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Introduction

Improved performance of turbojet and turbofan engines is typically accompanied by increased cycle pressure ratio and combustor-exit gas temperature. Gas pressure levels of 350 to 450 psia and gas temperatures of 2500 °F exist in some current operational engines, while pressure levels up to 600 psia with temperatures of 2800 °F are anticipated in advanced commercial engines. Pressures and temperatures for military application engines could be even higher. The continuing increases in turbine-entry gas pressure and temperature of the modern gas-turbine engine and its high development cost put a premium on an accurate, initial, aerothermal design of the turbine hot-section hardware. It is also vital that an interdisciplinary approach to engine design be taken.

The design goals for commercial jet engines include high cycle efficiency, increased durability of the hot-section components (lower maintenance costs), and lower operating costs. These goals are contradictory in that high cycle efficiency requires minimizing the cooling-air requirements and increasing temperature and pressure, while increased durability requires metal temperatures and temperature gradients to be minimized. An optimum design can only be realized through an improved understanding of the flow field and the heat-transfer process in the turbine gas path and the structural response of the component to the applied loads.

Sophisticated computer design codes are being developed which have the potential of providing the designer with significantly better initial estimates of the flow field and heat load on the hot-section components. These codes are generally evaluated and verified through low temperature and pressure research in cascades and tunnels. However, by design, these facilities do not model all of the processes that exist in a real engine environment. Therefore, the ability of the design codes to predict the interaction of the various parameters can not be fully evaluated.

The Turbine Hot Section Facility at the NASA Lewis Research Center provides a "real engine" environment with known boundary conditions. Experimental data at high temperature and pressure conditions can be obtained to verify aerothermal performance prediction codes and to evaluate thermal scaling techniques.

Much of the data reported herein has been reported in other publications (refs. 1 to 5). The purpose of this report is to summarize the relevant research data obtained in the Turbine Hot Section Facility and to make the data base available for further analysis.

The facility, configured as an annular cascade for the initial research testing and rig qualification, is capable of providing test conditions up to 2500 °F and 270 psia. This corresponds to a vane-exit Reynolds number range of one-half million to three million. The component cooling air can be independently modulated between 150 and 800 °F, thus providing gas-to-coolant temperature ratios corresponding to current engine applications. Two types of experiments are reported: Full-Coverage-Film-Cooled (FCFC) experiments and Special Instrumentation experiments.

Symbols

C	chord length
c_p	specific heat
f	frequency, Fourier components
g_c	gravity constant
h	heat transfer coefficient
k	thermal conductivity
L	pressure or suction surface length
P	pressure
q	heat flux
R	gas constant
Re	Reynolds number
r	radial position
T	temperature
u	blade velocity
V	velocity
W	relative velocity
w	mass flow rate
X	total distance around airfoil
x	distance along airfoil
γ	specific heat ratio
η	film cooling effectiveness, combustor efficiency
Θ	temperature difference ratio
μ	viscosity

ρ density

ϕ overall cooling effectiveness

Subscripts:

aw	adiabatic wall
c	coolant
cal	calculated
ci	coolant inlet
cr	critical
g	gas
ge	effective gas
i	inner radius (hub)
in	inlet
meas	measured
o	outer radius (tip)
ref	reference temperature
theo	theoretical
w	wall
wo	outer wall
4	combustor exit station
5	vane row exit station
6	blade row exit station

Superscripts:

–	average
′	total

Facility

General Description

The physical layout of the Hot Section Facility (HSF) is shown in the perspective view in figure 1(a). This facility is unique because of its fully automated control of the research rig through an integrated system of minicomputers and programmable controllers. The major components of this facility, and how they interface to provide a realistic engine environment, are shown in the flow diagram in figure 1(b). This facility is discussed in more detail in references 1 and 2.

The main air supply system provides air at 150 psia to a nonvitiated preheater. The preheater modulates the air temperature between ambient and 500 °F. Through a set of routing valves, two modes of operation can be selected. The compressor bypass mode can provide air to the test rig at 150 psia (10 atm) and up to 500 °F. The compressor mode can provide air to the research rig up to 300 psia (20 atm) and at temperatures up to 850 °F when the heat of compression is utilized.

There are two independent test stands in the Hot Section Facility: a turbine rig (called the Turbine Hot Section Facility) and a combustor rig. The combustor rig is used to develop and document the combustor exit temperature profile and its efficiency as a heat source for the turbine rig. Three pairs of instrumentation rakes (temperature, pressure, and exhaust products), located at the exit of the combustor, are used to document the circumferential and radial profiles and to provide a known input profile for the vane row.

Turbine Rig Configuration

A cross section of the Turbine Hot Section Facility is shown in figure 2. The major components consist of a heat source (combustor), the full annular vane row (cascade), an exhaust duct line, a quench system (to lower the temperature of the exhaust gas), and the vacuum exhaust system. Note that the turbine rotor blades are removed for these tests.

The 20-inch-tip-diameter vane row consists of 36 stator vanes that are separated into two groups: 10 test vanes and 26 slave vanes. The test-vane and slave-vane cooling air is supplied from two separate manifolds, with the flow rates to each manifold independently controlled. The cavity directly over the vane row feeds cooling air to the slave vanes, while a separate manifold (downstream of the stator row) feeds cooling air to the test vanes. Individual supply tubes then feed cooling air to each test vane.

Experimental Stator Vanes

Two types of stator vane configurations are tested in these experiments: a Full-Coverage-Film-Cooled (FCFC) vane set and a specially instrumented vane set. Each is described in the following sections.

The vane-row hub and tip diameters are 17 and 20 inches, respectively. Both the vane height and the vane axial chord are 1.5 inches. More detailed geometric data are given in table I and reference 6.

FCFC Experiments

Vane description.—A typical FCFC test vane and slave vane are shown in figure 3(a). The test vane shown in the figure is in its finished form, while the slave vane is shown in a partially finished form. The full-coverage film-cooled vane has an impingement insert to augment the coolant-side heat transfer.

The stator case for the FCFC vanes is shown partially assembled in figure 3(b). The 10 test vanes and some instrumentation leads are clearly shown. A detailed airflow calibration of each test vane is performed before installation in the stator case. This information is used to select the 10 test vanes with similar flow characteristics and to provide "pressure loss" coefficients for a computer code.

Instrumentation. — A summary of the turbine rig research instrumentation is shown on figure 4(a). Gas-path conditions (e.g., temperature and pressure) are monitored and recorded at axial stations 4, 5, and 6. Three radially traversing probes are mounted at stations 4 (combustor exit) and 6 (rotor exit, when it is installed). Radial gas-path surveys of both temperature and pressure are recorded from vane hub to vane tip.

Station 4 can also utilize an optical probe for infrared photography for surface-temperature mapping of the vanes. The infrared data-recording and data-reduction procedures are discussed in reference 7. An example of the thermal image mapping was reported in reference 1.

Cooling air flow to each of the cooled components is weight-flow controlled and measured by venturis in each of the supply lines. Both cooling-air temperatures and pressures are measured in the internal manifolds of each cooling-air system. The vanes have thermocouples and pressure-sensing tubes to measure gas-stream conditions, gas-side metal temperatures, and cooling-air-side pressures and temperatures.

Research instrumentation for the FCFC vane is primarily for the conventional steady-state pressure and temperature measurements. In addition to the conventional transducer-per-channel pressure measurement, the HSF uses a pressure-measuring system that can multiplex the pneumatic signals. This system uses a single transducer to measure 48 pressure channels. Six of the pressure channels are used for calibration. The turbine rig has three of these systems providing 126 pressure measurements.

A cross-sectional schematic of the FCFC vane airfoil is shown in figure 4(b). Also shown is a composite summary of instrument sensor locations on the airfoil. The locations shown represent either metal-temperature or static-pressure measurements. Because each airfoil could accommodate only a limited number of instrument grooves, the temperature or pressure distributions reported are composed of measurements from several airfoils in the test-vane sector of the annulus.

Special Instrumentation Experiments

Vane description. — This vane has the same physical dimensions as those of the FCFC vane. However, this vane is a hollow shell without film cooling and without an internal insert to augment the coolant-side heat transfer. Cooling air is supplied to the vane through the vane tip and exhausted into a plenum at the vane hub. Because the leading- and trailing-edge regions are undercooled, the combustor-exit gas temperature is restricted for these tests to maintain reasonable airfoil metal temperatures.

Instrumentation. — Both steady-state and transient tests are conducted on these vanes. For the transient tests, the primary instrumentation includes a dual-element, fast-response gas-temperature probe (fig. 5) and thin-film thermocouples (fig. 6) to measure airfoil surface temperature and heat flux. A schematic of the thin-film thermocouple layout is shown in figure 7. Tests performed to determine the local heat-transfer coefficients are reported in reference 4 in more detail.

Instrumentation for the steady-state tests consists of heat-flux gages (fig. 8) and a complement of gas-path temperature and pressure sensors, as well as airfoil temperature and pressure sensors, for monitoring the test conditions. Two types of heat-flux gages are used: the Gardon type and the paired-thermocouple type. Four Gardon-type gages are installed on the pressure surfaces of two airfoils, and four paired-thermocouple type gage are installed on the pressure surfaces of two other airfoils. These instrumented airfoils are located within the circumferential sector between 255° and 285°. The gages are installed and calibrated (fig. 9) by the procedure outlined in reference 8.

Experimental Procedure

The test facility can be run at two operating pressures: 150 psia (10 atm) and 300 psia (20 atm). At each pressure, the turbine rig can be operated with the combustor either in the burning mode (with combustion) or in the non-burning mode (isothermal). The research objectives are to investigate the aerothermal performance of the annular vane row and the performance of various instrumentation concepts over a range of Reynolds numbers, temperatures, and pressures.

Only steady-state tests are conducted for the FCFC vanes. The steady-state experiments use only the burning mode of operation, with pressures at 150 and 300 psia. The various operating modes of a series of steady-state tests with the FCFC vanes are shown in figure 10 and table II. Both transient and steady-state experiments are conducted for the specially instrumented vanes. Transient tests with these vanes are reported in reference 4. The various operating modes of these tests are shown in figure 10 and table III.

The gas conditions are established by setting the combustor inlet and total pressure, the vane-exit outer-radius static pressure, and the combustor fuel/air ratio through predetermined input values stored in the operations computer. The coolant flow rate and temperature are varied systematically at fixed gas conditions, either through predetermined input values to the computer, or by manually inputting values to the computer during the test.

Data Acquisition

Facility operation and data acquisition are fully automated through an integrated digital computer system called the Digital Control Center (DCC). The four minicomputers in the DCC are interconnected. However, each computer has a dedicated primary task and is labeled accordingly (e.g., input, control, operations, and research). The main task of the research

computer is to gather large volumes of research data and convert them into engineering units. These research data are also fed into a large mainframe computer where more complex calculations and graphics operations are performed. A more detailed description of the Digital Control Center is given in reference 1.

Analytical Procedures and Data Reduction

Gas-Side Heat-Transfer Coefficient

STAN5 calculations. – The injection of film-cooling air through the film-cooling holes protects the vane surface from the hot gases flowing across the vane. However, the injection of cooling air disturbs the boundary layer and strongly influences the heat-transfer process on the vane surface. Heat transfer in the presence of film-cooling is complex and is affected by many factors, such as the hydrodynamic and thermal characteristics of the injected air and the mainstream gas, the thermal boundary conditions, and the film-cooling hole geometry.

For the FCFC vanes, reference 3 used two methods to calculated the heat-transfer coefficient. Method 1 defines the heat flux by means of a conventional convective heat-transfer coefficient and an adiabatic wall temperature:

$$q = h_g\left(T_{aw} - T_{wo}\right) \tag{1}$$

where the adiabatic wall temperature T_{aw} is defined by a film-cooling effectiveness equation

$$\eta = \left(T_{ge} - T_{aw}\right)/\left(T_{ge} - T_c\right) \tag{2}$$

where T_{ge} is the effective gas temperature based on the recovery velocity of the gas stream. The effects of cooling air injection, airfoil geometry, boundary conditions, and other phenomena are incorporated in the "film-cooling effectiveness" term η.

Method 1 uses the STAN5 boundary-layer code to calculate the "unblown" heat-transfer coefficient on the airfoil. Details of the film-cooling effectiveness correlation, as well as the additive effects of multi-row film-cooling, are given in reference 3. The "unblown" heat-transfer coefficients, as calculated in reference 3, are shown in figure 11.

The gas-side heat-transfer coefficients for the FCFC vanes, obtained by method 2, as presented in reference 3, are shown in figure 12. Here the effect of film cooling is incorporated in the heat-transfer coefficient. Heat flux is defined by the following equation derived in reference 9:

$$q = h_g(\Theta)\left(T_{ge} - T_w\right) \tag{3}$$

where the dimensionless temperature parameter is defined as

$$\Theta = \left(T_{ge} - T_c\right)/\left(T_{ge} - T_w\right) \tag{4}$$

Through linear superposition arguments, the value of the heat-transfer coefficient at any value of Θ can be determined once the values at $\Theta = 0$ and $\Theta = 1$ are known.

$$h_g(\Theta) = h_g(0) - \Theta\left[h_g(0) - h_g(1)\right] \tag{5}$$

The STANCOOL boundary-layer code (STAN5 with the film-cooling option) was used to calculate the values of $h_g(0)$ and $h_g(1)$. Details of the computation are given in reference 3.

Experimental data reduction. – Experimental heat-transfer coefficients are obtained from the Gardon gages and the paired-thermocouple gages by the following method:

$$h = q/\left(\overline{T}_g - T_{\mathrm{ref}}\right) \tag{6}$$

where the heat flux, q, is determined from the gage calibration, T_{ref} is the gage reference temperature, and $\overline{T}_g$ is the computed mean radius total gas temperature.

Reference 4 also uses thin-film thermocouples and the dual-element gas-temperature probe to determine experimentally the gas-side heat-transfer coefficients. By assuming a semi-infinite solid and periodically varying boundary conditions, the heat transfer coefficients can be related to the amplitude ratio of the Fourier components of the surface temperature and the gas temperature by the approximation

$$T_w(f)/T_g(f) = h_g/\left(2\pi f \rho c_p k\right)^{0.5} \tag{7}$$

The ratio $T_w(f)/T_g(f)$ is determined by computing the transfer function between the time-resolved wall temperature and the gas temperature.

Gas Temperature Profile

The radial profile of the combustor exit gas total temperature is obtained by averaging temperatures from two traversing probes. A third traversing probe is used to measure gas total pressure. The probes are located one vane chord in front of the vane row at station 4 (combustor exit). Data are taken in five radial steps from vane hub to tip. An average radial total-temperature profile and an overall average gas total temperature are determined from these measurements. The average gas temperature, as obtained from two traversing probes, is not representative of the true combustor exit temperature, since two radial profiles from the circumference are not sufficient to define the actual total temperature. To alleviate

this problem, a theoretical gas temperature $T_{g,\text{theo}}$, is calculated on the basis of fuel/air ratio, combustion-air inlet temperature, measured total and static pressures, and fuel enthalpy (ref. 10). A combustor efficiency is then applied to the theoretical temperature to obtain the true combustor-exit total temperature. The combustor efficiency is obtained from a set of curves generated from experiments on a similar and extensively instrumented combustor in the combustor rig (ref. 11).

The calculated combustor-exit total temperature, which takes into account the combustor efficiency, takes the following form:

$$\bar{T}'_{g,\text{cal}} = \eta\left(\bar{T}'_{g,\text{theo}} - \bar{T}'_{\text{in}}\right) + \bar{T}'_{\text{in}} \tag{8}$$

where η is the combustor efficiency.

A radial profile is imposed on the calculated total temperature by using the ratio of the measured radial temperature to the measured and averaged total temperature.

$$\bar{T}'(r)_{g,\text{cal}} = \left[\left(\bar{T}_{g,\text{cal}}\right)/\left(\bar{T}'_{g,\text{meas}}\right)\right]T'(r)_{g,\text{meas}} \tag{9}$$

A single traversing probe is installed at the vane exit station (station 5). Unfortunately, this measurement is somewhat unreliable because the traversing probe is occasionally overextended, such that the final probe position (of five radial positions) extends into a cavity in the vane shroud, away from the mainstream gas. A pseudomeasured vane exit temperature, based on the measured temperature at station 6 (further downstream), but adjusted for the difference in the amount of coolant at these stations, is used for station 5.

Cooling Effectiveness

The cooling effectiveness, ϕ, is used to compare the vane performance and thermal scaling at various combustor exit temperatures, coolant flow rates, Mach numbers, and Reynolds numbers. The local cooling effectiveness, ϕ_{local}, is defined as

$$\phi_{\text{local}} = \left[T'(r)_{g,\text{cal}} - T_{w,\text{local}}\right]/\left[T'(r)_{g,\text{cal}} - T_{ci}\right] \tag{10}$$

where $T_{w,\text{local}}$ refers to the local metal temperature on the test-vane surface, and $T'(r)_{g,\text{cal}}$ is the calculated total gas temperature at a specific radial location. An average cooling effectiveness $\bar{\phi}$ is also calculated, by using an averaged metal temperature $\bar{T}_w$ for the vane in place of $T_{w,\text{local}}$. The term $\bar{T}_w$ is defined as

$$\bar{T}_w = \sum_{i=2}^{i=13}\left[T(i)_w + T(i-1)_w\right]\left[x(i) - x(i-1)\right]/2X \tag{11}$$

where (i) is an index which refers to a specific temperature measurement point on the vane surface, x is the distance along the vane surface measured from the leading-edge stagnation point, and X is the sum of distances between the measurement points.

The coolant-to-gas flow ratio is calculated as follows:

$$w_c / w_g = 3.6 \times [\text{test vane coolant flow / total primary flow}]$$

where the total primary flow includes the core flow plus all coolant bleed flows. The factor 3.6 is required because the test-vane coolant flow is fed to only 10 of the 36 total vanes.

Reynolds Number

The exit-gas Reynolds number is based on the vane-row-inlet total temperature and pressure, the vane-row-exit static pressure, and the vane true chord length. The gas properties are based on the exit-gas static temperature, derived from the exit-static- to inlet-total-pressure ratio.

$$\text{Re} = \left[(\rho V)_5 C\right]/\mu \tag{12}$$

where

$$(\rho V)_5 = (P'_4)(P_5/P'_4)^{1/\gamma}\left\{(2\gamma)/(\gamma-1)\left[g_c/\left(R\bar{T}'_{g,\text{ cal}}\right)\right]\right. \times\left.\left[1-\left(P_5/P'_4\right)^{(\gamma-1)/\gamma}\right]\right\}^{0.5} \tag{13}$$

Critical Velocity Ratio

The exit critical velocity ratio, like the Reynolds number, is based on the vane row exit static pressure and the vane row inlet total pressure.

$$\left(V/V_{cr}\right)_5 = \left\{(\gamma+1)/(\gamma-1)\left[1-\left(P_5/P'_4\right)^{(\gamma-1)/\gamma}\right]\right\}^{0.5} \tag{14}$$

Results and Discussion

The data from the FCFC experiments and the Special Instrumentation experiments are presented, and some typical results are discussed. Boundary conditions, aerodynamic performance, thermal scaling, and heat-transfer coefficients obtained from these experiments are discussed. Figure 10 shows a plot of the simulated engine operating characteristics of the Turbine Hot Section Facility at various Reynolds numbers and heat fluxes, and generally represents the conditions of the experiments reported herein.

Boundary Conditions

The mainstream gas conditions at the combustor exit and the stator exit for the FCFC experiments and the Special

Instrumentation experiments are listed in tables II and III, respectively. These conditions are important to the evaluation of these research results and for comparison of the performance at various operating conditions to the design values. Detailed local measurements of each experimental test are given in tables IV and V for the FCFC experiments and the Special Instrumentation experiments, respectively.

Gas temperature. – The mainstream gas-temperature profile for the FCFC vane tests and the Special Instrumentation vane tests are essentially the same for the same operating conditions. A discussion for one series of experiments would be equally applicable to the other series of experiments.

Figure 13, reproduced from reference 1, shows a typical mainstream gas-temperature profile at the combustor exit. Measured temperature data from these tests are compared to the unpublished results obtained from tests of a research combustor of the same design in the combustor rig of the Hot Section Facility. The research combustor test data are obtained from a complete circumferential and radial survey of the gas temperature at the combustor exit plane (ref. 11). Figure 13(a) shows the circumferentially averaged radial temperature profile and the maximum temperature profile obtained from the research combustor. Also shown in the figure are the measured temperature profiles from two traversing temperature-measurement probes located at the combustor exit (station 4) plane of this cascade. A calculated temperature, based on combustor efficiency and a theoretical gas temperature (eq. (8)), is also shown as a dashed line. The theoretical gas temperature is obtained from thermodynamic considerations of the fuel properties, combustion air inlet temperature, and the fuel-air ratio. The calculated temperature for these tests appears to correspond to that obtained from the research combustor measurements.

The maximum gas temperature variation from the average gas temperature is represented by the "pattern factor," *PF*, defined as

$$PF = \left(T_{max} - \overline{T}\right) / \left(\overline{T} - T_{in}\right) \tag{15}$$

The pattern factor for the research combustor is approximately 0.35. The local pattern factor distribution, as shown in figure 13(b), is relatively uniform. The local hot spots occur in three small discrete locations.

Gas pressure. – The combustor exit pressure for these experiments, as measured by the traversing probes, is essentially constant. The static pressures, measured at the inner and outer radii of the vane-row inlet, are also constant, indicating that the vane-row-inlet critical velocity ratio is constant at the nominal design value of 0.23.

The vane row exit (station 5) total pressure cannot be measured accurately, because the probes used herein are not designed for the large tangential velocity component at the stator exit. However, based on the vane-row-exit static pressure measured at the outer radius and the total pressure at station 4 (assuming negligible total-pressure loss through the annular vane row), the critical velocity ratio compared well with the design value of 0.728. Similarly, the critical velocity ratio at the inner radius compared well with the design value of 0.834. The design velocity triangles for these airfoils are shown in figure 14.

Aerodynamic Performance

FCFC vane. – The aerodynamic performance of these vanes is characterized by the surface static-pressure distribution, as shown in figure 15. Data are plotted at three different exit critical-velocity ratios (design, less than design, and greater than design). Also shown is the unblown design pressure distribution calculated by using the QUASI–3D PANEL Code (ref. 12). The pressure distribution on the pressure surface compares favorably with the design values. However, the pressure distribution on the suction surface trailing edge is about 7 percent higher than the design values. This would indicate that the gas stream is not accelerated to the desired velocity with substantial quantities of film cooling.

Special Instrumentation vane. – The surface pressure distribution for this vane is shown in figure 16. In general, this pressure distribution exhibited the same characteristics as that of the FCFC vane. However, the suction-surface pressure distribution does compare more favorably with the calculated design values, which further highlights the effects of film cooling mentioned in the previous section.

Thermal Scaling

Reference 1 discussed the frequently used practice of testing of turbine components at reduced temperature and pressure in cascades and tunnels, and the concern for the validity of these tests. The concern is whether the thermal scaling laws are sufficiently applicable between the lower temperature experiments and the actual engine conditions. The thermal scaling laws are evaluated in the turbine rig over a wide range of temperatures and pressures, in both the non-burning (isothermal) and the burning modes of operation, at constant Reynolds number and Mach number. Figure 17, taken from reference 1, shows the midspan, averaged cooling effectiveness parameter, $\overline{\phi}$, for the FCFC vane, plotted as a function of the coolant-to-gas flow ratio. The gas total temperature used in the cooling-effectiveness calculation is the mean-radius value obtained from equation (9).

Figure 17(a) shows the cooling effectiveness parameter at two different gas total temperatures, for the burning mode of operation, at a constant Reynolds number of 0.5×10^6. The trend shown by these data is that the higher gas temperature produces a slightly lower cooling effectiveness. This trend is continued in figure 17(b), plotted at a Reynolds number of 1.25×10^6. Here, four sets of data, with gas temperatures ranging from 450 °F (non-burning) to 2250 °F (burning), are shown. These four sets of data exhibit similar trends of slightly

lower cooling effectiveness at higher gas temperatures (engine conditions) than at lower gas temperatures. The difference in the cooling-effectiveness values is only about 0.02 at a coolant-to gas-flow ratio of 0.11. Reference 1 indicated that even though the difference is small, this difference could not be accounted for by experimental error. In fact, error analysis indicated that experimental error would not reverse the data trend shown, but would enhance the difference.

Reference 13 predicts an increase of up to 0.04 in cooling effectiveness from engine conditions to lower temperature cascade test conditions. This phenomenon is shown to be the result of the inability to thermally scale the thermal conductivity of the material. It can be concluded that the low-temperature turbine rig tests are somewhat optimistic in predicting cooling effectiveness for engine operating conditions.

Figure 17(c) shows the cooling effectiveness at a Reynolds number of 2.5×10^6. The observation here is that the cooling effectiveness, even at a higher Reynolds number, and therefore at a higher heat flux, is not affected. This is shown more graphically in figure 17(d), which compares the cooling effectiveness at constant gas total temperature for three different Reynolds numbers (Re = 0.5×10^6, 1.25×10^6, and 1.9×10^6). Assuming that the heat flux is proportional to $(Re)^{0.8}$, the data in figure 17(d) represent a range of heat flux of 2.9 to 1. The good agreement of these data indicates that the flow regime is the same, and that the cooling effectiveness is independent of the level of heat flux.

Because the Special Instrumentation vane does not contain an internal insert to enhance cooling, the cooling effectiveness is not meaningful, and therefore is not discussed here.

Heat-Transfer Coefficient

Measured heat-transfer coefficients are shown in figures 18 and 19 for the suction and pressure surfaces, respectively, of the Special Instrumentation vanes and are compared with those predicted by the STAN5 boundary-layer code. Included are results from thin-film thermocouples, Gardon-type gages, and paired thermocouples.

The heat-transfer coefficients deduced by the thin-film thermocouples on the suction surface (fig. 18) generally compare well with those predicted for each Reynolds number condition. The exception is the furthest downstream measurement, which consistently indicates values higher than predicted.

Both steady-state and thin-film-gage data are shown in figure 19 for the pressure surface. The steady-state data compare favorably with the STAN5 calculations at the three Reynolds numbers. In addition, the thin-film-gage data compare well in trend but differ in magnitude at the low Reynolds number. These data are discussed in more detail in references 4 and 5. In general, the thin-film gages are shown to be an acceptable method of measuring heat flux in a high-temperature, hostile environment.

Concluding Remarks

Experimental data from the Turbine Hot Section Facility are presented and discussed. These data include full-coverage film-cooled airfoil results as well as special instrumentation results. The data from these experiments are of an acceptable quality and accuracy such that comparisons with analyses can be made for calibration purposes.

National Aeronautics and Space Administration
Lewis Research Center
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TABLE I. — HSF STATOR VANE GEOMETRY
[NUMBER OF VANES, 36.]

HEIGHT, IN.	1.5
AXIAL CHORD, IN.	1.5
ACTUAL CHORD, IN.	2.186
ASPECT RATIO	1.00
AXIAL SOLIDITY	0.929
LEADING-EDGE RADIUS, IN.	0.200
TRAILING-EDGE RADIUS, IN.	0.035
MEAN DIAMETER, IN.	18.5

TABLE II

HSF CASCADE RESEARCH CONDITIONS (FCFC VANE)

RDG	COMBUSTER EXIT, STATION 4			COOLANT		VANE EXIT, STATION 5		MODE OF
	TEMPERATURE DEG F	PRESSURE, PSIA	V/VCR	TEMP DEG F	COOLANT/ GAS FLOW	V/VCR, MEAN RADIUS	REYNOLDS NUMBER	OPERATION PSIA
72	444.88	50.112	0.23658	138.26	0.12297	0.76915	1380000.	150
73	453.63	76.105	0.23530	139.49	0.12946	0.76987	2080000.	150
74	455.36	49.182	0.24935	136.63	0.0060540	0.74377	1250000.	150
75	455.54	74.592	0.26077	135.95	0.0043953	0.74601	1890000.	150
76	454.81	95.524	0.26913	134.59	0.0042212	0.74726	2420000.	150
77	452.98	125.37	0.26798	133.23	0.0034100	0.72207	3110000.	150
78	453.15	97.367	0.24832	138.95	0.11815	0.77101	2650000.	150
79	453.70	97.611	0.24288	140.31	0.13205	0.77351	2680000.	150
80	453.98	97.011	0.25297	139.08	0.095359	0.76696	2600000.	150
82	455.01	97.924	0.24215	435.36	0.13228	0.77733	2540000.	150
117	1566.2	122.23	0.23293	134.28	0.14809	0.68879	1290000.	150
118	1892.3	62.520	0.23349	273.15	0.15551	0.80528	610000.	150
119	1903.8	62.415	0.23199	278.39	0.13834	0.80410	600000.	150
120	1876.8	62.337	0.23462	275.90	0.12610	0.80193	590000.	150
121	1893.9	62.373	0.23694	275.07	0.11934	0.79979	580000.	150
125	1579.8	122.39	0.23541	139.38	0.14743	0.68889	1280000	150
126	1853.8	61.179	0.23392	260.02	0.14057	0.77530	590000.	150
127	1861.7	61.102	0.24006	271.63	0.12891	0.77316	580000.	150
128	1866.7	61.054	0.23650	274.41	0.12097	0.77493	570000.	150
129	1896.6	60.971	0.23444	274.34	0.11372	0.77273	560000.	150
130	1894.8	60.966	0.23397	275.94	0.12820	0.79837	580000.	150
131	1880.5	61.094	0.22856	277.34	0.13056	0.74435	560000.	150
132	1881.0	61.159	0.22810	278.40	0.13156	0.72430	550000.	150
133	2050.7	72.889	0.23768	368.44	0.13729	0.77748	630000.	150
134	2222.4	72.946	0.23747	397.77	0.14015	0.77854	590000.	150
135	1550.8	122.25	0.23605	166.89	0.14286	0.68645	1300000	150
136	2242.6	72.963	0.23473	389.55	0.14059	0.77747	580000.	150
137	2248.4	72.895	0.23739	400.38	0.12893	0.77738	570000.	150
138	2255.6	72.858	0.23736	401.28	0.12184	0.77526	570000.	150
139	2220.3	72.849	0.23725	401.93	0.11335	0.77592	570000.	150
140	2251.7	72.765	0.23688	400.45	0.11409	0.77498	560000.	150
141	2214.3	72.775	0.23863	403.10	0.11399	0.77548	570000.	150
142	2260.4	72.853	0.24032	402.40	0.11398	0.77550	560000.	150
143	2265.2	72.853	0.24521	402.98	0.11326	0.77575	560000.	150
144	2204.2	72.817	0.24204	402.92	0.12818	0.79903	590000.	150
145	2241.9	72.964	0.23363	402.49	0.12993	0.74734	560000.	150
146	2216.8	73.042	0.22875	402.66	0.13122	0.72747	560000.	150

TABLE II

HSF CASCADE RESEARCH CONDITIONS (FCFC VANE)

RDG	COMBUSTER EXIT, STATION 4			COOLANT		VANE EXIT, STATION 5		MODE OF
	TEMPERATURE DEG F	PRESSURE, PSIA	V/VCR	TEMP DEG F	COOLANT/ GAS FLOW	V/VCR, MEAN RADIUS	REYNOLDS NUMBER	OPERATION PSIA
153	800.07	121.98	0.18942	241.52	0.13220	0.43314	1500000.	300
154	798.31	72.650	0.24475	175.96	0.12180	0.74882	1370000.	300
155	798.97	72.477	0.24334	168.18	0.10817	0.74501	1350000.	300
156	798.58	72.180	0.25177	164.51	0.085396	0.74229	1320000.	300
157	799.54	71.398	0.26414	162.19	0.0018147	0.73485	1240000.	300
158	799.90	108.68	0.26870	165.73	0.0032302	0.73702	1880000.	300
159	802.92	139.00	0.27680	164.50	0.0033711	0.73951	2390000.	300
160	802.07	141.76	0.25064	178.66	0.13034	0.76195	2700000.	300
161	801.92	141.63	0.24258	180.82	0.13291	0.76156	2700000.	300
162	801.92	141.68	0.24674	181.23	0.13202	0.76113	2700000.	300
163	802.31	141.84	0.24656	181.77	0.13257	0.76248	2700000.	300
164	802.58	141.73	0.25246	181.90	0.13117	0.76187	2690000.	300
165	803.34	141.47	0.25254	181.90	0.11559	0.75857	2650000.	300
166	802.84	140.79	0.25157	181.90	0.092641	0.75583	2590000.	300
167	804.04	140.64	0.25139	182.18	0.12743	0.82678	2790000.	300
168	803.57	142.31	0.24275	183.40	0.13377	0.72249	2620000.	300
169	798.35	110.73	0.24944	177.38	0.12883	0.75648	2110000.	300
170	796.96	110.43	0.24381	176.18	0.11375	0.75242	2070000.	300
171	795.83	109.83	0.25036	174.82	0.12437	0.82266	2190000.	300
172	796.40	111.15	0.23544	175.78	0.12827	0.71735	2050000.	300
173	795.24	72.399	0.24527	168.43	0.11711	0.81901	1440000.	300
174	794.44	72.607	0.22533	164.76	0.12501	0.70481	1330000.	300
175	800.67	142.40	0.24669	788.09	0.13342	0.76386	2480000.	300
176	799.92	111.26	0.24262	779.69	0.13097	0.76019	1930000.	300
177	797.59	73.056	0.23126	775.19	0.12260	0.75265	1260000.	300
189	1499.6	121.14	0.21251	176.92	0.14344	0.67479	1300000.	300
190	1689.4	129.87	0.22340	217.47	0.15004	0.75139	1350000.	300
191	1659.7	129.79	0.22801	216.13	0.13660	0.75199	1350000.	300
192	1667.3	129.77	0.23014	215.58	0.12380	0.75246	1330000.	300
193	1687.4	129.65	0.22702	216.86	0.11782	0.75076	1310000.	300
194	1661.5	129.28	0.22310	215.58	0.11527	0.77242	1340000.	300
195	1668.0	129.42	0.22975	215.72	0.11498	0.78836	1350000.	300
196	1684.4	129.99	0.22824	215.85	0.12041	0.72904	1290000.	300
197	1660.4	129.67	0.21561	215.72	0.11610	0.71177	1280000.	300
203	1516.7	121.56	0.23046	144.55	0.13900	0.67773	1310000.	300
204	1600.4	130.86	0.23629	218.93	0.14333	0.75923	1430000.	300
205	1605.6	130.71	0.23148	220.66	0.13086	0.75841	1400000.	300
206	1609.9	130.56	0.23589	220.39	0.11886	0.75812	1380000.	300
207	1565.0	130.44	0.23855	220.48	0.11094	0.75601	1410000.	300
208	1575.1	130.24	0.23558	221.42	0.11202	0.75512	1400000.	300
209	1560.1	130.25	0.23174	222.24	0.11065	0.75517	1410000.	300
210	1582.0	130.48	0.24306	220.64	0.11235	0.75887	1400000.	300
213	1570.8	121.12	0.20529	151.87	0.13997	0.67455	1260000.	300
214	1326.2	158.85	0.23006	143.10	0.14752	0.76376	2080000.	300
215	1335.8	158.56	0.22399	155.34	0.13682	0.76232	2040000.	300
216	1354.8	158.39	0.22468	155.56	0.12713	0.76055	1990000.	300
217	1329.5	158.48	0.23170	157.85	0.11735	0.76120	2000000.	300

TABLE II

HSF CASCADE RESEARCH CONDITIONS (FCFC VANE)

RDG	COMBUSTER EXIT, STATION 4			COOLANT		VANE EXIT, STATION 5		MODE OF
	TEMPERATURE DEG F	PRESSURE, PSIA	V/VCR	TEMP DEG F	COOLANT/ GAS FLOW	V/VCR, MEAN RADIUS	REYNOLDS NUMBER	OPERATION PSIA
218	1379.2	158.49	0.21737	163.86	0.12276	0.74254	1920000.	300
219	1357.6	158.88	0.22456	165.08	0.12010	0.72254	1920000.	300
220	1337.2	159.08	0.21810	166.05	0.12053	0.70415	1910000.	300
221	1344.8	158.02	0.24061	166.72	0.11483	0.79940	2030000.	300
222	1570.4	120.78	0.20504	178.73	0.14011	0.67132	1260000.	300
223	2189.3	172.46	0.22162	444.53	0.14236	0.76923	1390000.	300

TABLE III

HSF CASCADE RESEARCH CONDITIONS (SPECIAL INSTRUMENTATION VANE)

RDG	COMBUSTER EXIT, STATION 4			COOLANT		VANE EXIT, STATION 5		MODE OF
	TEMPERATURE DEG F	PRESSURE, PSIA	V/VCR	TEMP DEG F	COOLANT/ GAS FLOW	V/VCR, MEAN RADIUS	REYNOLDS NUMBER	OPERATION PSIA
56	444.04	119.47	0.17023	140.67	0.086059	0.44687	2130000.	150
57	440.41	49.154	0.23029	138.93	0.081876	0.72748	1290000.	150
58	448.95	49.061	0.23898	137.90	0.067004	0.73221	1270000.	150
59	452.34	49.044	0.23408	137.66	0.051900	0.73329	1250000.	150
60	454.96	48.994	0.23857	137.02	0.036083	0.73364	1240000.	150
61	455.53	74.699	0.23794	141.32	0.087705	0.73117	1930000.	150
62	452.04	95.621	0.24190	144.67	0.088941	0.73572	2490000.	150
63	452.84	95.368	0.24229	144.52	0.073237	0.73985	2470000.	150
64	453.73	95.305	0.24403	143.73	0.055730	0.74314	2450000.	150
67	1566.1	120.02	0.21569	138.41	0.096003	0.66305	1160000.	150
68	1850.9	61.513	0.22970	133.99	0.11244	0.76512	580000.	150
69	1842.7	61.608	0.22880	136.72	0.11325	0.73909	570000.	150
70	1832.4	61.488	0.22462	136.35	0.092765	0.74089	560000.	150
71	1847.2	132.88	0.23228	144.37	0.12823	0.75197	1250000.	150
72	1863.0	133.04	0.23826	144.79	0.12781	0.75247	1240000.	150
73	1729.3	132.54	0.23512	144.85	0.12471	0.74868	1320000.	150
78	1850.1	61.502	0.22537	140.39	0.11314	0.73775	570000.	150
79	1834.5	133.00	0.23729	143.10	0.12499	0.75072	1250000.	150
80	1867.8	132.89	0.23354	137.29	0.12922	0.75157	1230000.	150
81	1680.2	132.45	0.23649	137.21	0.12532	0.74746	1350000.	150
82	1678.7	132.50	0.23209	138.63	0.12605	0.74930	1350000.	150
83	1842.8	133.00	0.23553	138.74	0.12849	0.75398	1250000.	150
84	1837.7	61.554	0.22713	139.89	0.11246	0.74143	570000.	150
85	1670.9	61.340	0.22880	140.47	0.10991	0.73784	620000.	150
86	1660.2	61.252	0.22772	142.01	0.11006	0.73657	620000.	150
87	1861.6	61.512	0.22271	142.45	0.11259	0.74069	560000.	150
90	1541.0	120.23	0.21664	138.05	0.095852	0.66753	1190000.	150
91	1842.2	61.603	0.23210	139.21	0.071589	0.74779	550000.	150
92	1668.8	61.108	0.22829	142.32	0.069095	0.74099	590000.	150
93	1659.8	61.164	0.23374	141.78	0.069497	0.74138	600000.	150
94	1836.4	61.387	0.22859	142.11	0.071265	0.74461	550000.	150
95	1820.1	132.87	0.23795	146.29	0.12810	0.75539	1270000.	150
96	1643.8	132.38	0.23716	146.76	0.12418	0.74927	1380000.	150
97	1658.7	132.40	0.23511	148.26	0.12473	0.74954	1360000.	150
98	1838.2	133.06	0.23665	148.40	0.12687	0.75481	1260000.	150

TABLE III

HSF CASCADE RESEARCH CONDITIONS (SPECIAL INSTRUMENTATION VANE)

RDG	COMBUSTER EXIT, STATION 4			COOLANT		VANE EXIT, STATION 5		MODE OF
	TEMPERATURE DEG F	PRESSURE, PSIA	V/VCR	TEMP DEG F	COOLANT/ GAS FLOW	V/VCR, MEAN RADIUS	REYNOLDS NUMBER	OPERATION PSIA
104	1555.3	120.02	0.21665	139.76	0.096235	0.66390	1170000.	150
106	1554.3	119.25	0.22992	142.74	0.094308	0.74726	1210000.	150
107	1695.2	119.71	0.23059	137.09	0.096601	0.75179	1150000.	150
108	1848.1	61.535	0.22531	134.35	0.11274	0.74564	570000.	150
109	1658.4	61.238	0.22282	141.95	0.10995	0.73734	620000.	150
110	1875.6	61.482	0.22004	142.22	0.11297	0.74232	560000.	150
111	1850.4	132.84	0.23112	145.88	0.12596	0.75412	1240000.	150
112	1676.9	132.35	0.22949	145.56	0.12235	0.74886	1350000.	150
113	1652.8	132.39	0.23099	145.62	0.12363	0.74964	1370000.	150
114	1846.8	132.85	0.22877	146.09	0.12601	0.75453	1250000.	150
123	1480.1	119.41	0.21199	144.96	0.092255	0.65170	1200000.	300
124	1658.3	132.11	0.23327	148.38	0.10103	0.74691	1330000.	300
125	1648.8	132.06	0.23129	148.69	0.10345	0.74686	1310000.	300
126	1656.2	132.11	0.23030	152.45	0.10152	0.74970	1330000.	300
127	1825.2	132.55	0.22300	153.31	0.10490	0.75224	1230000.	300
128	1824.2	132.70	0.22975	154.57	0.10307	0.75338	1230000.	300
129	1634.9	132.14	0.22626	154.29	0.10082	0.74799	1350000.	300
130	1598.3	188.28	0.23174	177.30	0.10174	0.76310	1980000.	300
131	1773.1	189.65	0.24160	178.61	0.10258	0.77256	1830000.	300
132	1792.0	189.22	0.23087	180.73	0.10433	0.76633	1800000.	300
133	1621.6	188.30	0.23126	180.86	0.10249	0.76261	1950000.	300
137	1502.8	119.94	0.22636	143.00	0.093400	0.65687	1200000.	150
138	1656.8	132.53	0.23830	146.55	0.10067	0.75030	1330000.	150
139	1836.6	133.13	0.23711	148.03	0.10378	0.75746	1230000.	150
143	1481.5	119.87	0.22611	137.28	0.091907	0.65729	1220000.	300
144	1656.0	132.69	0.24206	143.47	0.10007	0.75207	1340000.	300
145	1833.3	133.06	0.23810	145.63	0.10281	0.75730	1230000.	300
146	1664.7	132.51	0.23833	150.16	0.10100	0.75137	1330000.	300
147	1820.8	133.12	0.23674	150.63	0.10294	0.75810	1240000.	300
148	1609.5	189.00	0.24545	176.83	0.10135	0.76514	1980000.	300
149	1780.0	189.92	0.24468	177.71	0.10288	0.77276	1830000.	300
150	1583.8	188.93	0.24656	180.70	0.099511	0.76578	2010000.	300
151	1785.2	189.81	0.24135	181.31	0.10310	0.77172	1820000.	300
152	1675.0	132.37	0.23287	156.20	0.10085	0.74587	1320000.	300

TABLE III

HSF CASCADE RESEARCH CONDITIONS (SPECIAL INSTRUMENTATION VANE)

RDG	COMBUSTER EXIT, STATION 4			COOLANT		VANE EXIT, STATION 5		MODE OF
	TEMPERATURE DEG F	PRESSURE, PSIA	V/VCR	TEMP DEG F	COOLANT/ GAS FLOW	V/VCR, MEAN RADIUS	REYNOLDS NUMBER	OPERATION PSIA
158	1485.8	119.70	0.22301	140.11	0.092991	0.65231	1210000.	300
159	1658.1	132.39	0.23767	146.37	0.10065	0.74902	1330000.	300
160	1627.9	132.29	0.23737	146.79	0.082126	0.75028	1330000.	300
161	1637.4	132.17	0.23396	147.20	0.063830	0.75240	1300000.	300
162	1587.7	188.91	0.24378	174.64	0.10066	0.76463	2000000.	300
163	1595.2	188.76	0.24388	175.05	0.082592	0.76762	1960000.	300
164	1618.7	188.74	0.24553	175.09	0.064767	0.77030	1910000.	300
165	1588.2	188.65	0.24685	175.39	0.043776	0.77449	1910000.	300
166	1847.8	132.84	0.23669	157.49	0.10514	0.75468	1220000.	300
172	1834.9	61.590	0.22470	132.84	0.11273	0.74503	570000.	150
173	1678.3	61.356	0.22440	136.68	0.10941	0.74096	620000.	150
174	1662.8	61.354	0.22613	140.70	0.10966	0.73933	620000.	150
175	1869.7	61.609	0.22741	140.95	0.11225	0.74282	560000.	150
176	1864.5	132.82	0.23341	145.79	0.10668	0.75468	1210000.	150
177	1685.6	132.26	0.23566	146.20	0.10285	0.75177	1310000.	150
178	1676.9	132.32	0.23646	146.77	0.10310	0.75221	1320000.	150
179	1858.4	132.74	0.23156	146.97	0.10643	0.75580	1210000.	150
180	1851.3	61.557	0.22529	137.78	0.11272	0.74396	570000.	150
181	1680.4	61.323	0.22783	135.66	0.10928	0.73993	620000.	150
182	1660.8	61.354	0.23050	134.53	0.10981	0.74009	620000.	150
183	1872.5	61.572	0.22677	134.65	0.11292	0.74348	560000.	150
184	1849.0	132.80	0.23603	144.63	0.10609	0.75653	1220000.	150
185	1659.5	132.30	0.23679	147.33	0.10303	0.75180	1330000.	150
186	1685.0	132.30	0.23540	148.12	0.10353	0.75141	1310000.	150
187	1868.5	132.81	0.23591	148.34	0.10687	0.75648	1210000.	150

TABLE IV

FCFC VANE READING NO. 72

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 450.59
INLET AIR FLOW (LBS/SEC)	= 22.665
INLET PRESSURE (PSIA)	= 161.02
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 48.501
TOTAL PRESSURE MEAS. (PSIA)	= 50.112
TOTAL TEMPERATURE CALC. AVG.	= 444.88
CALC. MEAN RAD	= 444.88
MAINSTREAM GAS FLOW (LBS/SEC)	= 22.665
*MAINSTREAM GAS VEL. (FT/SEC)	= 317.89
MAINSTREAM GAS MACH NO.	= 0.21756
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	177.02	35.280		0.9717
S5	172.13	33.125	46.690	0.8359
S4	174.98		38.797	0.6122
S3	177.57			-0.3335
S2	190.08		44.616	-0.1783
S1	206.15	45.595	52.785	0.0674
SP	201.79	49.041		0.0000
SP	204.11	48.964		0.0000
P1	196.62	48.680	49.581	0.0828
P2	195.26	48.535	52.082	0.1743
P3	176.48	47.885	50.988	0.3138
P4	155.67	43.762	50.362	0.5874
P5	154.72	40.889	46.924	0.8257
P6	179.34			0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 34.880
TOTAL TEMPERATURE CALC AVG.	= 399.01
CALC. MEAN RAD	= 399.01
GAS FLOW (LBS/SEC)	= 26.658
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 32.637
*MAINSTREAM GAS VEL (FT/SEC)	= 1007.6
MACH NUMBER	= 0.74016
REYNOLDS NUMBER	= 1380000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 65.757
TEMPERATURE (DEG F)	= 138.26
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.1148

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 73

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 458.16
INLET AIR FLOW (LBS/SEC)	= 34.322
INLET PRESSURE (PSIA)	= 157.47
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 73.686
TOTAL PRESSURE MEAS. (PSIA)	= 76.105
TOTAL TEMPERATURE CALC. AVG.	= 453.63
CALC. MEAN RAD	= 453.63
MAINSTREAM GAS FLOW (LBS/SEC)	= 34.322
*MAINSTREAM GAS VEL. (FT/SEC)	= 317.67
MAINSTREAM GAS MACH NO.	= 0.21639
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	177.71	53.226		0.9717
S5	172.95	50.119	70.670	0.8359
S4	173.36		58.702	0.6122
S3	178.12			-0.3335
S2	191.59		67.967	-0.1783
S1	210.25	68.949	80.292	0.0674
SP	203.43	74.796		0.0000
SP	207.66	74.563		0.0000
P1	199.21	73.984	74.738	0.0828
P2	196.21	73.605	78.884	0.1743
P3	177.84	72.712	77.554	0.3138
P4	156.22	66.415	76.225	0.5874
P5	155.81	61.992	71.375	0.8257
P6	178.93			0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 52.937
TOTAL TEMPERATURE CALC AVG.	= 406.54
CALC. MEAN RAD	= 406.54
GAS FLOW (LBS/SEC)	= 40.379
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 46.832
*MAINSTREAM GAS VEL (FT/SEC)	= 1013.0
MACH NUMBER	= 0.74096
REYNOLDS NUMBER	= 2080000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 100.20
TEMPERATURE (DEG F)	= 139.49
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.6841

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 74

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 460.86
INLET AIR FLOW (LBS/SEC)	= 24.224
INLET PRESSURE (PSIA)	= 160.76
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 47.429
TOTAL PRESSURE MEAS. (PSIA)	= 49.182
TOTAL TEMPERATURE CALC. AVG.	= 455.36
CALC. MEAN RAD	= 455.36
MAINSTREAM GAS FLOW (LBS/SEC)	= 24.224
*MAINSTREAM GAS VEL. (FT/SEC)	= 336.96
MAINSTREAM GAS MACH NO.	= 0.22945
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	449.28	34.994		0.9717
S5	428.27	33.363	40.624	0.8359
S4	428.55		35.932	0.6122
S3	445.67			-0.3335
S2	454.69		40.038	-0.1783
S1	456.77	44.769	43.440	0.0674
SP	455.10	48.421		0.0000
SP	453.16	48.343		0.0000
P1	455.52	47.330	43.753	0.0828
P2	456.77	47.823	45.004	0.1743
P3	456.77	47.171	44.222	0.3138
P4	457.74	43.764	43.753	0.5874
P5	450.53	40.271	40.703	0.8257
P6	443.72			0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 35.102
TOTAL TEMPERATURE CALC AVG.	= 444.56
CALC. MEAN RAD	= 444.56
GAS FLOW (LBS/SEC)	= 25.097
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 31.090
*MAINSTREAM GAS VEL (FT/SEC)	= 999.46
MACH NUMBER	= 0.71333
REYNOLDS NUMBER	= 1250000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 43.762
TEMPERATURE (DEG F)	= 136.63
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.052283

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 75

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 459.75
INLET AIR FLOW (LBS/SEC)	= 37.246
INLET PRESSURE (PSIA)	= 158.07
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 71.687
TOTAL PRESSURE MEAS. (PSIA)	= 74.592
TOTAL TEMPERATURE CALC. AVG.	= 455.54
CALC. MEAN RAD	= 455.54
MAINSTREAM GAS FLOW (LBS/SEC)	= 37.246
*MAINSTREAM GAS VEL. (FT/SEC)	= 352.44
MAINSTREAM GAS MACH NO.	= 0.24008
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	451.22	53.216		0.9717
S5	439.27	50.536	61.271	0.8359
S4	438.30		54.467	0.6122
S3	448.17			-0.3335
S2	455.66		60.631	-0.1783
S1	457.19	68.544	65.885	0.0674
SP	455.94	73.445		0.0000
SP	454.83	73.135		0.0000
P1	455.94	71.568	66.589	0.0828
P2	457.60	72.276	68.075	0.1743
P3	457.47	71.409	67.371	0.3138
P4	458.44	66.145	66.276	0.5874
P5	452.33	60.709	61.975	0.8257
P6	448.73			0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 53.125
TOTAL TEMPERATURE CALC AVG.	= 448.21
CALC. MEAN RAD	= 448.21
GAS FLOW (LBS/SEC)	= 38.145
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 44.622
*MAINSTREAM GAS VEL (FT/SEC)	= 1004.5
MACH NUMBER	= 0.71570
REYNOLDS NUMBER	= 1890000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 66.095
TEMPERATURE (DEG F)	= 135.95
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.054480

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 76

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 457.46
INLET AIR FLOW (LBS/SEC)	= 48.047
INLET PRESSURE (PSIA)	= 155.26
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 91.566
TOTAL PRESSURE MEAS. (PSIA)	= 95.524
TOTAL TEMPERATURE CALC. AVG.	= 454.81
CALC. MEAN RAD	= 454.81
MAINSTREAM GAS FLOW (LBS/SEC)	= 48.047
*MAINSTREAM GAS VEL. (FT/SEC)	= 363.60
MAINSTREAM GAS MACH NO.	= 0.24786
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	449.83	68.163		0.9717
S5	440.38	64.549	78.251	0.8359
S4	439.27		69.649	0.6122
S3	447.19			-0.3335
S2	453.86		77.816	-0.1783
S1	455.52	87.323	84.352	0.0674
SP	454.27	93.875		0.0000
SP	453.44	93.719		0.0000
P1	454.13	91.566	84.977	0.0828
P2	455.94	92.148	87.089	0.1743
P3	455.66	91.407	86.307	0.3138
P4	456.63	84.953	84.664	0.5874
P5	451.22	77.971	79.346	0.8257
P6	448.17			0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 67.953
TOTAL TEMPERATURE CALC AVG.	= 449.13
CALC. MEAN RAD	= 449.13
GAS FLOW (LBS/SEC)	= 48.941
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 55.752
*MAINSTREAM GAS VEL (FT/SEC)	= 1006.6
MACH NUMBER	= 0.71702
REYNOLDS NUMBER	= 2420000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 84.665
TEMPERATURE (DEG F)	= 134.59
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.065371

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 77

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 455.11
INLET AIR FLOW (LBS/SEC)	= 60.624
INLET PRESSURE (PSIA)	= 149.45
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 120.22
TOTAL PRESSURE MEAS. (PSIA)	= 125.37
TOTAL TEMPERATURE CALC. AVG.	= 452.98
CALC. MEAN RAD	= 452.98
MAINSTREAM GAS FLOW (LBS/SEC)	= 60.624
*MAINSTREAM GAS VEL. (FT/SEC)	= 361.69
MAINSTREAM GAS MACH NO.	= 0.24679
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	450.11	91.294		0.9717
S5	442.61	87.337	103.66	0.8359
S4	441.08		92.390	0.6122
S3	447.47			-0.3335
S2	453.30		102.79	-0.1783
S1	454.97	114.30	111.10	0.0674
SP	453.72	122.97		0.0000
SP	452.75	122.74		0.0000
P1	454.00	120.16	111.88	0.0828
P2	455.39	121.16	114.38	0.1743
P3	455.25	119.84	113.13	0.3138
P4	455.94	111.72	111.33	0.5874
P5	450.95	103.49	104.52	0.8257
P6	448.59			0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 91.315
TOTAL TEMPERATURE CALC AVG.	= 448.83
CALC. MEAN RAD	= 448.83
GAS FLOW (LBS/SEC)	= 61.448
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 68.430
*MAINSTREAM GAS VEL (FT/SEC)	= 972.54
MACH NUMBER	= 0.69060
REYNOLDS NUMBER	= 3110000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 111.40
TEMPERATURE (DEG F)	= 133.23
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.064819

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 78

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 456.01
INLET AIR FLOW (LBS/SEC)	= 44.430
INLET PRESSURE (PSIA)	= 154.85
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 93.924
TOTAL PRESSURE MEAS. (PSIA)	= 97.367
TOTAL TEMPERATURE CALC. AVG.	= 453.15
CALC. MEAN RAD	= 453.15
MAINSTREAM GAS FLOW (LBS/SEC)	= 44.430
*MAINSTREAM GAS VEL. (FT/SEC)	= 335.18
MAINSTREAM GAS MACH NO.	= 0.22849
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	179.48	68.324		0.9717
S5	175.94	63.893	87.959	0.8359
S4	174.99		73.487	0.6122
S3	180.84			-0.3335
S2	191.31		84.783	-0.1783
S1	209.29	89.288	98.754	0.0674
SP	209.16	95.112		0.0000
SP	217.34	94.802		0.0000
P1	199.89	93.586	93.434	0.0828
P2	204.39	94.096	98.285	0.1743
P3	176.08	92.950	96.876	0.3138
P4	159.08	84.861	94.843	0.5874
P5	158.81	78.959	89.445	0.8257
P6	181.65			0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 67.652
TOTAL TEMPERATURE CALC AVG.	= 411.29
CALC. MEAN RAD	= 411.29
GAS FLOW (LBS/SEC)	= 51.267
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 58.100
*MAINSTREAM GAS VEL (FT/SEC)	= 1017.2
MACH NUMBER	= 0.74218
REYNOLDS NUMBER	= 2650000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 119.73
TEMPERATURE (DEG F)	= 138.95
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.9068

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 79

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 456.63
INLET AIR FLOW (LBS/SEC)	= 44.174
INLET PRESSURE (PSIA)	= 155.09
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 94.308
TOTAL PRESSURE MEAS. (PSIA)	= 97.611
TOTAL TEMPERATURE CALC. AVG.	= 453.70
CALC. MEAN RAD	= 453.70
MAINSTREAM GAS FLOW (LBS/SEC)	= 44.174
*MAINSTREAM GAS VEL. (FT/SEC)	= 327.93
MAINSTREAM GAS MACH NO.	= 0.22344
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	177.03	68.490		0.9717
S5	173.49	63.942	89.924	0.8359
S4	172.68		75.296	0.6122
S3	178.25			-0.3335
S2	191.18		86.601	-0.1783
S1	212.29	88.907	102.28	0.0674
SP	205.75	95.447		0.0000
SP	209.57	95.447		0.0000
P1	200.98	94.487	95.947	0.0828
P2	197.17	94.464	100.56	0.1743
P3	175.94	93.294	98.764	0.3138
P4	156.77	85.282	97.043	0.5874
P5	156.36	79.539	91.645	0.8257
P6	177.98			0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 67.650
TOTAL TEMPERATURE CALC AVG.	= 407.02
CALC. MEAN RAD	= 407.02
GAS FLOW (LBS/SEC)	= 51.917
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 58.611
*MAINSTREAM GAS VEL (FT/SEC)	= 1018.0
MACH NUMBER	= 0.74484
REYNOLDS NUMBER	= 2680000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 127.24
TEMPERATURE (DEG F)	= 140.31
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.1499

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 80

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 456.63
INLET AIR FLOW (LBS/SEC)	= 45.040
INLET PRESSURE (PSIA)	= 154.86
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 93.453
TOTAL PRESSURE MEAS. (PSIA)	= 97.011
TOTAL TEMPERATURE CALC. AVG.	= 453.98
CALC. MEAN RAD	= 453.98
MAINSTREAM GAS FLOW (LBS/SEC)	= 45.040
*MAINSTREAM GAS VEL. (FT/SEC)	= 341.61
MAINSTREAM GAS MACH NO.	= 0.23282
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	187.23	67.828		0.9717
S5	184.64	64.110	84.894	0.8359
S4	183.01		71.977	0.6122
S3	198.80			-0.3335
S2	200.30		82.583	-0.1783
S1	216.79	88.574	94.524	0.0674
SP	225.53	94.770		0.0000
SP	266.65	94.692		0.0000
P1	218.84	93.453	91.471	0.0828
P2	243.99	92.523	95.463	0.1743
P3	182.19	92.579	93.976	0.3138
P4	174.17	84.757	91.862	0.5874
P5	168.46	78.858	85.677	0.8257
P6	191.45			0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 67.681
TOTAL TEMPERATURE CALC AVG.	= 419.84
CALC. MEAN RAD	= 419.84
GAS FLOW (LBS/SEC)	= 50.518
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 57.267
*MAINSTREAM GAS VEL (FT/SEC)	= 1016.7
MACH NUMBER	= 0.73787
REYNOLDS NUMBER	= 2600000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 109.91
TEMPERATURE (DEG F)	= 139.08
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.5169

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 82

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 457.38
INLET AIR FLOW (LBS/SEC)	= 43.527
INLET PRESSURE (PSIA)	= 155.00
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 94.630
TOTAL PRESSURE MEAS. (PSIA)	= 97.924
TOTAL TEMPERATURE CALC. AVG.	= 455.01
CALC. MEAN RAD	= 455.01
MAINSTREAM GAS FLOW (LBS/SEC)	= 43.527
*MAINSTREAM GAS VEL. (FT/SEC)	= 327.18
MAINSTREAM GAS MACH NO.	= 0.22277
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	429.79	68.171		0.9717
S5	431.74	64.291	94.414	0.8359
S4	428.12		76.840	0.6122
S3	426.72			-0.3335
S2	432.99		89.841	-0.1783
S1	436.48	89.103	108.00	0.0674
SP	436.48	95.743		0.0000
SP	436.06	95.666		0.0000
P1	436.20	95.107	99.256	0.0828
P2	435.92	93.335	104.49	0.1743
P3	432.30	93.516	101.99	0.3138
P4	431.32	85.337	101.05	0.5874
P5	431.60	79.823	95.820	0.8257
P6	428.95			0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 67.636
TOTAL TEMPERATURE CALC AVG.	= 452.22
CALC. MEAN RAD	= 452.22
GAS FLOW (LBS/SEC)	= 51.285
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 58.197
*MAINSTREAM GAS VEL (FT/SEC)	= 1048.9
MACH NUMBER	= 0.74893
REYNOLDS NUMBER	= 2540000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 142.47
TEMPERATURE (DEG F)	= 435.36
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.1384

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 117

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 552.47
INLET AIR FLOW (LBS/SEC)	= 34.196
INLET PRESSURE (PSIA)	= 154.44
FUEL FLOW (LBS/SEC)	= 0.54150

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 118.51
TOTAL PRESSURE MEAS. (PSIA)	= 122.23
TOTAL TEMPERATURE CALC. AVG.	= 1566.2
CALC. MEAN RAD	= 1680.4
MAINSTREAM GAS FLOW (LBS/SEC)	= 34.738
*MAINSTREAM GAS VEL. (FT/SEC)	= 463.38
MAINSTREAM GAS MACH NO.	= 0.21732
COMBUSTOR EFFICIENCY	= 0.96445

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6		92.975		0.9717
S5	259.82	89.453	112.49	0.8359
S4	267.38	88.214	99.452	0.6122
S3	341.12		113.50	-0.3335
S2	324.16	103.51	108.43	-0.1783
S1	502.23	113.42	121.07	0.0674
SP	538.68	119.56		0.0000
SP	469.00	119.42		0.0000
P1	446.54	118.13	116.86	0.0828
P2	355.10	118.63	121.77	0.1743
P3	257.04	117.41	119.90	0.3138
P4	193.94	109.45	118.10	0.5874
P5	214.79	103.79	113.11	0.8257
P6	330.58	90.319		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 92.258
TOTAL TEMPERATURE CALC AVG.	= 1348.7
CALC. MEAN RAD	= 1536.7
GAS FLOW (LBS/SEC)	= 41.902
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 48.757
*MAINSTREAM GAS VEL (FT/SEC)	= 1298.7
MACH NUMBER	= 0.66163
REYNOLDS NUMBER	= 1290000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 140.83
TEMPERATURE (DEG F)	= 134.28
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.0056

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 118

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 561.98
INLET AIR FLOW (LBS/SEC)	= 17.260
INLET PRESSURE (PSIA)	= 158.90
FUEL FLOW (LBS/SEC)	= 0.36436

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 60.615
TOTAL PRESSURE MEAS. (PSIA)	= 62.520
TOTAL TEMPERATURE CALC. AVG.	= 1892.3
CALC. MEAN RAD	= 1987.3
MAINSTREAM GAS FLOW (LBS/SEC)	= 17.624
*MAINSTREAM GAS VEL. (FT/SEC)	= 499.19
MAINSTREAM GAS MACH NO.	= 0.21847
COMBUSTOR EFFICIENCY	= 0.97993

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6		43.192		0.9717
S5	397.80	40.571	58.177	0.8359
S4	430.39	40.305	49.358	0.6122
S3	475.48		97.199	-0.3335
S2	504.72	53.416	55.315	-0.1783
S1	675.79	57.865	64.420	0.0674
SP	680.08	61.317		0.0000
SP	550.57	61.147		0.0000
P1	614.44	60.568	60.908	0.0828
P2	476.39	60.642	64.576	0.1743
P3	425.26	59.822	62.859	0.3138
P4	323.13	54.820	61.377	0.5874
P5	347.31	51.277	58.801	0.8257
P6	469.81	41.270		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 42.445
TOTAL TEMPERATURE CALC AVG.	= 1620.9
CALC. MEAN RAD	= 1754.8
GAS FLOW (LBS/SEC)	= 21.984
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 28.133
*MAINSTREAM GAS VEL (FT/SEC)	= 1624.9
MACH NUMBER	= 0.78438
REYNOLDS NUMBER	= 610000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 79.607
TEMPERATURE (DEG F)	= 273.15
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.2152

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 119

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 567.01
INLET AIR FLOW (LBS/SEC)	= 17.399
INLET PRESSURE (PSIA)	= 158.90
FUEL FLOW (LBS/SEC)	= 0.36935

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 60.539
TOTAL PRESSURE MEAS. (PSIA)	= 62.415
TOTAL TEMPERATURE CALC. AVG.	= 1903.8
CALC. MEAN RAD	= 1903.8
MAINSTREAM GAS FLOW (LBS/SEC)	= 17.768
*MAINSTREAM GAS VEL. (FT/SEC)	= 497.15
MAINSTREAM GAS MACH NO.	= 0.21707
COMBUSTOR EFFICIENCY	= 0.98002

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6		42.795		0.9717
S5	422.71	40.322	56.527	0.8359
S4	465.10	39.752	47.944	0.6122
S3	503.44		80.870	-0.3335
S2	525.25	52.236	54.409	-0.1783
S1	715.65	57.151	61.989	0.0674
SP	728.20	61.220		0.0000
SP	614.98	60.911		0.0000
P1	656.46	60.281	59.336	0.0828
P2	529.63	60.519	62.769	0.1743
P3	450.96	59.725	61.520	0.3138
P4	354.65	54.719	60.194	0.5874
P5	382.19	51.004	56.995	0.8257
P6	506.05	41.452		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 42.441
TOTAL TEMPERATURE CALC AVG.	= 1661.2
CALC. MEAN RAD	= 1706.7
GAS FLOW (LBS/SEC)	= 21.592
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 27.783
*MAINSTREAM GAS VEL (FT/SEC)	= 1637.5
MACH NUMBER	= 0.78316
REYNOLDS NUMBER	= 600000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 75.386
TEMPERATURE (DEG F)	= 278.39
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.0676

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 120

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 567.61
INLET AIR FLOW (LBS/SEC)	= 17.668
INLET PRESSURE (PSIA)	= 159.18
FUEL FLOW (LBS/SEC)	= 0.36671

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 60.420
TOTAL PRESSURE MEAS. (PSIA)	= 62.337
TOTAL TEMPERATURE CALC. AVG.	= 1876.8
CALC. MEAN RAD	= 1876.8
MAINSTREAM GAS FLOW (LBS/SEC)	= 18.035
*MAINSTREAM GAS VEL. (FT/SEC)	= 500.03
MAINSTREAM GAS MACH NO.	= 0.21951
COMBUSTOR EFFICIENCY	= 0.97961

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6		43.051		0.9717
S5	436.92	40.477	56.248	0.8359
S4	479.06	40.084	48.127	0.6122
S3	536.05		77.643	-0.3335
S2	537.01	52.187	53.790	-0.1783
S1	730.86	57.653	61.635	0.0674
SP	763.62	60.833		0.0000
SP	645.03	60.911		0.0000
P1	696.40	60.201	59.449	0.0828
P2	561.83	60.476	62.260	0.1743
P3	459.97	59.963	60.855	0.3138
P4	377.54	54.874	59.605	0.5874
P5	399.47	51.004	56.560	0.8257
P6	524.15	41.474		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 42.483
TOTAL TEMPERATURE CALC AVG.	= 1661.8
CALC. MEAN RAD	= 1706.0
GAS FLOW (LBS/SEC)	= 21.457
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 27.683
*MAINSTREAM GAS VEL (FT/SEC)	= 1633.2
MACH NUMBER	= 0.78078
REYNOLDS NUMBER	= 590000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 72.842
TEMPERATURE (DEG F)	= 275.90
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.96970

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 121

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 568.09
INLET AIR FLOW (LBS/SEC)	= 17.761
INLET PRESSURE (PSIA)	= 158.95
FUEL FLOW (LBS/SEC)	= 0.37367

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 60.417
TOTAL PRESSURE MEAS. (PSIA)	= 62.373
TOTAL TEMPERATURE CALC. AVG.	= 1893.9
CALC. MEAN RAD	= 1893.9
MAINSTREAM GAS FLOW (LBS/SEC)	= 18.134
*MAINSTREAM GAS VEL. (FT/SEC)	= 506.74
MAINSTREAM GAS MACH NO.	= 0.22172
COMBUSTOR EFFICIENCY	= 0.97987

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6		42.912		0.9717
S5	443.60	40.564	55.331	0.8359
S4	489.12	39.476	47.599	0.6122
S3	553.11		72.826	-0.3335
S2	552.98	51.816	53.490	-0.1783
S1	740.99	56.971	61.345	0.0674
SP	791.80	61.075		0.0000
SP	694.53	60.998		0.0000
P1	731.93	60.199	58.611	0.0828
P2	601.99	60.449	61.345	0.1743
P3	470.77	59.723	60.486	0.3138
P4	392.17	54.806	58.689	0.5874
P5	418.51	51.168	55.799	0.8257
P6	538.38	41.462		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 42.609
TOTAL TEMPERATURE CALC AVG.	= 1688.3
CALC. MEAN RAD	= 1731.3
GAS FLOW (LBS/SEC)	= 21.366
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 27.480
*MAINSTREAM GAS VEL (FT/SEC)	= 1638.6
MACH NUMBER	= 0.77855
REYNOLDS NUMBER	= 580000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 71.397
TEMPERATURE (DEG F)	= 275.07
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.91096

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 125

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 539.89
INLET AIR FLOW (LBS/SEC)	= 34.194
INLET PRESSURE (PSIA)	= 154.15
FUEL FLOW (LBS/SEC)	= 0.55453

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 118.59
TOTAL PRESSURE MEAS. (PSIA)	= 122.39
TOTAL TEMPERATURE CALC. AVG.	= 1579.8
CALC. MEAN RAD	= 1693.5
MAINSTREAM GAS FLOW (LBS/SEC)	= 34.749
*MAINSTREAM GAS VEL. (FT/SEC)	= 469.81
MAINSTREAM GAS MACH NO.	= 0.21968
COMBUSTOR EFFICIENCY	= 0.96662

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	342.76	92.895		0.9717
S5	268.85	89.439	112.85	0.8359
S4	269.81	88.219	99.053	0.6122
S3	345.72			-0.3335
S2	335.56		108.43	-0.1783
S1	508.78	113.71	120.80	0.0674
SP	542.87	119.46		0.0000
SP	453.91	119.66		0.0000
P1	453.02	118.16	116.90	0.0828
P2	365.21	118.74	122.44	0.1743
P3	268.96	117.55	119.71	0.3138
P4	202.06	109.46	117.99	0.5874
P5	222.25	103.89	113.32	0.8257
P6	330.95	90.395		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 92.382
TOTAL TEMPERATURE CALC AVG.	= 1360.2
CALC. MEAN RAD	= 1544.0
GAS FLOW (LBS/SEC)	= 41.959
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 48.877
*MAINSTREAM GAS VEL (FT/SEC)	= 1302.9
MACH NUMBER	= 0.66179
REYNOLDS NUMBER	= 1280000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 141.81
TEMPERATURE (DEG F)	= 139.38
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.0017

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 126

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 546.05
INLET AIR FLOW (LBS/SEC)	= 16.883
INLET PRESSURE (PSIA)	= 159.03
FUEL FLOW (LBS/SEC)	= 0.34911

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 59.308
TOTAL PRESSURE MEAS. (PSIA)	= 61.179
TOTAL TEMPERATURE CALC. AVG.	= 1853.8
CALC. MEAN RAD	= 1955.8
MAINSTREAM GAS FLOW (LBS/SEC)	= 17.232
*MAINSTREAM GAS VEL. (FT/SEC)	= 496.13
MAINSTREAM GAS MACH NO.	= 0.21881
COMBUSTOR EFFICIENCY	= 0.97953

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	467.16	43.341		0.9717
S5	390.61	40.978	56.361	0.8359
S4	411.37	40.846	48.253	0.6122
S3	478.77			-0.3335
S2	491.25		53.587	-0.1783
S1	683.94	56.829	61.273	0.0674
SP	701.34	59.760		0.0000
SP	593.58	59.837		0.0000
P1	623.05	59.165	58.934	0.0828
P2	495.91	59.337	62.130	0.1743
P3	414.10	58.673	60.727	0.3138
P4	319.61	53.912	59.324	0.5874
P5	345.59	50.508	56.673	0.8257
P6	469.23	41.770		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 42.779
TOTAL TEMPERATURE CALC AVG.	= 1607.8
CALC. MEAN RAD	= 1748.4
GAS FLOW (LBS/SEC)	= 21.057
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 27.184
*MAINSTREAM GAS VEL (FT/SEC)	= 1559.5
MACH NUMBER	= 0.75253
REYNOLDS NUMBER	= 590000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 73.813
TEMPERATURE (DEG F)	= 260.02
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.0614

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 127

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 551.37
INLET AIR FLOW (LBS/SEC)	= 17.005
INLET PRESSURE (PSIA)	= 158.68
FUEL FLOW (LBS/SEC)	= 0.35269

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 59.135
TOTAL PRESSURE MEAS. (PSIA)	= 61.102
TOTAL TEMPERATURE CALC. AVG.	= 1861.7
CALC. MEAN RAD	= 1941.5
MAINSTREAM GAS FLOW (LBS/SEC)	= 17.358
*MAINSTREAM GAS VEL. (FT/SEC)	= 510.01
MAINSTREAM GAS MACH NO.	= 0.22461
COMBUSTOR EFFICIENCY	= 0.97960

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	500.11	43.309		0.9717
S5	421.42	41.046	55.617	0.8359
S4	447.88	40.504	48.139	0.6122
S3	520.16			-0.3335
S2	523.69		53.199	-0.1783
S1	720.30	56.474	60.525	0.0674
SP	742.57	59.771		0.0000
SP	636.28	59.740		0.0000
P1	671.47	58.941	58.266	0.0828
P2	538.79	59.280	61.304	0.1743
P3	446.21	58.496	59.902	0.3138
P4	359.72	53.880	58.500	0.5874
P5	381.88	50.540	55.929	0.8257
P6	503.96	41.840		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 42.825
TOTAL TEMPERATURE CALC AVG.	= 1637.8
CALC. MEAN RAD	= 1754.9
GAS FLOW (LBS/SEC)	= 20.837
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 26.993
*MAINSTREAM GAS VEL (FT/SEC)	= 1566.0
MACH NUMBER	= 0.75030
REYNOLDS NUMBER	= 580000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 71.829
TEMPERATURE (DEG F)	= 271.63
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.96657

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 128

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 554.68
INLET AIR FLOW (LBS/SEC)	= 17.189
INLET PRESSURE (PSIA)	= 158.81
FUEL FLOW (LBS/SEC)	= 0.35709

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 59.146
TOTAL PRESSURE MEAS. (PSIA)	= 61.054
TOTAL TEMPERATURE CALC. AVG.	= 1866.7
CALC. MEAN RAD	= 1998.1
MAINSTREAM GAS FLOW (LBS/SEC)	= 17.546
*MAINSTREAM GAS VEL. (FT/SEC)	= 502.96
MAINSTREAM GAS MACH NO.	= 0.22126
COMBUSTOR EFFICIENCY	= 0.97963

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	521.52	43.170		0.9717
S5	435.92	40.957	55.092	0.8359
S4	464.10	40.521	48.079	0.6122
S3	540.94			-0.3335
S2	543.92		52.728	-0.1783
S1	741.10	56.495	60.157	0.0674
SP	772.24	59.611		0.0000
SP	675.02	59.704		0.0000
P1	719.89	58.916	57.975	0.0828
P2	573.88	59.205	60.781	0.1743
P3	463.79	58.503	59.456	0.3138
P4	385.40	53.826	58.053	0.5874
P5	405.19	50.485	55.326	0.8257
P6	524.81	41.808		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 42.726
TOTAL TEMPERATURE CALC AVG.	= 1655.2
CALC. MEAN RAD	= 1820.9
GAS FLOW (LBS/SEC)	= 20.806
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 26.936
*MAINSTREAM GAS VEL (FT/SEC)	= 1575.8
MACH NUMBER	= 0.75217
REYNOLDS NUMBER	= 570000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 70.420
TEMPERATURE (DEG F)	= 274.41
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.90516

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 129

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 556.54
INLET AIR FLOW (LBS/SEC)	= 17.242
INLET PRESSURE (PSIA)	= 158.92
FUEL FLOW (LBS/SEC)	= 0.36661

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 59.099
TOTAL PRESSURE MEAS. (PSIA)	= 60.971
TOTAL TEMPERATURE CALC. AVG.	= 1896.6
CALC. MEAN RAD	= 2005.9
MAINSTREAM GAS FLOW (LBS/SEC)	= 17.608
*MAINSTREAM GAS VEL. (FT/SEC)	= 501.67
MAINSTREAM GAS MACH NO.	= 0.21938
COMBUSTOR EFFICIENCY	= 0.98004

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	536.15	42.997		0.9717
S5	445.92	40.926	54.475	0.8359
S4	475.57	40.420	47.760	0.6122
S3	566.96			-0.3335
S2	559.12		52.403	-0.1783
S1	746.42	55.959	59.707	0.0674
SP	789.24	59.658		0.0000
SP	755.04	59.704		0.0000
P1	751.61	58.995	57.442	0.0828
P2	622.60	59.139	60.253	0.1743
P3	486.72	58.503	59.160	0.3138
P4	401.26	53.795	57.520	0.5874
P5	425.87	50.222	54.631	0.8257
P6	543.53	41.838		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 42.772
TOTAL TEMPERATURE CALC AVG.	= 1695.8
CALC. MEAN RAD	= 1838.8
GAS FLOW (LBS/SEC)	= 20.660
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 26.807
*MAINSTREAM GAS VEL (FT/SEC)	= 1585.8
MACH NUMBER	= 0.74994
REYNOLDS NUMBER	= 560000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 68.934
TEMPERATURE (DEG F)	= 274.34
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.84681

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 130

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 557.39
INLET AIR FLOW (LBS/SEC)	= 17.235
INLET PRESSURE (PSIA)	= 159.02
FUEL FLOW (LBS/SEC)	= 0.36564

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 59.102
TOTAL PRESSURE MEAS. (PSIA)	= 60.966
TOTAL TEMPERATURE CALC. AVG.	= 1894.8
CALC. MEAN RAD	= 2009.3
MAINSTREAM GAS FLOW (LBS/SEC)	= 17.601
*MAINSTREAM GAS VEL. (FT/SEC)	= 500.48
MAINSTREAM GAS MACH NO.	= 0.21893
COMBUSTOR EFFICIENCY	= 0.98001

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	513.56	42.433		0.9717
S5	433.12	39.861	55.157	0.8359
S4	462.70	39.467	47.351	0.6122
S3	527.39			-0.3335
S2	534.56		52.759	-0.1783
S1	735.08	56.094	60.310	0.0674
SP	751.60	59.610		0.0000
SP	651.79	59.625		0.0000
P1	691.14	58.852	57.812	0.0828
P2	547.24	59.088	60.856	0.1743
P3	459.96	58.471	59.529	0.3138
P4	376.37	53.486	58.202	0.5874
P5	395.36	49.867	55.626	0.8257
P6	515.89	40.715		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 41.700
TOTAL TEMPERATURE CALC AVG.	= 1670.4
CALC. MEAN RAD	= 1819.1
GAS FLOW (LBS/SEC)	= 21.076
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 27.143
*MAINSTREAM GAS VEL (FT/SEC)	= 1629.1
MACH NUMBER	= 0.77704
REYNOLDS NUMBER	= 580000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 71.916
TEMPERATURE (DEG F)	= 275.94
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.96660

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 131

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 557.87
INLET AIR FLOW (LBS/SEC)	= 16.688
INLET PRESSURE (PSIA)	= 158.95
FUEL FLOW (LBS/SEC)	= 0.34981

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 59.309
TOTAL PRESSURE MEAS. (PSIA)	= 61.094
TOTAL TEMPERATURE CALC. AVG.	= 1880.5
CALC. MEAN RAD	= 2002.0
MAINSTREAM GAS FLOW (LBS/SEC)	= 17.037
*MAINSTREAM GAS VEL. (FT/SEC)	= 487.48
MAINSTREAM GAS MACH NO.	= 0.21381
COMBUSTOR EFFICIENCY	= 0.97980

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	511.08	44.322		0.9717
S5	433.67	42.384	55.647	0.8359
S4	469.06	41.589	48.462	0.6122
S3	523.28			-0.3335
S2	532.53		53.668	-0.1783
S1	732.01	56.507	60.334	0.0674
SP	746.14	59.805		0.0000
SP	652.51	59.743		0.0000
P1	677.34	59.083	58.225	0.0828
P2	541.11	59.324	61.193	0.1743
P3	457.29	58.639	60.178	0.3138
P4	364.79	54.225	58.772	0.5874
P5	396.62	51.040	56.429	0.8257
P6	517.11	43.067		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 43.997
TOTAL TEMPERATURE CALC AVG.	= 1651.4
CALC. MEAN RAD	= 1806.8
GAS FLOW (LBS/SEC)	= 20.520
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 26.723
*MAINSTREAM GAS VEL (FT/SEC)	= 1512.5
MACH NUMBER	= 0.72015
REYNOLDS NUMBER	= 560000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 72.226
TEMPERATURE (DEG F)	= 277.34
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.96915

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 132

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 558.01
INLET AIR FLOW (LBS/SEC)	= 16.427
INLET PRESSURE (PSIA)	= 158.87
FUEL FLOW (LBS/SEC)	= 0.34440

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 59.380
TOTAL PRESSURE MEAS. (PSIA)	= 61.159
TOTAL TEMPERATURE CALC. AVG.	= 1881.0
CALC. MEAN RAD	= 1992.9
MAINSTREAM GAS FLOW (LBS/SEC)	= 16.771
*MAINSTREAM GAS VEL. (FT/SEC)	= 486.53
MAINSTREAM GAS MACH NO.	= 0.21337
COMBUSTOR EFFICIENCY	= 0.97980

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	508.73	45.243		0.9717
S5	433.37	43.246	56.172	0.8359
S4	469.18	42.433	49.146	0.6122
S3	516.83			-0.3335
S2	532.05		54.009	-0.1783
S1	725.60	56.485	60.388	0.0674
SP	740.26	59.855		0.0000
SP	649.70	59.855		0.0000
P1	671.29	59.190	58.436	0.0828
P2	539.79	59.430	61.324	0.1743
P3	456.61	58.761	60.310	0.3138
P4	363.64	54.473	58.904	0.5874
P5	391.27	51.365	56.563	0.8257
P6	516.55	43.965		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 44.848
TOTAL TEMPERATURE CALC AVG.	= 1648.7
CALC. MEAN RAD	= 1795.6
GAS FLOW (LBS/SEC)	= 20.252
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 26.552
*MAINSTREAM GAS VEL (FT/SEC)	= 1470.9
MACH NUMBER	= 0.69931
REYNOLDS NUMBER	= 550000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 72.404
TEMPERATURE (DEG F)	= 278.40
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.97031

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 133

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 558.36
INLET AIR FLOW (LBS/SEC)	= 19.166
INLET PRESSURE (PSIA)	= 158.31
FUEL FLOW (LBS/SEC)	= 0.45953

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 70.595
TOTAL PRESSURE MEAS. (PSIA)	= 72.889
TOTAL TEMPERATURE CALC. AVG.	= 2050.7
CALC. MEAN RAD	= 2050.7
MAINSTREAM GAS FLOW (LBS/SEC)	= 19.626
*MAINSTREAM GAS VEL. (FT/SEC)	= 524.46
MAINSTREAM GAS MACH NO.	= 0.22276
COMBUSTOR EFFICIENCY	= 0.98104

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	592.86	51.625		0.9717
S5	509.83	48.820	66.605	0.8359
S4	550.46	48.270	57.243	0.6122
S3	598.82			-0.3335
S2	647.25		63.592	-0.1783
S1	852.43	66.996	72.223	0.0674
SP	885.54	71.249		0.0000
SP	736.80	71.326		0.0000
P1	792.67	70.416	69.258	0.0828
P2	625.84	70.471	73.081	0.1743
P3	538.59	69.782	71.599	0.3138
P4	432.54	64.366	70.273	0.5874
P5	464.20	60.112	66.996	0.8257
P6	613.42	49.805		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 50.934
TOTAL TEMPERATURE CALC AVG.	= 1807.2
CALC. MEAN RAD	= 1837.2
GAS FLOW (LBS/SEC)	= 23.752
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 30.057
*MAINSTREAM GAS VEL (FT/SEC)	= 1635.2
MACH NUMBER	= 0.75542
REYNOLDS NUMBER	= 630000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 87.077
TEMPERATURE (DEG F)	= 368.44
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.1462

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 134

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 558.27
INLET AIR FLOW (LBS/SEC)	= 18.568
INLET PRESSURE (PSIA)	= 158.50
FUEL FLOW (LBS/SEC)	= 0.50303

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 70.660
TOTAL PRESSURE MEAS. (PSIA)	= 72.946
TOTAL TEMPERATURE CALC. AVG.	= 2222.4
CALC. MEAN RAD	= 2427.6
MAINSTREAM GAS FLOW (LBS/SEC)	= 19.071
*MAINSTREAM GAS VEL. (FT/SEC)	= 540.91
MAINSTREAM GAS MACH NO.	= 0.22286
COMBUSTOR EFFICIENCY	= 0.98315

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	656.38	51.176		0.9717
S5	566.38	48.698	66.555	0.8359
S4	603.00	47.819	57.109	0.6122
S3	655.98			-0.3335
S2	718.11		63.796	-0.1783
S1	933.41	67.101	72.566	0.0674
SP	963.64	71.376		0.0000
SP	798.12	71.360		0.0000
P1	862.84	70.477	69.521	0.0828
P2	673.21	70.572	73.893	0.1743
P3	602.35	69.874	72.097	0.3138
P4	483.53	64.275	70.224	0.5874
P5	520.93	60.130	67.101	0.8257
P6	676.24	49.736		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 50.971
TOTAL TEMPERATURE CALC AVG.	= 1952.4
CALC. MEAN RAD	= 2161.5
GAS FLOW (LBS/SEC)	= 23.241
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 29.623
*MAINSTREAM GAS VEL (FT/SEC)	= 1687.4
MACH NUMBER	= 0.75702
REYNOLDS NUMBER	= 590000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 88.317
TEMPERATURE (DEG F)	= 397.77
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.1532

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 135

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 547.84
INLET AIR FLOW (LBS/SEC)	= 34.323
INLET PRESSURE (PSIA)	= 154.29
FUEL FLOW (LBS/SEC)	= 0.53709

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 118.43
TOTAL PRESSURE MEAS. (PSIA)	= 122.25
TOTAL TEMPERATURE CALC. AVG.	= 1550.8
CALC. MEAN RAD	= 1659.4
MAINSTREAM GAS FLOW (LBS/SEC)	= 34.860
*MAINSTREAM GAS VEL. (FT/SEC)	= 467.85
MAINSTREAM GAS MACH NO.	= 0.22022
COMBUSTOR EFFICIENCY	= 0.96331

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	389.53	92.873		0.9717
S5	333.38	89.480	112.32	0.8359
S4	339.71	87.954	98.339	0.6122
S3	393.04			-0.3335
S2	410.18		108.37	-0.1783
S1	555.87	113.18	120.59	0.0674
SP	587.94	119.43		0.0000
SP	513.05	119.56		0.0000
P1	500.44	118.09	116.53	0.0828
P2	433.30	118.58	121.92	0.1743
P3	340.79	117.36	120.05	0.3138
P4	258.85	109.45	117.55	0.5874
P5	285.32	103.62	113.33	0.8257
P6	385.45	89.950		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 92.451
TOTAL TEMPERATURE CALC AVG.	= 1339.9
CALC. MEAN RAD	= 1519.0
GAS FLOW (LBS/SEC)	= 42.034
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 49.016
*MAINSTREAM GAS VEL (FT/SEC)	= 1291.2
MACH NUMBER	= 0.65917
REYNOLDS NUMBER	= 1300000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 142.37
TEMPERATURE (DEG F)	= 166.89
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.9451

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 136

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 553.42
INLET AIR FLOW (LBS/SEC)	= 18.496
INLET PRESSURE (PSIA)	= 158.52
FUEL FLOW (LBS/SEC)	= 0.50910

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 70.728
TOTAL PRESSURE MEAS. (PSIA)	= 72.963
TOTAL TEMPERATURE CALC. AVG.	= 2242.6
CALC. MEAN RAD	= 2467.2
MAINSTREAM GAS FLOW (LBS/SEC)	= 19.005
*MAINSTREAM GAS VEL. (FT/SEC)	= 536.58
MAINSTREAM GAS MACH NO.	= 0.22030
COMBUSTOR EFFICIENCY	= 0.98383

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	649.08	51.596		0.9717
S5	556.27	48.869	66.725	0.8359
S4	591.05	48.243	57.601	0.6122
S3	646.80			-0.3335
S2	710.78		63.794	-0.1783
S1	936.80	67.660	72.651	0.0674
SP	974.16	71.465		0.0000
SP	803.44	71.357		0.0000
P1	868.07	70.494	70.000	0.0828
P2	671.43	70.618	73.977	0.1743
P3	589.80	69.986	72.027	0.3138
P4	470.65	64.397	70.468	0.5874
P5	512.38	60.314	67.192	0.8257
P6	677.54	49.838		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 51.041
TOTAL TEMPERATURE CALC AVG.	= 1969.2
CALC. MEAN RAD	= 2194.6
GAS FLOW (LBS/SEC)	= 23.163
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 29.452
*MAINSTREAM GAS VEL (FT/SEC)	= 1690.7
MACH NUMBER	= 0.75596
REYNOLDS NUMBER	= 580000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 87.833
TEMPERATURE (DEG F)	= 389.55
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.1502

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 137

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 557.12
INLET AIR FLOW (LBS/SEC)	= 18.730
INLET PRESSURE (PSIA)	= 158.53
FUEL FLOW (LBS/SEC)	= 0.51653

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 70.612
TOTAL PRESSURE MEAS. (PSIA)	= 72.895
TOTAL TEMPERATURE CALC. AVG.	= 2248.4
CALC. MEAN RAD	= 2444.9
MAINSTREAM GAS FLOW (LBS/SEC)	= 19.246
*MAINSTREAM GAS VEL. (FT/SEC)	= 543.22
MAINSTREAM GAS MACH NO.	= 0.22283
COMBUSTOR EFFICIENCY	= 0.98393

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	686.24	51.518		0.9717
S5	585.34	48.827	66.023	0.8359
S4	623.08	48.009	57.289	0.6122
S3	689.99			-0.3335
S2	747.05		63.219	-0.1783
S1	981.94	67.270	71.715	0.0674
SP	1030.7	71.312		0.0000
SP	849.58	71.266		0.0000
P1	936.27	70.334	69.142	0.0828
P2	716.08	70.516	72.963	0.1743
P3	626.32	69.795	71.481	0.3138
P4	516.49	64.287	69.688	0.5874
P5	548.62	60.186	66.880	0.8257
P6	715.66	49.797		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 51.011
TOTAL TEMPERATURE CALC AVG.	= 1997.9
CALC. MEAN RAD	= 2198.9
GAS FLOW (LBS/SEC)	= 23.053
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 29.312
*MAINSTREAM GAS VEL (FT/SEC)	= 1700.0
MACH NUMBER	= 0.75587
REYNOLDS NUMBER	= 570000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 85.420
TEMPERATURE (DEG F)	= 400.38
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.0498

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 138

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 558.31
INLET AIR FLOW (LBS/SEC)	= 18.807
INLET PRESSURE (PSIA)	= 158.52
FUEL FLOW (LBS/SEC)	= 0.52076

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 70.578
TOTAL PRESSURE MEAS. (PSIA)	= 72.858
TOTAL TEMPERATURE CALC. AVG.	= 2255.6
CALC. MEAN RAD	= 2483.8
MAINSTREAM GAS FLOW (LBS/SEC)	= 19.328
*MAINSTREAM GAS VEL. (FT/SEC)	= 543.85
MAINSTREAM GAS MACH NO.	= 0.22281
COMBUSTOR EFFICIENCY	= 0.98413

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	702.16	51.771		0.9717
S5	596.18	48.782	65.660	0.8359
S4	628.47	48.494	57.545	0.6122
S3	711.12			-0.3335
S2	768.31		62.757	-0.1783
S1	995.15	67.298	71.979	0.0674
SP	1067.1	71.253		0.0000
SP	892.83	71.362		0.0000
P1	979.83	70.395	69.171	0.0828
P2	754.95	70.310	72.448	0.1743
P3	639.79	69.824	71.121	0.3138
P4	536.20	64.258	69.327	0.5874
P5	571.49	60.188	66.440	0.8257
P6	731.94	49.812		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 51.099
TOTAL TEMPERATURE CALC AVG.	= 2019.2
CALC. MEAN RAD	= 2250.3
GAS FLOW (LBS/SEC)	= 22.892
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 29.175
*MAINSTREAM GAS VEL (FT/SEC)	= 1702.4
MACH NUMBER	= 0.75366
REYNOLDS NUMBER	= 570000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 83.682
TEMPERATURE (DEG F)	= 401.28
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.98739

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 139

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 558.84
INLET AIR FLOW (LBS/SEC)	= 19.036
INLET PRESSURE (PSIA)	= 158.55
FUEL FLOW (LBS/SEC)	= 0.51486

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 70.570
TOTAL PRESSURE MEAS. (PSIA)	= 72.849
TOTAL TEMPERATURE CALC. AVG.	= 2220.3
CALC. MEAN RAD	= 2430.7
MAINSTREAM GAS FLOW (LBS/SEC)	= 19.551
*MAINSTREAM GAS VEL. (FT/SEC)	= 540.21
MAINSTREAM GAS MACH NO.	= 0.22265
COMBUSTOR EFFICIENCY	= 0.98309

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	723.77	51.499		0.9717
S5	606.31	48.851	64.624	0.8359
S4	641.38	48.139	56.655	0.6122
S3	747.90			-0.3335
S2	785.39		62.359	-0.1783
S1	986.93	66.889	70.874	0.0674
SP	1081.8	71.380		0.0000
SP	1019.3	71.411		0.0000
P1	1016.7	70.459	68.452	0.0828
P2	822.36	70.351	71.577	0.1743
P3	678.08	69.903	70.561	0.3138
P4	556.78	64.324	68.295	0.5874
P5	597.10	60.146	64.936	0.8257
P6	753.76	49.807		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 51.057
TOTAL TEMPERATURE CALC AVG.	= 2004.1
CALC. MEAN RAD	= 2222.1
GAS FLOW (LBS/SEC)	= 22.869
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 29.109
*MAINSTREAM GAS VEL (FT/SEC)	= 1698.7
MACH NUMBER	= 0.75427
REYNOLDS NUMBER	= 570000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 81.985
TEMPERATURE (DEG F)	= 401.93
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.91652

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 140

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 559.10
INLET AIR FLOW (LBS/SEC)	= 18.959
INLET PRESSURE (PSIA)	= 158.31
FUEL FLOW (LBS/SEC)	= 0.52336

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 70.497
TOTAL PRESSURE MEAS. (PSIA)	= 72.765
TOTAL TEMPERATURE CALC. AVG.	= 2251.7
CALC. MEAN RAD	= 2251.7
MAINSTREAM GAS FLOW (LBS/SEC)	= 19.483
*MAINSTREAM GAS VEL. (FT/SEC)	= 542.37
MAINSTREAM GAS MACH NO.	= 0.22235
COMBUSTOR EFFICIENCY	= 0.98397

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	719.78	51.606		0.9717
S5	605.91	48.810	65.026	0.8359
S4	654.71	48.173	57.223	0.6122
S3	747.38			-0.3335
S2	785.02		62.348	-0.1783
S1	993.16	67.289	71.346	0.0674
SP	1088.7	71.322		0.0000
SP	1000.3	71.322		0.0000
P1	1022.4	70.298	68.849	0.0828
P2	825.89	70.135	72.126	0.1743
P3	678.19	69.822	70.800	0.3138
P4	556.24	64.360	68.615	0.5874
P5	597.53	60.182	65.182	0.8257
P6	755.24	49.707		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 51.053
TOTAL TEMPERATURE CALC AVG.	= 2031.4
CALC. MEAN RAD	= 2053.1
GAS FLOW (LBS/SEC)	= 22.802
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 29.092
*MAINSTREAM GAS VEL (FT/SEC)	= 1705.7
MACH NUMBER	= 0.75336
REYNOLDS NUMBER	= 560000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 81.847
TEMPERATURE (DEG F)	= 400.45
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.92196

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 141

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 558.88
INLET AIR FLOW (LBS/SEC)	= 18.840
INLET PRESSURE (PSIA)	= 158.43
FUEL FLOW (LBS/SEC)	= 0.50738

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 70.471
TOTAL PRESSURE MEAS. (PSIA)	= 72.775
TOTAL TEMPERATURE CALC. AVG.	= 2214.3
CALC. MEAN RAD	= 2214.3
MAINSTREAM GAS FLOW (LBS/SEC)	= 19.348
*MAINSTREAM GAS VEL. (FT/SEC)	= 542.75
MAINSTREAM GAS MACH NO.	= 0.22394
COMBUSTOR EFFICIENCY	= 0.98293

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	720.17	51.020		0.9717
S5	604.00	48.870	64.685	0.8359
S4	656.84	47.741	56.798	0.6122
S3	742.97			-0.3335
S2	787.93		62.552	-0.1783
S1	990.23	66.949	71.088	0.0674
SP	1085.9	71.519		0.0000
SP	997.37	71.442		0.0000
P1	1018.4	70.372	68.589	0.0828
P2	822.83	70.510	71.869	0.1743
P3	677.10	69.896	70.775	0.3138
P4	557.32	64.485	68.355	0.5874
P5	596.97	60.001	64.997	0.8257
P6	757.48	49.777		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 51.023
TOTAL TEMPERATURE CALC AVG.	= 1996.8
CALC. MEAN RAD	= 2019.9
GAS FLOW (LBS/SEC)	= 22.665
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 28.940
*MAINSTREAM GAS VEL (FT/SEC)	= 1695.3
MACH NUMBER	= 0.75379
REYNOLDS NUMBER	= 570000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 81.961
TEMPERATURE (DEG F)	= 403.10
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.91639

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 142

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 559.02
INLET AIR FLOW (LBS/SEC)	= 19.017
INLET PRESSURE (PSIA)	= 158.50
FUEL FLOW (LBS/SEC)	= 0.52785

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 70.516
TOTAL PRESSURE MEAS. (PSIA)	= 72.853
TOTAL TEMPERATURE CALC. AVG.	= 2260.4
CALC. MEAN RAD	= 2260.4
MAINSTREAM GAS FLOW (LBS/SEC)	= 19.545
*MAINSTREAM GAS VEL. (FT/SEC)	= 551.10
MAINSTREAM GAS MACH NO.	= 0.22562
COMBUSTOR EFFICIENCY	= 0.98426

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	721.64	51.606		0.9717
S5	606.03	48.811	64.944	0.8359
S4	657.11	48.173	57.378	0.6122
S3	745.37			-0.3335
S2	785.40		62.345	-0.1783
S1	993.14	67.440	71.418	0.0674
SP	1083.1	71.317		0.0000
SP	991.03	71.394		0.0000
P1	1018.6	70.496	69.156	0.0828
P2	822.03	70.446	71.964	0.1743
P3	676.16	69.861	70.872	0.3138
P4	555.14	64.511	69.000	0.5874
P5	600.35	60.102	65.256	0.8257
P6	757.08	49.786		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 51.093
TOTAL TEMPERATURE CALC AVG.	= 2039.4
CALC. MEAN RAD	= 2060.4
GAS FLOW (LBS/SEC)	= 22.877
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 29.156
*MAINSTREAM GAS VEL (FT/SEC)	= 1709.5
MACH NUMBER	= 0.75392
REYNOLDS NUMBER	= 560000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 81.944
TEMPERATURE (DEG F)	= 402.40
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.92314

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 143

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 559.17
INLET AIR FLOW (LBS/SEC)	= 19.030
INLET PRESSURE (PSIA)	= 158.98
FUEL FLOW (LBS/SEC)	= 0.52984

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 70.422
TOTAL PRESSURE MEAS. (PSIA)	= 72.853
TOTAL TEMPERATURE CALC. AVG.	= 2265.2
CALC. MEAN RAD	= 2265.2
MAINSTREAM GAS FLOW (LBS/SEC)	= 19.560
*MAINSTREAM GAS VEL. (FT/SEC)	= 562.80
MAINSTREAM GAS MACH NO.	= 0.23025
COMBUSTOR EFFICIENCY	= 0.98442

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	722.45	51.430		0.9717
S5	606.99	48.820	65.074	0.8359
S4	655.91	48.078	57.199	0.6122
S3	747.12			-0.3335
S2	786.61		62.358	-0.1783
S1	996.06	67.412	71.311	0.0674
SP	1088.9	71.331		0.0000
SP	990.64	71.331		0.0000
P1	1024.2	70.342	69.050	0.0828
P2	825.36	70.303	71.856	0.1743
P3	677.12	69.866	70.609	0.3138
P4	557.06	64.369	69.050	0.5874
P5	598.34	60.114	65.074	0.8257
P6	756.97	49.717		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 51.083
TOTAL TEMPERATURE CALC AVG.	= 2045.1
CALC. MEAN RAD	= 2065.7
GAS FLOW (LBS/SEC)	= 22.872
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 29.136
*MAINSTREAM GAS VEL (FT/SEC)	= 1711.9
MACH NUMBER	= 0.75420
REYNOLDS NUMBER	= 560000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 82.030
TEMPERATURE (DEG F)	= 402.98
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.91662

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 144

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 559.19
INLET AIR FLOW (LBS/SEC)	= 18.942
INLET PRESSURE (PSIA)	= 158.29
FUEL FLOW (LBS/SEC)	= 0.50674

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 70.447
TOTAL PRESSURE MEAS. (PSIA)	= 72.817
TOTAL TEMPERATURE CALC. AVG.	= 2204.2
CALC. MEAN RAD	= 2396.9
MAINSTREAM GAS FLOW (LBS/SEC)	= 19.449
*MAINSTREAM GAS VEL. (FT/SEC)	= 549.51
MAINSTREAM GAS MACH NO.	= 0.22714
COMBUSTOR EFFICIENCY	= 0.98271

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	688.91	50.679		0.9717
S5	589.67	47.621	65.663	0.8359
S4	624.28	47.323	56.688	0.6122
S3	691.32			-0.3335
S2	753.35		62.784	-0.1783
S1	992.23	66.990	71.985	0.0674
SP	1039.2	71.232		0.0000
SP	859.85	71.294		0.0000
P1	949.19	70.237	69.175	0.0828
P2	724.80	70.180	72.687	0.1743
P3	631.99	69.713	71.127	0.3138
P4	524.97	63.975	69.488	0.5874
P5	554.75	59.798	66.366	0.8257
P6	717.11	48.540		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 49.882
TOTAL TEMPERATURE CALC AVG.	= 1961.5
CALC. MEAN RAD	= 2161.6
GAS FLOW (LBS/SEC)	= 23.250
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 29.511
*MAINSTREAM GAS VEL (FT/SEC)	= 1734.8
MACH NUMBER	= 0.77862
REYNOLDS NUMBER	= 590000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 85.386
TEMPERATURE (DEG F)	= 402.92
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.0507

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 145

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 559.20
INLET AIR FLOW (LBS/SEC)	= 18.362
INLET PRESSURE (PSIA)	= 158.55
FUEL FLOW (LBS/SEC)	= 0.50370

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 70.750
TOTAL PRESSURE MEAS. (PSIA)	= 72.964
TOTAL TEMPERATURE CALC. AVG.	= 2241.9
CALC. MEAN RAD	= 2452.0
MAINSTREAM GAS FLOW (LBS/SEC)	= 18.866
*MAINSTREAM GAS VEL. (FT/SEC)	= 534.00
MAINSTREAM GAS MACH NO.	= 0.21926
COMBUSTOR EFFICIENCY	= 0.98368

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	687.96	52.922		0.9717
S5	587.76	50.388	66.573	0.8359
S4	629.26	49.802	57.992	0.6122
S3	684.75			-0.3335
S2	746.33		63.741	-0.1783
S1	989.05	67.509	71.955	0.0674
SP	1023.0	71.430		0.0000
SP	855.77	71.477		0.0000
P1	934.27	70.496	69.615	0.0828
P2	713.31	70.456	73.125	0.1743
P3	627.59	69.987	71.565	0.3138
P4	511.94	64.700	70.083	0.5874
P5	551.47	60.894	67.041	0.8257
P6	714.84	51.273		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 52.511
TOTAL TEMPERATURE CALC AVG.	= 1989.0
CALC. MEAN RAD	= 2202.6
GAS FLOW (LBS/SEC)	= 22.656
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 28.959
*MAINSTREAM GAS VEL (FT/SEC)	= 1631.6
MACH NUMBER	= 0.72441
REYNOLDS NUMBER	= 560000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 85.600
TEMPERATURE (DEG F)	= 402.49
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.0451

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 146

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 559.17
INLET AIR FLOW (LBS/SEC)	= 18.180
INLET PRESSURE (PSIA)	= 158.75
FUEL FLOW (LBS/SEC)	= 0.49040

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 70.915
TOTAL PRESSURE MEAS. (PSIA)	= 73.042
TOTAL TEMPERATURE CALC. AVG.	= 2216.8
CALC. MEAN RAD	= 2422.3
MAINSTREAM GAS FLOW (LBS/SEC)	= 18.671
*MAINSTREAM GAS VEL. (FT/SEC)	= 520.50
MAINSTREAM GAS MACH NO.	= 0.21461
COMBUSTOR EFFICIENCY	= 0.98299

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	688.76	53.801		0.9717
S5	584.64	51.640	67.068	0.8359
S4	626.16	50.913	58.718	0.6122
S3	676.70			-0.3335
S2	744.57		64.269	-0.1783
S1	984.69	67.849	72.063	0.0674
SP	1016.9	71.575		0.0000
SP	857.30	71.668		0.0000
P1	927.27	70.661	70.112	0.0828
P2	711.63	70.753	73.546	0.1743
P3	627.26	70.264	71.595	0.3138
P4	508.23	65.121	70.346	0.5874
P5	551.19	61.468	67.302	0.8257
P6	714.43	52.310		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 53.509
TOTAL TEMPERATURE CALC AVG.	= 1965.1
CALC. MEAN RAD	= 2175.9
GAS FLOW (LBS/SEC)	= 22.449
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 28.777
*MAINSTREAM GAS VEL (FT/SEC)	= 1580.7
MACH NUMBER	= 0.70369
REYNOLDS NUMBER	= 560000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 85.791
TEMPERATURE (DEG F)	= 402.66
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.0489

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 153

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 803.46
INLET AIR FLOW (LBS/SEC)	= 29.512
INLET PRESSURE (PSIA)	= 239.58
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 119.48
TOTAL PRESSURE MEAS. (PSIA)	= 121.98
TOTAL TEMPERATURE CALC. AVG.	= 800.07
CALC. MEAN RAD	= 800.07
MAINSTREAM GAS FLOW (LBS/SEC)	= 29.512
*MAINSTREAM GAS VEL. (FT/SEC)	= 299.37
MAINSTREAM GAS MACH NO.	= 0.17470
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6		109.29		0.9717
S5	339.38	107.81	118.68	0.8359
S4	349.39	107.10	112.11	0.6122
S3	353.78			-0.3335
S2	373.71		116.34	-0.1783
S1	389.48	116.72	124.62	0.0674
SP	385.54	120.29		0.0000
SP	387.79	120.13		0.0000
P1	377.09	119.83	120.55	0.0828
P2	371.17	119.74	123.13	0.1743
P3	338.81	119.04	121.96	0.3138
P4	305.24	115.41	121.57	0.5874
P5	308.86	113.24	119.38	0.8257
P6	351.37	108.09		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 109.24
TOTAL TEMPERATURE CALC AVG.	= 707.82
CALC. MEAN RAD	= 707.82
GAS FLOW (LBS/SEC)	= 35.624
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 46.620
*MAINSTREAM GAS VEL (FT/SEC)	= 660.14
MACH NUMBER	= 0.40409
REYNOLDS NUMBER	= 1500000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 141.05
TEMPERATURE (DEG F)	= 241.52
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.7119

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 154

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 803.45
INLET AIR FLOW (LBS/SEC)	= 27.228
INLET PRESSURE (PSIA)	= 242.47
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 70.170
TOTAL PRESSURE MEAS. (PSIA)	= 72.650
TOTAL TEMPERATURE CALC. AVG.	= 798.31
CALC. MEAN RAD	= 798.60
MAINSTREAM GAS FLOW (LBS/SEC)	= 27.228
*MAINSTREAM GAS VEL. (FT/SEC)	= 386.58
MAINSTREAM GAS MACH NO.	= 0.22613
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6		52.079		0.9717
S5	261.14	49.412	66.803	0.8359
S4	267.75	48.652	56.753	0.6122
S3	277.26			-0.3335
S2	298.32		64.117	-0.1783
S1	317.37	66.803	73.424	0.0674
SP	322.96	71.075		0.0000
SP	332.44	71.059		0.0000
P1	304.41	70.182	69.997	0.0828
P2	316.56	70.449	73.424	0.1743
P3	261.06	69.499	72.801	0.3138
P4	226.61	63.931	70.698	0.5874
P5	231.81	59.787	67.815	0.8257
P6	274.64	49.910		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 51.688
TOTAL TEMPERATURE CALC AVG.	= 707.78
CALC. MEAN RAD	= 708.05
GAS FLOW (LBS/SEC)	= 32.145
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 40.721
*MAINSTREAM GAS VEL (FT/SEC)	= 1141.4
MACH NUMBER	= 0.71998
REYNOLDS NUMBER	= 1370000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 89.843
TEMPERATURE (DEG F)	= 175.96
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.3777

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 155

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 803.72
INLET AIR FLOW (LBS/SEC)	= 27.549
INLET PRESSURE (PSIA)	= 245.52
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 70.031
TOTAL PRESSURE MEAS. (PSIA)	= 72.477
TOTAL TEMPERATURE CALC. AVG.	= 798.97
CALC. MEAN RAD	= 798.97
MAINSTREAM GAS FLOW (LBS/SEC)	= 27.549
*MAINSTREAM GAS VEL. (FT/SEC)	= 384.45
MAINSTREAM GAS MACH NO.	= 0.22481
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6		52.070		0.9717
S5	259.49	49.569	65.646	0.8359
S4	270.22	48.637	56.049	0.6122
S3	281.53			-0.3335
S2	291.50		63.054	-0.1783
S1	315.41	66.426	71.420	0.0674
SP	324.36	70.881		0.0000
SP	357.17	71.114		0.0000
P1	307.19	70.071	68.767	0.0828
P2	338.95	70.176	72.044	0.1743
P3	253.17	69.357	70.796	0.3138
P4	232.08	63.829	69.391	0.5874
P5	227.16	59.799	66.114	0.8257
P6	275.74	49.996		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 51.757
TOTAL TEMPERATURE CALC AVG.	= 716.17
CALC. MEAN RAD	= 716.17
GAS FLOW (LBS/SEC)	= 31.906
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 40.496
*MAINSTREAM GAS VEL (FT/SEC)	= 1139.5
MACH NUMBER	= 0.71598
REYNOLDS NUMBER	= 1350000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 84.915
TEMPERATURE (DEG F)	= 168.18
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.2168

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 156

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 803.99
INLET AIR FLOW (LBS/SEC)	= 28.407
INLET PRESSURE (PSIA)	= 243.63
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 69.575
TOTAL PRESSURE MEAS. (PSIA)	= 72.180
TOTAL TEMPERATURE CALC. AVG.	= 798.58
CALC. MEAN RAD	= 798.58
MAINSTREAM GAS FLOW (LBS/SEC)	= 28.407
*MAINSTREAM GAS VEL. (FT/SEC)	= 397.72
MAINSTREAM GAS MACH NO.	= 0.23268
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6		52.002		0.9717
S5	270.91	49.477	63.711	0.8359
S4	283.06	48.879	55.593	0.6122
S3	331.23			-0.3335
S2	324.50		61.848	-0.1783
S1	354.34	66.522	70.113	0.0674
SP	410.80	70.740		0.0000
SP	510.01	70.740		0.0000
P1	381.18	69.694	68.317	0.0828
P2	454.27	69.929	71.128	0.1743
P3	288.73	69.059	69.957	0.3138
P4	257.84	63.472	67.458	0.5874
P5	240.29	59.529	64.024	0.8257
P6	291.50	50.066		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 51.688
TOTAL TEMPERATURE CALC AVG.	= 732.15
CALC. MEAN RAD	= 732.15
GAS FLOW (LBS/SEC)	= 31.888
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 40.581
*MAINSTREAM GAS VEL (FT/SEC)	= 1142.8
MACH NUMBER	= 0.71311
REYNOLDS NUMBER	= 1320000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 78.881
TEMPERATURE (DEG F)	= 164.51
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.96262

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 157

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 804.45
INLET AIR FLOW (LBS/SEC)	= 29.391
INLET PRESSURE (PSIA)	= 243.28
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 68.565
TOTAL PRESSURE MEAS. (PSIA)	= 71.398
TOTAL TEMPERATURE CALC. AVG.	= 799.54
CALC. MEAN RAD	= 799.54
MAINSTREAM GAS FLOW (LBS/SEC)	= 29.391
*MAINSTREAM GAS VEL. (FT/SEC)	= 417.42
MAINSTREAM GAS MACH NO.	= 0.24423
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6		51.807		0.9717
S5	759.08	49.623	59.449	0.8359
S4	744.97	48.765	53.366	0.6122
S3	782.48			-0.3335
S2	795.76		58.899	-0.1783
S1	798.55	65.376	63.348	0.0674
SP	795.76	70.185		0.0000
SP	792.97	70.030		0.0000
P1	798.68	68.525	63.894	0.0828
P2	798.15	69.108	65.376	0.1743
P3	799.48	68.446	64.206	0.3138
P4	799.34	63.614	63.348	0.5874
P5	792.71	58.899	59.683	0.8257
P6	780.49	50.522		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 51.510
TOTAL TEMPERATURE CALC AVG.	= 774.56
CALC. MEAN RAD	= 774.56
GAS FLOW (LBS/SEC)	= 30.667
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 39.334
*MAINSTREAM GAS VEL (FT/SEC)	= 1150.6
MACH NUMBER	= 0.70534
REYNOLDS NUMBER	= 1240000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 63.542
TEMPERATURE (DEG F)	= 162.19
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.019828

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 158

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 804.19
INLET AIR FLOW (LBS/SEC)	= 44.253
INLET PRESSURE (PSIA)	= 241.50
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 104.22
TOTAL PRESSURE MEAS. (PSIA)	= 108.68
TOTAL TEMPERATURE CALC. AVG.	= 799.90
CALC. MEAN RAD	= 799.90
MAINSTREAM GAS FLOW (LBS/SEC)	= 44.253
*MAINSTREAM GAS VEL. (FT/SEC)	= 424.69
MAINSTREAM GAS MACH NO.	= 0.24850
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6		78.415		0.9717
S5	774.64	75.224	89.804	0.8359
S4	765.33	73.267	80.210	0.6122
S3	787.66			-0.3335
S2	798.55		89.586	-0.1783
S1	799.61	99.164	96.200	0.0674
SP	797.48	105.42		0.0000
SP	796.29	106.42		0.0000
P1	799.08	104.30	96.590	0.0828
P2	800.27	105.11	98.852	0.1743
P3	801.20	103.98	97.604	0.3138
P4	801.20	96.613	96.434	0.5874
P5	794.56	89.355	90.428	0.8257
P6	788.72	75.896		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 78.252
TOTAL TEMPERATURE CALC AVG.	= 782.27
CALC. MEAN RAD	= 782.27
GAS FLOW (LBS/SEC)	= 45.588
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 55.242
*MAINSTREAM GAS VEL (FT/SEC)	= 1157.5
MACH NUMBER	= 0.70765
REYNOLDS NUMBER	= 1880000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 96.608
TEMPERATURE (DEG F)	= 165.73
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.049568

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 159

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 805.18
INLET AIR FLOW (LBS/SEC)	= 59.503
INLET PRESSURE (PSIA)	= 240.50
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 132.95
TOTAL PRESSURE MEAS. (PSIA)	= 139.00
TOTAL TEMPERATURE CALC. AVG.	= 802.92
CALC. MEAN RAD	= 802.92
MAINSTREAM GAS FLOW (LBS/SEC)	= 59.503
*MAINSTREAM GAS VEL. (FT/SEC)	= 438.00
MAINSTREAM GAS MACH NO.	= 0.25608
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6		100.59		0.9717
S5	785.26	95.724	115.01	0.8359
S4	776.76	94.042	102.30	0.6122
S3	792.44			-0.3335
S2	801.06		114.44	-0.1783
S1	801.73	126.78	122.72	0.0674
SP	799.74	136.24		0.0000
SP	798.81	136.08		0.0000
P1	801.06	132.89	123.66	0.0828
P2	802.39	134.34	126.31	0.1743
P3	803.59	132.74	125.14	0.3138
P4	802.66	123.48	122.88	0.5874
P5	798.41	114.36	116.02	0.8257
P6	793.23	96.700		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 99.863
TOTAL TEMPERATURE CALC AVG.	= 789.82
CALC. MEAN RAD	= 789.82
GAS FLOW (LBS/SEC)	= 60.829
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 70.700
*MAINSTREAM GAS VEL (FT/SEC)	= 1164.8
MACH NUMBER	= 0.71025
REYNOLDS NUMBER	= 2390000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 123.30
TEMPERATURE (DEG F)	= 164.50
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.066205

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 160

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 804.16
INLET AIR FLOW (LBS/SEC)	= 54.328
INLET PRESSURE (PSIA)	= 240.75
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 136.69
TOTAL PRESSURE MEAS. (PSIA)	= 141.76
TOTAL TEMPERATURE CALC. AVG.	= 802.07
CALC. MEAN RAD	= 803.39
MAINSTREAM GAS FLOW (LBS/SEC)	= 54.328
*MAINSTREAM GAS VEL. (FT/SEC)	= 396.46
MAINSTREAM GAS MACH NO.	= 0.23163
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6		100.78		0.9717
S5	256.32	95.099	129.40	0.8359
S4	258.38	93.449	108.66	0.6122
S3	267.59			-0.3335
S2	289.05		124.15	-0.1783
S1	313.45	129.71	142.34	0.0674
SP	319.31	138.33		0.0000
SP	328.55	138.30		0.0000
P1	295.92	136.51	135.48	0.0828
P2	308.09	137.01	142.50	0.1743
P3	246.06	135.40	140.32	0.3138
P4	218.41	124.38	136.96	0.5874
P5	222.78	116.19	130.65	0.8257
P6	260.30	95.627		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 99.584
TOTAL TEMPERATURE CALC AVG.	= 708.43
CALC. MEAN RAD	= 709.65
GAS FLOW (LBS/SEC)	= 63.959
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 73.665
*MAINSTREAM GAS VEL (FT/SEC)	= 1161.8
MACH NUMBER	= 0.73388
REYNOLDS NUMBER	= 2700000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 172.47
TEMPERATURE (DEG F)	= 178.66
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.6670

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 161

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 803.92
INLET AIR FLOW (LBS/SEC)	= 52.537
INLET PRESSURE (PSIA)	= 236.96
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 136.88
TOTAL PRESSURE MEAS. (PSIA)	= 141.63
TOTAL TEMPERATURE CALC. AVG.	= 801.92
CALC. MEAN RAD	= 801.92
MAINSTREAM GAS FLOW (LBS/SEC)	= 52.537
*MAINSTREAM GAS VEL. (FT/SEC)	= 383.69
MAINSTREAM GAS MACH NO.	= 0.22412
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6		100.32		0.9717
S5	258.93	95.081	129.36	0.8359
S4	260.03	93.454	108.75	0.6122
S3	270.22			-0.3335
S2	290.94		124.49	-0.1783
S1	316.24	129.99	142.24	0.0674
SP	318.90	138.49		0.0000
SP	332.76	138.41		0.0000
P1	297.18	136.76	135.84	0.0828
P2	308.85	137.11	142.56	0.1743
P3	249.05	135.41	140.06	0.3138
P4	220.87	124.64	137.01	0.5874
P5	221.14	116.28	130.46	0.8257
P6	261.82	95.727		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 99.525
TOTAL TEMPERATURE CALC AVG.	= 706.42
CALC. MEAN RAD	= 706.42
GAS FLOW (LBS/SEC)	= 62.095
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 71.833
*MAINSTREAM GAS VEL (FT/SEC)	= 1160.3
MACH NUMBER	= 0.73349
REYNOLDS NUMBER	= 2700000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 172.57
TEMPERATURE (DEG F)	= 180.82
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.6520

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 162

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 803.92
INLET AIR FLOW (LBS/SEC)	= 53.911
INLET PRESSURE (PSIA)	= 241.20
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 136.76
TOTAL PRESSURE MEAS. (PSIA)	= 141.68
TOTAL TEMPERATURE CALC. AVG.	= 801.92
CALC. MEAN RAD	= 801.92
MAINSTREAM GAS FLOW (LBS/SEC)	= 53.911
*MAINSTREAM GAS VEL. (FT/SEC)	= 390.28
MAINSTREAM GAS MACH NO.	= 0.22800
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6		100.35		0.9717
S5	258.38	95.215	129.18	0.8359
S4	260.72	93.564	108.76	0.6122
S3	270.35			-0.3335
S2	291.63		124.46	-0.1783
S1	315.96	129.57	142.43	0.0674
SP	321.55	138.46		0.0000
SP	331.08	138.38		0.0000
P1	298.15	136.49	135.50	0.0828
P2	309.55	137.07	142.36	0.1743
P3	249.19	135.38	140.25	0.3138
P4	220.05	124.46	136.82	0.5874
P5	222.64	116.02	130.59	0.8257
P6	261.68	95.669		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 99.607
TOTAL TEMPERATURE CALC AVG.	= 707.46
CALC. MEAN RAD	= 707.46
GAS FLOW (LBS/SEC)	= 63.594
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 73.347
*MAINSTREAM GAS VEL (FT/SEC)	= 1160.1
MACH NUMBER	= 0.73301
REYNOLDS NUMBER	= 2700000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 173.27
TEMPERATURE (DEG F)	= 181.23
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.6898

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 163

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 804.51
INLET AIR FLOW (LBS/SEC)	= 53.168
INLET PRESSURE (PSIA)	= 240.49
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 136.92
TOTAL PRESSURE MEAS. (PSIA)	= 141.84
TOTAL TEMPERATURE CALC. AVG.	= 802.31
CALC. MEAN RAD	= 802.31
MAINSTREAM GAS FLOW (LBS/SEC)	= 53.168
*MAINSTREAM GAS VEL. (FT/SEC)	= 390.05
MAINSTREAM GAS MACH NO.	= 0.22783
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6		100.63		0.9717
S5	259.20	95.060	129.30	0.8359
S4	261.54	93.281	108.52	0.6122
S3	271.04			-0.3335
S2	292.32		124.30	-0.1783
S1	316.38	129.61	142.34	0.0674
SP	322.67	138.23		0.0000
SP	331.64	138.38		0.0000
P1	299.25	136.72	135.47	0.0828
P2	309.82	137.19	142.50	0.1743
P3	250.28	135.61	140.16	0.3138
P4	221.14	124.46	137.03	0.5874
P5	221.14	116.33	130.63	0.8257
P6	262.50	95.806		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 99.584
TOTAL TEMPERATURE CALC AVG.	= 707.20
CALC. MEAN RAD	= 707.20
GAS FLOW (LBS/SEC)	= 62.799
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 72.523
*MAINSTREAM GAS VEL (FT/SEC)	= 1162.0
MACH NUMBER	= 0.73446
REYNOLDS NUMBER	= 2700000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 173.25
TEMPERATURE (DEG F)	= 181.77
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.6707

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 164

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 804.71
INLET AIR FLOW (LBS/SEC)	= 53.969
INLET PRESSURE (PSIA)	= 240.12
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 136.59
TOTAL PRESSURE MEAS. (PSIA)	= 141.73
TOTAL TEMPERATURE CALC. AVG.	= 802.58
CALC. MEAN RAD	= 802.58
MAINSTREAM GAS FLOW (LBS/SEC)	= 53.969
*MAINSTREAM GAS VEL. (FT/SEC)	= 399.42
MAINSTREAM GAS MACH NO.	= 0.23333
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6		100.55		0.9717
S5	259.62	95.090	129.79	0.8359
S4	262.50	93.605	108.97	0.6122
S3	271.31			-0.3335
S2	292.32		124.36	-0.1783
S1	317.36	129.71	142.81	0.0674
SP	323.51	138.50		0.0000
SP	332.06	138.27		0.0000
P1	298.56	136.39	135.79	0.0828
P2	309.82	136.91	142.58	0.1743
P3	250.83	135.28	140.32	0.3138
P4	220.86	124.36	137.35	0.5874
P5	222.23	116.25	130.73	0.8257
P6	263.60	95.641		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 99.574
TOTAL TEMPERATURE CALC AVG.	= 709.04
CALC. MEAN RAD	= 709.04
GAS FLOW (LBS/SEC)	= 63.556
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 73.260
*MAINSTREAM GAS VEL (FT/SEC)	= 1162.0
MACH NUMBER	= 0.73380
REYNOLDS NUMBER	= 2690000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 173.34
TEMPERATURE (DEG F)	= 181.90
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.6693

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 165

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 805.11
INLET AIR FLOW (LBS/SEC)	= 54.873
INLET PRESSURE (PSIA)	= 240.31
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 136.33
TOTAL PRESSURE MEAS. (PSIA)	= 141.47
TOTAL TEMPERATURE CALC. AVG.	= 803.34
CALC. MEAN RAD	= 803.34
MAINSTREAM GAS FLOW (LBS/SEC)	= 54.873
*MAINSTREAM GAS VEL. (FT/SEC)	= 399.67
MAINSTREAM GAS MACH NO.	= 0.23341
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6		100.40		0.9717
S5	267.73	95.251	126.94	0.8359
S4	271.45	93.454	106.88	0.6122
S3	281.25			-0.3335
S2	297.45		122.54	-0.1783
S1	321.69	129.13	139.04	0.0674
SP	333.04	137.85		0.0000
SP	370.31	138.09		0.0000
P1	310.24	136.23	133.66	0.0828
P2	345.85	136.80	139.98	0.1743
P3	254.81	135.12	137.56	0.3138
P4	237.81	124.25	134.91	0.5874
P5	231.93	115.89	128.35	0.8257
P6	272.42	95.964		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 99.723
TOTAL TEMPERATURE CALC AVG.	= 720.37
CALC. MEAN RAD	= 720.37
GAS FLOW (LBS/SEC)	= 63.337
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 73.053
*MAINSTREAM GAS VEL (FT/SEC)	= 1162.3
MACH NUMBER	= 0.73031
REYNOLDS NUMBER	= 2650000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 165.13
TEMPERATURE (DEG F)	= 181.90
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.3455

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 166

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 805.37
INLET AIR FLOW (LBS/SEC)	= 56.217
INLET PRESSURE (PSIA)	= 241.33
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 135.72
TOTAL PRESSURE MEAS. (PSIA)	= 140.79
TOTAL TEMPERATURE CALC. AVG.	= 802.84
CALC. MEAN RAD	= 802.84
MAINSTREAM GAS FLOW (LBS/SEC)	= 56.217
*MAINSTREAM GAS VEL. (FT/SEC)	= 398.06
MAINSTREAM GAS MACH NO.	= 0.23250
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6		100.59		0.9717
S5	282.07	94.920	123.76	0.8359
S4	288.02	93.725	106.13	0.6122
S3	330.79			-0.3335
S2	333.46		120.35	-0.1783
S1	361.41	128.91	136.64	0.0674
SP	420.29	137.90		0.0000
SP	524.80	137.74		0.0000
P1	383.28	135.84	132.03	0.0828
P2	470.87	136.28	137.73	0.1743
P3	290.93	134.65	136.09	0.3138
P4	265.80	123.83	131.49	0.5874
P5	251.10	115.48	124.62	0.8257
P6	292.04	95.986		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 99.528
TOTAL TEMPERATURE CALC AVG.	= 736.41
CALC. MEAN RAD	= 736.41
GAS FLOW (LBS/SEC)	= 62.952
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 72.695
*MAINSTREAM GAS VEL (FT/SEC)	= 1165.7
MACH NUMBER	= 0.72741
REYNOLDS NUMBER	= 2590000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 153.86
TEMPERATURE (DEG F)	= 181.90
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.8707

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 167

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 805.90
INLET AIR FLOW (LBS/SEC)	= 55.790
INLET PRESSURE (PSIA)	= 238.57
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 135.58
TOTAL PRESSURE MEAS. (PSIA)	= 140.64
TOTAL TEMPERATURE CALC. AVG.	= 804.04
CALC. MEAN RAD	= 804.04
MAINSTREAM GAS FLOW (LBS/SEC)	= 55.790
*MAINSTREAM GAS VEL. (FT/SEC)	= 397.95
MAINSTREAM GAS MACH NO.	= 0.23234
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6		93.636		0.9717
S5	258.93	86.968	126.94	0.8359
S4	261.96	86.225	102.53	0.6122
S3	271.59			-0.3335
S2	292.73		121.68	-0.1783
S1	317.64	128.35	140.52	0.0674
SP	326.73	137.14		0.0000
SP	340.21	137.21		0.0000
P1	299.12	135.23	133.89	0.0828
P2	319.59	135.89	141.69	0.1743
P3	251.24	134.20	138.80	0.3138
P4	223.87	121.83	135.29	0.5874
P5	223.87	112.63	128.04	0.8257
P6	263.06	87.842		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 92.453
TOTAL TEMPERATURE CALC AVG.	= 712.59
CALC. MEAN RAD	= 712.59
GAS FLOW (LBS/SEC)	= 65.414
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 74.954
*MAINSTREAM GAS VEL (FT/SEC)	= 1262.9
MACH NUMBER	= 0.80340
REYNOLDS NUMBER	= 2790000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 171.51
TEMPERATURE (DEG F)	= 182.18
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.6531

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 168

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 805.50
INLET AIR FLOW (LBS/SEC)	= 52.666
INLET PRESSURE (PSIA)	= 240.45
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 137.53
TOTAL PRESSURE MEAS. (PSIA)	= 142.31
TOTAL TEMPERATURE CALC. AVG.	= 803.57
CALC. MEAN RAD	= 803.57
MAINSTREAM GAS FLOW (LBS/SEC)	= 52.666
*MAINSTREAM GAS VEL. (FT/SEC)	= 384.20
MAINSTREAM GAS MACH NO.	= 0.22428
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6		104.74		0.9717
S5	260.85	99.733	131.26	0.8359
S4	264.98	98.026	112.30	0.6122
S3	272.69			-0.3335
S2	292.59		126.35	-0.1783
S1	318.61	130.95	143.98	0.0674
SP	322.94	139.20		0.0000
SP	327.56	139.27		0.0000
P1	300.36	137.57	137.27	0.0828
P2	307.03	137.92	143.44	0.1743
P3	252.20	136.46	141.56	0.3138
P4	220.59	126.20	138.52	0.5874
P5	222.09	118.69	132.51	0.8257
P6	264.43	100.25		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 103.77
TOTAL TEMPERATURE CALC AVG.	= 707.78
CALC. MEAN RAD	= 707.78
GAS FLOW (LBS/SEC)	= 62.290
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 72.099
*MAINSTREAM GAS VEL (FT/SEC)	= 1101.3
MACH NUMBER	= 0.69245
REYNOLDS NUMBER	= 2620000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 174.26
TEMPERATURE (DEG F)	= 183.40
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.6790

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 169

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 801.67
INLET AIR FLOW (LBS/SEC)	= 41.653
INLET PRESSURE (PSIA)	= 241.49
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 106.80
TOTAL PRESSURE MEAS. (PSIA)	= 110.73
TOTAL TEMPERATURE CALC. AVG.	= 798.35
CALC. MEAN RAD	= 798.62
MAINSTREAM GAS FLOW (LBS/SEC)	= 41.653
*MAINSTREAM GAS VEL. (FT/SEC)	= 393.99
MAINSTREAM GAS MACH NO.	= 0.23050
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6		78.620		0.9717
S5	254.26	74.671	101.28	0.8359
S4	258.93	73.481	85.005	0.6122
S3	268.97			-0.3335
S2	287.83		97.426	-0.1783
S1	311.21	101.43	111.32	0.0674
SP	317.63	108.18		0.0000
SP	327.54	108.12		0.0000
P1	295.78	106.76	106.18	0.0828
P2	308.51	107.10	111.40	0.1743
P3	248.52	105.84	109.84	0.3138
P4	218.68	97.287	107.04	0.5874
P5	217.59	91.011	102.13	0.8257
P6	260.71	75.050		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 78.196
TOTAL TEMPERATURE CALC AVG.	= 703.39
CALC. MEAN RAD	= 703.64
GAS FLOW (LBS/SEC)	= 49.176
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 58.628
*MAINSTREAM GAS VEL (FT/SEC)	= 1151.0
MACH NUMBER	= 0.72807
REYNOLDS NUMBER	= 2110000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 135.79
TEMPERATURE (DEG F)	= 177.38
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.0980

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 170

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 800.59
INLET AIR FLOW (LBS/SEC)	= 42.321
INLET PRESSURE (PSIA)	= 238.91
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 106.69
TOTAL PRESSURE MEAS. (PSIA)	= 110.43
TOTAL TEMPERATURE CALC. AVG.	= 796.96
CALC. MEAN RAD	= 796.96
MAINSTREAM GAS FLOW (LBS/SEC)	= 42.321
*MAINSTREAM GAS VEL. (FT/SEC)	= 384.90
MAINSTREAM GAS MACH NO.	= 0.22525
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6		78.876		0.9717
S5	260.43	74.662	99.698	0.8359
S4	267.59	73.574	83.867	0.6122
S3	277.51			-0.3335
S2	291.34		95.837	-0.1783
S1	317.07	101.57	108.51	0.0674
SP	327.00	107.66		0.0000
SP	362.11	107.89		0.0000
P1	307.03	106.61	104.77	0.0828
P2	342.74	107.00	109.91	0.1743
P3	250.82	105.74	107.50	0.3138
P4	233.97	96.996	105.47	0.5874
P5	225.64	90.582	100.40	0.8257
P6	268.55	75.336		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 78.304
TOTAL TEMPERATURE CALC AVG.	= 712.63
CALC. MEAN RAD	= 712.63
GAS FLOW (LBS/SEC)	= 48.977
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 58.453
*MAINSTREAM GAS VEL (FT/SEC)	= 1149.2
MACH NUMBER	= 0.72379
REYNOLDS NUMBER	= 2070000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 129.23
TEMPERATURE (DEG F)	= 176.18
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.8469

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 171

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 799.19
INLET AIR FLOW (LBS/SEC)	= 43.342
INLET PRESSURE (PSIA)	= 240.76
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 105.91
TOTAL PRESSURE MEAS. (PSIA)	= 109.83
TOTAL TEMPERATURE CALC. AVG.	= 795.83
CALC. MEAN RAD	= 795.83
MAINSTREAM GAS FLOW (LBS/SEC)	= 43.342
*MAINSTREAM GAS VEL. (FT/SEC)	= 395.07
MAINSTREAM GAS MACH NO.	= 0.23136
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6		73.309		0.9717
S5	251.09	68.234	99.030	0.8359
S4	255.49	67.385	80.090	0.6122
S3	265.66			-0.3335
S2	284.28		95.198	-0.1783
S1	308.56	100.43	109.71	0.0674
SP	316.51	106.94		0.0000
SP	334.01	107.02		0.0000
P1	293.55	105.66	104.64	0.0828
P2	314.14	106.00	110.57	0.1743
P3	245.47	104.86	108.31	0.3138
P4	218.54	95.198	105.65	0.5874
P5	217.03	87.935	100.04	0.8257
P6	257.00	68.816		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 72.515
TOTAL TEMPERATURE CALC AVG.	= 704.08
CALC. MEAN RAD	= 704.08
GAS FLOW (LBS/SEC)	= 50.859
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 60.073
*MAINSTREAM GAS VEL (FT/SEC)	= 1252.1
MACH NUMBER	= 0.79889
REYNOLDS NUMBER	= 2190000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 134.60
TEMPERATURE (DEG F)	= 174.82
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.0753

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 172

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 800.26
INLET AIR FLOW (LBS/SEC)	= 40.873
INLET PRESSURE (PSIA)	= 240.77
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 107.63
TOTAL PRESSURE MEAS. (PSIA)	= 111.15
TOTAL TEMPERATURE CALC. AVG.	= 796.40
CALC. MEAN RAD	= 796.40
MAINSTREAM GAS FLOW (LBS/SEC)	= 40.873
*MAINSTREAM GAS VEL. (FT/SEC)	= 371.59
MAINSTREAM GAS MACH NO.	= 0.21745
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6		82.622		0.9717
S5	251.78	78.237	103.00	0.8359
S4	257.55	77.236	88.087	0.6122
S3	266.49			-0.3335
S2	285.25		99.156	-0.1783
S1	309.26	102.84	113.15	0.0674
SP	312.74	109.15		0.0000
SP	320.56	109.00		0.0000
P1	292.59	107.59	107.45	0.0828
P2	301.47	107.80	112.52	0.1743
P3	245.34	106.64	111.12	0.3138
P4	214.99	98.769	108.62	0.5874
P5	214.45	93.035	104.09	0.8257
P6	258.24	78.670		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 81.420
TOTAL TEMPERATURE CALC AVG.	= 700.47
CALC. MEAN RAD	= 700.47
GAS FLOW (LBS/SEC)	= 48.354
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 57.866
*MAINSTREAM GAS VEL (FT/SEC)	= 1090.1
MACH NUMBER	= 0.68706
REYNOLDS NUMBER	= 2050000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 135.96
TEMPERATURE (DEG F)	= 175.78
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.0618

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 173

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 799.52
INLET AIR FLOW (LBS/SEC)	= 28.591
INLET PRESSURE (PSIA)	= 240.02
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 69.917
TOTAL PRESSURE MEAS. (PSIA)	= 72.399
TOTAL TEMPERATURE CALC. AVG.	= 795.24
CALC. MEAN RAD	= 795.24
MAINSTREAM GAS FLOW (LBS/SEC)	= 28.591
*MAINSTREAM GAS VEL. (FT/SEC)	= 386.95
MAINSTREAM GAS MACH NO.	= 0.22661
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6		48.472		0.9717
S5	248.49	45.141	65.243	0.8359
S4	255.49	44.806	53.074	0.6122
S3	266.07			-0.3335
S2	282.34		62.993	-0.1783
S1	306.19	66.179	72.497	0.0674
SP	315.11	70.798		0.0000
SP	331.77	70.875		0.0000
P1	293.56	69.797	69.299	0.0828
P2	316.23	70.190	72.965	0.1743
P3	244.38	69.401	71.561	0.3138
P4	217.17	62.916	69.611	0.5874
P5	215.67	58.201	66.257	0.8257
P6	257.27	45.731		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 47.987
TOTAL TEMPERATURE CALC AVG.	= 706.08
CALC. MEAN RAD	= 706.08
GAS FLOW (LBS/SEC)	= 33.551
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 42.067
*MAINSTREAM GAS VEL (FT/SEC)	= 1247.6
MACH NUMBER	= 0.79491
REYNOLDS NUMBER	= 1440000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 88.706
TEMPERATURE (DEG F)	= 168.43
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.3684

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 174

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 798.46
INLET AIR FLOW (LBS/SEC)	= 25.873
INLET PRESSURE (PSIA)	= 241.73
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 70.502
TOTAL PRESSURE MEAS. (PSIA)	= 72.607
TOTAL TEMPERATURE CALC. AVG.	= 794.44
CALC. MEAN RAD	= 794.44
MAINSTREAM GAS FLOW (LBS/SEC)	= 25.873
*MAINSTREAM GAS VEL. (FT/SEC)	= 355.34
MAINSTREAM GAS MACH NO.	= 0.20802
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6		54.343		0.9717
S5	244.10	51.884	66.986	0.8359
S4	253.98	50.753	57.621	0.6122
S3	260.98			-0.3335
S2	277.10		65.260	-0.1783
S1	300.63	66.518	73.542	0.0674
SP	306.75	71.136		0.0000
SP	310.51	71.291		0.0000
P1	287.05	70.344	69.952	0.0828
P2	295.22	70.428	73.152	0.1743
P3	239.17	69.789	72.059	0.3138
P4	207.76	64.719	70.966	0.5874
P5	209.67	61.085	67.767	0.8257
P6	253.70	52.222		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 53.785
TOTAL TEMPERATURE CALC AVG.	= 693.04
CALC. MEAN RAD	= 693.04
GAS FLOW (LBS/SEC)	= 30.843
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 39.599
*MAINSTREAM GAS VEL (FT/SEC)	= 1067.7
MACH NUMBER	= 0.67404
REYNOLDS NUMBER	= 1330000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 89.122
TEMPERATURE (DEG F)	= 164.76
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.3751

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 175

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 802.77
INLET AIR FLOW (LBS/SEC)	= 52.904
INLET PRESSURE (PSIA)	= 243.33
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 137.46
TOTAL PRESSURE MEAS. (PSIA)	= 142.40
TOTAL TEMPERATURE CALC. AVG.	= 800.67
CALC. MEAN RAD	= 800.07
MAINSTREAM GAS FLOW (LBS/SEC)	= 52.904
*MAINSTREAM GAS VEL. (FT/SEC)	= 390.01
MAINSTREAM GAS MACH NO.	= 0.22795
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6		101.10		0.9717
S5	777.54	95.938	138.50	0.8359
S4	771.43	94.078	112.35	0.6122
S3	769.70			-0.3335
S2	777.78		133.06	-0.1783
S1	781.66	131.31	156.92	0.0674
SP	782.19	138.97		0.0000
SP	777.76	138.80		0.0000
P1	781.13	138.37	143.41	0.0828
P2	777.78	137.92	151.77	0.1743
P3	774.65	135.90	147.55	0.3138
P4	775.28	124.40	146.54	0.5874
P5	776.75	116.72	139.90	0.8257
P6	773.02	95.221		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 99.959
TOTAL TEMPERATURE CALC AVG.	= 799.09
CALC. MEAN RAD	= 798.49
GAS FLOW (LBS/SEC)	= 62.619
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 72.694
*MAINSTREAM GAS VEL (FT/SEC)	= 1207.6
MACH NUMBER	= 0.73593
REYNOLDS NUMBER	= 2480000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 206.16
TEMPERATURE (DEG F)	= 788.09
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.6941

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 176

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 803.85
INLET AIR FLOW (LBS/SEC)	= 40.825
INLET PRESSURE (PSIA)	= 243.20
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 107.53
TOTAL PRESSURE MEAS. (PSIA)	= 111.26
TOTAL TEMPERATURE CALC. AVG.	= 799.92
CALC. MEAN RAD	= 799.94
MAINSTREAM GAS FLOW (LBS/SEC)	= 40.825
*MAINSTREAM GAS VEL. (FT/SEC)	= 383.46
MAINSTREAM GAS MACH NO.	= 0.22415
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6		79.188		0.9717
S5	773.29	75.281	108.35	0.8359
S4	766.77	74.041	88.156	0.6122
S3	766.11			-0.3335
S2	774.48		104.27	-0.1783
S1	777.54	102.74	122.78	0.0674
SP	778.21	108.78		0.0000
SP	775.60	108.77		0.0000
P1	777.54	108.05	112.72	0.0828
P2	776.00	107.75	118.80	0.1743
P3	771.00	106.37	115.45	0.3138
P4	770.36	97.447	114.59	0.5874
P5	771.69	91.646	109.60	0.8257
P6	768.24	74.945		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 78.382
TOTAL TEMPERATURE CALC AVG.	= 797.26
CALC. MEAN RAD	= 797.28
GAS FLOW (LBS/SEC)	= 48.427
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 58.143
*MAINSTREAM GAS VEL (FT/SEC)	= 1200.9
MACH NUMBER	= 0.73203
REYNOLDS NUMBER	= 1930000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 161.45
TEMPERATURE (DEG F)	= 779.69
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.1154

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 177

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 801.66
INLET AIR FLOW (LBS/SEC)	= 26.954
INLET PRESSURE (PSIA)	= 248.82
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 70.826
TOTAL PRESSURE MEAS. (PSIA)	= 73.056
TOTAL TEMPERATURE CALC. AVG.	= 797.59
CALC. MEAN RAD	= 797.21
MAINSTREAM GAS FLOW (LBS/SEC)	= 26.954
*MAINSTREAM GAS VEL. (FT/SEC)	= 365.14
MAINSTREAM GAS MACH NO.	= 0.21354
COMBUSTOR EFFICIENCY	= 0.00000

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6		52.235		0.9717
S5	765.04	49.644	71.160	0.8359
S4	759.45	49.198	58.388	0.6122
S3	759.32			-0.3335
S2	766.18		68.473	-0.1783
S1	769.29	67.500	80.662	0.0674
SP	770.62	71.580		0.0000
SP	768.84	71.518		0.0000
P1	769.82	71.267	73.886	0.0828
P2	769.66	70.846	77.858	0.1743
P3	763.97	70.013	75.833	0.3138
P4	762.64	64.021	75.288	0.5874
P5	762.51	60.280	72.017	0.8257
P6	759.98	50.618		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 51.840
TOTAL TEMPERATURE CALC AVG.	= 794.85
CALC. MEAN RAD	= 794.48
GAS FLOW (LBS/SEC)	= 31.957
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 40.759
*MAINSTREAM GAS VEL (FT/SEC)	= 1187.8
MACH NUMBER	= 0.72404
REYNOLDS NUMBER	= 1260000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 106.28
TEMPERATURE (DEG F)	= 775.19
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.3880

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 189

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 615.46
INLET AIR FLOW (LBS/SEC)	= 33.965
INLET PRESSURE (PSIA)	= 177.53
FUEL FLOW (LBS/SEC)	= 0.47548

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 118.06
TOTAL PRESSURE MEAS. (PSIA)	= 121.14
TOTAL TEMPERATURE CALC. AVG.	= 1499.6
CALC. MEAN RAD	= 1499.6
MAINSTREAM GAS FLOW (LBS/SEC)	= 34.440
*MAINSTREAM GAS VEL. (FT/SEC)	= 416.01
MAINSTREAM GAS MACH NO.	= 0.19801
COMBUSTOR EFFICIENCY	= 0.95082

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	394.72	93.099		0.9717
S5	348.30	89.143	112.76	0.8359
S4	354.38	88.730	98.247	0.6122
S3	397.81			-0.3335
S2	409.58		108.70	-0.1783
S1	534.57	112.68	120.79	0.0674
SP	573.81	119.06		0.0000
SP	530.05	119.06		0.0000
P1	492.17	117.86	116.50	0.0828
P2	429.83	118.19	121.96	0.1743
P3	335.90	116.98	119.93	0.3138
P4	246.76	108.85	117.90	0.5874
P5	286.00	103.52	113.54	0.8257
P6	397.39	90.184		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 92.478
TOTAL TEMPERATURE CALC AVG.	= 1301.5
CALC. MEAN RAD	= 1387.3
GAS FLOW (LBS/SEC)	= 41.581
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 49.942
*MAINSTREAM GAS VEL (FT/SEC)	= 1256.2
MACH NUMBER	= 0.64700
REYNOLDS NUMBER	= 1300000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 143.49
TEMPERATURE (DEG F)	= 176.92
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.9899

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 190

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 601.02
INLET AIR FLOW (LBS/SEC)	= 36.833
INLET PRESSURE (PSIA)	= 187.53
FUEL FLOW (LBS/SEC)	= 0.62969

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 126.24
TOTAL PRESSURE MEAS. (PSIA)	= 129.87
TOTAL TEMPERATURE CALC. AVG.	= 1689.4
CALC. MEAN RAD	= 1894.6
MAINSTREAM GAS FLOW (LBS/SEC)	= 37.463
*MAINSTREAM GAS VEL. (FT/SEC)	= 457.30
MAINSTREAM GAS MACH NO.	= 0.20858
COMBUSTOR EFFICIENCY	= 0.97085

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	426.89	93.367		0.9717
S5	366.11	88.804	119.22	0.8359
S4	368.51	87.431	100.63	0.6122
S3	425.64			-0.3335
S2	453.57		115.04	-0.1783
S1	589.54	119.92	128.98	0.0674
SP	643.01	127.47		0.0000
SP	546.27	127.83		0.0000
P1	536.74	125.96	124.45	0.0828
P2	454.29	126.34	131.09	0.1743
P3	362.64	124.96	128.36	0.3138
P4	288.06	115.24	125.62	0.5874
P5	306.66	108.12	120.31	0.8257
P6	429.96	89.829		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 92.791
TOTAL TEMPERATURE CALC AVG.	= 1463.0
CALC. MEAN RAD	= 1721.1
GAS FLOW (LBS/SEC)	= 45.642
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 54.468
*MAINSTREAM GAS VEL (FT/SEC)	= 1459.4
MACH NUMBER	= 0.72688
REYNOLDS NUMBER	= 1350000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 156.78
TEMPERATURE (DEG F)	= 217.47
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.2701

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 191

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 599.82
INLET AIR FLOW (LBS/SEC)	= 37.395
INLET PRESSURE (PSIA)	= 188.66
FUEL FLOW (LBS/SEC)	= 0.62270

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 126.00
TOTAL PRESSURE MEAS. (PSIA)	= 129.79
TOTAL TEMPERATURE CALC. AVG.	= 1659.7
CALC. MEAN RAD	= 1874.3
MAINSTREAM GAS FLOW (LBS/SEC)	= 38.017
*MAINSTREAM GAS VEL. (FT/SEC)	= 463.65
MAINSTREAM GAS MACH NO.	= 0.21287
COMBUSTOR EFFICIENCY	= 0.96884

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	436.79	93.872		0.9717
S5	367.95	88.742	118.31	0.8359
S4	367.81	87.237	100.66	0.6122
S3	436.37			-0.3335
S2	457.98		113.75	-0.1783
S1	601.19	119.71	127.36	0.0674
SP	667.20	127.13		0.0000
SP	577.04	127.51		0.0000
P1	555.71	125.80	123.46	0.0828
P2	491.25	126.21	129.63	0.1743
P3	363.99	124.78	126.97	0.3138
P4	299.99	115.10	124.55	0.5874
P5	316.42	108.01	119.09	0.8257
P6	437.62	89.960		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 92.678
TOTAL TEMPERATURE CALC AVG.	= 1456.7
CALC. MEAN RAD	= 1723.6
GAS FLOW (LBS/SEC)	= 45.466
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 54.370
*MAINSTREAM GAS VEL (FT/SEC)	= 1458.1
MACH NUMBER	= 0.72741
REYNOLDS NUMBER	= 1350000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 151.42
TEMPERATURE (DEG F)	= 216.13
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.0630

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 192

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 598.75
INLET AIR FLOW (LBS/SEC)	= 37.884
INLET PRESSURE (PSIA)	= 187.58
FUEL FLOW (LBS/SEC)	= 0.63623

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 125.91
TOTAL PRESSURE MEAS. (PSIA)	= 129.77
TOTAL TEMPERATURE CALC. AVG.	= 1667.3
CALC. MEAN RAD	= 1889.8
MAINSTREAM GAS FLOW (LBS/SEC)	= 38.520
*MAINSTREAM GAS VEL. (FT/SEC)	= 468.76
MAINSTREAM GAS MACH NO.	= 0.21488
COMBUSTOR EFFICIENCY	= 0.96951

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	453.60	93.642		0.9717
S5	375.15	88.723	116.77	0.8359
S4	375.71	87.469	100.36	0.6122
S3	474.51			-0.3335
S2	476.33		112.51	-0.1783
S1	604.71	119.74	126.78	0.0674
SP	710.05	127.18		0.0000
SP	697.94	127.51		0.0000
P1	610.38	125.97	122.79	0.0828
P2	556.50	126.09	128.34	0.1743
P3	376.05	124.82	126.54	0.3138
P4	315.72	115.13	123.81	0.5874
P5	346.45	107.82	116.77	0.8257
P6	451.66	89.877		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 92.648
TOTAL TEMPERATURE CALC AVG.	= 1484.9
CALC. MEAN RAD	= 1756.8
GAS FLOW (LBS/SEC)	= 45.149
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 53.971
*MAINSTREAM GAS VEL (FT/SEC)	= 1469.2
MACH NUMBER	= 0.72793
REYNOLDS NUMBER	= 1330000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 146.59
TEMPERATURE (DEG F)	= 215.58
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.8561

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 193

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 598.68
INLET AIR FLOW (LBS/SEC)	= 37.747
INLET PRESSURE (PSIA)	= 188.40
FUEL FLOW (LBS/SEC)	= 0.64616

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 125.90
TOTAL PRESSURE MEAS. (PSIA)	= 129.65
TOTAL TEMPERATURE CALC. AVG.	= 1687.4
CALC. MEAN RAD	= 1902.6
MAINSTREAM GAS FLOW (LBS/SEC)	= 38.393
*MAINSTREAM GAS VEL. (FT/SEC)	= 464.54
MAINSTREAM GAS MACH NO.	= 0.21200
COMBUSTOR EFFICIENCY	= 0.97094

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	462.47	93.129		0.9717
S5	382.05	88.839	115.76	0.8359
S4	383.18	87.121	99.917	0.6122
S3	500.97			-0.3335
S2	496.81		112.10	-0.1783
S1	618.62	119.58	125.59	0.0674
SP	746.06	127.32		0.0000
SP	812.91	127.66		0.0000
P1	652.43	125.94	122.15	0.0828
P2	624.23	126.07	127.85	0.1743
P3	393.84	124.78	126.13	0.3138
P4	327.33	115.24	122.39	0.5874
P5	355.79	107.91	116.15	0.8257
P6	464.13	90.027		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 92.727
TOTAL TEMPERATURE CALC AVG.	= 1509.5
CALC. MEAN RAD	= 1772.4
GAS FLOW (LBS/SEC)	= 44.739
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 53.644
*MAINSTREAM GAS VEL (FT/SEC)	= 1474.8
MACH NUMBER	= 0.72622
REYNOLDS NUMBER	= 1310000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 144.14
TEMPERATURE (DEG F)	= 216.86
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.7557

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 194

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 599.22
INLET AIR FLOW (LBS/SEC)	= 38.554
INLET PRESSURE (PSIA)	= 186.33
FUEL FLOW (LBS/SEC)	= 0.64378

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 125.67
TOTAL PRESSURE MEAS. (PSIA)	= 129.28
TOTAL TEMPERATURE CALC. AVG.	= 1661.5
CALC. MEAN RAD	= 1661.5
MAINSTREAM GAS FLOW (LBS/SEC)	= 39.198
*MAINSTREAM GAS VEL. (FT/SEC)	= 453.82
MAINSTREAM GAS MACH NO.	= 0.20825
COMBUSTOR EFFICIENCY	= 0.96906

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	458.73	91.034		0.9717
S5	381.77	86.239	115.10	0.8359
S4	383.04	84.471	98.221	0.6122
S3	511.41			-0.3335
S2	505.23		111.17	-0.1783
S1	631.97	118.92	125.17	0.0674
SP	781.57	127.12		0.0000
SP	832.92	127.50		0.0000
P1	676.86	125.51	121.66	0.0828
P2	647.18	125.81	127.67	0.1743
P3	399.76	124.48	125.64	0.3138
P4	328.03	114.57	121.89	0.5874
P5	356.21	106.83	114.86	0.8257
P6	468.84	87.592		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 90.579
TOTAL TEMPERATURE CALC AVG.	= 1491.9
CALC. MEAN RAD	= 1552.1
GAS FLOW (LBS/SEC)	= 45.436
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 54.147
*MAINSTREAM GAS VEL (FT/SEC)	= 1510.7
MACH NUMBER	= 0.74889
REYNOLDS NUMBER	= 1340000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 143.32
TEMPERATURE (DEG F)	= 215.58
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.7338

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 195

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 599.56
INLET AIR FLOW (LBS/SEC)	= 38.728
INLET PRESSURE (PSIA)	= 188.87
FUEL FLOW (LBS/SEC)	= 0.65027

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 125.59
TOTAL PRESSURE MEAS. (PSIA)	= 129.42
TOTAL TEMPERATURE CALC. AVG.	= 1668.0
CALC. MEAN RAD	= 1668.0
MAINSTREAM GAS FLOW (LBS/SEC)	= 39.378
*MAINSTREAM GAS VEL. (FT/SEC)	= 468.04
MAINSTREAM GAS MACH NO.	= 0.21451
COMBUSTOR EFFICIENCY	= 0.96950

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	459.84	90.242		0.9717
S5	380.08	84.860	114.74	0.8359
S4	384.02	83.766	97.810	0.6122
S3	511.41			-0.3335
S2	509.08		110.77	-0.1783
S1	636.29	119.50	125.27	0.0674
SP	792.47	127.01		0.0000
SP	845.38	127.40		0.0000
P1	685.97	125.39	121.76	0.0828
P2	657.94	125.67	127.54	0.1743
P3	404.11	124.28	125.66	0.3138
P4	329.15	114.40	121.92	0.5874
P5	358.62	106.13	114.66	0.8257
P6	468.56	86.494		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 89.283
TOTAL TEMPERATURE CALC AVG.	= 1497.3
CALC. MEAN RAD	= 1557.3
GAS FLOW (LBS/SEC)	= 45.667
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 54.627
*MAINSTREAM GAS VEL (FT/SEC)	= 1544.0
MACH NUMBER	= 0.76575
REYNOLDS NUMBER	= 1350000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 143.85
TEMPERATURE (DEG F)	= 215.72
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.7448

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 196

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 599.16
INLET AIR FLOW (LBS/SEC)	= 37.379
INLET PRESSURE (PSIA)	= 187.59
FUEL FLOW (LBS/SEC)	= 0.63777

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 126.20
TOTAL PRESSURE MEAS. (PSIA)	= 129.99
TOTAL TEMPERATURE CALC. AVG.	= 1684.4
CALC. MEAN RAD	= 1684.4
MAINSTREAM GAS FLOW (LBS/SEC)	= 38.016
*MAINSTREAM GAS VEL. (FT/SEC)	= 466.73
MAINSTREAM GAS MACH NO.	= 0.21314
COMBUSTOR EFFICIENCY	= 0.97070

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	458.18	95.959		0.9717
S5	380.93	90.817	117.19	0.8359
S4	383.60	90.262	101.89	0.6122
S3	499.18			-0.3335
S2	490.37		112.80	-0.1783
S1	616.06	120.54	126.55	0.0674
SP	742.33	127.20		0.0000
SP	769.48	127.67		0.0000
P1	639.78	126.10	123.04	0.0828
P2	608.90	126.32	128.43	0.1743
P3	387.96	124.99	126.55	0.3138
P4	322.85	115.67	123.74	0.5874
P5	351.26	108.86	117.11	0.8257
P6	468.56	92.309		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 94.840
TOTAL TEMPERATURE CALC AVG.	= 1504.4
CALC. MEAN RAD	= 1564.7
GAS FLOW (LBS/SEC)	= 44.392
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 53.328
*MAINSTREAM GAS VEL (FT/SEC)	= 1430.4
MACH NUMBER	= 0.70356
REYNOLDS NUMBER	= 1290000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 144.92
TEMPERATURE (DEG F)	= 215.85
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.7837

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 197

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 598.55
INLET AIR FLOW (LBS/SEC)	= 37.303
INLET PRESSURE (PSIA)	= 187.67
FUEL FLOW (LBS/SEC)	= 0.62273

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 126.29
TOTAL PRESSURE MEAS. (PSIA)	= 129.67
TOTAL TEMPERATURE CALC. AVG.	= 1660.4
CALC. MEAN RAD	= 1660.4
MAINSTREAM GAS FLOW (LBS/SEC)	= 37.925
*MAINSTREAM GAS VEL. (FT/SEC)	= 438.49
MAINSTREAM GAS MACH NO.	= 0.20122
COMBUSTOR EFFICIENCY	= 0.96904

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	455.26	97.141		0.9717
S5	378.25	92.375	117.75	0.8359
S4	383.32	91.365	102.68	0.6122
S3	496.02			-0.3335
S2	488.58		113.21	-0.1783
S1	612.54	120.64	126.57	0.0674
SP	738.60	127.38		0.0000
SP	758.04	127.84		0.0000
P1	635.21	126.37	123.37	0.0828
P2	598.48	126.39	128.52	0.1743
P3	385.01	125.18	126.81	0.3138
P4	320.75	116.23	123.84	0.5874
P5	349.84	109.49	117.59	0.8257
P6	465.24	93.565		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 96.056
TOTAL TEMPERATURE CALC AVG.	= 1486.5
CALC. MEAN RAD	= 1547.3
GAS FLOW (LBS/SEC)	= 44.144
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 52.957
*MAINSTREAM GAS VEL (FT/SEC)	= 1390.3
MACH NUMBER	= 0.68558
REYNOLDS NUMBER	= 1280000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 144.11
TEMPERATURE (DEG F)	= 215.72
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.7078

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 203

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 603.50
INLET AIR FLOW (LBS/SEC)	= 34.338
INLET PRESSURE (PSIA)	= 216.04
FUEL FLOW (LBS/SEC)	= 0.49524

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 117.93
TOTAL PRESSURE MEAS. (PSIA)	= 121.56
TOTAL TEMPERATURE CALC. AVG.	= 1516.7
CALC. MEAN RAD	= 1516.7
MAINSTREAM GAS FLOW (LBS/SEC)	= 34.833
*MAINSTREAM GAS VEL. (FT/SEC)	= 453.05
MAINSTREAM GAS MACH NO.	= 0.21489
COMBUSTOR EFFICIENCY	= 0.95447

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	337.73	93.257		0.9717
S5	267.37	89.722	112.77	0.8359
S4	268.06	88.575	98.408	0.6122
S3	332.67			-0.3335
S2	324.54		108.56	-0.1783
S1	479.21	113.24	120.34	0.0674
SP	505.93	118.91		0.0000
SP	460.96	119.14		0.0000
P1	430.11	117.79	116.67	0.0828
P2	385.58	118.10	121.35	0.1743
P3	262.55	117.00	119.40	0.3138
P4	210.00	109.03	117.53	0.5874
P5	224.46	103.47	112.92	0.8257
P6	317.69	90.264		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 92.577
TOTAL TEMPERATURE CALC AVG.	= 1304.4
CALC. MEAN RAD	= 1397.5
GAS FLOW (LBS/SEC)	= 42.085
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 52.256
*MAINSTREAM GAS VEL (FT/SEC)	= 1262.7
MACH NUMBER	= 0.65006
REYNOLDS NUMBER	= 1310000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 141.21
TEMPERATURE (DEG F)	= 144.55
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.0177

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 204

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 605.87
INLET AIR FLOW (LBS/SEC)	= 37.901
INLET PRESSURE (PSIA)	= 211.95
FUEL FLOW (LBS/SEC)	= 0.59334

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 126.76
TOTAL PRESSURE MEAS. (PSIA)	= 130.86
TOTAL TEMPERATURE CALC. AVG.	= 1600.4
CALC. MEAN RAD	= 1815.2
MAINSTREAM GAS FLOW (LBS/SEC)	= 38.494
*MAINSTREAM GAS VEL. (FT/SEC)	= 473.92
MAINSTREAM GAS MACH NO.	= 0.22053
COMBUSTOR EFFICIENCY	= 0.96336

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	422.52	93.341		0.9717
S5	339.64	88.924	120.00	0.8359
S4	340.06	87.260	100.36	0.6122
S3	410.64			-0.3335
S2	423.42		115.46	-0.1783
S1	571.85	120.24	130.06	0.0674
SP	603.30	128.17		0.0000
SP	541.17	128.54		0.0000
P1	520.41	126.55	124.84	0.0828
P2	442.12	127.01	131.54	0.1743
P3	347.18	125.51	128.97	0.3138
P4	276.96	115.77	126.24	0.5874
P5	298.83	108.56	120.47	0.8257
P6	399.57	89.586		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 92.760
TOTAL TEMPERATURE CALC AVG.	= 1392.2
CALC. MEAN RAD	= 1665.0
GAS FLOW (LBS/SEC)	= 46.630
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 56.860
*MAINSTREAM GAS VEL (FT/SEC)	= 1448.0
MACH NUMBER	= 0.73481
REYNOLDS NUMBER	= 1430000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 157.01
TEMPERATURE (DEG F)	= 218.93
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.2638

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 205

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 606.12
INLET AIR FLOW (LBS/SEC)	= 38.417
INLET PRESSURE (PSIA)	= 213.01
FUEL FLOW (LBS/SEC)	= 0.60452

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 126.78
TOTAL PRESSURE MEAS. (PSIA)	= 130.71
TOTAL TEMPERATURE CALC. AVG.	= 1605.6
CALC. MEAN RAD	= 1826.5
MAINSTREAM GAS FLOW (LBS/SEC)	= 39.022
*MAINSTREAM GAS VEL. (FT/SEC)	= 464.83
MAINSTREAM GAS MACH NO.	= 0.21602
COMBUSTOR EFFICIENCY	= 0.96385

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	436.32	93.189		0.9717
S5	347.25	88.785	118.55	0.8359
S4	348.24	87.179	99.823	0.6122
S3	426.71			-0.3335
S2	439.32		114.28	-0.1783
S1	589.90	120.11	128.31	0.0674
SP	631.25	127.80		0.0000
SP	572.41	128.21		0.0000
P1	552.80	126.54	123.78	0.0828
P2	478.13	126.92	129.71	0.1743
P3	355.88	125.49	127.37	0.3138
P4	298.97	115.62	124.95	0.5874
P5	317.07	108.27	118.87	0.8257
P6	417.07	89.709		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 92.745
TOTAL TEMPERATURE CALC AVG.	= 1417.1
CALC. MEAN RAD	= 1693.4
GAS FLOW (LBS/SEC)	= 46.341
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 56.554
*MAINSTREAM GAS VEL (FT/SEC)	= 1455.7
MACH NUMBER	= 0.73397
REYNOLDS NUMBER	= 1400000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 151.86
TEMPERATURE (DEG F)	= 220.66
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.0557

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 206

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 605.87
INLET AIR FLOW (LBS/SEC)	= 39.020
INLET PRESSURE (PSIA)	= 214.48
FUEL FLOW (LBS/SEC)	= 0.61676

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 126.49
TOTAL PRESSURE MEAS. (PSIA)	= 130.56
TOTAL TEMPERATURE CALC. AVG.	= 1609.9
CALC. MEAN RAD	= 1813.1
MAINSTREAM GAS FLOW (LBS/SEC)	= 39.637
*MAINSTREAM GAS VEL. (FT/SEC)	= 474.17
MAINSTREAM GAS MACH NO.	= 0.22017
COMBUSTOR EFFICIENCY	= 0.96428

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	453.83	93.334		0.9717
S5	358.14	88.895	117.37	0.8359
S4	358.14	87.248	99.810	0.6122
S3	467.26			-0.3335
S2	459.57		113.00	-0.1783
S1	596.54	120.33	127.66	0.0674
SP	670.51	127.97		0.0000
SP	704.06	128.30		0.0000
P1	603.30	126.55	123.30	0.0828
P2	550.51	126.71	128.76	0.1743
P3	367.42	125.32	127.20	0.3138
P4	315.53	115.74	123.84	0.5874
P5	339.50	108.32	117.05	0.8257
P6	436.60	89.643		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 92.691
TOTAL TEMPERATURE CALC AVG.	= 1437.7
CALC. MEAN RAD	= 1695.3
GAS FLOW (LBS/SEC)	= 46.321
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 56.423
*MAINSTREAM GAS VEL (FT/SEC)	= 1462.7
MACH NUMBER	= 0.73367
REYNOLDS NUMBER	= 1380000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 146.94
TEMPERATURE (DEG F)	= 220.39
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.8629

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 207

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 606.02
INLET AIR FLOW (LBS/SEC)	= 39.430
INLET PRESSURE (PSIA)	= 213.69
FUEL FLOW (LBS/SEC)	= 0.59576

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 126.28
TOTAL PRESSURE MEAS. (PSIA)	= 130.44
TOTAL TEMPERATURE CALC. AVG.	= 1565.0
CALC. MEAN RAD	= 1763.7
MAINSTREAM GAS FLOW (LBS/SEC)	= 40.026
*MAINSTREAM GAS VEL. (FT/SEC)	= 474.46
MAINSTREAM GAS MACH NO.	= 0.22258
COMBUSTOR EFFICIENCY	= 0.95973

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	457.17	93.285		0.9717
S5	359.57	88.953	116.82	0.8359
S4	363.81	87.106	99.619	0.6122
S3	485.37			-0.3335
S2	465.34		112.52	-0.1783
S1	603.04	119.95	127.46	0.0674
SP	704.79	128.01		0.0000
SP	797.56	128.32		0.0000
P1	639.75	126.28	122.77	0.0828
P2	607.02	126.58	128.16	0.1743
P3	380.55	125.19	126.29	0.3138
P4	321.55	115.62	123.24	0.5874
P5	352.07	108.17	116.12	0.8257
P6	440.36	89.727		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 92.770
TOTAL TEMPERATURE CALC AVG.	= 1406.7
CALC. MEAN RAD	= 1662.7
GAS FLOW (LBS/SEC)	= 46.358
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 56.715
*MAINSTREAM GAS VEL (FT/SEC)	= 1447.1
MACH NUMBER	= 0.73131
REYNOLDS NUMBER	= 1410000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 144.52
TEMPERATURE (DEG F)	= 220.48
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.7478

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 208

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 607.11
INLET AIR FLOW (LBS/SEC)	= 39.304
INLET PRESSURE (PSIA)	= 212.92
FUEL FLOW (LBS/SEC)	= 0.59920

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 126.18
TOTAL PRESSURE MEAS. (PSIA)	= 130.24
TOTAL TEMPERATURE CALC. AVG.	= 1575.1
CALC. MEAN RAD	= 1575.1
MAINSTREAM GAS FLOW (LBS/SEC)	= 39.903
*MAINSTREAM GAS VEL. (FT/SEC)	= 469.70
MAINSTREAM GAS MACH NO.	= 0.21981
COMBUSTOR EFFICIENCY	= 0.96068

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
				0.9717
S6	453.30	93.407		0.8359
S5	359.87	88.862	116.84	0.6122
S4	365.10	87.549	99.733	-0.3335
S3	486.49			-0.1783
S2	470.33		112.38	0.0674
S1	604.68	120.27	127.23	0.0000
SP	706.68	127.77		0.0000
SP	793.24	128.16		0.0828
P1	638.68	126.18	123.01	0.1743
P2	608.74	126.44	128.63	0.3138
P3	381.04	125.07	127.07	0.5874
P4	322.26	115.47	123.24	0.8257
P5	347.98	107.97	116.37	0.9726
P6	443.16	89.424		

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 92.706
TOTAL TEMPERATURE CALC AVG.	= 1415.7
CALC. MEAN RAD	= 1481.5
GAS FLOW (LBS/SEC)	= 46.224
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 56.575
*MAINSTREAM GAS VEL (FT/SEC)	= 1448.7
MACH NUMBER	= 0.73041
REYNOLDS NUMBER	= 1400000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 144.23
TEMPERATURE (DEG F)	= 221.42
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.7605

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 209

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 606.57
INLET AIR FLOW (LBS/SEC)	= 39.717
INLET PRESSURE (PSIA)	= 214.12
FUEL FLOW (LBS/SEC)	= 0.59667

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 126.32
TOTAL PRESSURE MEAS. (PSIA)	= 130.25
TOTAL TEMPERATURE CALC. AVG.	= 1560.1
CALC. MEAN RAD	= 1560.1
MAINSTREAM GAS FLOW (LBS/SEC)	= 40.313
*MAINSTREAM GAS VEL. (FT/SEC)	= 460.38
MAINSTREAM GAS MACH NO.	= 0.21617
COMBUSTOR EFFICIENCY	= 0.95911

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	453.02	93.786		0.9717
S5	360.01	88.987	116.82	0.8359
S4	363.83	87.539	99.721	0.6122
S3	486.49			-0.3335
S2	470.33		112.62	-0.1783
S1	604.41	120.49	127.21	0.0674
SP	699.59	128.04		0.0000
SP	790.18	128.42		0.0000
P1	636.66	126.22	123.15	0.0828
P2	609.01	126.63	128.69	0.1743
P3	381.46	125.11	126.74	0.3138
P4	321.84	115.95	123.30	0.5874
P5	346.15	108.36	116.27	0.8257
P6	441.21	89.869		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 92.702
TOTAL TEMPERATURE CALC AVG.	= 1404.7
CALC. MEAN RAD	= 1470.9
GAS FLOW (LBS/SEC)	= 46.593
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 56.847
*MAINSTREAM GAS VEL (FT/SEC)	= 1444.7
MACH NUMBER	= 0.73041
REYNOLDS NUMBER	= 1410000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 144.22
TEMPERATURE (DEG F)	= 222.24
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.7472

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 210

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 606.59
INLET AIR FLOW (LBS/SEC)	= 38.919
INLET PRESSURE (PSIA)	= 212.71
FUEL FLOW (LBS/SEC)	= 0.59782

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 126.16
TOTAL PRESSURE MEAS. (PSIA)	= 130.48
TOTAL TEMPERATURE CALC. AVG.	= 1582.0
CALC. MEAN RAD	= 1793.4
MAINSTREAM GAS FLOW (LBS/SEC)	= 39.517
*MAINSTREAM GAS VEL. (FT/SEC)	= 485.40
MAINSTREAM GAS MACH NO.	= 0.22686
COMBUSTOR EFFICIENCY	= 0.96146

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
				0.9717
S6	455.38	93.474		0.8359
S5	361.15	88.864	116.98	0.6122
S4	363.27	87.539	99.330	-0.3335
S3	491.32			-0.1783
S2	468.98		112.42	0.0674
S1	604.55	120.41	127.21	0.0000
SP	708.02	127.92		0.0000
SP	801.09	128.20		0.0828
P1	641.25	126.19	123.30	0.1743
P2	607.93	126.52	129.00	0.3138
P3	380.74	125.02	126.66	0.5874
P4	321.71	115.58	123.54	0.8257
P5	346.29	108.15	116.20	0.9726
P6	441.08	89.631		

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 92.554
TOTAL TEMPERATURE CALC AVG.	= 1419.8
CALC. MEAN RAD	= 1687.0
GAS FLOW (LBS/SEC)	= 45.861
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 56.173
*MAINSTREAM GAS VEL (FT/SEC)	= 1457.5
MACH NUMBER	= 0.73438
REYNOLDS NUMBER	= 1400000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 144.68
TEMPERATURE (DEG F)	= 220.64
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.7530

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 213

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 653.36
INLET AIR FLOW (LBS/SEC)	= 33.246
INLET PRESSURE (PSIA)	= 205.06
FUEL FLOW (LBS/SEC)	= 0.48648

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 118.25
TOTAL PRESSURE MEAS. (PSIA)	= 121.12
TOTAL TEMPERATURE CALC. AVG.	= 1570.8
CALC. MEAN RAD	= 1570.8
MAINSTREAM GAS FLOW (LBS/SEC)	= 33.732
*MAINSTREAM GAS VEL. (FT/SEC)	= 408.88
MAINSTREAM GAS MACH NO.	= 0.19135
COMBUSTOR EFFICIENCY	= 0.95617

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	342.07	93.040		0.9717
S5	271.34	89.733	112.75	0.8359
S4	279.89	88.192	98.358	0.6122
S3	332.93		116.42	-0.3335
S2	332.93		108.81	-0.1783
S1	485.81	113.30	120.26	0.0674
SP	515.65	118.97		0.0000
SP	499.72	119.35		0.0000
P1	433.85	117.91	116.82	0.0828
P2	395.82	118.24	121.51	0.1743
P3	268.72	117.19	119.32	0.3138
P4	214.48	109.20	117.52	0.5874
P5	228.13	103.61	112.75	0.8257
P6	327.73	90.254		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 92.507
TOTAL TEMPERATURE CALC AVG.	= 1349.0
CALC. MEAN RAD	= 1447.4
GAS FLOW (LBS/SEC)	= 40.837
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 50.927
*MAINSTREAM GAS VEL (FT/SEC)	= 1272.1
MACH NUMBER	= 0.64699
REYNOLDS NUMBER	= 1260000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 141.37
TEMPERATURE (DEG F)	= 151.87
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.9801

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 214

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 654.36
INLET AIR FLOW (LBS/SEC)	= 50.714
INLET PRESSURE (PSIA)	= 213.53
FUEL FLOW (LBS/SEC)	= 0.55407

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 154.11
TOTAL PRESSURE MEAS. (PSIA)	= 158.85
TOTAL TEMPERATURE CALC. AVG.	= 1326.2
CALC. MEAN RAD	= 1485.3
MAINSTREAM GAS FLOW (LBS/SEC)	= 51.268
*MAINSTREAM GAS VEL. (FT/SEC)	= 430.74
MAINSTREAM GAS MACH NO.	= 0.21414
COMBUSTOR EFFICIENCY	= 0.91356

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	295.96	112.69		0.9717
S5	251.55	106.85	145.54	0.8359
S4	254.02	105.18	121.60	0.6122
S3	288.20		133.81	-0.3335
S2	288.31		140.82	-0.1783
S1	417.68	146.32	159.70	0.0674
SP	421.73	156.11		0.0000
SP	405.91	156.11		0.0000
P1	370.35	153.83	152.35	0.0828
P2	324.36	154.43	160.17	0.1743
P3	242.64	152.62	157.59	0.3138
P4	199.22	140.20	153.91	0.5874
P5	210.12	131.23	146.71	0.8257
P6	265.02	108.51		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 111.84
TOTAL TEMPERATURE CALC AVG.	= 1134.3
CALC. MEAN RAD	= 1402.6
GAS FLOW (LBS/SEC)	= 62.215
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 72.859
*MAINSTREAM GAS VEL (FT/SEC)	= 1355.0
MACH NUMBER	= 0.73863
REYNOLDS NUMBER	= 2080000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 192.48
TEMPERATURE (DEG F)	= 143.10
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.9857

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 215

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 655.14
INLET AIR FLOW (LBS/SEC)	= 51.516
INLET PRESSURE (PSIA)	= 213.05
FUEL FLOW (LBS/SEC)	= 0.56917

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 154.08
TOTAL PRESSURE MEAS. (PSIA)	= 158.56
TOTAL TEMPERATURE CALC. AVG.	= 1335.8
CALC. MEAN RAD	= 1498.5
MAINSTREAM GAS FLOW (LBS/SEC)	= 52.085
*MAINSTREAM GAS VEL. (FT/SEC)	= 420.42
MAINSTREAM GAS MACH NO.	= 0.20845
COMBUSTOR EFFICIENCY	= 0.91545

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
				0.9717
S6	306.66	113.11		0.8359
S5	256.22	106.72	144.59	0.6122
S4	259.52	105.52	119.92	-0.3335
S3	294.57		138.48	-0.1783
S2	295.24		139.68	0.0674
S1	427.73	146.63	157.12	0.0000
SP	438.18	155.70		0.0000
SP	444.95	155.88		0.0828
P1	381.77	153.83	151.40	0.1743
P2	351.79	154.34	159.08	0.3138
P3	249.82	152.57	155.79	0.5874
P4	216.13	140.04	152.66	0.8257
P5	220.90	131.30	145.61	0.9726
P6	277.28	108.84		

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 111.83
TOTAL TEMPERATURE CALC AVG.	= 1160.4
CALC. MEAN RAD	= 1426.4
GAS FLOW (LBS/SEC)	= 62.145
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 72.834
*MAINSTREAM GAS VEL (FT/SEC)	= 1363.0
MACH NUMBER	= 0.73713
REYNOLDS NUMBER	= 2040000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 187.97
TEMPERATURE (DEG F)	= 155.34
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.7681

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 216

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 654.58
INLET AIR FLOW (LBS/SEC)	= 50.667
INLET PRESSURE (PSIA)	= 211.06
FUEL FLOW (LBS/SEC)	= 0.57428

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 153.88
TOTAL PRESSURE MEAS. (PSIA)	= 158.39
TOTAL TEMPERATURE CALC. AVG.	= 1354.8
CALC. MEAN RAD	= 1496.6
MAINSTREAM GAS FLOW (LBS/SEC)	= 51.241
*MAINSTREAM GAS VEL. (FT/SEC)	= 423.86
MAINSTREAM GAS MACH NO.	= 0.20914
COMBUSTOR EFFICIENCY	= 0.91972

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	315.86	113.22		0.9717
S5	263.51	106.88	143.19	0.8359
S4	262.82	105.55	119.48	0.6122
S3	319.21		141.16	-0.3335
S2	308.97		138.15	-0.1783
S1	443.33	146.40	156.19	0.0674
SP	459.43	155.58		0.0000
SP	501.46	155.67		0.0000
P1	423.55	153.78	150.55	0.0828
P2	393.39	154.16	157.67	0.1743
P3	255.70	152.46	154.70	0.3138
P4	235.80	140.04	151.18	0.5874
P5	237.99	131.17	143.66	0.8257
P6	293.47	109.13		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 111.93
TOTAL TEMPERATURE CALC AVG.	= 1190.3
CALC. MEAN RAD	= 1431.7
GAS FLOW (LBS/SEC)	= 60.275
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 71.028
*MAINSTREAM GAS VEL (FT/SEC)	= 1371.8
MACH NUMBER	= 0.73535
REYNOLDS NUMBER	= 1990000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 181.10
TEMPERATURE (DEG F)	= 155.56
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.5084

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 217

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 655.16
INLET AIR FLOW (LBS/SEC)	= 52.373
INLET PRESSURE (PSIA)	= 211.89
FUEL FLOW (LBS/SEC)	= 0.57405

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 153.69
TOTAL PRESSURE MEAS. (PSIA)	= 158.48
TOTAL TEMPERATURE CALC. AVG.	= 1329.5
CALC. MEAN RAD	= 1483.2
MAINSTREAM GAS FLOW (LBS/SEC)	= 52.947
*MAINSTREAM GAS VEL. (FT/SEC)	= 434.15
MAINSTREAM GAS MACH NO.	= 0.21566
COMBUSTOR EFFICIENCY	= 0.91411

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	323.27	113.01		0.9717
S5	268.19	106.87	142.01	0.8359
S4	267.78	105.51	118.79	0.6122
S3	340.26		142.79	-0.3335
S2	318.21		137.33	-0.1783
S1	453.75	146.07	155.30	0.0674
SP	489.55	155.66		0.0000
SP	584.26	155.52		0.0000
P1	460.68	153.76	149.36	0.0828
P2	435.23	154.00	156.47	0.1743
P3	264.94	152.38	154.36	0.3138
P4	247.17	140.12	150.29	0.5874
P5	250.33	131.11	142.17	0.8257
P6	293.61	109.10		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 111.92
TOTAL TEMPERATURE CALC AVG.	= 1181.6
CALC. MEAN RAD	= 1433.0
GAS FLOW (LBS/SEC)	= 61.409
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 72.207
*MAINSTREAM GAS VEL (FT/SEC)	= 1369.4
MACH NUMBER	= 0.73594
REYNOLDS NUMBER	= 2000000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 178.29
TEMPERATURE (DEG F)	= 157.85
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.3537

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 218

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 654.72
INLET AIR FLOW (LBS/SEC)	= 50.384
INLET PRESSURE (PSIA)	= 210.34
FUEL FLOW (LBS/SEC)	= 0.58880

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 154.27
TOTAL PRESSURE MEAS. (PSIA)	= 158.49
TOTAL TEMPERATURE CALC. AVG.	= 1379.2
CALC. MEAN RAD	= 1379.2
MAINSTREAM GAS FLOW (LBS/SEC)	= 50.972
*MAINSTREAM GAS VEL. (FT/SEC)	= 412.71
MAINSTREAM GAS MACH NO.	= 0.20233
COMBUSTOR EFFICIENCY	= 0.92470

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	330.98	115.10		0.9717
S5	270.12	109.32	143.16	0.8359
S4	270.95	107.65	120.66	0.6122
S3	337.87		143.87	-0.3335
S2	321.60		138.51	-0.1783
S1	448.75	146.92	156.41	0.0674
SP	495.34	156.21		0.0000
SP	548.49	156.21		0.0000
P1	445.42	154.23	150.22	0.0828
P2	430.39	154.54	156.80	0.1743
P3	267.50	152.80	154.92	0.3138
P4	247.59	141.07	151.31	0.5874
P5	248.96	132.53	142.77	0.8257
P6	299.44	111.54		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 113.96
TOTAL TEMPERATURE CALC AVG.	= 1221.8
CALC. MEAN RAD	= 1321.2
GAS FLOW (LBS/SEC)	= 59.410
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 70.183
*MAINSTREAM GAS VEL (FT/SEC)	= 1351.6
MACH NUMBER	= 0.71655
REYNOLDS NUMBER	= 1920000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 178.66
TEMPERATURE (DEG F)	= 163.86
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.3932

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 219

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 655.19
INLET AIR FLOW (LBS/SEC)	= 50.768
INLET PRESSURE (PSIA)	= 213.76
FUEL FLOW (LBS/SEC)	= 0.57686

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 154.37
TOTAL PRESSURE MEAS. (PSIA)	= 158.88
TOTAL TEMPERATURE CALC. AVG.	= 1357.6
CALC. MEAN RAD	= 1357.6
MAINSTREAM GAS FLOW (LBS/SEC)	= 51.345
*MAINSTREAM GAS VEL. (FT/SEC)	= 423.94
MAINSTREAM GAS MACH NO.	= 0.20902
COMBUSTOR EFFICIENCY	= 0.92013

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	329.86	117.31		0.9717
S5	271.22	111.60	144.30	0.8359
S4	273.43	110.35	122.32	0.6122
S3	335.19		144.69	-0.3335
S2	329.02		139.05	-0.1783
S1	450.00	147.19	156.27	0.0674
SP	493.82	155.87		0.0000
SP	538.25	156.11		0.0000
P1	446.39	154.35	150.95	0.0828
P2	425.37	154.71	157.21	0.1743
P3	267.37	152.84	155.25	0.3138
P4	247.17	141.22	151.65	0.5874
P5	251.97	133.47	144.14	0.8257
P6	320.20	113.81		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 116.32
TOTAL TEMPERATURE CALC AVG.	= 1203.1
CALC. MEAN RAD	= 1303.6
GAS FLOW (LBS/SEC)	= 59.836
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 70.554
*MAINSTREAM GAS VEL (FT/SEC)	= 1308.1
MACH NUMBER	= 0.69564
REYNOLDS NUMBER	= 1920000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 179.35
TEMPERATURE (DEG F)	= 165.08
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.3538

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 220

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 654.80
INLET AIR FLOW (LBS/SEC)	= 50.349
INLET PRESSURE (PSIA)	= 212.91
FUEL FLOW (LBS/SEC)	= 0.55743

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 154.81
TOTAL PRESSURE MEAS. (PSIA)	= 159.08
TOTAL TEMPERATURE CALC. AVG.	= 1337.2
CALC. MEAN RAD	= 1337.2
MAINSTREAM GAS FLOW (LBS/SEC)	= 50.907
*MAINSTREAM GAS VEL. (FT/SEC)	= 409.52
MAINSTREAM GAS MACH NO.	= 0.20294
COMBUSTOR EFFICIENCY	= 0.91580

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	332.68	119.42		0.9717
S5	272.20	114.25	145.41	0.8359
S4	272.61	113.00	124.43	0.6122
S3	336.19		145.33	-0.3335
S2	321.04		140.31	-0.1783
S1	448.20	148.15	156.92	0.0674
SP	490.11	156.37		0.0000
SP	523.76	156.52		0.0000
P1	436.94	154.64	151.99	0.0828
P2	416.16	155.06	157.86	0.1743
P3	266.82	153.52	155.74	0.3138
P4	246.08	141.94	152.38	0.5874
P5	249.24	134.65	145.02	0.8257
P6	297.37	115.99		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 118.36
TOTAL TEMPERATURE CALC AVG.	= 1185.1
CALC. MEAN RAD	= 1286.6
GAS FLOW (LBS/SEC)	= 59.333
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 69.961
*MAINSTREAM GAS VEL (FT/SEC)	= 1268.1
MACH NUMBER	= 0.67653
REYNOLDS NUMBER	= 1910000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 179.08
TEMPERATURE (DEG F)	= 166.05
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.3424

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 221

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 655.87
INLET AIR FLOW (LBS/SEC)	= 53.891
INLET PRESSURE (PSIA)	= 211.35
FUEL FLOW (LBS/SEC)	= 0.60178

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 152.87
TOTAL PRESSURE MEAS. (PSIA)	= 158.02
TOTAL TEMPERATURE CALC. AVG.	= 1344.8
CALC. MEAN RAD	= 1344.8
MAINSTREAM GAS FLOW (LBS/SEC)	= 54.492
*MAINSTREAM GAS VEL. (FT/SEC)	= 452.70
MAINSTREAM GAS MACH NO.	= 0.22405
COMBUSTOR EFFICIENCY	= 0.91724

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	330.28	108.90		0.9717
S5	271.09	101.92	140.91	0.8359
S4	270.67	100.61	115.40	0.6122
S3	349.01		145.77	-0.3335
S2	328.04		135.43	-0.1783
S1	464.14	145.14	154.85	0.0674
SP	504.55	155.13		0.0000
SP	613.64	155.36		0.0000
P1	475.76	153.09	148.51	0.0828
P2	461.79	153.24	155.94	0.1743
P3	275.36	151.42	153.59	0.3138
P4	255.27	138.53	149.76	0.5874
P5	261.45	129.22	140.21	0.8257
P6	295.97	104.49		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 107.50
TOTAL TEMPERATURE CALC AVG.	= 1200.4
CALC. MEAN RAD	= 1299.2
GAS FLOW (LBS/SEC)	= 62.934
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 73.577
*MAINSTREAM GAS VEL (FT/SEC)	= 1446.0
MACH NUMBER	= 0.77646
REYNOLDS NUMBER	= 2030000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 178.13
TEMPERATURE (DEG F)	= 166.72
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.3468

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 222

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 702.88
INLET AIR FLOW (LBS/SEC)	= 32.886
INLET PRESSURE (PSIA)	= 242.40
FUEL FLOW (LBS/SEC)	= 0.45757

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 117.92
TOTAL PRESSURE MEAS. (PSIA)	= 120.78
TOTAL TEMPERATURE CALC. AVG.	= 1570.4
CALC. MEAN RAD	= 1570.4
MAINSTREAM GAS FLOW (LBS/SEC)	= 33.343
*MAINSTREAM GAS VEL. (FT/SEC)	= 408.39
MAINSTREAM GAS MACH NO.	= 0.19110
COMBUSTOR EFFICIENCY	= 0.95005

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	386.33	92.994		0.9717
S5	318.29	89.889	113.16	0.8359
S4	336.37	88.678	97.938	0.6122
S3	387.88		131.37	-0.3335
S2	403.74		109.00	-0.1783
S1	535.84	113.08	121.32	0.0674
SP	564.34	119.03		0.0000
SP	536.66	119.26		0.0000
P1	483.81	117.86	116.85	0.0828
P2	433.22	117.98	121.95	0.1743
P3	326.82	116.91	120.07	0.3138
P4	260.12	109.16	117.87	0.5874
P5	277.61	103.88	113.55	0.8257
P6	376.33	90.294		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 92.489
TOTAL TEMPERATURE CALC AVG.	= 1347.1
CALC. MEAN RAD	= 1453.4
GAS FLOW (LBS/SEC)	= 40.531
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 51.065
*MAINSTREAM GAS VEL (FT/SEC)	= 1265.5
MACH NUMBER	= 0.64365
REYNOLDS NUMBER	= 1260000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 143.12
TEMPERATURE (DEG F)	= 178.73
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.9874

*BASED ON CALCULATED AVG TEMPERATURE

TABLE IV

FCFC VANE READING NO. 223

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 703.30
INLET AIR FLOW (LBS/SEC)	= 44.451
INLET PRESSURE (PSIA)	= 240.94
FUEL FLOW (LBS/SEC)	= 1.0815

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE (AVG)	= 167.74
TOTAL PRESSURE MEAS. (PSIA)	= 172.46
TOTAL TEMPERATURE CALC. AVG.	= 2189.3
CALC. MEAN RAD	= 2451.5
MAINSTREAM GAS FLOW (LBS/SEC)	= 45.532
*MAINSTREAM GAS VEL. (FT/SEC)	= 501.91
MAINSTREAM GAS MACH NO.	= 0.20778
COMBUSTOR EFFICIENCY	= 0.98114

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

T/C POS	GAS SIDE VANE TEMP (DEG F)	GAS SIDE VANE SURF PRESS(PSIA)	COOLANT SIDE VANE SURF PRESS(PSIA)	X(S)/L(S) OR X(P)/L(P)
S6	719.99	122.34		0.9717
S5	602.06	116.56	158.68	0.8359
S4	648.73	114.51	131.74	0.6122
S3	673.84		139.18	-0.3335
S2	768.90		152.01	-0.1783
S1	959.95	159.46	172.15	0.0674
SP	1018.3	169.37		0.0000
SP	872.46	169.73		0.0000
P1	881.18	167.46	164.86	0.0828
P2	721.00	167.80	173.95	0.1743
P3	638.77	165.99	169.95	0.3138
P4	526.96	152.77	166.74	0.5874
P5	561.90	143.23	159.23	0.8257
P6	711.98	117.39		0.9726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS.	= 121.56
TOTAL TEMPERATURE CALC AVG.	= 1943.8
CALC. MEAN RAD	= 2224.0
GAS FLOW (LBS/SEC)	= 54.813
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 65.604
*MAINSTREAM GAS VEL (FT/SEC)	= 1664.6
MACH NUMBER	= 0.74706
REYNOLDS NUMBER	= 1390000.

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 206.86
TEMPERATURE (DEG F)	= 444.53
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.5943

*BASED ON CALCULATED AVG TEMPERATURE

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 56

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 446.31
INLET AIR FLOW (LBS/SEC)	= 43.972
INLET PRESSURE (PSIA)	= 156.33
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 117.47
TOTAL PRESSURE MEAS. (PSIA)	= 119.47
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 444.04
CALC. MEAN RAD	= 444.04
*MAINSTREAM GAS VEL. (FT/SEC)	= 228.62
MAINSTREAM GAS FLOW (LBS/SEC)	= 43.972
MAINSTREAM GAS MACH NO.	= 0.15621
COMBUSTOR EFFICIENCY	= 0.00000

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 106.16
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 415.69
CALC. MEAN RAD	= 415.69
GAS FLOW (LBS/SEC)	= 48.582
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 56.908
*MAINSTREAM GAS VEL (FT/SEC)	= 590.84
MACH NUMBER	= 0.41577
REYNOLDS NUMBER	= 2130000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	338.05	TF14	.140	353.78
TF02	.072	338.05	TF15	.348	375.40
TF03	.170	308.18	TF16	.424	357.18
TF04	.170	310.29	TF17	.424	354.46
TF05	.170	313.79	TF18	.424	340.11
TF06	.262	304.67	TF19	.502	341.49
TF07	.354	306.78	TF20	.580	343.54
TF08	.354	306.08	TF21	.580	160.16
TF09	.354	296.19	TF22	.580	337.37
TF10	.446	315.89	TF23	.820	402.71
TF11	.540	329.09			
TF12	.722	350.38			
TF13	.816	372.04			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 125.82
TEMPERATURE (DEG F)	= 140.67
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.3604

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	371.13	105.63	.9717
S5		104.31	.8359
S4		103.69	.6122
S3	322.50	102.06	.3465
S2		115.94	.1879
S1	335.26	113.38	.0674
SP	355.58	119.39	.0000
P1	315.37	117.49	.0828
P2		117.96	.1743
P3		117.34	.3138
P3		117.34	.3138
P4	298.39	114.08	.5874
P5		110.20	.8257
P6		105.86	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

SENSOR TYPE	PRESSURE SURFACE X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	17.956	431.90
GARDON GAGE 2	.5874	18.277	479.69
PAIRED T/C 1	.3138	18.460	372.80
PAIRED T/C 2	.5874	20.629	481.05
PAIRED T/C 3	.3138	19.149	401.60
PAIRED T/C 4	.5874	21.391	486.59

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 57

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 445.42
INLET AIR FLOW (LBS/SEC)	= 24.993
INLET PRESSURE (PSIA)	= 161.83
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 47.656
TOTAL PRESSURE MEAS. (PSIA)	= 49.154
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 440.41
CALC. MEAN RAD	= 440.53
*MAINSTREAM GAS VEL. (FT/SEC)	= 308.69
MAINSTREAM GAS FLOW (LBS/SEC)	= 24.993
MAINSTREAM GAS MACH NO.	= 0.21172
COMBUSTOR EFFICIENCY	= 0.00000

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 35.615
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 410.54
CALC. MEAN RAD	= 410.66
GAS FLOW (LBS/SEC)	= 27.811
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 34.015
*MAINSTREAM GAS VEL (FT/SEC)	= 959.25
MACH NUMBER	= 0.69615
REYNOLDS NUMBER	= 1290000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	324.15	TF14	.140	323.45
TF02	.072	328.30	TF15	.348	326.23
TF03	.170	291.12	TF16	.424	326.92
TF04	.170	297.51	TF17	.424	313.70
TF05	.170	296.09	TF18	.424	293.25
TF06	.262	286.84	TF19	.502	317.19
TF07	.354	283.98	TF20	.580	324.84
TF08	.354	281.12	TF21	.580	172.21
TF09	.354	277.52	TF22	.580	312.30
TF10	.446	293.25	TF23	.820	375.98
TF11	.540	304.57			
TF12	.722	333.83			
TF13	.816	353.69			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 53.103
TEMPERATURE (DEG F)	= 138.93
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.77361

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	349.64	34.929	.9717
S5		33.330	.8359
S4		33.609	.6122
S3	261.93	32.818	.3465
S2		46.010	.1879
S1	325.30	44.551	.0674
SP	344.78	49.255	.0000
P1	308.41	47.795	.0828
P2		47.985	.1743
P3		47.360	.3138
P3		47.438	.3138
P4	280.45	44.675	.5874
P5		40.330	.8257
P6		35.456	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	12.664	288.39
GARDON GAGE 2	.5874	12.426	313.48
PAIRED T/C 1	.3138	12.612	243.52
PAIRED T/C 2	.5874	12.967	284.38
PAIRED T/C 3	.3138	13.131	260.05
PAIRED T/C 4	.5874	13.836	287.73

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 58

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 455.03
INLET AIR FLOW (LBS/SEC)	= 25.118
INLET PRESSURE (PSIA)	= 162.11
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 47.452
TOTAL PRESSURE MEAS. (PSIA)	= 49.061
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 448.95
CALC. MEAN RAD	= 449.23
*MAINSTREAM GAS VEL. (FT/SEC)	= 321.83
MAINSTREAM GAS FLOW (LBS/SEC)	= 25.118
MAINSTREAM GAS MACH NO.	= 0.21980
COMBUSTOR EFFICIENCY	= 0.00000

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 35.395
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 426.10
CALC. MEAN RAD	= 426.37
GAS FLOW (LBS/SEC)	= 27.382
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 33.627
*MAINSTREAM GAS VEL (FT/SEC)	= 973.96
MACH NUMBER	= 0.70114
REYNOLDS NUMBER	= 1270000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	337.87	TF14	.140	335.80
TF02	.072	354.28	TF15	.348	345.41
TF03	.170	310.80	TF16	.424	337.87
TF04	.170	310.10	TF17	.424	324.05
TF05	.170	315.00	TF18	.424	317.79
TF06	.262	317.79	TF19	.502	344.73
TF07	.354	299.54	TF20	.580	336.49
TF08	.354	293.87	TF21	.580	175.31
TF09	.354	301.65	TF22	.580	333.74
TF10	.446	324.05	TF23	.820	393.25
TF11	.540	318.49			
TF12	.722	348.83			
TF13	.816	373.88			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 47.342
TEMPERATURE (DEG F)	= 137.90
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.62588

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	362.67	34.787	.9717
S5		32.956	.8359
S4		33.297	.6122
S3	274.47	32.630	.3465
S2		43.477	.1879
S1	340.05	44.377	.0674
SP	359.84	49.174	.0000
P1	323.91	47.619	.0828
P2		47.825	.1743
P3		47.202	.3138
P3		47.217	.3138
P4	294.91	44.424	.5874
P5		40.063	.8257
P6		35.113	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

SENSOR TYPE	PRESSURE SURFACE X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	10.876	276.15
GARDON GAGE 2	.5874	10.605	302.95
PAIRED T/C 1	.3138	11.862	235.09
PAIRED T/C 2	.5874	11.784	266.81
PAIRED T/C 3	.3138	12.622	258.18
PAIRED T/C 4	.5874	13.181	281.08

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 59

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 458.43
INLET AIR FLOW (LBS/SEC)	= 25.138
INLET PRESSURE (PSIA)	= 162.21
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 47.501
TOTAL PRESSURE MEAS. (PSIA)	= 49.044
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 452.34
CALC. MEAN RAD	= 452.68
*MAINSTREAM GAS VEL. (FT/SEC)	= 315.81
MAINSTREAM GAS FLOW (LBS/SEC)	= 25.138
MAINSTREAM GAS MACH NO.	= 0.21526
COMBUSTOR EFFICIENCY	= 0.00000

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 35.349
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 434.94
CALC. MEAN RAD	= 435.27
GAS FLOW (LBS/SEC)	= 26.857
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 32.982
*MAINSTREAM GAS VEL (FT/SEC)	= 980.18
MACH NUMBER	= 0.70229
REYNOLDS NUMBER	= 1250000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	362.90	TF14	.140	346.58
TF02	.072	389.07	TF15	.348	379.05
TF03	.170	334.23	TF16	.424	352.04
TF04	.170	328.01	TF17	.424	344.53
TF05	.170	342.48	TF18	.424	339.05
TF06	.262	364.93	TF19	.502	381.06
TF07	.354	322.47	TF20	.580	351.36
TF08	.354	322.47	TF21	.580	182.27
TF09	.354	328.71	TF22	.580	356.80
TF10	.446	368.98	TF23	.820	404.32
TF11	.540	336.30			
TF12	.722	362.22			
TF13	.816	391.73			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 42.256
TEMPERATURE (DEG F)	= 137.66
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.47550

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	374.68	34.690	.9717
S5		32.921	.8359
S4		33.309	.6122
S3	288.85	32.471	.3465
S2		40.867	.1879
S1	354.46	44.452	.0674
SP	374.03	49.207	.0000
P1	338.79	47.620	.0828
P2		47.922	.1743
P3		47.168	.3138
P3		47.106	.3138
P4	310.31	44.390	.5874
P5		40.075	.8257
P6		35.031	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	9.8318	270.89
GARDON GAGE 2	.5874	8.9100	287.12
PAIRED T/C 1	.3138	10.554	227.76
PAIRED T/C 2	.5874	9.5870	242.86
PAIRED T/C 3	.3138	11.061	251.44
PAIRED T/C 4	.5874	11.064	264.25

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 60

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 460.53
INLET AIR FLOW (LBS/SEC)	= 25.155
INLET PRESSURE (PSIA)	= 162.45
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 47.393
TOTAL PRESSURE MEAS. (PSIA)	= 48.994
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 454.96
CALC. MEAN RAD	= 455.52
*MAINSTREAM GAS VEL. (FT/SEC)	= 322.32
MAINSTREAM GAS FLOW (LBS/SEC)	= 25.155
MAINSTREAM GAS MACH NO.	= 0.21944
COMBUSTOR EFFICIENCY	= 0.00000

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 35.304
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 443.25
CALC. MEAN RAD	= 443.80
GAS FLOW (LBS/SEC)	= 26.332
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 32.529
*MAINSTREAM GAS VEL (FT/SEC)	= 985.12
MACH NUMBER	= 0.70267
REYNOLDS NUMBER	= 1240000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	389.65	TF14	.140	372.92
TF02	.072	414.77	TF15	.348	394.96
TF03	.170	364.16	TF16	.424	374.94
TF04	.170	357.39	TF17	.424	367.54
TF05	.170	372.92	TF18	.424	364.84
TF06	.262	384.31	TF19	.502	397.62
TF07	.354	356.71	TF20	.580	378.29
TF08	.354	349.22	TF21	.580	196.33
TF09	.354	360.78	TF22	.580	377.62
TF10	.446	388.98	TF23	.820	415.42
TF11	.540	368.88			
TF12	.722	390.98			
TF13	.816	408.19			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 38.067
TEMPERATURE (DEG F)	= 137.02
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.32604

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	387.36	34.695	.9717
S5		33.004	.8359
S4		33.175	.6122
S3	309.96	32.647	.3465
S2		38.326	.1879
S1	371.58	44.470	.0674
SP	390.76	49.115	.0000
P1	357.87	47.576	.0828
P2		47.861	.1743
P3		47.170	.3138
P3		47.108	.3138
P4	332.45	44.377	.5874
P5		39.924	.8257
P6		35.161	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	8.2057	261.60
GARDON GAGE 2	.5874	6.8831	264.06
PAIRED T/C 1	.3138	9.0921	222.95
PAIRED T/C 2	.5874	7.9751	230.44
PAIRED T/C 3	.3138	9.0129	242.43
PAIRED T/C 4	.5874	8.7320	248.12

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 61

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 458.94
INLET AIR FLOW (LBS/SEC)	= 37.744
INLET PRESSURE (PSIA)	= 158.70
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 72.271
TOTAL PRESSURE MEAS. (PSIA)	= 74.699
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 455.53
CALC. MEAN RAD	= 455.84
*MAINSTREAM GAS VEL. (FT/SEC)	= 321.56
MAINSTREAM GAS FLOW (LBS/SEC)	= 37.744
MAINSTREAM GAS MACH NO.	= 0.21885
COMBUSTOR EFFICIENCY	= 0.00000

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 53.942
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 424.26
CALC. MEAN RAD	= 424.55
GAS FLOW (LBS/SEC)	= 42.003
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 48.814
*MAINSTREAM GAS VEL (FT/SEC)	= 971.61
MACH NUMBER	= 0.70007
REYNOLDS NUMBER	= 1930000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	338.85	TF14	.140	342.97
TF02	.072	340.91	TF15	.348	367.44
TF03	.170	309.70	TF16	.424	350.49
TF04	.170	310.40	TF17	.424	344.34
TF05	.170	314.60	TF18	.424	331.97
TF06	.262	305.49	TF19	.502	334.73
TF07	.354	306.19	TF20	.580	340.23
TF08	.354	305.49	TF21	.580	186.01
TF09	.354	295.60	TF22	.580	331.97
TF10	.446	315.30	TF23	.820	397.52
TF11	.540	328.51			
TF12	.722	351.85			
TF13	.816	370.14			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 80.684
TEMPERATURE (DEG F)	= 141.32
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.1892

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	369.75	53.235	.9717
S5		50.424	.8359
S4		50.611	.6122
S3	313.87	49.896	.3465
S2		69.774	.1879
S1	338.24	67.538	.0674
SP	360.53	74.763	.0000
P1	320.57	72.478	.0828
P2		72.874	.1743
P3		71.948	.3138
P3		72.026	.3138
P4	301.45	67.616	.5874
P5		60.985	.8257
P6		53.220	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	17.411	390.32
GARDON GAGE 2	.5874	17.392	426.03
PAIRED T/C 1	.3138	17.437	331.57
PAIRED T/C 2	.5874	19.229	422.70
PAIRED T/C 3	.3138	17.808	349.57
PAIRED T/C 4	.5874	20.029	423.11

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 62

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 453.86
INLET AIR FLOW (LBS/SEC)	= 48.744
INLET PRESSURE (PSIA)	= 155.58
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 92.411
TOTAL PRESSURE MEAS. (PSIA)	= 95.621
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 452.04
CALC. MEAN RAD	= 452.04
*MAINSTREAM GAS VEL. (FT/SEC)	= 326.30
MAINSTREAM GAS FLOW (LBS/SEC)	= 48.744
MAINSTREAM GAS MACH NO.	= 0.22252
COMBUSTOR EFFICIENCY	= 0.00000

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 68.756
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 421.46
CALC. MEAN RAD	= 421.46
GAS FLOW (LBS/SEC)	= 54.226
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 61.502
*MAINSTREAM GAS VEL (FT/SEC)	= 976.13
MACH NUMBER	= 0.70483
REYNOLDS NUMBER	= 2490000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	343.95	TF14	.140	351.46
TF02	.072	341.89	TF15	.348	373.12
TF03	.170	315.60	TF16	.424	354.18
TF04	.170	314.90	TF17	.424	350.78
TF05	.170	321.87	TF18	.424	336.40
TF06	.262	311.41	TF19	.502	339.84
TF07	.354	316.30	TF20	.580	343.26
TF08	.354	314.90	TF21	.580	185.56
TF09	.354	302.27	TF22	.580	335.71
TF10	.446	322.57	TF23	.820	401.12
TF11	.540	335.71			
TF12	.722	354.87			
TF13	.816	373.12			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 103.17
TEMPERATURE (DEG F)	= 144.67
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.5195

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	372.72	68.219	.9717
S5		64.399	.8359
S4		64.492	.6122
S3	319.60	63.513	.3465
S2		89.120	.1879
S1	338.81	86.170	.0674
SP	360.90	95.589	.0000
P1	322.25	92.653	.0828
P2		93.145	.1743
P3		92.226	.3138
P3		92.242	.3138
P4	306.43	86.636	.5874
P5		78.064	.8257
P6		67.691	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	20.005	465.88
GARDON GAGE 2	.5874	20.054	505.20
PAIRED T/C 1	.3138	20.451	407.40
PAIRED T/C 2	.5874	23.101	530.84
PAIRED T/C 3	.3138	20.439	418.65
PAIRED T/C 4	.5874	23.455	515.73

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 63

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 455.07
INLET AIR FLOW (LBS/SEC)	= 48.666
INLET PRESSURE (PSIA)	= 155.97
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 92.156
TOTAL PRESSURE MEAS. (PSIA)	= 95.368
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 452.84
CALC. MEAN RAD	= 452.90
*MAINSTREAM GAS VEL. (FT/SEC)	= 326.97
MAINSTREAM GAS FLOW (LBS/SEC)	= 48.666
MAINSTREAM GAS MACH NO.	= 0.22288
COMBUSTOR EFFICIENCY	= 0.00000

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 68.311
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 430.14
CALC. MEAN RAD	= 430.20
GAS FLOW (LBS/SEC)	= 53.062
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 60.349
*MAINSTREAM GAS VEL (FT/SEC)	= 986.36
MACH NUMBER	= 0.70918
REYNOLDS NUMBER	= 2470000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	350.49	TF14	.140	356.62
TF02	.072	364.07	TF15	.348	382.22
TF03	.170	330.59	TF16	.424	360.01
TF04	.170	322.97	TF17	.424	355.26
TF05	.170	335.42	TF18	.424	351.17
TF06	.262	335.42	TF19	.502	360.69
TF07	.354	327.13	TF20	.580	349.81
TF08	.354	322.97	TF21	.580	189.17
TF09	.354	322.28	TF22	.580	350.49
TF10	.446	345.71	TF23	.820	408.76
TF11	.540	343.66			
TF12	.722	362.04			
TF13	.816	385.56			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 91.990
TEMPERATURE (DEG F)	= 144.52
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.2277

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	379.63	67.801	.9717
S5		63.996	.8359
S4		63.996	.6122
S3	329.27	63.220	.3465
S2		84.714	.1879
S1	348.55	86.189	.0674
SP	371.48	95.345	.0000
P1	332.63	92.326	.0828
P2		92.930	.1743
P3		91.982	.3138
P3		91.904	.3138
P4	318.26	86.344	.5874
P5		77.694	.8257
P6		67.320	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	16.894	449.42
GARDON GAGE 2	.5874	17.025	493.20
PAIRED T/C 1	.3138	19.487	416.94
PAIRED T/C 2	.5874	20.548	496.98
PAIRED T/C 3	.3138	19.154	418.78
PAIRED T/C 4	.5874	21.785	507.03

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 64

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 455.63
INLET AIR FLOW (LBS/SEC)	= 49.062
INLET PRESSURE (PSIA)	= 155.94
FUEL FLOW (LBS/SEC)	= 0.00000

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 92.050
TOTAL PRESSURE MEAS. (PSIA)	= 95.305
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 453.73
CALC. MEAN RAD	= 453.57
*MAINSTREAM GAS VEL. (FT/SEC)	= 329.47
MAINSTREAM GAS FLOW (LBS/SEC)	= 49.062
MAINSTREAM GAS MACH NO.	= 0.22450
COMBUSTOR EFFICIENCY	= 0.00000

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 68.057
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 436.61
CALC. MEAN RAD	= 436.46
GAS FLOW (LBS/SEC)	= 52.394
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 59.674
*MAINSTREAM GAS VEL (FT/SEC)	= 994.28
MACH NUMBER	= 0.71265
REYNOLDS NUMBER	= 2450000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	371.87	TF14	.140	363.78
TF02	.072	393.26	TF15	.348	404.52
TF03	.170	352.93	TF16	.424	375.90
TF04	.170	336.50	TF17	.424	371.20
TF05	.170	358.36	TF18	.424	368.50
TF06	.262	373.89	TF19	.502	388.60
TF07	.354	348.84	TF20	.580	365.13
TF08	.354	344.74	TF21	.580	200.57
TF09	.354	344.74	TF22	.580	369.18
TF10	.446	382.60	TF23	.820	415.71
TF11	.540	362.43			
TF12	.722	377.91			
TF13	.816	399.23			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 81.743
TEMPERATURE (DEG F)	= 143.73
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.92379

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	387.52	67.462	.9717
S5		63.688	.8359
S4		63.735	.6122
S3	341.92	62.989	.3465
S2		79.204	.1879
S1	359.73	86.037	.0674
SP	381.92	95.284	.0000
P1	345.59	92.268	.0828
P2		92.871	.1743
P3		91.784	.3138
P3		91.644	.3138
P4	330.98	86.239	.5874
P5		77.371	.8257
P6		67.043	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	15.442	448.69
GARDON GAGE 2	.5874	14.820	485.14
PAIRED T/C 1	.3138	17.257	403.30
PAIRED T/C 2	.5874	17.074	464.11
PAIRED T/C 3	.3138	16.909	408.06
PAIRED T/C 4	.5874	18.824	490.46

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 67

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 541.86
INLET AIR FLOW (LBS/SEC)	= 38.664
INLET PRESSURE (PSIA)	= 157.38
FUEL FLOW (LBS/SEC)	= 0.61782

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 116.88
TOTAL PRESSURE MEAS. (PSIA)	= 120.02
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1566.1
CALC. MEAN RAD	= 1566.1
*MAINSTREAM GAS VEL. (FT/SEC)	= 429.04
MAINSTREAM GAS FLOW (LBS/SEC)	= 39.281
MAINSTREAM GAS MACH NO.	= 0.20113
COMBUSTOR EFFICIENCY	= 0.96530

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 92.621
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1441.8
CALC. MEAN RAD	= 1496.1
GAS FLOW (LBS/SEC)	= 43.905
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 50.776
*MAINSTREAM GAS VEL (FT/SEC)	= 1280.2
MACH NUMBER	= 0.63527
REYNOLDS NUMBER	= 1160000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1088.2	TF14	.140	1123.5
TF02	.072	1165.8	TF15	.348	1118.6
TF03	.170	932.64	TF16	.424	1091.5
TF04	.170	1014.0	TF17	.424	1043.7
TF05	.170	940.02	TF18	.424	980.78
TF06	.262	946.83	TF19	.502	1177.8
TF07	.354	866.31	TF20	.580	1152.1
TF08	.354	975.70	TF21	.580	54.162
TF09	.354	862.86	TF22	.580	1105.9
TF10	.446	973.44	TF23	.820	1457.2
TF11	.540	920.68			
TF12	.722	1043.1			
TF13	.816	1215.2			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 115.27
TEMPERATURE (DEG F)	= 138.41
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.3541

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	885.07	90.538	.9717
S5		88.211	.8359
S4		88.676	.6122
S3	864.23	86.582	.3465
S2		107.21	.1879
S1	1163.1	110.47	.0674
SP	895.09	120.19	.0000
P1	1043.0	116.94	.0828
P2		117.42	.1743
P3		116.37	.3138
P3		116.29	.3138
P4	908.42	110.47	.5874
P5		101.94	.8257
P6		92.399	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

SENSOR TYPE	X/L(P)	PRESSURE SURFACE HEAT FLUX Q/A	PRESSURE SURFACE HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	68.887	336.36
GARDON GAGE 2	.5874	75.672	422.70
PAIRED T/C 1	.3138	76.413	350.70
PAIRED T/C 2	.5874	74.889	398.34
PAIRED T/C 3	.3138	78.948	360.57
PAIRED T/C 4	.5874	84.081	427.25

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 68

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 544.17
INLET AIR FLOW (LBS/SEC)	= 19.484
INLET PRESSURE (PSIA)	= 162.53
FUEL FLOW (LBS/SEC)	= 0.40204

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 59.698
TOTAL PRESSURE MEAS. (PSIA)	= 61.513
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1850.9
CALC. MEAN RAD	= 2115.4
*MAINSTREAM GAS VEL. (FT/SEC)	= 486.88
MAINSTREAM GAS FLOW (LBS/SEC)	= 19.886
MAINSTREAM GAS MACH NO.	= 0.21483
COMBUSTOR EFFICIENCY	= 0.97949

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 43.453
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1641.5
CALC. MEAN RAD	= 1947.9
GAS FLOW (LBS/SEC)	= 23.210
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 29.355
*MAINSTREAM GAS VEL (FT/SEC)	= 1550.8
MACH NUMBER	= 0.74175
REYNOLDS NUMBER	= 580000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1298.9	TF14	.140	1217.9
TF02	.072	1253.4	TF15	.348	1032.4
TF03	.170	940.52	TF16	.424	1006.0
TF04	.170	1075.3	TF17	.424	869.69
TF05	.170	1054.2	TF18	.424	927.44
TF06	.262	918.90	TF19	.502	855.88
TF07	.354	843.20	TF20	.580	1105.8
TF08	.354	943.93	TF21	.580	122.15
TF09	.354	912.63	TF22	.580	1031.8
TF10	.446	910.35	TF23	.820	1412.9
TF11	.540	875.43			
TF12	.722	1020.6			
TF13	.816	1306.4			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 64.577
TEMPERATURE (DEG F)	= 133.99
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.91682

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	900.65	42.117	.9717
S5		39.945	.8359
S4		41.077	.6122
S3	824.32	40.628	.3465
S2		57.224	.1879
S1	1331.1	55.921	.0674
SP	966.34	61.519	.0000
P1	1180.0	59.662	.0828
P2		59.964	.1743
P3		59.317	.3138
P3		59.410	.3138
P4	831.40	55.735	.5874
P5		49.717	.8257
P6		43.590	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	51.996	177.79
GARDON GAGE 2	.5874	54.481	202.60
PAIRED T/C 1	.3138	64.370	227.44
PAIRED T/C 2	.5874	56.808	215.88
PAIRED T/C 3	.3138	64.826	225.55
PAIRED T/C 4	.5874	62.371	222.57

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 69

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 545.00
INLET AIR FLOW (LBS/SEC)	= 19.197
INLET PRESSURE (PSIA)	= 162.61
FUEL FLOW (LBS/SEC)	= 0.39316

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 59.804
TOTAL PRESSURE MEAS. (PSIA)	= 61.608
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1842.7
CALC. MEAN RAD	= 2119.9
*MAINSTREAM GAS VEL. (FT/SEC)	= 484.14
MAINSTREAM GAS FLOW (LBS/SEC)	= 19.590
MAINSTREAM GAS MACH NO.	= 0.21397
COMBUSTOR EFFICIENCY	= 0.97932

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 44.582
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1632.0
CALC. MEAN RAD	= 1950.7
GAS FLOW (LBS/SEC)	= 22.900
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 29.158
*MAINSTREAM GAS VEL (FT/SEC)	= 1494.8
MACH NUMBER	= 0.71451
REYNOLDS NUMBER	= 570000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1304.2	TF14	.140	1205.3
TF02	.072	1247.4	TF15	.348	1030.1
TF03	.170	934.76	TF16	.424	1004.8
TF04	.170	1061.4	TF17	.424	861.56
TF05	.170	1058.6	TF18	.424	925.09
TF06	.262	914.26	TF19	.502	883.96
TF07	.354	836.19	TF20	.580	1104.6
TF08	.354	926.23	TF21	.580	130.63
TF09	.354	912.55	TF22	.580	1025.6
TF10	.446	906.27	TF23	.820	1397.7
TF11	.540	863.29			
TF12	.722	1007.1			
TF13	.816	1305.2			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 65.313
TEMPERATURE (DEG F)	= 136.72
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.91728

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	903.30	43.319	.9717
S5		41.410	.8359
S4		42.124	.6122
S3	820.22	41.535	.3465
S2		57.827	.1879
S1	1324.8	56.213	.0674
SP	971.57	61.590	.0000
P1	1175.3	59.748	.0828
P2		59.971	.1743
P3		59.410	.3138
P3		59.518	.3138
P4	827.40	55.981	.5874
P5		50.301	.8257
P6		44.731	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	53.081	181.68
GARDON GAGE 2	.5874	55.003	204.67
PAIRED T/C 1	.3138	64.502	230.12
PAIRED T/C 2	.5874	56.570	217.13
PAIRED T/C 3	.3138	64.071	223.76
PAIRED T/C 4	.5874	60.886	218.16

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 70

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 545.54
INLET AIR FLOW (LBS/SEC)	= 19.401
INLET PRESSURE (PSIA)	= 162.69
FUEL FLOW (LBS/SEC)	= 0.39390

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 59.752
TOTAL PRESSURE MEAS. (PSIA)	= 61.488
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1832.4
CALC. MEAN RAD	= 2111.5
*MAINSTREAM GAS VEL. (FT/SEC)	= 474.29
MAINSTREAM GAS FLOW (LBS/SEC)	= 19.795
MAINSTREAM GAS MACH NO.	= 0.21002
COMBUSTOR EFFICIENCY	= 0.97911

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 44.438
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1668.3
CALC. MEAN RAD	= 1980.7
GAS FLOW (LBS/SEC)	= 22.443
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 28.589
*MAINSTREAM GAS VEL (FT/SEC)	= 1510.7
MACH NUMBER	= 0.71636
REYNOLDS NUMBER	= 560000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1333.4	TF14	.140	1230.8
TF02	.072	1315.3	TF15	.348	1087.5
TF03	.170	991.35	TF16	.424	1040.2
TF04	.170	1091.4	TF17	.424	909.13
TF05	.170	1105.7	TF18	.424	1007.1
TF06	.262	1002.0	TF19	.502	955.76
TF07	.354	880.52	TF20	.580	1142.7
TF08	.354	961.99	TF21	.580	118.57
TF09	.354	989.09	TF22	.580	1114.6
TF10	.446	990.78	TF23	.820	1448.8
TF11	.540	905.71			
TF12	.722	1063.0			
TF13	.816	1365.6			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 58.409
TEMPERATURE (DEG F)	= 136.35
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.73669

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	934.44	43.013	.9717
S5		41.058	.8359
S4		41.880	.6122
S3	881.67	41.259	.3465
S2		54.187	.1879
S1	1364.6	56.034	.0674
SP	1006.2	61.489	.0000
P1	1221.0	59.728	.0828
P2		59.966	.1743
P3		59.262	.3138
P3		59.355	.3138
P4	886.05	55.770	.5874
P5		50.167	.8257
P6		44.363	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	47.673	178.31
GARDON GAGE 2	.5874	48.613	197.32
PAIRED T/C 1	.3138	60.039	230.86
PAIRED T/C 2	.5874	52.749	219.50
PAIRED T/C 3	.3138	60.918	226.08
PAIRED T/C 4	.5874	57.607	220.26

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 71

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 545.51
INLET AIR FLOW (LBS/SEC)	= 41.489
INLET PRESSURE (PSIA)	= 156.39
FUEL FLOW (LBS/SEC)	= 0.85118

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.87
TOTAL PRESSURE MEAS. (PSIA)	= 132.88
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1847.2
CALC. MEAN RAD	= 2084.5
*MAINSTREAM GAS VEL. (FT/SEC)	= 491.97
MAINSTREAM GAS FLOW (LBS/SEC)	= 42.340
MAINSTREAM GAS MACH NO.	= 0.21725
COMBUSTOR EFFICIENCY	= 0.97936

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 95.019
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1632.2
CALC. MEAN RAD	= 1914.1
GAS FLOW (LBS/SEC)	= 49.650
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 56.489
*MAINSTREAM GAS VEL (FT/SEC)	= 1521.0
MACH NUMBER	= 0.72798
REYNOLDS NUMBER	= 1250000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1303.9	TF14	.140	1316.6
TF02	.072	1350.0	TF15	.348	1252.5
TF03	.170	1058.3	TF16	.424	1304.9
TF04	.170	1176.8	TF17	.424	1240.2
TF05	.170	1087.7	TF18	.424	1080.0
TF06	.262	1054.9	TF19	.502	
TF07	.354	996.10	TF20	.580	1347.9
TF08	.354	1141.8	TF21	.580	28.922
TF09	.354	960.54	TF22	.580	1229.4
TF10	.446	1096.0	TF23	.820	1596.3
TF11	.540	1054.9			
TF12	.722	1190.4			
TF13	.816	1401.6			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 142.39
TEMPERATURE (DEG F)	= 144.37
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.0121

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	1016.2	92.810	.9717
S5		88.913	.8359
S4		90.667	.6122
S3	938.95	89.270	.3465
S2		125.29	.1879
S1	1415.0	120.80	.0674
SP	1021.4	132.82	.0000
P1	1298.0	128.81	.0828
P2		129.36	.1743
P3		128.05	.3138
P3		128.21	.3138
P4	1019.2	120.52	.5874
P5		108.76	.8257
P6		94.704	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	104.88	399.74
GARDON GAGE 2	.5874	121.47	556.72
PAIRED T/C 1	.3138	113.75	418.75
PAIRED T/C 2	.5874	114.85	487.04
PAIRED T/C 3	.3138	112.90	412.35
PAIRED T/C 4	.5874	124.87	505.30

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 72

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 545.96
INLET AIR FLOW (LBS/SEC)	= 41.588
INLET PRESSURE (PSIA)	= 156.32
FUEL FLOW (LBS/SEC)	= 0.86424

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.82
TOTAL PRESSURE MEAS. (PSIA)	= 133.04
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1863.0
CALC. MEAN RAD	= 2112.1
*MAINSTREAM GAS VEL. (FT/SEC)	= 506.37
MAINSTREAM GAS FLOW (LBS/SEC)	= 42.452
MAINSTREAM GAS MACH NO.	= 0.22294
COMBUSTOR EFFICIENCY	= 0.97964

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 95.104
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1647.2
CALC. MEAN RAD	= 1939.6
GAS FLOW (LBS/SEC)	= 49.753
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 56.569
*MAINSTREAM GAS VEL (FT/SEC)	= 1527.3
MACH NUMBER	= 0.72855
REYNOLDS NUMBER	= 1240000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1295.3	TF14	.140	1312.9
TF02	.072	1351.0	TF15	.348	1256.8
TF03	.170	1051.5	TF16	.424	1308.6
TF04	.170	1172.4	TF17	.424	1228.8
TF05	.170	1080.4	TF18	.424	1086.0
TF06	.262	1057.6	TF19	.502	
TF07	.354	996.59	TF20	.580	1339.9
TF08	.354	1140.1	TF21	.580	38.118
TF09	.354	956.50	TF22	.580	1229.8
TF10	.446	1096.5	TF23	.820	1578.5
TF11	.540	1053.2			
TF12	.722	1186.5			
TF13	.816	1403.1			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 142.04
TEMPERATURE (DEG F)	= 144.79
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.0084

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	1035.8	92.766	.9717
S5		88.773	.8359
S4		90.637	.6122
S3	943.30	88.773	.3465
S2		125.24	.1879
S1	1392.4	120.77	.0674
SP	1040.9	132.79	.0000
P1	1269.4	128.71	.0828
P2		129.36	.1743
P3		128.15	.3138
P3		128.23	.3138
P4	1025.1	120.47	.5874
P5		108.62	.8257
P6		94.553	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	107.59	404.87
GARDON GAGE 2	.5874	124.32	561.40
PAIRED T/C 1	.3138	113.20	407.13
PAIRED T/C 2	.5874	114.26	469.97
PAIRED T/C 3	.3138	113.95	410.13
PAIRED T/C 4	.5874	125.01	497.52

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 73

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 545.75
INLET AIR FLOW (LBS/SEC)	= 42.607
INLET PRESSURE (PSIA)	= 155.08
FUEL FLOW (LBS/SEC)	= 0.78941

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.44
TOTAL PRESSURE MEAS. (PSIA)	= 132.54
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1729.3
CALC. MEAN RAD	= 1944.1
*MAINSTREAM GAS VEL. (FT/SEC)	= 485.53
MAINSTREAM GAS FLOW (LBS/SEC)	= 43.397
MAINSTREAM GAS MACH NO.	= 0.21969
COMBUSTOR EFFICIENCY	= 0.97574

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 95.004
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1531.6
CALC. MEAN RAD	= 1796.0
GAS FLOW (LBS/SEC)	= 50.702
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 57.644
*MAINSTREAM GAS VEL (FT/SEC)	= 1478.6
MACH NUMBER	= 0.72417
REYNOLDS NUMBER	= 1320000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1199.6	TF14	.140	1232.0
TF02	.072	1253.0	TF15	.348	1201.7
TF03	.170	977.43	TF16	.424	1251.9
TF04	.170	1100.4	TF17	.424	1170.7
TF05	.170	1014.6	TF18	.424	1046.5
TF06	.262	983.64	TF19	.502	
TF07	.354	934.38	TF20	.580	1246.0
TF08	.354	1073.8	TF21	.580	59.135
TF09	.354	889.88	TF22	.580	1148.3
TF10	.446	1019.6	TF23	.820	1478.5
TF11	.540	984.77			
TF12	.722	1103.2			
TF13	.816	1289.4			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 141.62
TEMPERATURE (DEG F)	= 144.85
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.9970

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	971.83	92.653	.9717
S5		88.738	.8359
S4		90.369	.6122
S3	891.47	88.676	.3465
S2		124.77	.1879
S1	1290.9	120.32	.0674
SP	973.78	132.43	.0000
P1	1171.6	128.40	.0828
P2		129.03	.1743
P3		127.67	.3138
P3		127.75	.3138
P4	962.98	120.14	.5874
P5		108.30	.8257
P6		94.269	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

SENSOR TYPE	PRESSURE SURFACE X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	99.567	406.21
GARDON GAGE 2	.5874	113.78	550.06
PAIRED T/C 1	.3138	105.02	410.02
PAIRED T/C 2	.5874	107.34	480.97
PAIRED T/C 3	.3138	105.44	412.88
PAIRED T/C 4	.5874	117.98	512.08

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 78

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 531.60
INLET AIR FLOW (LBS/SEC)	= 19.335
INLET PRESSURE (PSIA)	= 162.88
FUEL FLOW (LBS/SEC)	= 0.40191

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 59.755
TOTAL PRESSURE MEAS. (PSIA)	= 61.502
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1850.1
CALC. MEAN RAD	= 2116.0
*MAINSTREAM GAS VEL. (FT/SEC)	= 477.61
MAINSTREAM GAS FLOW (LBS/SEC)	= 19.737
MAINSTREAM GAS MACH NO.	= 0.21075
COMBUSTOR EFFICIENCY	= 0.97964

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 44.563
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1640.9
CALC. MEAN RAD	= 1946.6
GAS FLOW (LBS/SEC)	= 23.044
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 29.262
*MAINSTREAM GAS VEL (FT/SEC)	= 1495.1
MACH NUMBER	= 0.71313
REYNOLDS NUMBER	= 570000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1310.1	TF14	.140	1198.9
TF02	.072	1247.5	TF15	.348	1033.5
TF03	.170	963.73	TF16	.424	1029.0
TF04	.170	1072.5	TF17	.424	891.46
TF05	.170	1078.6	TF18	.424	951.27
TF06	.262	927.99	TF19	.502	
TF07	.354	868.51	TF20	.580	1119.0
TF08	.354	968.82	TF21	.580	146.73
TF09	.354	928.56	TF22	.580	1072.0
TF10	.446	942.20	TF23	.820	1394.0
TF11	.540	889.17			
TF12	.722	1036.9			
TF13	.816	1323.9			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 65.432
TEMPERATURE (DEG F)	= 140.39
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.91965

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	895.32	43.306	.9717
S5		41.537	.8359
S4		42.235	.6122
S3	826.79	41.630	.3465
S2		57.788	.1879
S1	1344.6	56.127	.0674
SP	951.95	61.588	.0000
P1	1195.3	59.762	.0828
P2		60.001	.1743
P3		59.418	.3138
P3		59.464	.3138
P4	833.49	56.019	.5874
P5		50.276	.8257
P6		44.812	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	54.011	168.89
GARDON GAGE 2	.5874	51.872	172.38
PAIRED T/C 1	.3138	61.621	215.61
PAIRED T/C 2	.5874	54.783	205.23
PAIRED T/C 3	.3138	60.666	208.98
PAIRED T/C 4	.5874	58.415	206.55

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 79

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 531.46
INLET AIR FLOW (LBS/SEC)	= 42.052
INLET PRESSURE (PSIA)	= 155.27
FUEL FLOW (LBS/SEC)	= 0.86194

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.82
TOTAL PRESSURE MEAS. (PSIA)	= 133.00
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1834.5
CALC. MEAN RAD	= 2097.6
*MAINSTREAM GAS VEL. (FT/SEC)	= 501.24
MAINSTREAM GAS FLOW (LBS/SEC)	= 42.914
MAINSTREAM GAS MACH NO.	= 0.22195
COMBUSTOR EFFICIENCY	= 0.97934

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 95.217
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1625.9
CALC. MEAN RAD	= 1929.7
GAS FLOW (LBS/SEC)	= 50.140
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 56.996
*MAINSTREAM GAS VEL (FT/SEC)	= 1516.2
MACH NUMBER	= 0.72664
REYNOLDS NUMBER	= 1250000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1293.0	TF14	.140	1289.3
TF02	.072	1354.6	TF15	.348	1266.8
TF03	.170	1085.3	TF16	.424	1321.8
TF04	.170	1208.7	TF17	.424	1223.3
TF05	.170	1094.7	TF18	.424	1075.3
TF06	.262	1068.6	TF19	.502	
TF07	.354	1021.7	TF20	.580	1347.2
TF08	.354	1184.8	TF21	.580	47.038
TF09	.354	964.31	TF22	.580	1218.4
TF10	.446	1095.8	TF23	.820	1565.1
TF11	.540	1068.1			
TF12	.722	1200.5			
TF13	.816	1390.9			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 141.26
TEMPERATURE (DEG F)	= 143.10
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.9789

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	998.95	92.625	.9717
S5		88.917	.8359
S4		90.639	.6122
S3	953.79	88.932	.3465
S2		125.02	.1879
S1	1411.9	120.74	.0674
SP	1001.7	132.80	.0000
P1	1300.0	128.75	.0828
P2		129.40	.1743
P3		128.07	.3138
P3		128.19	.3138
P4	1022.1	120.43	.5874
P5		108.59	.8257
P6		94.472	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	100.62	339.77
GARDON GAGE 2	.5874	108.60	402.41
PAIRED T/C 1	.3138	109.98	407.76
PAIRED T/C 2	.5874	111.05	476.92
PAIRED T/C 3	.3138	107.38	388.13
PAIRED T/C 4	.5874	119.90	477.62

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 80

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 531.98
INLET AIR FLOW (LBS/SEC)	= 41.629
INLET PRESSURE (PSIA)	= 155.37
FUEL FLOW (LBS/SEC)	= 0.87684

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.84
TOTAL PRESSURE MEAS. (PSIA)	= 132.89
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1867.8
CALC. MEAN RAD	= 2139.6
*MAINSTREAM GAS VEL. (FT/SEC)	= 496.75
MAINSTREAM GAS FLOW (LBS/SEC)	= 42.506
MAINSTREAM GAS MACH NO.	= 0.21848
COMBUSTOR EFFICIENCY	= 0.97989

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 95.075
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1650.4
CALC. MEAN RAD	= 1962.5
GAS FLOW (LBS/SEC)	= 49.845
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 56.637
*MAINSTREAM GAS VEL (FT/SEC)	= 1526.5
MACH NUMBER	= 0.72764
REYNOLDS NUMBER	= 1230000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1283.7	TF14	.140	1288.0
TF02	.072	1339.6	TF15	.348	1258.0
TF03	.170	1089.5	TF16	.424	1320.0
TF04	.170	1197.6	TF17	.424	1219.2
TF05	.170	1090.6	TF18	.424	1080.6
TF06	.262	1062.9	TF19	.502	
TF07	.354	1025.4	TF20	.580	1342.2
TF08	.354	1166.6	TF21	.580	58.506
TF09	.354	957.84	TF22	.580	1215.5
TF10	.446	1072.3	TF23	.820	1557.3
TF11	.540	1067.9			
TF12	.722	1204.1			
TF13	.816	1382.3			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 142.42
TEMPERATURE (DEG F)	= 137.29
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.0330

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	1016.1	92.670	.9717
S5		88.928	.8359
S4		90.605	.6122
S3	945.09	88.773	.3465
S2		124.96	.1879
S1	1390.9	120.96	.0674
SP	1014.4	132.81	.0000
P1	1275.3	128.73	.0828
P2		129.38	.1743
P3		128.16	.3138
P3		128.22	.3138
P4	1014.1	120.52	.5874
P5		108.68	.8257
P6		94.502	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

SENSOR TYPE	PRESSURE SURFACE X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	97.230	307.48
GARDON GAGE 2	.5874	103.31	354.76
PAIRED T/C 1	.3138	110.88	395.25
PAIRED T/C 2	.5874	111.71	456.51
PAIRED T/C 3	.3138	108.63	381.28
PAIRED T/C 4	.5874	120.85	466.17

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 81

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 532.26
INLET AIR FLOW (LBS/SEC)	= 43.029
INLET PRESSURE (PSIA)	= 154.77
FUEL FLOW (LBS/SEC)	= 0.77052

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.30
TOTAL PRESSURE MEAS. (PSIA)	= 132.45
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1680.2
CALC. MEAN RAD	= 1887.7
*MAINSTREAM GAS VEL. (FT/SEC)	= 483.02
MAINSTREAM GAS FLOW (LBS/SEC)	= 43.799
MAINSTREAM GAS MACH NO.	= 0.22089
COMBUSTOR EFFICIENCY	= 0.97389

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 95.020
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1489.4
CALC. MEAN RAD	= 1747.5
GAS FLOW (LBS/SEC)	= 51.085
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 57.957
*MAINSTREAM GAS VEL (FT/SEC)	= 1460.9
MACH NUMBER	= 0.72274
REYNOLDS NUMBER	= 1350000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1154.0	TF14	.140	1163.3
TF02	.072	1203.6	TF15	.348	1178.6
TF03	.170	969.16	TF16	.424	1222.5
TF04	.170	1079.5	TF17	.424	1138.6
TF05	.170	988.92	TF18	.424	1033.3
TF06	.262	962.38	TF19	.502	
TF07	.354	915.23	TF20	.580	1199.8
TF08	.354	1057.8	TF21	.580	78.601
TF09	.354	867.71	TF22	.580	1101.7
TF10	.446	935.72	TF23	.820	1398.0
TF11	.540	954.45			
TF12	.722	1073.4			
TF13	.816	1240.3			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 141.43
TEMPERATURE (DEG F)	= 137.21
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.0176

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	916.20	92.800	.9717
S5		88.858	.8359
S4		90.441	.6122
S3	873.06	88.765	.3465
S2		124.36	.1879
S1	1229.9	120.31	.0674
SP	914.95	132.31	.0000
P1	1116.0	128.25	.0828
P2		128.85	.1743
P3		127.65	.3138
P3		127.70	.3138
P4	917.17	120.08	.5874
P5		108.24	.8257
P6		94.227	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	87.768	311.25
GARDON GAGE 2	.5874	91.529	349.45
PAIRED T/C 1	.3138	100.15	397.69
PAIRED T/C 2	.5874	103.06	469.96
PAIRED T/C 3	.3138	97.139	381.92
PAIRED T/C 4	.5874	109.82	476.74

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 82

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 532.41
INLET AIR FLOW (LBS/SEC)	= 43.390
INLET PRESSURE (PSIA)	= 156.36
FUEL FLOW (LBS/SEC)	= 0.77592

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.50
TOTAL PRESSURE MEAS. (PSIA)	= 132.50
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1678.7
CALC. MEAN RAD	= 1872.9
*MAINSTREAM GAS VEL. (FT/SEC)	= 473.89
MAINSTREAM GAS FLOW (LBS/SEC)	= 44.166
MAINSTREAM GAS MACH NO.	= 0.21675
COMBUSTOR EFFICIENCY	= 0.97381

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.892
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1489.1
CALC. MEAN RAD	= 1734.7
GAS FLOW (LBS/SEC)	= 51.470
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 58.412
*MAINSTREAM GAS VEL (FT/SEC)	= 1464.4
MACH NUMBER	= 0.72465
REYNOLDS NUMBER	= 1350000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1152.8	TF14	.140	1169.7
TF02	.072	1198.0	TF15	.348	1173.0
TF03	.170	973.54	TF16	.424	1227.2
TF04	.170	1079.4	TF17	.424	1151.1
TF05	.170	996.09	TF18	.424	1041.0
TF06	.262	958.27	TF19	.502	
TF07	.354	913.94	TF20	.580	1196.9
TF08	.354	1044.9	TF21	.580	77.420
TF09	.354	872.73	TF22	.580	1102.7
TF10	.446	928.18	TF23	.820	1398.9
TF11	.540	956.00			
TF12	.722	1072.7			
TF13	.816	1257.9			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 142.33
TEMPERATURE (DEG F)	= 138.63
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.0452

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	907.91	92.631	.9717
S5		88.798	.8359
S4		90.458	.6122
S3	874.01	88.597	.3465
S2		124.59	.1879
S1	1216.3	120.40	.0674
SP	903.74	132.46	.0000
P1	1099.3	128.36	.0828
P2		129.01	.1743
P3		127.68	.3138
P3		127.90	.3138
P4	926.73	120.17	.5874
P5		108.24	.8257
P6		94.105	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	90.588	325.12
GARDON GAGE 2	.5874	96.247	374.13
PAIRED T/C 1	.3138	99.440	395.63
PAIRED T/C 2	.5874	103.03	470.31
PAIRED T/C 3	.3138	95.982	377.11
PAIRED T/C 4	.5874	109.15	473.25

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 83

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 532.45
INLET AIR FLOW (LBS/SEC)	= 41.783
INLET PRESSURE (PSIA)	= 156.04
FUEL FLOW (LBS/SEC)	= 0.86161

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.88
TOTAL PRESSURE MEAS. (PSIA)	= 133.00
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1842.8
CALC. MEAN RAD	= 2105.5
*MAINSTREAM GAS VEL. (FT/SEC)	= 498.40
MAINSTREAM GAS FLOW (LBS/SEC)	= 42.644
MAINSTREAM GAS MACH NO.	= 0.22031
COMBUSTOR EFFICIENCY	= 0.97947

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.930
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1629.6
CALC. MEAN RAD	= 1933.6
GAS FLOW (LBS/SEC)	= 49.951
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 56.762
*MAINSTREAM GAS VEL (FT/SEC)	= 1524.1
MACH NUMBER	= 0.73008
REYNOLDS NUMBER	= 1250000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1288.9	TF14	.140	1294.8
TF02	.072	1335.2	TF15	.348	1264.9
TF03	.170	1093.3	TF16	.424	1331.5
TF04	.170	1190.4	TF17	.424	1215.9
TF05	.170	1098.2	TF18	.424	1089.9
TF06	.262	1063.3	TF19	.502	
TF07	.354	1020.8	TF20	.580	1338.4
TF08	.354	1149.5	TF21	.580	54.337
TF09	.354	960.54	TF22	.580	1216.9
TF10	.446	1022.5	TF23	.820	1556.6
TF11	.540	1068.8			
TF12	.722	1205.6			
TF13	.816	1388.5			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 142.70
TEMPERATURE (DEG F)	= 138.74
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.0260

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	1008.1	92.445	.9717
S5		88.596	.8359
S4		90.521	.6122
S3	957.93	88.565	.3465
S2		124.94	.1879
S1	1386.2	120.80	.0674
SP	1004.6	132.90	.0000
P1	1263.6	128.74	.0828
P2		129.39	.1743
P3		128.03	.3138
P3		128.25	.3138
P4	1021.8	120.50	.5874
P5		108.49	.8257
P6		94.230	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	98.205	319.87
GARDON GAGE 2	.5874	104.11	369.87
PAIRED T/C 1	.3138	111.22	406.23
PAIRED T/C 2	.5874	112.86	474.22
PAIRED T/C 3	.3138	107.78	386.80
PAIRED T/C 4	.5874	121.08	478.63

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 84

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 532.57
INLET AIR FLOW (LBS/SEC)	= 19.390
INLET PRESSURE (PSIA)	= 162.80
FUEL FLOW (LBS/SEC)	= 0.39848

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 59.777
TOTAL PRESSURE MEAS. (PSIA)	= 61.554
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1837.7
CALC. MEAN RAD	= 2107.6
*MAINSTREAM GAS VEL. (FT/SEC)	= 480.10
MAINSTREAM GAS FLOW (LBS/SEC)	= 19.789
MAINSTREAM GAS MACH NO.	= 0.21239
COMBUSTOR EFFICIENCY	= 0.97940

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 44.448
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1630.4
CALC. MEAN RAD	= 1940.4
GAS FLOW (LBS/SEC)	= 23.090
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 29.306
*MAINSTREAM GAS VEL (FT/SEC)	= 1498.9
MACH NUMBER	= 0.71692
REYNOLDS NUMBER	= 570000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1316.6	TF14	.140	1192.5
TF02	.072	1251.9	TF15	.348	1045.3
TF03	.170	974.59	TF16	.424	1024.7
TF04	.170	1063.2	TF17	.424	884.70
TF05	.170	1089.3	TF18	.424	963.28
TF06	.262	936.63	TF19	.502	
TF07	.354	873.23	TF20	.580	1119.2
TF08	.354	943.45	TF21	.580	149.40
TF09	.354	936.06	TF22	.580	1078.8
TF10	.446	898.44	TF23	.820	1377.9
TF11	.540	891.58			
TF12	.722	1042.0			
TF13	.816	1321.9			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 65.400
TEMPERATURE (DEG F)	= 139.89
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.91548

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	890.77	43.140	.9717
S5		41.199	.8359
S4		41.976	.6122
S3	841.17	41.417	.3465
S2		57.736	.1879
S1	1338.8	55.966	.0674
SP	950.09	61.603	.0000
P1	1189.7	59.666	.0828
P2		59.983	.1743
P3		59.475	.3138
P3		59.428	.3138
P4	850.67	55.873	.5874
P5		50.128	.8257
P6		44.538	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	53.492	169.77
GARDON GAGE 2	.5874	51.025	171.67
PAIRED T/C 1	.3138	61.893	219.54
PAIRED T/C 2	.5874	55.450	210.26
PAIRED T/C 3	.3138	60.034	209.15
PAIRED T/C 4	.5874	59.171	211.51

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 85

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 532.39
INLET AIR FLOW (LBS/SEC)	= 20.220
INLET PRESSURE (PSIA)	= 162.64
FUEL FLOW (LBS/SEC)	= 0.35946

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 59.540
TOTAL PRESSURE MEAS. (PSIA)	= 61.340
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1670.9
CALC. MEAN RAD	= 1841.6
*MAINSTREAM GAS VEL. (FT/SEC)	= 466.34
MAINSTREAM GAS FLOW (LBS/SEC)	= 20.579
MAINSTREAM GAS MACH NO.	= 0.21364
COMBUSTOR EFFICIENCY	= 0.97346

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 44.398
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1486.9
CALC. MEAN RAD	= 1709.4
GAS FLOW (LBS/SEC)	= 23.898
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 30.026
*MAINSTREAM GAS VEL (FT/SEC)	= 1441.0
MACH NUMBER	= 0.71262
REYNOLDS NUMBER	= 620000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1171.8	TF14	.140	1059.3
TF02	.072	1092.6	TF15	.348	902.45
TF03	.170	859.43	TF16	.424	921.85
TF04	.170	945.72	TF17	.424	785.84
TF05	.170	979.68	TF18	.424	861.74
TF06	.262	814.35	TF19	.502	
TF07	.354	774.74	TF20	.580	1008.4
TF08	.354	849.64	TF21	.580	162.57
TF09	.354	836.36	TF22	.580	980.81
TF10	.446	782.34	TF23	.820	1230.9
TF11	.540	793.42			
TF12	.722	934.93			
TF13	.816	1184.3			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 65.244
TEMPERATURE (DEG F)	= 140.47
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.91671

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	797.41	43.116	.9717
S5		41.269	.8359
S4		42.045	.6122
S3	730.90	41.533	.3465
S2		57.365	.1879
S1	1174.4	55.767	.0674
SP	840.91	61.449	.0000
P1	1031.7	59.575	.0828
P2		59.814	.1743
P3		59.166	.3138
P3		59.213	.3138
P4	761.67	55.658	.5874
P5		50.148	.8257
P6		44.637	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	47.595	166.34
GARDON GAGE 2	.5874	46.034	171.61
PAIRED T/C 1	.3138	53.998	205.13
PAIRED T/C 2	.5874	47.724	193.79
PAIRED T/C 3	.3138	54.055	206.42
PAIRED T/C 4	.5874	53.543	209.90

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 86

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 532.26
INLET AIR FLOW (LBS/SEC)	= 20.088
INLET PRESSURE (PSIA)	= 162.65
FUEL FLOW (LBS/SEC)	= 0.35373

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 59.471
TOTAL PRESSURE MEAS. (PSIA)	= 61.252
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1660.2
CALC. MEAN RAD	= 1869.2
*MAINSTREAM GAS VEL. (FT/SEC)	= 463.00
MAINSTREAM GAS FLOW (LBS/SEC)	= 20.441
MAINSTREAM GAS MACH NO.	= 0.21260
COMBUSTOR EFFICIENCY	= 0.97286

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 44.382
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1475.8
CALC. MEAN RAD	= 1735.3
GAS FLOW (LBS/SEC)	= 23.765
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 30.031
*MAINSTREAM GAS VEL (FT/SEC)	= 1434.6
MACH NUMBER	= 0.71127
REYNOLDS NUMBER	= 620000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1179.8	TF14	.140	1042.9
TF02	.072	1102.9	TF15	.348	912.51
TF03	.170	859.21	TF16	.424	919.92
TF04	.170	930.17	TF17	.424	776.86
TF05	.170	983.97	TF18	.424	862.09
TF06	.262	819.93	TF19	.502	
TF07	.354	773.35	TF20	.580	1011.5
TF08	.354	831.51	TF21	.580	159.81
TF09	.354	838.45	TF22	.580	981.15
TF10	.446	783.87	TF23	.820	1219.4
TF11	.540	787.37			
TF12	.722	926.75			
TF13	.816	1177.1			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 65.320
TEMPERATURE (DEG F)	= 142.01
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.91813

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	804.63	43.147	.9717
S5		41.315	.8359
S4		42.169	.6122
S3	732.55	41.502	.3465
S2		57.583	.1879
S1	1158.1	55.891	.0674
SP	850.18	61.376	.0000
P1	1023.8	59.391	.0828
P2		59.740	.1743
P3		59.150	.3138
P3		59.197	.3138
P4	764.35	55.735	.5874
P5		50.225	.8257
P6		44.606	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

SENSOR TYPE	PRESSURE SURFACE X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	46.662	161.82
GARDON GAGE 2	.5874	44.924	165.79
PAIRED T/C 1	.3138	54.529	210.05
PAIRED T/C 2	.5874	48.547	199.87
PAIRED T/C 3	.3138	53.343	205.24
PAIRED T/C 4	.5874	52.763	208.33

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 87

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 532.21
INLET AIR FLOW (LBS/SEC)	= 19.291
INLET PRESSURE (PSIA)	= 163.06
FUEL FLOW (LBS/SEC)	= 0.40462

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 59.805
TOTAL PRESSURE MEAS. (PSIA)	= 61.512
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1861.6
CALC. MEAN RAD	= 2138.7
*MAINSTREAM GAS VEL. (FT/SEC)	= 473.12
MAINSTREAM GAS FLOW (LBS/SEC)	= 19.696
MAINSTREAM GAS MACH NO.	= 0.20828
COMBUSTOR EFFICIENCY	= 0.97981

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 44.454
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1651.5
CALC. MEAN RAD	= 1967.4
GAS FLOW (LBS/SEC)	= 22.992
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 29.205
*MAINSTREAM GAS VEL (FT/SEC)	= 1504.7
MACH NUMBER	= 0.71622
REYNOLDS NUMBER	= 560000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1323.1	TF14	.140	1160.0
TF02	.072	1253.2	TF15	.348	1044.4
TF03	.170	974.78	TF16	.424	1026.5
TF04	.170	1032.7	TF17	.424	866.53
TF05	.170	1092.3	TF18	.424	963.48
TF06	.262	933.99	TF19	.502	
TF07	.354	873.42	TF20	.580	1115.5
TF08	.354	914.63	TF21	.580	144.69
TF09	.354	936.83	TF22	.580	1078.9
TF10	.446	894.06	TF23	.820	1357.5
TF11	.540	888.34			
TF12	.722	1040.5			
TF13	.816	1315.2			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 65.497
TEMPERATURE (DEG F)	= 142.45
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.91342

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	895.71	43.178	.9717
S5		41.207	.8359
S4		42.029	.6122
S3	845.33	41.377	.3465
S2		57.707	.1879
S1	1323.2	56.061	.0674
SP	959.02	61.587	.0000
P1	1180.7	59.745	.0828
P2		59.983	.1743
P3		59.445	.3138
P3		59.461	.3138
P4	851.13	55.906	.5874
P5		50.287	.8257
P6		44.544	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

SENSOR TYPE	PRESSURE SURFACE X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	52.085	159.41
GARDON GAGE 2	.5874	49.250	159.27
PAIRED T/C 1	.3138	61.993	215.80
PAIRED T/C 2	.5874	55.061	204.68
PAIRED T/C 3	.3138	59.460	201.68
PAIRED T/C 4	.5874	58.506	203.48

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 90

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 532.96
INLET AIR FLOW (LBS/SEC)	= 38.709
INLET PRESSURE (PSIA)	= 158.51
FUEL FLOW (LBS/SEC)	= 0.60885

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 117.06
TOTAL PRESSURE MEAS. (PSIA)	= 120.23
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1541.0
CALC. MEAN RAD	= 1541.0
*MAINSTREAM GAS VEL. (FT/SEC)	= 428.32
MAINSTREAM GAS FLOW (LBS/SEC)	= 39.317
MAINSTREAM GAS MACH NO.	= 0.20197
COMBUSTOR EFFICIENCY	= 0.96381

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 92.437
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1419.0
CALC. MEAN RAD	= 1473.6
GAS FLOW (LBS/SEC)	= 43.929
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 50.754
*MAINSTREAM GAS VEL (FT/SEC)	= 1281.3
MACH NUMBER	= 0.63976
REYNOLDS NUMBER	= 1190000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1101.6	TF14	.140	1100.0
TF02	.072	1169.8	TF15	.348	1317.8
TF03	.170	953.79	TF16	.424	1133.6
TF04	.170	1022.5	TF17	.424	1063.3
TF05	.170	944.72	TF18	.424	996.71
TF06	.262	960.02	TF19	.502	
TF07	.354	881.97	TF20	.580	1136.3
TF08	.354	1001.2	TF21	.580	69.943
TF09	.354	854.96	TF22	.580	1106.0
TF10	.446	936.20	TF23	.820	1391.7
TF11	.540	913.42			
TF12	.722	1039.9			
TF13	.816	1174.1			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 115.44
TEMPERATURE (DEG F)	= 138.05
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.3513

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	891.05	90.276	.9717
S5		88.106	.8359
S4		88.648	.6122
S3	850.95	86.246	.3465
S2		107.48	.1879
S1	1138.2	110.35	.0674
SP	902.00	120.33	.0000
P1	1030.3		.0828
P2			.1743
P3		116.39	.3138
P3		116.47	.3138
P4	917.17	110.43	.5874
P5		101.67	.8257
P6		92.213	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

SENSOR TYPE	PRESSURE SURFACE X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	65.815	291.17
GARDON GAGE 2	.5874	68.293	330.56
PAIRED T/C 1	.3138	75.808	360.81
PAIRED T/C 2	.5874	74.231	405.46
PAIRED T/C 3	.3138	73.672	339.72
PAIRED T/C 4	.5874	80.346	410.19

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 91

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 533.77
INLET AIR FLOW (LBS/SEC)	= 19.521
INLET PRESSURE (PSIA)	= 162.63
FUEL FLOW (LBS/SEC)	= 0.40310

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 59.747
TOTAL PRESSURE MEAS. (PSIA)	= 61.603
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1842.2
CALC. MEAN RAD	= 2131.7
*MAINSTREAM GAS VEL. (FT/SEC)	= 491.07
MAINSTREAM GAS FLOW (LBS/SEC)	= 19.924
MAINSTREAM GAS MACH NO.	= 0.21708
COMBUSTOR EFFICIENCY	= 0.97950

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 44.258
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1714.5
CALC. MEAN RAD	= 2034.8
GAS FLOW (LBS/SEC)	= 21.936
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 27.948
*MAINSTREAM GAS VEL (FT/SEC)	= 1540.5
MACH NUMBER	= 0.72361
REYNOLDS NUMBER	= 550000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1409.5	TF14	.140	1278.9
TF02	.072	1382.8	TF15	.348	1162.2
TF03	.170	1097.3	TF16	.424	1121.6
TF04	.170	1163.3	TF17	.424	1023.8
TF05	.170	1204.1	TF18	.424	1125.4
TF06	.262	1126.0	TF19	.502	
TF07	.354	991.73	TF20	.580	1217.1
TF08	.354	1072.3	TF21	.580	91.552
TF09	.354	1085.6	TF22	.580	1247.8
TF10	.446	1094.0	TF23	.820	1496.8
TF11	.540	1005.8			
TF12	.722	1151.8			
TF13	.816	1429.4			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 52.595
TEMPERATURE (DEG F)	= 139.21
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.55577

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	962.06	42.817	.9717
S5		40.989	.8359
S4		41.826	.6122
S3	983.58	41.346	.3465
S2		50.688	.1879
S1	1412.4	56.110	.0674
SP	1038.8	61.564	.0000
P1	1270.5		.0828
P2			.1743
P3		59.364	.3138
P3		59.379	.3138
P4	978.38	55.754	.5874
P5		50.052	.8257
P6		44.336	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

SENSOR TYPE	PRESSURE SURFACE X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	47.692	170.17
GARDON GAGE 2	.5874	40.360	154.11
PAIRED T/C 1	.3138	54.353	225.08
PAIRED T/C 2	.5874	46.564	209.86
PAIRED T/C 3	.3138	53.718	206.93
PAIRED T/C 4	.5874	50.962	201.61

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 92

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 530.83
INLET AIR FLOW (LBS/SEC)	= 20.433
INLET PRESSURE (PSIA)	= 162.76
FUEL FLOW (LBS/SEC)	= 0.36309

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 59.322
TOTAL PRESSURE MEAS. (PSIA)	= 61.108
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1668.8
CALC. MEAN RAD	= 1830.1
*MAINSTREAM GAS VEL. (FT/SEC)	= 465.07
MAINSTREAM GAS FLOW (LBS/SEC)	= 20.796
MAINSTREAM GAS MACH NO.	= 0.21315
COMBUSTOR EFFICIENCY	= 0.97343

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 44.133
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1557.8
CALC. MEAN RAD	= 1759.6
GAS FLOW (LBS/SEC)	= 22.800
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 28.931
*MAINSTREAM GAS VEL (FT/SEC)	= 1472.1
MACH NUMBER	= 0.71592
REYNOLDS NUMBER	= 590000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1246.1	TF14	.140	1131.9
TF02	.072	1204.5	TF15	.348	2976.5
TF03	.170	975.24	TF16	.424	1014.6
TF04	.170	1037.6	TF17	.424	902.53
TF05	.170	1089.4	TF18	.424	1006.8
TF06	.262	990.47	TF19	.502	
TF07	.354	884.79	TF20	.580	1102.7
TF08	.354	959.41	TF21	.580	152.02
TF09	.354	975.81	TF22	.580	1128.6
TF10	.446	963.94	TF23	.820	1327.8
TF11	.540	898.53			
TF12	.722	1034.8			
TF13	.816	1277.7			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 52.363
TEMPERATURE (DEG F)	= 142.32
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.55527

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	863.77	42.833	.9717
S5		41.128	.8359
S4		41.810	.6122
S3	852.29	41.330	.3465
S2		50.503	.1879
S1	1239.3	55.648	.0674
SP	921.02	61.171	.0000
P1	1103.6		.0828
P2			.1743
P3		58.995	.3138
P3		58.949	.3138
P4	877.20	55.555	.5874
P5		49.868	.8257
P6		44.320	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	41.651	164.38
GARDON GAGE 2	.5874	35.740	151.27
PAIRED T/C 1	.3138	48.245	215.63
PAIRED T/C 2	.5874	40.192	195.38
PAIRED T/C 3	.3138	46.829	196.67
PAIRED T/C 4	.5874	43.973	189.67

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 93

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 530.91
INLET AIR FLOW (LBS/SEC)	= 20.281
INLET PRESSURE (PSIA)	= 162.80
FUEL FLOW (LBS/SEC)	= 0.35739

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 59.291
TOTAL PRESSURE MEAS. (PSIA)	= 61.164
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1659.8
CALC. MEAN RAD	= 1865.6
*MAINSTREAM GAS VEL. (FT/SEC)	= 475.21
MAINSTREAM GAS FLOW (LBS/SEC)	= 20.639
MAINSTREAM GAS MACH NO.	= 0.21826
COMBUSTOR EFFICIENCY	= 0.97291

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 44.154
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1548.3
CALC. MEAN RAD	= 1793.6
GAS FLOW (LBS/SEC)	= 22.650
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 28.816
*MAINSTREAM GAS VEL (FT/SEC)	= 1469.5
MACH NUMBER	= 0.71631
REYNOLDS NUMBER	= 600000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1254.4	TF14	.140	1131.6
TF02	.072	1208.0	TF15	.348	2262.3
TF03	.170	979.47	TF16	.424	1013.8
TF04	.170	1037.9	TF17	.424	901.67
TF05	.170	1098.5	TF18	.424	1014.9
TF06	.262	987.93	TF19	.502	
TF07	.354	888.51	TF20	.580	1104.6
TF08	.354	964.22	TF21	.580	152.42
TF09	.354	982.29	TF22	.580	1136.6
TF10	.446	957.99	TF23	.820	1330.2
TF11	.540	902.81			
TF12	.722	1039.0			
TF13	.816	1279.1			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 52.606
TEMPERATURE (DEG F)	= 141.78
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.55627

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	862.24	42.790	.9717
S5		41.055	.8359
S4		41.798	.6122
S3	855.11	41.334	.3465
S2		50.523	.1879
S1	1237.4	55.729	.0674
SP	918.62	61.167	.0000
P1	1104.4		.0828
P2			.1743
P3		58.952	.3138
P3		58.952	.3138
P4	879.20	55.559	.5874
P5		49.934	.8257
P6		44.309	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	41.074	163.41
GARDON GAGE 2	.5874	34.691	148.50
PAIRED T/C 1	.3138	47.339	212.75
PAIRED T/C 2	.5874	39.925	195.49
PAIRED T/C 3	.3138	47.761	204.35
PAIRED T/C 4	.5874	44.996	197.92

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 94

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 530.80
INLET AIR FLOW (LBS/SEC)	= 19.538
INLET PRESSURE (PSIA)	= 162.70
FUEL FLOW (LBS/SEC)	= 0.40171

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 59.593
TOTAL PRESSURE MEAS. (PSIA)	= 61.387
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1836.4
CALC. MEAN RAD	= 2105.8
*MAINSTREAM GAS VEL. (FT/SEC)	= 483.06
MAINSTREAM GAS FLOW (LBS/SEC)	= 19.940
MAINSTREAM GAS MACH NO.	= 0.21376
COMBUSTOR EFFICIENCY	= 0.97941

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 44.232
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1712.0
CALC. MEAN RAD	= 2010.5
GAS FLOW (LBS/SEC)	= 21.948
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 28.070
*MAINSTREAM GAS VEL (FT/SEC)	= 1533.0
MACH NUMBER	= 0.72025
REYNOLDS NUMBER	= 550000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1408.6	TF14	.140	1257.6
TF02	.072	1385.6	TF15	.348	1217.8
TF03	.170	1099.6	TF16	.424	1120.6
TF04	.170	1151.4	TF17	.424	1006.5
TF05	.170	1215.1	TF18	.424	1129.4
TF06	.262	1127.2	TF19	.502	
TF07	.354	995.26	TF20	.580	1215.6
TF08	.354	1064.7	TF21	.580	132.30
TF09	.354	1095.8	TF22	.580	1246.9
TF10	.446	1096.3	TF23	.820	1460.7
TF11	.540	1010.4			
TF12	.722	1159.1			
TF13	.816	1430.0			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 52.489
TEMPERATURE (DEG F)	= 142.11
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.55567

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	961.33	42.798	.9717
S5		40.922	.8359
S4		41.759	.6122
S3	988.27	41.294	.3465
S2		50.501	.1879
S1	1406.5	55.864	.0674
SP	1034.4	61.378	.0000
P1	1264.7		.0828
P2			.1743
P3		59.181	.3138
P3		59.196	.3138
P4	985.33	55.662	.5874
P5		49.928	.8257
P6		44.270	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	47.225	168.20
GARDON GAGE 2	.5874	39.492	150.81
PAIRED T/C 1	.3138	53.314	222.12
PAIRED T/C 2	.5874	45.960	208.45
PAIRED T/C 3	.3138	52.930	204.27
PAIRED T/C 4	.5874	49.637	196.97

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 95

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 529.98
INLET AIR FLOW (LBS/SEC)	= 42.032
INLET PRESSURE (PSIA)	= 155.53
FUEL FLOW (LBS/SEC)	= 0.85175

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.66
TOTAL PRESSURE MEAS. (PSIA)	= 132.87
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1820.1
CALC. MEAN RAD	= 2091.0
*MAINSTREAM GAS VEL. (FT/SEC)	= 501.10
MAINSTREAM GAS FLOW (LBS/SEC)	= 42.884
MAINSTREAM GAS MACH NO.	= 0.22254
COMBUSTOR EFFICIENCY	= 0.97906

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.698
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1610.1
CALC. MEAN RAD	= 1921.3
GAS FLOW (LBS/SEC)	= 50.235
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 57.097
*MAINSTREAM GAS VEL (FT/SEC)	= 1520.0
MACH NUMBER	= 0.73148
REYNOLDS NUMBER	= 1270000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1290.9	TF14	.140	1302.1
TF02	.072	1330.3	TF15	.348	1279.7
TF03	.170	1105.8	TF16	.424	1330.8
TF04	.170	1205.4	TF17	.424	1227.6
TF05	.170	1130.6	TF18	.424	1093.6
TF06	.262	1072.6	TF19	.502	
TF07	.354	1035.8	TF20	.580	1340.3
TF08	.354	1157.5	TF21	.580	60.881
TF09	.354	979.01	TF22	.580	1234.6
TF10	.446	1030.2	TF23	.820	1554.4
TF11	.540	1073.1			
TF12	.722	1216.2			
TF13	.816	1347.2			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 142.58
TEMPERATURE (DEG F)	= 146.29
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.0318

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	992.91	92.279	.9717
S5		88.577	.8359
S4		90.327	.6122
S3	953.29	88.716	.3465
S2		125.01	.1879
S1	1401.5	120.66	.0674
SP	988.81	132.64	.0000
P1	1288.6		.0828
P2			.1743
P3		128.05	.3138
P3		128.08	.3138
P4	1033.4	120.44	.5874
P5		108.33	.8257
P6		94.262	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	102.77	354.26
GARDON GAGE 2	.5874	111.48	423.64
PAIRED T/C 1	.3138	111.92	420.80
PAIRED T/C 2	.5874	113.22	491.04
PAIRED T/C 3	.3138	107.98	400.84
PAIRED T/C 4	.5874	119.66	488.95

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 96

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 530.23
INLET AIR FLOW (LBS/SEC)	= 43.546
INLET PRESSURE (PSIA)	= 155.02
FUEL FLOW (LBS/SEC)	= 0.75537

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.21
TOTAL PRESSURE MEAS. (PSIA)	= 132.38
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1643.8
CALC. MEAN RAD	= 1876.7
*MAINSTREAM GAS VEL. (FT/SEC)	= 480.40
MAINSTREAM GAS FLOW (LBS/SEC)	= 44.301
MAINSTREAM GAS MACH NO.	= 0.22145
COMBUSTOR EFFICIENCY	= 0.97187

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.788
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1458.0
CALC. MEAN RAD	= 1740.8
GAS FLOW (LBS/SEC)	= 51.663
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 58.526
*MAINSTREAM GAS VEL (FT/SEC)	= 1452.9
MACH NUMBER	= 0.72451
REYNOLDS NUMBER	= 1380000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1136.8	TF14	.140	1169.6
TF02	.072	1193.0	TF15	.348	1187.0
TF03	.170	981.91	TF16	.424	1223.3
TF04	.170	1084.9	TF17	.424	1152.1
TF05	.170	1010.6	TF18	.424	1029.7
TF06	.262	967.79	TF19	.502	
TF07	.354	925.24	TF20	.580	1187.0
TF08	.354	1059.3	TF21	.580	90.250
TF09	.354	873.21	TF22	.580	1098.7
TF10	.446	938.32	TF23	.820	1381.0
TF11	.540	959.31			
TF12	.722	1080.4			
TF13	.816	1194.6			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 142.09
TEMPERATURE (DEG F)	= 146.76
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.0188

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	913.98	92.534	.9717
S5		88.894	.8359
S4		90.474	.6122
S3	877.70	88.817	.3465
S2		124.41	.1879
S1	1214.3	120.32	.0674
SP	909.25	132.22	.0000
P1	1099.8		.0828
P2			.1743
P3		127.63	.3138
P3		127.74	.3138
P4	942.16	120.04	.5874
P5		108.22	.8257
P6		94.191	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	91.530	351.94
GARDON GAGE 2	.5874	97.170	408.68
PAIRED T/C 1	.3138	99.002	409.89
PAIRED T/C 2	.5874	101.86	485.60
PAIRED T/C 3	.3138	96.525	397.81
PAIRED T/C 4	.5874	108.54	494.70

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 97

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 531.37
INLET AIR FLOW (LBS/SEC)	= 43.587
INLET PRESSURE (PSIA)	= 155.94
FUEL FLOW (LBS/SEC)	= 0.76576

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.30
TOTAL PRESSURE MEAS. (PSIA)	= 132.40
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1658.7
CALC. MEAN RAD	= 1875.9
*MAINSTREAM GAS VEL. (FT/SEC)	= 477.88
MAINSTREAM GAS FLOW (LBS/SEC)	= 44.353
MAINSTREAM GAS MACH NO.	= 0.21955
COMBUSTOR EFFICIENCY	= 0.97271

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.790
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1472.8
CALC. MEAN RAD	= 1739.9
GAS FLOW (LBS/SEC)	= 51.665
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 58.511
*MAINSTREAM GAS VEL (FT/SEC)	= 1458.9
MACH NUMBER	= 0.72483
REYNOLDS NUMBER	= 1360000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1142.6	TF14	.140	1186.9
TF02	.072	1188.5	TF15	.348	1168.9
TF03	.170	990.17	TF16	.424	1230.2
TF04	.170	1094.6	TF17	.424	1159.0
TF05	.170	1020.5	TF18	.424	1034.5
TF06	.262	959.11	TF19	.502	
TF07	.354	934.71	TF20	.580	1197.2
TF08	.354	1055.7	TF21	.580	80.680
TF09	.354	883.91	TF22	.580	1105.7
TF10	.446	934.71	TF23	.820	1397.6
TF11	.540	969.86			
TF12	.722	1095.7			
TF13	.816	1210.7			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 142.61
TEMPERATURE (DEG F)	= 148.26
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.0272

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	925.51	92.448	.9717
S5		88.854	.8359
S4		90.372	.6122
S3	870.90	88.792	.3465
S2		124.52	.1879
S1	1213.7	120.35	.0674
SP	919.52	132.25	.0000
P1	1095.1		.0828
P2			.1743
P3		127.72	.3138
P3		127.76	.3138
P4	944.19	120.12	.5874
P5		108.16	.8257
P6		94.059	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

SENSOR TYPE	PRESSURE SURFACE X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	88.245	320.77
GARDON GAGE 2	.5874	90.688	355.11
PAIRED T/C 1	.3138	98.515	401.02
PAIRED T/C 2	.5874	102.45	479.06
PAIRED T/C 3	.3138	96.958	395.28
PAIRED T/C 4	.5874	109.03	490.41

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 98

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 531.48
INLET AIR FLOW (LBS/SEC)	= 42.120
INLET PRESSURE (PSIA)	= 156.53
FUEL FLOW (LBS/SEC)	= 0.86559

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.90
TOTAL PRESSURE MEAS. (PSIA)	= 133.06
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1838.2
CALC. MEAN RAD	= 2126.0
*MAINSTREAM GAS VEL. (FT/SEC)	= 500.27
MAINSTREAM GAS FLOW (LBS/SEC)	= 42.986
MAINSTREAM GAS MACH NO.	= 0.22135
COMBUSTOR EFFICIENCY	= 0.97940

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.901
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1627.9
CALC. MEAN RAD	= 1954.3
GAS FLOW (LBS/SEC)	= 50.297
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 57.290
*MAINSTREAM GAS VEL (FT/SEC)	= 1525.2
MACH NUMBER	= 0.73093
REYNOLDS NUMBER	= 1260000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1280.2	TF14	.140	1317.5
TF02	.072	1329.7	TF15	.348	1083.6
TF03	.170	1108.0	TF16	.424	1334.0
TF04	.170	1210.3	TF17	.424	1234.0
TF05	.170	1135.0	TF18	.424	1098.0
TF06	.262	1058.6	TF19	.502	
TF07	.354	1039.6	TF20	.580	1335.0
TF08	.354	1156.9	TF21	.580	54.967
TF09	.354	981.24	TF22	.580	1231.9
TF10	.446	1022.9	TF23	.820	1562.6
TF11	.540	1081.4			
TF12	.722	1231.9			
TF13	.816	1349.3			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 142.67
TEMPERATURE (DEG F)	= 148.40
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.0190

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	1023.4	92.334	.9717
S5		88.799	.8359
S4		90.551	.6122
S3	961.68	88.830	.3465
S2		125.05	.1879
S1	1378.5	120.85	.0674
SP	1017.2	132.85	.0000
P1	1255.4		.0828
P2			.1743
P3		128.16	.3138
P3		128.23	.3138
P4	1040.3	120.50	.5874
P5		108.49	.8257
P6		94.318	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	99.823	323.42
GARDON GAGE 2	.5874	104.40	366.93
PAIRED T/C 1	.3138	110.42	404.05
PAIRED T/C 2	.5874	111.95	469.18
PAIRED T/C 3	.3138	109.93	404.54
PAIRED T/C 4	.5874	120.30	487.40

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 104

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 539.15
INLET AIR FLOW (LBS/SEC)	= 38.703
INLET PRESSURE (PSIA)	= 156.48
FUEL FLOW (LBS/SEC)	= 0.61363

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 116.86
TOTAL PRESSURE MEAS. (PSIA)	= 120.02
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1555.3
CALC. MEAN RAD	= 1754.6
*MAINSTREAM GAS VEL. (FT/SEC)	= 429.83
MAINSTREAM GAS FLOW (LBS/SEC)	= 39.317
MAINSTREAM GAS MACH NO.	= 0.20201
COMBUSTOR EFFICIENCY	= 0.96457

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 92.552
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1429.1
CALC. MEAN RAD	= 1678.2
GAS FLOW (LBS/SEC)	= 43.974
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 50.847
*MAINSTREAM GAS VEL (FT/SEC)	= 1277.7
MACH NUMBER	= 0.63610
REYNOLDS NUMBER	= 1170000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1098.4	TF14	.140	1112.2
TF02	.072	1166.6	TF15	.348	1076.7
TF03	.170	968.01	TF16	.424	1143.6
TF04	.170	1029.9	TF17	.424	1071.2
TF05	.170	977.05	TF18	.424	994.53
TF06	.262	956.13	TF19	.502	
TF07	.354	892.93	TF20	.580	1158.4
TF08	.354	1955.3	TF21	.580	
TF09	.354	879.75	TF22	.580	1112.2
TF10	.446	939.68	TF23	.820	1393.3
TF11	.540	925.46			
TF12	.722	1061.2			
TF13	.816	1181.8			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 115.15
TEMPERATURE (DEG F)	= 139.76
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.3592

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	886.96	90.361	.9717
S5		88.268	.8359
S4		88.857	.6122
S3	839.85	86.438	.3465
S2		107.03	.1879
S1	1147.9	110.48	.0674
SP	886.06	120.13	.0000
P1	1034.2	117.10	.0828
P2			.1743
P3		116.46	.3138
P3		116.34	.3138
P4	918.22	110.60	.5874
P5		101.82	.8257
P6		92.052	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	67.249	293.37
GARDON GAGE 2	.5874	70.100	333.66
PAIRED T/C 1	.3138	76.044	352.85
PAIRED T/C 2	.5874	75.286	400.83
PAIRED T/C 3	.3138	75.308	342.85
PAIRED T/C 4	.5874	81.972	412.83

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 106

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 530.00
INLET AIR FLOW (LBS/SEC)	= 41.563
INLET PRESSURE (PSIA)	= 156.47
FUEL FLOW (LBS/SEC)	= 0.66294

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 115.71
TOTAL PRESSURE MEAS. (PSIA)	= 119.25
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1554.3
CALC. MEAN RAD	= 1730.8
*MAINSTREAM GAS VEL. (FT/SEC)	= 456.05
MAINSTREAM GAS FLOW (LBS/SEC)	= 42.226
MAINSTREAM GAS MACH NO.	= 0.21447
COMBUSTOR EFFICIENCY	= 0.96513

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 85.596
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1489.5
CALC. MEAN RAD	= 1709.2
GAS FLOW (LBS/SEC)	= 44.724
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 51.534
*MAINSTREAM GAS VEL (FT/SEC)	= 1459.8
MACH NUMBER	= 0.72212
REYNOLDS NUMBER	= 1210000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1275.6	TF14	.140	1250.4
TF02	.072	1319.9	TF15	.348	
TF03	.170	1122.0	TF16	.424	1236.4
TF04	.170	1213.2	TF17	.424	1201.3
TF05	.170	1167.0	TF18	.424	1132.5
TF06	.262	1145.1	TF19	.502	
TF07	.354	1067.8	TF20	.580	1284.7
TF08	.354	1193.7	TF21	.580	
TF09	.354	1062.8	TF22	.580	1249.3
TF10	.446	1105.5	TF23	.820	1454.3
TF11	.540	1093.9			
TF12	.722	1203.5			
TF13	.816	1283.6			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 108.46
TEMPERATURE (DEG F)	= 142.74
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.3500

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	872.59	83.085	.9717
S5		80.339	.8359
S4		81.502	.6122
S3	860.32	79.827	.3465
S2		88.795	.1879
S1	1153.5	108.65	.0674
SP	880.90	119.32	.0000
P1	1038.7	115.90	.0828
P2			.1743
P3		115.26	.3138
P3		115.03	.3138
P4	944.23	108.44	.5874
P5		97.514	.8257
P6		85.335	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	54.003	304.21
GARDON GAGE 2	.5874	45.599	298.55
PAIRED T/C 1	.3138	55.370	371.82
PAIRED T/C 2	.5874	51.607	409.93
PAIRED T/C 3	.3138	53.778	339.86
PAIRED T/C 4	.5874	55.872	385.27

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 107

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 528.89
INLET AIR FLOW (LBS/SEC)	= 39.551
INLET PRESSURE (PSIA)	= 156.58
FUEL FLOW (LBS/SEC)	= 0.71944

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 116.14
TOTAL PRESSURE MEAS. (PSIA)	= 119.71
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1695.2
CALC. MEAN RAD	= 1937.3
*MAINSTREAM GAS VEL. (FT/SEC)	= 472.56
MAINSTREAM GAS FLOW (LBS/SEC)	= 40.270
MAINSTREAM GAS MACH NO.	= 0.21537
COMBUSTOR EFFICIENCY	= 0.97478

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 85.622
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1595.7
CALC. MEAN RAD	= 1872.9
GAS FLOW (LBS/SEC)	= 43.707
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 50.402
*MAINSTREAM GAS VEL (FT/SEC)	= 1507.1
MACH NUMBER	= 0.72733
REYNOLDS NUMBER	= 1150000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1287.8	TF14	.140	1252.0
TF02	.072	1355.3	TF15	.348	
TF03	.170	1136.3	TF16	.424	1268.6
TF04	.170	1181.1	TF17	.424	1205.6
TF05	.170	1159.9	TF18	.424	1111.5
TF06	.262	1147.3	TF19	.502	
TF07	.354	1077.7	TF20	.580	1334.7
TF08	.354	1166.4	TF21	.580	
TF09	.354	1051.0	TF22	.580	1286.2
TF10	.446	1113.7	TF23	.820	1529.0
TF11	.540	1108.7			
TF12	.722	1235.8			
TF13	.816	1353.2			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 108.82
TEMPERATURE (DEG F)	= 137.09
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.3525

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	936.72	83.070	.9717
S5		80.169	.8359
S4		81.472	.6122
S3	924.84	79.998	.3465
S2		94.330	.1879
S1	1266.6	109.10	.0674
SP	947.38	119.78	.0000
P1	1144.9	116.30	.0828
P2			.1743
P3		115.58	.3138
P3		115.35	.3138
P4	1019.4	108.83	.5874
P5		97.835	.8257
P6		85.303	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	71.091	305.41
GARDON GAGE 2	.5874	67.920	331.03
PAIRED T/C 1	.3138	72.829	366.49
PAIRED T/C 2	.5874	70.174	401.26
PAIRED T/C 3	.3138	73.484	348.32
PAIRED T/C 4	.5874	78.513	403.89

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 108

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 527.39
INLET AIR FLOW (LBS/SEC)	= 19.398
INLET PRESSURE (PSIA)	= 161.15
FUEL FLOW (LBS/SEC)	= 0.40358

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 59.787
TOTAL PRESSURE MEAS. (PSIA)	= 61.535
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1848.1
CALC. MEAN RAD	= 2114.3
*MAINSTREAM GAS VEL. (FT/SEC)	= 477.28
MAINSTREAM GAS FLOW (LBS/SEC)	= 19.801
MAINSTREAM GAS MACH NO.	= 0.21069
COMBUSTOR EFFICIENCY	= 0.97966

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 44.267
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1639.9
CALC. MEAN RAD	= 1945.6
GAS FLOW (LBS/SEC)	= 23.101
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 29.318
*MAINSTREAM GAS VEL (FT/SEC)	= 1510.7
MACH NUMBER	= 0.72134
REYNOLDS NUMBER	= 570000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1274.4	TF14	.140	1192.5
TF02	.072	1240.1	TF15	.348	
TF03	.170	976.84	TF16	.424	1026.9
TF04	.170	1066.5	TF17	.424	889.28
TF05	.170	1082.1	TF18	.424	951.95
TF06	.262	920.13	TF19	.502	
TF07	.354	886.41	TF20	.580	1108.1
TF08	.354	945.71	TF21	.580	
TF09	.354	923.54	TF22	.580	1062.1
TF10	.446	891.57	TF23	.820	1357.3
TF11	.540	896.15			
TF12	.722	1057.6			
TF13	.816	1278.2			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 65.181
TEMPERATURE (DEG F)	= 134.35
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.91817

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	883.59	42.748	.9717
S5		41.071	.8359
S4		41.894	.6122
S3	830.77	41.335	.3465
S2		57.788	.1879
S1	1320.8	56.019	.0674
SP	946.41	61.589	.0000
P1	1169.1	59.890	.0828
P2			.1743
P3		59.418	.3138
P3		59.449	.3138
P4	845.11	55.910	.5874
P5		50.245	.8257
P6		44.284	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	54.587	169.91
GARDON GAGE 2	.5874	51.443	169.59
PAIRED T/C 1	.3138	62.299	217.19
PAIRED T/C 2	.5874	54.387	201.72
PAIRED T/C 3	.3138	61.282	210.56
PAIRED T/C 4	.5874	59.870	210.32

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 109

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 526.72
INLET AIR FLOW (LBS/SEC)	= 20.126
INLET PRESSURE (PSIA)	= 161.22
FUEL FLOW (LBS/SEC)	= 0.35522

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 59.532
TOTAL PRESSURE MEAS. (PSIA)	= 61.238
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1658.4
CALC. MEAN RAD	= 1843.1
*MAINSTREAM GAS VEL. (FT/SEC)	= 452.86
MAINSTREAM GAS FLOW (LBS/SEC)	= 20.481
MAINSTREAM GAS MACH NO.	= 0.20800
COMBUSTOR EFFICIENCY	= 0.97301

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 44.341
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1475.8
CALC. MEAN RAD	= 1711.2
GAS FLOW (LBS/SEC)	= 23.784
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 30.018
*MAINSTREAM GAS VEL (FT/SEC)	= 1436.1
MACH NUMBER	= 0.71207
REYNOLDS NUMBER	= 620000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1152.0	TF14	.140	1034.0
TF02	.072	1079.2	TF15	.348	
TF03	.170	865.60	TF16	.424	928.52
TF04	.170	930.22	TF17	.424	778.67
TF05	.170	971.61	TF18	.424	854.09
TF06	.262	806.64	TF19	.502	
TF07	.354	785.09	TF20	.580	1006.5
TF08	.354	821.73	TF21	.580	
TF09	.354	833.88	TF22	.580	968.78
TF10	.446	780.42	TF23	.820	1190.7
TF11	.540	793.84			
TF12	.722	943.86			
TF13	.816	1144.9			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 65.143
TEMPERATURE (DEG F)	= 141.95
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.91678

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	802.81	42.862	.9717
S5		41.217	.8359
S4		42.086	.6122
S3	734.19	41.589	.3465
S2		57.357	.1879
S1	1147.9	55.680	.0674
SP	846.16	61.350	.0000
P1	1010.5	59.571	.0828
P2			.1743
P3		59.110	.3138
P3		59.203	.3138
P4	765.80	55.727	.5874
P5		50.125	.8257
P6		44.414	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

SENSOR TYPE	PRESSURE SURFACE X/L(P)	HEAT FLUX Q/A BTU/(SEC-FT**2)	HEAT TRANSFER COEF BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	47.363	163.95
GARDON GAGE 2	.5874	44.589	164.45
PAIRED T/C 1	.3138	54.563	211.00
PAIRED T/C 2	.5874	47.573	196.11
PAIRED T/C 3	.3138	54.000	207.61
PAIRED T/C 4	.5874	52.689	207.29

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 110

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 526.71
INLET AIR FLOW (LBS/SEC)	= 19.303
INLET PRESSURE (PSIA)	= 161.23
FUEL FLOW (LBS/SEC)	= 0.41103

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 59.817
TOTAL PRESSURE MEAS. (PSIA)	= 61.482
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1875.6
CALC. MEAN RAD	= 2176.6
*MAINSTREAM GAS VEL. (FT/SEC)	= 468.79
MAINSTREAM GAS FLOW (LBS/SEC)	= 19.714
MAINSTREAM GAS MACH NO.	= 0.20579
COMBUSTOR EFFICIENCY	= 0.98006

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 44.371
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1664.2
CALC. MEAN RAD	= 2001.4
GAS FLOW (LBS/SEC)	= 23.012
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 29.201
*MAINSTREAM GAS VEL (FT/SEC)	= 1512.4
MACH NUMBER	= 0.71797
REYNOLDS NUMBER	= 560000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1288.2	TF14	.140	1144.3
TF02	.072	1253.4	TF15	.348	
TF03	.170	975.00	TF16	.424	1032.3
TF04	.170	1027.3	TF17	.424	865.60
TF05	.170	1087.5	TF18	.424	952.94
TF06	.262	923.97	TF19	.502	
TF07	.354	883.97	TF20	.580	1108.5
TF08	.354	902.86	TF21	.580	
TF09	.354	928.52	TF22	.580	1061.9
TF10	.446	894.85	TF23	.820	1325.4
TF11	.540	890.85			
TF12	.722	1054.1			
TF13	.816	1272.1			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 65.312
TEMPERATURE (DEG F)	= 142.22
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.91633

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	892.59	42.865	.9717
S5		41.111	.8359
S4		42.011	.6122
S3	844.71	41.375	.3465
S2		57.764	.1879
S1	1306.1	55.933	.0674
SP	954.12	61.630	.0000
P1	1159.1	59.884	.0828
P2			.1743
P3		59.379	.3138
P3		59.379	.3138
P4	850.93	55.824	.5874
P5		50.252	.8257
P6		44.370	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	53.512	161.41
GARDON GAGE 2	.5874	49.719	158.54
PAIRED T/C 1	.3138	62.226	212.56
PAIRED T/C 2	.5874	54.270	196.78
PAIRED T/C 3	.3138	59.937	199.44
PAIRED T/C 4	.5874	58.227	198.25

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 111

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 526.56
INLET AIR FLOW (LBS/SEC)	= 42.335
INLET PRESSURE (PSIA)	= 154.86
FUEL FLOW (LBS/SEC)	= 0.88207

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.87
TOTAL PRESSURE MEAS. (PSIA)	= 132.84
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1850.4
CALC. MEAN RAD	= 2108.7
*MAINSTREAM GAS VEL. (FT/SEC)	= 489.83
MAINSTREAM GAS FLOW (LBS/SEC)	= 43.217
MAINSTREAM GAS MACH NO.	= 0.21617
COMBUSTOR EFFICIENCY	= 0.97969

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.814
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1640.9
CALC. MEAN RAD	= 1939.0
GAS FLOW (LBS/SEC)	= 50.473
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 57.257
*MAINSTREAM GAS VEL (FT/SEC)	= 1528.3
MACH NUMBER	= 0.73024
REYNOLDS NUMBER	= 1240000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1269.9	TF14	.140	1295.6
TF02	.072	1320.6	TF15	.348	
TF03	.170	1119.5	TF16	.424	1342.3
TF04	.170	1194.4	TF17	.424	1224.2
TF05	.170	1138.7	TF18	.424	1085.7
TF06	.262	1050.1	TF19	.502	
TF07	.354	1056.3	TF20	.580	1349.2
TF08	.354	1137.1	TF21	.580	
TF09	.354	977.18	TF22	.580	1221.0
TF10	.446	1025.5	TF23	.820	1544.1
TF11	.540	1089.1			
TF12	.722	1240.9			
TF13	.816	1334.9			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 141.33
TEMPERATURE (DEG F)	= 145.88
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.0034

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	986.17	92.130	.9717
S5		88.637	.8359
S4		90.546	.6122
S3	960.81	88.575	.3465
S2		125.05	.1879
S1	1402.0	120.77	.0674
SP	981.54	132.83	.0000
P1	1290.9	128.99	.0828
P2			.1743
P3		128.22	.3138
P3		128.33	.3138
P4	1036.9	120.54	.5874
P5		108.51	.8257
P6		93.992	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	101.33	332.48
GARDON GAGE 2	.5874	108.11	387.92
PAIRED T/C 1	.3138	110.73	405.73
PAIRED T/C 2	.5874	114.46	479.03
PAIRED T/C 3	.3138	107.98	384.24
PAIRED T/C 4	.5874	119.01	463.92

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 112

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 526.83
INLET AIR FLOW (LBS/SEC)	= 43.577
INLET PRESSURE (PSIA)	= 154.24
FUEL FLOW (LBS/SEC)	= 0.78105

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.45
TOTAL PRESSURE MEAS. (PSIA)	= 132.35
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1676.9
CALC. MEAN RAD	= 1903.7
*MAINSTREAM GAS VEL. (FT/SEC)	= 468.37
MAINSTREAM GAS FLOW (LBS/SEC)	= 44.358
MAINSTREAM GAS MACH NO.	= 0.21430
COMBUSTOR EFFICIENCY	= 0.97395

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.830
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1489.8
CALC. MEAN RAD	= 1764.4
GAS FLOW (LBS/SEC)	= 51.628
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 58.526
*MAINSTREAM GAS VEL (FT/SEC)	= 1463.7
MACH NUMBER	= 0.72419
REYNOLDS NUMBER	= 1350000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1118.5	TF14	.140	1171.1
TF02	.072	1172.2	TF15	.348	
TF03	.170	982.35	TF16	.424	1214.6
TF04	.170	1074.7	TF17	.424	1144.9
TF05	.170	1008.2	TF18	.424	1031.8
TF06	.262	947.84	TF19	.502	
TF07	.354	926.82	TF20	.580	1181.5
TF08	.354	1042.4	TF21	.580	
TF09	.354	872.51	TF22	.580	1096.4
TF10	.446	933.65	TF23	.820	1374.1
TF11	.540	956.35			
TF12	.722	1082.0			
TF13	.816	1182.0			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 141.01
TEMPERATURE (DEG F)	= 145.56
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.9891

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	906.32	92.181	.9717
S5		88.752	.8359
S4		90.334	.6122
S3	873.21	88.535	.3465
S2		124.42	.1879
S1	1219.6	120.23	.0674
SP	898.46	132.47	.0000
P1	1107.7	128.63	.0828
P2			.1743
P3		127.70	.3138
P3		127.71	.3138
P4	942.00	120.08	.5874
P5		108.16	.8257
P6		93.826	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	91.288	335.46
GARDON GAGE 2	.5874	95.772	382.55
PAIRED T/C 1	.3138	99.816	399.64
PAIRED T/C 2	.5874	103.92	474.60
PAIRED T/C 3	.3138	96.509	378.90
PAIRED T/C 4	.5874	107.79	464.45

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 113

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 527.03
INLET AIR FLOW (LBS/SEC)	= 43.400
INLET PRESSURE (PSIA)	= 153.96
FUEL FLOW (LBS/SEC)	= 0.76093

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.43
TOTAL PRESSURE MEAS. (PSIA)	= 132.39
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1652.8
CALC. MEAN RAD	= 1865.7
*MAINSTREAM GAS VEL. (FT/SEC)	= 468.86
MAINSTREAM GAS FLOW (LBS/SEC)	= 44.161
MAINSTREAM GAS MACH NO.	= 0.21566
COMBUSTOR EFFICIENCY	= 0.97258

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.771
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1468.0
CALC. MEAN RAD	= 1730.9
GAS FLOW (LBS/SEC)	= 51.408
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 58.328
*MAINSTREAM GAS VEL (FT/SEC)	= 1457.3
MACH NUMBER	= 0.72493
REYNOLDS NUMBER	= 1370000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1117.8	TF14	.140	1186.8
TF02	.072	1165.5	TF15	.348	
TF03	.170	988.41	TF16	.424	1224.7
TF04	.170	1080.7	TF17	.424	1155.7
TF05	.170	1004.7	TF18	.424	1032.2
TF06	.262	940.89	TF19	.502	
TF07	.354	935.77	TF20	.580	1185.7
TF08	.354	1048.4	TF21	.580	
TF09	.354	874.66	TF22	.580	1092.9
TF10	.446	924.97	TF23	.820	1373.4
TF11	.540	961.86			
TF12	.722	1094.6			
TF13	.816	1191.1			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 141.02
TEMPERATURE (DEG F)	= 145.62
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.0031

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	900.68	92.188	.9717
S5		88.680	.8359
S4		90.170	.6122
S3	877.73	88.447	.3465
S2		124.44	.1879
S1	1206.3	120.34	.0674
SP	895.53	132.47	.0000
P1	1090.8	128.61	.0828
P2			.1743
P3		127.76	.3138
P3		127.83	.3138
P4	942.24	120.14	.5874
P5		108.16	.8257
P6		93.647	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

SENSOR TYPE	PRESSURE SURFACE X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	87.510	316.67
GARDON GAGE 2	.5874	89.567	349.04
PAIRED T/C 1	.3138	100.08	410.72
PAIRED T/C 2	.5874	103.66	489.60
PAIRED T/C 3	.3138	96.880	391.07
PAIRED T/C 4	.5874	109.18	483.88

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 114

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 527.40
INLET AIR FLOW (LBS/SEC)	= 42.117
INLET PRESSURE (PSIA)	= 154.96
FUEL FLOW (LBS/SEC)	= 0.87422

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.96
TOTAL PRESSURE MEAS. (PSIA)	= 132.85
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1846.8
CALC. MEAN RAD	= 2132.8
*MAINSTREAM GAS VEL. (FT/SEC)	= 484.55
MAINSTREAM GAS FLOW (LBS/SEC)	= 42.991
MAINSTREAM GAS MACH NO.	= 0.21398
COMBUSTOR EFFICIENCY	= 0.97961

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.777
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1636.2
CALC. MEAN RAD	= 1960.1
GAS FLOW (LBS/SEC)	= 50.279
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 57.109
*MAINSTREAM GAS VEL (FT/SEC)	= 1527.5
MACH NUMBER	= 0.73067
REYNOLDS NUMBER	= 1250000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1258.6	TF14	.140	1307.3
TF02	.072	1311.0	TF15	.348	
TF03	.170	1116.7	TF16	.424	1344.4
TF04	.170	1190.6	TF17	.424	1230.6
TF05	.170	1116.1	TF18	.424	1086.2
TF06	.262	1041.7	TF19	.502	
TF07	.354	1056.2	TF20	.580	1338.0
TF08	.354	1135.9	TF21	.580	
TF09	.354	976.56	TF22	.580	1224.2
TF10	.446	1016.5	TF23	.820	1547.1
TF11	.540	1089.0			
TF12	.722	1251.1			
TF13	.816	1329.6			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 141.50
TEMPERATURE (DEG F)	= 146.09
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.9990

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	994.53	92.040	.9717
S5		88.408	.8359
S4		90.085	.6122
S3	970.23	88.517	.3465
S2		125.00	.1879
S1	1370.4	120.78	.0674
SP	988.53	132.91	.0000
P1	1249.6	129.05	.0828
P2			.1743
P3		128.25	.3138
P3		128.31	.3138
P4	1035.2	120.46	.5874
P5		108.37	.8257
P6		93.825	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	96.650	307.78
GARDON GAGE 2	.5874	100.29	345.40
PAIRED T/C 1	.3138	110.70	401.22
PAIRED T/C 2	.5874	112.80	467.40
PAIRED T/C 3	.3138	109.10	390.39
PAIRED T/C 4	.5874	120.07	469.60

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 123

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 572.20
INLET AIR FLOW (LBS/SEC)	= 38.967
INLET PRESSURE (PSIA)	= 188.92
FUEL FLOW (LBS/SEC)	= 0.55627

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 116.38
TOTAL PRESSURE MEAS. (PSIA)	= 119.41
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1480.1
CALC. MEAN RAD	= 1650.8
*MAINSTREAM GAS VEL. (FT/SEC)	= 412.95
MAINSTREAM GAS FLOW (LBS/SEC)	= 39.524
MAINSTREAM GAS MACH NO.	= 0.19749
COMBUSTOR EFFICIENCY	= 0.95324

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 92.944
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1362.9
CALC. MEAN RAD	= 1592.5
GAS FLOW (LBS/SEC)	= 44.166
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 52.811
*MAINSTREAM GAS VEL (FT/SEC)	= 1232.8
MACH NUMBER	= 0.62338
REYNOLDS NUMBER	= 1200000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1019.7	TF14	.140	1006.8
TF02	.072	1120.3	TF15	.348	
TF03	.170	894.51	TF16	.424	1073.8
TF04	.170	906.51	TF17	.424	985.38
TF05	.170	883.62	TF18	.424	974.09
TF06	.262	897.37	TF19	.502	
TF07	.354	815.58	TF20	.580	1053.8
TF08	.354	1845.6	TF21	.580	
TF09	.354	813.26	TF22	.580	1025.8
TF10	.446	893.36	TF23	.820	1220.7
TF11	.540	861.22			
TF12	.722	972.96			
TF13	.816	1082.2			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 115.57
TEMPERATURE (DEG F)	= 144.96
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.3534

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	865.45	90.703	.9717
S5		88.908	.8359
S4		89.187	.6122
S3	796.88	86.370	.3465
S2		107.42	.1879
S1	1070.4	110.23	.0674
SP	860.41	119.64	.0000
P1	952.53	116.66	.0828
P2			.1743
P3		116.05	.3138
P3		115.83	.3138
P4	857.40	110.28	.5874
P5		101.91	.8257
P6		92.313	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	62.385	291.35
GARDON GAGE 2	.5874	65.744	338.76
PAIRED T/C 1	.3138	68.540	313.99
PAIRED T/C 2	.5874	69.131	354.06
PAIRED T/C 3	.3138	68.484	322.68
PAIRED T/C 4	.5874	75.446	390.32

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 124

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 573.19
INLET AIR FLOW (LBS/SEC)	= 43.773
INLET PRESSURE (PSIA)	= 187.56
FUEL FLOW (LBS/SEC)	= 0.74400

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.08
TOTAL PRESSURE MEAS. (PSIA)	= 132.11
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1658.3
CALC. MEAN RAD	= 1892.8
*MAINSTREAM GAS VEL. (FT/SEC)	= 474.18
MAINSTREAM GAS FLOW (LBS/SEC)	= 44.517
MAINSTREAM GAS MACH NO.	= 0.21783
COMBUSTOR EFFICIENCY	= 0.97042

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.842
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1506.5
CALC. MEAN RAD	= 1791.3
GAS FLOW (LBS/SEC)	= 50.426
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 58.954
*MAINSTREAM GAS VEL (FT/SEC)	= 1465.8
MACH NUMBER	= 0.72205
REYNOLDS NUMBER	= 1330000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1098.7	TF14	.140	1175.1
TF02	.072	1243.3	TF15	.348	
TF03	.170	992.64	TF16	.424	1211.5
TF04	.170	1037.5	TF17	.424	1142.3
TF05	.170	972.33	TF18	.424	1078.2
TF06	.262	997.14	TF19	.502	
TF07	.354	908.15	TF20	.580	1193.0
TF08	.354	2120.6	TF21	.580	
TF09	.354	892.72	TF22	.580	1131.8
TF10	.446	979.10	TF23	.820	1424.0
TF11	.540	970.07			
TF12	.722	1011.8			
TF13	.816	1199.0			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 127.93
TEMPERATURE (DEG F)	= 148.38
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.6545

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	951.75	91.962	.9717
S5		89.093	.8359
S4		90.411	.6122
S3	899.24	87.931	.3465
S2		118.27	.1879
S1	1222.3	120.60	.0674
SP	949.14	132.15	.0000
P1	1098.6	128.40	.0828
P2			.1743
P3		127.76	.3138
P3		127.68	.3138
P4	973.22	120.23	.5874
P5		108.43	.8257
P6		93.776	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	79.415	315.12
GARDON GAGE 2	.5874	88.567	385.09
PAIRED T/C 1	.3138	91.088	371.07
PAIRED T/C 2	.5874	94.082	430.65
PAIRED T/C 3	.3138	92.471	391.96
PAIRED T/C 4	.5874	104.82	488.46

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 125

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 573.58
INLET AIR FLOW (LBS/SEC)	= 43.727
INLET PRESSURE (PSIA)	= 188.38
FUEL FLOW (LBS/SEC)	= 0.73615

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.10
TOTAL PRESSURE MEAS. (PSIA)	= 132.06
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1648.8
CALC. MEAN RAD	= 1854.4
*MAINSTREAM GAS VEL. (FT/SEC)	= 469.13
MAINSTREAM GAS FLOW (LBS/SEC)	= 44.464
MAINSTREAM GAS MACH NO.	= 0.21594
COMBUSTOR EFFICIENCY	= 0.96970

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.830
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1529.7
CALC. MEAN RAD	= 1780.2
GAS FLOW (LBS/SEC)	= 49.201
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 57.811
*MAINSTREAM GAS VEL (FT/SEC)	= 1473.9
MACH NUMBER	= 0.72199
REYNOLDS NUMBER	= 1310000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1188.2	TF14	.140	1224.5
TF02	.072	1309.7	TF15	.348	
TF03	.170	1056.6	TF16	.424	1247.7
TF04	.170	1098.2	TF17	.424	1194.7
TF05	.170	1044.9	TF18	.424	1129.2
TF06	.262	1100.5	TF19	.502	
TF07	.354	971.29	TF20	.580	1241.8
TF08	.354	1084.4	TF21	.580	
TF09	.354	966.20	TF22	.580	1205.6
TF10	.446	1083.3	TF23	.820	1478.6
TF11	.540	1042.6			
TF12	.722	1066.1			
TF13	.816	1253.1			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 126.65
TEMPERATURE (DEG F)	= 148.69
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.6613

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	951.10	91.691	.9717
S5		88.886	.8359
S4		90.203	.6122
S3	901.23	87.864	.3465
S2		109.56	.1879
S1	1216.2	120.48	.0674
SP	949.76	132.29	.0000
P1	1099.2	128.36	.0828
P2			.1743
P3		127.59	.3138
P3		127.36	.3138
P4	984.19	119.94	.5874
P5		108.15	.8257
P6		93.689	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	72.795	316.85
GARDON GAGE 2	.5874	76.574	379.46
PAIRED T/C 1	.3138	83.284	374.18
PAIRED T/C 2	.5874	82.564	423.93
PAIRED T/C 3	.3138	86.942	398.02
PAIRED T/C 4	.5874	93.967	479.86

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 126

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 573.94
INLET AIR FLOW (LBS/SEC)	= 43.602
INLET PRESSURE (PSIA)	= 187.60
FUEL FLOW (LBS/SEC)	= 0.73907

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.18
TOTAL PRESSURE MEAS. (PSIA)	= 132.11
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1656.2
CALC. MEAN RAD	= 1862.0
*MAINSTREAM GAS VEL. (FT/SEC)	= 467.86
MAINSTREAM GAS FLOW (LBS/SEC)	= 44.341
MAINSTREAM GAS MACH NO.	= 0.21500
COMBUSTOR EFFICIENCY	= 0.97022

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.596
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1506.4
CALC. MEAN RAD	= 1760.5
GAS FLOW (LBS/SEC)	= 50.318
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 58.833
*MAINSTREAM GAS VEL (FT/SEC)	= 1471.3
MACH NUMBER	= 0.72497
REYNOLDS NUMBER	= 1330000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1103.7	TF14	.140	1180.0
TF02	.072	1252.5	TF15	.348	
TF03	.170	980.81	TF16	.424	1205.0
TF04	.170	1039.2	TF17	.424	1148.3
TF05	.170	972.34	TF18	.424	1081.0
TF06	.262	999.96	TF19	.502	
TF07	.354	901.31	TF20	.580	1192.5
TF08	.354	1019.6	TF21	.580	
TF09	.354	895.02	TF22	.580	1135.7
TF10	.446	915.01	TF23	.820	1430.8
TF11	.540	983.63			
TF12	.722	1017.9			
TF13	.816	1213.6			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 127.77
TEMPERATURE (DEG F)	= 152.45
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.6590

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	948.47	91.624	.9717
S5		88.523	.8359
S4		90.089	.6122
S3	892.93	87.562	.3465
S2		117.78	.1879
S1	1228.7	120.49	.0674
SP	941.32	132.33	.0000
P1	1104.4	128.51	.0828
P2			.1743
P3		127.66	.3138
P3		127.60	.3138
P4	974.66	120.09	.5874
P5		108.26	.8257
P6		93.547	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	79.991	320.87
GARDON GAGE 2	.5874	92.064	406.79
PAIRED T/C 1	.3138	90.672	371.20
PAIRED T/C 2	.5874	92.897	428.51
PAIRED T/C 3	.3138	91.052	388.05
PAIRED T/C 4	.5874	101.89	478.90

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 127

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 574.52
INLET AIR FLOW (LBS/SEC)	= 41.691
INLET PRESSURE (PSIA)	= 188.36
FUEL FLOW (LBS/SEC)	= 0.82228

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.86
TOTAL PRESSURE MEAS. (PSIA)	= 132.55
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1825.2
CALC. MEAN RAD	= 2037.4
*MAINSTREAM GAS VEL. (FT/SEC)	= 470.15
MAINSTREAM GAS FLOW (LBS/SEC)	= 42.514
MAINSTREAM GAS MACH NO.	= 0.20846
COMBUSTOR EFFICIENCY	= 0.97828

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.785
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1656.2
CALC. MEAN RAD	= 1909.2
GAS FLOW (LBS/SEC)	= 48.414
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 57.023
*MAINSTREAM GAS VEL (FT/SEC)	= 1529.8
MACH NUMBER	= 0.72818
REYNOLDS NUMBER	= 1230000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1241.9	TF14	.140	1304.5
TF02	.072	1406.4	TF15	.348	
TF03	.170	1108.8	TF16	.424	1339.0
TF04	.170	1157.8	TF17	.424	1233.8
TF05	.170	1081.7	TF18	.424	1146.8
TF06	.262	1108.3	TF19	.502	
TF07	.354	1015.9	TF20	.580	1349.0
TF08	.354	1123.7	TF21	.580	
TF09	.354	988.86	TF22	.580	1272.5
TF10	.446	1006.9	TF23	.820	1591.8
TF11	.540	1104.4			
TF12	.722	1188.3			
TF13	.816	1352.2			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 128.27
TEMPERATURE (DEG F)	= 153.31
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.6616

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	1053.8	91.598	.9717
S5		88.545	.8359
S4		90.312	.6122
S3	972.76	88.003	.3465
S2		118.64	.1879
S1	1386.8	121.09	.0674
SP	1044.8	132.99	.0000
P1	1260.2	129.11	.0828
P2			.1743
P3		128.11	.3138
P3		128.16	.3138
P4	1068.8	120.52	.5874
P5		108.68	.8257
P6		93.737	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	91.044	328.01
GARDON GAGE 2	.5874	105.35	420.99
PAIRED T/C 1	.3138	101.25	380.43
PAIRED T/C 2	.5874	103.19	437.42
PAIRED T/C 3	.3138	102.49	394.51
PAIRED T/C 4	.5874	112.85	478.69

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 128

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 574.96
INLET AIR FLOW (LBS/SEC)	= 42.491
INLET PRESSURE (PSIA)	= 188.58
FUEL FLOW (LBS/SEC)	= 0.83676

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.78
TOTAL PRESSURE MEAS. (PSIA)	= 132.70
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1824.2
CALC. MEAN RAD	= 2109.2
*MAINSTREAM GAS VEL. (FT/SEC)	= 484.29
MAINSTREAM GAS FLOW (LBS/SEC)	= 43.328
MAINSTREAM GAS MACH NO.	= 0.21481
COMBUSTOR EFFICIENCY	= 0.97823

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.792
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1659.1
CALC. MEAN RAD	= 1980.4
GAS FLOW (LBS/SEC)	= 49.215
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 57.692
*MAINSTREAM GAS VEL (FT/SEC)	= 1533.0
MACH NUMBER	= 0.72935
REYNOLDS NUMBER	= 1230000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1238.5	TF14	.140	1308.1
TF02	.072	1396.3	TF15	.348	
TF03	.170	1090.5	TF16	.424	1329.4
TF04	.170	1157.7	TF17	.424	1220.2
TF05	.170	1084.9	TF18	.424	1144.0
TF06	.262	1102.7	TF19	.502	
TF07	.354	1039.3	TF20	.580	1346.3
TF08	.354	1124.2	TF21	.580	
TF09	.354	992.71	TF22	.580	1276.6
TF10	.446	984.82	TF23	.820	1581.1
TF11	.540	1100.4			
TF12	.722	1220.7			
TF13	.816	1346.3			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 128.34
TEMPERATURE (DEG F)	= 154.57
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.6517

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	1049.1	91.636	.9717
S5		88.597	.8359
S4		90.334	.6122
S3	974.06	88.023	.3465
S2		118.59	.1879
S1	1384.2	121.15	.0674
SP	1045.9	133.00	.0000
P1	1258.3	129.16	.0828
P2			.1743
P3		128.16	.3138
P3		128.17	.3138
P4	1070.3	120.63	.5874
P5		108.76	.8257
P6		93.761	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

SENSOR TYPE	PRESSURE SURFACE X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	90.142	323.95
GARDON GAGE 2	.5874	101.08	399.31
PAIRED T/C 1	.3138	101.29	379.12
PAIRED T/C 2	.5874	102.38	432.72
PAIRED T/C 3	.3138	102.39	397.23
PAIRED T/C 4	.5874	112.73	484.02

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 129

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 574.95
INLET AIR FLOW (LBS/SEC)	= 43.914
INLET PRESSURE (PSIA)	= 188.15
FUEL FLOW (LBS/SEC)	= 0.72876

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.34
TOTAL PRESSURE MEAS. (PSIA)	= 132.14
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1634.9
CALC. MEAN RAD	= 1849.3
*MAINSTREAM GAS VEL. (FT/SEC)	= 457.42
MAINSTREAM GAS FLOW (LBS/SEC)	= 44.643
MAINSTREAM GAS MACH NO.	= 0.21117
COMBUSTOR EFFICIENCY	= 0.96856

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.752
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1488.2
CALC. MEAN RAD	= 1752.0
GAS FLOW (LBS/SEC)	= 50.602
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 59.184
*MAINSTREAM GAS VEL (FT/SEC)	= 1461.3
MACH NUMBER	= 0.72312
REYNOLDS NUMBER	= 1350000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1104.3	TF14	.140	1177.9
TF02	.072	1233.7	TF15	.348	
TF03	.170	975.79	TF16	.424	1223.4
TF04	.170	1037.0	TF17	.424	1140.1
TF05	.170	974.10	TF18	.424	1085.5
TF06	.262	993.27	TF19	.502	
TF07	.354	935.00	TF20	.580	1208.8
TF08	.354	996.09	TF21	.580	
TF09	.354	896.80	TF22	.580	1139.6
TF10	.446	902.51	TF23	.820	1421.4
TF11	.540	996.65			
TF12	.722	1109.8			
TF13	.816	1209.9			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 127.81
TEMPERATURE (DEG F)	= 154.29
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.6575

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	947.91	91.787	.9717
S5		88.903	.8359
S4		90.283	.6122
S3	895.40	87.880	.3465
S2		118.30	.1879
S1	1224.0	120.65	.0674
SP	946.80	132.41	.0000
P1	1102.1	128.57	.0828
P2			.1743
P3		127.75	.3138
P3		127.58	.3138
P4	978.12	120.13	.5874
P5		108.42	.8257
P6		93.709	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

SENSOR TYPE	PRESSURE SURFACE X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	80.164	326.85
GARDON GAGE 2	.5874	88.427	392.16
PAIRED T/C 1	.3138	90.791	379.67
PAIRED T/C 2	.5874	93.433	439.63
PAIRED T/C 3	.3138	91.841	403.74
PAIRED T/C 4	.5874	102.36	497.60

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 130

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 718.78
INLET AIR FLOW (LBS/SEC)	= 62.705
INLET PRESSURE (PSIA)	= 247.22
FUEL FLOW (LBS/SEC)	= 0.88558

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 182.60
TOTAL PRESSURE MEAS. (PSIA)	= 188.28
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1598.3
CALC. MEAN RAD	= 1733.0
*MAINSTREAM GAS VEL. (FT/SEC)	= 464.67
MAINSTREAM GAS FLOW (LBS/SEC)	= 63.591
MAINSTREAM GAS MACH NO.	= 0.21621
COMBUSTOR EFFICIENCY	= 0.95192

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 133.06
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1459.7
CALC. MEAN RAD	= 1667.2
GAS FLOW (LBS/SEC)	= 71.915
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 81.987
*MAINSTREAM GAS VEL (FT/SEC)	= 1480.6
MACH NUMBER	= 0.73878
REYNOLDS NUMBER	= 1980000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1086.0	TF14	.140	1193.1
TF02	.072	1252.0	TF15	.348	
TF03	.170	1001.7	TF16	.424	1239.0
TF04	.170	1036.5	TF17	.424	1194.7
TF05	.170	1003.4	TF18	.424	1181.7
TF06	.262	1047.1	TF19	.502	
TF07	.354	994.94	TF20	.580	1177.3
TF08	.354	1053.8	TF21	.580	
TF09	.354	933.85	TF22	.580	1152.2
TF10	.446	968.99	TF23	.820	1403.1
TF11	.540	1038.1			
TF12	.722	1090.5			
TF13	.816	1199.1			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 180.50
TEMPERATURE (DEG F)	= 177.30
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.3171

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	1037.1	129.84	.9717
S5		124.51	.8359
S4		126.18	.6122
S3	1093.5	124.21	.3465
S2		166.73	.1879
S1	1195.0	171.74	.0674
SP	1027.7	188.48	.0000
P1	1097.2	182.86	.0828
P2			.1743
P3		182.13	.3138
P3		181.99	.3138
P4	1009.3	170.98	.5874
P5		153.41	.8257
P6		130.33	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

SENSOR TYPE	PRESSURE SURFACE X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	100.19	446.50
GARDON GAGE 2	.5874	104.04	490.06
PAIRED T/C 1	.3138	113.72	517.53
PAIRED T/C 2	.5874	122.53	632.86
PAIRED T/C 3	.3138	109.24	508.12
PAIRED T/C 4	.5874	128.15	656.55

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 131

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 721.94
INLET AIR FLOW (LBS/SEC)	= 61.611
INLET PRESSURE (PSIA)	= 247.42
FUEL FLOW (LBS/SEC)	= 1.0352

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 183.45
TOTAL PRESSURE MEAS. (PSIA)	= 189.65
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1773.1
CALC. MEAN RAD	= 1959.0
*MAINSTREAM GAS VEL. (FT/SEC)	= 503.89
MAINSTREAM GAS FLOW (LBS/SEC)	= 62.647
MAINSTREAM GAS MACH NO.	= 0.22582
COMBUSTOR EFFICIENCY	= 0.96955

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 132.98
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1617.8
CALC. MEAN RAD	= 1862.9
GAS FLOW (LBS/SEC)	= 70.966
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 80.849
*MAINSTREAM GAS VEL (FT/SEC)	= 1557.5
MACH NUMBER	= 0.74926
REYNOLDS NUMBER	= 1830000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1222.9	TF14	.140	1337.8
TF02	.072	1403.1	TF15	.348	
TF03	.170	1110.4	TF16	.424	1402.1
TF04	.170	1177.3	TF17	.424	1363.7
TF05	.170	1112.6	TF18	.424	1325.1
TF06	.262	1157.7	TF19	.502	
TF07	.354	1030.9	TF20	.580	1306.5
TF08	.354	1216.4	TF21	.580	
TF09	.354	1031.4	TF22	.580	1300.1
TF10	.446	1061.6	TF23	.820	1590.2
TF11	.540	1148.4			
TF12	.722	1190.4			
TF13	.816	1329.9			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 181.93
TEMPERATURE (DEG F)	= 178.61
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.3037

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	1137.9	129.56	.9717
S5		124.25	.8359
S4		126.40	.6122
S3	1167.9	124.56	.3465
S2		168.54	.1879
S1	1374.0	172.67	.0674
SP	1123.6	189.55	.0000
P1	1263.2	183.78	.0828
P2			.1743
P3		182.95	.3138
P3		182.73	.3138
P4	1130.3	171.80	.5874
P5		153.88	.8257
P6		130.46	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

SENSOR TYPE	PRESSURE SURFACE X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	116.16	465.21
GARDON GAGE 2	.5874	120.85	515.58
PAIRED T/C 1	.3138	127.81	530.90
PAIRED T/C 2	.5874	137.70	657.84
PAIRED T/C 3	.3138	121.80	513.97
PAIRED T/C 4	.5874	142.32	669.02

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 132

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 720.74
INLET AIR FLOW (LBS/SEC)	= 60.849
INLET PRESSURE (PSIA)	= 247.92
FUEL FLOW (LBS/SEC)	= 1.0413

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 183.57
TOTAL PRESSURE MEAS. (PSIA)	= 189.22
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1792.0
CALC. MEAN RAD	= 1979.9
*MAINSTREAM GAS VEL. (FT/SEC)	= 483.44
MAINSTREAM GAS FLOW (LBS/SEC)	= 61.890
MAINSTREAM GAS MACH NO.	= 0.21574
COMBUSTOR EFFICIENCY	= 0.97092

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 133.48
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1627.3
CALC. MEAN RAD	= 1878.7
GAS FLOW (LBS/SEC)	= 70.251
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 80.109
*MAINSTREAM GAS VEL (FT/SEC)	= 1548.4
MACH NUMBER	= 0.74276
REYNOLDS NUMBER	= 1800000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1206.7	TF14	.140	1347.9
TF02	.072	1399.5	TF15	.348	
TF03	.170	1108.2	TF16	.424	1401.1
TF04	.170	1179.0	TF17	.424	1369.6
TF05	.170	1108.8	TF18	.424	1320.4
TF06	.262	1157.2	TF19	.502	
TF07	.354	1032.6	TF20	.580	1314.6
TF08	.354	1215.9	TF21	.580	
TF09	.354	1026.5	TF22	.580	1292.2
TF10	.446	1058.9	TF23	.820	1625.1
TF11	.540	1147.3			
TF12	.722	1096.1			
TF13	.816	1325.7			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 181.28
TEMPERATURE (DEG F)	= 180.73
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.3215

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	1115.6	129.48	.9717
S5		124.50	.8359
S4		126.60	.6122
S3	1164.8	124.78	.3465
S2		167.72	.1879
S1	1379.1	172.21	.0674
SP	1108.2	189.40	.0000
P1	1266.6	183.78	.0828
P2			.1743
P3		182.61	.3138
P3		182.41	.3138
P4	1134.8	171.55	.5874
P5		154.02	.8257
P6		130.60	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

SENSOR TYPE	PRESSURE SURFACE X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	112.47	435.17
GARDON GAGE 2	.5874	120.21	494.33
PAIRED T/C 1	.3138	127.20	517.75
PAIRED T/C 2	.5874	137.07	636.18
PAIRED T/C 3	.3138	122.05	503.72
PAIRED T/C 4	.5874	142.72	654.49

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 133

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 719.59
INLET AIR FLOW (LBS/SEC)	= 62.325
INLET PRESSURE (PSIA)	= 247.21
FUEL FLOW (LBS/SEC)	= 0.89988

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 182.64
TOTAL PRESSURE MEAS. (PSIA)	= 188.30
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1621.6
CALC. MEAN RAD	= 1762.1
*MAINSTREAM GAS VEL. (FT/SEC)	= 466.23
MAINSTREAM GAS FLOW (LBS/SEC)	= 63.224
MAINSTREAM GAS MACH NO.	= 0.21580
COMBUSTOR EFFICIENCY	= 0.95460

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 133.15
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1480.1
CALC. MEAN RAD	= 1691.9
GAS FLOW (LBS/SEC)	= 71.569
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 81.515
*MAINSTREAM GAS VEL (FT/SEC)	= 1487.2
MACH NUMBER	= 0.73834
REYNOLDS NUMBER	= 1950000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1081.6	TF14	.140	1221.8
TF02	.072	1268.0	TF15	.348	
TF03	.170	998.87	TF16	.424	1241.7
TF04	.170	1047.1	TF17	.424	
TF05	.170	1005.6	TF18	.424	1175.7
TF06	.262	1057.7	TF19	.502	
TF07	.354	939.51	TF20	.580	1182.2
TF08	.354	1087.1	TF21	.580	
TF09	.354	933.83	TF22	.580	1143.4
TF10	.446	998.30	TF23	.820	1420.9
TF11	.540	1035.9			
TF12	.722	997.18			
TF13	.816	1198.0			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 180.60
TEMPERATURE (DEG F)	= 180.86
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.3208

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	1033.3	129.66	.9717
S5		124.45	.8359
S4		126.22	.6122
S3	1099.5	124.85	.3465
S2		166.83	.1879
S1	1210.0	171.40	.0674
SP	1028.8	188.54	.0000
P1	1104.8	182.91	.0828
P2			.1743
P3		181.81	.3138
P3		181.66	.3138
P4	1017.9	170.78	.5874
P5		153.26	.8257
P6		130.31	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	98.618	426.07
GARDON GAGE 2	.5874	106.05	483.90
PAIRED T/C 1	.3138	111.79	498.45
PAIRED T/C 2	.5874	120.75	605.48
PAIRED T/C 3	.3138	109.49	499.37
PAIRED T/C 4	.5874	127.89	640.84

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 137

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 577.34
INLET AIR FLOW (LBS/SEC)	= 38.411
INLET PRESSURE (PSIA)	= 184.68
FUEL FLOW (LBS/SEC)	= 0.55929

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 116.48
TOTAL PRESSURE MEAS. (PSIA)	= 119.94
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1502.8
CALC. MEAN RAD	= 1675.4
*MAINSTREAM GAS VEL. (FT/SEC)	= 443.44
MAINSTREAM GAS FLOW (LBS/SEC)	= 38.971
MAINSTREAM GAS MACH NO.	= 0.21101
COMBUSTOR EFFICIENCY	= 0.95559

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 92.983
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1379.7
CALC. MEAN RAD	= 1612.1
GAS FLOW (LBS/SEC)	= 43.637
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 52.438
*MAINSTREAM GAS VEL (FT/SEC)	= 1248.1
MACH NUMBER	= 0.62872
REYNOLDS NUMBER	= 1200000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1037.0	TF14	.140	1015.1
TF02	.072	1085.4	TF15	.348	
TF03	.170	880.11	TF16	.424	1088.7
TF04	.170	895.01	TF17	.424	
TF05	.170	888.14	TF18	.424	995.45
TF06	.262	896.72	TF19	.502	
TF07	.354	787.58	TF20	.580	1064.3
TF08	.354		TF21	.580	
TF09	.354	818.99	TF22	.580	1031.4
TF10	.446	836.93	TF23	.820	1225.0
TF11	.540	872.08			
TF12	.722	861.73			
TF13	.816	1088.7			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 115.87
TEMPERATURE (DEG F)	= 143.00
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.3605

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	847.22	90.570	.9717
S5		88.909	.8359
S4		89.188	.6122
S3	774.79	86.440	.3465
S2		107.39	.1879
S1	1079.5	110.35	.0674
SP	846.44	119.73	.0000
P1	967.93	116.63	.0828
P2			.1743
P3		116.11	.3138
P3		116.07	.3138
P4	860.02	110.34	.5874
P5		101.94	.8257
P6		92.309	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

SENSOR TYPE	PRESSURE SURFACE X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	59.482	269.76
GARDON GAGE 2	.5874	61.569	299.44
PAIRED T/C 1	.3138	72.889	347.93
PAIRED T/C 2	.5874	72.831	396.45
PAIRED T/C 3	.3138	69.432	322.54
PAIRED T/C 4	.5874	76.631	391.39

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 138

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 578.79
INLET AIR FLOW (LBS/SEC)	= 44.194
INLET PRESSURE (PSIA)	= 182.44
FUEL FLOW (LBS/SEC)	= 0.74718

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.31
TOTAL PRESSURE MEAS. (PSIA)	= 132.53
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1656.8
CALC. MEAN RAD	= 1887.3
*MAINSTREAM GAS VEL. (FT/SEC)	= 484.18
MAINSTREAM GAS FLOW (LBS/SEC)	= 44.942
MAINSTREAM GAS MACH NO.	= 0.22253
COMBUSTOR EFFICIENCY	= 0.97002

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.845
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1510.2
CALC. MEAN RAD	= 1788.0
GAS FLOW (LBS/SEC)	= 50.861
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 59.489
*MAINSTREAM GAS VEL (FT/SEC)	= 1473.8
MACH NUMBER	= 0.72559
REYNOLDS NUMBER	= 1330000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1120.8	TF14	.140	1176.2
TF02	.072	1234.2	TF15	.348	
TF03	.170	965.55	TF16	.424	1214.7
TF04	.170	1017.4	TF17	.424	
TF05	.170	969.51	TF18	.424	1087.1
TF06	.262	994.89	TF19	.502	
TF07	.354	868.64	TF20	.580	1184.3
TF08	.354		TF21	.580	
TF09	.354	893.30	TF22	.580	1125.8
TF10	.446	892.72	TF23	.820	1417.7
TF11	.540	968.94			
TF12	.722	938.91			
TF13	.816	1196.3			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 127.37
TEMPERATURE (DEG F)	= 146.55
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.6635

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	948.00	91.785	.9717
S5		88.529	.8359
S4		90.235	.6122
S3	863.44	87.677	.3465
S2		118.19	.1879
S1	1224.5	120.45	.0674
SP	951.17	132.33	.0000
P1	1108.2	128.42	.0828
P2			.1743
P3		127.60	.3138
P3		127.54	.3138
P4	976.86	120.05	.5874
P5		108.09	.8257
P6		93.335	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	78.307	317.88
GARDON GAGE 2	.5874	83.133	362.72
PAIRED T/C 1	.3138	95.544	415.14
PAIRED T/C 2	.5874	97.904	489.13
PAIRED T/C 3	.3138	91.878	392.67
PAIRED T/C 4	.5874	104.07	489.65

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 139

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 579.67
INLET AIR FLOW (LBS/SEC)	= 42.100
INLET PRESSURE (PSIA)	= 182.98
FUEL FLOW (LBS/SEC)	= 0.83579

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.95
TOTAL PRESSURE MEAS. (PSIA)	= 133.13
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1836.6
CALC. MEAN RAD	= 2133.1
*MAINSTREAM GAS VEL. (FT/SEC)	= 501.13
MAINSTREAM GAS FLOW (LBS/SEC)	= 42.936
MAINSTREAM GAS MACH NO.	= 0.22176
COMBUSTOR EFFICIENCY	= 0.97848

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.742
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1667.1
CALC. MEAN RAD	= 1999.6
GAS FLOW (LBS/SEC)	= 48.900
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 57.405
*MAINSTREAM GAS VEL (FT/SEC)	= 1544.2
MACH NUMBER	= 0.73368
REYNOLDS NUMBER	= 1230000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1228.8	TF14	.140	1289.5
TF02	.072	1375.9	TF15	.348	
TF03	.170	1076.6	TF16	.424	1323.6
TF04	.170	1133.0	TF17	.424	
TF05	.170	1080.0	TF18	.424	1151.1
TF06	.262	1097.1	TF19	.502	
TF07	.354	965.07	TF20	.580	1341.0
TF08	.354		TF21	.580	
TF09	.354	982.58	TF22	.580	1263.8
TF10	.446	961.68	TF23	.820	1583.1
TF11	.540	1071.1			
TF12	.722	1043.2			
TF13	.816	1335.7			

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 127.98
TEMPERATURE (DEG F)	= 148.03
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.6548

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	1036.8	91.591	.9717
S5		88.221	.8359
S4		90.240	.6122
S3	949.20	87.927	.3465
S2		118.92	.1879
S1	1385.8	121.01	.0674
SP	1047.2	132.89	.0000
P1	1263.6	128.95	.0828
P2			.1743
P3		128.22	.3138
P3		128.19	.3138
P4	1073.6	120.50	.5874
P5		108.44	.8257
P6		93.470	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	88.010	317.38
GARDON GAGE 2	.5874	94.219	364.69
PAIRED T/C 1	.3138	107.76	420.67
PAIRED T/C 2	.5874	108.47	486.18
PAIRED T/C 3	.3138	102.42	391.27
PAIRED T/C 4	.5874	114.11	481.22

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 143

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 578.00
INLET AIR FLOW (LBS/SEC)	= 38.965
INLET PRESSURE (PSIA)	= 197.01
FUEL FLOW (LBS/SEC)	= 0.55545

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 116.43
TOTAL PRESSURE MEAS. (PSIA)	= 119.87
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1481.5
CALC. MEAN RAD	= 1620.4
*MAINSTREAM GAS VEL. (FT/SEC)	= 440.62
MAINSTREAM GAS FLOW (LBS/SEC)	= 39.521
MAINSTREAM GAS MACH NO.	= 0.21074
COMBUSTOR EFFICIENCY	= 0.95307

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 92.891
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1362.6
CALC. MEAN RAD	= 1563.7
GAS FLOW (LBS/SEC)	= 44.133
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 52.972
*MAINSTREAM GAS VEL (FT/SEC)	= 1243.3
MACH NUMBER	= 0.62907
REYNOLDS NUMBER	= 1220000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1009.5	TF14	.140	1016.2
TF02	.072	1095.9	TF15	.348	
TF03	.170	873.17	TF16	.424	1065.4
TF04	.170	889.23	TF17	.424	
TF05	.170	859.95	TF18	.424	977.36
TF06	.262	894.95	TF19	.502	
TF07	.354	779.35	TF20	.580	1052.0
TF08	.354		TF21	.580	
TF09	.354	799.76	TF22	.580	1006.1
TF10	.446	831.09	TF23	.820	1227.6
TF11	.540	821.83			
TF12	.722	858.22			
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 115.12
TEMPERATURE (DEG F)	= 137.28
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.3524

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	866.27	90.638	.9717
S5		88.791	.8359
S4		89.086	.6122
S3	786.55	86.509	.3465
S2		107.38	.1879
S1	1062.3	110.38	.0674
SP	863.57	119.78	.0000
P1	951.89	116.35	.0828
P2			.1743
P3		116.09	.3138
P3		116.03	.3138
P4	861.62	110.35	.5874
P5		101.84	.8257
P6		92.174	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	62.546	295.11
GARDON GAGE 2	.5874	64.502	329.09
PAIRED T/C 1	.3138	74.112	370.65
PAIRED T/C 2	.5874	74.012	422.38
PAIRED T/C 3	.3138	71.646	344.67
PAIRED T/C 4	.5874	78.448	417.45

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 144

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 582.20
INLET AIR FLOW (LBS/SEC)	= 44.113
INLET PRESSURE (PSIA)	= 195.55
FUEL FLOW (LBS/SEC)	= 0.74350

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.34
TOTAL PRESSURE MEAS. (PSIA)	= 132.69
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1656.0
CALC. MEAN RAD	= 1888.0
*MAINSTREAM GAS VEL. (FT/SEC)	= 491.76
MAINSTREAM GAS FLOW (LBS/SEC)	= 44.857
MAINSTREAM GAS MACH NO.	= 0.22607
COMBUSTOR EFFICIENCY	= 0.96979

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.805
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1509.1
CALC. MEAN RAD	= 1788.7
GAS FLOW (LBS/SEC)	= 50.791
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 59.606
*MAINSTREAM GAS VEL (FT/SEC)	= 1476.9
MACH NUMBER	= 0.72744
REYNOLDS NUMBER	= 1340000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1133.9	TF14	.140	1185.8
TF02	.072	1248.6	TF15	.348	
TF03	.170	966.55	TF16	.424	1203.2
TF04	.170	1026.2	TF17	.424	
TF05	.170	959.76	TF18	.424	1084.7
TF06	.262	998.14	TF19	.502	
TF07	.354	873.67	TF20	.580	1174.4
TF08	.354		TF21	.580	
TF09	.354	889.15	TF22	.580	1120.7
TF10	.446	899.45	TF23	.820	1456.1
TF11	.540	925.13			
TF12	.722	948.43			
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 127.16
TEMPERATURE (DEG F)	= 143.47
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.6568

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	960.75	91.828	.9717
S5		88.538	.8359
S4		90.013	.6122
S3	897.15	87.778	.3465
S2		117.70	.1879
S1	1223.9	120.46	.0674
SP	963.31	132.47	.0000
P1	1108.5	128.22	.0828
P2			.1743
P3		127.68	.3138
P3		127.60	.3138
P4	982.53	120.12	.5874
P5		108.08	.8257
P6		93.411	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	80.624	331.74
GARDON GAGE 2	.5874	87.121	386.99
PAIRED T/C 1	.3138	97.045	428.41
PAIRED T/C 2	.5874	99.547	508.38
PAIRED T/C 3	.3138	93.480	405.74
PAIRED T/C 4	.5874	104.87	503.61

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 145

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 583.58
INLET AIR FLOW (LBS/SEC)	= 42.544
INLET PRESSURE (PSIA)	= 197.11
FUEL FLOW (LBS/SEC)	= 0.84016

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.84
TOTAL PRESSURE MEAS. (PSIA)	= 133.06
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1833.3
CALC. MEAN RAD	= 2039.8
*MAINSTREAM GAS VEL. (FT/SEC)	= 502.87
MAINSTREAM GAS FLOW (LBS/SEC)	= 43.384
MAINSTREAM GAS MACH NO.	= 0.22269
COMBUSTOR EFFICIENCY	= 0.97832

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.704
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1665.8
CALC. MEAN RAD	= 1913.5
GAS FLOW (LBS/SEC)	= 49.331
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 58.040
*MAINSTREAM GAS VEL (FT/SEC)	= 1543.4
MACH NUMBER	= 0.73348
REYNOLDS NUMBER	= 1230000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1232.8	TF14	.140	1297.7
TF02	.072	1396.0	TF15	.348	
TF03	.170	1066.8	TF16	.424	1299.8
TF04	.170	1134.8	TF17	.424	
TF05	.170	1074.6	TF18	.424	1156.8
TF06	.262	1097.3	TF19	.502	
TF07	.354	952.80	TF20	.580	1316.8
TF08	.354		TF21	.580	
TF09	.354	982.21	TF22	.580	1256.5
TF10	.446	968.09	TF23	.820	1601.0
TF11	.540	1004.7			
TF12	.722	1027.2			
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 127.64
TEMPERATURE (DEG F)	= 145.63
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.6575

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	1053.9	91.418	.9717
S5		88.204	.8359
S4		90.005	.6122
S3	967.76	87.878	.3465
S2		118.26	.1879
S1	1388.7	120.90	.0674
SP	1063.1	132.95	.0000
P1	1270.5	128.62	.0828
P2			.1743
P3		128.21	.3138
P3		128.09	.3138
P4	1078.4	120.43	.5874
P5		108.32	.8257
P6		93.451	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	90.461	330.59
GARDON GAGE 2	.5874	97.144	383.24
PAIRED T/C 1	.3138	108.42	432.73
PAIRED T/C 2	.5874	110.26	507.23
PAIRED T/C 3	.3138	105.65	415.34
PAIRED T/C 4	.5874	116.33	504.85

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 146

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 586.44
INLET AIR FLOW (LBS/SEC)	= 43.645
INLET PRESSURE (PSIA)	= 196.93
FUEL FLOW (LBS/SEC)	= 0.73864

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.30
TOTAL PRESSURE MEAS. (PSIA)	= 132.51
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1664.7
CALC. MEAN RAD	= 1897.1
*MAINSTREAM GAS VEL. (FT/SEC)	= 485.18
MAINSTREAM GAS FLOW (LBS/SEC)	= 44.384
MAINSTREAM GAS MACH NO.	= 0.22259
COMBUSTOR EFFICIENCY	= 0.97010

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.744
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1516.4
CALC. MEAN RAD	= 1796.7
GAS FLOW (LBS/SEC)	= 50.272
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 58.882
*MAINSTREAM GAS VEL (FT/SEC)	= 1478.2
MACH NUMBER	= 0.72673
REYNOLDS NUMBER	= 1330000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1136.9	TF14	.140	1188.8
TF02	.072	1226.2	TF15	.348	
TF03	.170	973.04	TF16	.424	1208.9
TF04	.170	1027.0	TF17	.424	
TF05	.170	966.25	TF18	.424	1084.4
TF06	.262	998.97	TF19	.502	
TF07	.354	875.09	TF20	.580	1185.6
TF08	.354		TF21	.580	
TF09	.354	891.72	TF22	.580	1125.9
TF10	.446	898.59	TF23	.820	1437.6
TF11	.540	935.07			
TF12	.722	940.18			
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 127.71
TEMPERATURE (DEG F)	= 150.16
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.6520

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	959.75	91.605	.9717
S5		88.512	.8359
S4		89.911	.6122
S3	915.41	87.734	.3465
S2		118.06	.1879
S1	1227.3	120.50	.0674
SP	960.56	132.45	.0000
P1	1108.3	128.26	.0828
P2			.1743
P3		127.70	.3138
P3		127.56	.3138
P4	986.42	120.16	.5874
P5		108.13	.8257
P6		93.315	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	79.535	312.77
GARDON GAGE 2	.5874	86.060	363.04
PAIRED T/C 1	.3138	96.550	420.28
PAIRED T/C 2	.5874	98.907	496.08
PAIRED T/C 3	.3138	94.936	410.82
PAIRED T/C 4	.5874	104.94	504.90

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 147

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 586.39
INLET AIR FLOW (LBS/SEC)	= 42.762
INLET PRESSURE (PSIA)	= 194.49
FUEL FLOW (LBS/SEC)	= 0.83320

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.95
TOTAL PRESSURE MEAS. (PSIA)	= 133.12
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1820.8
CALC. MEAN RAD	= 2102.4
*MAINSTREAM GAS VEL. (FT/SEC)	= 498.67
MAINSTREAM GAS FLOW (LBS/SEC)	= 43.596
MAINSTREAM GAS MACH NO.	= 0.22138
COMBUSTOR EFFICIENCY	= 0.97786

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.674
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1656.4
CALC. MEAN RAD	= 1976.0
GAS FLOW (LBS/SEC)	= 49.498
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 58.060
*MAINSTREAM GAS VEL (FT/SEC)	= 1541.7
MACH NUMBER	= 0.73428
REYNOLDS NUMBER	= 1240000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1229.9	TF14	.140	1308.6
TF02	.072	1390.5	TF15	.348	
TF03	.170	1074.4	TF16	.424	1293.7
TF04	.170	1141.8	TF17	.424	
TF05	.170	1078.8	TF18	.424	1162.1
TF06	.262	1102.7	TF19	.502	
TF07	.354	955.42	TF20	.580	1323.0
TF08	.354		TF21	.580	
TF09	.354	984.81	TF22	.580	1260.0
TF10	.446	967.31	TF23	.820	1605.9
TF11	.540	1010.7			
TF12	.722	1011.8			
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 128.17
TEMPERATURE (DEG F)	= 150.63
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.6602

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	1060.3	91.329	.9717
S5		88.189	.8359
S4		90.086	.6122
S3	975.59	87.940	.3465
S2		118.53	.1879
S1	1389.8	120.99	.0674
SP	1065.8	133.00	.0000
P1	1267.8	128.84	.0828
P2			.1743
P3		128.14	.3138
P3		128.08	.3138
P4	1082.5	120.54	.5874
P5		108.37	.8257
P6		93.412	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

SENSOR TYPE	PRESSURE SURFACE X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	88.099	315.43
GARDON GAGE 2	.5874	93.793	360.31
PAIRED T/C 1	.3138	107.71	434.19
PAIRED T/C 2	.5874	108.78	506.27
PAIRED T/C 3	.3138	105.55	417.88
PAIRED T/C 4	.5874	115.26	507.06

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 148

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 716.02
INLET AIR FLOW (LBS/SEC)	= 63.183
INLET PRESSURE (PSIA)	= 270.93
FUEL FLOW (LBS/SEC)	= 0.90412

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 182.62
TOTAL PRESSURE MEAS. (PSIA)	= 189.00
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1609.5
CALC. MEAN RAD	= 1751.8
*MAINSTREAM GAS VEL. (FT/SEC)	= 493.44
MAINSTREAM GAS FLOW (LBS/SEC)	= 64.087
MAINSTREAM GAS MACH NO.	= 0.22912
COMBUSTOR EFFICIENCY	= 0.95353

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 133.32
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1470.2
CALC. MEAN RAD	= 1684.0
GAS FLOW (LBS/SEC)	= 72.459
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 82.534
*MAINSTREAM GAS VEL (FT/SEC)	= 1488.4
MACH NUMBER	= 0.74096
REYNOLDS NUMBER	= 1980000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1078.4	TF14	.140	1196.5
TF02	.072	1253.7	TF15	.348	
TF03	.170	998.44	TF16	.424	1207.8
TF04	.170	1028.7	TF17	.424	
TF05	.170	987.74	TF18	.424	1165.4
TF06	.262	1053.3	TF19	.502	
TF07	.354	933.40	TF20	.580	1169.3
TF08	.354		TF21	.580	
TF09	.354	916.32	TF22	.580	1130.3
TF10	.446	969.68	TF23	.820	1427.3
TF11	.540	997.32			
TF12	.722	990.56			
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 180.82
TEMPERATURE (DEG F)	= 176.83
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.3235

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	1021.8	129.79	.9717
S5		124.16	.8359
S4		125.82	.6122
S3	1112.1	124.55	.3465
S2		166.92	.1879
S1	1177.5	171.46	.0674
SP	1015.4	188.53	.0000
P1	1077.7	182.59	.0828
P2			.1743
P3		181.97	.3138
P3		181.75	.3138
P4	1016.4	170.83	.5874
P5		152.90	.8257
P6		129.88	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

SENSOR TYPE	PRESSURE SURFACE X/L(P)	PRESSURE SURFACE HEAT FLUX Q/A	PRESSURE SURFACE HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	93.496	409.58
GARDON GAGE 2	.5874	104.69	492.93
PAIRED T/C 1	.3138	121.15	586.06
PAIRED T/C 2	.5874	132.31	748.31
PAIRED T/C 3	.3138	113.34	540.17
PAIRED T/C 4	.5874	132.70	702.32

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 149

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 717.45
INLET AIR FLOW (LBS/SEC)	= 61.509
INLET PRESSURE (PSIA)	= 272.75
FUEL FLOW (LBS/SEC)	= 1.0434

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 183.56
TOTAL PRESSURE MEAS. (PSIA)	= 189.92
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1780.0
CALC. MEAN RAD	= 1986.5
*MAINSTREAM GAS VEL. (FT/SEC)	= 511.11
MAINSTREAM GAS FLOW (LBS/SEC)	= 62.553
MAINSTREAM GAS MACH NO.	= 0.22876
COMBUSTOR EFFICIENCY	= 0.97028

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 133.14
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1619.3
CALC. MEAN RAD	= 1888.0
GAS FLOW (LBS/SEC)	= 70.853
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 80.955
*MAINSTREAM GAS VEL (FT/SEC)	= 1558.4
MACH NUMBER	= 0.74950
REYNOLDS NUMBER	= 1830000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1192.0	TF14	.140	1342.6
TF02	.072	1400.0	TF15	.348	
TF03	.170	1096.6	TF16	.424	1352.7
TF04	.170	1169.7	TF17	.424	
TF05	.170	1103.8	TF18	.424	1309.7
TF06	.262	1168.1	TF19	.502	
TF07	.354	1016.3	TF20	.580	1302.3
TF08	.354		TF21	.580	
TF09	.354	1014.7	TF22	.580	1279.3
TF10	.446	1067.2	TF23	.820	1616.5
TF11	.540	1087.7			
TF12	.722	1066.1			
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 181.27
TEMPERATURE (DEG F)	= 177.71
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.3134

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	1122.7	129.16	.9717
S5		123.64	.8359
S4		125.72	.6122
S3	1216.6	124.59	.3465
S2		167.48	.1879
S1	1353.3	172.29	.0674
SP	1122.8	189.38	.0000
P1	1242.0	183.48	.0828
P2			.1743
P3		182.71	.3138
P3		182.52	.3138
P4	1132.6	171.43	.5874
P5		153.21	.8257
P6		129.72	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

	PRESSURE SURFACE		
SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	107.54	422.83
GARDON GAGE 2	.5874	120.98	514.46
PAIRED T/C 1	.3138	135.53	592.87
PAIRED T/C 2	.5874	147.71	761.85
PAIRED T/C 3	.3138	130.44	568.72
PAIRED T/C 4	.5874	151.15	737.89

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 150

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 718.89
INLET AIR FLOW (LBS/SEC)	= 64.346
INLET PRESSURE (PSIA)	= 271.61
FUEL FLOW (LBS/SEC)	= 0.89242

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 182.49
TOTAL PRESSURE MEAS. (PSIA)	= 188.93
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1583.8
CALC. MEAN RAD	= 1733.9
*MAINSTREAM GAS VEL. (FT/SEC)	= 492.71
MAINSTREAM GAS FLOW (LBS/SEC)	= 65.238
MAINSTREAM GAS MACH NO.	= 0.23012
COMBUSTOR EFFICIENCY	= 0.94964

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 133.16
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1446.1
CALC. MEAN RAD	= 1673.0
GAS FLOW (LBS/SEC)	= 73.522
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 83.730
*MAINSTREAM GAS VEL (FT/SEC)	= 1480.7
MACH NUMBER	= 0.74155
REYNOLDS NUMBER	= 2010000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1093.1	TF14	.140	1223.9
TF02	.072	1260.5	TF15	.348	
TF03	.170	1006.1	TF16	.424	1221.7
TF04	.170	1038.1	TF17	.424	
TF05	.170	999.36	TF18	.424	1175.6
TF06	.262	1066.5	TF19	.502	
TF07	.354	946.25	TF20	.580	1187.0
TF08	.354		TF21	.580	
TF09	.354	931.48	TF22	.580	1140.0
TF10	.446	993.73	TF23	.820	1416.6
TF11	.540	1003.9			
TF12	.722	985.84			
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 181.05
TEMPERATURE (DEG F)	= 180.70
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.3145

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	1031.7	129.49	.9717
S5		124.02	.8359
S4		125.62	.6122
S3	1099.4	124.63	.3465
S2		166.75	.1879
S1	1188.5	171.36	.0674
SP	1027.5	188.41	.0000
P1	1084.6	182.50	.0828
P2			.1743
P3		181.71	.3138
P3		181.56	.3138
P4	1015.9	170.63	.5874
P5		152.76	.8257
P6		129.71	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	96.227	430.73
GARDON GAGE 2	.5874	107.44	519.83
PAIRED T/C 1	.3138	120.38	603.42
PAIRED T/C 2	.5874	132.20	777.89
PAIRED T/C 3	.3138	113.95	568.07
PAIRED T/C 4	.5874	132.71	738.39

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 151

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 719.91
INLET AIR FLOW (LBS/SEC)	= 61.776
INLET PRESSURE (PSIA)	= 273.65
FUEL FLOW (LBS/SEC)	= 1.0503

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE		= 183.62
TOTAL PRESSURE MEAS. (PSIA)		= 189.81
TOTAL TEMPERATURE CALC. AVG. (DEG F)		= 1785.2
CALC. MEAN RAD		= 1996.8
*MAINSTREAM GAS VEL. (FT/SEC)		= 504.68
MAINSTREAM GAS FLOW (LBS/SEC)		= 62.827
MAINSTREAM GAS MACH NO.		= 0.22561
COMBUSTOR EFFICIENCY		= 0.97044

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 133.20
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1624.0
CALC. MEAN RAD	= 1898.1
GAS FLOW (LBS/SEC)	= 71.140
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 81.103
*MAINSTREAM GAS VEL (FT/SEC)	= 1558.0
MACH NUMBER	= 0.74840
REYNOLDS NUMBER	= 1820000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1188.0	TF14	.140	1360.4
TF02	.072	1393.5	TF15	.348	
TF03	.170	1100.8	TF16	.424	1357.8
TF04	.170	1169.0	TF17	.424	
TF05	.170	1095.3	TF18	.424	1305.8
TF06	.262	1161.3	TF19	.502	
TF07	.354	1025.7	TF20	.580	1315.9
TF08	.354		TF21	.580	
TF09	.354	1013.9	TF22	.580	1274.9
TF10	.446	1050.3	TF23	.820	1600.7
TF11	.540	1088.1			
TF12	.722	1061.4			
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 181.66
TEMPERATURE (DEG F)	= 181.31
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.3227

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	1128.8	129.06	.9717
S5		123.52	.8359
S4		125.72	.6122
S3	1205.7	124.46	.3465
S2		167.48	.1879
S1	1354.2	172.13	.0674
SP	1127.4	189.51	.0000
P1	1241.1	183.57	.0828
P2			.1743
P3		182.68	.3138
P3		182.45	.3138
P4	1134.3	171.42	.5874
P5		153.27	.8257
P6		129.70	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

		PRESSURE SURFACE	
SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	106.94	417.52
GARDON GAGE 2	.5874	120.38	510.32
PAIRED T/C 1	.3138	134.70	588.01
PAIRED T/C 2	.5874	147.12	756.22
PAIRED T/C 3	.3138	131.06	569.82
PAIRED T/C 4	.5874	151.37	738.14

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 152

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 594.61
INLET AIR FLOW (LBS/SEC)	= 43.717
INLET PRESSURE (PSIA)	= 197.79
FUEL FLOW (LBS/SEC)	= 0.74101

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.35
TOTAL PRESSURE MEAS. (PSIA)	= 132.37
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1675.0
CALC. MEAN RAD	= 1883.4
*MAINSTREAM GAS VEL. (FT/SEC)	= 475.13
MAINSTREAM GAS FLOW (LBS/SEC)	= 44.458
MAINSTREAM GAS MACH NO.	= 0.21745
COMBUSTOR EFFICIENCY	= 0.97021

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 95.132
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1525.3
CALC. MEAN RAD	= 1783.5
GAS FLOW (LBS/SEC)	= 50.381
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 59.063
*MAINSTREAM GAS VEL (FT/SEC)	= 1470.6
MACH NUMBER	= 0.72101
REYNOLDS NUMBER	= 1320000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1162.5	TF14	.140	1208.8
TF02	.072	1262.1	TF15	.348	
TF03	.170	985.31	TF16	.424	1206.0
TF04	.170	1048.1	TF17	.424	
TF05	.170	996.57	TF18	.424	1102.6
TF06	.262	1016.2	TF19	.502	
TF07	.354	888.71	TF20	.580	1203.9
TF08	.354		TF21	.580	
TF09	.354	921.27	TF22	.580	1146.6
TF10	.446	909.29	TF23	.820	1406.2
TF11	.540	946.85			
TF12	.722				
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 127.87
TEMPERATURE (DEG F)	= 156.20
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.6545

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	968.77	91.581	.9717
S5		88.610	.8359
S4		90.135	.6122
S3	888.68	87.848	.3465
S2		118.65	.1879
S1	1256.0	120.34	.0674
SP	969.51	132.46	.0000
P1	1126.5	128.34	.0828
P2			.1743
P3		127.50	.3138
P3		127.45	.3138
P4	996.95	119.97	.5874
P5		108.23	.8257
P6		93.355	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	77.625	310.29
GARDON GAGE 2	.5874	84.523	365.73
PAIRED T/C 1	.3138	97.838	426.52
PAIRED T/C 2	.5874	102.23	516.34
PAIRED T/C 3	.3138	94.767	412.02
PAIRED T/C 4	.5874	104.78	503.79

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 158

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 582.28
INLET AIR FLOW (LBS/SEC)	= 38.428
INLET PRESSURE (PSIA)	= 197.45
FUEL FLOW (LBS/SEC)	= 0.54809

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 116.35
TOTAL PRESSURE MEAS. (PSIA)	= 119.70
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1485.8
CALC. MEAN RAD	= 1624.9
*MAINSTREAM GAS VEL. (FT/SEC)	= 435.04
MAINSTREAM GAS FLOW (LBS/SEC)	= 38.976
MAINSTREAM GAS MACH NO.	= 0.20783
COMBUSTOR EFFICIENCY	= 0.95313

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 93.131
TOTAL TEMPERATURE CALC AVG.	= 1365.0
CALC. MEAN RAD	= 1566.8
GAS FLOW (LBS/SEC)	= 43.589
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 52.392
*MAINSTREAM GAS VEL (FT/SEC)	= 1234.7
MACH NUMBER	= 0.62402
REYNOLDS NUMBER	= 1210000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	989.05	TF14	.140	998.06
TF02	.072	1064.1	TF15	.348	
TF03	.170	862.67	TF16	.424	1051.3
TF04	.170	878.18	TF17	.424	
TF05	.170	855.18	TF18	.424	976.07
TF06	.262	887.35	TF19	.502	
TF07	.354	768.66	TF20	.580	1027.8
TF08	.354		TF21	.580	
TF09	.354	793.20	TF22	.580	994.68
TF10	.446	822.25	TF23	.820	1185.2
TF11	.540	814.71			
TF12	.722				
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 115.51
TEMPERATURE (DEG F)	= 140.11
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.3533

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	871.18	90.571	.9717
S5		88.815	.8359
S4		89.048	.6122
S3	790.69	86.250	.3465
S2		107.20	.1879
S1	1053.7	110.15	.0674
SP	857.35	119.53	.0000
P1	944.13	116.46	.0828
P2			.1743
P3		115.94	.3138
P3		115.87	.3138
P4	851.29	110.29	.5874
P5		101.89	.8257
P6		92.063	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

SENSOR TYPE	PRESSURE SURFACE X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	59.965	298.97
GARDON GAGE 2	.5874	65.997	373.82
PAIRED T/C 1	.3138	73.280	357.13
PAIRED T/C 2	.5874	73.520	410.13
PAIRED T/C 3	.3138	70.369	332.21
PAIRED T/C 4	.5874	76.470	398.19

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 159

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 586.63
INLET AIR FLOW (LBS/SEC)	= 44.054
INLET PRESSURE (PSIA)	= 198.54
FUEL FLOW (LBS/SEC)	= 0.74105

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.19
TOTAL PRESSURE MEAS. (PSIA)	= 132.39
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1658.1
CALC. MEAN RAD	= 1890.6
*MAINSTREAM GAS VEL. (FT/SEC)	= 483.05
MAINSTREAM GAS FLOW (LBS/SEC)	= 44.795
MAINSTREAM GAS MACH NO.	= 0.22193
COMBUSTOR EFFICIENCY	= 0.96964

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.856
TOTAL TEMPERATURE CALC AVG.	= 1510.5
CALC. MEAN RAD	= 1791.3
GAS FLOW (LBS/SEC)	= 50.733
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 59.383
*MAINSTREAM GAS VEL (FT/SEC)	= 1471.4
MACH NUMBER	= 0.72425
REYNOLDS NUMBER	= 1330000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1123.2	TF14	.140	1182.4
TF02	.072	1208.4	TF15	.348	
TF03	.170	958.96	TF16	.424	1183.4
TF04	.170	1029.9	TF17	.424	
TF05	.170	958.39	TF18	.424	1085.6
TF06	.262	990.59	TF19	.502	
TF07	.354	862.51	TF20	.580	1166.0
TF08	.354		TF21	.580	
TF09	.354	893.50	TF22	.580	1112.2
TF10	.446	897.50	TF23	.820	1383.3
TF11	.540	913.49			
TF12	.722				
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 127.52
TEMPERATURE (DEG F)	= 146.37
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.6603

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	960.26	91.648	.9717
S5		88.350	.8359
S4		89.687	.6122
S3	911.96	87.416	.3465
S2		118.02	.1879
S1	1220.6	120.32	.0674
SP	961.13	132.25	.0000
P1	1105.9	128.28	.0828
P2			.1743
P3		127.60	.3138
P3		127.46	.3138
P4	976.18	120.02	.5874
P5		107.98	.8257
P6		93.125	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	75.644	326.68
GARDON GAGE 2	.5874	86.507	424.79
PAIRED T/C 1	.3138	96.386	418.79
PAIRED T/C 2	.5874	99.216	496.86
PAIRED T/C 3	.3138	93.721	402.00
PAIRED T/C 4	.5874	103.75	491.58

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 160

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 587.30
INLET AIR FLOW (LBS/SEC)	= 44.074
INLET PRESSURE (PSIA)	= 196.86
FUEL FLOW (LBS/SEC)	= 0.72008

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.11
TOTAL PRESSURE MEAS. (PSIA)	= 132.29
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1627.9
CALC. MEAN RAD	= 1855.6
*MAINSTREAM GAS VEL. (FT/SEC)	= 479.10
MAINSTREAM GAS FLOW (LBS/SEC)	= 44.794
MAINSTREAM GAS MACH NO.	= 0.22159
COMBUSTOR EFFICIENCY	= 0.96726

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.681
TOTAL TEMPERATURE CALC AVG.	= 1511.5
CALC. MEAN RAD	= 1784.7
GAS FLOW (LBS/SEC)	= 49.584
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 58.290
*MAINSTREAM GAS VEL (FT/SEC)	= 1474.1
MACH NUMBER	= 0.72549
REYNOLDS NUMBER	= 1330000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1171.9	TF14	.140	1208.3
TF02	.072	1256.3	TF15	.348	
TF03	.170	1016.4	TF16	.424	1224.6
TF04	.170	1073.3	TF17	.424	
TF05	.170	1019.2	TF18	.424	1135.8
TF06	.262	1063.3	TF19	.502	
TF07	.354	919.12	TF20	.580	1221.3
TF08	.354		TF21	.580	
TF09	.354	948.12	TF22	.580	1174.7
TF10	.446	980.36	TF23	.820	1428.3
TF11	.540	968.50			
TF12	.722				
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 116.31
TEMPERATURE (DEG F)	= 146.79
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.3298

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	976.51	91.418	.9717
S5		88.213	.8359
S4		89.567	.6122
S3	936.25	87.358	.3465
S2		111.72	.1879
S1	1254.9	120.34	.0674
SP	984.38	132.23	.0000
P1	1145.6	128.19	.0828
P2			.1743
P3		127.53	.3138
P3		127.34	.3138
P4	1024.4	119.94	5874
P5		107.89	.8257
P6		93.052	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	69.057	329.69
GARDON GAGE 2	.5874	77.147	426.79
PAIRED T/C 1	.3138	91.013	440.52
PAIRED T/C 2	.5874	92.425	524.95
PAIRED T/C 3	.3138	92.103	426.36
PAIRED T/C 4	.5874	98.844	512.23

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 161

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 588.19
INLET AIR FLOW (LBS/SEC)	= 43.836
INLET PRESSURE (PSIA)	= 197.61
FUEL FLOW (LBS/SEC)	= 0.72210

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.12
TOTAL PRESSURE MEAS. (PSIA)	= 132.17
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1637.4
CALC. MEAN RAD	= 1858.2
*MAINSTREAM GAS VEL. (FT/SEC)	= 473.27
MAINSTREAM GAS FLOW (LBS/SEC)	= 44.558
MAINSTREAM GAS MACH NO.	= 0.21841
COMBUSTOR EFFICIENCY	= 0.96796

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.443
TOTAL TEMPERATURE CALC AVG.	= 1546.4
CALC. MEAN RAD	= 1810.0
GAS FLOW (LBS/SEC)	= 48.216
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 56.922
*MAINSTREAM GAS VEL (FT/SEC)	= 1490.8
MACH NUMBER	= 0.72774
REYNOLDS NUMBER	= 1300000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1215.8	TF14	.140	1233.7
TF02	.072	1327.2	TF15	.348	
TF03	.170	1051.5	TF16	.424	1243.4
TF04	.170	1110.9	TF17	.424	
TF05	.170	1075.5	TF18	.424	1170.2
TF06	.262	1142.3	TF19	.502	
TF07	.354	957.11	TF20	.580	1244.4
TF08	.354		TF21	.580	
TF09	.354	1000.6	TF22	.580	1223.9
TF10	.446	1052.7	TF23	.820	1450.0
TF11	.540	1003.4			
TF12	.722				
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 106.13
TEMPERATURE (DEG F)	= 147.20
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.0093

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	994.74	91.133	.9717
S5		87.868	.8359
S4		89.174	.6122
S3	991.71	87.059	.3465
S2		105.47	.1879
S1	1295.4	120.03	.0674
SP	1010.1	132.18	.0000
P1	1190.4	128.13	.0828
P2			.1743
P3		127.25	.3138
P3		127.14	.3138
P4	1084.6	119.59	.5874
P5		107.35	.8257
P6		92.735	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	68.146	354.09
GARDON GAGE 2	.5874	69.881	440.09
PAIRED T/C 1	.3138	83.138	438.17
PAIRED T/C 2	.5874	82.255	509.40
PAIRED T/C 3	.3138	85.117	423.33
PAIRED T/C 4	.5874	90.357	503.67

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 162

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 713.31
INLET AIR FLOW (LBS/SEC)	= 63.490
INLET PRESSURE (PSIA)	= 286.08
FUEL FLOW (LBS/SEC)	= 0.89111

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 182.62
TOTAL PRESSURE MEAS. (PSIA)	= 188.91
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1587.7
CALC. MEAN RAD	= 1739.3
*MAINSTREAM GAS VEL. (FT/SEC)	= 487.58
MAINSTREAM GAS FLOW (LBS/SEC)	= 64.381
MAINSTREAM GAS MACH NO.	= 0.22751
COMBUSTOR EFFICIENCY	= 0.95115

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 133.30
TOTAL TEMPERATURE CALC AVG.	= 1447.2
CALC. MEAN RAD	= 1674.9
GAS FLOW (LBS/SEC)	= 72.691
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 82.831
*MAINSTREAM GAS VEL (FT/SEC)	= 1478.9
MACH NUMBER	= 0.74036
REYNOLDS NUMBER	= 2000000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1112.2	TF14	.140	1219.3
TF02	.072	1269.8	TF15	.348	
TF03	.170	1001.9	TF16	.424	1197.6
TF04	.170	1001.9	TF17	.424	
TF05	.170	984.97	TF18	.424	1163.3
TF06	.262	1062.3	TF19	.502	
TF07	.354	932.31	TF20	.580	1173.1
TF08	.354		TF21	.580	
TF09	.354	928.90	TF22	.580	1124.9
TF10	.446	996.24	TF23	.820	1369.1
TF11	.540	985.54			
TF12	.722				
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 180.61
TEMPERATURE (DEG F)	= 174.64
TEST VANE COOLANT FLOW (LBS/SEC)	= 2.3160

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	1022.0	129.74	.9717
S5		123.88	.8359
S4		125.34	.6122
S3	1098.8	123.94	.3465
S2		166.88	.1879
S1	1158.2	171.57	.0674
SP	1016.7	188.48	.0000
P1	1062.9	182.70	.0828
P2			.1743
P3		181.92	.3138
P3		181.75	.3138
P4	1005.7	170.79	.5874
P5		152.68	.8257
P6		129.40	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

SENSOR TYPE	X/L(P)	PRESSURE SURFACE HEAT FLUX Q/A	PRESSURE SURFACE HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	95.184	468.51
GARDON GAGE 2	.5874	112.52	635.57
PAIRED T/C 1	.3138	120.01	592.43
PAIRED T/C 2	.5874	131.59	759.85
PAIRED T/C 3	.3138	112.57	544.54
PAIRED T/C 4	.5874	130.43	696.82

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 163

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 712.40
INLET AIR FLOW (LBS/SEC)	= 63.561
INLET PRESSURE (PSIA)	= 282.91
FUEL FLOW (LBS/SEC)	= 0.89896

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 182.47
TOTAL PRESSURE MEAS. (PSIA)	= 188.76
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1595.2
CALC. MEAN RAD	= 1753.5
*MAINSTREAM GAS VEL. (FT/SEC)	= 488.65
MAINSTREAM GAS FLOW (LBS/SEC)	= 64.460
MAINSTREAM GAS MACH NO.	= 0.22762
COMBUSTOR EFFICIENCY	= 0.95210

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 132.86
TOTAL TEMPERATURE CALC AVG.	= 1487.0
CALC. MEAN RAD	= 1708.4
GAS FLOW (LBS/SEC)	= 71.149
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 81.373
*MAINSTREAM GAS VEL (FT/SEC)	= 1499.4
MACH NUMBER	= 0.74354
REYNOLDS NUMBER	= 1960000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1143.0	TF14	.140	1253.7
TF02	.072	1297.1	TF15	.348	
TF03	.170	1042.8	TF16	.424	1226.8
TF04	.170	1046.1	TF17	.424	
TF05	.170	1022.1	TF18	.424	1192.7
TF06	.262	1116.1	TF19	.502	
TF07	.354	975.95	TF20	.580	1192.2
TF08	.354		TF21	.580	
TF09	.354	965.21	TF22	.580	1157.8
TF10	.446	1059.5	TF23	.820	1433.6
TF11	.540	1028.2			
TF12	.722				
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 163.75
TEMPERATURE (DEG F)	= 175.05
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.8669

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	1040.4	129.17	.9717
S5		123.35	.8359
S4		124.94	.6122
S3	1135.2	123.79	.3465
S2		157.86	.1879
S1	1204.9	171.44	.0674
SP	1039.8	188.33	.0000
P1	1114.4	182.53	.0828
P2			.1743
P3		181.82	.3138
P3		181.59	.3138
P4	1050.8	170.55	.5874
P5		152.46	.8257
P6		129.02	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	87.152	457.88
GARDON GAGE 2	.5874	101.08	618.91
PAIRED T/C 1	.3138	112.43	591.14
PAIRED T/C 2	.5874	122.72	761.18
PAIRED T/C 3	.3138	111.51	548.09
PAIRED T/C 4	.5874	123.14	681.88

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 164

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 711.37
INLET AIR FLOW (LBS/SEC)	= 62.754
INLET PRESSURE (PSIA)	= 286.27
FUEL FLOW (LBS/SEC)	= 0.91059

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 182.36
TOTAL PRESSURE MEAS. (PSIA)	= 188.74
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1618.7
CALC. MEAN RAD	= 1791.7
*MAINSTREAM GAS VEL. (FT/SEC)	= 494.67
MAINSTREAM GAS FLOW (LBS/SEC)	= 63.665
MAINSTREAM GAS MACH NO.	= 0.22922
COMBUSTOR EFFICIENCY	= 0.95519

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 132.56
TOTAL TEMPERATURE CALC AVG.	= 1533.5
CALC. MEAN RAD	= 1762.9
GAS FLOW (LBS/SEC)	= 68.743
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 78.806
*MAINSTREAM GAS VEL (FT/SEC)	= 1521.8
MACH NUMBER	= 0.74645
REYNOLDS NUMBER	= 1910000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1195.8	TF14	.140	1281.5
TF02	.072	1370.6	TF15	.348	
TF03	.170	1098.8	TF16	.424	1272.9
TF04	.170	1101.0	TF17	.424	
TF05	.170	1083.8	TF18	.424	1236.4
TF06	.262	1199.6	TF19	.502	
TF07	.354	1028.1	TF20	.580	1235.8
TF08	.354		TF21	.580	
TF09	.354	1025.8	TF22	.580	1213.2
TF10	.446	1142.3	TF23	.820	1454.7
TF11	.540	1090.5			
TF12	.722				
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 150.15
TEMPERATURE (DEG F)	= 175.09
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.4178

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	1055.7	128.73	.9717
S5		122.88	.8359
S4		124.40	.6122
S3	1181.7	123.37	.3465
S2		148.32	.1879
S1	1244.8	171.34	.0674
SP	1062.9	188.34	.0000
P1	1159.2	182.40	.0828
P2			.1743
P3		181.62	.3138
P3		181.31	.3138
P4	1105.6	170.33	.5874
P5		151.78	.8257
P6		128.58	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

SENSOR TYPE	PRESSURE SURFACE X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	83.253	448.77
GARDON GAGE 2	.5874	85.771	570.11
PAIRED T/C 1	.3138	101.64	582.54
PAIRED T/C 2	.5874	110.72	740.65
PAIRED T/C 3	.3138	103.05	533.38
PAIRED T/C 4	.5874	111.82	654.08

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 165

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 710.82
INLET AIR FLOW (LBS/SEC)	= 65.159
INLET PRESSURE (PSIA)	= 284.95
FUEL FLOW (LBS/SEC)	= 0.91584

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 182.20
TOTAL PRESSURE MEAS. (PSIA)	= 188.65
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1588.2
CALC. MEAN RAD	= 1747.8
*MAINSTREAM GAS VEL. (FT/SEC)	= 493.79
MAINSTREAM GAS FLOW (LBS/SEC)	= 66.075
MAINSTREAM GAS MACH NO.	= 0.23040
COMBUSTOR EFFICIENCY	= 0.95133

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 131.97
TOTAL TEMPERATURE CALC AVG.	= 1533.5
CALC. MEAN RAD	= 1746.3
GAS FLOW (LBS/SEC)	= 69.541
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 79.562
*MAINSTREAM GAS VEL (FT/SEC)	= 1529.9
MACH NUMBER	= 0.75076
REYNOLDS NUMBER	= 1910000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1232.5	TF14	.140	1312.3
TF02	.072	1401.0	TF15	.348	
TF03	.170	1157.6	TF16	.424	1308.0
TF04	.170	1159.2	TF17	.424	
TF05	.170	1134.6	TF18	.424	1277.6
TF06	.262	1259.4	TF19	.502	
TF07	.354	1089.3	TF20	.580	1277.6
TF08	.354		TF21	.580	
TF09	.354	1076.0	TF22	.580	1261.0
TF10	.446	1184.3	TF23	.820	1456.7
TF11	.540	1153.2			
TF12	.722				
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 138.07
TEMPERATURE (DEG F)	= 175.39
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.96748

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	1082.1	128.44	.9717
S5		122.37	.8359
S4		124.13	.6122
S3	1240.7	123.00	.3465
S2		140.05	.1879
S1	1299.1	171.04	.0674
SP	1097.3	188.14	.0000
P1	1221.9	182.14	.0828
P2			.1743
P3		181.47	.3138
P3		181.13	.3138
P4	1176.2	170.08	.5874
P5		151.45	.8257
P6		128.16	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	73.384	473.01
GARDON GAGE 2	.5874	72.923	598.83
PAIRED T/C 1	.3138	87.174	622.71
PAIRED T/C 2	.5874	92.436	807.09
PAIRED T/C 3	.3138	88.876	569.36
PAIRED T/C 4	.5874	94.012	689.70

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 166

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEF F)	= 597.44
INLET AIR FLOW (LBS/SEC)	= 41.493
INLET PRESSURE (PSIA)	= 201.65
FUEL FLOW (LBS/SEC)	= 0.82066

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.68
TOTAL PRESSURE MEAS. (PSIA)	= 132.84
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1847.8
CALC. MEAN RAD	= 2102.0
*MAINSTREAM GAS VEL. (FT/SEC)	= 501.43
MAINSTREAM GAS FLOW (LBS/SEC)	= 42.314
MAINSTREAM GAS MACH NO.	= 0.22138
COMBUSTOR EFFICIENCY	= 0.97837

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.789
TOTAL TEMPERATURE CALC AVG.	= 1675.7
CALC. MEAN RAD	= 1970.1
GAS FLOW (LBS/SEC)	= 48.247
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 56.879
*MAINSTREAM GAS VEL (FT/SEC)	= 1541.6
MACH NUMBER	= 0.73078
REYNOLDS NUMBER	= 1220000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1222.4	TF14	.140	1306.1
TF02	.072	1374.3	TF15	.348	
TF03	.170	1081.1	TF16	.424	1289.0
TF04	.170	1130.3	TF17	.424	
TF05	.170	1072.3	TF18	.424	1158.3
TF06	.262	1103.9	TF19	.502	
TF07	.354	954.95	TF20	.580	1322.6
TF08	.354		TF21	.580	
TF09	.354	986.04	TF22	.580	1247.2
TF10	.446	1006.9	TF23	.820	1539.8
TF11	.540	1022.6			
TF12	.722				
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 128.45
TEMPERATURE (DEG F)	= 157.49
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.6612

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	1065.7	91.438	.9717
S5		88.149	.8359
S4		89.785	.6122
S3	944.49	87.697	.3465
S2		118.90	.1879
S1	1386.9	120.70	.0674
SP	1069.7	132.73	.0000
P1	1263.5	128.77	.0828
P2			.1743
P3		127.98	.3138
P3		127.97	.3138
P4	1076.1	120.40	.5874
P5		108.13	.8257
P6		93.402	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	87.933	337.43
GARDON GAGE 2	.5874	99.975	438.23
PAIRED T/C 1	.3138	108.24	422.23
PAIRED T/C 2	.5874	108.87	486.39
PAIRED T/C 3	.3138	106.31	407.32
PAIRED T/C 4	.5874	115.73	487.67

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 172

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 537.33
INLET AIR FLOW (LBS/SEC)	= 19.422
INLET PRESSURE (PSIA)	= 162.58
FUEL FLOW (LBS/SEC)	= 0.39773

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 59.850
TOTAL PRESSURE MEAS. (PSIA)	= 61.590
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1834.9
CALC. MEAN RAD	= 2119.9
*MAINSTREAM GAS VEL. (FT/SEC)	= 474.69
MAINSTREAM GAS FLOW (LBS/SEC)	= 19.819
MAINSTREAM GAS MACH NO.	= 0.21010
COMBUSTOR EFFICIENCY	= 0.97932

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 44.328
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1627.7
CALC. MEAN RAD	= 1952.6
GAS FLOW (LBS/SEC)	= 23.120
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 29.263
*MAINSTREAM GAS VEL (FT/SEC)	= 1505.2
MACH NUMBER	= 0.72066
REYNOLDS NUMBER	= 570000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1271.9	TF14	.140	1196.5
TF02	.072	1263.9	TF15	.348	
TF03	.170	996.21	TF16	.424	1015.3
TF04	.170	1053.4	TF17	.424	
TF05	.170	1053.9	TF18	.424	957.82
TF06	.262	936.83	TF19	.502	
TF07	.354	827.88	TF20	.580	1141.9
TF08	.354		TF21	.580	
TF09	.354	911.21	TF22	.580	1086.2
TF10	.446	871.13	TF23	.820	1336.9
TF11	.540	848.68			
TF12	.722				
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 65.043
TEMPERATURE (DEG F)	= 132.84
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.91635

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	902.73	42.669	.9717
S5		40.837	.8359
S4		41.676	.6122
S3	847.59	41.194	.3465
S2		57.653	.1879
S1	1320.0	55.883	.0674
SP	963.34	61.771	.0000
P1	1170.4	60.136	.0828
P2			.1743
P3		59.423	.3138
P3		59.485	.3138
P4	856.03	55.867	.5874
P5		50.107	.8257
P6		44.377	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

SENSOR TYPE	PRESSURE SURFACE X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	54.381	173.07
GARDON GAGE 2	.5874	51.908	171.48
PAIRED T/C 1	.3138	66.022	245.36
PAIRED T/C 2	.5874	59.004	232.42
PAIRED T/C 3	.3138	62.892	221.25
PAIRED T/C 4	.5874	61.109	220.38

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 173

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 538.69
INLET AIR FLOW (LBS/SEC)	= 20.252
INLET PRESSURE (PSIA)	= 162.45
FUEL FLOW (LBS/SEC)	= 0.36144

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 59.623
TOTAL PRESSURE MEAS. (PSIA)	= 61.356
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1678.3
CALC. MEAN RAD	= 1913.7
*MAINSTREAM GAS VEL. (FT/SEC)	= 458.14
MAINSTREAM GAS FLOW (LBS/SEC)	= 20.613
MAINSTREAM GAS MACH NO.	= 0.20951
COMBUSTOR EFFICIENCY	= 0.97369

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 44.285
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1494.2
CALC. MEAN RAD	= 1778.1
GAS FLOW (LBS/SEC)	= 23.918
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 30.155
*MAINSTREAM GAS VEL (FT/SEC)	= 1449.8
MACH NUMBER	= 0.71589
REYNOLDS NUMBER	= 620000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1114.9	TF14	.140	1074.5
TF02	.072	1098.4	TF15	.348	
TF03	.170	871.70	TF16	.424	914.63
TF04	.170	940.81	TF17	.424	
TF05	.170	930.01	TF18	.424	861.93
TF06	.262	826.14	TF19	.502	
TF07	.354	733.24	TF20	.580	1017.6
TF08	.354		TF21	.580	
TF09	.354	816.87	TF22	.580	987.76
TF10	.446	764.40	TF23	.820	1194.9
TF11	.540	756.78			
TF12	.722				
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 64.806
TEMPERATURE (DEG F)	= 136.68
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.91643

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	813.81	42.641	.9717
S5		40.995	.8359
S4		41.725	.6122
S3	741.64	41.166	.3465
S2		57.459	.1879
S1	1170.1	55.797	.0674
SP	857.93	61.504	.0000
P1	1028.4	59.615	.0828
P2			.1743
P3		59.183	.3138
P3		59.323	.3138
P4	771.37	55.781	.5874
P5		50.097	.8257
P6		44.132	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	48.145	167.19
GARDON GAGE 2	.5874	46.016	165.61
PAIRED T/C 1	.3138	59.307	236.57
PAIRED T/C 2	.5874	52.577	222.14
PAIRED T/C 3	.3138	56.268	214.33
PAIRED T/C 4	.5874	54.463	212.89

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 174

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 541.41
INLET AIR FLOW (LBS/SEC)	= 20.246
INLET PRESSURE (PSIA)	= 162.47
FUEL FLOW (LBS/SEC)	= 0.35540

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 59.594
TOTAL PRESSURE MEAS. (PSIA)	= 61.354
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1662.8
CALC. MEAN RAD	= 1887.6
*MAINSTREAM GAS VEL. (FT/SEC)	= 460.06
MAINSTREAM GAS FLOW (LBS/SEC)	= 20.602
MAINSTREAM GAS MACH NO.	= 0.21112
COMBUSTOR EFFICIENCY	= 0.97266

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 44.345
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1480.5
CALC. MEAN RAD	= 1755.5
GAS FLOW (LBS/SEC)	= 23.906
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 30.035
*MAINSTREAM GAS VEL (FT/SEC)	= 1441.7
MACH NUMBER	= 0.71415
REYNOLDS NUMBER	= 620000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1114.9	TF14	.140	1078.9
TF02	.072	1113.8	TF15	.348	
TF03	.170	863.01	TF16	.424	901.43
TF04	.170	942.44	TF17	.424	
TF05	.170	929.94	TF18	.424	858.98
TF06	.262	835.33	TF19	.502	
TF07	.354	726.09	TF20	.580	1006.3
TF08	.354		TF21	.580	
TF09	.354	818.54	TF22	.580	986.00
TF10	.446	778.96	TF23	.820	1196.4
TF11	.540	748.48			
TF12	.722				
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 64.894
TEMPERATURE (DEG F)	= 140.70
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.91495

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	818.87	42.631	.9717
S5		41.047	.8359
S4		41.761	.6122
S3	747.52	41.202	.3465
S2		57.499	.1879
S1	1170.4	55.806	.0674
SP	866.50	61.463	.0000
P1	1030.2	59.606	.0828
P2			.1743
P3		59.270	.3138
P3		59.348	.3138
P4	778.12	55.790	.5874
P5		50.135	.8257
P6		44.138	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A BTU/(SEC-FT**2)	HEAT TRANSFER COEF BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	45.996	159.53
GARDON GAGE 2	.5874	43.463	155.59
PAIRED T/C 1	.3138	58.551	237.66
PAIRED T/C 2	.5874	52.395	225.10
PAIRED T/C 3	.3138	55.872	216.73
PAIRED T/C 4	.5874	54.324	215.97

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 175

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 541.64
INLET AIR FLOW (LBS/SEC)	= 19.445
INLET PRESSURE (PSIA)	= 162.50
FUEL FLOW (LBS/SEC)	= 0.40852

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 59.827
TOTAL PRESSURE MEAS. (PSIA)	= 61.609
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1869.7
CALC. MEAN RAD	= 2186.8
*MAINSTREAM GAS VEL. (FT/SEC)	= 483.91
MAINSTREAM GAS FLOW (LBS/SEC)	= 19.853
MAINSTREAM GAS MACH NO.	= 0.21271
COMBUSTOR EFFICIENCY	= 0.97984

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 44.440
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1659.6
CALC. MEAN RAD	= 2013.8
GAS FLOW (LBS/SEC)	= 23.158
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 29.356
*MAINSTREAM GAS VEL (FT/SEC)	= 1511.8
MACH NUMBER	= 0.71846
REYNOLDS NUMBER	= 560000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1272.4	TF14	.140	1195.3
TF02	.072	1260.1	TF15	.348	
TF03	.170	986.57	TF16	.424	1008.5
TF04	.170	1059.4	TF17	.424	
TF05	.170	1058.9	TF18	.424	956.62
TF06	.262	940.74	TF19	.502	
TF07	.354	821.44	TF20	.580	1136.9
TF08	.354		TF21	.580	
TF09	.354	916.85	TF22	.580	1084.4
TF10	.446	872.79	TF23	.820	1342.7
TF11	.540	841.11			
TF12	.722				
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 65.271
TEMPERATURE (DEG F)	= 140.95
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.91534

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	905.66	42.657	.9717
S5		40.963	.8359
S4		41.662	.6122
S3	855.79	41.134	.3465
S2		57.717	.1879
S1	1319.5	55.945	.0674
SP	974.81	61.693	.0000
P1	1170.0	59.867	.0828
P2			.1743
P3		59.349	.3138
P3		59.520	.3138
P4	865.90	55.914	.5874
P5		50.148	.8257
P6		44.242	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

SENSOR TYPE	PRESSURE SURFACE X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	51.501	156.53
GARDON GAGE 2	.5874	48.868	153.01
PAIRED T/C 1	.3138	66.371	238.71
PAIRED T/C 2	.5874	59.394	226.07
PAIRED T/C 3	.3138	63.183	214.79
PAIRED T/C 4	.5874	60.862	211.77

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 176

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 541.97
INLET AIR FLOW (LBS/SEC)	= 42.094
INLET PRESSURE (PSIA)	= 156.02
FUEL FLOW (LBS/SEC)	= 0.87883

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.78
TOTAL PRESSURE MEAS. (PSIA)	= 132.82
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1864.5
CALC. MEAN RAD	= 2169.6
*MAINSTREAM GAS VEL. (FT/SEC)	= 496.21
MAINSTREAM GAS FLOW (LBS/SEC)	= 42.973
MAINSTREAM GAS MACH NO.	= 0.21838
COMBUSTOR EFFICIENCY	= 0.97973

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.790
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1693.9
CALC. MEAN RAD	= 2029.8
GAS FLOW (LBS/SEC)	= 48.881
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 55.698
*MAINSTREAM GAS VEL (FT/SEC)	= 1547.8
MACH NUMBER	= 0.73088
REYNOLDS NUMBER	= 1210000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1214.1	TF14	.140	1374.1
TF02	.072	1411.9	TF15	.348	
TF03	.170	1135.6	TF16	.424	1346.7
TF04	.170	1191.3	TF17	.424	
TF05	.170	1090.9	TF18	.424	1200.5
TF06	.262	1115.2	TF19	.502	
TF07	.354	997.04	TF20	.580	1393.5
TF08	.354		TF21	.580	
TF09	.354	1010.5	TF22	.580	1302.6
TF10	.446	999.85	TF23	.820	1637.5
TF11	.540	1066.4			
TF12	.722				
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 127.04
TEMPERATURE (DEG F)	= 145.79
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.6504

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	1052.0	91.084	.9717
S5		87.697	.8359
S4		89.608	.6122
S3	989.48	87.510	.3465
S2		118.04	.1879
S1	1427.5	120.58	.0674
SP	1061.1	132.85	.0000
P1	1303.4	128.80	.0828
P2			.1743
P3		127.85	.3138
P3		127.82	.3138
P4	1088.4	120.20	.5874
P5		108.04	.8257
P6		92.840	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	87.597	291.04
GARDON GAGE 2	.5874	91.631	325.30
PAIRED T/C 1	.3138	111.12	430.33
PAIRED T/C 2	.5874	113.77	507.28
PAIRED T/C 3	.3138	108.86	415.36
PAIRED T/C 4	.5874	116.96	491.63

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 177

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 541.92
INLET AIR FLOW (LBS/SEC)	= 44.064
INLET PRESSURE (PSIA)	= 155.50
FUEL FLOW (LBS/SEC)	= 0.78749

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.14
TOTAL PRESSURE MEAS. (PSIA)	= 132.26
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1685.6
CALC. MEAN RAD	= 1932.4
*MAINSTREAM GAS VEL. (FT/SEC)	= 481.97
MAINSTREAM GAS FLOW (LBS/SEC)	= 44.851
MAINSTREAM GAS MACH NO.	= 0.22014
COMBUSTOR EFFICIENCY	= 0.97377

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.546
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1536.6
CALC. MEAN RAD	= 1823.6
GAS FLOW (LBS/SEC)	= 50.749
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 57.651
*MAINSTREAM GAS VEL (FT/SEC)	= 1486.2
MACH NUMBER	= 0.72725
REYNOLDS NUMBER	= 1310000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1118.1	TF14	.140	1228.3
TF02	.072	1225.0	TF15	.348	
TF03	.170	1018.0	TF16	.424	1247.7
TF04	.170	1063.3	TF17	.424	
TF05	.170	970.70	TF18	.424	1117.0
TF06	.262	1002.3	TF19	.502	
TF07	.354	904.22	TF20	.580	1261.1
TF08	.354		TF21	.580	
TF09	.354	917.92	TF22	.580	1162.1
TF10	.446	912.22	TF23	.820	1456.8
TF11	.540	970.70			
TF12	.722				
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 126.61
TEMPERATURE (DEG F)	= 146.20
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.6471

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	958.59	91.268	.9717
S5		87.925	.8359
S4		89.356	.6122
S3	903.17	87.272	.3465
S2		117.70	.1879
S1	1266.5	120.11	.0674
SP	966.80	132.27	.0000
P1	1148.7	128.26	.0828
P2			.1743
P3		127.46	.3138
P3		127.32	.3138
P4	999.16	119.86	.5874
P5		107.76	.8257
P6		92.729	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

SENSOR TYPE	PRESSURE SURFACE X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	77.610	288.91
GARDON GAGE 2	.5874	81.456	323.30
PAIRED T/C 1	.3138	100.31	431.02
PAIRED T/C 2	.5874	104.26	519.77
PAIRED T/C 3	.3138	97.382	412.01
PAIRED T/C 4	.5874	106.77	499.11

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 178

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 542.45
INLET AIR FLOW (LBS/SEC)	= 44.052
INLET PRESSURE (PSIA)	= 155.63
FUEL FLOW (LBS/SEC)	= 0.78062

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.17
TOTAL PRESSURE MEAS. (PSIA)	= 132.32
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1676.9
CALC. MEAN RAD	= 1864.5
*MAINSTREAM GAS VEL. (FT/SEC)	= 482.62
MAINSTREAM GAS FLOW (LBS/SEC)	= 44.832
MAINSTREAM GAS MACH NO.	= 0.22085
COMBUSTOR EFFICIENCY	= 0.97326

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.543
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1529.3
CALC. MEAN RAD	= 1760.1
GAS FLOW (LBS/SEC)	= 50.706
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 57.566
*MAINSTREAM GAS VEL (FT/SEC)	= 1484.4
MACH NUMBER	= 0.72768
REYNOLDS NUMBER	= 1320000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1117.3	TF14	.140	1248.5
TF02	.072	1252.8	TF15	.348	
TF03	.170	1023.9	TF16	.424	1254.4
TF04	.170	1058.0	TF17	.424	
TF05	.170	979.50	TF18	.424	1119.5
TF06	.262	1013.3	TF19	.502	
TF07	.354	908.56	TF20	.580	1261.4
TF08	.354		TF21	.580	
TF09	.354	922.24	TF22	.580	1165.1
TF10	.446	929.64	TF23	.820	1460.7
TF11	.540	976.68			
TF12	.722				
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 126.60
TEMPERATURE (DEG F)	= 146.77
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.6487

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	945.02	91.245	.9717
S5		87.808	.8359
S4		89.208	.6122
S3	910.58	87.171	.3465
S2		117.62	.1879
S1	1261.0	120.06	.0674
SP	956.21	132.30	.0000
P1	1140.2	128.36	.0828
P2			.1743
P3		127.34	.3138
P3		127.39	.3138
P4	997.07	119.78	.5874
P5		107.61	.8257
P6		92.723	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	78.590	294.66
GARDON GAGE 2	.5874	82.979	332.66
PAIRED T/C 1	.3138	99.367	432.32
PAIRED T/C 2	.5874	103.74	523.34
PAIRED T/C 3	.3138	97.899	421.49
PAIRED T/C 4	.5874	106.72	509.46

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 179

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 542.89
INLET AIR FLOW (LBS/SEC)	= 42.277
INLET PRESSURE (PSIA)	= 155.75
FUEL FLOW (LBS/SEC)	= 0.87726

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.76
TOTAL PRESSURE MEAS. (PSIA)	= 132.74
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1858.4
CALC. MEAN RAD	= 2169.8
*MAINSTREAM GAS VEL. (FT/SEC)	= 491.65
MAINSTREAM GAS FLOW (LBS/SEC)	= 43.155
MAINSTREAM GAS MACH NO.	= 0.21662
COMBUSTOR EFFICIENCY	= 0.97961

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.633
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1688.5
CALC. MEAN RAD	= 2030.6
GAS FLOW (LBS/SEC)	= 49.085
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 55.945
*MAINSTREAM GAS VEL (FT/SEC)	= 1548.2
MACH NUMBER	= 0.73201
REYNOLDS NUMBER	= 1210000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1221.6	TF14	.140	1373.0
TF02	.072	1416.5	TF15	.348	
TF03	.170	1136.1	TF16	.424	1342.4
TF04	.170	1216.2	TF17	.424	
TF05	.170	1088.6	TF18	.424	1192.3
TF06	.262	1115.7	TF19	.502	
TF07	.354	998.11	TF20	.580	1393.5
TF08	.354		TF21	.580	
TF09	.354	1009.9	TF22	.580	1293.5
TF10	.446	1016.1	TF23	.820	1615.3
TF11	.540	1066.9			
TF12	.722				
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 126.89
TEMPERATURE (DEG F)	= 146.97
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.6540

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	1051.5	91.081	.9717
S5		87.661	.8359
S4		89.449	.6122
S3	995.60	87.335	.3465
S2		118.07	.1879
S1	1424.9	120.59	.0674
SP	1061.6	132.80	.0000
P1	1298.0	128.77	.0828
P2			.1743
P3		127.84	.3138
P3		127.77	.3138
P4	1094.7	120.22	.5874
P5		107.87	.8257
P6		92.932	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

	PRESSURE SURFACE		
SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	85.985	285.26
GARDON GAGE 2	.5874	89.023	315.68
PAIRED T/C 1	.3138	111.14	432.20
PAIRED T/C 2	.5874	113.33	507.83
PAIRED T/C 3	.3138	109.97	424.26
PAIRED T/C 4	.5874	118.16	502.81

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 180

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 543.99
INLET AIR FLOW (LBS/SEC)	= 19.471
INLET PRESSURE (PSIA)	= 162.51
FUEL FLOW (LBS/SEC)	= 0.40176

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 59.809
TOTAL PRESSURE MEAS. (PSIA)	= 61.557
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1851.3
CALC. MEAN RAD	= 2126.0
*MAINSTREAM GAS VEL. (FT/SEC)	= 477.57
MAINSTREAM GAS FLOW (LBS/SEC)	= 19.873
MAINSTREAM GAS MACH NO.	= 0.21067
COMBUSTOR EFFICIENCY	= 0.97949

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 44.351
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1643.3
CALC. MEAN RAD	= 1958.9
GAS FLOW (LBS/SEC)	= 23.174
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 29.280
*MAINSTREAM GAS VEL (FT/SEC)	= 1508.5
MACH NUMBER	= 0.71958
REYNOLDS NUMBER	= 570000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1268.7	TF14	.140	1203.0
TF02	.072	1241.4	TF15	.348	
TF03	.170	1007.5	TF16	.424	1023.7
TF04	.170	1059.5	TF17	.424	
TF05	.170	1060.1	TF18	.424	956.71
TF06	.262	931.73	TF19	.502	
TF07	.354	841.78	TF20	.580	1136.4
TF08	.354		TF21	.580	
TF09	.354	918.07	TF22	.580	1082.3
TF10	.446	864.83	TF23	.820	1343.3
TF11	.540	857.35			
TF12	.722				
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 65.246
TEMPERATURE (DEG F)	= 137.78
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.91680

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	898.15	42.711	.9717
S5		40.952	.8359
S4		41.762	.6122
S3	845.79	41.233	.3465
S2		57.744	.1879
S1	1329.1	55.986	.0674
SP	966.92	61.656	.0000
P1	1176.5	59.908	.0828
P2			.1743
P3		59.425	.3138
P3		59.519	.3138
P4	860.74	55.877	.5874
P5		50.181	.8257
P6		44.236	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	52.256	160.06
GARDON GAGE 2	.5874	49.091	155.41
PAIRED T/C 1	.3138	66.251	243.74
PAIRED T/C 2	.5874	59.298	231.15
PAIRED T/C 3	.3138	63.948	223.49
PAIRED T/C 4	.5874	61.410	220.08

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 181

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 544.01
INLET AIR FLOW (LBS/SEC)	= 20.236
INLET PRESSURE (PSIA)	= 162.57
FUEL FLOW (LBS/SEC)	= 0.35978

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 59.538
TOTAL PRESSURE MEAS. (PSIA)	= 61.323
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1680.4
CALC. MEAN RAD	= 1876.7
*MAINSTREAM GAS VEL. (FT/SEC)	= 465.37
MAINSTREAM GAS FLOW (LBS/SEC)	= 20.596
MAINSTREAM GAS MACH NO.	= 0.21274
COMBUSTOR EFFICIENCY	= 0.97346

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 44.303
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1495.2
CALC. MEAN RAD	= 1743.6
GAS FLOW (LBS/SEC)	= 23.908
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 30.174
*MAINSTREAM GAS VEL (FT/SEC)	= 1448.1
MACH NUMBER	= 0.71482
REYNOLDS NUMBER	= 620000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1126.0	TF14	.140	1071.2
TF02	.072	1085.1	TF15	.348	
TF03	.170	879.19	TF16	.424	917.51
TF04	.170	940.83	TF17	.424	
TF05	.170	940.83	TF18	.424	864.83
TF06	.262	823.85	TF19	.502	
TF07	.354	741.52	TF20	.580	1013.7
TF08	.354		TF21	.580	
TF09	.354	830.80	TF22	.580	988.91
TF10	.446	774.96	TF23	.820	1200.8
TF11	.540	762.08			
TF12	.722				
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 64.915
TEMPERATURE (DEG F)	= 135.66
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.91597

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	809.47	42.555	.9717
S5		40.952	.8359
S4		41.622	.6122
S3	741.68	41.248	.3465
S2		57.495	.1879
S1	1174.0	55.784	.0674
SP	858.26	61.416	.0000
P1	1029.5	59.589	.0828
P2			.1743
P3		59.192	.3138
P3		59.270	.3138
P4	774.65	55.721	.5874
P5		50.088	.8257
P6		44.049	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	45.132	151.73
GARDON GAGE 2	.5874	42.676	148.37
PAIRED T/C 1	.3138	58.911	234.16
PAIRED T/C 2	.5874	52.470	220.82
PAIRED T/C 3	.3138	56.776	217.12
PAIRED T/C 4	.5874	54.973	215.62

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 182

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 544.38
INLET AIR FLOW (LBS/SEC)	= 20.156
INLET PRESSURE (PSIA)	= 162.59
FUEL FLOW (LBS/SEC)	= 0.35192

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 59.526
TOTAL PRESSURE MEAS. (PSIA)	= 61.354
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1660.8
CALC. MEAN RAD	= 1875.6
*MAINSTREAM GAS VEL. (FT/SEC)	= 468.73
MAINSTREAM GAS FLOW (LBS/SEC)	= 20.508
MAINSTREAM GAS MACH NO.	= 0.21521
COMBUSTOR EFFICIENCY	= 0.97231

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 44.313
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1478.1
CALC. MEAN RAD	= 1745.3
GAS FLOW (LBS/SEC)	= 23.790
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 30.008
*MAINSTREAM GAS VEL (FT/SEC)	= 1442.3
MACH NUMBER	= 0.71493
REYNOLDS NUMBER	= 620000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1124.6	TF14	.140	1035.8
TF02	.072	1092.1	TF15	.348	
TF03	.170	876.08	TF16	.424	914.42
TF04	.170	921.82	TF17	.424	
TF05	.170	941.73	TF18	.424	860.56
TF06	.262	824.77	TF19	.502	
TF07	.354	737.15	TF20	.580	
TF08	.354		TF21	.580	
TF09	.354	834.03	TF22	.580	986.42
TF10	.446	771.79	TF23	.820	1192.5
TF11	.540	758.90			
TF12	.722				
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 65.018
TEMPERATURE (DEG F)	= 134.53
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.91536

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	815.32	42.592	.9717
S5		41.036	.8359
S4		41.674	.6122
S3	737.83	41.269	.3465
S2		57.473	.1879
S1	1171.1	55.854	.0674
SP	863.47	61.425	.0000
P1	1031.1	59.582	.0828
P2			.1743
P3		59.217	.3138
P3		59.263	.3138
P4	774.61	55.792	.5874
P5		50.095	.8257
P6		44.149	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	46.172	157.74
GARDON GAGE 2	.5874	43.205	152.62
PAIRED T/C 1	.3138	59.232	240.17
PAIRED T/C 2	.5874	52.580	226.05
PAIRED T/C 3	.3138	56.799	221.16
PAIRED T/C 4	.5874	55.199	220.00

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 183

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 544.50
INLET AIR FLOW (LBS/SEC)	= 19.370
INLET PRESSURE (PSIA)	= 162.74
FUEL FLOW (LBS/SEC)	= 0.40675

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 59.802
TOTAL PRESSURE MEAS. (PSIA)	= 61.572
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1872.5
CALC. MEAN RAD	= 2164.8
*MAINSTREAM GAS VEL. (FT/SEC)	= 482.84
MAINSTREAM GAS FLOW (LBS/SEC)	= 19.776
MAINSTREAM GAS MACH NO.	= 0.21211
COMBUSTOR EFFICIENCY	= 0.97983

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 44.387
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1660.6
CALC. MEAN RAD	= 1992.7
GAS FLOW (LBS/SEC)	= 23.083
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 29.291
*MAINSTREAM GAS VEL (FT/SEC)	= 1513.5
MACH NUMBER	= 0.71915
REYNOLDS NUMBER	= 560000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1268.1	TF14	.140	1144.1
TF02	.072	1248.3	TF15	.348	
TF03	.170	986.03	TF16	.424	1002.4
TF04	.170	1037.7	TF17	.424	
TF05	.170	1058.3	TF18	.424	953.81
TF06	.262	931.67	TF19	.502	
TF07	.354	821.46	TF20	.580	1137.5
TF08	.354		TF21	.580	
TF09	.354	921.42	TF22	.580	1078.9
TF10	.446	864.76	TF23	.820	1331.0
TF11	.540	838.82			
TF12	.722				
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 65.056
TEMPERATURE (DEG F)	= 134.65
TEST VANE COOLANT FLOW (LBS/SEC)	= 0.91877

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	905.56	42.759	.9717
S5		40.954	.8359
S4		41.748	.6122
S3	846.61	41.249	.3465
S2		57.825	.1879
S1	1322.5	56.097	.0674
SP	975.37	61.708	.0000
P1	1175.2	59.833	.0828
P2			.1743
P3		59.474	.3138
P3		59.552	.3138
P4	860.02	56.019	.5874
P5		50.214	.8257
P6		44.191	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

SENSOR TYPE	PRESSURE SURFACE X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	51.013	152.19
GARDON GAGE 2	.5874	47.487	146.25
PAIRED T/C 1	.3138	66.088	237.23
PAIRED T/C 2	.5874	59.162	224.35
PAIRED T/C 3	.3138	62.811	213.66
PAIRED T/C 4	.5874	60.509	210.74

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 184

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 543.58
INLET AIR FLOW (LBS/SEC)	= 42.184
INLET PRESSURE (PSIA)	= 156.30
FUEL FLOW (LBS/SEC)	= 0.86811

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.66
TOTAL PRESSURE MEAS. (PSIA)	= 132.80
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1849.0
CALC. MEAN RAD	= 2141.1
*MAINSTREAM GAS VEL. (FT/SEC)	= 500.11
MAINSTREAM GAS FLOW (LBS/SEC)	= 43.052
MAINSTREAM GAS MACH NO.	= 0.22079
COMBUSTOR EFFICIENCY	= 0.97943

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.602
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1679.0
CALC. MEAN RAD	= 2003.5
GAS FLOW (LBS/SEC)	= 48.986
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 55.794
*MAINSTREAM GAS VEL (FT/SEC)	= 1546.4
MACH NUMBER	= 0.73276
REYNOLDS NUMBER	= 1220000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1211.5	TF14	.140	1340.9
TF02	.072	1406.7	TF15	.348	
TF03	.170	1124.7	TF16	.424	1328.2
TF04	.170	1188.1	TF17	.424	
TF05	.170	1087.1	TF18	.424	1185.4
TF06	.262	1109.2	TF19	.502	
TF07	.354	988.12	TF20	.580	1366.8
TF08	.354		TF21	.580	
TF09	.354	1012.3	TF22	.580	1276.0
TF10	.446	998.25	TF23	.820	1610.4
TF11	.540	1056.5			
TF12	.722				
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 127.02
TEMPERATURE (DEG F)	= 144.63
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.6442

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	1050.6	91.006	.9717
S5		87.535	.8359
S4		89.309	.6122
S3	990.29	87.644	.3465
S2		117.98	.1879
S1	1431.3	120.56	.0674
SP	1058.6	132.68	.0000
P1	1310.5	128.64	.0828
P2			.1743
P3		127.78	.3138
P3		127.83	.3138
P4	1098.6	120.19	.5874
P5		107.83	.8257
P6		92.842	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	84.466	278.06
GARDON GAGE 2	.5874	87.471	307.28
PAIRED T/C 1	.3138	111.63	440.36
PAIRED T/C 2	.5874	114.00	518.33
PAIRED T/C 3	.3138	110.50	429.90
PAIRED T/C 4	.5874	117.89	506.63

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 185

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 543.97
INLET AIR FLOW (LBS/SEC)	= 43.958
INLET PRESSURE (PSIA)	= 156.14
FUEL FLOW (LBS/SEC)	= 0.76555

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.14
TOTAL PRESSURE MEAS. (PSIA)	= 132.30
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1659.5
CALC. MEAN RAD	= 1899.5
*MAINSTREAM GAS VEL. (FT/SEC)	= 481.43
MAINSTREAM GAS FLOW (LBS/SEC)	= 44.724
MAINSTREAM GAS MACH NO.	= 0.22115
COMBUSTOR EFFICIENCY	= 0.97214

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.555
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1512.2
CALC. MEAN RAD	= 1794.6
GAS FLOW (LBS/SEC)	= 50.621
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 57.495
*MAINSTREAM GAS VEL (FT/SEC)	= 1477.4
MACH NUMBER	= 0.72720
REYNOLDS NUMBER	= 1330000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1104.2	TF14	.140	1232.4
TF02	.072	1236.2	TF15	.348	
TF03	.170	1015.0	TF16	.424	1244.8
TF04	.170	1044.1	TF17	.424	
TF05	.170	984.66	TF18	.424	1116.9
TF06	.262	1002.7	TF19	.502	
TF07	.354	899.49	TF20	.580	1258.3
TF08	.354		TF21	.580	
TF09	.354	929.15	TF22	.580	1163.5
TF10	.446	911.49	TF23	.820	1456.7
TF11	.540	966.02			
TF12	.722				
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 126.65
TEMPERATURE (DEG F)	= 147.33
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.6455

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	946.99	91.210	.9717
S5		87.848	.8359
S4		89.311	.6122
S3	903.32	87.428	.3465
S2		117.68	.1879
S1	1264.1	120.20	.0674
SP	957.02	132.31	.0000
P1	1147.1	128.23	.0828
P2			.1743
P3		127.34	.3138
P3		127.33	.3138
P4	1002.1	119.87	.5874
P5		107.61	.8257
P6		92.719	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

SENSOR TYPE	PRESSURE SURFACE X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	75.682	282.96
GARDON GAGE 2	.5874	78.740	313.92
PAIRED T/C 1	.3138	100.68	448.08
PAIRED T/C 2	.5874	104.85	542.37
PAIRED T/C 3	.3138	98.301	431.49
PAIRED T/C 4	.5874	107.09	521.60

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 186

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 544.16
INLET AIR FLOW (LBS/SEC)	= 43.677
INLET PRESSURE (PSIA)	= 155.68
FUEL FLOW (LBS/SEC)	= 0.77854

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.19
TOTAL PRESSURE MEAS. (PSIA)	= 132.30
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1685.0
CALC. MEAN RAD	= 1920.5
*MAINSTREAM GAS VEL. (FT/SEC)	= 481.33
MAINSTREAM GAS FLOW (LBS/SEC)	= 44.455
MAINSTREAM GAS MACH NO.	= 0.21987
COMBUSTOR EFFICIENCY	= 0.97362

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.601
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1534.2
CALC. MEAN RAD	= 1811.1
GAS FLOW (LBS/SEC)	= 50.371
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 57.194
*MAINSTREAM GAS VEL (FT/SEC)	= 1484.6
MACH NUMBER	= 0.72687
REYNOLDS NUMBER	= 1310000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1128.8	TF14	.140	1237.1
TF02	.072	1232.8	TF15	.348	
TF03	.170	1018.8	TF16	.424	1245.8
TF04	.170	1048.5	TF17	.424	
TF05	.170	982.24	TF18	.424	1115.0
TF06	.262	998.58	TF19	.502	
TF07	.354	905.62	TF20	.580	1259.2
TF08	.354		TF21	.580	
TF09	.354	931.27	TF22	.580	1165.6
TF10	.446	907.90	TF23	.820	1460.7
TF11	.540	974.90			
TF12	.722				
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 126.64
TEMPERATURE (DEG F)	= 148.12
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.6449

TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	947.65	91.247	.9717
S5		87.869	.8359
S4		89.364	.6122
S3	895.41	87.387	.3465
S2		117.80	.1879
S1	1258.7	120.20	.0674
SP	957.45	132.31	.0000
P1	1140.2	128.26	.0828
P2			.1743
P3		127.45	.3138
P3		127.37	.3138
P4	999.92	119.86	.5874
P5		107.62	.8257
P6		92.741	.9726

PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

SENSOR TYPE	PRESSURE SURFACE X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	76.665	282.17
GARDON GAGE 2	.5874	80.159	314.66
PAIRED T/C 1	.3138	99.461	427.28
PAIRED T/C 2	.5874	102.76	510.67
PAIRED T/C 3	.3138	97.271	411.88
PAIRED T/C 4	.5874	106.83	497.97

TABLE V

SPECIAL INSTRUMENTATION VANE READING NO. 187

COMBUSTER INLET CONDITIONS

INLET AIR TEMPERATURE (DEG F)	= 544.11
INLET AIR FLOW (LBS/SEC)	= 41.943
INLET PRESSURE (PSIA)	= 156.13
FUEL FLOW (LBS/SEC)	= 0.87676

STATOR INLET CONDITIONS (STA 4)

STATIC PRESSURE	= 128.68
TOTAL PRESSURE MEAS. (PSIA)	= 132.81
TOTAL TEMPERATURE CALC. AVG. (DEG F)	= 1868.5
CALC. MEAN RAD	= 2176.6
*MAINSTREAM GAS VEL. (FT/SEC)	= 501.95
MAINSTREAM GAS FLOW (LBS/SEC)	= 42.820
MAINSTREAM GAS MACH NO.	= 0.22074
COMBUSTOR EFFICIENCY	= 0.97975

STATOR EXIT CONDITIONS

STATIC PRESSURE STN5 MEAS. (PSIA)	= 94.626
TOTAL TEMPERATURE CALC AVG. (DEG F)	= 1697.7
CALC. MEAN RAD	= 2036.2
GAS FLOW (LBS/SEC)	= 48.716
TOTAL GAS FLOW (INCL TOTAL COOLANT FLOW)	= 55.554
*MAINSTREAM GAS VEL (FT/SEC)	= 1552.8
MACH NUMBER	= 0.73277
REYNOLDS NUMBER	= 1210000.

THIN FILM THERMOCOUPLES

SENSOR TYPE	PRESSURE SURFACE X(P)/L(P)	TEMP DEG F	SENSOR TYPE	SUCTION SURFACE X(S)/L(S)	TEMP DEG F
TF01	.036	1212.8	TF14	.140	1367.1
TF02	.072	1382.4	TF15	.348	
TF03	.170	1126.6	TF16	.424	1334.4
TF04	.170	1157.4	TF17	.424	
TF05	.170	1095.7	TF18	.424	1193.3
TF06	.262	1094.6	TF19	.502	
TF07	.354	989.57	TF20	.580	1375.5
TF08	.354		TF21	.580	
TF09	.354	1017.1	TF22	.580	1296.1
TF10	.446	977.16	TF23	.820	1620.8
TF11	.540	1057.9			
TF12	.722				
TF13	.816				

*BASED ON CALCULATED AVG TEMPERATURE

TEST VANE COOLING AIR INLET CONDITIONS

STATIC PRESSURE (PSIA)	= 127.04
TEMPERATURE (DEG F)	= 148.34
TEST VANE COOLANT FLOW (LBS/SEC)	= 1.6492

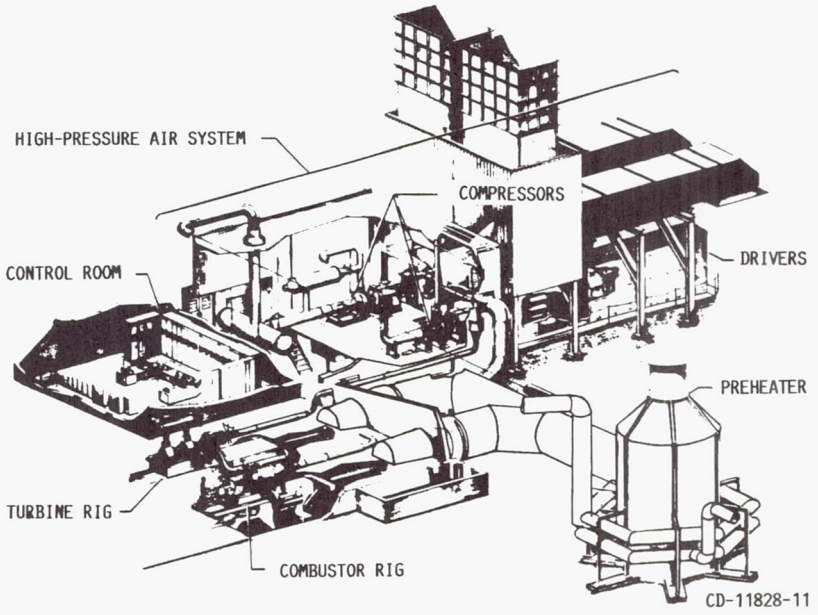
TEST VANE METAL TEMPERATURES AND GASPATH PRESSURES

VANE POS.	GAS SIDE TEMP (DEG F)	GAS SIDE VANE SURF PRESS (PSIA)	X(S)/L(S) X(P)/L(P)
S6	1053.8	90.939	.9717
S5		87.594	.8359
S4		89.430	.6122
S3	988.32	87.485	.3465
S2		118.06	.1879
S1	1422.6	120.66	.0674
SP	1067.5	132.78	.0000
P1	1298.6	128.71	.0828
P2			.1743
P3		127.80	.3138
P3		127.81	.3138
P4	1097.5	120.30	.5874
P5		107.90	.8257
P6		92.915	.9726

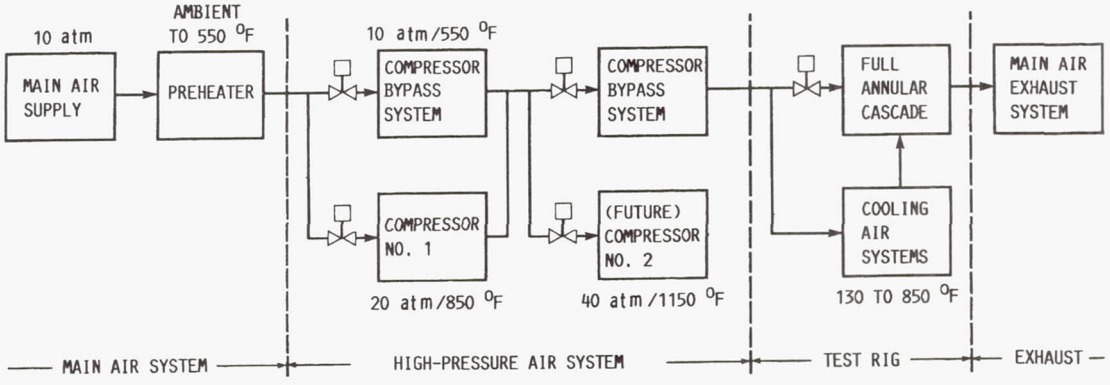
PAIRED THERMOCOUPLES AND HEAT FLUX GAGES

PRESSURE SURFACE

SENSOR TYPE	X/L(P)	HEAT FLUX Q/A	HEAT TRANSFER COEF
		BTU/(SEC-FT**2)	BTU/(HR-FT**2-DEG F)
GARDON GAGE 1	.3138	88.111	289.40
GARDON GAGE 2	.5874	92.786	325.90
PAIRED T/C 1	.3138	111.49	429.51
PAIRED T/C 2	.5874	113.50	502.40
PAIRED T/C 3	.3138	109.47	416.40
PAIRED T/C 4	.5874	116.67	489.92



(a) Perspective view.



(b) Flow schematic.

Figure 1.—Hot Section Facility.

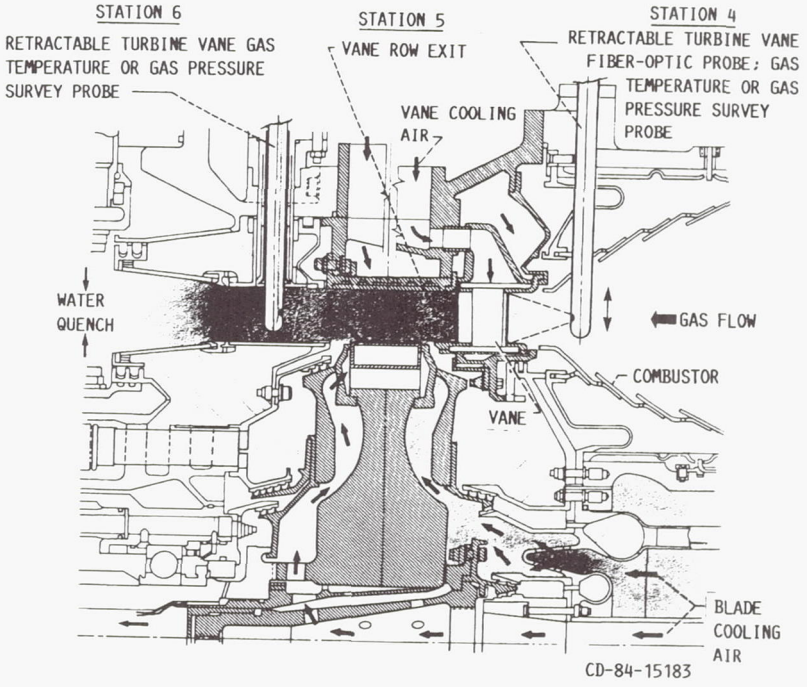
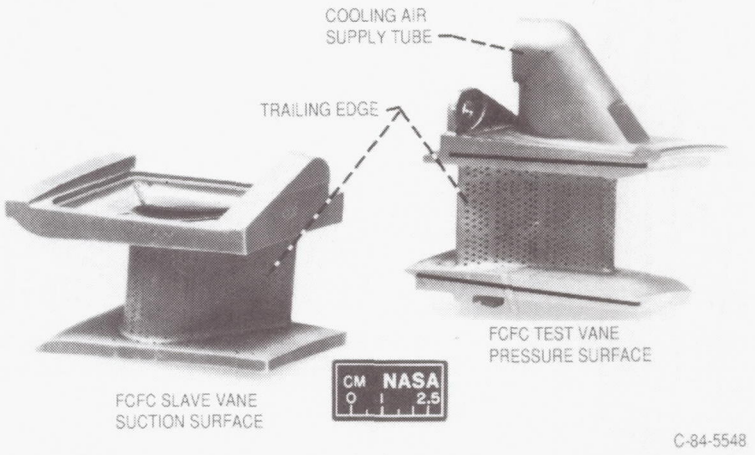
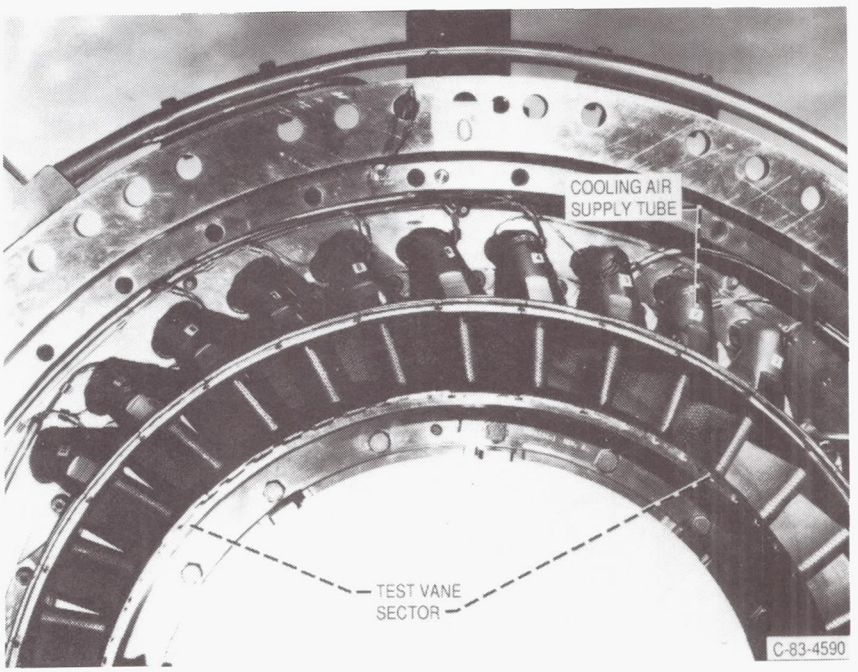


Figure 2.—Schematic cross-section of the turbine rig showing the combustor and the vane row. (Note the turbine disk in place with the blades removed.)

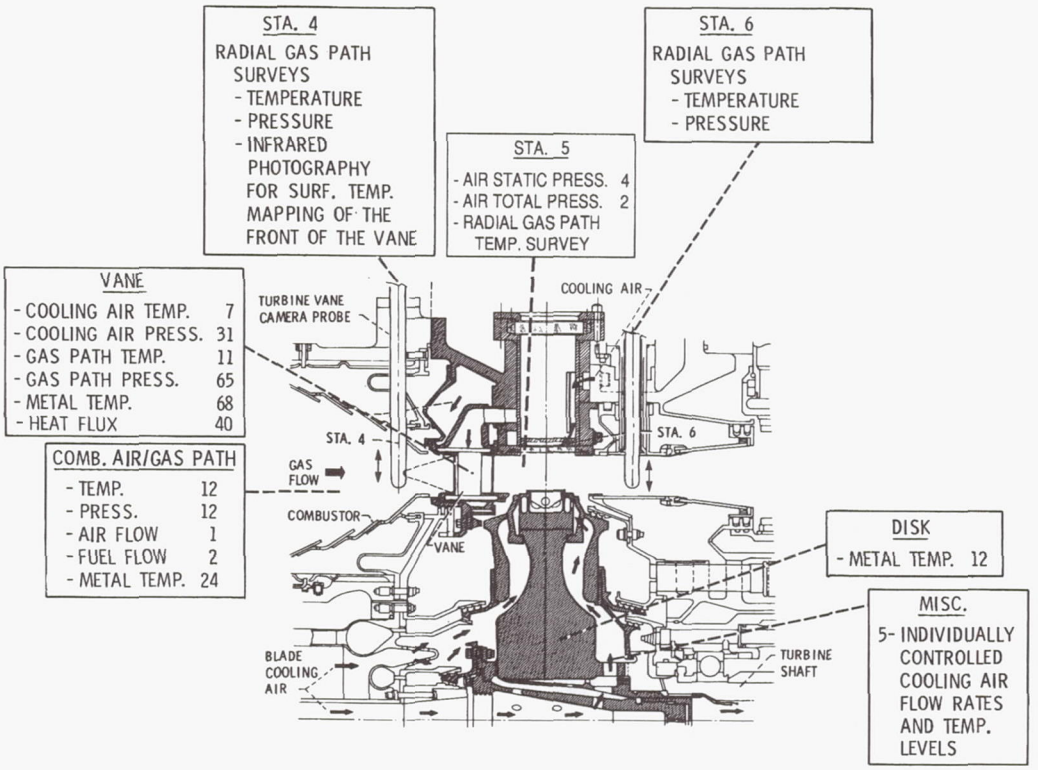


(a) Slave vane, shown in partially machined form, and test vane, shown in finished form.

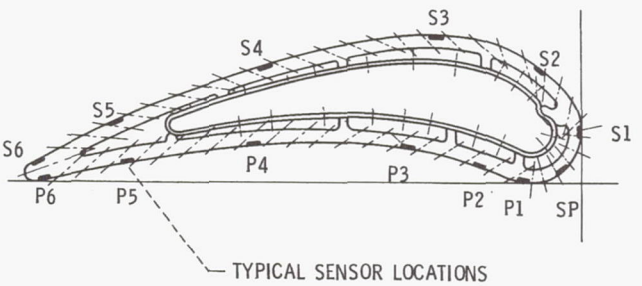


(b) Partial assembly of FCFC stator case showing test vane sector.

Figure 3.—Full coverage film cooled (FCFC) vanes for the turbine rig.



(a) Summary of rig instrumentation. (Note that blades are removed from turbine disk.)



(b) Full coverage film cooled stator vane airfoil cross section showing typical sensor locations. (Dashed lines denote film-cooling holes.)

Figure 4.—Turbine rig research instrumentation.

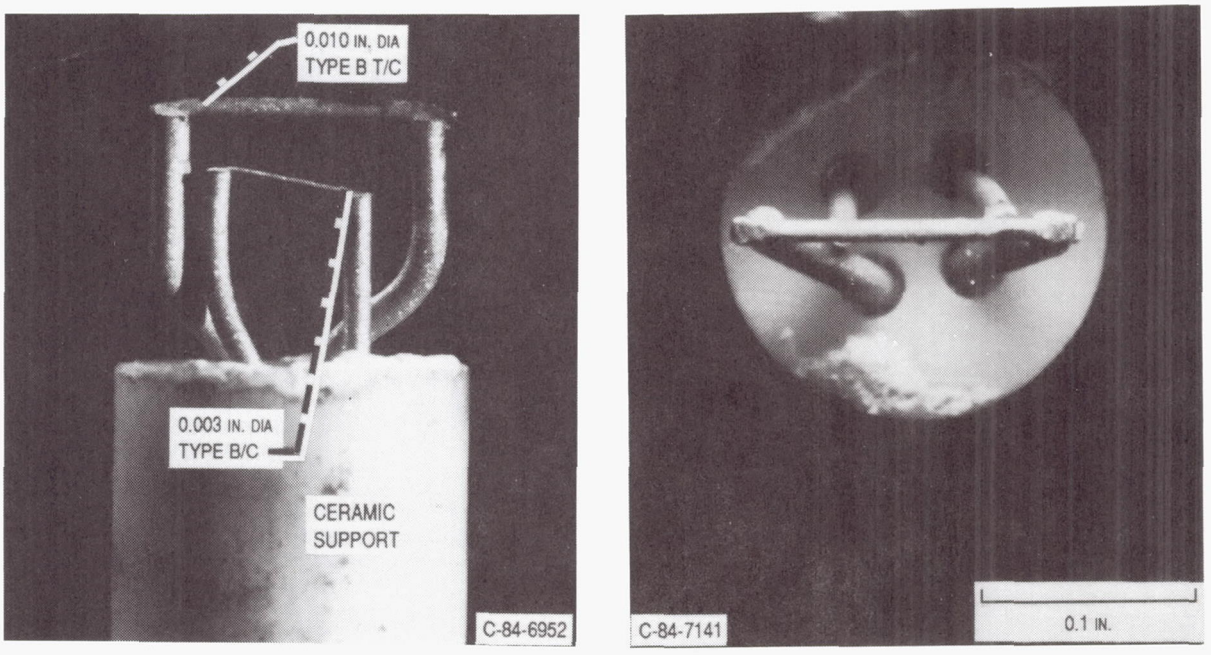


Figure 5.—Dual-element gas temperature probe.

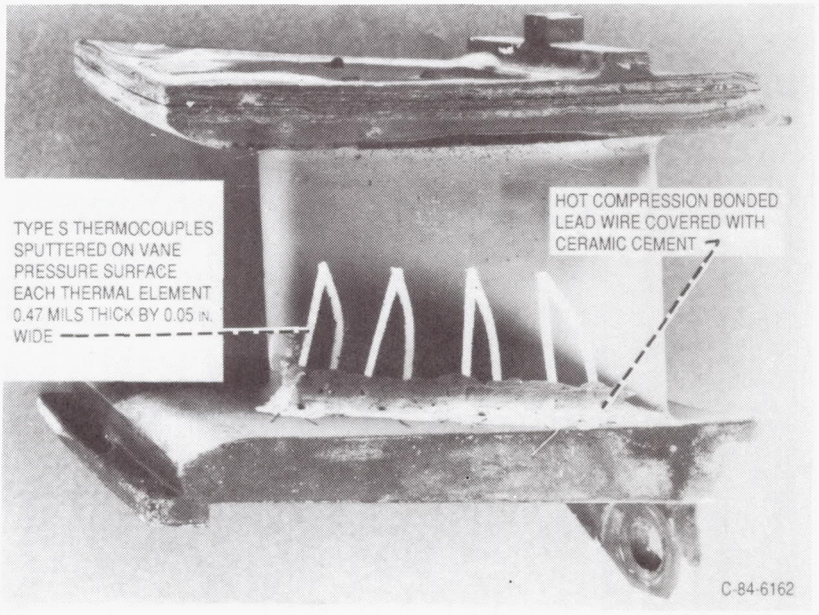


Figure 6.—Typical thin-film thermocouple installation on an airfoil pressure surface. Lead wires have not been attached.

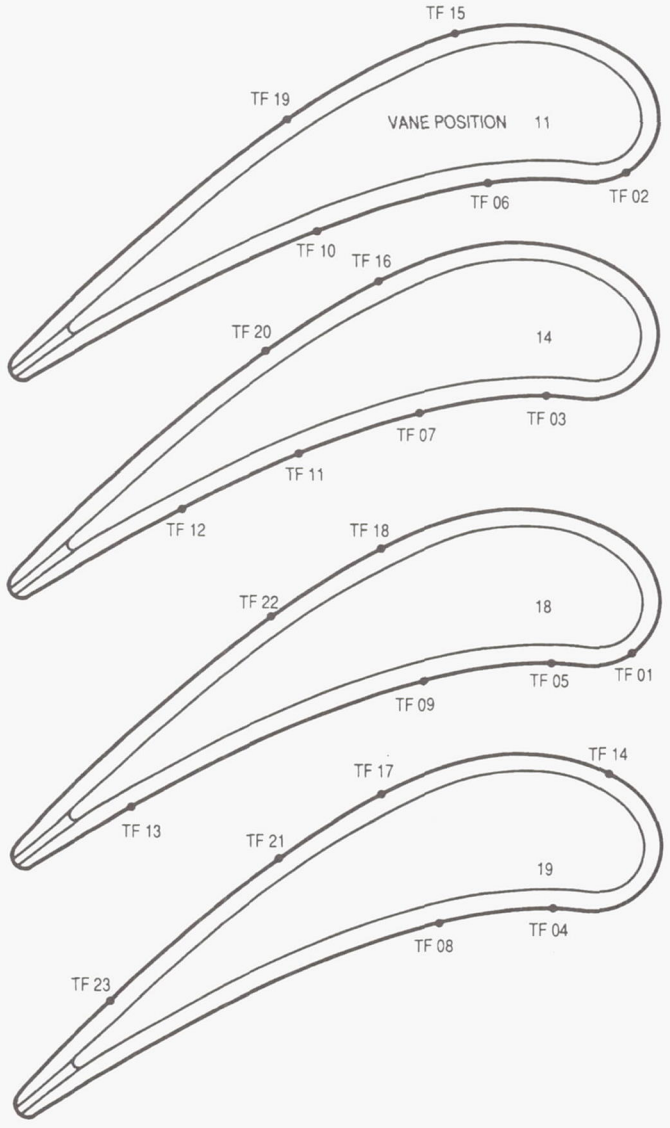


Figure 7.—Thin-film thermocouple distribution on vanes.

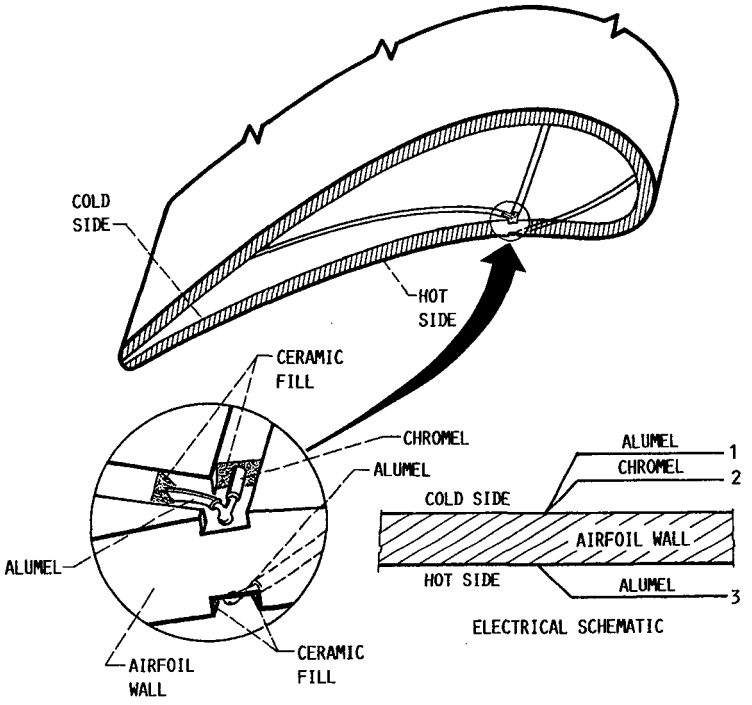


Figure 8.—Schematic of paired-thermocoupled heat-flux sensor used in turbine rig. (Wires 1 and 3 measure sensor output; wires 1 and 2 measure reference temperature.)

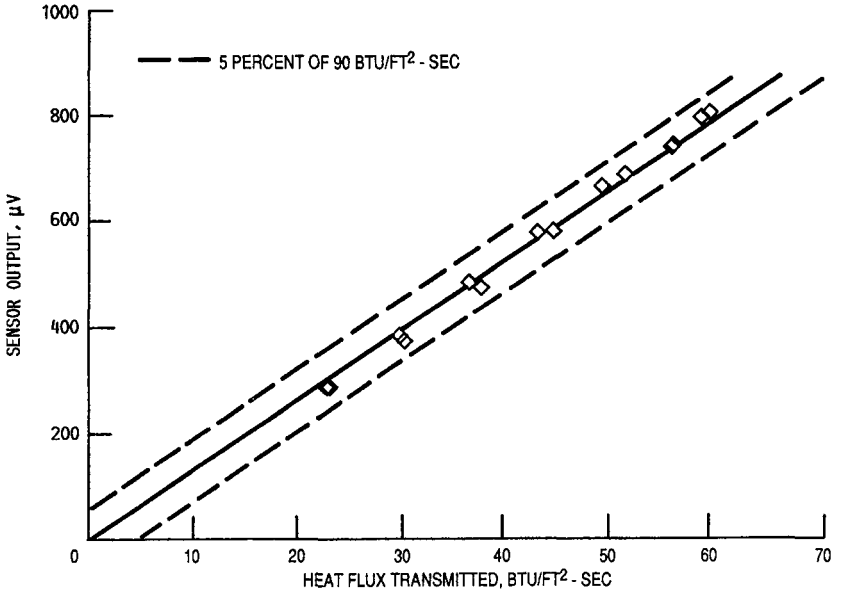


Figure 9.—Calibration data for paired-thermocouple heat-flux sensors installed in vanes for turbine rig.

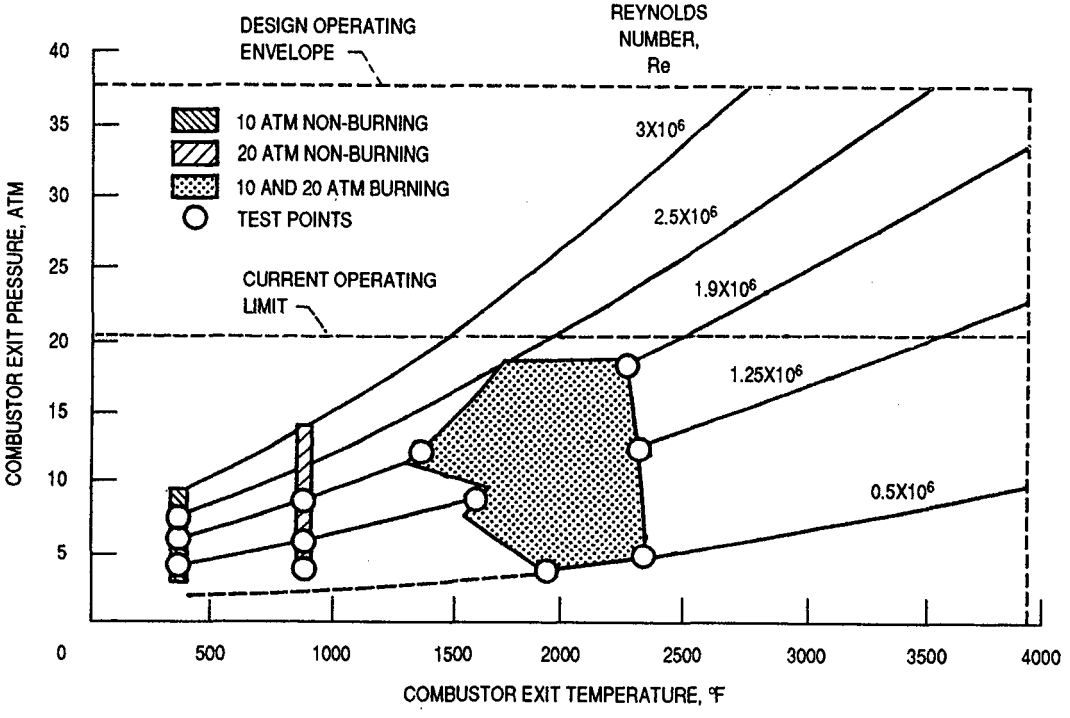
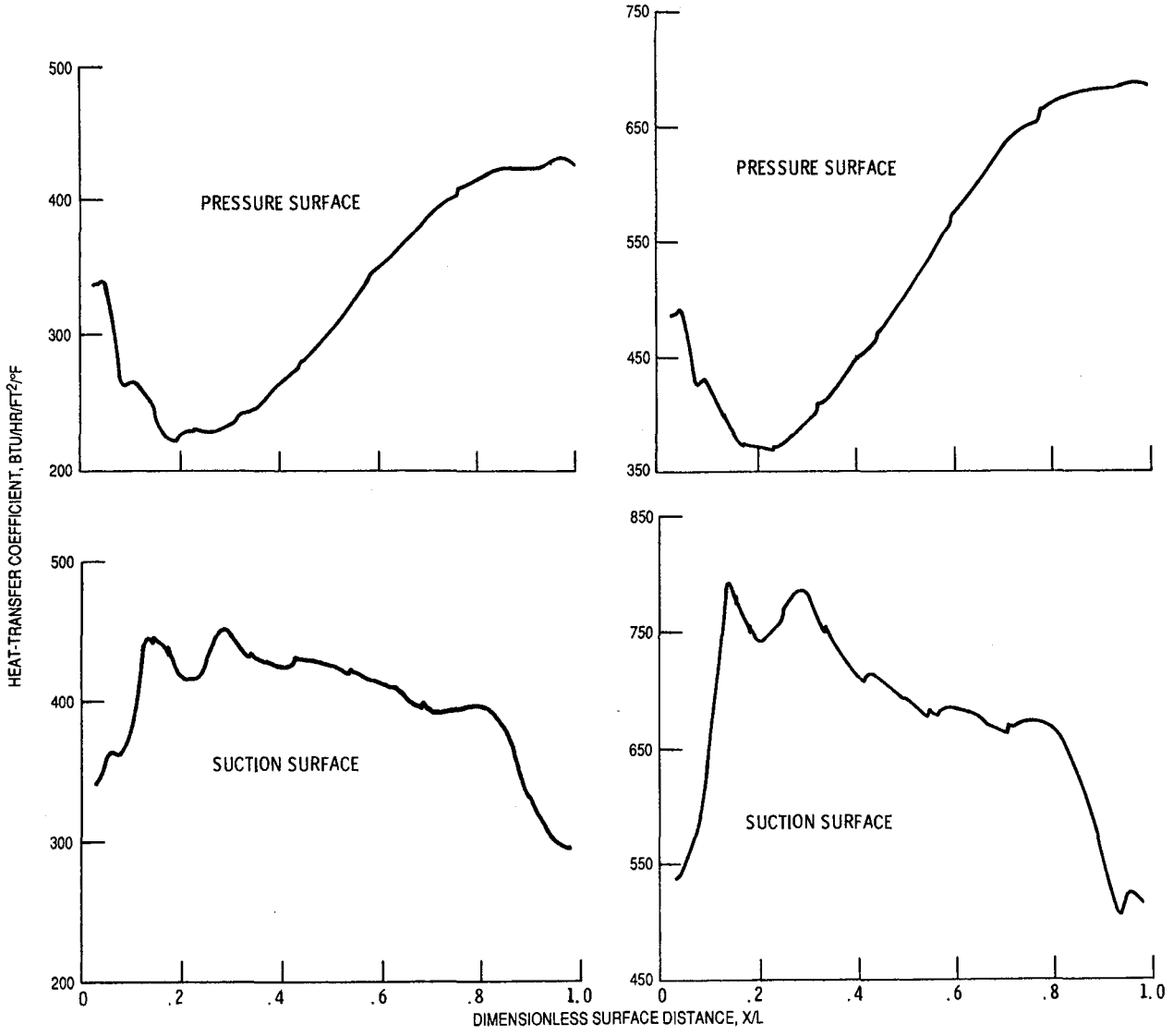


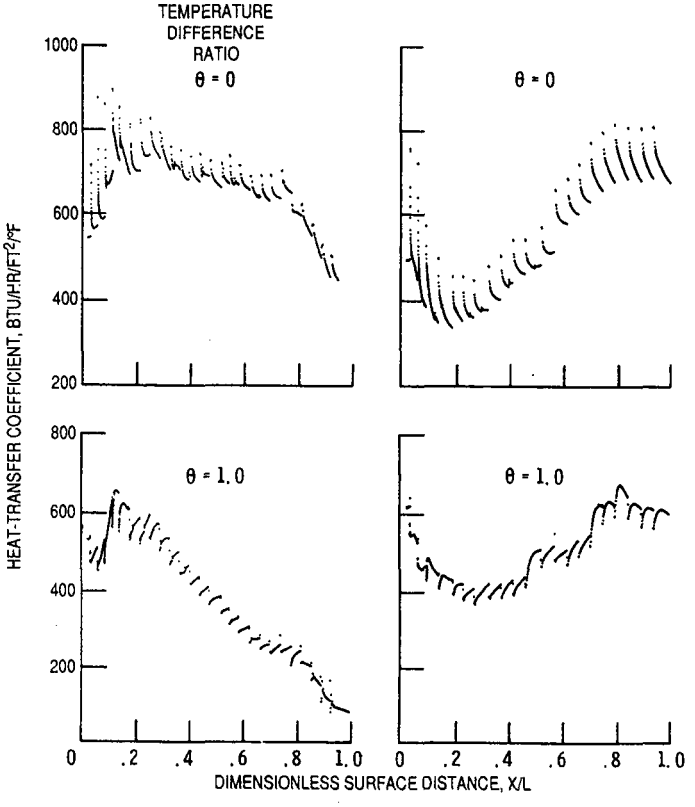
Figure 10.—Turbine rig simulation of real engine operating conditions. Reynolds number is based on vane exit conditions and the vane chord.



(a) Reynolds number, 1.25×10^6.

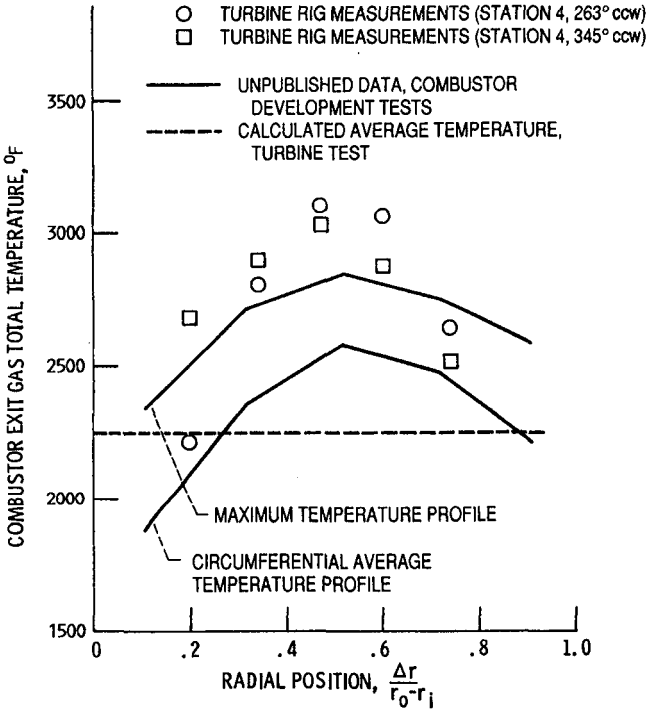
(b) Reynolds number, 1.9×10^6.

Figure 11.—Unblown heat-transfer coefficients for method 1 calculated by the STAN5 boundary-layer code.

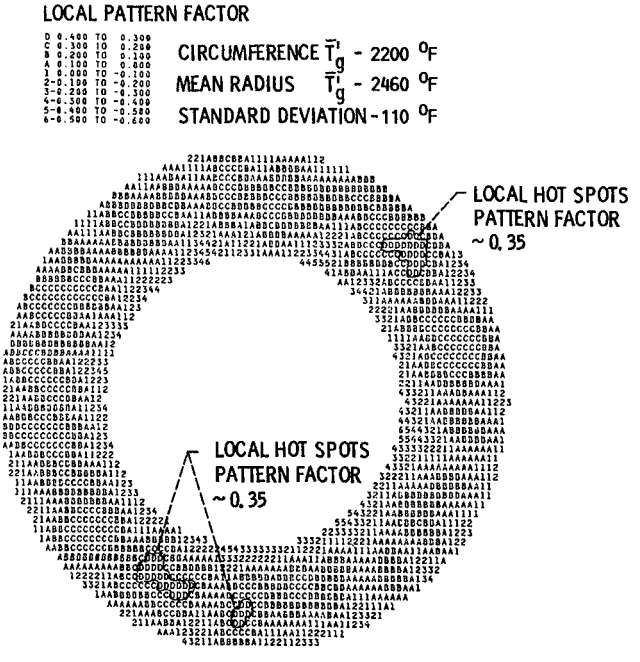


(a) Suction surface. (b) Pressure surface.

Figure 12.—Film-cooled heat-transfer coefficients for method 2 calculated by the STANCOOL boundary-layer code.

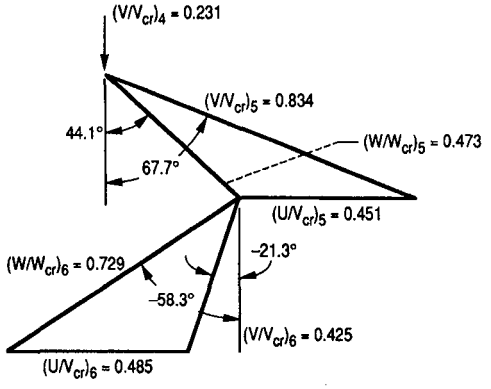


(a) Two circumferential locations are compared with unpublished data from combustor development tests (case 11).

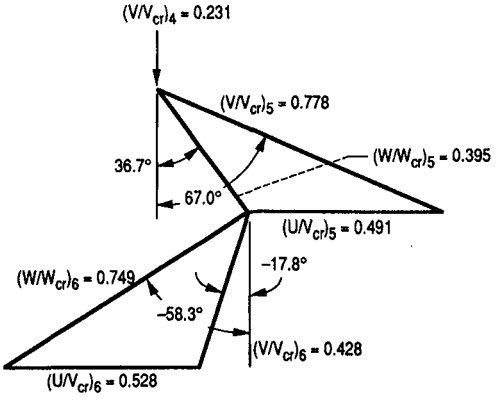


(b) Circumferential distribution of local pattern factor from combustor development tests. Conditions similar to case 11. The hot spots are highlighted.

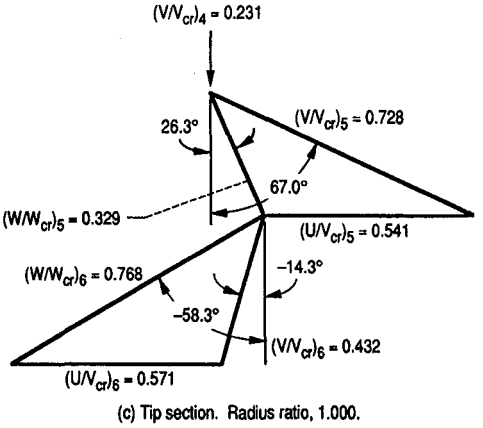
Figure 13.—Typical gas total temperature profile at station 4 (combustor exit).



(a) Hub section. Radius ratio, 0.850.



(b) Mean section. Radius ratio, 0.925.



(c) Tip section. Radius ratio, 1.000.

Figure 14.—Turbine design velocity diagram.

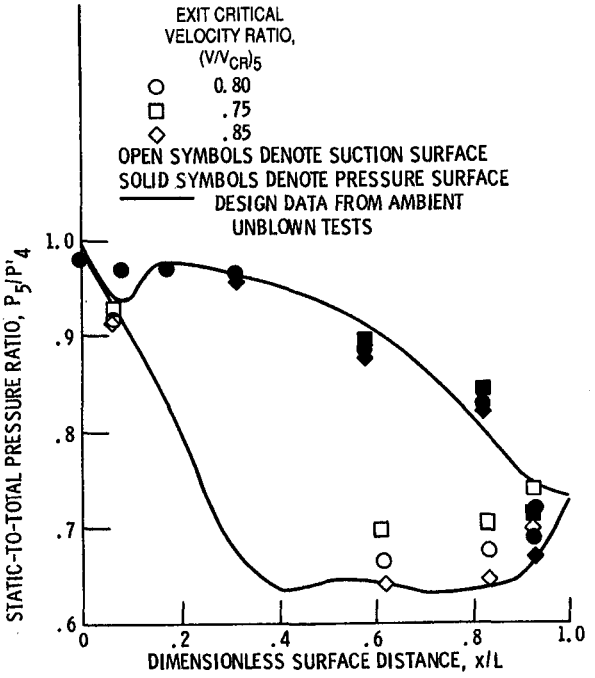


Figure 15.—Surface static-to-total pressure distribution variation with exit critical velocity ratio. Reynolds number, Re, 1.90×10^6.

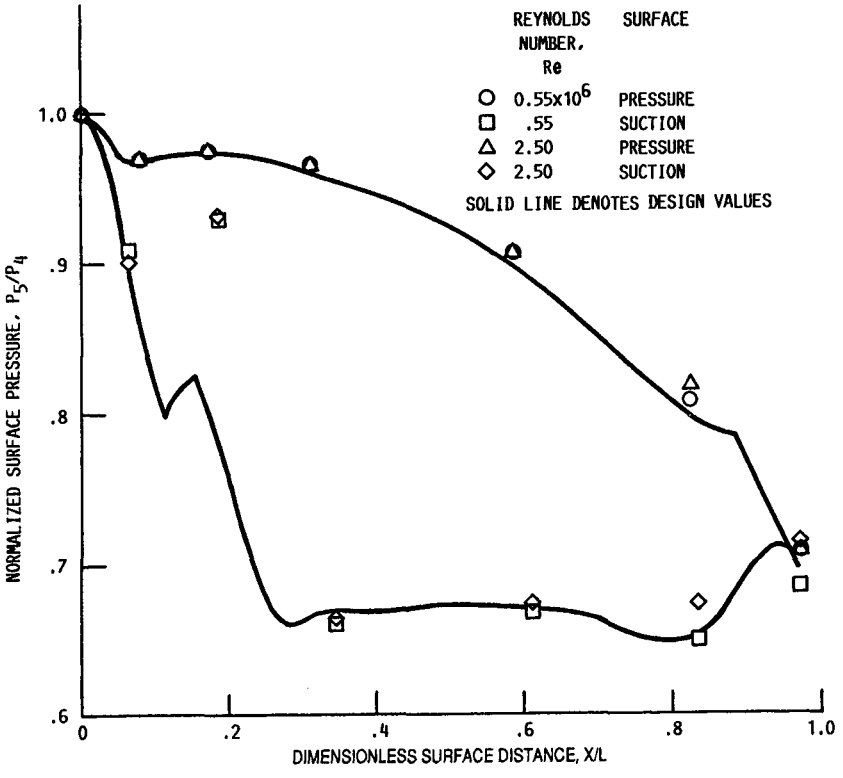


Figure 16.—Surface static-to-total pressure distribution variation with Reynolds number.

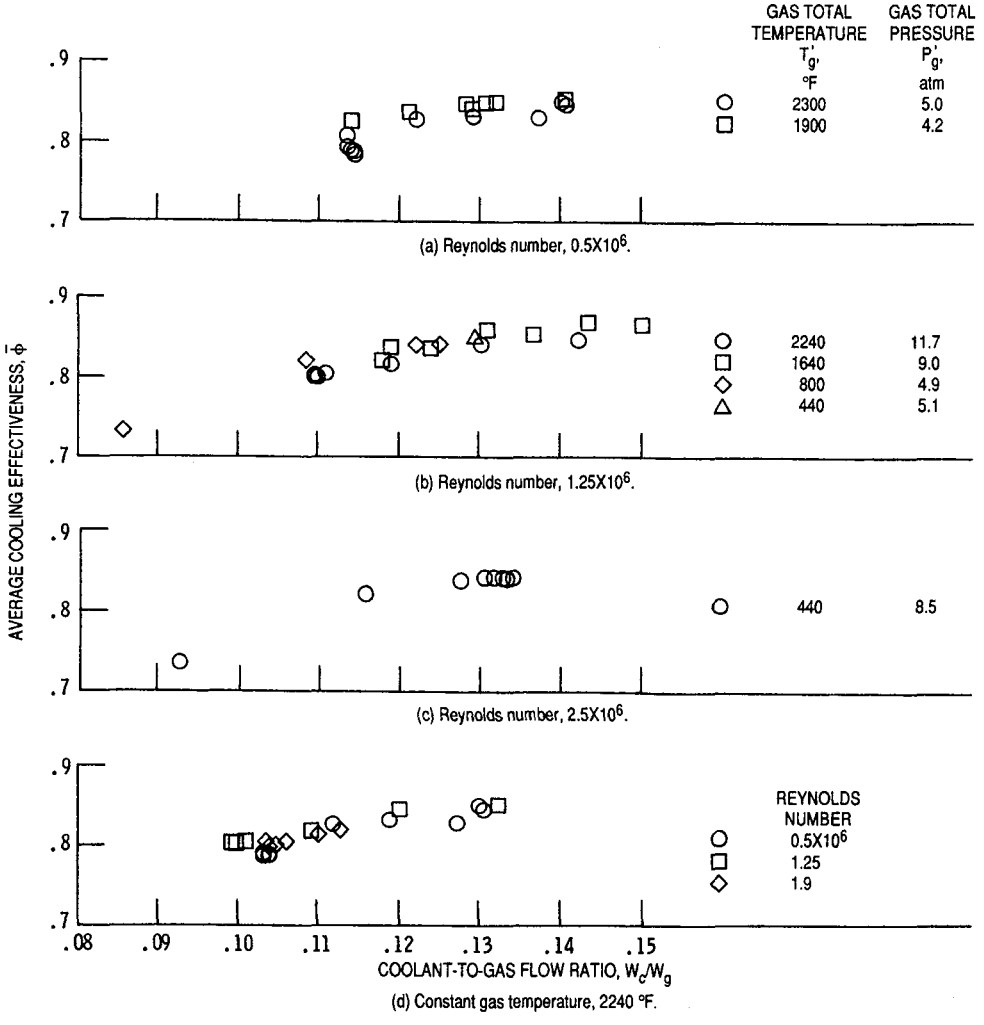


Figure 17.—Thermal scaling results from the full coverage film cooled vane tests.

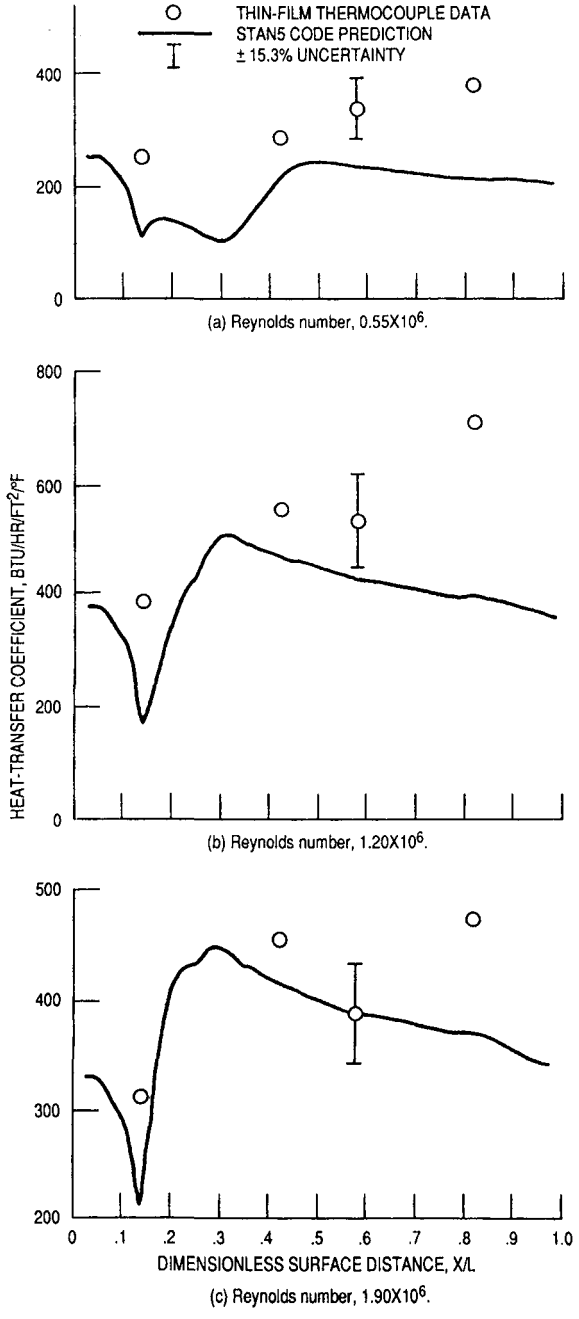


Figure 18.—Experimental heat-transfer coefficients compared with STAN5 code predictions for airfoil suction surface.

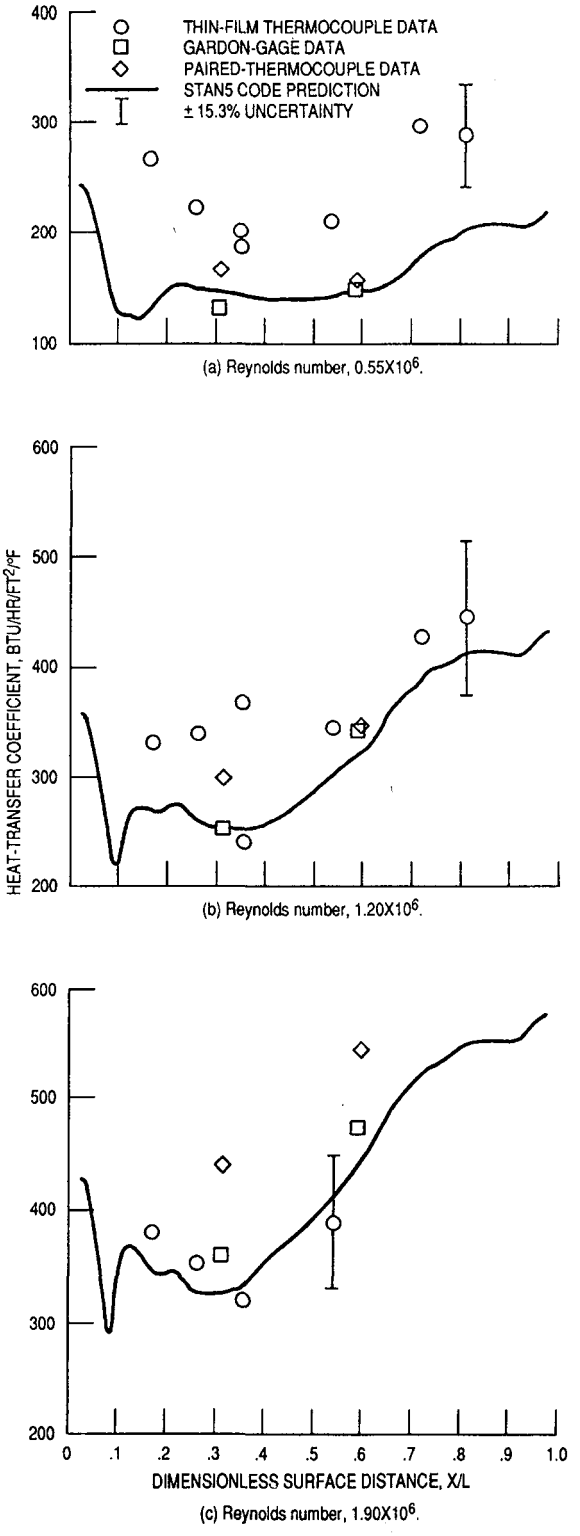


Figure 19.—Experimental heat-transfer coefficients compared with STAN5 code predictions for airfoil pressure surface.

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13. ABSTRACT (*Maximum 200 words*)

Experimental data from the turbine Hot Section Facility are presented and discussed. These data include full-coverage film-cooled airfoil results as well as special instrumentation results obtained at simulated real engine conditions. Local measurements of airfoil wall temperature, airfoil gas-path static-pressure distribution, and local heat-transfer coefficient distributions are presented and discussed. In addition, measured gas and coolant temperatures and pressures are presented. These data are also compared with analyses from Euler and boundary-layer codes.

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