715	18.738	18.755	P 2
	P 2A	18.304	18.303	18.314	18.463	18.913	18.614	18.192	18.135	18.170	P 2A
	T 2	570.250	568.010	565.720	563.630	561.930	562.920	564.020	565.230	567.080	T 2
	T 2A	570.250	568.010	565.720	563.630	561.930	562.920	564.020	565.230	567.080	T 2A

Table B-4. Blade Element Performance (Continued)

PERCENT EQUIVALENT DESIGN SPEED = 90.14 EQUIVALENT ROTOR SPEED = 3795.00 CORRECTED WEIGHT FLOW = 95.88 PRESSURE RATIO =1.2453

INLET	PCT SPAN	96.42	91.17	86.46	70.64	49.46	29.30	13.25	8.59	3.28	PCT SPAN
	DIA	33.150	33.590	33.985	35.310	37.085	38.775	40.120	40.510	40.955	DIA
STATION 0	BETA 0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	BETA 0
STATION 1	BETA 1	1.145	1.117	1.093	1.010	0.918	0.800	0.718	0.694	0.666	BETA 1
	V 0	367.48	367.48	367.48	367.48	367.48	367.48	367.48	367.48	367.48	V 0
	V 1	374.21	401.67	409.34	409.18	410.76	406.96	390.19	387.88	358.31	V 1
	VZ 0	367.48	367.48	367.48	367.48	367.48	367.48	367.48	367.48	367.48	VZ 0
	VZ 1	374.14	401.60	409.20	409.06	410.46	406.67	390.03	387.72	358.26	VZ 1
	V-THETA 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	V-THETA 0
	V-THETA 1	7.48	7.83	7.81	7.21	6.58	5.68	4.89	4.70	4.16	V-THETA 1
	M 0	0.3328	0.3328	0.3328	0.3328	0.3328	0.3328	0.3328	0.3328	0.3328	M 0
	M 1	0.3390	0.3645	0.3717	0.3715	0.3730	0.3695	0.3539	0.3517	0.3243	M 1
	TURN	-1.15	-1.12	-1.09	-1.01	-0.92	-0.80	-0.72	-0.69	-0.67	TURN
	UUBAR	0.1761	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	0.0175	0.0295	0.1650	UUBAR
	DFAC	-0.018	-0.093	-0.114	-0.113	-0.118	-0.107	-0.062	-0.055	0.025	DFAC
	EFFP	0.1795	0.9999	1.0000	0.9999	0.9999	0.9997	0.8843	0.8024	-0.4528	EFFP
	INCID	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	INCID
	DEVM	-1.145	-1.117	-1.093	-1.010	-0.918	-0.800	-0.718	-0.694	-0.666	DEVM
	P 0	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	P 0
	P 1	14.503	14.694	14.694	14.694	14.694	14.694	14.675	14.662	14.515	P 1
	T 0	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 0
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
ROTOR 5	PCT SPAN	95.01	90.00	85.01	70.01	50.01	30.01	15.02	10.01	5.02	PCT SPAN
	DIA	33.233	33.617	34.000	35.150	36.684	38.218	39.368	39.752	40.135	DIA
STATION 1	BETA 1	1.145	1.117	1.093	1.010	0.918	0.800	0.718	0.694	0.666	BETA 1
STATION 2	BETA 2	61.020	58.480	54.240	45.660	42.330	42.870	51.710	54.200	56.380	BETA 2
	BETA(PR) 1	55.356	53.784	53.596	54.688	55.955	57.420	59.398	59.798	62.008	BETA(PR) 1
	BETA(PR) 2	-12.718	-2.514	5.521	17.018	20.809	24.860	28.236	29.059	29.100	BETA(PR) 2
	V 1	374.21	401.67	409.34	409.18	410.76	406.96	390.19	387.88	358.31	V 1
	V 2	718.93	671.10	648.68	626.63	636.82	620.89	583.54	579.58	582.65	V 2
	VZ 1	374.14	401.60	409.20	409.06	410.46	406.67	390.03	387.72	358.26	VZ 1
	VZ 2	348.32	350.83	379.07	437.83	470.55	454.75	361.42	338.92	322.52	VZ 2
	V-THETA 1	7.48	7.83	7.81	7.21	6.58	5.68	4.89	4.70	4.16	V-THETA 1
	V-THETA 2	628.91	572.06	526.36	448.04	428.61	422.14	457.80	469.93	485.07	V-THETA 2
	V(PR) 1	658.1	679.7	689.5	707.7	733.3	755.4	766.2	770.8	763.3	V(PR) 1
	V(PR) 2	357.1	351.2	380.9	458.1	503.8	501.7	410.6	388.0	369.3	V(PR) 2
	VTHETA PR1	-541.4	-548.4	-554.9	-577.5	-607.5	-636.4	-659.5	-666.1	-674.0	VTHETA PR1
	VTHETA PR2	76.6	15.4	-36.6	-134.0	-178.8	-210.7	-194.1	-188.3	-179.5	VTHETA PR2
	U 1	548.92	556.21	562.75	584.69	614.08	642.07	664.34	670.80	678.17	U 1
	U 2	550.30	556.66	563.00	582.04	607.44	632.84	651.89	658.25	664.59	U 2
	M 1	0.3390	0.3645	0.3717	0.3715	0.3730	0.3695	0.3539	0.3517	0.3243	M 1
	M 2	0.6383	0.5938	0.5740	0.5545	0.5649	0.5498	0.5139	0.5093	0.5115	M 2
	M(PR) 1	0.5963	0.6169	0.6261	0.6426	0.6659	0.6858	0.6949	0.6989	0.6909	M(PR) 1
	M(PR) 2	0.3170	0.3108	0.3370	0.4054	0.4469	0.4442	0.3616	0.3410	0.3242	M(PR) 2
	TURN(PR)	68.074	56.297	48.072	37.676	35.148	32.571	31.182	30.754	32.924	TURN(PR)
	UUBAR	0.2589	0.3075	0.2587	0.1329	0.0432	0.0681	0.2411	0.2748	0.2760	UUBAR
	LOSS PARA	0.0594	0.1223	0.1037	0.0529	0.0176	0.0280	0.0990	0.1131	0.1147	LOSS PARA
	DFAC	0.8296	0.8140	0.7506	0.6114	0.5617	0.5836	0.7371	0.7781	0.8126	DFAC
	EFFP	0.9191	0.8168	0.8146	0.8281	0.9315	0.9266	0.8295	0.7978	0.8226	EFFP
	EFF	0.9155	0.8098	0.8078	0.8221	0.9289	0.9238	0.8234	0.7906	0.8159	EFF
	INCID	-5.044	-6.116	-6.108	-5.686	-7.281	-10.665	-13.410	-14.561	-14.594	INCID
	DEVM	18.282	20.486	22.520	19.408	13.791	14.984	17.807	18.836	19.432	DEVM
	P 1	14.503	14.694	14.694	14.694	14.694	14.694	14.675	14.662	14.515	P 1
	P 2	19.760	19.145	18.900	18.748	19.158	19.161	18.803	18.793	18.885	P 2
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
	T 2	571.050	569.000	566.580	564.190	562.670	562.940	564.930	566.920	568.350	T 2
STATOR 5	PCT SPAN	94.40	90.62	85.08	70.31	50.14	29.97	15.27	9.94	5.18	PCT SPAN
	DIA	33.250	33.520	33.915	34.970	36.410	37.850	38.900	39.280	39.620	DIA
STATION 2	BETA 2	61.020	58.480	54.240	45.660	42.330	42.870	51.710	54.200	56.380	BETA 2
STATION 2A	BETA 2A	2.730	3.220	3.580	3.570	5.490	6.650	7.030	7.410	7.760	BETA 2A
	V 2	718.93	671.10	648.68	626.63	636.82	620.89	583.54	579.58	582.65	V 2
	V 2A	424.61	420.73	436.08	451.90	503.64	477.14	431.79	428.44	433.43	V 2A
	VZ 2	348.32	350.83	379.07	437.83	470.55	454.75	361.42	338.92	322.52	VZ 2
	VZ 2A	424.13	420.07	435.23	451.02	501.33	473.93	428.55	424.86	429.46	VZ 2A
	V-THETA 2	628.91	572.06	526.36	448.04	428.61	422.14	457.80	469.93	485.07	V-THETA 2
	V-THETA 2A	20.22	23.63	27.23	28.14	48.18	55.26	52.85	55.26	58.52	V-THETA 2A
	M 2	0.6383	0.5938	0.5740	0.5545	0.5649	0.5498	0.5139	0.5093	0.5115	M 2
	M 2A	0.3673	0.3646	0.3791	0.3941	0.4415	0.4173	0.3758	0.3723	0.3761	M 2A
	TURN(PR)	58.290	55.256	50.656	42.072	36.813	36.186	44.647	46.764	48.600	TURN(PR)
	UUBAR	0.2184	0.2181	0.1742	0.1549	0.0563	0.1263	0.1637	0.1934	0.1860	UUBAR
	LOSS PARA	0.0900	0.0905	0.0732	0.0669	0.0252	0.0589	0.0783	0.0935	0.0905	LOSS PARA
	DFAC	0.7587	0.7136	0.6521	0.5705	0.4804	0.5109	0.5976	0.6122	0.6191	DFAC
	EFFP	0.5539	0.6856	0.7784	0.8564	0.8667	0.6816	0.6369	0.6290	0.5640	EFFP
	EFF	-0.0000	-0.0000	0.0017	-0.0000	**********	-0.0000	**********	**********	**********	EFF
	INCID	-5.280	-3.874	-4.964	-8.007	-9.647	-12.194	-7.523	-6.926	-6.940	INCID
	DEVM	25.150	23.640	22.180	18.690	19.290	21.820	24.250	25.560	27.160	DEVM
	P 2,	19.293	19.175	19.077	19.074	19.158	19.086	18.745	18.788	18.787	P 2,
	P 2A	18.360	18.282	18.387	18.476	18.948	18.646	18.247	18.199	18.231	P 2A
	T 2	571.050	569.000	566.580	564.190	562.670	562.940	564.930	566.920	568.350	T 2
	T 2A	571.050	569.000	566.580	564.190	562.670	562.940	564.930	566.420	568.350	T 2A

Table B-4. Blade Element Performance (Continued)

PERCENT EQUIVALENT DESIGN SPEED = 100.38 EQUIVALENT ROTOR SPEED = 4226.00 CORRECTED WEIGHT FLOW = 120.17 PRESSURE RATIO =1.1365

INLET	PCT SPAN	96.42	91.17	86.46	70.64	49.46	29.30	13.25	8.59	3.28	PCT SPAN
	DIA	33.150	33.590	33.985	35.310	37.085	38.775	40.120	40.510	40.955	DIA
STATION 0	BETA 0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	BETA 0
STATION 1	BETA 1	-0.710	-0.710	-0.710	-0.710	-0.710	-0.710	-0.710	-0.710	-0.710	BETA 1
	V 0	479.40	479.40	479.40	479.40	479.40	479.40	479.40	479.40	479.40	V 0
	V 1	486.93	548.27	553.21	550.46	542.59	531.44	520.96	517.44	447.75	V 1
	VZ 0	479.40	479.40	479.40	479.40	479.40	479.40	479.40	479.40	479.40	VZ 0
	VZ 1	486.90	548.22	553.08	550.33	542.22	531.08	520.75	517.23	447.68	VZ 1
	V-THETA 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	V-THETA 0
	V-THETA 1	-6.03	-6.79	-6.85	-6.82	-6.72	-6.58	-6.45	-6.41	-5.55	V-THETA 1
	M 0	0.4376	0.4376	0.4376	0.4376	0.4376	0.4376	0.4376	0.4376	0.4376	M 0
	M 1	0.4447	0.5034	0.5082	0.5055	0.4979	0.4872	0.4772	0.4738	0.4077	M 1
	TURN	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	TURN
	UUBAR	0.3501	0.0271	0.0050	0.0011	0.0022	0.0066	0.0099	0.0177	0.3170	UUBAR
	DFAC	-0.016	-0.144	-0.154	-0.148	-0.132	-0.109	-0.087	-0.079	0.066	DFAC
	EFFP	0.0878	0.9256	0.9865	0.9968	0.9928	0.9741	0.9520	0.9105	-0.7495	EFFP
	INCID	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	INCID
	DEVM	0.710	0.710	0.710	0.710	0.710	0.710	0.710	0.710	0.710	DEVM
	P 0	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	P 0
	P 1	14.060	14.645	14.685	14.692	14.690	14.682	14.676	14.662	14.120	P 1
	T 0	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 0
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
ROTOR 5	PCT SPAN	95.01	90.00	85.01	70.01	50.01	30.01	15.02	10.01	5.02	PCT SPAN
	DIA	33.233	33.617	34.000	35.150	36.684	38.218	39.368	39.752	40.135	DIA
STATION 1	BETA 1	-0.710	-0.710	-0.710	-0.710	-0.710	-0.710	-0.710	-0.710	-0.710	BETA 1
STATION 2	BETA 2	50.100	48.200	46.300	38.200	31.980	31.940	34.050	36.950	42.000	BETA 2
	BETA(PR) 1	51.735	48.797	48.878	50.088	51.861	53.647	55.092	55.529	59.524	BETA(PR) 1
	BETA(PR) 2	-4.550	-2.432	0.436	13.461	23.816	26.596	26.420	26.670	28.930	BETA(PR) 2
	V 1	486.93	548.27	553.21	550.46	542.59	531.44	520.96	517.44	447.75	V 1
	V 2	861.14	864.40	860.98	803.95	748.75	739.41	747.77	731.60	685.61	V 2
	VZ 1	486.90	548.22	553.08	550.33	542.22	531.08	520.75	517.23	447.68	VZ 1
	VZ 2	552.38	576.11	594.79	631.55	634.68	626.92	619.06	584.31	509.29	VZ 2
	V-THETA 1	-6.03	-6.79	-6.85	-6.82	-6.72	-6.58	-6.45	-6.41	-5.55	V-THETA 1
	V-THETA 2	660.64	644.34	622.42	496.98	396.29	390.83	418.35	439.51	458.57	V-THETA 2
	V(PR) 1	786.2	832.3	841.0	857.8	878.2	896.1	910.1	913.9	882.7	V(PR) 1
	V(PR) 2	554.4	576.7	594.9	649.8	694.3	701.8	691.9	654.4	582.3	V(PR) 2
	VTHETA PR1	-617.3	-626.2	-633.5	-657.9	-690.5	-721.6	-746.2	-753.4	-760.7	VTHETA PR1
	VTHETA PR2	47.8	24.5	-4.5	-151.2	-280.1	-313.9	-307.6	-293.5	-281.5	VTHETA PR2
	U 1	611.27	619.38	626.66	651.10	683.83	714.99	739.79	746.98	755.19	U 1
	U 2	612.80	619.88	626.94	648.15	676.43	704.72	725.92	733.00	740.07	U 2
	M 1	0.4447	0.5034	0.5082	0.5055	0.4979	0.4872	0.4772	0.4738	0.4077	M 1
	M 2	0.7720	0.7772	0.7748	0.7229	0.6726	0.6625	0.6707	0.6542	0.6092	M 2
	M(PR) 1	0.7180	0.7641	0.7726	0.7878	0.8059	0.8215	0.8336	0.8368	0.8037	M(PR) 1
	M(PR) 2	0.4970	0.5186	0.5354	0.5843	0.6237	0.6287	0.6206	0.5852	0.5174	M(PR) 2
	TURN(PR)	56.685	51.229	48.438	36.631	28.048	27.061	28.689	28.872	30.610	TURN(PR)
	UUBAR	0.3841	0.4238	0.3921	0.2743	0.1837	0.2048	0.2663	0.3421	0.3983	UUBAR
	LOSS PARA	0.1507	0.1686	0.1579	0.1111	0.0730	0.0829	0.1112	0.1440	0.1658	LOSS PARA
	DFAC	0.6290	0.6187	0.5941	0.4865	0.4078	0.4163	0.4554	0.5117	0.5879	DFAC
	EFFP	0.8126	0.7617	0.7788	0.7882	0.8017	0.7666	0.7778	0.7147	0.7062	EFFP
	EFF	0.8041	0.7520	0.7698	0.7805	0.7952	0.7590	0.7706	0.7059	0.6971	EFF
	INCID	-8.665	-11.103	-10.826	-10.286	-11.376	-14.440	-17.717	-18.830	-17.078	INCID
	DEVM	26.050	20.565	17.436	15.853	16.796	16.719	15.993	16.448	19.262	DEVM
	P 1	14.060	14.645	14.685	14.692	14.690	14.682	14.676	14.662	14.120	P 1
	P 2	19.280	19.450	19.500	18.920	18.440	18.380	18.420	18.160	17.540	P 2
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
	T 2	579.600	576.950	575.570	568.500	562.480	564.000	563.850	565.020	566.270	T 2
STATOR 5	PCT SPAN	94.40	90.62	95.08	70.31	50.14	29.97	15.27	9.94	5.18	PCT SPAN
	DIA	33.250	33.520	33.915	34.970	36.410	37.850	38.900	39.280	39.620	DIA
STATION 2	BETA 2	50.100	48.200	46.300	38.200	31.980	31.940	34.050	36.950	42.000	BETA 2
STATION 2A	BETA 2A	8.220	8.620	8.030	5.520	4.180	8.390	11.430	11.980	12.180	BETA 2A
	V 2	861.14	864.40	860.98	803.95	748.75	739.41	747.77	731.60	685.61	V 2
	V 2A	714.79	752.14	759.13	800.54	753.44	733.99	709.10	677.20	666.56	V 2A
	VZ 2	552.38	576.11	594.79	631.55	634.68	626.92	619.06	584.31	509.29	VZ 2
	VZ 2A	707.45	743.65	751.69	796.83	751.43	726.13	695.04	662.45	651.56	VZ 2A
	V-THETA 2	660.64	644.34	622.42	496.98	396.29	390.83	418.35	439.51	458.57	V-THETA 2
	V-THETA 2A	102.20	112.73	106.04	77.01	54.92	107.10	140.52	140.57	140.63	V-THETA 2A
	M 2	0.7720	0.7772	0.7748	0.7229	0.6726	0.6625	0.6707	0.6542	0.6092	M 2
	M 2A	0.6292	0.6666	0.6742	0.7195	0.6772	0.6572	0.6332	0.6019	0.5911	M 2A
	TURN(PR)	41.880	39.576	38.266	32.663	27.776	23.519	22.588	24.944	29.798	TURN(PR)
	UUBAR	0.3368	0.2998	0.3093	0.1508	0.2018	0.2625	0.2628	0.2954	0.3207	UUBAR
	LOSS PARA	0.1375	0.1233	0.1289	0.0652	0.0909	0.1220	0.1244	0.1408	0.1541	LOSS PARA
	DFAC	0.4375	0.3663	0.3712	0.2318	0.2008	0.1891	0.2333	0.2759	0.2586	DFAC
	EFFP	-0.0850	-0.1819	-0.2948	-15.8721	16.3719	-15.3866	-2.4012	-1.8124	-5.6443	EFFP
	EFF	-0.0000	-0.0000	0.0017	-0.0000**********		-0.0000**********				EFF
	INCID	-16.200	-14.154	-12.904	-15.467	-19.994	-23.121	-25.182	-24.176	-21.322	INCID
	DEVM	30.640	29.040	26.630	20.640	17.980	23.560	28.650	30.130	31.580	DEVM
	P 2	18.717	19.060	19.180	18.775	18.290	18.285	17.585	17.150	17.050	P 2
	P 2A	16.791	17.257	17.303	17.958	17.347	17.079	16.544	16.108	15.960	P 2A
	T 2	579.600	576.950	575.570	568.500	562.480	564.000	563.850	565.020	566.270	T 2
	T 2A	579.600	576.950	575.570	568.500	562.480	564.000	563.850	565.020	566.270	T 2A

Table B-4. Blade Element Performance (Continued)

ERCENT EQUIVALENT DESIGN SPEED = 100.12 EQUIVALENT ROTOR SPEED = 4215.00 CORRECTED WEIGHT FLOW = 116.37 PRESSURE RATIO =1.2336

INLET	PCT SPAN	96.42	91.17	86.46	70.64	49.46	29.30	13.25	8.59	3.28	PCT SPAN
	DIA	33.150	33.590	33.985	35.310	37.085	38.775	40.120	40.510	40.955	DIA
STATION 0	BETA 0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	BETA 0
STATION 1	BETA 1	0.420	0.370	0.320	0.210	0.160	0.170	0.170	0.180	0.180	BETA 1
	V 0	460.84	460.84	460.84	460.84	460.84	460.84	460.84	460.84	460.84	V 0
	V 1	477.34	519.52	525.41	527.43	520.83	510.08	498.48	492.74	454.74	V 1
	VZ 0	460.84	460.84	460.84	460.84	460.84	460.84	460.84	460.84	460.84	VZ 0
	VZ 1	477.32	519.51	525.33	527.35	520.52	509.77	498.31	492.57	454.70	VZ 1
	V-THETA 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	V-THETA 0
	V-THETA 1	3.50	3.35	2.93	1.93	1.45	1.51	1.48	1.55	1.43	V-THETA 1
	M 0	0.4200	0.4200	0.4200	0.4200	0.4200	0.4200	0.4200	0.4200	0.4200	M 0
	M 1	0.4356	0.4758	0.4814	0.4834	0.4770	0.4668	0.4557	0.4502	0.4143	M 1
	TURN	-0.42	-0.37	-0.32	-0.21	-0.16	-0.17	-0.17	-0.18	-0.18	TURN
	UUBAR	0.2584	0.0310	0.0119	0.0024	0.0024	0.0024	0.0113	0.0232	0.1870	UUBAR
	DFAC	-0.036	-0.127	-0.140	-0.145	-0.130	-0.107	-0.082	-0.069	0.013	DFAC
	EFFP	0.2311	0.9046	0.9647	0.9930	0.9921	0.9902	0.9420	0.8697	-0.1768	EFFP
	INCID	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	INCID
	DEVM	-0.420	-0.370	-0.320	-0.210	-0.160	-0.170	-0.170	-0.180	-0.180	DEVM
	P 0	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	P 0
	P 1	14.260	14.642	14.674	14.690	14.690	14.690	14.675	14.655	14.380	P 1
	T 0	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 0
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
ROTOR 5	PCT SPAN	95.01	90.00	85.01	70.01	50.01	30.01	15.02	10.01	5.02	PCT SPAN
	DIA	33.233	33.617	34.000	35.150	36.684	38.218	39.368	39.752	40.135	DIA
STATION 1	BETA 1	0.420	0.370	0.320	0.210	0.160	0.170	0.170	0.180	0.180	BETA 1
STATION 2	BETA 2	53.400	49.100	45.620	40.560	37.120	37.420	42.180	46.020	50.480	BETA 2
	BETA(PR) 1	51.782	49.784	49.821	50.838	52.591	54.384	55.914	56.475	58.834	BETA(PR) 1
	BETA(PR) 2	-6.728	1.371	6.396	15.013	22.767	25.925	26.115	27.759	30.326	BETA(PR) 2
	V 1	477.34	519.52	525.41	527.43	520.83	510.08	498.48	492.74	454.74	V 1
	V 2	834.43	801.41	788.48	757.25	719.59	707.86	700.19	674.09	645.63	V 2
	VZ 1	477.32	519.51	525.33	527.35	520.52	509.77	498.31	492.57	454.70	VZ 1
	VZ 2	497.51	524.68	551.43	575.10	573.44	561.76	518.53	467.88	410.72	VZ 2
	V-THETA 1	3.50	3.35	2.93	1.93	1.45	1.51	1.48	1.55	1.43	V-THETA 1
	V-THETA 2	669.90	605.71	563.49	492.22	434.00	429.81	469.84	484.84	497.88	V-THETA 2
	V(PR) 1	771.5	804.6	814.3	835.1	857.0	875.5	889.2	891.9	878.6	V(PR) 1
	V(PR) 2	501.0	524.9	555.0	595.8	622.4	625.2	578.0	529.1	476.1	V(PR) 2
	VTHETA PR1	-606.2	-614.4	-622.1	-647.5	-680.6	-711.6	-736.4	-743.5	-751.8	VTHETA PR1
	VTHETA PR2	56.7	-12.6	-61.8	-154.2	-240.7	-273.1	-254.2	-246.3	-240.3	VTHETA PR2
	U 1	609.67	617.77	625.03	649.40	682.05	713.13	737.86	745.04	753.22	U 1
	U 2	611.20	618.26	625.31	646.46	674.67	702.88	724.03	731.09	738.14	U 2
	M 1	0.4356	0.4758	0.4814	0.4834	0.4770	0.4668	0.4557	0.4502	0.4143	M 1
	M 2	0.7448	0.7140	0.7025	0.6750	0.6409	0.6291	0.6214	0.5960	0.5683	M 2
	M(PR) 1	0.7641	0.7369	0.7461	0.7653	0.7849	0.8012	0.8129	0.8150	0.8004	M(PR) 1
	M(PR) 2	0.4472	0.4677	0.4944	0.5311	0.5544	0.5557	0.5130	0.4678	0.4191	M(PR) 2
	TURN(PR)	58.510	48.414	43.421	35.829	29.827	28.470	29.817	28.730	28.525	TURN(PR)
	UUBAR	0.2258	0.2564	0.2152	0.1460	0.1148	0.1486	0.2590	0.3361	0.3743	UUBAR
	LOSS PARA	0.0883	0.1021	0.0861	0.0587	0.0460	0.0605	0.1085	0.1401	0.1536	LOSS PARA
	DFAC	0.6512	0.6459	0.5958	0.5305	0.4919	0.5058	0.5933	0.6595	0.7240	DFAC
	EFFP	0.9340	0.8350	0.8293	0.8574	0.8672	0.8393	0.8154	0.7504	0.7354	EFFP
	EFF	0.9305	0.8275	0.8218	0.8514	0.8619	0.8331	0.8083	0.7414	0.7258	EFF
	INCID	-8.618	-10.116	-9.883	-9.536	-10.646	-13.703	-16.895	-17.884	-17.769	INCID
	DEVM	24.272	24.370	23.395	17.404	15.748	16.048	15.688	17.536	20.657	DEVM
	P 1	14.260	14.642	14.674	14.690	14.690	14.690	14.675	14.655	14.380	P 1
	P 2	20.580	20.070	19.900	19.650	19.320	19.240	19.140	18.800	18.480	P 2
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
	T 2	580.300	577.800	576.100	571.500	567.700	568.600	569.300	570.300	571.800	T 2
STATOR 5	PCT SPAN	94.40	90.62	85.08	70.31	50.14	29.97	15.27	9.94	5.18	PCT SPAN
	DIA	33.250	33.520	33.915	34.970	36.410	37.850	38.900	39.280	39.620	DIA
STATION 2	BETA 2	53.400	49.100	45.620	40.560	37.120	37.420	42.180	46.020	50.480	BETA 2
STATION 2A	BETA 2A	6.360	6.520	5.670	3.680	4.170	7.420	9.680	10.260	10.720	BETA 2A
	V 2	834.43	801.41	788.48	757.25	719.59	707.86	700.19	674.09	645.63	V 2
	V 2A	581.03	584.83	587.84	628.55	626.40	599.10	559.65	536.11	523.04	V 2A
	VZ 2	497.51	524.68	551.43	575.10	573.44	561.76	518.53	467.88	410.72	VZ 2
	VZ 2A	577.46	581.04	584.97	627.26	624.75	594.08	551.68	527.54	513.92	VZ 2A
	V-THETA 2	669.90	605.71	563.49	492.22	434.00	429.81	469.84	484.84	497.88	V-THETA 2
	V-THETA 2A	64.36	66.41	58.08	40.34	45.55	77.37	94.10	95.49	97.29	V-THETA 2A
	M 2	0.7448	0.7140	0.7025	0.6750	0.6409	0.6291	0.6214	0.5960	0.5683	M 2
	M 2A	0.5044	0.5090	0.5126	0.5525	0.5525	0.5266	0.4899	0.4679	0.4554	M 2A
	TURN(PR)	47.040	42.576	39.946	36.863	32.924	29.967	32.466	35.733	39.738	TURN(PR)
	UUBAR	0.2609	0.2169	0.2169	0.1493	0.0838	0.1408	0.1463	0.1959	0.1896	UUBAR
	LOSS PARA	0.1069	0.0896	0.0871	0.0646	0.0377	0.0655	0.0696	0.0939	0.0916	LOSS PARA
	DFAC	0.6031	0.5507	0.5247	0.4297	0.3746	0.3892	0.4622	0.4888	0.4979	DFAC
	EFFP	0.4309	0.4722	0.4744	0.5778	0.6614	0.4613	0.3333	0.3390	0.3681	EFFP
	EFF	-0.0000	-0.0000	0.0017	-0.0000	**********	-0.0000	**********	**********	**********	EFF
	INCID	-12.900	-13.254	-13.584	-13.107	-14.856	-17.643	-17.054	-15.107	-12.842	INCID
	DEVM	28.780	26.940	24.270	18.800	17.970	22.590	26.900	28.410	30.120	DEVM
	P 2	19.900	19.560	19.460	19.623	19.260	19.060	18.498	18.425	18.250	P 2
	P 2A	18.423	18.416	18.390	18.855	18.874	18.451	17.950	17.712	17.604	P 2A
	T 2	580.300	577.800	576.100	571.500	567.700	568.600	569.300	570.300	571.800	T 2
	T 2A	580.300	577.800	576.100	571.500	567.700	568.600	569.300	570.300	571.800	T 2A

Table B-4. Blade Element Performance (Continued)

PERCENT EQUIVALENT DESIGN SPEED = 99.69 EQUIVALENT ROTOR SPEED = 4197.00 CORRECTED WEIGHT FLOW = 110.97 PRESSURE RATIO =1.2699

INLET	PCT SPAN	96.42	91.17	86.46	70.64	49.46	29.30	13.25	8.59	3.28	PCT SPAN
	DIA	33.150	33.590	33.985	35.310	37.085	38.775	40.120	40.510	40.955	DIA
STATION 0	BETA 0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	BETA 0
STATION 1	BETA 1	-0.500	-0.500	-0.500	-0.500	-0.500	-0.500	-0.500	-0.500	-0.500	BETA 1
	V 0	435.19	435.19	435.19	435.19	435.19	435.19	435.19	435.19	435.19	V 0
	V 1	464.88	482.96	493.59	499.56	492.89	480.96	469.34	463.47	436.30	V 1
	VZ 0	435.19	435.19	435.19	435.19	435.19	435.19	435.19	435.19	435.19	VZ 0
	VZ 1	464.86	482.94	493.50	499.46	492.57	480.65	469.17	463.29	436.25	VZ 1
	V-THETA 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	V-THETA 0
	V-THETA 1	-4.06	-4.21	-4.31	-4.36	-4.30	-4.19	-4.09	-4.04	-3.81	V-THETA 1
	M 0	0.3959	0.3959	0.3959	0.3959	0.3959	0.3959	0.3959	0.3959	0.3959	M 0
	M 1	0.4238	0.4409	0.4510	0.4567	0.4504	0.4390	0.4280	0.4225	0.3969	M 1
	TURN	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	TURN
	UUBAR	0.1748	0.0246	0.0066	0.0027	0.0007	0.0060	0.0060	0.0213	0.1289	UUBAR
	DFAC	-0.068	-0.110	-0.134	-0.148	-0.133	-0.105	-0.078	-0.065	-0.003	DFAC
	EFFP	0.4621	0.9100	0.9789	0.9923	0.9979	0.9755	0.9669	0.8712	0.0405	EFFP
	INCID	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	INCID
	DEVM	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	DEVM
	P 0	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	P 0
	P 1	14.431	14.657	14.684	14.690	14.693	14.685	14.685	14.662	14.500	P 1
	T 0	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 0
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
ROTOR 5	PCT SPAN	95.01	90.00	85.01	70.01	50.01	30.01	15.02	10.01	5.02	PCT SPAN
	DIA	33.233	33.617	34.000	35.150	36.684	38.218	39.368	39.752	40.135	DIA
STATION 1	BETA 1	-0.500	-0.500	-0.500	-0.500	-0.500	-0.500	-0.500	-0.500	-0.500	BETA 1
STATION 2	BETA 2	57.080	53.800	49.950	42.730	39.560	39.530	45.550	50.400	54.050	BETA 2
	BETA(PR) 1	52.741	52.054	51.780	52.503	54.219	56.063	57.583	58.155	59.941	BETA(PR) 1
	BETA(PR) 2	-9.271	0.547	6.918	15.275	21.623	25.421	27.820	29.346	29.423	BETA(PR) 2
	V 1	464.88	482.96	493.59	499.56	492.89	480.96	469.34	463.47	436.30	V 1
	V 2	810.68	753.82	738.16	732.43	713.19	698.24	665.84	645.10	644.53	V 2
	VZ 1	464.86	482.94	493.50	499.46	492.57	480.65	469.17	463.29	436.25	VZ 1
	VZ 2	440.58	445.19	474.94	537.83	549.53	538.16	466.01	411.05	378.29	VZ 2
	V-THETA 1	-4.06	-4.21	-4.31	-4.36	-4.30	-4.19	-4.09	-4.04	-3.81	V-THETA 1
	V-THETA 2	680.51	608.27	565.01	496.82	453.96	444.10	475.04	496.87	521.63	V-THETA 2
	V(PR) 1	767.8	785.4	797.7	820.6	842.6	861.1	875.3	878.2	871.0	V(PR) 1
	V(PR) 2	446.4	445.3	478.5	557.8	591.6	596.4	527.4	471.9	434.6	V(PR) 2
	VTHETA PR1	-611.1	-619.3	-626.7	-651.0	-683.4	-714.3	-738.8	-745.9	-753.8	VTHETA PR1
	VTHETA PR2	71.9	-7.4	-57.6	-146.9	-217.8	-255.8	-245.9	-231.1	-213.4	VTHETA PR2
	U 1	607.07	615.13	622.36	646.63	679.13	710.08	734.71	741.85	750.00	U 1
	U 2	608.59	615.62	622.64	643.70	671.79	699.88	720.94	727.97	734.99	U 2
	M 1	0.4238	0.4409	0.4510	0.4567	0.4504	0.4390	0.4280	0.4225	0.3969	M 1
	M 2	0.7204	0.6667	0.6535	0.6499	0.6330	0.6188	0.5872	0.5668	0.5654	M 2
	M(PR) 1	0.7000	0.7170	0.7289	0.7502	0.7699	0.7861	0.7983	0.8005	0.7924	M(PR) 1
	M(PR) 2	0.3967	0.3939	0.4236	0.4950	0.5251	0.5286	0.4651	0.4146	0.3812	M(PR) 2
	TURN(PR)	62.013	51.108	44.858	37.233	32.598	30.652	29.783	28.823	30.534	TURN(PR)
	UUBAR	0.2667	0.3184	0.2704	0.1414	0.0948	0.1121	0.2471	0.3238	0.3510	UUBAR
	LOSS PARA	0.1036	0.1268	0.1081	0.0568	0.0383	0.0458	0.1019	0.1329	0.1454	LOSS PARA
	DFAC	0.7700	0.7437	0.6877	0.5739	0.5330	0.5414	0.6504	0.7287	0.7850	DFAC
	EFFP	0.9088	0.7853	0.7966	0.8566	0.8925	0.8930	0.8143	0.7612	0.7778	EFFP
	EFF	0.9040	0.7759	0.7880	0.8504	0.8878	0.8884	0.8068	0.7519	0.7688	EFF
	INCID	-7.659	-7.846	-7.924	-7.871	-9.018	-12.023	-15.226	-16.204	-16.661	INCID
	DEVM	21.729	23.946	23.917	17.666	14.604	15.545	17.392	19.123	19.754	DEVM
	P 1	14.431	14.657	14.684	14.690	14.693	14.685	14.685	14.662	14.500	P 1
	P 2	20.780	19.658	19.695	19.820	19.800	19.770	19.414	19.185	19.230	P 2
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
	T 2	581.700	579.300	576.300	573.200	570.680	570.470	572.080	573.780	575.380	T 2
STATOR 5	PCT SPAN	94.40	90.62	85.08	70.31	50.14	29.97	15.27	9.94	5.18	PCT SPAN
	DIA	33.250	33.520	33.915	34.970	36.410	37.850	38.900	39.280	39.620	DIA
STATION 2	BETA 2	57.080	53.800	49.950	42.730	39.560	39.530	45.550	50.400	54.050	BETA 2
STATION 2A	BETA 2A	3.860	4.230	4.340	3.760	4.180	6.740	8.250	8.670	9.020	BETA 2A
	V 2	810.68	753.82	738.16	732.43	713.19	698.24	665.84	645.10	644.53	V 2
	V 2A	525.70	519.19	525.04	565.00	588.91	562.80	511.43	509.61	509.74	V 2A
	VZ 2	440.58	445.19	474.94	537.83	549.53	538.16	466.01	411.05	378.29	VZ 2
	VZ 2A	524.51	517.78	523.53	563.78	587.35	558.91	506.14	503.79	503.44	VZ 2A
	V-THETA 2	680.51	608.27	565.01	496.82	453.96	444.10	475.04	496.87	521.63	V-THETA 2
	V-THETA 2A	35.39	38.30	39.73	37.05	42.93	66.05	73.39	76.82	79.92	V-THETA 2A
	M 2	0.7204	0.6667	0.6535	0.6499	0.6330	0.6188	0.5872	0.5668	0.5654	M 2
	M 2A	0.4537	0.4488	0.4553	0.4930	0.5161	0.4922	0.4448	0.4424	0.4419	M 2A
	TURN(PR)	53.220	49.566	45.606	38.953	35.353	32.756	37.266	41.703	45.009	TURN(PR)
	UUBAR	0.2382	0.1999	0.1760	0.1519	0.0600	0.1303	0.1623	0.1930	0.1935	UUBAR
	LOSS PARA	0.0980	0.0829	0.0738	0.0657	0.0270	0.0607	0.0775	0.0930	0.0939	LOSS PARA
	DFAC	0.6799	0.6263	0.5887	0.5019	0.4359	0.4500	0.5255	0.5301	0.5491	DFAC
	EFFP	0.5398	0.6535	0.6730	0.7221	0.8104	0.6013	0.4659	0.4888	0.4403	EFFP
	EFF	-0.0000	-0.0000	0.0017	-0.0000**********		-0.0000**********				EFF
	INCID	-9.220	-8.554	-9.254	-10.937	-12.417	-15.534	-13.684	-10.727	-9.271	INCID
	DEVM	26.280	24.650	22.940	18.880	17.980	21.910	25.470	26.820	28.420	DEVM
	P 2	20.230	19.800	19.640	19.945	19.750	19.620	19.020	19.090	19.050	P 2
	P 2A	18.914	18.788	18.785	19.182	19.472	19.053	18.428	18.383	18.359	P 2A
	T 2	581.700	579.300	576.300	573.200	570.680	570.470	572.080	573.780	575.380	T 2
	T 2A	581.700	579.300	576.300	573.200	570.680	570.470	572.080	573.780	575.380	T 2A

Table B-4. Blade Element Performance (Continued)

PERCENT EQUIVALENT DESIGN SPEED = 100.38 EQUIVALENT ROTOR SPEED = 4226.00 CORRECTED WEIGHT FLOW = 107.81 PRESSURE RATIO =1.2845

INLET	PCT SPAN	96.42	91.17	86.46	70.64	49.46	29.30	13.25	8.59	3.28	PCT SPAN
	DIA	33.150	33.590	33.985	35.310	37.085	38.775	40.120	40.510	40.955	DIA
STATION 0	BETA 0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	BETA 0
STATION 1	BETA 1	-0.500	-0.500	-0.500	-0.500	-0.500	-0.500	-0.500	-0.500	-0.500	BETA 1
	V 0	420.55	420.55	420.55	420.55	420.55	420.55	420.55	420.55	420.55	V 0
	V 1	441.04	465.63	474.82	482.19	480.11	464.37	448.67	441.09	407.63	V 1
	VZ 0	420.55	420.55	420.55	420.55	420.55	420.55	420.55	420.55	420.55	VZ 0
	VZ 1	441.02	465.61	474.73	482.09	479.80	464.07	448.49	440.93	407.58	VZ 1
	V-THETA 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	V-THETA 0
	V-THETA 1	-3.85	-4.06	-4.14	-4.21	-4.19	-4.05	-3.91	-3.85	-3.56	V-THETA 1
	M 0	0.3822	0.3822	0.3822	0.3822	0.3822	0.3822	0.3822	0.3822	0.3822	M 0
	M 1	0.4014	0.4245	0.4332	0.4402	0.4382	0.4233	0.4085	0.4014	0.3701	M 1
	TURN	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	TURN
	UUBAR	0.1732	0.0234	-0.0000	-0.0000	-0.0000	-0.0000	0.0021	0.0206	0.1590	UUBAR
	DFAC	-0.049	-0.107	-0.129	-0.147	-0.142	-0.104	-0.067	-0.049	0.031	DFAC
	EFFP	0.3785	0.9115	1.0000	1.0000	1.0000	1.0000	0.9856	0.8383	-0.6736	EFFP
	INCID	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	INCID
	DEVM	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	DEVM
	P 0	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	P 0
	P 1	14.450	14.661	14.694	14.694	14.694	14.694	14.691	14.665	14.470	P 1
	T 0	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 0
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
ROTOR 5	PCT SPAN	95.01	90.00	85.01	70.01	50.01	30.01	15.02	10.01	5.02	PCT SPAN
	DIA	33.233	33.617	34.000	35.150	36.684	38.218	39.368	39.752	40.135	DIA
STATION 1	BETA 1	-0.500	-0.500	-0.500	-0.500	-0.500	-0.500	-0.500	-0.500	-0.500	BETA 1
STATION 2	BETA 2	59.230	56.500	52.000	44.120	41.080	40.690	48.050	53.350	56.930	BETA 2
	BETA(PR) 1	54.360	53.246	53.036	53.659	55.109	57.162	58.908	59.576	61.757	BETA(PR) 1
	BETA(PR) 2	-10.056	-0.464	6.543	14.905	21.480	25.879	29.607	29.182	28.961	BETA(PR) 2
	V 1	441.04	465.63	474.82	482.19	480.11	464.37	448.67	441.09	407.63	V 1
	V 2	797.39	747.40	730.21	730.75	709.62	691.50	646.42	645.66	649.34	V 2
	VZ 1	441.02	465.61	474.73	482.09	479.80	464.07	448.49	440.93	407.58	VZ 1
	VZ 2	407.94	412.50	449.54	524.43	534.62	523.97	431.89	385.28	354.24	VZ 2
	V-THETA 1	-3.85	-4.06	-4.14	-4.21	-4.19	-4.05	-3.91	-3.85	-3.56	V-THETA 1
	V-THETA 2	685.14	623.22	575.38	508.56	466.05	450.53	480.50	517.84	544.02	V-THETA 2
	V(PR) 1	756.9	778.1	789.5	813.6	839.0	855.9	868.5	870.8	861.3	V(PR) 1
	V(PR) 2	414.3	412.6	452.6	543.0	575.0	582.9	497.2	441.6	405.1	V(PR) 2
	VTHETA PR1	-615.1	-623.4	-630.8	-655.3	-688.0	-719.0	-743.7	-750.8	-758.7	VTHETA PR1
	VTHETA PR2	72.3	3.3	-51.6	-139.6	-210.4	-254.2	-245.4	-215.2	-196.0	VTHETA PR2
	U 1	611.27	619.38	626.66	651.10	683.83	714.99	739.79	746.98	755.19	U 1
	U 2	612.80	619.88	626.94	648.15	676.43	704.72	725.92	733.00	740.07	U 2
	M 1	0.4014	0.4245	0.4332	0.4402	0.4382	0.4233	0.4085	0.4014	0.3701	M 1
	M 2	0.7069	0.6604	0.6458	0.6484	0.6293	0.6116	0.5682	0.5664	0.5688	M 2
	M(PR) 1	0.6888	0.7095	0.7204	0.7427	0.7658	0.7803	0.7909	0.7925	0.7820	M(PR) 1
	M(PR) 2	0.3673	0.3646	0.4002	0.4818	0.5099	0.5155	0.4371	0.3874	0.3549	M(PR) 2
	TURN(PR)	64.417	53.711	46.490	38.758	33.631	31.294	29.321	30.409	32.812	TURN(PR)
	UUBAR	0.2941	0.3364	0.2820	0.1370	0.0878	0.1008	0.2611	0.3351	0.3513	UUBAR
	LOSS PARA	0.1140	0.1346	0.1128	0.0551	0.0355	0.0410	0.1059	0.1378	0.1461	LOSS PARA
	DFAC	0.8114	0.7505	0.7225	0.5944	0.5569	0.5577	0.6852	0.7724	0.8289	DFAC
	EFFP	0.8972	0.8047	0.8136	0.8939	0.9257	0.9024	0.8022	0.7828	0.8111	EFFP
	EFF	0.8917	0.7959	0.8055	0.8891	0.9224	0.8981	0.7941	0.7738	0.8028	EFF
	INCID	-6.040	-6.654	-6.668	-6.715	-8.127	-10.924	-13.901	-14.782	-14.845	INCID
	DEVM	20.544	22.536	23.542	17.296	14.462	16.002	19.178	18.959	19.292	DEVM
	P 1	14.450	14.661	14.694	14.694	14.694	14.694	14.691	14.665	14.470	P 1
	P 2	20.800	20.033	19.852	20.073	20.065	20.002	19.467	19.493	19.618	P 2
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
	T 2	582.500	579.500	576.500	573.080	571.050	571.900	573.400	575.480	577.400	T 2
STATOR 5	PCT SPAN	94.40	90.62	85.08	70.31	50.14	29.97	15.27	9.94	5.18	PCT SPAN
	DIA	33.250	33.520	33.915	34.970	36.410	37.850	38.900	39.280	39.620	DIA
STATION 2	BETA 2	59.230	56.500	52.000	44.120	41.080	40.690	48.050	53.350	56.930	BETA 2
STATION 2A	BETA 2A	2.800	3.310	3.750	3.550	4.450	6.560	7.450	7.650	7.820	BETA 2A
	V 2	797.39	747.40	730.21	730.75	709.62	691.50	646.42	645.66	649.34	V 2
	V 2A	490.39	490.06	493.45	531.99	563.02	539.82	486.50	494.05	501.07	V 2A
	VZ 2	407.94	412.50	449.54	524.43	534.62	523.97	431.89	385.28	354.24	VZ 2
	VZ 2A	489.80	489.24	492.40	530.97	561.32	536.29	482.40	489.65	496.41	VZ 2A
	V-THETA 2	685.14	623.22	575.38	508.56	466.05	450.53	480.50	517.84	544.02	V-THETA 2
	V-THETA 2A	23.96	28.29	32.27	32.94	43.68	61.67	63.08	65.77	68.18	V-THETA 2A
	M 2	0.7069	0.6604	0.6458	0.6484	0.6293	0.6116	0.5682	0.5664	0.5688	M 2
	M 2A	0.4218	0.4227	0.4268	0.4630	0.4922	0.4706	0.4218	0.4278	0.4333	M 2A
	TURN(PR)	56.430	53.186	48.246	40.552	36.603	34.096	40.566	45.674	49.090	TURN(PR)
	UUBAR	0.2188	0.2098	0.1693	0.1393	0.0690	0.1310	0.1877	0.2001	0.1976	UUBAR
	LOSS PARA	0.0902	0.0871	0.0711	0.0603	0.0310	0.0611	0.0898	0.0966	0.0962	LOSS PARA
	DFAC	0.7271	0.6760	0.6378	0.5553	0.4768	0.4852	0.5616	0.5788	0.5917	DFAC
	EFFP	0.5890	0.6918	0.7057	0.7105	0.8086	0.6445	0.5514	0.5258	0.4672	EFFP
	EFF	-0.0000	-0.0000	0.0017	-0.0000	**********	-0.0000	**********	**********	**********	EFF
	INCID	-7.070	-5.854	-7.204	-9.547	-10.897	-14.374	-11.184	-7.776	-6.390	INCID
	DEVM	25.220	23.730	22.350	18.670	18.250	21.730	24.670	25.800	27.220	DEVM
	P 2	20.240	20.090	19.775	19.975	20.000	19.865	19.335	19.408	19.420	P 2
	P 2A	19.072	19.011	18.966	19.300	19.680	19.298	18.641	18.662	18.695	P 2A
	T 2	582.500	579.500	576.500	573.080	571.050	571.900	573.400	575.480	577.400	T 2
	T 2A	582.500	579.500	576.500	573.080	571.050	571.900	573.400	575.480	577.400	T 2A

Table B-4. Blade Element Performance (Continued)

PERCENT EQUIVALENT DESIGN SPEED = 100.19 EQUIVALENT ROTOR SPEED = 4218.00 CORRECTED WEIGHT FLOW = 107.66 PRESSURE RATIO =1.2854

INLET	PCT SPAN	96.42	91.17	86.46	70.64	49.46	29.30	13.25	8.59	3.28	PCT SPAN
	DIA	33.150	33.590	33.985	35.310	37.085	38.775	40.120	40.510	40.955	DIA
STATION 0	BETA 0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	BETA 0
STATION 1	BETA 1	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	BETA 1
	V 0	419.87	419.87	419.87	419.87	419.87	419.87	419.87	419.87	419.87	V 0
	V 1	449.20	469.26	476.26	484.99	480.77	467.25	452.09	448.67	403.30	V 1
	VZ 0	419.87	419.87	419.87	419.87	419.87	419.87	419.87	419.87	419.87	VZ 0
	VZ 1	449.19	469.24	476.17	484.91	480.46	466.96	451.93	448.51	403.25	VZ 1
	V-THETA 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	V-THETA 0
	V-THETA 1	-3.14	-3.28	-3.32	-3.39	-3.35	-3.26	-3.16	-3.13	-2.82	V-THETA 1
	M 0	0.3815	0.3815	0.3815	0.3815	0.3815	0.3815	0.3815	0.3815	0.3815	M 0
	M 1	0.4091	0.4280	0.4346	0.4429	0.4389	0.4261	0.4118	0.4085	0.3661	M 1
	TURN	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	TURN
	UUBAR	0.1702	0.0328	0.0135	0.0021	0.0043	0.0078	0.0178	0.0221	0.2343	UUBAR
	DFAC	-0.070	-0.118	-0.134	-0.155	-0.145	-0.113	-0.077	-0.069	0.039	DFAC
	EFFP	0.4737	0.8903	0.9576	0.9940	0.9873	0.9702	0.9053	0.8727	-0.5332	EFFP
	INCID	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	INCID
	DEVM	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	DEVM
	P 0	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	P 0
	P 1	14.455	14.648	14.675	14.691	14.688	14.683	14.669	14.663	14.365	P 1
	T 0	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 0
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
ROTOR 5	PCT SPAN	95.01	90.00	85.01	70.01	50.01	30.01	15.02	10.01	5.02	PCT SPAN
	DIA	33.233	33.617	34.000	35.150	36.684	38.218	39.368	39.752	40.135	DIA
STATION 1	BETA 1	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	BETA 1
STATION 2	BETA 2	59.530	56.850	51.860	44.350	40.910	41.340	48.930	53.040	56.320	BETA 2
	BETA(PR) 1	53.778	52.946	52.864	53.413	54.989	56.921	58.640	59.076	61.942	BETA(PR) 1
	BETA(PR) 2	-12.368	-1.370	6.236	15.055	21.752	25.838	29.466	27.526	28.494	BETA(PR) 2
	V 1	449.20	469.26	476.26	484.99	480.77	467.25	452.09	448.67	403.30	V 1
	V 2	814.76	750.74	732.78	725.98	706.30	687.30	644.32	657.92	652.01	V 2
	VZ 1	449.19	469.24	476.17	484.91	480.46	466.96	451.93	448.51	403.25	VZ 1
	VZ 2	413.15	410.51	452.53	518.97	533.49	515.68	423.09	395.44	361.49	VZ 2
	V-THETA 1	-3.14	-3.28	-3.32	-3.39	-3.35	-3.26	-3.16	-3.13	-2.82	V-THETA 1
	V-THETA 2	702.24	628.52	576.30	507.33	462.29	453.68	485.51	525.53	542.44	V-THETA 2
	V(PR) 1	76C.2	778.7	788.8	813.6	837.6	855.7	868.5	872.8	857.3	V(PR) 1
	V(PR) 2	423.0	410.7	455.3	537.7	574.9	573.5	486.4	446.3	411.6	V(PR) 2
	VTHETA PR1	-613.2	-621.5	-628.8	-653.2	-685.9	-716.9	-741.5	-748.7	-756.6	VTHETA PR1
	VTHETA PR2	90.6	9.8	-49.4	-139.6	-212.9	-249.7	-239.0	-206.1	-196.2	VTHETA PR2
	U 1	610.11	618.21	625.48	649.86	682.53	713.63	738.39	745.57	753.76	U 1
	U 2	611.64	618.70	625.75	646.92	675.15	703.38	724.55	731.62	738.66	U 2
	M 1	0.4091	0.4280	0.4346	0.4429	0.4389	0.4261	0.4118	0.4085	0.3661	M 1
	M 2	0.7236	0.6632	0.6486	0.6436	0.6266	0.6080	0.5662	0.5781	0.5719	M 2
	M(PR) 1	0.6922	0.7102	0.7198	0.7429	0.7646	0.7803	0.7910	0.7948	0.7782	M(PR) 1
	M(PR) 2	0.3756	0.3628	0.4030	0.4767	0.5100	0.5073	0.4274	0.3921	0.3610	M(PR) 2
	TURN(PR)	66.146	54.315	46.625	38.363	33.239	31.095	29.195	31.564	33.465	TURN(PR)
	UUBAR	0.2796	0.3340	0.2716	0.1418	0.0864	0.1101	0.2629	0.3162	0.3172	UUBAR
	LOSS PARA	0.1075	0.1330	0.1087	0.0570	0.0349	0.0449	0.1067	0.1320	0.1325	LOSS PARA
	DFAC	0.8093	0.7558	0.7188	0.5999	0.5540	0.5698	0.6999	0.7713	0.8193	DFAC
	EFFP	0.9234	0.8818	0.8305	0.8794	0.9271	0.9073	0.8045	0.8195	0.8555	EFFP
	EFF	0.9192	0.7528	0.8231	0.8740	0.9239	0.9032	0.7965	0.8118	0.8489	EFF
	INCID	-6.622	-6.954	-6.840	-6.961	-8.248	-11.165	-14.169	-15.282	-14.660	INCID
	DEVM	18.632	21.630	23.235	17.446	14.733	15.961	19.037	17.303	18.825	DEVM
	P 1	14.455	14.648	14.675	14.691	14.688	14.683	14.669	14.663	14.365	P 1
	P 2	21.086	20.065	19.885	19.995	19.992	19.946	19.473	19.715	19.700	P 2
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
	T 2	582.980	580.250	575.850	573.340	570.400	571.230	573.600	575.100	576.400	T 2
STATOR 5	PCT SPAN	94.40	90.62	85.08	70.31	50.14	29.97	15.27	9.94	5.18	PCT SPAN
	DIA	33.250	33.520	33.915	34.970	36.410	37.850	38.900	39.280	39.620	DIA
STATION 2	BETA 2	59.530	56.850	51.860	44.350	40.910	41.340	48.930	53.040	56.320	BETA 2
STATION 2A	BETA 2A	2.870	3.320	3.600	3.560	4.490	6.530	7.480	7.680	7.780	BETA 2A
	V 2	814.76	750.74	732.78	725.98	706.30	687.30	644.32	657.92	652.01	V 2
	V 2A	492.70	481.23	504.18	526.48	563.87	536.29	491.65	490.82	494.89	V 2A
	VZ 2	413.15	410.51	452.53	518.97	533.49	515.68	423.09	395.44	361.49	VZ 2
	VZ 2A	492.08	480.42	503.18	525.46	562.14	532.81	487.47	486.42	490.34	VZ 2A
	V-THETA 2	702.24	628.52	576.30	507.33	462.29	453.68	485.51	525.53	542.44	V-THETA 2
	V-THETA 2A	24.67	27.87	31.66	32.69	44.14	60.99	64.00	65.59	66.99	V-THETA 2A
	M 2	0.7236	0.6632	0.6486	0.6436	0.6266	0.6080	0.5662	0.5781	0.5719	M 2
	M 2A	0.4237	0.4145	0.4367	0.4579	0.4932	0.4677	0.4263	0.4250	0.4282	M 2A
	TURN(PR)	56.660	53.526	48.256	40.772	36.393	34.776	41.416	45.334	48.520	TURN(PR)
	UUBAR	0.2147	0.2037	0.1762	0.1387	0.0658	0.1354	0.1670	0.1941	0.1940	UUBAR
	LOSS PARA	0.0884	0.0845	0.0740	0.0601	0.0296	0.0632	0.0799	0.0937	0.0945	LOSS PARA
	DFAC	0.7384	0.6924	0.6253	0.5594	0.4704	0.4898	0.5553	0.5974	0.6025	DFAC
	EFFP	0.5598	0.6704	0.7360	0.7253	0.8373	0.6638	0.5725	0.4725	0.4591	EFFP
	EFF	-0.0000	-0.0000	0.0017	-0.0000	**********	-0.0000	**********	**********	**********	EFF
	INCID	-6.770	-5.504	-7.344	-9.317	-11.067	-13.724	-10.304	-8.086	-7.000	INCID
	DEVM	25.290	23.740	22.200	18.680	18.290	21.700	24.700	25.830	27.180	DEVM
	P 2	20.250	19.950	19.985	19.934	19.980	19.875	19.330	19.393	19.410	P 2
	P 2A	19.097	18.929	19.104	19.268	19.675	19.288	18.718	18.680	18.706	P 2A
	T 2	582.980	580.250	575.850	573.340	570.400	571.230	573.600	575.100	576.400	T 2
	T 2A	582.980	580.250	575.850	573.340	570.400	571.230	573.600	575.100	576.400	T 2A

Table B-4. Blade Element Performance (Continued)

PERCENT EQUIVALENT DESIGN SPEED = 99.74 EQUIVALENT ROTOR SPEED = 4199.00 CORRECTED WEIGHT FLOW = 106.26 PRESSURE RATIO =1.2854

INLET	PCT SPAN	96.42	91.17	86.46	70.64	49.46	29.30	13.25	8.59	3.28	PCT SPAN
	DIA	33.150	33.590	33.985	35.310	37.085	38.775	40.120	40.510	40.955	DIA
STATION 0	BETA 0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	BETA 0
STATION 1	BETA 1	-0.200	-0.200	-0.200	-0.200	-0.200	-0.200	-0.200	-0.200	-0.200	BETA 1
	V 0	413.47	413.47	413.47	413.47	413.47	413.47	413.47	413.47	413.47	V 0
	V 1	422.52	457.70	461.66	474.59	468.90	457.41	435.91	429.50	396.99	V 1
	VZ 0	413.47	413.47	413.47	413.47	413.47	413.47	413.47	413.47	413.47	VZ 0
	VZ 1	422.51	457.70	461.59	474.51	468.61	457.13	435.76	429.75	396.95	VZ 1
	V-THETA 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	V-THETA 0
	V-THETA 1	-1.48	-1.60	-1.61	-1.66	-1.64	-1.60	-1.52	-1.50	-1.39	V-THETA 1
	M 0	0.3756	0.3756	0.3756	0.3756	0.3756	0.3756	0.3756	0.3756	0.3756	M 0
	M 1	0.3840	0.4171	0.4208	0.4330	0.4276	0.4168	0.3966	0.3909	0.3602	M 1
	TURN	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	TURN
	UUBAR	0.2450	0.0227	0.0066	0.0022	0.0059	0.0095	0.0095	0.0183	0.1717	UUBAR
	DFAC	-0.022	-0.107	-0.117	-0.148	-0.134	-0.106	-0.054	-0.040	0.040	DFAC
	EFFP	0.1556	0.9135	0.9755	0.9935	0.9812	0.9615	0.9254	0.8248	-0.9231	EFFP
	INCID	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	INCID
	DEVM	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	DEVM
	P 0	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	P 0
	P 1	14.360	14.663	14.685	14.691	14.686	14.681	14.681	14.669	14.460	P 1
	T 0	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 0
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
ROTOR 5	PCT SPAN	95.01	90.00	85.01	70.01	50.01	30.01	15.02	10.01	5.02	PCT SPAN
	DIA	33.233	33.617	34.000	35.150	36.684	38.218	39.368	39.752	40.135	DIA
STATION 1	BETA 1	-0.200	-0.200	-0.200	-0.200	-0.200	-0.200	-0.200	-0.200	-0.200	BETA 1
STATION 2	BETA 2	59.810	57.000	52.320	44.320	40.960	41.610	51.600	55.500	57.650	BETA 2
	BETA(PR) 1	55.241	53.432	53.521	53.811	55.471	57.299	59.392	59.979	62.164	BETA(PR) 1
	BETA(PR) 2	-12.586	-1.135	5.540	14.269	21.315	24.947	28.074	27.300	29.964	BETA(PR) 2
	V 1	422.52	457.70	461.66	474.59	468.90	457.41	435.91	429.90	396.99	V 1
	V 2	813.58	744.00	732.28	731.54	707.72	692.46	647.20	652.54	637.74	V 2
	VZ 1	422.51	457.70	461.59	474.51	468.61	457.13	435.76	429.75	396.95	VZ 1
	VZ 2	409.12	405.19	447.58	523.22	534.16	517.40	401.82	369.49	341.18	VZ 2
	V-THETA 1	-1.48	-1.60	-1.61	-1.66	-1.64	-1.60	-1.52	-1.50	-1.39	V-THETA 1
	V-THETA 2	703.23	623.94	579.52	510.94	463.68	459.53	506.97	537.61	538.64	V-THETA 2
	V(PR) 1	741.1	768.2	776.4	803.7	826.9	846.3	855.9	859.0	850.1	V(PR) 1
	V(PR) 2	419.9	405.3	449.7	540.2	573.9	571.2	455.8	416.1	394.0	V(PR) 2
	VTHETA PR1	-608.8	-617.0	-624.3	-648.6	-681.1	-712.0	-736.6	-743.7	-751.7	VTHETA PR1
	VTHETA PR2	94.3	8.0	-43.4	-133.1	-208.4	-240.7	-214.3	-190.7	-196.7	VTHETA PR2
	U 1	607.36	615.42	622.66	646.94	679.46	710.42	735.06	742.21	750.36	U 1
	U 2	608.88	615.92	622.93	644.00	672.11	700.21	721.28	728.32	735.34	U 2
	M 1	0.3840	0.4171	0.4208	0.4330	0.4276	0.4168	0.3966	0.3909	0.3602	M 1
	M 2	0.7220	0.6565	0.6470	0.6488	0.6273	0.6122	0.5686	0.5722	0.5577	M 2
	M(PR) 1	0.6735	0.7000	0.7077	0.7333	0.7541	0.7711	0.7786	0.7811	0.7713	M(PR) 1
	M(PR) 2	0.3726	0.3576	0.3974	0.4791	0.5087	0.5050	0.4005	0.3649	0.3446	M(PR) 2
	TURN(PR)	68.226	54.567	47.977	39.546	34.157	32.361	31.338	32.693	32.217	TURN(PR)
	UUBAR	0.2433	0.3309	0.2744	0.1272	0.0737	0.1003	0.3019	0.3528	0.3500	UUBAR
	LOSS PARA	0.0933	0.1318	0.1100	0.0513	0.0298	0.0412	0.1242	0.1476	0.1442	LOSS PARA
	DFAC	0.8083	0.7968	0.7223	0.5928	0.5492	0.5700	0.7419	0.8084	0.8355	DFAC
	EFFP	0.9418	0.7500	0.8048	0.8884	0.9184	0.9049	0.8010	0.7837	0.7886	EFFP
	EFF	0.9385	0.7805	0.7962	0.8834	0.9147	0.9006	0.7928	0.7746	0.7795	EFF
	INCID	-5.159	-6.468	-6.183	-6.564	-7.766	-10.787	-13.417	-14.380	-14.438	INCID
	DEVM	18.014	21.865	22.539	16.660	14.297	15.071	17.645	17.077	20.295	DEVM
	P 1	14.360	14.663	14.685	14.691	14.686	14.681	14.681	14.669	14.460	P 1
	P 2	21.180	20.031	19.901	20.098	20.046	20.051	19.512	19.628	19.500	P 2
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
	T 2	583.600	580.650	577.800	573.700	571.420	572.350	574.100	576.800	578.050	T 2
STATOR 5	PCT SPAN	94.40	90.62	85.08	70.31	50.14	29.97	15.27	9.94	5.18	PCT SPAN
	DIA	33.250	33.520	33.915	34.970	36.410	37.850	38.900	39.280	39.620	DIA
STATION 2	BETA 2	59.810	57.000	52.320	44.320	40.960	41.610	51.600	55.500	57.650	BETA 2
STATION 2A	BETA 2A	2.170	3.420	4.240	4.210	4.430	6.020	6.770	6.780	6.730	BETA 2A
	V 2	813.58	744.00	732.28	731.54	707.72	692.46	647.20	652.54	637.74	V 2
	V 2A	493.49	492.71	500.97	534.18	575.77	543.09	492.90	491.60	494.82	V 2A
	VZ 2	409.12	405.19	447.58	523.22	534.16	517.40	401.82	369.49	341.18	VZ 2
	VZ 2A	493.14	491.83	499.60	532.74	574.05	540.09	489.46	488.16	491.41	VZ 2A
	V-THETA 2	703.23	623.94	579.52	510.94	463.68	459.53	506.97	537.61	538.64	V-THETA 2
	V-THETA 2A	18.69	29.39	37.04	39.22	44.47	56.96	58.10	58.04	57.99	V-THETA 2A
	M 2	0.7220	0.6565	0.6470	0.6488	0.6273	0.6122	0.5686	0.5722	0.5577	M 2
	M 2A	0.4242	0.4246	0.4331	0.4647	0.5037	0.4734	0.4273	0.4251	0.4275	M 2A
	TURN(PR)	57.640	53.576	48.076	40.093	36.503	35.556	44.797	48.694	50.900	TURN(PR)
	UUBAR	0.2370	0.2314	0.1987	0.1458	0.0693	0.1333	0.1933	0.2086	0.2104	UUBAR
	LOSS PARA	0.0977	0.0960	0.0833	0.0631	0.0312	0.0622	0.0927	0.1010	0.1027	LOSS PARA
	DFAC	0.7406	0.6708	0.6282	0.5505	0.4554	0.4905	0.5758	0.6076	0.5977	DFAC
	EFFP	0.5151	0.6633	0.6803	0.6916	0.8404	0.6259	0.5530	0.4912	0.5076	EFFP
	EFF	-0.0000	-0.0000	0.0017	-0.0000**********		-0.0000**********				EFF
	INCID	-6.490	-5.354	-6.884	-9.347	-11.017	-13.454	-7.633	-5.625	-5.670	INCID
	DEVM	24.590	23.846	22.840	19.330	18.230	21.190	23.990	24.930	26.130	DEVM
	P 2	20.260	20.135	19.930	19.985	20.080	19.895	19.440	19.455	19.470	P 2
	P 2A	19.006	18.946	18.954	19.279	19.754	19.318	18.711	18.676	18.695	P 2A
	T 2	583.600	580.650	577.800	573.700	571.420	572.350	574.100	576.800	578.050	T 2
	T 2A	583.600	580.650	577.800	573.700	571.420	572.350	574.100	576.800	578.050	T 2A

Table B-4. Blade Element Performance (Continued)

PERCENT EQUIVALENT DESIGN SPEED = 100.21 EQUIVALENT ROTOR SPEED = 4219.00 CORRECTED WEIGHT FLOW = 103.43 PRESSURE RATIO =1.2997

INLET	PCT SPAN	96.42	91.17	86.46	70.64	49.46	29.30	13.25	8.59	3.28	PCT SPAN
	DIA	33.150	33.590	33.985	35.310	37.085	38.775	40.120	40.510	40.955	DIA
STATION 0	BETA 0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	BETA 0
STATION 1	BETA 1	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	BETA 1
	V 0	400.69	400.69	400.69	400.69	400.69	400.69	400.69	400.69	400.69	V 0
	V 1	426.79	450.66	454.26	459.54	454.48	441.57	418.11	412.70	382.81	V 1
	VZ 0	400.69	400.69	400.69	400.69	400.69	400.69	400.69	400.69	400.69	VZ 0
	VZ 1	426.77	450.65	454.18	459.46	454.20	441.29	417.96	412.55	382.77	VZ 1
	V-THETA 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	V-THETA 0
	V-THETA 1	-2.98	-3.15	-3.17	-3.21	-3.17	-3.08	-2.92	-2.88	-2.67	V-THETA 1
	M 0	0.3636	0.3636	0.3636	0.3636	0.3636	0.3636	0.3636	0.3636	0.3636	M 0
	M 1	0.3680	0.4104	0.4138	0.4188	0.4140	0.4019	0.3799	0.3748	0.3470	M 1
	TURN	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	TURN
	UUBAR	0.1590	0.0140	0.0047	0.0016	0.0016	0.0016	0.0070	0.0109	0.1590	UUBAR
	DFAC	-0.065	-0.125	-0.134	-0.147	-0.134	-0.102	-0.043	-0.030	0.045	DFAC
	EFFP	0.4713	0.9524	0.9848	0.9953	0.9949	0.9932	0.9306	0.8552	-1.3634	EFFP
	INCID	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	INCID
	DEVM	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	DEVM
	P 0	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	P 0
	P 1	14.490	14.676	14.688	14.692	14.692	14.692	14.685	14.680	14.490	P 1
	T 0	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 0
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
ROTOR 5	PCT SPAN	95.01	90.00	85.01	70.01	50.01	30.01	15.02	10.01	5.02	PCT SPAN
	DIA	33.233	33.617	34.000	35.150	36.684	38.218	39.368	39.752	40.135	DIA
STATION 1	BETA 1	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	BETA 1
STATION 2	BETA 2	61.320	58.180	53.610	45.820	41.930	42.940	54.400	57.570	58.680	BETA 2
	BETA(PR) 1	55.164	54.054	54.160	54.879	56.487	58.385	60.591	61.142	63.165	BETA(PR) 1
	BETA(PR) 2	-15.045	-3.098	6.005	14.987	21.286	25.557	29.581	30.547	31.985	BETA(PR) 2
	V 1	426.79	450.66	454.26	459.54	454.48	441.57	418.11	412.70	382.81	V 1
	V 2	817.55	753.65	721.61	716.22	705.24	682.63	634.01	630.74	626.85	V 2
	VZ 1	426.77	450.65	454.18	459.46	454.20	441.29	417.96	412.55	382.77	VZ 1
	VZ 2	392.36	397.35	428.10	498.99	524.39	499.42	368.92	338.15	325.78	VZ 2
	V-THETA 1	-2.98	-3.15	-3.17	-3.21	-3.17	-3.08	-2.92	-2.88	-2.67	V-THETA 1
	V-THETA 2	717.25	640.36	580.87	513.48	471.01	464.73	515.30	532.23	535.39	V-THETA 2
	V(PR) 1	747.1	767.7	775.7	798.7	822.8	842.0	851.2	854.8	847.9	V(PR) 1
	V(PR) 2	406.3	396.0	430.5	516.9	563.3	554.1	424.6	392.9	384.3	V(PR) 2
	VTHETA PR1	-613.2	-621.5	-628.8	-653.2	-685.9	-716.9	-741.5	-748.6	-756.6	VTHETA PR1
	VTHETA PR2	105.5	21.5	-45.0	-133.6	-204.3	-238.8	-209.4	-199.6	-203.4	VTHETA PR2
	U 1	610.25	618.35	625.62	650.02	682.69	713.80	738.56	745.74	753.93	U 1
	U 2	611.78	618.85	625.90	647.07	675.31	703.55	724.72	731.79	738.84	U 2
	M 1	0.3680	0.4104	0.4138	0.4188	0.4140	0.4019	0.3799	0.3748	0.3470	M 1
	M 2	0.7257	0.6655	0.6363	0.6334	0.6241	0.6027	0.5561	0.5519	0.5472	M 2
	M(PR) 1	0.6792	0.6991	0.7066	0.7278	0.7495	0.7663	0.7734	0.7764	0.7686	M(PR) 1
	M(PR) 2	0.3607	0.3514	0.3796	0.4571	0.4984	0.4892	0.3724	0.3438	0.3355	M(PR) 2
	TURN(PR)	70.210	57.152	48.151	39.896	35.203	32.839	31.031	30.611	31.198	TURN(PR)
	UUBAR	0.2748	0.3234	0.2804	0.1423	0.0690	0.1044	0.3141	0.3539	0.3367	UUBAR
	LOSS PARA	0.1045	0.1286	0.1123	0.0572	0.0280	0.0427	0.1274	0.1435	0.1358	LOSS PARA
	DFAC	0.8362	0.8155	0.7483	0.6216	0.5645	0.5916	0.7825	0.8324	0.8455	DFAC
	EFFP	0.9448	0.8257	0.7992	0.8715	0.9221	0.9146	0.8126	0.7836	0.7935	EFFP
	EFF	0.9416	0.8174	0.7904	0.8657	0.9184	0.9107	0.8047	0.7745	0.7845	EFF
	INCID	-5.236	-5.846	-5.545	-5.495	-6.750	-9.701	-12.217	-13.216	-13.437	INCID
	DEVM	15.955	19.502	23.005	17.379	14.268	15.680	19.152	20.323	22.315	DEVM
	P 1	14.490	14.676	14.688	14.692	14.692	14.692	14.685	14.680	14.490	P 1
	P 2	21.422	20.375	19.942	20.099	20.242	20.175	19.631	19.637	19.655	P 2
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
	T 2	583.800	581.060	578.620	574.820	572.850	572.720	574.440	576.750	578.880	T 2
STATOR 5	PCT SPAN	94.40	90.62	85.08	70.31	50.14	29.97	15.27	9.94	5.18	PCT SPAN
	DIA	33.250	33.520	33.915	34.970	36.410	37.850	38.900	39.280	39.620	DIA
STATION 2	BETA 2	61.320	58.180	53.610	45.820	41.930	42.940	54.400	57.570	58.680	BETA 2
STATION 2A	BETA 2A	1.780	2.480	3.480	4.200	5.420	6.190	6.380	6.470	6.460	BETA 2A
	V 2	817.55	753.65	721.61	716.22	705.24	682.63	634.01	630.74	626.85	V 2
	V 2A	458.00	468.79	480.67	502.71	544.52	510.79	463.58	463.67	470.94	V 2A
	VZ 2	392.36	397.35	428.10	498.99	524.39	499.42	368.92	338.15	325.78	VZ 2
	VZ 2A	457.78	468.36	479.78	501.36	542.08	507.82	460.71	460.72	467.95	VZ 2A
	V-THETA 2	717.25	640.36	580.87	513.48	471.01	464.73	515.30	532.23	535.39	V-THETA 2
	V-THETA 2A	14.23	20.12	29.18	36.82	51.43	55.08	51.51	52.25	52.99	V-THETA 2A
	M 2	0.7257	0.6655	0.6363	0.6334	0.6241	0.6027	0.5561	0.5519	0.5472	M 2
	M 2A	0.3926	0.4031	0.4146	0.4358	0.4745	0.4439	0.4009	0.4001	0.4058	M 2A
	TURN(PR)	59.540	55.716	50.126	41.602	36.483	36.716	47.987	51.075	52.260	TURN(PR)
	UUBAR	0.2102	0.2211	0.1772	0.1274	0.0641	0.1273	0.1661	0.2016	0.1869	UUBAR
	LOSS PARA	0.0867	0.0919	0.0744	0.0551	0.0288	0.0580	0.0797	0.0976	0.0913	LOSS PARA
	DFAC	0.7946	0.7209	0.6562	0.5878	0.4980	0.5354	0.6246	0.6386	0.6301	DFAC
	EFFP	0.5648	0.6955	0.7777	0.7521	0.8442	0.6738	0.6334	0.6036	0.5994	EFFP
	EFF	-0.0000	-0.0000	0.0017	-0.0000	**********	-0.0000	**********	**********	**********	EFF
	INCID	-4.580	-4.174	-5.594	-7.847	-10.047	-12.124	-4.832	-3.555	-4.640	INCID
	DEVM	24.200	22.880	22.080	19.320	19.220	21.360	23.600	24.620	25.860	DEVM
	P 2	20.373	20.430	20.150	20.010	20.200	20.000	19.530	19.640	19.630	P 2
	P 2A	19.262	19.260	19.270	19.415	19.903	19.463	18.929	18.899	18.958	P 2A
	T 2	583.800	581.060	578.620	574.820	572.850	572.720	574.440	576.750	578.880	T 2
	T 2A	583.800	581.060	578.620	574.820	572.850	572.720	574.440	576.750	578.880	T 2A

Table B-4. Blade Element Performance (Continued)

PERCENT EQUIVALENT DESIGN SPEED = 100.21 EQUIVALENT ROTOR SPEED = 4219.00 CORRECTED WEIGHT FLOW = 102.28 PRESSURE RATIO =1.2810

INLET	PCT SPAN	96.42	91.17	86.46	70.64	49.46	29.30	13.25	8.59	3.28	PCT SPAN
	DIA	33.150	33.590	33.985	35.310	37.085	38.775	40.120	40.510	40.955	DIA
STATION 0	BETA 0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	BETA 0
STATION 1	BETA 1	-0.200	-0.200	-0.200	-0.200	-0.200	-0.200	-0.200	-0.200	-0.200	BETA 1
	V 0	395.55	395.55	395.55	395.55	395.55	395.55	395.55	395.55	395.55	V 0
	V 1	429.56	445.71	449.15	459.43	453.50	437.02	412.56	404.49	364.73	V 1
	VZ 0	395.55	395.55	395.55	395.55	395.55	395.55	395.55	395.55	395.55	VZ 0
	VZ 1	429.55	445.71	449.08	459.35	453.22	436.75	412.42	404.35	364.69	VZ 1
	V-THETA 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	V-THETA 0
	V-THETA 1	-1.50	-1.56	-1.57	-1.60	-1.58	-1.52	-1.44	-1.41	-1.27	V-THETA 1
	M 0	0.3588	0.3588	0.3588	0.3588	0.3588	0.3588	0.3588	0.3588	0.3588	M 0
	M 1	0.3906	0.4058	0.4090	0.4187	0.4131	0.3976	0.3747	0.3672	0.3302	M 1
	TURN	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	TURN
	UUBAR	0.1542	0.0240	0.0048	0.0032	0.0032	0.0056	0.0208	0.0320	0.2182	UUBAR
	DFAC	-0.086	-0.127	-0.136	-0.161	-0.147	-0.105	-0.043	-0.023	0.078	DFAC
	EFFP	0.5506	0.9226	0.9847	0.9914	0.9905	0.9767	0.8174	0.6015	-2.5532	EFFP
	INCID	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	INCID
	DEVM	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	DEVM
	P 0	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	P 0
	P 1	14.501	14.664	14.688	14.690	14.690	14.687	14.668	14.654	14.421	P 1
	T 0	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 0
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
ROTOR 5	PCT SPAN	95.01	90.00	85.01	70.01	50.01	30.01	15.02	10.01	5.02	PCT SPAN
	DIA	33.233	33.617	34.000	35.150	36.684	38.218	39.368	39.752	40.135	DIA
STATION 1	BETA 1	-0.200	-0.200	-0.200	-0.200	-0.200	-0.200	-0.200	-0.200	-0.200	BETA 1
STATION 2	BETA 2	61.500	57.250	53.020	44.660	41.030	42.970	55.050	60.100	62.210	BETA 2
	BETA(PR) 1	54.925	54.284	54.397	54.818	56.482	58.593	60.868	61.578	64.224	BETA(PR) 1
	BETA(PR) 2	-16.588	-1.361	4.052	14.341	21.392	23.978	30.327	30.451	33.505	BETA(PR) 2
	V 1	429.56	445.71	449.15	459.43	453.50	437.02	412.56	404.49	364.73	V 1
	V 2	830.46	747.27	735.56	731.59	709.77	699.06	627.84	631.03	619.25	V 2
	VZ 1	429.55	445.71	449.08	459.35	453.22	436.75	412.42	404.35	364.69	VZ 1
	VZ 2	396.26	404.24	442.44	520.21	535.14	511.19	359.52	314.48	288.67	VZ 2
	V-THETA 1	-1.50	-1.56	-1.57	-1.60	-1.58	-1.52	-1.44	-1.41	-1.27	V-THETA 1
	V-THETA 2	729.82	628.45	587.57	514.07	465.68	476.19	514.41	546.91	547.74	V-THETA 2
	V(PR) 1	747.5	763.5	771.4	797.3	820.9	838.3	847.2	849.6	838.7	V(PR) 1
	V(PR) 2	413.5	404.4	444.2	537.3	575.2	560.0	416.9	365.1	346.4	V(PR) 2
	VTHETA PR1	-611.8	-615.9	-627.2	-651.6	-684.3	-715.3	-740.0	-747.2	-755.2	VTHETA PR1
	VTHETA PR2	118.0	9.6	-38.3	-133.0	-209.6	-227.4	-210.3	-184.9	-191.1	VTHETA PR2
	U 1	610.25	618.35	625.62	650.02	682.69	713.80	738.56	745.74	753.93	U 1
	U 2	611.78	618.85	625.90	647.07	675.31	703.55	724.72	731.79	738.84	U 2
	M 1	0.3906	0.4058	0.4090	0.4187	0.4131	0.3976	0.3747	0.3672	0.3302	M 1
	M 2	0.7370	0.6582	0.6487	0.6480	0.6290	0.6181	0.5500	0.5515	0.5399	M 2
	M(PR) 1	0.6797	0.6951	0.7025	0.7266	0.7478	0.7626	0.7695	0.7712	0.7594	M(PR) 1
	M(PR) 2	0.3669	0.3582	0.3917	0.4758	0.5097	0.4952	0.3652	0.3190	0.3020	M(PR) 2
	TURN(PR)	71.513	55.645	49.442	40.481	35.092	34.625	30.563	31.143	30.737	TURN(PR)
	UUBAR	0.2752	0.3183	0.2637	0.1151	0.0739	0.1432	0.3788	0.4408	0.4361	UUBAR
	LOSS PARA	0.1038	0.1267	0.1058	0.0464	0.0299	0.0592	0.1525	0.1790	0.1705	LOSS PARA
	DFAC	0.8325	0.7991	0.7319	0.5949	0.5453	0.5881	0.7892	0.8714	0.8951	DFAC
	EFFP	0.9316	0.7853	0.8028	0.8892	0.9199	0.8947	0.7338	0.7094	0.7262	EFFP
	EFF	0.9276	0.7754	0.7938	0.8841	0.9163	0.8900	0.7237	0.6982	0.7151	EFF
	INCID	-5.475	-5.616	-5.308	-5.556	-6.754	-9.492	-11.940	-12.780	-12.378	INCID
	DEVM	14.412	21.639	21.951	16.733	14.374	14.103	19.897	20.227	23.835	DEVM
	P 1	14.501	14.664	14.688	14.690	14.690	14.687	14.668	14.654	14.421	P 1
	P 2	21.570	20.214	20.118	20.253	20.114	20.057	19.125	19.181	19.105	P 2
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
	T 2	585.880	582.950	580.150	575.080	571.880	572.970	575.150	578.100	579.400	T 2
STATOR 5	PCT SPAN	94.40	90.02	85.08	70.31	50.14	29.97	15.27	9.94	5.18	PCT SPAN
	DIA	33.250	33.520	33.915	34.970	36.410	37.850	38.900	39.280	39.620	DIA
STATION 2	BETA 2	61.500	57.250	53.020	44.660	41.030	42.970	55.050	60.100	62.210	BETA 2
STATION 2A	BETA 2A	-0.060	2.500	5.770	5.730	5.320	5.470	5.390	5.340	5.320	BETA 2A
	V 2	830.46	747.27	735.56	731.59	709.77	699.06	627.84	631.03	619.25	V 2
	V 2A	496.26	499.62	528.44	542.89	589.14	541.52	489.62	490.89	483.63	V 2A
	VZ 2	396.26	404.24	442.44	520.21	535.14	511.19	359.52	314.48	288.67	VZ 2
	VZ 2A	496.26	498.54	525.76	540.18	586.60	539.06	487.46	488.76	481.55	VZ 2A
	V-THETA 2	729.82	628.45	587.57	514.07	465.68	476.19	514.41	546.91	547.74	V-THETA 2
	V-THETA 2A	-0.52	21.77	53.13	54.20	54.62	51.62	45.99	45.69	44.84	V-THETA 2A
	M 2	0.7370	0.6582	0.6487	0.6480	0.6290	0.6181	0.5500	0.5515	0.5399	M 2
	M 2A	0.4258	0.4293	0.4568	0.4720	0.5158	0.4717	0.4239	0.4239	0.4170	M 2A
	TURN(PR)	61.560	54.746	47.246	38.912	35.683	37.466	49.628	54.736	56.872	TURN(PR)
	UUBAR	0.2810	0.2891	0.2613	0.1768	0.0659	0.1516	0.1974	0.2129	0.1960	UUBAR
	LOSS PARA	0.1159	0.1201	0.1094	0.0763	0.0295	0.0708	0.0948	0.1033	0.0959	LOSS PARA
	DFAC	0.7653	0.6705	0.5879	0.5316	0.4329	0.5124	0.5830	0.6121	0.6214	DFAC
	EFFP	0.4196	0.5351	0.5579	0.5736	0.8317	0.5870	0.6867	0.6491	0.6405	EFFP
	EFF	-0.0000	-0.0000	0.0017	-0.0000**********		-0.0000**********				EFF
	INCID	-4.800	-5.104	-6.184	-9.007	-10.947	-12.094	-4.182	-1.024	-1.108	INCID
	DEVM	22.360	22.920	24.370	20.850	19.120	20.640	22.610	23.490	24.720	DEVM
	P 2,	20.280	20.200	20.240	20.000	20.140	19.865	19.395	19.450	19.280	P 2,
	P 2A	18.806	18.729	18.913	19.164	19.828	19.203	18.640	18.630	18.572	P 2A
	T 2	585.880	582.950	580.150	575.080	571.880	572.970	575.150	578.100	579.400	T 2
	T 2A	585.880	582.950	580.150	575.080	571.880	572.970	575.150	578.100	579.400	T 2A

Table B-4. Blade Element Performance (Continued)

PERCENT EQUIVALENT DESIGN SPEED = 99.76 EQUIVALENT ROTOR SPEED = 4200.00 CORRECTED WEIGHT FLOW = 101.80 PRESSURE RATIO = 1.2994

INLET	PCT SPAN	96.42	91.17	86.46	70.64	49.46	29.30	13.25	8.59	3.28	PCT SPAN
	DIA	33.150	33.590	33.985	35.310	37.085	38.775	40.120	40.510	40.955	DIA
STATION 0	BETA 0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	BETA 0
STATION 1	BETA 1	1.018	1.000	0.980	0.918	0.838	0.756	0.694	0.675	0.654	BETA 1
	V 0	393.42	393.42	393.42	393.42	393.42	393.42	393.42	393.42	393.42	V 0
	V 1	413.54	436.64	437.45	450.32	447.65	432.08	412.83	405.85	304.77	V 1
	VZ 0	393.42	393.42	393.42	393.42	393.42	393.42	393.42	393.42	393.42	VZ 0
	VZ 1	413.48	436.58	437.32	450.20	447.33	431.78	412.66	405.69	304.72	VZ 1
	V-THETA 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	V-THETA 0
	V-THETA 1	7.35	7.62	7.48	7.21	6.54	5.70	5.00	4.78	3.48	V-THETA 1
	M 0	0.3569	0.3569	0.3569	0.3569	0.3569	0.3569	0.3569	0.3569	0.3569	M 0
	M 1	0.3756	0.3972	0.3980	0.4101	0.4076	0.3930	0.3750	0.3684	0.2751	M 1
	TURN	-1.02	-1.00	-0.98	-0.92	-0.84	-0.76	-0.69	-0.67	-0.65	TURN
	UUBAR	0.1971	0.0097	0.0048	0.0048	0.0032	0.0073	0.0097	0.0186	0.4797	UUBAR
	DFAC	-0.051	-0.110	-0.112	-0.145	-0.138	-0.098	-0.049	-0.032	0.225	DFAC
	EFFP	0.3567	0.9620	0.9809	0.9854	0.9896	0.9678	0.9170	0.7854	-6.1153	EFFP
	INCID	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	INCID
	DEVM	-1.018	-1.000	-0.980	-0.918	-0.838	-0.756	-0.694	-0.675	-0.654	DEVM
	P 0	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	P 0
	P 1	14.450	14.682	14.688	14.688	14.690	14.685	14.682	14.671	14.100	P 1
	T 0	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 0
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
ROTOR 5	PCT SPAN	95.01	90.00	85.01	70.01	50.01	30.01	15.02	10.01	5.02	PCT SPAN
	DIA	33.233	33.617	34.000	35.150	36.684	38.218	39.368	39.752	40.135	DIA
STATION 1	BETA 1	1.018	1.000	0.980	0.918	0.838	0.756	0.694	0.675	0.654	BETA 1
STATION 2	BETA 2	61.600	58.970	54.350	46.290	42.530	43.480	53.860	57.860	58.630	BETA 2
	BETA(PR) 1	55.435	54.317	54.598	54.871	56.392	58.511	60.529	61.189	67.810	BETA(PR) 1
	BETA(PR) 2	-16.501	-3.170	6.529	14.828	21.085	24.965	30.284	31.796	33.029	BETA(PR) 2
	V 1	413.54	436.64	437.45	450.32	447.65	432.08	412.83	405.85	304.77	V 1
	V 2	824.40	743.76	708.66	711.37	700.57	683.12	626.53	619.35	617.04	V 2
	VZ 1	413.48	436.58	437.32	450.20	447.33	431.78	412.66	405.69	304.72	VZ 1
	VZ 2	392.10	383.38	413.01	491.42	516.00	495.37	369.35	329.40	321.14	VZ 2
	V-THETA 1	7.35	7.62	7.48	7.21	6.54	5.70	5.00	4.78	3.48	V-THETA 1
	V-THETA 2	725.18	637.30	575.82	514.06	473.32	469.76	505.76	524.29	526.73	V-THETA 2
	V(PR) 1	728.8	746.5	754.9	782.4	808.3	826.8	838.8	841.9	806.8	V(PR) 1
	V(PR) 2	408.9	384.0	415.8	508.6	553.5	547.0	428.1	387.8	383.2	V(PR) 2
	VTHETA PR1	-600.2	-607.9	-615.3	-639.9	-673.1	-704.9	-730.2	-737.6	-747.1	VTHETA PR1
	VTHETA PR2	116.2	21.2	-47.3	-130.1	-198.9	-230.6	-215.7	-204.2	-208.8	VTHETA PR2
	U 1	607.51	615.57	622.81	647.09	679.62	710.59	735.24	742.38	750.54	U 1
	U 2	609.03	616.06	623.08	644.16	672.27	700.38	721.46	728.49	735.51	U 2
	M 1	0.3756	0.3972	0.3980	0.4101	0.4076	0.3930	0.3750	0.3684	0.2751	M 1
	M 2	0.7325	0.6562	0.6242	0.6290	0.6203	0.6030	0.5487	0.5410	0.5386	M 2
	M(PR) 1	0.6620	0.6809	0.6869	0.7125	0.7360	0.7519	0.7619	0.7643	0.7282	M(PR) 1
	M(PR) 2	0.3633	0.3388	0.3662	0.4498	0.4901	0.4828	0.3749	0.3388	0.3345	M(PR) 2
	TURN(PR)	71.936	57.487	48.066	40.048	35.309	33.557	30.266	29.409	34.799	TURN(PR)
	UUBAR	0.2211	0.3044	0.2609	0.1141	0.0525	0.0922	0.2975	0.3468	0.2650	UUBAR
	LOSS PARA	0.0835	0.1210	0.1044	0.0459	0.0213	0.0378	0.1198	0.1388	0.1056	LOSS PARA
	DFAC	0.8271	0.8221	0.7526	0.6190	0.5648	0.5907	0.7654	0.8271	0.8302	DFAC
	EFFP	0.9795	0.8270	0.7978	0.8830	0.9391	0.9115	0.7817	0.7551	0.8589	EFFP
	EFF	0.9783	0.8188	0.7890	0.8777	0.9363	0.9074	0.7728	0.7451	0.8523	EFF
	INCID	-4.965	-5.583	-5.106	-5.503	-6.844	-9.575	-12.279	-13.169	-8.792	INCID
	DEVM	14.499	19.831	23.528	17.219	14.067	15.089	19.855	21.572	23.358	DEVM
	P 1	14.450	14.682	14.688	14.688	14.690	14.685	14.682	14.671	14.100	P 1
	P 2	21.670	20.360	19.894	20.128	20.222	20.177	19.498	19.467	19.525	P 2
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
	T 2	583.780	580.730	578.230	574.370	571.670	573.020	575.370	577.290	578.020	T 2
STATOR 5	PCT SPAN	94.40	90.62	85.08	70.31	50.14	29.97	15.27	9.94	5.18	PCT SPAN
	DIA	33.250	33.520	33.915	34.970	36.410	37.850	38.900	39.280	39.620	DIA
STATION 2	BETA 2	61.600	58.970	54.350	46.290	42.530	43.480	53.860	57.860	58.630	BETA 2
STATION 2A	BETA 2A	1.480	2.250	3.760	4.690	6.050	6.470	6.130	6.220	6.200	BETA 2A
	V 2	824.40	743.76	708.66	711.37	700.57	683.12	626.53	619.35	617.04	V 2
	V 2A	461.64	453.57	472.47	484.04	536.73	495.73	453.01	448.83	451.70	V 2A
	VZ 2	392.10	383.38	413.01	491.42	516.00	495.37	369.35	329.40	321.14	VZ 2
	VZ 2A	461.48	453.22	471.46	482.42	533.74	492.57	450.42	446.19	449.06	VZ 2A
	V-THETA 2	725.18	637.30	575.82	514.06	473.32	469.76	505.76	524.29	526.73	V-THETA 2
	V-THETA 2A	11.92	17.81	30.98	39.58	56.57	55.86	48.37	48.63	48.78	V-THETA 2A
	M 2	0.7325	0.6562	0.6242	0.6290	0.6203	0.6030	0.5487	0.5410	0.5386	M 2
	M 2A	0.3958	0.3898	0.4074	0.4192	0.4679	0.4302	0.3911	0.3867	0.3890	M 2A
	TURN(PR)	60.120	56.716	50.586	41.582	36.453	36.976	47.697	51.615	52.410	TURN(PR)
	UUBAR	0.2093	0.2148	0.1886	0.1334	0.0556	0.1395	0.1667	0.1824	0.1732	UUBAR
	LOSS PARA	0.0863	0.0892	0.0791	0.0577	0.0249	0.0651	0.0800	0.0884	0.0847	LOSS PARA
	DFAC	0.7970	0.7372	0.6574	0.6099	0.5040	0.5607	0.6320	0.6524	0.6518	DFAC
	EFFP	0.5287	0.6660	0.7799	0.7308	0.8649	0.6771	0.7226	0.6997	0.6774	EFFP
	EFF	-0.0000	-0.0000	0.0017	-0.0000**********		-0.0000**********				EFF
	INCID	-4.700	-3.384	-4.854	-7.377	-9.447	-11.584	-5.373	-3.265	-4.690	INCID
	DEVM	23.900	22.670	22.360	19.810	19.850	21.640	23.350	24.370	25.600	DEVM
	P 2	20.360	20.210	20.175	19.960	20.180	20.010	19.585	19.575	19.560	P 2
	P 2A	19.273	19.144	19.255	19.354	19.925	19.420	18.969	18.914	18.948	P 2A
	T 2	583.780	580.730	578.230	574.370	571.670	573.020	575.370	577.290	578.020	T 2
	T 2A	583.780	580.730	578.230	574.370	571.670	573.020	575.370	577.290	578.020	T 2A

Table B-4. Blade Element Performance (Continued)

PERCENT EQUIVALENT DESIGN SPEED = 100.36 EQUIVALENT ROTOR SPEED = 4225.00 CORRECTED WEIGHT FLOW = 101.47 PRESSURE RATIO =1.2956

INLET	PCT SPAN	96.42	91.17	86.46	70.64	49.46	29.30	13.25	8.59	3.28	PCT SPAN
	DIA	33.150	33.590	33.985	35.310	37.085	38.775	40.120	40.510	40.955	DIA
STATION 0	BETA 0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	BETA 0
STATION 1	BETA 1	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	BETA 1
	V 0	391.95	391.95	391.95	391.95	391.95	391.95	391.95	391.95	391.95	V 0
	V 1	408.41	432.79	432.00	440.56	432.29	421.28	410.62	401.17	343.63	V 1
	VZ 0	391.95	391.95	391.95	391.95	391.95	391.95	391.95	391.95	391.95	VZ 0
	VZ 1	408.40	432.78	431.92	440.48	432.02	421.01	410.47	401.03	343.59	VZ 1
	V-THETA 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	V-THETA 0
	V-THETA 1	-2.85	-3.02	-3.02	-3.08	-3.02	-2.94	-2.87	-2.80	-2.40	V-THETA 1
	M 0	0.3555	0.3555	0.3555	0.3555	0.3555	0.3555	0.3555	0.3555	0.3555	M 0
	M 1	0.3708	0.3936	0.3929	0.4009	0.3932	0.3829	0.3729	0.3641	0.3108	M 1
	TURN	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	TURN
	UUBAR	0.1538	0.0049	0.0033	0.0033	0.0024	0.0024	0.0098	0.0179	0.2847	UUBAR
	DFAC	-0.042	-0.104	-0.102	-0.124	-0.103	-0.075	-0.048	-0.024	0.123	DFAC
	EFFP	0.3655	0.9792	0.9858	0.9885	0.9893	0.9853	0.9136	0.7371	-5.5127	EFFP
	INCID	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	INCID
	DEVM	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	DEVM
	P 0	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	14.694	P 0
	P 1	14.505	14.688	14.690	14.690	14.691	14.691	14.682	14.672	14.344	P 1
	T 0	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 0
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
ROTOR 5	PCT SPAN	95.01	90.00	85.01	70.01	50.01	30.01	15.02	10.01	5.02	PCT SPAN
	DIA	33.233	33.617	34.000	35.150	36.684	38.218	39.368	39.752	40.135	DIA
STATION 1	BETA 1	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	-0.400	BETA 1
STATION 2	BETA 2	60.560	58.320	54.210	45.230	41.610	44.130	55.980	60.310	62.050	BETA 2
	BETA(PR) 1	56.369	55.181	55.546	56.040	57.824	59.606	61.064	61.854	65.599	BETA(PR) 1
	BETA(PR) 2	-12.718	-1.245	6.019	15.474	21.561	23.909	29.831	29.552	34.642	BETA(PR) 2
	V 1	408.41	432.79	432.00	440.56	432.29	421.28	410.62	401.17	343.63	V 1
	V 2	806.19	738.17	718.15	716.31	705.20	694.92	631.51	637.64	613.00	V 2
	VZ 1	408.40	432.78	431.92	440.48	432.02	421.01	410.47	401.03	343.59	VZ 1
	VZ 2	396.25	387.65	419.97	504.32	526.98	498.48	353.19	315.76	287.27	VZ 2
	V-THETA 1	-2.85	-3.02	-3.02	-3.08	-3.02	-2.94	-2.87	-2.80	-2.40	V-THETA 1
	V-THETA 2	702.08	628.15	582.51	508.38	468.04	483.56	523.22	553.80	541.41	V-THETA 2
	V(PR) 1	737.4	758.0	763.5	788.6	811.4	832.3	848.5	850.2	831.7	V(PR) 1
	V(PR) 2	406.2	387.8	422.4	523.6	567.1	545.8	407.5	363.2	349.3	V(PR) 2
	VTHETA PR1	-614.0	-622.3	-629.5	-654.0	-686.7	-717.8	-742.5	-749.6	-757.4	VTHETA PR1
	VTHETA PR2	89.4	8.4	-44.3	-139.6	-208.2	-221.0	-202.5	-179.0	-198.5	VTHETA PR2
	U 1	611.12	619.23	626.51	650.94	683.66	714.82	739.61	746.80	755.01	U 1
	U 2	612.65	619.73	626.79	647.99	676.27	704.55	725.75	732.83	739.89	U 2
	M 1	0.3708	0.3936	0.3929	0.4009	0.3932	0.3829	0.3729	0.3641	0.3108	M 1
	M 2	0.7125	0.6494	0.6324	0.6327	0.6238	0.6136	0.5532	0.5578	0.5343	M 2
	M(PR) 1	0.6695	0.6894	0.6944	0.7176	0.7380	0.7563	0.7705	0.7716	0.7522	M(PR) 1
	M(PR) 2	0.3590	0.3412	0.3719	0.4624	0.5017	0.4820	0.3570	0.3178	0.3045	M(PR) 2
	TURN(PR)	69.088	56.426	49.524	40.571	36.267	35.707	31.254	32.317	30.975	TURN(PR)
	UUBAR	0.2757	0.3319	0.2819	0.1261	0.0673	0.1470	0.3689	0.4193	0.3856	UUBAR
	LOSS PARA	0.1059	0.1321	0.1129	0.0506	0.0272	0.0609	0.1492	0.1717	0.1508	LOSS PARA
	DFAC	0.8259	0.8201	0.7558	0.6055	0.5520	0.6069	0.8062	0.8782	0.8877	DFAC
	EFFP	0.8817	0.7794	0.7949	0.8582	0.9137	0.8973	0.7612	0.7547	0.7697	EFFP
	EFF	0.8751	0.7692	0.7858	0.8517	0.9097	0.8925	0.7517	0.7446	0.7599	EFF
	INCID	-4.031	-4.719	-4.158	-4.334	-5.411	-8.480	-11.744	-12.504	-11.003	INCID
	DEVM	18.282	21.756	23.018	17.865	14.542	14.033	19.402	19.329	24.972	DEVM
	P 1	14.505	14.688	14.690	14.690	14.691	14.691	14.682	14.672	14.344	P 1
	P 2	21.247	20.217	20.008	20.147	20.226	20.186	19.368	19.499	19.294	P 2
	T 1	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	518.700	T 1
	T 2	587.000	583.150	579.620	576.220	573.240	573.930	575.530	577.670	579.040	T 2
STATOR 5	PCT SPAN	94.40	90.62	85.08	70.31	50.14	29.97	15.27	9.94	5.18	PCT SPAN
	DIA	33.250	33.520	33.915	34.970	36.410	37.850	38.900	39.280	39.620	DIA
STATION 2	BETA 2	60.560	58.320	54.210	45.230	41.610	44.130	55.980	60.310	62.050	BETA 2
STATION 2A	BETA 2A	1.170	2.750	4.680	5.670	5.980	5.940	5.230	4.880	4.630	BETA 2A
	V 2	806.19	738.17	718.15	716.31	705.20	694.92	631.51	637.64	613.00	V 2
	V 2A	481.90	486.76	511.37	572.73	567.23	503.35	473.61	462.45	445.93	V 2A
	VZ 2	396.25	387.65	419.97	504.32	526.98	498.48	353.19	315.76	287.27	VZ 2
	VZ 2A	481.80	486.20	509.67	570.17	564.14	500.64	471.64	460.78	444.48	VZ 2A
	V-THETA 2	702.08	628.15	582.51	508.38	468.04	483.56	523.22	553.80	541.41	V-THETA 2
	V-THETA 2A	9.84	23.35	41.72	51.64	59.09	52.09	43.17	39.34	36.00	V-THETA 2A
	M 2	0.7125	0.6494	0.6324	0.6327	0.6238	0.6136	0.5532	0.5578	0.5343	M 2
	M 2A	0.4126	0.4183	0.4417	0.4533	0.4950	0.4367	0.4094	0.3987	0.3836	M 2A
	TURN(PR)	59.390	55.566	49.526	39.542	35.603	38.156	50.718	55.466	57.402	TURN(PR)
	UUBAR	0.2356	0.2633	0.2300	0.1650	0.0668	0.1628	0.1825	0.1873	0.1781	UUBAR
	LOSS PARA	0.0972	0.1094	0.0964	0.0713	0.0300	0.0760	0.0877	0.0910	0.0872	LOSS PARA
	DFAC	0.7565	0.6820	0.6054	0.5479	0.4590	0.5691	0.6197	0.6708	0.6810	DFAC
	EFFP	0.5350	0.6574	0.7250	0.7017	0.8652	0.5970	0.7390	0.6475	0.6632	EFFP
	EFF	-0.0000	-0.0000	0.0017	-0.0000**********		-0.0000**********				EFF
	INCID	-5.740	-4.034	-4.994	-8.437	-10.367	-10.934	-3.252	-0.813	-1.268	INCID
	DEVM	23.550	23.170	23.280	20.790	19.780	21.110	22.450	23.030	24.030	DEVM
	P 2J	20.410	20.510	20.470	20.180	20.285	19.900	19.615	19.510	19.310	P 2J
	P 2A	19.170	19.119	19.277	19.389	19.969	19.209	18.906	18.812	18.700	P 2A
	T 2	587.000	583.150	579.620	576.220	573.240	573.930	575.530	577.670	579.040	T 2
	T 2A	587.000	583.150	579.620	576.220	573.240	573.930	575.530	577.670	579.040	T 2A

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