

N-BODY MONTE CARLO SIMULATION
OF SPECIFIC LUNAR ORBITER MISSIONS

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1. INTRODUCTION AND SUMMARY

A successful Lunar Orbiter mission will provide the United States with extended knowledge of the moon, essential to future manned exploration. Through high resolution photographic exploration of the lunar surface, the Lunar Orbiter will aid in the selection of possible landing areas for the Apollo manned lunar landing missions. Through precision tracking of the Lunar Orbiter about the moon, information obtained pertaining to the lunar gravitational potential model will aid in the design and guidance of future missions. Obviously the success of a mission as complex as Lunar Orbiter will depend on the satisfactory performance of every system and subsystem involved. Although individual performance dispersion values can be established from separate systems tests, estimates of the total mission performance dispersions are not readily attainable prior to the conclusion of many actual missions. The Monte Carlo method provides a practical approach to the problem. It is the device of studying an artificial stochastic model, or mathematical simulation of the actual complex physical process, to compute the desired statistics, rather than studying the actual process itself. The advantage of employing the Monte Carlo method to compute statistics for the Lunar Orbiter is that many sample missions may be generated rapidly and relatively economically prior to any actual flight. The statistical significance of the Monte Carlo results is primarily dependent on two factors: the accuracy and degree of sophistication of the mathematical model employed, and the number of samples generated. The task of developing and demonstrating an n-body precision integration Monte Carlo simulation for specific Lunar Orbiter missions was assigned to TRW Systems as Task Order No. 4 under Master Agreement NAS1-4605. The purpose of this document is to present the results of that study.

The objectives of Task Order No. 4 were:

- To adapt a precision integration trajectory computation program to simulate all phases of a specific Lunar Orbiter mission, from translunar injection through two finite burn midcourse maneuvers, the hyperbolic lunar deboost maneuver, and the retro maneuver establishing the photographic orbit, through completion of the mission after ten passes over the specified photographic target.

- To target the nominal deboost and retro maneuvers for the specified reference mission.
- To simulate 30 dispersed trajectory samples using the Monte Carlo method, each sample representing a possible dispersion about the reference mission, from translunar injection through the tenth pass over the photographic target in the final lunar orbit.
- To present the requested trajectory and mission parameter statistics in the most meaningful way.

The technical approach employed in achieving these objectives is briefly reviewed in Section 2, together with a discussion of the study ground rules, assumptions, and limitations. Section 3 presents the statistical results obtained from the 30 samples, for each of the finite burn maneuvers and the ten photographic passes. The study conclusions are summarized in Section 4. Additional data are provided in each of two Appendices. Appendix A presents the tracking data obtained from the nominal trajectory for the three specified DSIF stations. Also included are the tracking model errors and covariance matrices used in generating the Monte Carlo samples. Appendix B summarizes the significant data from the reference trajectory.

A final statement regarding the scope of the Task Order Number 4 results is included here for emphasis. In generating the 30 Monte Carlo samples, system malfunctions were not considered, therefore the results contained in this report do not include the probability of such malfunctions.

2. DISCUSSION

Detailed descriptions of the technical approach employed in meeting each of the Task Order No. 4 objectives are contained in the coordination reports published during the first phase of the study. Since the primary purpose of this report is to present the study results, only a brief review of the procedures is included for completeness. The reader is referred to the respective coordination reports (References 1 through 5) for a more comprehensive review of these procedures.

2.1 N-Body Monte Carlo Simulation Adaptation

In order to apply the Monte Carlo method to statistical analysis of the specified Lunar Orbiter mission, it was necessary to adapt the Space Navigation Simulation (SNS) program to accurately simulate: the guidance, control, and propulsion systems for each of the spacecraft maneuvers; all central and n-body gravitational accelerations, including a generalized lunar potential model; and, radar tracking of the spacecraft trajectory from three specified DSIF stations. The following paragraphs present a brief description of this simulation, and the reference Lunar Orbiter mission.

Figure 1 illustrates schematically the phases of the Lunar Orbiter mission specified for Task Order No. 4, indicating the number and designation of each of the critical events. The reference mission is initiated at translunar injection (1). The geocentric inertial state vector and injection covariance matrix for the specified S-110 trajectory are presented in Reference 6, as well as in Appendix B to this report. The first finite burn midcourse maneuver is initiated (2) at a fixed time of 15 hours post-injection, and is terminated (3) when the guidance computed sensed velocity is achieved. The second finite burn midcourse maneuver is initiated (4) at a fixed time of 70 hours and also terminated (5) on the guidance sensed velocity increment. The finite burn deboost sequence is initiated (6) at a fixed time of 89 hours and 10 minutes post-injection. The deboost sequence includes commanding the desired inertial spacecraft thrust axis attitude prior to burn initiation. The exact time of the burn initiation is dependent on the deboost guidance solution for each sample mission, and is terminated (7) when the guidance computed sensed velocity is

achieved, thus injecting the spacecraft into the intermediate lunar orbit. The finite burn retro maneuver is initiated (8) at the fifth apocynthion passage in the intermediate orbit, and terminated (9) when the guidance computed sensed velocity is achieved. The resulting final orbit is then propagated through 10 passes over the photographic target, although the simulation has the capability to propagate this orbit for any other specified number of orbits.

2.1.1 Propulsion Model

The characteristics of the propulsion model simulated for each of the finite burn maneuvers, as specified in Reference 6, are:

Spacecraft weight at translunar injection = 850 pounds

Weight flow rate (constant) = 0.358 pounds per second

Specific impulse = 280 seconds

Derived thrust (constant) = 100.24 pounds

2.1.2 Control System

During each finite burn maneuver the characteristics of a perfect three axis control system are simulated by assuming a point mass spacecraft. The thrust axis is aligned along the inertial direction determined by the guidance law described below.

2.1.3 Guidance Law

The guidance law simulated for this study is defined in detail in References 1 and 4, and is summarized briefly here for completeness. The basic guidance philosophy employed for each maneuver is that which attempts to correct the dispersed trajectory back to the "nominal" or reference mission. Applying this philosophy to each maneuver within the constraint of a constant thrust attitude control system, the following guidance laws were established:

- Midcourse Maneuvers: Compute inertial right ascension (α) and declination (δ), and the value of integrated sensed acceleration (ΔV_g) required to null three components of terminal miss ($\Delta B \cdot T$, $\Delta B \cdot R$, ΔAT), where:

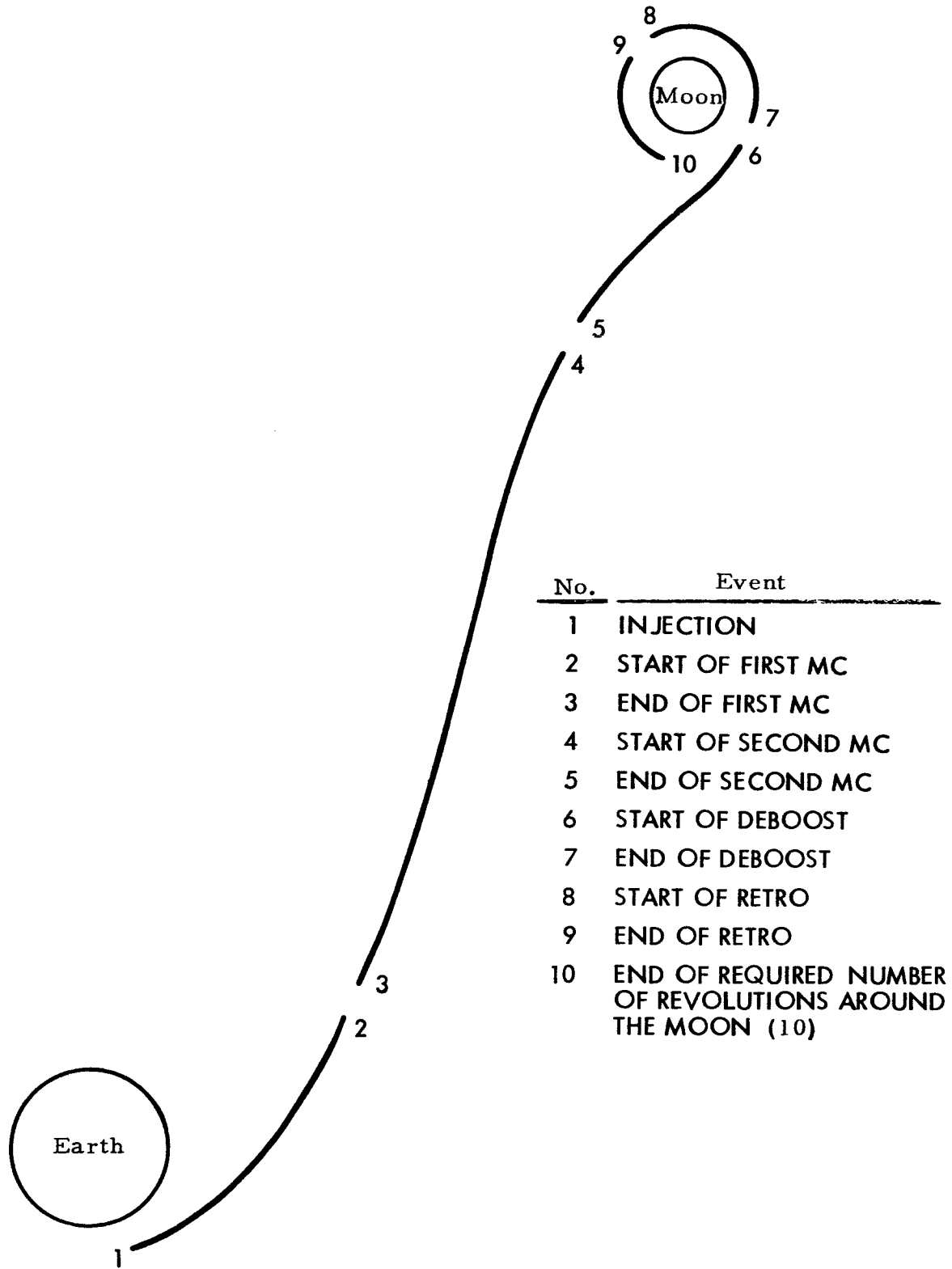


Figure 1. Sequence of Events

$\Delta B \cdot T, \Delta B \cdot R =$ error in components of selenocentric impact parameter vector (B)

$\Delta AT =$ error in epoch of pericyynthion (arrival time)

- Deboost Maneuver: Compute thrust initiation time (t_s), pitch attitude (θ_p), yaw attitude (θ_y), and V required to null four intermediate orbit parameter errors ($\Delta r_a, \Delta i, \Delta \omega, \Delta \omega$), at the 5th apocynthion after deboost.
- Retro Maneuver: Compute θ_p, θ_y , and ΔV_s required to null three final orbit parameters at the first pericyynthion after retro, $\Delta r_p, \Delta i, \Delta \omega$.

2.1.4 Tracking Error Model

The tracking error model specified for Task Order No. 4 is described in detail in Reference 4. Because of the characteristics of the Lunar Orbiter mission, two simplifying assumptions were made as ground rules for this study. The first assumption is that of a "linear" tracking model; that is, the normal matrices computed from tracking the nominal reference trajectory are the same as those for any actual (perturbed) sample. The second assumption simplifies the Monte Carlo tracking model in that it eliminates the need to propagate normal matrices across the free-flight segments of the actual trajectory, or to propagate covariance matrices across the powered flight segments. This simplification assumes that adequate tracking estimates may be computed prior to each of the four maneuvers without the use of a priori information. This is a very good assumption for the Lunar Orbiter mission because of the long tracking arcs prior to each maneuver.

The radar random noise values assumed for the Goldstone, Woomera, and Madrid DSIF stations are:

Range = 66 feet - 1 sigma

Azimuth = 0.06 degrees - 1 sigma

Elevation = 0.06 degrees - 1 sigma

Range Rate = 0.066 feet per second - 1 sigma

Appendix A presents the radar covariance matrices computed from the reference trajectory for each tracking epoch, prior to each maneuver. The radar observational data are also summarized for each free-flight phase of the reference trajectory.

2.1.5 Maneuver Execution Error Model

The error model assumed for each of the finite burn maneuvers simulated is a modified Gates model (Reference 7). The values of the error sources as specified in References 8 and 9 are:

$$\text{Pointing Error} = 0.397 \text{ degrees} - 1 \text{ sigma}$$

$$\text{Scale Factor Error} = 0.039 \text{ percent} - 1 \text{ sigma}$$

$$\text{Velocity Cutoff Resolution Error} = 0.019 \text{ meters per second} - 1 \text{ sigma}$$

2.1.6 Lunar Gravitational Model

A fundamental requirement of the Monte Carlo program adapted for this study was the ability to simulate a generalized lunar gravitational potential model. In order to meet this requirement the recursive formulation of the generalized potential function as contained in the SNS Program, was used. The values of the respective coefficients are included here for completeness.

$$\begin{aligned} \phi = \frac{GM_M}{R} & \left[1 + \frac{1}{2} J_{20} \left(\frac{R_M}{R} \right)^2 (1 - 3 \sin^2 \psi) + 3 J_{22} \left(\frac{R_M}{R} \right)^2 \right. \\ & \cos^2 \psi \cos 2\lambda - \frac{1}{2} J_{30} \left(\frac{R_M}{R} \right)^3 \sin \psi (5 \sin^2 \psi - 3) - \frac{1}{8} J_{40} \\ & \left. \left(\frac{R_M}{R} \right)^4 (35 \sin^4 \psi - 30 \sin^2 \psi + 3) \right] \end{aligned}$$

R = selenocentric radius vector, km

ψ = selenographic latitude, deg

λ = selenographic longitude, deg

R_M = radius of moon, 1738.09 km

GM_M = 4902.7779 km³/sec²

J_{20} = 2.048×10^{-4}

J_{22} = 2.30×10^{-5}

J_{30} = 8.63×10^{-5}

J_{40} = -2.628×10^{-4}

} Goudas Model

2.2 Nominal Trajectory Targeting

Prior to performing the Monte Carlo analysis of the Lunar Orbiter mission specified for this study, it was necessary to compute the deboost and retro maneuver characteristics required to achieve the final mission objectives as stated in Reference 8. Given the reference S-110 translunar trajectory lunar approach hyperbolic orbit, and given the desired final orbit constraints, the targeting involved solving for values of the control parameters satisfying this two point boundary value problem. The final orbit constraints specified in Reference 8 are:

Final orbit apocynthion altitude = 1850 kilometers

Final orbit pericynthion altitude = 46 kilometers

Photographic target at first pericynthion of final orbit at ascending node:

Selenographic latitude = 0.0 degrees

Selenographic longitude = 0.0 degrees

Inclination of final orbit = 13 degrees

Retro into final orbit during 5th intermediate orbit

Reference 3 presents a detailed description of the targeting procedure as applied to the reference trajectory, including equations and logic diagrams of each step of the procedure. Appendix B presents the nominal trajectory data in detail, however, the characteristics of the deboost and retro maneuvers are summarized in the following Table for easy reference.

NOMINAL DEBOOST AND
RETRO MANEUVER CHARACTERISTICS

<u>Parameter</u>	<u>Nominal Value</u>	
	<u>Deboost</u>	<u>Retro</u>
Epoch: Date	27 June 1966	27 June 1966
Hours, Minutes, Seconds, GMT	$4^{\text{h}} 0^{\text{m}} 29.05^{\text{s}}$	$20^{\text{h}} 0^{\text{m}} 29.04^{\text{s}}$
Thrust Vector Right Ascension (deg)	24.44	125.75
Thrust Vector Declination (deg)	-15.90	31.33
Sun Look Angle (ψ) (deg)	79.64	27.45
Burn Duration (sec)	563.7	18.3
Sensed Velocity Increment (ft/sec)	2441.51	91.61
Propellant Weight Expended (lb)	201.8	6.6

2.3 Dispersed Monte Carlo Sample Trajectory

The procedures and ground rules involved in generating random dispersed trajectory samples for this study using the Monte Carlo method are described in detail in References 1 and 4. Only the key steps in the procedure are outlined here for completeness. The following steps were followed for each of the 30 samples generated for this study.

1. Select random injection error vector using Random Vector Generator (RVG) subroutine and injection covariance matrix supplied in Reference 6.
2. Add error vector to nominal injection state vector and integrate "actual" trajectory to first midcourse time.
3. Select random tracking error vector using RVG and tracking covariance matrix for epoch of first midcourse.
4. Add tracking error vector to actual state vector at first midcourse epoch and propagate this "estimate" state vector to the selenocentric impact parameter plane.
5. Compute components of estimated miss vector for uncorrected trajectory, evaluate variational equations and compute precise linear first estimate of impulsive first midcourse velocity vector required to null the miss.
6. Compute thrust vector attitude (α , δ) and finite burn sensed velocity increment (ΔV_s) required to achieve impulsive midcourse velocity vector.
7. Iterate through finite burn to selenocentric impact parameter plane, systematically varying α , δ , and ΔV_s to null all three components of terminal miss, $\Delta B \cdot T$, $\Delta B \cdot R$, $\Delta A T$ referenced to the nominal trajectory. Converge iteration to desired tolerances, $\epsilon B \cdot T$, $\epsilon B \cdot R$, $\epsilon A T$.
8. Execute converged finite burn, initiating with "actual" pre-first midcourse state vector, simulating random execution errors obtained from the RVG subroutine.

- 9-15. Propagate "actual" first midcourse burnout state vector to epoch of second midcourse and repeat steps 3 through 8.
16. Propagate "actual" second midcourse burnout state vector to epoch of nominal deboost time, select random tracking error vector using RVG and tracking covariance matrix for that epoch.
17. Add tracking error vector to actual and execute a perfect finite burn deboost maneuver using nominal thrust attitude and sensed velocity increment, initiating from "estimate" state vector.
18. Propagate estimate deboost burnout state vector to epoch of 5th apocynthion and evaluate errors in the specified intermediate orbit parameters (i, Ω, ω, r_a).
19. Iterate on values of $t_s, \theta_p, \theta_y,$ and ΔV_s to null error components: $\Delta i, \Delta \Omega, \Delta \omega,$ and Δr_a . Converge iteration to desired tolerances.
20. Execute finite burn maneuver using converged values of the control parameters with random execution errors, initiating at the "actual" state corresponding to the epoch of converged burn initiation time.
- 21-22. Propagate the actual deboost burnout state vector to epoch of 5th apocynthion of the intermediate orbit and repeat step 17.
23. Propagate the estimate retro burnout state vector to epoch of first final orbit pericynthion and evaluate errors from the nominal final orbit parameters (r_p, ω, i).
24. Iterate on values of $\theta_p, \theta_y,$ and ΔV_s to null errors in $\Delta r_p, \Delta \omega,$ and Δi . Converge iteration to desired tolerances.
25. Execute finite burn maneuver using converged values of the control parameters with random execution errors, initiating at the "actual" state corresponding to the epoch of 5th apocynthion of the intermediate orbit.
26. Propagate the actual retro burnout state vector through 10 passes over the photographic target latitude.

2.4 Presentation of Mission Statistics

The following describes briefly the results of a coordination activity performed early in the study to determine the most meaningful way to present Monte Carlo results for the Lunar Orbiter mission. This coordination activity is documented in References 11 and 12 and the results are briefly summarized below.

Table 1 lists the critical events of the Lunar Orbiter mission at which trajectory and mission parameter statistics have been evaluated. Table 2 provides a key to the specific quantities which are presented for each of the mission events. Finally, Table 3 presents definitions of the parameters as represented in Section 3.

TABLE 1

SUMMARY OF EVENT TIMES FOR REPRESENTATION
OF MISSION STATISTICS

<u>Event No.</u>	<u>Description</u>
1	Translunar Injection
2	Start First Midcourse Burn
3	End First Midcourse Burn
4	Start Second Midcourse Burn
5	End Second Midcourse Burn
6	Start Deboost Burn
7	End Deboost Burn
8	Start Retro Burn
9	End Retro Burn
10	First Target Pass
11	Second Target Pass
12	Third Target Pass
13	Fourth Target Pass
14	Fifth Target Pass
15	Sixth Target Pass
16	Seventh Target Pass
17	Eighth Target Pass
18	Ninth Target Pass
19	Tenth Target Pass

TABLE 2. STATISTICAL OUTPUT KEY

PARAMETER	EVENT NUMBER																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
STATE VECTOR (\vec{X})	2																		
TIME FROM INJECTION (t)		1			1														
SEMI-MAJOR AXIS (a)	1																		
ECCENTRICITY (e)	1																		
INCLINATION (i)	1																		
NODE (Ω)	1																		
ARGUMENT OF PERIAPSIS (ω)	1																		
MEAN ANOMALY (M)	1																		
WEIGHT (WT)			1		1		1		1										
SUN LOOK ANGLE (ψ)			1		1		1		1										
ACXI (α)			1		1		1		1										
DLXI (δ)			1		1		1		1										
SENSED VELOCITY (ΔVS)			1		1		1		1										
TOTAL FUEL USED TO DATE (ΔWT)			1,3		1,3		1,3		1,3										
V/H										1									
RESOLUTION (Q)										1									
LONGITUDE										1									
ALTITUDE (h)										1									
SIDE OVERLAP (OS)										1									
MUTUAL EARTH-SUN VISIBILITY										1									

1 = SAMPLES, MEAN, VARIANCE, CUMULATIVE DISTRIBUTION FUNCTION;

2 = SAMPLES, MEAN, COVARIANCE MATRIX;

3 = HISTOGRAMS

TABLE 3

DEFINITION OF PARAMETERS

Parameter	Definition	Unit
Cartesian State Vector	Components (X, Y, Z, \dot{X} , \dot{Y} , \dot{Z}) of the spacecraft's position and velocity vector; in an ECI (true equinox and equator of date) coordinate system for events 1-5, and the selenographic coordinate system for events 6-19. (See Reference 12 for definition of coordinate systems).	km, km/sec
Time From Trans-Lunar Injection	Time elapsed since translunar injection to the present event time.	sec
Classical Orbital Elements	Osculating orbital elements (a, e, i, Ω , ω , M) of the central body conic (Earth for events 1-5; Moon for events 6-19) of the spacecraft.	km, deg
Spacecraft Weight	Weight of spacecraft at present event time.	lbs
Sun Look Angle	Angle between the spacecraft body axis (thrust vector) and a vector from the spacecraft to the Sun.	deg
ACXI, DLXI	Geocentric inertial right ascension (ACXI) and declination (DLXI) of the spacecraft's body axis; referenced to the true equinox and equator of date.	deg
Sensed Velocity Magnitude	Magnitude of the velocity gained during a finite burn maneuver; the integral of sensed acceleration over the burn duration.	ft/sec
Total Fuel Used	Weight at translunar injection minus weight at current event time	lbs

<u>Parameter</u>	<u>Definition</u>	<u>Unit</u>
V/H	Relative spacecraft centered angular motion of photographic target (for image motion compensation system).	rad/sec
Resolution	Photographic resolution, computed as a linear function of altitude (1-meter resolution at 46 kilometers).	m
Longitude	Selenographic longitude of the spacecraft at the present event time.	deg
Altitude	Altitude of the spacecraft above a spherical moon.	km
Side Overlap	Transverse distance of common photographic coverage between two successive orbit passes measured in a plane normal to the lunar surface and in a direction normal to the selenographic orbit trace.	km
Mutual Earth-Sun Visibility Time	Total continuous time per orbit during which the spacecraft is simultaneously illuminated by the sun and visible to the earth.	sec

TRANSLUNAR INJECTION
SAMPLE STATE VECTORS

X	Y	Z	VX	VY	VZ
0.55311637E 04	0.34757364E 04	0.58996513E 03	-0.42129226E 01	0.83734869E 01	-0.56265055E 01
0.55215026E 04	0.34979496E 04	0.61013358E 03	-0.42102974E 01	0.84139388E 01	-0.55644708E 01
0.55349612E 04	0.34719887E 04	0.60220966E 03	-0.42356420E 01	0.83911306E 01	-0.55839541E 01
0.55248550E 04	0.34941994E 04	0.62110274E 03	-0.42157415E 01	0.84133920E 01	-0.55544647E 01
0.55386956E 04	0.34600095E 04	0.60196818E 03	-0.42562272E 01	0.83728384E 01	-0.56006972E 01
0.55419092E 04	0.34691757E 04	0.59955050E 03	-0.42248143E 01	0.83731083E 01	-0.56089115E 01
0.55261683E 04	0.34875324E 04	0.59554674E 03	-0.42009299E 01	0.83629617E 01	-0.56411065E 01
0.55373389E 04	0.34724311E 04	0.59609523E 03	-0.42092869E 01	0.83714677E 01	-0.56202761E 01
0.55098695E 04	0.34950080E 04	0.61358803E 03	-0.42507229E 01	0.84252440E 01	-0.55452169E 01
0.55404644E 04	0.34879599E 04	0.62488456E 03	-0.42149550E 01	0.84160681E 01	-0.55243086E 01
0.55431657E 04	0.34738442E 04	0.62498556E 03	-0.42021588E 01	0.83720018E 01	-0.56030528E 01
0.55359150E 04	0.34659383E 04	0.60532277E 03	-0.42421706E 01	0.83876677E 01	-0.55910480E 01
0.55680439E 04	0.34426626E 04	0.62721088E 03	-0.42258975E 01	0.83513792E 01	-0.56172922E 01
0.55240764E 04	0.34821574E 04	0.61964422E 03	-0.42346736E 01	0.83846866E 01	-0.55997781E 01
0.55364735E 04	0.34755813E 04	0.59103888E 03	-0.42139743E 01	0.83724747E 01	-0.56201196E 01
0.55370501E 04	0.34756573E 04	0.59120455E 03	-0.42074297E 01	0.83892245E 01	-0.56040581E 01
0.55258024E 04	0.34700868E 04	0.61084435E 03	-0.42432460E 01	0.83939381E 01	-0.55841710E 01
0.55471420E 04	0.34631985E 04	0.62556764E 03	-0.42290814E 01	0.83808292E 01	-0.55869067E 01
0.55160860E 04	0.35107007E 04	0.59572356E 03	-0.42022439E 01	0.84068797E 01	-0.55728775E 01
0.55232337E 04	0.34965532E 04	0.60239293E 03	-0.42209385E 01	0.84093688E 01	-0.55670518E 01
0.55462621E 04	0.34500255E 04	0.64074618E 03	-0.42868868E 01	0.83940809E 01	-0.55375513E 01
0.55335465E 04	0.34864858E 04	0.63320305E 03	-0.42265718E 01	0.84111030E 01	-0.55387080E 01
0.55151086E 04	0.34995192E 04	0.55872083E 03	-0.42017988E 01	0.83857619E 01	-0.56431340E 01
0.55423575E 04	0.34622499E 04	0.62293143E 03	-0.42440395E 01	0.83984072E 01	-0.55621912E 01
0.55090731E 04	0.34846714E 04	0.63312522E 03	-0.42603786E 01	0.83849099E 01	-0.56040146E 01
0.54964942E 04	0.35228366E 04	0.57217679E 03	-0.42038151E 01	0.84144800E 01	-0.55870460E 01
0.55342133E 04	0.34761976E 04	0.59666237E 03	-0.42264607E 01	0.83933637E 01	-0.55870609E 01
0.55408362E 04	0.34530570E 04	0.61617673E 03	-0.42341509E 01	0.83541713E 01	-0.56444316E 01
0.55302133E 04	0.34850407E 04	0.59537134E 03	-0.42000085E 01	0.83780902E 01	-0.56147751E 01
0.55601875E 04	0.34496236E 04	0.57039223E 03	-0.41969432E 01	0.83673152E 01	-0.56237883E 01

TRANSLUNAR INJECTION

SAMPLE MEAN OF GEOCENTRIC STATE VECTOR
 5.5324069E 03 3.4780716E 03 6.0628285E 02 -4.2244800E 00 8.3881252E 00 -5.5919652E 00

SAMPLE COVARIANCE MATRIX OF GEOCENTRIC STATE VECTOR

	1	2	3	4	5	6
1	2.2096552E 02	-2.3558621E 02	7.3275861E 01	-2.2359914E-02	-1.6217672E-01	-6.7618534E-02
2	-2.3558621E 02	3.4110345E 02	-1.1558621E 02	1.6365840E-01	2.3868534E-01	1.3631465E-01
3	7.3275861E 01	-1.1558621E 02	3.8207758E 02	-2.5622979E-01	4.8828125E-02	3.4230199E-01
4	-2.2359914E-02	1.6365840E-01	-2.5622979E-01	4.5907908E-04	-4.3145541E-05	-2.6124099E-04
5	-1.6217672E-01	2.3868534E-01	4.8828125E-02	-4.3145541E-05	3.8094356E-04	5.2090349E-04
6	-6.7618534E-02	1.3631465E-01	3.4230199E-01	-2.6124099E-04	5.2090349E-04	1.0510149E-03

CORRESPONDING CORRELATION MATRIX

	1	2	3	4	5	6
1	1.0000000E 00	-8.5811315E-01	2.5218712E-01	-7.0204365E-02	-5.5897958E-01	-1.4031337E-01
2	-8.5811315E-01	1.0000000E 00	-3.2017482E-01	4.1357236E-01	6.6214389E-01	2.2766437E-01
3	2.5218712E-01	-3.2017482E-01	1.0000000E 00	-6.1180087E-01	1.2798644E-01	5.4016845E-01
4	-7.0204365E-02	4.1357236E-01	-6.1180087E-01	1.0000000E 00	-1.0317200E-01	-3.7609117E-01
5	-5.5897958E-01	6.6214389E-01	1.2798644E-01	-1.0317200E-01	1.0000000E 00	8.2323251E-01
6	-1.4031337E-01	2.2766437E-01	5.4016845E-01	-3.7609117E-01	8.2323251E-01	9.9999998E-01

TRANSLUNAR INJECTION

SAMPLE CUMULATIVE DISTRIBUTION OF SEMI-MAJOR AXIS

UNSORTED SAMPLES

1.9739021E 05	2.0393261E 05	2.0280250E 05	1.9980861E 05	2.0241243E 05	1.9896313E 05
1.9121422E 05	1.9167757E 05	2.1658152E 05	1.8957751E 05	1.8373098E 05	2.0674429E 05
1.9298751E 05	2.0495412E 05	2.0163219E 05	2.0333718E 05	1.9944978E 05	1.9770638E 05
1.9633154E 05	2.0835843E 05	2.0279742E 05	1.9577710E 05	2.2308331E 05	2.0351738E 05
2.1419931E 05	2.0398633E 05	2.0432993E 05	2.0062924E 05	1.9006698E 05	1.8794980E 05

TRANSLUNAR INJECTION

SAMPLE CUMULATIVE DISTRIBUTION OF ECCENTRICITY

UNSORTED SAMPLES

9.6681107E-01	9.6785904E-01	9.6768051E-01	9.6718175E-01	9.6762559E-01	9.6703444E-01
9.6572958E-01	9.6579868E-01	9.6978160E-01	9.6535317E-01	9.6426995E-01	9.6830335E-01
9.6594280E-01	9.6803055E-01	9.6747645E-01	9.6775897E-01	9.6717529E-01	9.6680049E-01
9.6661866E-01	9.6853994E-01	9.6765425E-01	9.6647600E-01	9.7066671E-01	9.6777250E-01
9.6945338E-01	9.6794338E-01	9.6792059E-01	9.6733750E-01	9.6551317E-01	9.6509079E-01

TRANSLUNAR INJECTION

SAMPLE CUMULATIVE DISTRIBUTION OF INCLINATION

UNSORTED SAMPLES

3.1724011E 01	3.1426896E 01	3.1474358E 01	3.1387067E 01	3.1538059E 01	3.1629806E 01
3.1851290E 01	3.1710421E 01	3.1258771E 01	3.1241409E 01	3.1688484E 01	3.1501041E 01
3.1716669E 01	3.1600254E 01	3.1697307E 01	3.1600809E 01	3.1473958E 01	3.1542335E 01
3.1482332E 01	3.1414176E 01	3.1211292E 01	3.1311325E 01	3.1770663E 01	3.1369660E 01
3.1605586E 01	3.1510450E 01	3.1494531E 01	3.1822720E 01	3.1701397E 01	3.1687962E 01

TRANSLUNAR INJECTION
 SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE
 UNSORTED SAMPLES

2.2054528E 02	2.2114198E 02	2.2075853E 02	2.2127071E 02	2.2063108E 02	2.2060828E 02
2.2069126E 02	2.2057986E 02	2.2129968E 02	2.2124496E 02	2.2097775E 02	2.2074829E 02
2.2064656E 02	2.2109860E 02	2.2056480E 02	2.2056976E 02	2.2092429E 02	2.2094322E 02
2.2103090E 02	2.2101458E 02	2.2120101E 02	2.2137182E 02	2.2033553E 02	2.2098776E 02
2.2139627E 02	2.2087601E 02	2.2070396E 02	2.2067916E 02	2.2069842E 02	2.1993386E 02

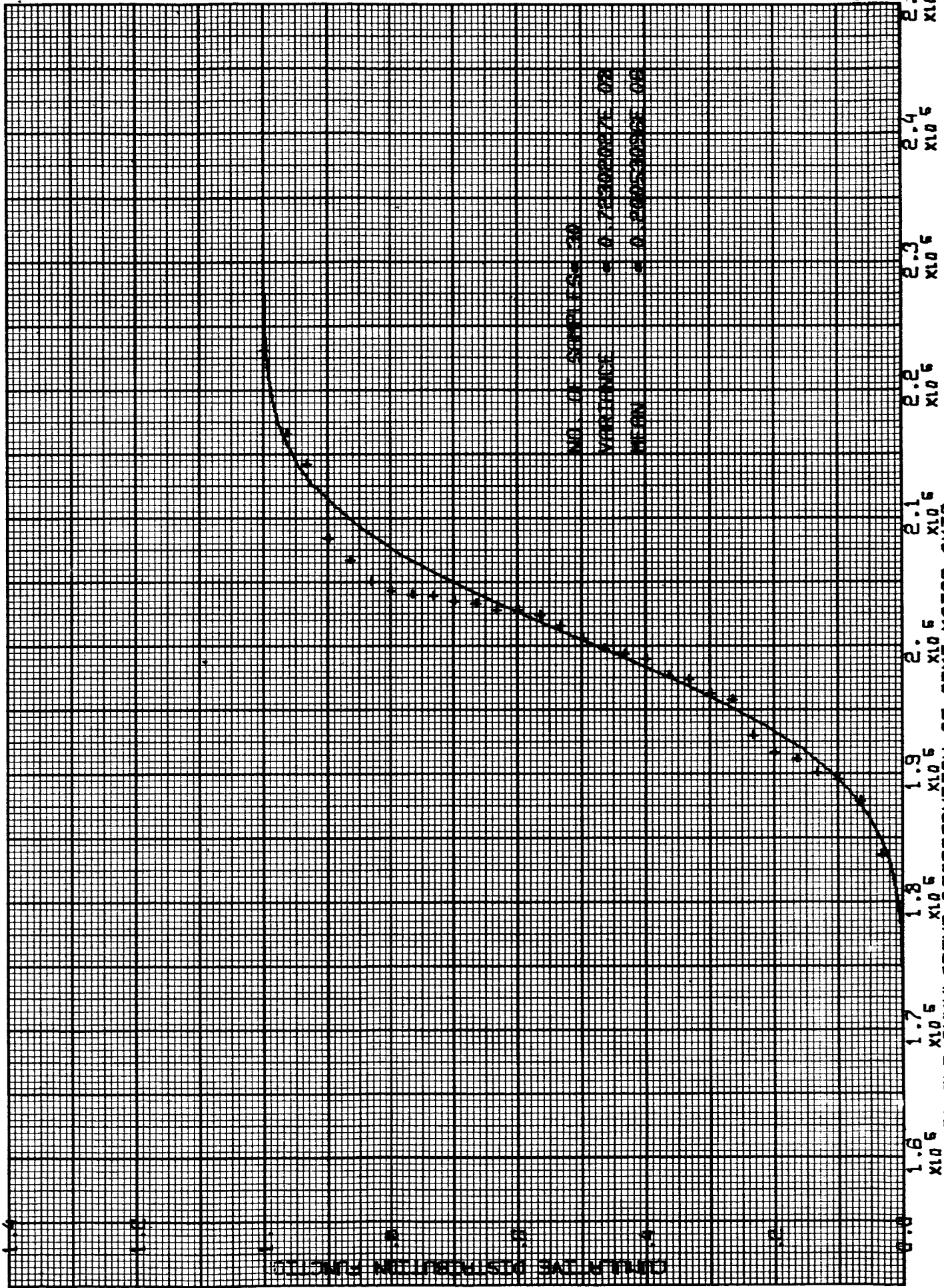
TRANSLUNAR INJECTION
 SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE
 UNSORTED SAMPLES

1.6611531E 02	1.6520265E 02	1.6609576E 02	1.6522050E 02	1.6660382E 02	1.6628197E 02
1.6588052E 02	1.6612837E 02	1.6534895E 02	1.6529885E 02	1.6584570E 02	1.6625106E 02
1.6678963E 02	1.6582236E 02	1.6610675E 02	1.6596414E 02	1.6602657E 02	1.6614905E 02
1.6509529E 02	1.6541787E 02	1.6648453E 02	1.6536557E 02	1.6578775E 02	1.6610208E 02
1.6579861E 02	1.6495555E 02	1.6599353E 02	1.6663283E 02	1.6578460E 02	1.6670908E 02

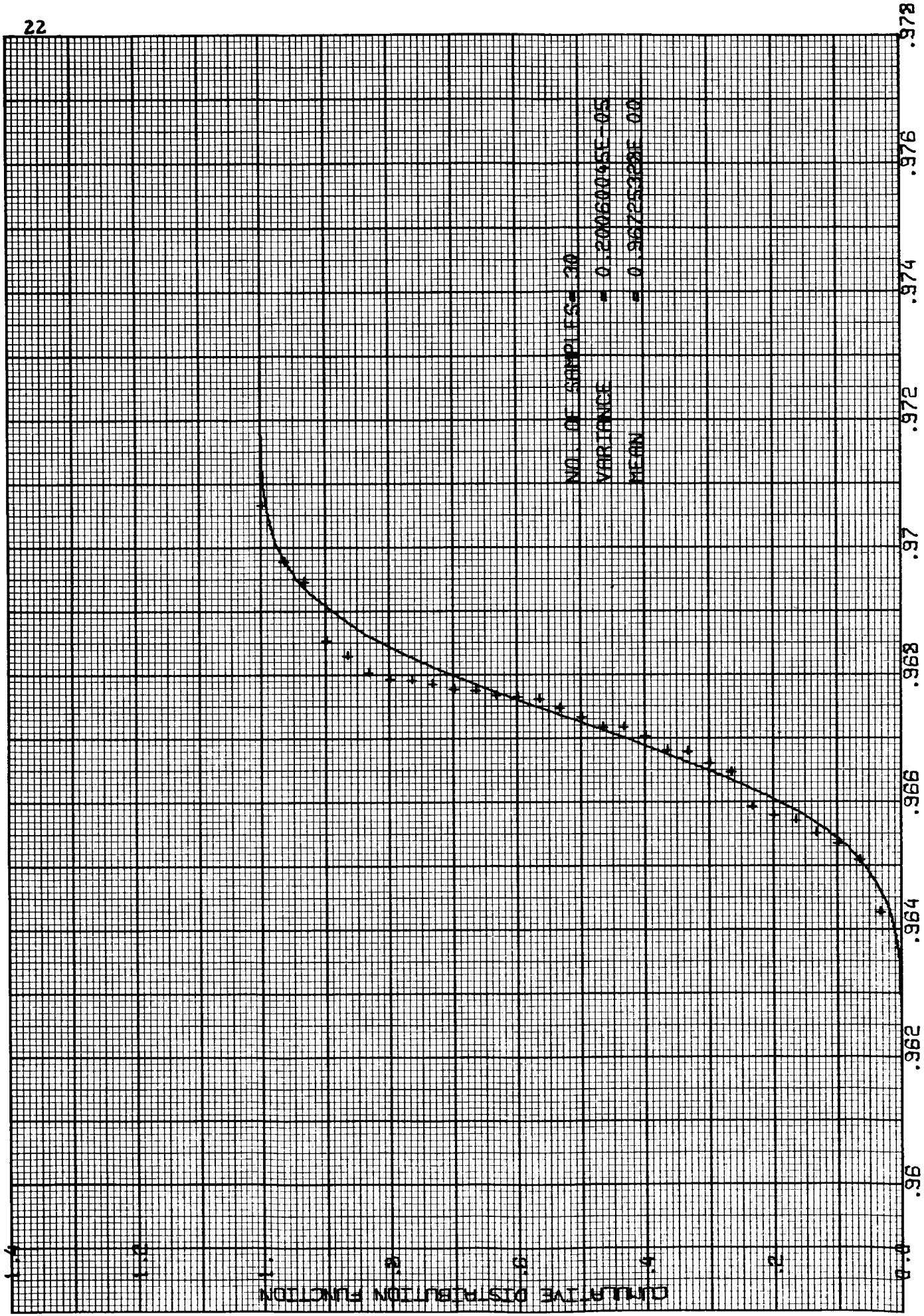
TRANSLUNAR INJECTION
 SAMPLE CUMULATIVE DISTRIBUTION OF MEAN ANOMALY
 UNSORTED SAMPLES

1.7412653E-02	1.8624292E-02	1.5668247E-02	1.8311450E-02	1.3668132E-02	1.5759227E-02
1.9094534E-02	1.7703957E-02	1.5944896E-02	1.9084302E-02	1.7955320E-02	1.4394204E-02
1.2368285E-02	1.5459013E-02	1.6859341E-02	1.7094783E-02	1.5655787E-02	1.4513432E-02
2.1332809E-02	1.7684320E-02	1.1018673E-02	1.7295807E-02	1.7545229E-02	1.4008511E-02
1.3596295E-02	2.2241924E-02	1.6330362E-02	1.3063334E-02	1.9550243E-02	1.7577238E-02

TRANSLUNAR INJECTION

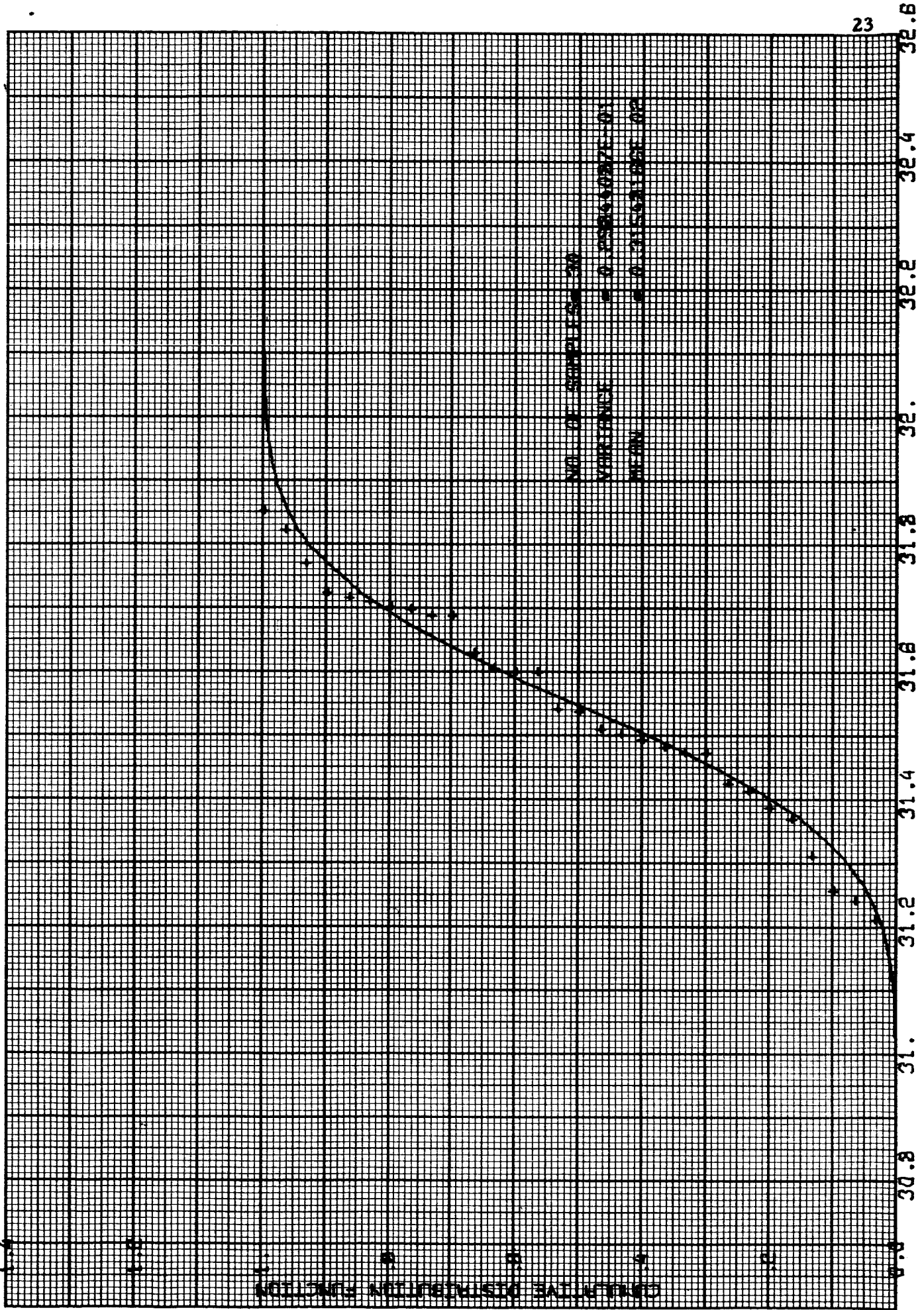


TRANSLUNAR INJECTION



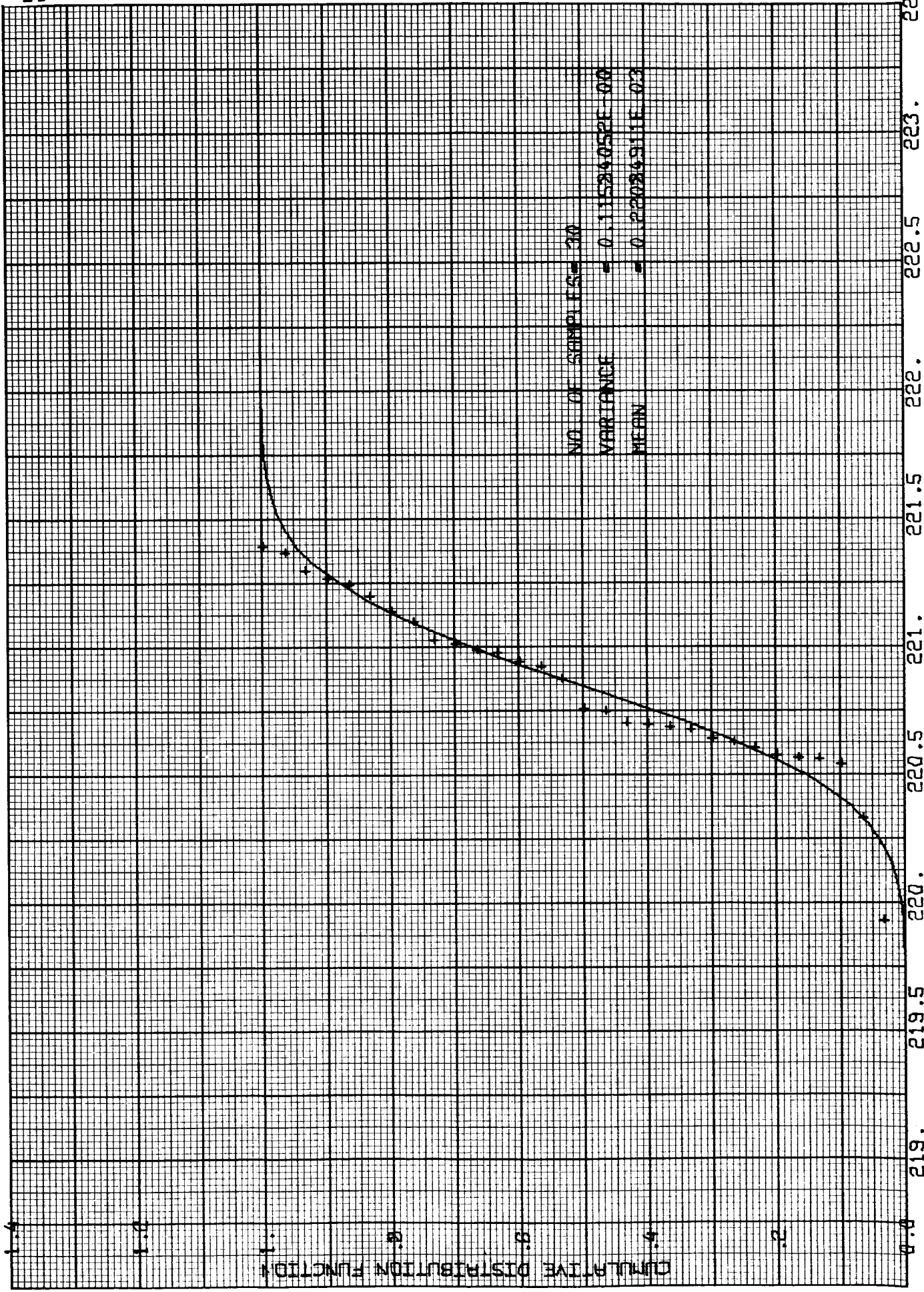
SAMPLE CUMULATIVE DISTRIBUTION OF ECCENTRICITY

TRANSLUNAR INJECTION



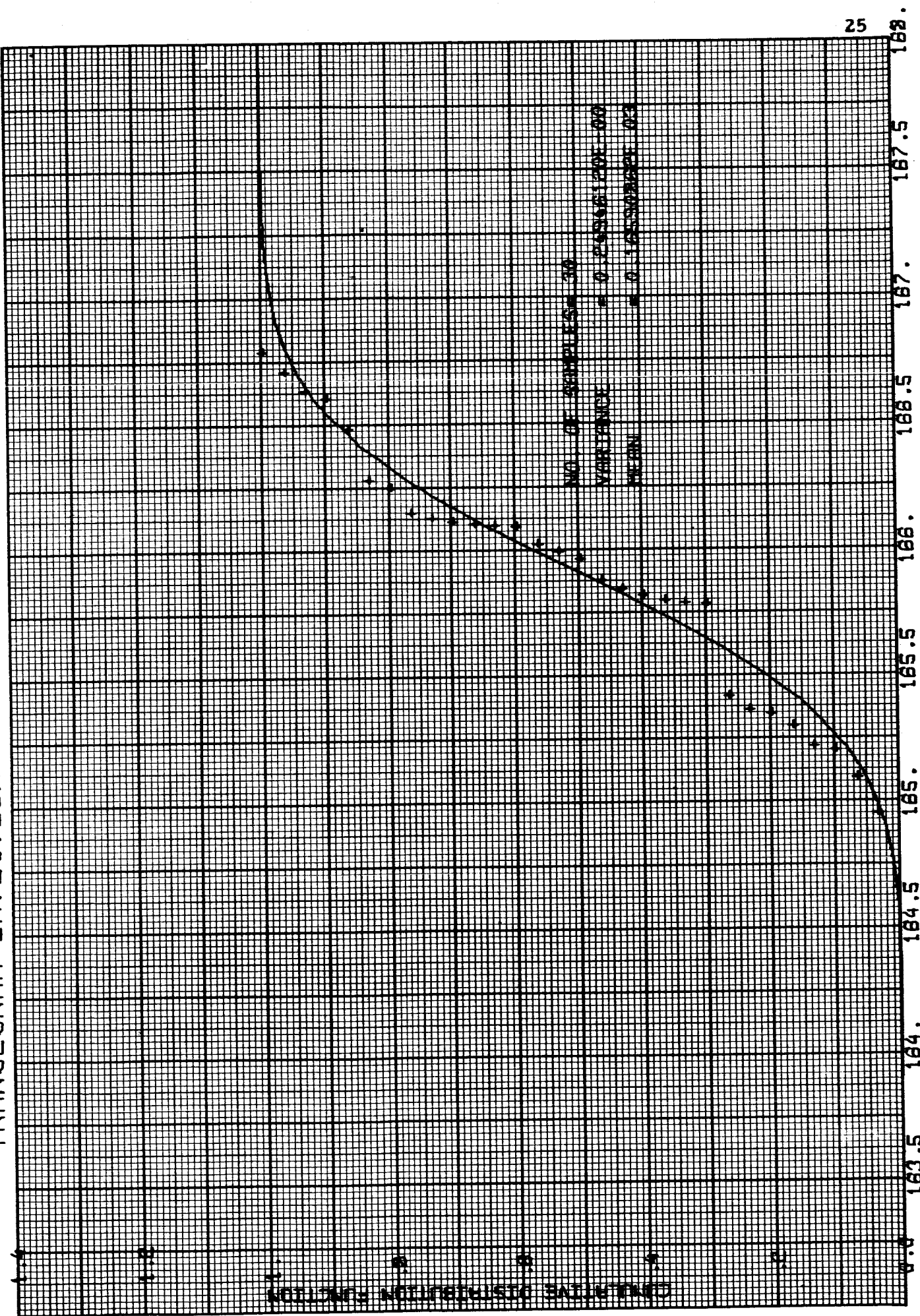
SAMPLE CUMULATIVE DISTRIBUTION OF INCLINATION

TRANSLUNAR INJECTION



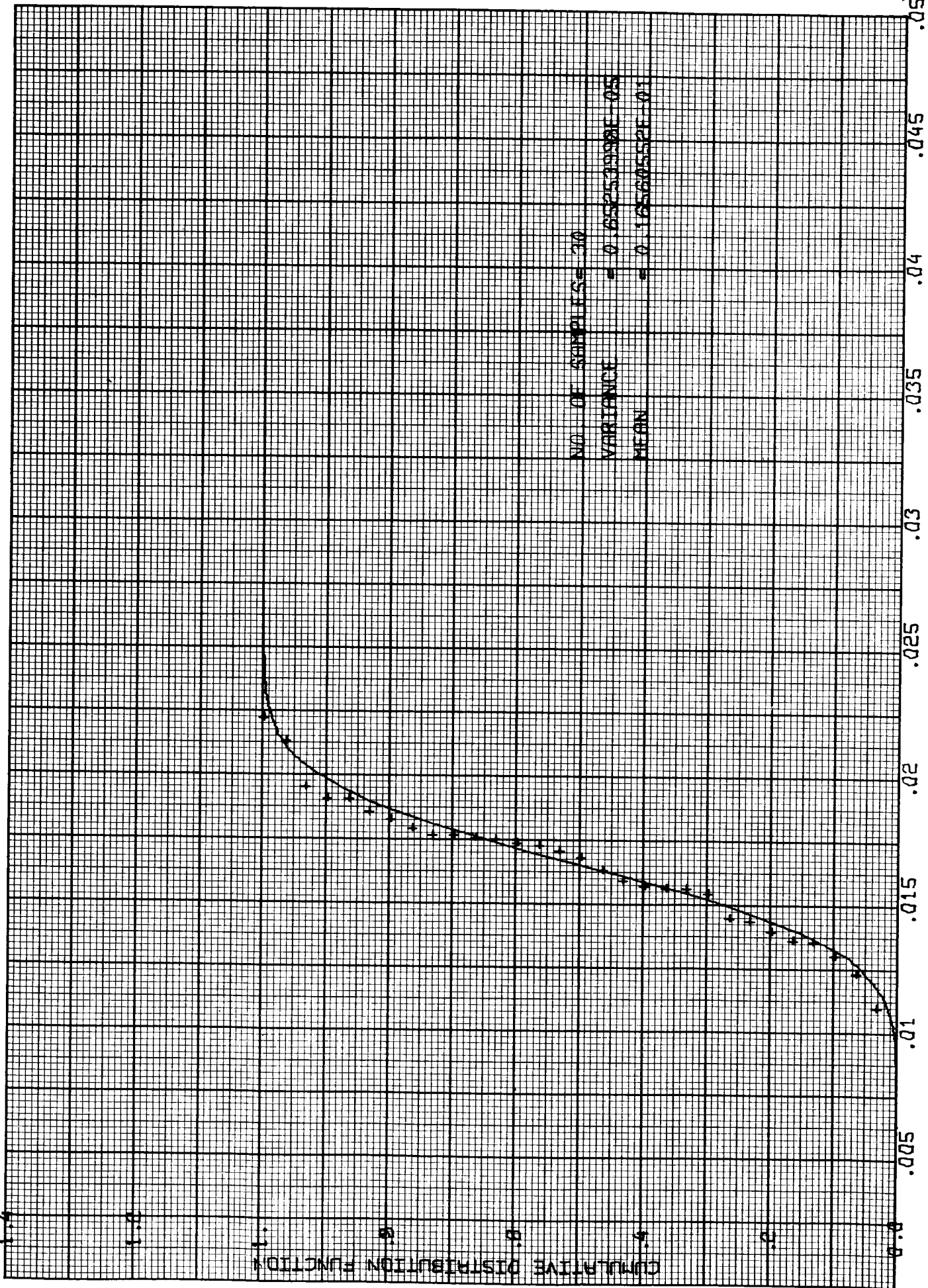
SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE

TRANSLUNAR INJECTION



SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE

TRANSLUNAR INJECTION



SAMPLE CUMULATIVE DISTRIBUTION OF MEAN ANOMALY

START OF MIDCOURSE BURN ONE
SAMPLE STATE VECTORS

X	Y	Z	VX	VY	VZ
-0.14157438E 06	-0.30099282E 05	-0.42645303E 05	-0.15924829E 01	-0.76871523E 00	-0.27676940E-00
-0.14207099E 06	-0.29014207E 05	-0.43658921E 05	-0.16083331E 01	-0.75870273E 00	-0.29540198E-00
-0.14201593E 06	-0.30243051E 05	-0.42629775E 05	-0.16025922E 01	-0.77144217E 00	-0.28073318E-00
-0.14169373E 06	-0.29480699E 05	-0.43397951E 05	-0.15978056E 01	-0.76402838E 00	-0.29061522E-00
-0.14193159E 06	-0.31179970E 05	-0.42091715E 05	-0.15984260E 01	-0.78121187E 00	-0.27287506E-00
-0.14168099E 06	-0.30508374E 05	-0.42426063E 05	-0.15940616E 01	-0.77378850E 00	-0.27516760E-00
-0.14094572E 06	-0.30194075E 05	-0.42760106E 05	-0.15779164E 01	-0.76944583E 00	-0.27462953E-00
-0.14106956E 06	-0.30393634E 05	-0.42329440E 05	-0.15786971E 01	-0.77191930E 00	-0.27022921E-00
-0.14296915E 06	-0.29300760E 05	-0.43810029E 05	-0.16302761E 01	-0.76230313E 00	-0.30343334E-00
-0.14088903E 06	-0.29848502E 05	-0.42626679E 05	-0.15742593E 01	-0.76840743E 00	-0.27709381E-00
-0.14017442E 06	-0.30962842E 05	-0.42209724E 05	-0.15562592E 01	-0.77854287E 00	-0.26514117E-00
-0.14228354E 06	-0.30477779E 05	-0.42658170E 05	-0.16094156E 01	-0.77399477E 00	-0.28237670E-00
-0.14100663E 06	-0.31991687E 05	-0.41656081E 05	-0.15749586E 01	-0.78984769E 00	-0.26161169E-00
-0.14198460E 06	-0.30447940E 05	-0.43197430E 05	-0.16047136E 01	-0.77376807E 00	-0.28817488E-00
-0.14191830E 06	-0.29941378E 05	-0.42839801E 05	-0.16018783E 01	-0.76747520E 00	-0.28118834E-00
-0.14211942E 06	-0.29513505E 05	-0.42965679E 05	-0.16070627E 01	-0.76305445E 00	-0.28435346E-00
-0.14167365E 06	-0.30631256E 05	-0.42537694E 05	-0.15936112E 01	-0.77545296E 00	-0.27832063E-00
-0.14145515E 06	-0.30995897E 05	-0.42421130E 05	-0.15884107E 01	-0.77981839E 00	-0.27531052E-00
-0.14151189E 06	-0.28785463E 05	-0.43485450E 05	-0.15938876E 01	-0.75574829E 00	-0.28958589E-00
-0.14244416E 06	-0.29056069E 05	-0.43595576E 05	-0.16171770E 01	-0.75913370E 00	-0.29626592E-00
-0.14181355E 06	-0.32087027E 05	-0.41864052E 05	-0.15938578E 01	-0.79277324E 00	-0.27266391E-00
-0.14131673E 06	-0.30147485E 05	-0.42948290E 05	-0.15864158E 01	-0.77163979E 00	-0.28353605E-00
-0.14357832E 06	-0.28055727E 05	-0.44201606E 05	-0.16486853E 01	-0.74626219E 00	-0.30647402E-00
-0.14199177E 06	-0.30724716E 05	-0.42533965E 05	-0.16014393E 01	-0.77739415E 00	-0.28056937E-00
-0.14250173E 06	-0.30885980E 05	-0.43619652E 05	-0.16191500E 01	-0.77884816E 00	-0.29723977E-00
-0.14221740E 06	-0.27879234E 05	-0.44027554E 05	-0.16134924E 01	-0.74521875E 00	-0.29981445E-00
-0.14217202E 06	-0.29826552E 05	-0.42845052E 05	-0.16074385E 01	-0.76686165E 00	-0.28401354E-00
-0.14161906E 06	-0.31582297E 05	-0.42313688E 05	-0.15927763E 01	-0.78486954E 00	-0.27283350E-00
-0.14092731E 06	-0.29938415E 05	-0.42633004E 05	-0.15764295E 01	-0.76710451E 00	-0.27365388E-00
-0.14098986E 06	-0.30268221E 05	-0.41433443E 05	-0.15727937E 01	-0.76989063E 00	-0.25675201E-00

START OF MIDCOURSE BURN ONE

SAMPLE MEAN OF GEOCENTRIC STATE VECTOR
 -1.4175134E 05 -3.0148732E 04 -4.2812100E 04 -1.5971567E 00 -7.7025537E-01 -2.8156092E-01

SAMPLE COVARIANCE MATRIX OF GEOCENTRIC STATE VECTOR

	1	2	3	4	5	6
1	4.7033379E 05	-3.0359834E 05	3.1320276E 05	1.2782327E 01	-3.1616379E 00	6.6589440E 00
2	-3.0359834E 05	9.9647558E 05	-5.5064717E 05	-9.6945043E 00	1.0840786E 01	-8.6552397E 00
3	3.1320276E 05	-5.5064717E 05	4.6516082E 05	9.5748922E 00	-5.8230065E 00	7.9225485E 00
4	1.2782327E 01	-9.6945043E 00	9.5748922E 00	3.5236621E-04	-1.0174718E-04	1.9498529E-04
5	-3.1616379E 00	1.0840786E 01	-5.8230065E 00	-1.0174718E-04	1.1874067E-04	-8.9959850E-05
6	6.6589440E 00	-8.6552397E 00	7.9225485E 00	1.9498529E-04	-8.9959850E-05	1.4422474E-04

CORRESPONDING CORRELATION MATRIX

	1	2	3	4	5	6
1	9.9999998E-01	-4.4346870E-01	6.6960843E-01	9.9290961E-01	-4.2306712E-01	8.0850439E-01
2	-4.4346870E-01	1.0000000E 00	-8.0879509E-01	-5.1736273E-01	9.9661565E-01	-7.2198119E-01
3	6.6960843E-01	-8.0879509E-01	1.0000000E 00	7.4788564E-01	-7.8351254E-01	9.6726050E-01
4	9.9290961E-01	-5.1736273E-01	7.4788564E-01	1.0000000E 00	-4.9742259E-01	8.6493772E-01
5	-4.2306712E-01	9.9661565E-01	-7.8351254E-01	-4.9742259E-01	1.0000000E 00	-6.8743096E-01
6	8.0850439E-01	-7.2198119E-01	9.6726050E-01	8.6493772E-01	-6.8743096E-01	1.0000000E 00

START OF MIDCOURSE BURN ONE
 SAMPLE CUMULATIVE DISTRIBUTION OF SEMI-MAJOR AXIS
 UNSORTED SAMPLES

1.9165241E 05	1.9784029E 05	1.9676344E 05	1.9396525E 05	1.9638571E 05	1.9315543E 05
1.8583168E 05	1.8627424E 05	2.0969122E 05	1.8433492E 05	1.7878837E 05	2.0046685E 05
1.8755392E 05	1.9878804E 05	1.9566707E 05	1.9726964E 05	1.9358827E 05	1.9199060E 05
1.9067447E 05	2.0199928E 05	1.9677835E 05	1.9017949E 05	2.1575849E 05	1.9745379E 05
2.0744906E 05	1.9784472E 05	1.9820161E 05	1.9471000E 05	1.8475411E 05	1.8275560E 05

START OF MIDCOURSE BURN ONE
 SAMPLE CUMULATIVE DISTRIBUTION OF ECCENTRICITY
 UNSORTED SAMPLES

9.6582848E-01	9.6687971E-01	9.6669991E-01	9.6620399E-01	9.6664402E-01	9.6605468E-01
9.6474795E-01	9.6481807E-01	9.6879908E-01	9.6437973E-01	9.6329433E-01	9.6732209E-01
9.6496869E-01	9.6704991E-01	9.6649574E-01	9.6677796E-01	9.6619308E-01	9.6582397E-01
9.6563871E-01	9.6755991E-01	9.6667781E-01	9.6550094E-01	9.6967967E-01	9.6679459E-01
9.6847020E-01	9.6695781E-01	9.6693969E-01	9.6635622E-01	9.6453263E-01	9.6411053E-01

START OF MIDCOURSE BURN ONE
 SAMPLE CUMULATIVE DISTRIBUTION OF INCLINATION
 UNSORTED SAMPLES

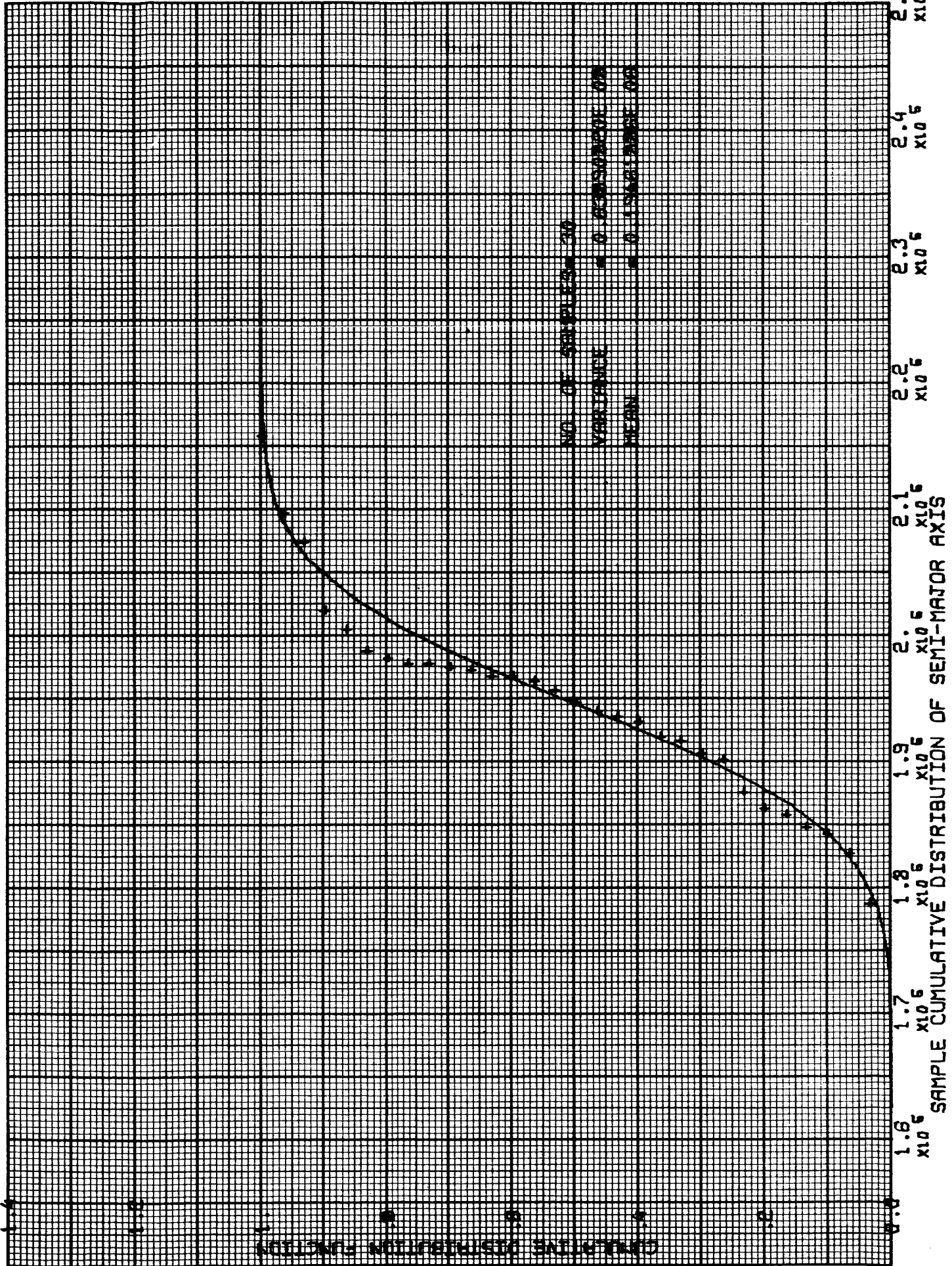
3.1777648E 01	3.1480537E 01	3.1528265E 01	3.1440302E 01	3.1591970E 01	3.1683500E 01
3.1904235E 01	3.1763610E 01	3.1313097E 01	3.1294036E 01	3.1740611E 01	3.1555174E 01
3.1769726E 01	3.1653810E 01	3.1751214E 01	3.1654921E 01	3.1527453E 01	3.1595593E 01
3.1535572E 01	3.1468236E 01	3.1264725E 01	3.1364186E 01	3.1826149E 01	3.1423390E 01
3.1659328E 01	3.1564401E 01	3.1548606E 01	3.1876250E 01	3.1754371E 01	3.1741618E 01

START OF MIDCOURSE BURN ONE		ASCENDING NODE	
SAMPLE CUMULATIVE DISTRIBUTION OF		UNSORTED SAMPLES	
2.2040196E 02	2.2099527E 02	2.2061388E 02	2.2112478E 02
2.2054904E 02	2.2043752E 02	2.2115115E 02	2.2110036E 02
2.2050622E 02	2.2095403E 02	2.2042090E 02	2.2042483E 02
2.2088500E 02	2.2086756E 02	2.2105736E 02	2.2122687E 02
2.2125088E 02	2.2072818E 02	2.2055879E 02	2.2053745E 02
			2.2048786E 02
			2.2083674E 02
			2.2078012E 02
			2.2018763E 02
			2.2055559E 02
			2.2046507E 02
			2.2060359E 02
			2.2080021E 02
			2.2084313E 02
			2.1979246F 02

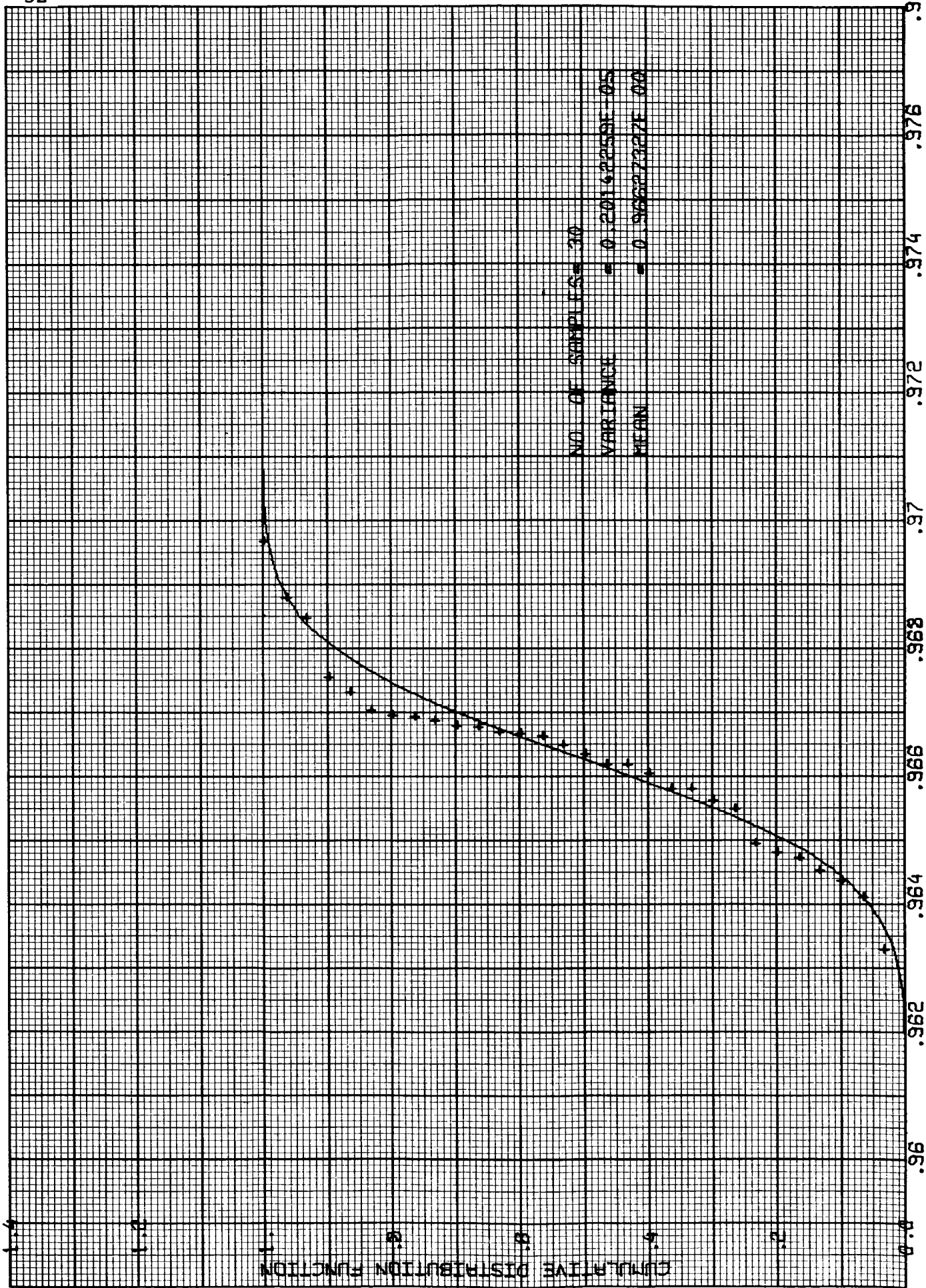
START OF MIDCOURSE BURN ONE		ARGUMENT OF PERIGEE	
SAMPLE CUMULATIVE DISTRIBUTION OF		UNSORTED SAMPLES	
1.6627313E 02	1.6536369E 02	1.6625542E 02	1.6538118E 02
1.6603704E 02	1.6628553E 02	1.6551207E 02	1.6545884E 02
1.6694591E 02	1.6598175E 02	1.6626504E 02	1.6612348E 02
1.6525520E 02	1.6557916E 02	1.6664481E 02	1.6552586E 02
1.6595887E 02	1.6511661E 02	1.6615341E 02	1.6678983E 02
			1.6676245E 02
			1.6600206E 02
			1.6618603E 02
			1.6594850E 02
			1.6594194E 02
			1.6644010E 02
			1.6641085E 02
			1.6630756E 02
			1.6626231E 02
			1.6686551E 02

START OF MIDCOURSE BURN ONE		MEAN ANOMALY	
SAMPLE CUMULATIVE DISTRIBUTION OF		UNSORTED SAMPLES	
2.3299026E 01	2.2216670E 01	2.2396018E 01	2.2884816E 01
2.4403129E 01	2.4314801E 01	2.0359002E 01	2.4700627E 01
2.4060991E 01	2.2054824E 01	2.2585641E 01	2.2311438E 01
2.3482454E 01	2.1533706E 01	2.2388588E 01	2.3569868E 01
2.0687260E 01	2.2219726E 01	2.2153579E 01	2.2748285E 01
			2.2458518E 01
			2.5856838E 01
			2.2948850E 01
			1.9508735E 01
			2.4617206E 01
			2.3026081E 01
			2.1777416E 01
			2.3234500E 01
			2.2277012E 01
			2.5019639E 01

START OF MIDCOURSE BURN ONE

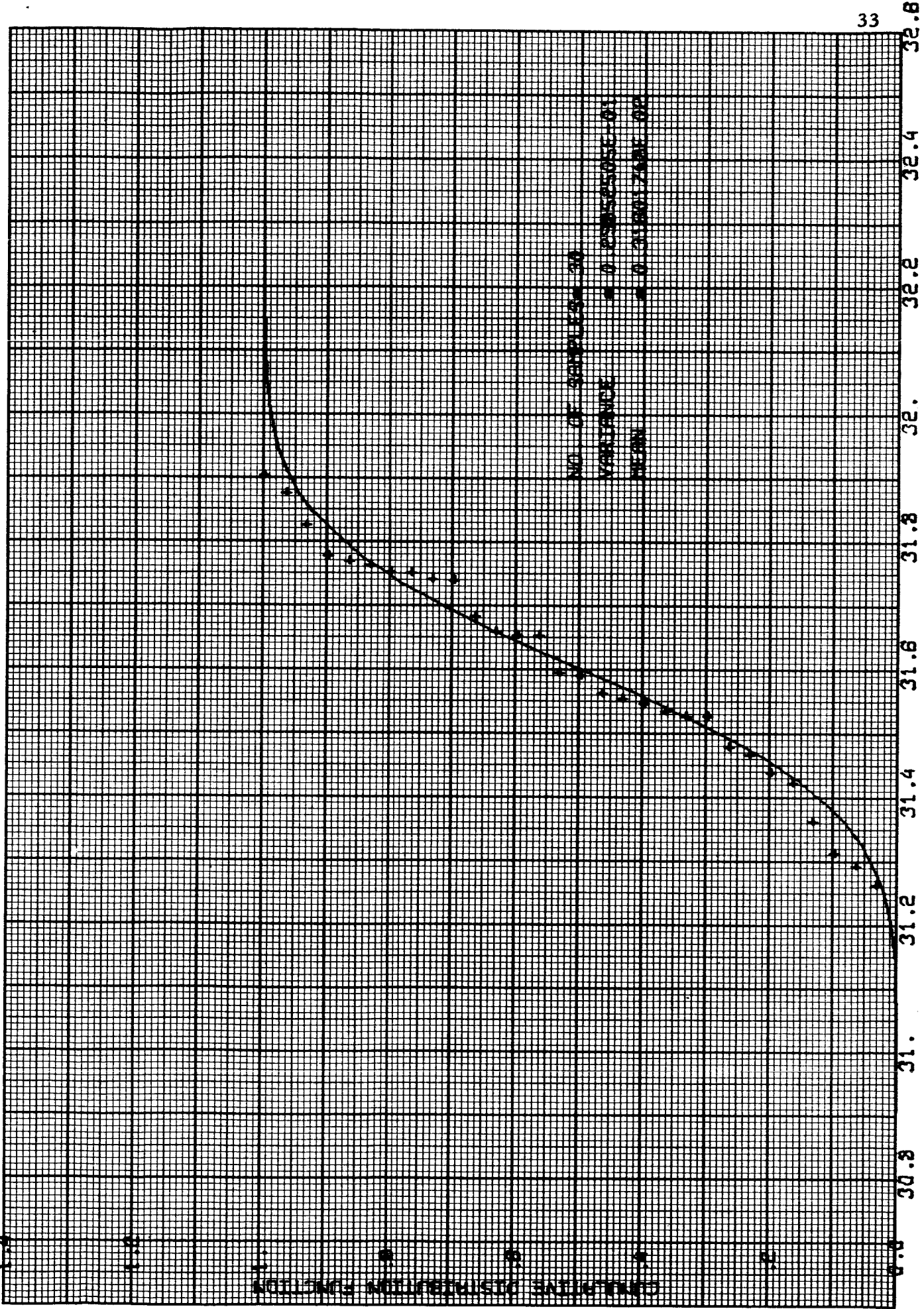


START OF MIDCOURSE BURN ONE

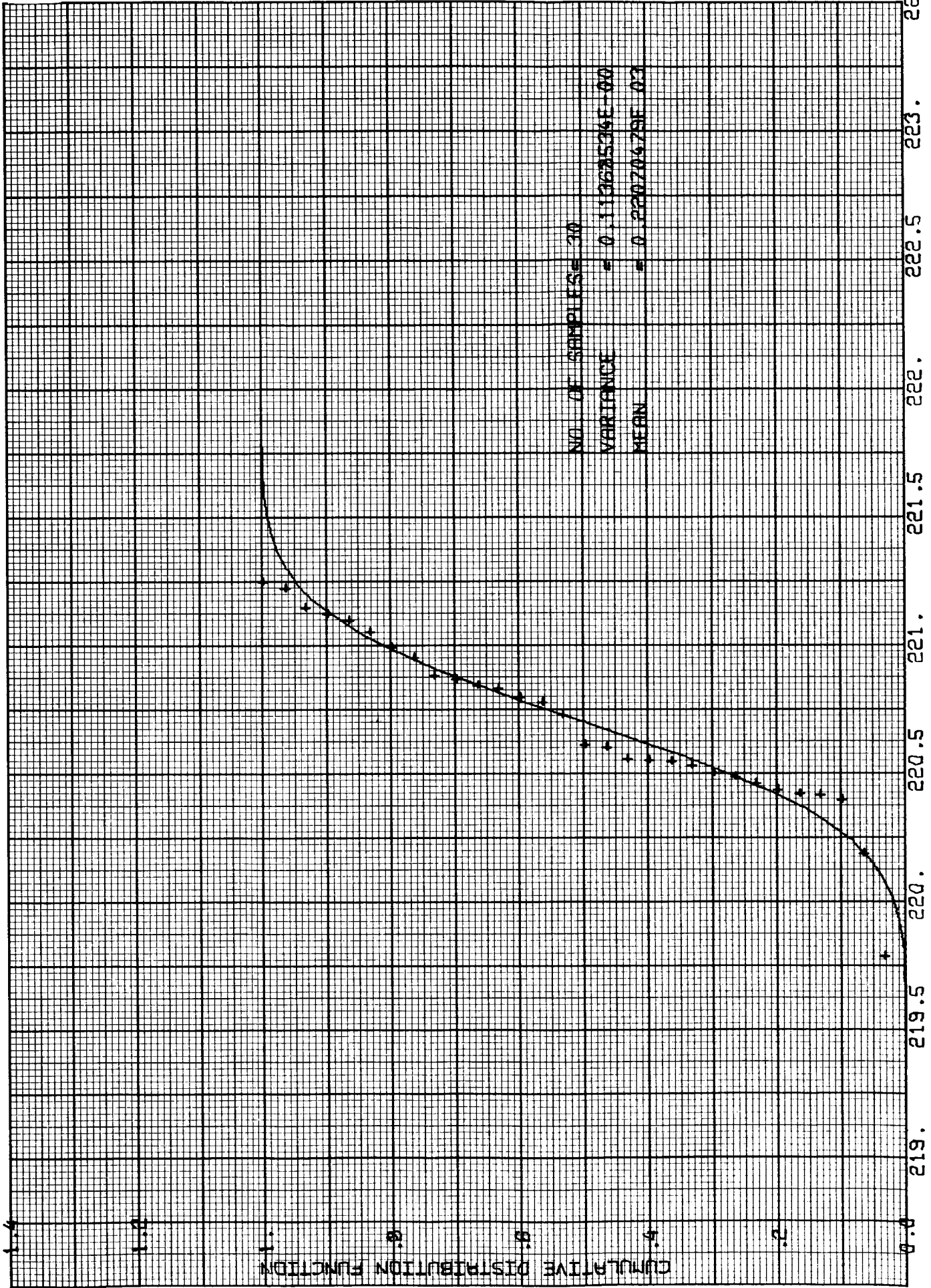


SAMPLE CUMULATIVE DISTRIBUTION OF ECCENTRICITY

START OF MIDCOURSE BURN ONE

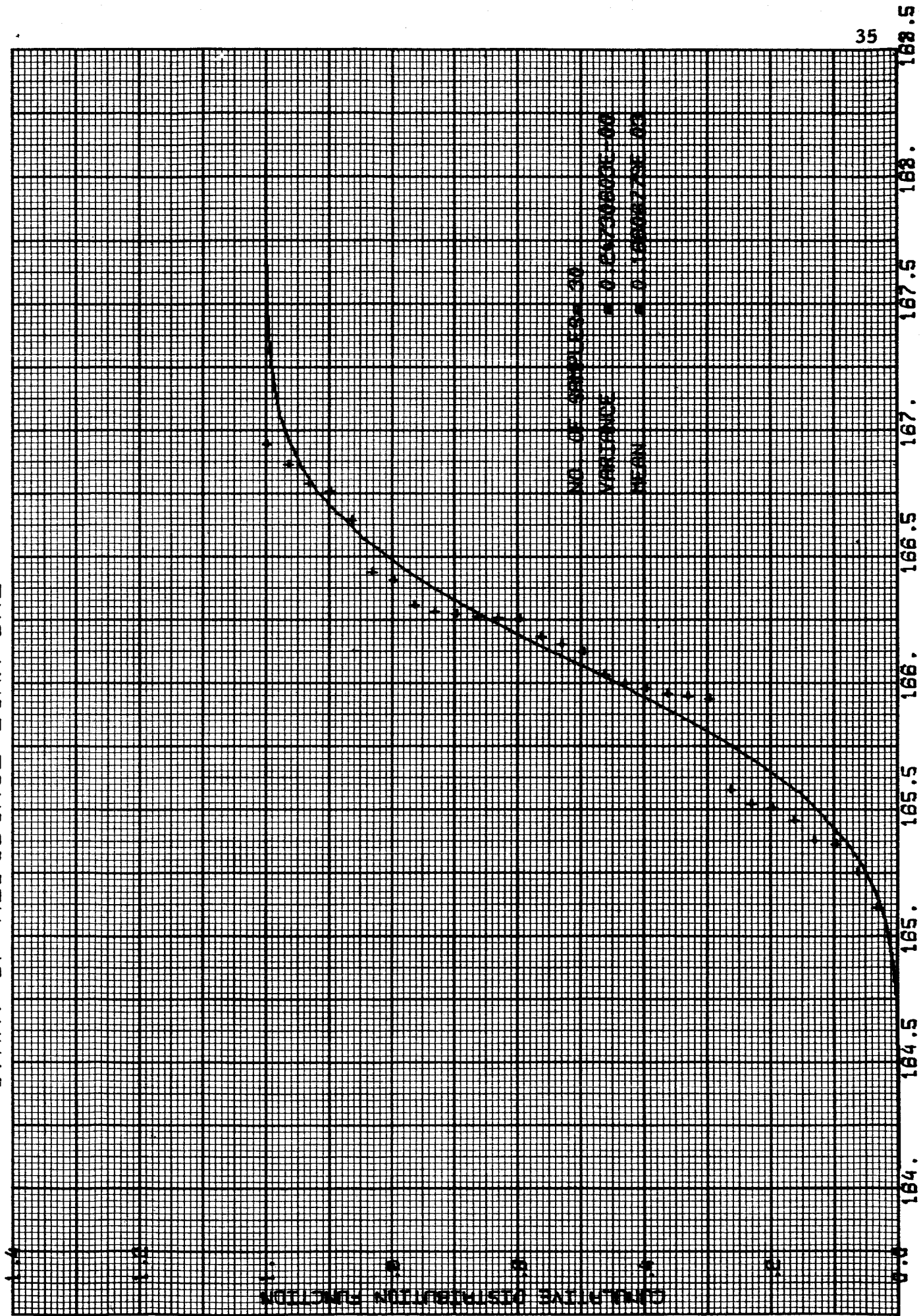


START OF MIDCOURSE BURN ONE

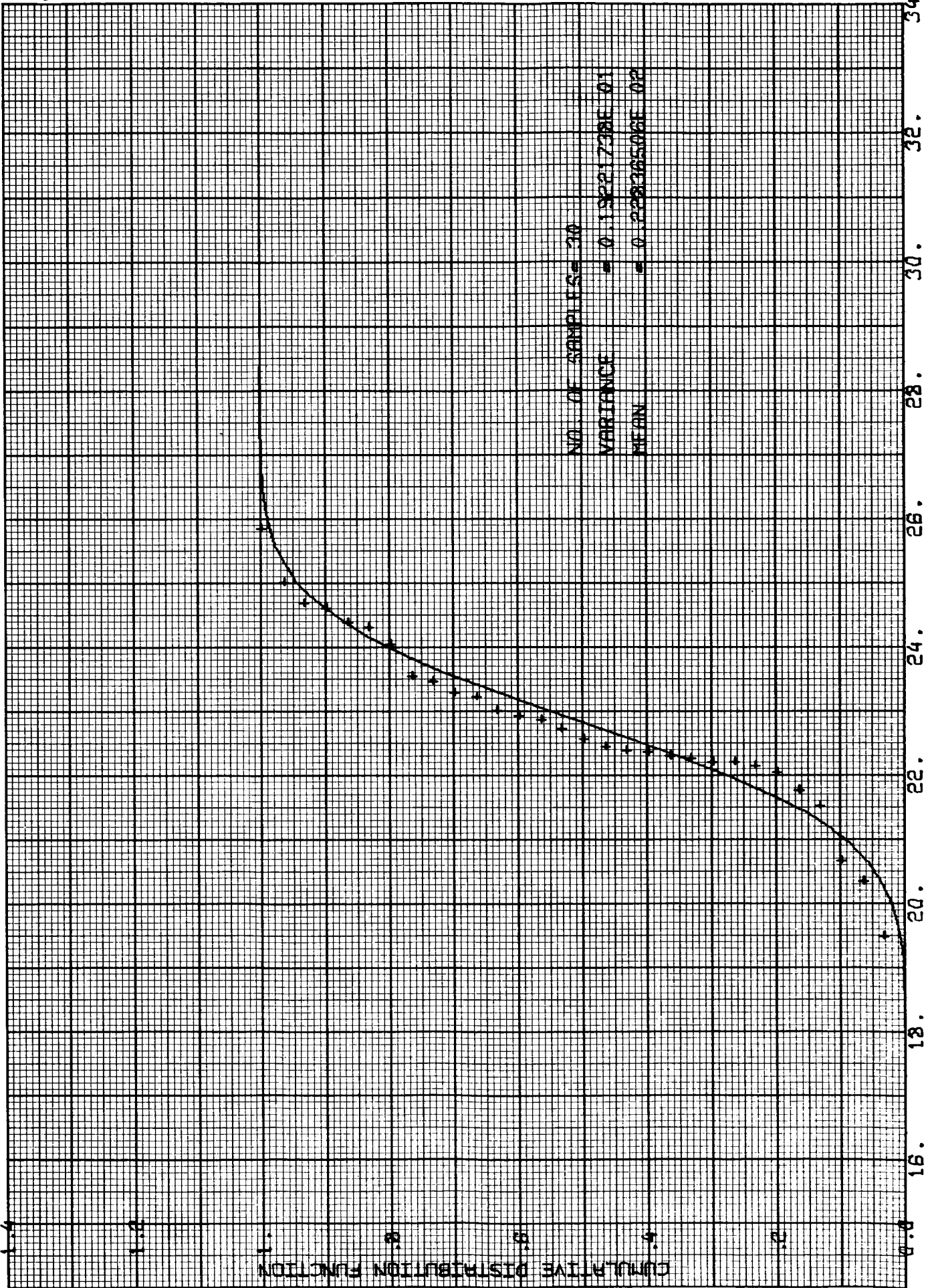


SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE

START OF MIDCOURSE BURN ONE



SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE



SAMPLE CUMULATIVE DISTRIBUTION OF MEAN ANOMALY

END OF MIDCOURSE BURN ONE
SAMPLE STATE VECTORS

X	Y	Z	VX	VY	VZ
-0.14158495E 06	-0.30104385E 05	-0.42647152E 05	-0.15982936E 01	-0.77113052E 00	-0.28097183E-00
-0.14210279E 06	-0.29029380E 05	-0.43664642E 05	-0.15937906E 01	-0.76942348E 00	-0.28069741E-00
-0.14202780E 06	-0.30248776E 05	-0.42631857E 05	-0.15940121E 01	-0.77008915E 00	-0.27986225E-00
-0.14170560E 06	-0.29488321E 05	-0.43400790E 05	-0.15969545E 01	-0.77030755E 00	-0.28095958E-00
-0.14194585E 06	-0.31188849E 05	-0.42044873E 05	-0.15934549E 01	-0.77050780E 00	-0.27909901E-00
-0.14169008E 06	-0.30512775E 05	-0.42427646E 05	-0.15968654E 01	-0.77098550E 00	-0.28037260E-00
-0.14058249E 06	-0.30211908E 05	-0.42766544E 05	-0.16031328E 01	-0.77249828E 00	-0.28209010E-00
-0.14110637E 06	-0.30411503E 05	-0.42335830E 05	-0.16023620E 01	-0.77259684E 00	-0.28212637E-00
-0.14304049E 06	-0.29334685E 05	-0.43822931E 05	-0.15845452E 01	-0.76644663E 00	-0.27791946E-00
-0.14053249E 06	-0.29869574E 05	-0.42634329E 05	-0.16048546E 01	-0.77265354E 00	-0.28234698E-00
-0.14025178E 06	-0.31000783E 05	-0.42223101E 05	-0.16096575E 01	-0.77404191E 00	-0.28233366E-00
-0.14230990E 06	-0.30490489E 05	-0.42662751E 05	-0.15909109E 01	-0.76932833E 00	-0.27889828E-00
-0.14105637E 06	-0.32016166E 05	-0.41664574E 05	-0.16005013E 01	-0.77280176E 00	-0.28055276E-00
-0.14200588E 06	-0.30458219E 05	-0.43201211E 05	-0.15923575E 01	-0.76963272E 00	-0.27947249E-00
-0.14192867E 06	-0.29946359E 05	-0.42841619E 05	-0.15949337E 01	-0.77047039E 00	-0.28050505E-00
-0.14214023E 06	-0.29523472E 05	-0.42569350E 05	-0.15940038E 01	-0.76969293E 00	-0.28007600E-00
-0.14168152E 06	-0.30635072E 05	-0.42535074E 05	-0.15963650E 01	-0.77084877E 00	-0.28018399E-00
-0.14147387E 06	-0.31005005E 05	-0.42424393E 05	-0.15976297E 01	-0.77135520E 00	-0.28033363E-00
-0.14153680E 06	-0.28797378E 05	-0.43489951E 05	-0.15998025E 01	-0.77103256E 00	-0.28211467E-00
-0.14248882E 06	-0.29077339E 05	-0.43603595E 05	-0.15905481E 01	-0.76842978E 00	-0.27950472E-00
-0.14184528E 06	-0.32102589E 05	-0.41869539E 05	-0.15928362E 01	-0.77037776E 00	-0.27856246E-00
-0.14133538E 06	-0.30156521E 05	-0.42951598E 05	-0.15996464E 01	-0.77158691E 00	-0.28144100E-00
-0.14368180E 06	-0.28104153E 05	-0.44220311E 05	-0.15810481E 01	-0.76536243E 00	-0.27729025E-00
-0.14200679E 06	-0.30731992E 05	-0.42536597E 05	-0.15932190E 01	-0.77012010E 00	-0.27941601E-00
-0.14255676E 06	-0.30912530E 05	-0.423629563E 05	-0.15854543E 01	-0.76763403E 00	-0.27761415E-00
-0.14226639E 06	-0.27902359E 05	-0.44036426E 05	-0.15942559E 01	-0.76890924E 00	-0.28102896E-00
-0.14219279E 06	-0.29836523E 05	-0.42848709E 05	-0.15930553E 01	-0.76955736E 00	-0.27968708E-00
-0.14164077E 06	-0.31592888E 05	-0.42317447E 05	-0.15949362E 01	-0.77067690E 00	-0.27937896E-00
-0.14056840E 06	-0.29958310E 05	-0.42640190E 05	-0.16040955E 01	-0.77277127E 00	-0.28249741E-00
-0.14104731E 06	-0.30296119E 05	-0.41443185E 05	-0.16053349E 01	-0.77365045E 00	-0.28228945E-00

END OF MIDCOURSE BURN ONE

SAMPLE MEAN OF GEOCENTRIC STATE VECTOR

-1.4178474E 05 -3.0164811E 04 -4.2817991E 04 -1.5959618E 00 -7.7049727E-01 -2.8032105E-01

SAMPLE COVARIANCE MATRIX OF GEOCENTRIC STATE VECTOR

	1	2	3	4	5	6
1	4.7683089E 05	-3.0871834E 05	3.1828744E 05	-4.1982758E 00	-1.3135776E 00	-8.4644395E-01
2	-3.0871834E 05	9.9084358E 05	-5.4995861E 05	1.6250000E 00	9.1217672E-01	-1.0183190E-01
3	3.1828744E 05	-5.4995861E 05	4.6685572E 05	-2.5560345E 00	-1.0148168E 00	-3.2233297E-01
4	-4.1982758E 00	1.6250000E 00	-2.5560345E 00	3.9988550E-05	1.2101798E-05	8.6282860E-06
5	-1.3135776E 00	9.1217672E-01	-1.0148168E 00	1.2101798E-05	3.8969105E-06	2.4314584E-06
6	-8.4644395E-01	-1.0183190E-01	-3.2233297E-01	8.6282860E-06	2.4314584E-06	2.1416565E-06

CORRESPONDING CORRELATION MATRIX

	1	2	3	4	5	6
1	1.0000000E 00	-4.4913582E-01	6.7459943E-01	-9.6143724E-01	-9.6363667E-01	-8.3760855E-01
2	-4.4913582E-01	1.0000000E 00	-8.0860443E-01	2.5815645E-01	4.6421184E-01	-6.9904699E-02
3	6.7459943E-01	-8.0860443E-01	1.0000000E 00	-5.9157190E-01	-7.5237800E-01	-3.2235802E-01
4	-9.6143724E-01	2.5815645E-01	-5.9157190E-01	1.0000000E 00	9.6944205E-01	9.3235605E-01
5	-9.6363667E-01	4.6421184E-01	-7.5237800E-01	9.6944205E-01	1.0000000E 00	8.4165037E-01
6	-8.3760855E-01	-6.9904699E-02	-3.2235802E-01	9.3235605E-01	8.4165037E-01	1.0000000E 00

END OF MIDCOURSE BURN ONE

SAMPLE CUMULATIVE DISTRIBUTION OF TIME FROM TRANSLUNAR INJECTION

UNSORTED SAMPLES

5.4006628E 04	5.4019856E 04	5.4007427E 04	5.4009935E 04	5.4011443E 04	5.4005697E 04
5.4023129E 04	5.4023138E 04	5.4044381E 04	5.4027346E 04	5.4048873E 04	5.4016470E 04
5.4031327E 04	5.4013320E 04	5.4006478E 04	5.4013004E 04	5.4004934E 04	5.4011741E 04
5.4015606E 04	5.4027849E 04	5.4019910E 04	5.4011710E 04	5.4064072E 04	5.4009402E 04
5.4034337E 04	5.4030545E 04	5.4012976E 04	5.4013615E 04	5.4025841E 04	5.4036148E 04

END OF MIDCOURSE BURN ONE
 SAMPLE CUMULATIVE DISTRIBUTION OF SEMI-MAJOR AXIS
 UNSORTED SAMPLES

1.9398466E 05	1.9422898E 05	1.9393425E 05	1.9415386E 05	1.9368048E 05	1.9389323E 05
1.9401589E 05	1.9391387E 05	1.9408354E 05	1.9406456E 05	1.9396788E 05	1.9389588E 05
1.9362603E 05	1.9394952E 05	1.9399236E 05	1.9407528E 05	1.9387115E 05	1.9383436E 05
1.9428977E 05	1.9420493E 05	1.9354796E 05	1.9403042E 05	1.9441583E 05	1.9384367E 05
1.9387300E 05	1.9447483E 05	1.9400064E 05	1.9369246E 05	1.9403647E 05	1.9388463E 05

END OF MIDCOURSE BURN ONE
 SAMPLE CUMULATIVE DISTRIBUTION OF ECCENTRICITY
 UNSORTED SAMPLES

9.6625054E-01	9.6377273E-01	9.6625255E-01	9.6478397E-01	9.6789055E-01	9.6690365E-01
9.6655071E-01	9.6709961E-01	9.6368895E-01	9.6623274E-01	9.6833907E-01	9.6641902E-01
9.6966848E-01	9.6608671E-01	9.6571012E-01	9.6497074E-01	9.6697969E-01	9.6764096E-01
9.6383065E-01	9.6371530E-01	9.6931185E-01	9.6617976E-01	9.6132807E-01	9.6695983E-01
9.6612339E-01	9.6183990E-01	9.6546268E-01	9.6841944E-01	9.6631650E-01	9.6761267E-01

END OF MIDCOURSE BURN ONE
 SAMPLE CUMULATIVE DISTRIBUTION OF INCLINATION
 UNSORTED SAMPLES

3.1517553E 01	3.1806127E 01	3.1361029E 01	3.1983189E 01	3.1305576E 01	3.1441260E 01
3.2016765E 01	3.1526437E 01	3.1758670E 01	3.1727312E 01	3.2319907E 01	3.1403078E 01
3.1710965E 01	3.2142109E 01	3.1449440E 01	3.1310171E 01	3.1648529E 01	3.1828069E 01
3.1764257E 01	3.1618063E 01	3.1627954E 01	3.2006522E 01	3.1262976E 01	3.1531755E 01
3.2629223E 01	3.1568054E 01	3.1319379E 01	3.1969469E 01	3.1722070E 01	3.0469888E 01

END OF MIDCOURSE BURN ONE
 SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE

	UNSORTED SAMPLES	
2.2071888E 02	2.2058707E 02	2.2081955E 02
2.2041363E 02	2.2072488E 02	2.2059060E 02
2.2057534E 02	2.2036174E 02	2.2079097E 02
2.2059838E 02	2.2067942E 02	2.2062181E 02
2.2008513E 02	2.2072352E 02	2.2084259E 02
		2.2045090E 02
		2.2056430E 02
		2.2085225E 02
		2.2043722E 02
		2.2042743E 02
	2.2083388E 02	
	2.2015074E 02	
	2.2063275E 02	
	2.2090176E 02	
	2.2059492E 02	
	2.2075948E 02	
	2.2078984E 02	
	2.2052029E 02	
	2.2071064E 02	
	2.2135010E 02	

END OF MIDCOURSE BURN ONE
 SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE

	UNSORTED SAMPLES	
1.6607517E 02	1.6629069E 02	1.6598068E 02
1.6633443E 02	1.6603916E 02	1.6625265E 02
1.6604379E 02	1.6637481E 02	1.6603675E 02
1.6629827E 02	1.6620712E 02	1.6599708E 02
1.6658454E 02	1.6626431E 02	1.6599445E 02
		1.6636709E 02
		1.6622368E 02
		1.6601201E 02
		1.6632446E 02
		1.6620938E 02
	1.6589424E 02	
	1.6648345E 02	
	1.6611121E 02	
	1.6610161E 02	
	1.6619454E 02	
	1.6600853E 02	
	1.6599315E 02	
	1.6617929E 02	
	1.6604085E 02	
	1.6549587E 02	

END OF MIDCOURSE BURN ONE
 SAMPLE CUMULATIVE DISTRIBUTION OF MEAN ANOMALY

	UNSORTED SAMPLES	
2.2831870E 01	2.3035056E 01	2.2949061E 01
2.2688196E 01	2.2691311E 01	2.3308886E 01
2.2654592E 01	2.2998413E 01	2.2939340E 01
2.2867764E 01	2.3129100E 01	2.2884589E 01
2.3191007E 01	2.3086881E 01	2.3004814E 01
		2.2916834E 01
		2.2656023E 01
		2.2993897E 01
		2.2792839E 01
		2.2854500E 01
	2.2915850E 01	
	2.2452700E 01	
	2.2861517E 01	
	2.3470935E 01	
	2.2670476E 01	
	2.2848970E 01	
	2.3027858E 01	
	2.2801773E 01	
	2.2947007E 01	
	2.2594131E 01	

END OF MIDCOURSE BURN ONE

SAMPLE CUMULATIVE DISTRIBUTION OF WEIGHT AT CURRENT TIME	UNSORTED SAMPLES	UNSORTED SAMPLES	UNSORTED SAMPLES
8.4762706E 02	8.4289097E 02	8.4734108E 02	8.4590297E 02
8.4171977E 02	8.4171624E 02	8.3411098E 02	8.3250283E 02
8.3878434E 02	8.4523108E 02	8.4768054E 02	8.4823337E 02
8.4441259E 02	8.4002964E 02	8.4287205E 02	8.2706161E 02
8.3770720E 02	8.3906476E 02	8.4535378E 02	8.4074885E 02

END OF MIDCOURSE BURN ONE

SAMPLE CUMULATIVE DISTRIBUTION OF SUN LOOK ANGLE	UNSORTED SAMPLES	UNSORTED SAMPLES	UNSORTED SAMPLES
1.1889961E 02	1.0146765E 02	8.1658798E 01	5.7605283E 01
1.0067041E 02	9.9891989E 01	8.4985763E 01	9.1051178E 01
7.5954024E 01	6.4081983E 01	1.1150522E 02	5.1517240E 01
1.2700714E 02	9.5180339E 01	3.8663268E 01	9.6558111E 01
6.5272859E 01	1.1506646E 02	9.5032747E 01	1.0514132E 02

END OF MIDCOURSE BURN ONE

SAMPLE CUMULATIVE DISTRIBUTION OF ACXI INERTIAL ATTITUDE ANGLE	UNSORTED SAMPLES	UNSORTED SAMPLES	UNSORTED SAMPLES
2.0238784E 02	3.2281494E 02	8.9170817E 00	6.5836348E 01
1.8698065E 02	1.8181005E 02	3.5455620E 02	1.7544300E 02
1.4699139E 02	1.8614972E 01	3.3619018E 02	1.2171685E 02
2.4807946E 02	3.4026957E 02	8.8212025E 01	3.4384063E 02
1.8507562E 01	3.0822819E 02	3.4905678E 02	1.9158201E 02

END OF MIDCOURSE BURN ONE
 SAMPLE CUMULATIVE DISTRIBUTION OF DLXI INERTIAL ATTITUDE ANGLE
 UNSORTED SAMPLES

-3.3485664E 01	3.9294365E 01	5.5667496E 00	5.6531176E 01	-2.8249009E 01	-5.2487809E 01
-1.6371667E 01	-2.6531184E 01	2.9221513E 01	-9.7557812E 00	-1.7780559E 01	1.0240105E 01
-3.156808E 01	3.3988792E 01	4.9798698E 00	1.6222860E 01	-1.9294134E 01	-2.1926146E 01
2.4092516E 01	3.0868483E 01	-1.5024826E 01	8.6269835E 00	2.2599965E 01	5.8330793E 00
2.9104136E 01	3.1602212E 01	1.6452933E 01	-2.4750263E 01	-1.7374263E 01	-3.7617258E 01

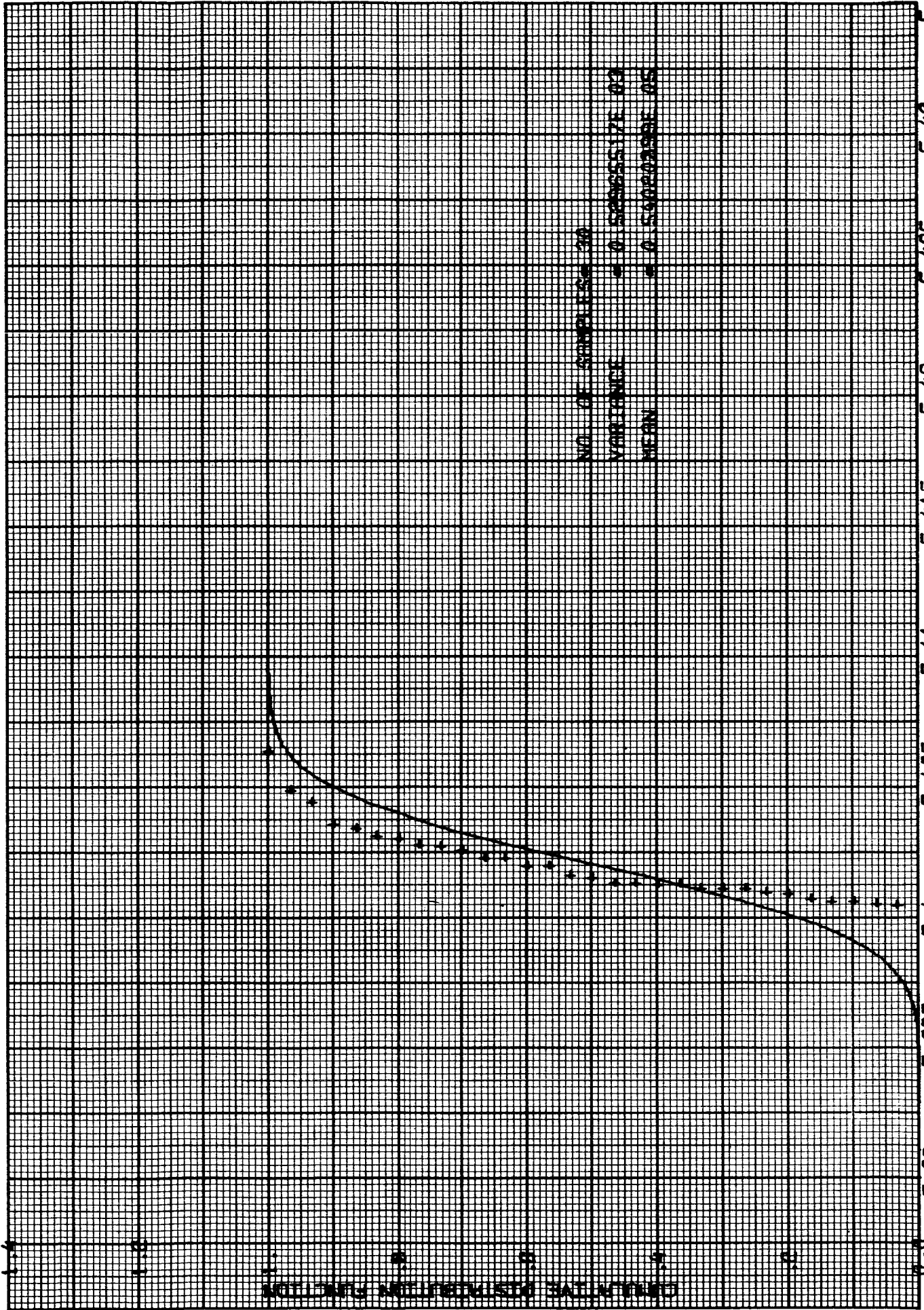
END OF MIDCOURSE BURN ONE
 SAMPLE CUMULATIVE DISTRIBUTION OF SENSED VELOCITY MAGNITUDE
 UNSORTED SAMPLES

2.5184720E 01	7.5661673E 01	2.8224594E 01	3.7779534E 01	4.3527324E 01	2.1644073E 01
8.8188046E 01	8.8225861E 01	1.6999353E 02	1.0436562E 02	1.8737877E 02	6.2712330E 01
1.1966017E 02	5.0685555E 01	2.4616235E 01	4.9478704E 01	1.8742917E 01	4.4664847E 01
5.9413376E 01	1.0629528E 02	7.5863963E 01	4.4543244E 01	2.4645284E 02	3.5749229E 01
1.3123638E 02	1.1664893E 02	4.9377831E 01	5.1814274E 01	9.8585637E 01	1.3821450E 02

END OF MIDCOURSE BURN ONE
 SAMPLE CUMULATIVE DISTRIBUTION OF TOTAL FUEL USED TO DATE
 UNSORTED SAMPLES

2.3729401E 00	7.1090164E 00	2.6589127E 00	3.5571518E 00	4.0970306E 00	2.0397339E 00
8.2802199E 00	8.2837523E 00	1.5889023E 01	9.7903975E 00	1.7497162E 01	5.8965530E 00
1.1215652E 01	4.7689133E 00	2.3194504E 00	4.6556702E 00	1.7666168E 00	4.2038345E 00
5.5873947E 00	9.9703522E 00	7.1279449E 00	4.1924210E 00	2.2938377E 01	3.3663712E 00
1.2292801E 01	1.0935234E 01	4.6462097E 00	4.8748016E 00	9.2511443E 00	1.2941429E 01

END OF MIDCOURSE BURN ONE

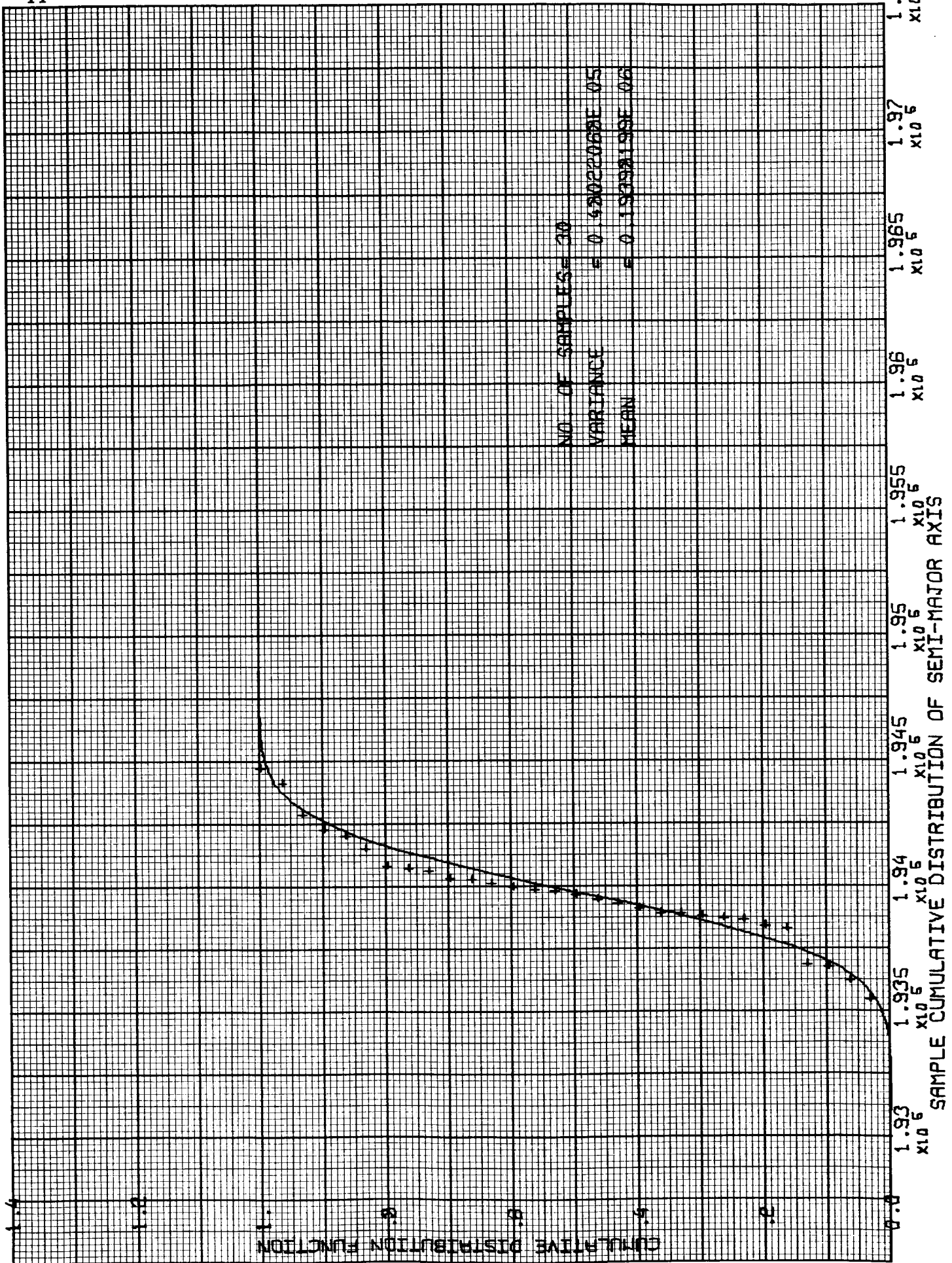


NO OF SAMPLES 20
 VARIANCE $\approx 0.568299E-03$
 MEAN $\approx 0.540299E-05$

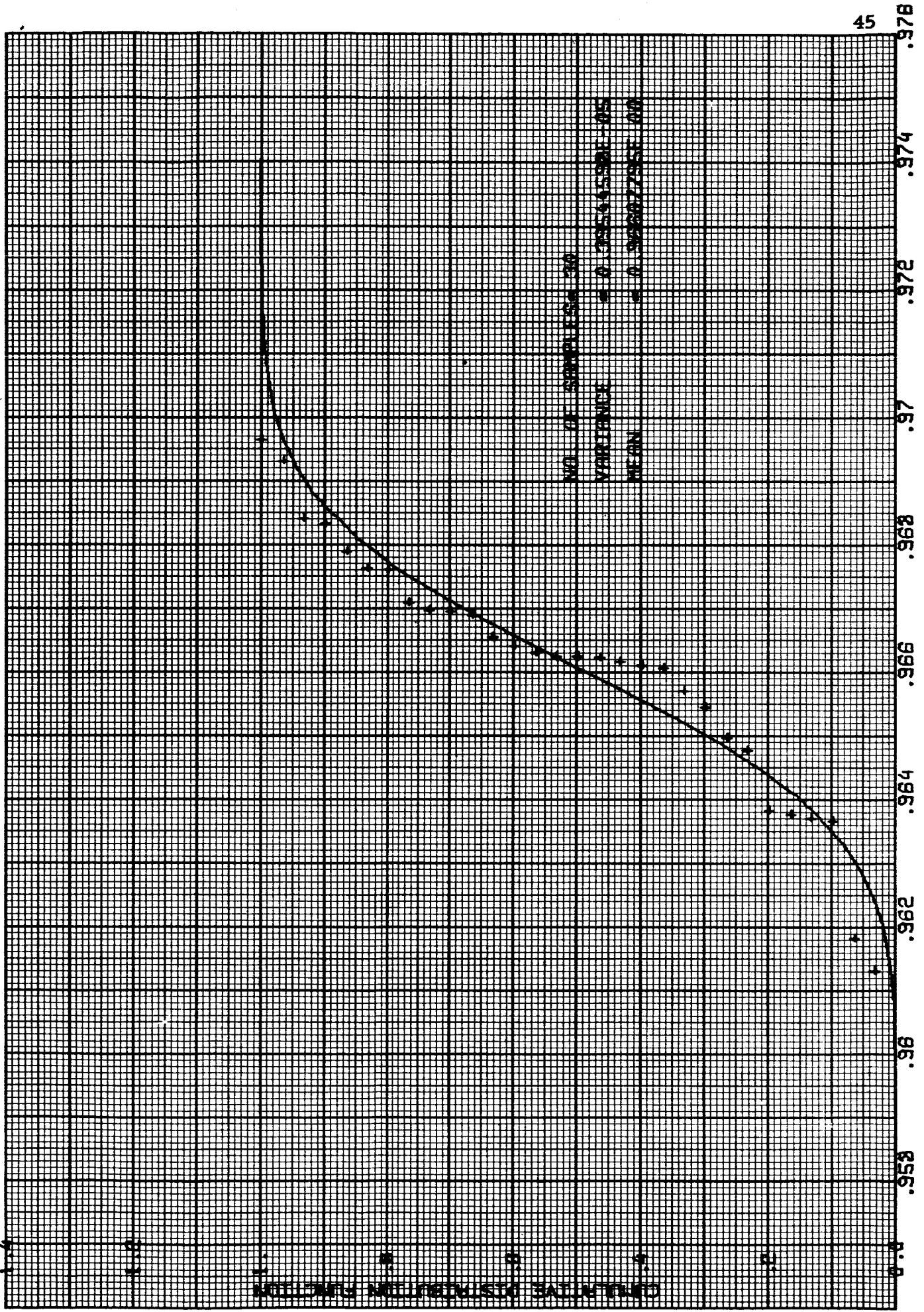
43
 5.435 $\times 10^4$
 5.43 $\times 10^4$
 5.425 $\times 10^4$
 5.42 $\times 10^4$
 5.415 $\times 10^4$
 5.41 $\times 10^4$
 5.405 $\times 10^4$
 5.4 $\times 10^4$
 5.395 $\times 10^4$
 5.39 $\times 10^4$
 SAMPLE CUMULATIVE DISTRIBUTION OF TIME FROM TRANSLUNAR INJECTION

CUMULATIVE DISTRIBUTION FUNCTION

END OF MIDCOURSE BURN ONE

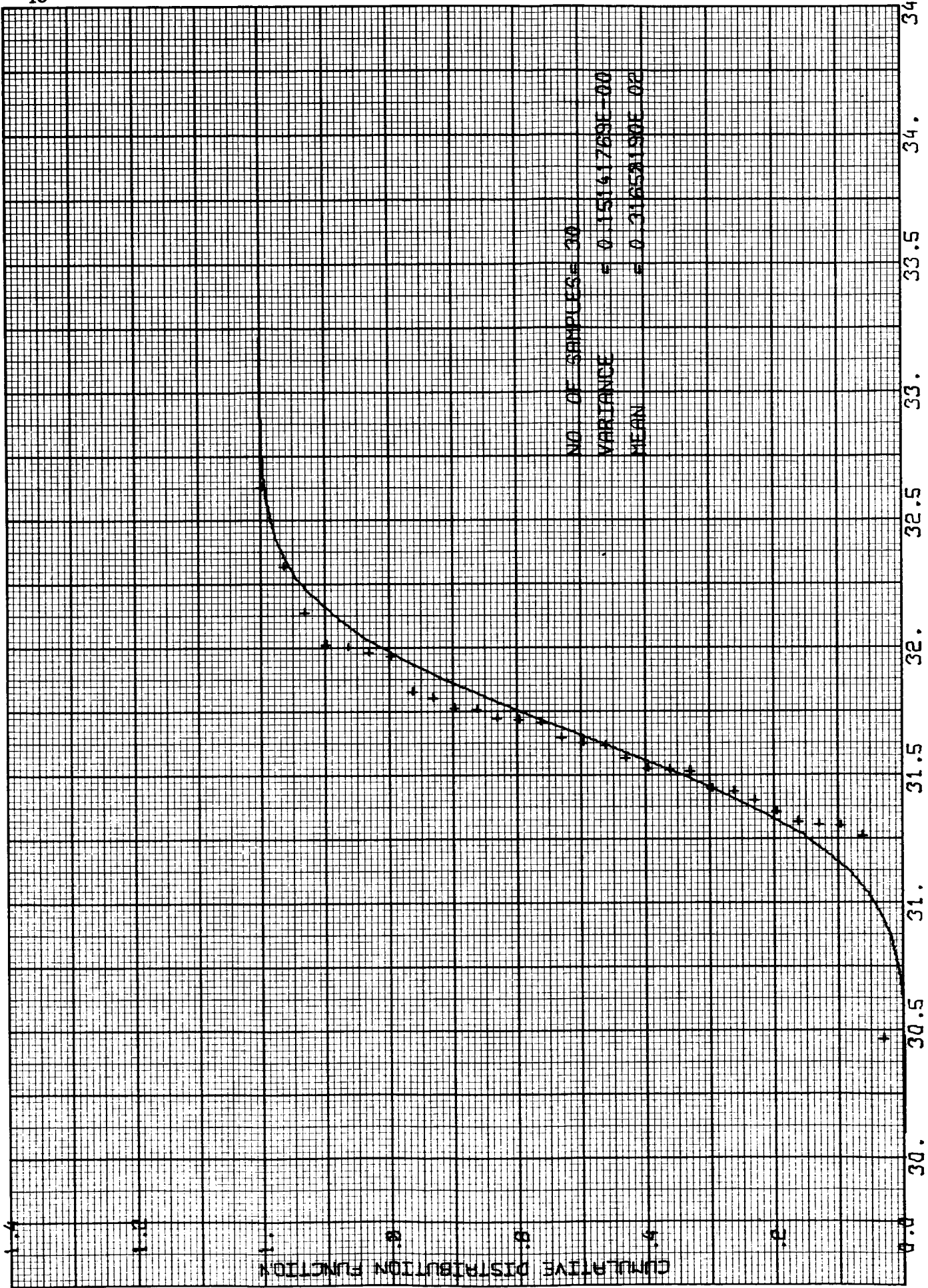


END OF MIDCOURSE BURN ONE



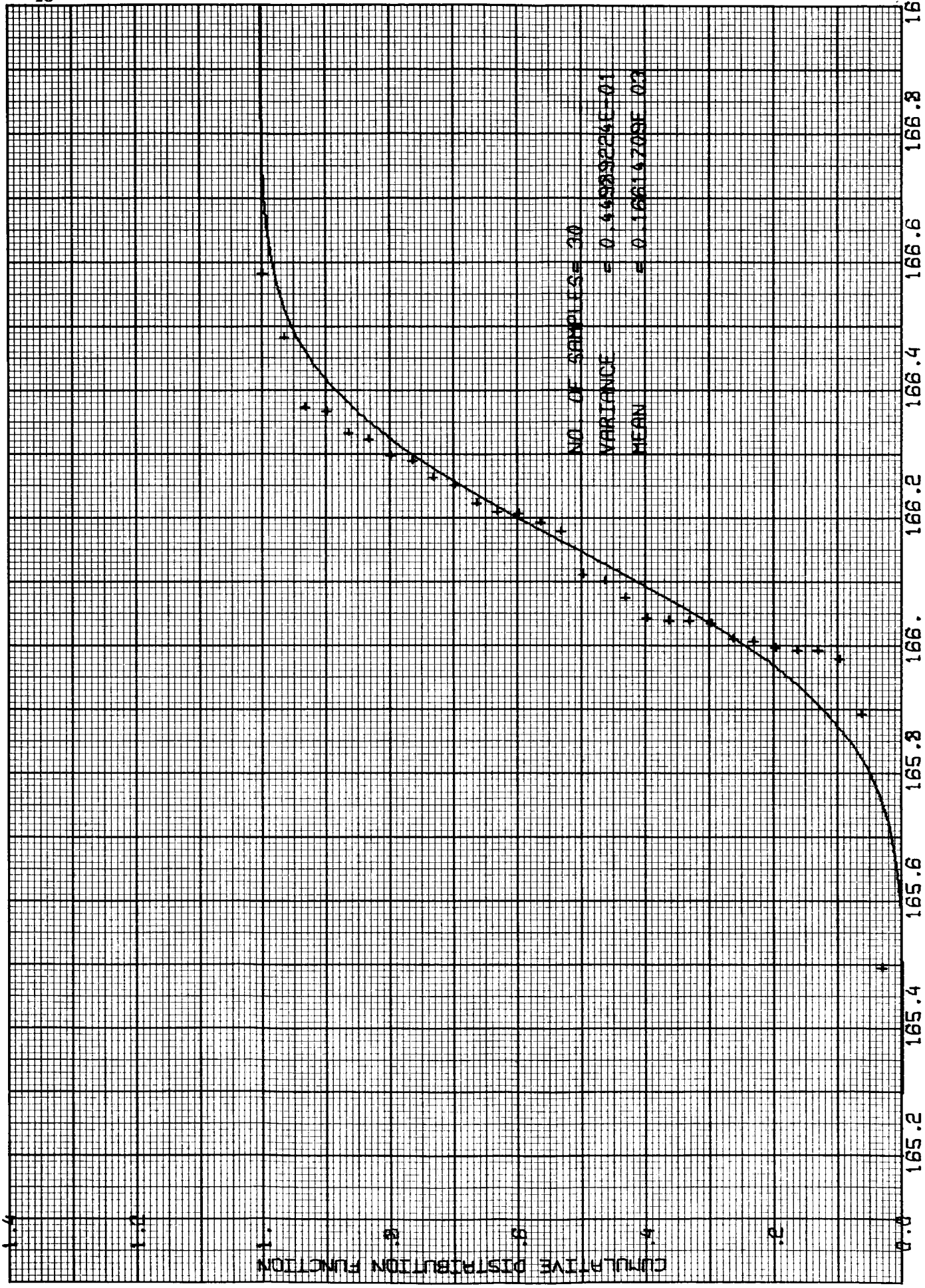
SAMPLE CUMULATIVE DISTRIBUTION OF ECCENTRICITY

END OF MIDCOURSE BURN ONE



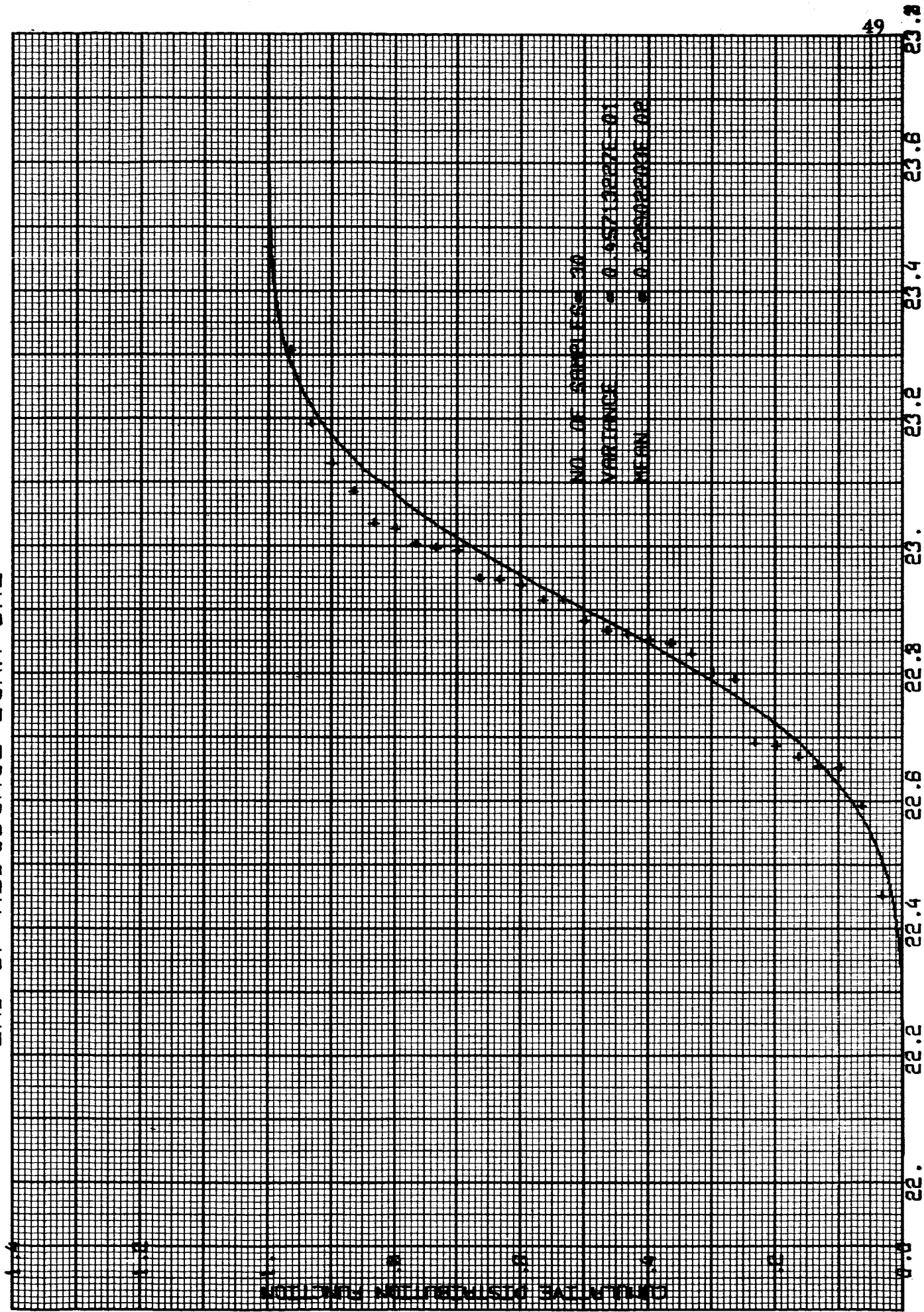
SAMPLE CUMULATIVE DISTRIBUTION OF INCLINATION

END OF MIDCOURSE BURN ONE



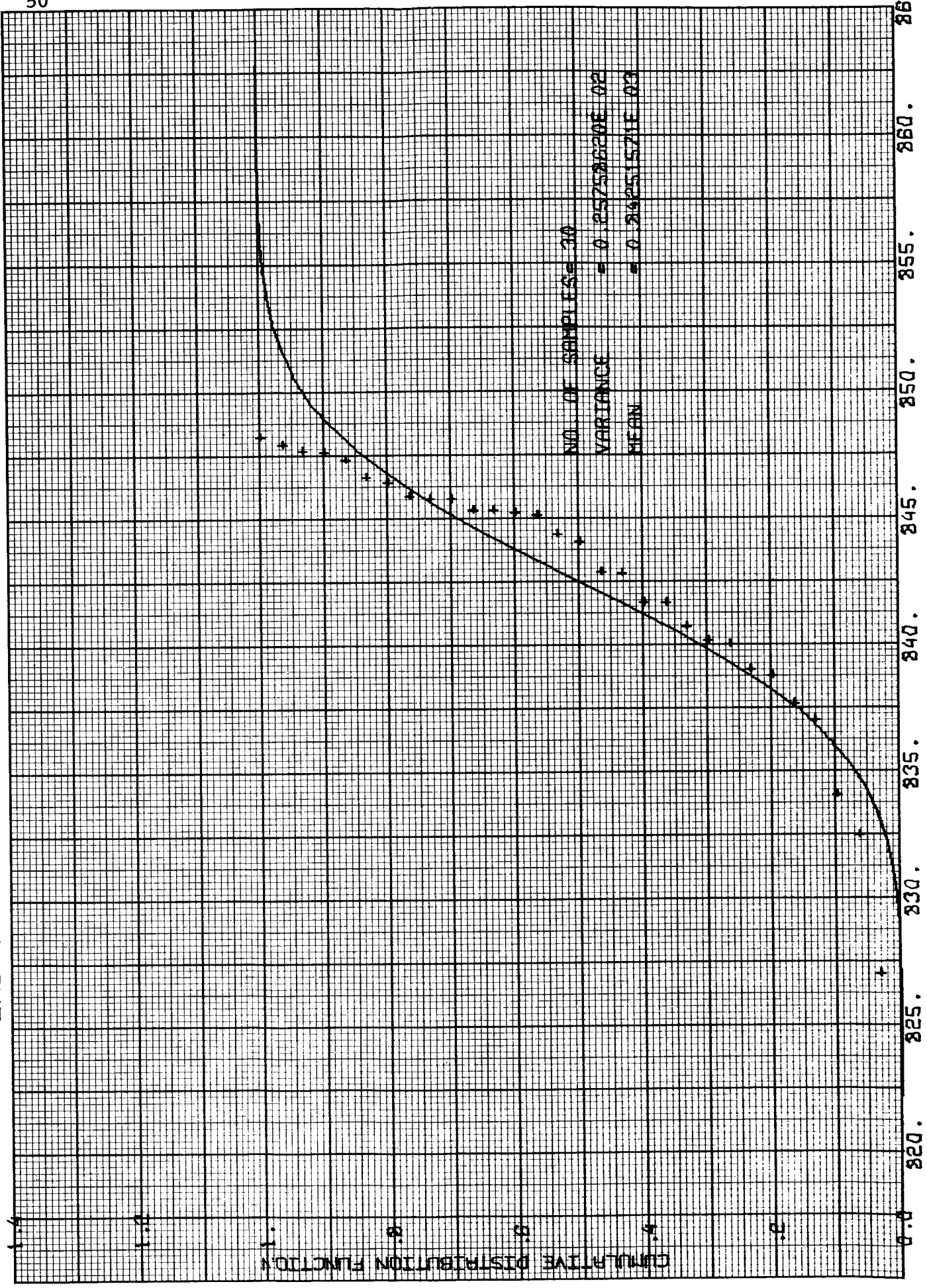
SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE

END OF MIDCOURSE BURN ONE



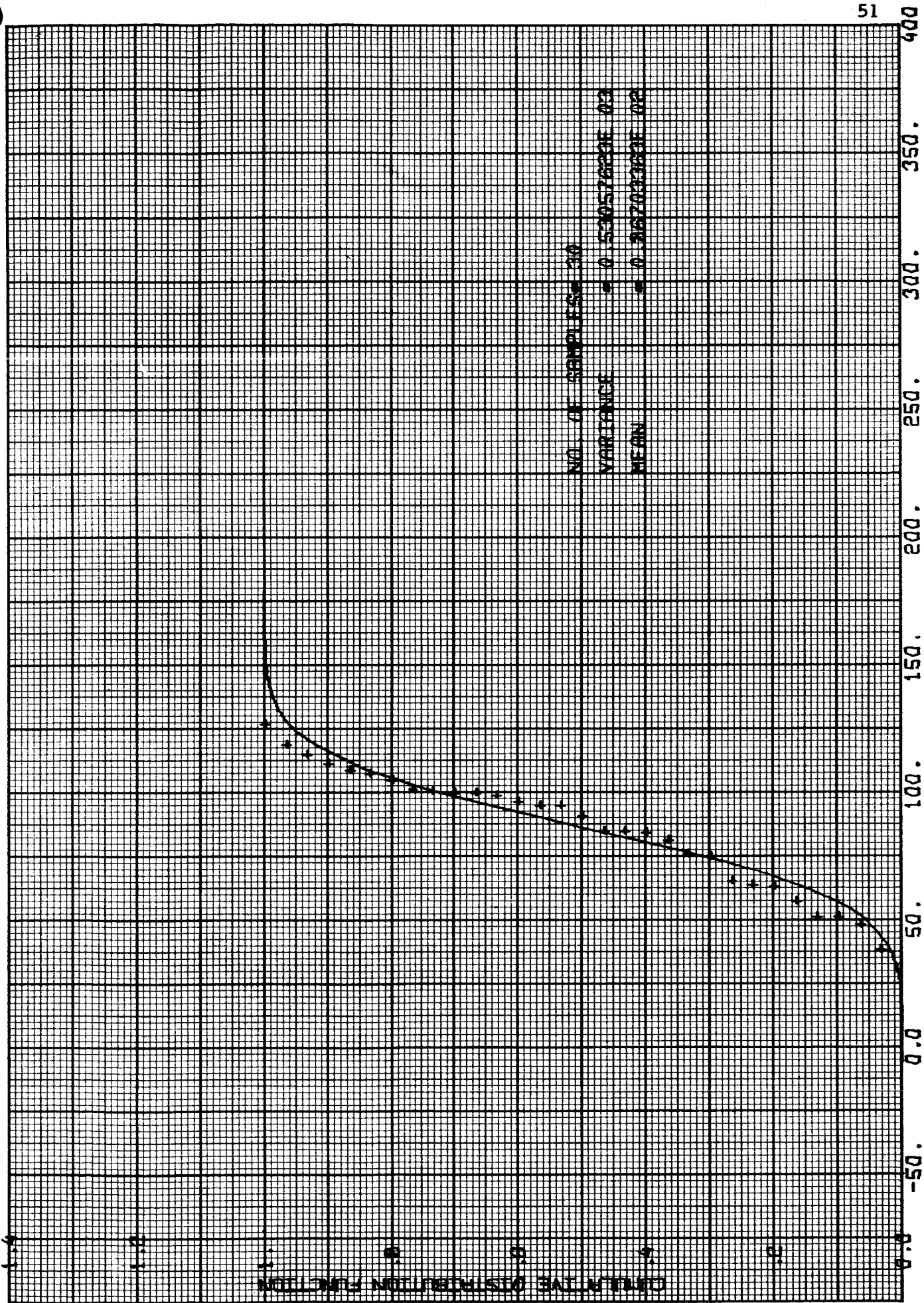
SAMPLE CUMULATIVE DISTRIBUTION OF MEAN ANOMALY

END OF MIDCOURSE BURN ONE

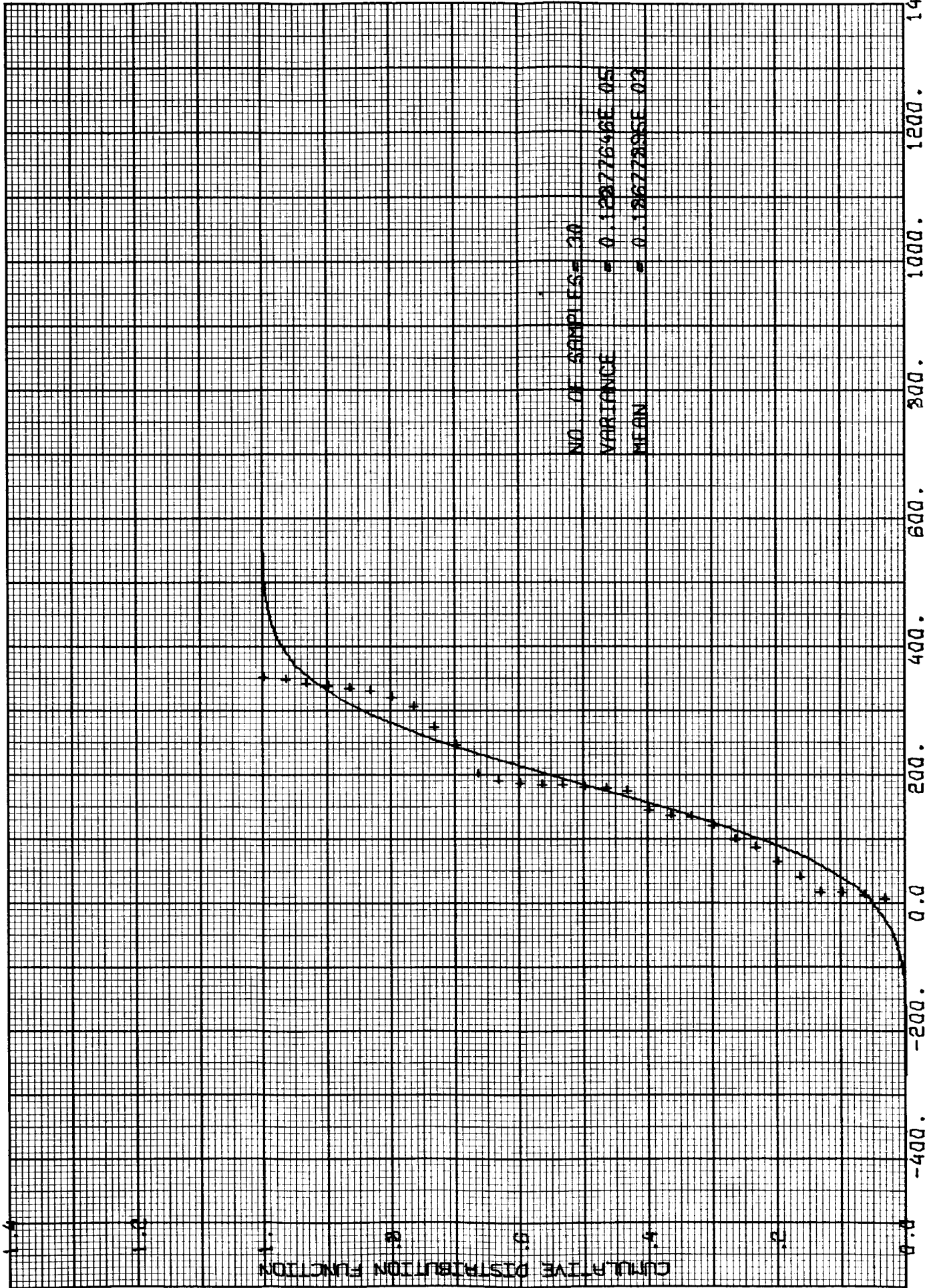


SAMPLE CUMULATIVE DISTRIBUTION OF WEIGHT AT CURRENT TIME

END OF MIDCOURSE BURN ONE

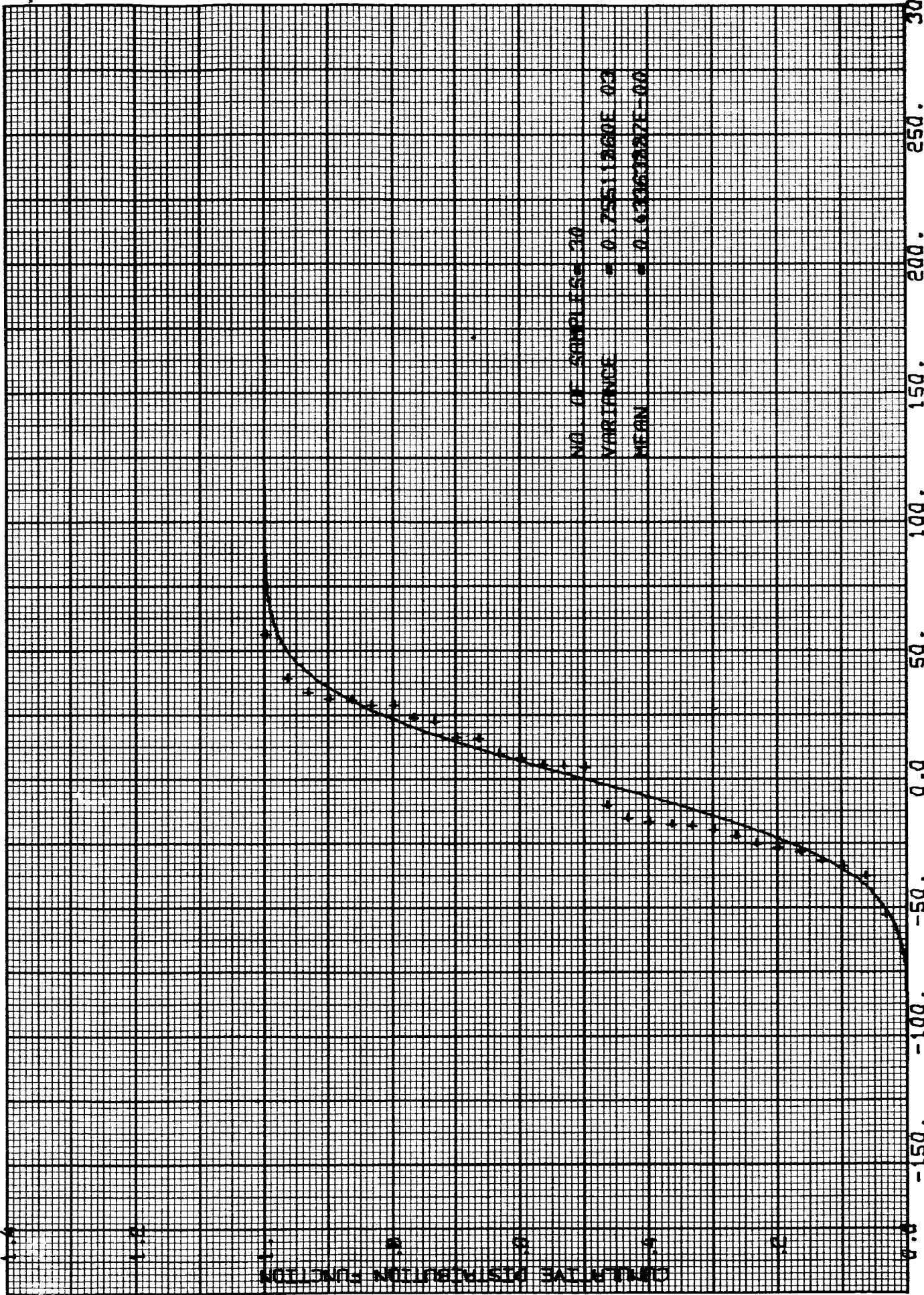


END OF MIDCOURSE BURN ONE

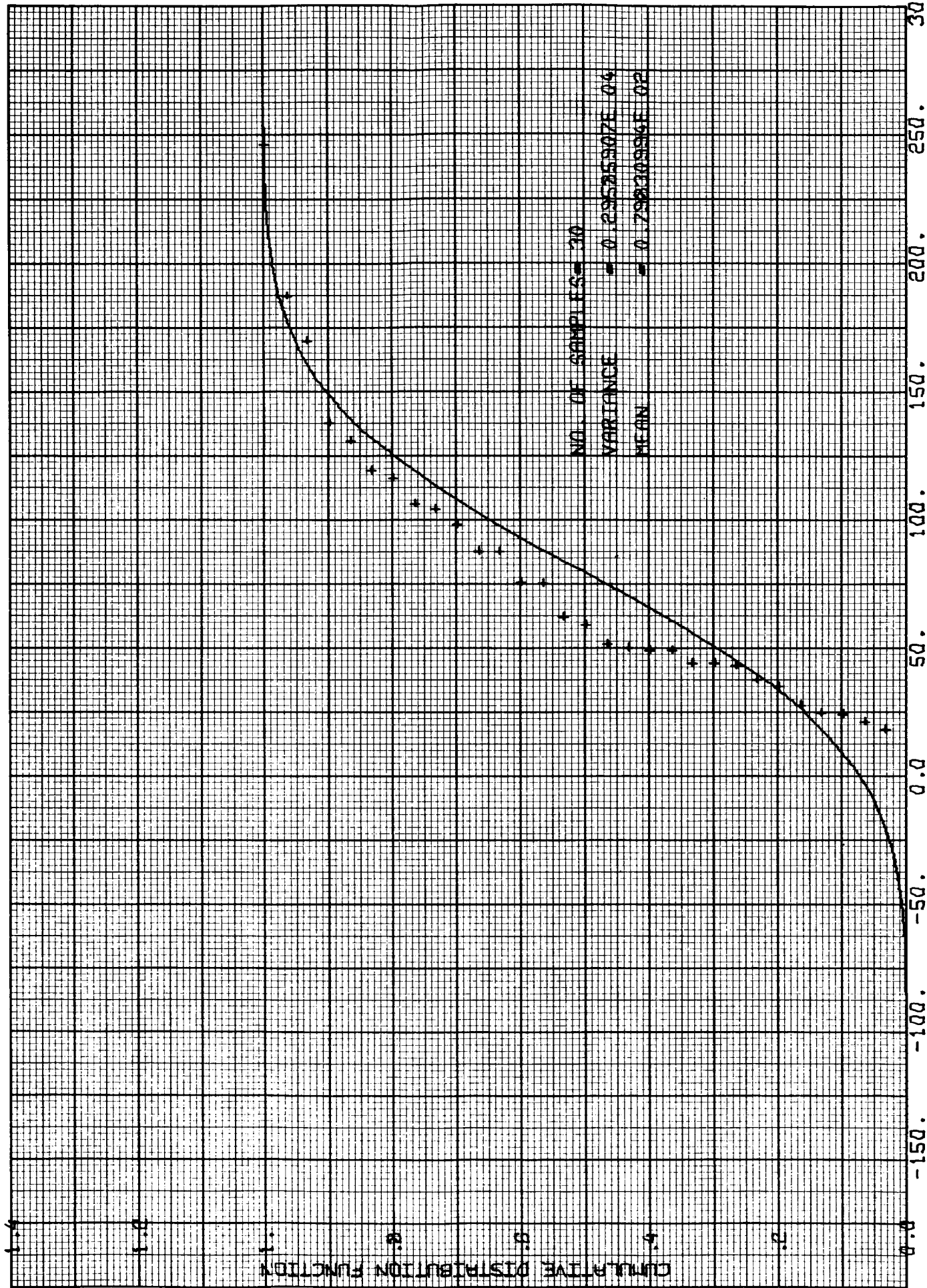


SAMPLE CUMULATIVE DISTRIBUTION OF ACXI INERTIAL ATTITUDE ANGLE

END OF MIDCOURSE BURN ONE

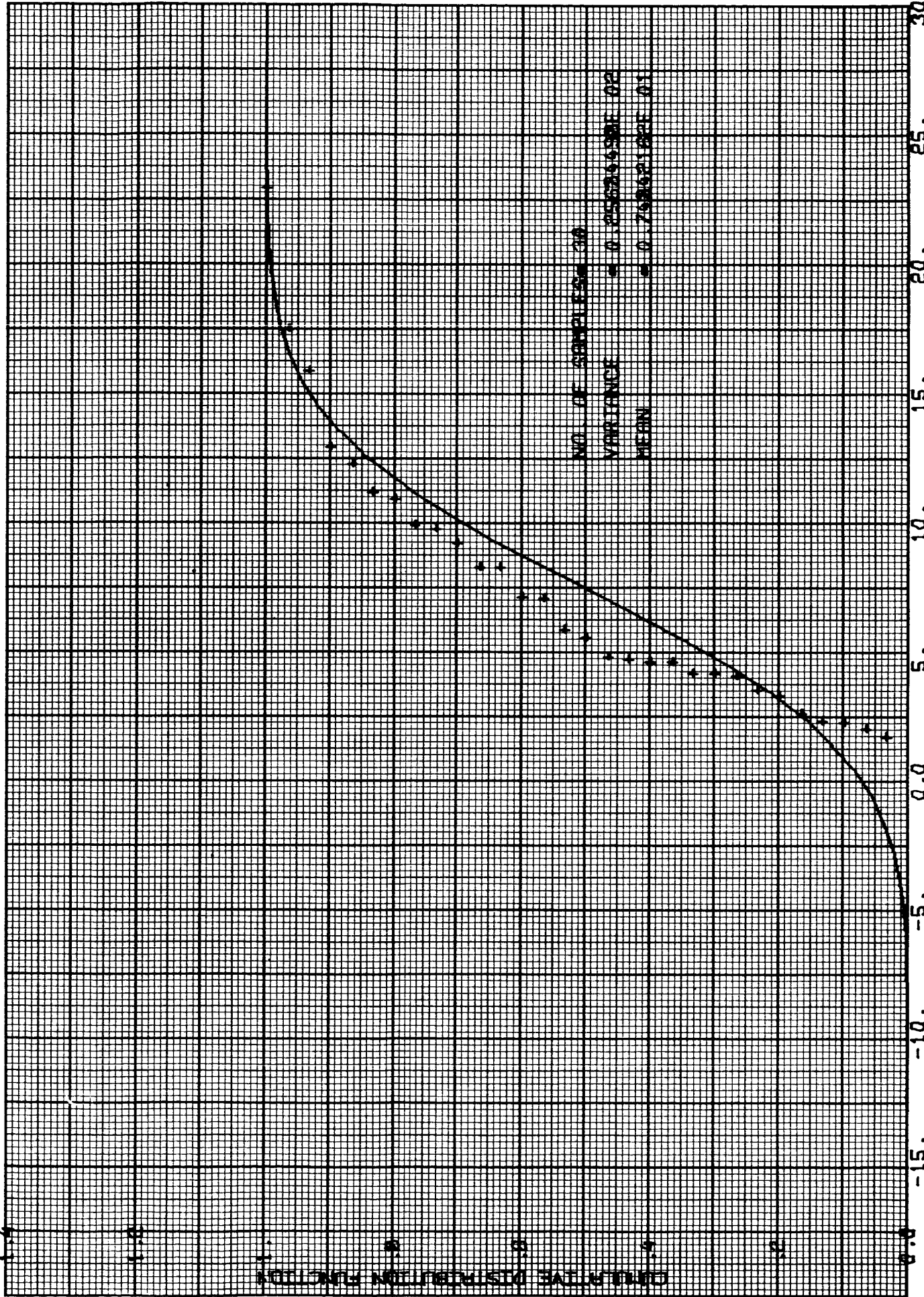


END OF MIDCOURSE BURN ONE

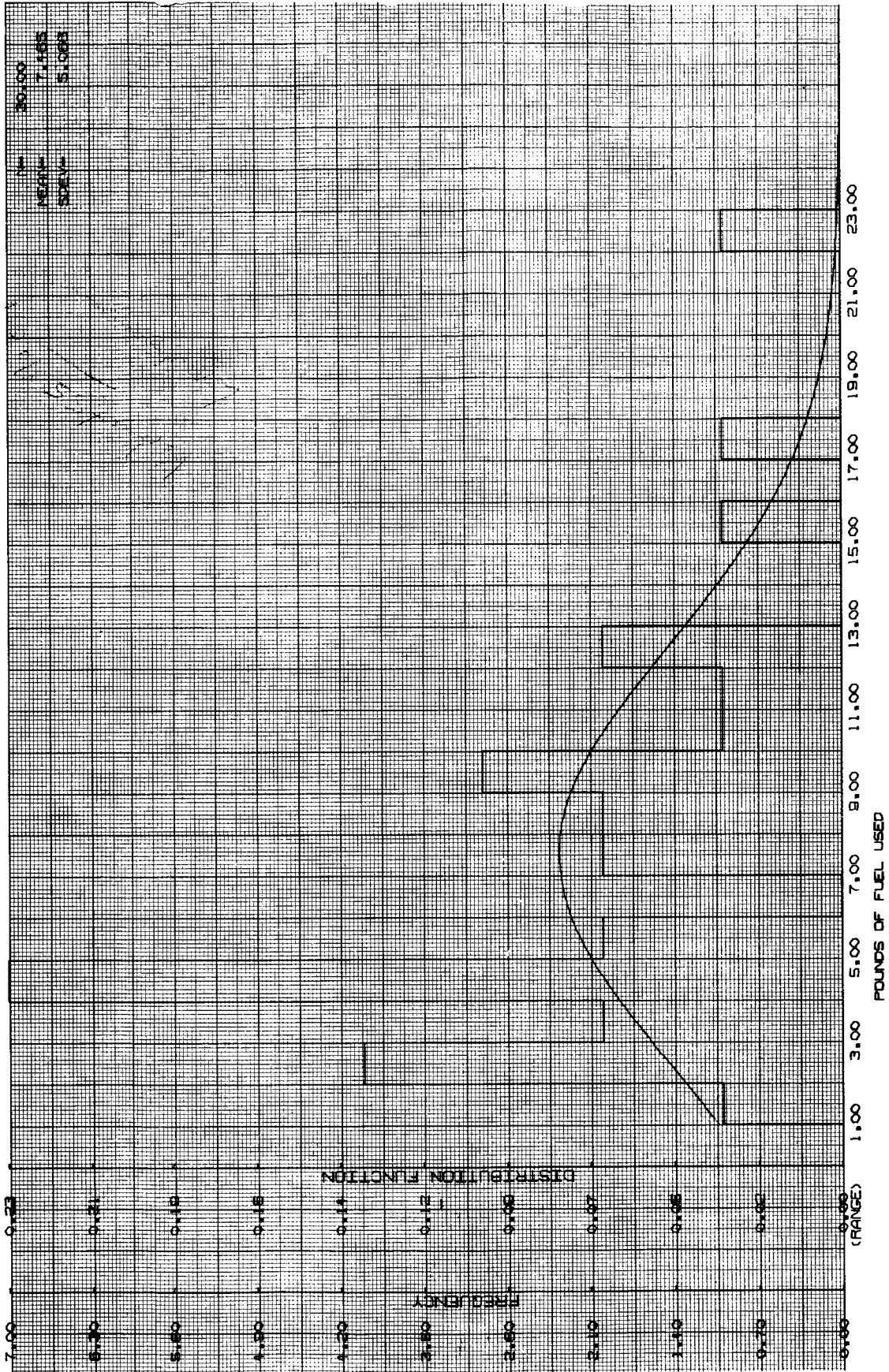


SAMPLE CUMULATIVE DISTRIBUTION OF SENSED VELOCITY MAGNITUDE

END OF MIDCOURSE BURN ONE



MIDCOURSE BURN ONE



START OF MIDCOURSE BURN TWO
SAMPLE STATE VECTORS

X	Y	Z	VX	VY	VZ
-0.30681965E 06	-0.13605637E 06	-0.57271244E 05	-0.40761612E-00	-0.35092751E-00	0.40063992E-01
-0.30691262E 06	-0.13571069E 06	-0.57678232E 05	-0.40582532E-00	-0.35619304E-00	0.44493949E-01
-0.30689479E 06	-0.13614220E 06	-0.57261679E 05	-0.40642209E-00	-0.35060177E-00	0.39759412E-01
-0.30685899E 06	-0.13585912E 06	-0.57526042E 05	-0.40723204E-00	-0.35379404E-00	0.43601741E-01
-0.30681138E 06	-0.13647389E 06	-0.57010066E 05	-0.40672994E-00	-0.34636582E-00	0.37355430E-01
-0.30683086E 06	-0.13624191E 06	-0.57176070E 05	-0.40748589E-00	-0.34920263E-00	0.38974032E-01
-0.30669645E 06	-0.13614433E 06	-0.57288512E 05	-0.40950300E-00	-0.35017451E-00	0.40922985E-01
-0.30668271E 06	-0.13623203E 06	-0.57205589E 05	-0.40889782E-00	-0.34935454E-00	0.38608003E-01
-0.30708875E 06	-0.13567647E 06	-0.57658384E 05	-0.40352613E-00	-0.35504813E-00	0.44990096E-01
-0.30671815E 06	-0.13600581E 06	-0.57224088E 05	-0.40950283E-00	-0.35148234E-00	0.40551361E-01
-0.30667600E 06	-0.13634916E 06	-0.56953251E 05	-0.41278099E-00	-0.34593612E-00	0.39142907E-01
-0.30695155E 06	-0.13621513E 06	-0.57245076E 05	-0.40590134E-00	-0.34976590E-00	0.39788828E-01
-0.30666810E 06	-0.13677795E 06	-0.56867861E 05	-0.41003542E-00	-0.34225602E-00	0.35502581E-01
-0.30687159E 06	-0.13620088E 06	-0.57425472E 05	-0.40682866E-00	-0.34983089E-00	0.42367680E-01
-0.30683588E 06	-0.13607653E 06	-0.57374911E 05	-0.40635435E-00	-0.35204182E-00	0.40672492E-01
-0.30693244E 06	-0.13587824E 06	-0.57382325E 05	-0.40580603E-00	-0.35383688E-00	0.41443136E-01
-0.30681859E 06	-0.13627438E 06	-0.57195880E 05	-0.40758137E-00	-0.34865794E-00	0.39514503E-01
-0.30678505E 06	-0.13640714E 06	-0.57146148E 05	-0.40849641E-00	-0.34695308E-00	0.39002720E-01
-0.30681575E 06	-0.13566554E 06	-0.57607708E 05	-0.40720768E-00	-0.35686284E-00	0.44095720E-01
-0.30701231E 06	-0.13569462E 06	-0.57607309E 05	-0.40492833E-00	-0.35611901E-00	0.44227694E-01
-0.30681451E 06	-0.13674042E 06	-0.56906776E 05	-0.40783416E-00	-0.34218086E-00	0.36191007E-01
-0.30676225E 06	-0.13613228E 06	-0.57375591E 05	-0.40848882E-00	-0.35072336E-00	0.41512723E-01
-0.30729862E 06	-0.13529906E 06	-0.57816118E 05	-0.40164094E-00	-0.36117322E-00	0.46742109E-01
-0.30687284E 06	-0.13631210E 06	-0.57158939E 05	-0.40672347E-00	-0.34850886E-00	0.39298928E-01
-0.30696055E 06	-0.13629130E 06	-0.57535250E 05	-0.40582129E-00	-0.34820358E-00	0.44022413E-01
-0.30655852E 06	-0.13530181E 06	-0.57810683E 05	-0.40504215E-00	-0.36120316E-00	0.46433531E-01
-0.30693188E 06	-0.13597953E 06	-0.57326848E 05	-0.40577888E-00	-0.35246535E-00	0.40833935E-01
-0.30679636E 06	-0.13656884E 06	-0.57075302E 05	-0.40830569E-00	-0.34435298E-00	0.38400753E-01
-0.30668306E 06	-0.13607293E 06	-0.57274842E 05	-0.40923613E-00	-0.35128026E-00	0.40327533E-01
-0.30665852E 06	-0.13623483E 06	-0.56874518E 05	-0.40880784E-00	-0.34973542E-00	0.34750576E-01

START OF MIDCOURSE BURN TWO

SAMPLE MEAN OF GEOCENTRIC STATE VECTOR
 -3.0685009E 05 -1.3610184E 05 -5.7310019E 04 -4.0721133E-01 -3.5084103E-01 4.0786421E-02

SAMPLE COVARIANCE MATRIX OF GEOCENTRIC STATE VECTOR

	1	2	3	4	5	6
1	2.5988413E 04	-2.8813241E 04	2.7824551E 04	-2.6400862E-01	4.2025862E-01	-3.0024245E-01
2	-2.8813241E 04	1.2852965E 05	-8.2696826E 04	4.8760775E-01	-1.6363146E 00	9.3925107E-01
3	2.7824551E 04	-8.2696826E 04	6.8678620E 04	-4.0247844E-01	1.0843211E 00	-7.7717537E-01
4	-2.6400862E-01	4.8760775E-01	-4.0247844E-01	4.5176210E-06	-6.4434676E-06	4.2045681E-06
5	4.2025862E-01	-1.6363146E 00	1.0843211E 00	-6.4434676E-06	2.1492612E-05	-1.1953429E-05
6	-3.0024245E-01	9.3925107E-01	-7.7717537E-01	4.2045681E-06	-1.1953429E-05	9.2062359E-06

CORRESPONDING CORRELATION MATRIX

	1	2	3	4	5	6
1	1.0000000E 00	-4.9854063E-01	6.5860876E-01	-7.7050120E-01	5.6231819E-01	-6.1382018E-01
2	-4.9854063E-01	1.0000000E 00	-8.8018993E-01	6.3990284E-01	-9.8451091E-01	8.6345354E-01
3	6.5860876E-01	-8.8018993E-01	1.0000000E 00	-7.2256504E-01	8.9248828E-01	-9.7738844E-01
4	-7.7050120E-01	6.3990284E-01	-7.2256504E-01	1.0000000E 00	-6.5391327E-01	6.5196674E-01
5	5.6231819E-01	-9.8451091E-01	8.9248828E-01	-6.5391327E-01	1.0000000E 00	-8.4978065E-01
6	-6.1382018E-01	8.6345354E-01	-9.7738844E-01	6.5196674E-01	-8.4978065E-01	1.0000000E 00

START OF MIDCOURSE BURN TWO
 SAMPLE CUMULATIVE DISTRIBUTION OF SEMI-MAJOR AXIS
 UNSORTED SAMPLES

1.9440523E 05	1.9465504E 05	1.9434414E 05	1.9458467E 05	1.9408093E 05	1.9430665E 05
1.9444998E 05	1.9433691E 05	1.9449771E 05	1.9450371E 05	1.9441705E 05	1.9429952E 05
1.9403585E 05	1.9436424E 05	1.9440488E 05	1.9449241E 05	1.9428546E 05	1.9424959E 05
1.9472728E 05	1.9462535E 05	1.9394563E 05	1.9445749E 05	1.9482876E 05	1.9424982E 05
1.9428034E 05	1.9491237E 05	1.9441361E 05	1.9410142E 05	1.9447024E 05	1.9430222E 05

START OF MIDCOURSE BURN TWO
 SAMPLE CUMULATIVE DISTRIBUTION OF ECCENTRICITY
 UNSORTED SAMPLES

9.6955016E-01	9.6709049E-01	9.6958954E-01	9.6803379E-01	9.7118260E-01	9.7019861E-01
9.6973170E-01	9.7035829E-01	9.6702955E-01	9.6948700E-01	9.7140223E-01	9.6974586E-01
9.7280021E-01	9.6926538E-01	9.6904368E-01	9.6836479E-01	9.7022963E-01	9.7082877E-01
9.6715391E-01	9.6708454E-01	9.7248155E-01	9.6937650E-01	9.6486263E-01	9.7023746E-01
9.6920226E-01	9.6527150E-01	9.6883886E-01	9.7155218E-01	9.6956515E-01	9.7107525E-01

START OF MIDCOURSE BURN TWO
 SAMPLE CUMULATIVE DISTRIBUTION OF INCLINATION
 UNSORTED SAMPLES

4.0033612E 01	4.0057780E 01	3.9887294E 01	4.0345828E 01	4.0027767E 01	4.0038280E 01
4.0559024E 01	4.0119051E 01	4.0045759E 01	4.0231084E 01	4.1101828E 01	3.9961957E 01
4.0652909E 01	4.0664073E 01	3.9899524E 01	3.9692340E 01	4.0260243E 01	4.0520660E 01
4.0003504E 01	3.9881158E 01	4.0553190E 01	4.0512701E 01	3.9320406E 01	4.0146809E 01
4.1186241E 01	3.9627208E 01	3.9760092E 01	4.0775761E 01	4.0224924E 01	3.9098468E 01

START OF MIDCOURSE BURN TWO
 SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE

		UNSORTED SAMPLES	
2.1563927E 02	2.1564939E 02	2.1569793E 02	2.1552329E 02
2.1544321E 02	2.1562289E 02	2.1562763E 02	2.1554418E 02
2.1541209E 02	2.1541815E 02	2.1571266E 02	2.1576504E 02
2.1566122E 02	2.1569732E 02	2.1544058E 02	2.1547172E 02
2.1523159E 02	2.1579491E 02	2.1573883E 02	2.1536148E 02
			2.1564185E 02
			2.1518635E 02
			2.1555412E 02
			2.1589872E 02
			2.1557029E 02
			2.1563704E 02
			2.1566742E 02
			2.1545835E 02
			2.1560194E 02
			2.1598801E 02

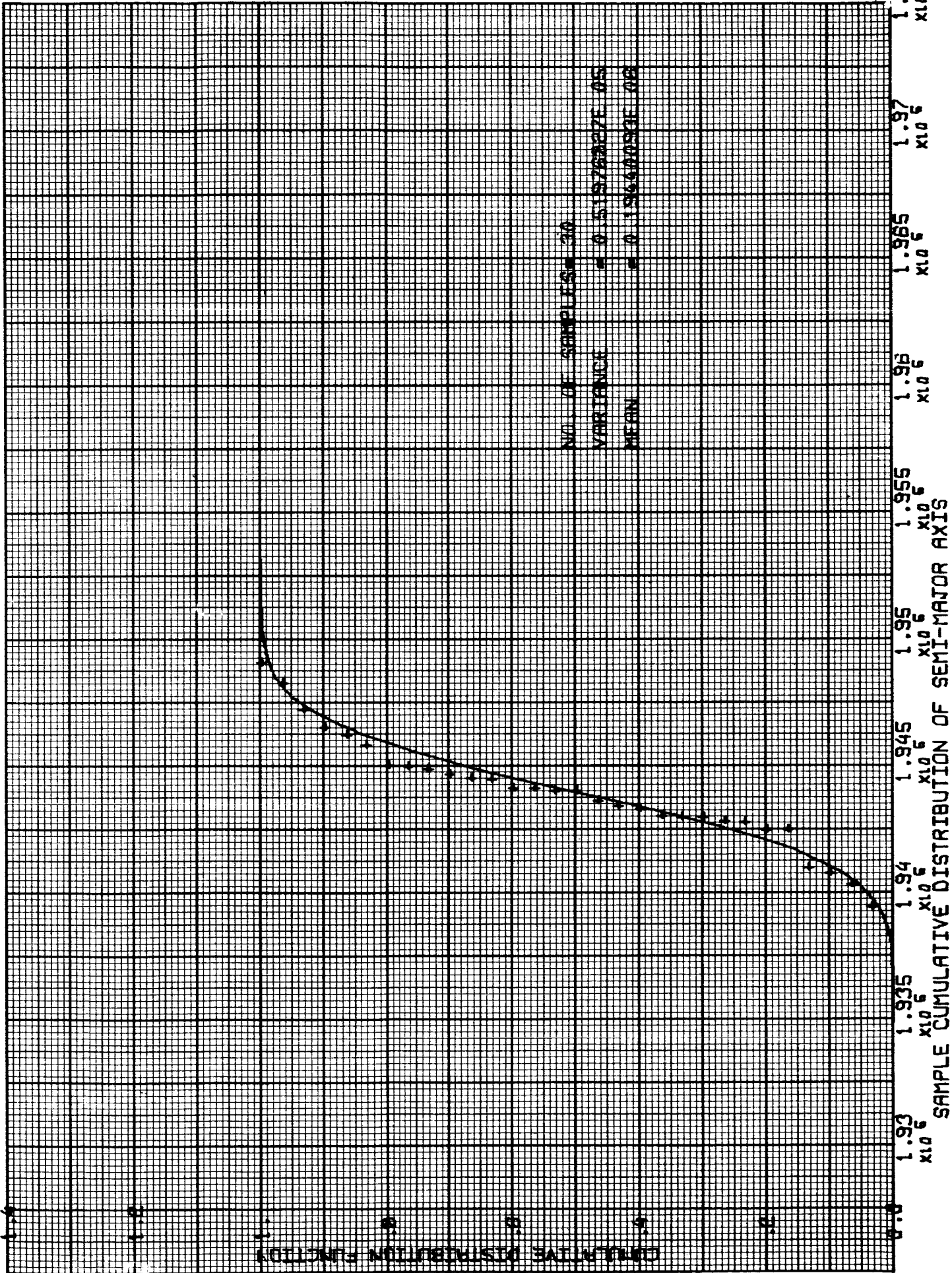
START OF MIDCOURSE BURN TWO
 SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE

		UNSORTED SAMPLES	
1.6991005E 02	1.7001599E 02	1.6985332E 02	1.7007402E 02
1.7006601E 02	1.6988846E 02	1.6999900E 02	1.7000535E 02
1.6992100E 02	1.7008212E 02	1.6987520E 02	1.6986516E 02
1.7002463E 02	1.6997275E 02	1.6989233E 02	1.7005393E 02
1.7020504E 02	1.6999865E 02	1.6985796E 02	1.7000708E 02
			1.6981622E 02
			1.7019086E 02
			1.6993695E 02
			1.6990434E 02
			1.6997984E 02
			1.6987625E 02
			1.6986351E 02
			1.6998267E 02
			1.6989384E 02
			1.6958518E 02

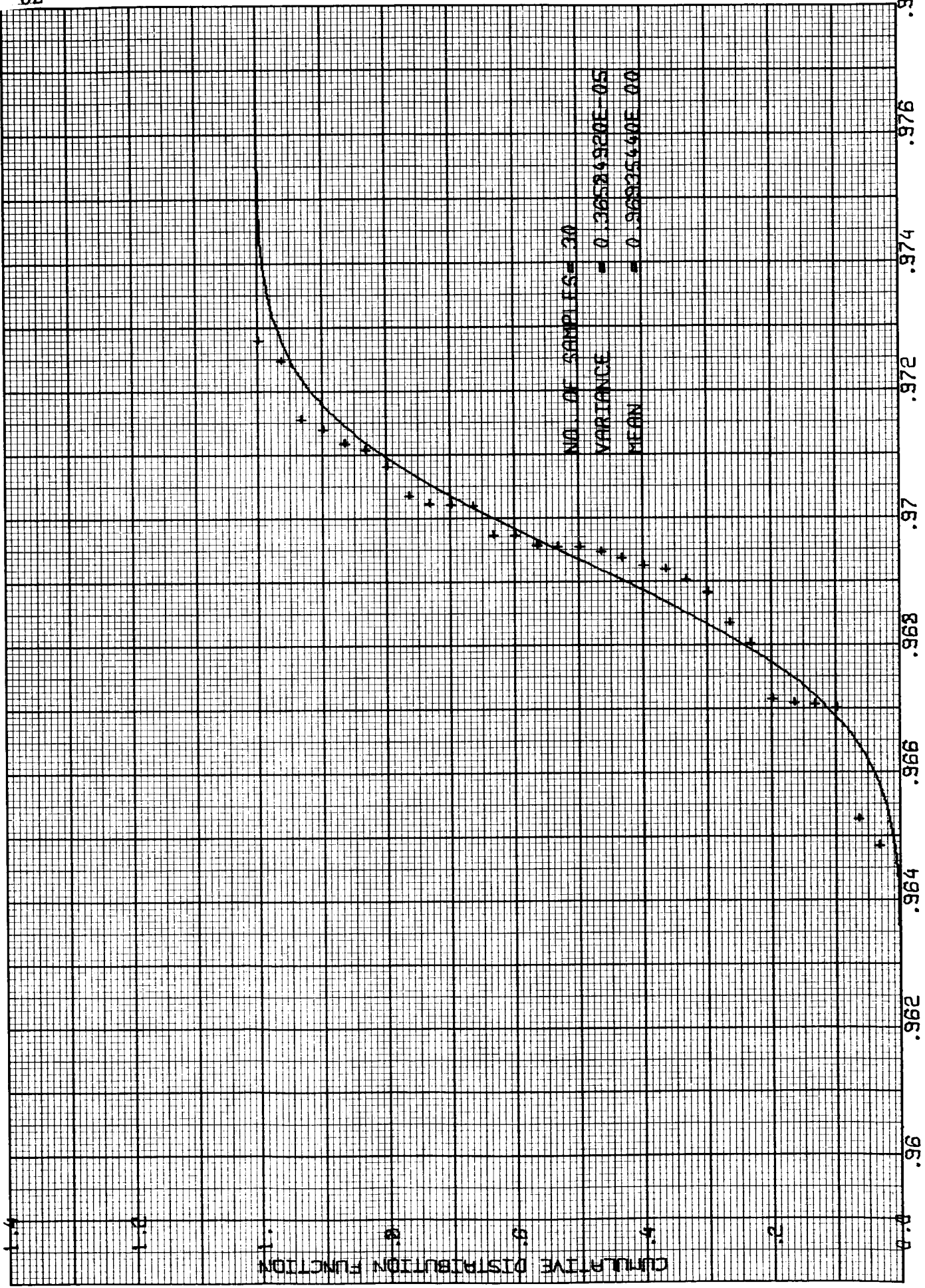
START OF MIDCOURSE BURN TWO
 SAMPLE CUMULATIVE DISTRIBUTION OF MEAN ANOMALY

		UNSORTED SAMPLES	
1.0571471E 02	1.0574658E 02	1.0586981E 02	1.0568378E 02
1.0554436E 02	1.0561621E 02	1.0610893E 02	1.0546604E 02
1.0578875E 02	1.0591857E 02	1.0582135E 02	1.0580758E 02
1.0553152E 02	1.0585154E 02	1.0607961E 02	1.0564929E 02
1.0616780E 02	1.0561219E 02	1.0587238E 02	1.0595167E 02
			1.0601267E 02
			1.0532743E 02
			1.0582935E 02
			1.0602981E 02
			1.0550564E 02
			1.0579862E 02
			1.0597624E 02
			1.0579688E 02
			1.0593541E 02
			1.0551686E 02

START OF MIDCOURSE BURN TWO

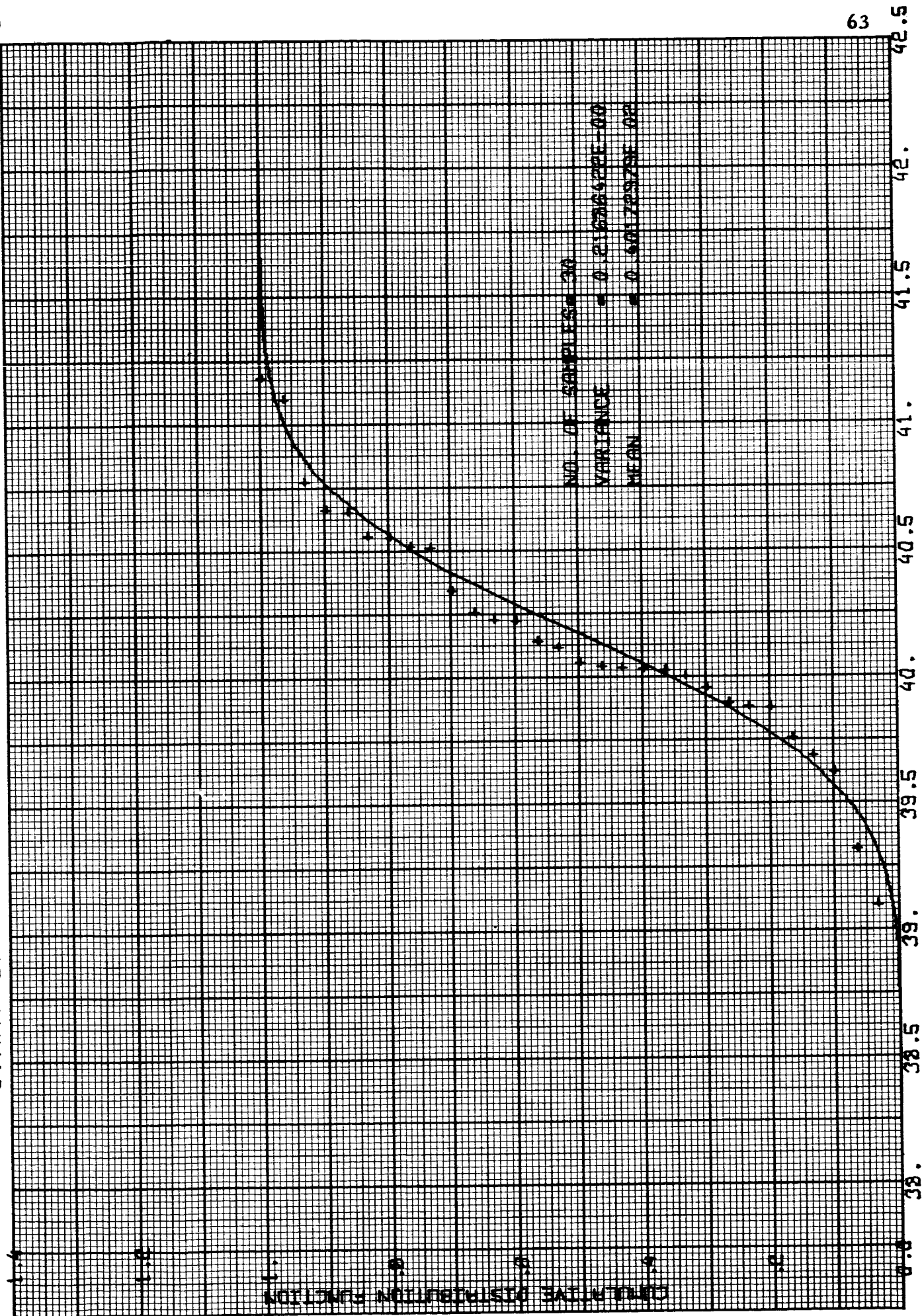


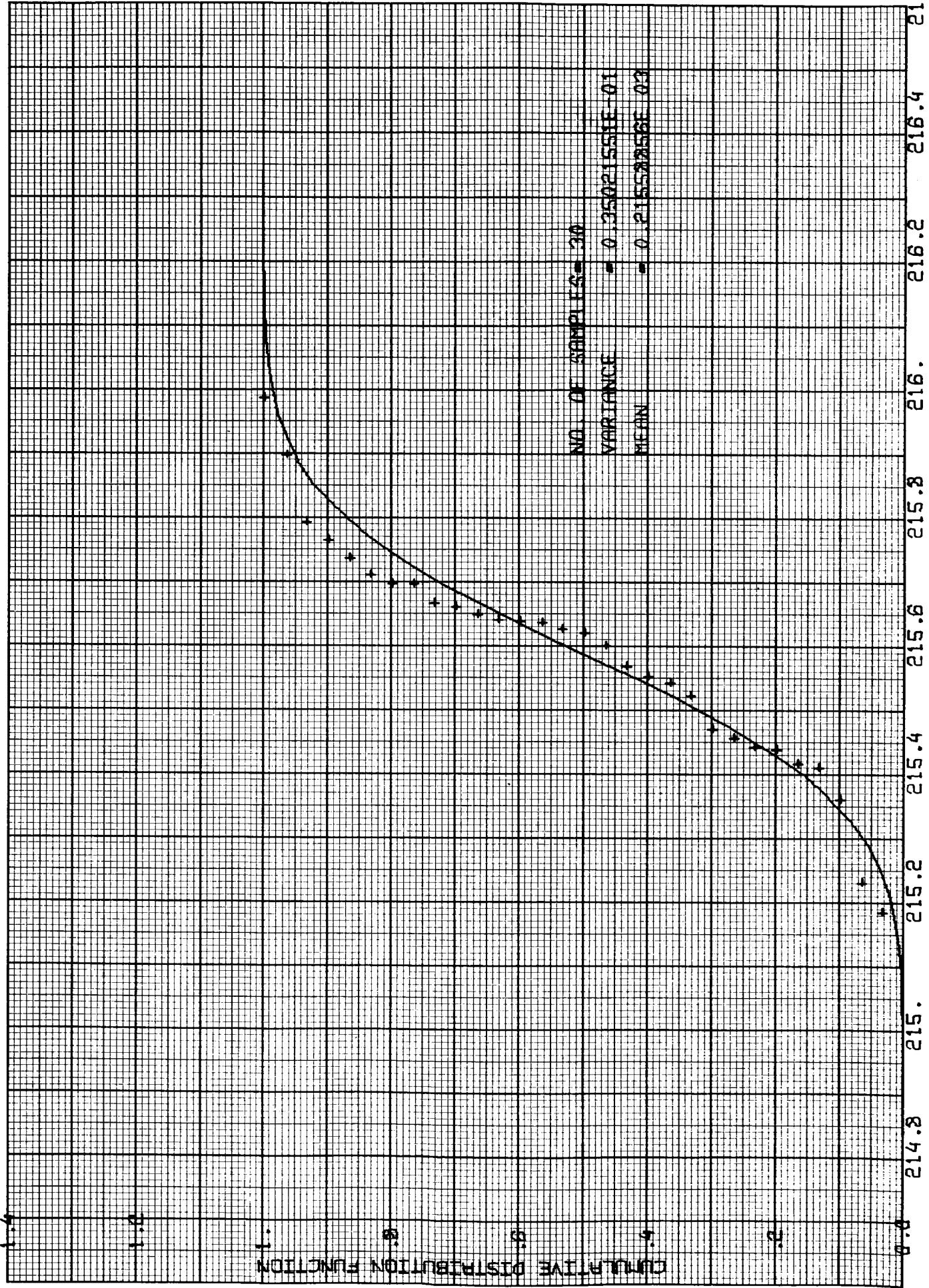
START OF MIDCOURSE BURN TWO



SAMPLE CUMULATIVE DISTRIBUTION OF ECCENTRICITY

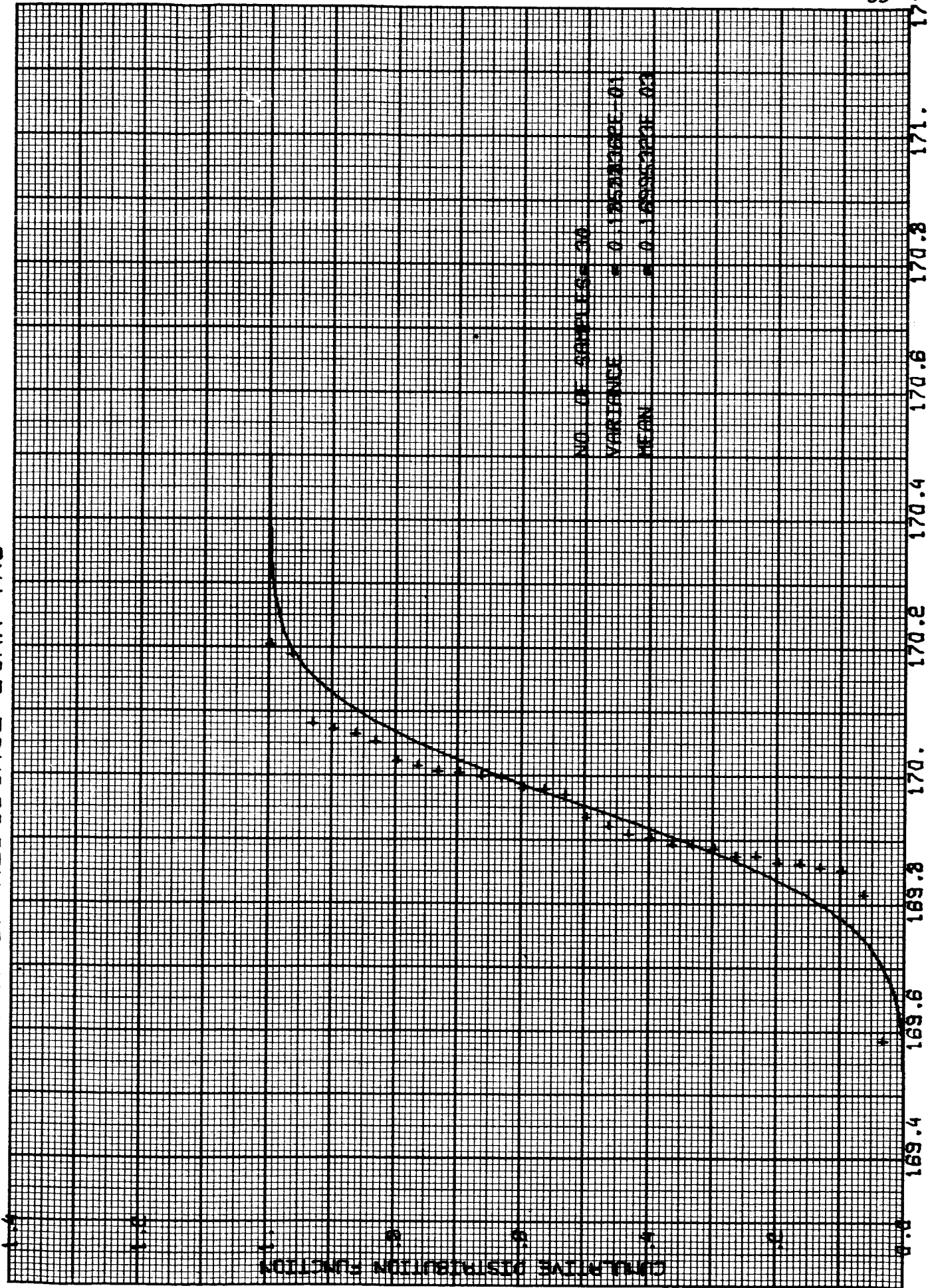
START OF MIDCOURSE BURN TWO





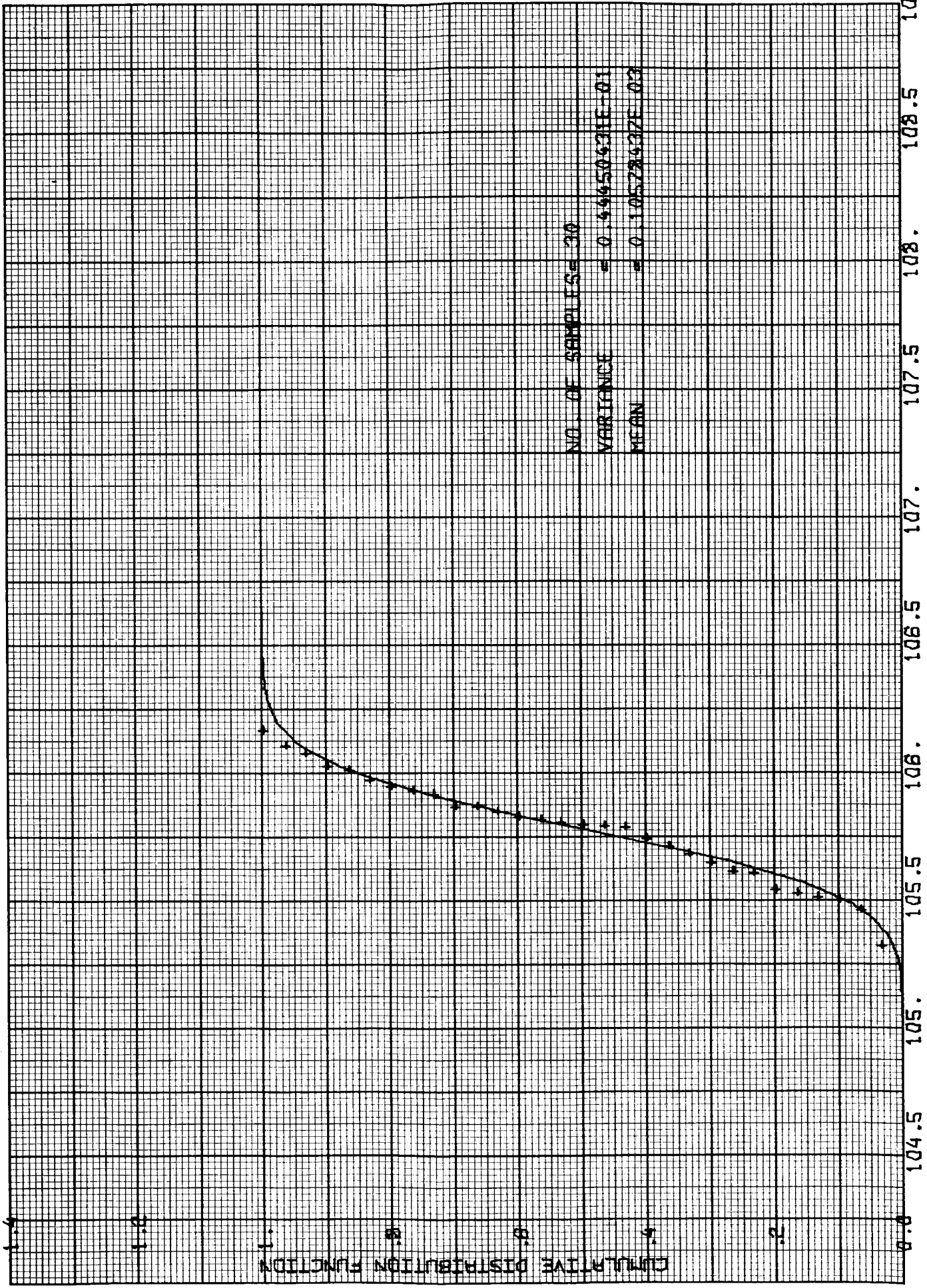
SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE

START OF MIDCOURSE BURN TWO



SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE

START OF MIDCOURSE BURN TWO



SAMPLE CUMULATIVE DISTRIBUTION OF MEAN ANOMALY

END OF MIDCOURSE BURN TWO
SAMPLE STATE VECTORS

X	Y	Z	VX	VY	VZ
-0.30681971E 06	-0.13609643E 06	-0.57271237E 05	-0.40764774E-00	-0.35104255E-00	0.40232567E-01
-0.30691291E 06	-0.13571095E 06	-0.57678200E 05	-0.40632704E-00	-0.35595603E-00	0.45113578E-01
-0.30689494E 06	-0.13614234E 06	-0.57261663E 05	-0.40614591E-00	-0.35094432E-00	0.39679968E-01
-0.30685914E 06	-0.13585924E 06	-0.57526025E 05	-0.40711623E-00	-0.35405239E-00	0.43297876E-01
-0.30681172E 06	-0.13647418E 06	-0.57010033E 05	-0.40765718E-00	-0.34631686E-00	0.37066448E-01
-0.30683055E 06	-0.13624199E 06	-0.57176061E 05	-0.40760192E-00	-0.34909282E-00	0.39163648E-01
-0.30669651E 06	-0.13614438E 06	-0.57288507E 05	-0.40557302E-00	-0.35012042E-00	0.40795942E-01
-0.30668315E 06	-0.13623239E 06	-0.57205548E 05	-0.40961637E-00	-0.34913862E-00	0.39608371E-01
-0.30708925E 06	-0.13567691E 06	-0.57658328E 05	-0.40400732E-00	-0.35641947E-00	0.44833640E-01
-0.30671860E 06	-0.13600620E 06	-0.57224044E 05	-0.40901136E-00	-0.35215804E-00	0.39590177E-01
-0.30667759E 06	-0.13635051E 06	-0.56953105E 05	-0.40960670E-00	-0.34776474E-00	0.36384054E-01
-0.30695228E 06	-0.13621540E 06	-0.57245045E 05	-0.40630572E-00	-0.34914610E-00	0.40282691E-01
-0.30666819E 06	-0.13677803E 06	-0.56867854E 05	-0.40986063E-00	-0.34214742E-00	0.35621556E-01
-0.30687172E 06	-0.13620101E 06	-0.57425459E 05	-0.40707087E-00	-0.34955236E-00	0.42292190E-01
-0.30684043E 06	-0.13607701E 06	-0.57374857E 05	-0.40738521E-00	-0.35125997E-00	0.41520179E-01
-0.30693258E 06	-0.13587835E 06	-0.57382312E 05	-0.40617701E-00	-0.35381217E-00	0.41532534E-01
-0.30681878E 06	-0.13627452E 06	-0.57195862E 05	-0.40742175E-00	-0.34897529E-00	0.39166456E-01
-0.30678522E 06	-0.13640725E 06	-0.57146136E 05	-0.40815298E-00	-0.34700099E-00	0.38839643E-01
-0.30681600E 06	-0.13566574E 06	-0.57607682E 05	-0.40772150E-00	-0.35645219E-00	0.44282019E-01
-0.30701240E 06	-0.13569470E 06	-0.57607299E 05	-0.40516330E-00	-0.35609774E-00	0.44312647E-01
-0.30681464E 06	-0.13674053E 06	-0.56906766E 05	-0.40809832E-00	-0.34243932E-00	0.36282953E-01
-0.30676232E 06	-0.13613234E 06	-0.57375584E 05	-0.40830795E-00	-0.35060544E-00	0.41470709E-01
-0.30729911E 06	-0.13529952E 06	-0.57816061E 05	-0.40058078E-00	-0.36191262E-00	0.46052115E-01
-0.30687297E 06	-0.13631222E 06	-0.57198925E 05	-0.40650476E-00	-0.34869566E-00	0.39034902E-01
-0.30696072E 06	-0.13629144E 06	-0.57535233E 05	-0.40576745E-00	-0.34849598E-00	0.43648735E-01
-0.30695857E 06	-0.13530187E 06	-0.57810678E 05	-0.40508418E-00	-0.36135465E-00	0.46473278E-01
-0.30693202E 06	-0.13597964E 06	-0.57326835E 05	-0.40593418E-00	-0.35275488E-00	0.40667370E-01
-0.30679663E 06	-0.13656907E 06	-0.57075276E 05	-0.40800805E-00	-0.34494884E-00	0.38015693E-01
-0.30668320E 06	-0.13607304E 06	-0.57274829E 05	-0.40958533E-00	-0.35117307E-00	0.40369595E-01
-0.30665877E 06	-0.13623504E 06	-0.56874497E 05	-0.40917306E-00	-0.34938177E-00	0.35226458E-01

END OF MIDCOURSE BURN TWO

SAMPLE MEAN OF GEOCENTRIC STATE VECTOR

-3.0685034E 05 -1.3610207E 05 -5.7309994E 04 -4.0722043E-01 -3.5097373E-01 4.0695263E-02

SAMPLE COVARIANCE MATRIX OF GEOCENTRIC STATE VECTOR

	1		2		3		4		5		6	
1	2.8248276E 04	-2.8813241E 04	2.7965793E 04	-2.5969827E-01	4.3534482E-01	3.0347521E-01	4.3534482E-01	3.0347521E-01	4.3534482E-01	3.0347521E-01	4.3534482E-01	3.0347521E-01
2	-2.8813241E 04	1.2768220E 05	-8.2767447E 04	4.6928879E-01	-1.6497845E 00	9.5433728E-01	-1.6497845E 00	9.5433728E-01	-1.6497845E 00	9.5433728E-01	-1.6497845E 00	9.5433728E-01
3	2.7965793E 04	-8.2767447E 04	6.8643309E 04	-3.7176724E-01	1.0843211E 00	-8.0135370E-01	1.0843211E 00	-8.0135370E-01	1.0843211E 00	-8.0135370E-01	1.0843211E 00	-8.0135370E-01
4	-2.5969827E-01	4.6928879E-01	-3.7176724E-01	3.8845785E-06	-6.2071043E-06	4.2280760E-06	-6.2071043E-06	4.2280760E-06	-6.2071043E-06	4.2280760E-06	-6.2071043E-06	4.2280760E-06
5	4.3534482E-01	-1.6497845E 00	1.0843211E 00	-6.2071043E-06	2.1603600E-05	-1.2360642E-05	2.1603600E-05	-1.2360642E-05	2.1603600E-05	-1.2360642E-05	2.1603600E-05	-1.2360642E-05
6	-3.0347521E-01	9.5433728E-01	-8.0135370E-01	4.2280760E-06	-1.2360642E-05	9.4340246E-06	-1.2360642E-05	9.4340246E-06	-1.2360642E-05	9.4340246E-06	-1.2360642E-05	9.4340246E-06

CORRESPONDING CORRELATION MATRIX

	1		2		3		4		5		6	
1	1.0000000E 00	-4.7976764E-01	6.3508528E-01	-7.8397307E-01	5.5728114E-01	-5.8786654E-01	5.5728114E-01	-5.8786654E-01	5.5728114E-01	-5.8786654E-01	5.5728114E-01	-5.8786654E-01
2	-4.7976764E-01	1.0000000E 00	-8.8408753E-01	6.6635098E-01	-9.9334234E-01	8.6953726E-01	-9.9334234E-01	8.6953726E-01	-9.9334234E-01	8.6953726E-01	-9.9334234E-01	8.6953726E-01
3	6.3508528E-01	-8.8408753E-01	9.9999998E-01	-7.1994621E-01	8.9042169E-01	-9.9581035E-01	8.9042169E-01	-9.9581035E-01	8.9042169E-01	-9.9581035E-01	8.9042169E-01	-9.9581035E-01
4	-7.8397307E-01	6.6635098E-01	-7.1994621E-01	1.0000000E 00	-6.7756978E-01	6.9842911E-01	-6.7756978E-01	6.9842911E-01	-6.7756978E-01	6.9842911E-01	-6.7756978E-01	6.9842911E-01
5	5.5728114E-01	-9.9334234E-01	8.9042169E-01	-6.7756978E-01	1.0000000E 00	-8.6582363E-01	1.0000000E 00	-8.6582363E-01	1.0000000E 00	-8.6582363E-01	1.0000000E 00	-8.6582363E-01
6	-5.8786654E-01	8.6953726E-01	-9.9581035E-01	6.9842911E-01	-8.6582363E-01	1.0000000E 00	-8.6582363E-01	1.0000000E 00	-8.6582363E-01	1.0000000E 00	-8.6582363E-01	1.0000000E 00

END OF MIDCOURSE BURN TWO

SAMPLE CUMULATIVE DISTRIBUTION OF TIME FROM TRANSLUNAR INJECTION

UNSORTED SAMPLES

2.5200018E 05	2.5200071E 05	2.5200038E 05	2.5200035E 05	2.5200084E 05	2.5200021E 05
2.5200013E 05	2.5200107E 05	2.5200123E 05	2.5200109E 05	2.5200387E 05	2.5200076E 05
2.5200020E 05	2.5200032E 05	2.5200133E 05	2.5200033E 05	2.5200043E 05	2.5200033E 05
2.5200059E 05	2.5200021E 05	2.5200032E 05	2.5200019E 05	2.5200123E 05	2.5200034E 05
2.5200041E 05	2.5200014E 05	2.5200032E 05	2.5200066E 05	2.5200031E 05	2.5200059E 05

END OF MIDCOURSE BURN TWO
 SAMPLE CUMULATIVE DISTRIBUTION OF SEMI-MAJOR AXIS
 UNSORTED SAMPLES

1.9441668E 05	1.9468324E 05	1.9434518E 05	1.9459069E 05	1.9414735E 05	1.9430982E 05
1.9445089E 05	1.9438612E 05	1.9462634E 05	1.9450370E 05	1.9427142E 05	1.9429360E 05
1.9401616E 05	1.9436396E 05	1.9443933E 05	1.9452015E 05	1.9429165E 05	1.9422510E 05
1.9474101E 05	1.9464278E 05	1.9398341E 05	1.9443536E 05	1.9479299E 05	1.9424347E 05
1.9429253E 05	1.9492644E 05	1.9444375E 05	1.9411471E 05	1.9449065E 05	1.9431044E 05

END OF MIDCOURSE BURN TWO
 SAMPLE CUMULATIVE DISTRIBUTION OF ECCENTRICITY
 UNSORTED SAMPLES

9.6949500E-01	9.6706349E-01	9.6950625E-01	9.6802551E-01	9.7131852E-01	9.7019607E-01
9.6977348E-01	9.7027246E-01	9.6678288E-01	9.6948123E-01	9.7128385E-01	9.6982117E-01
9.7278817E-01	9.6936071E-01	9.6913818E-01	9.6838355E-01	9.7021339E-01	9.7082270E-01
9.6725403E-01	9.6709223E-01	9.7243009E-01	9.6939642E-01	9.6472986E-01	9.7022913E-01
9.6920702E-01	9.6523104E-01	9.6881810E-01	9.7147462E-01	9.6960847E-01	9.7109481E-01

END OF MIDCOURSE BURN TWO
 SAMPLE CUMULATIVE DISTRIBUTION OF INCLINATION
 UNSORTED SAMPLES

4.0055908E 01	4.0266550E 01	3.9792688E 01	4.0234972E 01	4.0071014E 01	4.0107018E 01
4.0547523E 01	4.0439946E 01	3.9872118E 01	3.9879926E 01	3.9888027E 01	4.0198934E 01
4.0676895E 01	4.0714285E 01	4.0295612E 01	3.9751969E 01	4.0122627E 01	4.0441905E 01
4.0149788E 01	3.9924765E 01	4.0562657E 01	4.0502297E 01	3.8985316E 01	4.0040056E 01
4.1059870E 01	3.9618931E 01	3.9699963E 01	4.0569476E 01	4.0285619E 01	3.9292451E 01

END OF MIDCOURSE BURN TWO
 SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE
 UNSORTED SAMPLES

2.1562988E 02	2.1556128E 02	2.1573810E 02	2.1556969E 02	2.1562374E 02	2.1560819E 02
2.1544795E 02	2.1548929E 02	2.1570149E 02	2.1569187E 02	2.1568484E 02	2.1556791E 02
2.1540233E 02	2.1539753E 02	2.1554598E 02	2.1573953E 02	2.1561159E 02	2.1549081E 02
2.1559932E 02	2.1567874E 02	2.1543671E 02	2.1547602E 02	2.1604681E 02	2.1564671E 02
2.1528263E 02	2.1579850E 02	2.1576451E 02	2.1544568E 02	2.1554495E 02	2.1590386E 02

END OF MIDCOURSE BURN TWO
 SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE
 UNSORTED SAMPLES

1.6992268E 02	1.7008870E 02	1.6982877E 02	1.7003995E 02	1.6982732E 02	1.6989888E 02
1.7005939E 02	1.7000259E 02	1.6997555E 02	1.6989272E 02	1.6980433E 02	1.6993336E 02
1.6992716E 02	1.7009070E 02	1.6999985E 02	1.6988675E 02	1.6989499E 02	1.6995562E 02
1.7006653E 02	1.6998860E 02	1.6990355E 02	1.7004658E 02	1.6979392E 02	1.6985948E 02
1.7016769E 02	1.7000044E 02	1.6984333E 02	1.6995070E 02	1.6999833E 02	1.6964984E 02

END OF MIDCOURSE BURN TWO
 SAMPLE CUMULATIVE DISTRIBUTION OF MEAN ANOMALY
 UNSORTED SAMPLES

1.0570689E 02	1.0570975E 02	1.0588207E 02	1.0567641E 02	1.0589204E 02	1.0579444E 02
1.0553629E 02	1.0555814E 02	1.0595932E 02	1.0546746E 02	1.0556242E 02	1.0597302E 02
1.0582002E 02	1.0590352E 02	1.0575558E 02	1.0576370E 02	1.0582302E 02	1.0583429E 02
1.0549536E 02	1.0582464E 02	1.0603185E 02	1.0567874E 02	1.0610500E 02	1.0594635E 02
1.0614905E 02	1.0559821E 02	1.0583133E 02	1.0594490E 02	1.0546874E 02	1.0550182E 02

END OF MIDCOURSE BURN TWO
 SAMPLE CUMULATIVE DISTRIBUTION OF WEIGHT AT CURRENT TIME
 UNSORTED SAMPLES

8.4756325E 02	8.4263546E 02	8.4720321E 02	8.4631476E 02	8.4560264E 02	8.4788367E 02
8.4167225E 02	8.4133265E 02	8.3366617E 02	8.3981999E 02	8.3111506E 02	8.4382995E 02
8.3871193E 02	8.4511501E 02	8.4720273E 02	8.4522632E 02	8.4807972E 02	8.4567837E 02
8.4420215E 02	8.3995277E 02	8.4275486E 02	8.4574000E 02	8.2662088E 02	8.4651332E 02
8.3756142E 02	8.3901513E 02	8.4524013E 02	8.4488839E 02	8.4068604E 02	8.3684620E 02

END OF MIDCOURSE BURN TWO
 SAMPLE CUMULATIVE DISTRIBUTION OF SUN LOOK ANGLE
 UNSORTED SAMPLES

1.0011737E 02	5.3241285E 01	1.4487688E 02	1.5170400E 02	9.0216658E 01	4.2155337E 01
8.8525914E 01	5.8965169E 01	1.5120745E 02	1.4449174E 02	1.3095925E 02	2.7191873E 01
5.5682411E 01	5.0067348E 01	4.3401145E 01	7.7254700E 01	1.5234317E 02	1.1048997E 02
4.4734979E 01	7.3841103E 01	1.1834639E 02	6.9207614E 01	1.3466084E 02	1.3843982E 02
1.5156446E 02	1.3761413E 02	1.5013179E 02	1.5943946E 02	6.7721141E 01	3.9423760E 01

END OF MIDCOURSE BURN TWO
 SAMPLE CUMULATIVE DISTRIBUTION OF ACXI INERTIAL ATTITUDE ANGLE
 UNSORTED SAMPLES

2.5440662E 02	1.5490416E 02	3.0871277E 02	2.9390057E 02	1.7705590E 02	1.3681496E 02
1.4257106E 02	1.6345408E 02	2.5054398E 02	3.0578288E 02	3.2988861E 02	1.2331902E 02
3.1876878E 01	1.3117242E 02	1.4299644E 02	1.7626934E 02	2.9646814E 02	3.5196188E 02
1.4152181E 02	1.7491245E 02	2.2431636E 02	3.3128372E 01	3.2494867E 02	3.1929575E 02
2.8017317E 02	2.5436263E 02	2.4167568E 02	2.9634871E 02	1.6304551E 02	1.3613322E 02

END OF MIDCOURSE BURN TWO
 SAMPLE CUMULATIVE DISTRIBUTION OF DLXI INERTIAL ATTITUDE ANGLE
 UNSORTED SAMPLES

5.4608594E 01	4.8055274E 01	-1.0269806E 01	-4.7043249E 01	-1.7270529E 01	4.9815643E 01
-5.5096929E 01	5.3011326E 01	-6.1605005E 00	-4.9044944E 01	-3.7063702E 01	3.3677757E 01
3.0092354E 01	-1.1577092E 01	3.3163859E 01	1.3457368E 01	-4.4440379E 01	-2.5273883E 01
1.5765116E 01	1.9726603E 01	1.3905879E 01	-1.1071000E 01	-2.8159164E 01	-4.2621104E 01
-5.1479694E 01	1.4135134E 01	-2.6849300E 01	-3.0060617E 01	6.5264111E 00	4.3044855F 01

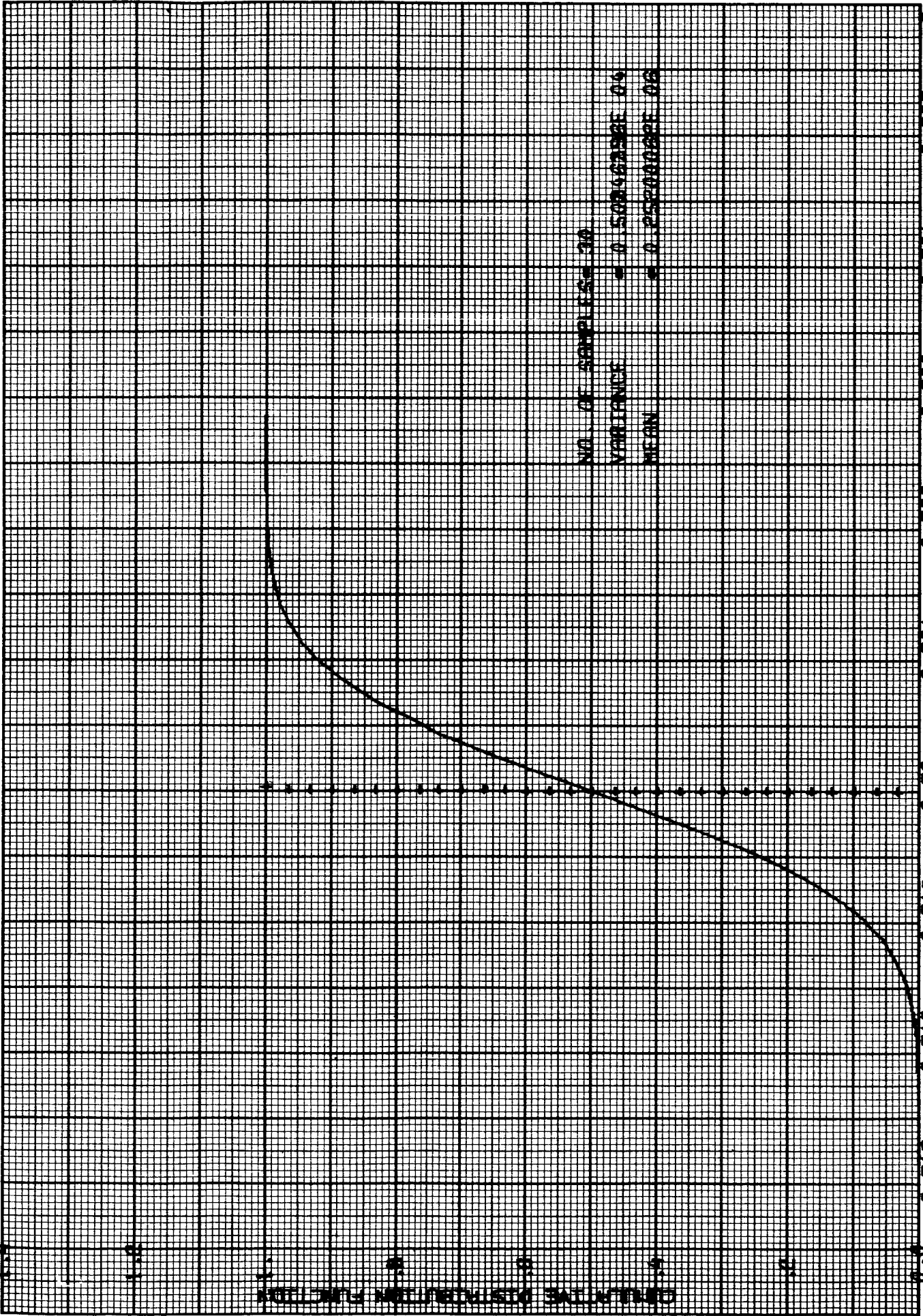
END OF MIDCOURSE BURN TWO
 SAMPLE CUMULATIVE DISTRIBUTION OF SENSED VELOCITY MAGNITUDE
 UNSORTED SAMPLES

6.7801825E-01	2.7313298E 00	1.4660277E 00	1.3631025E 00	3.1988399E 00	8.1376410E-01
5.0853549E-01	4.1064132E 00	4.8053132E 00	4.1783047E 00	1.5030089E 01	2.9193360E 00
7.7774308E-01	1.2371940E 00	5.0793607E 00	1.2576062E 00	1.6320343E 00	1.2546051E 00
2.2455284E 00	8.2454522E-01	1.2526215E 00	7.1971048E-01	4.8018706E 00	1.2801759E 00
1.5679610E 00	5.3291239E-01	1.2113009E 00	2.5245151E 00	1.2088459E 00	2.2857246E 00

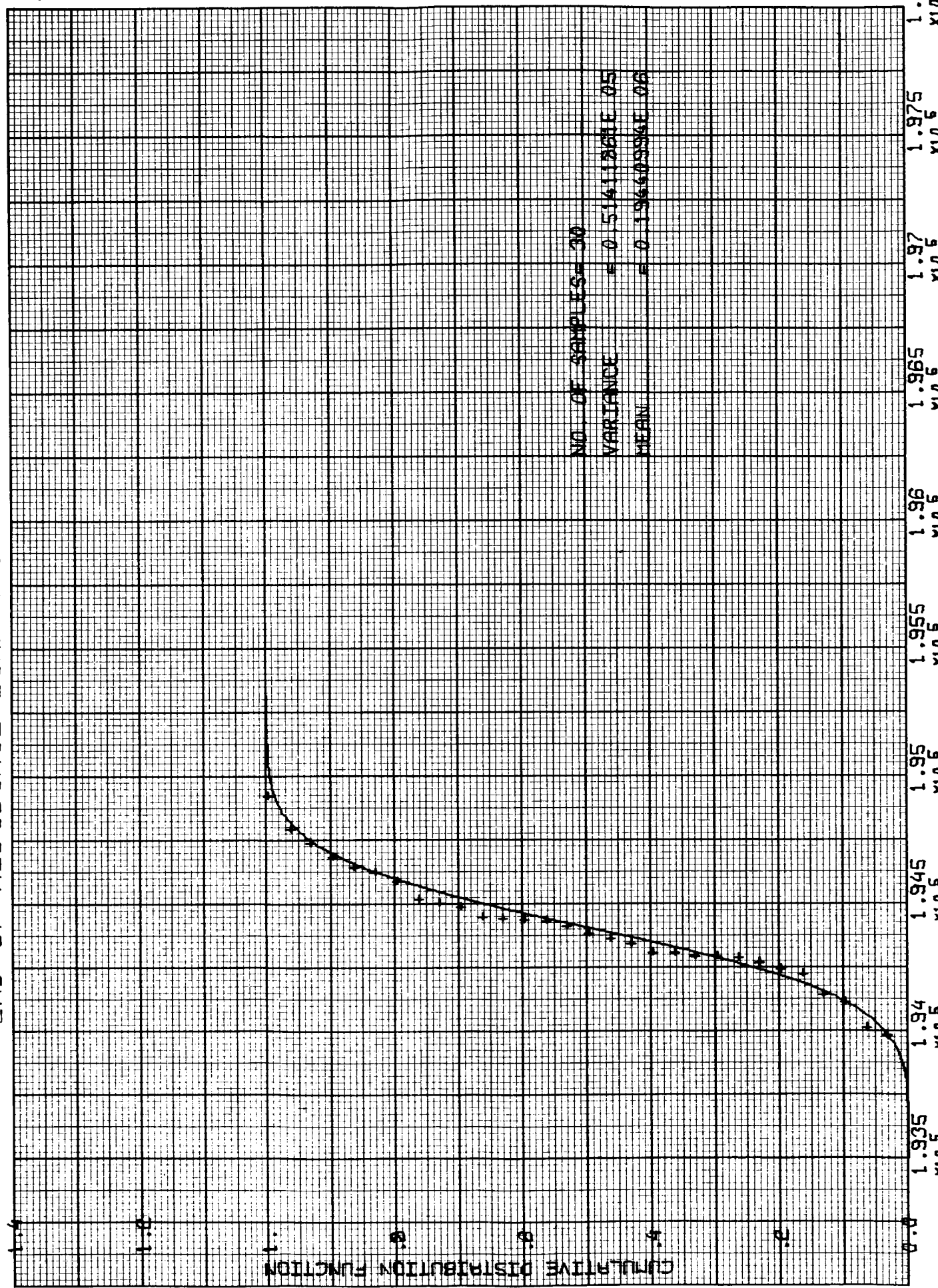
END OF MIDCOURSE BURN TWO
 SAMPLE CUMULATIVE DISTRIBUTION OF TOTAL FUEL USED TO DATE
 UNSORTED SAMPLES

2.4367294E 00	7.3645325E 00	2.7967911E 00	3.6852188E 00	4.3973465E 00	2.1163330E 00
8.3277283E 00	8.6673430E 00	1.6333824E 01	1.0180000E 01	1.8884941E 01	6.1700439E 00
1.1288063E 01	4.8849792E 00	2.7972641E 00	4.7736740E 00	1.9202728E 00	4.3216171E 00
5.7978439E 00	1.0047234E 01	7.2451324E 00	4.2599869E 00	2.3379105E 01	3.4866714E 00
1.2438583E 01	1.0984871E 01	4.7598647E 00	5.1116028E 00	9.3639525E 00	1.3153786F 01

END OF MIDCOURSE BURN TWO



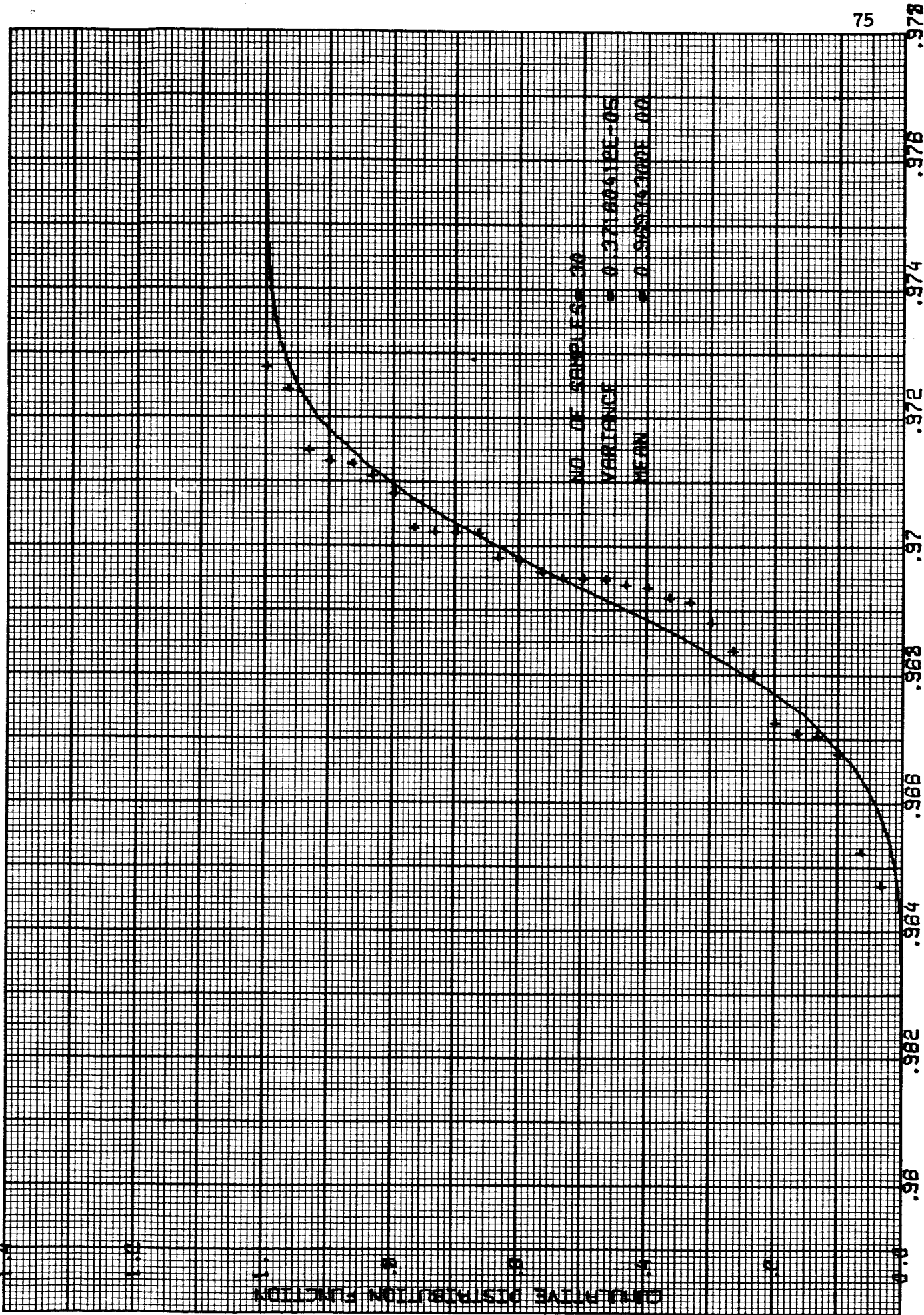
END OF MIDCOURSE BURN TWO



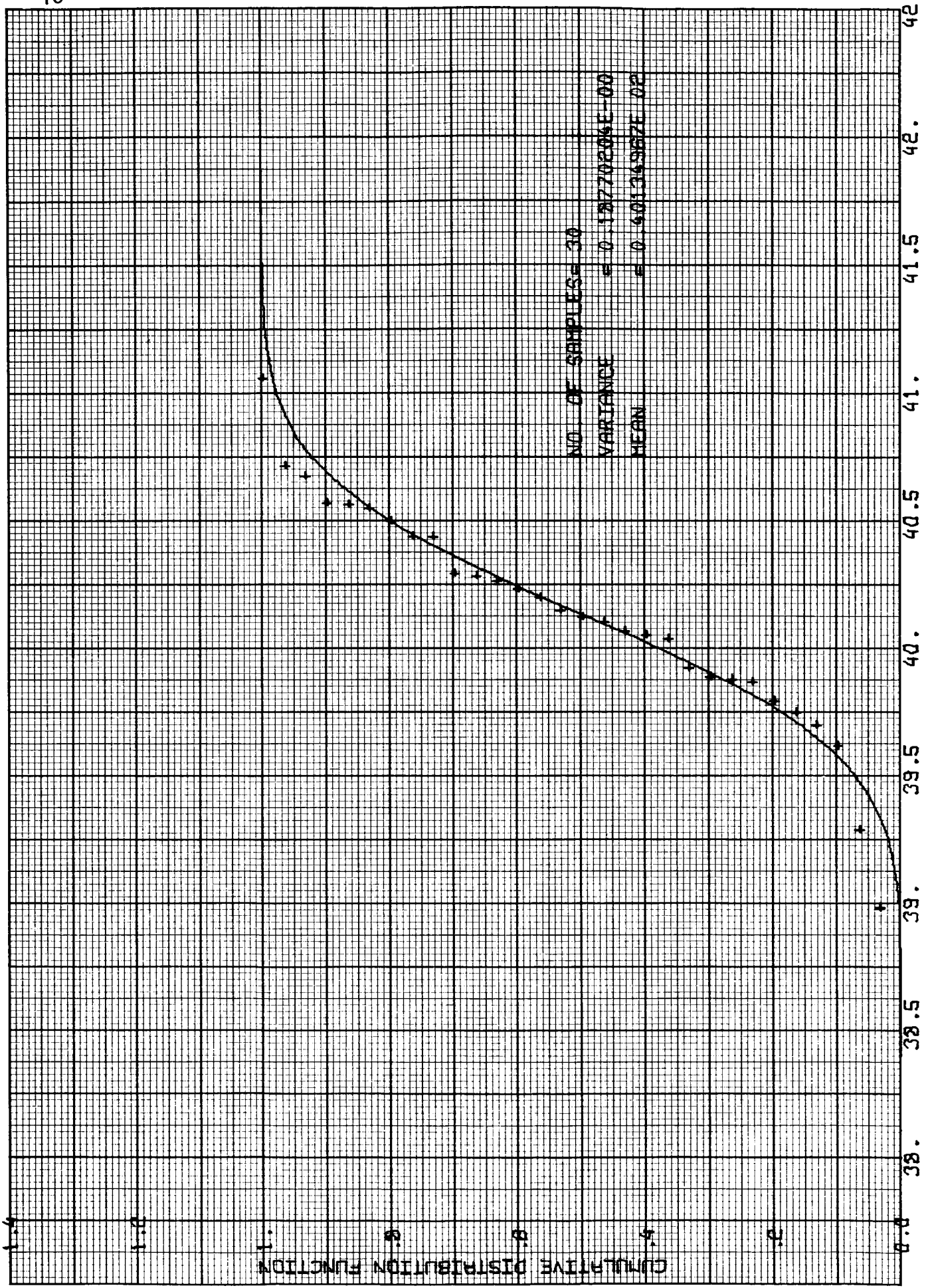
1.935 x 10⁵ 1.94 x 10⁵ 1.945 x 10⁵ 1.95 x 10⁵ 1.955 x 10⁵ 1.96 x 10⁵ 1.965 x 10⁵ 1.97 x 10⁵ 1.975 x 10⁵ 1.98 x 10⁵

SAMPLE CUMULATIVE DISTRIBUTION OF SEMI-MAJOR AXIS

END OF MIDCOURSE BURN TWO

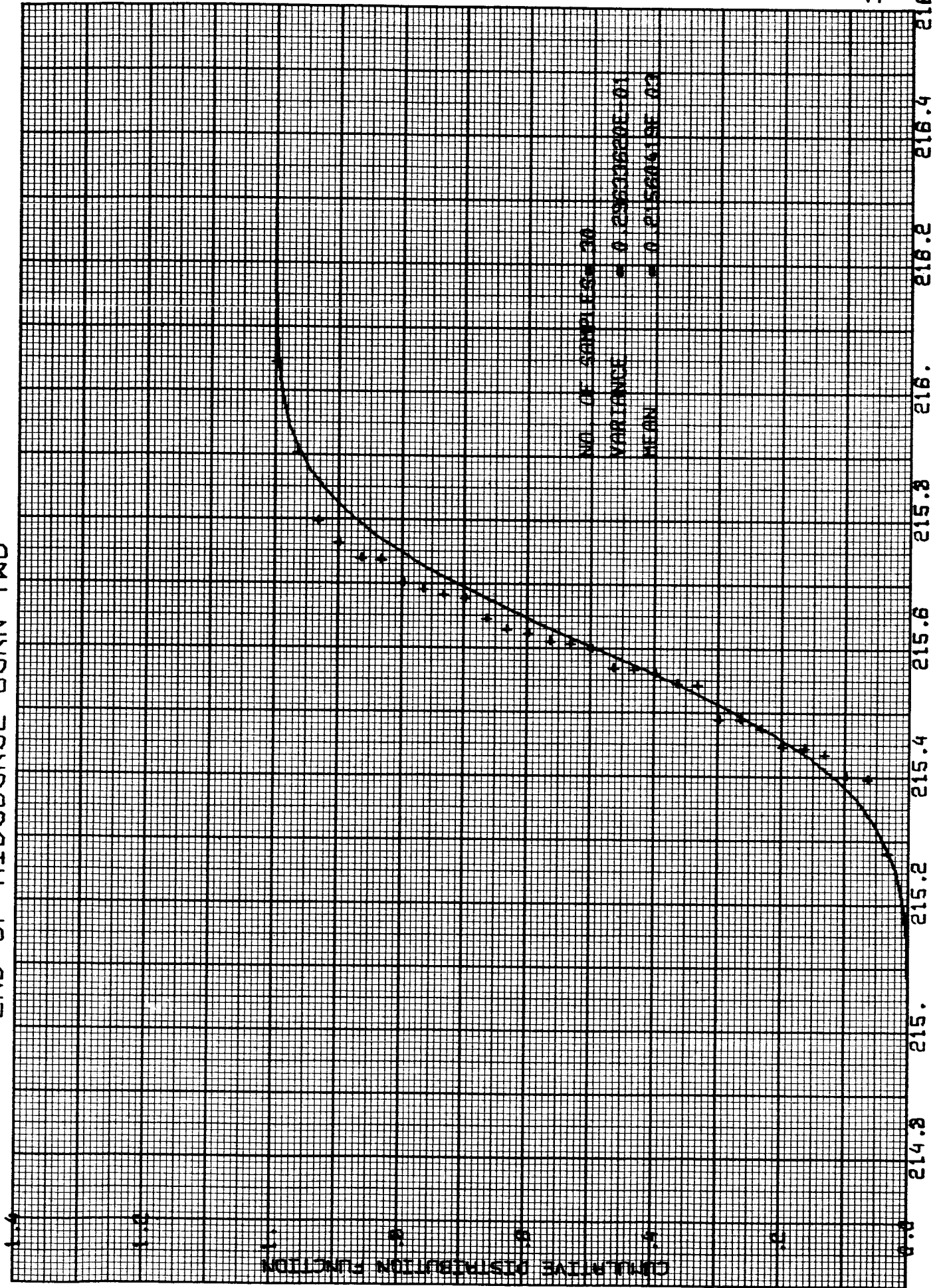


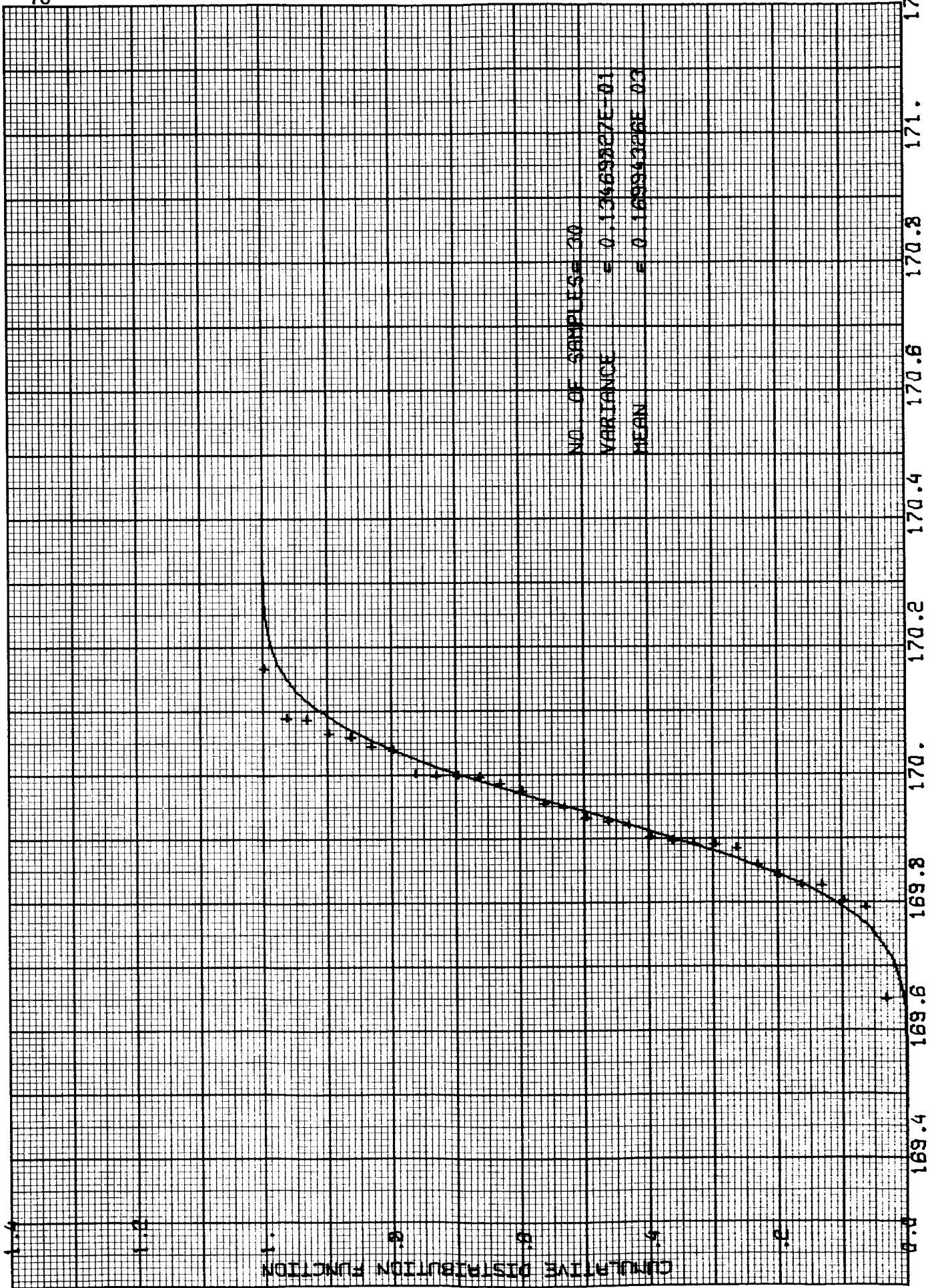
SAMPLE CUMULATIVE DISTRIBUTION OF ECCENTRICITY



SAMPLE CUMULATIVE DISTRIBUTION OF INCLINATION

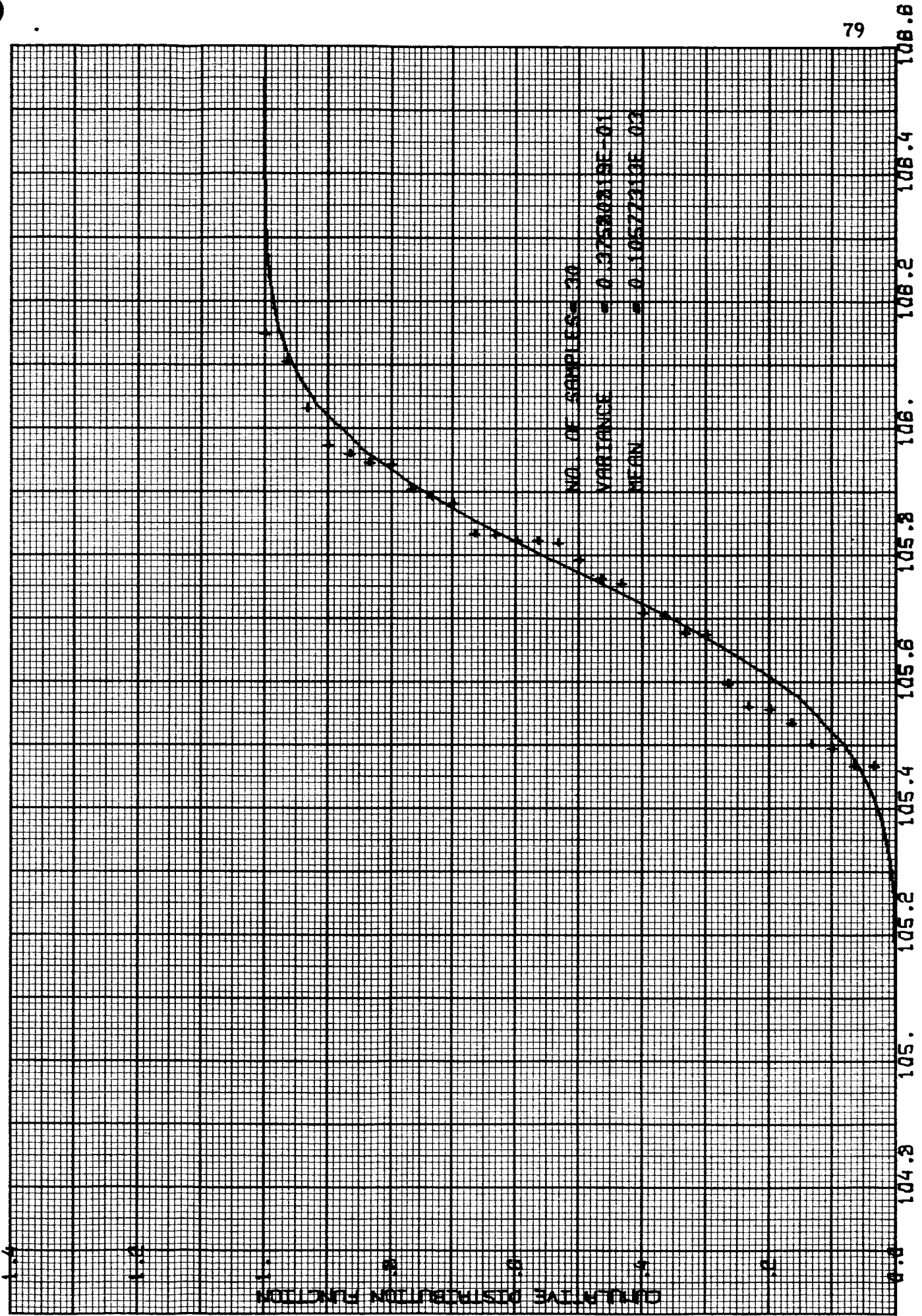
END OF MIDCOURSE BURN TWO



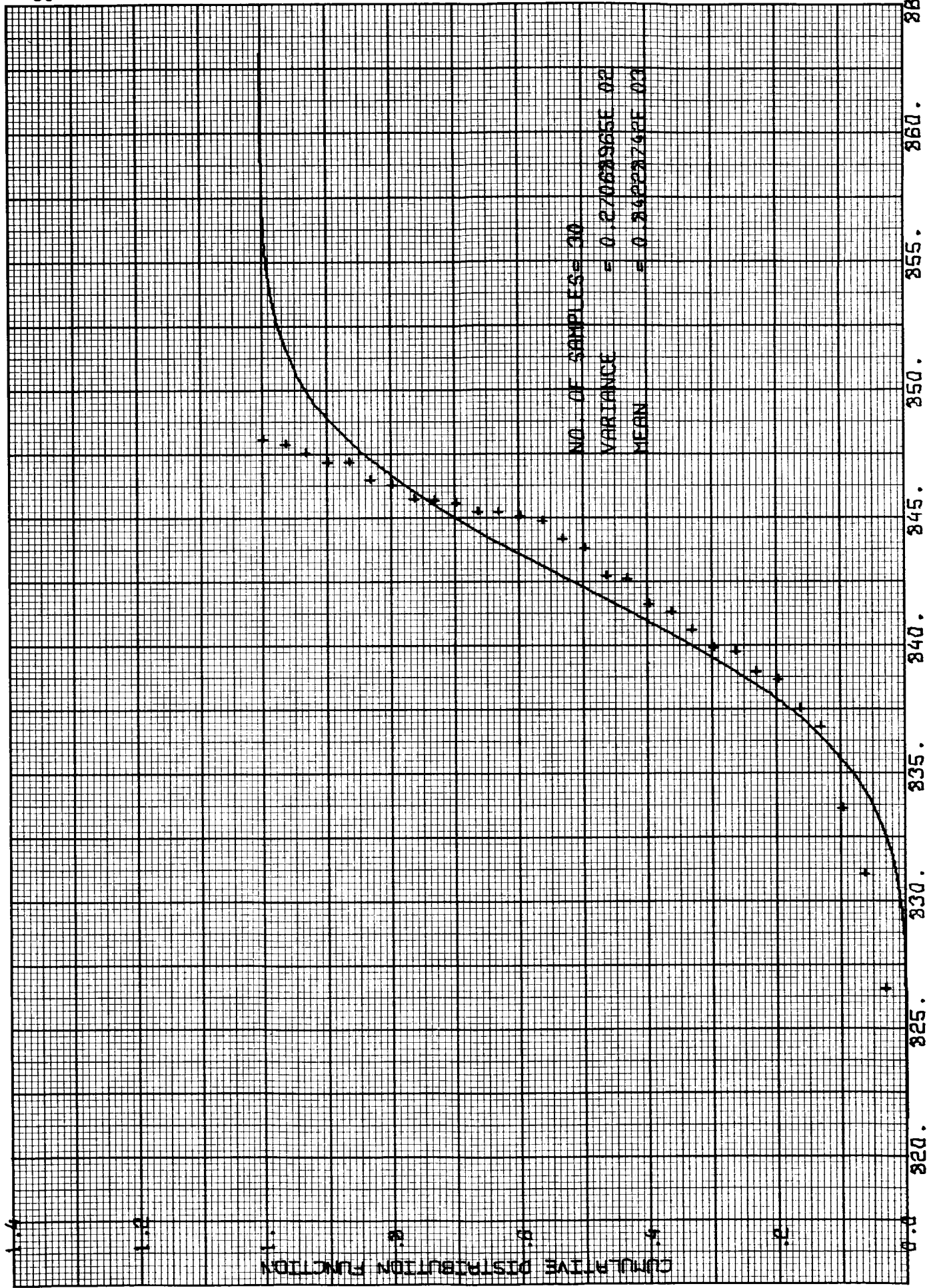


SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE

END OF MIDCOURSE BURN TWO

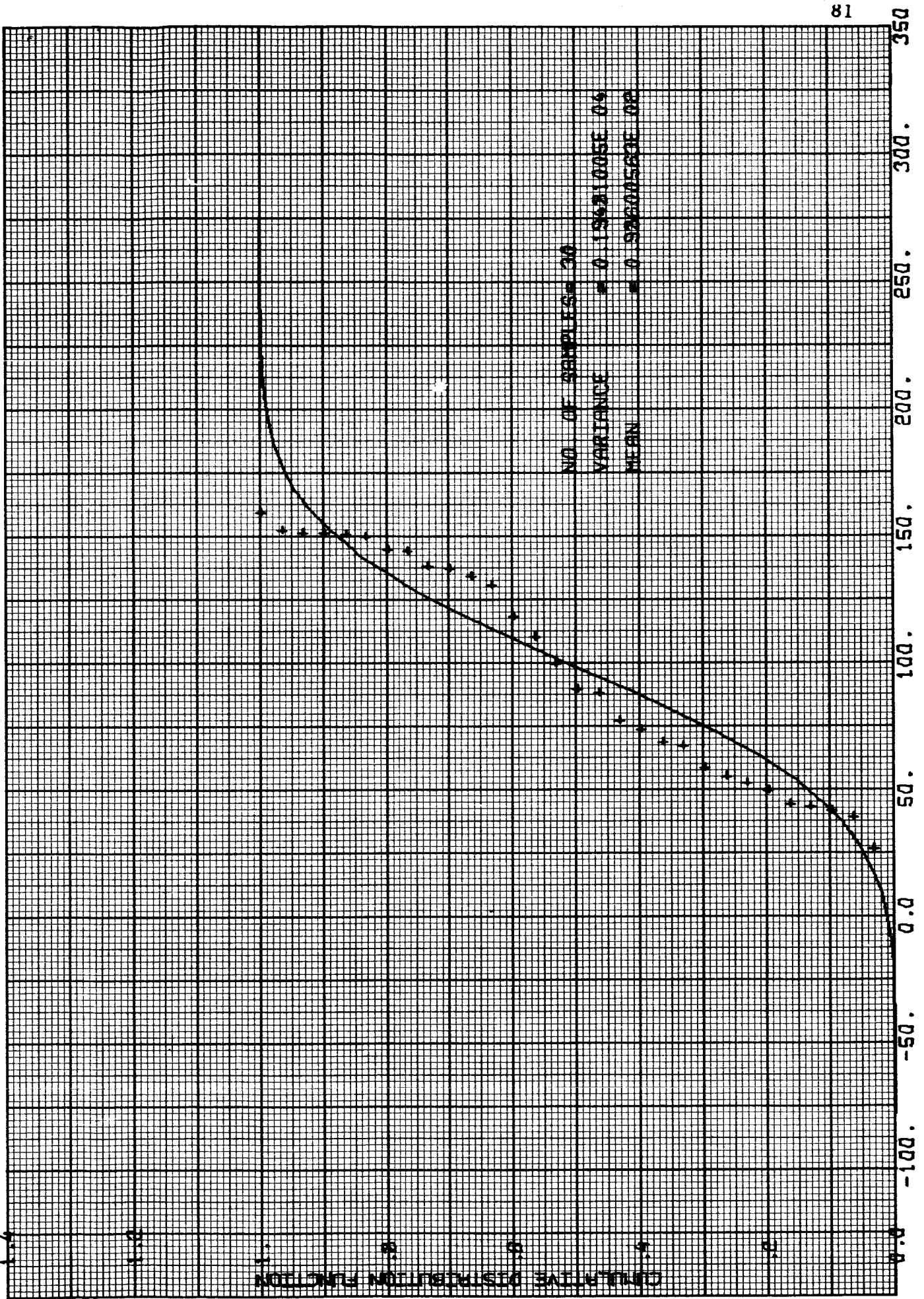


END OF MIDCOURSE BURN TWO



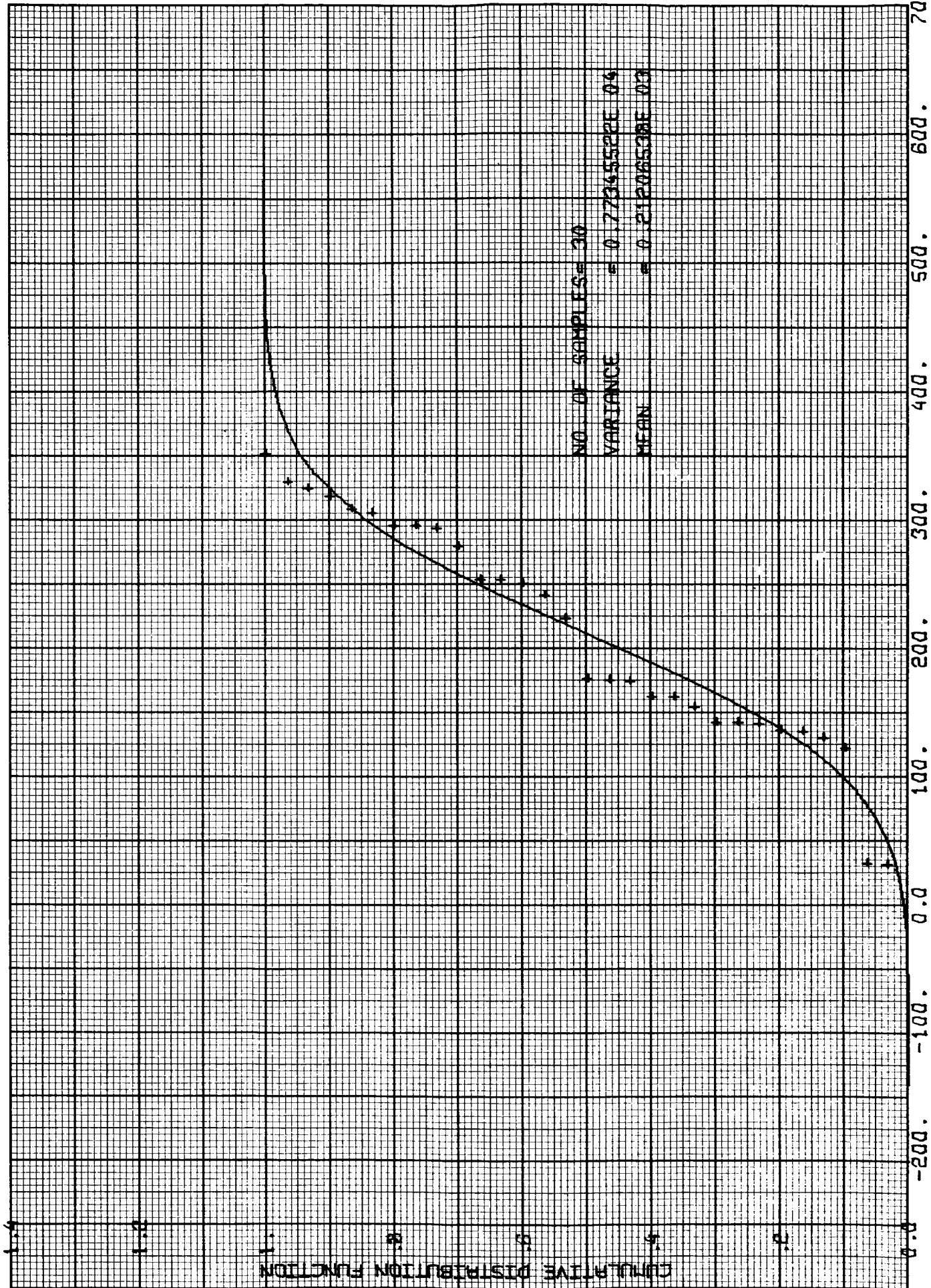
SAMPLE CUMULATIVE DISTRIBUTION OF WEIGHT AT CURRENT TIME

END OF MIDCOURSE BURN TWO



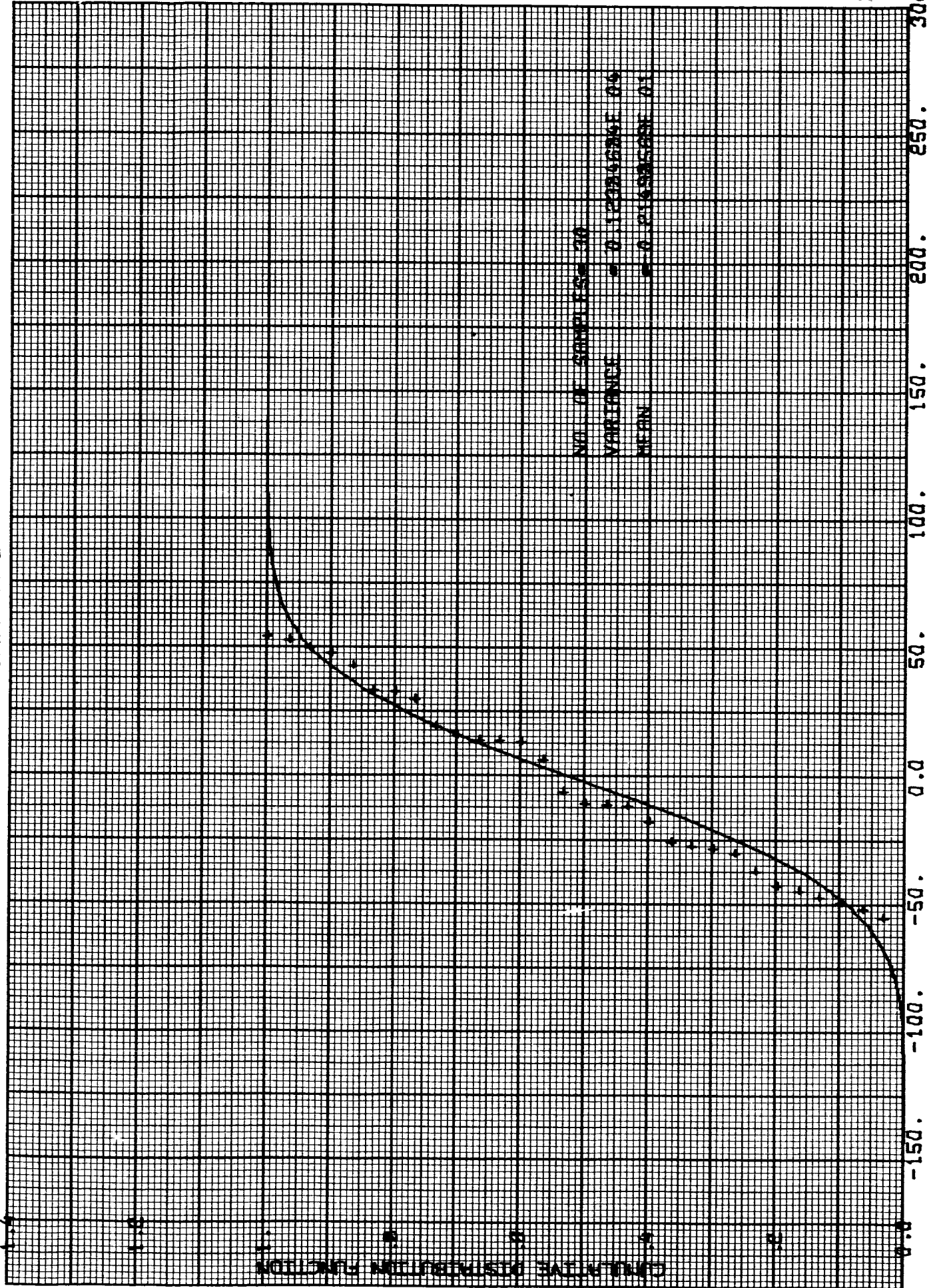
SAMPLE CUMULATIVE DISTRIBUTION OF SUN LOOK ANGLE

END OF MIDCOURSE BURN TWO



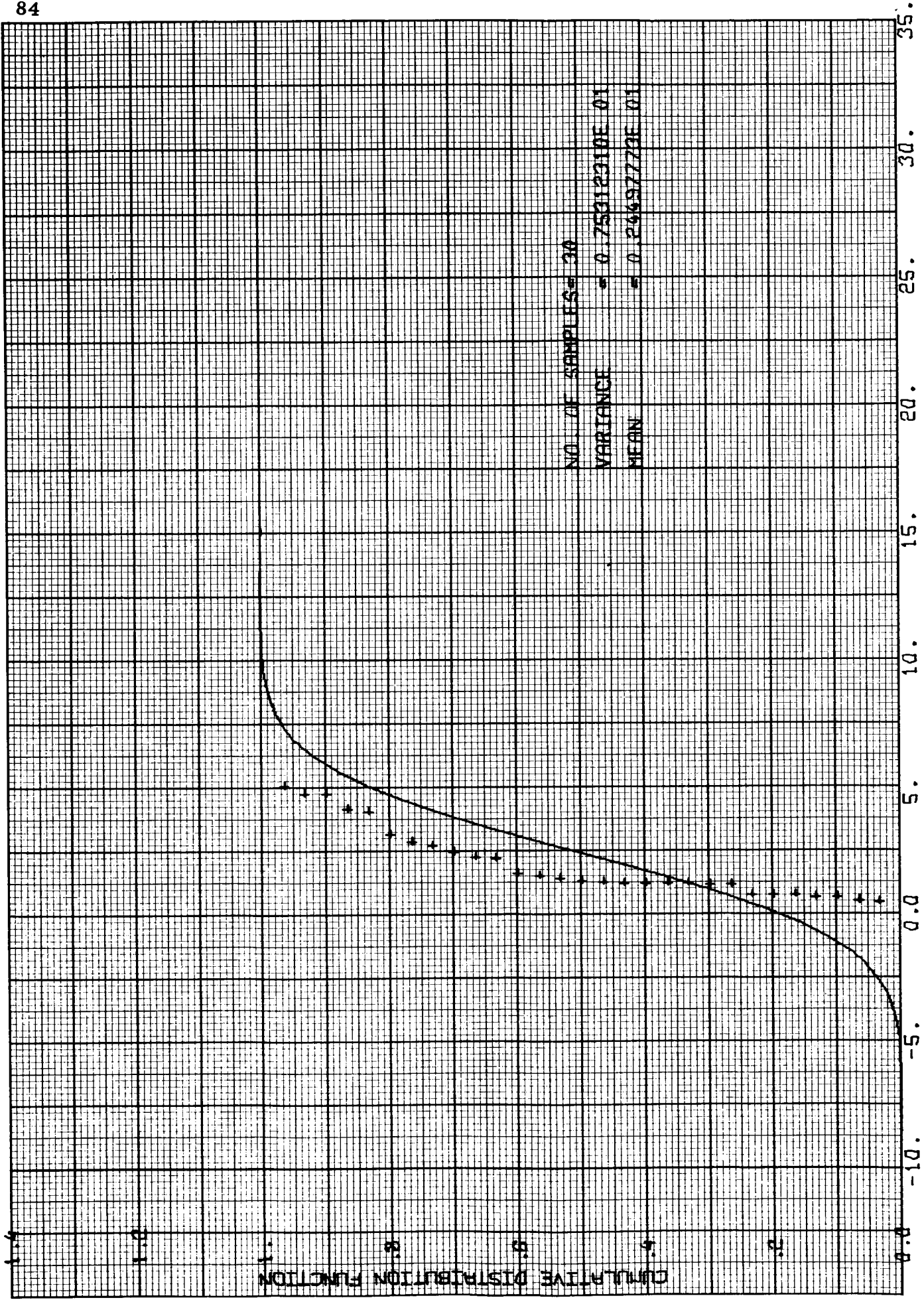
SAMPLE CUMULATIVE DISTRIBUTION OF ACXI INERTIAL ATTITUDE ANGLE

END OF MIDCOURSE BURN TWO



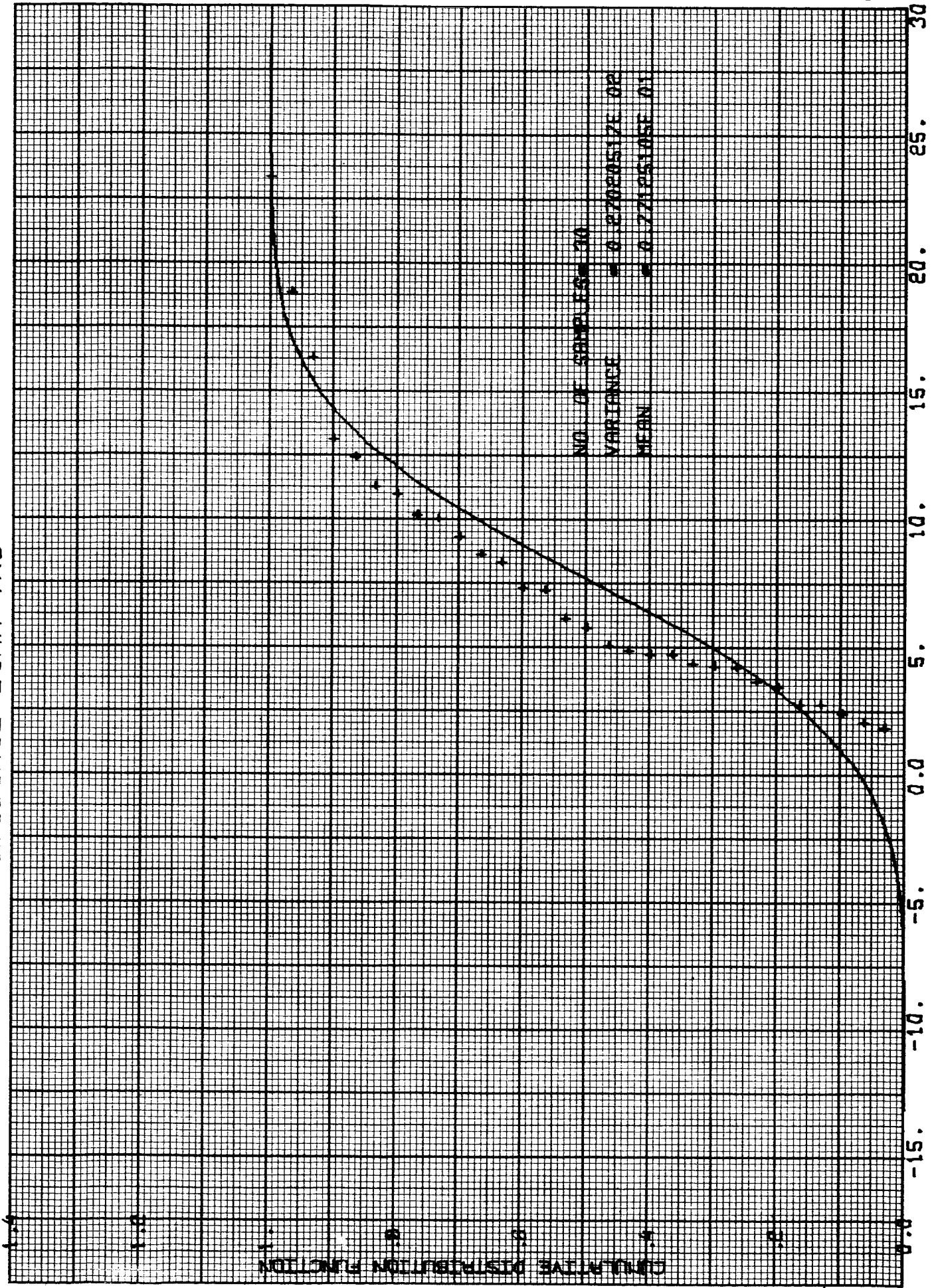
SAMPLE CUMULATIVE DISTRIBUTION OF DLXI INERTIAL ATTITUDE ANGLE

END OF MIDCOURSE BURN TWO

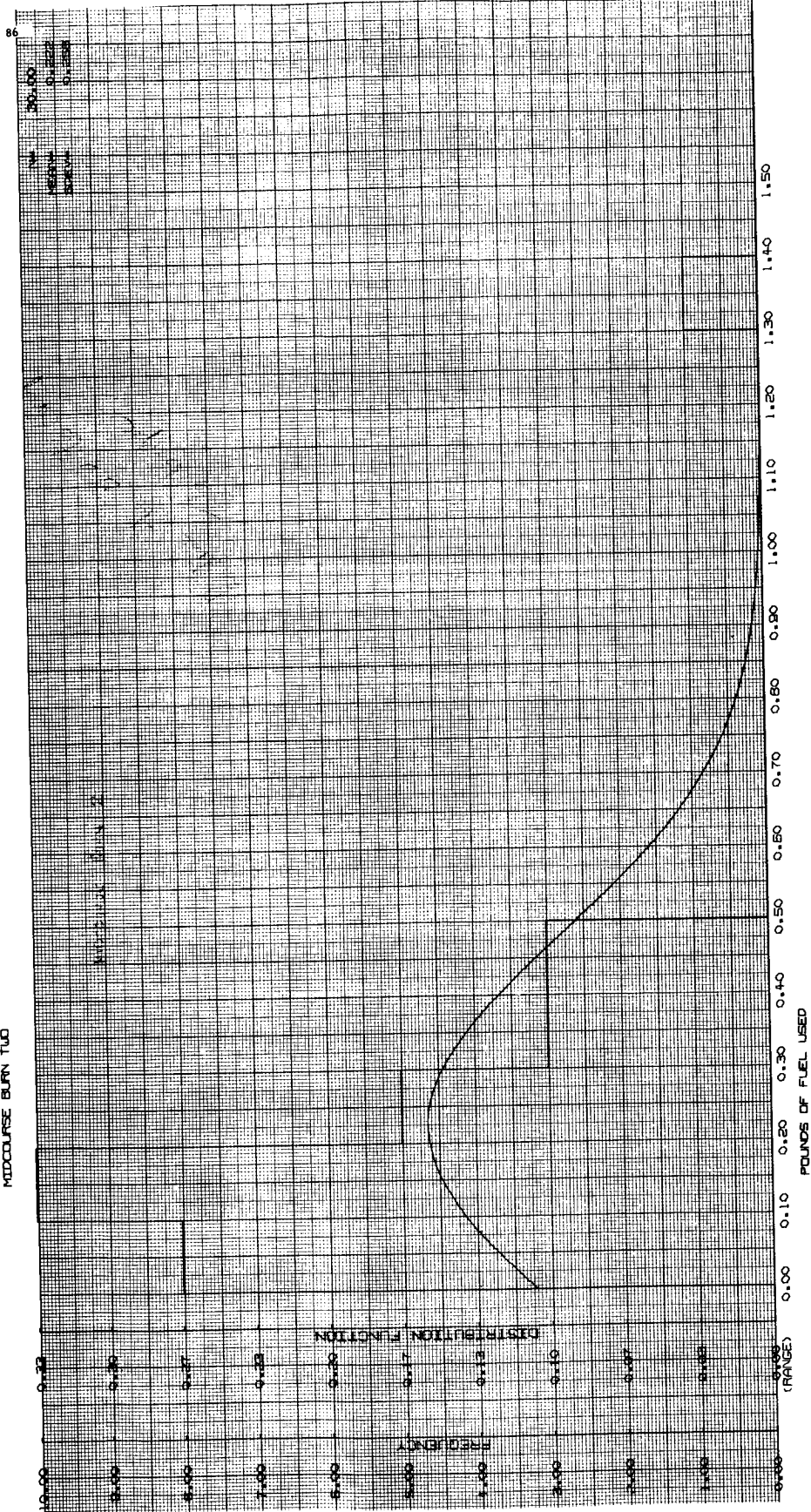


SAMPLE CUMULATIVE DISTRIBUTION OF SENSED VELOCITY MAGNITUDE

END OF MIDCOURSE BURN TWO



MIDCOURSE BURN TWO



START DEBOOST TO INTERMEDIATE ORBIT
SAMPLE STATE VECTORS

X	Y	Z	VX	VY	VZ
0.98795998E 03	0.19882090E 04	0.33093461E 03	-0.20205604E 01	0.92611708E 00	0.56218993E 00
0.10945380E 04	0.19336553E 04	0.31029295E 03	-0.19966321E 01	0.96565747E 00	0.58084612E 00
0.98655974E 03	0.19847558E 04	0.33004591E 03	-0.20216038E 01	0.92663830E 00	0.56210810E 00
0.10529336E 04	0.19543727E 04	0.31806720E 03	-0.20066520E 01	0.95039649E 00	0.57403084E 00
0.90253315E 03	0.20343940E 04	0.34848548E 03	-0.20353478E 01	0.89513987E 00	0.54710460E 00
0.95455457E 03	0.20061521E 04	0.33738536E 03	-0.20264938E 01	0.91413972E 00	0.55717970E 00
0.98484024E 03	0.19986767E 04	0.33434561E 03	-0.20189001E 01	0.92469208E 00	0.55978432E 00
0.95012629E 03	0.20142829E 04	0.34006274E 03	-0.20260859E 01	0.91110121E 00	0.55635331E 00
0.10941377E 04	0.19255564E 04	0.30932858E 03	-0.19984283E 01	0.96655963E 00	0.58202992E 00
0.97064187E 03	0.19960771E 04	0.33380505E 03	-0.20250786E 01	0.91641243E 00	0.56178395E 00
0.88433845E 03	0.20407826E 04	0.35081118E 03	-0.20404849E 01	0.88453171E 00	0.54704799E 00
0.97300780E 03	0.19959980E 04	0.33439790E 03	-0.20224451E 01	0.92258731E 00	0.56019612E 00
0.82978167E 03	0.20783842E 04	0.36329988E 03	-0.20446829E 01	0.86804251E 00	0.53646287E 00
0.10061014E 04	0.19864722E 04	0.32924799E 03	-0.20131729E 01	0.93566138E 00	0.56519730E 00
0.10101782E 04	0.19793717E 04	0.32686511E 03	-0.20147631E 01	0.93531980E 00	0.56597508E 00
0.10296716E 04	0.19603713E 04	0.32145140E 03	-0.20136891E 01	0.94143467E 00	0.57021166E 00
0.96152303E 03	0.20043992E 04	0.33625948E 03	-0.20245025E 01	0.91729846E 00	0.55711325E 00
0.93090951E 03	0.20242707E 04	0.34361123E 03	-0.20286583E 01	0.90610383E 00	0.55255628E 00
0.10781261E 04	0.19411784E 04	0.31297086E 03	-0.20016184E 01	0.95751981E 00	0.57914711E 00
0.10855312E 04	0.19304579E 04	0.31067575E 03	-0.20009657E 01	0.96296310E 00	0.58001640E 00
0.85299531E 03	0.20659675E 04	0.35932015E 03	-0.20407555E 01	0.87817170E 00	0.53904041E 00
0.99520173E 03	0.19918527E 04	0.33113931E 03	-0.20163552E 01	0.92896862E 00	0.56404108E 00
0.11563516E 04	0.18737140E 04	0.29294337E 03	-0.19885211E 01	0.98945025E 00	0.59441586E 00
0.95294630E 03	0.20061660E 04	0.33811775E 03	-0.20264973E 01	0.91462830E 00	0.55654117E 00
0.10207186E 04	0.19822802E 04	0.32879198E 03	-0.20080230E 01	0.94383492E 00	0.56620973E 00
0.11493693E 04	0.18900192E 04	0.29622514E 03	-0.19884194E 01	0.98399162E 00	0.59200647E 00
0.10085582E 04	0.19711684E 04	0.32583821E 03	-0.20179794E 01	0.93387099E 00	0.56669506E 00
0.90379819E 03	0.20391113E 04	0.34898362E 03	-0.20327933E 01	0.89719740E 00	0.54771171E 00
0.97265925E 03	0.20010515E 04	0.33509821E 03	-0.20225383E 01	0.91802327E 00	0.56138276E 00
0.88785403E 03	0.20324529E 04	0.34789674E 03	-0.20426913E 01	0.88415050E 00	0.54756033E 00

START DEROST TO INTERMEDIATE ORBIT

SAMPLE MEAN OF SELENOGRAPHIC STATE VECTOR
 9.8894817E 02 1.9877202E 03 3.3088993E 02 -2.0188445F 00 9.2668673E-01 5.6309793E-01

SAMPLE VARIANCE OF SELENOGRAPHIC STATE VECTOR

	1	2	3	4	5	6
1	6.5472155E 03	-3.7792586E 03	-1.3514483E 03	1.2215618F 00	2.4352522E 00	1.1420225E 00
2	-3.7792586E 03	2.2228276E 03	7.9000861E 02	-6.9652478E-01	-1.4000202E 00	-6.6444975E-01
3	-1.3514483E 03	7.9000861E 02	2.8156250E 02	-2.4973902E-01	-5.0079556E-01	-2.3713421E-01
4	1.2215618E 00	-6.9652478E-01	-2.4973902E-01	2.3305827E-04	4.5705663E-04	2.1178147E-04
5	2.4352522E 00	-1.4000202E 00	-5.0079556E-01	4.5705663E-04	9.0998616E-04	4.2317653E-04
6	1.1420225E 00	-6.6444975E-01	-2.3713421E-01	2.1178147E-04	4.2317653E-04	2.0058402E-04

CORRESPONDING CORRELATION MATRIX

	1	2	3	4	5	6
1	1.0000000E 00	-9.9066176E-01	-9.9536804E-01	9.8890568E-01	9.9769599E-01	9.9654789E-01
2	-9.9066176E-01	1.0000000E 00	9.9859991E-01	-9.6772381E-01	-9.8438280E-01	-9.9508709E-01
3	-9.9536804E-01	9.9859991E-01	9.9999998E-01	-9.7491497E-01	-9.8936299E-01	-9.9783478E-01
4	9.8890568E-01	-9.6772381E-01	-9.7491497E-01	1.0000000E 00	9.9247680E-01	9.7950697E-01
5	9.9769599E-01	-9.8438280E-01	-9.8936299E-01	9.9247680E-01	1.0000000E 00	9.9050350E-01
6	9.9654789E-01	-9.9508709E-01	-9.9783478E-01	9.7950697E-01	9.9050350E-01	1.0000000E 00

START DEBOOST TO INTERMEDIATE ORBIT
 SAMPLE CUMULATIVE DISTRIBUTION OF TIME FROM TRANSLUNAR INJECTION

3.2400587E 05	3.2395965E 05	3.2404493E 05	3.2397712E 05	3.2405972E 05	3.2401270E 05
3.2400289E 05	3.2403406E 05	3.2392772E 05	3.2401727E 05	3.2406013E 05	3.2396124E 05
3.2409804E 05	3.2400175E 05	3.2400005E 05	3.2396143E 05	3.2404677E 05	3.2404512E 05
3.2396230E 05	3.2392663E 05	3.2404856E 05	3.2403342E 05	3.2391444E 05	3.2406459E 05
3.2400927E 05	3.2391361E 05	3.2399706E 05	3.2406119E 05	3.2402118E 05	3.2405271E 05

START DEBOOST TO INTERMEDIATE ORBIT
 SAMPLE CUMULATIVE DISTRIBUTION OF SEMI-MAJOR AXIS

		UNSORTED SAMPLES			
-5.5208437E 03	-5.5349984E 03	-5.5353517E 03	-5.5268735E 03	-5.5057302E 03	-5.5136192E 03
-5.4944105E 03	-5.4944581E 03	-5.5599239E 03	-5.5229908E 03	-5.5062534E 03	-5.5171363E 03
-5.4653797E 03	-5.4990695E 03	-5.5153202E 03	-5.5454814E 03	-5.5133325E 03	-5.4946299E 03
-5.5336681E 03	-5.5518426E 03	-5.4777406E 03	-5.5027751E 03	-5.6221550E 03	-5.5191519E 03
-5.4914103E 03	-5.5778173E 03	-5.5448434E 03	-5.4853994E 03	-5.5051357E 03	-5.5306747E 03

START DEBOOST TO INTERMEDIATE ORBIT
 SAMPLE CUMULATIVE DISTRIBUTION OF ECCENTRICITY

		UNSORTED SAMPLES			
1.4065688E 00	1.4050815E 00	1.4048163E 00	1.4056994E 00	1.4087585E 00	1.4074616E 00
1.4100400E 00	1.4099078E 00	1.4019245E 00	1.4063624E 00	1.4084380E 00	1.4069681E 00
1.4136233E 00	1.4093256E 00	1.4072574E 00	1.4034638E 00	1.4077250E 00	1.4100502E 00
1.4050507E 00	1.4025929E 00	1.4123375E 00	1.4090766E 00	1.3941237E 00	1.4069411E 00
1.4104136E 00	1.3993040E 00	1.4036259E 00	1.4111165E 00	1.4086678E 00	1.4055277E 00

START DEBOOST TO INTERMEDIATE ORBIT
SAMPLE CUMULATIVE DISTRIBUTION OF INCLINATION

		UNSORTED SAMPLES	
1.6580284E 01	1.6976698E 01	1.6569152E 01	1.6281925E 01
1.6547603E 01	1.6474110E 01	1.7003046E 01	1.6287737E 01
1.6073670E 01	1.6639884E 01	1.6653010E 01	1.6470049E 01
1.6942794E 01	1.6954693E 01	1.6124245E 01	1.7266594E 01
1.6673188E 01	1.7219951E 01	1.6673735E 01	1.6578882E 01
			1.6474974E 01
			1.6539476E 01
			1.6387724E 01
			1.6465404E 01
			1.6288513E 01

START DEBOOST TO INTERMEDIATE ORBIT
SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE

		UNSORTED SAMPLES	
3.3534369E 01	3.3266254E 01	3.3537113E 01	3.3658302E 01
3.3434495E 01	3.3660299E 01	3.3216231E 01	3.3900143E 01
3.3944058E 01	3.3486601E 01	3.3507754E 01	3.3600956E 01
3.3392777E 01	3.3254947E 01	3.3779944E 01	3.2976002E 01
3.3259256E 01	3.3096007E 01	3.3475694E 01	3.3685931E 01
			3.3657143E 01
			3.3540024E 01
			3.3675099E 01
			3.3588663E 01
			3.3935662E 01

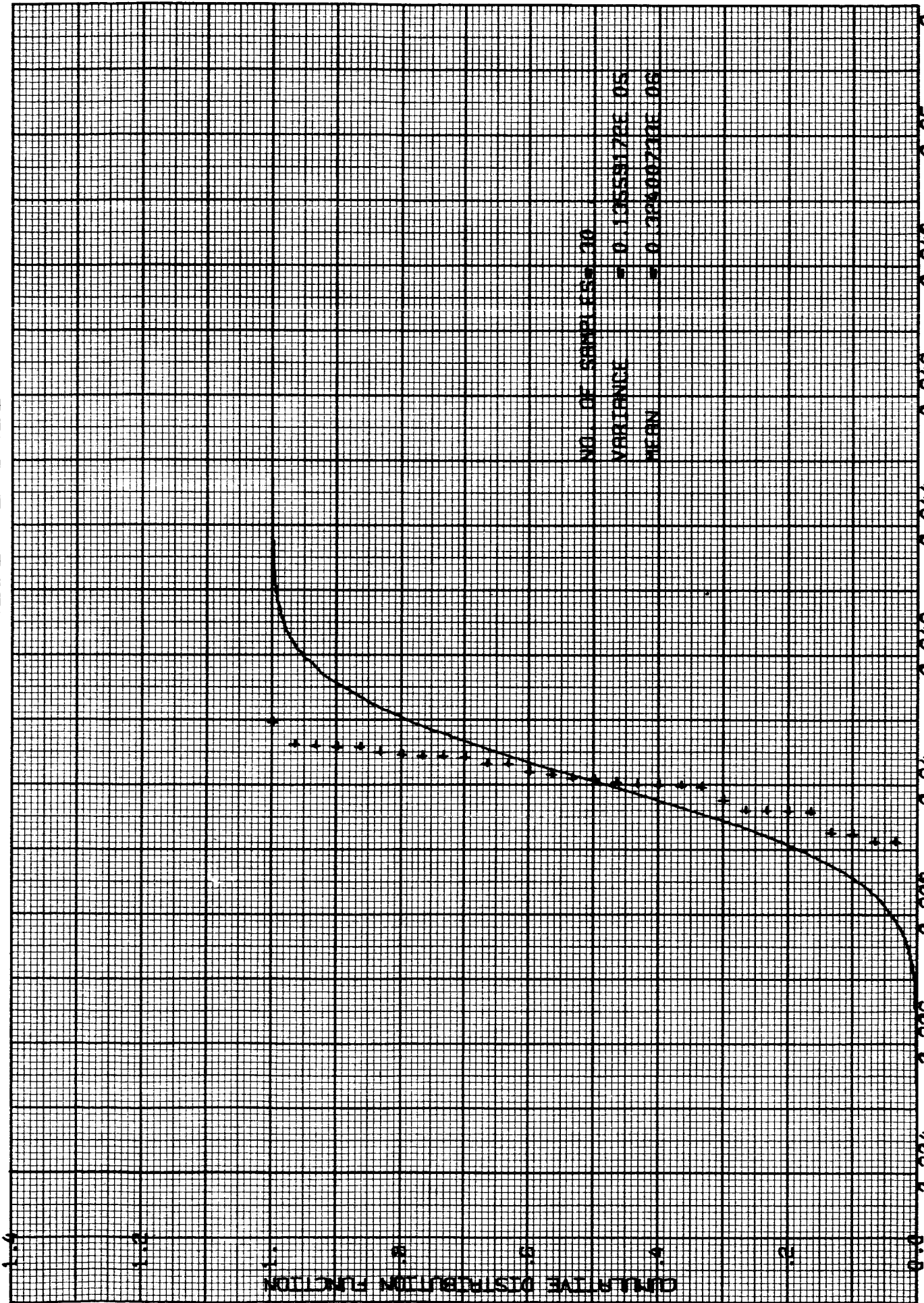
START DEBOOST TO INTERMEDIATE ORBIT
SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE

		UNSORTED SAMPLES	
3.0514964E 01	3.0903358E 01	3.0519203E 01	3.0168738E 01
3.0508508E 01	3.0272602E 01	3.1012257E 01	3.0087237E 01
2.9650806E 01	3.0350813E 01	3.0496815E 01	3.0327713E 01
3.0866584E 01	3.0991009E 01	2.9801528E 01	3.1610214E 01
3.0419992E 01	3.1437450E 01	3.0679153E 01	3.0363109E 01
			3.0300907E 01
			3.0379911E 01
			3.0126809E 01
			3.0322588E 01
			3.0225051E 01

START DEBOOST TO INTERMEDIATE ORBIT
SAMPLE CUMULATIVE DISTRIBUTION OF MEAN ANOMALY

(Undefined)

START DEBOOST TO INTERMEDIATE ORBIT

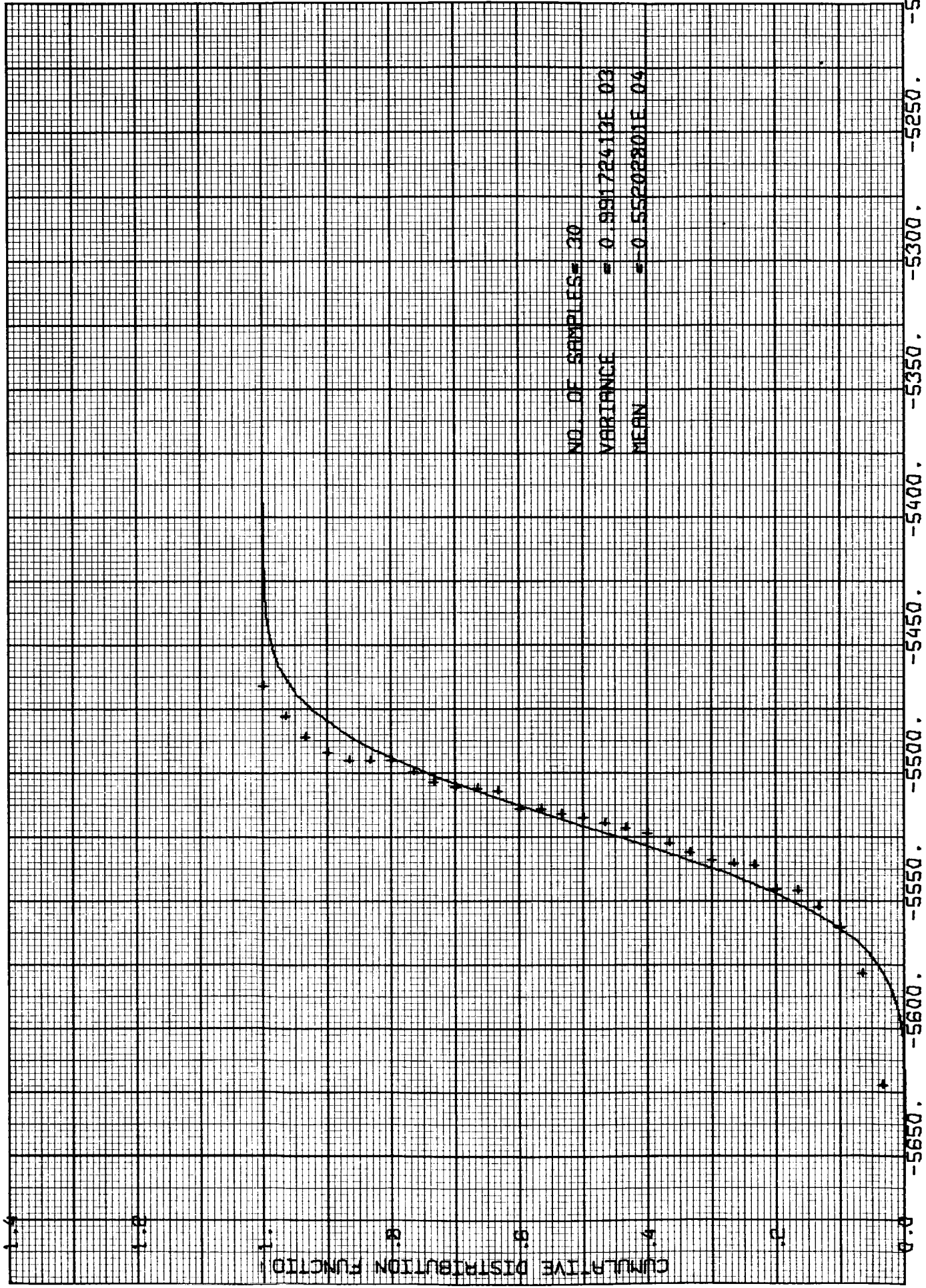


NO. OF SAMPLES: 30
 VARIANCE: $0.10559172E-05$
 MEAN: $0.102600731E-05$

3.234 $\times 10^6$ 3.236 $\times 10^6$ 3.238 $\times 10^6$ 3.24 $\times 10^6$ 3.242 $\times 10^6$ 3.244 $\times 10^6$ 3.246 $\times 10^6$ 3.248 $\times 10^6$ 3.25 $\times 10^6$ 3.252 $\times 10^6$

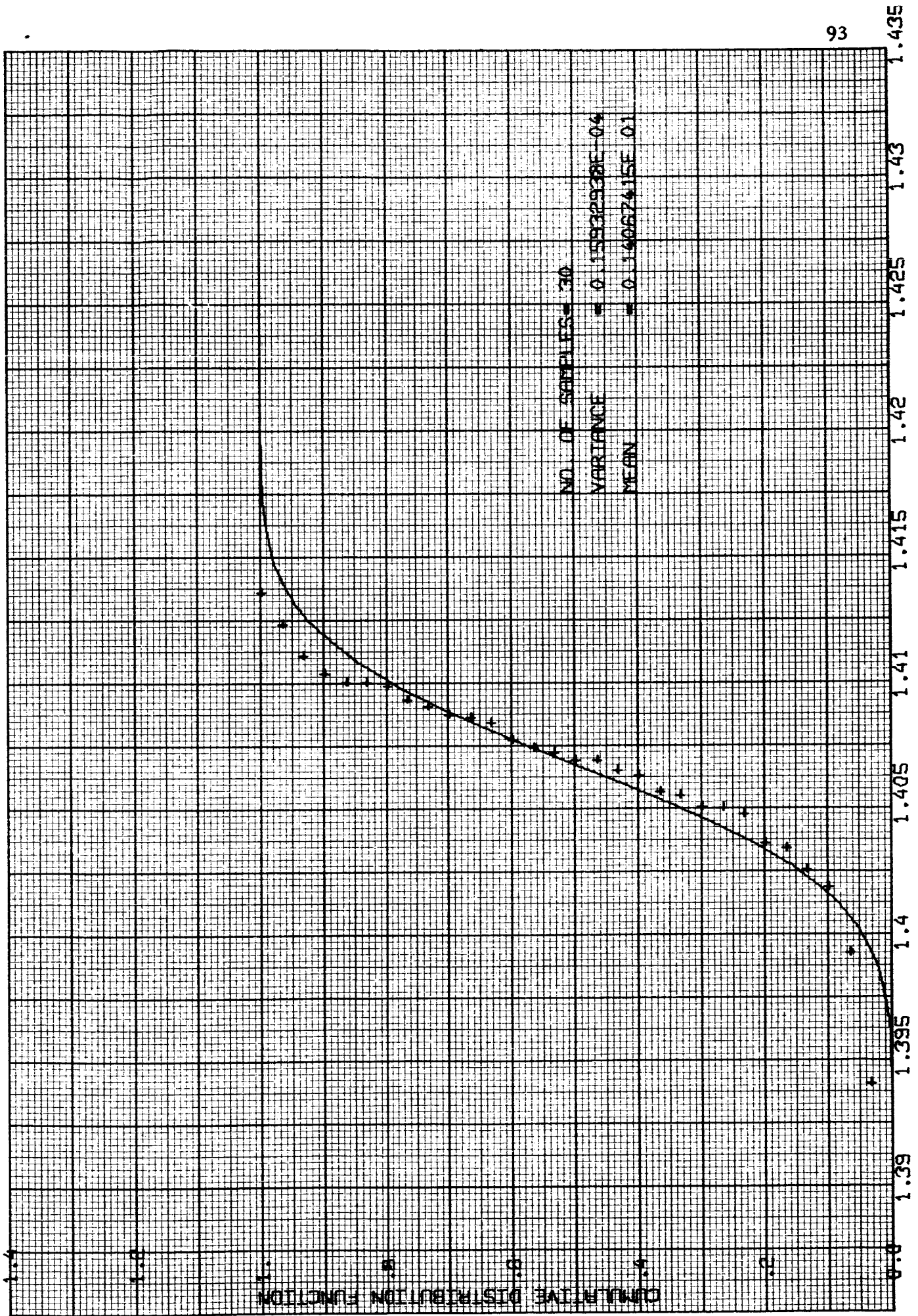
SAMPLE CUMULATIVE DISTRIBUTION OF TIME FROM TRANSLUNAR INJECTION

START DEBOOST TO INTERMEDIATE ORBIT

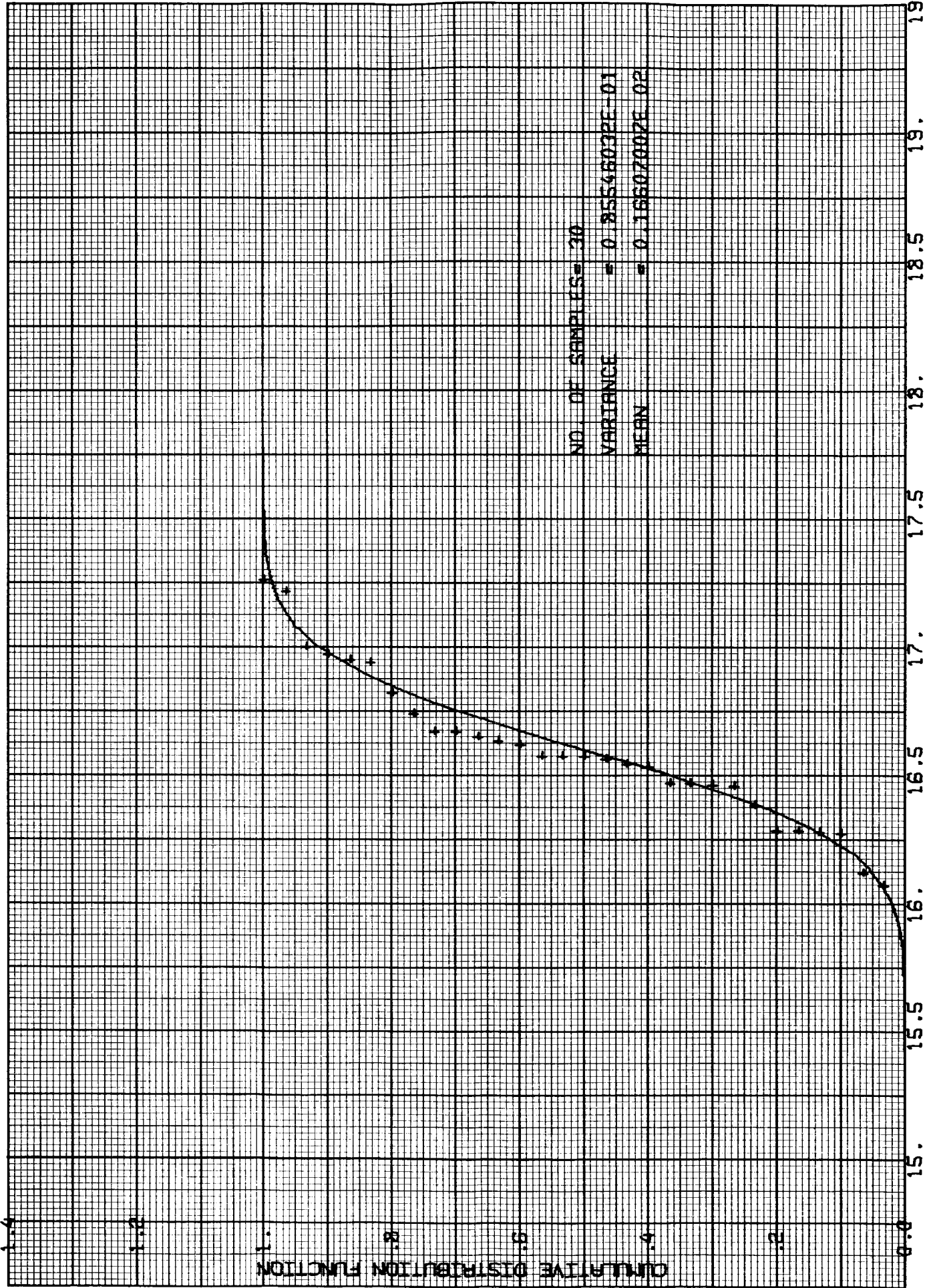


SAMPLE CUMULATIVE DISTRIBUTION OF SEMI-MAJOR AXIS

START DEBOOST TO INTERMEDIATE ORBIT

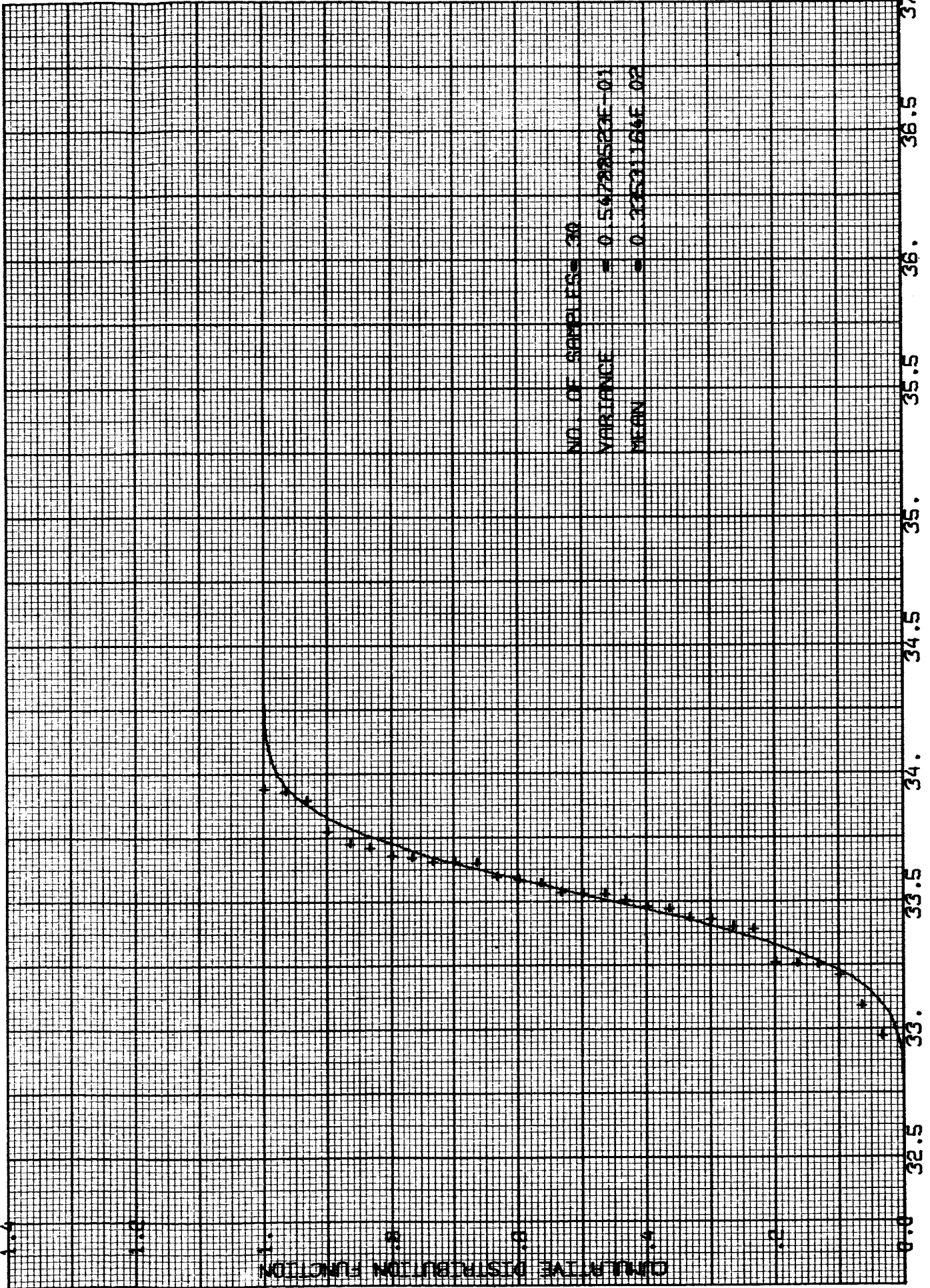


START DEBOOST TO INTERMEDIATE ORBIT



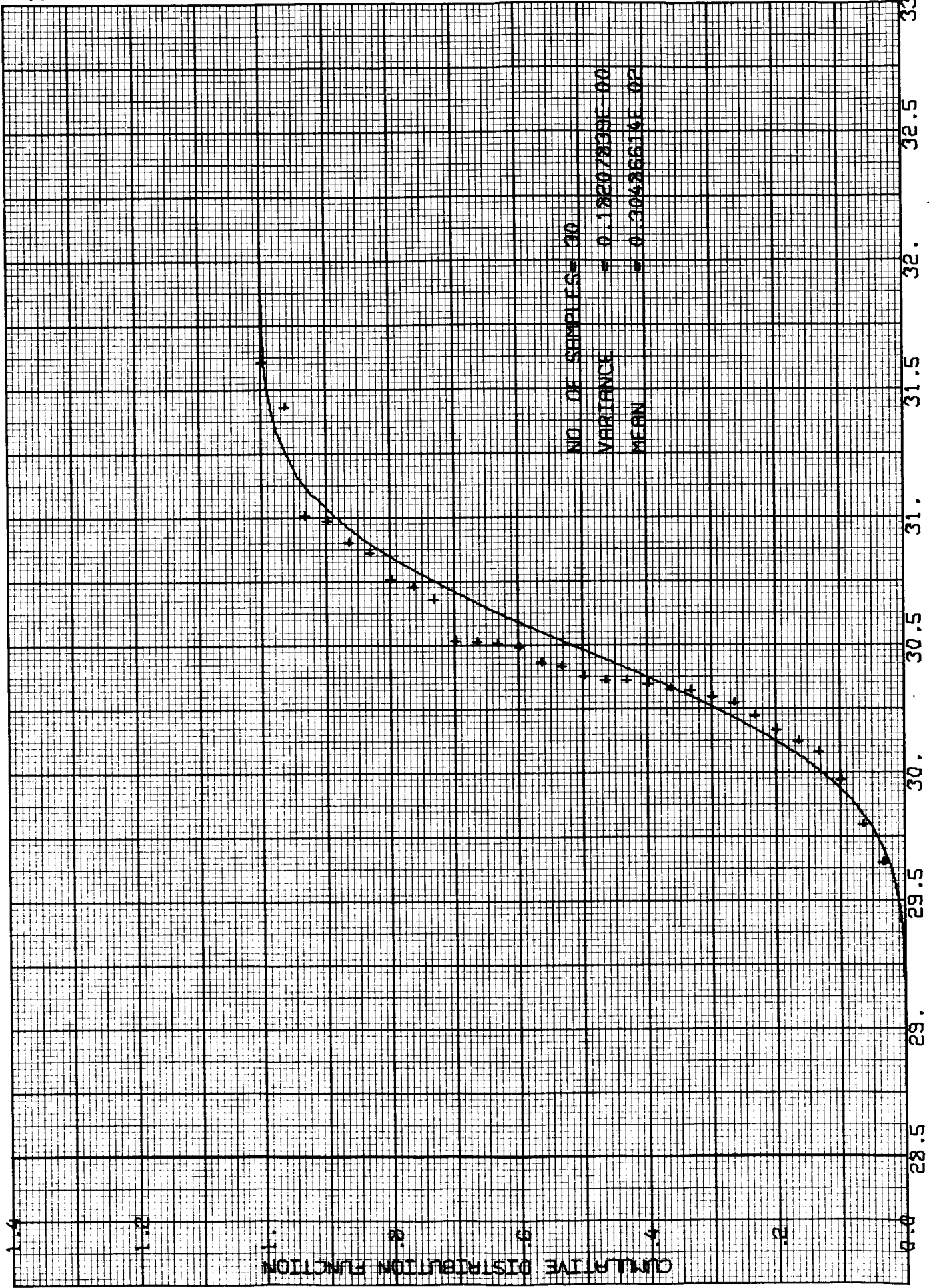
SAMPLE CUMULATIVE DISTRIBUTION OF INCLINATION

START DEBOOST TO INTERMEDIATE ORBIT



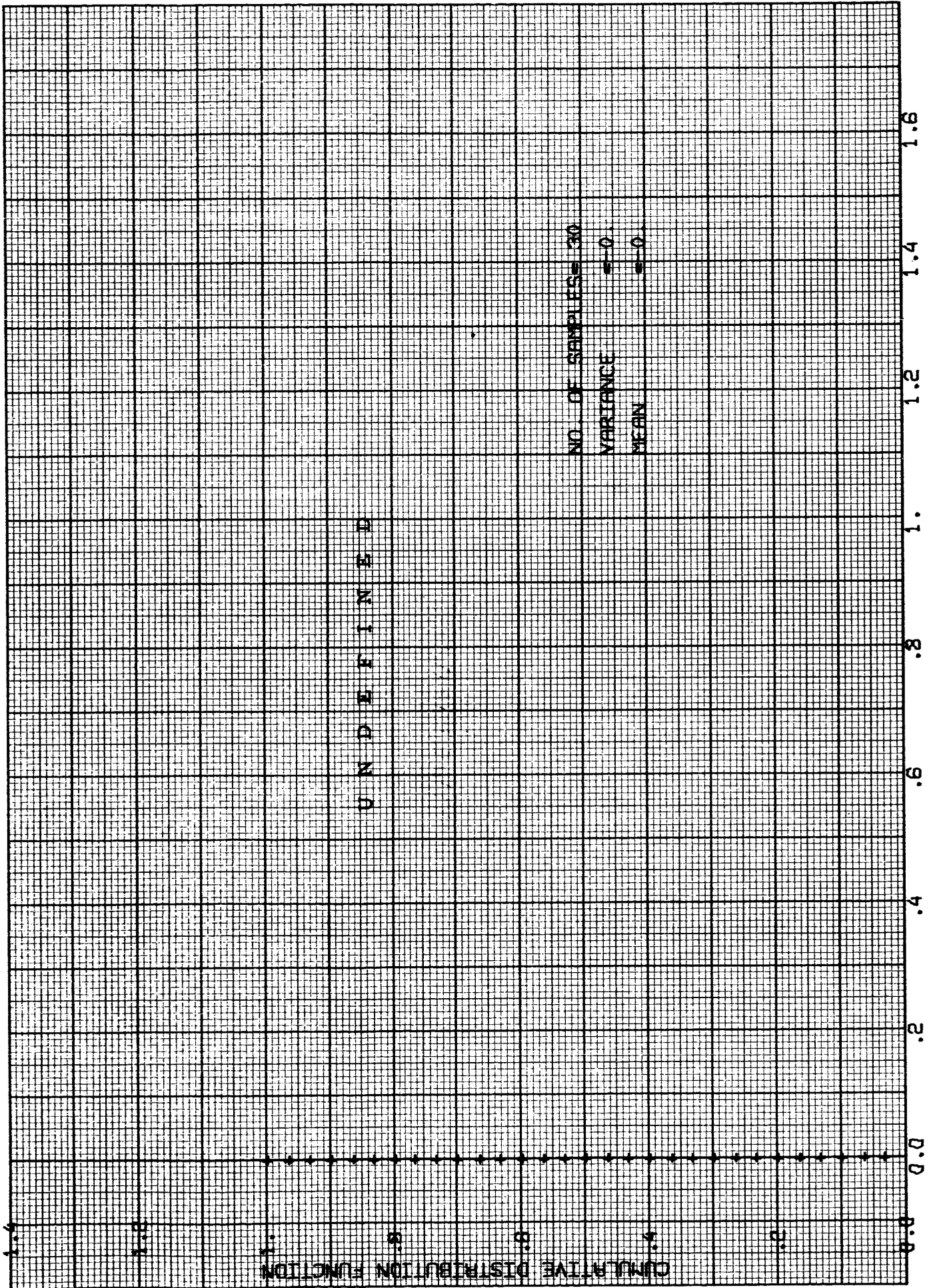
SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE

START DEBOOST TO INTERMEDIATE ORBIT



SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE

START DEBOOST TO INTERMEDIATE ORBIT



SAMPLE CUMULATIVE DISTRIBUTION OF MEAN ANOMALY

END DEBOOST TO INTERMEDIATE ORBIT
SAMPLE STATE VECTORS

X	Y	Z	VX	VY	VZ
-0.61915710E 01	0.23546708E 04	0.53463599E 03	-0.14567734E 01	0.38258523E-00	0.14443693E-00
0.10581209E 03	0.23302914E 04	0.52489397E 03	-0.14518975E 01	0.44542082E-00	0.16159780E-00
-0.62713958E 01	0.23511377E 04	0.53498129E 03	-0.14560304E 01	0.38381889E-00	0.15021563E-00
0.60330363E 02	0.23398472E 04	0.52977248E 03	-0.14532454E 01	0.42083011E-00	0.15811843E-00
-0.87819132E 02	0.23774949E 04	0.54213598E 03	-0.14569809E 01	0.34078369E-00	0.12985250E-00
-0.39426438E 02	0.23627154E 04	0.53766344E 03	-0.14576934E 01	0.36211003E-00	0.13896918E-00
-0.56024455E 00	0.23622248E 04	0.53646561E 03	-0.14522900E 01	0.38213497E-00	0.14635593E-00
-0.35424442E 02	0.23676979E 04	0.53965125E 03	-0.14536768E 01	0.36269537E-00	0.14259166E-00
0.11407778E 03	0.23210783E 04	0.52207072E 03	-0.14546625E 01	0.45485849E-00	0.16137578E-00
-0.15102571E 02	0.23544327E 04	0.53709618E 03	-0.14545979E 01	0.37509786E-00	0.15024142E-00
-0.90352800E 02	0.23752265E 04	0.54396737E 03	-0.14529146E 01	0.33986643E-00	0.13971598E-00
-0.15782250E 02	0.23579375E 04	0.53663132E 03	-0.1455117E 01	0.37697279E-00	0.14531285E-00
-0.1521827E 03	0.23987728E 04	0.55051302E 03	-0.14516696E 01	0.29690151E-00	0.12426700E-00
0.17343105E 02	0.23579445E 04	0.53425913E 03	-0.14530753E 01	0.39313602E-00	0.14751802E-00
0.17442590E 02	0.23521397E 04	0.53331827E 03	-0.14543799E 01	0.39422718E-00	0.14961304E-00
0.36483438E 02	0.23397271E 04	0.53042521E 03	-0.14557695E 01	0.41163867E-00	0.15409083E-00
-0.30905788E 02	0.23629960E 04	0.53835297E 03	-0.14543737E 01	0.36613461E-00	0.14574362E-00
-0.57409354E 02	0.23730458E 04	0.54421616E 03	-0.14497977E 01	0.34712399E-00	0.14824770E-00
0.85701594E 02	0.23335016E 04	0.52672221E 03	-0.14529292E 01	0.43600754E-00	0.15888271E-00
0.97488068E 02	0.23243243E 04	0.52447472E 03	-0.14536770E 01	0.44198865E-00	0.16150635E-00
-0.13264649E 03	0.23947381E 04	0.54951529E 03	-0.14503118E 01	0.31118096E-00	0.12893356E-00
0.63448633E 01	0.23579749E 04	0.53773174E 03	-0.14509396E 01	0.38099409E-00	0.15488116E-00
0.17789721E 03	0.22886842E 04	0.51258532E 03	-0.14555947E 01	0.50052442E 00	0.17248499E-00
-0.38719021E 02	0.23636182E 04	0.53783692E 03	-0.14570764E 01	0.36773656E-00	0.13918213E-00
0.43717952E 02	0.23555051E 04	0.53525373E 03	-0.14472382E 01	0.40206241E-00	0.15835114E-00
0.15804630E 03	0.23033532E 04	0.51704752E 03	-0.14535020E 01	0.47982079E-00	0.16840219E-00
0.14972093E 02	0.23442970E 04	0.53122474E 03	-0.14585268E 01	0.39926124E-00	0.14597715E-00
-0.84027127E 02	0.23815855E 04	0.54468451E 03	-0.14519796E 01	0.33645955E-00	0.13704964E-00
-0.12573676E 02	0.23607145E 04	0.53664915E 03	-0.14557044E 01	0.37805620E-00	0.14419725E-00
-0.94935801E 02	0.23684087E 04	0.54099717E 03	-0.14589129E 01	0.33894376E-00	0.13467265E-00

END DEROST TO INTERMEDIATE ORBIT

SAMPLE MEAN OF SELENOGRAPHIC STATE VECTOR
 1.1775529E 00 2.3538694E 03 5.3485907E 02 -1.4540443E 00 3.8697906E-01 1.4809283E-01

SAMPLE VARIANCE OF SELENOGRAPHIC STATE VECTOR

	1	2	3	4	5	6
1	6.4610753E 03	-1.8802546E 03	-6.8439203E 02	7.3682851E-04	3.7670321E 00	8.8923665E-01
2	-1.8802546E 03	5.8268965E 02	2.0889655E 02	1.0607489E-02	-1.1181388E 00	-2.5643605E-01
3	-6.8439203E 02	2.0889655E 02	7.6008620E 01	4.0241109E-03	-4.0652360E-01	-9.0772957E-02
4	7.3682851E-04	1.0607489E-02	4.0241109E-03	7.3498693E-06	-7.4896319E-06	4.7087669E-06
5	3.7670321E 00	-1.1181388E 00	-4.0652360E-01	-7.4896319E-06	2.2162610E-03	5.1254290E-04
6	8.8923665E-01	-2.5643605E-01	-9.0772957E-02	4.7087669E-06	5.1254290E-04	1.3255636E-04

CORRESPONDING CORRELATION MATRIX

	1	2	3	4	5	6
1	1.0000000E 00	-9.6904873E-01	-9.7660989E-01	3.3812261E-03	9.9548899E-01	9.6087009E-01
2	-9.6904873E-01	1.0000000E 00	9.9261582E-01	1.6208922E-01	-9.8393545E-01	-9.2269919E-01
3	-9.7660989E-01	9.9261582E-01	1.0000000E 00	1.7025454E-01	-9.9047583E-01	-9.0432549E-01
4	3.3812261E-03	1.6208922E-01	1.7025454E-01	9.9999998E-01	-5.8682716E-02	1.5085757E-01
5	9.9548899E-01	-9.8393545E-01	-9.9047583E-01	-5.8682716E-02	9.9999998E-01	9.4562619E-01
6	9.6087009E-01	-9.2269919E-01	-9.0432549E-01	1.5085757E-01	9.4562619E-01	1.0000000E 00

END DERBOOST TO INTERMEDIATE ORBIT
 SAMPLE CUMULATIVE DISTRIBUTION OF TIME FROM TRANSLUNAR INJECTION
 UNSORTED SAMPLES

3.2456804E 05	3.2452304E 05	3.2460629E 05	3.2454098E 05	3.2461776E 05	3.2457379E 05
3.2456126E 05	3.2459120E 05	3.2448545E 05	3.2457442E 05	3.2460932E 05	3.2452044E 05
3.2465109E 05	3.2456268E 05	3.2456268E 05	3.2452406E 05	3.2460785E 05	3.2460411E 05
3.2452680E 05	3.2448863E 05	3.2460443E 05	3.2459422E 05	3.2447236E 05	3.2462454E 05
3.2456538E 05	3.2447920E 05	3.2455890E 05	3.2461904E 05	3.2457834E 05	3.2460461E 05

END DERBOOST TO INTERMEDIATE ORBIT
 SAMPLE CUMULATIVE DISTRIBUTION OF SEMI-MAJOR AXIS
 UNSORTED SAMPLES

2.7675821E 03	2.7723190E 03	2.7594991E 03	2.7669362E 03	2.7813856E 03	2.7686414E 03
2.7678741E 03	2.7662593E 03	2.7732459E 03	2.7525068E 03	2.7616212E 03	2.7633972E 03
2.7767858E 03	2.7732756E 03	2.7660891E 03	2.7632879E 03	2.7619319E 03	2.7512837E 03
2.7699691E 03	2.7587881E 03	2.7726938E 03	2.7543848E 03	2.7702684E 03	2.7747230E 03
2.7583249E 03	2.7649641E 03	2.7680454E 03	2.7683629E 03	2.7739205E 03	2.7673336E 03

END DERBOOST TO INTERMEDIATE ORBIT
 SAMPLE CUMULATIVE DISTRIBUTION OF ECCENTRICITY
 UNSORTED SAMPLES

2.9677506E-01	2.9668227E-01	2.9774058E-01	2.9750735E-01	2.9941479E-01	2.9567296E-01
2.9435561E-01	2.9453445E-01	2.9950972E-01	2.9504480E-01	2.9953141E-01	2.9649981E-01
2.9363064E-01	2.9521847E-01	2.9573539E-01	2.9990456E-01	2.9523863E-01	2.9240996E-01
2.9778484E-01	2.9663184E-01	2.9577145E-01	2.9137039E-01	3.0459189E-01	2.9920202E-01
2.9116004E-01	2.9861495E-01	2.9964164E-01	2.9506192E-01	2.9663042E-01	3.0091312E-01

END DEBOOST TO INTERMEDIATE ORBIT
SAMPLE CUMULATIVE DISTRIBUTION OF INCLINATION

	UNSORTED SAMPLES		
1.2972848E 01	1.3002786E 01	1.3034143E 01	1.2928346E 01
1.2994524E 01	1.3009276E 01	1.2973913E 01	1.3029334E 01
1.2972768E 01	1.2974369E 01	1.2994911E 01	1.3023257E 01
1.3003462E 01	1.3020475E 01	1.2994259E 01	1.2989325E 01
1.3099170E 01	1.3002629E 01	1.2953004E 01	1.2986495E 01
		1.3036131E 01	1.2965444E 01
		1.3069568E 01	1.3005773E 01
		1.3013675E 01	1.3121156E 01
		1.3112121E 01	1.2959450E 01
		1.3009054E 01	1.2967291E 01

END DEBOOST TO INTERMEDIATE ORBIT
SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE

	UNSORTED SAMPLES		
9.8845431E 00	1.0383134E 01	1.0759416E 01	9.0483662E 00
1.0239550E 01	1.0317007E 01	9.9958748E 00	1.0702148E 01
9.7905374E 00	1.0033222E 01	1.0316316E 01	1.0713500E 01
1.0267737E 01	1.0454255E 01	1.0017956E 01	1.0088051E 01
1.1414150E 01	1.0184963E 01	9.5066451E 00	1.0006960E 01
		1.0682554E 01	9.7442900E 00
		1.1060186E 01	1.0218335E 01
		1.0359676E 01	1.1788373E 01
		1.1598321E 01	9.5681348E 00
		1.0406595E 01	9.9053259E 00

END DEBOOST TO INTERMEDIATE ORBIT
SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE

	UNSORTED SAMPLES		
-7.2355652E-01	-1.5024796E 00	-2.0400009E 00	4.6992968E-01
-1.4465179E 00	-1.3786812E 00	-9.5659256E-01	-2.3773804E 00
-3.3390045E-01	-1.0194206E 00	-1.4170227E 00	-1.8863678E 00
-1.5064621E 00	-1.8405037E 00	-1.1873856E 00	-1.1783829E 00
-3.2862053E 00	-1.3008766E 00	-3.7942505E-01	-7.3858260E-01
		-1.9998398E 00	-2.9004669E-01
		-2.5218239E 00	-1.3945236E 00
		-1.7447853E 00	-3.6285973E 00
		-3.1295967E 00	-3.3119965E-01
		-1.5800552E 00	-7.0748520E-01

END DEBOOST TO INTERMEDIATE ORBIT
 SAMPLE CUMULATIVE DISTRIBUTION OF MEAN ANOMALY

	UNSORTED SAMPLES	
4.9194900E 01	4.7319412E 01	4.9469975E 01
4.9634963E 01	5.0163711E 01	4.6747634E 01
5.2028968E 01	4.9027711E 01	4.9070004E 01
4.7679879E 01	4.7685825E 01	5.1957107E 01
4.9676019E 01	4.6122676E 01	4.8524446E 01
		4.8258280E 01
		5.0065238E 01
		4.8514102E 01
		5.0098120E 01
		5.1122769E 01
		5.0158802E 01
		5.1201239E 01
		5.0104700E 01
		4.5135467E 01
		4.9246908E 01
		4.9697687E 01
		4.9681501E 01
		5.1467414E 01
		4.9495269E 01
		5.0423455E 01

END DEBOOST TO INTERMEDIATE ORBIT
 SAMPLE CUMULATIVE DISTRIBUTION OF WEIGHT AT CURRENT TIME

	UNSORTED SAMPLES	
6.4630653E 02	6.4094637E 02	6.4623955E 02
6.4177547E 02	6.4187293E 02	6.3399515E 02
6.4071993E 02	6.4429493E 02	6.4577237E 02
6.4211290E 02	6.3875431E 02	6.4375707E 02
6.3847166E 02	6.3652946E 02	6.4410014E 02
		6.4445311E 02
		6.4036281E 02
		6.4379821E 02
		6.4496725E 02
		6.4517994E 02
		6.4582393E 02
		6.3450310E 02
		6.4721229E 02
		6.2688630E 02
		6.4117123E 02
		6.4701011E 02
		6.4363514E 02
		6.4555883E 02
		6.4605259E 02
		6.3908742E 02

END DEBOOST TO INTERMEDIATE ORBIT
 SAMPLE CUMULATIVE DISTRIBUTION OF SUN LOOK ANGLE

	UNSORTED SAMPLES	
7.9591027E 01	7.7643390E 01	7.9402726E 01
8.0003433E 01	8.0557542E 01	7.7142838E 01
8.3232400E 01	7.9817902E 01	7.9396130E 01
7.7626022E 01	7.7535356E 01	8.2588427E 01
8.0066694E 01	7.5897835E 01	7.8710998E 01
		7.8275054E 01
		7.9656098E 01
		7.8206558E 01
		8.0132189E 01
		8.1688601E 01
		8.1096094E 01
		8.0750808E 01
		8.0344584E 01
		7.4912472E 01
		7.9825193E 01
		8.0445331E 01
		7.9980970E 01
		8.1247411E 01
		8.0118053E 01
		8.0420176E 01

END DEBOOST TO INTERMEDIATE ORBIT

SAMPLE CUMULATIVE DISTRIBUTION OF ACXI	INERTIAL ATTITUDE ANGLE UNSORTED SAMPLES	INERTIAL ATTITUDE ANGLE UNSORTED SAMPLES
2.4577669E 01	2.4522428E 01	2.5721050E 01
2.4048030E 01	2.7005268E 01	2.4273390E 01
2.0989979E 01	2.4704409E 01	2.5786318E 01
2.6487628E 01	2.1497907E 01	2.3729255E 01
2.3776269E 01	2.8177077E 01	2.2360809E 01
		2.3197882E 01
		2.3149939E 01
		2.3630196E 01
		2.9074040E 01
		2.4384429E 01
		2.3804989E 01
		2.4107551E 01
		2.2494042E 01
		2.4099424E 01
		2.3675735E 01

END DEBOOST TO INTERMEDIATE ORBIT

SAMPLE CUMULATIVE DISTRIBUTION OF DLXI	INERTIAL ATTITUDE ANGLE UNSORTED SAMPLES	INERTIAL ATTITUDE ANGLE UNSORTED SAMPLES
-1.6022078E 01	-1.5270234E 01	-1.5291509E 01
-1.5943764E 01	-1.6211214E 01	-1.5611324E 01
-1.7306234E 01	-1.6162449E 01	-1.5264309E 01
-1.5292366E 01	-1.5110397E 01	-1.5638551E 01
-1.5584611E 01	-1.4673080E 01	-1.6481985E 01
		-1.6737300E 01
		-1.5907242E 01
		-1.5912851E 01
		-1.4207564E 01
		-1.6171237E 01
		-1.6446392E 01
		-1.6004500E 01
		-1.5770952E 01
		-1.6279493E 01
		-1.6157759E 01

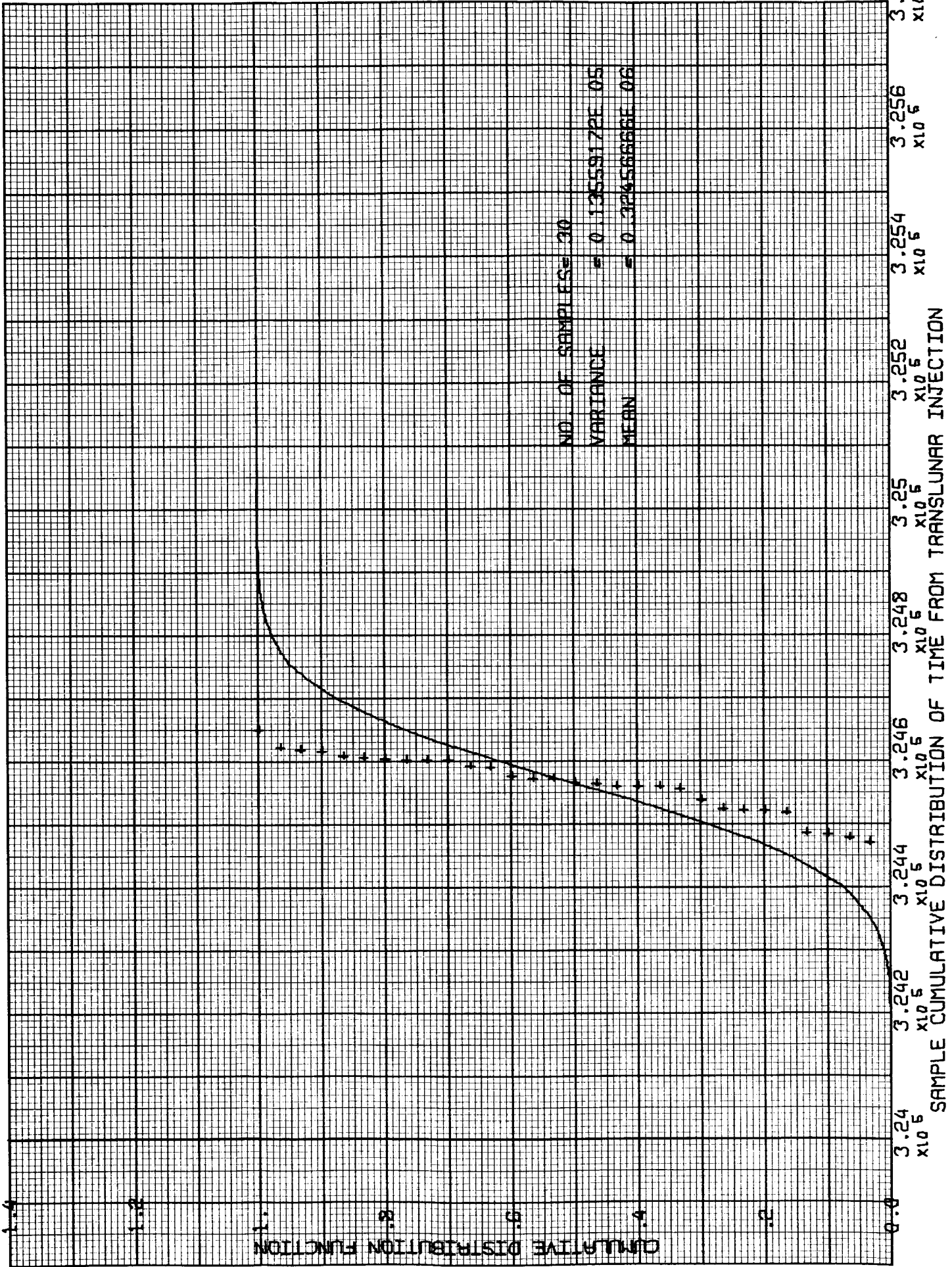
END DEBOOST TO INTERMEDIATE ORBIT

SAMPLE CUMULATIVE DISTRIBUTION OF SENSED VELOCITY MAGNITUDE	UNSORTED SAMPLES	UNSORTED SAMPLES
2.4421881E 03	2.4646833E 03	2.4547797E 03
2.4427341E 03	2.4377303E 03	2.4427383E 03
2.4258216E 03	2.4442111E 03	2.4523454E 03
2.4650363E 03	2.4668195E 03	2.4414751E 03
2.4451222E 03	2.4881906E 03	2.4294291E 03
		2.4280540E 03
		2.4316883E 03
		2.4350594E 03
		2.4916405E 03
		2.4401219E 03
		2.4357912E 03
		2.4397322E 03
		2.4325593E 03
		2.4345615E 03
		2.4287422E 03

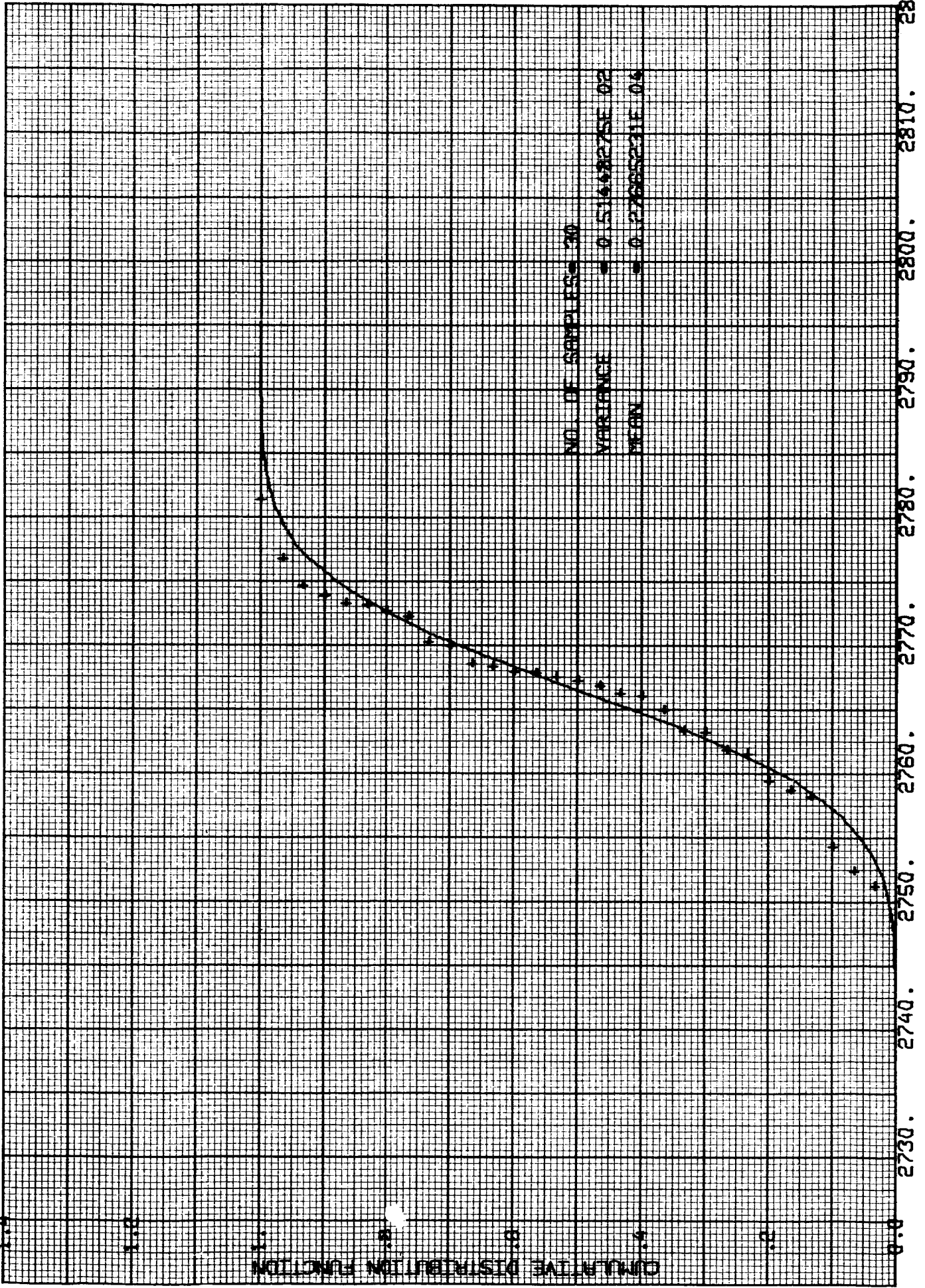
END DEBOOST TO INTERMEDIATE ORBIT

SAMPLE CUMULATIVE DISTRIBUTION OF TOTAL FUEL USED TO DATE	UNSORTED SAMPLES	UNSORTED SAMPLES
2.0369400E 02	2.0822500E 02	2.0788700E 02
2.0812700E 02	2.0570500E 02	2.1347100E 02
2.0422700E 02	2.0624300E 02	2.0554700E 02
2.0533000E 02	2.0482000E 02	2.1549700E 02
2.0882900E 02	2.0299000E 02	2.0444200E 02
		2.1152900E 02
		2.0376100E 02
		2.0963700E 02
		2.0278700E 02
		2.0394800E 02
		2.0905400E 02
		2.1600500E 02
		2.0620200E 02
		2.2311400E 02
		2.1091300E 02

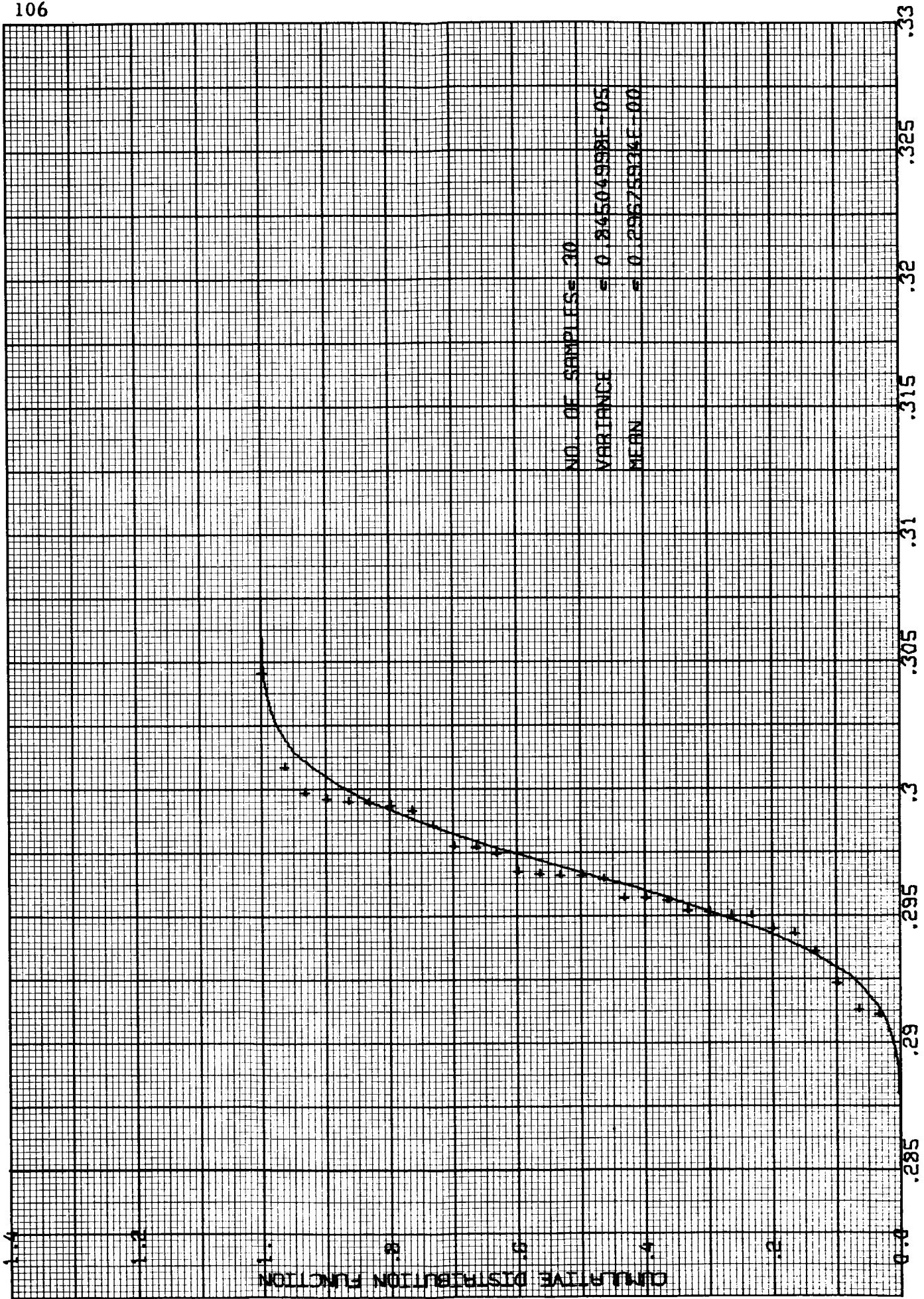
END DEBOOST TO INTERMEDIATE ORBIT



END DEBOOST TO INTERMEDIATE ORBIT

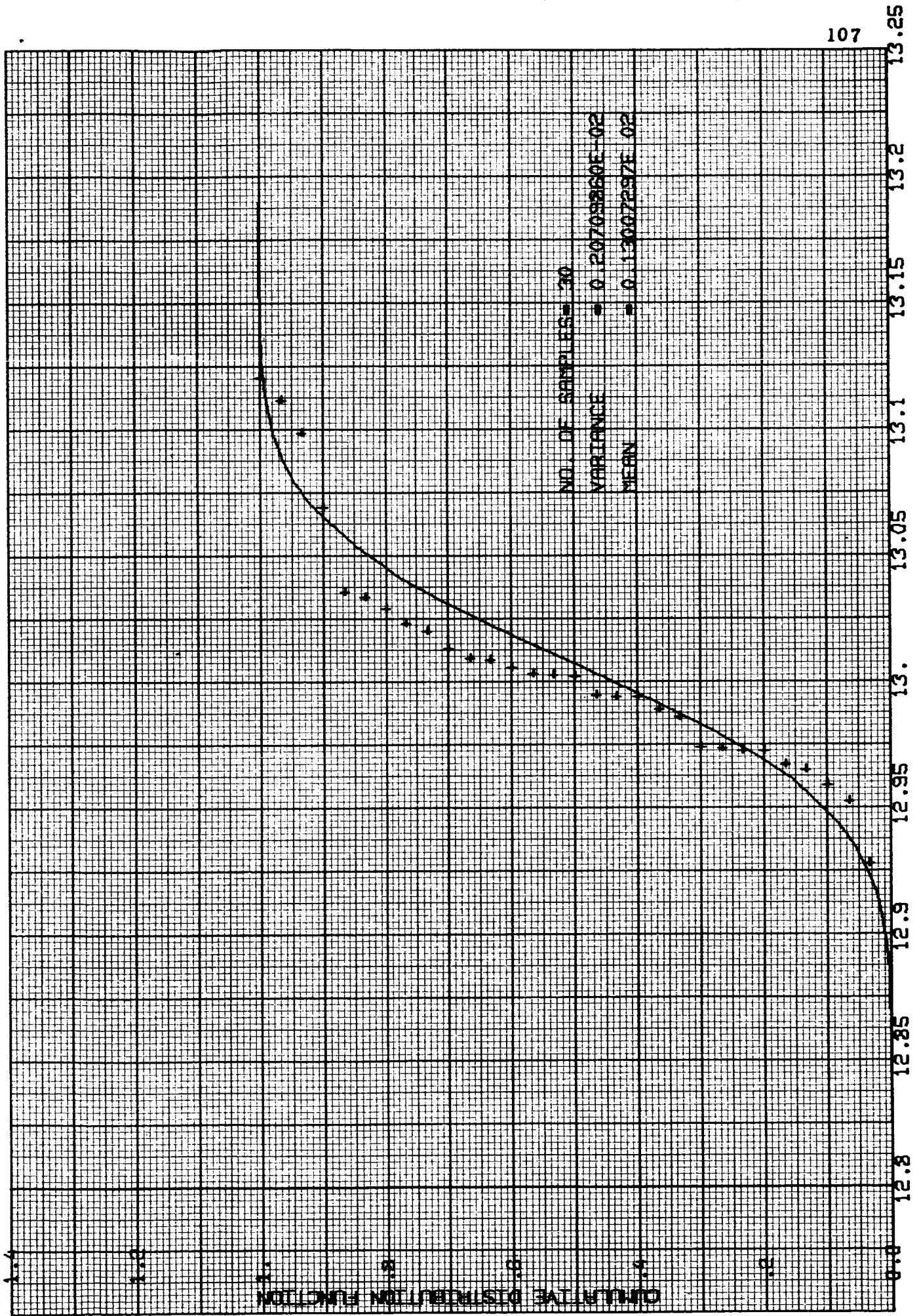


END DEBOOST TO INTERMEDIATE ORBIT

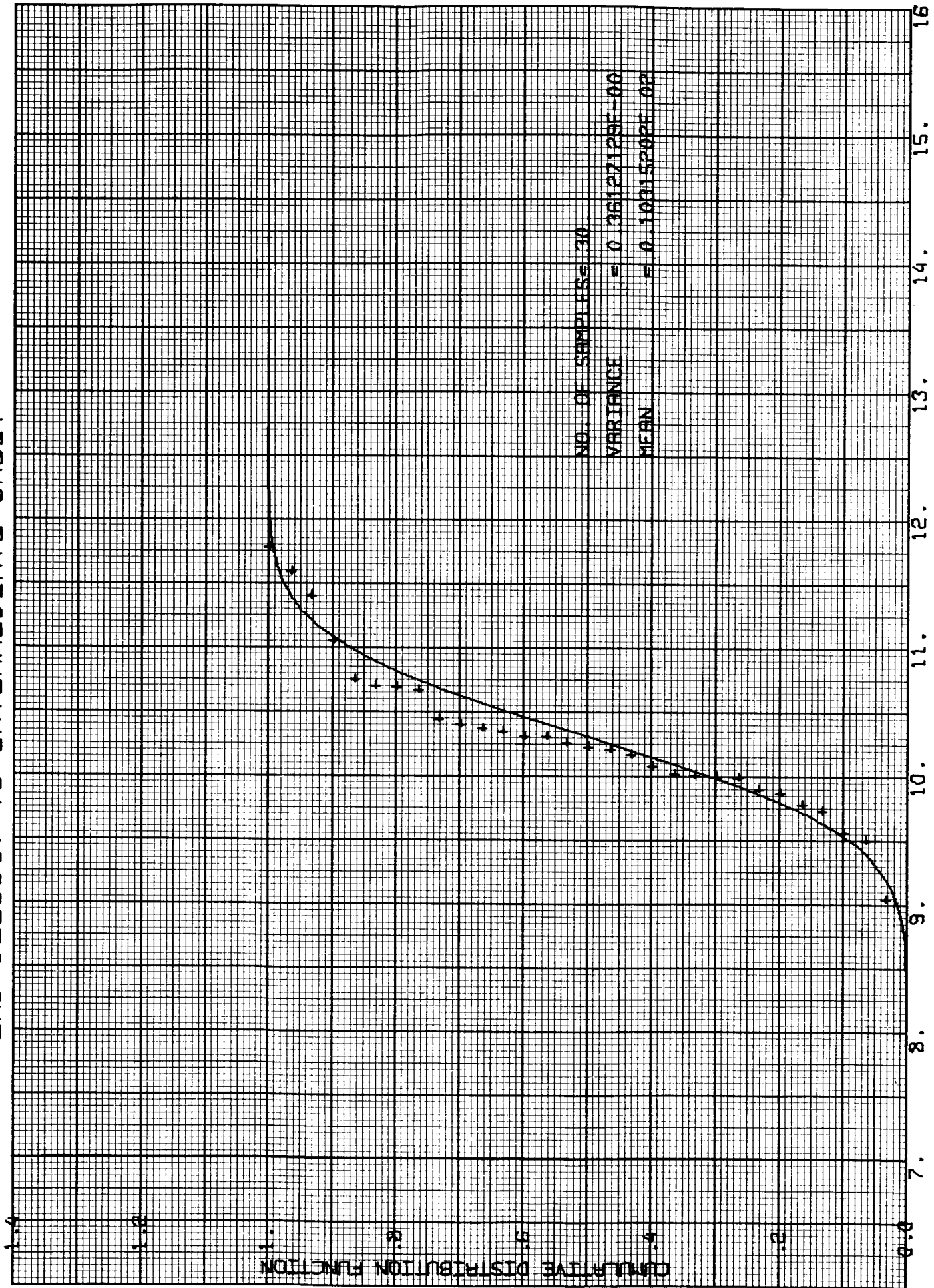


SAMPLE CUMULATIVE DISTRIBUTION OF ECCENTRICITY

END DEBOOST TO INTERMEDIATE ORBIT

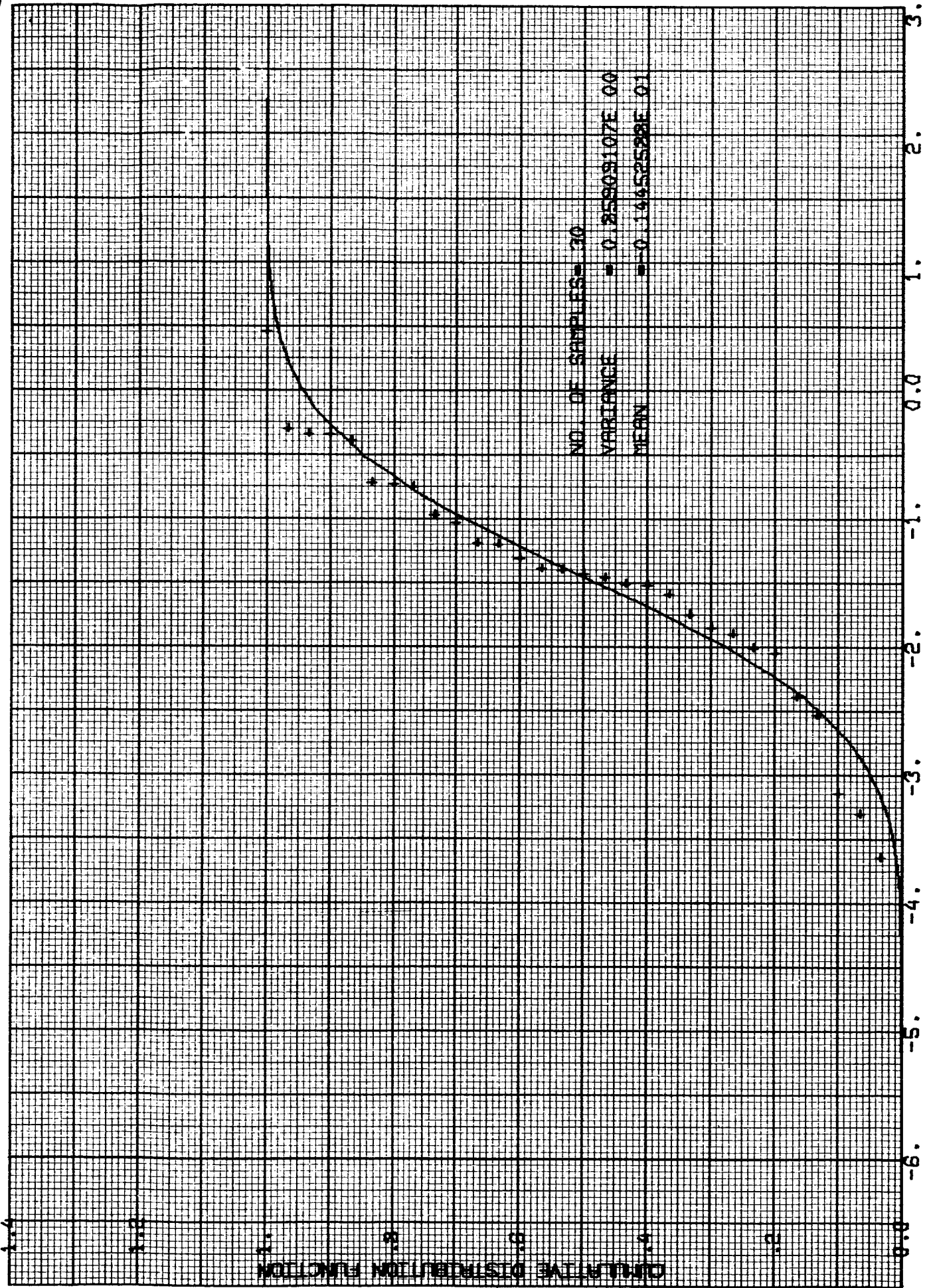


END DEBOOST TO INTERMEDIATE ORBIT



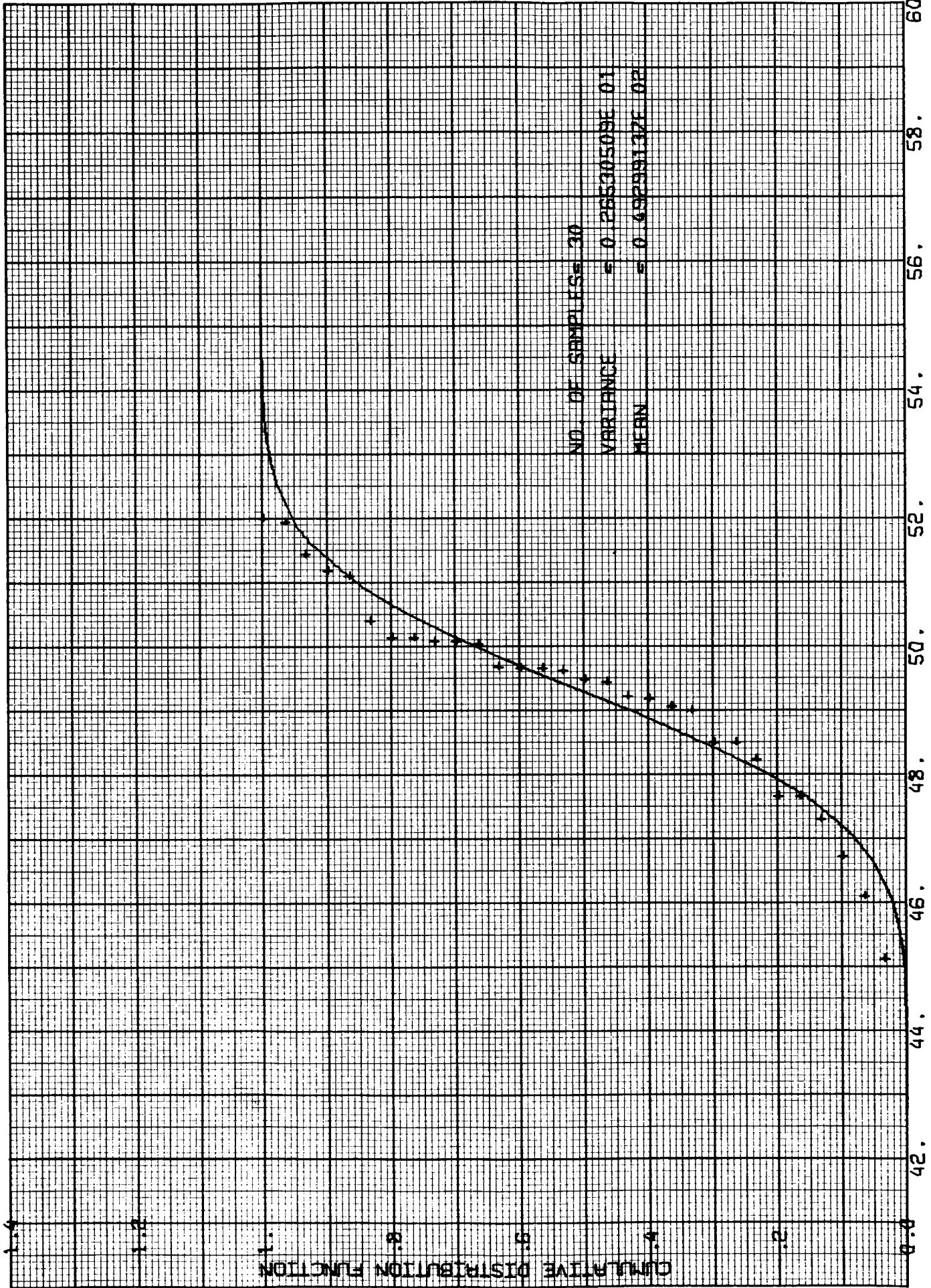
SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE

END DEBOOST TO INTERMEDIATE ORBIT



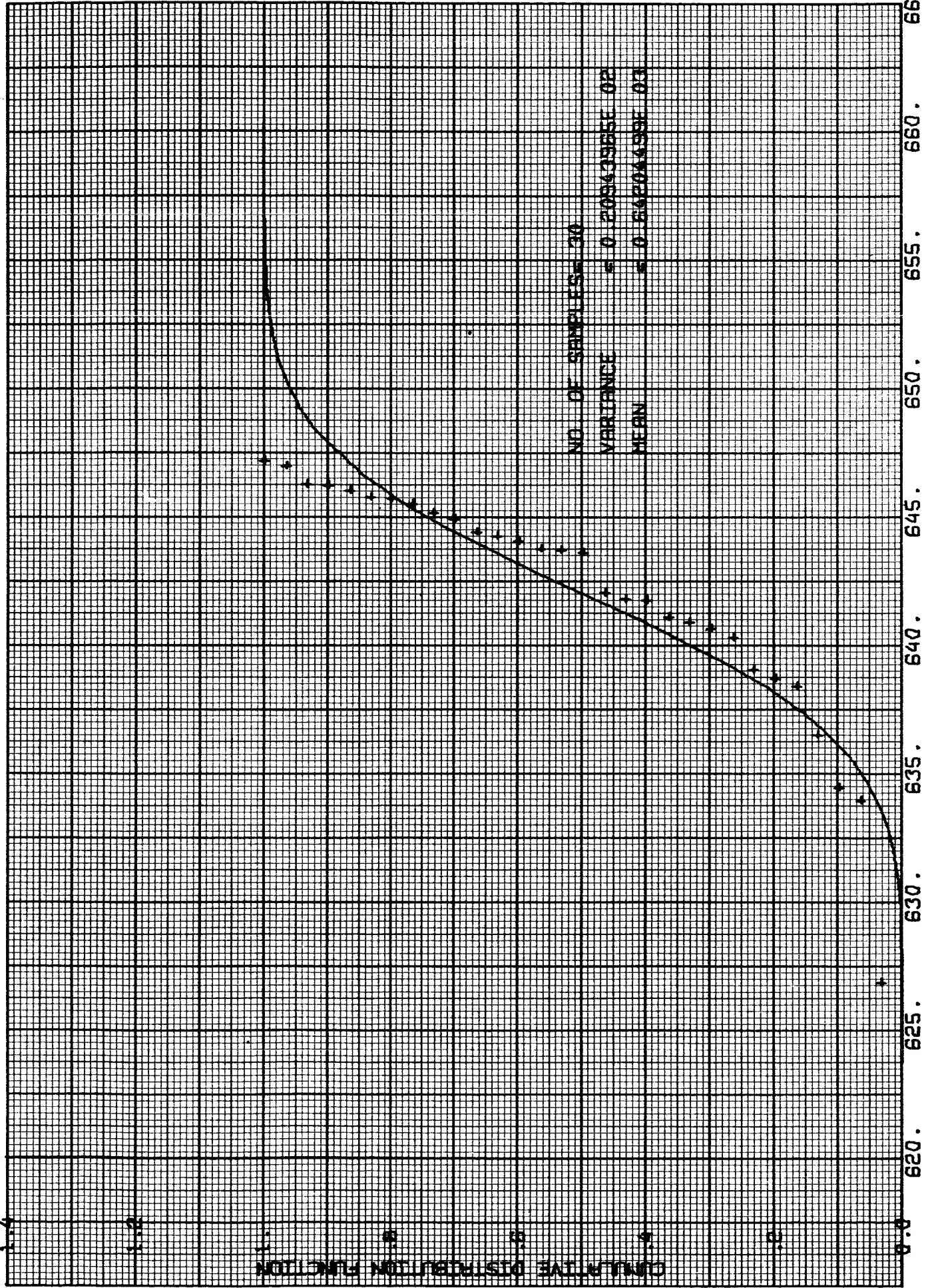
SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE

END DEBOOST TO INTERMEDIATE ORBIT

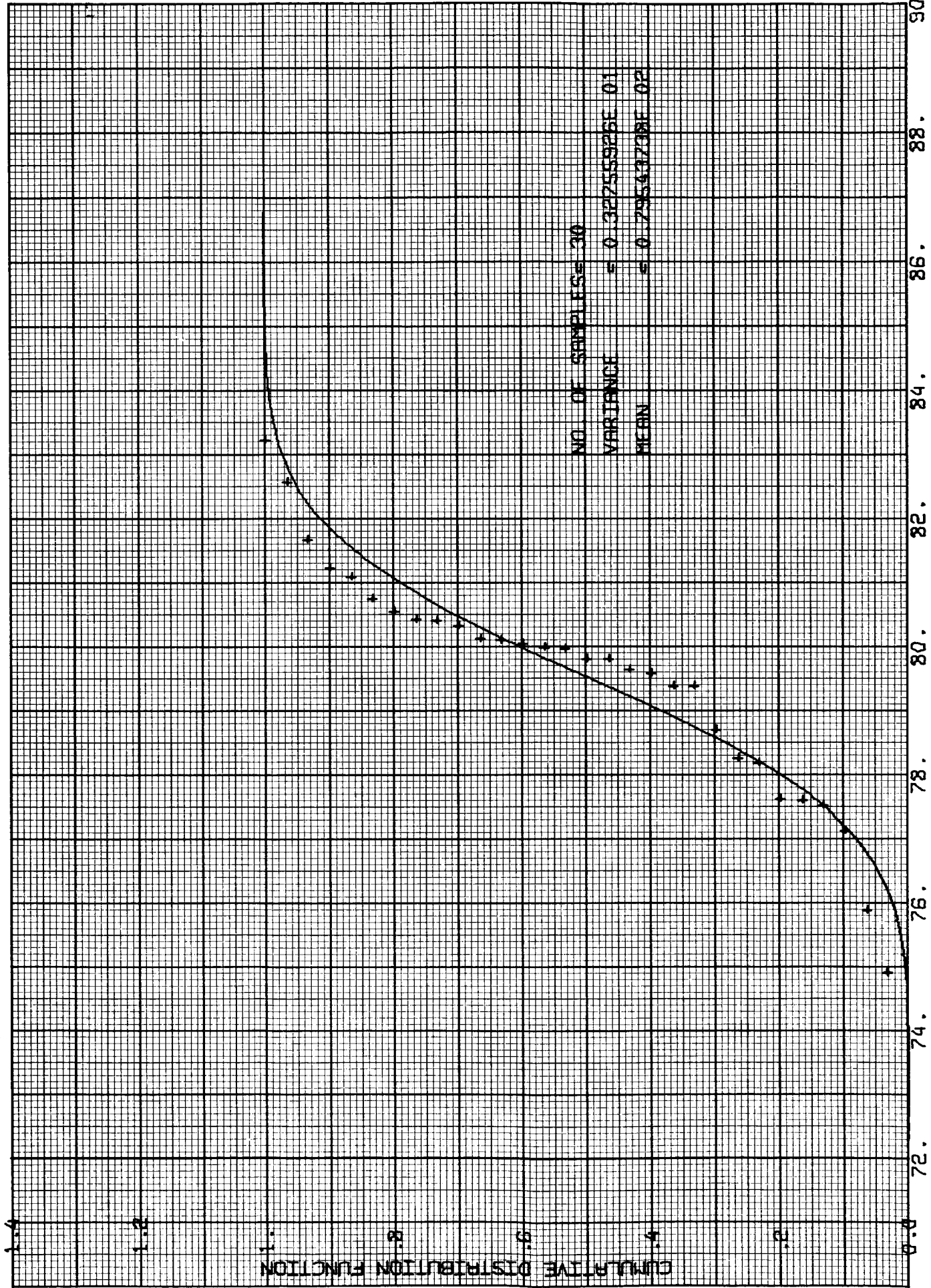


SAMPLE CUMULATIVE DISTRIBUTION OF MEAN ANOMALY

END DEBOOST TO INTERMEDIATE ORBIT

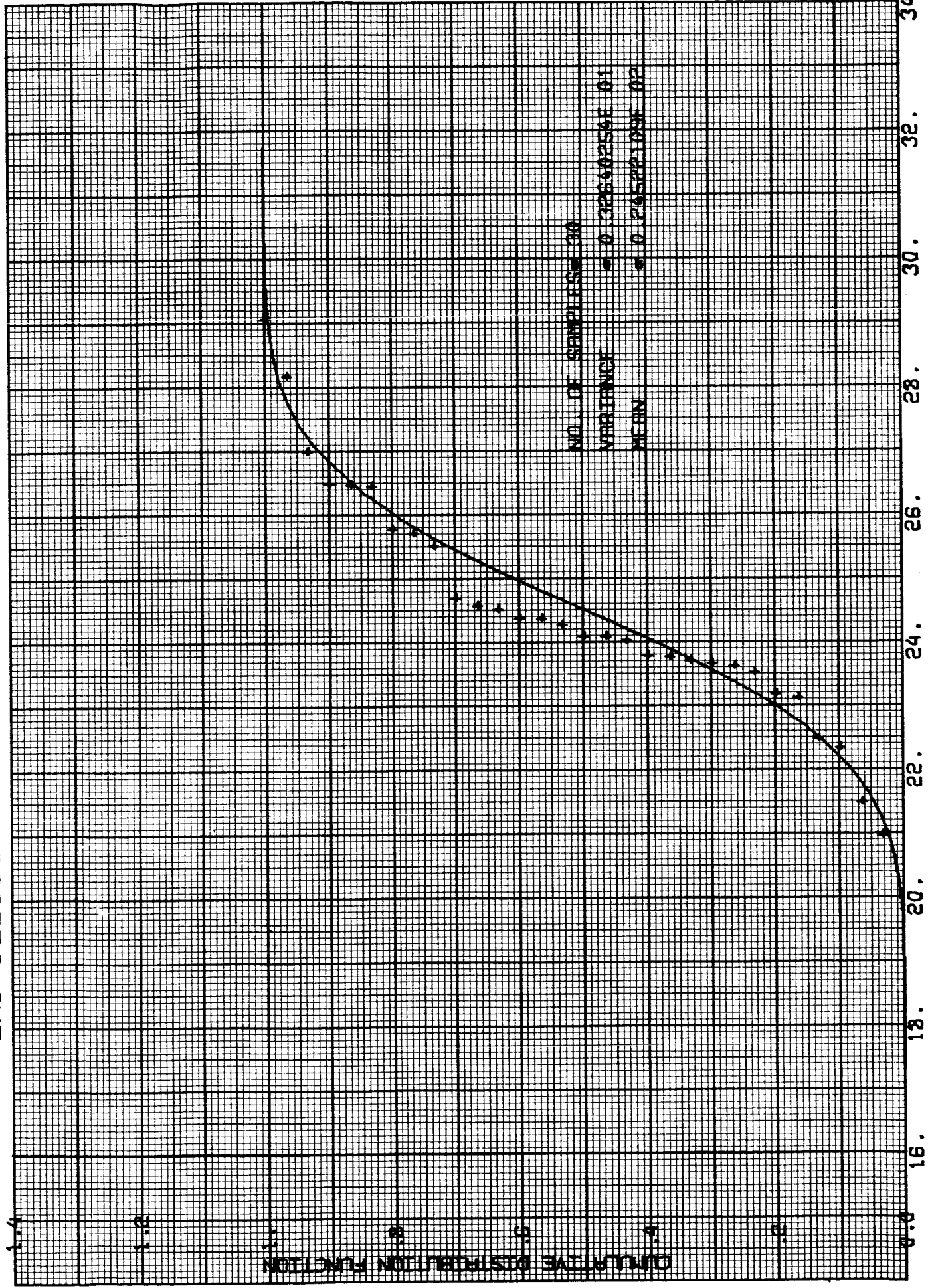


END DEBOOST TO INTERMEDIATE ORBIT

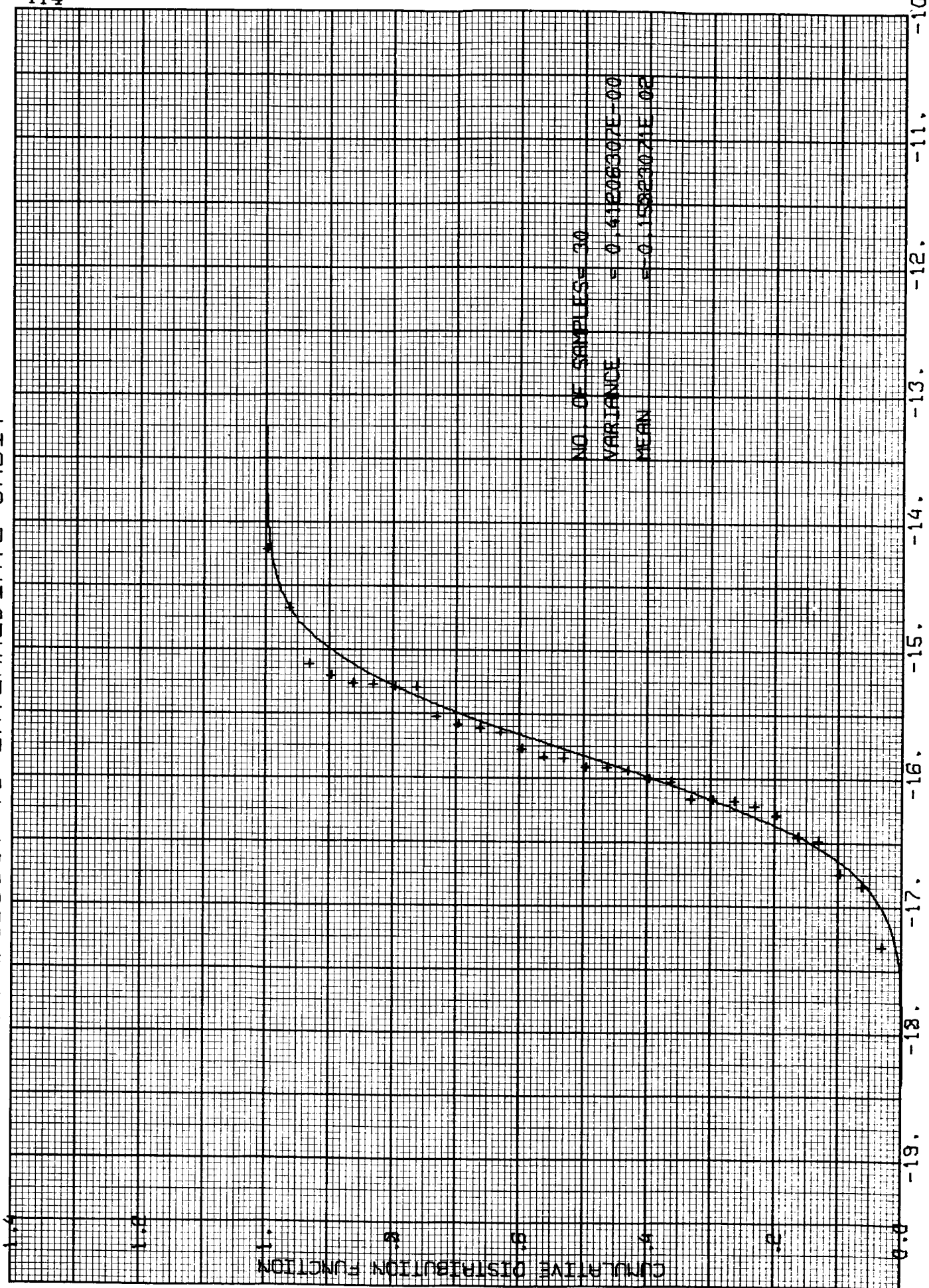


SAMPLE CUMULATIVE DISTRIBUTION OF SUN LOOK ANGLE

END DEBOOST TO INTERMEDIATE ORBIT

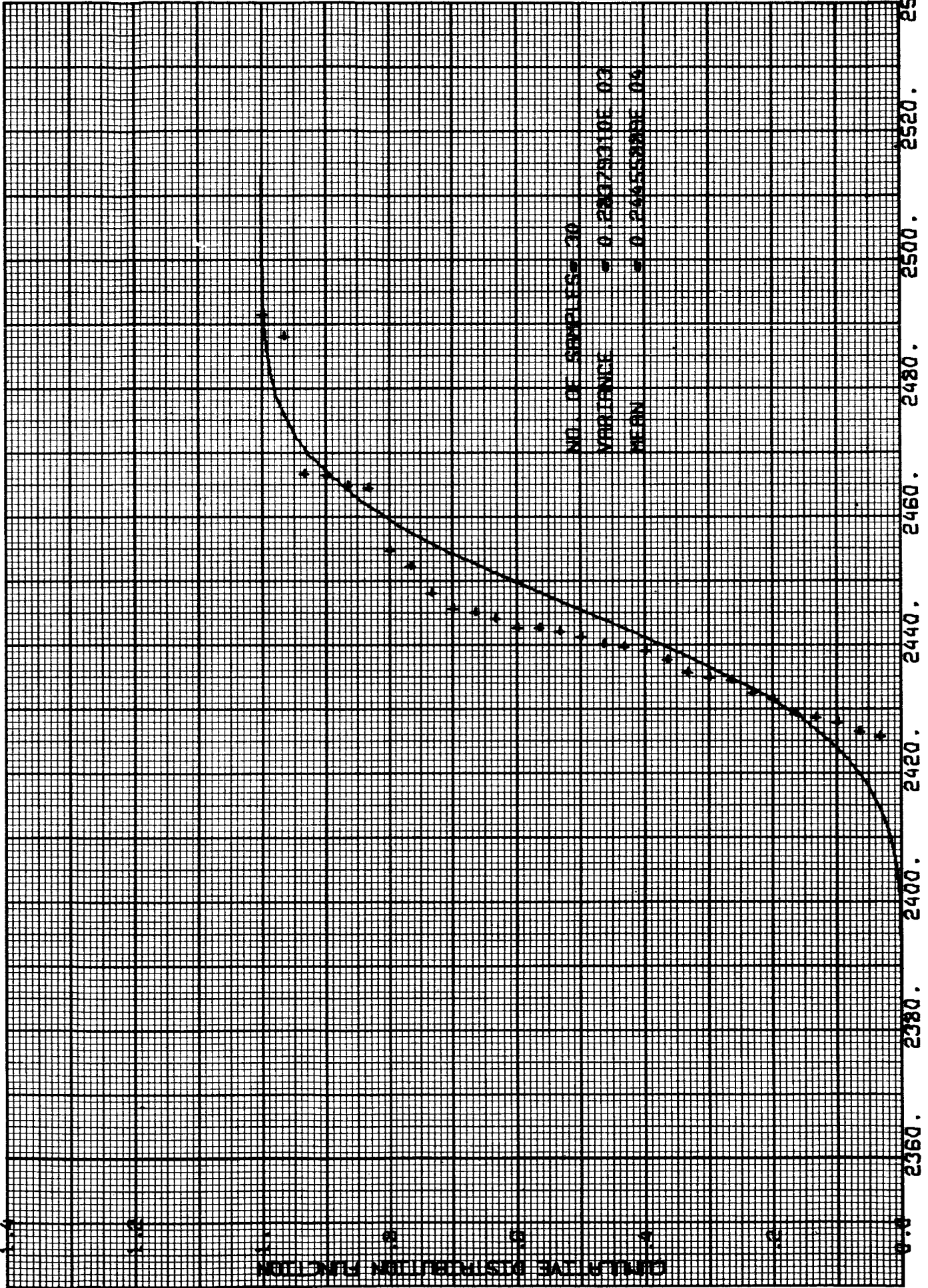


SAMPLE CUMULATIVE DISTRIBUTION OF ACXI INERTIAL ATTITUDE ANGLE

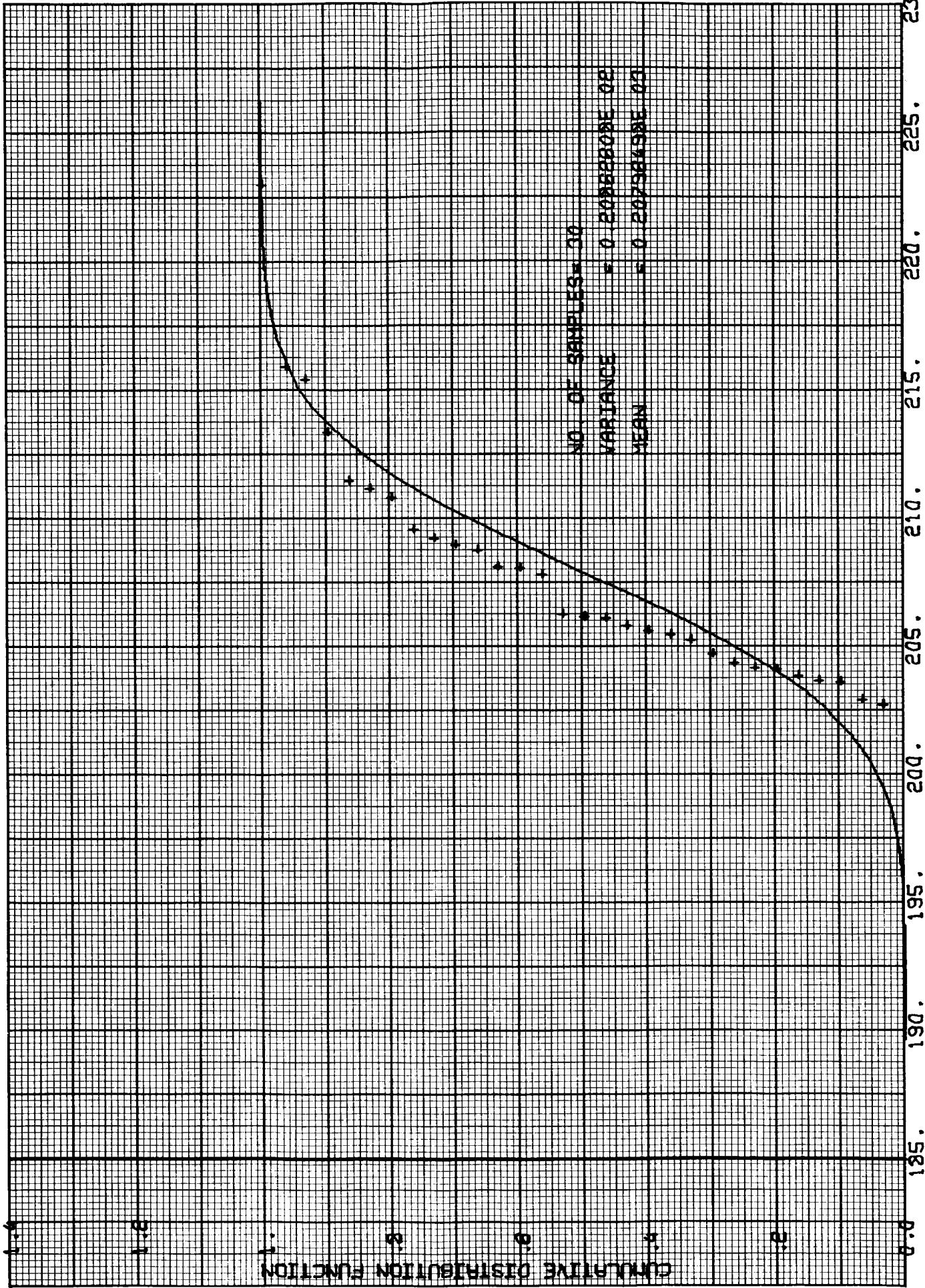


SAMPLE CUMULATIVE DISTRIBUTION OF DLXI INERTIAL ATTITUDE ANGLE

END DEBOOST TO INTERMEDIATE ORBIT

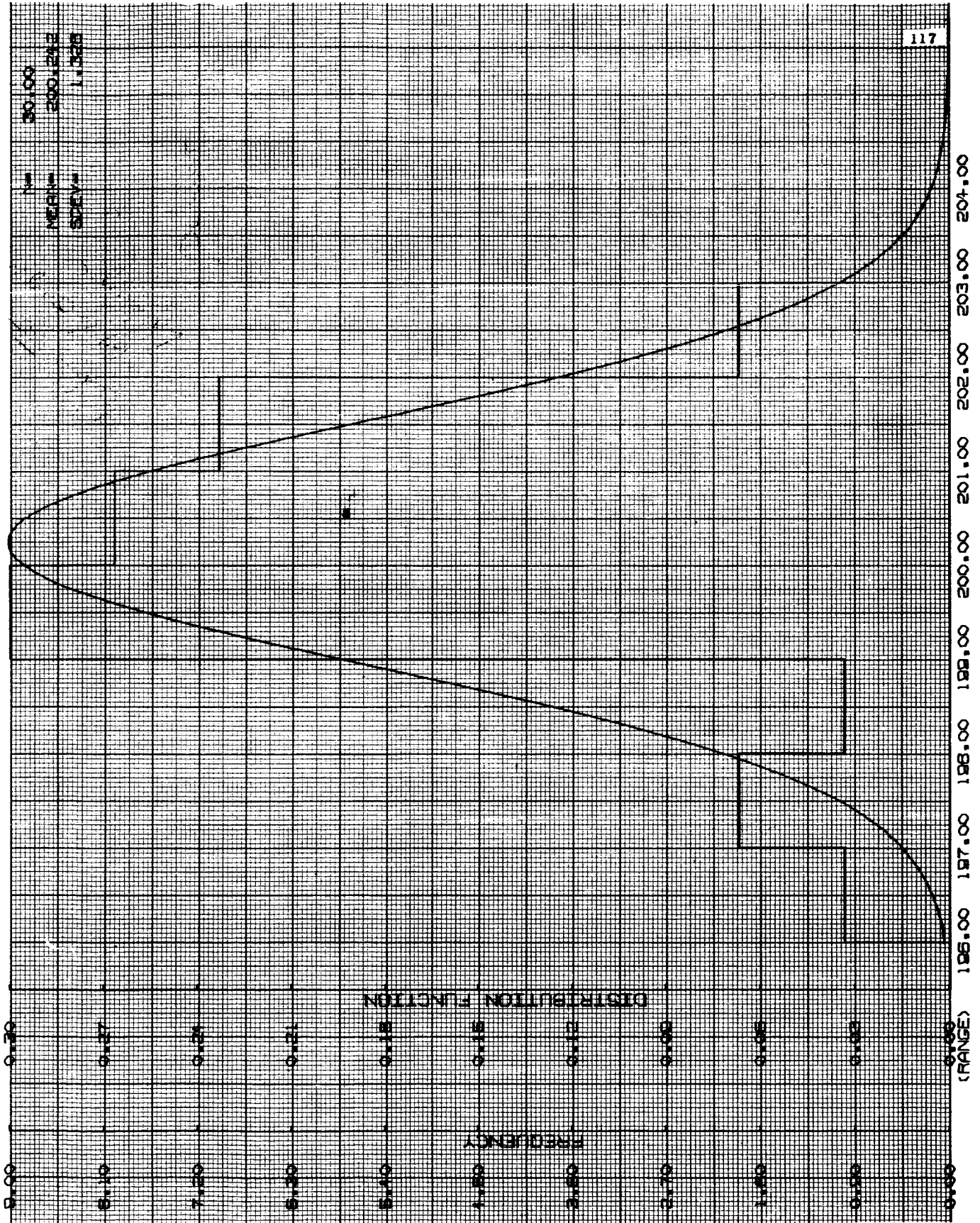


END DEBOOST TO INTERMEDIATE ORBIT



SAMPLE CUMULATIVE DISTRIBUTION OF TOTAL FUEL USED TO DATE

DEBOOST TO INTERMEDIATE ORBIT



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START DEBOOST TO FINAL ORBIT
SAMPLE STATE VECTORS

X	Y	Z	VX	VY	VZ
-0.35874227E 04	-0.70985430E 02	-0.63147725E 01	0.19290048E-01	-0.95525580E 00	-0.22045819E-00
-0.35935599E 04	-0.52543121E 02	0.47153564E 01	0.13667013E-01	-0.95453714E 00	-0.22080407E-00
-0.35799187E 04	-0.47837216E 02	0.12136293E 02	0.12017448E-01	-0.95554498E 00	-0.22157519E-00
-0.35889693E 04	-0.42841969E 02	0.11686608E 02	0.10673409E-01	-0.95451801E 00	-0.22136506E-00
-0.36122977E 04	-0.88318693E 02	-0.23109675E 02	0.24628472E-01	-0.95016699E 00	-0.21843287E-00
-0.35853823E 04	-0.88398011E 02	-0.12356932E 02	0.24333659E-01	-0.95613252E 00	-0.22053186E-00
-0.35814445E 04	-0.48837733E 02	0.39458837E 01	0.12816644E-01	-0.95777762E 00	-0.22140399E-00
-0.35797293E 04	-0.58421827E 02	0.29751731E 01	0.15446717E-01	-0.95776571E 00	-0.22167332E-00
-0.36024743E 04	-0.61425257E 02	-0.30841205E 01	0.16411643E-01	-0.95148366E 00	-0.21960200E-00
-0.35634814E 04	-0.39201044E 02	0.18907954E 02	0.93715584E-02	-0.95949630E 00	-0.22307590E-00
-0.35878387E 04	-0.23733029E 02	0.16915756E 02	0.52647997E-02	-0.95339087E 00	-0.22095529E-00
-0.35815296E 04	-0.52203964E 02	0.31043109E 01	0.13746378E-01	-0.95624655E 00	-0.22125664E-00
-0.35903548E 04	-0.86804727E 02	-0.11586098E 02	0.23846249E-01	-0.95683759E 00	-0.22081908E-00
-0.35906746E 04	-0.60328906E 02	-0.20411193E 01	0.16187034E-01	-0.95595992E 00	-0.22063848E-00
-0.35828459E 04	-0.55914690E 02	0.34638873E 01	0.14715277E-01	-0.95660976E 00	-0.22115134E-00
-0.35909081E 04	-0.39552402E 02	0.79520252E 01	0.10005496E-01	-0.95272934E 00	-0.22056852E-00
-0.35761148E 04	-0.53626335E 02	0.10055186E 02	0.13738304E-01	-0.95775752E 00	-0.22190440E-00
-0.35546814E 04	-0.18101966E 02	0.34621774E 02	0.27141964E-02	-0.96236181E 00	-0.22450237E-00
-0.35936537E 04	-0.45848572E 02	0.47168701E 01	0.11879314E-01	-0.95381176E 00	-0.22064396E-00
-0.35759887E 04	-0.40446340E 02	0.93089154E 01	0.10246275E-01	-0.95691685E 00	-0.22165176E-00
-0.35916460E 04	-0.50338133E 02	0.33694603E-00	0.13370100E-01	-0.95543966E 00	-0.22086084E-00
-0.35557692E 04	-0.34959618E 02	0.27631374E 02	0.77221481E-02	-0.96289968E 00	-0.22454593E-00
-0.36127429E 04	-0.54451618E 02	-0.15001745E-00	0.14277489E-01	-0.94667517E 00	-0.21876410E-00
-0.36033817E 04	-0.73493997E 02	-0.11864486E 02	0.20129234E-01	-0.95151760E 00	-0.21934322E-00
-0.35603707E 04	-0.12755783E 02	0.29896013E 02	0.15659575E-02	-0.96253221E 00	-0.22419622E-00
-0.35893077E 04	-0.54328457E 02	0.17111012E 01	0.14331456E-01	-0.95378048E 00	-0.22063410E-00
-0.35959894E 04	-0.68211532E 02	-0.11255880E 02	0.18750151E-01	-0.95226864E 00	-0.21940166E-00
-0.35840254E 04	-0.51504915E 02	0.58358461E 01	0.13390449E-01	-0.95687971E 00	-0.22145463E-00
-0.35951617E 04	-0.75806744E 02	-0.60420886E 01	0.20491251E-01	-0.95423131E 00	-0.22046664E-00
-0.35985190E 04	-0.74184242E 02	-0.66756543E 01	0.20011313E-01	-0.95096400E 00	-0.21938044E-00

START DEBOOST TO FINAL ORBIT

SAMPLE MEAN OF SELENOGRAPHIC STATE VECTOR						
	1	2	3	4	5	6
	-3.5862058E 03	-5.4180203E 01	3.8478807E 00	1.4167982E-02	-9.5541624E-01	-2.2106872E-01
SAMPLE VARIANCE OF SELENOGRAPHIC STATE VECTOR						
	1	2	3	4	5	6
	2.0648276E 02	1.7800646E 02	1.5420945E 02	-5.5749827E-02	-4.9063846E-02	-2.0777209E-02
	1.7800646E 02	3.6099498E 02	2.3208450E 02	-1.0959870E-01	-3.5382501E-02	-2.0500841E-02
	1.5420945E 02	2.3208450E 02	1.7037928E 02	-7.1537997E-02	-3.2932215E-02	-1.7252429E-02
	-5.5749827E-02	-1.0959870E-01	-7.1537997E-02	3.3334327E-05	1.1157630E-05	6.4085912E-06
	-4.9063846E-02	-3.5382501E-02	-3.2932215E-02	1.1157630E-05	1.3187014E-05	5.1259995E-06
	-2.0777209E-02	-2.0500841E-02	-1.7252429E-02	6.4085912E-06	5.1259995E-06	2.2367156E-06
CORRESPONDING CORRELATION MATRIX						
	1	2	3	4	5	6
	1.0000000E 00	6.5199353E-01	8.2216825E-01	-6.7197912E-01	-9.4025676E-01	-9.6680729E-01
	6.5199353E-01	9.9999998E-01	9.3580885E-01	-9.9910004E-01	-5.1281971E-01	-7.2146571E-01
	8.2216825E-01	9.3580885E-01	9.9999998E-01	-9.4925421E-01	-6.9476721E-01	-8.8376428E-01
	-6.7197912E-01	-9.9910004E-01	-9.4925421E-01	1.0000000E 00	5.3217304E-01	7.4218355E-01
	-9.4025676E-01	-5.1281971E-01	-6.9476721E-01	5.3217304E-01	1.0000000E 00	9.4384336E-01
	-9.6680729E-01	-7.2146571E-01	-8.8376428E-01	7.4218355E-01	9.4384336E-01	9.9999998E-01

START DEBOOST TO FINAL ORBIT
SAMPLE CUMULATIVE DISTRIBUTION OF TIME FROM TRANSLUNAR INJECTION

		UNSORTED SAMPLES	
3.8158593E 05	3.8175516E 05	3.8136450E 05	3.8157260E 05
3.8157223E 05	3.8153325E 05	3.8176704E 05	3.8109554E 05
3.8185102E 05	3.8176275E 05	3.8153888E 05	3.8143370E 05
3.8167313E 05	3.8128884E 05	3.8168051E 05	3.8117200E 05
3.8127979E 05	3.8152660E 05	3.8161534E 05	3.8159148E 05
			3.8202811E 05
			3.8137084E 05
			3.8141834E 05
			3.8171976E 05
			3.8179050E 05
			3.8160631E 05
			3.8139144E 05
			3.8103735E 05
			3.8185259E 05
			3.8157057E 05

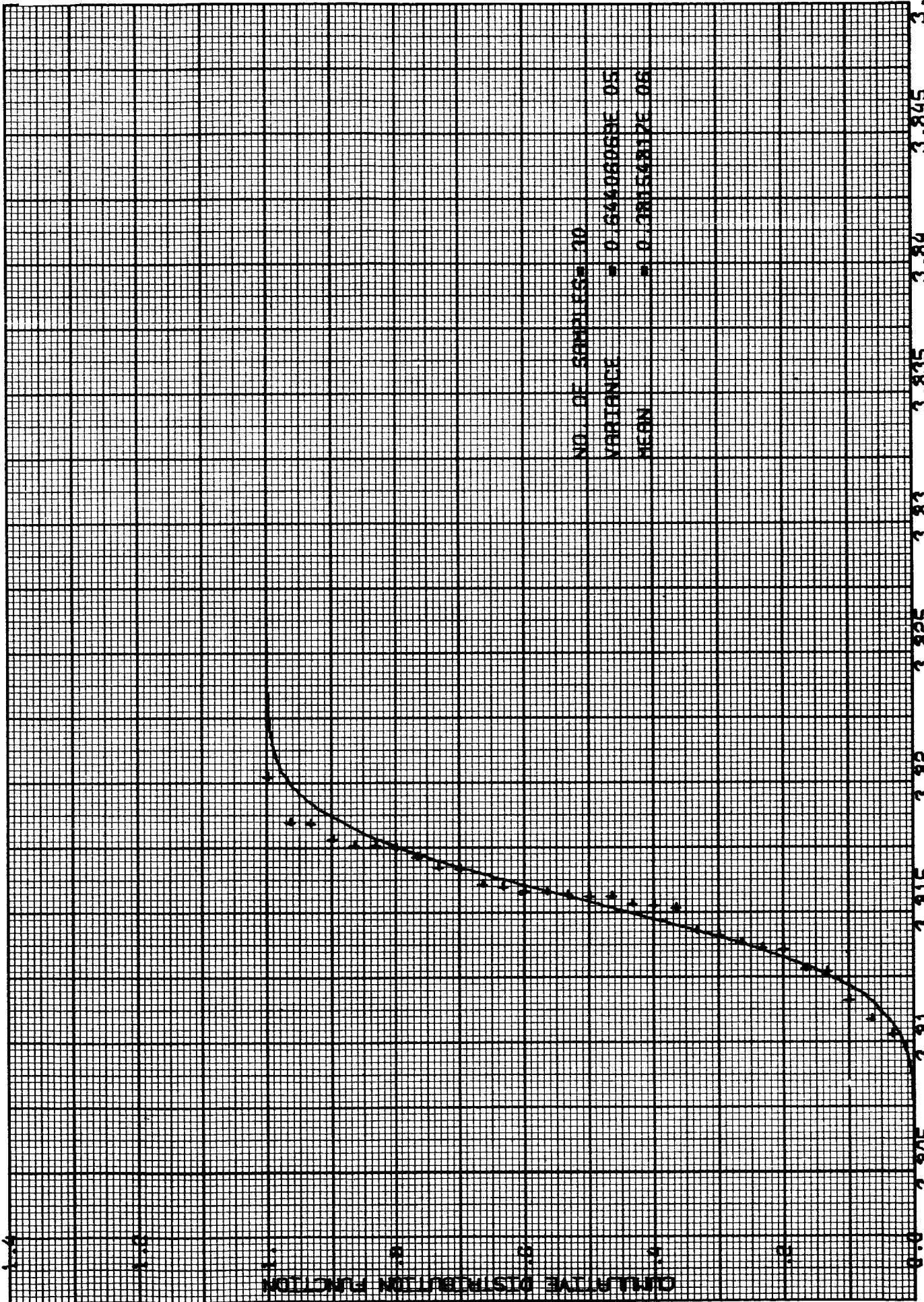
START DEBOOST TO FINAL ORBIT
SAMPLE CUMULATIVE DISTRIBUTION OF SEMI-MAJOR AXIS

		UNSORTED SAMPLES	
2.7679171E 03	2.7726406E 03	2.7598310E 03	2.7672627E 03
2.7682122E 03	2.7666009E 03	2.7735627E 03	2.7528394E 03
2.7771443E 03	2.7736124E 03	2.7664220E 03	2.7636145E 03
2.7702921E 03	2.7591048E 03	2.7730497E 03	2.7547195E 03
2.7586577E 03	2.7652692E 03	2.7683746E 03	2.7687122E 03
			2.7817349E 03
			2.7619659E 03
			2.7622704E 03
			2.7705660E 03
			2.7742599E 03
			2.7689809E 03
			2.7637331E 03
			2.7516257E 03
			2.7750640E 03
			2.7676762E 03

START DEBOOST TO FINAL ORBIT
SAMPLE CUMULATIVE DISTRIBUTION OF ECCENTRICITY

		UNSORTED SAMPLES	
2.9632888E-01	2.9621822E-01	2.9727475E-01	2.9703771E-01
2.9389645E-01	2.9408168E-01	2.9905104E-01	2.9457143E-01
2.9320706E-01	2.9476710E-01	2.9527742E-01	2.9943412E-01
2.9731789E-01	2.9615589E-01	2.9532436E-01	2.9089316E-01
2.9067096E-01	2.9814471E-01	2.9919345E-01	2.9460931E-01
			2.9899197E-01
			2.9905923E-01
			2.9477952E-01
			3.0412105E-01
			2.9618936E-01
			2.9523944E-01
			2.9604105E-01
			2.9192585E-01
			2.9876316E-01
			3.0047361E-01

START DEBOOST TO FINAL ORBIT

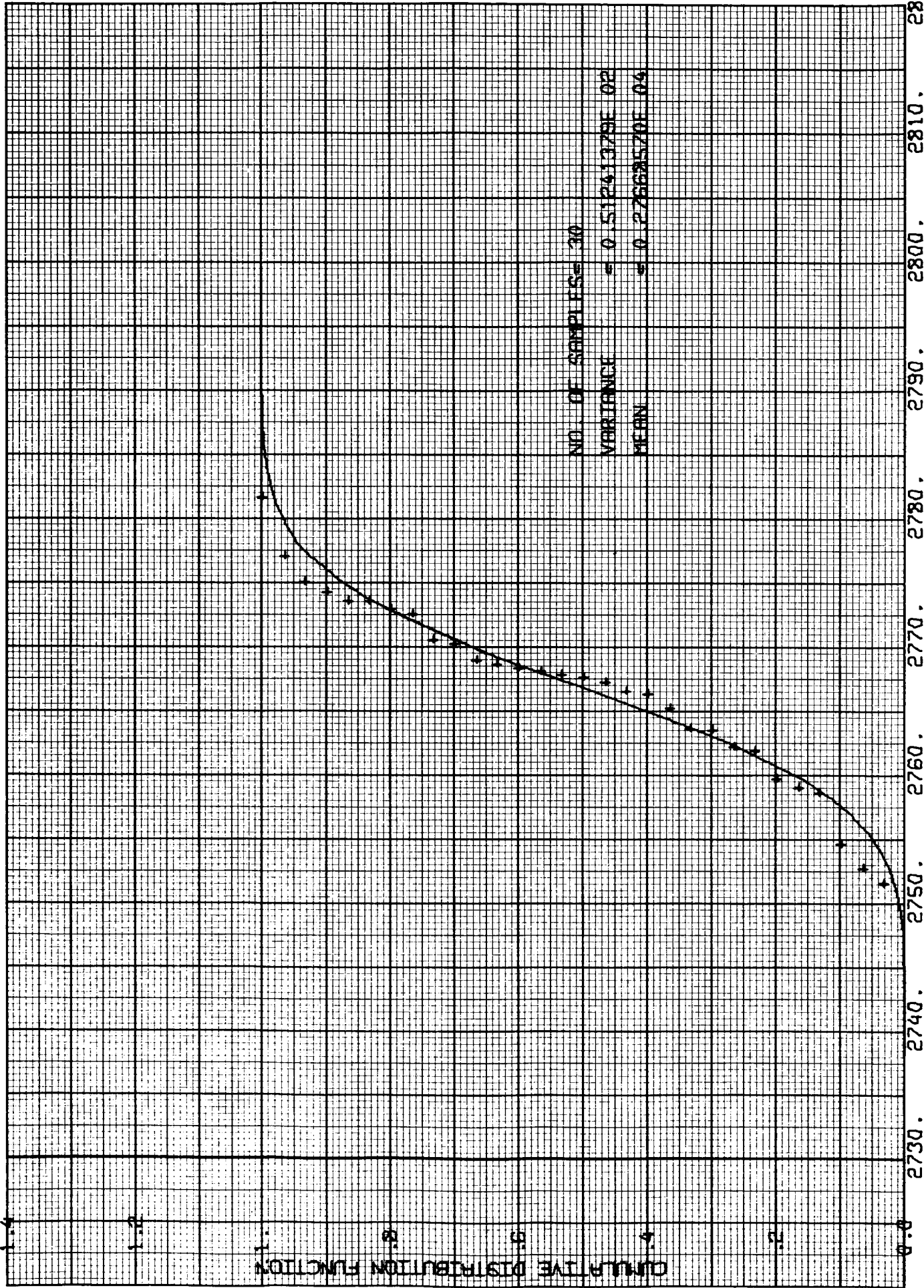


3.805 x 10⁵ 3.81 x 10⁵ 3.815 x 10⁵ 3.82 x 10⁵ 3.825 x 10⁵ 3.83 x 10⁵ 3.835 x 10⁵ 3.84 x 10⁵ 3.845 x 10⁵ 3.85 x 10⁵

SAMPLE CUMULATIVE DISTRIBUTION OF TIME FROM TRANSLUNAR INJECTION

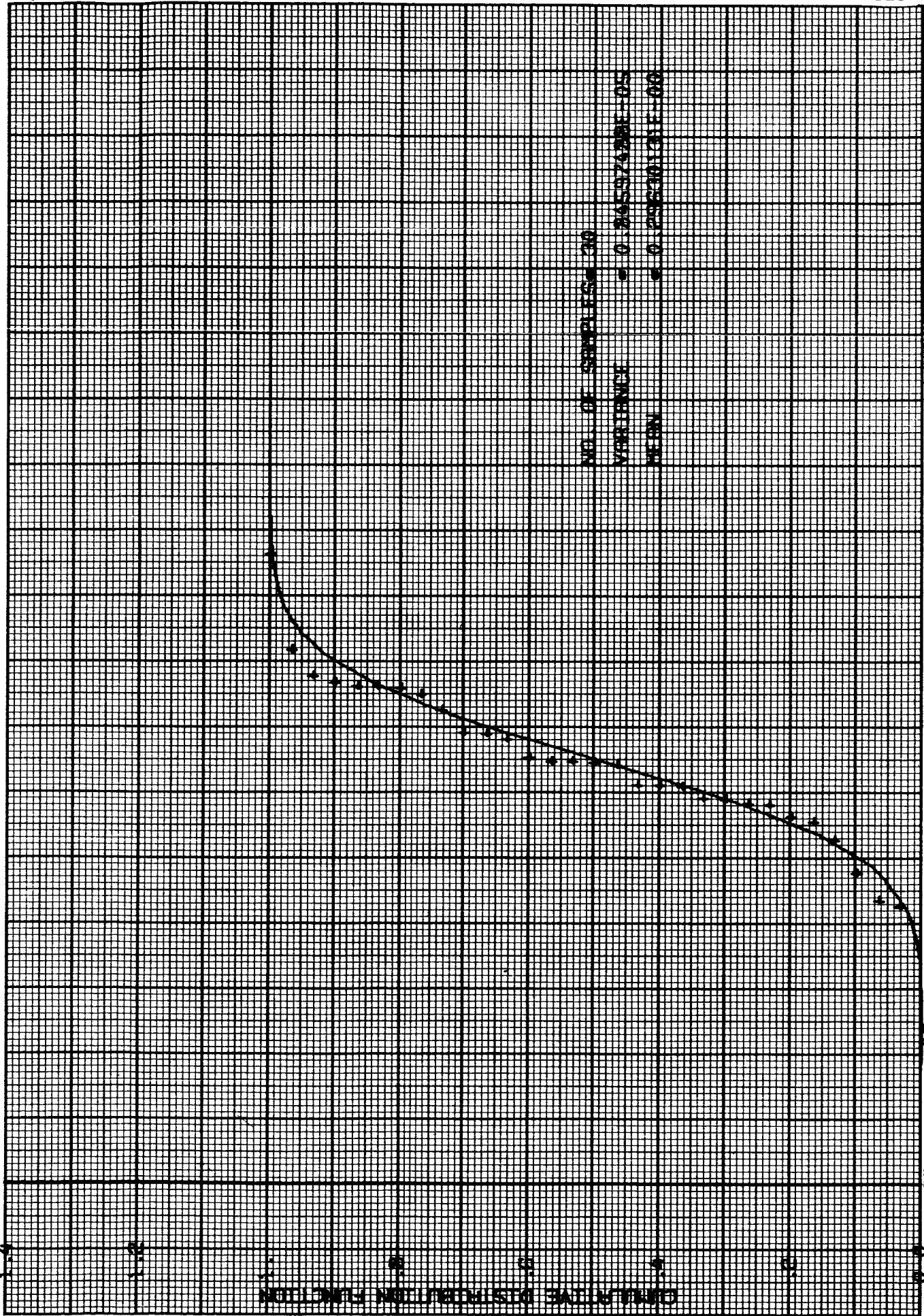
CUMULATIVE DISTRIBUTION FUNCTION

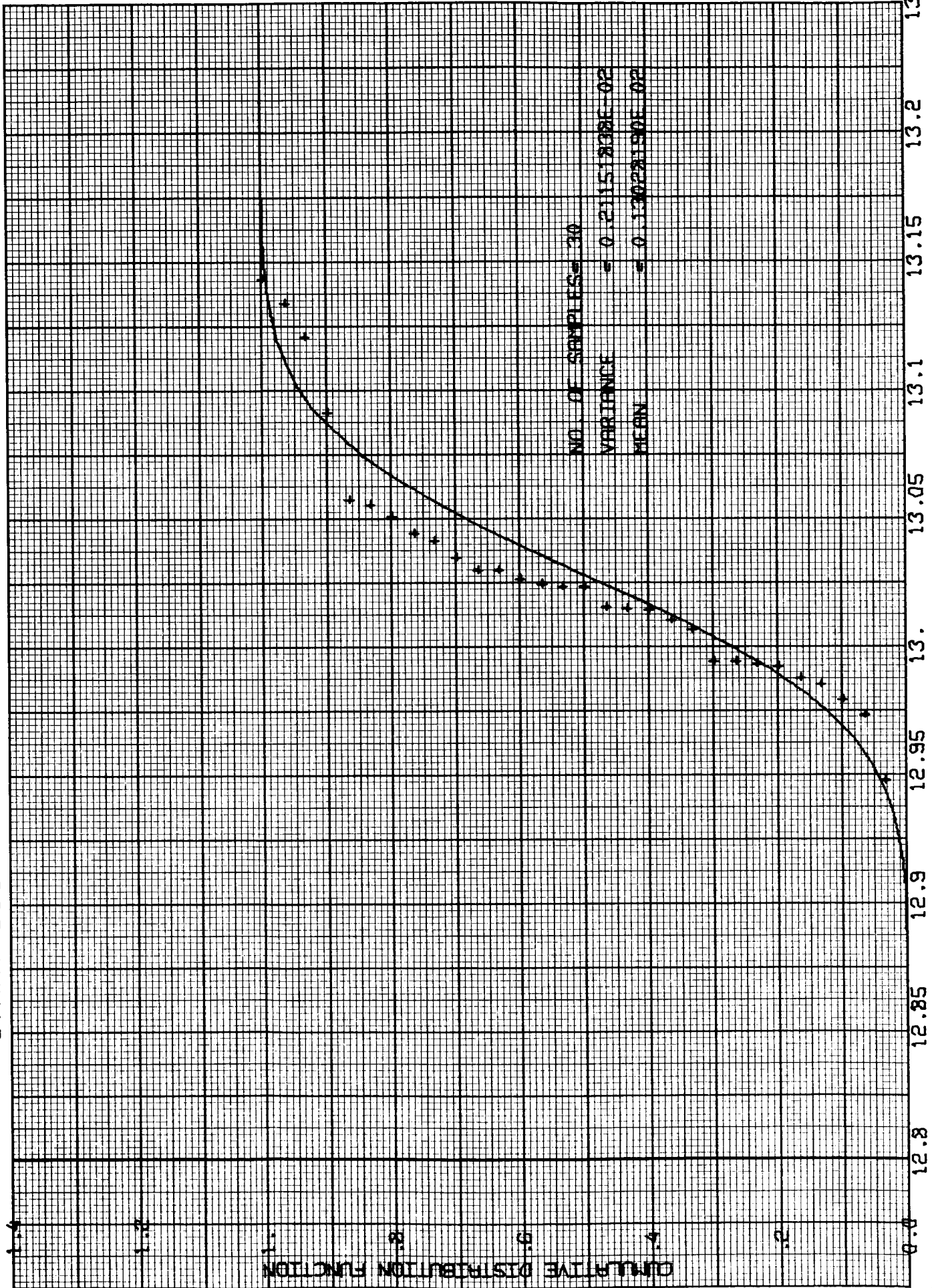
START DEBOOST TO FINAL ORBIT



SAMPLE CUMULATIVE DISTRIBUTION OF SEMI-MAJOR AXIS

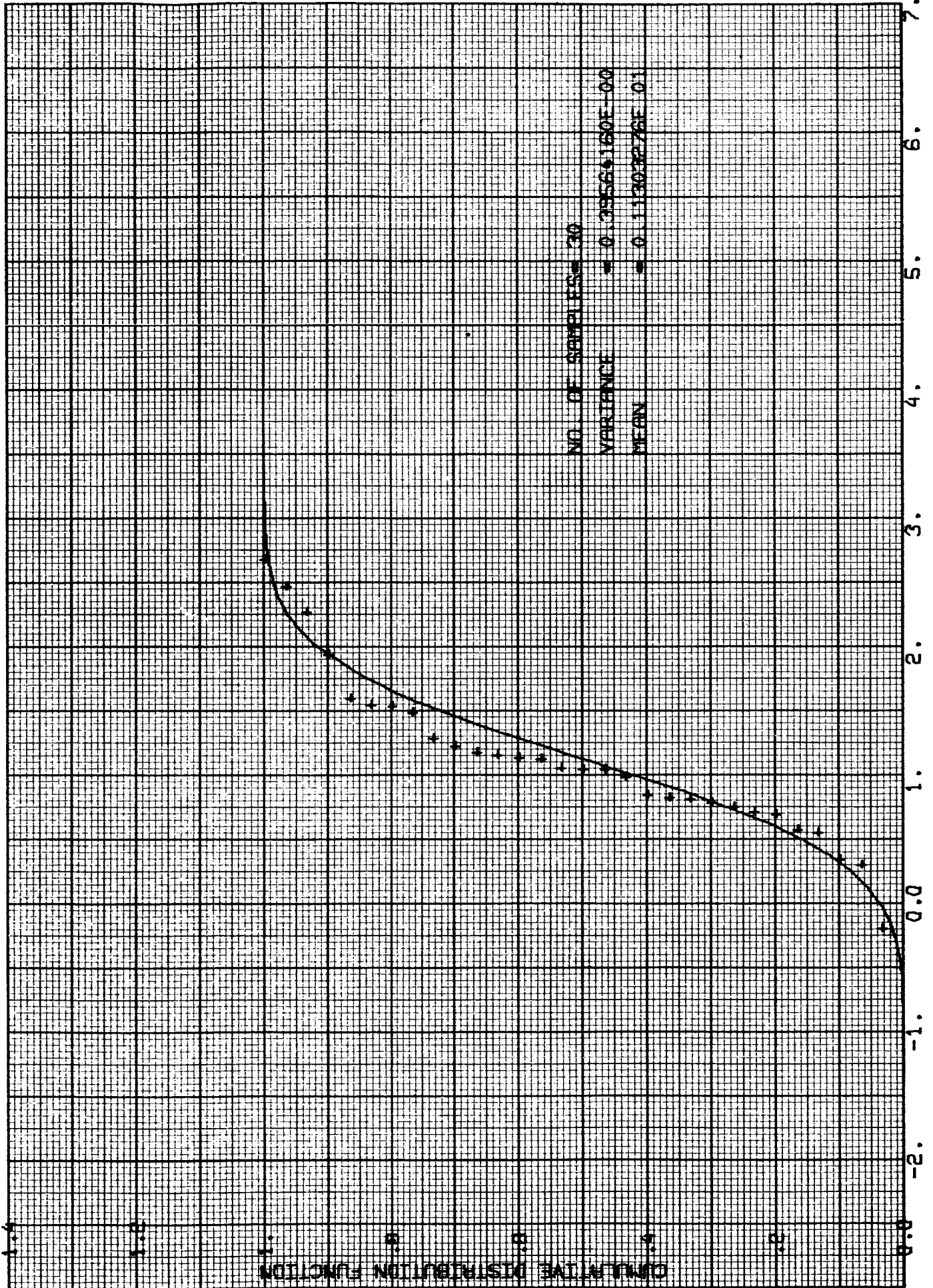
START DEBOOST TO FINAL ORBIT





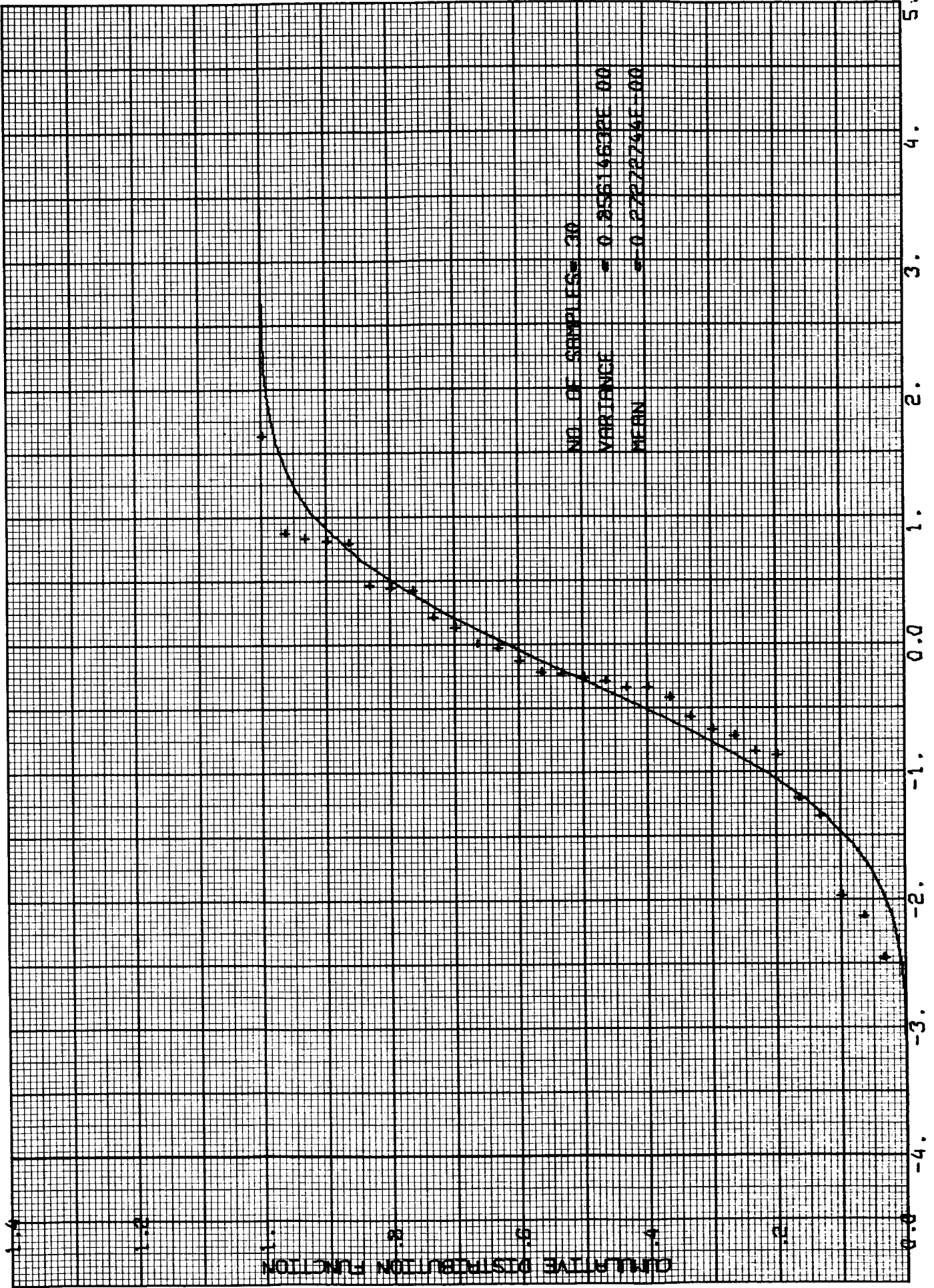
SAMPLE CUMULATIVE DISTRIBUTION OF INCLINATION

START DEBOOST TO FINAL ORBIT



SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE

START DEBOOST TO FINAL ORBIT



SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE

END DEBOOST TO FINAL ORBIT
SAMPLE STATE VECTORS

X	Y	Z	VX	VY	VZ
-0.35869645E 04	-0.88120240E 02	-0.10321723E 02	0.30991834E-01	-0.92798682E 00	-0.21446340E-00
-0.35932621E 04	-0.69633993E 02	0.72266509E 00	0.19106077E-01	-0.92692032E 00	-0.21433732E-00
-0.35797025E 04	-0.64283833E 02	0.82897926E 01	0.12821572E-01	-0.93002397E 00	-0.21486635E-00
-0.35887668E 04	-0.59734397E 02	0.77355281E 01	0.11922728E-01	-0.92807773E 00	-0.21452357E-00
-0.36115549E 04	-0.10769916E 03	-0.27607387E 02	0.47020909E-01	-0.92206873E 00	-0.21316598E-00
-0.35847621E 04	-0.10652395E 03	-0.16594817E 02	0.39994384E-01	-0.92794984E 00	-0.21479627E-00
-0.35811507E 04	-0.66364781E 02	-0.14659676E-00	0.18806046E-01	-0.92952862E 00	-0.21499392E-00
-0.35793863E 04	-0.75746742E 02	-0.10837801E 01	0.21884283E-01	-0.92978649E 00	-0.21514603E-00
-0.36021057E 04	-0.77748292E 02	-0.68845194E 01	0.25931562E-01	-0.92481165E 00	-0.21380191E-00
-0.35633367E 04	-0.56485626E 02	0.14858019E 02	0.65538477E-02	-0.93364291E 00	-0.21615779E-00
-0.35877661E 04	-0.39923680E 02	0.13128597E 02	0.32460483E-02	-0.92846656E 00	-0.21459616E-00
-0.35812339E 04	-0.68794701E 02	-0.78411092E 00	0.19827253E-01	-0.92949753E 00	-0.21505135E-00
-0.35897163E 04	-0.10582665E 03	-0.16010403E 02	0.39301448E-01	-0.92691993E 00	-0.21436801E-00
-0.35902783E 04	-0.78104711E 02	-0.61888762E 01	0.25760358E-01	-0.92731830E 00	-0.21457499E-00
-0.35825250E 04	-0.72977352E 02	-0.53086927E 00	0.20725016E-01	-0.92917997E 00	-0.21486684E-00
-0.35907139E 04	-0.55296694E 02	0.42718479E 01	0.13212307E-01	-0.92766958E 00	-0.21421076E-00
-0.35758430E 04	-0.70807880E 02	0.60288678E 01	0.16183247E-01	-0.93071201E 00	-0.21518718E-00
-0.35547362E 04	-0.38820768E 02	0.29773450E 02	-0.76062430E-02	-0.93565354E 00	-0.21600082E-00
-0.35933962E 04	-0.62581410E 02	0.82660414E 00	0.17061403E-01	-0.92696235E 00	-0.21438263E-00
-0.35757904E 04	-0.56782849E 02	0.54789871E 01	0.12706865E-01	-0.93083635E 00	-0.21516380E-00
-0.35913228E 04	-0.67767181E 02	-0.37424774E 01	0.21488109E-01	-0.92729931E 00	-0.21443462E-00
-0.35556795E 04	-0.54771250E 02	0.22992887E 02	0.97283746E-03	-0.93544087E 00	-0.21610079E-00
-0.36124691E 04	-0.68755008E 02	-0.35064594E 01	0.21444461E-01	-0.92275023E 00	-0.21337575E-00
-0.36028647E 04	-0.90991961E 02	-0.15935486E 02	0.35221354E-01	-0.92429879E 00	-0.21386649E-00
-0.35604232E 04	-0.32963277E 02	0.25159460E 02	-0.63435517E-02	-0.93456487E 00	-0.21583103E-00
-0.35890079E 04	-0.70349200E 02	-0.20148782E 01	0.20869882E-01	-0.92778849E 00	-0.21462673E-00
-0.35955232E 04	-0.84979167E 02	-0.15176344E 02	0.33319988E-01	-0.92600942E 00	-0.21417934E-00
-0.35837331E 04	-0.68900675E 02	0.17612111E 01	0.18304478E-01	-0.92901122E 00	-0.21486858E-00
-0.35946719E 04	-0.93248133E 02	-0.10121885E 02	0.32213032E-01	-0.92622977E 00	-0.21403711E-00
-0.35980856E 04	-0.89992324E 02	-0.10370201E 02	0.31357346E-01	-0.92543913E 00	-0.21442166E-00

END DEBOOST TO FINAL ORBIT

SAMPLE MEAN OF SELENOGRAPHIC STATE VECTOR
 -3.5858921E 03 -7.1499191E 01 -1.9976316E-01 2.0143294E-02 -9.2842810E-01 -2.1467988E-01

SAMPLE VARIANCE OF SELENOGRAPHIC STATE VECTOR

	1	2	3	4	5	6
1	2.0262069E 02	1.6385991E 02	1.4929793E 02	-1.3809414E-01	-4.6504579E-02	-9.9676723E-03
2	1.6385991E 02	3.5664884E 02	2.2662972E 02	-2.3866997E-01	-4.2079530E-02	-8.1293828E-03
3	1.4929793E 02	2.2662972E 02	1.6794375E 02	-1.6684351E-01	-3.6689655E-02	-7.3753816E-03
4	-1.3809414E-01	-2.3866997E-01	-1.6684351E-01	1.6935847E-04	3.4423480E-05	6.8318612E-06
5	-4.6504579E-02	-4.2079530E-02	-3.6689655E-02	3.4423480E-05	1.1041247E-05	2.3554111E-06
6	-9.9676723E-03	-8.1293828E-03	-7.3753816E-03	6.8318612E-06	2.3554111E-06	5.2822046E-07

CORRESPONDING CORRELATION MATRIX

	1	2	3	4	5	6
1	9.9999998E-01	6.0955152E-01	8.0933810E-01	-7.4546953E-01	-9.8320657E-01	-9.6348341E-01
2	6.0955152E-01	1.0000000E 00	9.2600758E-01	-9.7112224E-01	-6.7056583E-01	-5.9228339E-01
3	8.0933810E-01	9.2600758E-01	1.0000000E 00	-9.8929071E-01	-8.5202563E-01	-7.8305985E-01
4	-7.4546953E-01	-9.7112224E-01	-9.8929071E-01	9.9999998E-01	7.9605350E-01	7.2231719E-01
5	-9.8320657E-01	-6.7056583E-01	-8.5202563E-01	7.9605350E-01	1.0000000E 00	9.7532655E-01
6	-9.6348341E-01	-5.9228339E-01	-7.8305985E-01	7.2231719E-01	9.7532655E-01	1.0000000E 00

END DERBOOST TO FINAL ORBIT

SAMPLE CUMULATIVE DISTRIBUTION OF TIME FROM TRANSLUNAR INJECTION

UNSORTED SAMPLES

3.8160436E 05	3.8177350E 05	3.8138211E 05	3.8159072E 05	3.8204893E 05	3.8162577E 05
3.8159099E 05	3.8155183E 05	3.8178456E 05	3.8111397E 05	3.8138822E 05	3.8140925E 05
3.8187136E 05	3.8178180E 05	3.8155720E 05	3.8145061E 05	3.8143677E 05	3.8105936E 05
3.8169102E 05	3.8130637E 05	3.8169925E 05	3.8119306E 05	3.8173530E 05	3.8187138E 05
3.8130130E 05	3.8154372E 05	3.8163340E 05	3.8161015E 05	3.8180927E 05	3.8158761E 05

END DERBOOST TO FINAL ORBIT

SAMPLE CUMULATIVE DISTRIBUTION OF SEMI-MAJOR AXIS

UNSORTED SAMPLES

2.6868755E 03	2.6895874E 03	2.6828020E 03	2.6873144E 03	2.6999106E 03	2.6860425E 03
2.6834654E 03	2.6826781E 03	2.6940206E 03	2.6747808E 03	2.6868168E 03	2.6836198E 03
2.6884040E 03	2.6881249E 03	2.6842312E 03	2.6881445E 03	2.6808240E 03	2.6703218E 03
2.6896268E 03	2.6806601E 03	2.6886180E 03	2.6709674E 03	2.6991525E 03	2.6947258E 03
2.6735321E 03	2.6874982E 03	2.6910328E 03	2.6848979E 03	2.6906950E 03	2.6924232E 03

END DERBOOST TO FINAL ORBIT

SAMPLE CUMULATIVE DISTRIBUTION OF ECCENTRICITY

UNSORTED SAMPLES

3.3548658E-01	3.3624306E-01	3.3455025E-01	3.3564911E-01	3.3875702E-01	3.3538213E-01
3.3475742E-01	3.3456418E-01	3.3743322E-01	3.3245527E-01	3.3547170E-01	3.3473059E-01
3.3602943E-01	3.3596458E-01	3.3493735E-01	3.3591959E-01	3.3412821E-01	3.3170091E-01
3.3622443E-01	3.3409581E-01	3.3600976E-01	3.3162973E-01	3.3863441E-01	3.3761951E-01
3.3208482E-01	3.3571202E-01	3.3665924E-01	3.3502178E-01	3.3650259E-01	3.3688194E-01

END DEBOOST TO FINAL ORBIT
 SAMPLE CUMULATIVE DISTRIBUTION OF INCLINATION

	UNSORTED SAMPLES	
1.3008780E 01	1.3017334E 01	1.3019230E 01
1.3020581E 01	1.3025143E 01	1.3017606E 01
1.3017032E 01	1.3024836E 01	1.3017123E 01
1.3019963E 01	1.3014708E 01	1.3017213E 01
1.3017429E 01	1.3022198E 01	1.3006932E 01
		1.3015280E 01
		1.3039721E 01
		1.3001403E 01
		1.3019240E 01
		1.3020378E 01
		1.3028278E 01
		1.3024112E 01
		1.3018110E 01
		1.3025265E 01
		1.3040719E 01

END DEBOOST TO FINAL ORBIT
 SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE

	UNSORTED SAMPLES	
6.9384620E-01	1.1600327E 00	-1.8561172E-01
1.0515254E 00	1.1373321E 00	1.5443956E 00
5.8365012E-01	8.1938452E-01	1.5521827E 00
1.0547332E 00	1.2895448E 00	8.4984132E-01
2.2819221E 00	9.8387384E-01	7.8774722E-01
		5.5622849E-01
		1.0462799E 00
		2.7016762E 00
		3.5152923E-01
		7.1997534E-01

END DEBOOST TO FINAL ORBIT
 SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE

	UNSORTED SAMPLES	
-1.6997147E-01	-1.9213486E-01	-1.6906738E-01
-1.7707062E-01	-1.7882538E-01	-1.8037033E-01
-1.7583847E-01	-1.8225479E-01	-2.0371628E-01
-1.7343140E-01	-1.8125534E-01	-1.8715668E-01
-1.7865753E-01	-1.6234970E-01	-1.8389893E-01
		-1.8376541E-01
		-1.7707443E-01
		-2.0555115E-01
		-1.9632721E-01
		-1.9040680E-01

END DEBOOST TO FINAL ORBIT

SAMPLE CUMULATIVE DISTRIBUTION OF	MEAN ANOMALY	UNSORTED SAMPLES	UNSORTED SAMPLES	UNSORTED SAMPLES
1.8170803E 02	1.8026729E 02	1.7923700E 02	1.7930962E 02	1.8402353E 02
1.8035446E 02	1.8048342E 02	1.8125188E 02	1.7834024E 02	1.7857939E 02
1.8248235E 02	1.8117557E 02	1.8039814E 02	1.7981544E 02	1.7957495E 02
1.8021790E 02	1.7960621E 02	1.8084884E 02	1.7727801E 02	1.8082657E 02
1.7695474E 02	1.8057782E 02	1.8237145E 02	1.8012380E 02	1.8170804E 02

1.8257513E 02
1.8043415E 02
1.7637971E 02
1.8246006E 02
1.8170985E 02

END DEBOOST TO FINAL ORBIT

SAMPLE CUMULATIVE DISTRIBUTION OF	WEIGHT AT CURRENT TIME	UNSORTED SAMPLES	UNSORTED SAMPLES	UNSORTED SAMPLES
6.3971033E 02	6.3437692E 02	6.3992937E 02	6.3796326E 02	6.3836278E 02
6.3506122E 02	6.3522004E 02	6.2771695E 02	6.3376125E 02	6.2827768E 02
6.3344106E 02	6.3747146E 02	6.3921267E 02	6.3773785E 02	6.4061702E 02
6.3571021E 02	6.3247690E 02	6.3704726E 02	6.3743075E 02	6.2132525E 02
6.3076481E 02	6.3040048E 02	6.3762632E 02	6.3849397E 02	6.3444855E 02

6.4004031E 02
6.3725445E 02
6.3767887E 02
6.3932436E 02
6.3298973E 02

END DEBOOST TO FINAL ORBIT

SAMPLE CUMULATIVE DISTRIBUTION OF	SUN LOOK ANGLE	UNSORTED SAMPLES	UNSORTED SAMPLES	UNSORTED SAMPLES
1.8580470E 01	3.0254365E 01	3.9765446E 01	3.8777857E 01	8.7884411E 00
2.9383357E 01	2.8573885E 01	2.1563969E 01	4.7127364E 01	4.5223361E 01
1.4819257E 01	2.2753806E 01	2.9105202E 01	3.4358898E 01	3.6402914E 01
3.0500101E 01	3.6003461E 01	2.5445043E 01	5.4487821E 01	2.4332300E 01
5.5901003E 01	2.7302876E 01	1.2770790E 01	3.1506715E 01	1.9258235E 01

1.3005887E 01
2.8692652E 01
6.0799903E 01
1.2914914E 01
1.6868825E 01

END DEBOOST TO FINAL ORBIT

SAMPLE CUMULATIVE DISTRIBUTION OF ACXI INERTIAL ATTITUDE ANGLE
UNSORTED SAMPLES

1.1431768E 02	1.2914638E 02	1.4018957E 02	1.3906538E 02	9.3543025E 01	1.0652487E 02
1.2814749E 02	1.2710332E 02	1.1845366E 02	1.4824033E 02	1.4612351E 02	1.2726114E 02
1.0885745E 02	1.2011535E 02	1.2779164E 02	1.3394673E 02	1.3634019E 02	1.6250883E 02
1.2944900E 02	1.3587773E 02	1.2326349E 02	1.5621842E 02	1.2189596E 02	1.0652677E 02
1.5752373E 02	1.2555642E 02	1.0641978E 02	1.3063432E 02	1.1495294E 02	1.1276099E 02

END DEBOOST TO FINAL ORBIT

SAMPLE CUMULATIVE DISTRIBUTION OF DLXI INERTIAL ATTITUDE ANGLE
UNSORTED SAMPLES

3.2679030E 01	3.0775675E 01	2.9145604E 01	2.9292591E 01	3.1818018E 01	3.2509395E 01
3.0601821E 01	3.1212419E 01	3.1971194E 01	2.6292533E 01	2.6456491E 01	3.1096957E 01
3.2991287E 01	3.1379918E 01	3.0815718E 01	3.0593814E 01	2.9594658E 01	2.1787075E 01
3.0640018E 01	2.9742625E 01	3.1734200E 01	2.4730405E 01	3.1818693E 01	3.2374566E 01
2.3569162E 01	3.1425363E 01	3.2256864E 01	3.0524810E 01	3.3138033E 01	3.1461557E 01

END DEBOOST TO FINAL ORBIT

SAMPLE CUMULATIVE DISTRIBUTION OF SENSED VELOCITY MAGNITUDE
UNSORTED SAMPLES

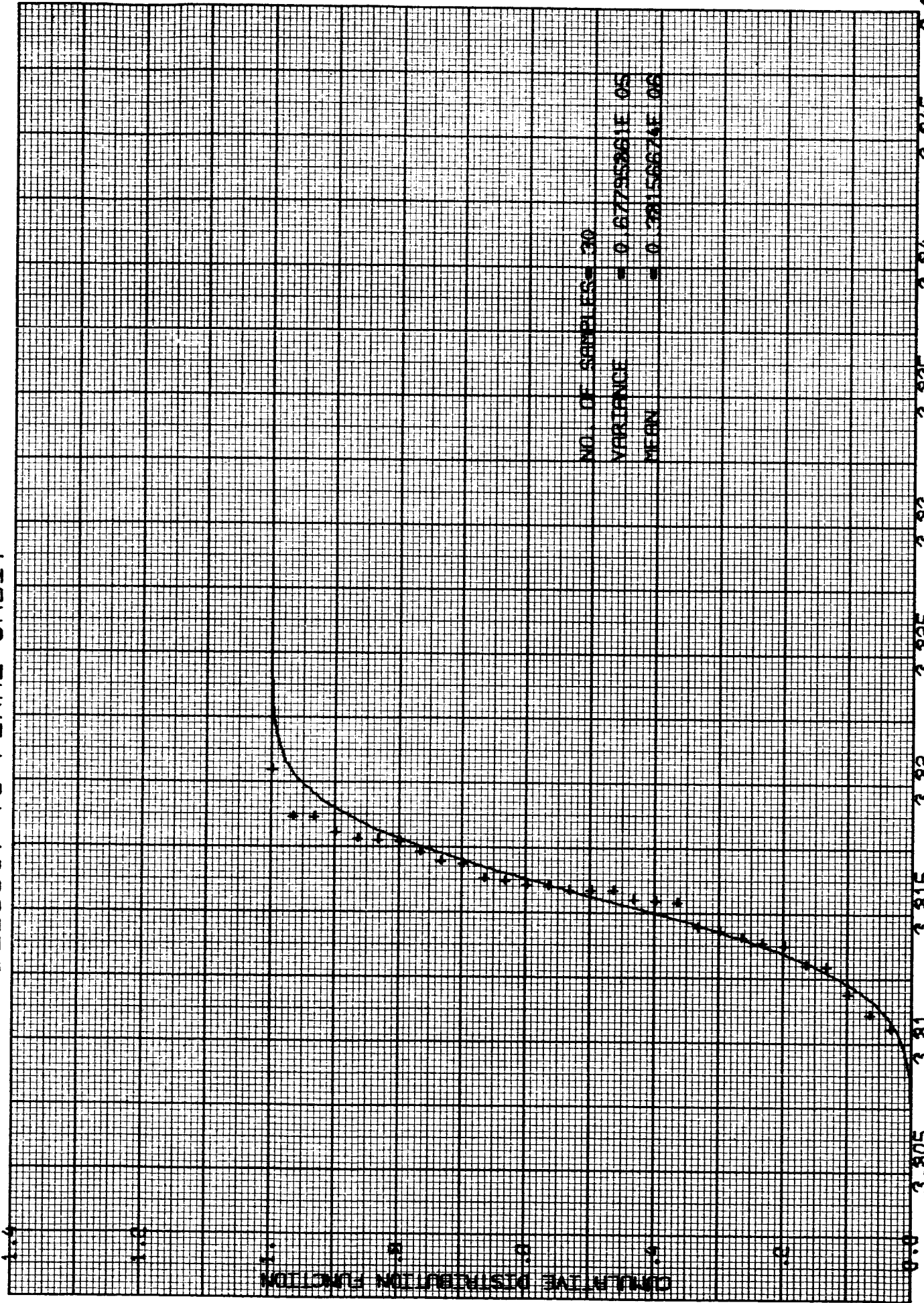
9.2415161E 01	9.2812350E 01	8.8397678E 01	9.1180403E 01	1.0468285E 02	9.7571228E 01
9.4745488E 01	9.3860832E 01	8.9654380E 01	9.3353711E 01	8.8825357E 01	8.9753782E 01
1.0792900E 02	9.5916601E 01	9.1977866E 01	8.5204772E 01	9.2272440E 01	1.1064082E 02
9.0279384E 01	8.8971921E 01	9.4389859E 01	1.0588750E 02	8.0272248E 01	9.4312171E 01
1.0940404E 02	8.7162964E 01	9.1004471E 01	9.3843834E 01	9.49555316E 01	8.6367142E 01

END DEBOOST TO FINAL ORBIT

SAMPLE CUMULATIVE DISTRIBUTION OF TOTAL FUEL USED TO DATE
UNSORTED SAMPLES

2.1029000E 02	2.1493900E 02	2.1659000E 02	2.1429000E 02	2.1923600E 02	2.1562400E 02
2.1478000E 02	2.1252900E 02	2.1752300E 02	2.1960000E 02	2.1007100E 02	2.2228300E 02
2.1078700E 02	2.1295300E 02	2.1237400E 02	2.1203700E 02	2.1623900E 02	2.1226200E 02
2.1256900E 02	2.1150600E 02	2.1163700E 02	2.2172200E 02	2.0938300E 02	2.2867500E 02
2.1555200E 02	2.0995900E 02	2.1274600E 02	2.1232200E 02	2.1067600E 02	2.1701000E 02

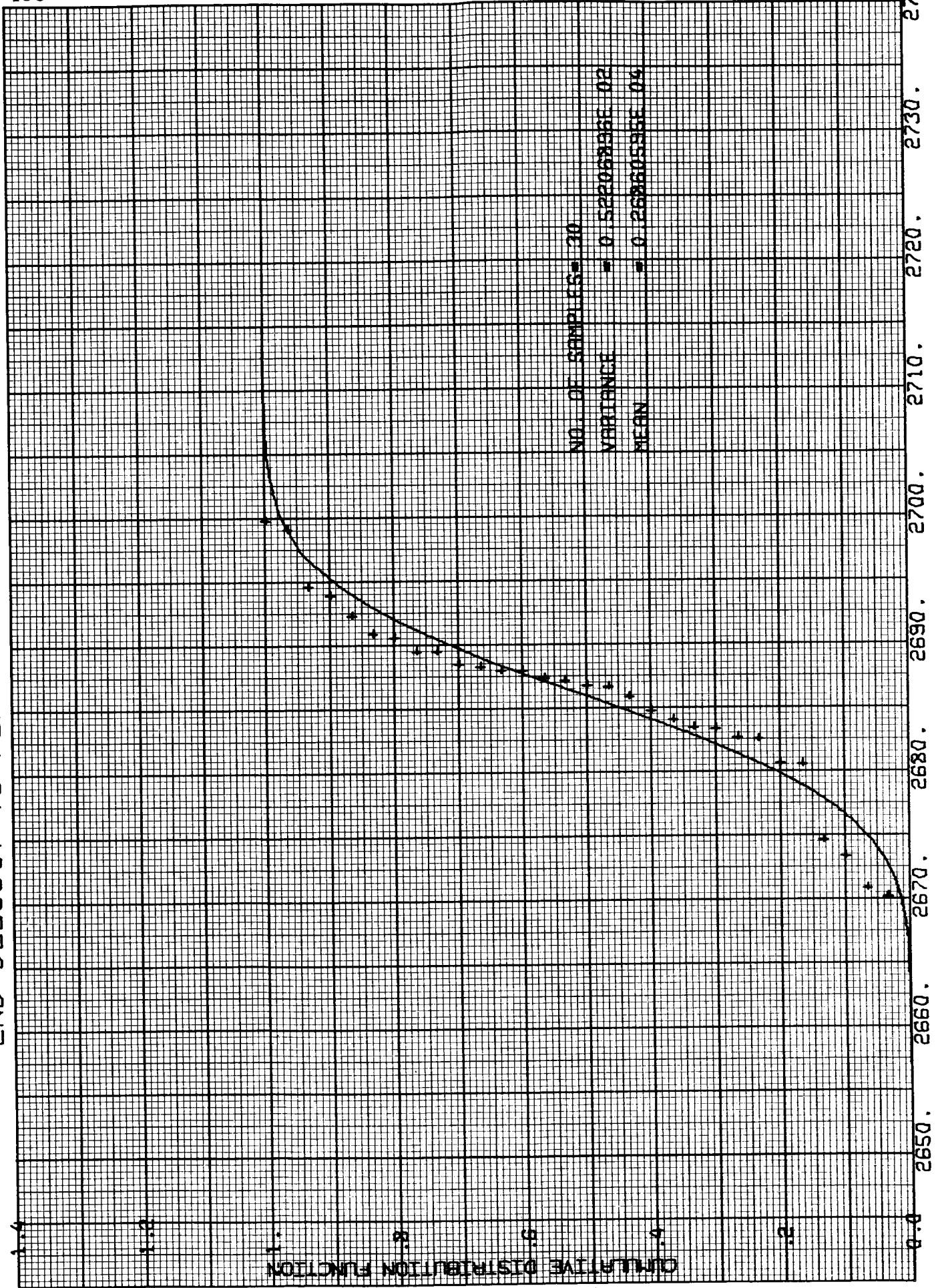
END DEBOOST TO FINAL ORBIT



SAMPLE CUMULATIVE DISTRIBUTION OF TIME FROM TRANSLUNAR INJECTION

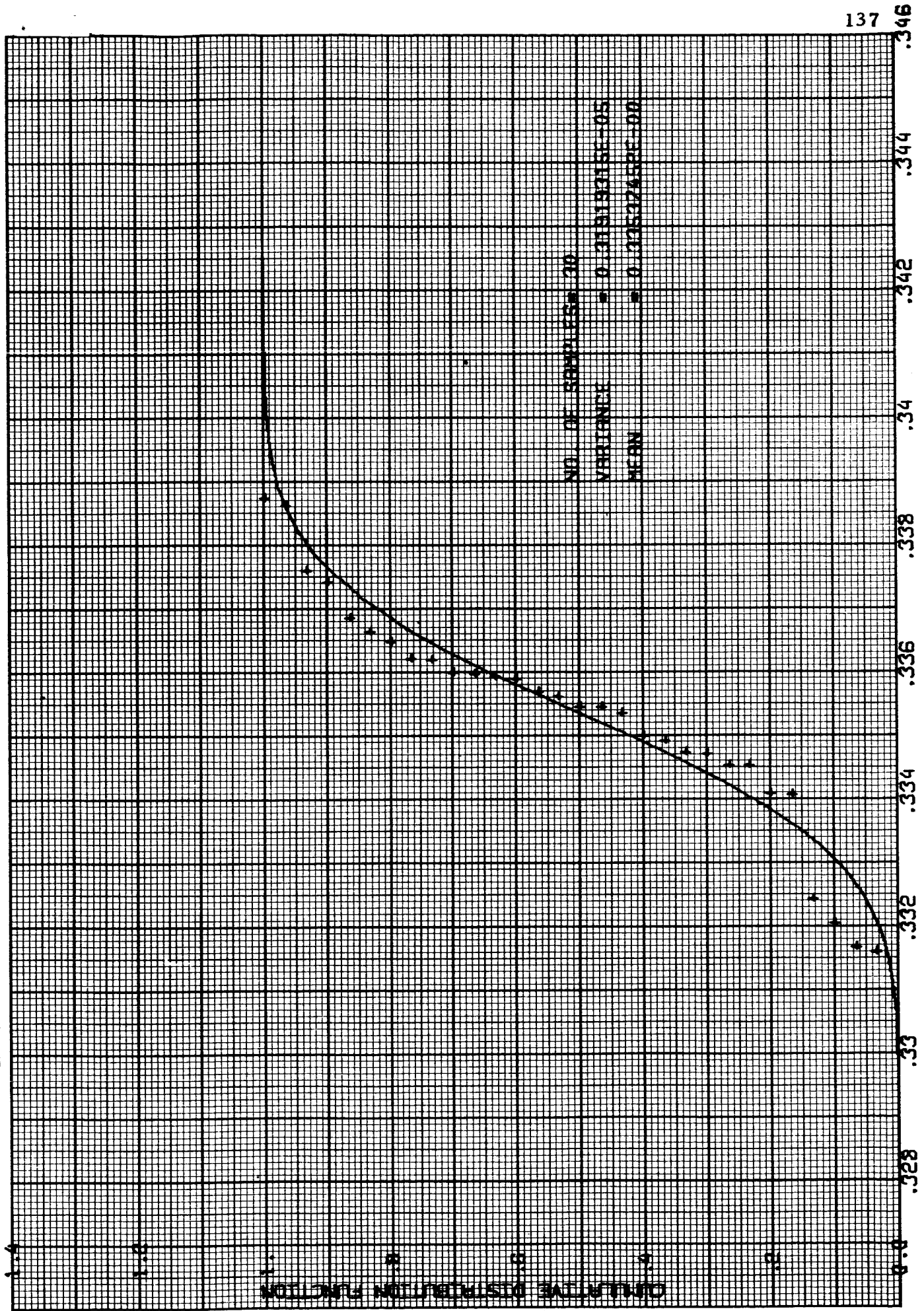
CUMULATIVE DISTRIBUTION FUNCTION

END DEBOOST TO FINAL ORBIT

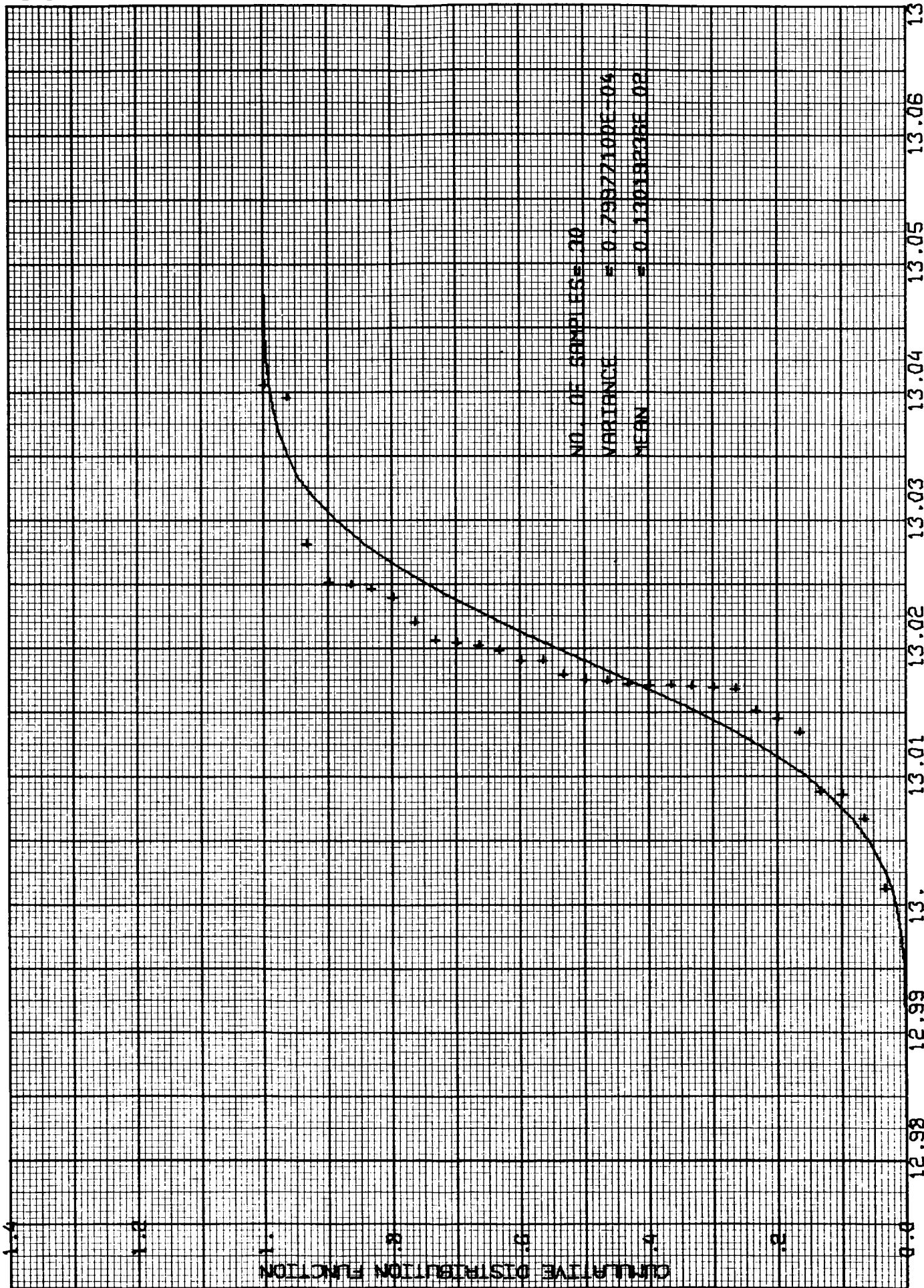


SAMPLE CUMULATIVE DISTRIBUTION OF SEMI-MAJOR AXIS

END DEBOOST TO FINAL ORBIT

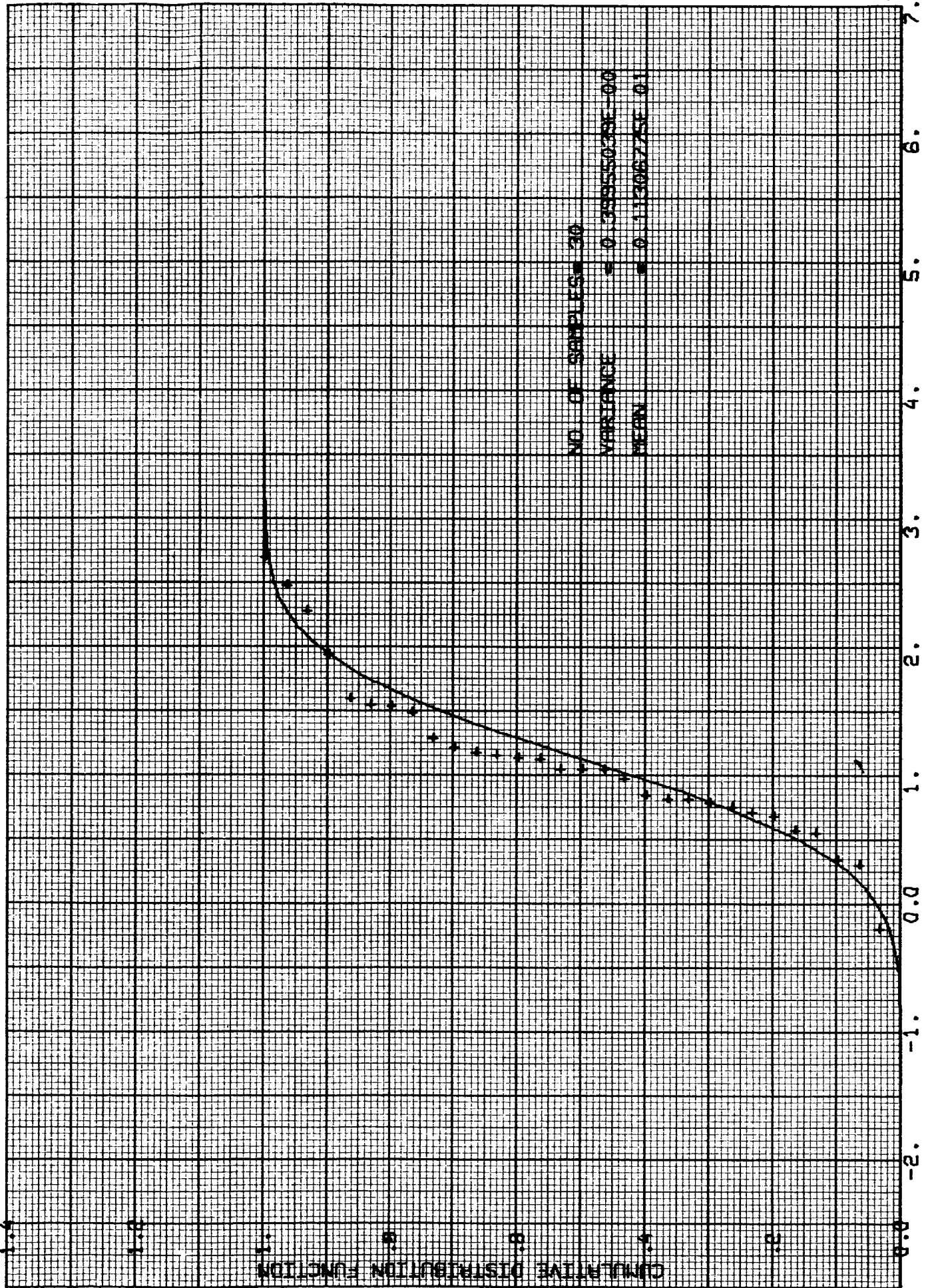


END DEBOOST TO FINAL ORBIT

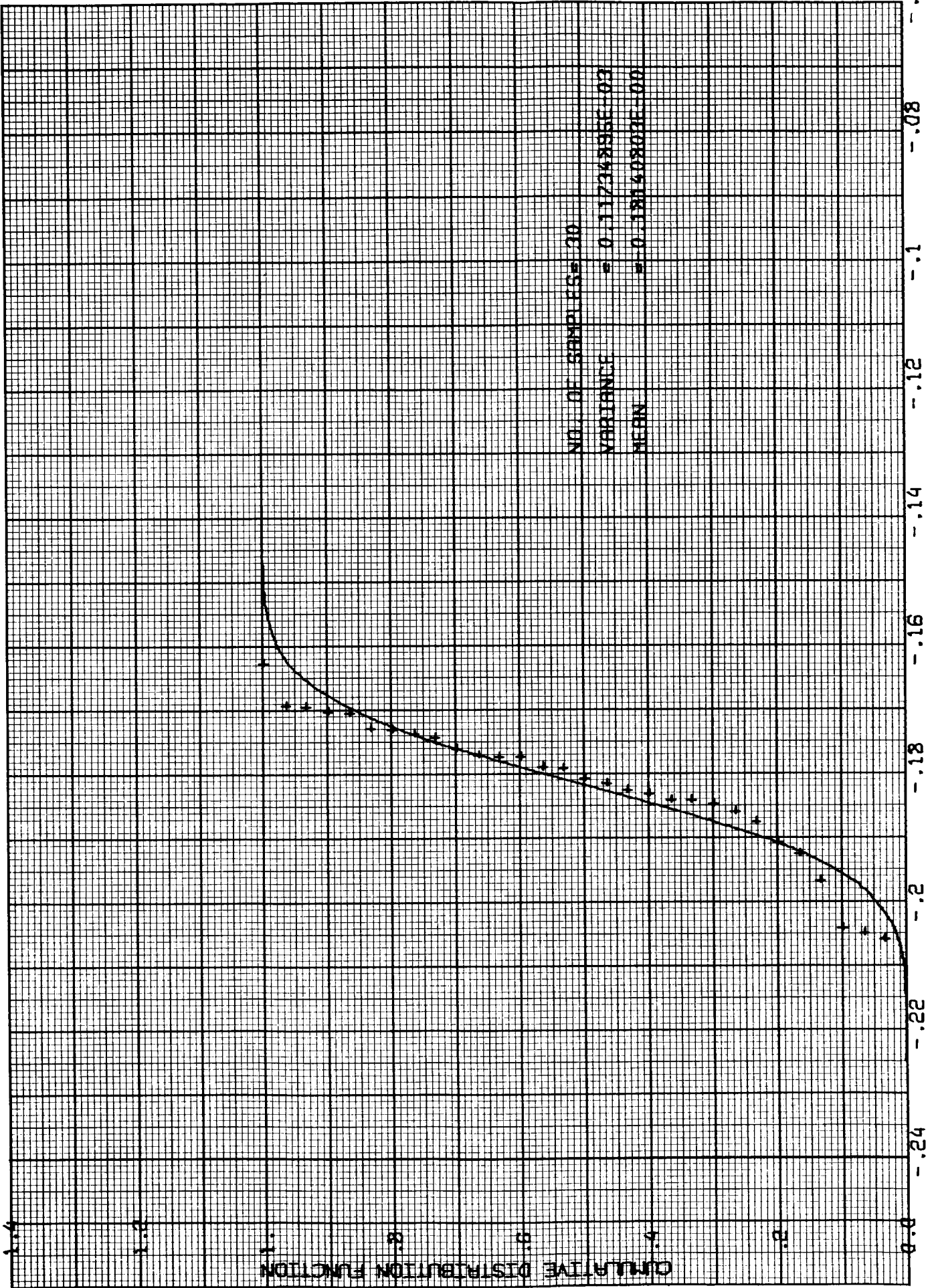


SAMPLE CUMULATIVE DISTRIBUTION OF INCLINATION

END DEBOOST TO FINAL ORBIT

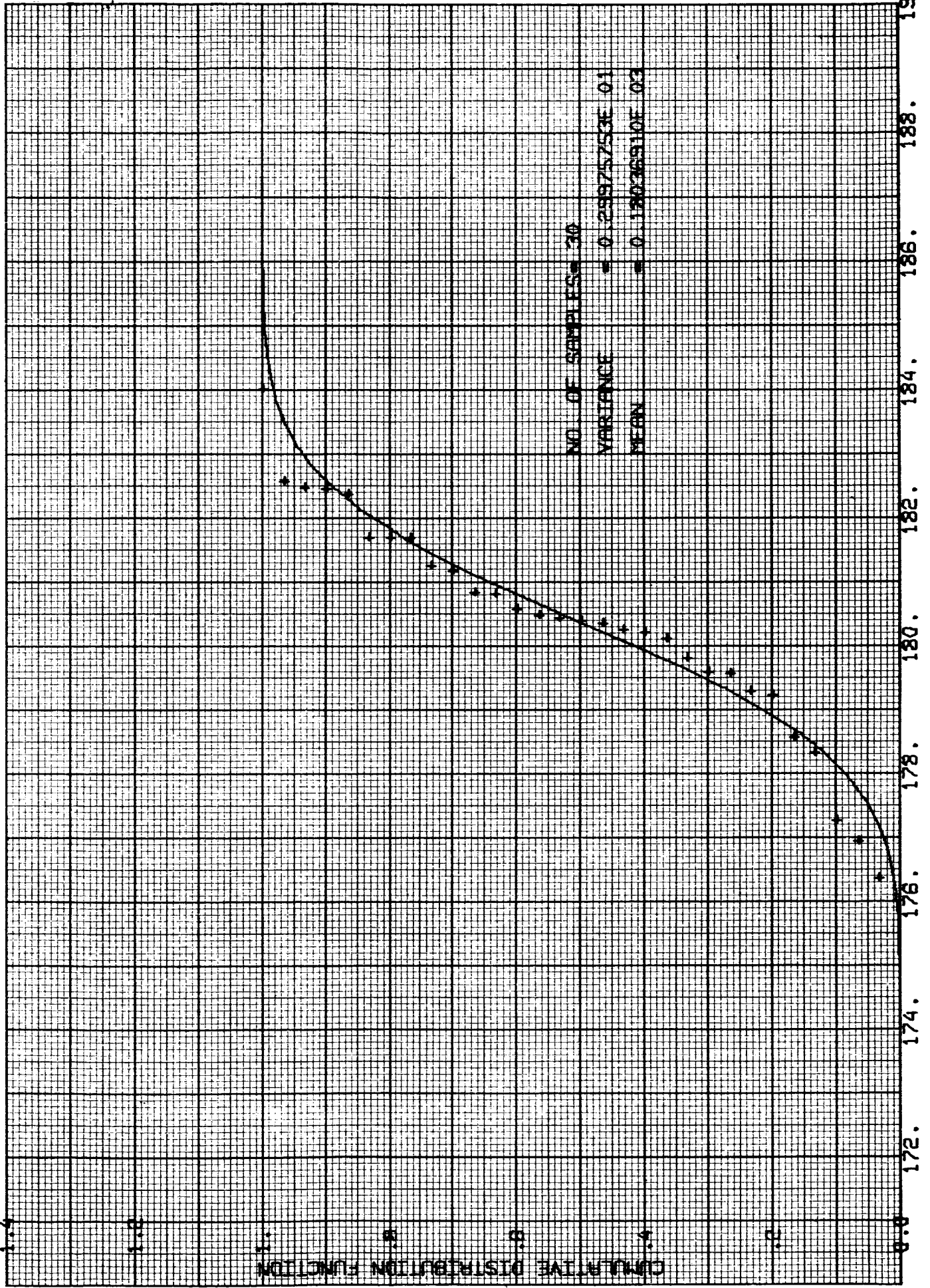


END DEBOOST TO FINAL ORBIT

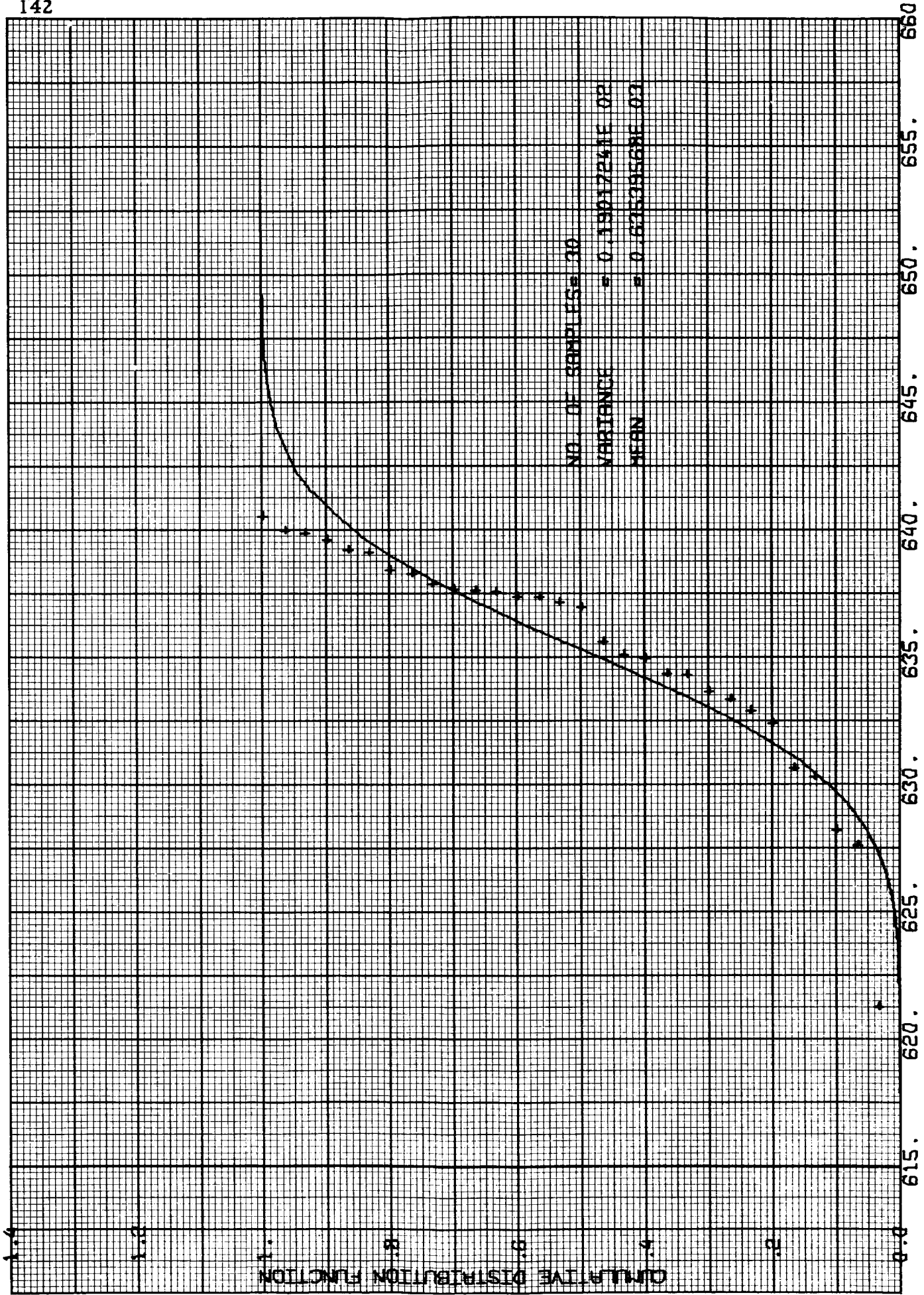


SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE

END DEBOOST TO FINAL ORBIT

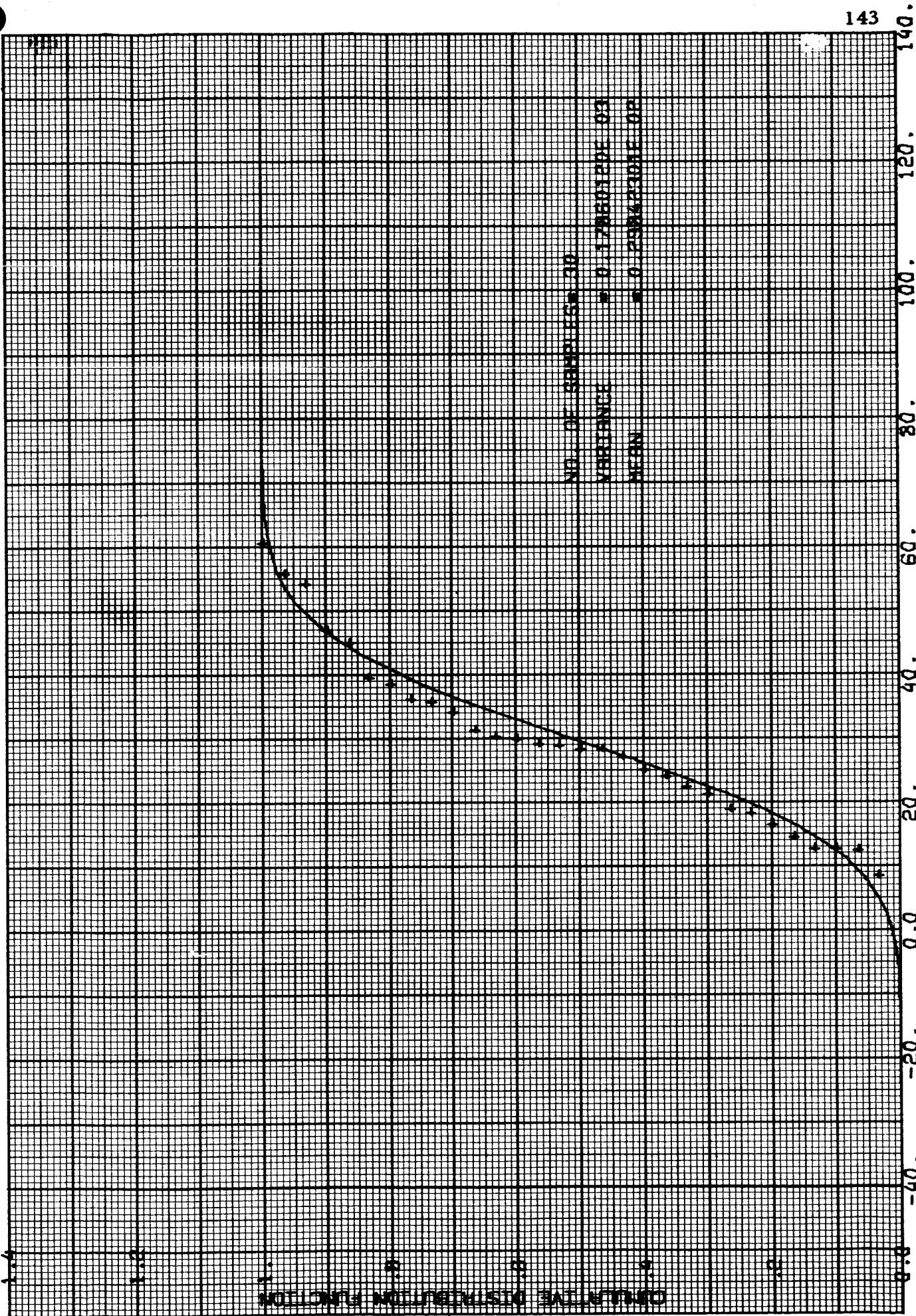


END DEBOOST TO FINAL ORBIT



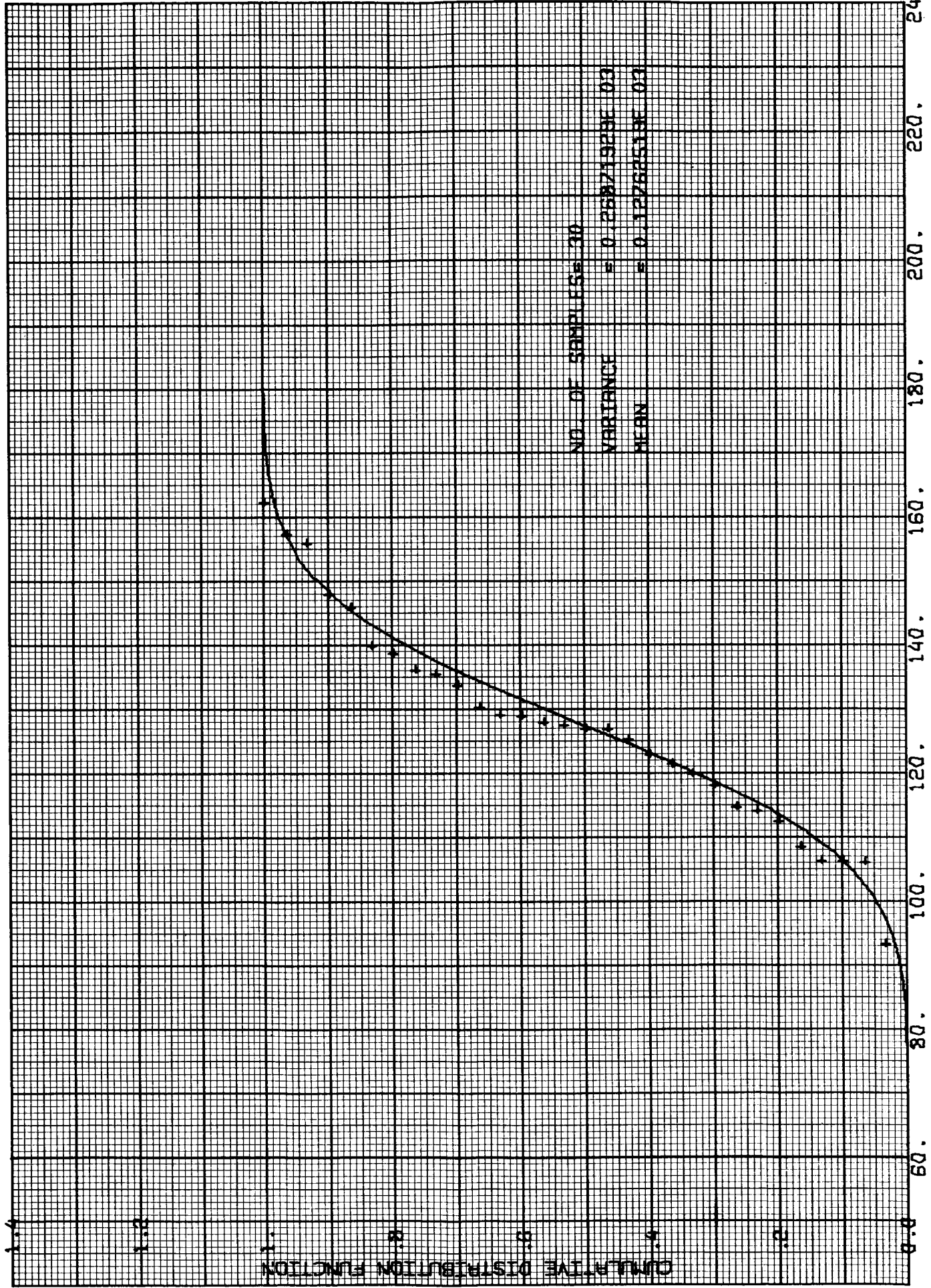
SAMPLE CUMULATIVE DISTRIBUTION OF WEIGHT AT CURRENT TIME

END DEBOOST TO FINAL ORBIT



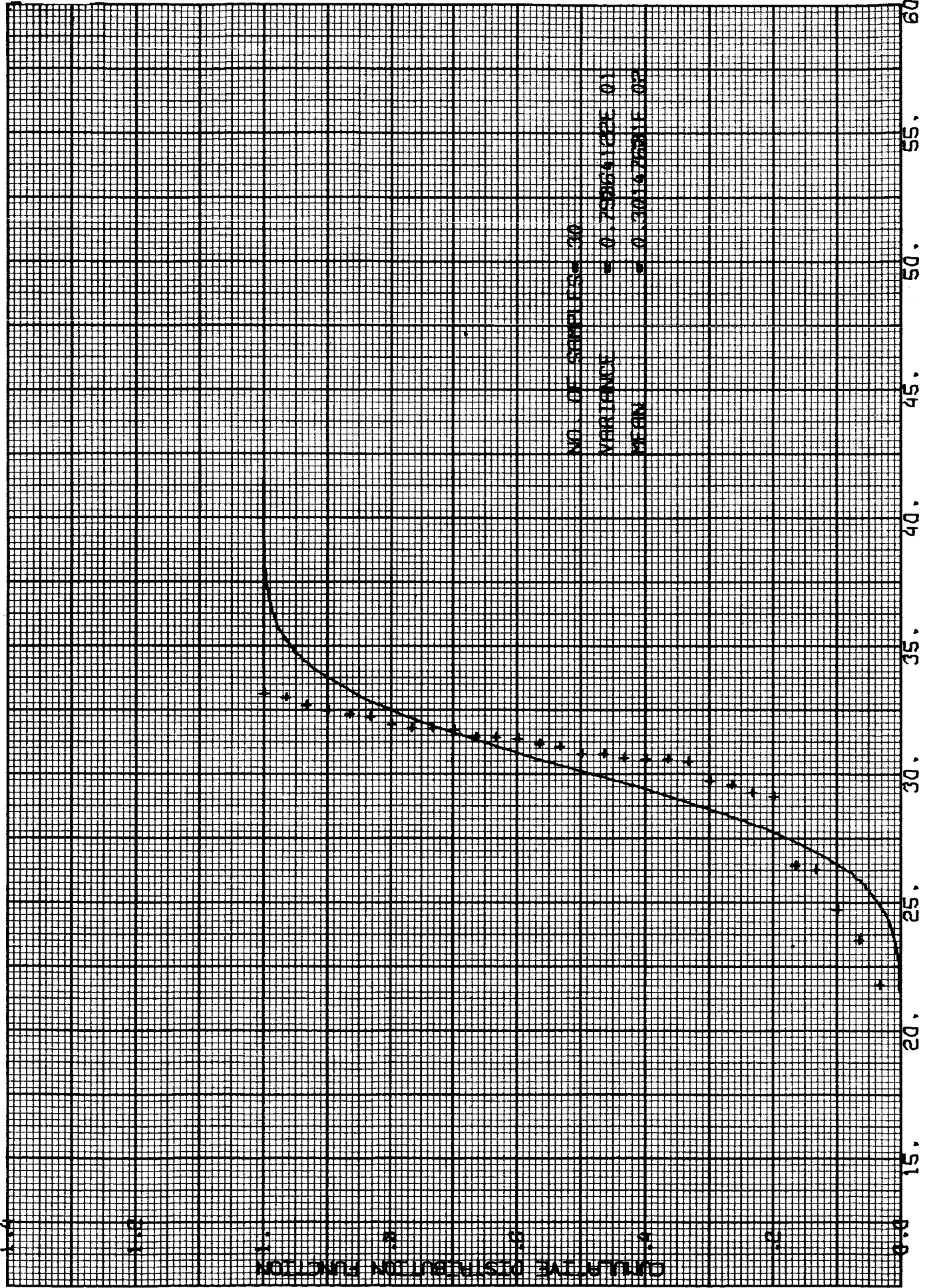
SAMPLE CUMULATIVE DISTRIBUTION OF SUN LOOK ANGLE

END DEBOOST TO FINAL ORBIT



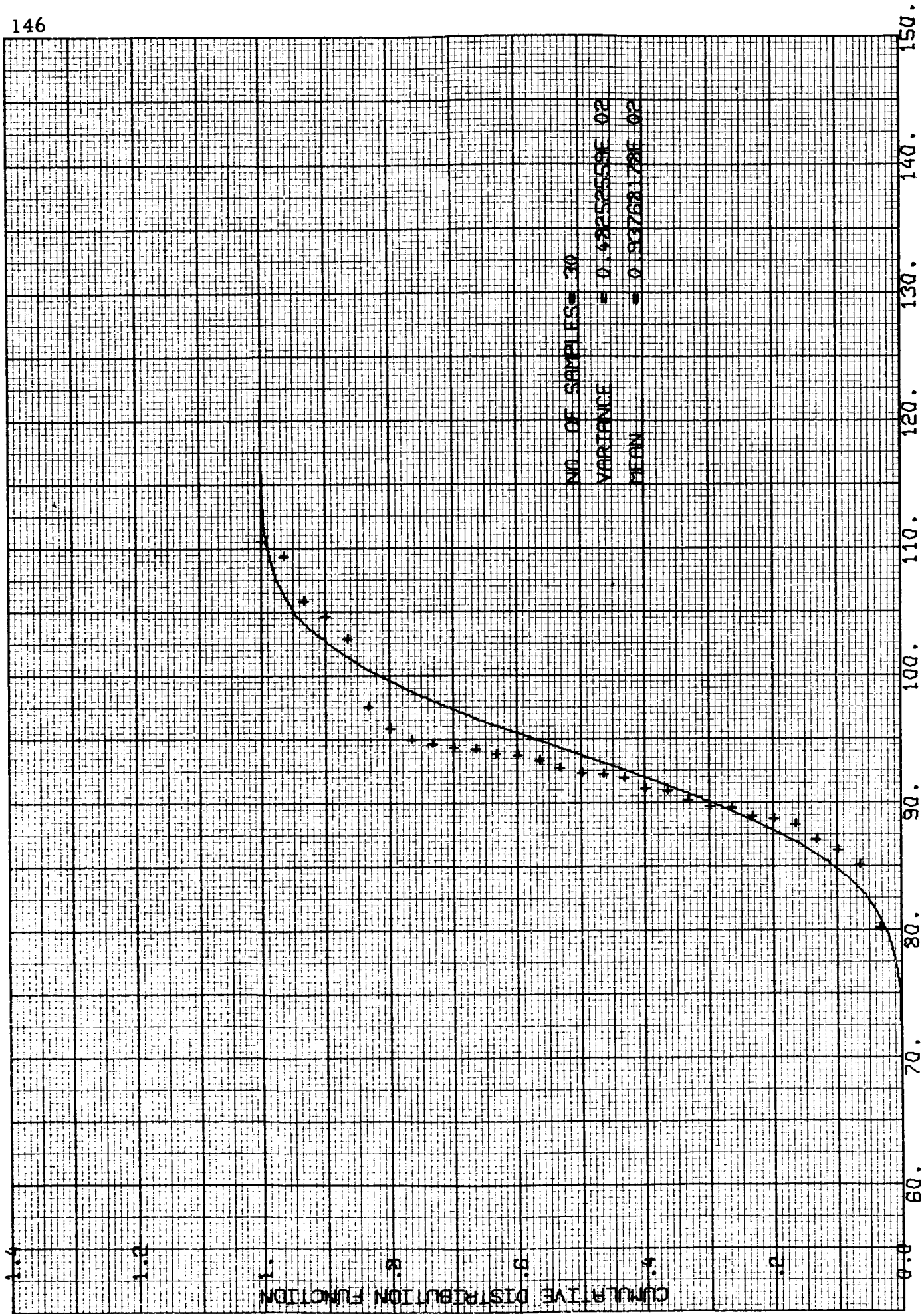
SAMPLE CUMULATIVE DISTRIBUTION OF ACXI INERTIAL ATTITUDE ANGLE

END DEBOOST TO FINAL ORBIT



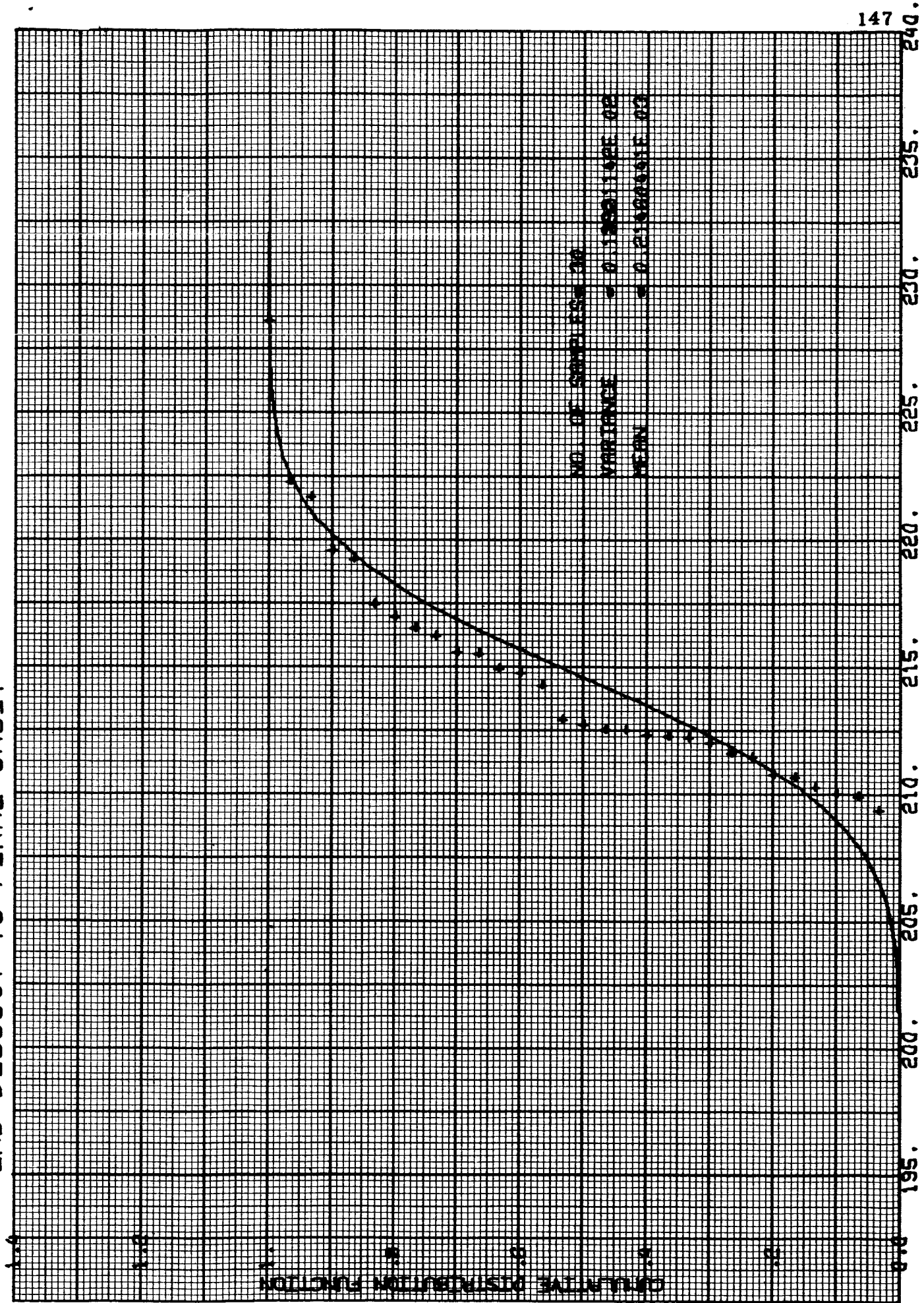
SAMPLE CUMULATIVE DISTRIBUTION OF DLXI INERTIAL ATTITUDE ANGLE

END DEBOOST TO FINAL ORBIT

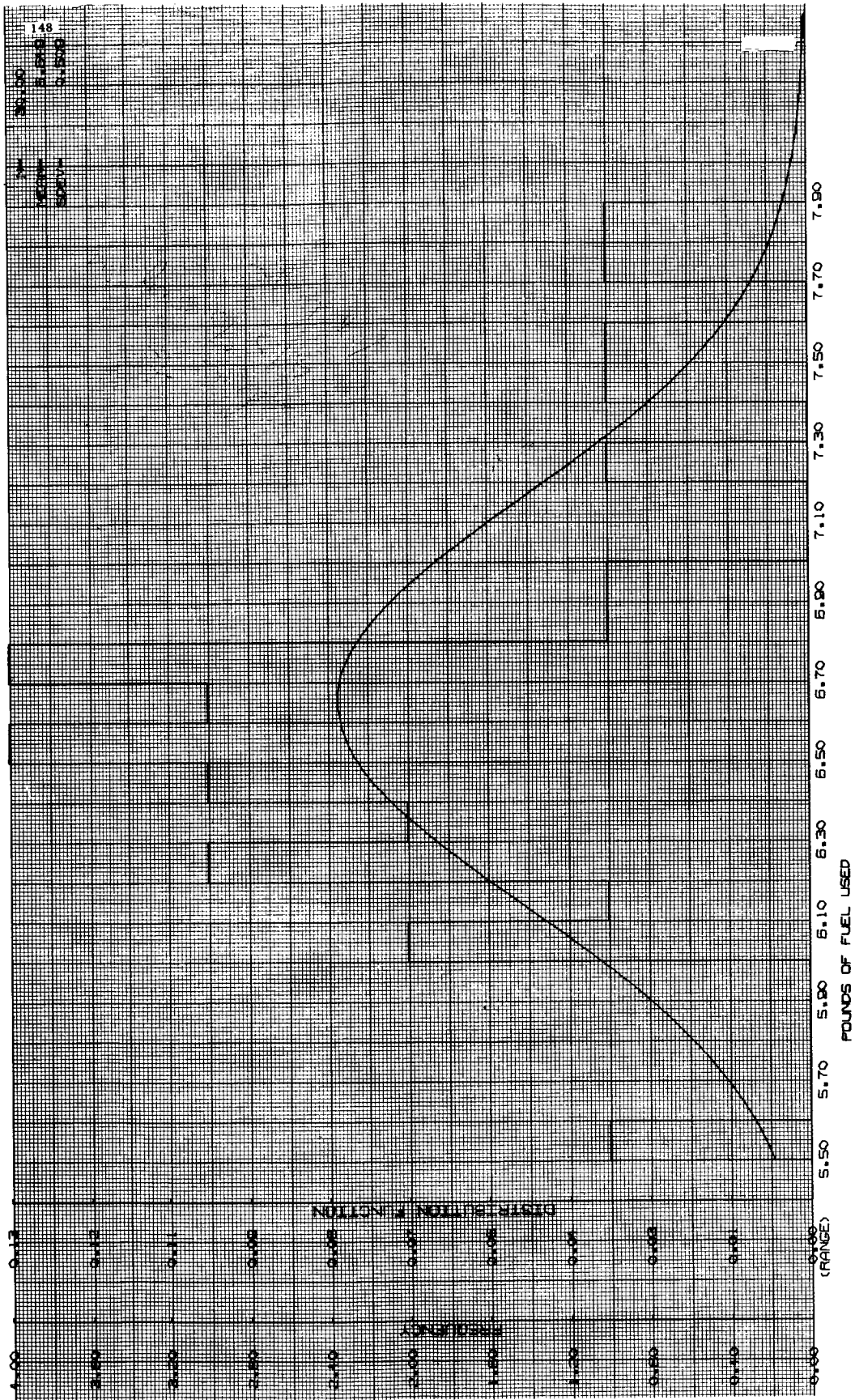


SAMPLE CUMULATIVE DISTRIBUTION OF SENSED VELOCITY MAGNITUDE

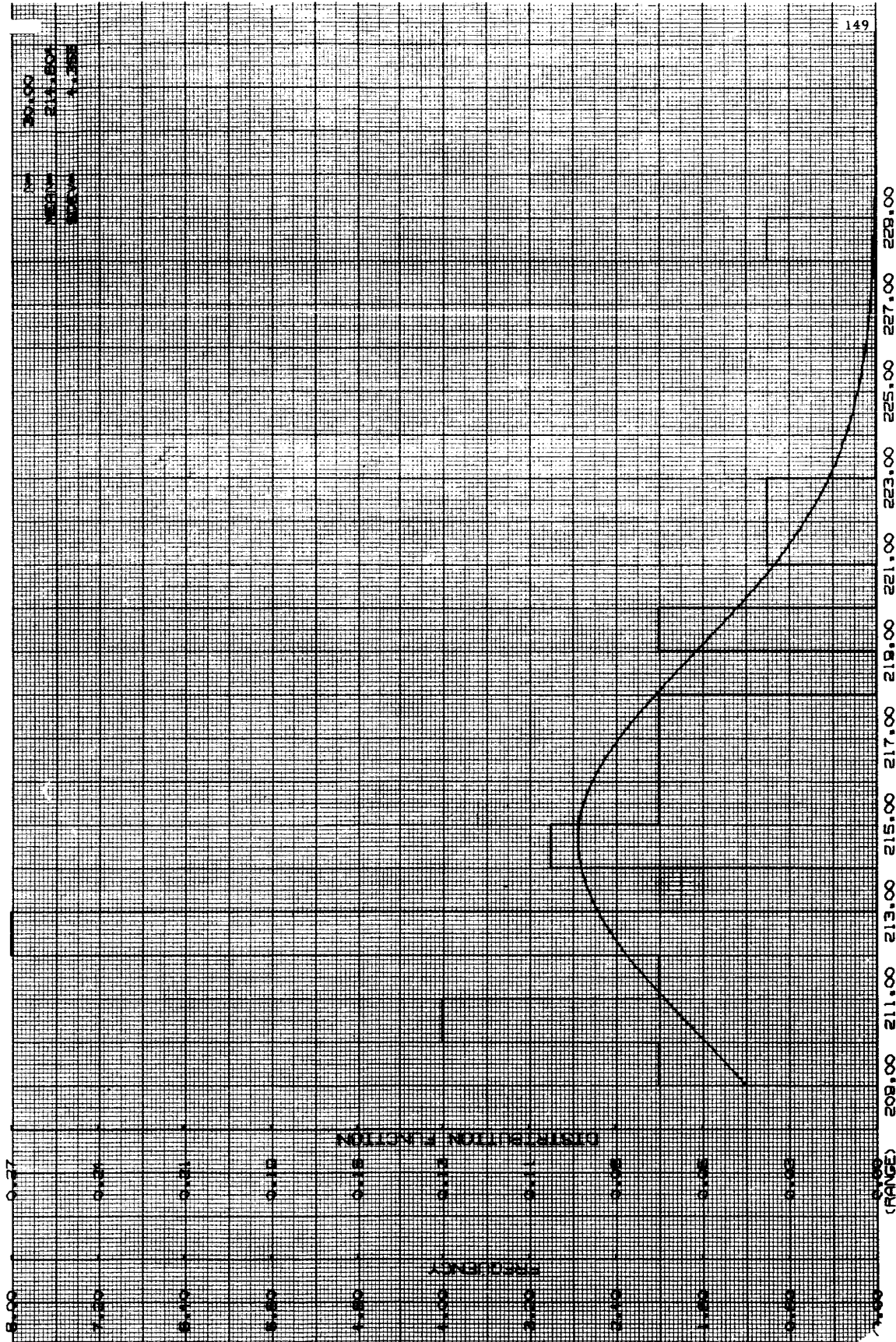
END DEBOOST TO FINAL ORBIT



DEBOOST TO FINAL ORBIT



MIDCOURSES AND DEBOOSTS SUMMARY



TOTAL POUNDS OF FUEL USED

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FIRST TARGET PASS
SAMPLE STATE VECTORS

X	Y	Z	VX	VY	VZ
0.17843071E 04	-0.10739619E 02	0.76133550E-06	0.11146598E-01	0.18669075E 01	0.43159456E-00
0.17840996E 04	0.34821508E 01	0.39412405E-05	-0.35471612E-02	0.18675257E 01	0.43202536E-00
0.17840525E 04	0.17222884E 02	-0.31886058E-05	-0.17977264E-01	0.18663070E 01	0.43147895E-00
0.17841353E 04	0.13579416E 02	0.18172719E-07	-0.14183711E-01	0.18670329E 01	0.43185293E-00
0.17837770E 04	-0.37974850E 02	0.30552593E-05	0.39692187E-01	0.18688028E 01	0.43248048E-00
0.17840064E 04	-0.14873346E 02	0.40068144E-05	0.15594874E-01	0.18667969E 01	0.43224610E-00
0.17840271E 04	0.22312734E-00	0.19061349E-05	-0.26508939E-03	0.18665069E 01	0.43190010E-00
0.17840184E 04	0.29368728E 01	0.73504098E-05	-0.30894549E-02	0.18663383E 01	0.43201864E-00
0.17838211E 04	-0.87951818E 01	-0.29000906E-06	0.91476835E-02	0.18685006E 01	0.43212689E-00
0.17841841E 04	0.27680010E 02	-0.15813298E-05	-0.28956641E-01	0.18643367E 01	0.43210781E-00
0.17842679E 04	0.15214336E 02	0.44274020E-05	-0.15919740E-01	0.18668012E 01	0.43188211E-00
0.17842019E 04	0.82524520E-01	-0.96101756E-08	-0.14338712E-03	0.18663698E 01	0.43198939E-00
0.17838418E 04	-0.14059400E 02	0.31329335E-05	0.14677653E-01	0.18674310E 01	0.43200513E-00
0.17838707E 04	-0.69335463E 01	-0.18476854E-05	0.72719736E-02	0.18673778E 01	0.43225077E-00
0.17840505E 04	0.26974590E 01	0.29761527E-05	-0.28892192E-02	0.18666417E 01	0.43182032E-00
0.17840098E 04	0.40203115E 01	0.79623560E-06	-0.39994775E-02	0.18674655E 01	0.43146427E-00
0.17838822E 04	0.15721107E 02	0.10158911E-05	-0.16255204E-01	0.18660633E 01	0.43169630E-00
0.17826959E 04	0.51130854E 02	0.23749290E-05	-0.53269599E-01	0.18639451E 01	0.43140218E-00
0.17841802E 04	0.18300649E-00	-0.19662757E-06	-0.25082728E-03	0.18674555E 01	0.43209819E-00
0.17839161E 04	0.75438652E 01	0.19239491E-05	-0.78895646E-02	0.18661228E 01	0.43161370E-00
0.17840770E 04	-0.68484129E 01	0.87313846E-05	0.71874394E-02	0.18673556E 01	0.43199962E-00
0.17834958E 04	0.44554459E 02	0.77723806E-05	-0.46434765E-01	0.18637429E 01	0.43135123E-00
0.17839896E 04	-0.61631270E 01	0.45650953E-05	0.65180760E-02	0.18692400E 01	0.43241902E-00
0.17836846E 04	-0.21382312E 02	-0.30036277E-05	0.22313360E-01	0.18684466E 01	0.43253975E-00
0.17841440E 04	0.38165820E 02	-0.11332049E-04	-0.39894170E-01	0.18639644E 01	0.43130436E-00
0.17841440E 04	-0.18980899E 01	0.27070485E-05	0.18330964E-02	0.18670984E 01	0.43209254E-00
0.17838067E 04	-0.22690620E 02	0.13638369E-05	0.23726755E-01	0.18677200E 01	0.43222342E-00
0.17842600E 04	0.55502090E 01	0.42452032E-05	-0.57248862E-02	0.18665581E 01	0.43190715E-00
0.17841256E 04	-0.78745078E 01	0.50912635E-05	0.82718397E-02	0.18677486E 01	0.43172265E-00
0.17842417E 04	-0.99572280E 01	-0.63223383E-05	0.10329953E-01	0.18676814E 01	0.43286980E-00

FIRST TARGET PASS

SAMPLE MEAN OF SELENOGRAPHIC STATE VECTOR		SAMPLE MEAN OF SELENOGRAPHIC STATE VECTOR		SAMPLE MEAN OF SELENOGRAPHIC STATE VECTOR		SAMPLE MEAN OF SELENOGRAPHIC STATE VECTOR	
1	2	3	4	5	6	1	2
1.7839770E 03	2.6599390E 00	1.4797062E-06	-2.7659555E-03	1.8668094E 00	4.3194942E-01	1.7903873E-07	-1.8460399E 00
						-9.0470207E-06	3.8017657E 02
						1.6792849E-11	-9.0470207E-06
						9.5396369E-09	-3.9673223E-01
						7.3753747E-10	3.3674569E-04
						-7.4257106E-11	8.4186422E-05

SAMPLE VARIANCE OF SELENOGRAPHIC STATE VECTOR

1	2	3	4	5	6
2.7586207E-01	-1.8460399E 00	-1.7903873E-07	1.9173458E-03	3.3674569E-04	8.4186422E-05
-1.8460399E 00	3.8017657E 02	-9.0470207E-06	-3.9673223E-01	-2.3309708E-02	-5.1307842E-03
-1.7903873E-07	-9.0470207E-06	1.6792849E-11	9.5396369E-09	7.3753747E-10	-7.4257106E-11
1.9173458E-03	-3.9673223E-01	9.5396369E-09	4.1401446E-04	2.4336615E-05	4.1106651E-07
3.3674569E-04	-2.3309708E-02	7.3753747E-10	2.4336615E-05	2.2033165E-06	4.1106651E-07
8.4186422E-05	-5.1307842E-03	-7.4257106E-11	5.3499825E-06	4.1106651E-07	1.5620527E-07

CORRESPONDING CORRELATION MATRIX

1	2	3	4	5	6
1.0000000E 00	-1.8026126E-01	-8.3183811E-02	1.7941002E-01	4.3193421E-01	4.0555355E-01
-1.8026126E-01	9.9999998E-01	-1.1322719E-01	-9.9999322E-01	-8.0538901E-01	-6.6579912E-01
-8.3183811E-02	-1.1322719E-01	1.0000000E 00	1.1440945E-01	1.2125047E-01	-4.5848800E-02
1.7941002E-01	-9.9999322E-01	1.1440945E-01	1.0000000E 00	8.0577533E-01	6.6526819E-01
4.3193421E-01	-8.0538901E-01	1.2125047E-01	8.0577533E-01	1.0000000E 00	7.0068981E-01
4.0555355E-01	-6.6579912E-01	-4.5848800E-02	6.6526819E-01	7.0068981E-01	1.0000000E 00

FIRST TARGET PASS
SAMPLE CUMULATIVE DISTRIBUTION OF TIME FROM TRANSLUNAR INJECTION

		UNSORTED SAMPLES	
3.8779399E 05	3.8802297E 05	3.8764350E 05	3.8786536E 05
3.8781584E 05	3.8776950E 05	3.8801486E 05	3.8737805E 05
3.8803947E 05	3.8799445E 05	3.8778313E 05	3.8771096E 05
3.8794203E 05	3.8754740E 05	3.8792498E 05	3.8748059E 05
3.8760875E 05	3.8777461E 05	3.8781445E 05	3.8784820E 05
		3.8820272E 05	3.8778268E 05
		3.8768640E 05	3.8763184E 05
		3.8767982E 05	3.8737563E 05
		3.8799851E 05	3.8806197E 05
		3.8801234E 05	3.8779636E 05

FIRST TARGET PASS
SAMPLE CUMULATIVE DISTRIBUTION OF V / H

		UNSORTED SAMPLES	
4.1333933E-02	4.1560923E-02	4.1504762E-02	4.1475024E-02
4.1607286E-02	4.1609904E-02	4.1818860E-02	4.1233302E-02
4.1746643E-02	4.1757675E-02	4.1586744E-02	4.1637112E-02
4.1490092E-02	4.1684291E-02	4.1569041E-02	4.1535406E-02
4.1089813E-02	4.1514241E-02	4.1706913E-02	4.1390991E-02
		4.1528482E-02	4.1579093E-02
		4.1339802E-02	4.1447031E-02
		4.1666929E-02	4.2114927E-02
		4.1692440E-02	4.1849645E-02
		4.1528391E-02	4.1418884E-02

FIRST TARGET PASS
SAMPLE CUMULATIVE DISTRIBUTION OF RESOLUTION

		UNSORTED SAMPLES	
1.0054228E 00	1.0002823E 00	1.0009918E 00	1.0021077E 00
9.9863267E-01	9.9849932E-01	9.9462790E-01	1.0067158E 00
9.9580945E-01	9.9552618E-01	9.9918630E-01	9.9835569E-01
1.0019611E 00	9.9656743E-01	1.0000027E 00	9.9918165E-01
1.0100476E 00	1.0011958E 00	9.9697775E-01	1.0038827E 00
		1.0019820E 00	9.9953161E-01
		1.0052775E 00	1.0024344E 00
		9.9698969E-01	9.8563184E-01
		9.9804819E-01	9.9397343E-01
		1.0011514E 00	1.0039053E 00

FIRST TARGET PASS
SAMPLE CUMULATIVE DISTRIBUTION OF LONGITUDE

-3.4486008E-01	1.1182800E-01	5.5310479E-01	4.3608141E-01	-1.2195930E 00	-4.7767258E-01
7.1659530E-03	9.4320915E-02	-2.8250122E-01	8.8882111E-01	4.8854551E-01	2.6500961E-03
-4.5157242E-01	-2.2270203E-01	8.6630340E-02	1.2911728E-01	5.0492672E-01	1.6428933E 00
5.8769284E-03	2.4229226E-01	-2.1994019E-01	1.4310387E 00	-1.9794083E-01	-6.8681335E-01
1.2254656E 00	-6.0962677E-02	-7.2878265E-01	1.7822657E-01	-2.5288010E-01	-3.1975174E-01

UNSORTED SAMPLES

FIRST TARGET PASS
SAMPLE CUMULATIVE DISTRIBUTION OF ALTITUDE

4.6249450E 01	4.6012985E 01	4.6045623E 01	4.6096953E 01	4.6091170E 01	4.5978454E 01
4.5937102E 01	4.5930969E 01	4.5752884E 01	4.6308929E 01	4.6242766E 01	4.6111983E 01
4.5807235E 01	4.5794204E 01	4.5962569E 01	4.5924361E 01	4.5861525E 01	4.5339065E 01
4.6090209E 01	4.5842101E 01	4.6000121E 01	4.5962356E 01	4.5910217E 01	4.5722777E 01
4.6462188E 01	4.6055008E 01	4.5860976E 01	4.6178603E 01	4.6052963E 01	4.6179641E 01

UNSORTED SAMPLES

FIRST TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF SEMI-MAJOR AXIS

	UNSORTED SAMPLES	
2.6885161E 03	2.6912328E 03	2.6889563E 03
2.6851033E 03	2.6843148E 03	2.6884574E 03
2.6900485E 03	2.6897689E 03	2.6824586E 03
2.6912717E 03	2.6822951E 03	2.7008096E 03
2.6751551E 03	2.6891405E 03	2.6923410E 03
	2.6844383E 03	2.7015674E 03
	2.6956721E 03	2.6884574E 03
	2.6858700E 03	2.6824586E 03
	2.6902616E 03	2.6963785E 03
	2.6926802E 03	2.6940709E 03

FIRST TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF ECCENTRICITY

	UNSORTED SAMPLES	
3.3631071E-01	3.3706857E-01	3.3647607E-01
3.3558348E-01	3.3539060E-01	3.3328540E-01
3.3685320E-01	3.3678907E-01	3.3674542E-01
3.3704943E-01	3.3492331E-01	3.3246282E-01
3.3291642E-01	3.3653715E-01	3.3584806E-01
	3.3537847E-01	3.3957558E-01
	3.3825678E-01	3.3629871E-01
	3.3576366E-01	3.3495661E-01
	3.3683401E-01	3.3945729E-01
	3.3748138E-01	3.3732657E-01
	3.3706857E-01	3.3620586E-01
	3.3539060E-01	3.3555639E-01
	3.3678907E-01	3.3253527E-01
	3.3492331E-01	3.3844132E-01
	3.3653715E-01	3.3770505E-01

FIRST TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF INCLINATION

	UNSORTED SAMPLES	
1.3016820E 01	1.3025406E 01	1.3023363E 01
1.3028646E 01	1.3033219E 01	1.3047832E 01
1.3025088E 01	1.3032894E 01	1.3009463E 01
1.3028022E 01	1.3022777E 01	1.3027388E 01
1.3025548E 01	1.3030258E 01	1.3028446E 01
	1.3017138E 01	1.3027237E 01
	1.3021668E 01	1.3025681E 01
	1.3025397E 01	1.3025221E 01
	1.3025731E 01	1.3025267E 01
	1.3028872E 01	1.3014989E 01
	1.3025406E 01	1.3036330E 01
	1.3033219E 01	1.3032171E 01
	1.3032894E 01	1.3026277E 01
	1.3022777E 01	1.3033301E 01
	1.3030258E 01	1.3048775E 01

FIRST TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE

-3.4486008E-01	1.1182746E-01	5.5310522E-01	4.3608141E-01	-1.2195930E 00	-4.7767258E-01
7.1656885E-03	9.4319897E-02	-2.8250122E-01	8.8882134E-01	4.8854490E-01	2.6500975E-03
-4.5157242E-01	-2.2270203E-01	8.6629925E-02	1.2911717E-01	5.0492657E-01	1.6428930E 00
5.8769557E-03	2.4229199E-01	-2.1994019E-01	1.4310376E 00	-1.9794083E-01	-6.8681335E-01
1.2254671E 00	-6.0962677E-02	-7.2878265E-01	1.7822598E-01	-2.5288010E-01	-3.1974030E-01

UNSORTED SAMPLES

FIRST TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE

1.0719299E-02	-1.1600494E-02	-4.7340392E-03	-3.1661987E-03	1.0932922E-02	-3.7193298E-03
3.7727356E-03	2.0370483E-03	7.6828003E-03	3.9672851E-03	2.0217896E-04	6.7901611E-03
4.8179626E-03	-1.6479492E-03	7.9612732E-03	-2.4791717E-02	-2.2670746E-02	-2.2979736E-02
7.0266722E-03	-2.3269653E-04	-2.2964477E-03	-1.4923096E-02	-7.1220398E-03	1.0044098E-02
2.4986267E-03	1.8199921E-02	3.7078857E-03	-9.6740721E-03	-3.3493042E-03	1.0997772E-02

UNSORTED SAMPLES

FIRST TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF MEAN ANOMALY

-5.0125122E-03	5.4140092E-03	2.2161507E-03	1.4798692E-03	-5.0735474E-03	1.7401502E-03
-1.7700195E-03	-9.5367432E-04	-3.5820007E-03	-1.8730164E-03	-1.0299683E-04	-3.1929016E-03
-2.2506714E-03	7.6773279E-04	-3.7307739E-03	1.1581512E-02	1.0640756E-02	1.0854390E-02
-3.2806396E-03	1.0850056E-04	1.0723913E-03	7.0505878E-03	3.3033839E-03	-4.6730042E-03
-1.1825562E-03	-8.5105896E-03	-1.7318726E-03	4.5301363E-03	1.5614830E-03	-5.1307677E-03

UNSORTED SAMPLES

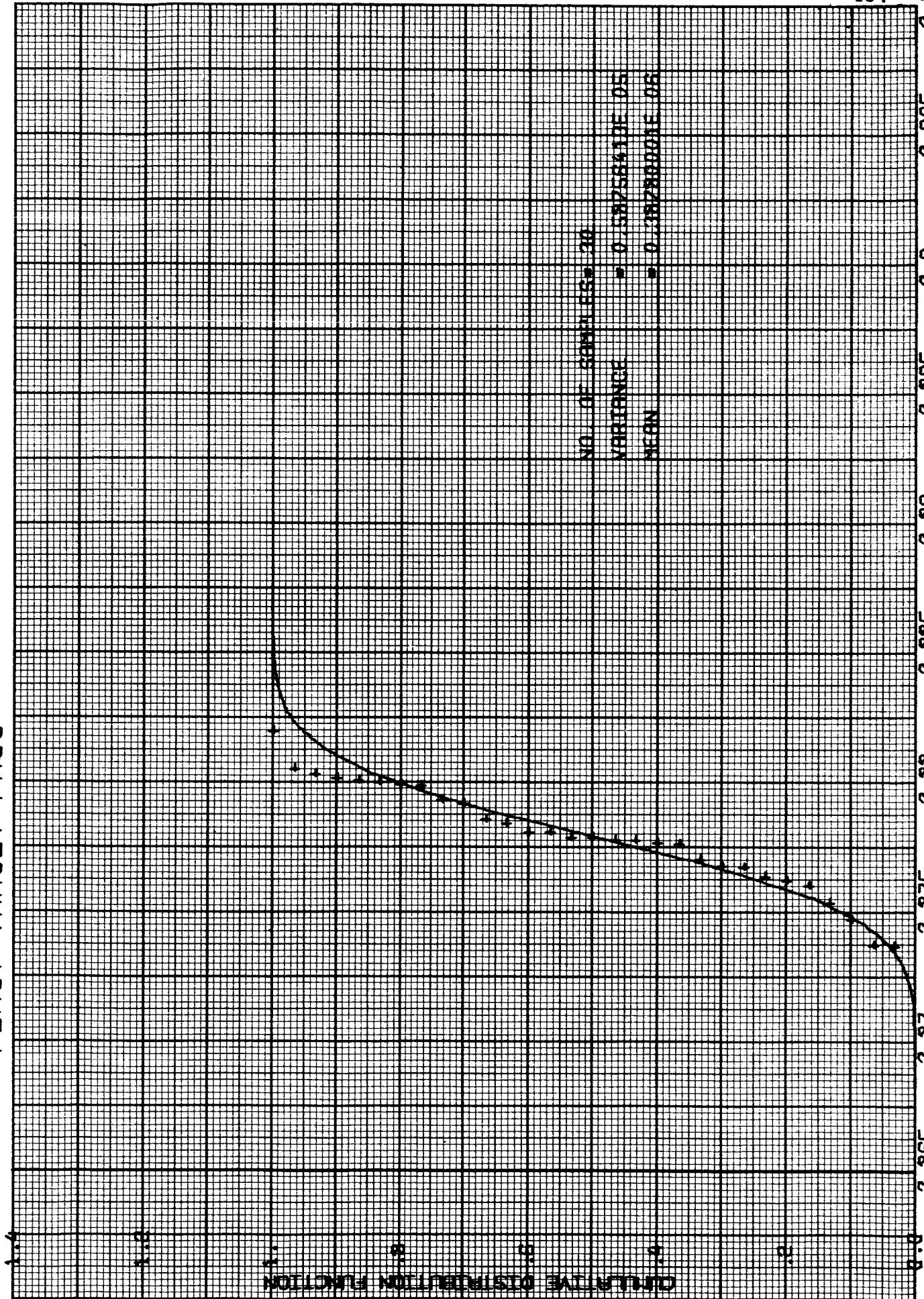
FIRST TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF MUTUAL EARTH-SUN VISIBILITY TIME

5.7030000E 03	5.6980000E 03	5.6580000E 03	5.6780000E 03	5.7780000E 03	5.7040000E 03
5.6790000E 03	5.6730000E 03	5.7240000E 03	5.6200000E 03	5.6750000E 03	5.6790000E 03
5.7110000E 03	5.7030000E 03	5.6790000E 03	5.6910000E 03	5.6540000E 03	5.5800000E 03
5.7010000E 03	5.6600000E 03	5.7050000E 03	5.5910000E 03	5.7400000E 03	5.7410000E 03
5.6070000E 03	5.6940000E 03	5.7280000E 03	5.6790000E 03	5.7130000E 03	5.7200000E 03

UNSORTED SAMPLES

FIRST TARGET PASS

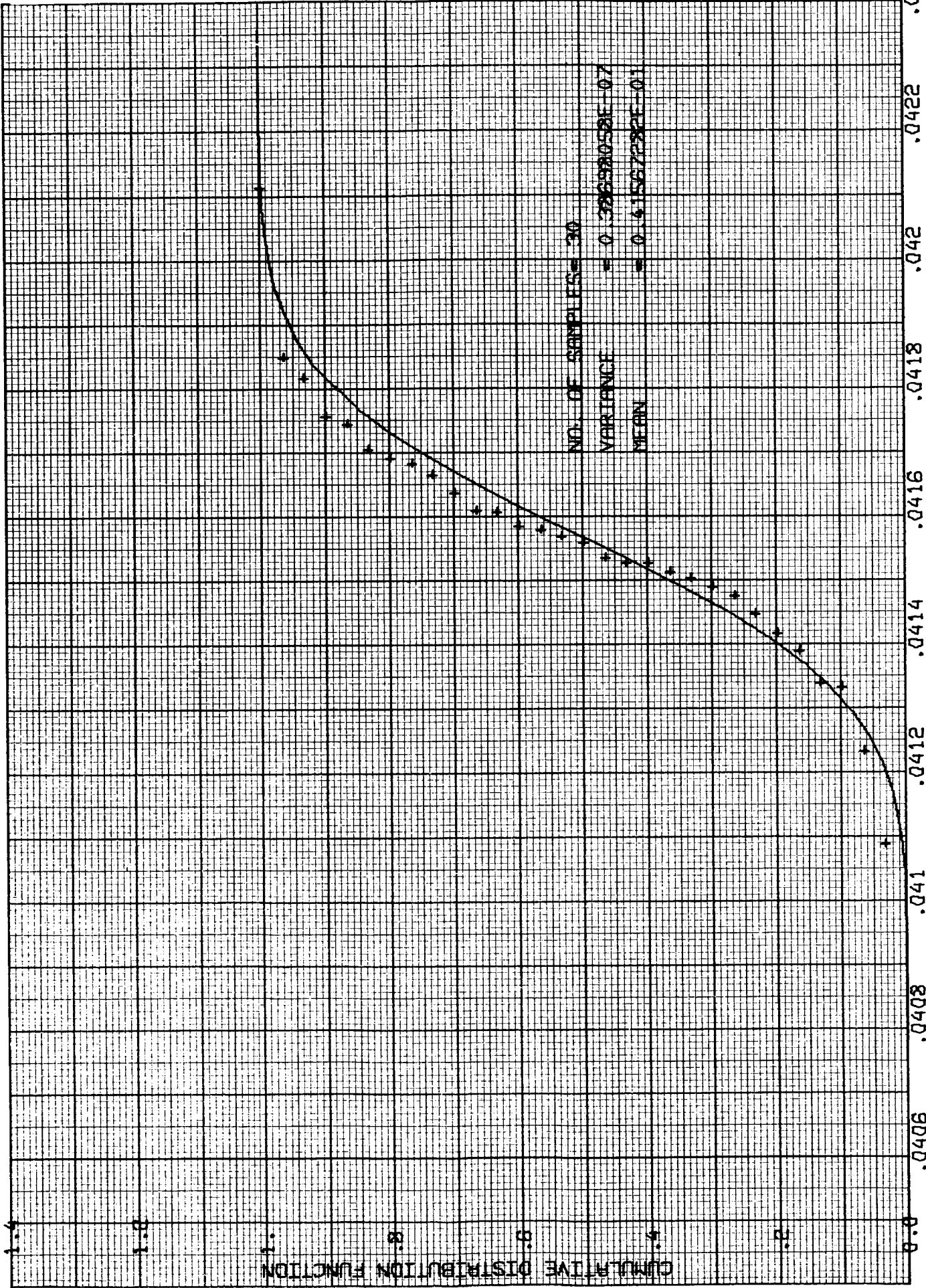


NO. OF SAMPLES = 20
 VARIANCE = $0.58758410E-05$
 MEAN = $0.3878000E-06$

3.865 $\times 10^6$ 3.87 $\times 10^6$ 3.875 $\times 10^6$ 3.88 $\times 10^6$ 3.885 $\times 10^6$ 3.89 $\times 10^6$ 3.895 $\times 10^6$ 3.905 $\times 10^6$ 3.91 $\times 10^6$

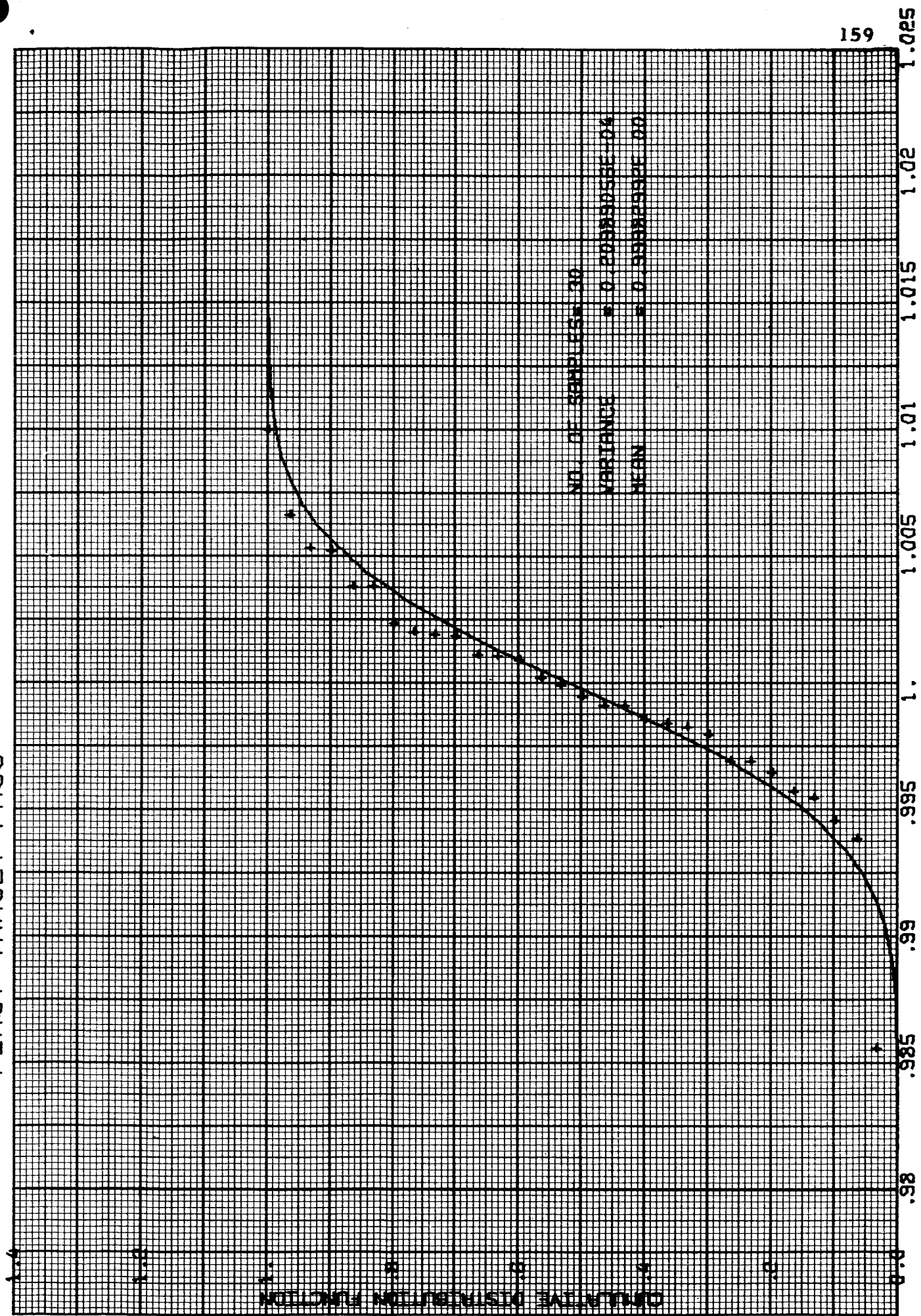
SAMPLE CUMULATIVE DISTRIBUTION OF TIME FROM TRANSLUNAR INJECTION

FIRST TARGET PASS



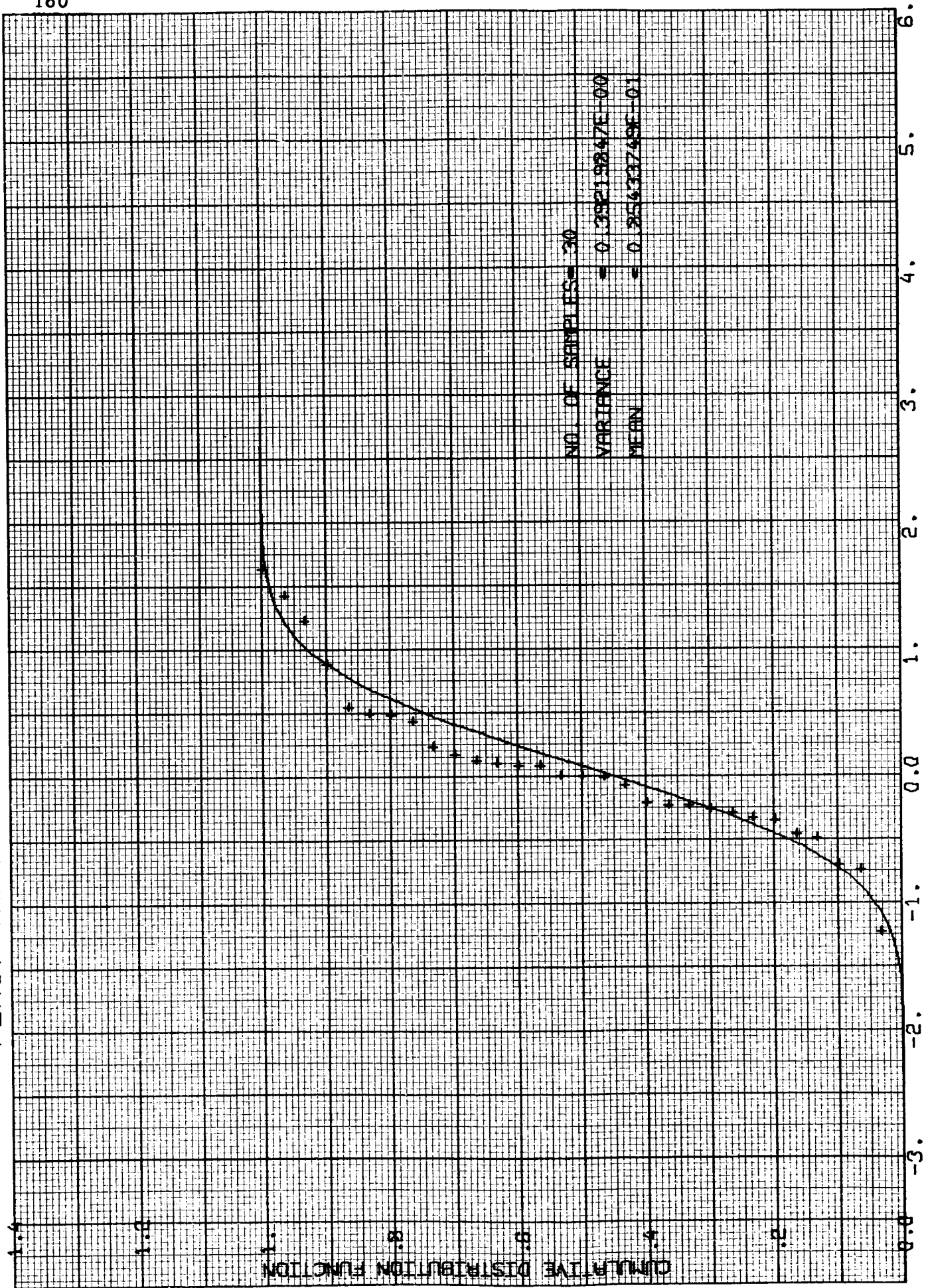
SAMPLE CUMULATIVE DISTRIBUTION OF V / H

FIRST TARGET PASS



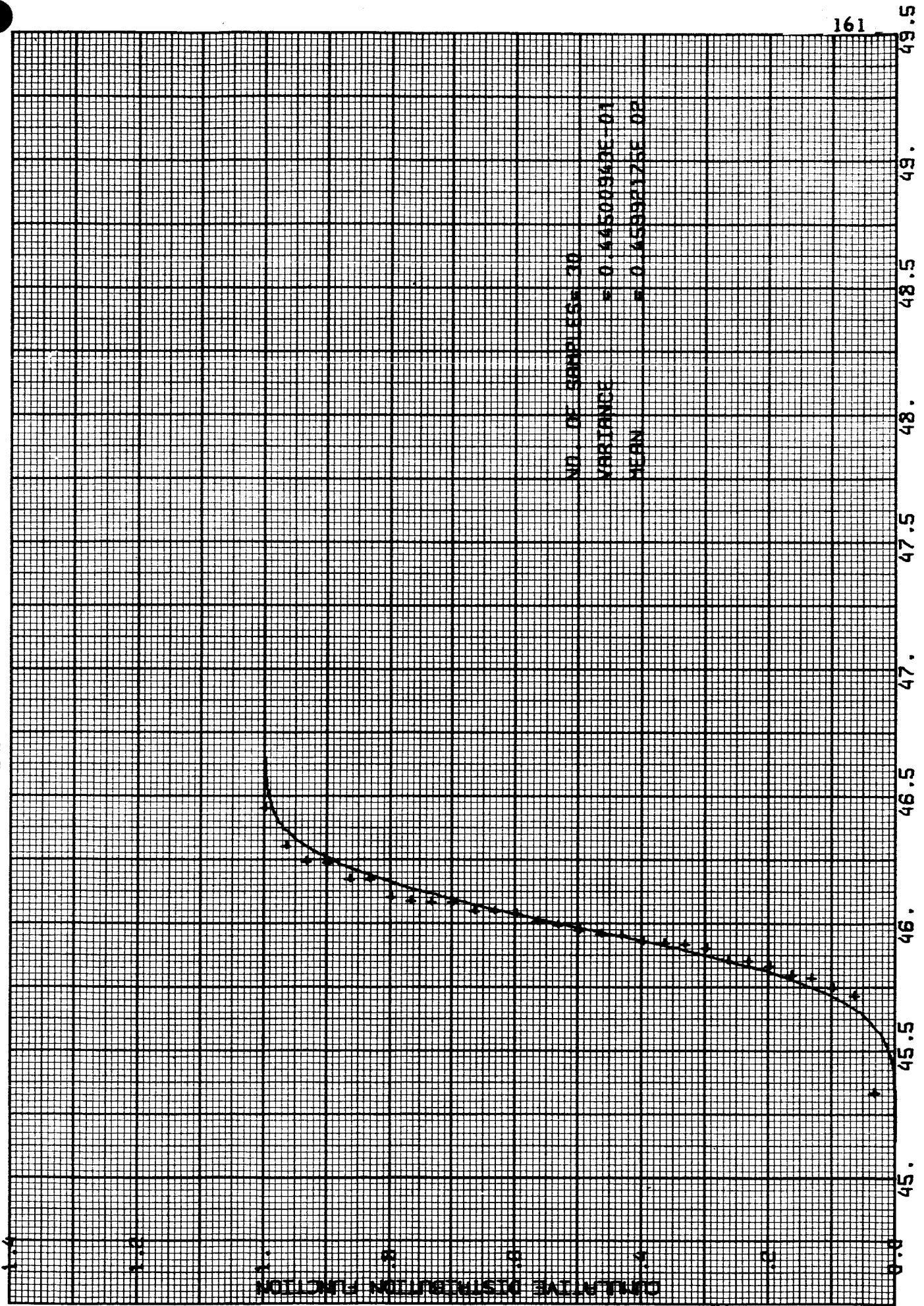
SAMPLE CUMULATIVE DISTRIBUTION OF RESOLUTION

FIRST TARGET PASS



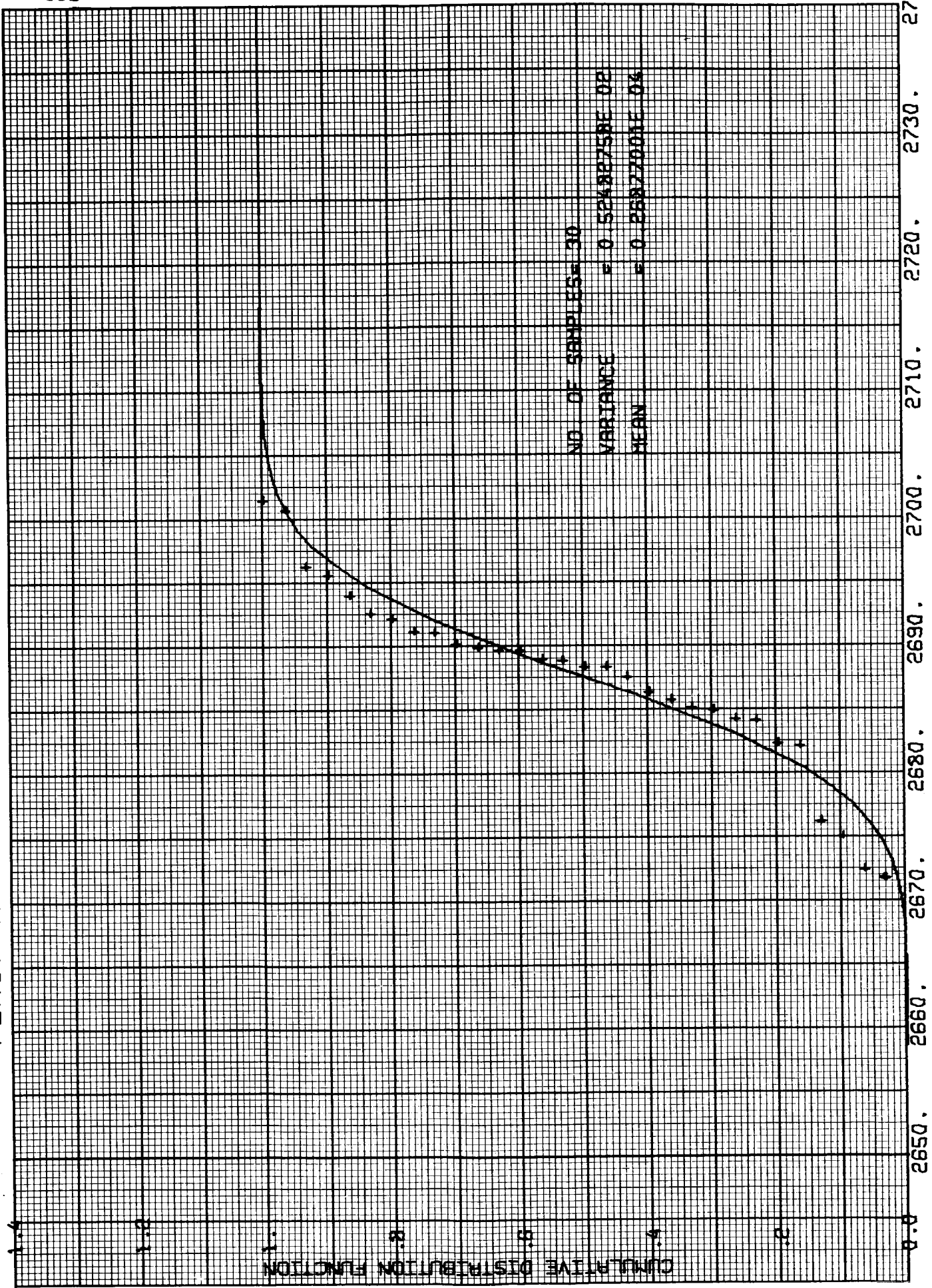
SAMPLE CUMULATIVE DISTRIBUTION OF LONGITUDE

FIRST TARGET PASS



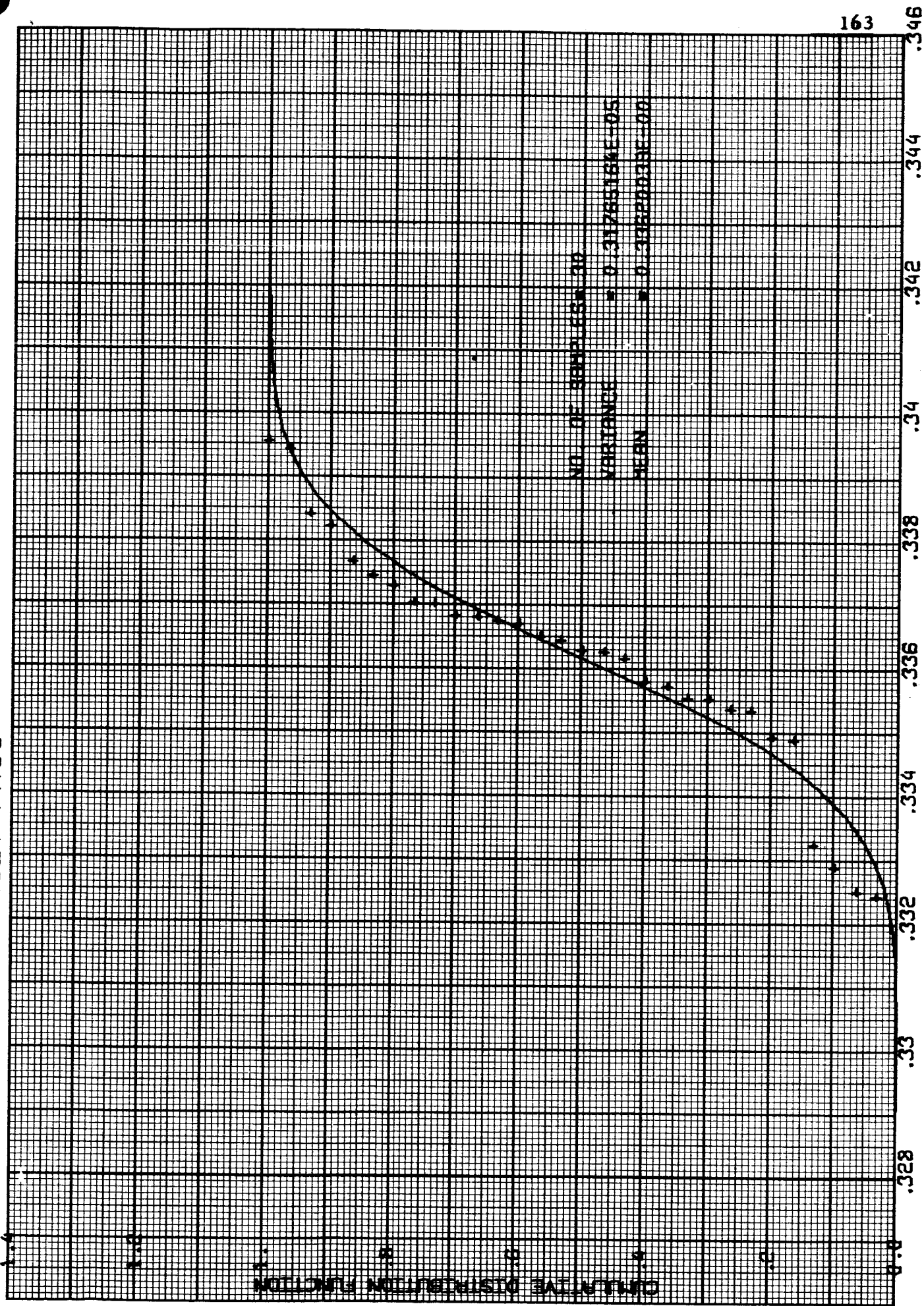
SAMPLE CUMULATIVE DISTRIBUTION OF ALTITUDE

FIRST TARGET PASS



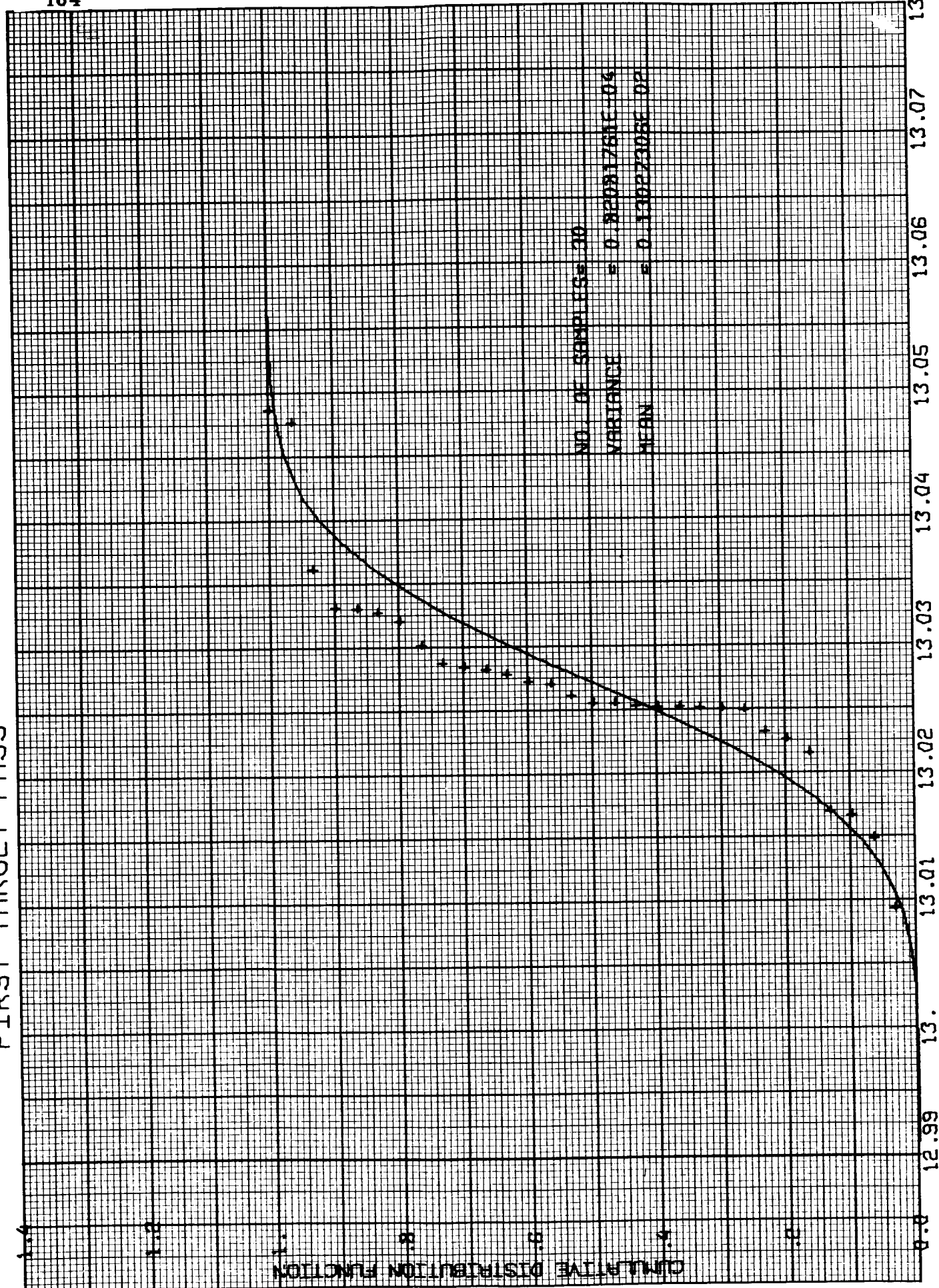
SAMPLE CUMULATIVE DISTRIBUTION OF SEMI-MAJOR AXIS

FIRST TARGET PASS



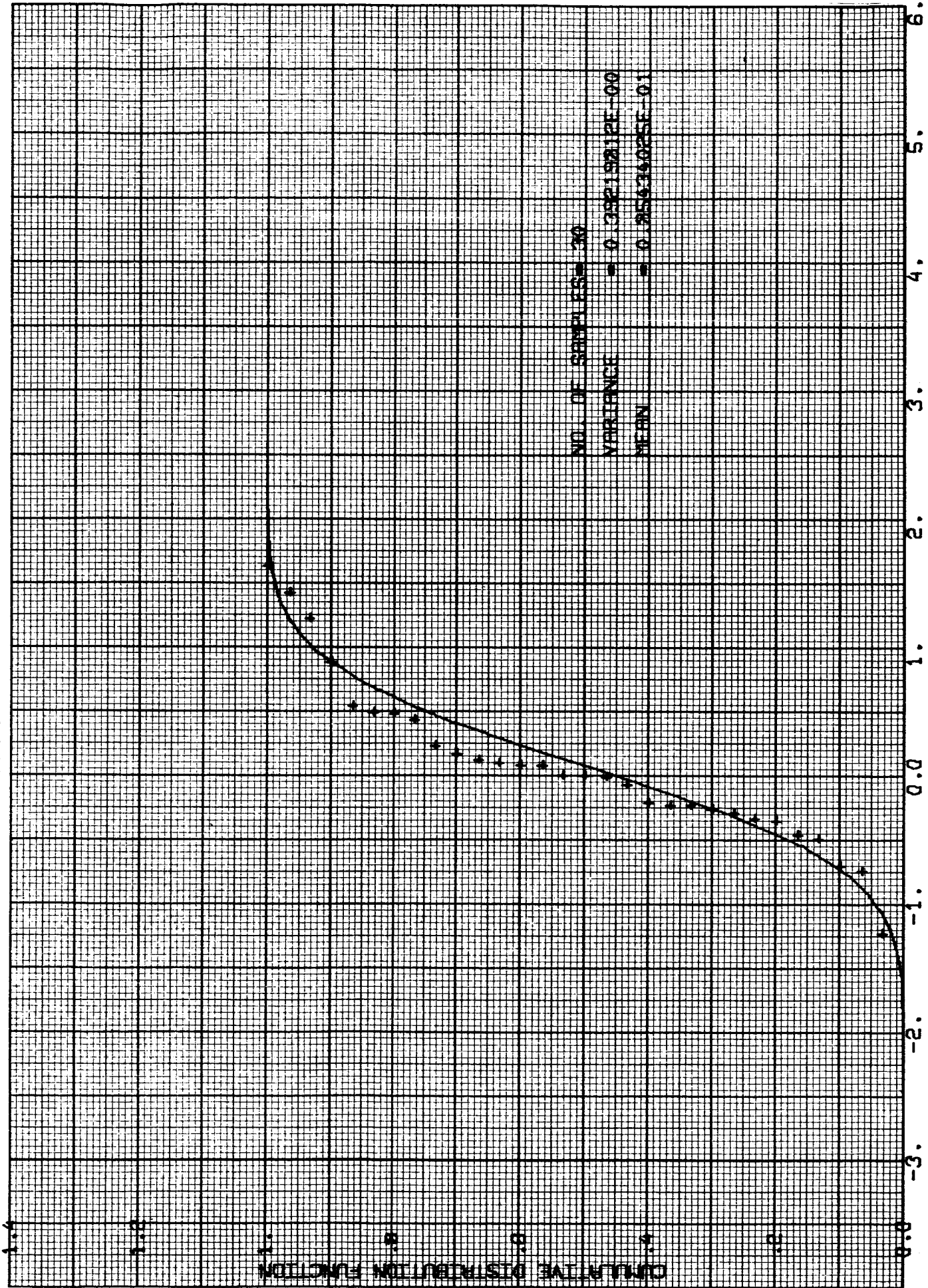
SAMPLE CUMULATIVE DISTRIBUTION OF ECCENTRICITY

FIRST TARGET PASS

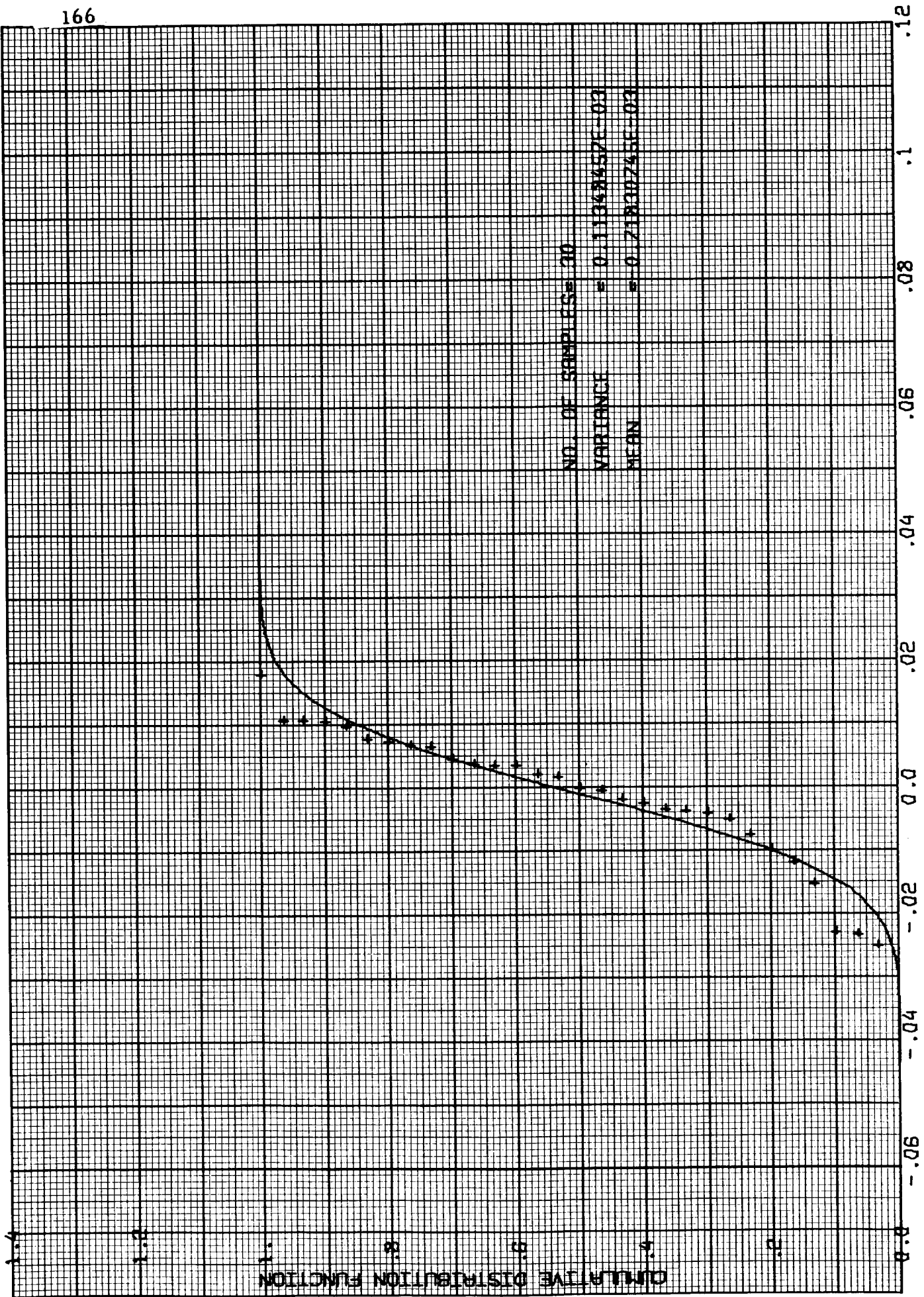


SAMPLE CUMULATIVE DISTRIBUTION OF INCLINATION

FIRST TARGET PASS

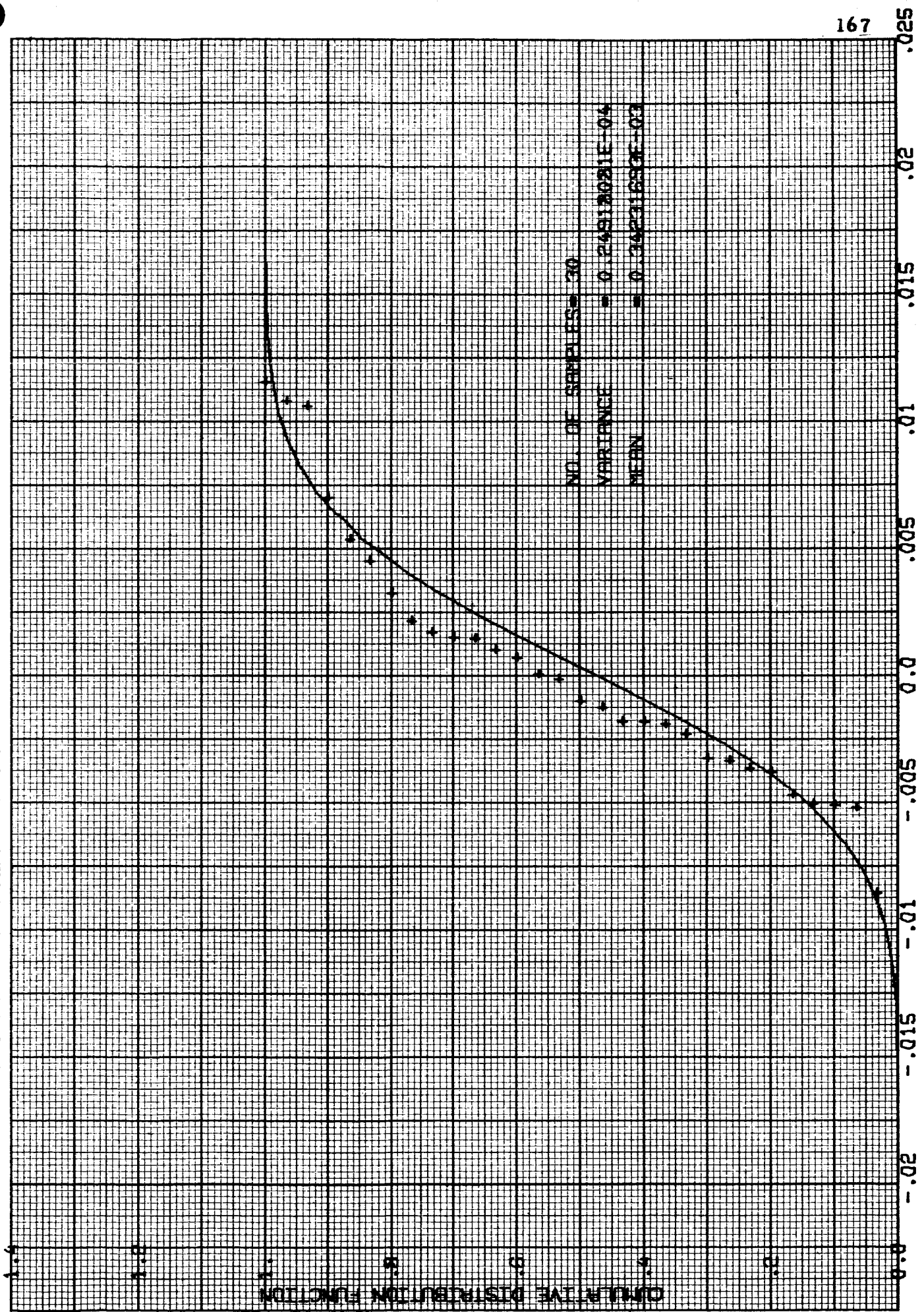


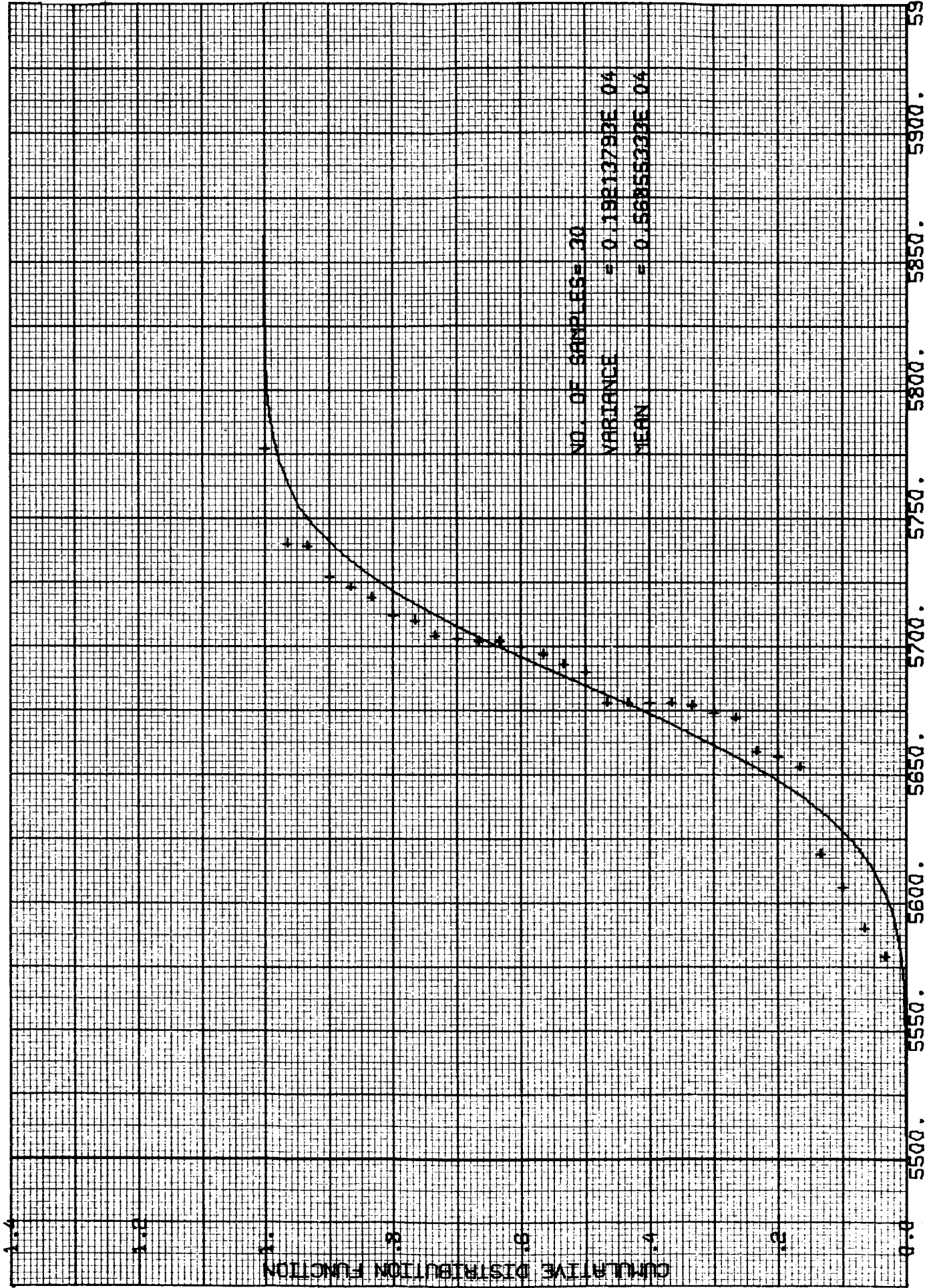
SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE



SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE

FIRST TARGET PASS





SAMPLE CUMULATIVE DISTRIBUTION OF MUTUAL EARTH-SUN VISIBILITY TIME

SECOND TARGET PASS
SAMPLE STATE VECTORS

X	Y	Z	VX	VY	VZ
0.17830615E 04	-0.74520769E 02	-0.53958221E-05	0.75121334E-01	0.18651702E 01	0.43171486E-00
0.17833502E 04	-0.60399303E 02	-0.56540989E-05	0.60562062E-01	0.18662947E 01	0.43215016E-00
0.17837898E 04	-0.46487021E 02	0.12311474E-05	0.45919617E-01	0.18655837E 01	0.43160813E-00
0.17837424E 04	-0.50249290E 02	0.42842472E-05	0.49855904E-01	0.18661737E 01	0.43198097E-00
0.17815544E 04	-0.10214406E 03	0.19183420E-06	0.10414281E-00	0.18660474E 01	0.43259177E-00
0.17826162E 04	-0.78622703E 02	0.54317333E-05	0.79542752E-01	0.18649065E 01	0.43236524E-00
0.17831703E 04	-0.63433251E 02	-0.22842470E-05	0.63579620E-01	0.18651707E 01	0.43202387E-00
0.17832574E 04	-0.60700531E 02	0.57870452E-05	0.60731021E-01	0.18651007E 01	0.43214320E-00
0.17826366E 04	-0.72780403E 02	0.18979245E-05	0.73402563E-01	0.18668220E 01	0.43224773E-00
0.17842939E 04	-0.35734751E 02	-0.15627147E-05	0.34569287E-01	0.18640014E 01	0.43223988E-00
0.17839341E 04	-0.48556018E 02	0.28112775E-05	0.48047265E-01	0.18660043E 01	0.43201052E-00
0.17833395E 04	-0.63599765E 02	-0.21416128E-05	0.63718066E-01	0.18650287E 01	0.43211297E-00
0.17824765E 04	-0.77906030E 02	-0.86895888E-06	0.78752623E-01	0.18655670E 01	0.43212456E-00
0.17827576E 04	-0.70741705E 02	-0.26857579E-05	0.71305754E-01	0.18657730E 01	0.43237229E-00
0.17832777E 04	-0.61044974E 02	-0.10737108E-05	0.61049099E-01	0.18653934E 01	0.43194494E-00
0.17832807E 04	-0.59798907E 02	0.45668795E-05	0.60045723E-01	0.18662530E 01	0.43158954E-00
0.17835680E 04	-0.47923656E 02	0.89805348E-06	0.47571835E-01	0.18652824E 01	0.43182538E-00
0.17836247E 04	-0.12153199E 02	0.63062291E-05	0.10162967E-01	0.18644498E 01	0.43154225E-00
0.17833158E 04	-0.63677669E 02	0.36612447E-05	0.63830947E-01	0.18661104E 01	0.43222176E-00
0.17833178E 04	-0.56034336E 02	0.11881498E-05	0.55867002E-01	0.18650536E 01	0.43173998E-00
0.17829642E 04	-0.70726895E 02	-0.10484435E-05	0.71286729E-01	0.18657514E 01	0.43212128E-00
0.17841949E 04	-0.18771438E 02	-0.72202407E-05	0.17006563E-01	0.18640123E 01	0.43148904E-00
0.17828903E 04	-0.70356717E 02	-0.96804295E-06	0.71008247E-01	0.18676443E 01	0.43254054E-00
0.17820550E 04	-0.85397653E 02	0.26882113E-05	0.86599849E-01	0.18663072E 01	0.43265653E-00
0.17846197E 04	-0.25235219E 02	-0.49761025E-05	0.23608635E-01	0.18640071E 01	0.43143988E-00
0.17832077E 04	-0.65718403E 02	-0.51927108E-05	0.65862660E-01	0.18656827E 01	0.43221538E-00
0.17821377E 04	-0.86546831E 02	0.20528524E-05	0.87819806E-01	0.18655404E 01	0.43233991E-00
0.17835873E 04	-0.58198339E 02	-0.12474070E-05	0.58210714E-01	0.18654083E 01	0.43203256E-00
0.17829762E 04	-0.71770976E 02	-0.41878603E-05	0.72400036E-01	0.18661056E 01	0.43184393E-00
0.17830168E 04	-0.73935512E 02	-0.49355667E-05	0.74537482E-01	0.18659628E 01	0.43298986E-00

SECOND TARGET PASS

SAMPLE VARIANCE OF SELENOGRAPHIC STATE VECTOR

1	7.2413792E-01	1.1675646E 01	-4.5228958E-07	-1.2214397E-02	-3.3674569E-05	-1.0102371E-04
2	1.1675646E 01	3.8738066E 02	-2.5668235E-06	-4.0483777E-01	-9.5877811E-03	-5.0667072E-03
3	-4.5228958E-07	-2.5668235E-06	1.4190211E-11	2.7837209E-09	4.6231340E-10	3.2361546E-11
4	-1.2214397E-02	-4.0483777E-01	2.7837209E-09	4.2308912E-04	1.0039272E-05	5.2917106E-06
5	-3.3674569E-05	-9.5877811E-03	4.6231340E-10	1.0039272E-05	1.0523303E-06	2.1375459E-07
6	-1.0102371E-04	-5.0667072E-03	3.2361546E-11	5.2917106E-06	2.1375459E-07	1.4798394E-07

CORRESPONDING CORRELATION MATRIX

1	9.9999998E-01	6.9711002E-01	-1.4109496E-01	-6.9782330E-01	-3.8575837E-02	-3.0860669E-01
2	6.9711002E-01	1.0000000E 00	-3.4620442E-02	-9.9999110E-01	-4.7486823E-01	-6.6919014E-01
3	-1.4109496E-01	-3.4620442E-02	1.0000000E 00	3.5926536E-02	1.1963714E-01	2.2331996E-02
4	-6.9782330E-01	-9.9999110E-01	3.5926536E-02	1.0000000E 00	4.7578446E-01	6.6876395E-01
5	-3.8575837E-02	-4.7486823E-01	1.1963714E-01	4.7578446E-01	1.0000000E 00	5.4166666E-01
6	-3.0860669E-01	-6.6919014E-01	2.2331996E-02	6.6876395E-01	5.4166666E-01	1.0000000E 00

SAMPLE MEAN OF SELENOGRAPHIC STATE VECTOR

1.7832004E 03	-6.1105539E 01	-2.8154894E-07	6.1203961E-02	1.8655535E 00	4.3207393E-01
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SECOND TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF TIME FROM TRANSLUNAR INJECTION

4.0028661E 05	4.0053452E 05	4.0010769E 05	4.0036106E 05	4.0078645E 05	4.0026950E 05
4.0028467E 05	4.0023283E 05	4.0055740E 05	3.9978634E 05	4.0017864E 05	4.0010175E 05
4.0054277E 05	4.0049579E 05	4.0025731E 05	4.0021244E 05	4.0013022E 05	3.9975288E 05
4.0045387E 05	3.9999665E 05	4.0042977E 05	3.9986233E 05	4.0057696E 05	4.0060943E 05
4.0000836E 05	4.0027161E 05	4.0033611E 05	4.0032701E 05	4.0053163E 05	4.0032774E 05

SECOND TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF V / H

4.1081545E-02	4.1313993E-02	4.1267229E-02	4.1235045E-02	4.1255487E-02	4.1321720E-02
4.1358407E-02	4.1362677E-02	4.1560633E-02	4.1005039E-02	4.1102304E-02	4.1199847E-02
4.1487123E-02	4.1502220E-02	4.1339442E-02	4.1390187E-02	4.1427218E-02	4.1891587E-02
4.1241669E-02	4.1439198E-02	4.1315896E-02	4.1314127E-02	4.1436768E-02	4.1583298E-02
4.0869173E-02	4.1264514E-02	4.1442447E-02	4.1147498E-02	4.1275014E-02	4.1164823E-02

SECOND TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF RESOLUTION

1.0114799E 00	1.0061456E 00	1.0066422E 00	1.0078271E 00	1.0084842E 00	1.0056371E 00
1.0045262E 00	1.0043524E 00	1.0006893E 00	1.0122110E 00	1.0109737E 00	1.0083323E 00
1.0019190E 00	1.0015362E 00	1.0050483E 00	1.0041971E 00	1.0026477E 00	9.9078666E-01
1.0078798E 00	1.0023482E 00	1.0060116E 00	1.0044300E 00	1.0040880E 00	1.0002179E 00
1.0153941E 00	1.0071378E 00	1.0032176E 00	1.0097082E 00	1.0071786E 00	1.0099812E 00

SECOND TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF LONGITUDE		UNSORTED SAMPLES	
3.5760679E 02	3.5806022E 02	3.5850716E 02	3.5838636E 02
3.5796266E 02	3.5805045E 02	3.5766206E 02	3.5885265E 02
3.5749739E 02	3.5772763E 02	3.5803941E 02	3.5807941E 02
3.5795498E 02	3.5820028E 02	3.5772837E 02	3.5939721E 02
3.5918987E 02	3.5788937E 02	3.5721970E 02	3.5813110E 02
		3.5671858E 02	3.5747459E 02
		3.5844088E 02	3.5795751E 02
		3.5846086E 02	3.5960959E 02
		3.5774015E 02	3.5725643E 02
		3.5769489E 02	3.5762550E 02

SECOND TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF ALTITUDE		UNSORTED SAMPLES	
4.6528075E 01	4.6282699E 01	4.6305541E 01	4.6360046E 01
4.6208205E 01	4.6200210E 01	4.6031708E 01	4.6561706E 01
4.6088271E 01	4.6070663E 01	4.6232222E 01	4.6193069E 01
4.6362472E 01	4.6108016E 01	4.6276534E 01	4.6203780E 01
4.6708130E 01	4.6328338E 01	4.6148009E 01	4.6446579E 01
		4.6390273E 01	4.6259307E 01
		4.6504790E 01	4.6383284E 01
		4.6121795E 01	4.5576186E 01
		4.6188048E 01	4.6010024E 01
		4.6330215E 01	4.6459137E 01

SECOND TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF SIDE OVERLAP		UNSORTED SAMPLES	
2.3712295E 01	2.3485036E 01	2.3554981E 01	2.3565634E 01
2.3469091E 01	2.3462936E 01	2.3255101E 01	2.3800734E 01
2.3326735E 01	2.3315338E 01	2.3474047E 01	2.3442450E 01
2.3551083E 01	2.3412922E 01	2.3476534E 01	2.3551686E 01
2.3949739E 01	2.3528841E 01	2.3365657E 01	2.3646404E 01
		2.3489098E 01	2.3476563E 01
		2.3695248E 01	2.3603367E 01
		2.3409701E 01	2.3047989E 01
		2.3334674E 01	2.3212840E 01
		2.3527622E 01	2.3578309E 01

SECOND TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF SEMI-MAJOR AXIS

		UNSORTED SAMPLES	
2.6885127E 03	2.6912297E 03	2.6844358E 03	2.7015623E 03
2.6851003E 03	2.6843120E 03	2.6956686E 03	2.6884552E 03
2.6900446E 03	2.6897655E 03	2.6858668E 03	2.6824563E 03
2.6912685E 03	2.6822921E 03	2.6902585E 03	2.7008065E 03
2.6751536E 03	2.6891373E 03	2.6926758E 03	2.6923377E 03

SECOND TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF ECCENTRICITY

		UNSORTED SAMPLES	
3.3620909E-01	3.3697008E-01	3.3528367E-01	3.3946648E-01
3.3548455E-01	3.3529235E-01	3.381530E-01	3.3620341E-01
3.3675051E-01	3.3668815E-01	3.3566529E-01	3.3486136E-01
3.3695031E-01	3.3482615E-01	3.3673314E-01	3.3935620E-01
3.3282687E-01	3.3643772E-01	3.3737642E-01	3.3722542E-01

SECOND TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF INCLINATION

		UNSORTED SAMPLES	
1.3022079E 01	1.3030750E 01	1.3022565E 01	1.3032329E 01
1.3033972E 01	1.3038560E 01	1.3026939E 01	1.3031095E 01
1.3030334E 01	1.3038178E 01	1.3030741E 01	1.3030647E 01
1.3033345E 01	1.3028151E 01	1.3031017E 01	1.3030550E 01
1.3031099E 01	1.3035567E 01	1.3034059E 01	1.3020267E 01

SECOND TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE
 UNSORTED SAMPLES

3.5760679E 02	3.5806022E 02	3.5850716E 02	3.5838636E 02	3.5671858E 02	3.5747459E 02
3.5796266E 02	3.5805045E 02	3.5766206E 02	3.5885265E 02	3.5844088E 02	3.5795751E 02
3.5749739E 02	3.5772763E 02	3.5803941E 02	3.5807941E 02	3.5846086E 02	3.5960959E 02
3.5795498E 02	3.5820028E 02	3.5772837E 02	3.5939721E 02	3.5774015E 02	3.5725643E 02
3.5918987E 02	3.5788937E 02	3.5721970E 02	3.5813110E 02	3.5769489E 02	3.5762550E 02

SECOND TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE
 UNSORTED SAMPLES

3.3618163E-01	3.1370926E-01	3.2143402E-01	3.2246399E-01	3.3480453E-01	3.2176971E-01
3.2967758E-01	3.2804871E-01	3.3255386E-01	3.3077621E-01	3.2584763E-01	3.3261490E-01
3.3017731E-01	3.2377242E-01	3.3384323E-01	3.0081177E-01	3.0369568E-01	3.0489731E-01
3.3229065E-01	3.2610702E-01	3.2305145E-01	3.1263733E-01	3.1719971E-01	3.3469391E-01
3.2962418E-01	3.4364700E-01	3.2867813E-01	3.1604004E-01	3.2180786F-01	3.3572769E-01

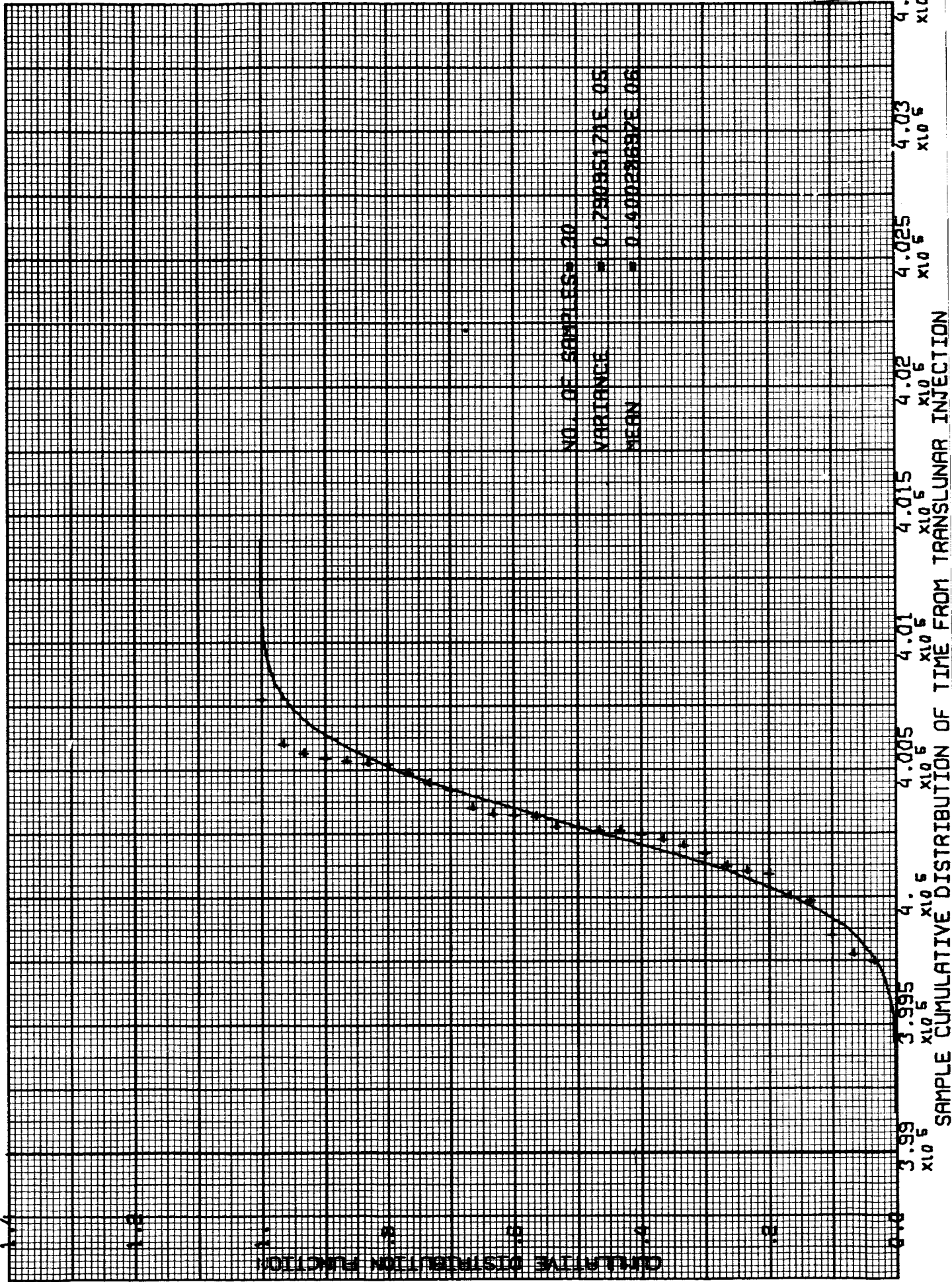
SECOND TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF MEAN ANOMALY
 UNSORTED SAMPLES

-1.5729141E-01	-1.4648056E-01	-1.5075302E-01	-1.5080261E-01	-1.5530014E-01	-1.5059280F-01
-1.5454102E-01	-1.5385056E-01	-1.5479279E-01	-1.5599060E-01	-1.5245056E-01	-1.5593338E-01
-1.5426254E-01	-1.5129089E-01	-1.5642166E-01	-1.4058304E-01	-1.4259338E-01	-1.4407349F-01
-1.5516281E-01	-1.5313339E-01	-1.5094376E-01	-1.4776230E-01	-1.4718246E-01	-1.5571213E-01
-1.5559006E-01	-1.6069031E-01	-1.5330124E-01	-1.4804077E-01	-1.5016174E-01	-1.5650177E-01

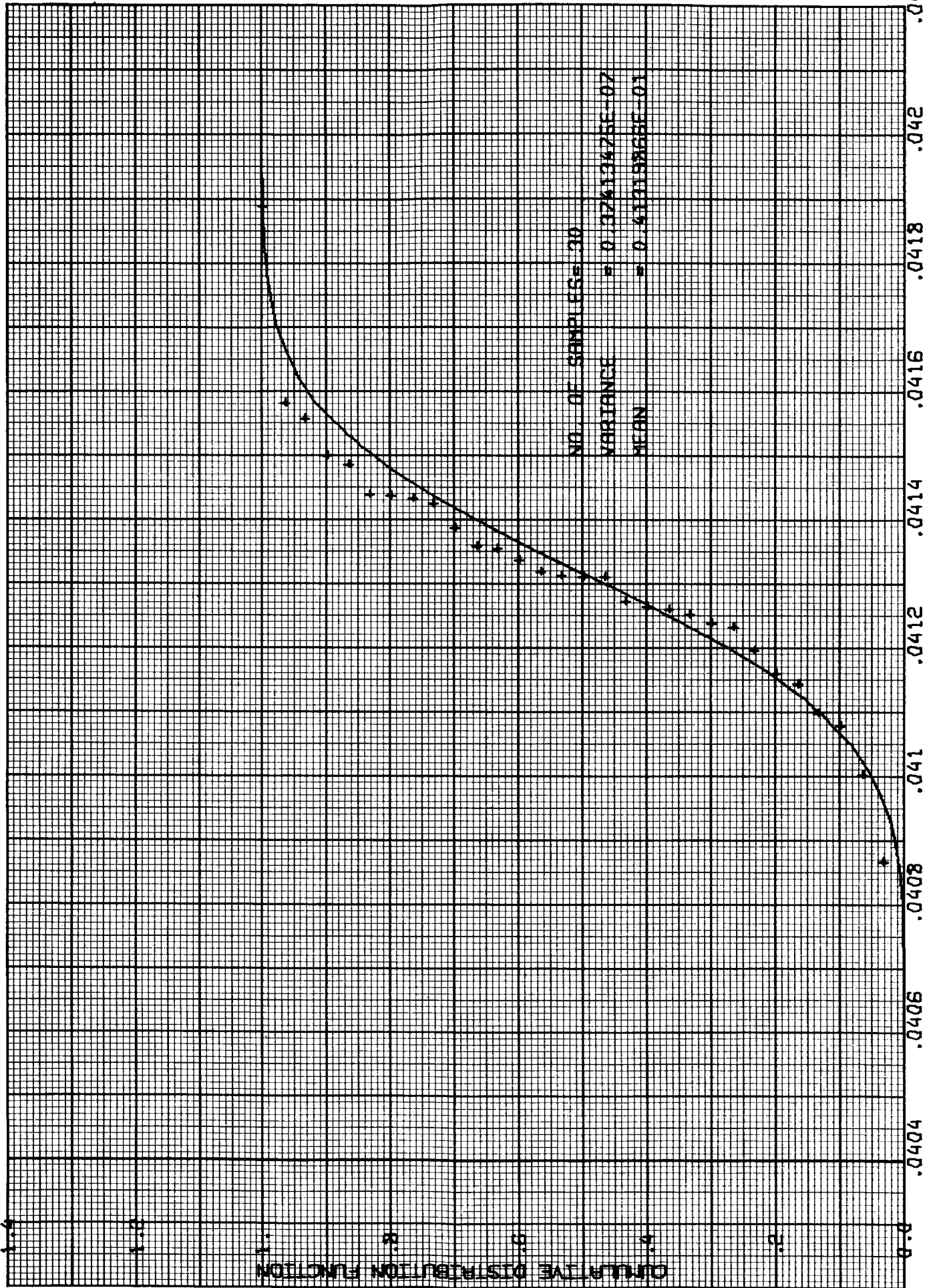
SECOND TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF MUTUAL EARTH-SUN VISIBILITY TIME
 UNSORTED SAMPLES

5.8295000E 03	5.8252000E 03	5.7843000E 03	5.8054000E 03	5.9083999E 03	5.8307000E 03
5.8051000E 03	5.7991999E 03	5.8528000E 03	5.7444000E 03	5.8012000E 03	5.8051000E 03
5.8388000E 03	5.8300999E 03	5.8049000E 03	5.8179000E 03	5.7792000E 03	5.7028000E 03
5.8280000E 03	5.7855999E 03	5.8320000E 03	5.7140000E 03	5.8691999E 03	5.8693000E 03
5.7311000E 03	5.8213999E 03	5.8566000E 03	5.8058000E 03	5.8411000E 03	5.8485000E 03

SECOND TARGET PASS

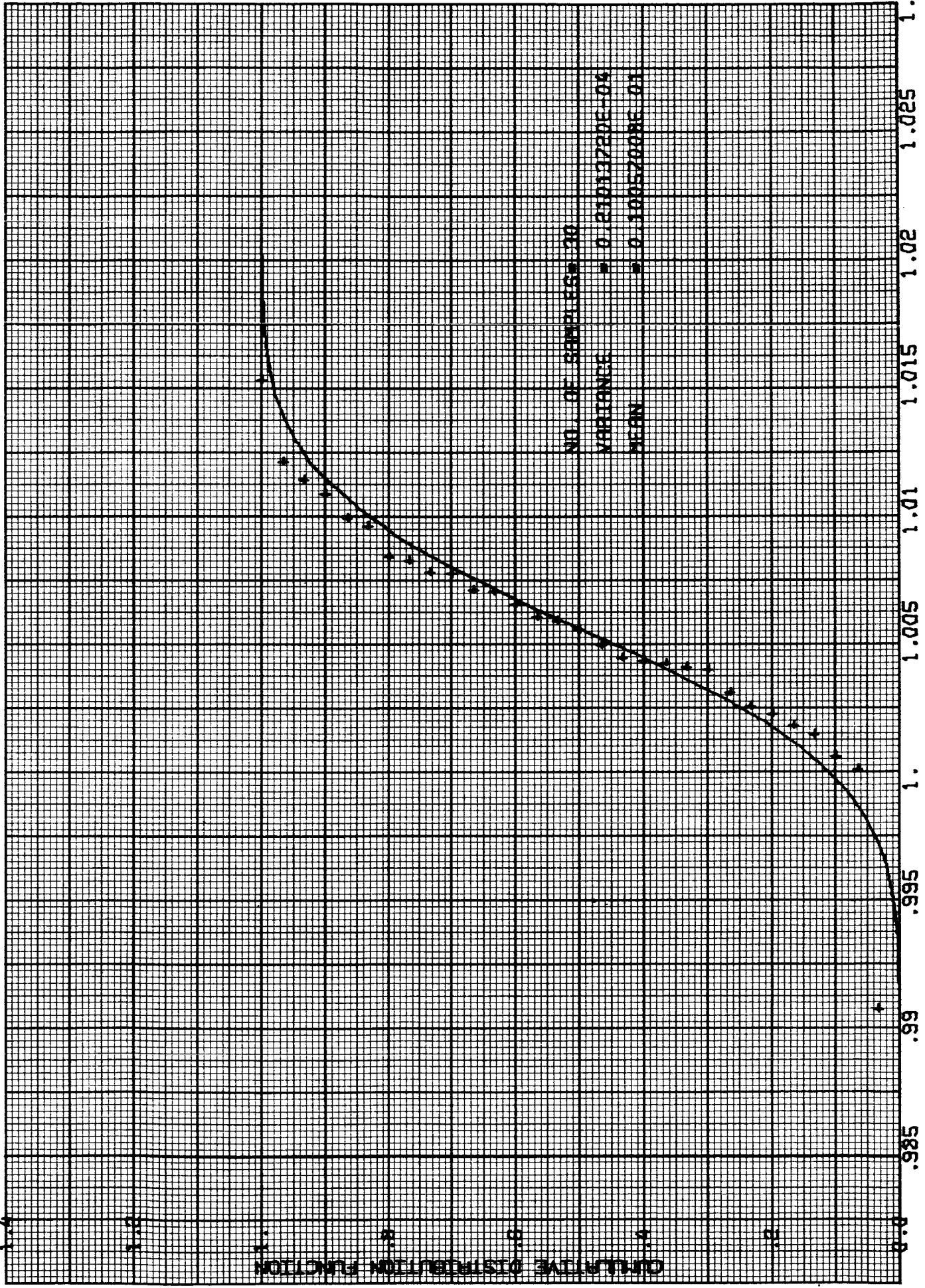


SECOND TARGET PASS

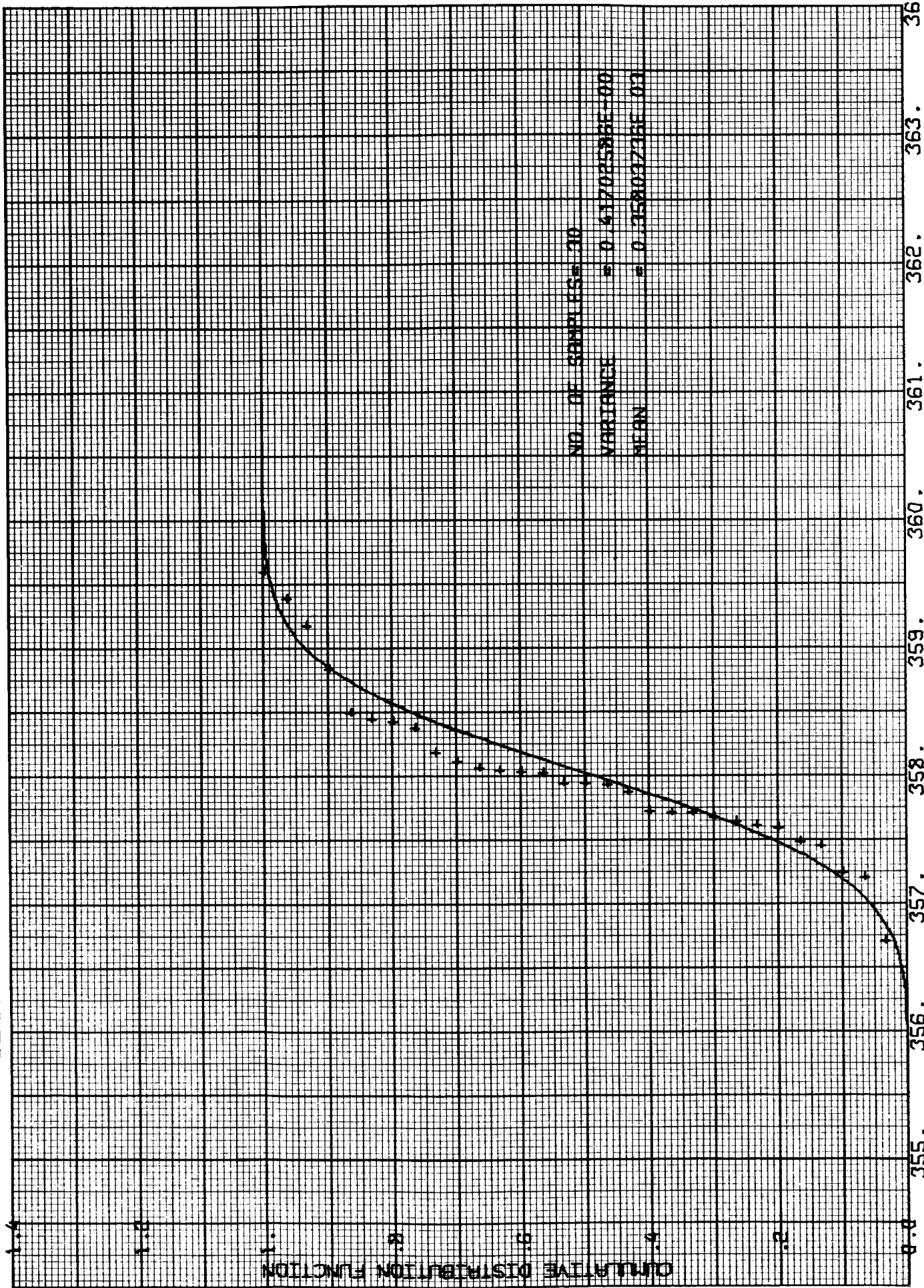


SAMPLE CUMULATIVE DISTRIBUTION OF V / H

SECOND TARGET PASS

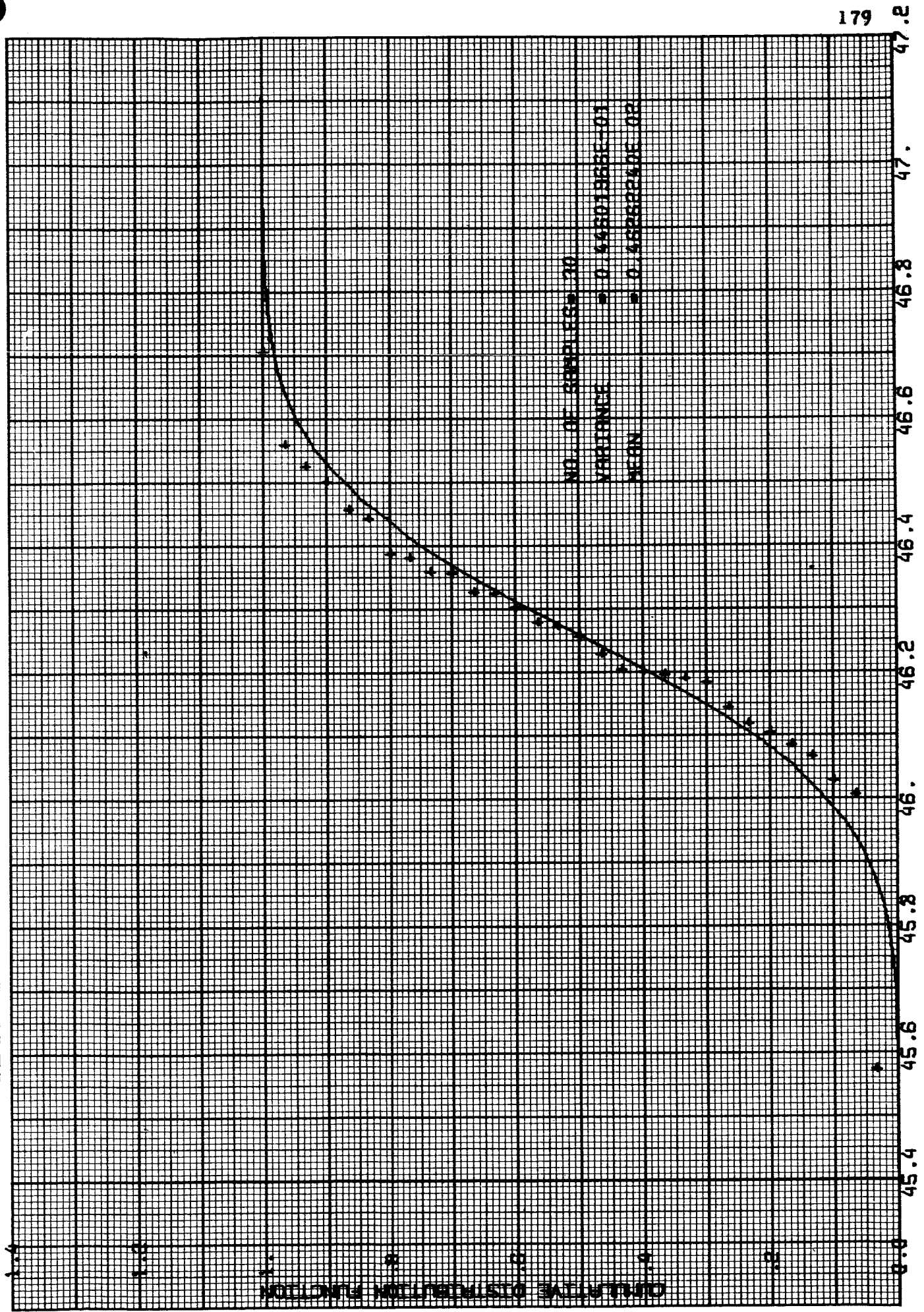


SECOND TARGET PASS

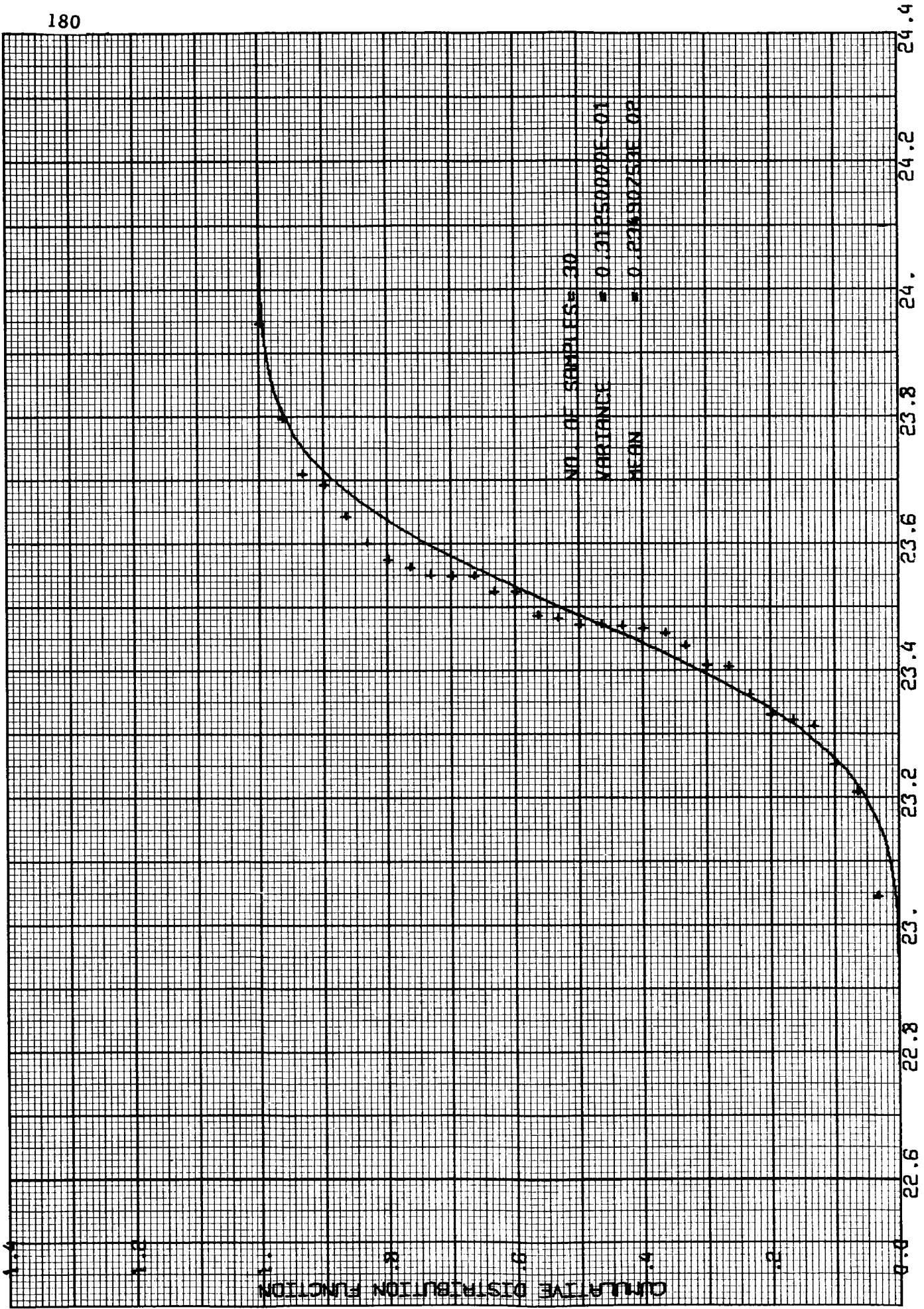


SAMPLE CUMULATIVE DISTRIBUTION OF LONGITUDE

SECOND TARGET PASS

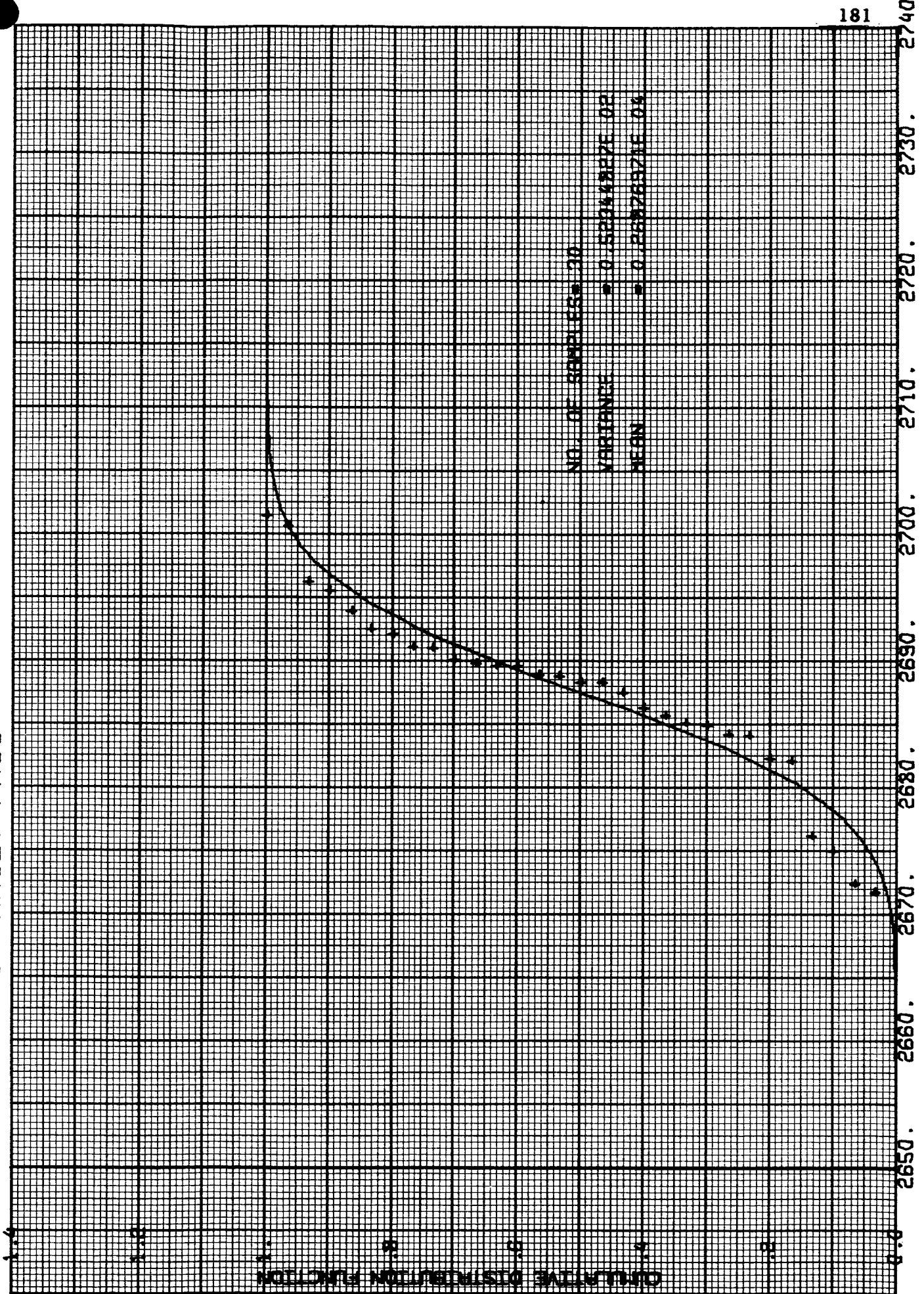


SECOND TARGET PASS



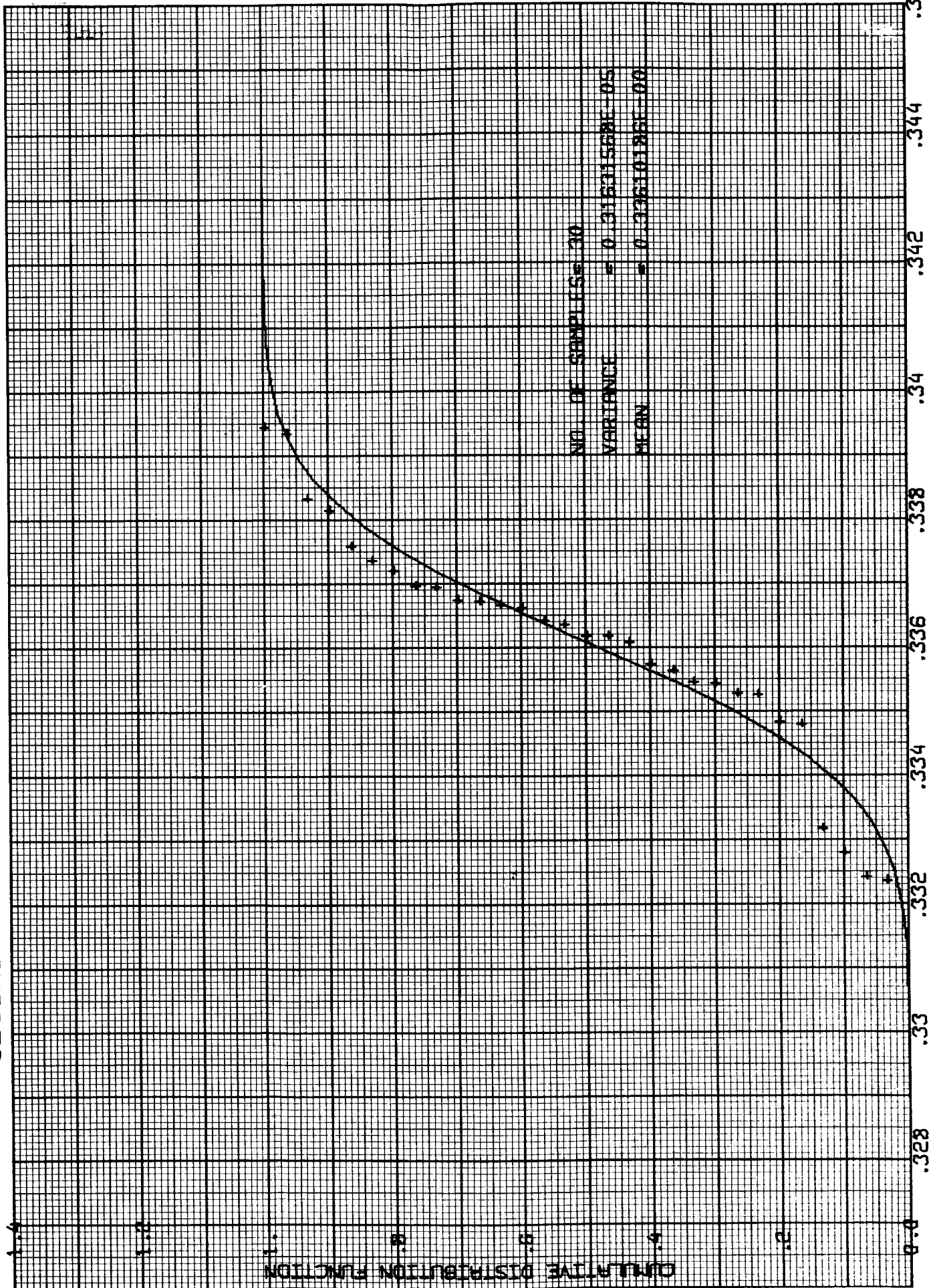
SAMPLE CUMULATIVE DISTRIBUTION OF SIDE OVERLAP

SECOND TARGET PASS



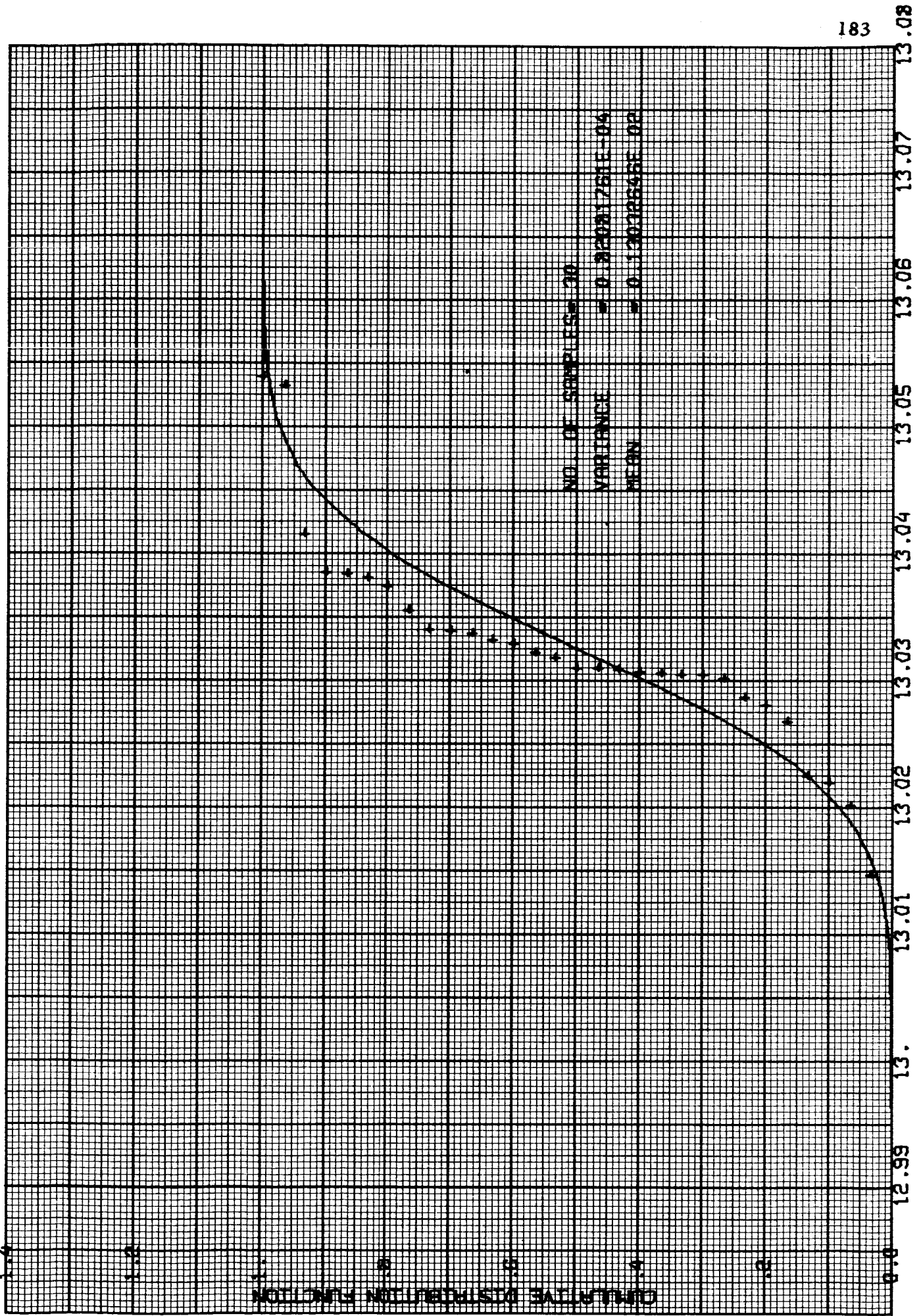
SAMPLE CUMULATIVE DISTRIBUTION OF SEMI-MAJOR AXIS

SECOND TARGET PASS

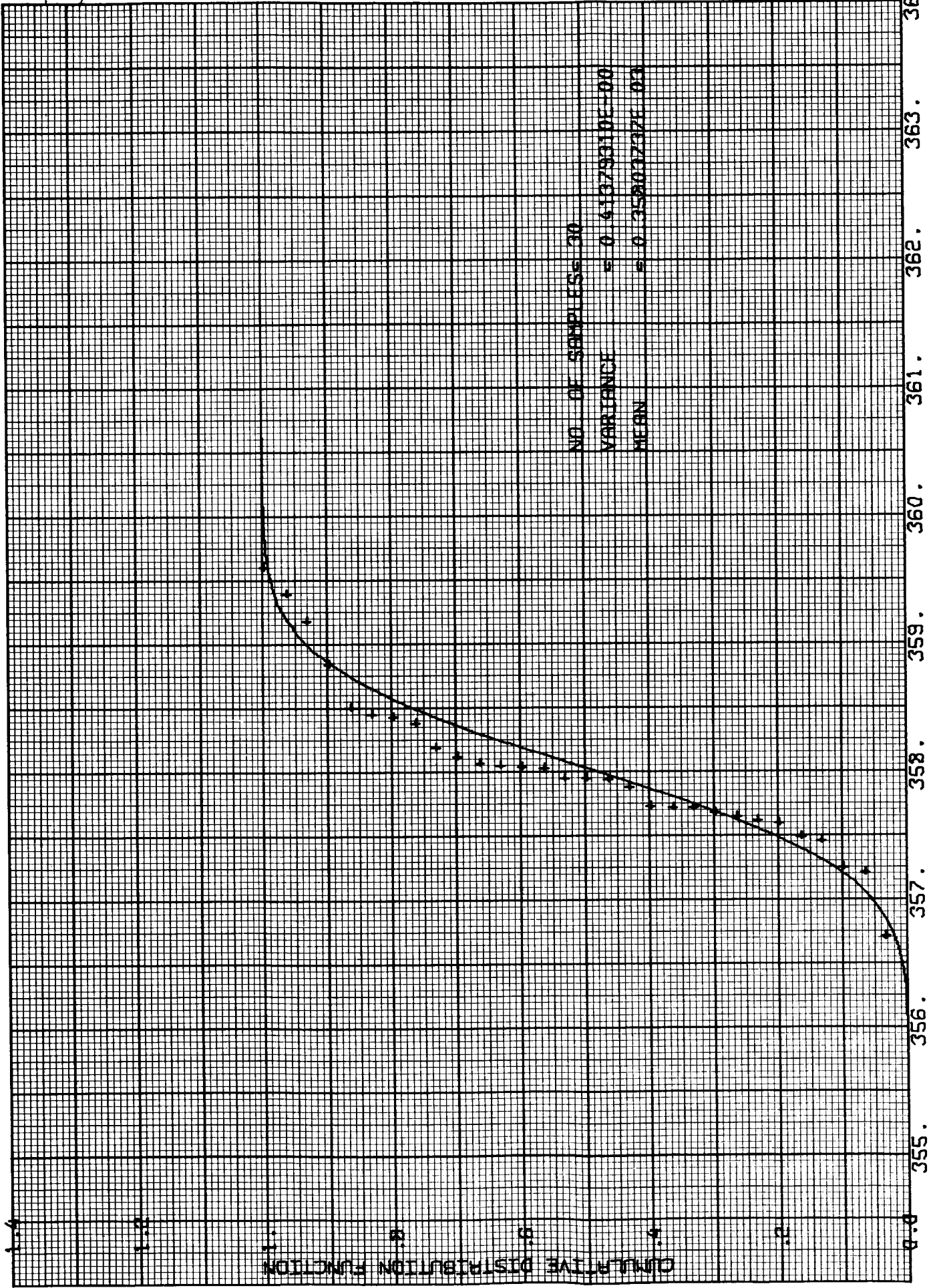


SAMPLE CUMULATIVE DISTRIBUTION OF ECCENTRICITY

SECOND TARGET PASS

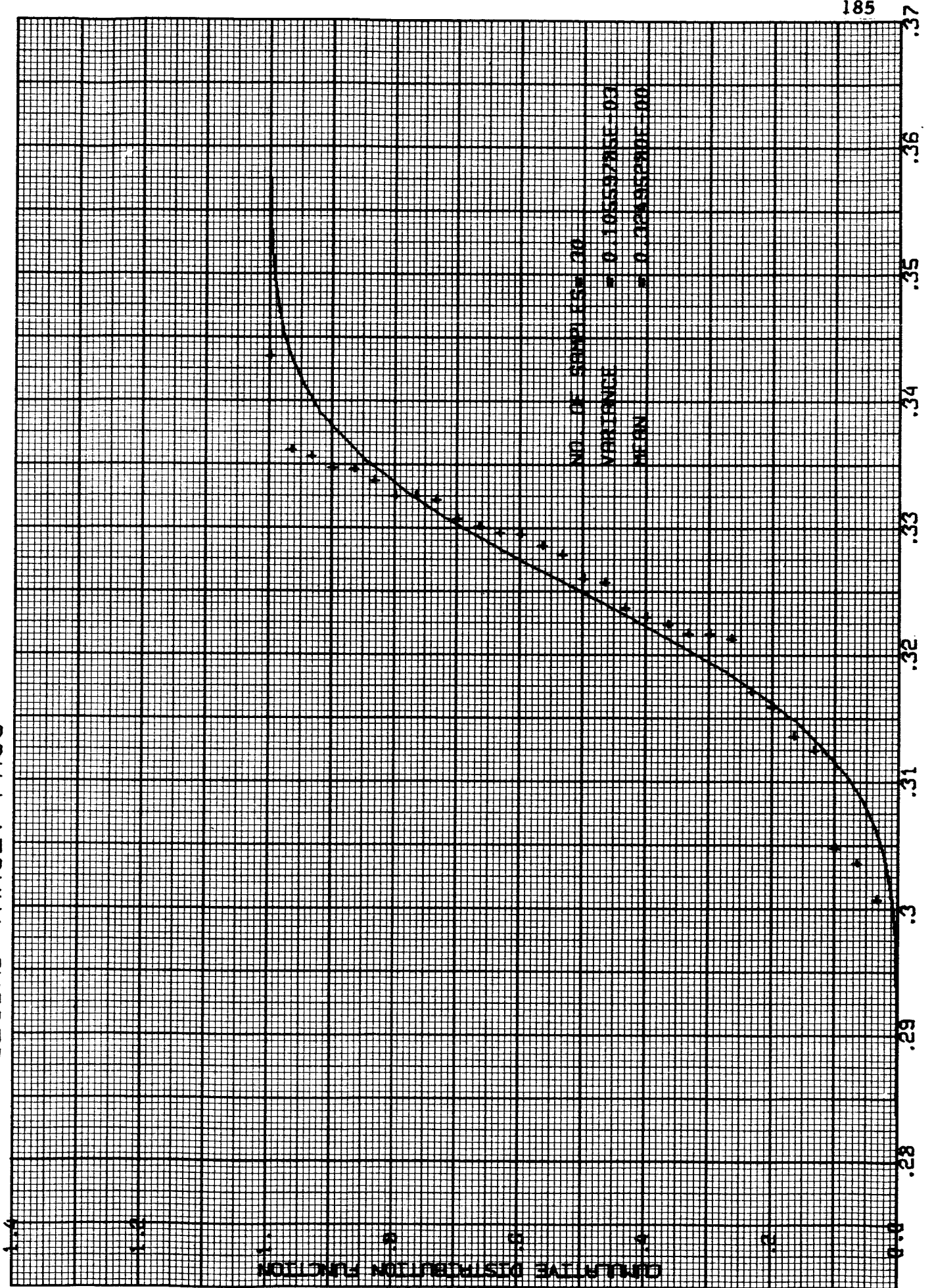


SECOND TARGET PASS

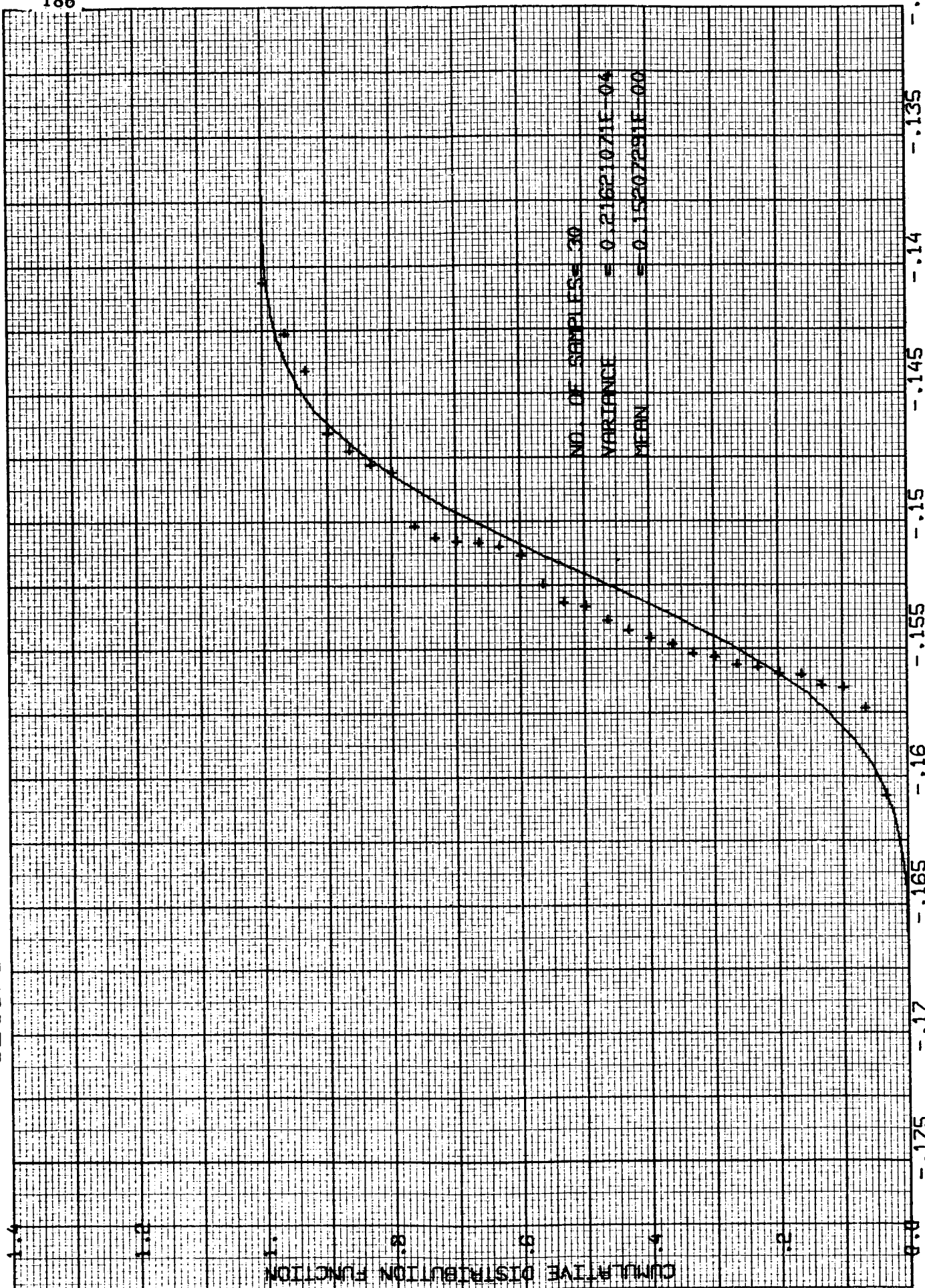


SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE

SECOND TARGET PASS

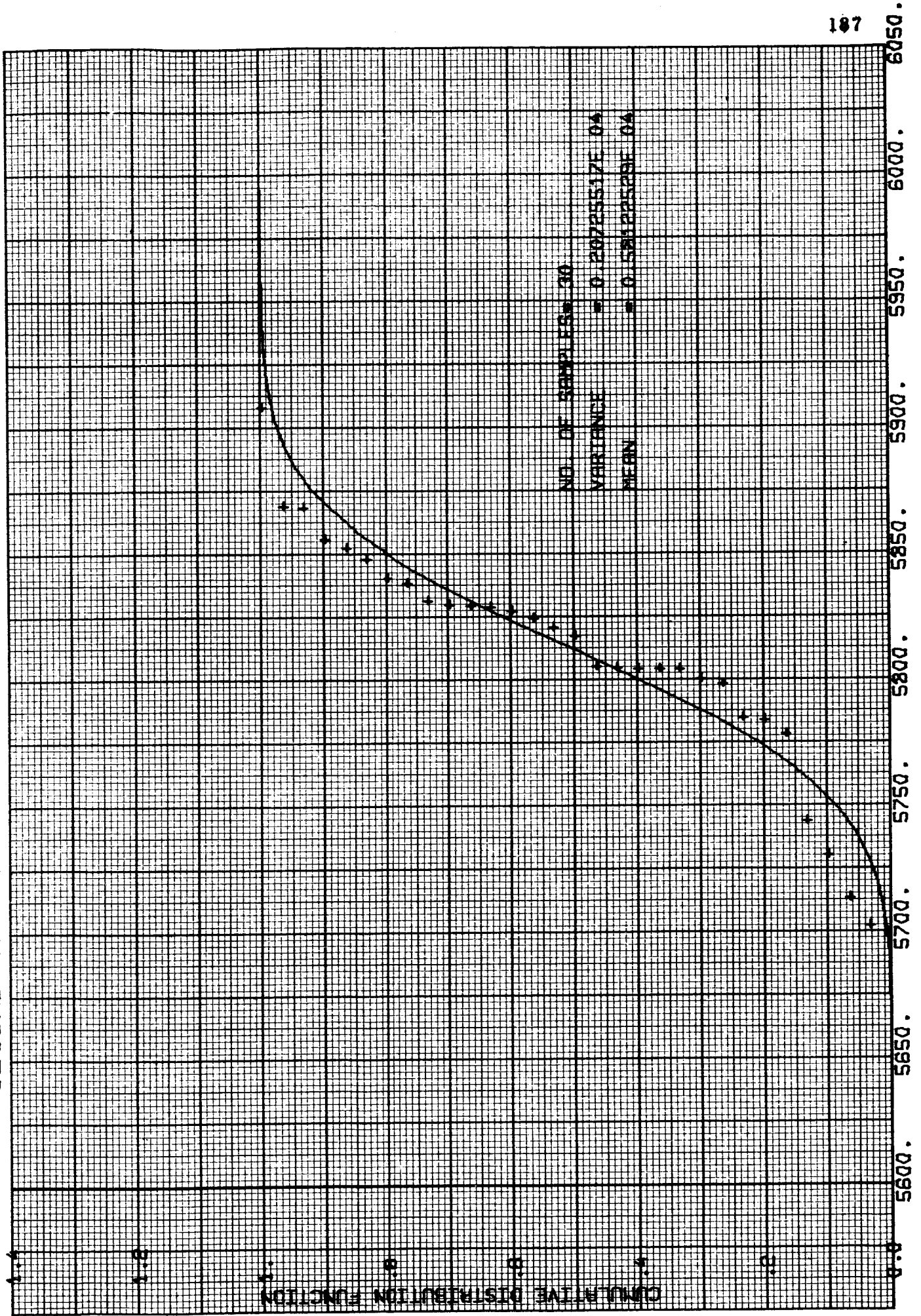


SECOND TARGET PASS



SAMPLE CUMULATIVE DISTRIBUTION OF MEAN ANOMALY

SECOND TARGET PASS



SAMPLE CUMULATIVE DISTRIBUTION OF MUTUAL EARTH-SUN VISIBILITY TIME

THIRD TARGET PASS
SAMPLE STATE VECTORS

X	Y	Z	VX	VY	VZ
0.17795835E 04	-0.13824970E 03	0.46747427E-05	0.13901496E-00	0.18612035E 01	0.43181536E-00
0.17803647E 04	-0.12420210E 03	-0.15052535E-05	0.12456238E-00	0.18628287E 01	0.43225504E-00
0.17813068E 04	-0.11007074E 03	0.79815088E-06	0.10965823E-00	0.18626426E 01	0.43171749E-00
0.17811198E 04	-0.11396807E 03	0.25944211E-05	0.11375424E-00	0.18630865E 01	0.43208890E-00
0.17770772E 04	-0.16616376E 03	0.20647641E-05	0.16840953E-00	0.18610372E 01	0.43268312E-00
0.17789955E 04	-0.14231502E 03	0.79164123E-07	0.14340453E-00	0.18607882E 01	0.43246446E-00
0.17800867E 04	-0.12709352E 03	-0.45337652E-05	0.12740204E-00	0.18616104E 01	0.43212792E-00
0.17802723E 04	-0.12432382E 03	-0.82415115E-05	0.12451044E-00	0.18616425E 01	0.43224806E-00
0.17792051E 04	-0.13671501E 03	0.82086290E-06	0.13757785E-00	0.18628962E 01	0.43234856E-00
0.17821959E 04	-0.09916395E 02	-0.71790509E-05	0.98084189E-01	0.18614642E 01	0.43235224E-00
0.17813680E 04	-0.11232517E 03	0.14313430E-05	0.11198679E-00	0.18629774E 01	0.43211886E-00
0.17802531E 04	-0.12722181E 03	-0.73052967E-06	0.12749013E-00	0.18614671E 01	0.43221676E-00
0.17788789E 04	-0.14163218E 03	-0.23316362E-05	0.14267518E-00	0.18614724E 01	0.43222404E-00
0.17794082E 04	-0.13452332E 03	0.13978334E-05	0.13528536E-00	0.18619335E 01	0.43247396E-00
0.17802826E 04	-0.12464400E 03	0.53487730E-05	0.12481119E-00	0.18619256E 01	0.43204965E-00
0.17803153E 04	-0.12360457E 03	-0.21029162E-06	0.12405007E-00	0.18628053E 01	0.43169495E-00
0.17810377E 04	-0.11143968E 03	-0.74796647E-06	0.11123803E-00	0.18622886E 01	0.43193442E-00
0.17823574E 04	-0.075393290E 02	0.13275792E-05	0.73523711E-01	0.18627629E 01	0.43166266E-00
0.17802113E 04	-0.12754135E 03	0.18607792E-05	0.12788957E-00	0.18625257E 01	0.43232536E-00
0.17805026E 04	-0.11956073E 03	-0.54012638E-05	0.11954302E-00	0.18617710E 01	0.43184648E-00
0.17796154E 04	-0.13451420E 03	0.19158223E-05	0.13526414E-00	0.18619130E 01	0.43222292E-00
0.17826951E 04	-0.82067017E 02	-0.89015816E-05	0.80390298E-01	0.18620882E 01	0.43160716E-00
0.17795318E 04	-0.13448074E 03	-0.20575447E-05	0.13539860E-00	0.18637872E 01	0.43264189E-00
0.17781740E 04	-0.14936876E 03	-0.61646226E-05	0.15081320E-00	0.18619162E 01	0.43275332E-00
0.17828890E 04	-0.88662871E 02	0.17118347E-05	0.87113431E-01	0.18618494E 01	0.43155573E-00
0.17800367E 04	-0.12949686E 03	-0.65679540E-05	0.12982216E-00	0.18620338E 01	0.43231833E-00
0.17782287E 04	-0.15035812E 03	-0.63354879E-05	0.15183903E-00	0.18611219E 01	0.43243652E-00
0.17806888E 04	-0.12184957E 03	0.23815335E-05	0.12201791E-00	0.18620361E 01	0.43213819E-00
0.17795882E 04	-0.13559683E 03	0.24173181E-06	0.13642760E-00	0.18622250E 01	0.43194532E-00
0.17795475E 04	-0.13784055E 03	0.74082771E-05	0.13864182E-00	0.18620010E 01	0.43308993E-00

THIRD TARGET PASS

SAMPLE VARIANCE OF SELENOGRAPHIC STATE VECTOR

	1	2	3	4	5	6
1	2.0689655E 00	2.5689655E 01	-4.2267593E-07	-2.6895457E-02	6.0614223E-04	-2.5255926E-04
2	2.5689655E 01	3.9405442E 02	-1.0189698E-05	-4.1239586E-01	4.6870790E-03	-4.9980426E-03
3	-4.2267593E-07	-1.0189698E-05	1.7289995E-11	1.0682870E-08	4.7580685E-10	6.9850760E-11
4	-2.6895457E-02	-4.1239586E-01	1.0682870E-08	4.3160160E-04	-4.8670275E-06	5.2267107E-06
5	6.0614223E-04	4.6870790E-03	4.7580685E-10	-4.8670275E-06	8.5501834E-07	2.4663991E-08
6	-2.5255926E-04	-4.9980426E-03	6.9850760E-11	5.2267107E-06	2.4663991E-08	1.4387328E-07

CORRESPONDING CORRELATION MATRIX

	1	2	3	4	5	6
1	9.9999998E-01	8.9971206E-01	-7.0669736E-02	-9.0003786E-01	4.5573271E-01	-4.6291004E-01
2	8.9971206E-01	1.0000000E 00	-1.2344850E-01	-9.9998776E-01	2.5535035E-01	-6.6379164E-01
3	-7.0669736E-02	-1.2344850E-01	1.0000000E 00	1.2366562E-01	1.2375010E-01	4.4287752E-02
4	-9.0003786E-01	-9.9998776E-01	1.2366562E-01	1.0000000E 00	-2.5335796E-01	6.6327995E-01
5	4.5573271E-01	2.5535035E-01	1.2375010E-01	-2.5335796E-01	1.0000000E 00	7.0321084E-02
6	-4.6291004E-01	-6.6379164E-01	4.4287752E-02	6.6327995E-01	7.0321084E-02	1.0000000E 00

SAMPLE MEAN OF SELENOGRAPHIC STATE VECTOR

1	7.801938E 03	-1.2481290E 02	-8.2836149E-07	1.2508665E-01	1.8620699E 00	4.3217856E-01
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THIRD TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF TIME FROM TRANSLUNAR INJECTION

		UNSORTED SAMPLES	
4.1277922E 05	4.1304606E 05	4.1257188E 05	4.1285672E 05
4.1275347E 05	4.1269615E 05	4.1309993E 05	4.1219462E 05
4.1304604E 05	4.1299713E 05	4.1273147E 05	4.1271392E 05
4.1296569E 05	4.1244590E 05	4.1293454E 05	4.1224405E 05
4.1240793E 05	4.1276856E 05	4.1285775E 05	4.1280583E 05
		4.1337015E 05	4.1275629E 05
		4.1267083E 05	4.1257161E 05
		4.1258062E 05	4.1213011E 05
		4.1315536E 05	4.1315687E 05
		4.1305093E 05	4.1285911E 05

THIRD TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF V / H

		UNSORTED SAMPLES	
4.0788663E-02	4.1025438E-02	4.0988393E-02	4.0953606E-02
4.1068429E-02	4.1074325E-02	4.1260474E-02	4.0736467E-02
4.1186286E-02	4.1205366E-02	4.1050996E-02	4.1101682E-02
4.0951691E-02	4.1152937E-02	4.1021653E-02	4.1051891E-02
4.0608280E-02	4.0973482E-02	4.1136835E-02	4.0863425E-02
		4.0941736E-02	4.1023477E-02
		4.0823666E-02	4.0911921E-02
		4.1146078E-02	4.1626015E-02
		4.1138830E-02	4.1275256E-02
		4.0980386E-02	4.0869707E-02

THIRD TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF RESOLUTION

		UNSORTED SAMPLES	
1.0185988E 00	1.0130831E 00	1.0133551E 00	1.0146162E 00
1.0114792E 00	1.0112643E 00	1.0078264E 00	1.0187517E 00
1.0090936E 00	1.0086099E 00	1.0119712E 00	1.0111074E 00
1.0148756E 00	1.0091835E 00	1.0130854E 00	1.0107196E 00
1.0217876E 00	1.0141502E 00	1.0105242E 00	1.0165886E 00
		1.0160602E 00	1.0128041E 00
		1.0177373E 00	1.0152883E 00
		1.0093639E 00	9.9698472E-01
		1.0112172E 00	1.0075365E 00
		1.0142769E 00	1.0171300E 00

THIRD TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF LONGITUDE

		UNSORTED SAMPLES	
3.555781E 02	3.5600938E 02	3.5646407E 02	3.5465815E 02
3.5591615E 02	3.5600528E 02	3.5560599E 02	3.5639195E 02
3.5544778E 02	3.5567666E 02	3.5599505E 02	3.5641966E 02
3.5590210E 02	3.5615836E 02	3.5567745E 02	3.5567832E 02
3.5715303E 02	3.5583908E 02	3.5516685E 02	3.5564273E 02

THIRD TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF ALTITUDE

		UNSORTED SAMPLES	
4.6855544E 01	4.6601821E 01	4.6614333E 01	4.6738768E 01
4.6528045E 01	4.6518158E 01	4.6360015E 01	4.6815917E 01
4.6418303E 01	4.6396056E 01	4.6550673E 01	4.6430739E 01
4.6684279E 01	4.6422439E 01	4.6601928E 01	4.6515990E 01
4.7002227E 01	4.6650909E 01	4.6484115E 01	4.6656737E 01

THIRD TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF SIDE OVERLAP

		UNSORTED SAMPLES	
2.3949088E 01	2.3724351E 01	2.3800215E 01	2.3756741E 01
2.3690402E 01	2.3687364E 01	2.3492377E 01	2.3914322E 01
2.3579728E 01	2.3545839E 01	2.3727250E 01	2.3655427E 01
2.3773698E 01	2.3644124E 01	2.3721183E 01	2.3576176E 01
2.4155185E 01	2.3761553E 01	2.3604718E 01	2.3768180E 01

4.6588988E 01
 4.6703261E 01
 4.5861297E 01
 4.6346679E 01
 4.6787978E 01

2.3715183E 01
 2.3838819E 01
 2.3265121E 01
 2.3452209E 01
 2.3820816E 01

2.3808992E 01
 2.4011854E 01
 2.3666769E 01
 2.3767551E 01
 2.3888699E 01

THIRD TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF SEMI-MAJOR AXIS

SAMPLE	UNSORTED SAMPLES	UNSORTED SAMPLES	UNSORTED SAMPLES
2.6885058E 03	2.6844308E 03	2.6889483E 03	2.7015541E 03
2.6850938E 03	2.6956622E 03	2.6763993E 03	2.6884499E 03
2.6900378E 03	2.6858612E 03	2.6897791E 03	2.6824510E 03
2.6912621E 03	2.6902520E 03	2.6725837E 03	2.7008000E 03
2.6751493E 03	2.6926685E 03	2.6865272E 03	2.6923310E 03

2.6876723F 03
 2.6852477E 03
 2.6719405E 03
 2.6963670E 03
 2.6940606E 03

THIRD TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF ECCENTRICITY

SAMPLE	UNSORTED SAMPLES	UNSORTED SAMPLES	UNSORTED SAMPLES
3.3609383E-01	3.3517536E-01	3.3627079E-01	3.3934366E-01
3.3537198E-01	3.3804009E-01	3.3308786E-01	3.3609444E-01
3.3663432E-01	3.3555354E-01	3.3653511E-01	3.3475259E-01
3.3683728E-01	3.3661862E-01	3.3227338E-01	3.3924113E-01
3.3272403E-01	3.3725792E-01	3.3563865E-01	3.3711048E-01

3.3598664E-01
 3.3534487E-01
 3.3234887E-01
 3.3821814E-01
 3.3748779E-01

THIRD TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF INCLINATION

SAMPLE	UNSORTED SAMPLES	UNSORTED SAMPLES	UNSORTED SAMPLES
1.3027034E 01	1.3035790E 01	1.3033869E 01	1.3037114E 01
1.3038996E 01	1.3043599E 01	1.3058498E 01	1.3036199E 01
1.3035271E 01	1.3043158E 01	1.3019859E 01	1.3035761E 01
1.3038362E 01	1.3033220E 01	1.3035995E 01	1.3035525E 01
1.3036345E 01	1.3040570E 01	1.3038940E 01	1.3025239E 01

1.3046498E 01
 1.3042510E 01
 1.3037251E 01
 1.3043388E 01
 1.3058983E 01

THIRD TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE

		UNSORTED SAMPLES	
3.555781E 02	3.5600938E 02	3.5646407E 02	3.5633882E 02
3.5591615E 02	3.5600528E 02	3.5560599E 02	3.5681526E 02
3.5544778E 02	3.5567666E 02	3.5599505E 02	3.5602841E 02
3.5590210E 02	3.5615836E 02	3.5567745E 02	3.5736423E 02
3.5715303E 02	3.5583909E 02	3.5516685E 02	3.5608545E 02
			3.5465815E 02
			3.5639195E 02
			3.5641966E 02
			3.5567832E 02
			3.5564273E 02

THIRD TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE

		UNSORTED SAMPLES	
6.6093825E-01	6.3830565E-01	6.4690018E-01	6.4737700E-01
6.5488051E-01	6.5334700E-01	6.5667725E-01	6.5693282E-01
6.5478896E-01	6.4845276E-01	6.5902710E-01	6.2569426E-01
6.5679932E-01	6.5175246E-01	6.4767455E-01	6.3954924E-01
6.5609360E-01	6.6837691E-01	6.5290450E-01	6.4108275E-01
			6.5794371E-01
			6.5077971E-01
			6.2933350E-01
			6.4078139E-01
			6.4625931E-01

THIRD TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF MEAN ANOMALY

		UNSORTED SAMPLES	
-3.0932236E-01	-2.9813004E-01	-3.0349350E-01	-3.0283356E-01
-3.0708313E-01	-3.0650330E-01	-3.0575180E-01	-3.0989075E-01
-3.0601120E-01	-3.0309296E-01	-3.0887222E-01	-2.9249191E-01
-3.0678177E-01	-3.0613327E-01	-3.0270004E-01	-3.0233002E-01
-3.0978012E-01	-3.1262207E-01	-3.0463028E-01	-3.0038071E-01
			-3.0529022E-01
			-3.0457306E-01
			-2.9557037E-01
			-2.9741287E-01
			-3.01643337E-01

THIRD TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF MUTUAL EARTH-SUN VISIBILITY TIME

		UNSORTED SAMPLES	
5.9565000E 03	5.9527000E 03	5.9101999E 03	5.9323000E 03
5.9313000E 03	5.9251999E 03	5.9813000E 03	5.8686000E 03
5.9663000E 03	5.9574000E 03	5.9312000E 03	5.9450000E 03
5.9555000E 03	5.9111999E 03	5.9593000E 03	5.8371999E 03
5.8548000E 03	5.9485000E 03	5.9848000E 03	5.9322000E 03
			6.0383000E 03
			5.9279000E 03
			5.9047000E 03
			5.9987000E 03
			5.9689000E 03

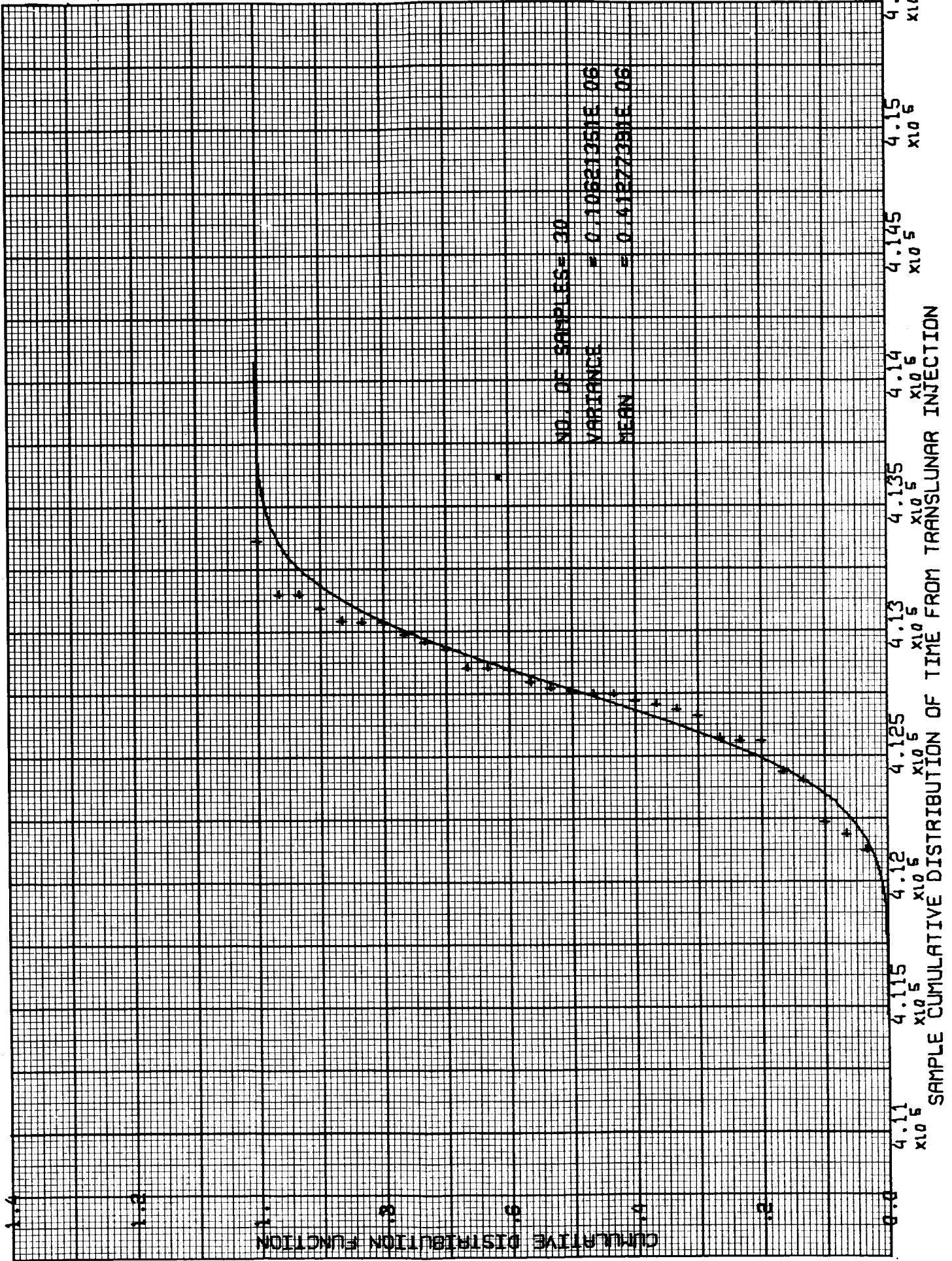
3.5542622E 02
3.5591243E 02
3.5757784E 02
3.5519836E 02
3.5557081E 02

6.4651108E-01
6.5773392E-01
6.3211821E-01
6.5858077E-01
6.5972519E-01

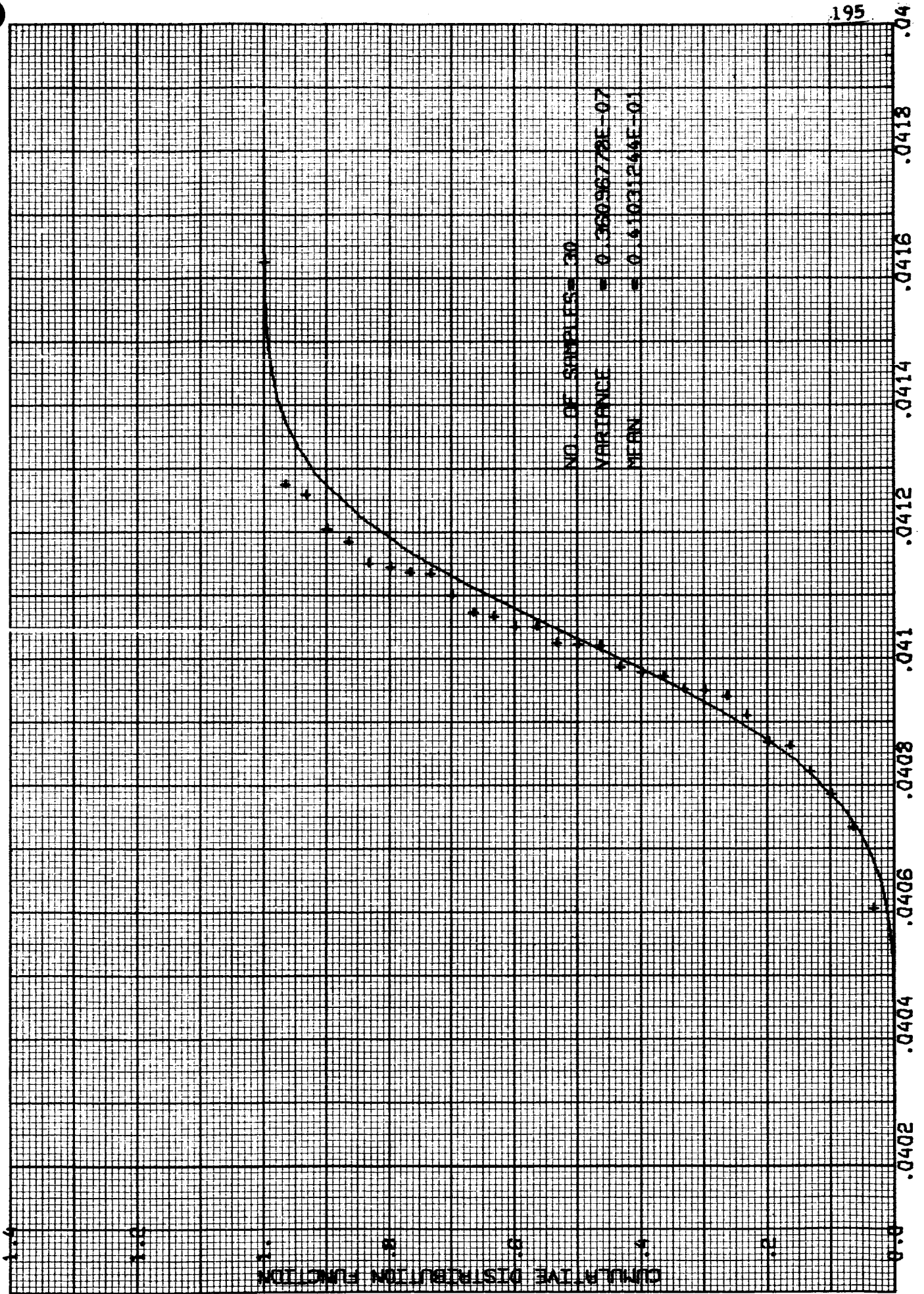
-3.0265045E-01
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-3.0650330E-01
-3.0762100E-01

5.9576000E 03
5.9313999E 03
5.8259000E 03
5.9981000E 03
5.9767000E 03

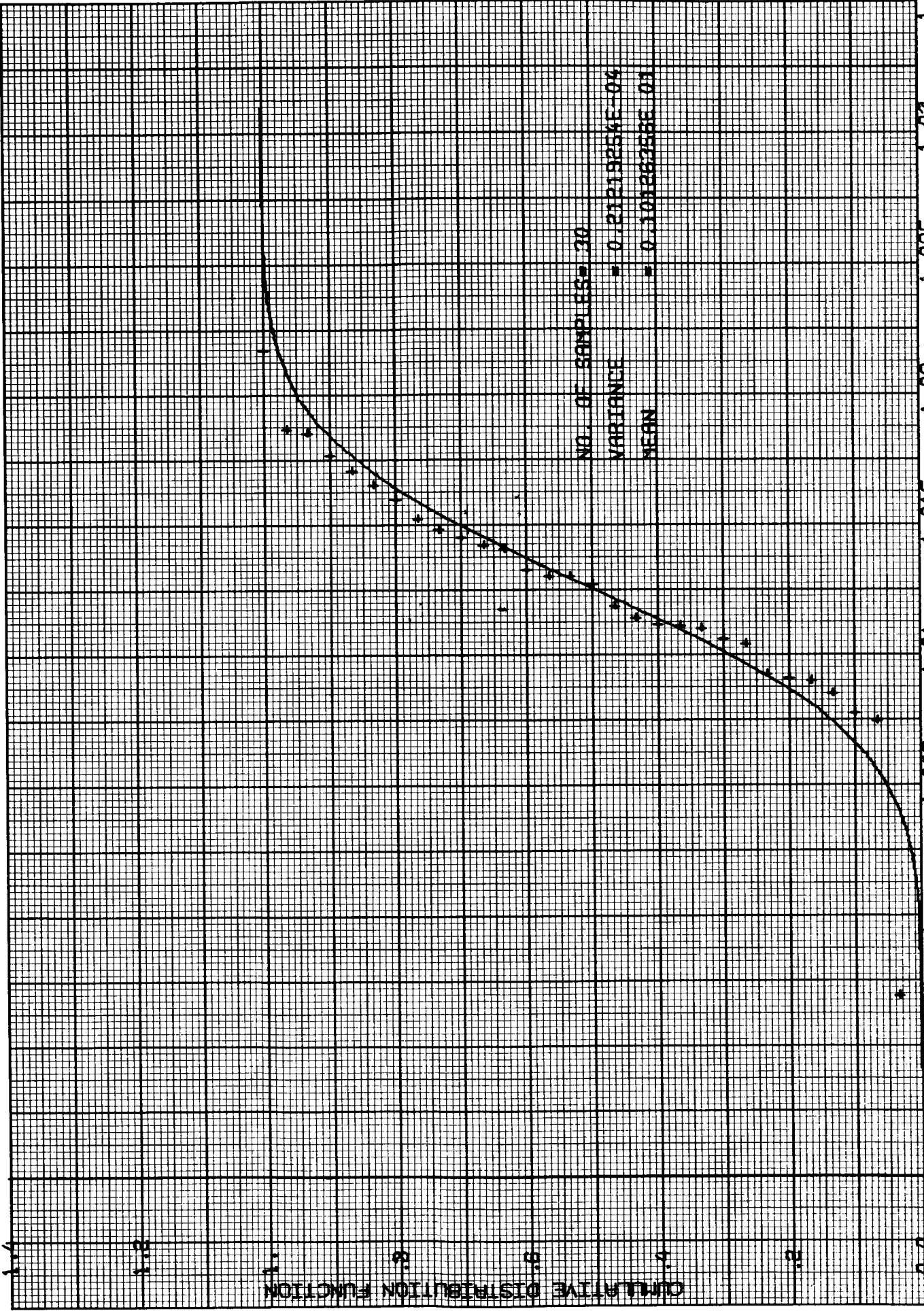
THIRD TARGET PASS



THIRD TARGET PASS

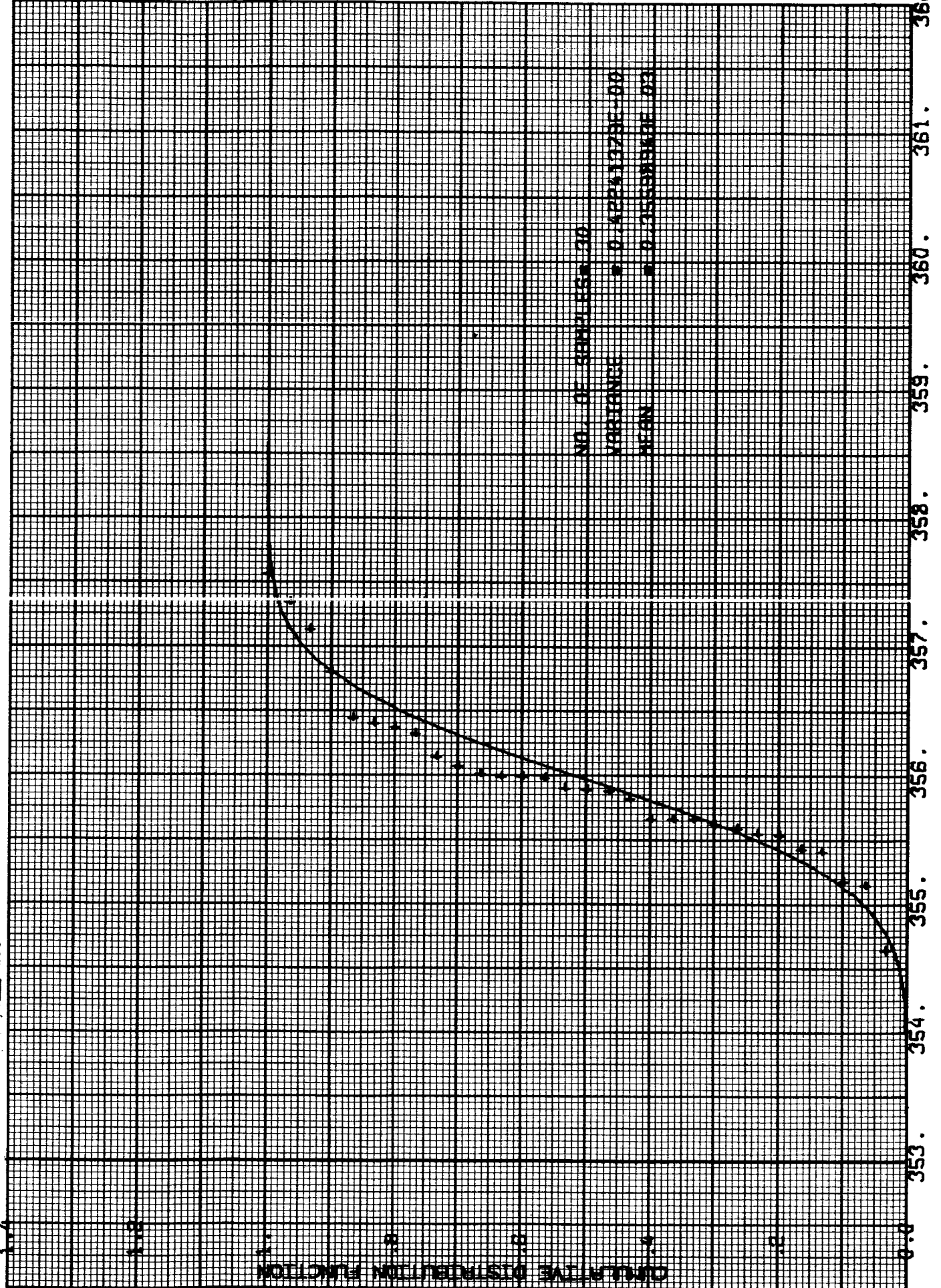


THIRD TARGET PASS



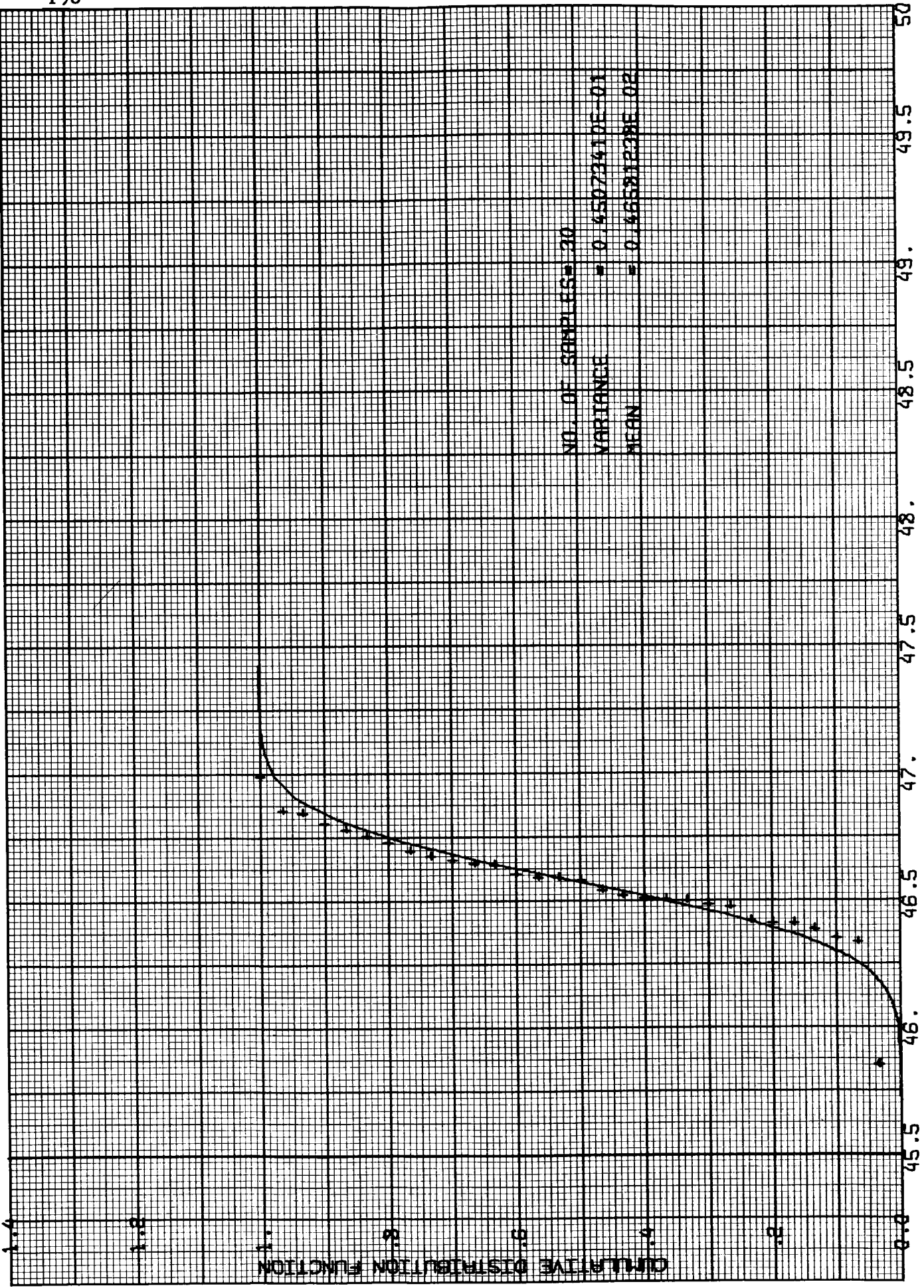
SAMPLE CUMULATIVE DISTRIBUTION OF RESOLUTION

THIRD TARGET PASS



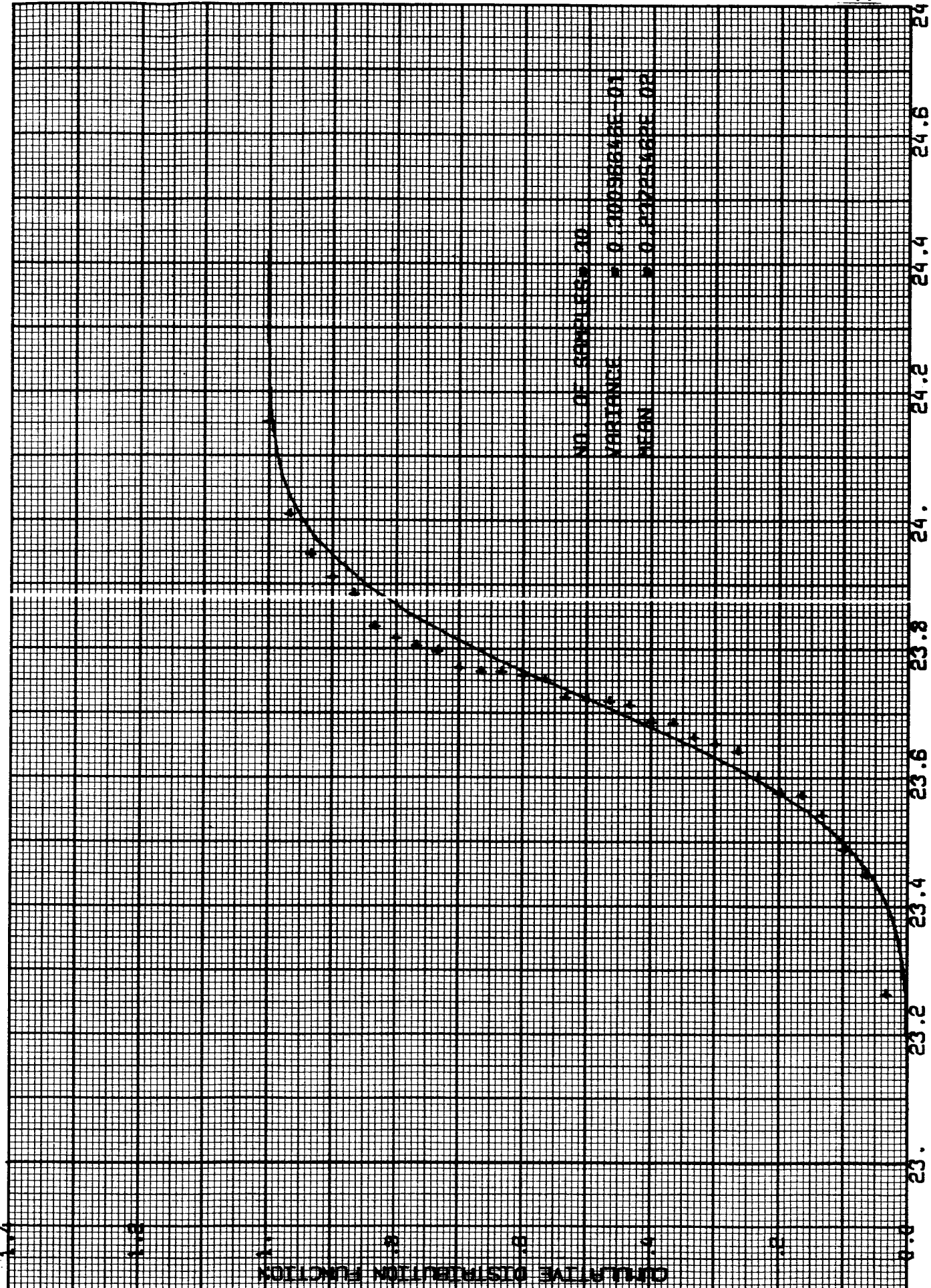
SAMPLE CUMULATIVE DISTRIBUTION OF LONGITUDE

THIRD TARGET PASS



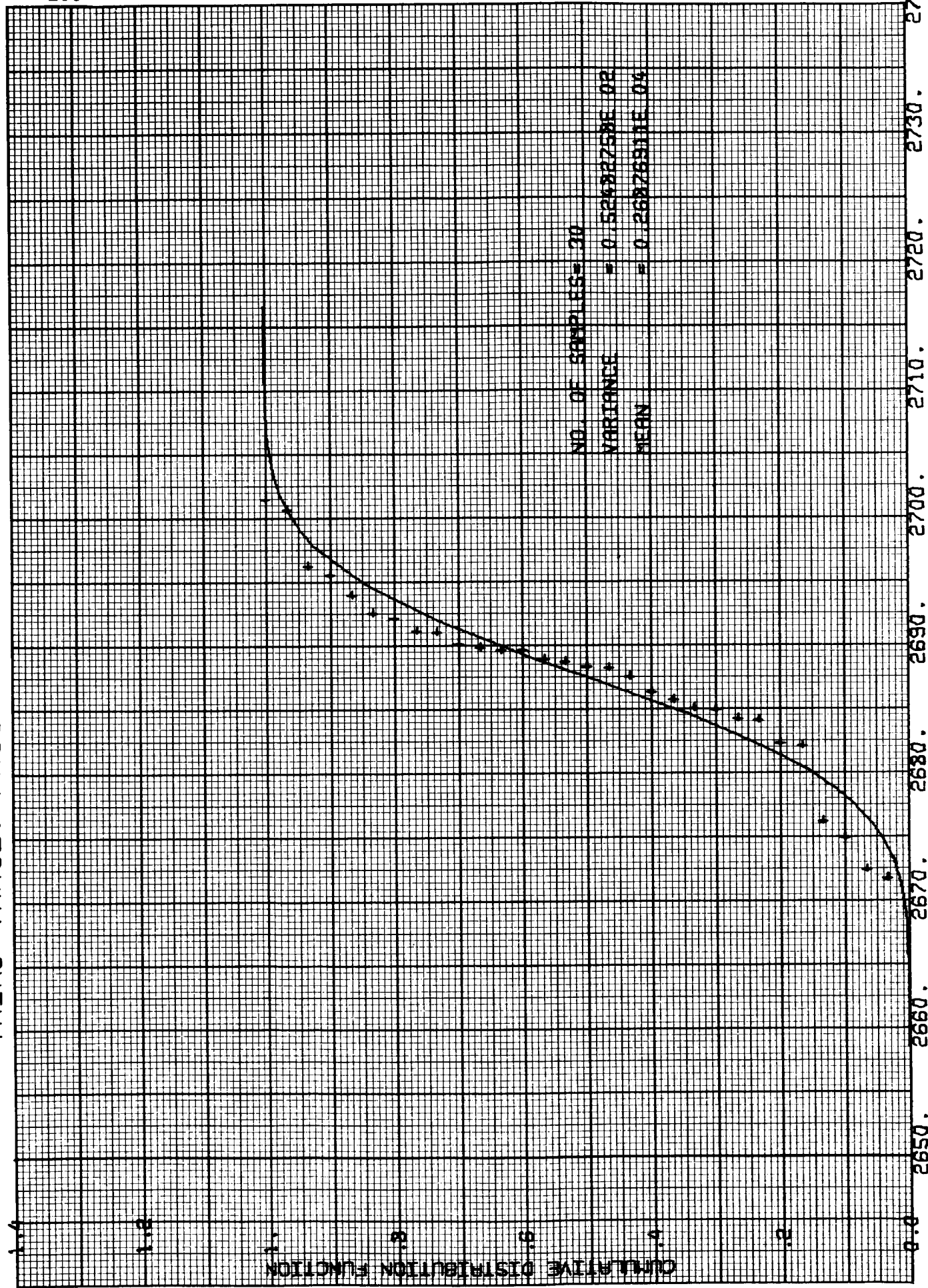
SAMPLE CUMULATIVE DISTRIBUTION OF ALTITUDE

THIRD TARGET PASS



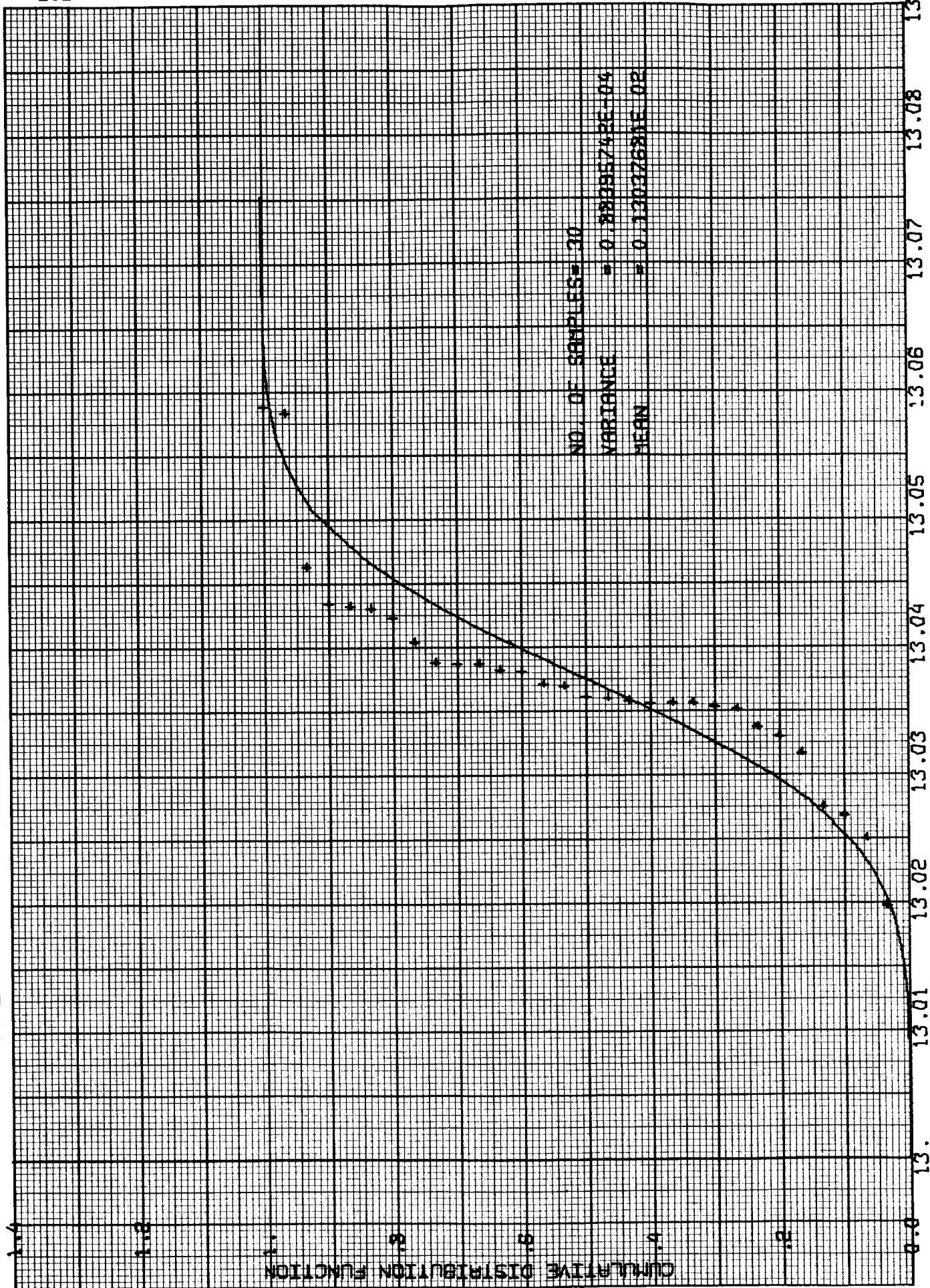
SAMPLE CUMULATIVE DISTRIBUTION OF SIDE OVERLAP

THIRD TARGET PASS



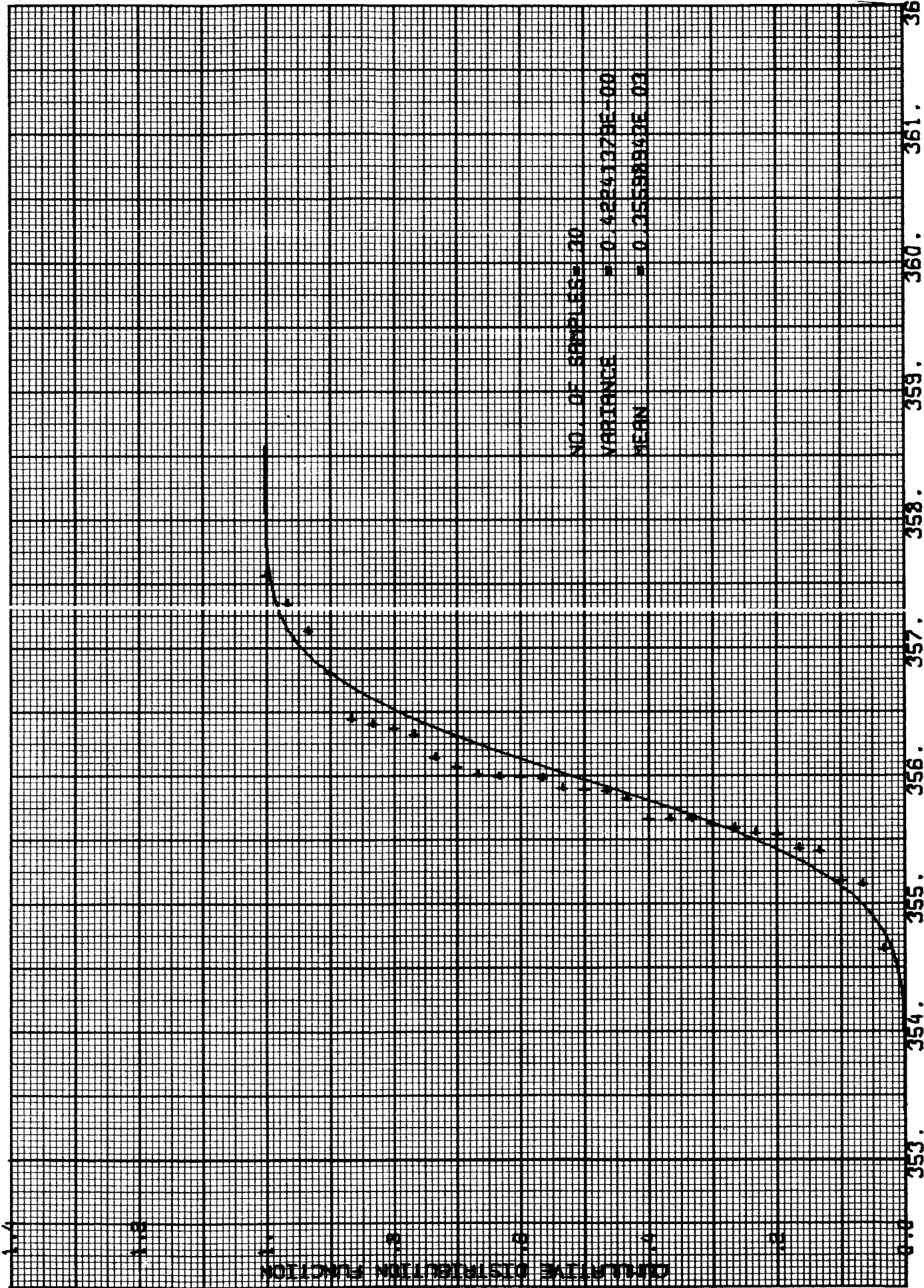
SAMPLE CUMULATIVE DISTRIBUTION OF SEMI-MAJOR AXIS

THIRD TARGET PASS

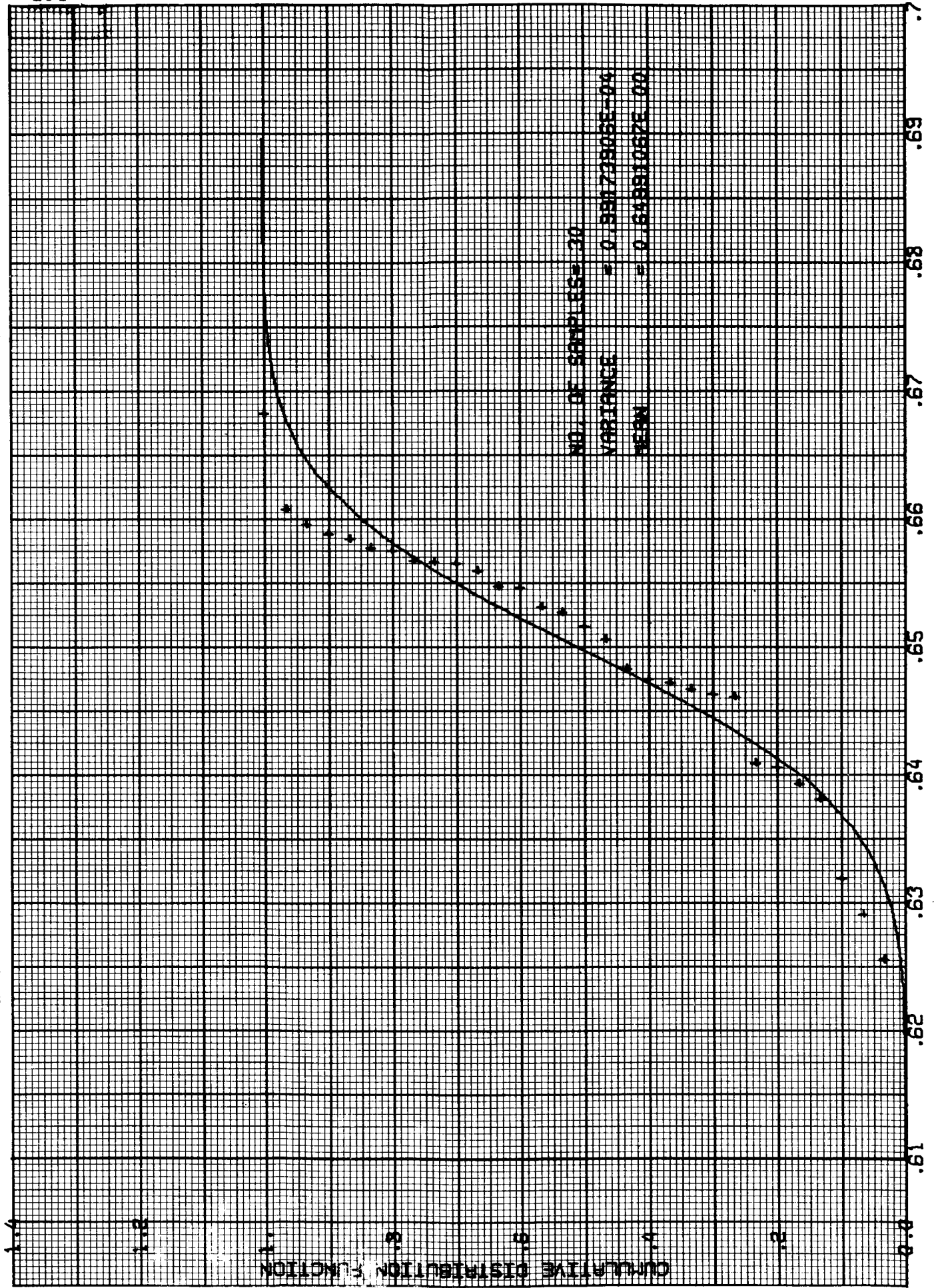


SAMPLE CUMULATIVE DISTRIBUTION OF INCLINATION

THIRD TARGET PASS

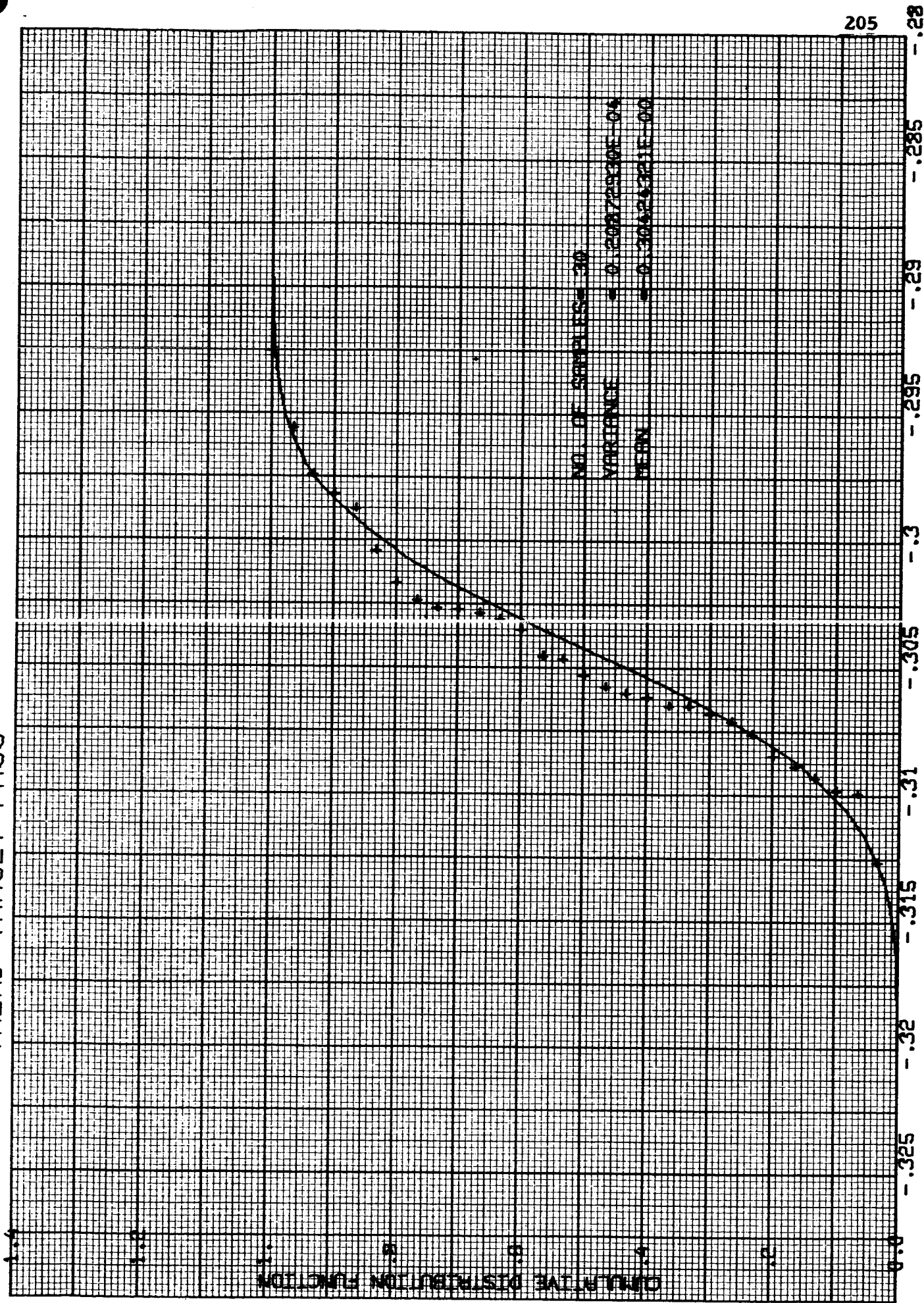


THIRD TARGET PASS



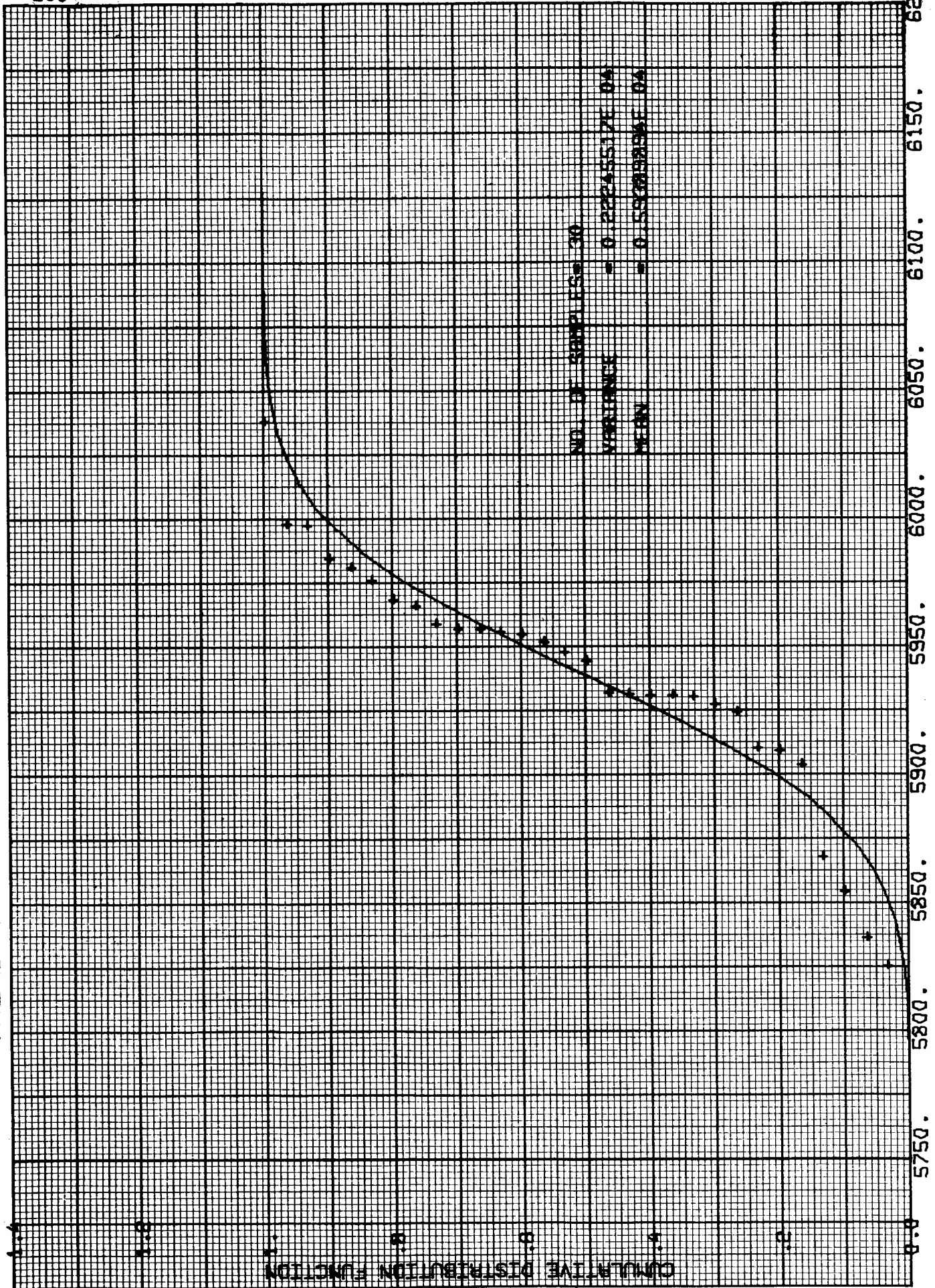
SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE

THIRD TARGET PASS



SAMPLE CUMULATIVE DISTRIBUTION OF MEAN ANOMALY

THIRD TARGET PASS



SAMPLE CUMULATIVE DISTRIBUTION OF MUTUAL EARTH-SUN VISIBILITY TIME

FOURTH TARGET PASS
SAMPLE STATE VECTORS

X	Y	Z	VX	VY	VZ
0.17738757E 04	-0.20183036E 03	-0.97728541E-05	0.20272934E-00	0.18550131E 01	0.43189614E-00
0.17751382E 04	-0.18793676E 03	0.10706542E-06	0.18846668E-00	0.18571258E 01	0.43234014E-00
0.17766012E 04	-0.17358234E 03	-0.18040240E-05	0.17329710E-00	0.18574849E 01	0.43180714E-00
0.17762653E 04	-0.17760956E 03	-0.32737445E-05	0.17754722E-00	0.18577720E 01	0.43217701E-00
0.17703421E 04	-0.23004337E 03	-0.26385602E-05	0.23250461E-00	0.18537722E 01	0.43275464E-00
0.17731468E 04	-0.20585417E 03	-0.41955171E-05	0.20708168E-00	0.18544482E 01	0.43254402E-00
0.17747851E 04	-0.19055477E 03	-0.57311150E-05	0.19099195E-00	0.18558385E 01	0.43221223E-00
0.17750674E 04	-0.18779384E 03	0.64887954E-05	0.18810560E-00	0.18559706E 01	0.43233319E-00
0.17735267E 04	-0.20052343E 03	0.42044322E-06	0.20159632E-00	0.18567262E 01	0.43242951E-00
0.17778943E 04	-0.16244897E 03	-0.80676749E-06	0.16142470E-00	0.18567324E 01	0.43244496E-00
0.17765751E 04	-0.17593392E 03	-0.69103309E-05	0.17573433E-00	0.18577285E 01	0.43220738E-00
0.17749403E 04	-0.19075148E 03	-0.38926706E-05	0.19114120E-00	0.18556853E 01	0.43230095E-00
0.17730459E 04	-0.20524867E 03	-0.13167302E-05	0.20645826E-00	0.18551473E 01	0.43230385E-00
0.17738298E 04	-0.19811817E 03	-0.37174837E-05	0.19904507E-00	0.18558700E 01	0.43255588E-00
0.17750583E 04	-0.18819626E 03	-0.80795183E-05	0.18850014E-00	0.18562341E 01	0.43213464E-00
0.17751197E 04	-0.18723595E 03	0.91530164E-06	0.18784751E-00	0.18571317E 01	0.43178057E-00
0.17762870E 04	-0.17490368E 03	0.34990904E-05	0.17482532E-00	0.18570804E 01	0.43202388E-00
0.17788923E 04	-0.13860179E 03	0.22375584E-05	0.13682750E-00	0.18588852E 01	0.43176336E-00
0.17748792E 04	-0.19116241E 03	-0.30307376E-05	0.19156972E-00	0.18567187E 01	0.43240917E-00
0.17754678E 04	-0.18300336E 03	-0.14292049E-05	0.18310753E-00	0.18562754E 01	0.43193325E-00
0.17740373E 04	-0.19811486E 03	-0.60001140E-05	0.19902197E-00	0.18558501E 01	0.43230478E-00
0.17789990E 04	-0.14525957E 03	0.27965163E-05	0.14354245E-00	0.18579765E 01	0.43170571E-00
0.17739230E 04	-0.19839533E 03	-0.13880482E-05	0.19954478E-00	0.18576816E 01	0.43272316E-00
0.17720579E 04	-0.21307076E 03	0.25507002E-05	0.21472026E-00	0.18552931E 01	0.43283018E-00
0.17789569E 04	-0.15193657E 03	-0.24167229E-05	0.15043373E-00	0.18574993E 01	0.43165182E-00
0.17746349E 04	-0.19311584E 03	-0.33219983E-05	0.19339059E-00	0.18561593E 01	0.43240152E-00
0.17720775E 04	-0.21404862E 03	-0.48060218E-05	0.21570744E-00	0.18544661E 01	0.43251342E-00
0.17755605E 04	-0.18543588E 03	0.11844609E-05	0.18573274E-00	0.18564398E 01	0.43222411E-00
0.17739613E 04	-0.19929832E 03	0.53080924E-06	0.20010039E-00	0.18561099E 01	0.43202697E-00
0.17738361E 04	-0.20159689E 03	-0.44026730E-05	0.20236588E-00	0.18558017E 01	0.43317006E-00

FOURTH TARGET PASS

SAMPLE VARIANCE OF SELENOGRAPHIC STATE VECTOR							
1	2	3	4	5	6		
1	4.4482758E 00	4.0146551E 01	1.7614521E-06	-4.2089002E-02	2.2561961E-03	-3.9567618E-04	
2	4.0146551E 01	3.9985506E 02	2.1377165E-05	-4.1904843E-01	1.9463901E-02	-4.9196440E-03	
3	1.7614521E-06	2.1377165E-05	1.3215894E-11	-2.2210080E-08	1.3778217E-09	-1.6120009E-10	
4	-4.2089002E-02	-4.1904843E-01	-2.2210080E-08	4.3917575E-04	-2.0351903E-05	5.1527187E-06	
5	2.2561961E-03	1.9463901E-02	1.3778217E-09	-2.0351903E-05	1.6442660E-06	-1.3154128E-07	
6	-3.9567618E-04	-4.9196440E-03	-1.6120009E-10	5.1527187E-06	-1.3154128E-07	1.5414994E-07	

CORRESPONDING CORRELATION MATRIX

1		2		3		4		5		6	
1	1.000000E 00	9.5192140E-01	2.2973476E-01	-9.5225573E-01	8.3424757E-01	-4.7782885E-01					
2	9.5192140E-01	1.000000E 00	2.9406987E-01	-9.9998559E-01	7.5908871E-01	-6.2662928E-01					
3	2.2973476E-01	2.9406987E-01	1.000000E 00	-2.9152960E-01	2.9556889E-01	-1.1293936E-01					
4	-9.5225573E-01	-9.9998559E-01	-2.9152960E-01	9.999998E-01	-7.5735552E-01	6.2624687E-01					
5	8.3424757E-01	7.5908871E-01	2.9556889E-01	-7.5735552E-01	1.000000E 00	-2.6127890E-01					
6	-4.7782885E-01	-6.2662928E-01	-1.1293936E-01	6.2624687E-01	-2.6127890E-01	1.000000E 00					

SAMPLE MEAN OF SELENOGRAPHIC STATE VECTOR

1	1.7749593E 03	-1.8838685E 02	-1.9401364E-06	1.8880539E-01	1.8563638E 00	4.3226341E-01
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FOURTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF TIME FROM TRANSLUNAR INJECTION

UNSORTED SAMPLES

4.2527179E 05	4.2555760E 05	4.2503604E 05	4.2535238E 05	4.2595382E 05	4.2524304E 05
4.2522227E 05	4.2515943E 05	4.2564241E 05	4.2460286E 05	4.2516301E 05	4.2504148E 05
4.2554929E 05	4.2549843E 05	4.2520559E 05	4.2521536E 05	4.2503099E 05	4.2450734E 05
4.2547747E 05	4.2489513E 05	4.2543927E 05	4.2462574E 05	4.2573375E 05	4.2570429E 05
4.2480749E 05	4.2526550E 05	4.2537937E 05	4.2528459E 05	4.2557018E 05	4.2539043E 05

FOURTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF V / H

UNSORTED SAMPLES

4.0457898E-02	4.0698065E-02	4.0670797E-02	4.0633293E-02	4.0589750E-02	4.0687220E-02
4.0740063E-02	4.0747654E-02	4.0921010E-02	4.0430024E-02	4.0506335E-02	4.0585905E-02
4.0846918E-02	4.0869722E-02	4.0723950E-02	4.0774202E-02	4.0826074E-02	4.1320480E-02
4.0623356E-02	4.0828121E-02	4.0688900E-02	4.0750980E-02	4.0801454E-02	4.0928336E-02
4.0309488E-02	4.0644077E-02	4.0792844E-02	4.0541006E-02	4.0647249E-02	4.05336194E-02

FOURTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF RESOLUTION

UNSORTED SAMPLES

1.0267583E 00	1.0210687E 00	1.0211092E 00	1.0224536E 00	1.0246944E 00	1.0210064E 00
1.0194682E 00	1.0192088E 00	1.0160201E 00	1.0263171E 00	1.0255495E 00	1.0232796E 00
1.0173098E 00	1.0167276E 00	1.0199349E 00	1.0190655E 00	1.0171170E 00	1.0042104E 00
1.0229134E 00	1.0170514E 00	1.0212041E 00	1.0180329E 00	1.0194115E 00	1.0159063E 00
1.0292076E 00	1.0222042E 00	1.0188751E 00	1.0245106E 00	1.0224228E 00	1.02753299E 00

FOURTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF LONGITUDE

		UNSORTED SAMPLES	
3.5350884F 02	3.5395651E 02	3.5428995E 02	3.5337787E 02
3.5387175E 02	3.5396084E 02	3.5477929E 02	3.5386601E 02
3.5339680E 02	3.5362707E 02	3.5397882E 02	3.5554482E 02
3.5385267F 02	3.5411511E 02	3.5533202E 02	3.5314371E 02
3.5511835F 02	3.5378950E 02	3.5403776E 02	3.5351614E 02

FOURTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF ALTITUDE

		UNSORTED SAMPLES	
4.7230880F 01	4.6969162E 01	4.7032866E 01	4.6966292E 01
4.6895537E 01	4.6883606E 01	4.7210586E 01	4.7070861E 01
4.6796249E 01	4.6769469E 01	4.6877013E 01	4.6193680E 01
4.7054015E 01	4.6784362E 01	4.6829513E 01	4.6731688E 01
4.7343551E 01	4.7021393E 01	4.7127486E 01	4.7165176E 01

FOURTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF SIDE OVERLAP

		UNSORTED SAMPLES	
2.4230005E 01	2.3984575E 01	2.4068339E 01	2.3997745E 01
2.3979133E 01	2.3965149E 01	2.4280199E 01	2.4103987E 01
2.3853250E 01	2.3834375E 01	2.3949340E 01	2.3502195E 01
2.4073360E 01	2.3905008E 01	2.4021940E 01	2.3764144E 01
2.4423091F 01	2.4043151E 01	2.4146551E 01	2.4102963E 01

FOURTH TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF SEMI-MAJOR AXIS
 UNSORTED SAMPLES

2.6884960E 03	2.6912144E 03	2.6844224E 03	2.6889398E 03	2.7015430E 03	2.6876624E 03
2.6850849E 03	2.6842971E 03	2.6956528E 03	2.6763914E 03	2.6884415E 03	2.6852386E 03
2.6900279E 03	2.6897496E 03	2.6858523E 03	2.6897702E 03	2.6824423E 03	2.6719336E 03
2.6912527E 03	2.6822777E 03	2.6902425E 03	2.6725768E 03	2.7007903E 03	2.6963567E 03
2.6751421E 03	2.6891221E 03	2.6926584E 03	2.6865186E 03	2.6923215E 03	2.6940513E 03

FOURTH TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF ECCENTRICITY
 UNSORTED SAMPLES

3.3596539E-01	3.3673229E-01	3.3505378E-01	3.3614797E-01	3.3920739E-01	3.3585713E-01
3.3524633E-01	3.3505565E-01	3.3791146E-01	3.3296940E-01	3.3597209E-01	3.3521928E-01
3.3650482E-01	3.3644581E-01	3.3542851E-01	3.3640979E-01	3.3463053E-01	3.3223592E-01
3.3671110E-01	3.3459190E-01	3.3649082E-01	3.3215908E-01	3.3911240E-01	3.3808632E-01
3.3260816E-01	3.3619826E-01	3.3712616E-01	3.3551410E-01	3.3698226E-01	3.3735904E-01

FOURTH TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF INCLINATION
 UNSORTED SAMPLES

1.3031681E 01	1.3040522E 01	1.3032501E 01	1.3038656E 01	1.3041594E 01	1.3051122E 01
1.3043710E 01	1.3048328E 01	1.3036561E 01	1.3063370E 01	1.3040993E 01	1.3047222E 01
1.3039902E 01	1.3047830E 01	1.3040503E 01	1.3024597E 01	1.3040571E 01	1.3042275E 01
1.3043071E 01	1.3037978E 01	1.3040664E 01	1.3043254E 01	1.3040188E 01	1.3047967E 01
1.3041279E 01	1.3045267E 01	1.3043517E 01	1.3043599E 01	1.3029905E 01	1.3063622E 01

FOURTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE

	UNSORTED SAMPLES	
3.5350884E 02	3.5428995E 02	3.5337787E 02
3.5387175E 02	3.5477929E 02	3.5386601E 02
3.5339680E 02	3.5394796E 02	3.5554481E 02
3.5385267E 02	3.5362792E 02	3.5314371E 02
3.5511835E 02	3.5311263E 02	3.5351614E 02

FOURTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE

	UNSORTED SAMPLES	
9.8485564E-01	9.7159958E-01	9.7043227E-01
9.7930907E-01	9.7999190E-01	9.8208617E-01
9.7861481E-01	9.8340224E-01	9.5861815E-01
9.8053360E-01	9.7145461E-01	9.8162842E-01
9.8179245E-01	9.7629166E-01	9.8290253E-01

FOURTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF MEAN ANOMALY

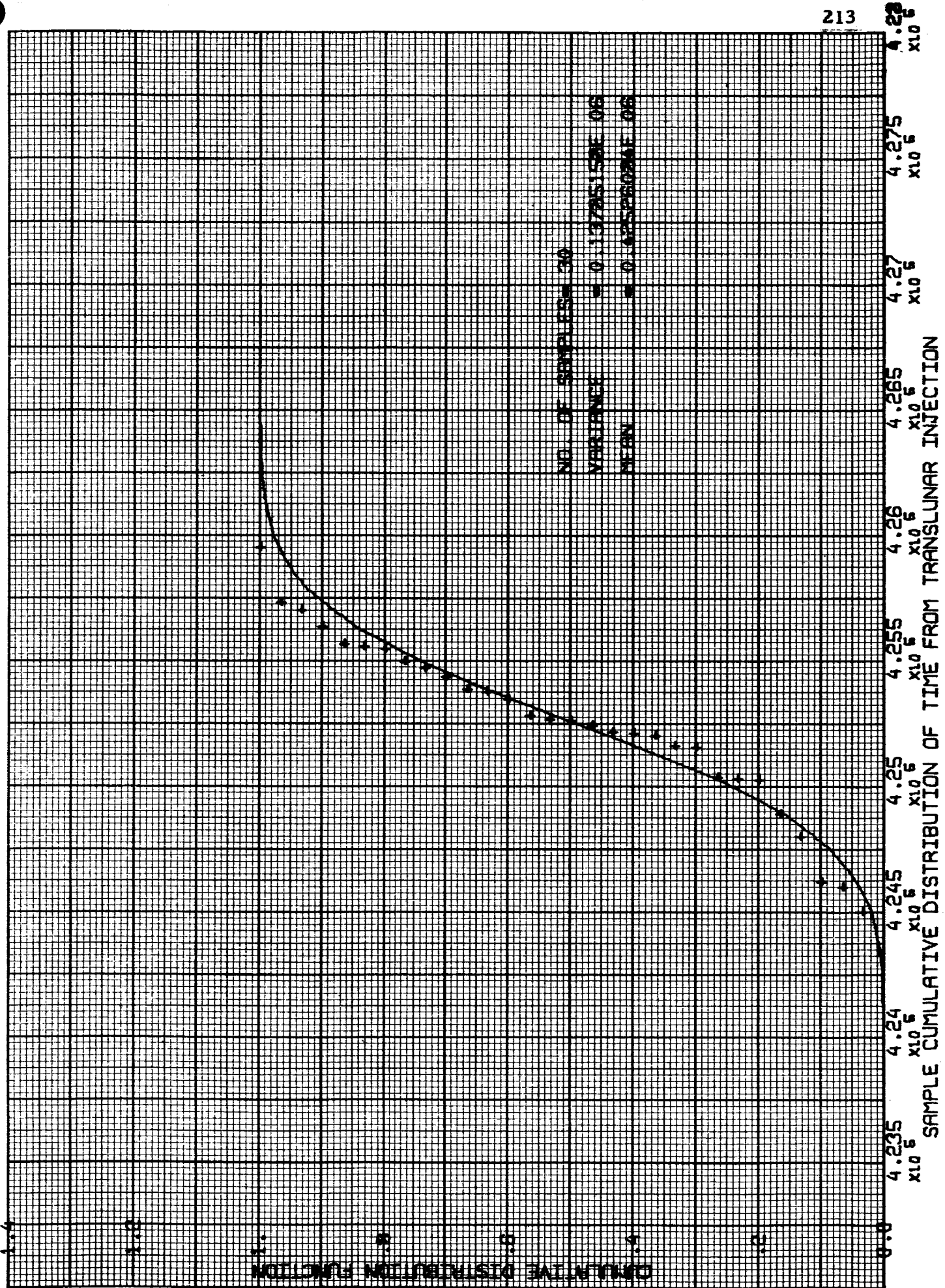
	UNSORTED SAMPLES	
-4.6108246E-01	-4.5597076E-01	-4.5446014E-01
-4.5935059E-01	-4.5645142E-01	-4.6069336E-01
-4.5750046E-01	-4.6105194E-01	-4.5321274E-01
-4.5816040E-01	-4.5418167E-01	-4.5700073E-01
-4.6372223E-01	-4.5568085E-01	-4.5848083E-01

FOURTH TARGET PASS

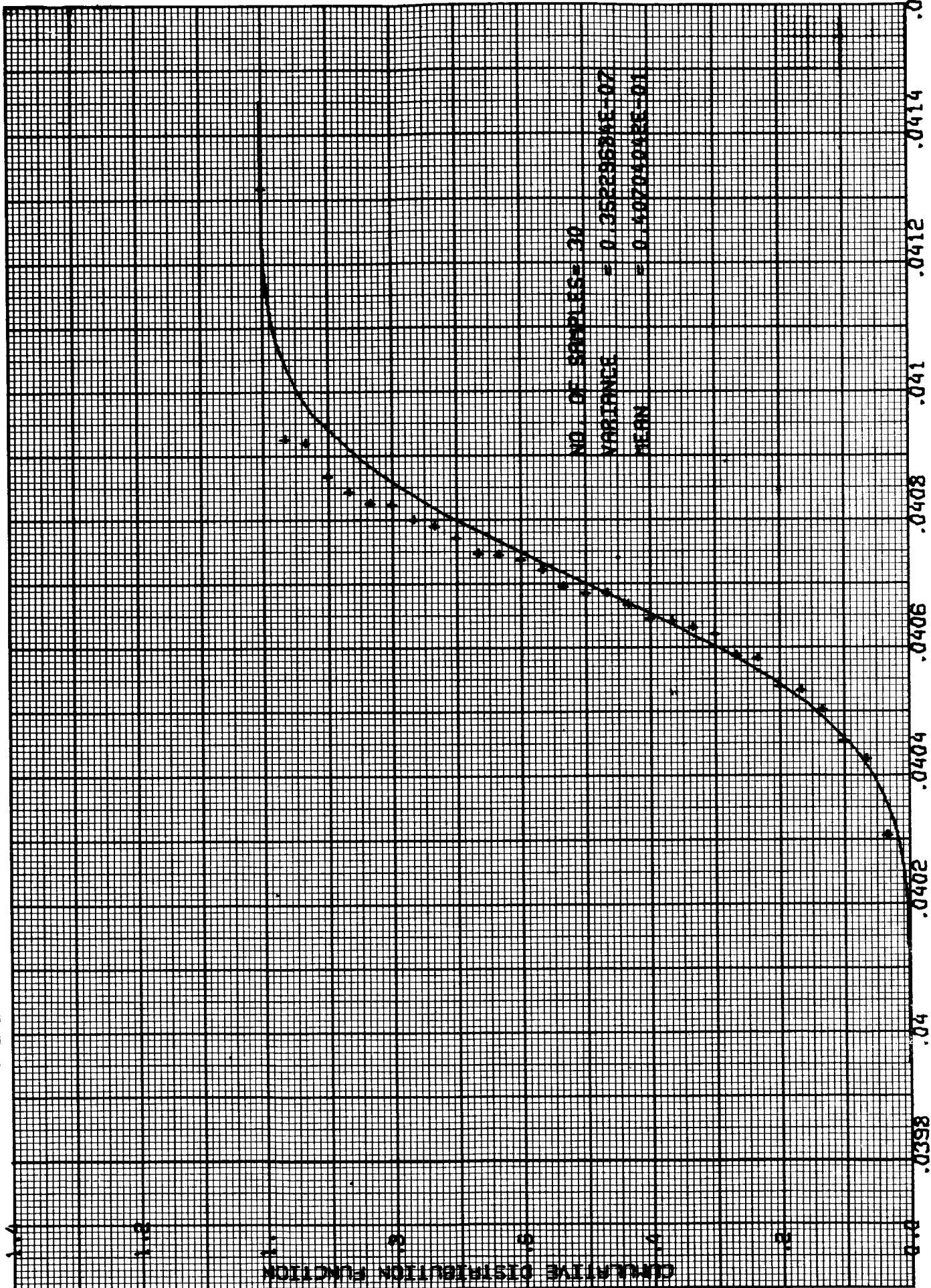
SAMPLE CUMULATIVE DISTRIBUTION OF MUTUAL EARTH-SUN VISIBILITY TIME

	UNSORTED SAMPLES	
6.0838000E 03	6.0363000E 03	6.0848000E 03
6.0577000E 03	6.1099000E 03	6.0578000E 03
6.0939000E 03	6.0578000E 03	5.9491999E 03
6.0831000E 03	6.0371000E 03	6.1271000E 03
5.9788000E 03	6.1129000E 03	6.1049000E 03

FOURTH TARGET PASS

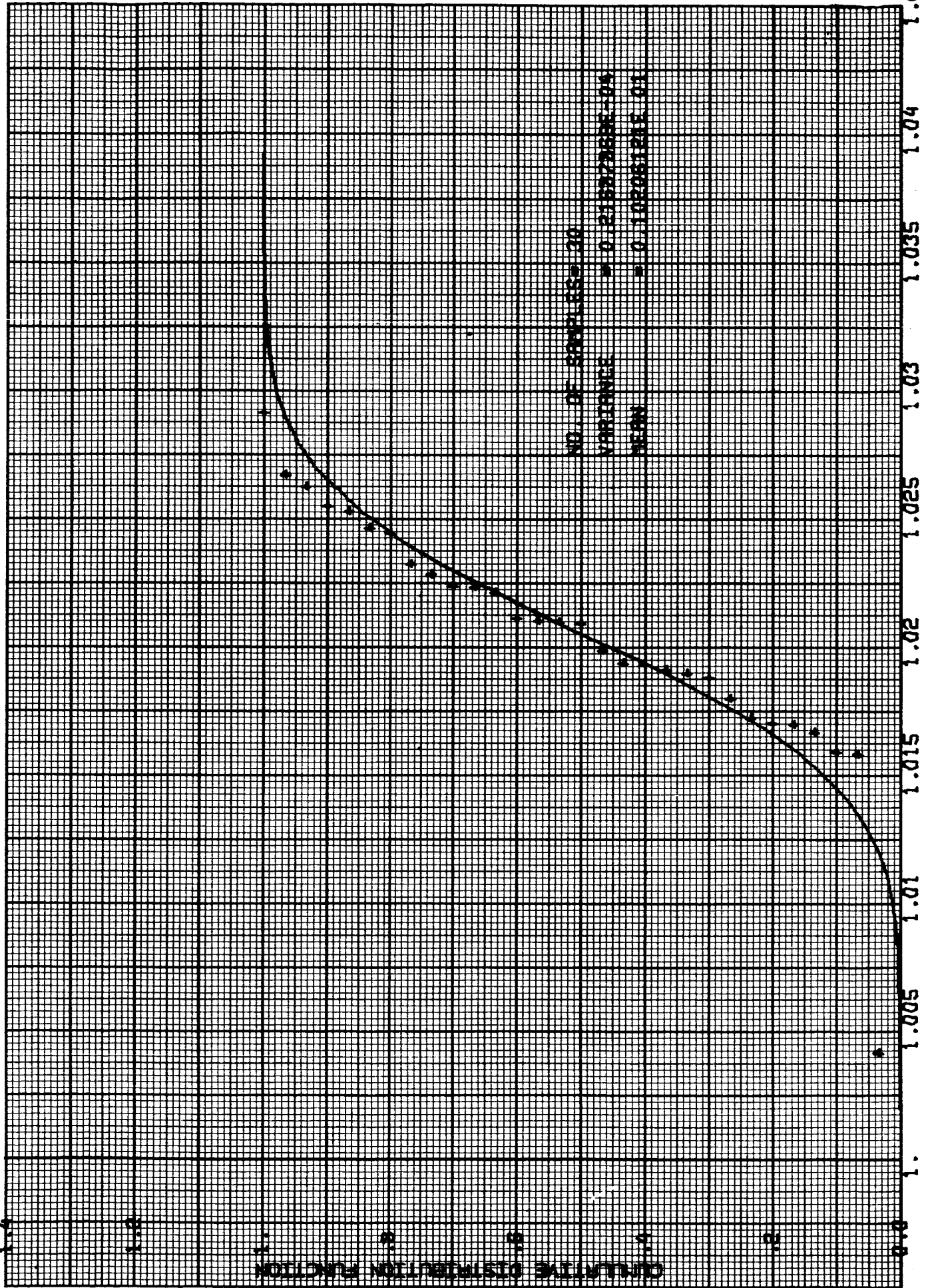


FOURTH TARGET PASS

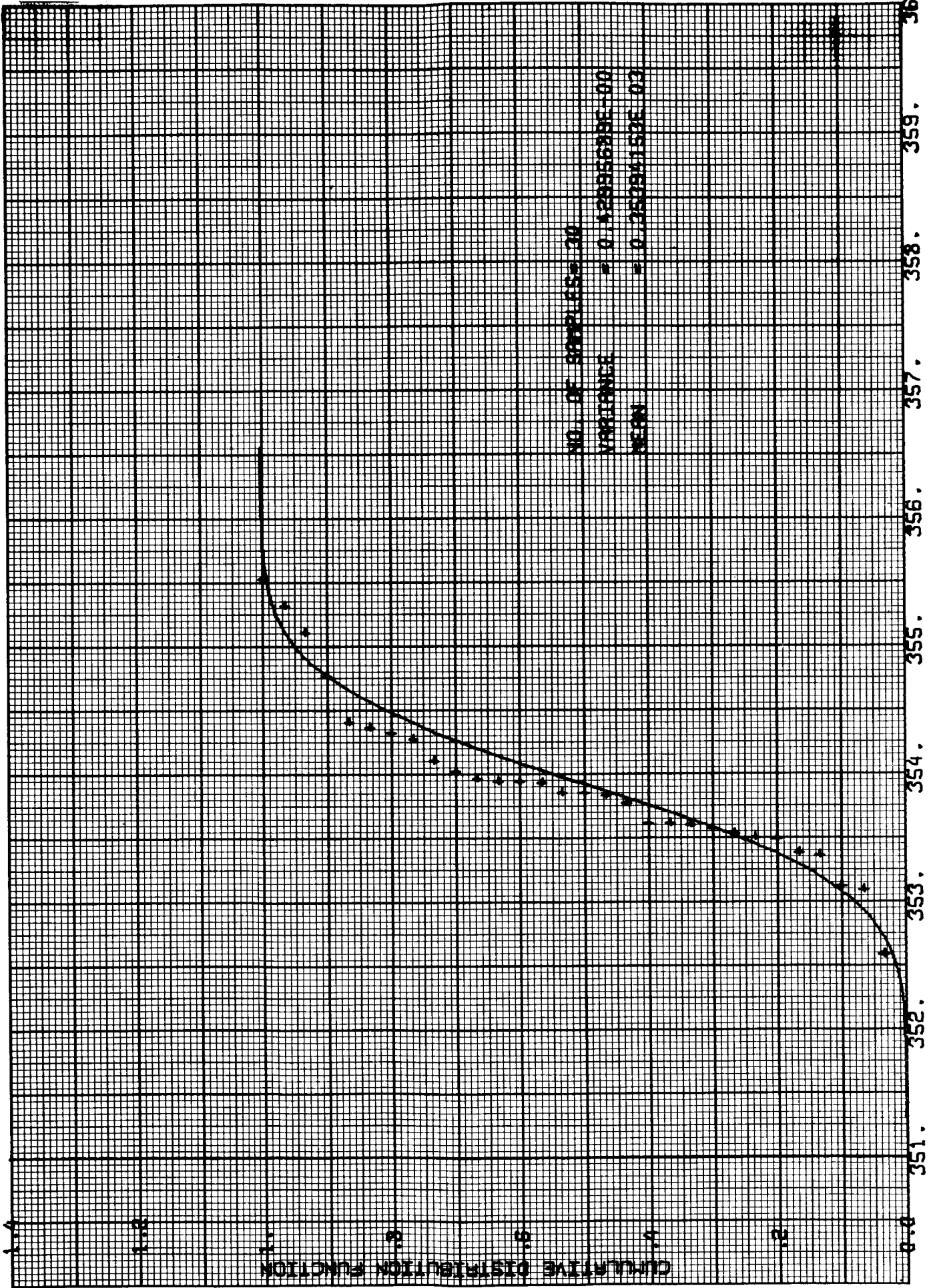


SAMPLE CUMULATIVE DISTRIBUTION OF V / H

FOURTH TARGET PASS

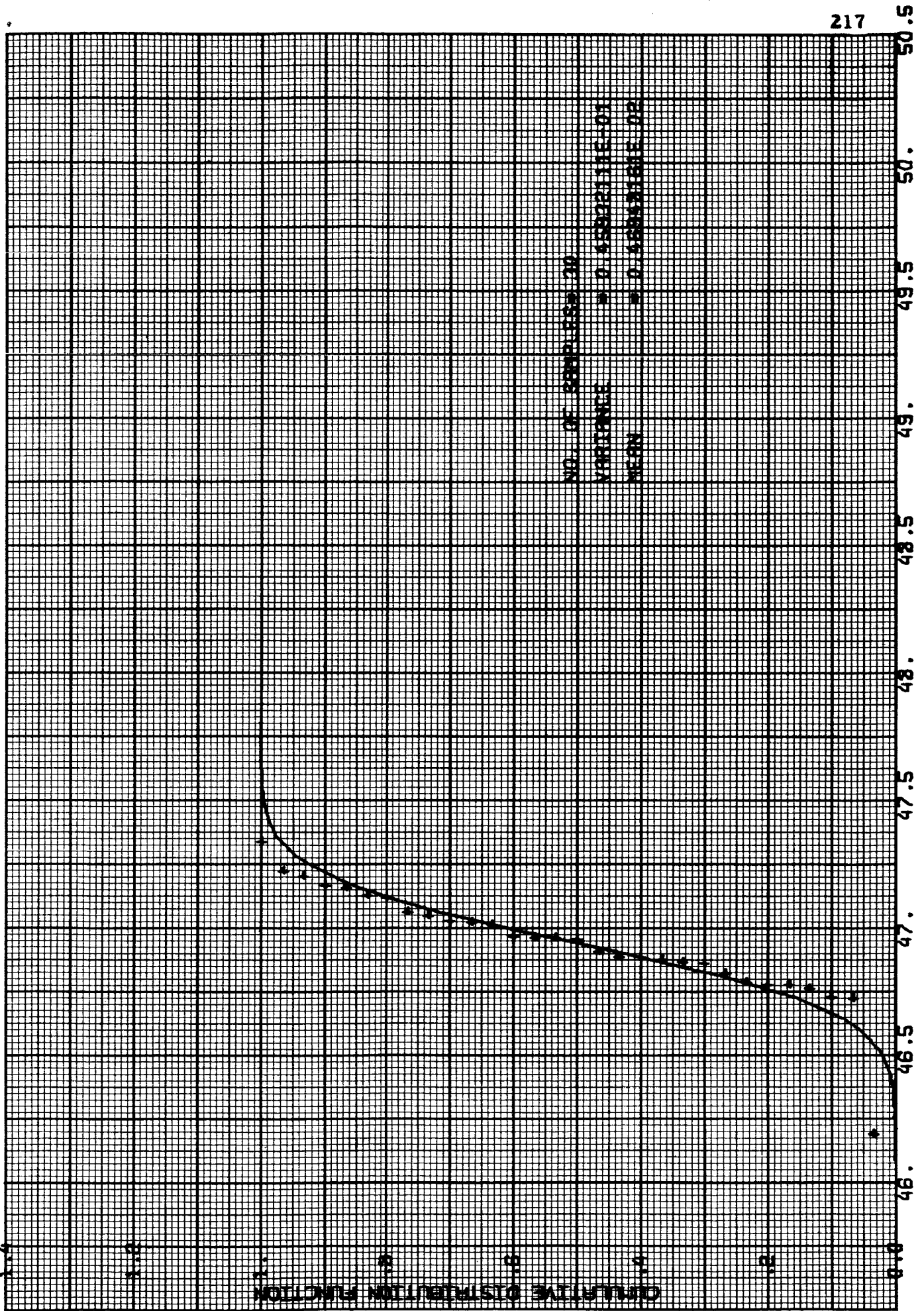


FOURTH TARGET PASS

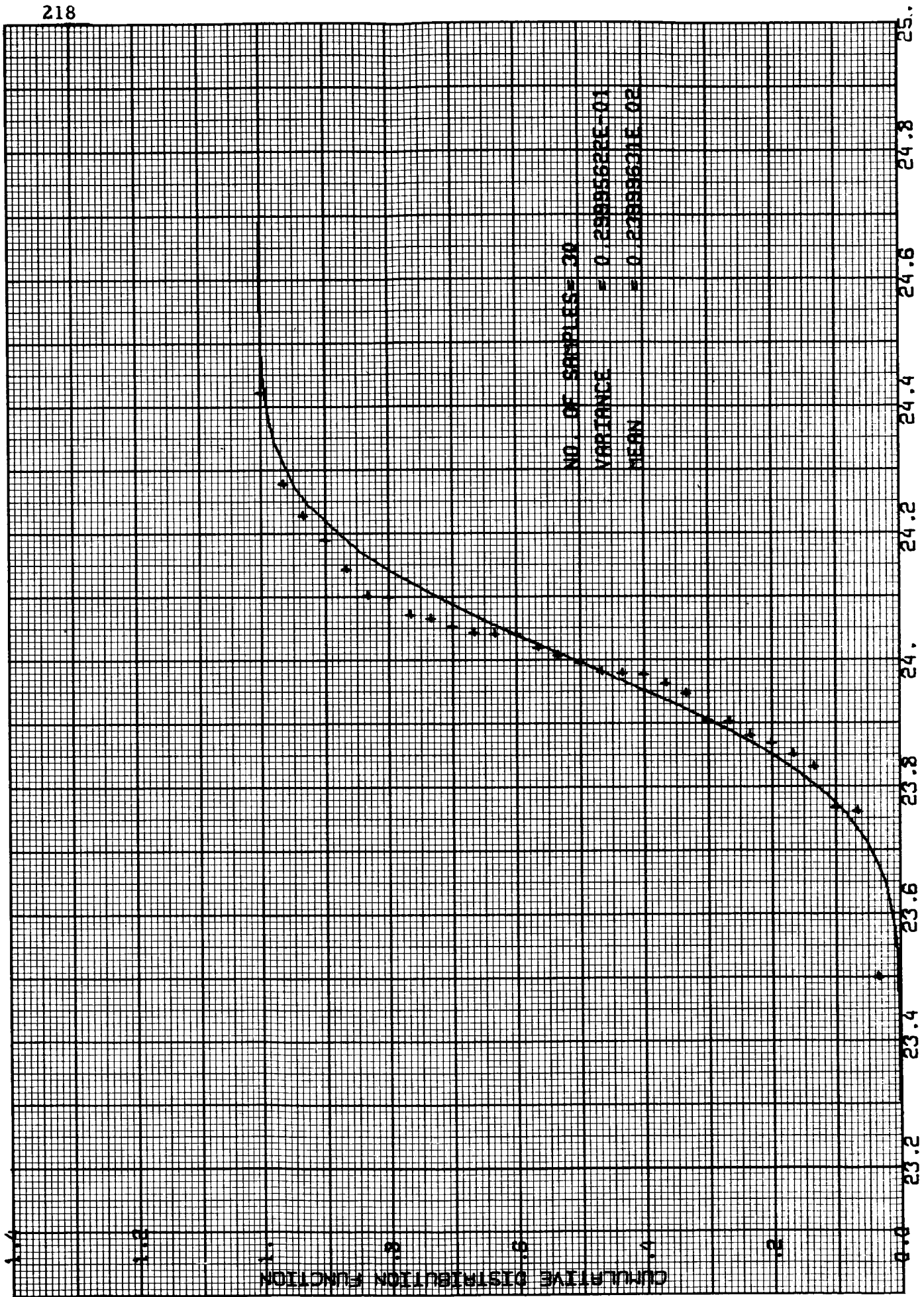


SAMPLE CUMULATIVE DISTRIBUTION OF LONGITUDE

FOURTH TARGET PASS

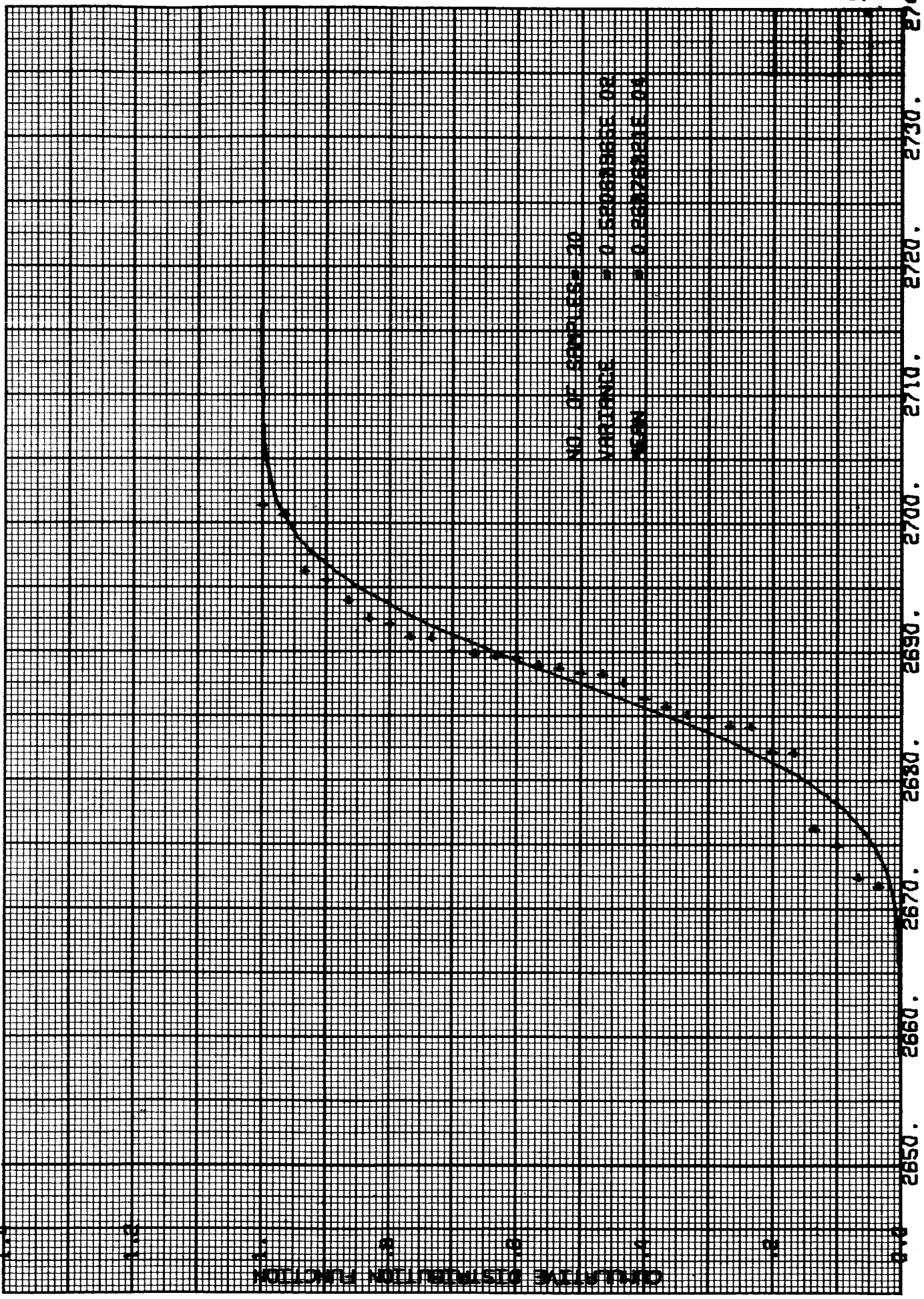


FOURTH TARGET PASS

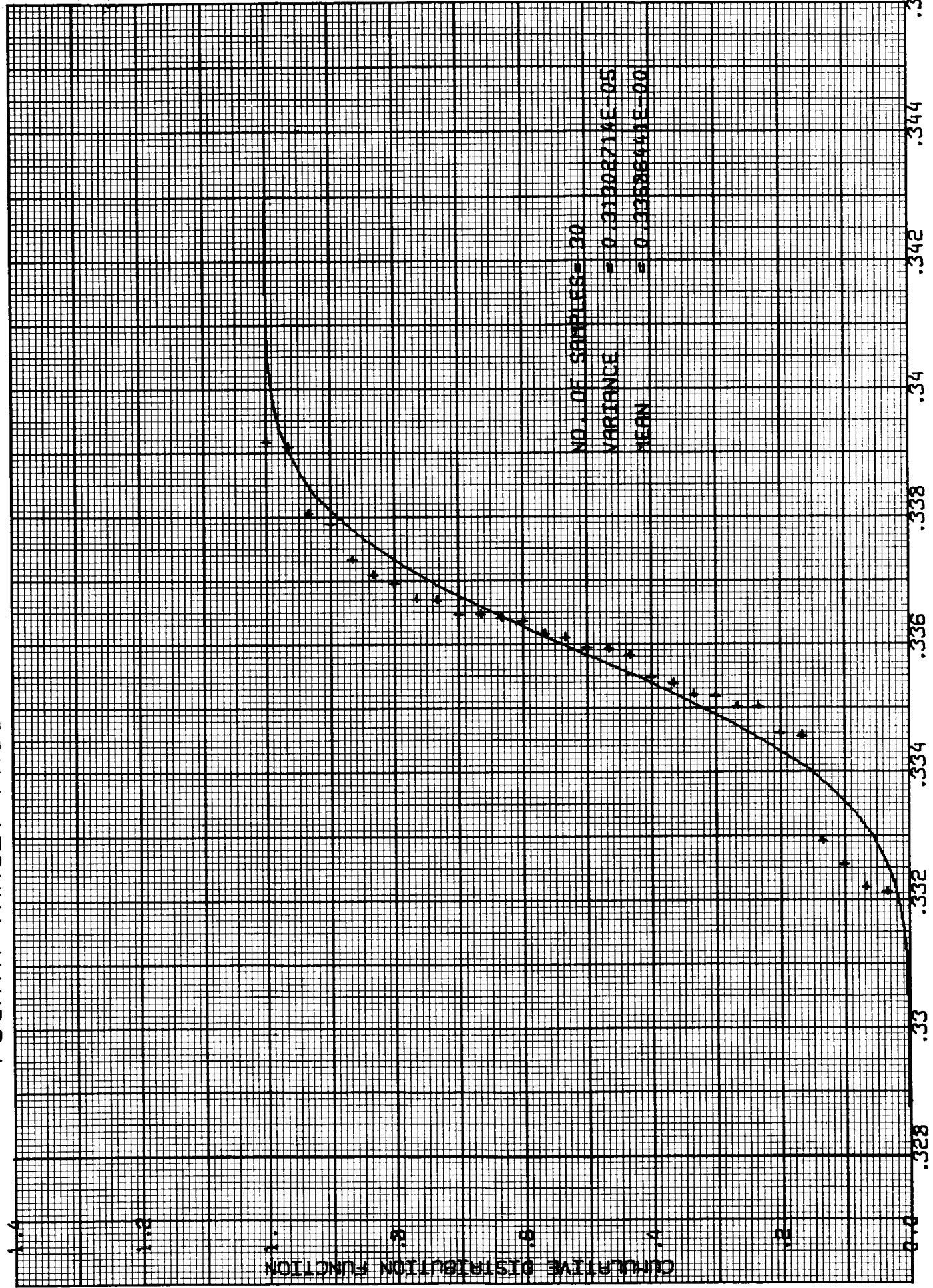


SAMPLE CUMULATIVE DISTRIBUTION OF SIDE OVERLAP

FOURTH TARGET PASS

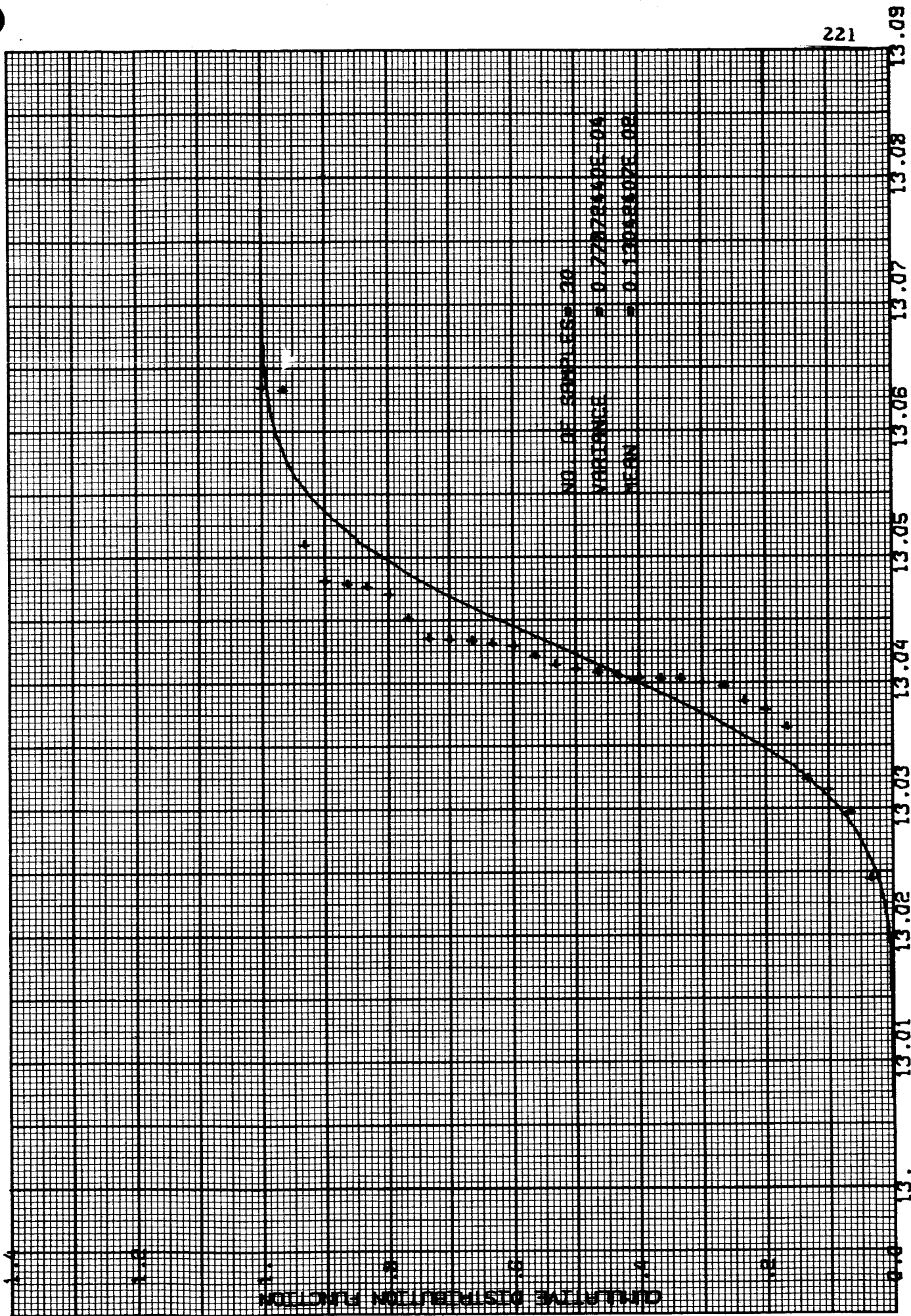


FOURTH TARGET PASS

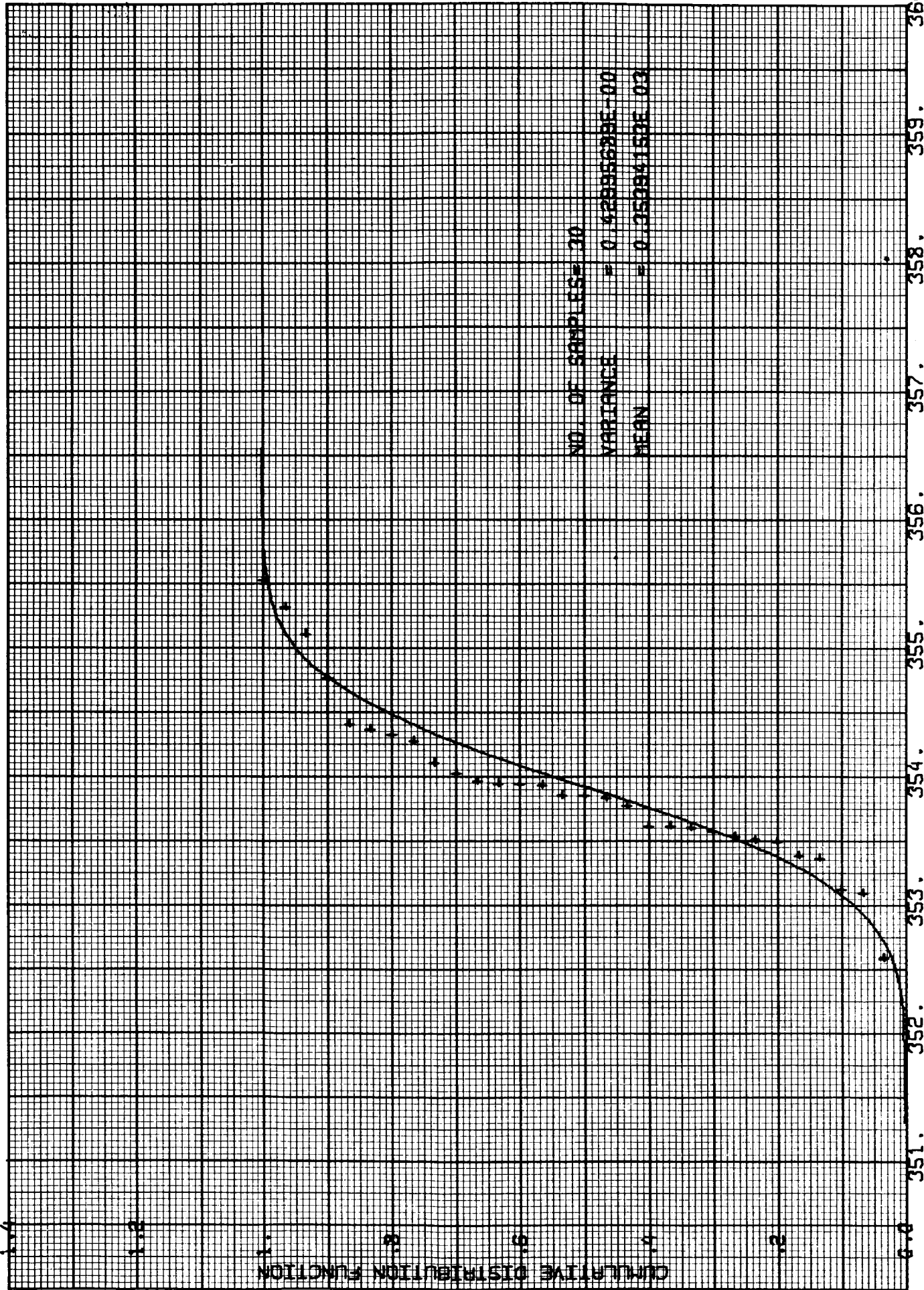


SAMPLE CUMULATIVE DISTRIBUTION OF ECCENTRICITY

FOURTH TARGETI PASS

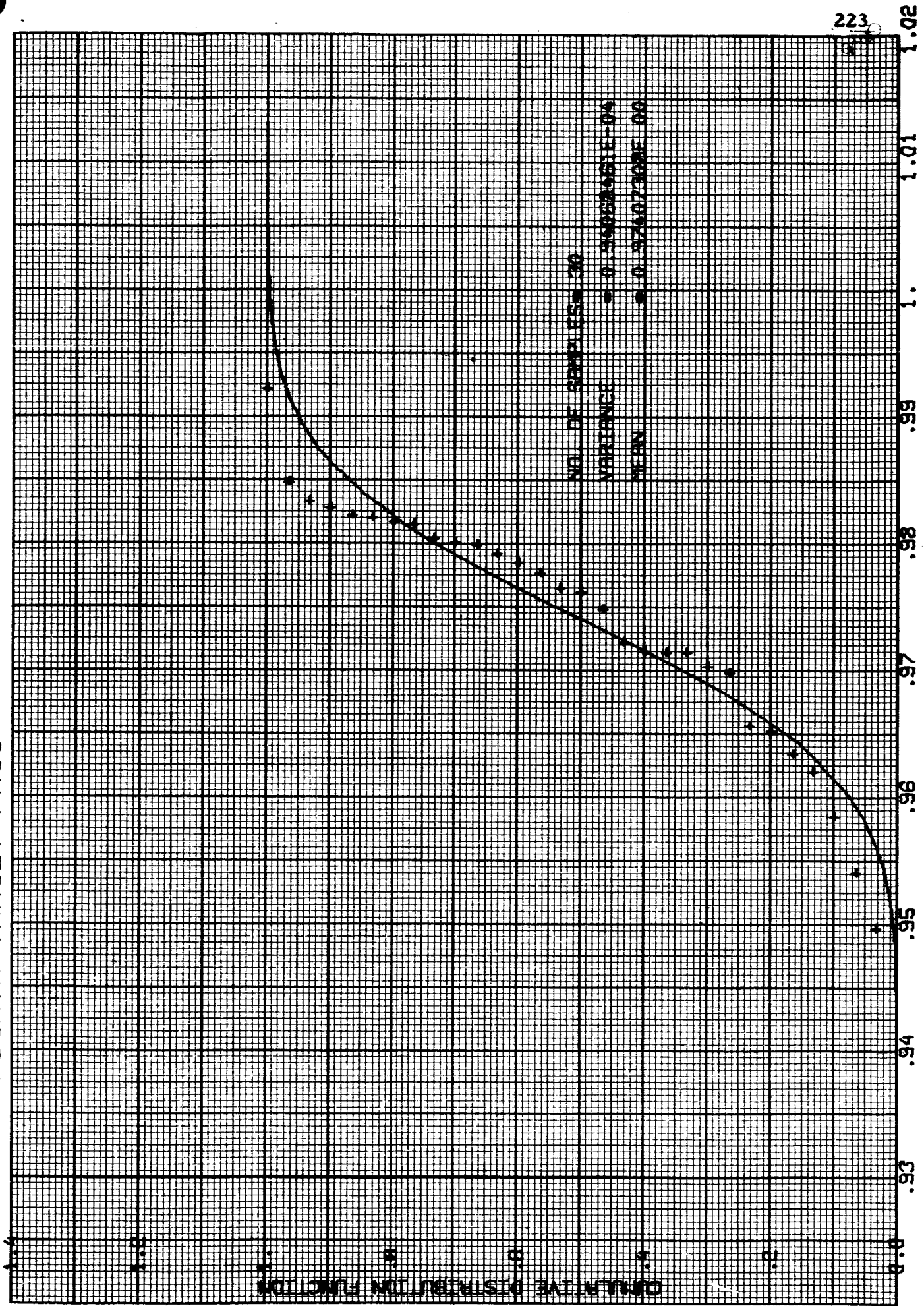


FOURTH TARGET PASS

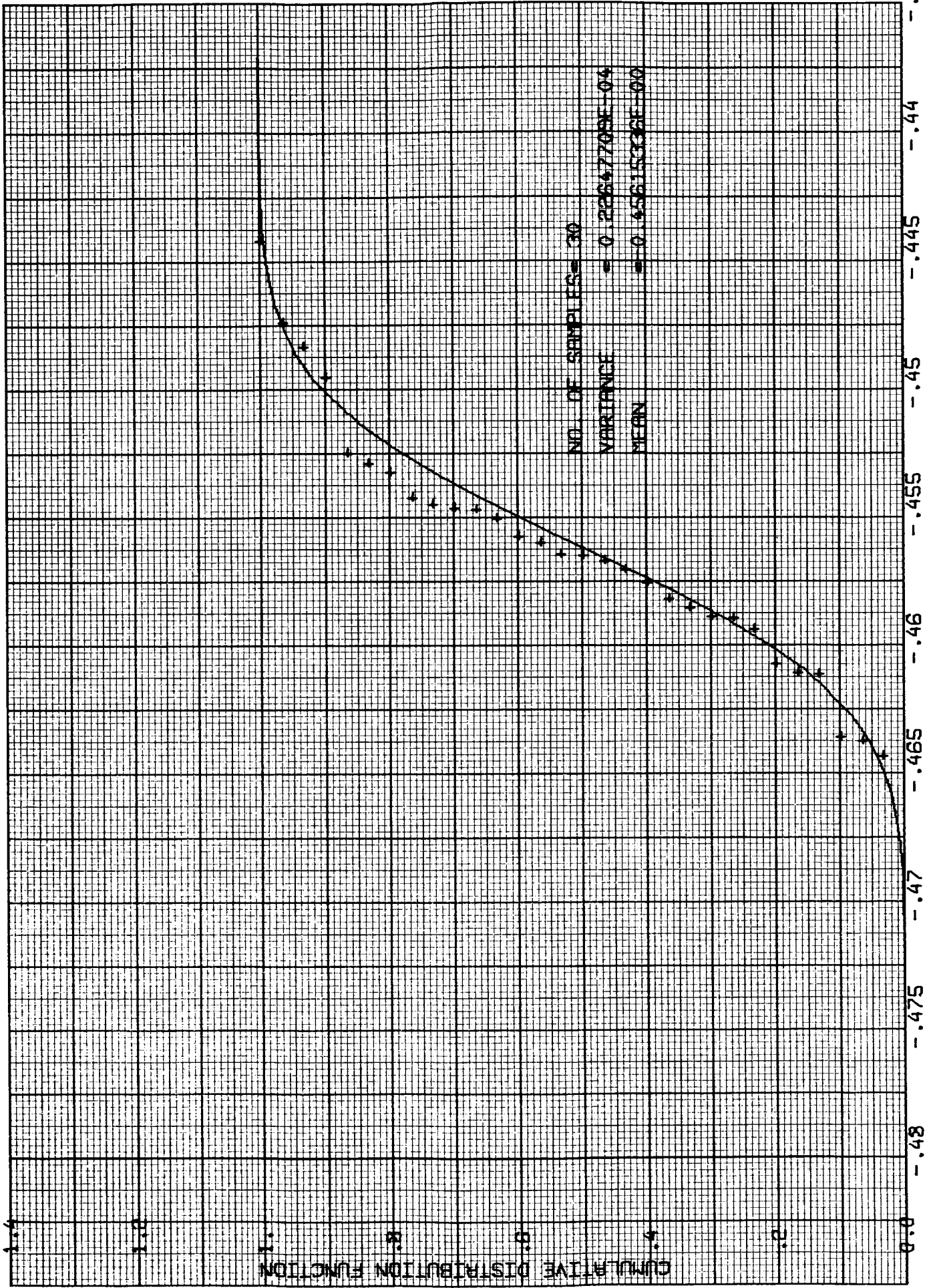


SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE

FOURTH TARGET PASS

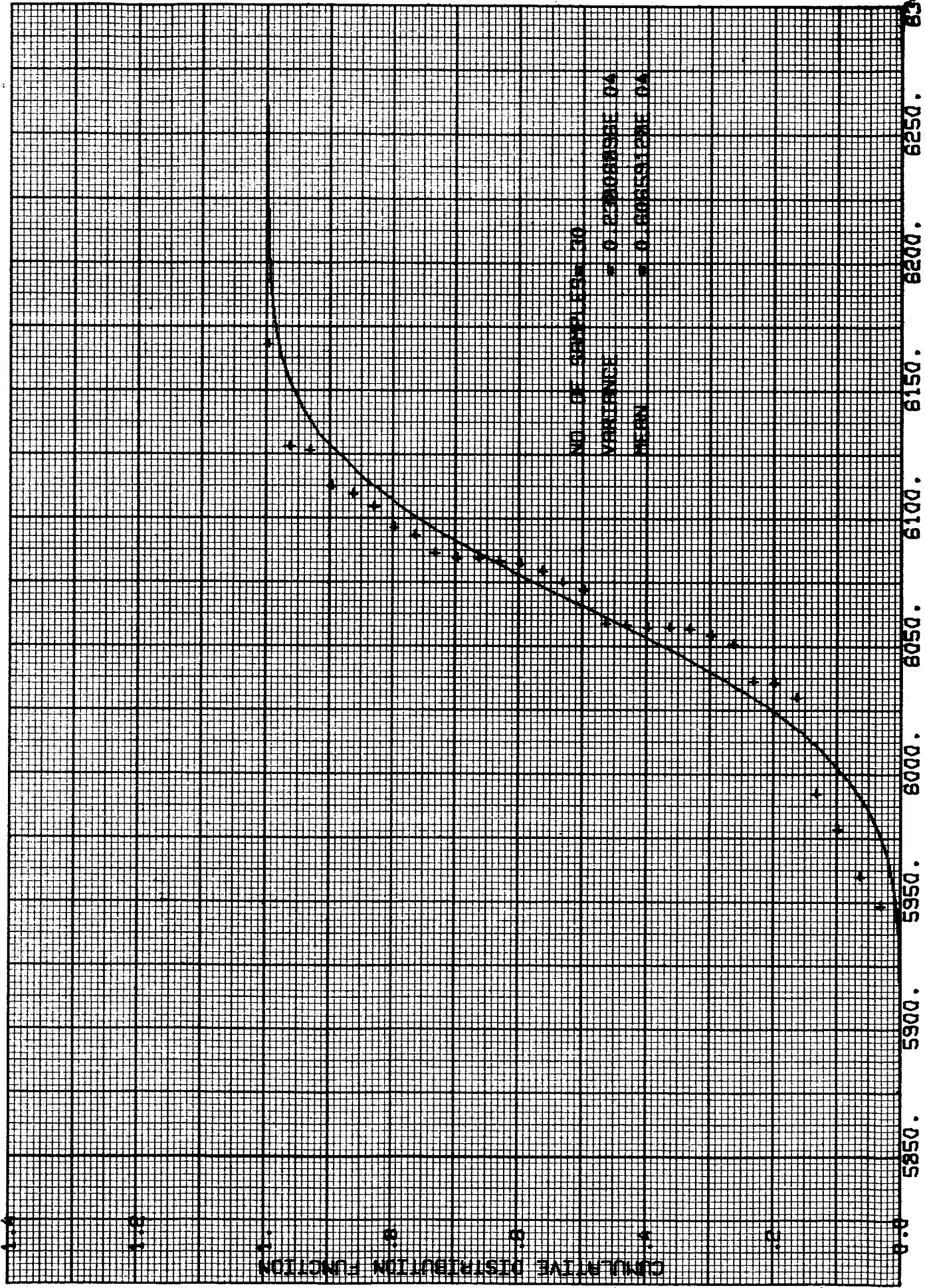


FOURTH TARGET PASS



SAMPLE CUMULATIVE DISTRIBUTION OF MEAN ANOMALY

FOURTH TARGET PASS



SAMPLE CUMULATIVE DISTRIBUTION OF MUTUAL EARTH-SUN VISIBILITY TIME

FIFTH TARGET PASS
SAMPLE STATE VECTORS

X	Y	Z	VX	VY	VZ
0.17659423E 04	-0.26518853E 03	0.21375003E-05	0.26618876E-00	0.18466070E 01	0.43195783E-00
0.17676859E 04	-0.25140091E 03	0.79798882E-06	0.25206558E-00	0.18492050E 01	0.43240586E-00
0.17696719E 04	-0.23694794E 03	-0.67948078E-06	0.23676115E-00	0.18501125E 01	0.43187755E-00
0.17691777E 04	-0.24110029E 03	0.27505922E-06	0.24116008E-00	0.18502326E 01	0.43224593E-00
0.17613573E 04	-0.29366428E 03	0.96364930E-06	0.29630644E-00	0.18442641E 01	0.43280686E-00
0.17650779E 04	-0.26914559E 03	-0.13688663E-06	0.27047762E-00	0.18458977E 01	0.43260454E-00
0.17672610E 04	-0.25385014E 03	-0.85799166E-06	0.25438653E-00	0.18478537E 01	0.43227739E-00
0.17676485E 04	-0.25103816E 03	-0.47207993E-05	0.25144245E-00	0.18480948E 01	0.43239923E-00
0.17656164E 04	-0.26404586E 03	-0.27259813E-06	0.26529290E-00	0.18483306E 01	0.43249109E-00
0.17713863E 04	-0.22560237E 03	-0.14516941E-05	0.22460587E-00	0.18498059E 01	0.43251852E-00
0.17695490E 04	-0.23941498E 03	0.33152967E-05	0.23932593E-00	0.18502548E 01	0.43227669E-00
0.17674123E 04	-0.25402992E 03	-0.27620552E-05	0.25450768E-00	0.18476988E 01	0.432336595E-00
0.17649904E 04	-0.26859584E 03	-0.27651034E-05	0.26993762E-00	0.18466084E 01	0.432336443E-00
0.17660280E 04	-0.26147398E 03	0.17324799E-05	0.26253228E-00	0.18475912E 01	0.43261854E-00
0.17676175E 04	-0.25150046E 03	-0.40963677E-05	0.25190770E-00	0.18483356E 01	0.43220054E-00
0.17676934E 04	-0.25068305E 03	-0.28417154E-05	0.25142985E-00	0.18492354E 01	0.43184686E-00
0.17693242E 04	-0.23815646E 03	-0.14107022E-05	0.23816963E-00	0.18496697E 01	0.43209402E-00
0.17732292E 04	-0.20168564E 03	0.24312416E-06	0.19997900E-00	0.18528201E 01	0.43184488E-00
0.17673106E 04	-0.25463723E 03	-0.58509815E-05	0.25527459E-00	0.18486834E 01	0.43247370E-00
0.17682242E 04	-0.24620505E 03	0.81908020E-06	0.24639805E-00	0.18485811E 01	0.43200096E-00
0.17662264E 04	-0.26153994E 03	-0.57006916E-05	0.26257382E-00	0.18475629E 01	0.43236750E-00
0.17731064E 04	-0.20831936E 03	-0.11736584E-05	0.20673408E-00	0.18516800E 01	0.43178498E-00
0.17660630E 04	-0.26211090E 03	-0.18288700E-05	0.26345970E-00	0.18493292E 01	0.43278503E-00
0.17636961E 04	-0.27659990E 03	0.22572494E-05	0.27842388E-00	0.18464313E 01	0.43288784E-00
0.17728230E 04	-0.21507034E 03	-0.74019741E-05	0.21358590E-00	0.18509591E 01	0.43172894E-00
0.17670085E 04	-0.25650144E 03	0.48364228E-05	0.25709270E-00	0.18480696E 01	0.43246548E-00
0.17636979E 04	-0.27745939E 03	-0.24817444E-05	0.27926071E-00	0.18455900E 01	0.43257117E-00
0.17682105E 04	-0.24879809E 03	0.15814938E-05	0.24919105E-00	0.18486316E 01	0.43229075E-00
0.17661005E 04	-0.26277970E 03	0.39329563E-05	0.26392072E-00	0.18477690E 01	0.43208928E-00
0.17658933E 04	-0.26508780E 03	-0.35368834E-05	0.26618987E-00	0.18473793E 01	0.433323088E-00

FIFTH TARGET PASS

SAMPLE VARIANCE OF SELENOGRAPHIC STATE VECTOR

	1	2	3	4	5	6
1	7.8275862E 00	5.4935344E 01	-1.4064576E-06	-5.7663490E-02	5.0848598E-03	-5.8930495E-04
2	5.4935344E 01	4.0427424E 02	-9.5547954E-06	-4.2426115E-01	3.4634294E-02	-4.8259866E-03
3	-1.4064576E-06	-9.5547954E-06	8.8160079E-12	1.0079875E-08	-5.6694450E-10	5.6792455E-11
4	-5.7663490E-02	-4.2426115E-01	1.0079875E-08	4.4525337E-04	-3.6284841E-05	5.0612564E-06
5	5.0848598E-03	3.4634294E-02	-5.6694450E-10	-3.6284841E-05	3.6502706E-06	-3.1241055E-07
6	-5.8930495E-04	-4.8259866E-03	5.6792455E-11	5.0612564E-06	-3.1241055E-07	1.4798394E-07

CORRESPONDING CORRELATION MATRIX

	1	2	3	4	5	6
1	1.0000000E 00	9.7656215E-01	-1.6930771E-01	-9.7674991E-01	9.5126721E-01	-5.4754379E-01
2	9.7656215E-01	1.0000000E 00	-1.6004694E-01	-9.9998071E-01	9.0158311E-01	-6.2393705E-01
3	-1.6930771E-01	-1.6004694E-01	1.0000000E 00	1.6088499E-01	-9.9940616E-02	4.9721860E-02
4	-9.7674991E-01	-9.9998071E-01	1.6088499E-01	1.0000000E 00	-9.0003433E-01	6.2351575E-01
5	9.5126721E-01	9.0158311E-01	-9.9940616E-02	-9.0003433E-01	1.0000000E 00	-4.2506549E-01
6	-5.4754379E-01	-6.2393705E-01	4.9721860E-02	6.2351575E-01	-4.2506549E-01	1.0000000E 00

SAMPLE MEAN OF SELENOGRAPHIC STATE VECTOR

1.7675009E 03	-2.5175443E 02	-9.0259653E-07	2.5228605E-01	1.8484427E 00	4.3232906E-01
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FIFTH TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF TIME FROM TRANSLUNAR INJECTION
 UNSORTED SAMPLES

4.3776434E 05	4.3806909E 05	4.3750017E 05	4.3784800E 05	4.3853745E 05	4.3772979E 05
4.3769102E 05	4.3762268E 05	4.3818488E 05	4.3701109E 05	4.3765515E 05	4.3751132E 05
4.3805251E 05	4.3799970E 05	4.3767970E 05	4.3771678E 05	4.3748134E 05	4.3688452E 05
4.3798925E 05	4.3734434E 05	4.3794400E 05	4.3700743E 05	4.3831211E 05	4.3825169E 05
4.3720703E 05	4.3776239E 05	4.3790093E 05	4.3776335E 05	4.3808940E 05	4.3792173E 05

FIFTH TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF V / H
 UNSORTED SAMPLES

4.0092306E-02	4.0334747E-02	4.0317343E-02	4.0276893E-02	4.0202788E-02	4.0315787E-02
4.0376163E-02	4.0385325E-02	4.0545388E-02	4.0088145E-02	4.0153090E-02	4.0224654E-02
4.0472058E-02	4.0498264E-02	4.0361366E-02	4.0410683E-02	4.0470055E-02	4.0977725E-02
4.0259302E-02	4.0467569E-02	4.0320663E-02	4.0413972E-02	4.0427606E-02	4.0545568E-02
3.9975358E-02	4.0279179E-02	4.0413613E-02	4.0183199E-02	4.0278482E-02	4.0167370E-02

FIFTH TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF RESOLUTION
 UNSORTED SAMPLES

1.0359288E 00	1.0300784E 00	1.0298780E 00	1.0313160E 00	1.0343558E 00	1.0302210E 00
1.0284689E 00	1.0281664E 00	1.0252417E 00	1.0348895E 00	1.0343867E 00	1.0322813E 00
1.0265407E 00	1.0258636E 00	1.0289104E 00	1.0280460E 00	1.0258825E 00	1.0124405E 00
1.0319741E 00	1.0259283E 00	1.0303401E 00	1.0263486E 00	1.0286467E 00	1.0253024E 00
1.0376325E 00	1.0312752E 00	1.0282413E 00	1.0334463E 00	1.0315923E 00	1.0345519E 00

FIFTH TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF LONGITUDE

		UNSORTED SAMPLES	
3.5145980E 02	3.5190565E 02	3.5237381E 02	3.5053436E 02
3.5182591E 02	3.5191701E 02	3.5149451E 02	3.5229483E 02
3.5134713E 02	3.5157810E 02	3.5190218E 02	3.5233389E 02
3.5180115E 02	3.5207317E 02	3.5157694E 02	3.5155805E 02
3.5308295E 02	3.5174055E 02	3.5105968E 02	3.5153699E 02

FIFTH TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF ALTITUDE

		UNSORTED SAMPLES	
4.7652724E 01	4.7383605E 01	4.7374389E 01	4.7580367E 01
4.7309569E 01	4.7295653E 01	4.7161117E 01	4.7581786E 01
4.7220870E 01	4.7189727E 01	4.7329879E 01	4.7190597E 01
4.7470809E 01	4.7192702E 01	4.7395644E 01	4.7317748E 01
4.7731093E 01	4.7438659E 01	4.7299103E 01	4.7453246E 01

FIFTH TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF SIDE OVERLAP

		UNSORTED SAMPLES	
2.4549026E 01	2.4311288E 01	2.4351141E 01	2.4382462E 01
2.4282392E 01	2.4280686E 01	2.4104132E 01	2.4483511E 01
2.4183751E 01	2.4156609E 01	2.4303147E 01	2.4215659E 01
2.4373975E 01	2.4222410E 01	2.4317887E 01	2.4187909E 01
2.4709538E 01	2.4362952E 01	2.4218711E 01	2.4362346E 01

FIFTH TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF SEMI-MAJOR AXIS

	UNSORTED SAMPLES	
2.6884837E 03	2.6912027E 03	2.6889282E 03
2.6850728E 03	2.6842853E 03	2.6763810E 03
2.6900154E 03	2.6897373E 03	2.6897584E 03
2.6912407E 03	2.6822662E 03	2.6725670E 03
2.6751321E 03	2.6891099E 03	2.6865067E 03
	2.7015291E 03	2.6876501E 03
	2.6884300E 03	2.6852265E 03
	2.6824313E 03	2.6719246E 03
	2.7007779E 03	2.6963437E 03
	2.6923094E 03	2.6940386E 03

FIFTH TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF ECCENTRICITY

	UNSORTED SAMPLES	
3.3582426E-01	3.3659385E-01	3.3601209E-01
3.3510796E-01	3.3491795E-01	3.3283831E-01
3.3636261E-01	3.3630516E-01	3.3627156E-01
3.3657201E-01	3.3445559E-01	3.3203211E-01
3.3247963E-01	3.3605902E-01	3.3537668E-01
	3.3905815E-01	3.3905815E-01
	3.3583674E-01	3.3508085E-01
	3.3449589E-01	3.3211051E-01
	3.3897047E-01	3.3794159E-01
	3.3684119E-01	3.3721721E-01

FIFTH TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF INCLINATION

	UNSORTED SAMPLES	
1.3036031E 01	1.3044952E 01	1.3037016E 01
1.3048125E 01	1.3052761E 01	1.3040918E 01
1.3044234E 01	1.3052201E 01	1.3044935E 01
1.3047480E 01	1.3042441E 01	1.3045035E 01
1.3045918E 01	1.3049664E 01	1.3047797E 01
	1.3045775E 01	1.3043148E 01
	1.3045491E 01	1.3067941E 01
	1.3045077E 01	1.3029035E 01
	1.3044554E 01	1.3047932E 01
	1.3034269E 01	1.3048042E 01
	1.3055449E 01	
	1.3051635E 01	
	1.3046999E 01	
	1.3052250E 01	
	1.3067962E 01	

FIFTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE

SAMPLE	CUMULATIVE DISTRIBUTION OF ASCENDING NODE	UNSORTED SAMPLES	SAMPLE	CUMULATIVE DISTRIBUTION OF ASCENDING NODE	UNSORTED SAMPLES
3.5145980F 02	3.5190565E 02	3.5237381E 02	3.5053436E 02	3.5223964E 02	3.5133011E 02
3.5182591E 02	3.5191701E 02	3.5149451E 02	3.5229483E 02	3.5274193E 02	3.5182090E 02
3.5134713E 02	3.5157810E 02	3.5190218E 02	3.5233389E 02	3.5192850E 02	3.5351111E 02
3.5180115E 02	3.5207317E 02	3.5157694E 02	3.5155805E 02	3.5329913E 02	3.5108692E 02
3.5308295F 02	3.5174055E 02	3.5105968E 02	3.5153699E 02	3.5199071E 02	3.5146275E 02

FIFTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE

SAMPLE	CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE	UNSORTED SAMPLES	SAMPLE	CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE	UNSORTED SAMPLES
1.3079452E 00	1.2850761E 00	1.2954826E 00	1.3015594E 00	1.2948303E 00	1.2934799E 00
1.3028679E 00	1.3015022E 00	1.3024292E 00	1.2982483E 00	1.3069153E 00	1.3055801E 00
1.3015442E 00	1.2953415E 00	1.3069267E 00	1.2782974E 00	1.2729988E 00	1.2843475E 00
1.3034096E 00	1.3006172E 00	1.2943764E 00	1.2854080E 00	1.2911491E 00	1.3037834E 00
1.3067322E 00	1.3153839E 00	1.2988090E 00	1.2926445E 00	1.2887459E 00	1.3052177E 00

FIFTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF MEAN ANOMALY

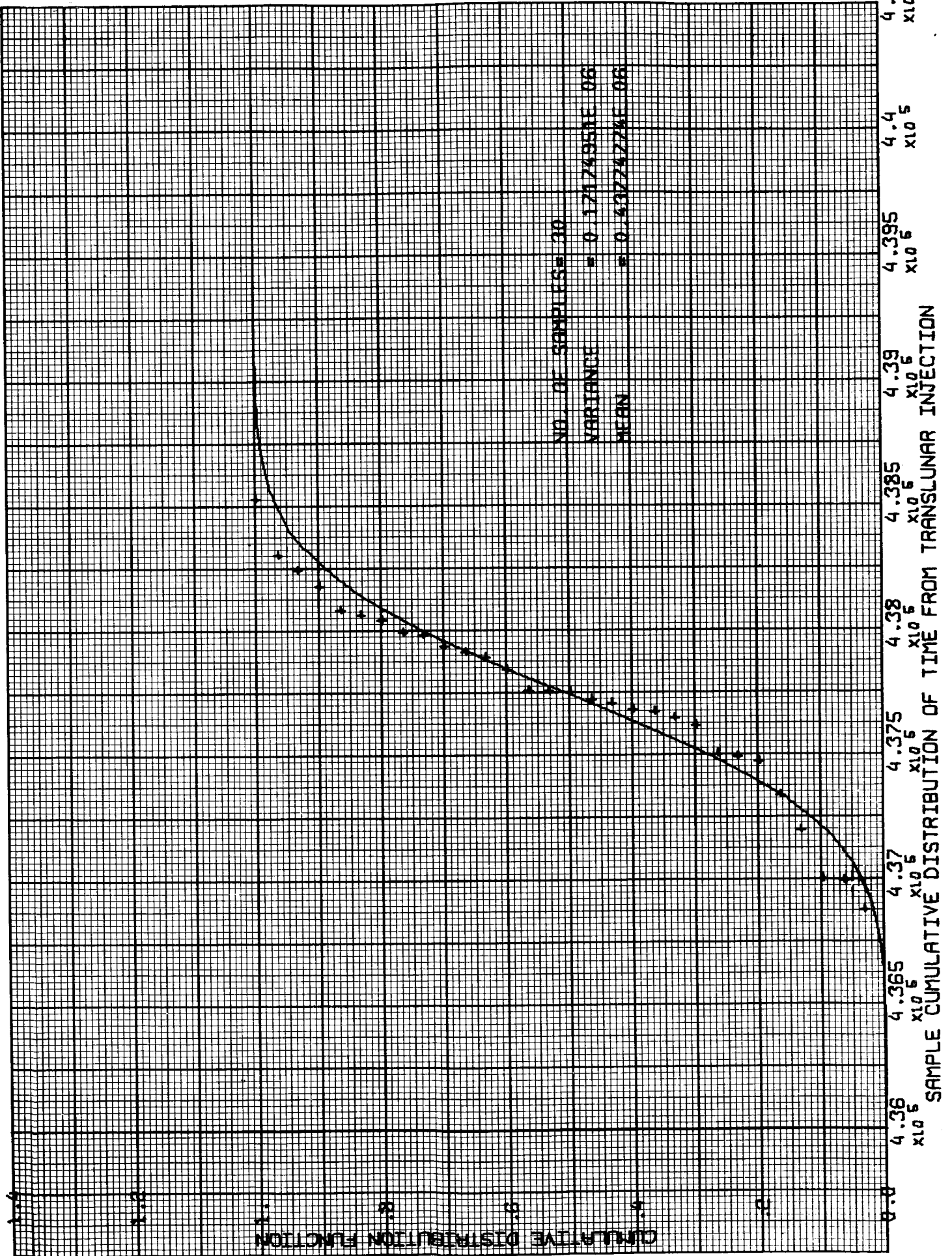
SAMPLE	CUMULATIVE DISTRIBUTION OF MEAN ANOMALY	UNSORTED SAMPLES	SAMPLE	CUMULATIVE DISTRIBUTION OF MEAN ANOMALY	UNSORTED SAMPLES
-6.1258316E-01	-6.0065079E-01	-6.0819244E-01	-6.0440063E-01	-6.0613251E-01	-6.0597229E-01
-6.1135101E-01	-6.1102295E-01	-6.0688019E-01	-6.0801315E-01	-6.1692047E-01	-6.1266327E-01
-6.0871124E-01	-6.0590363E-01	-6.1296082E-01	-6.0078049E-01	-5.9551239E-01	-6.0741043E-01
-6.0925293E-01	-6.1134338E-01	-6.0539246E-01	-5.9705353E-01	-6.1076355E-01	-6.0722351E-01
-6.1741257E-01	-6.1568069E-01	-6.0645294E-01	-6.0379028E-01	-6.0429001E-01	-6.0906219E-01

FIFTH TARGET PASS

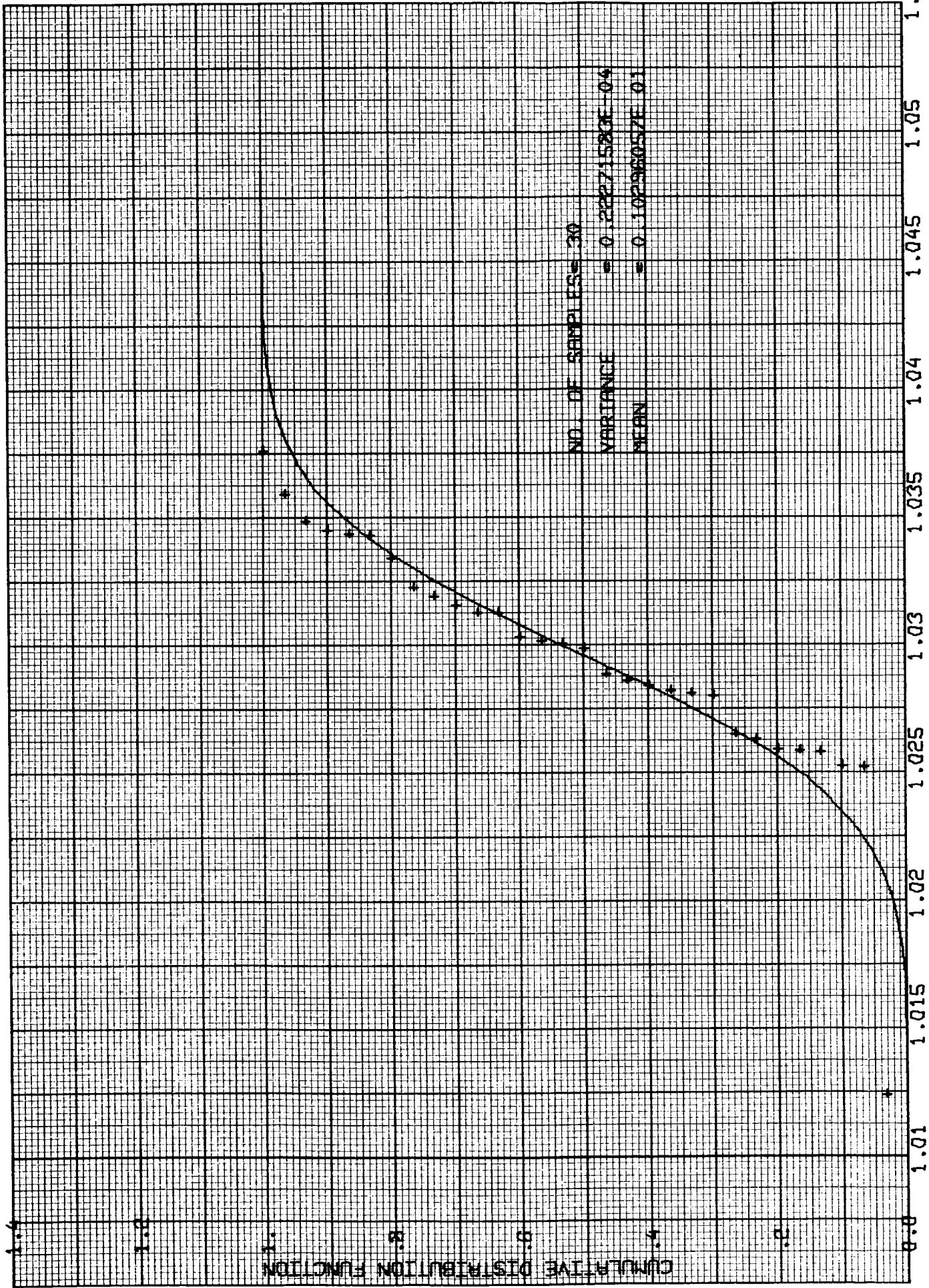
SAMPLE CUMULATIVE DISTRIBUTION OF MUTUAL EARTH-SUN VISIBILITY TIME

SAMPLE	CUMULATIVE DISTRIBUTION OF MUTUAL EARTH-SUN VISIBILITY TIME	UNSORTED SAMPLES	SAMPLE	CUMULATIVE DISTRIBUTION OF MUTUAL EARTH-SUN VISIBILITY TIME	UNSORTED SAMPLES
6.2109000E 03	6.2079000E 03	6.1625000E 03	6.2984000E 03	6.1865000E 03	6.2118000E 03
6.1841999E 03	6.1777000E 03	6.2386000E 03	6.1819000E 03	6.1173999E 03	6.1843000E 03
6.2214000E 03	6.2123000E 03	6.1844000E 03	6.1561999E 03	6.1997000E 03	6.0728000E 03
6.2108000E 03	6.1629000E 03	6.2145000E 03	6.2581000E 03	6.0842000E 03	6.2559000E 03
6.1029000E 03	6.2030000E 03	6.2410000E 03	6.2248000E 03	6.1856000E 03	6.2333000E 03

FIFTH TARGET PASS

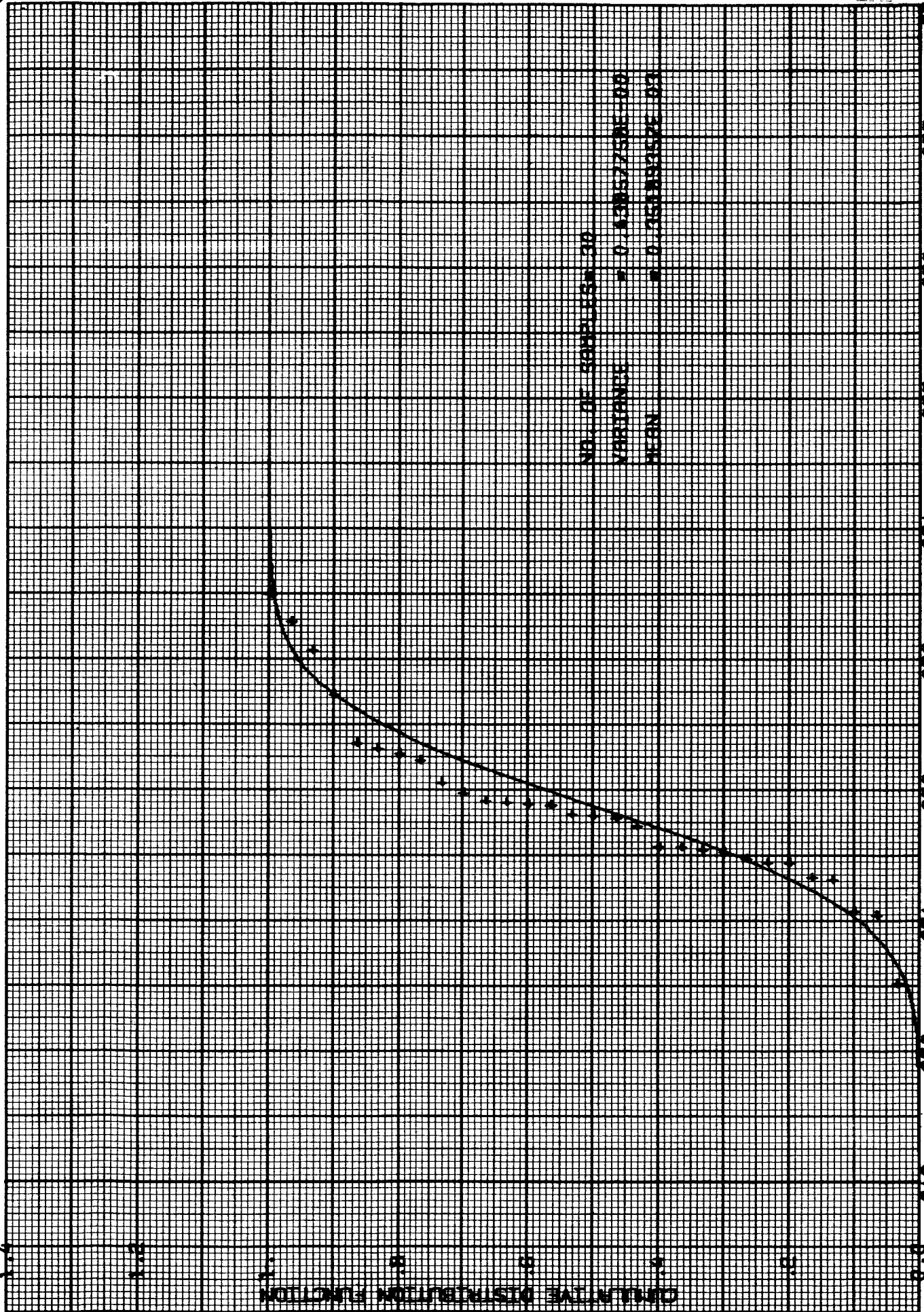


FIFTH TARGET PASS



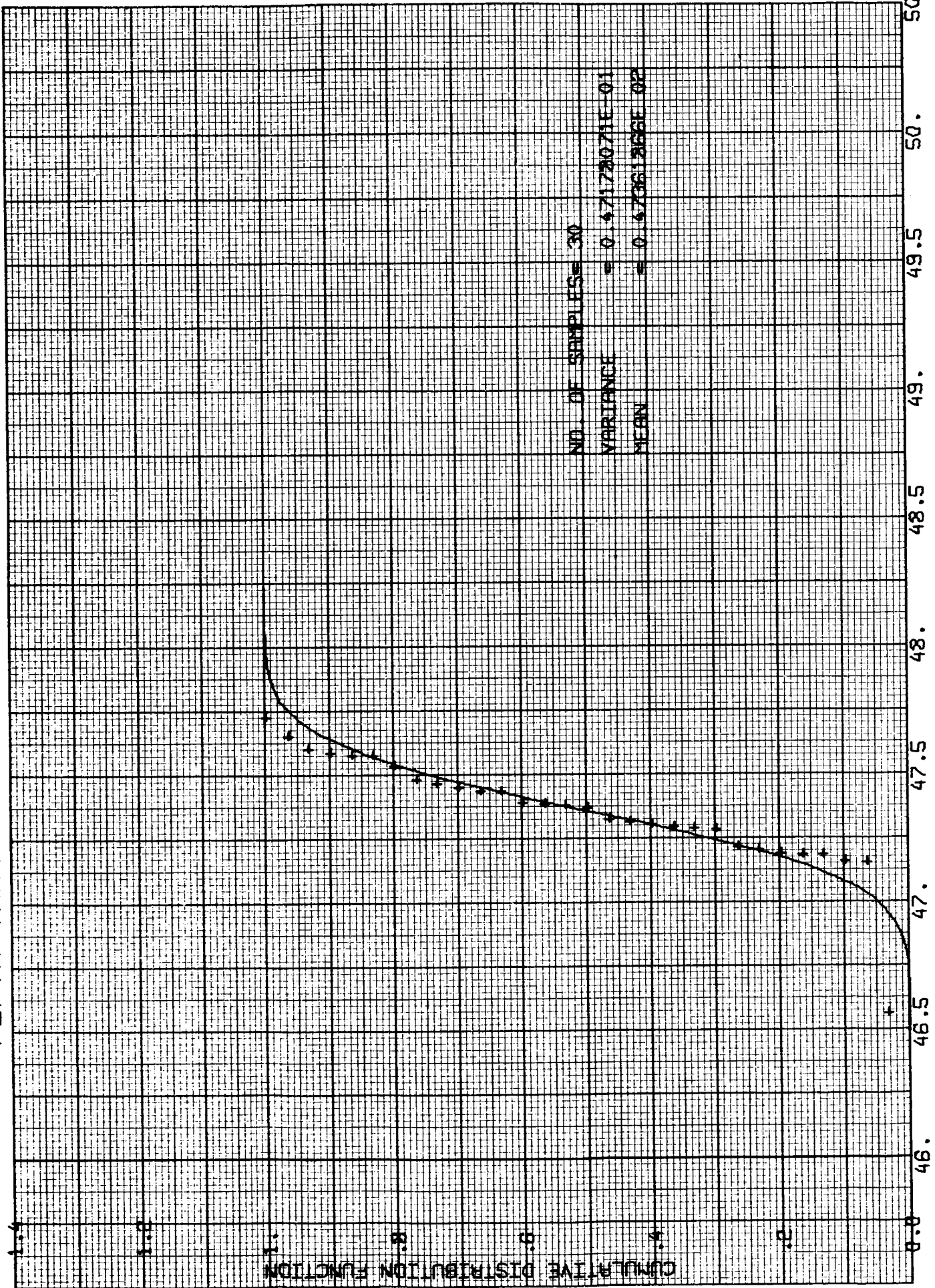
SAMPLE CUMULATIVE DISTRIBUTION OF RESOLUTION

FIFTH TARGET PASS



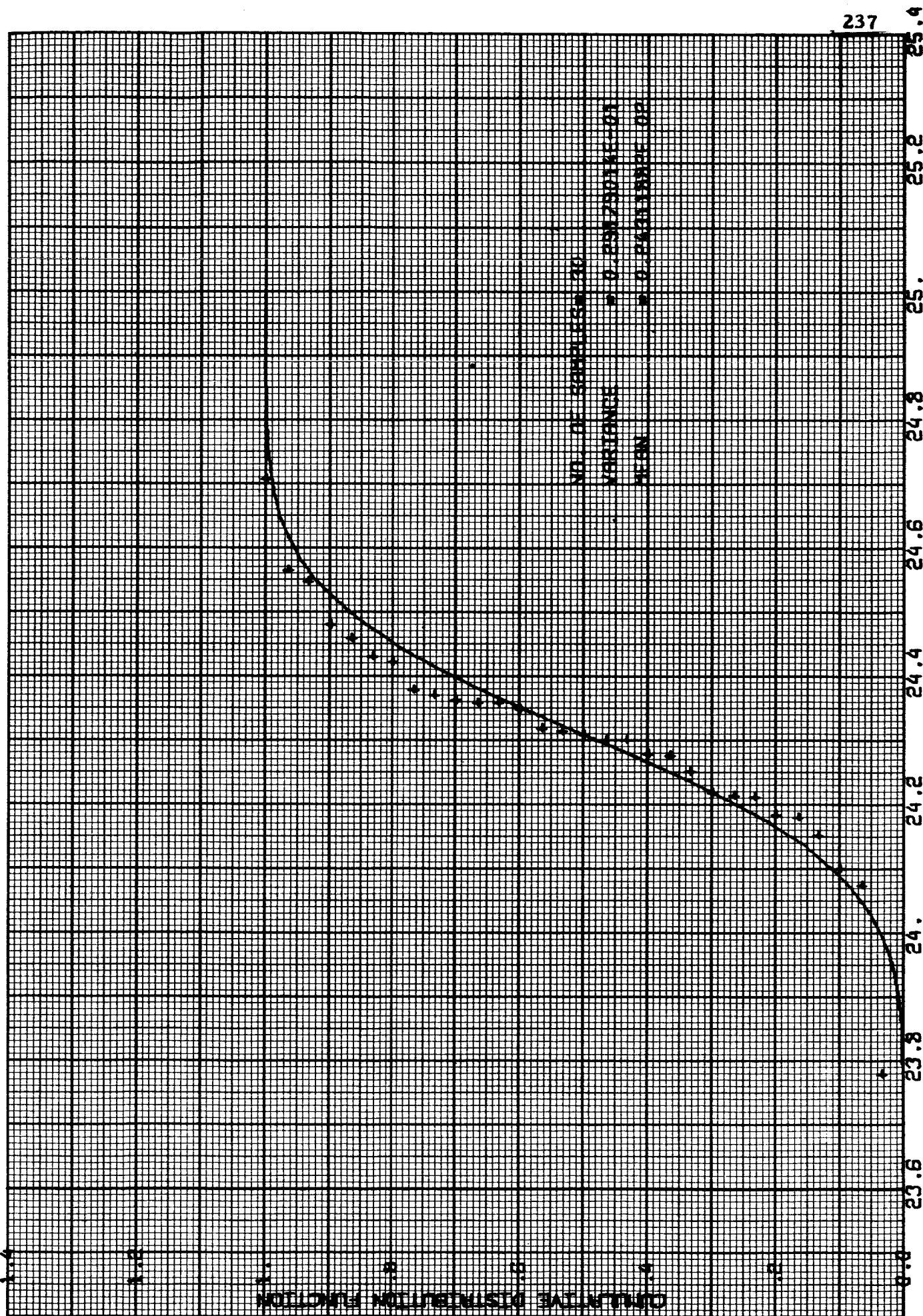
SAMPLE CUMULATIVE DISTRIBUTION OF LONGITUDE

FIFTH TARGET PASS

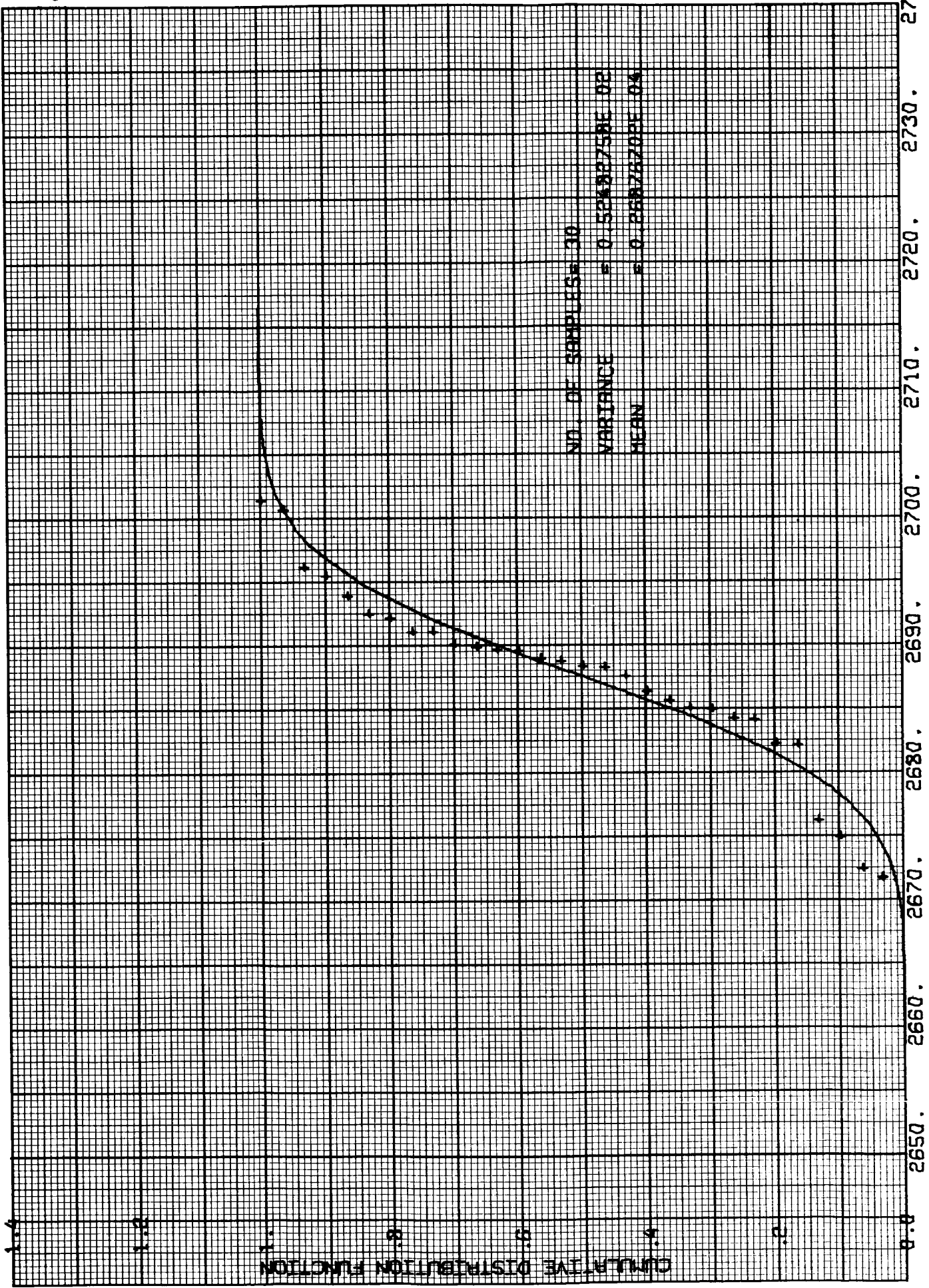


SAMPLE CUMULATIVE DISTRIBUTION OF ALTITUDE

FIFTH TARGET PASS

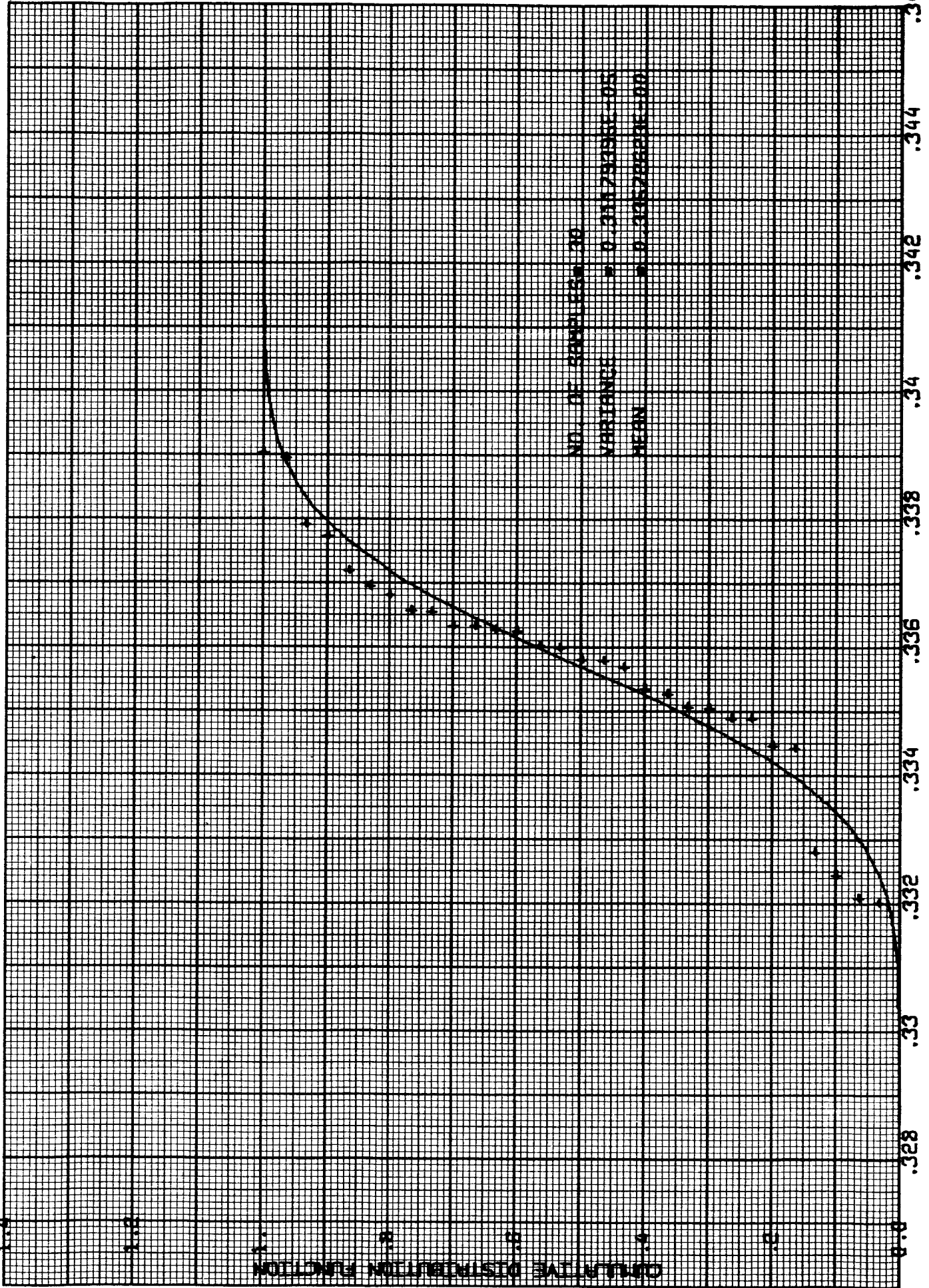


FIFTH TARGET PASS



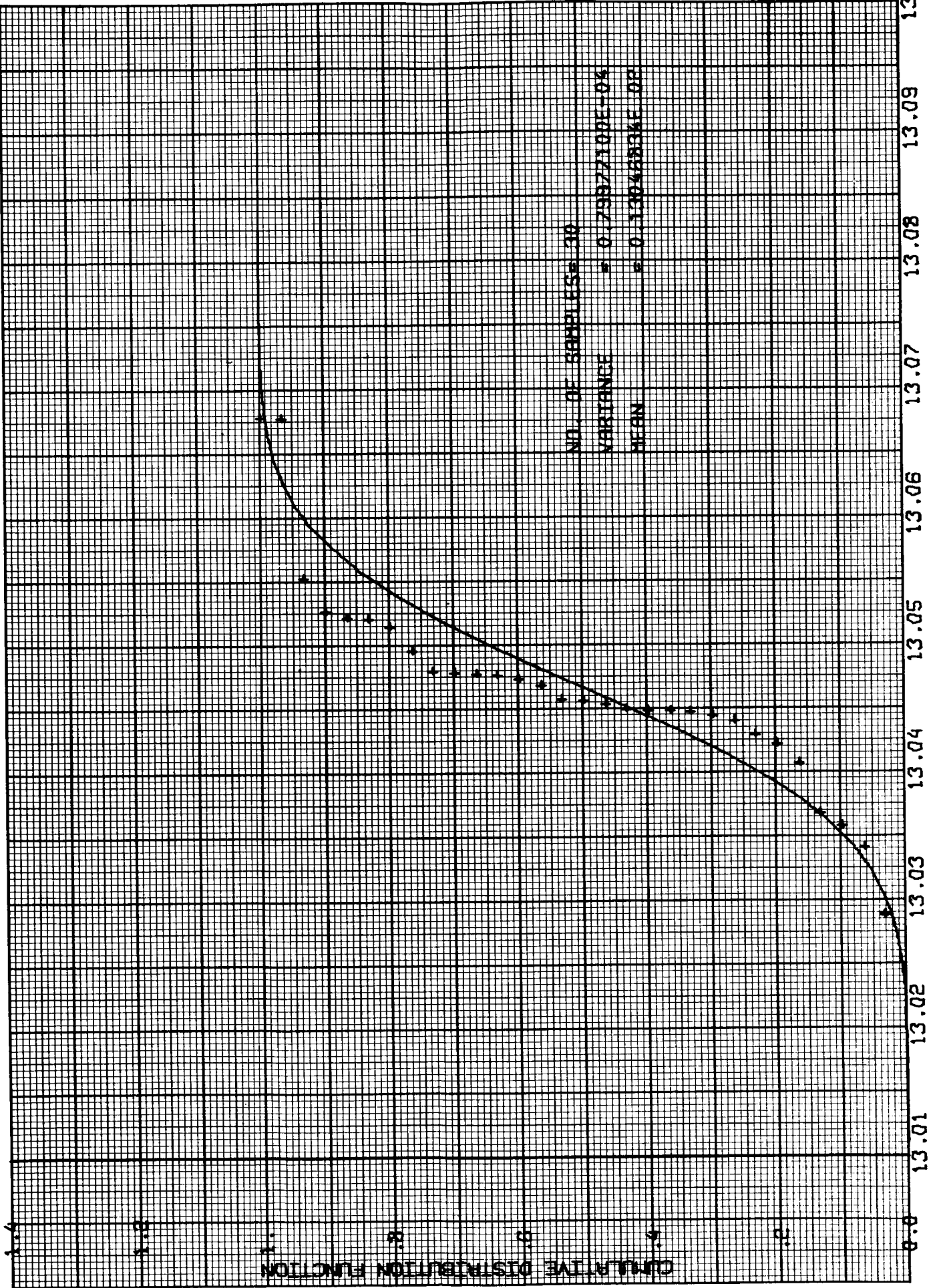
SAMPLE CUMULATIVE DISTRIBUTION OF SEMI-MAJOR AXIS

FIFTH TARGET PASS



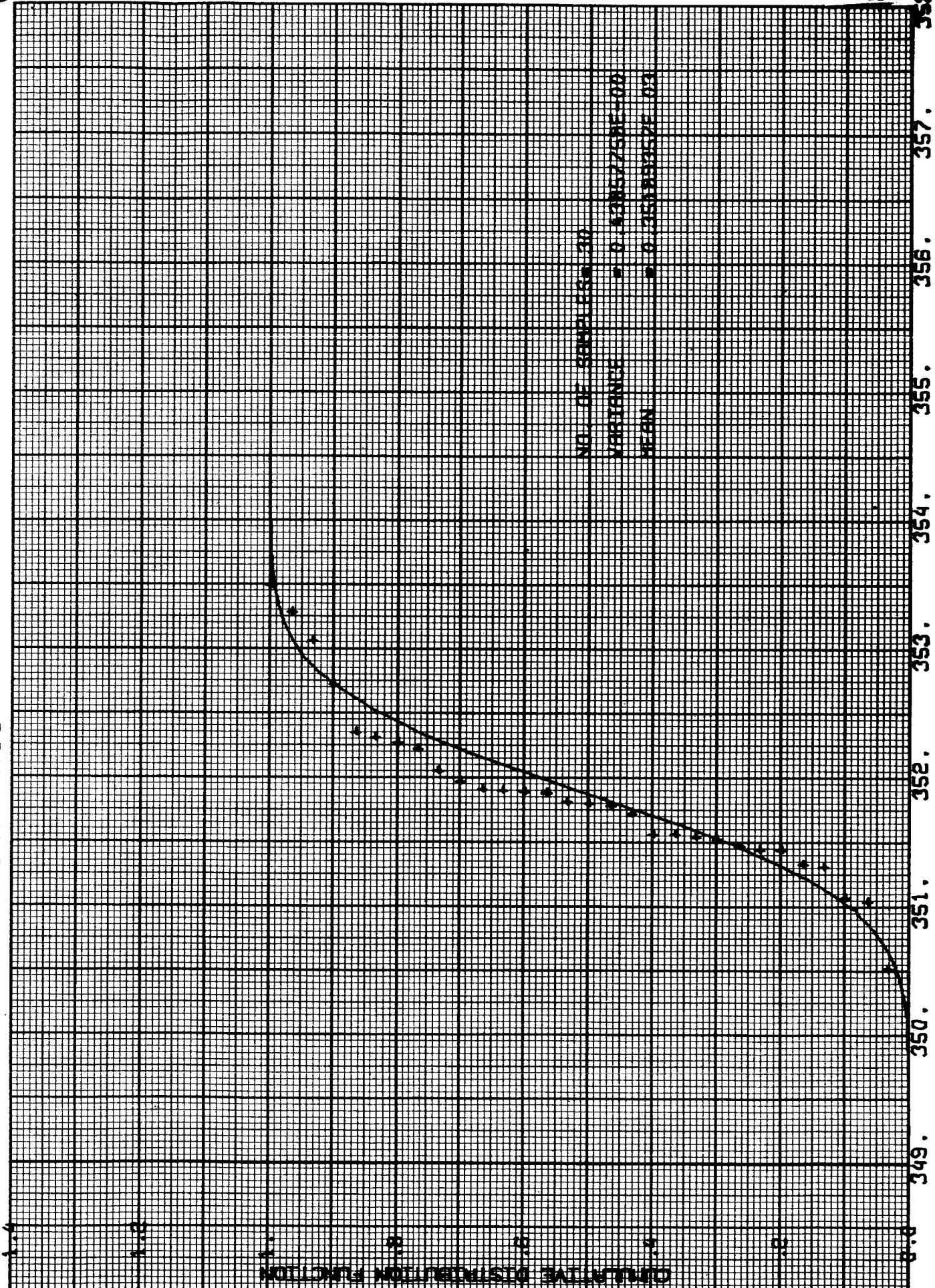
SAMPLE CUMULATIVE DISTRIBUTION OF ECCENTRICITY

FIFTH TARGET PASS



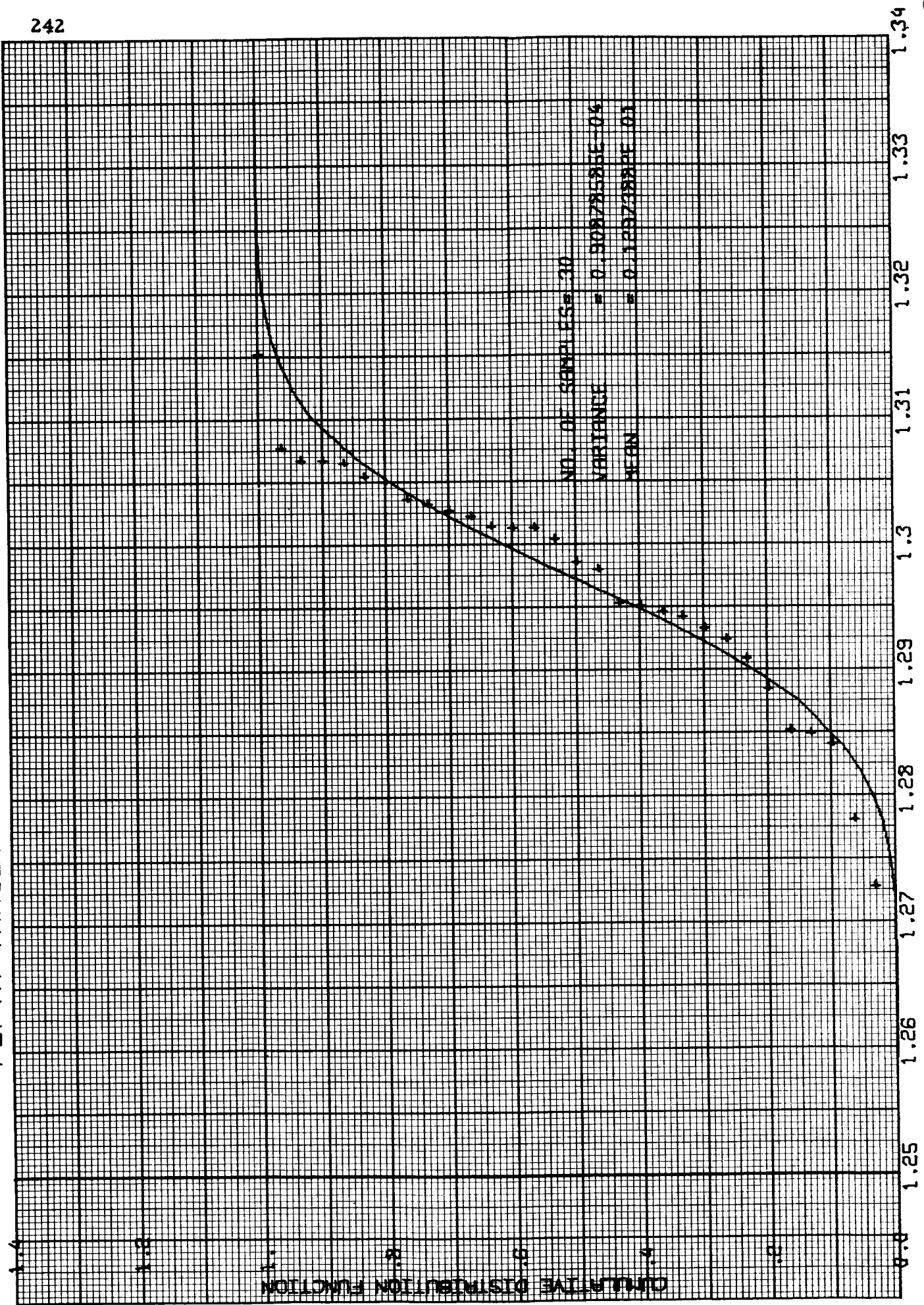
SAMPLE CUMULATIVE DISTRIBUTION OF INCLINATION

FIFTH TARGET PASS



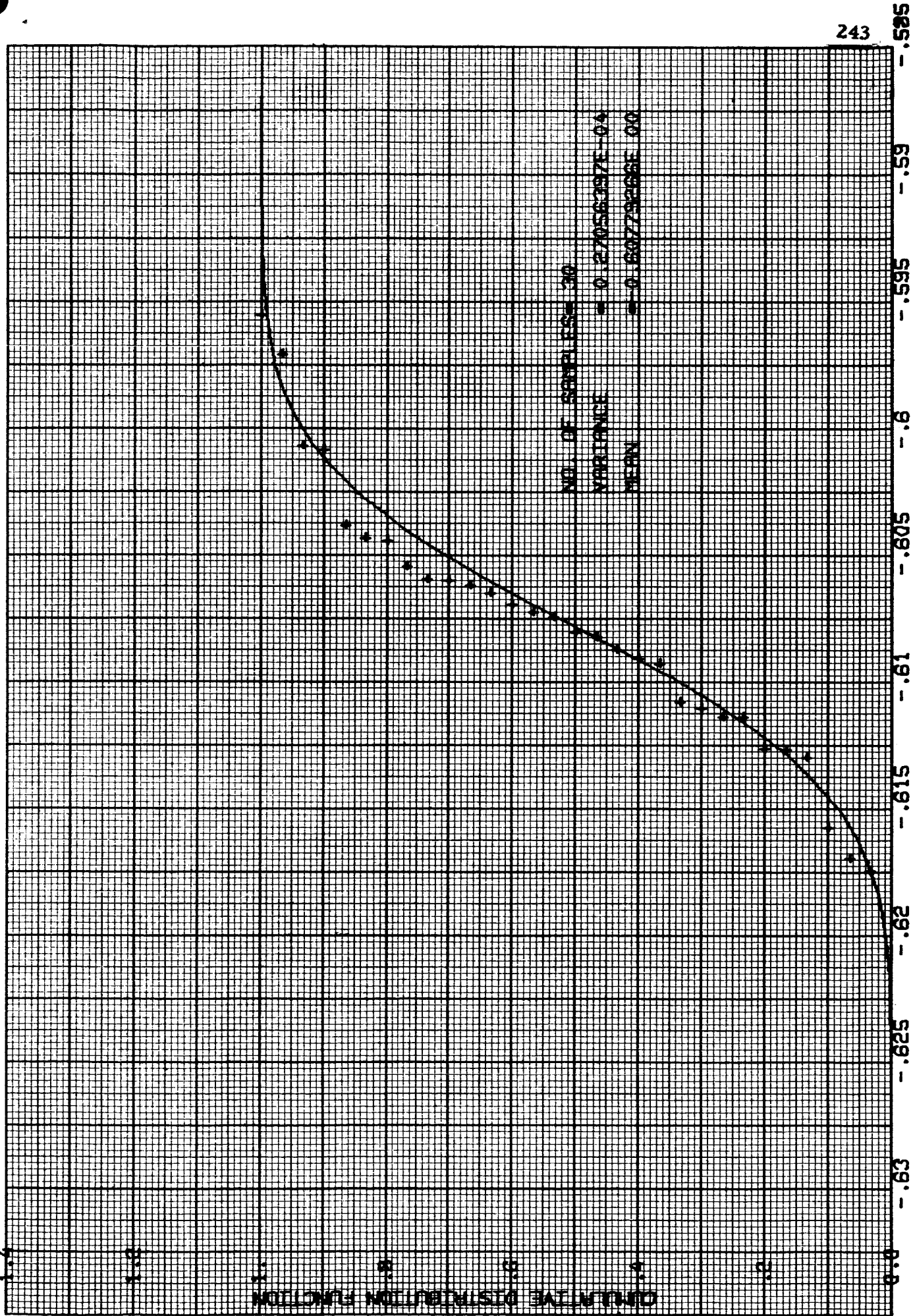
SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE

FIFTH TARGET PASS

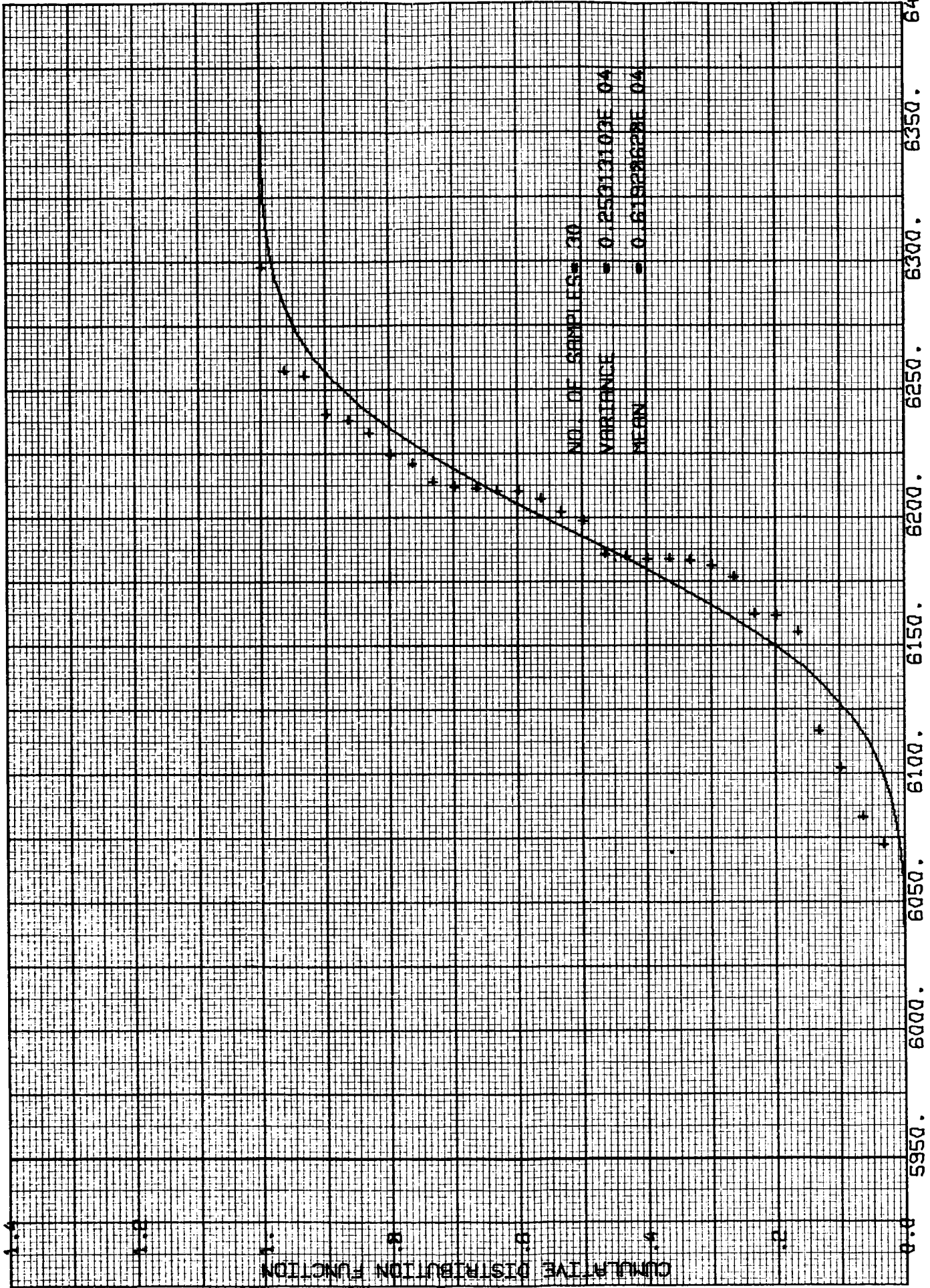


SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE

FIFTH TARGET PASS



FIFTH TARGET PASS



SAMPLE CUMULATIVE DISTRIBUTION OF MUTUAL EARTH-SUN VISIBILITY TIME

SIXTH TARGET PASS
SAMPLE STATE VECTORS

X	Y	Z	VX	VY	VZ
0.17557976E 04	-0.32820841E 03	-0.85065477E-05	0.32927523E-00	0.18360031E 01	0.43200091E-00
0.17580093E 04	-0.31458463E 03	0.15220395E-05	0.31535128E-00	0.18390714E 01	0.43245274E-00
0.17605343E 04	-0.30000882E 03	-0.10563450E-05	0.29988705E-00	0.18405449E 01	0.43192919E-00
0.17598692E 04	-0.30430096E 03	0.29494838E-05	0.30444989E-00	0.18404841E 01	0.43229590E-00
0.17501301E 04	-0.35695127E 03	-0.11106012E-05	0.35973865E-00	0.18325251E 01	0.43284040E-00
0.17547894E 04	-0.33215705E 03	-0.11493210E-05	0.33356123E-00	0.18351415E 01	0.43264636E-00
0.17575274E 04	-0.31684241E 03	-0.17125206E-05	0.31744450E-00	0.18376730E 01	0.43232392E-00
0.17580093E 04	-0.31406683E 03	0.12387755E-05	0.31453440E-00	0.18380121E 01	0.43244649E-00
0.17554674E 04	-0.32731426E 03	0.87292656E-06	0.32870346E-00	0.18377067E 01	0.43253396E-00
0.17626863E 04	-0.28846613E 03	0.81500374E-05	0.28746513E-00	0.18407025E 01	0.43257329E-00
0.17603032E 04	-0.30260830E 03	0.90049598E-06	0.30259687E-00	0.18405735E 01	0.43232699E-00
0.17576765E 04	-0.31700487E 03	-0.83859057E-06	0.31753758E-00	0.18375179E 01	0.43241220E-00
0.17547075E 04	-0.33168487E 03	-0.41259242E-05	0.33312722E-00	0.18358547E 01	0.43240649E-00
0.17559957E 04	-0.32460117E 03	-0.15105160E-05	0.32576077E-00	0.18370943E 01	0.43266258E-00
0.17579558E 04	-0.31456717E 03	-0.47049496E-05	0.31504720E-00	0.18382294E 01	0.43224765E-00
0.17580400E 04	-0.31387184E 03	-0.79696564E-06	0.31472187E-00	0.18391240E 01	0.43189447E-00
0.17601494E 04	-0.30116761E 03	-0.35059339E-05	0.30124164E-00	0.18400604E 01	0.43214559E-00
0.17653865E 04	-0.26446596E 03	-0.18096247E-05	0.26279376E-00	0.18445884E 01	0.43190759E-00
0.17575130E 04	-0.31784868E 03	-0.68302801E-05	0.31858422E-00	0.18384306E 01	0.43251952E-00
0.17587750E 04	-0.30913387E 03	-0.86465376E-08	0.30938382E-00	0.18386947E 01	0.43204989E-00
0.17561921E 04	-0.32467245E 03	0.54641973E-06	0.32579964E-00	0.18370649E 01	0.43241157E-00
0.17650230E 04	-0.27115318E 03	0.34627832E-05	0.26957021E-00	0.18432073E 01	0.43184558E-00
0.17559633E 04	-0.32550973E 03	-0.93320948E-06	0.32702277E-00	0.18387465E 01	0.43282799E-00
0.17530928E 04	-0.33985880E 03	-0.49961955E-05	0.34182487E-00	0.18353391E 01	0.43292674E-00
0.17644896E 04	-0.27799041E 03	-0.42063526E-06	0.27649558E-00	0.18422350E 01	0.43178722E-00
0.17571589E 04	-0.31962226E 03	-0.52748071E-06	0.32029834E-00	0.18377688E 01	0.43251075E-00
0.17530932E 04	-0.34055793E 03	0.34105833E-05	0.34246749E-00	0.18345015E 01	0.43261026E-00
0.17586476E 04	-0.31186276E 03	0.80267954E-06	0.31231852E-00	0.18386237E 01	0.43233877E-00
0.17560126E 04	-0.32596668E 03	0.10746618E-05	0.32721305E-00	0.18372127E 01	0.43213300E-00
0.17557184E 04	-0.32830282E 03	-0.12896322E-05	0.32950526E-00	0.18367366E 01	0.43327307E-00

SIXTH TARGET PASS

SAMPLE VARIANCE OF SELENOGRAPHIC STATE VECTOR		1		2		3		4		5		6	
1	1.2448276E 01	7.0081895E 01	3.4737689E-06	-7.3688375E-02	8.9574353E-03	-7.4925915E-04							
2	7.0081895E 01	4.0829741E 02	1.9618298E-05	-4.2906031E-01	5.0208782E-02	-4.7312769E-03							
3	3.4737689E-06	1.9618298E-05	1.0469559E-11	-2.0623958E-08	2.3532391E-09	7.1936326E-12							
4	-7.3688375E-02	-4.2906031E-01	-2.0623958E-08	4.5090399E-04	-5.2715169E-05	4.9677387E-06							
5	8.9574353E-03	5.0208782E-02	2.3532391E-09	-5.2715169E-05	6.8730321E-06	-4.7683716E-07							
6	-7.4925915E-04	-4.7312769E-03	7.1936326E-12	4.9677387E-06	-4.7683716E-07	1.4181795E-07							

CORRESPONDING CORRELATION MATRIX

CORRESPONDING CORRELATION MATRIX		1		2		3		4		5		6	
1	1.000000E 00	9.8302127E-01	3.0428611E-01	-9.8356334E-01	9.6840023E-01	-5.6391267E-01							
2	9.8302127E-01	1.000000E 00	3.0006049E-01	-9.9997232E-01	9.4780105E-01	-6.2176238E-01							
3	3.0428611E-01	3.0006049E-01	1.000000E 00	-3.0016897E-01	2.7741356E-01	5.9036209E-03							
4	-9.8356334E-01	-9.9997232E-01	-3.0016897E-01	1.000000E 00	-9.4693327E-01	6.2122813E-01							
5	9.6840023E-01	9.4780105E-01	2.7741356E-01	-9.4693327E-01	1.000000E 00	-4.8298128E-01							
6	-5.6391267E-01	-6.2176238E-01	5.9036209E-03	6.2122813E-01	-4.8298128E-01	9.9999998E-01							

SAMPLE MEAN OF SELENOGRAPHIC STATE VECTOR

1	1.7578237E 03	-3.1484505E 02	-6.9676772E-07	3.1545736E-01	1.8383155E 00	4.3237600E-01
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SIXTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF TIME FROM TRANSUNAR INJECTION

	UNSORTED SAMPLES	
4.5025685E 05	4.4996427E 05	4.5034359E 05
4.5015975E 05	4.5072729E 05	4.4941928E 05
4.5055569E 05	4.5015377E 05	4.5021815E 05
4.5050097E 05	4.5044867E 05	4.4938908E 05
4.4960653E 05	4.5042247E 05	4.5024206E 05
	4.5112104E 05	4.5021647E 05
	4.5014728E 05	4.4998112E 05
	4.4993163E 05	4.4926168E 05
	4.5089042E 05	4.5079904E 05
	4.5060858E 05	4.5045300E 05

SIXTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF V / H

	UNSORTED SAMPLES	
3.9694831E-02	3.9938483E-02	3.9887592E-02
3.9979777E-02	3.9990430E-02	4.0136731E-02
4.0064830E-02	4.0094181E-02	3.9966111E-02
3.9862564E-02	4.0074340E-02	3.9919955E-02
3.9608604E-02	3.9881744E-02	4.0002167E-02
	3.9784088E-02	3.9784088E-02
	3.9766990E-02	3.9766990E-02
	4.0081090E-02	4.0081090E-02
	4.0020617E-02	4.0020617E-02
	3.9877267E-02	3.9877267E-02
	3.9912404E-02	3.9912404E-02
	3.9831119E-02	3.9831119E-02
	4.0600685E-02	4.0600685E-02
	4.0130334E-02	4.0130334E-02
	3.9766247E-02	3.9766247E-02

SIXTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF RESOLUTION

	UNSORTED SAMPLES	
1.0460855E 00	1.0396380E 00	1.0411725E 00
1.0384545E 00	1.0354651E 00	1.0444406E 00
1.0367591E 00	1.0388751E 00	1.0380199E 00
1.0420317E 00	1.0404680E 00	1.0356468E 00
1.0470389E 00	1.0385988E 00	1.0433718E 00
	1.0400868E 00	1.0450157E 00
	1.0381088E 00	1.0442203E 00
	1.0359892E 00	1.0356323E 00
	1.0357868E 00	1.0388913E 00
	1.0413387E 00	1.0417560E 00
	1.0404172E 00	1.0404172E 00
	1.0422682E 00	1.0422682E 00
	1.0216499E 00	1.0216499E 00
	1.0356926E 00	1.0356926E 00
	1.0447703E 00	1.0447703E 00

SIXTH TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF LONGITUDE

		UNSORTED SAMPLES	
3.4941198E 02	3.4985465E 02	3.5032924E 02	3.5018992E 02
3.4978063E 02	3.4987101E 02	3.4943824E 02	3.5070585E 02
3.4929592E 02	3.4952691E 02	3.4985491E 02	3.4987735E 02
3.4974878E 02	3.5003114E 02	3.4952582E 02	3.5126617E 02
3.5104680E 02	3.4969077E 02	3.4900658E 02	3.4994422E 02
			3.4847223E 02
			3.5024579E 02
			3.5029052E 02
			3.4949807E 02
			3.4948393E 02
			3.4928152E 02
			3.4977635E 02
			3.5148008E 02
			3.4902859E 02
			3.4940854E 02

SIXTH TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF ALTITUDE

		UNSORTED SAMPLES	
4.8119933E 01	4.7843993E 01	4.7823349E 01	4.7893935E 01
4.7768905E 01	4.7753006E 01	4.7631392E 01	4.8044266E 01
4.7690917E 01	4.7655501E 01	4.7788253E 01	4.7748916E 01
4.7933456E 01	4.7646194E 01	4.7861525E 01	4.7639754E 01
4.8163787E 01	4.7901580E 01	4.7775542E 01	4.7995101E 01
			4.8070723E 01
			4.8034133E 01
			4.7639083E 01
			4.7789000E 01
			4.7920775E 01
			4.7859191E 01
			4.7944335E 01
			4.6995894E 01
			4.7641860E 01
			4.8059433E 01

SIXTH TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF SIDE OVERLAP

		UNSORTED SAMPLES	
2.4914362E 01	2.4661601E 01	2.4701807E 01	2.4715676E 01
2.4636801E 01	2.4614863E 01	2.4452957E 01	2.4910765E 01
2.4532706E 01	2.4497265E 01	2.4642598E 01	2.4600722E 01
2.4721361E 01	2.4567589E 01	2.4672777E 01	2.4628882E 01
2.5033193E 01	2.4710734E 01	2.4582122E 01	2.4813505E 01
			2.4756899E 01
			2.4832250E 01
			2.4551825E 01
			2.4551547E 01
			2.4718444E 01
			2.4675936E 01
			2.4780695E 01
			2.4121305E 01
			2.4432312E 01
			2.4786488E 01

SIXTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF SEMI-MAJOR AXIS		UNSORTED SAMPLES	
2.6884686E 03	2.6911878E 03	2.6843976E 03	2.6889142E 03
2.6850582E 03	2.6842706E 03	2.6956249E 03	2.6763677E 03
2.6900002E 03	2.6897222E 03	2.6858259E 03	2.6897437E 03
2.6912260E 03	2.6822515E 03	2.6902151E 03	2.6725542E 03
2.6751192E 03	2.6890951E 03	2.6926295E 03	2.6864926E 03
			2.7015121E 03
			2.6884159E 03
			2.6824172E 03
			2.7007624E 03
			2.6922939E 03
			2.6876345E 03
			2.6852121E 03
			2.6719120E 03
			2.6963276E 03
			2.6940231E 03

SIXTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF ECCENTRICITY		UNSORTED SAMPLES	
3.3567083E-01	3.3644278E-01	3.3477274E-01	3.3586390E-01
3.3495723E-01	3.3476791E-01	3.3761547E-01	3.3269501E-01
3.3620810E-01	3.3615211E-01	3.3514051E-01	3.3612087E-01
3.3642049E-01	3.3430685E-01	3.3619710E-01	3.3189278E-01
3.3233885E-01	3.3590745E-01	3.3682468E-01	3.3522702E-01
			3.3889635E-01
			3.3568892E-01
			3.3434882E-01
			3.3881587E-01
			3.3668756E-01
			3.3556041E-01
			3.3493026E-01
			3.3197263E-01
			3.3778433E-01
			3.3706290E-01

SIXTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF INCLINATION		UNSORTED SAMPLES	
1.3040092E 01	1.3049089E 01	1.3041238E 01	1.3047343E 01
1.3052253E 01	1.3056900E 01	1.3044987E 01	1.3072217E 01
1.3048280E 01	1.3056286E 01	1.3049073E 01	1.3033182E 01
1.3051599E 01	1.3046610E 01	1.3049119E 01	1.3052318E 01
1.3050261E 01	1.3053771E 01	1.3051786E 01	1.3052196E 01
			1.3049669E 01
			1.3049691E 01
			1.3049297E 01
			1.3048628E 01
			1.3038349E 01
			1.3059486F 01
			1.3055754E 01
			1.3051427F 01
			1.3056243E 01
			1.3072015E 01

SIXTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE

		UNSORTED SAMPLES	
3.4941199E 02	3.4985465E 02	3.5032924E 02	3.5018992E 02
3.4978063E 02	3.4987101E 02	3.4943824E 02	3.5070585E 02
3.4929592E 02	3.4952691E 02	3.4985491E 02	3.4987735E 02
3.4974878E 02	3.5003114E 02	3.4952582E 02	3.5126617E 02
3.5104680E 02	3.4969077E 02	3.4900658E 02	3.4994422E 02

3.4847223E 02	3.4928152E 02
3.5024579E 02	3.4977635E 02
3.5029052E 02	3.5148008E 02
3.4949807E 02	3.4902859E 02
3.4948393E 02	3.4940854E 02

SIXTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE

		UNSORTED SAMPLES	
1.6300659E 00	1.6071014E 00	1.6184654E 00	1.6172333E 00
1.6255341E 00	1.6242714E 00	1.6239662E 00	1.6306572E 00
1.6235466E 00	1.6174088E 00	1.6295700E 00	1.5953217E 00
1.6253662E 00	1.6237335E 00	1.6164131E 00	1.6157303E 00
1.6308174E 00	1.6375351E 00	1.6203995E 00	1.6112556E 00

1.6219139E 00	1.6156044E 00
1.6206703E 00	1.6281395E 00
1.6014786E 00	1.6092339E 00
1.6063271E 00	1.6249733E 00
1.6144752E 00	1.6266174E 00

SIXTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF MEAN ANOMALY

		UNSORTED SAMPLES	
-7.6377106E-01	-7.5147247E-01	-7.6013184E-01	-7.5737381E-01
-7.6308060E-01	-7.6286316E-01	-7.5702286E-01	-7.7004242E-01
-7.5964355E-01	-7.5688171E-01	-7.6460266E-01	-7.4660110E-01
-7.6006317E-01	-7.6353073E-01	-7.5632095E-01	-7.6460266E-01
-7.7084351E-01	-7.6679230E-01	-7.5694275E-01	-7.5584030E-01

-7.5351334E-01	-7.5721359E-01
-7.5933075E-01	-7.6435089E-01
-7.5299072E-01	-7.6137161E-01
-7.4643326E-01	-7.5715256E-01
-7.5444031E-01	-7.5937271E-01

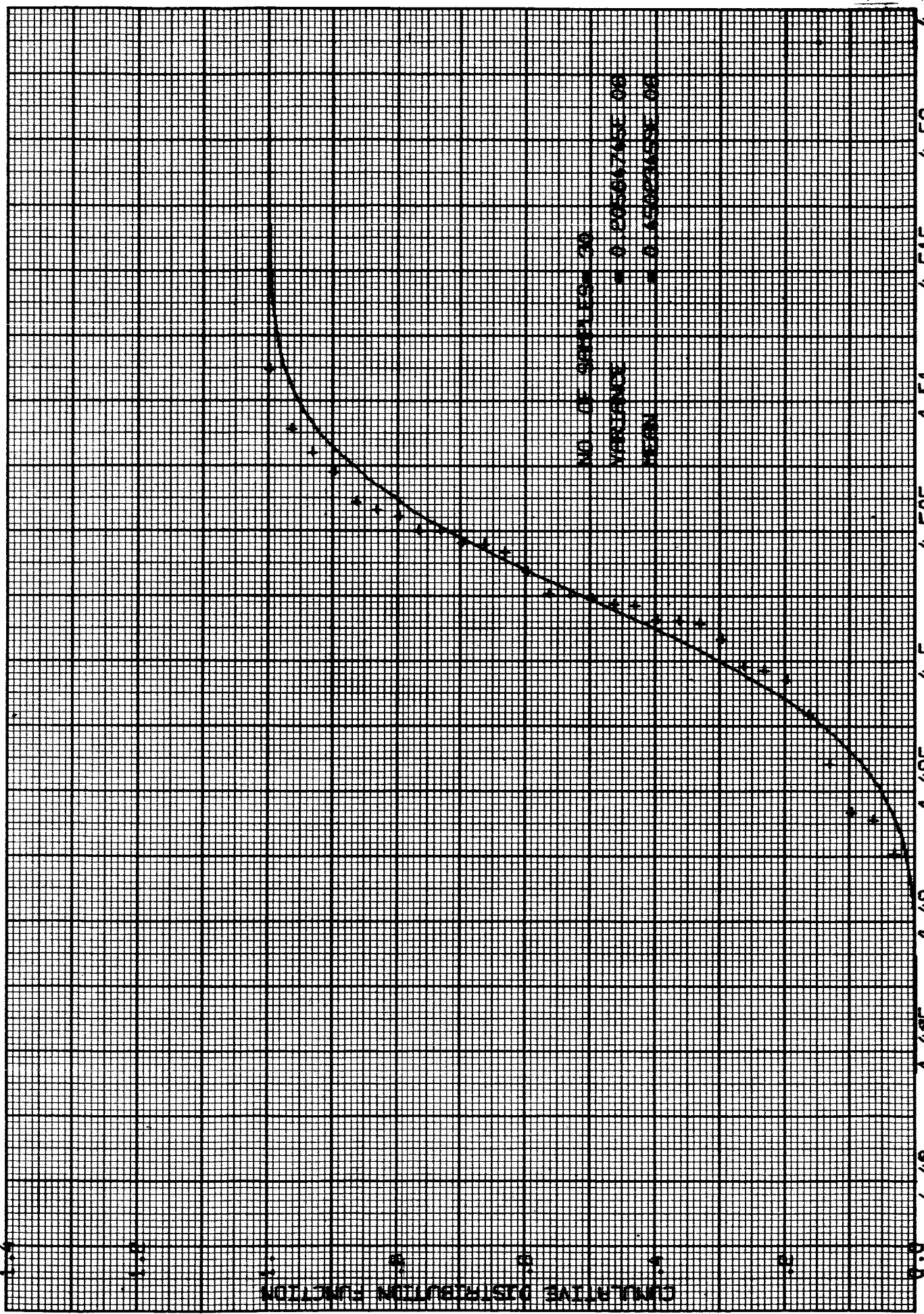
SIXTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF MUTUAL EARTH-SUN VISIBILITY TIME

		UNSORTED SAMPLES	
6.3379000E 03	6.3354000E 03	6.2886000E 03	6.3135000E 03
6.3105000E 03	6.3039000E 03	6.3670999E 03	6.2418000E 03
6.3487000E 03	6.3395000E 03	6.3109000E 03	6.3270000E 03
6.3383999E 03	6.2886000E 03	6.3418000E 03	6.2079000E 03
6.2270000E 03	6.3300999E 03	6.3690000E 03	6.3121000E 03

6.4281999E 03	6.3387000E 03
6.3088000E 03	6.3106000E 03
6.2820000E 03	6.1962000E 03
6.3877000E 03	6.3847000E 03
6.3526000E 03	6.3615000E 03

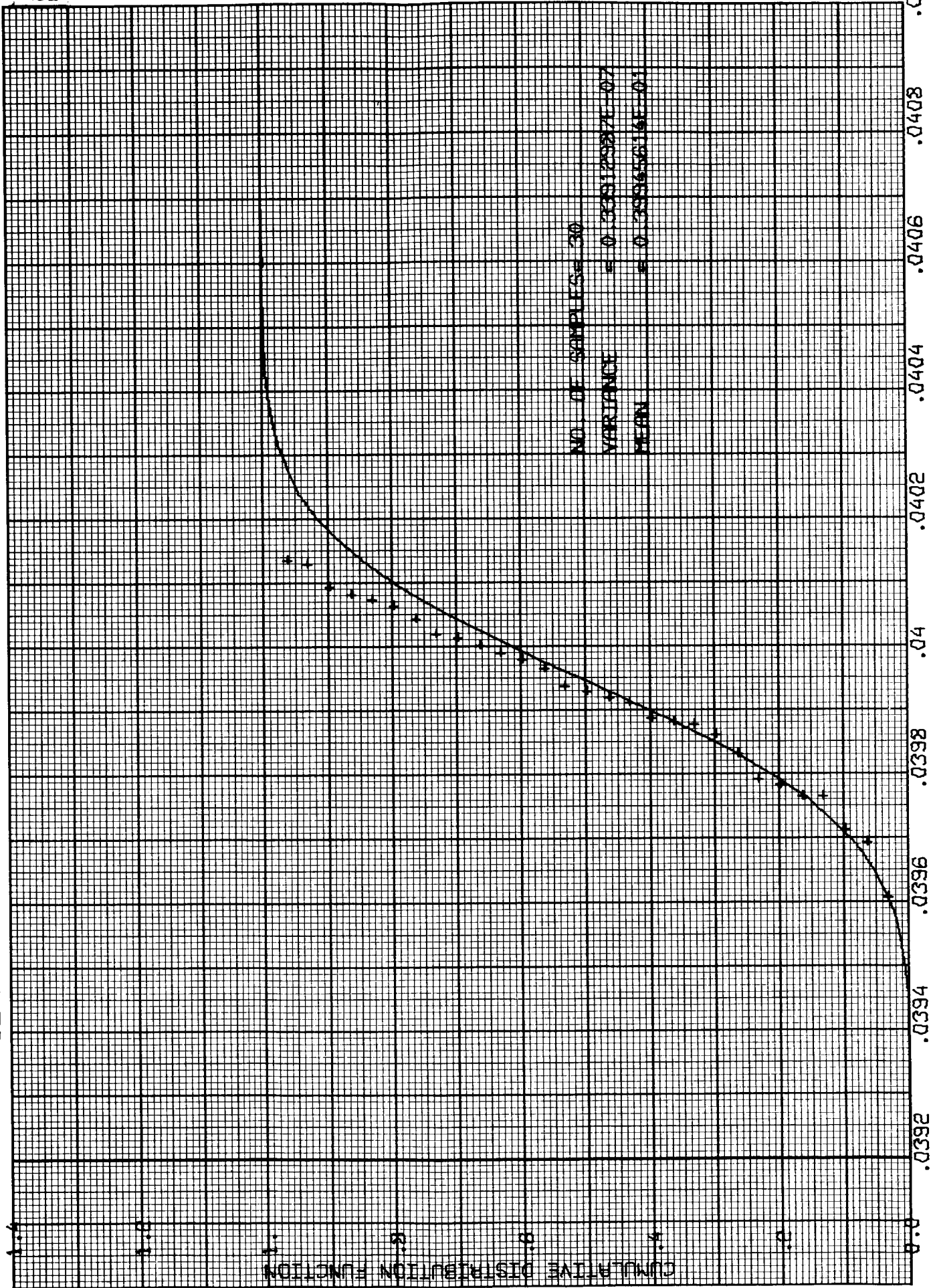
SIXTH TARGET PASS



SAMPLE CUMULATIVE DISTRIBUTION OF TIME FROM TRANSLUNAR INJECTION

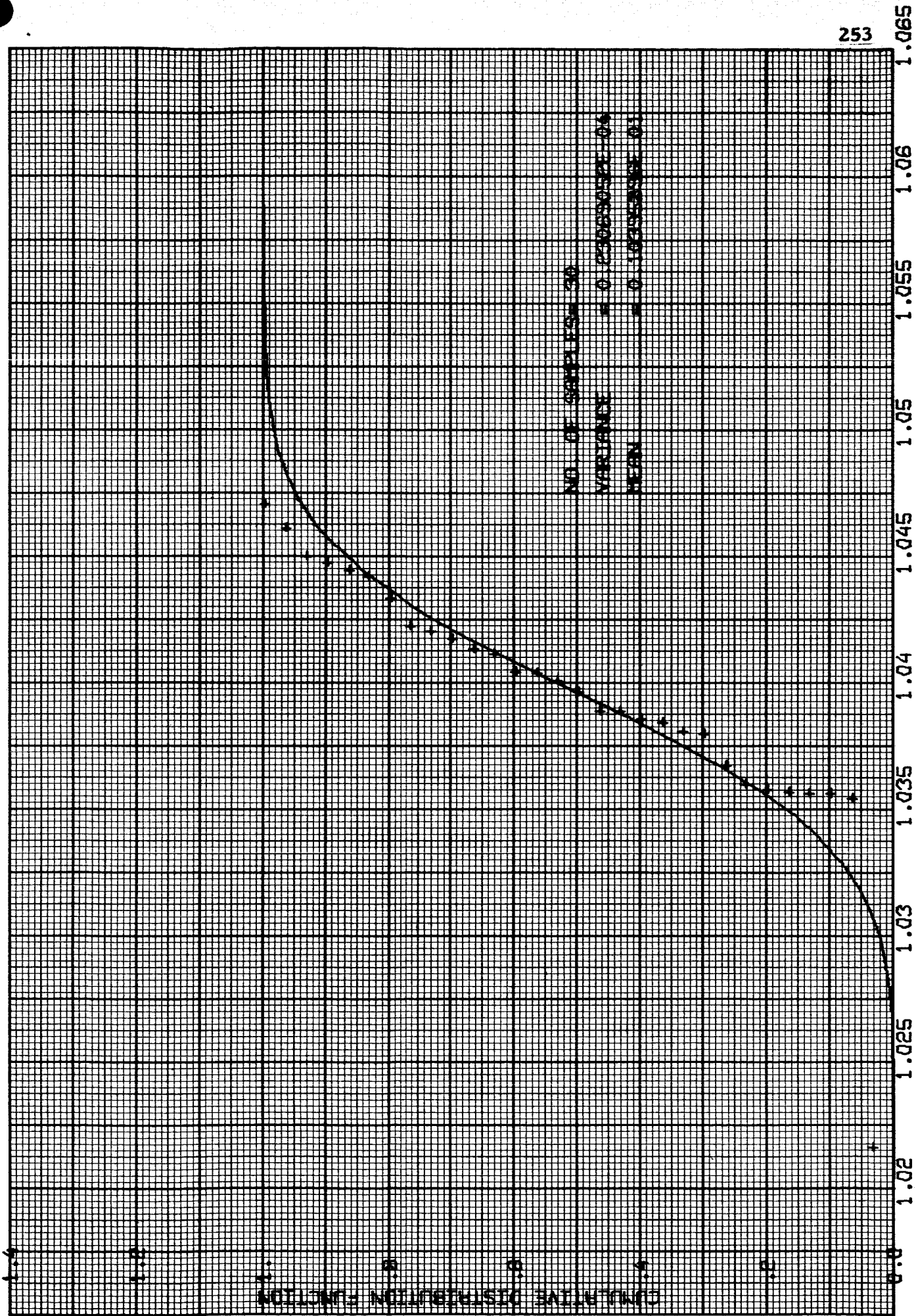
CUMULATIVE DISTRIBUTION FUNCTION

SIXTH TARGET PASS

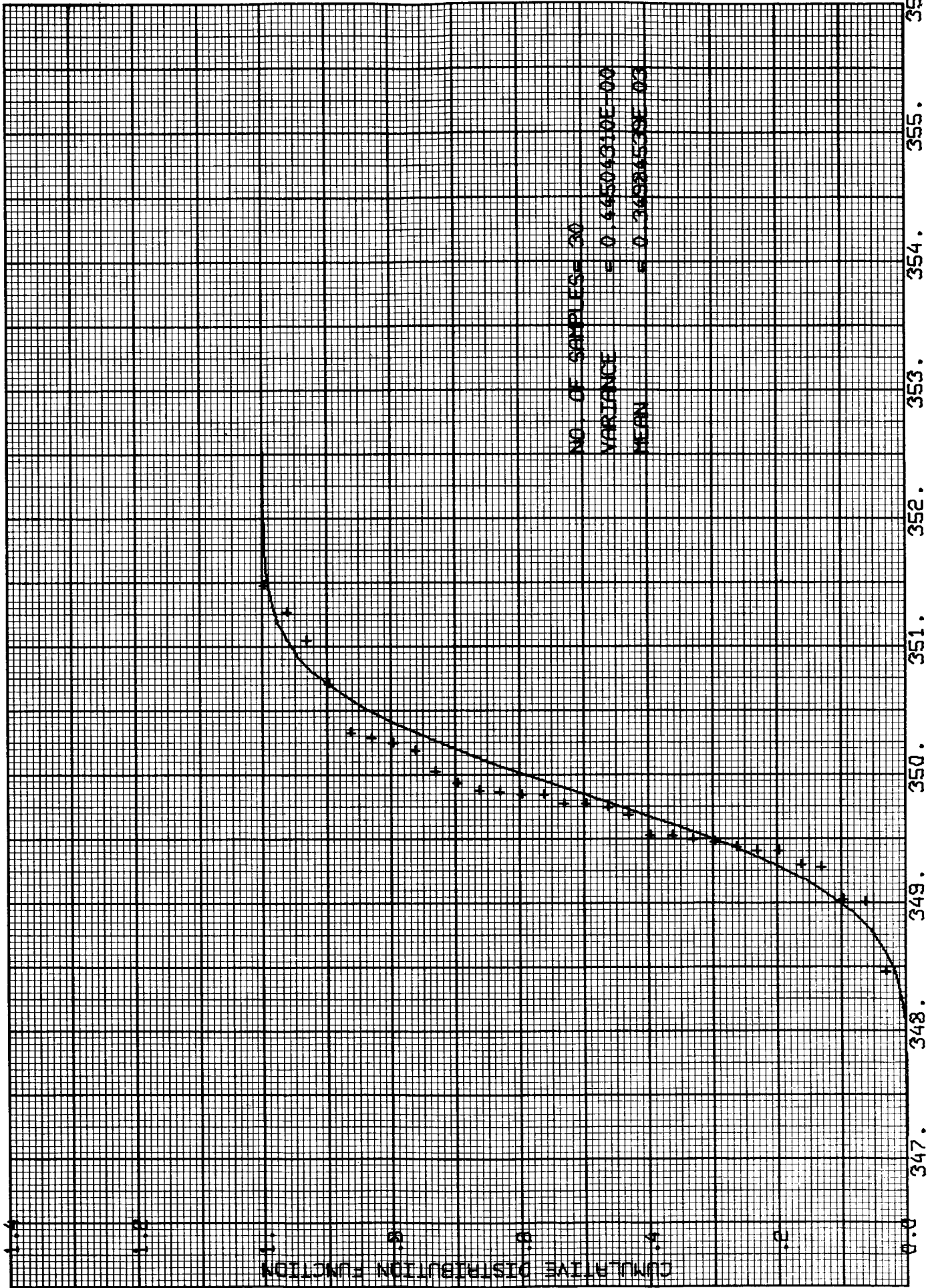


SAMPLE CUMULATIVE DISTRIBUTION OF Y / H

SIXTH TARGET PASS

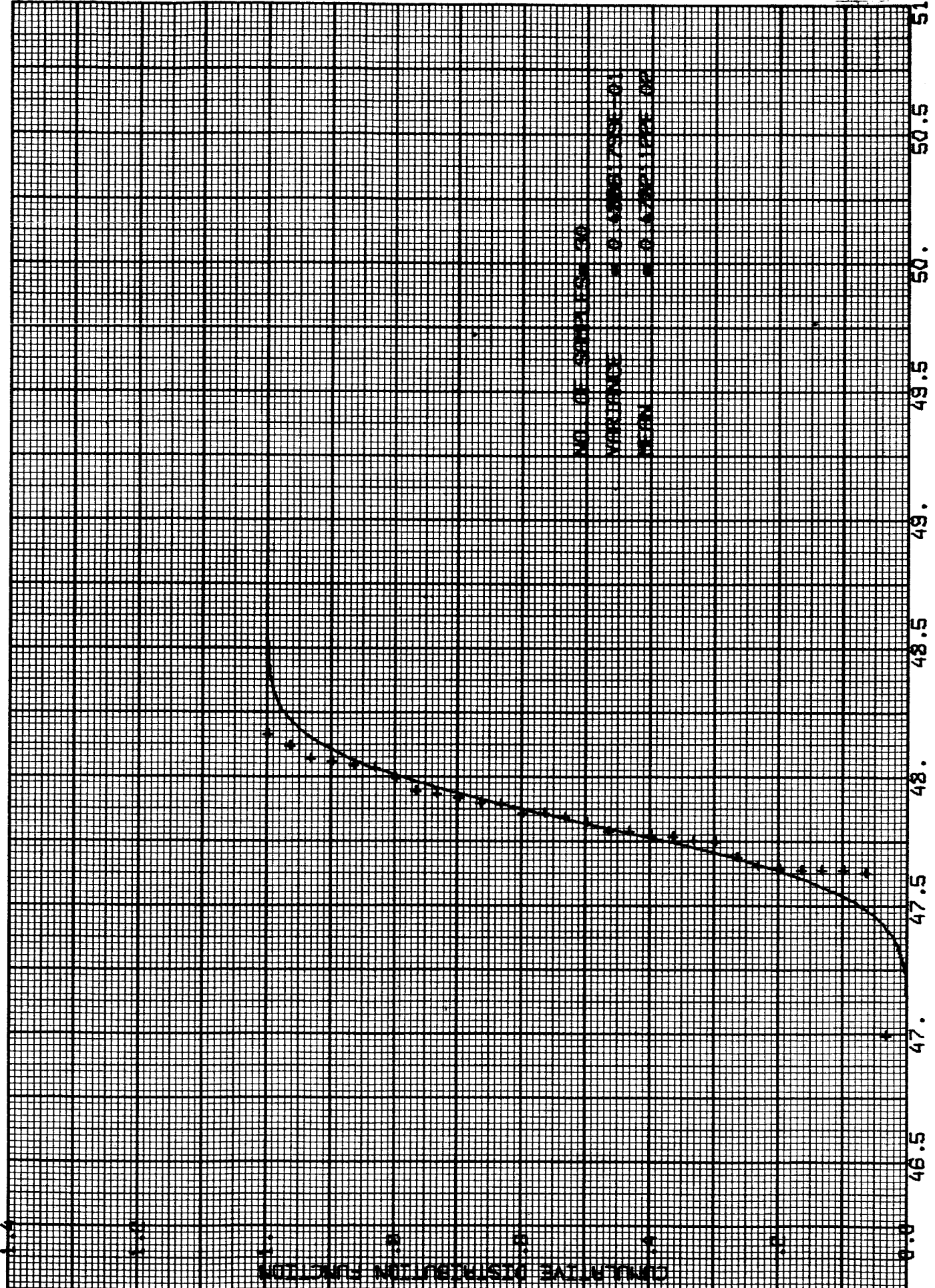


SIXTH TARGET PASS



SAMPLE CUMULATIVE DISTRIBUTION OF LONGITUDE

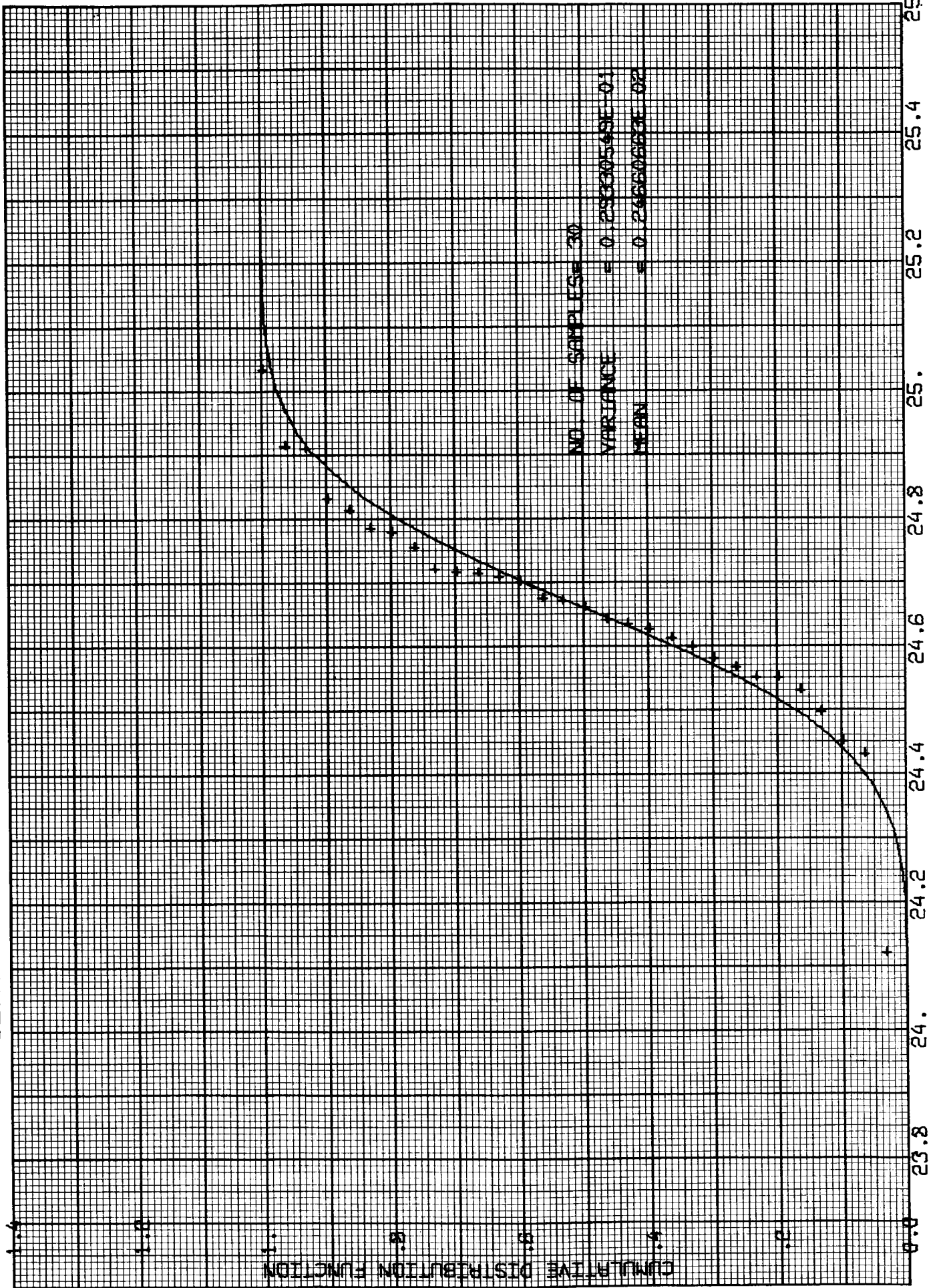
SIXTH TARGET PASS



NO. OF SAMPLES = 50
 VARIANCE = 0.0001755E-01
 MEAN = 0.47021122E-02

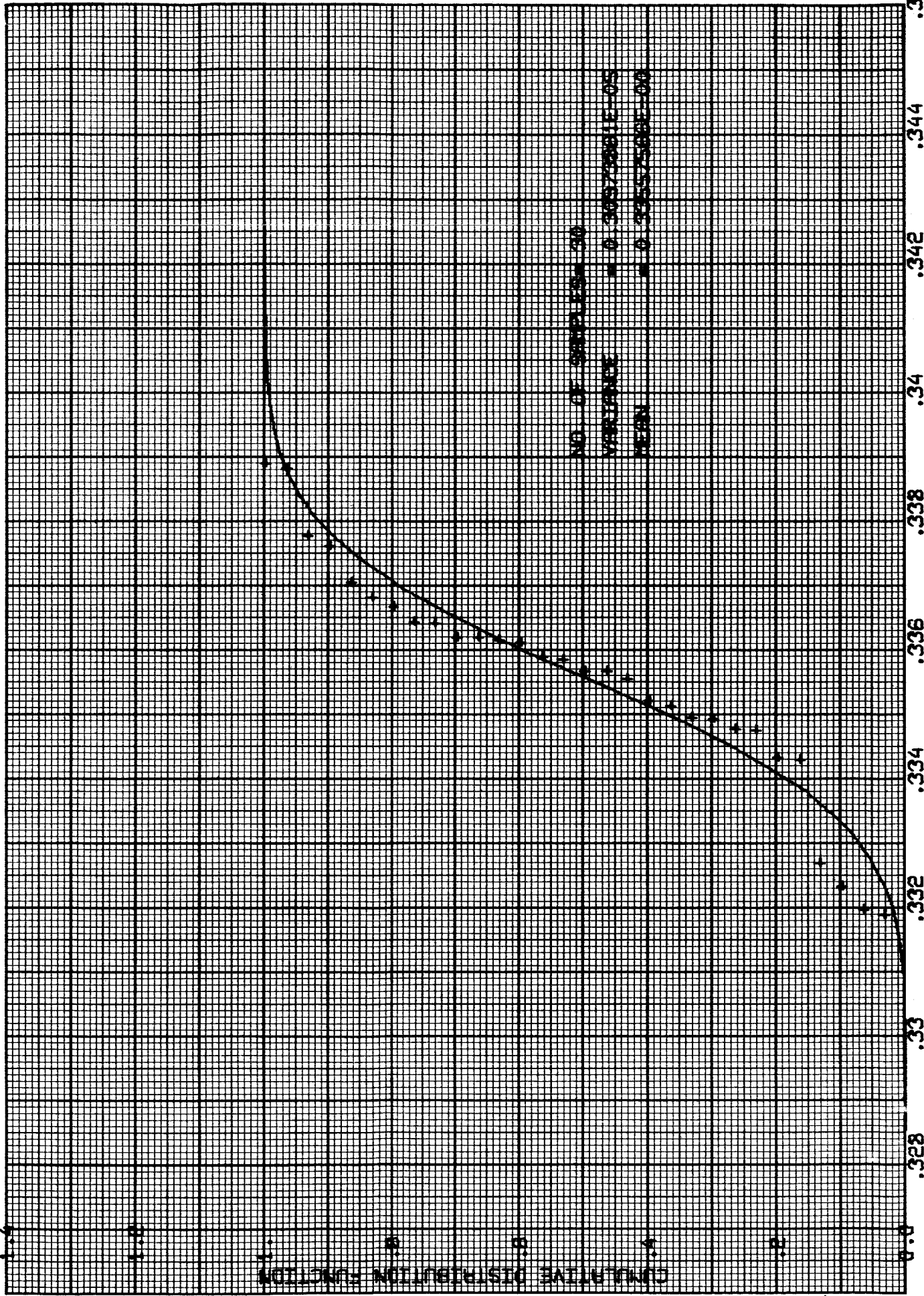
SAMPLE CUMULATIVE DISTRIBUTION OF ALTITUDE

SIXTH TARGET PASS

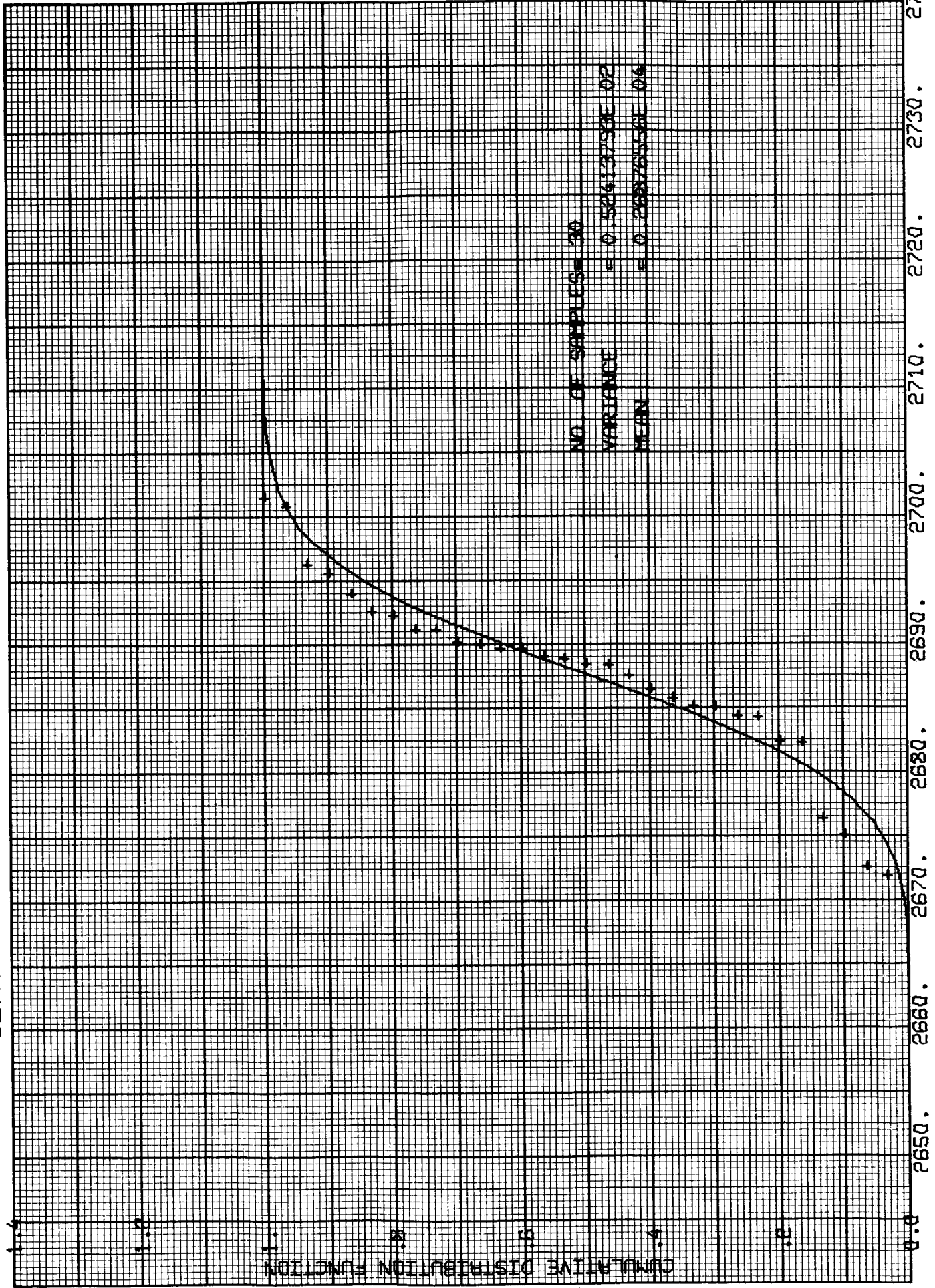


SAMPLE CUMULATIVE DISTRIBUTION OF SIDE OVERLAP

SIXTH TARGET PASS

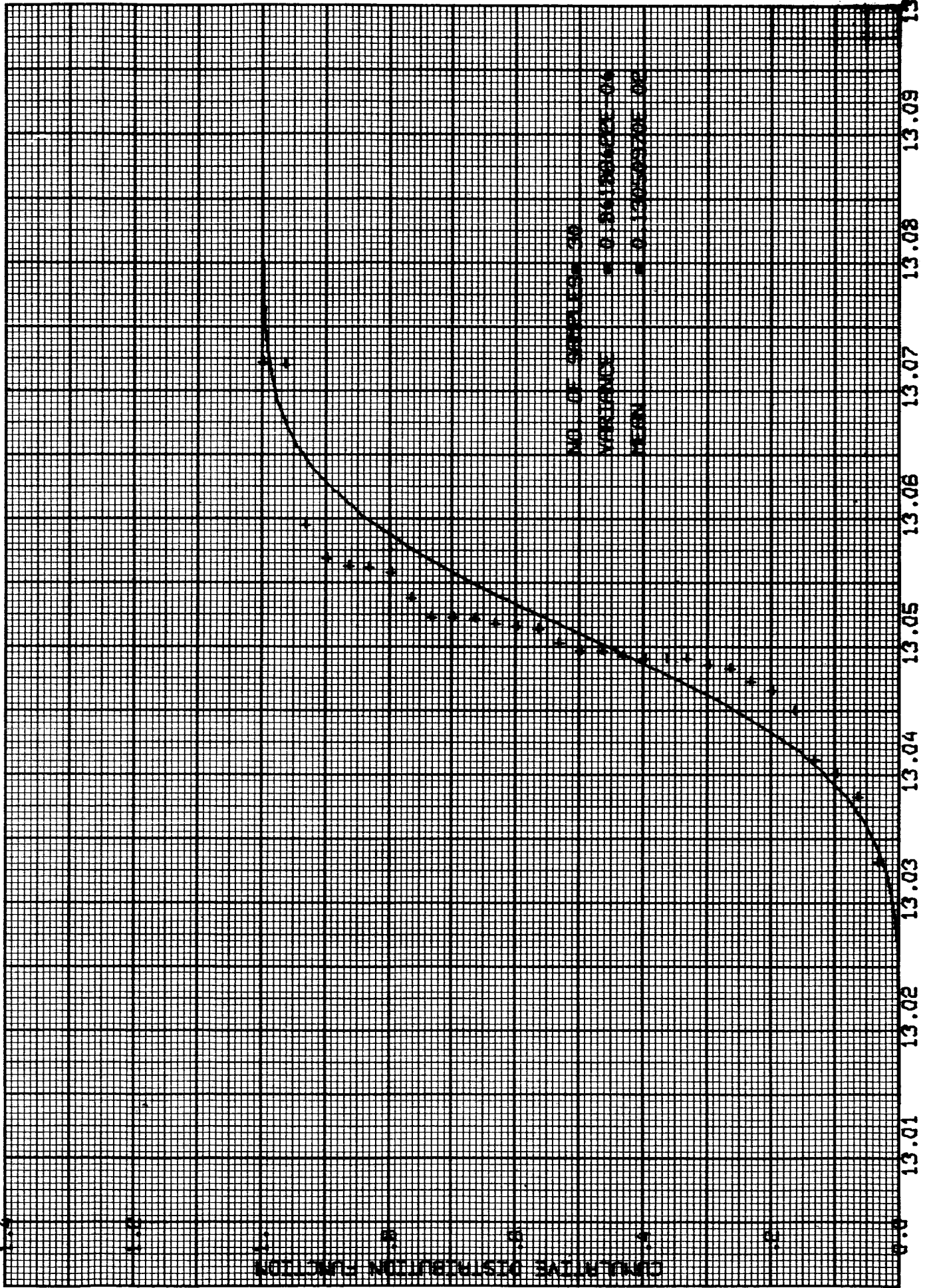


SIXTH TARGET PASS

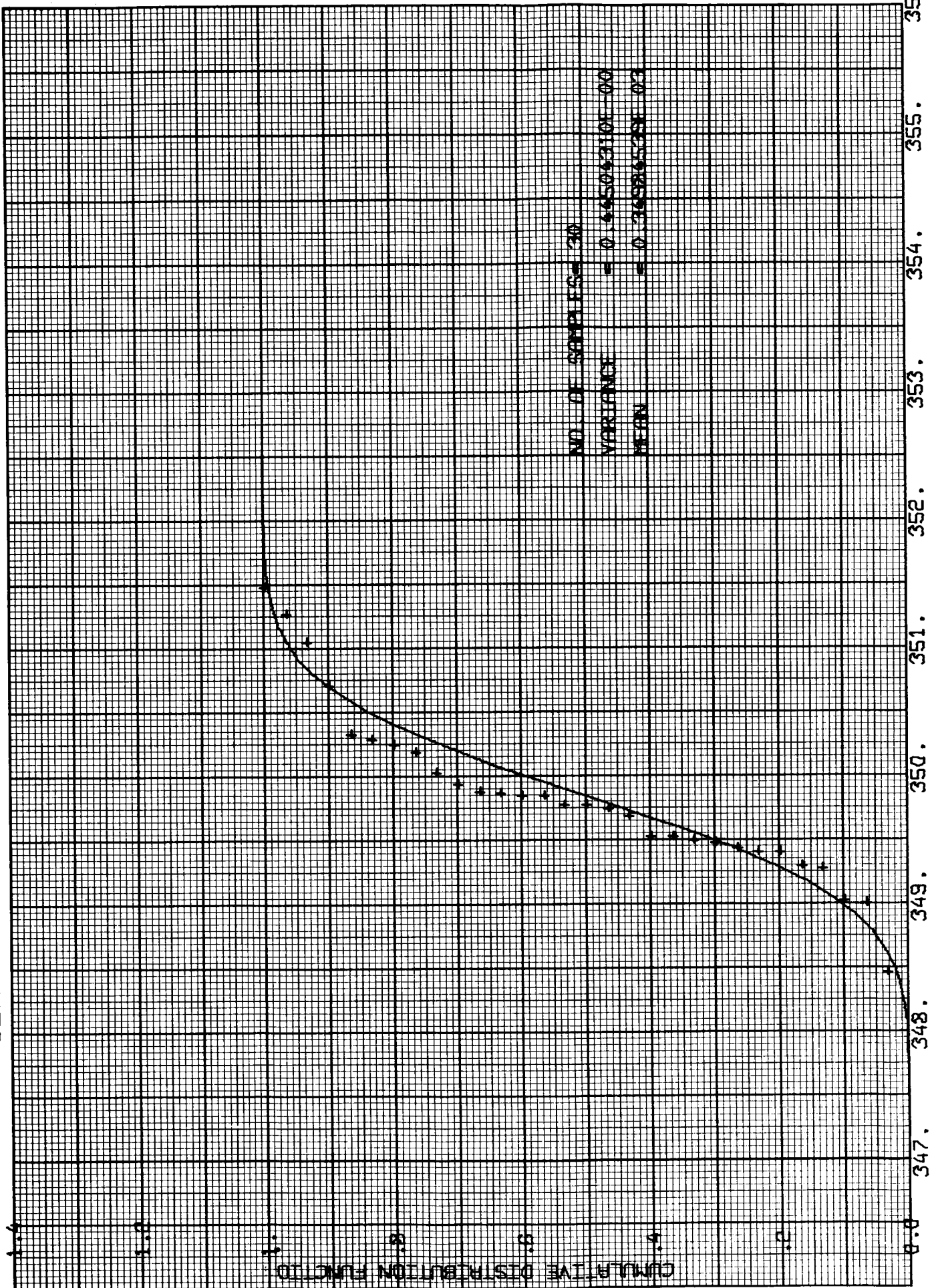


SAMPLE CUMULATIVE DISTRIBUTION OF SEMI-MAJOR AXIS

SIXTH TARGET PASS

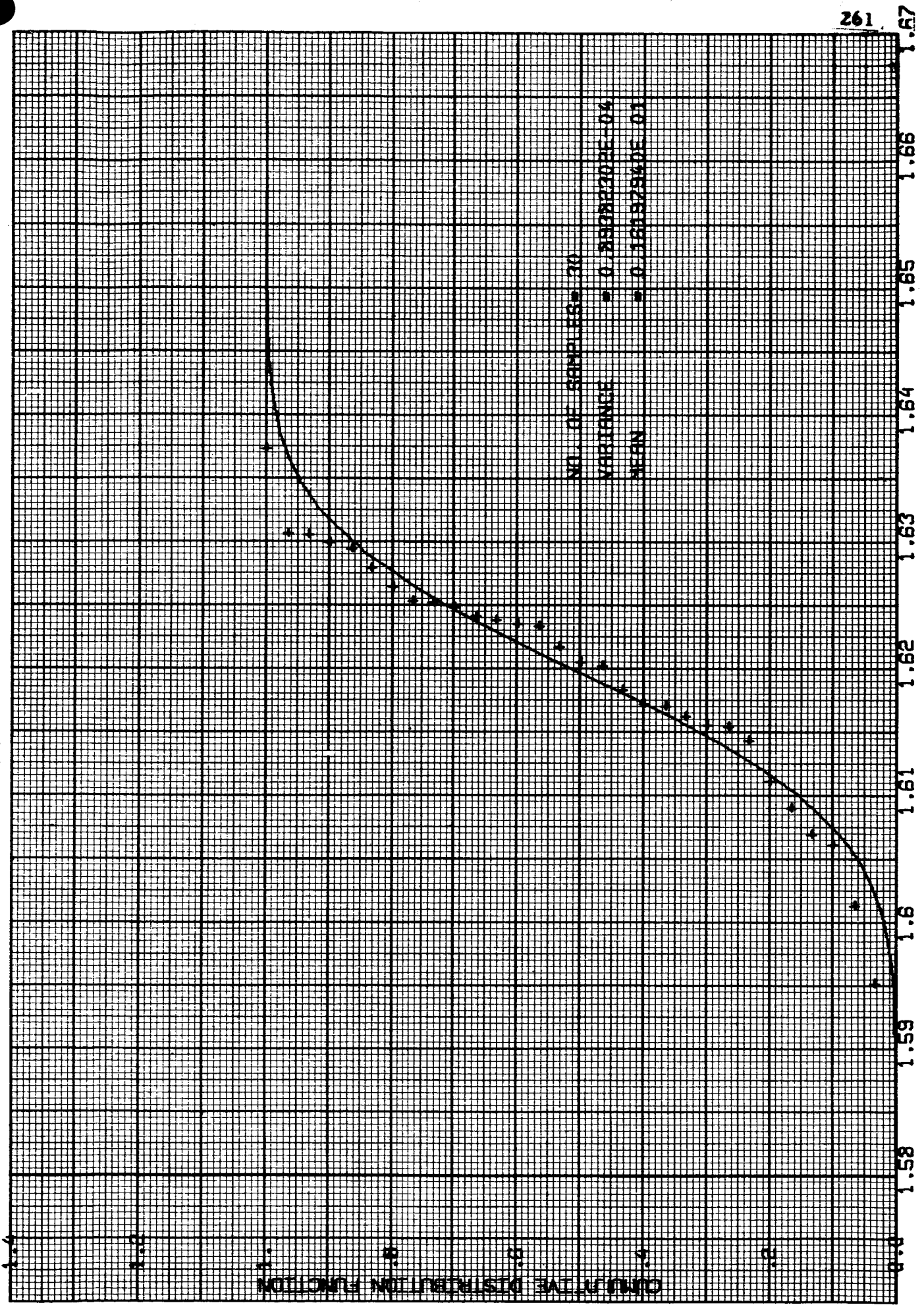


SIXTH TARGET PASS



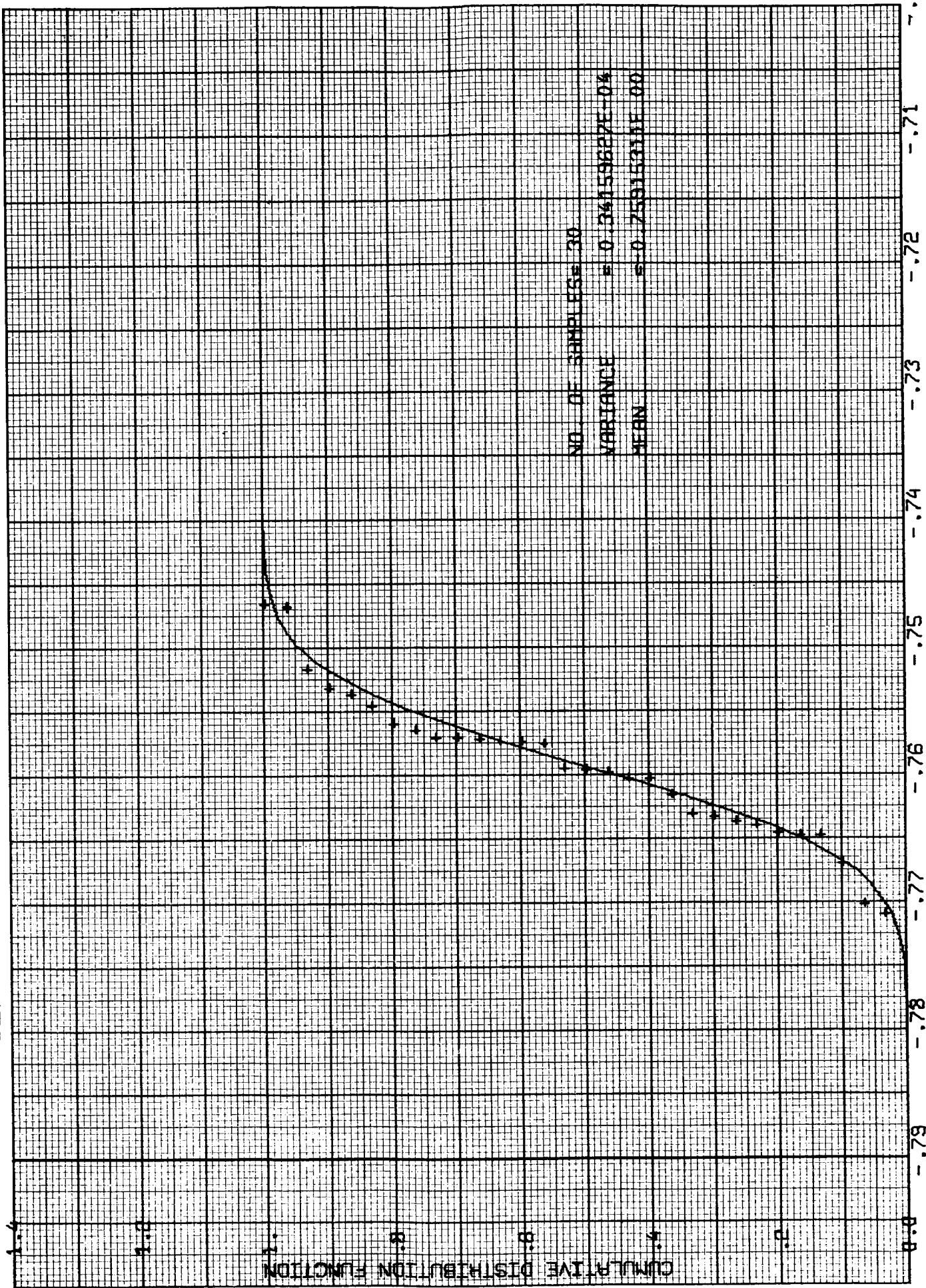
SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE

SIXTH TARGET PASS



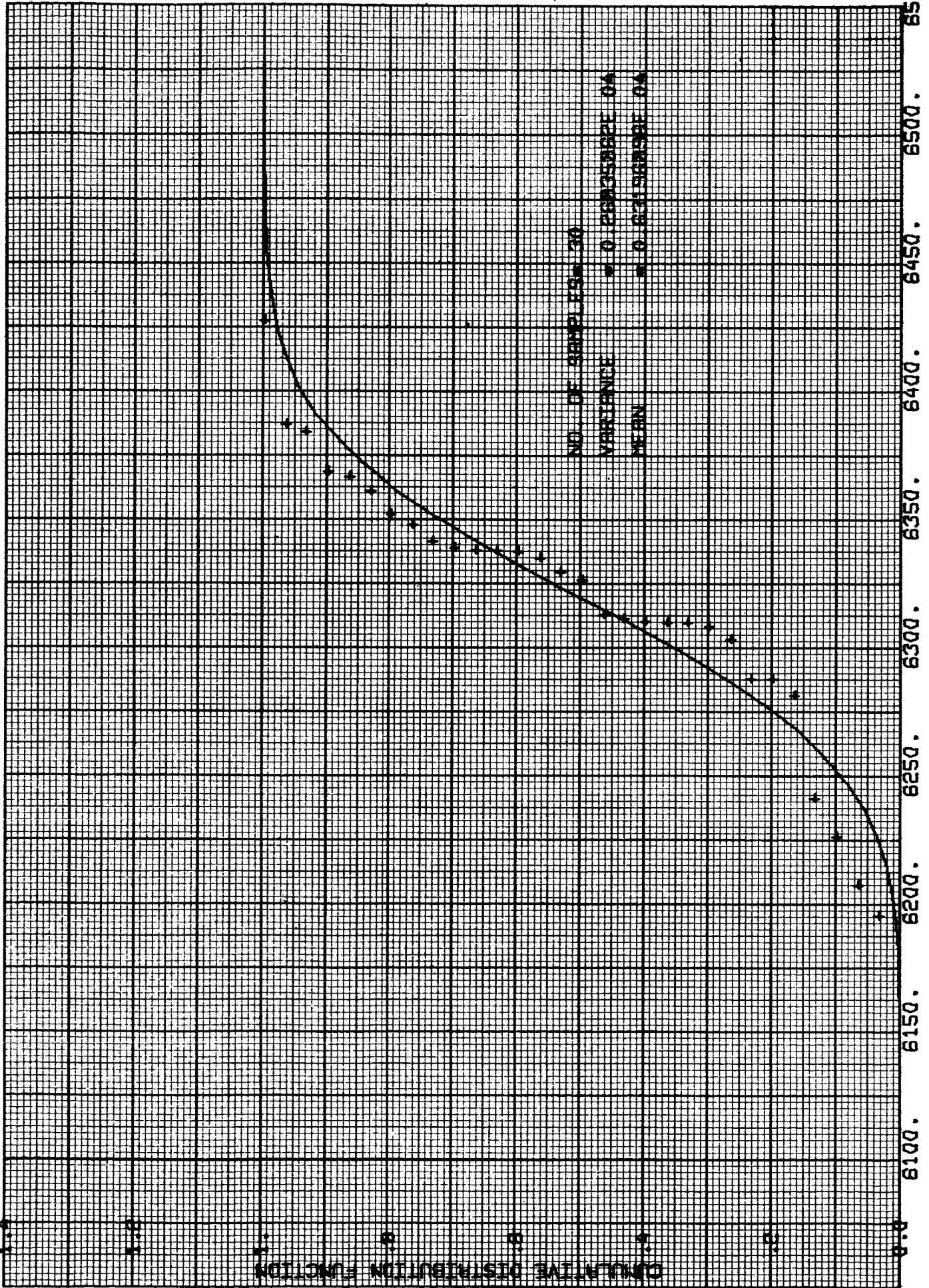
SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE

SIXTH TARGET PASS



SAMPLE CUMULATIVE DISTRIBUTION OF MEAN ANOMALY

SIXTH TARGET PASS



SEVENTH TARGET PASS
SAMPLE STATE VECTORS

X	Y	Z	VX	VY	VZ
0.17434315E 04	-0.39092050E 03	0.48635416E-06	0.39202327E-00	0.18231958E 01	0.43202595E-00
0.17461166E 04	-0.37741277E 03	0.32759085E-05	0.37824786E-00	0.18267377E 01	0.43248135E-00
0.17491961E 04	-0.36271275E 03	0.83746044E-06	0.36262298E-00	0.18287937E 01	0.43196255E-00
0.17483585E 04	-0.36709613E 03	-0.12078454E-05	0.36729865E-00	0.18285499E 01	0.43232758E-00
0.17366754E 04	-0.41980805E 03	0.30725785E-05	0.42270373E-00	0.18185741E 01	0.43285598E-00
0.17423071E 04	-0.39473060E 03	-0.11057327E-05	0.39617043E-00	0.18222094E 01	0.43267015E-00
0.17455947E 04	-0.37945762E 03	-0.49717969E-05	0.38009156E-00	0.18253112E 01	0.43235233E-00
0.17461734E 04	-0.37670085E 03	-0.15529992E-05	0.37719720E-00	0.18257506E 01	0.43247569E-00
0.17430983E 04	-0.39018945E 03	-0.13268839E-05	0.39168563E-00	0.18248776E 01	0.43255850E-00
0.17518012E 04	-0.35098965E 03	-0.19518463E-05	0.34995247E-00	0.18294338E 01	0.43261003E-00
0.17488518E 04	-0.36541922E 03	0.49946016E-05	0.36545098E-00	0.18287034E 01	0.43235904E-00
0.17457201E 04	-0.37970775E 03	0.27176715E-05	0.38026635E-00	0.18251348E 01	0.43244041E-00
0.17422160E 04	-0.39437710E 03	-0.92552482E-06	0.39588492E-00	0.18229091E 01	0.43243036E-00
0.17437582E 04	-0.38731892E 03	0.21297017E-05	0.38854418E-00	0.18244086E 01	0.43268836E-00
0.17461038E 04	-0.37719613E 03	-0.40637808E-05	0.37771250E-00	0.18259502E 01	0.43227663E-00
0.17461792E 04	-0.37666395E 03	0.87011812E-06	0.37758206E-00	0.18268210E 01	0.43192381E-00
0.17487773E 04	-0.36382075E 03	0.28929350E-05	0.36392244E-00	0.18282711E 01	0.43217887E-00
0.17553516E 04	-0.32701923E 03	0.30826866E-05	0.32535425E-00	0.18341822E 01	0.43195213E-00
0.17455012E 04	-0.38067921E 03	-0.19645721E-06	0.38147862E-00	0.18259802E 01	0.43254697E-00
0.17471147E 04	-0.37178002E 03	0.63023918E-06	0.37205742E-00	0.18266152E 01	0.43208084E-00
0.17439523E 04	-0.38739547E 03	-0.13995323E-05	0.38858061E-00	0.18243782E 01	0.43243731E-00
0.17547554E 04	-0.33368821E 03	0.15081196E-05	0.33207752E-00	0.18325690E 01	0.43188797E-00
0.17436162E 04	-0.38859995E 03	0.27125429E-05	0.39024533E-00	0.18259303E 01	0.43285259E-00
0.17402863E 04	-0.40262593E 03	-0.52228407E-05	0.40469409E-00	0.18220594E 01	0.43294755E-00
0.17539734E 04	-0.34056091E 03	0.37891132E-05	0.33902363E-00	0.18313473E 01	0.43182731E-00
0.17450964E 04	-0.38238189E 03	-0.24177597E-05	0.38310960E-00	0.18252721E 01	0.43253778E-00
0.17402822E 04	-0.40322794E 03	-0.79430139E-06	0.40520944E-00	0.18212233E 01	0.43263125E-00
0.17468730E 04	-0.37459750E 03	0.80387697E-05	0.37508429E-00	0.18264215E 01	0.43236848E-00
0.17437150E 04	-0.38874190E 03	0.50845215E-05	0.39005785E-00	0.182444635E 01	0.43215842E-00
0.17433225E 04	-0.39114463E 03	0.83226998E-06	0.39241359E-00	0.18238895E 01	0.43329684E-00

SEVENTH TARGET PASS

SAMPLE VARIANCE OF SELENOGRAPHIC STATE VECTOR

	1	2	3	4	5	6
1	1.8275862E 01	8.5422412E 01	3.0702493E-06	-8.9927936E-02	1.4143319E-02	-8.7553878E-04
2	8.5422412E 01	4.1092888E 02	1.4262356E-05	-4.3239830E-01	6.6035829E-02	-4.6239392E-03
3	3.0702493E-06	1.4262356E-05	9.2271599E-12	-1.4877844E-08	2.6295373E-09	-2.4960533E-10
4	-8.9927936E-02	-4.3239830E-01	-1.4877844E-08	4.5502802E-04	-6.9445576E-05	4.8608615E-06
5	1.4143319E-02	6.6035829E-02	2.6295373E-09	-6.9445576E-05	1.1279665E-05	-6.4948509E-07
6	-8.7553878E-04	-4.6239392E-03	-2.4960533E-10	4.8608615E-06	-6.4948509E-07	1.3565195E-07

CORRESPONDING CORRELATION MATRIX

	1	2	3	4	5	6
1	1.000000E 00	9.8571092E-01	2.3642897E-01	-9.8613555E-01	9.8506365E-01	-5.5606228E-01
2	9.8571092E-01	1.000000E 00	2.3161886E-01	-9.9995757E-01	9.6994743E-01	-6.1932094E-01
3	2.3642897E-01	2.3161886E-01	9.9999998E-01	-2.2960793E-01	2.5774913E-01	-2.2310372E-01
4	-9.8613555E-01	-9.9995757E-01	-2.2960793E-01	1.000000E 00	-9.6934285E-01	6.1870149E-01
5	9.8506365E-01	9.6994743E-01	2.5774913E-01	-9.6934285E-01	1.000000E 00	-5.2505894E-01
6	-5.5606228E-01	-6.1932094E-01	-2.2310372E-01	6.1870149E-01	-5.2505894E-01	1.000000E 00

SAMPLE MEAN OF SELENOGRAPHIC STATE VECTOR

1	1.7459399E 03	-3.7756546E 02	6.6047633E-07	3.7822475E-01	1.8259987E 00	4.3240473E-01
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SEVENTH TARGET PASS
SAMPLE CUMULATIVE DISTRIBUTION OF TIME FROM TRANSLUNAR INJECTION

	UNSORTED SAMPLES	
4.6274933E 05	4.6242833E 05	4.6283913E 05
4.6262844E 05	4.6326967E 05	4.6182743E 05
4.6305884E 05	4.6300215E 05	4.6271948E 05
4.6301265E 05	4.6224260E 05	4.6177068E 05
4.6200600E 05	4.6275609E 05	4.6272075E 05
	4.6370462E 05	4.6270313E 05
	4.6263936E 05	4.6245089E 05
	4.6238190E 05	4.6163881E 05
	4.6346868E 05	4.63334636E 05
	4.6312772E 05	4.6298422E 05

SEVENTH TARGET PASS
SAMPLE CUMULATIVE DISTRIBUTION OF V / H

	UNSORTED SAMPLES	
3.9268659E-02	3.9514701E-02	3.9468469E-02
3.9554159E-02	3.9698487E-02	3.9309995E-02
3.9628469E-02	3.9541555E-02	3.9588138E-02
3.9436445E-02	3.9490046E-02	3.9642797E-02
3.9212261E-02	3.9561946E-02	3.9373279E-02
	3.9337159E-02	3.9480301E-02
	3.9351300E-02	3.9408496E-02
	3.9662172E-02	4.0192342E-02
	3.9583889E-02	3.9685902E-02
	3.9446954E-02	3.9336060E-02

SEVENTH TARGET PASS
SAMPLE CUMULATIVE DISTRIBUTION OF RESOLUTION

	UNSORTED SAMPLES	
1.0571979E 00	1.0510602E 00	1.0519956E 00
1.0493934E 00	1.0490043E 00	1.0549416E 00
1.0479355E 00	1.0470750E 00	1.0489585E 00
1.0530535E 00	1.0465993E 00	1.0458944E 00
1.0573966E 00	1.0523625E 00	1.0542563E 00
	1.0566383E 00	1.0515644E 00
	1.0550175E 00	1.0532094E 00
	1.0463409E 00	1.0318136E 00
	1.0501128E 00	1.0470481E 00
	1.0528807E 00	1.0559546E 00

SEVENTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF LONGITUDE		UNSORTED SAMPLES	
3.4736190E 02	3.4780348E 02	3.4828519E 02	3.4814207E 02
3.4773584E 02	3.4782618E 02	3.4738244E 02	3.4867027E 02
3.4724519E 02	3.4747692E 02	3.4781018E 02	3.4782737E 02
3.4769691E 02	3.4798684E 02	3.4747587E 02	3.4923306E 02
3.4901187E 02	3.4764079E 02	3.4695461E 02	3.4789684E 02
		3.4641052E 02	3.4735412E 02
		3.4819796E 02	3.4772885E 02
		3.4824766E 02	3.4944686E 02
		3.4743582E 02	3.4697345E 02
		3.4743207E 02	3.4735412E 02

SEVENTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF ALTITUDE		UNSORTED SAMPLES	
4.8631102E 01	4.8348769E 01	4.8316436E 01	4.8391799E 01
4.8272094E 01	4.8254195E 01	4.8146194E 01	4.8527312E 01
4.8205031E 01	4.8165450E 01	4.8290542E 01	4.8252090E 01
4.8440459E 01	4.8143569E 01	4.8371596E 01	4.8111144E 01
4.8640242E 01	4.8408675E 01	4.8295990E 01	4.8495788E 01
		4.8605362E 01	4.8371962E 01
		4.8530806E 01	4.8447632E 01
		4.8131682E 01	4.7463424E 01
		4.8305190E 01	4.8164214E 01
		4.8432509E 01	4.8573913E 01

SEVENTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF SIDE OVERLAP		UNSORTED SAMPLES	
2.5292511E 01	2.5048525E 01	2.5084005E 01	2.5110875E 01
2.5027258E 01	2.5008359E 01	2.4852523E 01	2.5284956E 01
2.4931936E 01	2.4897897E 01	2.5046534E 01	2.4995685E 01
2.5114947E 01	2.4934485E 01	2.5073418E 01	2.4989050E 01
2.5406871E 01	2.5099661E 01	2.4991316E 01	2.5192458E 01
		2.5172681E 01	2.5083646E 01
		2.5221958E 01	2.5147704E 01
		2.4933642E 01	2.4464132E 01
		2.4933344E 01	2.4856809E 01
		2.5120543E 01	2.5181281E 01

SEVENTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF SEMI-MAJOR AXIS

UNSORTED SAMPLES

2.6884505E 03	2.6911700E 03	2.6843806E 03	2.6888972E 03	2.7014925E 03	2.6876163E 03
2.68850408E 03	2.6842534E 03	2.6956065E 03	2.6763514E 03	2.6883990E 03	2.6851942E 03
2.6899817E 03	2.6897043E 03	2.6858082E 03	2.6897263E 03	2.6824005E 03	2.6718970E 03
2.6912083E 03	2.6822346E 03	2.6901970E 03	2.6725389E 03	2.7007441E 03	2.6963086E 03
2.6751035E 03	2.6890772E 03	2.6926106E 03	2.6864751E 03	2.6922759E 03	2.6940051E 03

SEVENTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF ECCENTRICITY

UNSORTED SAMPLES

3.3550543E-01	3.3627971E-01	3.3461390E-01	3.3570361E-01	3.3872266E-01	3.3539413E-01
3.3479477E-01	3.3460616E-01	3.3744910E-01	3.3253979E-01	3.3552914E-01	3.3476764E-01
3.3604150E-01	3.3598713E-01	3.3497840E-01	3.3595823E-01	3.3418989E-01	3.3182302E-01
3.3625689E-01	3.3414646E-01	3.3603204E-01	3.3174177E-01	3.3864906E-01	3.3761502E-01
3.3218617E-01	3.3574383E-01	3.3665577E-01	3.3506528E-01	3.3652204E-01	3.3689664E-01

SEVENTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF INCLINATION

UNSORTED SAMPLES

1.3043873E 01	1.3052944E 01	1.3045176E 01	1.3051254E 01	1.3053287E 01	1.3063243E 01
1.3056097E 01	1.3060760E 01	1.3048770E 01	1.3076213E 01	1.3053608E 01	1.3059593E 01
1.3052044E 01	1.3060085E 01	1.3052930E 01	1.3037045E 01	1.3053230E 01	1.3055572E 01
1.3055432E 01	1.3050499E 01	1.3052917E 01	1.3056418E 01	1.3052418E 01	1.3059958E 01
1.3054318E 01	1.3057594E 01	1.3055496E 01	1.3056065E 01	1.3042142E 01	1.3075781E 01

SEVENTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE

SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE	UNSORTED SAMPLES	SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE	UNSORTED SAMPLES	SAMPLE CUMULATIVE DISTRIBUTION OF MUTUAL EARTH-SUN VISIBILITY TIME	UNSORTED SAMPLES
3.4736190E 02	3.4828519E 02	1.9512291E 00	1.9405136E 00	6.4646000E 03	6.4402000E 03
3.4773584E 02	3.4738244E 02	1.9472504E 00	1.9444771E 00	6.4365000E 03	6.4954000E 03
3.4724519E 02	3.4781018E 02	1.9445801E 00	1.9512367E 00	6.4758000E 03	6.4665999E 03
3.4769691E 02	3.4747692E 02	1.9463425E 00	1.9374237E 00	6.4656000E 03	6.4141000E 03
3.4901186E 02	3.4695461E 02	1.9540062E 00	1.9409485E 00	6.3510000E 03	6.4569000E 03

SEVENTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE

SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE	UNSORTED SAMPLES	SAMPLE CUMULATIVE DISTRIBUTION OF MUTUAL EARTH-SUN VISIBILITY TIME	UNSORTED SAMPLES
1.9512291E 00	1.9281692E 00	6.4646000E 03	6.4402000E 03
1.9472504E 00	1.9460602E 00	6.4365000E 03	6.4298000E 03
1.9445801E 00	1.9385071E 00	6.4758000E 03	6.4665999E 03
1.9463425E 00	1.9459267E 00	6.4656000E 03	6.4141000E 03
1.9540062E 00	1.9587250E 00	6.3510000E 03	6.4569000E 03

SEVENTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF MEAN ANOMALY

SAMPLE CUMULATIVE DISTRIBUTION OF MEAN ANOMALY	UNSORTED SAMPLES	SAMPLE CUMULATIVE DISTRIBUTION OF MUTUAL EARTH-SUN VISIBILITY TIME	UNSORTED SAMPLES
-9.1467285E-01	-9.0202332E-01	6.4646000E 03	6.4402000E 03
-9.1452026E-01	-9.1441345E-01	6.4365000E 03	6.4298000E 03
-9.1027069E-01	-9.0756226E-01	6.4758000E 03	6.4665999E 03
-9.1058353E-01	-9.1545105E-01	6.4656000E 03	6.4141000E 03
-9.2400360E-01	-9.1761017E-01	6.3510000E 03	6.4569000E 03

SEVENTH TARGET PASS

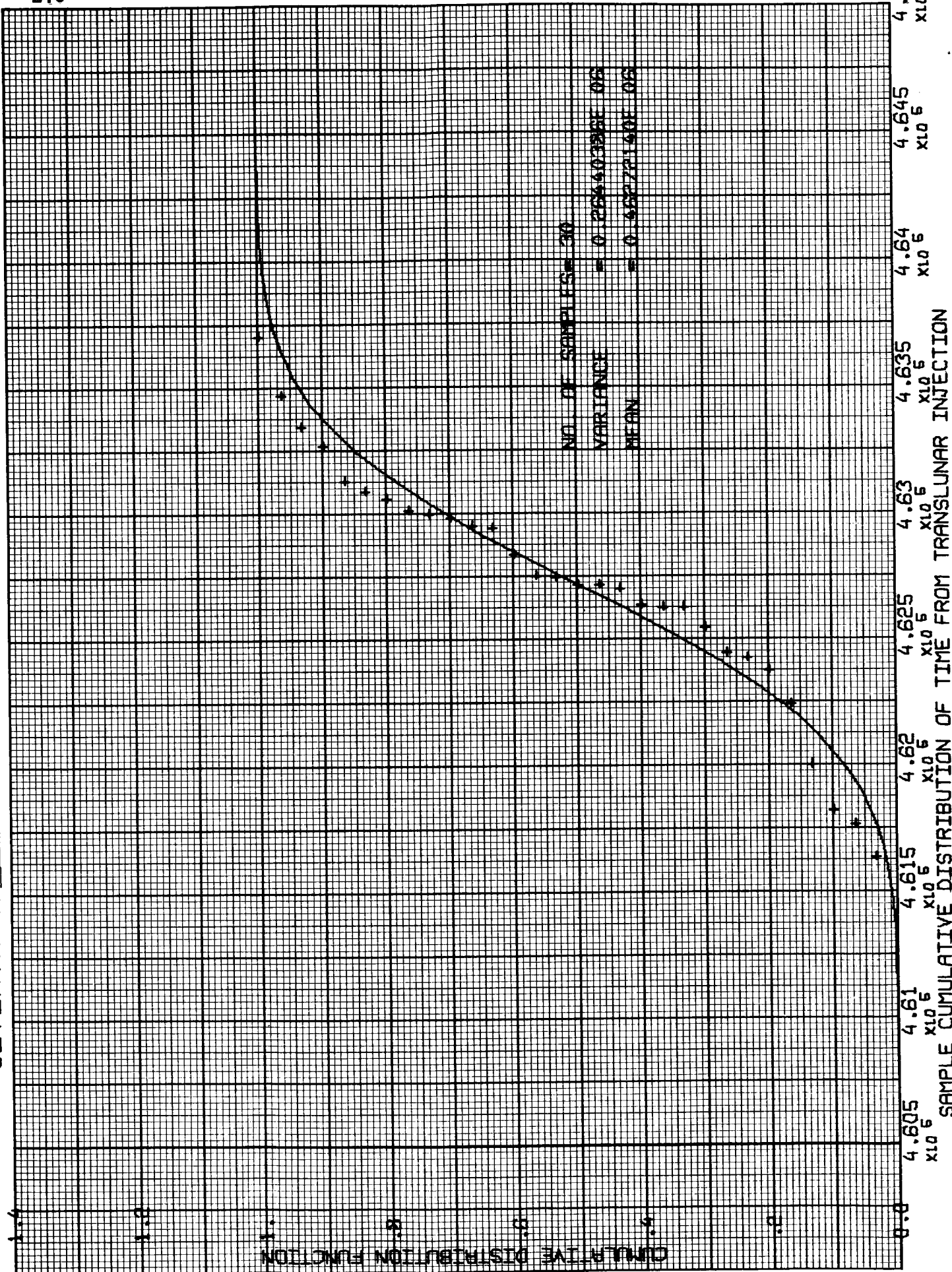
SAMPLE CUMULATIVE DISTRIBUTION OF MUTUAL EARTH-SUN VISIBILITY TIME

SAMPLE CUMULATIVE DISTRIBUTION OF MUTUAL EARTH-SUN VISIBILITY TIME	UNSORTED SAMPLES	SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE	UNSORTED SAMPLES	SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE	UNSORTED SAMPLES
6.4646000E 03	6.4627000E 03	1.9512291E 00	1.9405136E 00	3.4736190E 02	3.4828519E 02
6.4365000E 03	6.4298000E 03	1.9472504E 00	1.9444771E 00	3.4773584E 02	3.4738244E 02
6.4758000E 03	6.4665999E 03	1.9445801E 00	1.9512367E 00	3.4724519E 02	3.4781018E 02
6.4656000E 03	6.4141000E 03	1.9463425E 00	1.9374237E 00	3.4769691E 02	3.4747692E 02
6.3510000E 03	6.4569000E 03	1.9540062E 00	1.9409485E 00	3.4901186E 02	3.4695461E 02

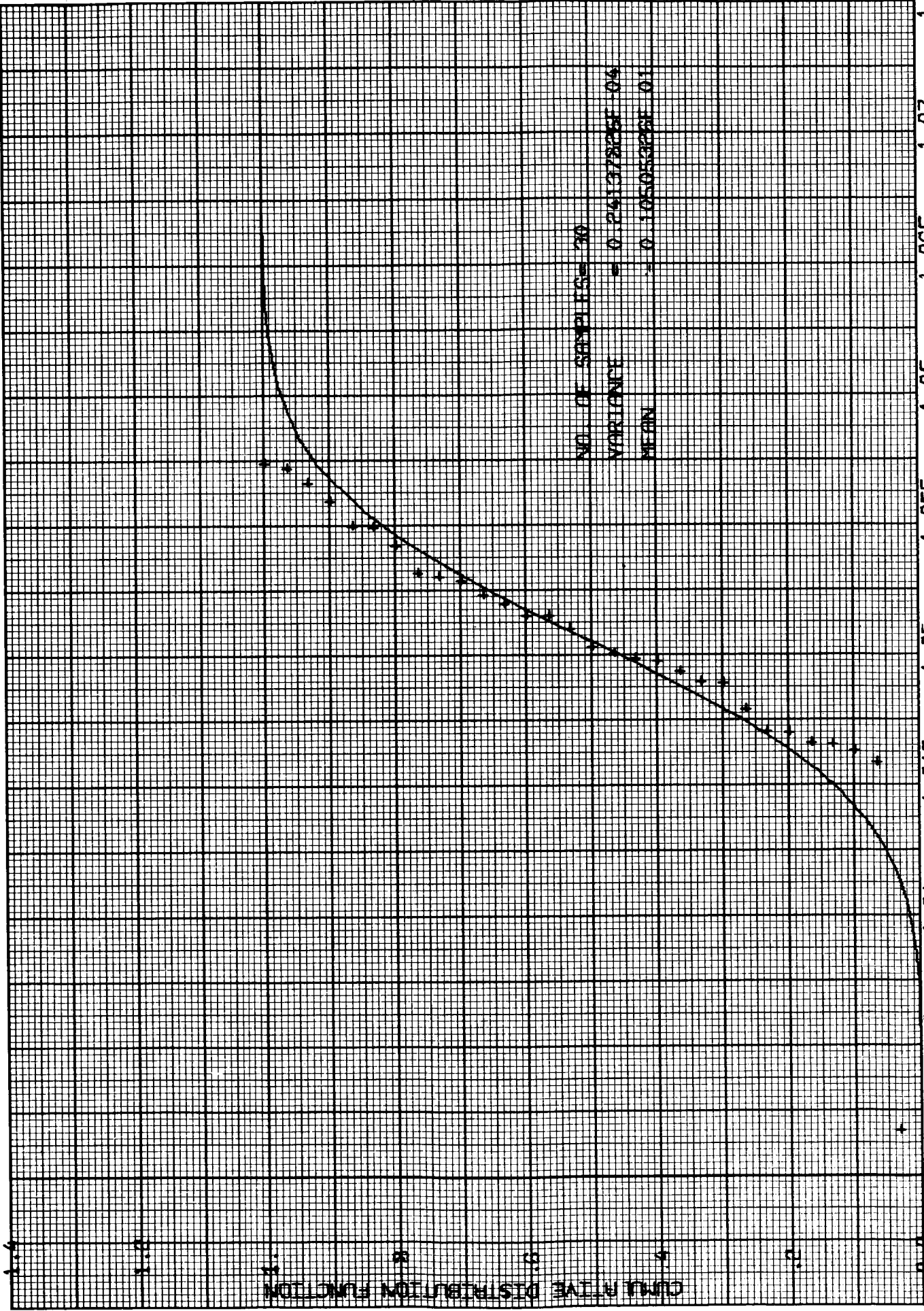
-9.0815353E-01	-9.0231323E-01	1.9412498E 00	1.9386711E 00	3.4641052E 02	3.4781018E 02
-9.1576004E-01	-9.1036224E-01	1.9421501E 00	1.9534721E 00	3.4819796E 02	3.4867027E 02
-9.1506195E-01	-9.0490341E-01	1.9332733E 00	1.9166679E 00	3.4824766E 02	3.4782737E 02
-9.0678024E-01	-8.9551163E-01	1.9451790E 00	1.9394073E 00	3.4697345E 02	3.4923306E 02
-9.0936279E-01	-9.0479279E-01	1.9470139E 00	1.9328041E 00	3.4735412E 02	3.4789684E 02

6.4651999E 03	6.5576000E 03	1.9367409E 00	1.9386711E 00	3.4723477E 02	3.4814208E 02
6.4367000E 03	6.4355000E 03	1.9497604E 00	1.9534721E 00	3.4772885E 02	3.4867027E 02
6.3196000E 03	6.4075000E 03	1.9332733E 00	1.9166679E 00	3.4944686E 02	3.4782737E 02
6.5130000E 03	6.5169000E 03	1.9451790E 00	1.9394073E 00	3.4697345E 02	3.4923306E 02
6.4893000E 03	6.4801000E 03	1.9470139E 00	1.9328041E 00	3.4735412E 02	3.4789684E 02

SEVENTH TARGET PASS



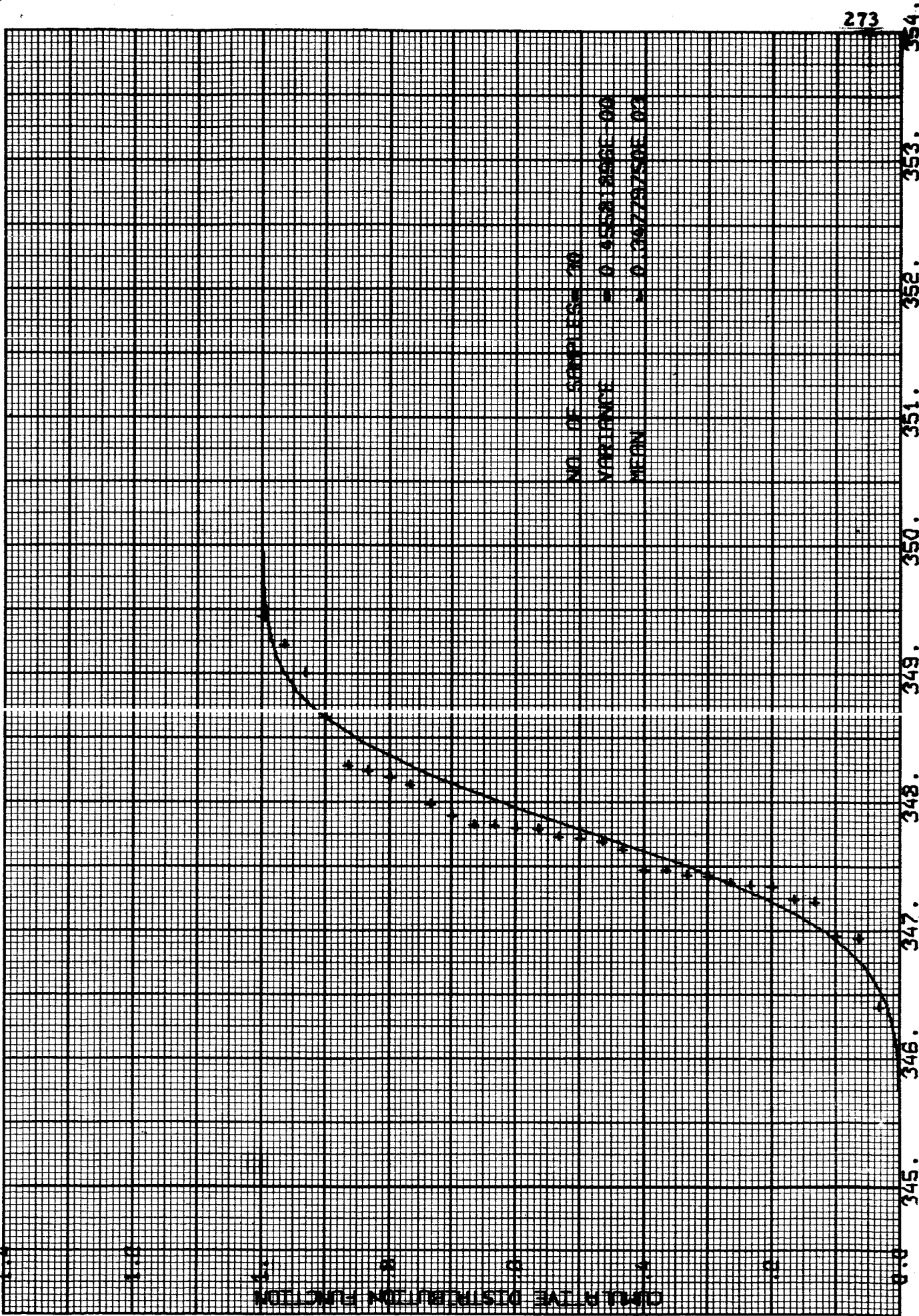
SEVENTH TARGET PASS



NO. OF SAMPLES = 130
VARIANCE = 0.26137825E-04
MEAN = 0.10505025E-01

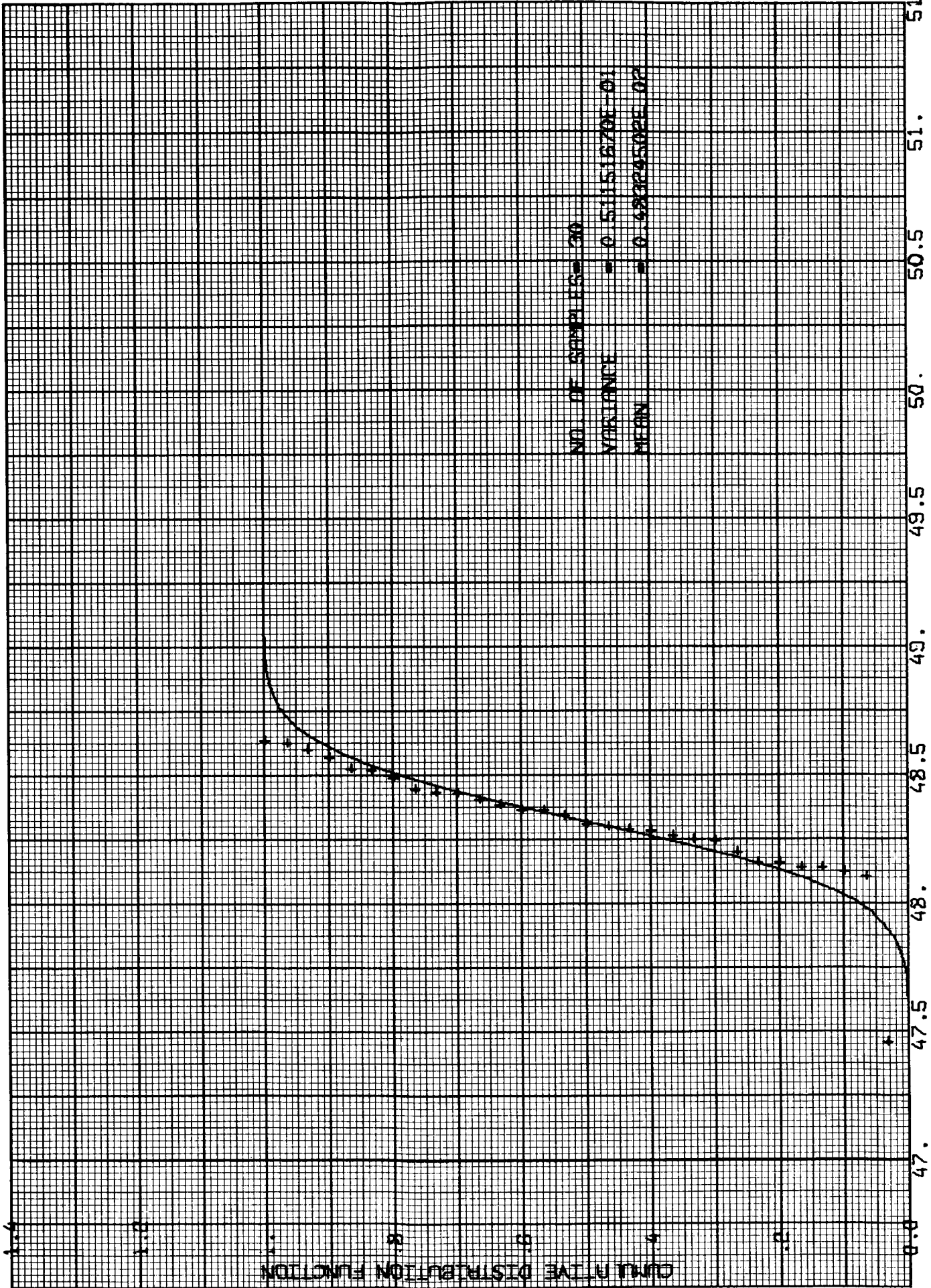
SAMPLE CUMULATIVE DISTRIBUTION OF RESOLUTION

SEVENTH TARGET PASS



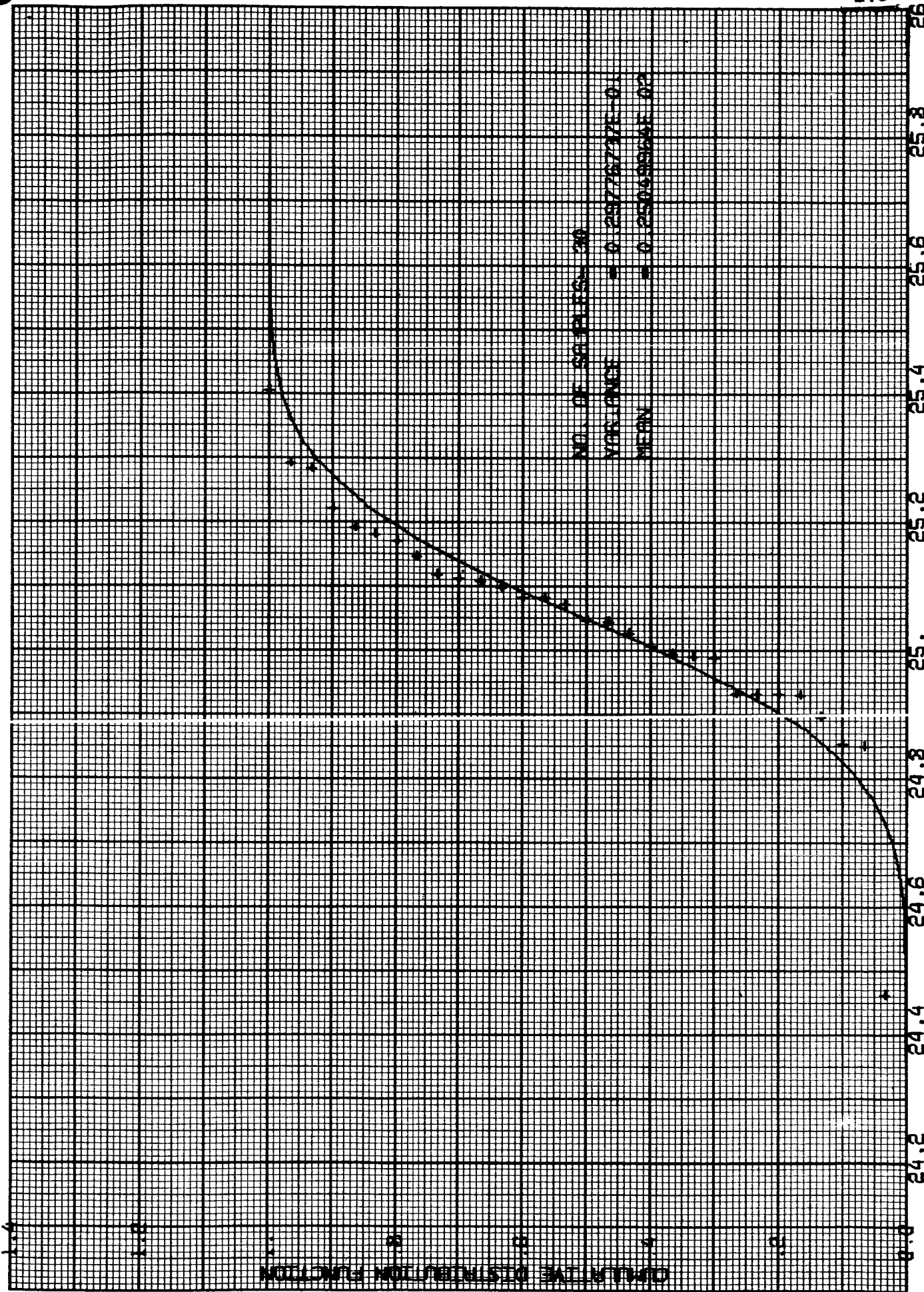
SAMPLE CUMULATIVE DISTRIBUTION OF LONGITUDE

SEVENTH TARGET PASS



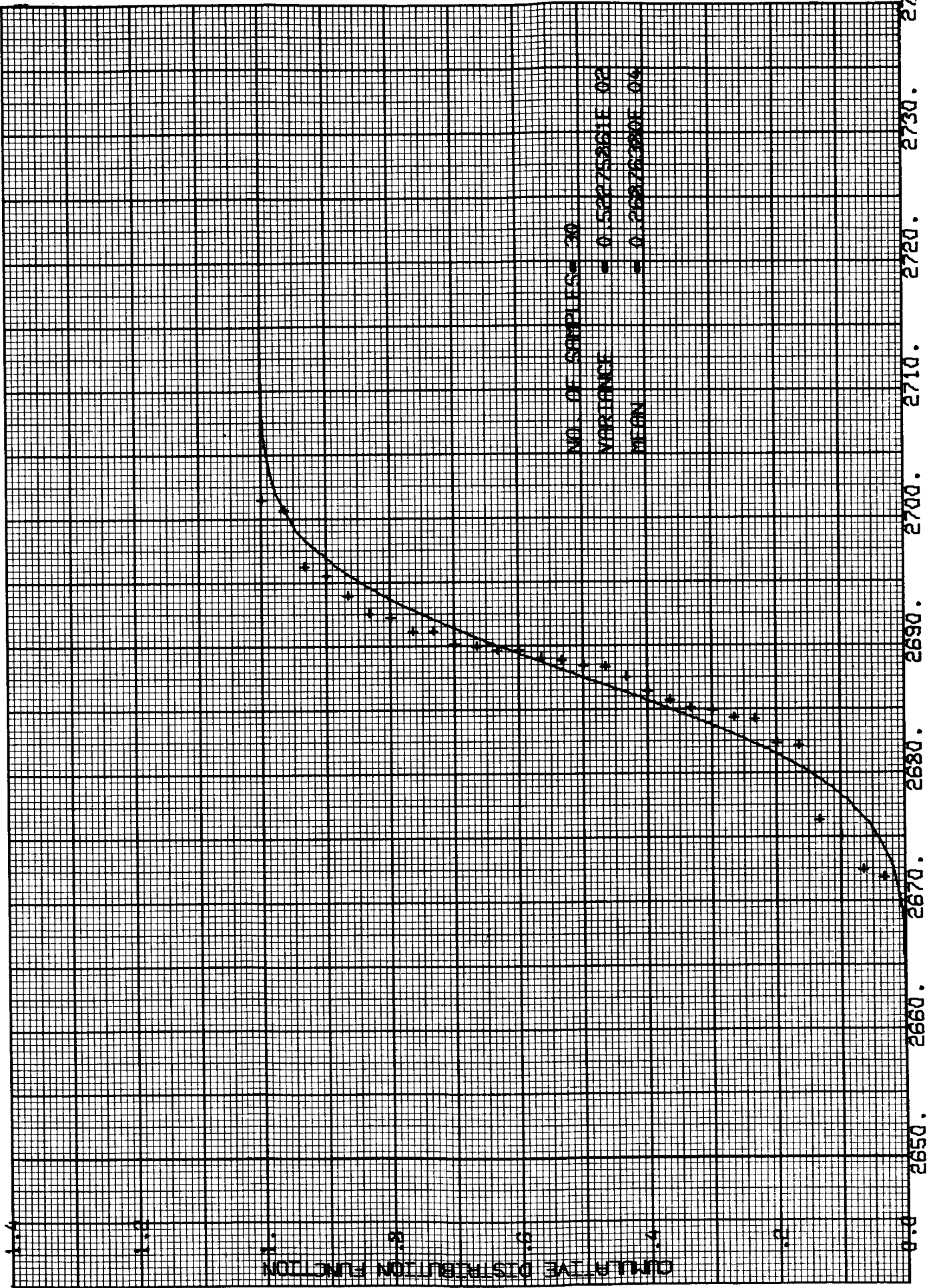
SAMPLE CUMULATIVE DISTRIBUTION OF ALTITUDE

SEVENTH TARGET PASS



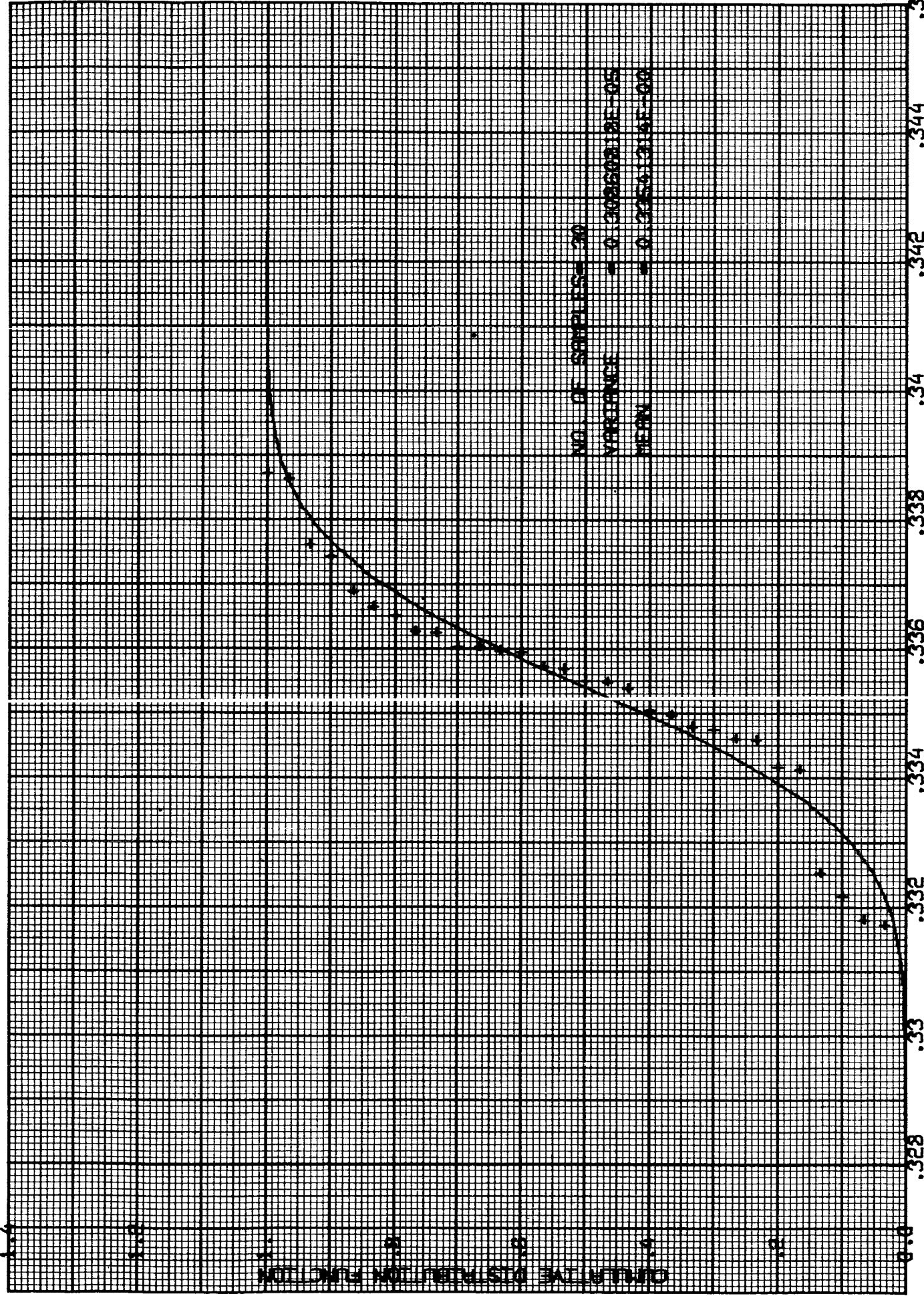
SAMPLE CUMULATIVE DISTRIBUTION OF SIDE OVERLAP

SEVENTH TARGET PASS

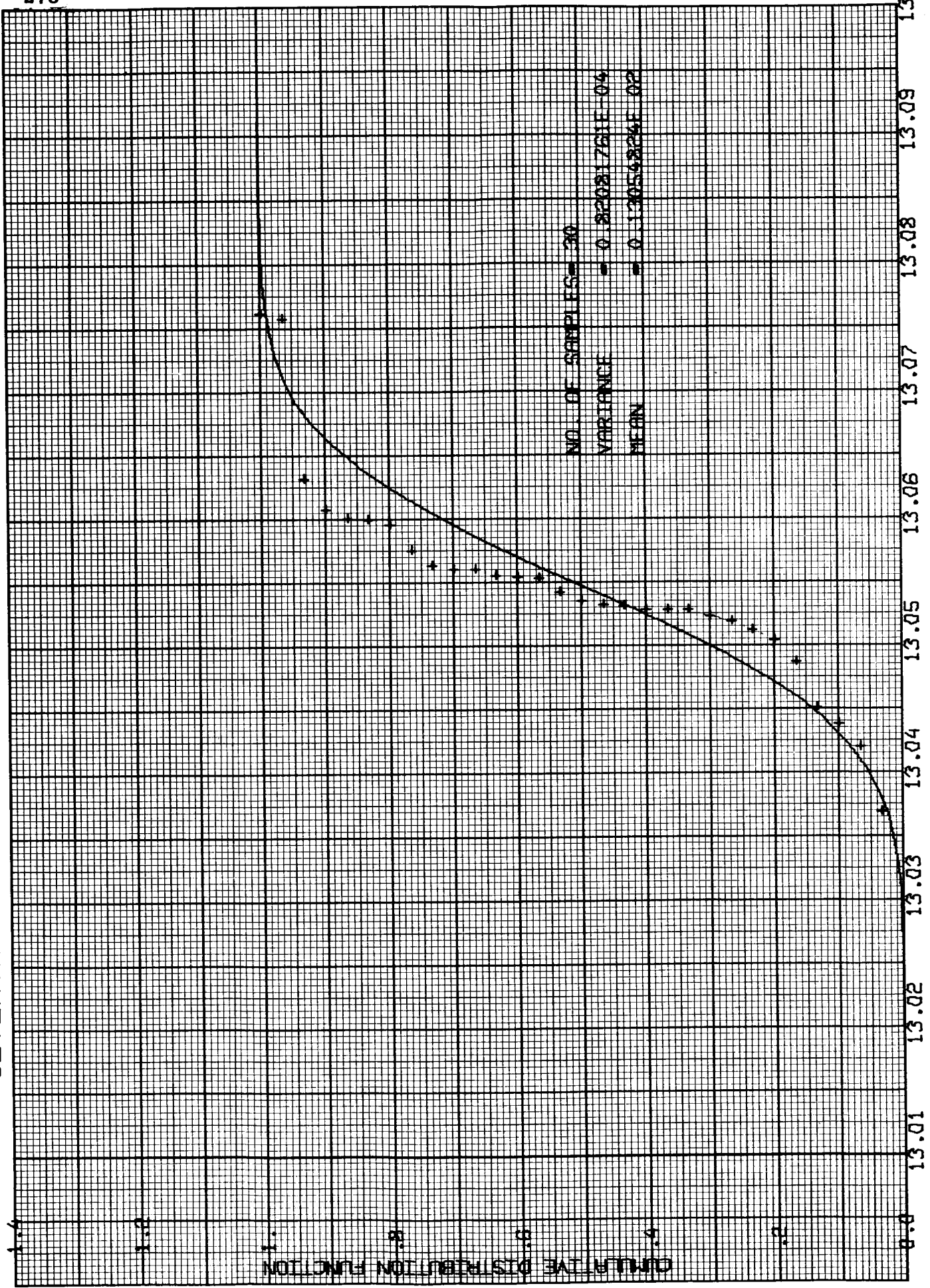


SAMPLE CUMULATIVE DISTRIBUTION OF SEMI-MAJOR AXIS

SEVENTH TARGET PASS

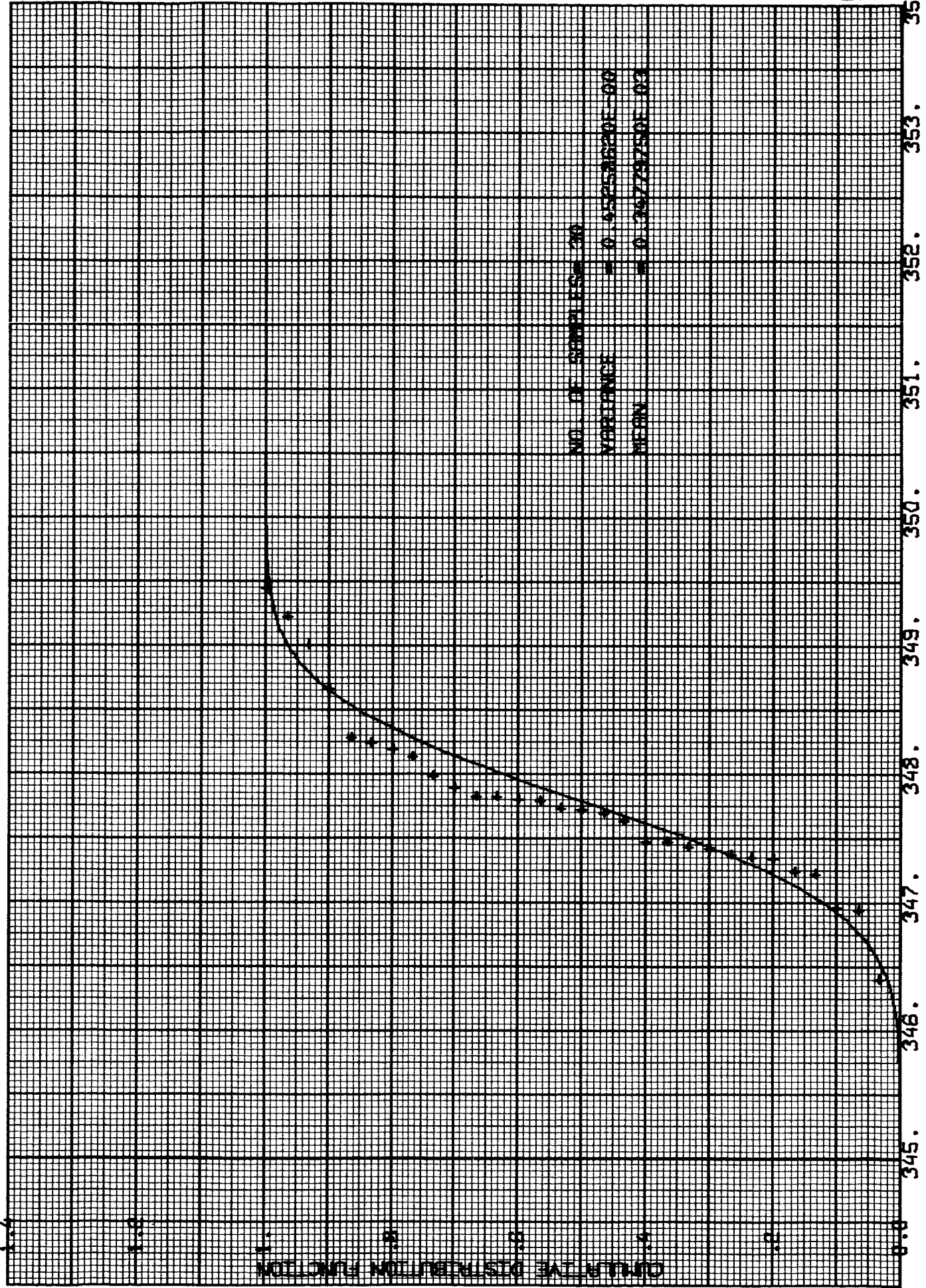


SEVENTH TARGET PASS

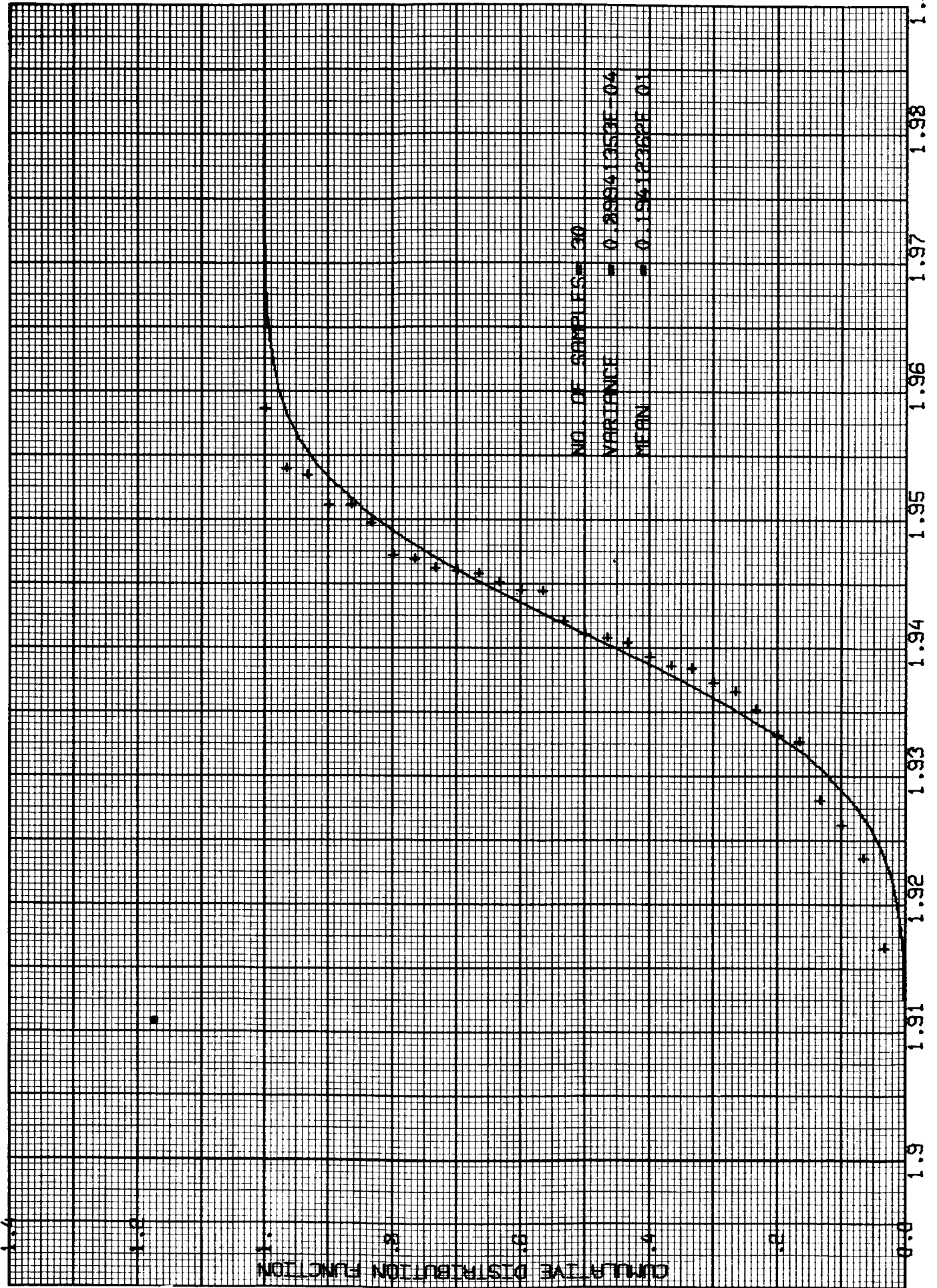


SAMPLE CUMULATIVE DISTRIBUTION OF INCLINATION

SEVENTH TARGET PASS

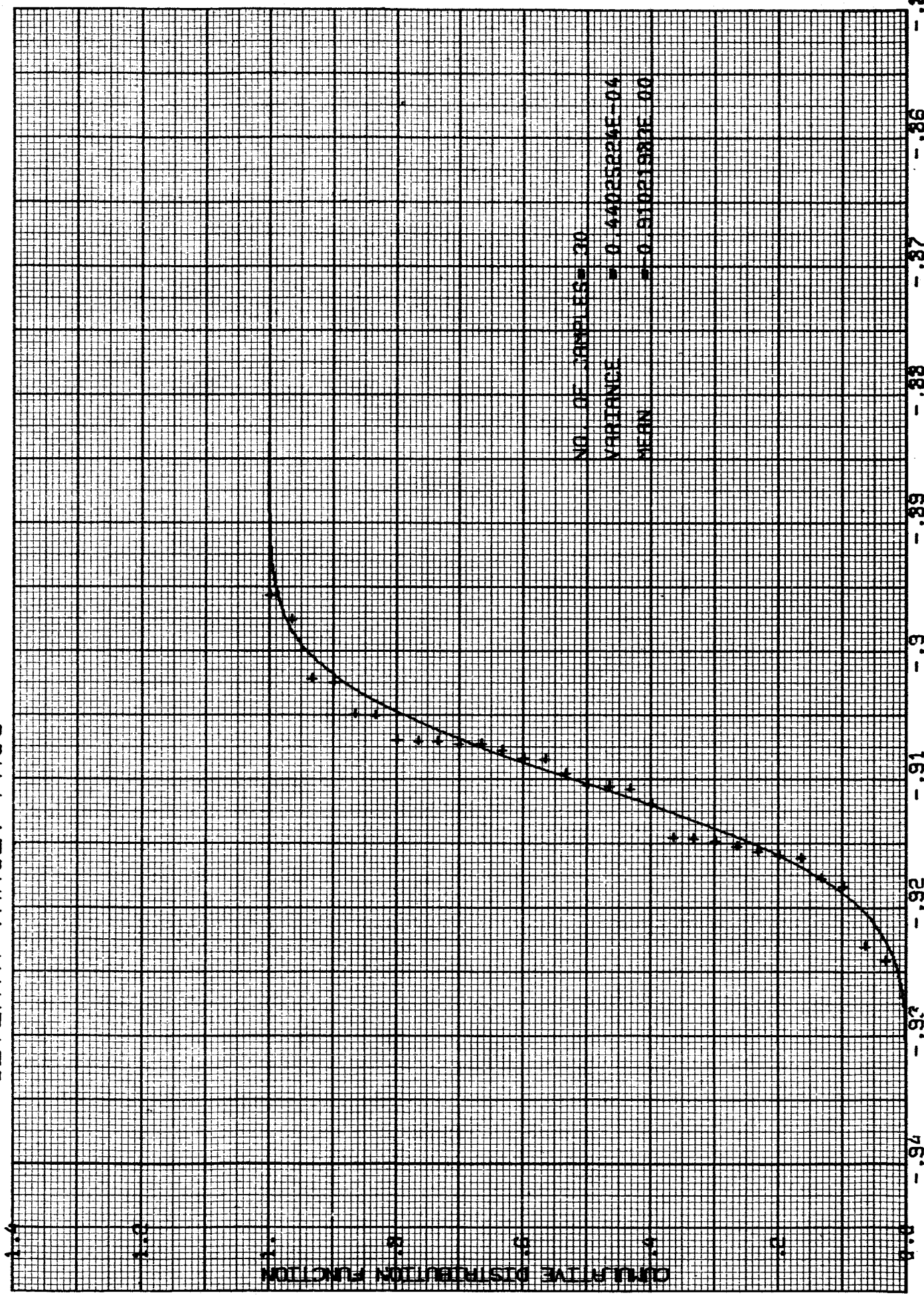


SEVENTH TARGET PASS



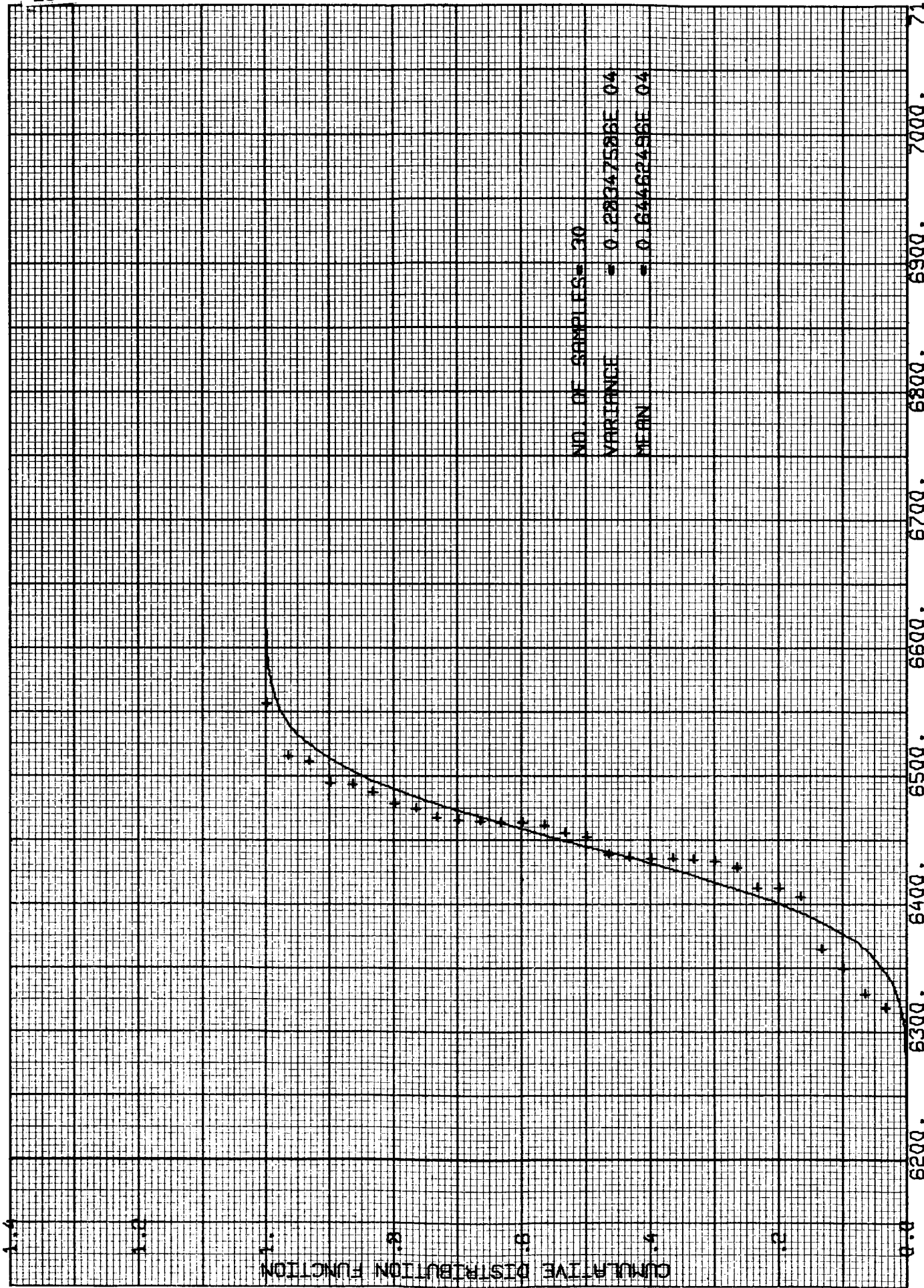
SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE

SEVENTH TARGET PASS



SAMPLE CUMULATIVE DISTRIBUTION OF MEAN ANOMALY

SEVENTH TARGET PASS



SAMPLE CUMULATIVE DISTRIBUTION OF MUTUAL EARTH-SUN VISIBILITY TIME

EIGHTH TARGET PASS
SAMPLE STATE VECTORS

X	Y	Z	VX	VY	VZ
0.17288750E 04	-0.45314632E 03	0.42402265E-05	0.45424949E-00	0.18082207E 01	0.43203367E-00
0.17320020E 04	-0.43987419E 03	-0.16348191E-05	0.44074718E-00	0.18122026E 01	0.43249255E-00
0.17356543E 04	-0.42504929E 03	-0.12549955E-05	0.42496096E-00	0.18148600E 01	0.43197843E-00
0.17346317E 04	-0.42953791E 03	0.40561053E-06	0.42976408E-00	0.18144196E 01	0.43234169E-00
0.17209782E 04	-0.48226257E 03	0.45656122E-06	0.48523462E-00	0.18024016E 01	0.43285434E-00
0.17276210E 04	-0.45689742E 03	0.38283575E-06	0.45834097E-00	0.18070964E 01	0.43267672E-00
0.17314493E 04	-0.44172664E 03	-0.41861638E-05	0.44236360E-00	0.18107583E 01	0.43236338E-00
0.17321400E 04	-0.43892959E 03	-0.31418712E-06	0.43942288E-00	0.18113136E 01	0.43248753E-00
0.17285112E 04	-0.45263876E 03	-0.19417033E-05	0.45420839E-00	0.18098500E 01	0.43256558E-00
0.17387184E 04	-0.41320411E 03	-0.42580816E-06	0.41210349E-00	0.18159907E 01	0.43262918E-00
0.17351887E 04	-0.42785835E 03	-0.36035541E-05	0.42790262E-00	0.18146422E 01	0.43237358E-00
0.17315871E 04	-0.44189680E 03	-0.33765240E-05	0.44244466E-00	0.18105973E 01	0.43245120E-00
0.17275178E 04	-0.45664063E 03	0.62227305E-05	0.45818113E-00	0.18077785E 01	0.43243694E-00
0.17293142E 04	-0.44961688E 03	0.70160042E-05	0.45087501E-00	0.18095376E 01	0.43269674E-00
0.17320388E 04	-0.43948165E 03	-0.20474003E-05	0.44000540E-00	0.18114798E 01	0.43228823E-00
0.17321206E 04	-0.43900741E 03	-0.37423923E-05	0.43995900E-00	0.18123403E 01	0.43193568E-00
0.17352094E 04	-0.42608456E 03	-0.33298135E-05	0.42618269E-00	0.18143076E 01	0.43219472E-00
0.17431500E 04	-0.38916699E 03	-0.34209096E-05	0.38747714E-00	0.18216304E 01	0.43197890E-00
0.17312878E 04	-0.44305567E 03	-0.63738032E-05	0.44388436E-00	0.18113489E 01	0.43255695E-00
0.17332777E 04	-0.43394393E 03	-0.35388826E-05	0.43421346E-00	0.18123809E 01	0.43209437E-00
0.17295004E 04	-0.44971964E 03	0.13470948E-05	0.45093098E-00	0.18095008E 01	0.43244581E-00
0.17423073E 04	-0.39587285E 03	0.17879173E-06	0.39420511E-00	0.18197732E 01	0.43191270E-00
0.17290424E 04	-0.45124262E 03	0.21570817E-06	0.45298538E-00	0.18109053E 01	0.43285954E-00
0.17252436E 04	-0.46503508E 03	0.38344231E-05	0.46717539E-00	0.18065634E 01	0.43295097E-00
0.17412738E 04	-0.40277232E 03	-0.54508348E-05	0.40116308E-00	0.18182994E 01	0.43184981E-00
0.17308476E 04	-0.44464479E 03	-0.53638023E-06	0.44538780E-00	0.18106104E 01	0.43254740E-00
0.17252468E 04	-0.46552031E 03	0.26862556E-05	0.46754298E-00	0.18057425E 01	0.43263507E-00
0.17329104E 04	-0.43686631E 03	0.16258787E-05	0.43734933E-00	0.18120530E 01	0.43238077E-00
0.17292017E 04	-0.45111575E 03	-0.45621043E-05	0.45246921E-00	0.18095191E 01	0.43216652E-00
0.17287221E 04	-0.45351917E 03	-0.17954884E-05	0.45481957E-00	0.18088585E 01	0.43330330E-00

EIGHTH TARGET PASS

SAMPLE VARIANCE OF SELENOGRAPHIC STATE VECTOR

	1	2	3	4	5	6
1	2.5172413E 01	1.0107758E 02	-6.9958221E-06	-1.0653792E-01	2.0507813E-02	-1.0439116E-03
2	1.0107758E 02	4.1291379E 02	-2.7629876E-05	-4.3507753E-01	8.2182785E-02	-4.5144969E-03
3	-6.9958221E-06	-2.7629876E-05	1.0819504E-11	2.9091972E-08	-5.9170157E-09	3.7049756E-10
4	-1.0653792E-01	-4.3507753E-01	2.9091972E-08	4.5847481E-04	-8.6504836E-05	4.7601502E-06
5	2.0507813E-02	8.2182785E-02	-5.9170157E-09	-8.6504836E-05	1.7034596E-05	-8.3035436E-07
6	-1.0439116E-03	-4.5144969E-03	3.7049756E-10	4.7601502E-06	-8.3035436E-07	1.2948595E-07

CORRESPONDING CORRELATION MATRIX

	1	2	3	4	5	6
1	9.9999998E-01	9.9143155E-01	-4.2390901E-01	-9.9170847E-01	9.9035519E-01	-5.7821583E-01
2	9.9143155E-01	9.9999998E-01	-4.1337628E-01	-9.9995215E-01	9.7990785E-01	-6.1740242E-01
3	-4.2390901E-01	-4.1337628E-01	1.0000000E 00	4.1305866E-01	-4.3584605E-01	3.1301875E-01
4	-9.9170847E-01	-9.9995215E-01	4.1305866E-01	1.0000000E 00	-9.7885129E-01	6.1780523E-01
5	9.9035519E-01	9.7990785E-01	-4.3584605E-01	-9.7885129E-01	1.0000000E 00	-5.5909578E-01
6	-5.7821583E-01	-6.1740242E-01	3.1301875E-01	6.1780523E-01	-5.5909578E-01	9.9999998E-01

SAMPLE MEAN OF SELENOGRAPHIC STATE VECTOR

1.7318522E 03	-4.3987758E 02	-7.6412142E-07	4.4055163E-01	1.8114993E 00	4.3241605E-01
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EIGHTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF TIME FROM TRANSLUNAR INJECTION

4.7524176E 05	4.7560332E 05	4.7489234E 05	4.7533465E 05	4.7628812E 05	4.7518973E 05
4.7509707E 05	4.7501225E 05	4.7581202E 05	4.7423556E 05	4.7513140E 05	4.7492061E 05
4.7556193E 05	4.7550330E 05	4.7510179E 05	4.7522078E 05	4.7483211E 05	4.7401590E 05
4.7552431E 05	4.7469168E 05	4.7545790E 05	4.7415227E 05	4.7604691E 05	4.7589361E 05
4.7440543E 05	4.7525287E 05	4.7546540E 05	4.7519938E 05	4.7564682E 05	4.7551540E 05

EIGHTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF V / H

3.8817061E-02	3.9060518E-02	3.9071765E-02	3.9022750E-02	3.8865423E-02	3.9022751E-02
3.9102562E-02	3.9115921E-02	3.9233994E-02	3.8879749E-02	3.8909036E-02	3.8959993E-02
3.9166373E-02	3.9201157E-02	3.9090818E-02	3.9135559E-02	3.9216710E-02	3.9755830E-02
3.8984181E-02	3.9202391E-02	3.9034320E-02	3.9214791E-02	3.9120816E-02	3.9215783E-02
3.8789221E-02	3.9002356E-02	3.9096362E-02	3.8927538E-02	3.8990779E-02	3.8880171E-02

EIGHTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF RESOLUTION

1.0692328E 00	1.0629660E 00	1.0620097E 00	1.0637542E 00	1.0691887E 00	1.0636305E 00
1.0612537E 00	1.0608225E 00	1.0587841E 00	1.0663641E 00	1.0667519E 00	1.0650738E 00
1.0600357E 00	1.0590877E 00	1.0616402E 00	1.0608301E 00	1.0579728E 00	1.0429034E 00
1.0650084E 00	1.0583343E 00	1.0635708E 00	1.0570655E 00	1.0622781E 00	1.0593331E 00
1.0686795E 00	1.0643158E 00	1.0621490E 00	1.0660689E 00	1.0649351E 00	1.0680704E 00

EIGHTH TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF LONGITUDE

3.4531288E 02	3.4574994E 02	UNSORTED SAMPLES	3.4609191E 02	3.4434575E 02	3.4518635E 02
3.4568801E 02	3.4578039E 02		3.4663172E 02	3.4614847E 02	3.4568382E 02
3.4519346E 02	3.4542592E 02		3.4577782E 02	3.4620385E 02	3.4741481E 02
3.4564545E 02	3.4594433E 02		3.4719905E 02	3.4537328E 02	3.4491459E 02
3.4697601E 02	3.4559259E 02		3.4585058E 02	3.4537852E 02	3.4530008E 02

EIGHTH TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF ALTITUDE

4.9184707E 01	4.8896438E 01	UNSORTED SAMPLES	4.8932692E 01	4.9182677E 01	4.8927001E 01
4.8817672E 01	4.8797835E 01		4.9052749E 01	4.9070586E 01	4.8993393E 01
4.8761641E 01	4.8718032E 01		4.8798186E 01	4.8666747E 01	4.7973555E 01
4.8990387E 01	4.8683379E 01		4.8625014E 01	4.8864791E 01	4.8729323E 01
4.9159256E 01	4.8958526E 01		4.9039168E 01	4.8987014E 01	4.9131240E 01

EIGHTH TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF SIDE OVERLAP

2.5728944E 01	2.5456496E 01	UNSORTED SAMPLES	2.5513456E 01	2.5599956E 01	2.5502439E 01
2.5428958E 01	2.5422693E 01		2.5670431E 01	2.5628090E 01	2.5587304E 01
2.5356750E 01	2.5319375E 01		2.5421149E 01	2.5341175E 01	2.4865553E 01
2.5543476E 01	2.5364468E 01		2.5379332E 01	2.5364845E 01	2.5269645E 01
2.5801178E 01	2.5537547E 01		2.5620735E 01	2.5538687E 01	2.5615841E 01

EIGHTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF SEMI-MAJOR AXIS

		UNSORTED SAMPLES	
2.6884297E 03	2.6911500E 03	2.6888775E 03	2.7014702E 03
2.6850206E 03	2.6842334E 03	2.6763326E 03	2.6883791E 03
2.6899606E 03	2.6896837E 03	2.6897062E 03	2.6823812E 03
2.6911878E 03	2.6822146E 03	2.6725209E 03	2.7007233E 03
2.6750852E 03	2.6890573E 03	2.6864547E 03	2.6922546E 03

EIGHTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF ECCENTRICITY

		UNSORTED SAMPLES	
3.3532875E-01	3.3610529E-01	3.3553179E-01	3.3853756E-01
3.3462088E-01	3.3443299E-01	3.3237332E-01	3.3535767E-01
3.3586366E-01	3.3581076E-01	3.3578405E-01	3.3401962E-01
3.3608177E-01	3.3397460E-01	3.3157935E-01	3.3847064E-01
3.3202215E-01	3.3556892E-01	3.3489208E-01	3.3634488E-01

EIGHTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF INCLINATION

		UNSORTED SAMPLES	
1.3047388E 01	1.3056532E 01	1.3054894E 01	1.3056643E 01
1.3059673E 01	1.3064351E 01	1.3079935E 01	1.3057256E 01
1.3055541E 01	1.3063618E 01	1.3040642E 01	1.3056894E 01
1.3058997E 01	1.3054119E 01	1.3060243E 01	1.3055936E 01
1.3058102E 01	1.3061150E 01	1.3059666E 01	1.3045670E 01

1.3066733E 01	1.3063165E 01	1.3059437E 01	1.3063406E 01
1.3079283E 01			

EIGHTH TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE
 UNSORTED SAMPLES

3.4531288E 02	3.4574994E 02	3.4623949E 02	3.4609191E 02	3.4434575E 02	3.4518635E 02
3.4568801E 02	3.4578039E 02	3.4532567E 02	3.4663172E 02	3.4614847E 02	3.4568382E 02
3.4519346E 02	3.4542592E 02	3.4576244E 02	3.4577782E 02	3.4620385E 02	3.4741481E 02
3.4564545E 02	3.4594433E 02	3.4542425E 02	3.4719905E 02	3.4537328E 02	3.4491459E 02
3.4697601E 02	3.4559259E 02	3.4489959E 02	3.4585058E 02	3.4537852E 02	3.4530008E 02

EIGHTH TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE
 UNSORTED SAMPLES

2.2713890E 00	2.2482109E 00	2.2615776E 00	2.2591209E 00	2.2594871E 00	2.2568817E 00
2.2679405E 00	2.2668686E 00	2.2639618E 00	2.2753255E 00	2.2626152E 00	2.2703743E 00
2.2645721E 00	2.2585831E 00	2.2718925E 00	2.2369957E 00	2.2449684E 00	2.2563667E 00
2.2663116E 00	2.2671204E 00	2.2574310E 00	2.2621574E 00	2.2451286E 00	2.2643280E 00
2.2762451E 00	2.2789230E 00	2.2604866E 00	2.2533531E 00	2.2551270E 00	2.2663689E 00

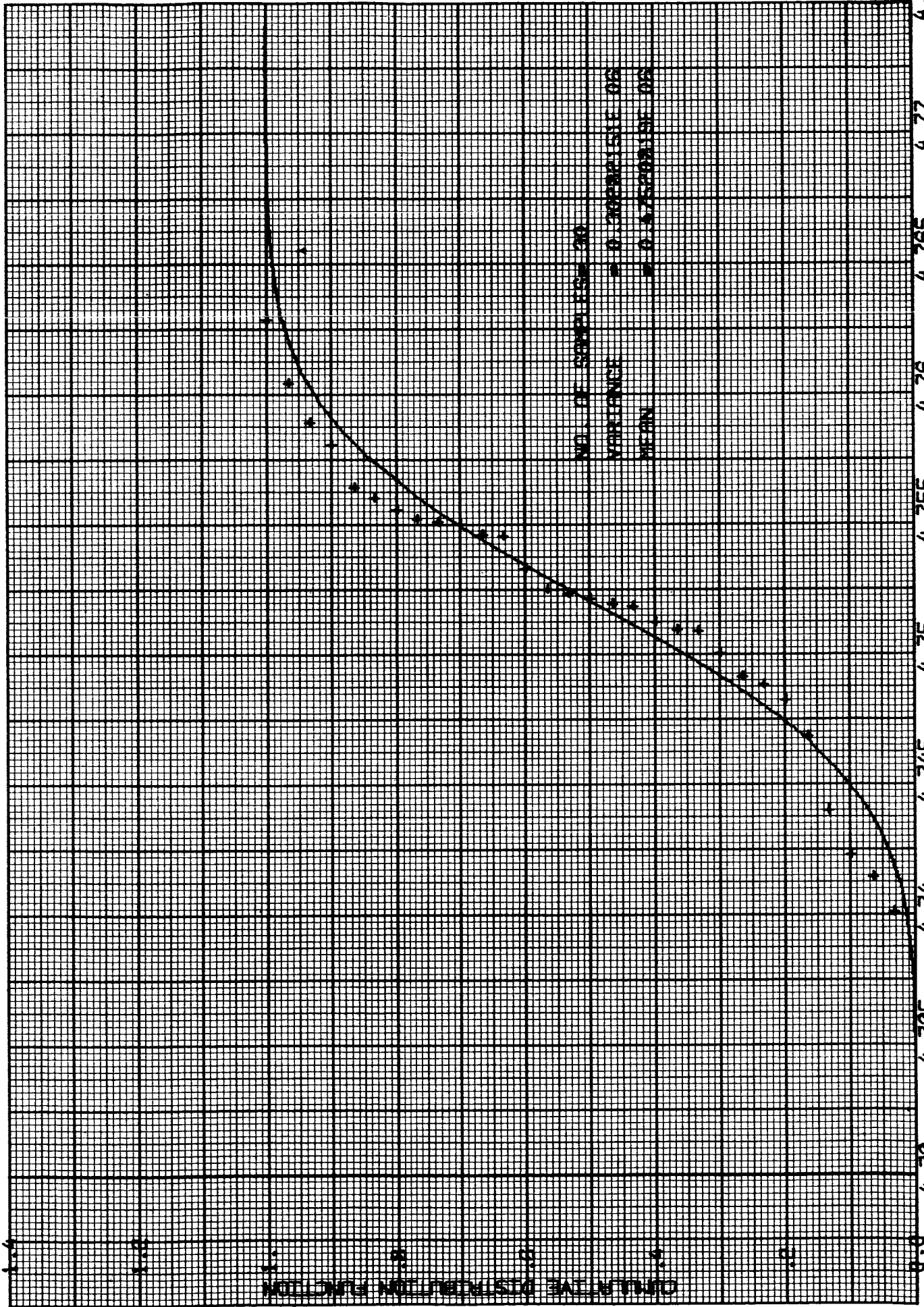
EIGHTH TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF MEAN ANOMALY
 UNSORTED SAMPLES

-1.0652924E 00	-1.0522614E 00	-1.0631523E 00	-1.0589638E 00	-1.0507813E 00	-1.0587921E 00
-1.0656509E 00	-1.0656815E 00	-1.0563927E 00	-1.0754623E 00	-1.0610924E 00	-1.0668716E 00
-1.0605927E 00	-1.0579338E 00	-1.0669937E 00	-1.0479012E 00	-1.0565224E 00	-1.0684814E 00
-1.0608025E 00	-1.0670700E 00	-1.0572701E 00	-1.0714531E 00	-1.0442810E 00	-1.0561028E 00
-1.0768814E 00	-1.0681534E 00	-1.0569801E 00	-1.0580330E 00	-1.0548325E 00	-1.0590515E 00

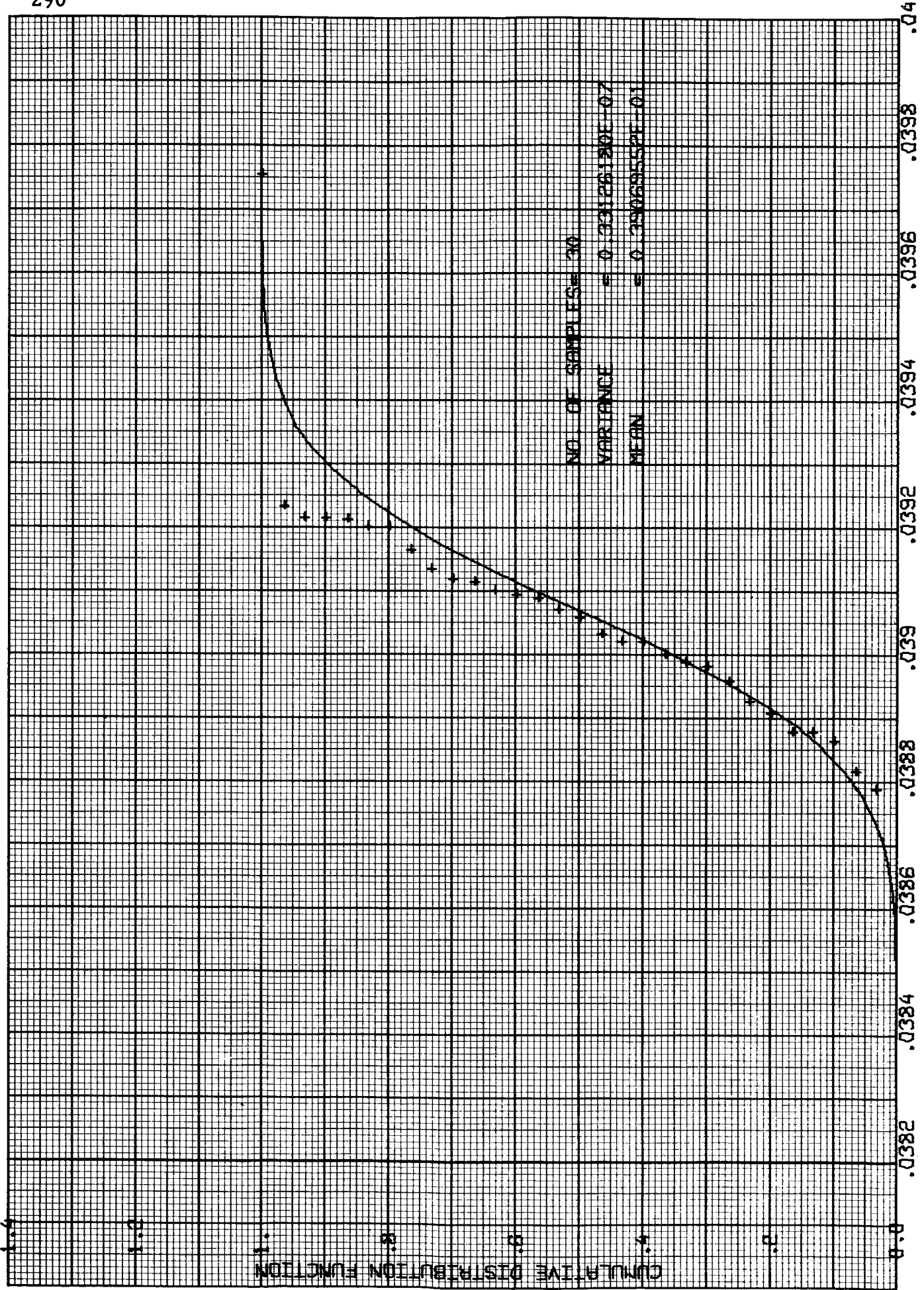
EIGHTH TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF MUTUAL EARTH-SUN VISIBILITY TIME
 UNSORTED SAMPLES

6.5908000E 03	6.5895000E 03	6.5399000E 03	6.5667000E 03	6.6863999E 03	6.5913000E 03
6.5621000E 03	6.5551999E 03	6.6231000E 03	6.4900000E 03	6.5617000E 03	6.5624000E 03
6.6023999E 03	6.5931000E 03	6.5628000E 03	6.5806000E 03	6.5326000E 03	6.4426000E 03
6.5925000E 03	6.5391999E 03	6.5955000E 03	6.4543999E 03	6.6457000E 03	6.6408000E 03
6.4746000E 03	6.5834000E 03	6.6235999E 03	6.5644000E 03	6.6071000E 03	6.6167000E 03

EIGHTH TARGET PASS

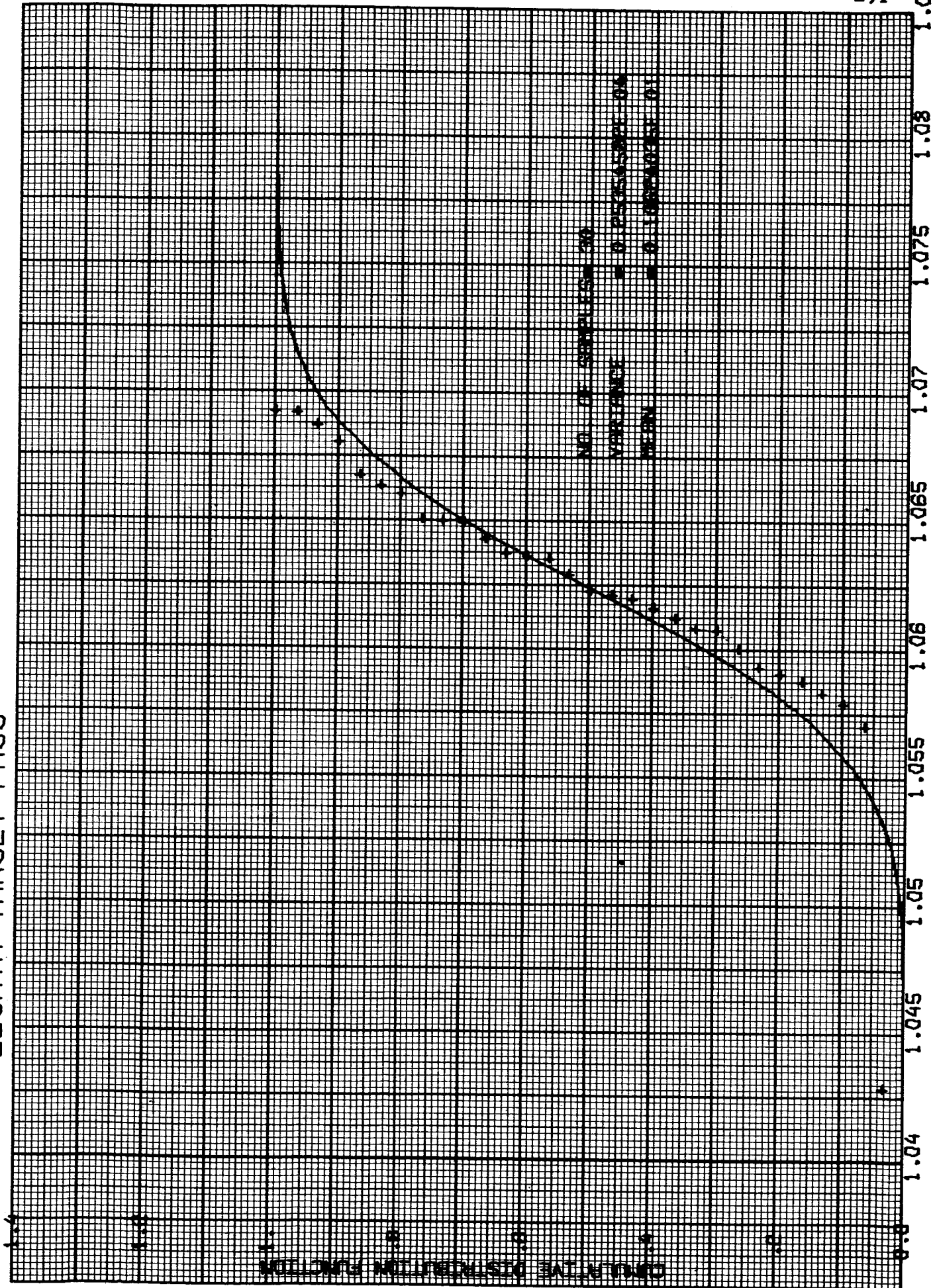


EIGHTH TARGET PASS

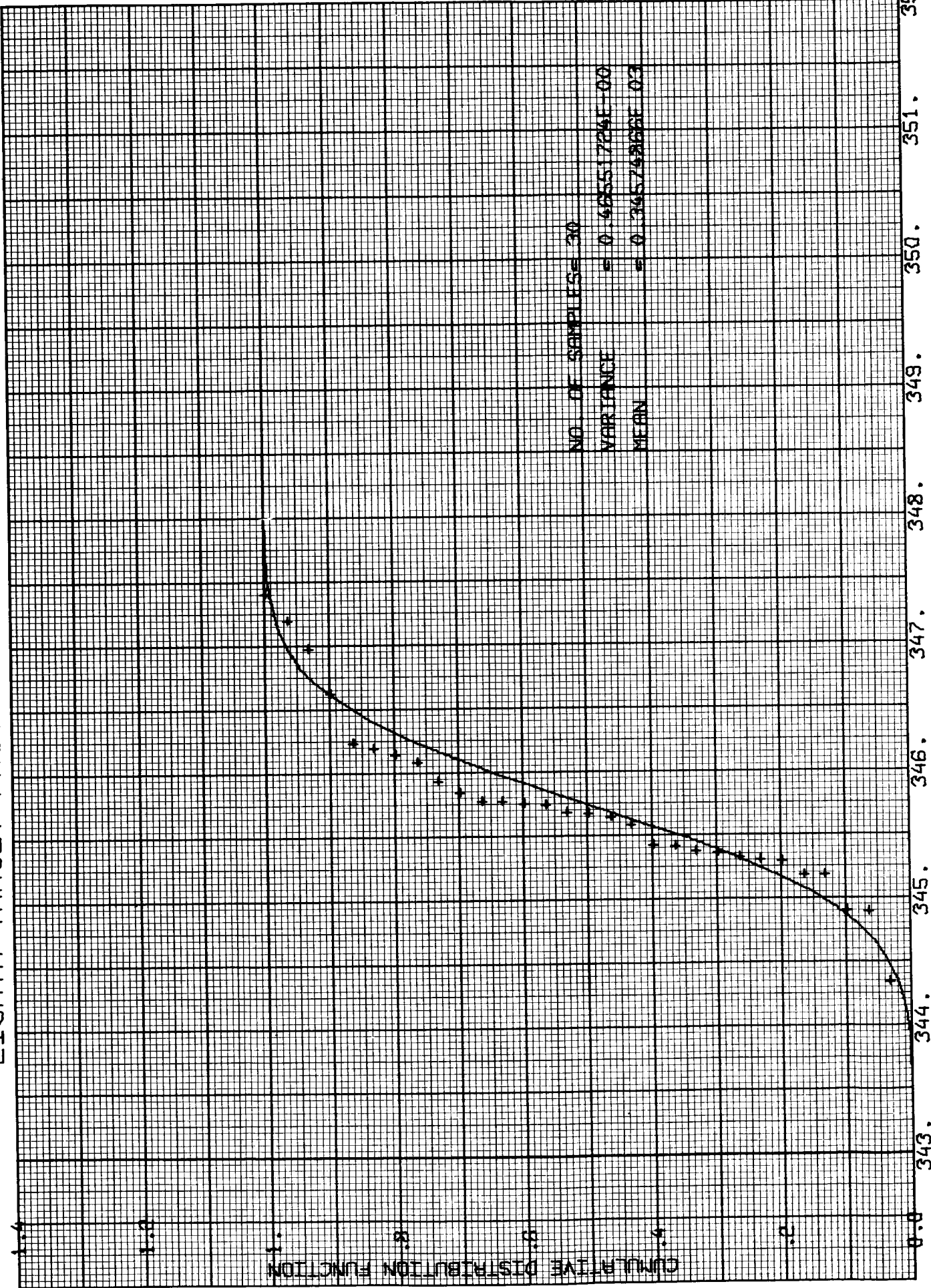


SAMPLE CUMULATIVE DISTRIBUTION OF Y / H

EIGHTH TARGET PASS

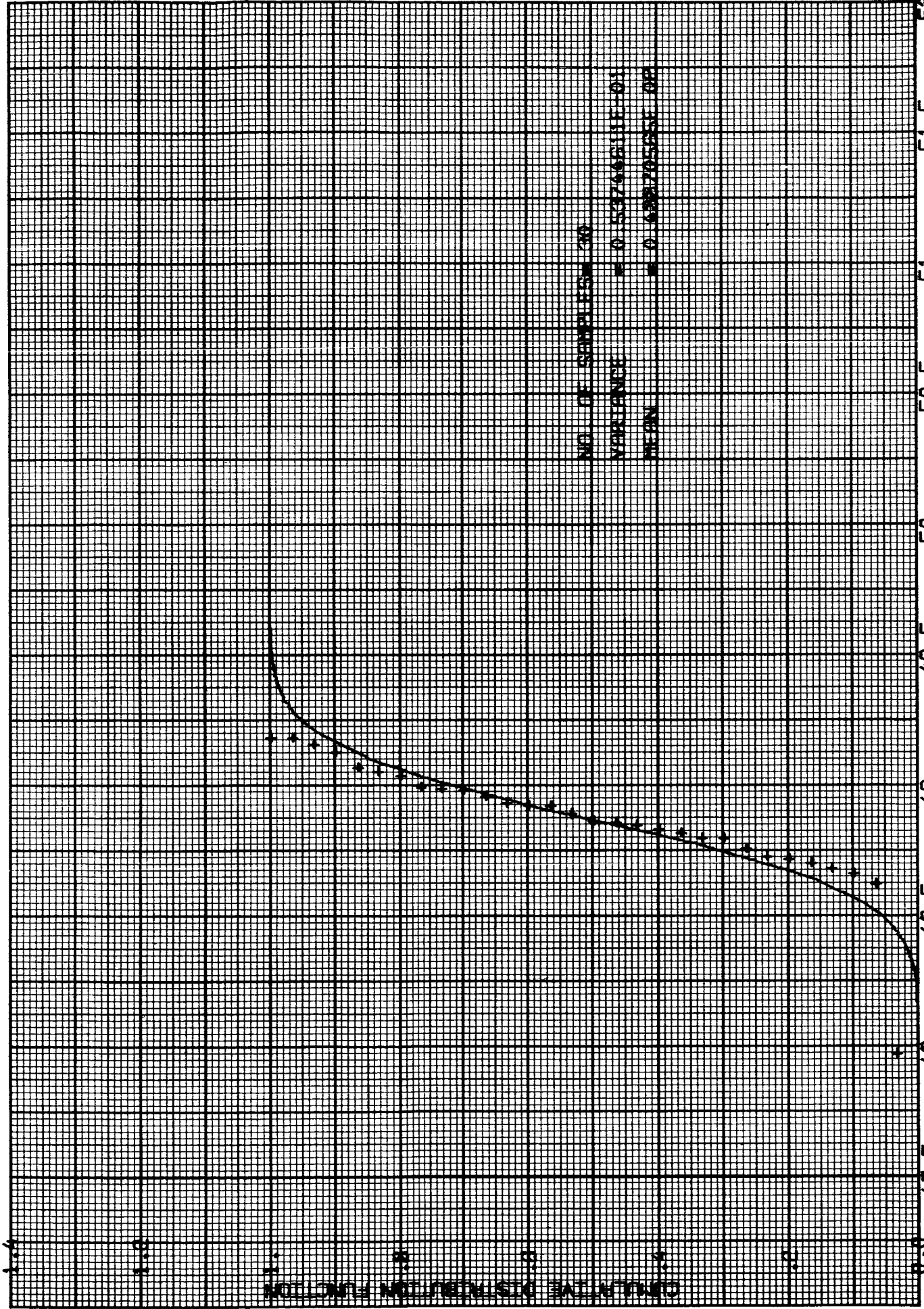


EIGHTH TARGET PASS



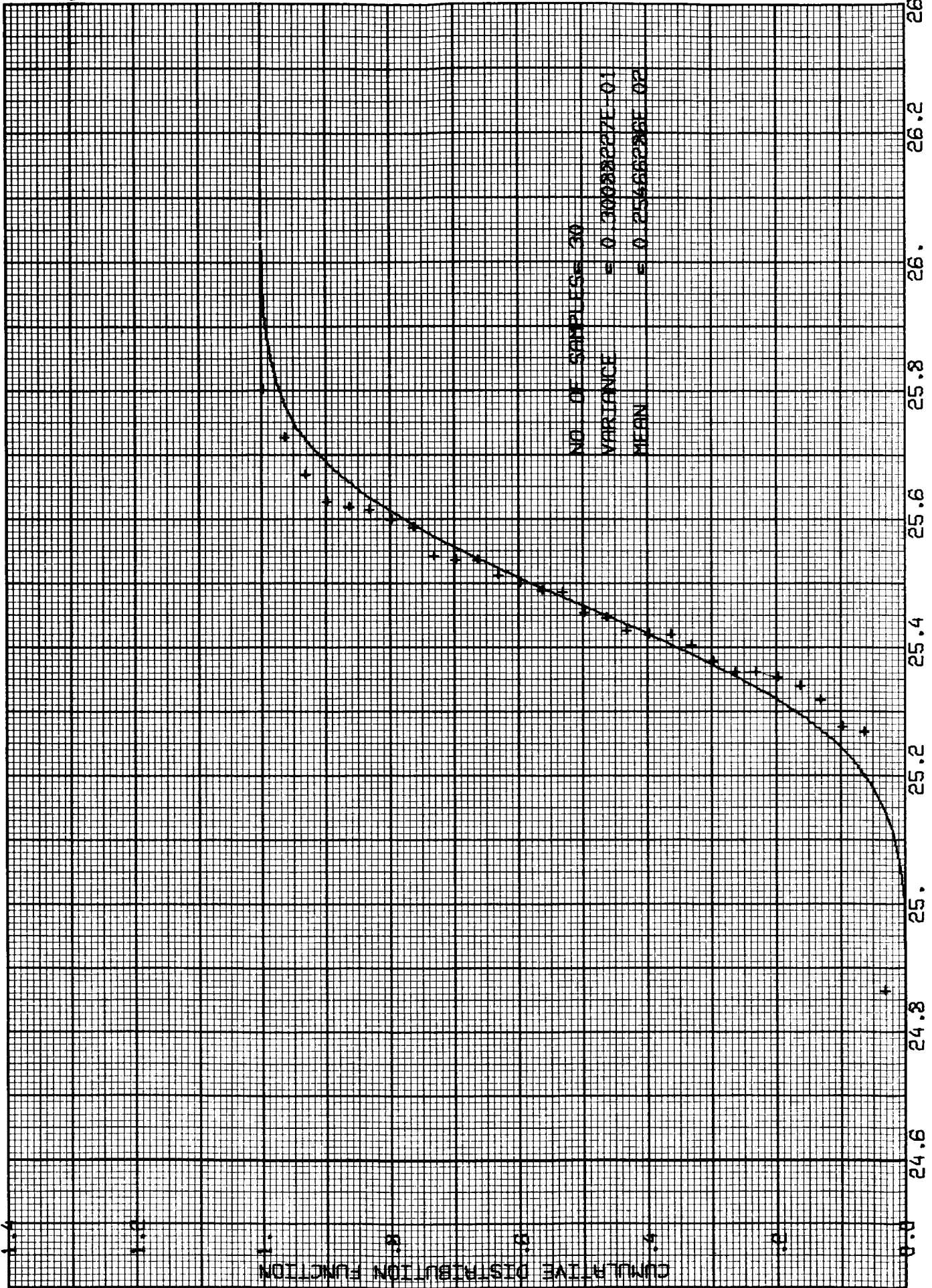
SAMPLE CUMULATIVE DISTRIBUTION OF LONGITUDE

EIGHTH TARGET PASS



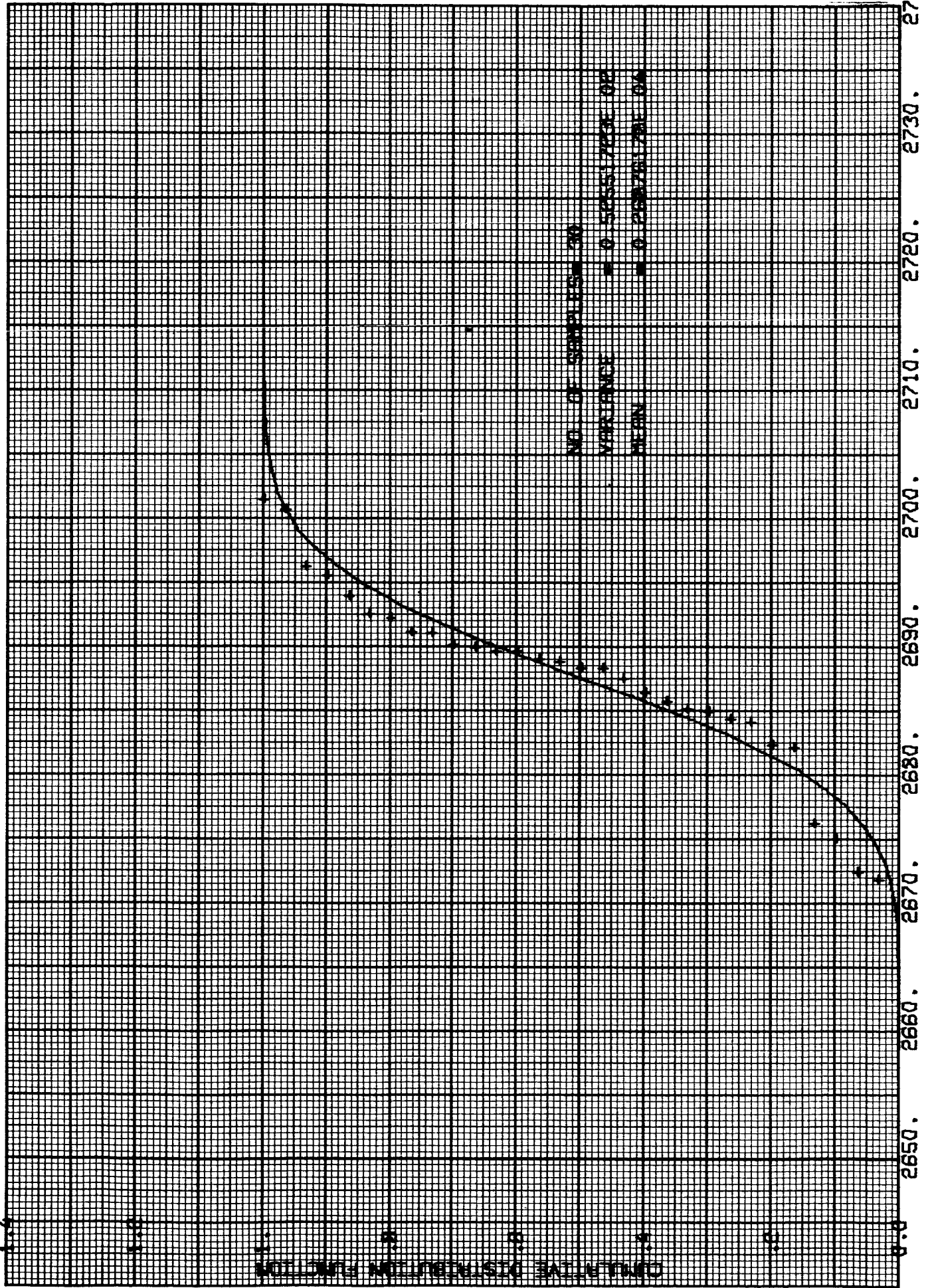
SAMPLE CUMULATIVE DISTRIBUTION OF ALTITUDE

EIGHTH TARGET PASS

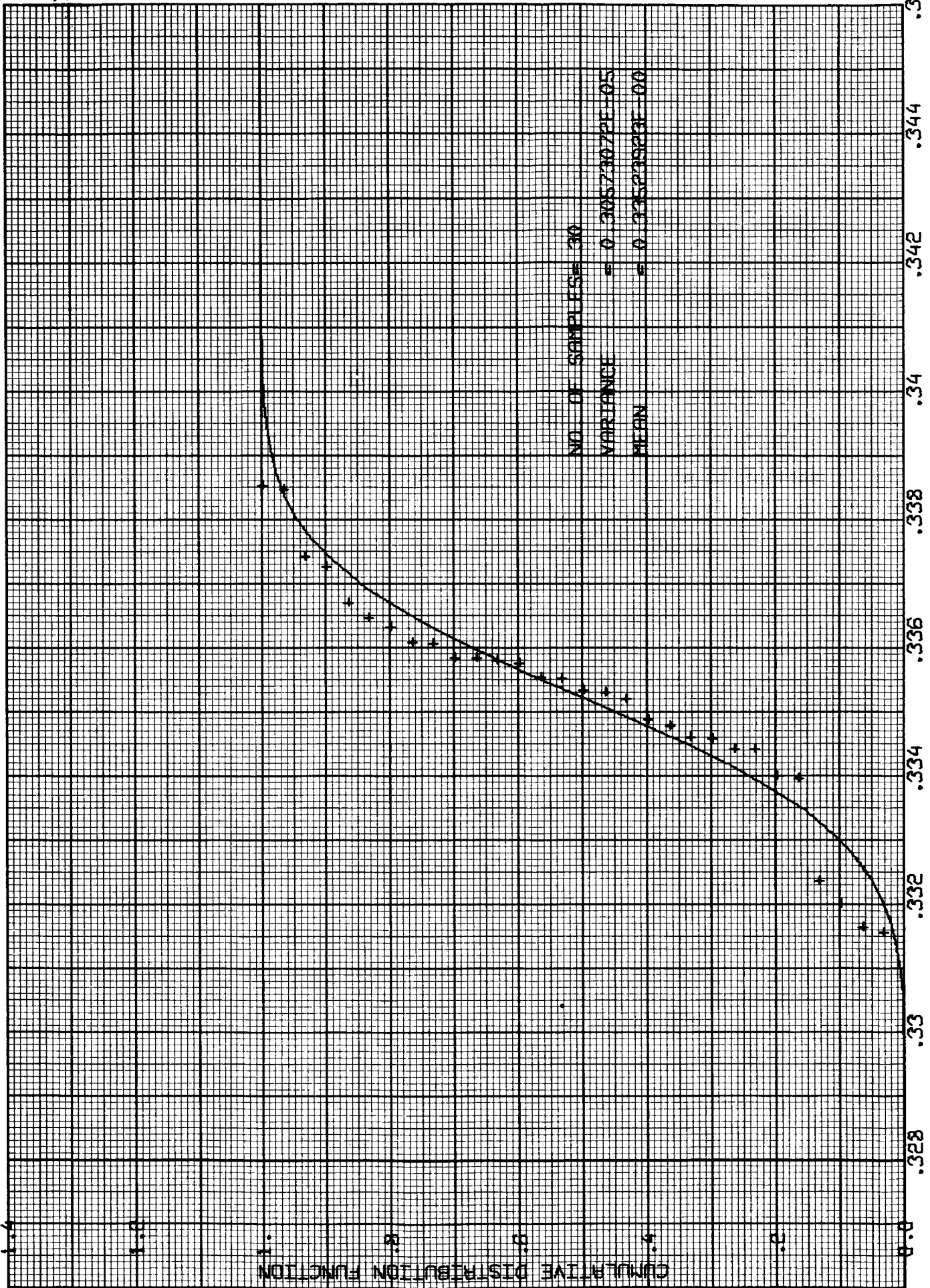


SAMPLE CUMULATIVE DISTRIBUTION OF SIDE OVERLAP

EIGHTH TARGET PASS

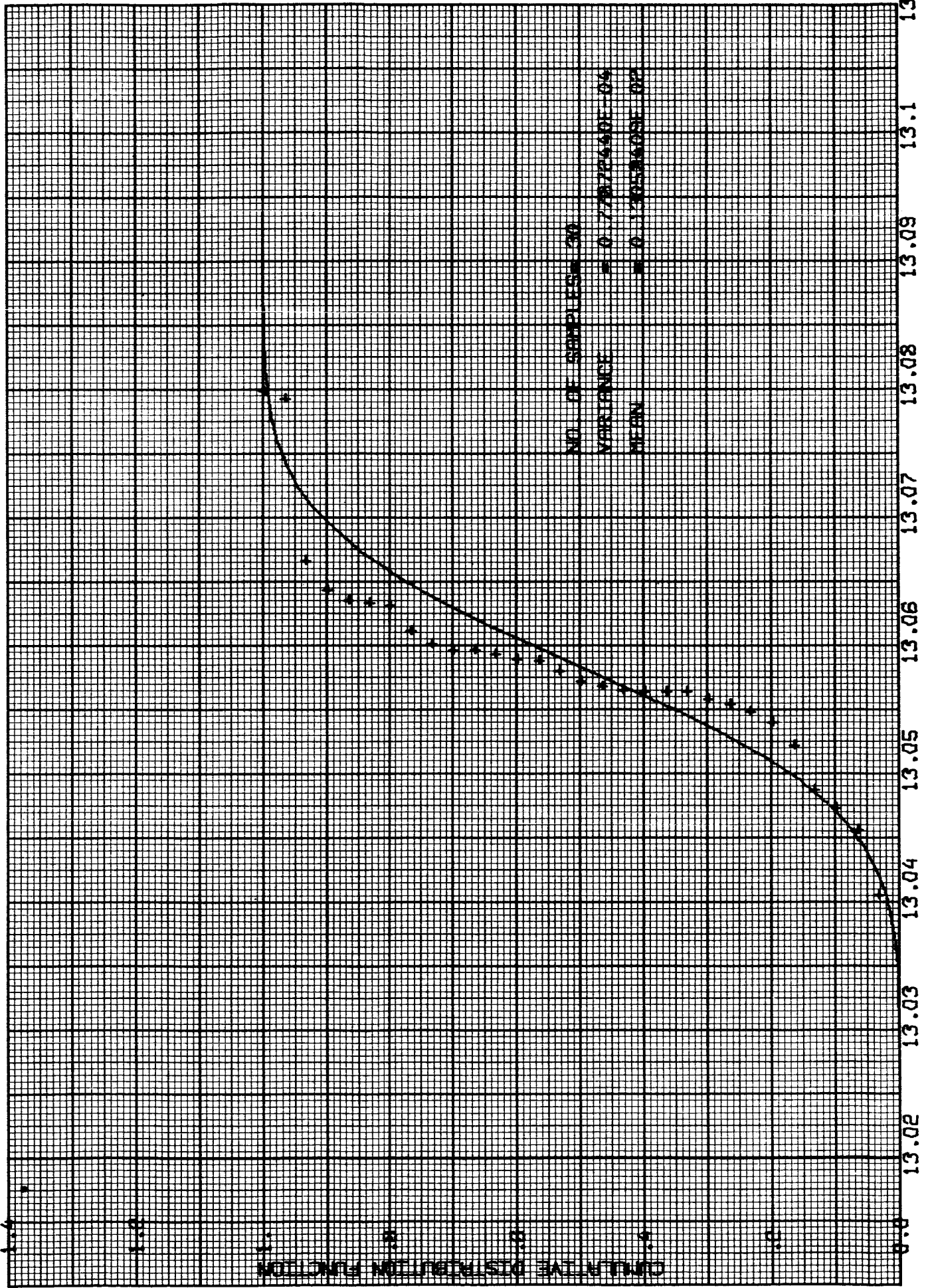


EIGHTH TARGET PASS

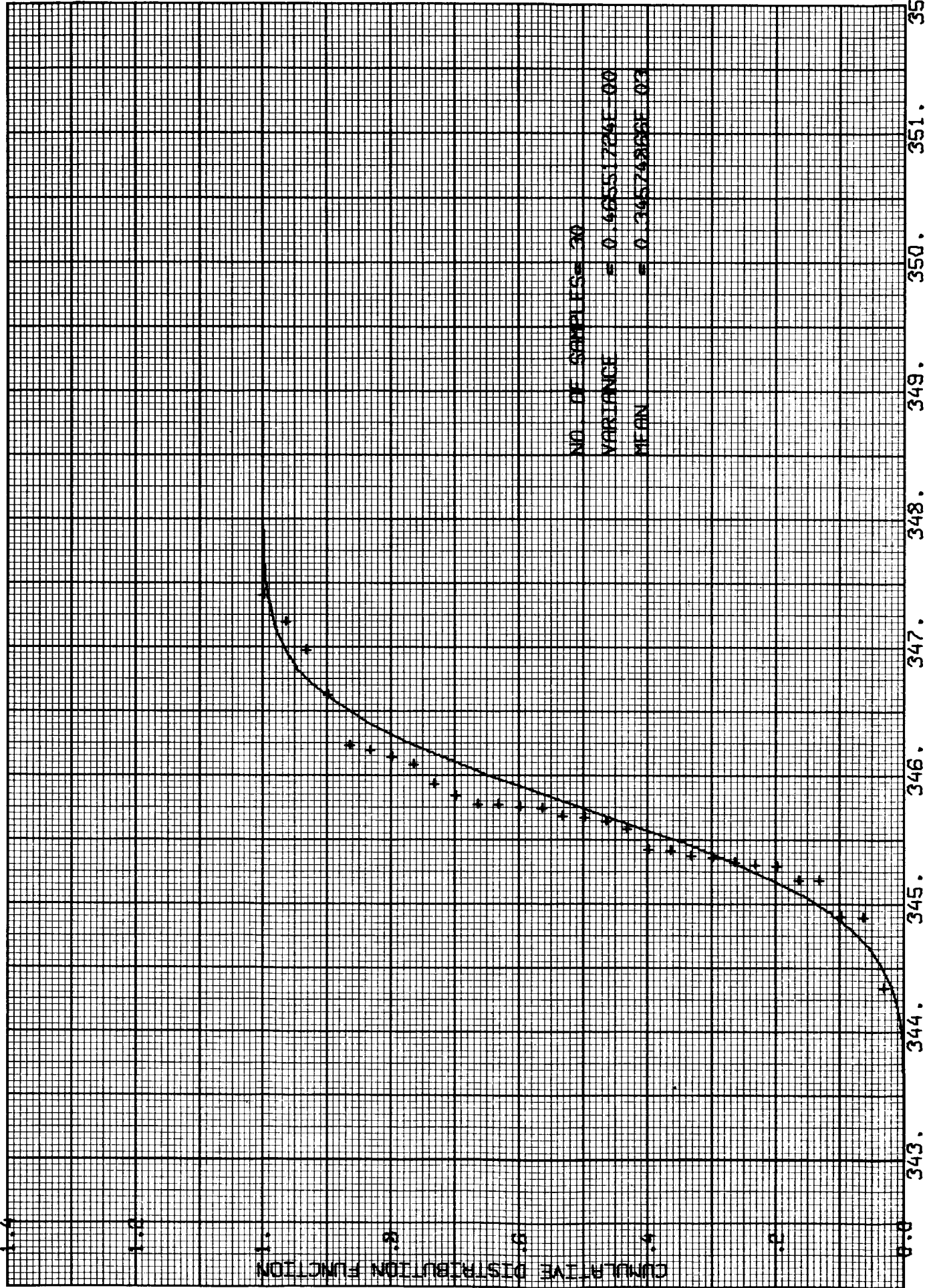


SAMPLE CUMULATIVE DISTRIBUTION OF ECCENTRICITY

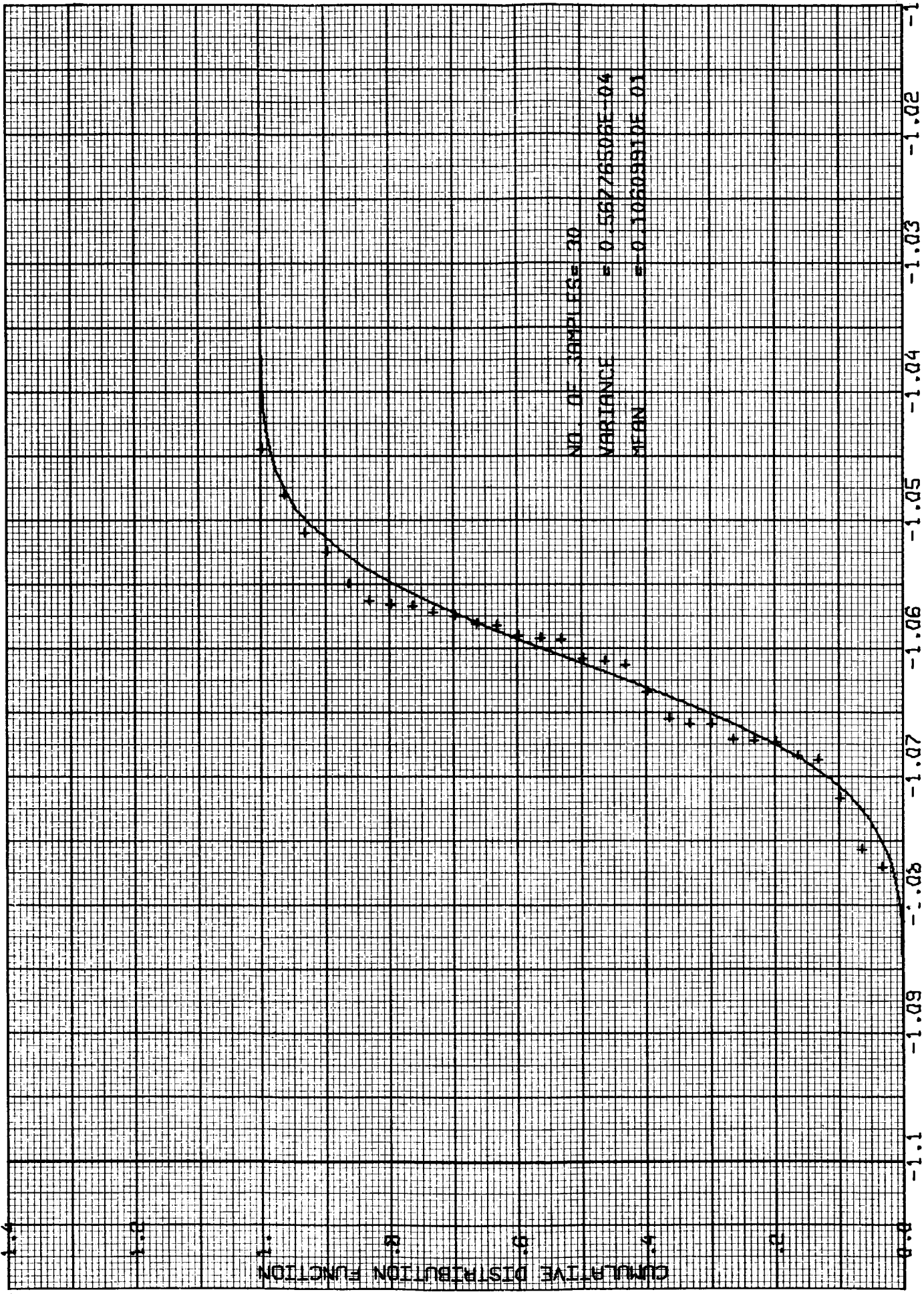
EIGHTH TARGET PASS



EIGHTH TARGET PASS

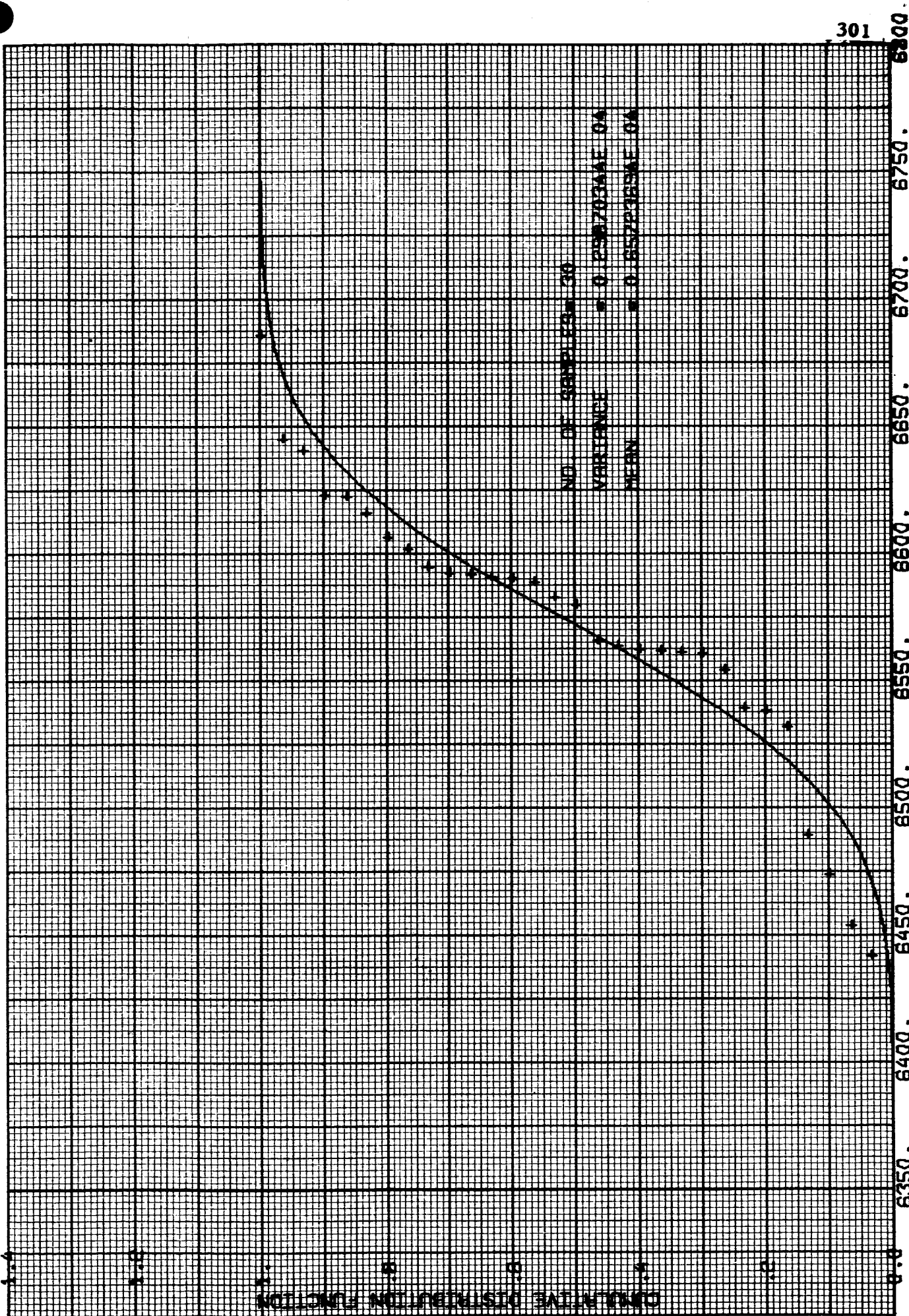


SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE



SAMPLE CUMULATIVE DISTRIBUTION OF MEAN ANOMALY

EIGHTH TARGET PASS



SAMPLE CUMULATIVE DISTRIBUTION OF MUTUAL EARTH-SUN VISIBILITY TIME

NINTH TARGET PASS
SAMPLE STATE VECTORS

X	Y	Z	VX	VY	VZ
0.17121214E 04	-0.51489378E 03	-0.24808721E-05	0.51596649E 00	0.17910755E 01	0.43202475E-00
0.17157081E 04	-0.50176816E 03	0.15838461E-05	0.50264312E 00	0.17955133E 01	0.43248679E-00
0.17199340E 04	-0.48688087E 03	0.66412991E-05	0.48676129E-00	0.17987736E 01	0.43197732E-00
0.17187119E 04	-0.49148837E 03	0.72020043E-08	0.49170569E-00	0.17981216E 01	0.43233883E-00
0.17031033E 04	-0.54405253E 03	-0.25635829E-05	0.54706062E 00	0.17840771E 01	0.43283606E-00
0.17107463E 04	-0.51856151E 03	0.56216168E-05	0.51997674E 00	0.17898218E 01	0.43266667E-00
0.17151429E 04	-0.50340830E 03	0.63785494E-06	0.50401202E 00	0.17940714E 01	0.43233576E-00
0.17159372E 04	-0.50061636E 03	0.60456985E-06	0.50107244E 00	0.17947339E 01	0.43248244E-00
0.17117169E 04	-0.51458667E 03	-0.21247292E-05	0.51619679E 00	0.17926393E 01	0.43255591E-00
0.17234857E 04	-0.47486891E 03	0.30579633E-06	0.47367077E-00	0.18004259E 01	0.43263128E-00
0.17193455E 04	-0.48976700E 03	0.36583526E-05	0.48978957E-00	0.17984261E 01	0.43237109E-00
0.17152691E 04	-0.50360259E 03	-0.82621025E-05	0.50410834E 00	0.17939019E 01	0.43244521E-00
0.17106427E 04	-0.51833851E 03	0.16281421E-06	0.51987629E 00	0.17904974E 01	0.43242688E-00
0.17126869E 04	-0.51137824E 03	-0.42389171E-05	0.51263496E 00	0.17925092E 01	0.43268833E-00
0.17158004E 04	-0.50122374E 03	0.49773003E-05	0.50172061E 00	0.17948624E 01	0.43228297E-00
0.17158487E 04	-0.50093067E 03	-0.18547539E-05	0.50188657E 00	0.17956717E 01	0.43193076E-00
0.17194673E 04	-0.48784304E 03	0.11644866E-05	0.48790482E-00	0.17981962E 01	0.43219360E-00
0.17287751E 04	-0.45092054E 03	-0.89018735E-05	0.44917779E-00	0.18069308E 01	0.43198851E-00
0.17148822E 04	-0.50492390E 03	-0.40298489E-05	0.50574881E 00	0.17945506E 01	0.43255012E-00
0.17172477E 04	-0.49567602E 03	0.36141346E-06	0.49590873E-00	0.17959803E 01	0.43209101E-00
0.17128701E 04	-0.51148587E 03	-0.49040413E-05	0.51268822E 00	0.17924710E 01	0.43243743E-00
0.17276987E 04	-0.45759249E 03	-0.27739538E-06	0.45583682E-00	0.18048435E 01	0.43192045E-00
0.17122733E 04	-0.51330037E 03	0.66210167E-06	0.51510286E 00	0.17937084E 01	0.43284953E-00
0.17080113E 04	-0.52686512E 03	0.12223805E-05	0.52904103E 00	0.17889030E 01	0.43299377E-00
0.17263991E 04	-0.46455143E 03	-0.40228184E-05	0.46284103E-00	0.18031043E 01	0.43185539E-00
0.17144015E 04	-0.50644027E 03	-0.54603867E-05	0.50716794E 00	0.17937776E 01	0.43254025E-00
0.17080302E 04	-0.52723475E 03	0.25511630E-05	0.52926274E 00	0.17881066E 01	0.43262225E-00
0.17167526E 04	-0.49867809E 03	-0.10132936E-04	0.49912681E-00	0.17955162E 01	0.43237624E-00
0.17124937E 04	-0.51297034E 03	-0.24710885E-05	0.51432776E 00	0.17924056E 01	0.43215780E-00
0.17119139E 04	-0.51541261E 03	0.64254791E-05	0.51671284E 00	0.17916459E 01	0.43329287E-00

NINTH TARGET PASS

SAMPLE VARIANCE OF SELENOGRAPHIC STATE VECTOR

	1	2	3	4	5	6
1	3.3448275E 01	1.1667241E 02	-3.9201294E-06	-1.2312264E-01	2.8185614E-02	-1.1701913E-03
2	1.1667241E 02	4.1341379E 02	-1.4609998E-05	-4.3619931E-01	9.8312902E-02	-4.4008452E-03
3	-3.9201294E-06	-1.4609998E-05	1.8231782E-11	1.5381798E-08	-3.3402761E-09	3.2545013E-10
4	-1.2312264E-01	-4.3619931E-01	1.5381798E-08	4.6028556E-04	-1.0362987E-04	4.6491623E-06
5	2.8185614E-02	9.8312902E-02	-3.3402761E-09	-1.0362987E-04	2.4137826E-05	-9.5367432E-07
6	-1.1701913E-03	-4.4008452E-03	3.2545013E-10	4.6491623E-06	-9.5367432E-07	1.2743062E-07

CORRESPONDING CORRELATION MATRIX

	1	2	3	4	5	6
1	1.000000E 00	9.9217625E-01	-1.5874460E-01	-9.9228717E-01	9.9195406E-01	-5.6680424E-01
2	9.9217625E-01	9.9999998E-01	-1.6828411E-01	-9.9995123E-01	9.8416737E-01	-6.0632673E-01
3	-1.5874460E-01	-1.6828411E-01	1.000000E 00	1.6791088E-01	-1.5922774E-01	2.1351726E-01
4	-9.9228717E-01	-9.9995123E-01	1.6791088E-01	1.000000E 00	-9.8315544E-01	6.0704953E-01
5	9.9195406E-01	9.8416737E-01	-1.5922774E-01	-9.8315544E-01	1.000000E 00	-5.4376858E-01
6	-5.6680424E-01	-6.0632673E-01	2.1351726E-01	6.0704953E-01	-5.4376858E-01	1.000000E 00

SAMPLE MEAN OF SELENOGRAPHIC STATE VECTOR

1	1.7155804E 03	-5.0167533E 02	-8.3792231E-07	5.0233097E-01	1.7948419E 00	4.3241051E-01
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NINTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF TIME FROM TRANSLUNAR INJECTION UNSORTED SAMPLES

4.8773413E 05	4.8811465E 05	4.8735631E 05	4.8783011E 05	4.8887157E 05	4.8767630E 05
4.8756567E 05	4.8747534E 05	4.8835431E 05	4.8664365E 05	4.8762340E 05	4.8739029E 05
4.8806499E 05	4.8800443E 05	4.8757573E 05	4.8772202E 05	4.8728229E 05	4.8639296E 05
4.8803591E 05	4.8714072E 05	4.8796247E 05	4.8653381E 05	4.8862510E 05	4.8844082E 05
4.8680481E 05	4.8774961E 05	4.8798680E 05	4.8767797E 05	4.8816589E 05	4.8804653E 05

NINTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF V / H UNSORTED SAMPLES

3.8343349E-02	3.8585451E-02	3.8605540E-02	3.8553731E-02	3.8372327E-02	3.8543087E-02
3.8628238E-02	3.8642795E-02	3.8746794E-02	3.8426234E-02	3.8443557E-02	3.8488941E-02
3.8682061E-02	3.8719090E-02	3.8617341E-02	3.8659970E-02	3.8747898E-02	3.9294387E-02
3.8509237E-02	3.8730251E-02	3.8556131E-02	3.8762608E-02	3.8634814E-02	3.8723443E-02
3.8342600E-02	3.8527114E-02	3.8608814E-02	3.8459001E-02	3.8512048E-02	3.8401976E-02

NINTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF RESOLUTION UNSORTED SAMPLES

1.0821540E 00	1.0757692E 00	1.0745564E 00	1.0764137E 00	1.0826290E 00	1.0765795E 00
1.0740021E 00	1.0735288E 00	1.0718095E 00	1.0786743E 00	1.0793865E 00	1.0778248E 00
1.0730203E 00	1.0719883E 00	1.0743740E 00	1.0735974E 00	1.0704959E 00	1.0548878E 00
1.0778576E 00	1.0709563E 00	1.0764751E 00	1.0691289E 00	1.0753515E 00	1.0725107E 00
1.0808547E 00	1.0771587E 00	1.0752709E 00	1.0787735E 00	1.0778852E 00	1.0810806E 00

NINTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF LONGITUDE	UNSORTED SAMPLES	
3.4326216E 02	3.4419418E 02	3.4228403E 02
3.4364261E 02	3.4326785E 02	3.4410003E 02
3.4314277E 02	3.4371573E 02	3.4416043E 02
3.4359365E 02	3.4337367E 02	3.4331247E 02
3.4493919E 02	3.4284559E 02	3.4332463E 02
		3.4313689E 02
		3.4363777E 02
		3.4538112E 02
		3.4285673E 02
		3.4374432E 02

NINTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF ALTITUDE	UNSORTED SAMPLES	
4.9779083E 01	4.9429595E 01	4.9800934E 01
4.9404097E 01	4.9303237E 01	4.9651778E 01
4.9358931E 01	4.9421203E 01	4.9242812E 01
4.9581450E 01	4.9517852E 01	4.9466170E 01
4.9719314E 01	4.9462463E 01	4.9582717E 01
		4.9522659E 01
		4.9579940E 01
		4.8524840E 01
		4.9335495E 01
		4.9729705E 01

NINTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF SIDE OVERLAP	UNSORTED SAMPLES	
2.6180463E 01	2.5938779E 01	2.6103579E 01
2.5902295E 01	2.5737863E 01	2.6087517E 01
2.5829286E 01	2.5910854E 01	2.5791772E 01
2.6001463E 01	2.5959805E 01	2.5845065E 01
2.6229418E 01	2.5884698E 01	2.6000466E 01
		2.5959689E 01
		2.6037088E 01
		2.5281903E 01
		2.5749268E 01
		2.6070344E 01

NINTH TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF SEMI-MAJOR AXIS

		UNSORTED SAMPLES	
2.6884065E 03	2.6911269E 03	2.6888550E 03	2.7014455E 03
2.6849980E 03	2.6842105E 03	2.6955622E 03	2.6883568E 03
2.6899373E 03	2.6896600E 03	2.6857658E 03	2.6823588E 03
2.6911649E 03	2.6821922E 03	2.6901534E 03	2.7006996E 03
2.6750642E 03	2.6890340E 03	2.6925655E 03	2.6922314E 03

2.6875720E 03
 2.6851514E 03
 2.6718588E 03
 2.6962635E 03
 2.6939608E 03

NINTH TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF ECCENTRICITY

		UNSORTED SAMPLES	
3.3514132E-01	3.3591979E-01	3.3426259E-01	3.3834166E-01
3.3443632E-01	3.3424894E-01	3.3708242E-01	3.3517528E-01
3.3567513E-01	3.3562351E-01	3.3462081E-01	3.3383836E-01
3.3589582E-01	3.3379201E-01	3.3566852E-01	3.3828104E-01
3.3184726E-01	3.3538300E-01	3.3628477E-01	3.3615701E-01

3.3502831E-01
 3.3440914E-01
 3.3148997E-01
 3.3724298E-01
 3.3653020E-01

NINTH TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF INCLINATION

		UNSORTED SAMPLES	
1.3050647E 01	1.3059857E 01	1.3052248E 01	1.3059744E 01
1.3062990E 01	1.3067677E 01	1.3055549E 01	1.3060641E 01
1.3058784E 01	1.3066892E 01	1.3059845E 01	1.3060293E 01
1.3062304E 01	1.3057477E 01	1.3059722E 01	1.3059196E 01
1.3061623E 01	1.3064447E 01	1.3062136E 01	1.3048939E 01

1.3069970E 01
 1.3066475E 01
 1.3063034E 01
 1.3066599E 01
 1.3082524E 01

NINTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE			UNSORTED SAMPLES		
3.4326216E 02	3.4369815E 02	3.4419418E 02	3.4404142E 02	3.4228403E 02	3.4313689E 02
3.4364261E 02	3.4373565E 02	3.4326785E 02	3.4459561E 02	3.4410003E 02	3.4363777E 02
3.4314277E 02	3.4337530E 02	3.4371573E 02	3.4372518E 02	3.4416043E 02	3.4538112E 02
3.4359365E 02	3.4389943E 02	3.4337367E 02	3.4516545E 02	3.4331247E 02	3.4285673E 02
3.4493919E 02	3.4354267E 02	3.4284559E 02	3.4380260E 02	3.4332463E 02	3.4324437E 02

NINTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE			UNSORTED SAMPLES		
2.5904503E 00	2.5671768E 00	2.5815964E 00	2.5785103E 00	2.5765877E 00	2.5759277E 00
2.5875854E 00	2.5866318E 00	2.5823402E 00	2.5962143E 00	2.5820427E 00	2.5899353E 00
2.5834770E 00	2.5775795E 00	2.5914993E 00	2.5562553E 00	2.5651779E 00	2.5784759E 00
2.5852127E 00	2.5872612E 00	2.5763473E 00	2.5839233E 00	2.5628929E 00	2.5823784E 00
2.5975037E 00	2.5980263E 00	2.5789146E 00	2.5728416E 00	2.5738602E 00	2.5846443E 00

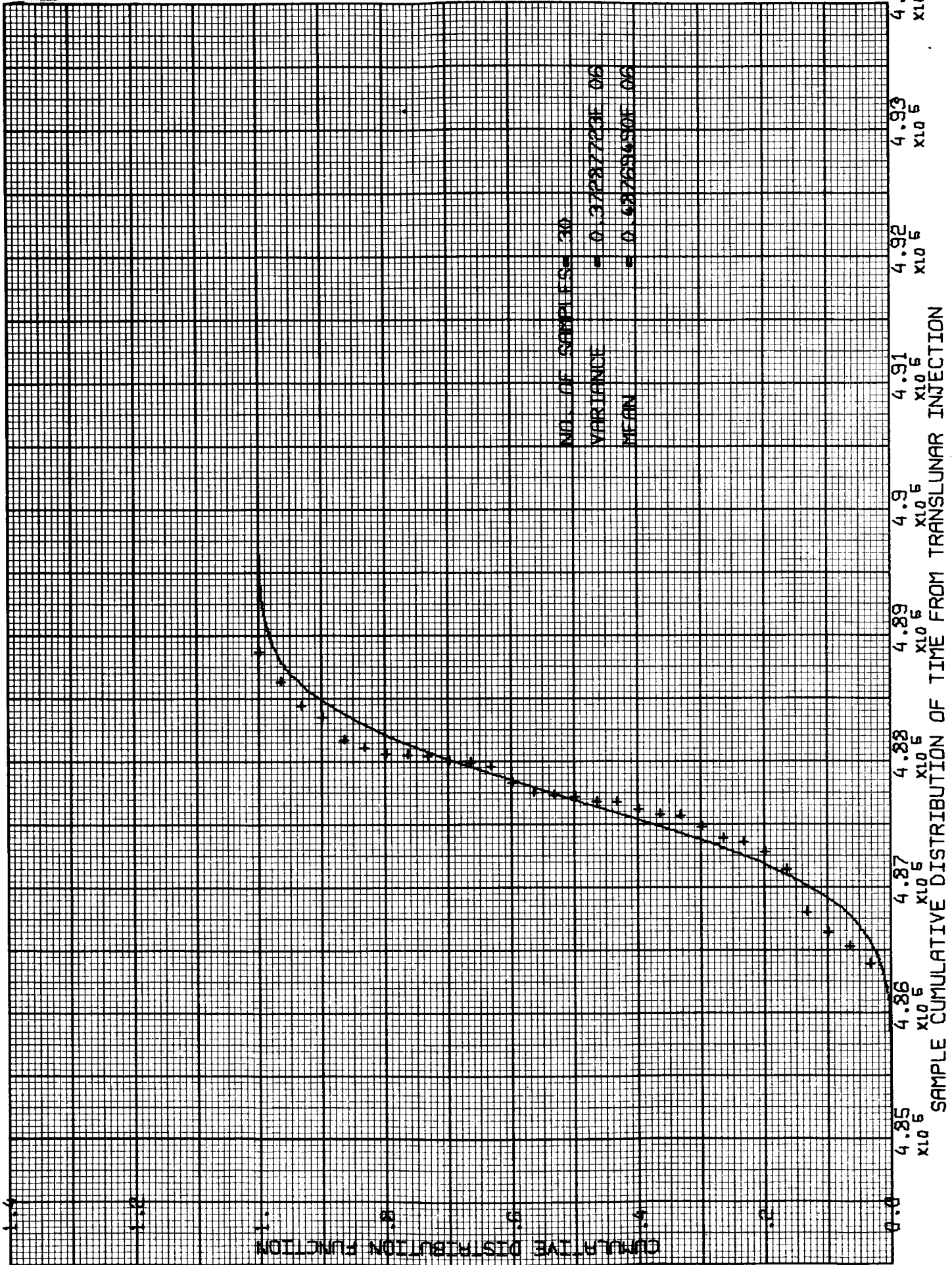
NINTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF MEAN ANOMALY			UNSORTED SAMPLES		
-1.2155724E 00	-1.2021828E 00	-1.2142220E 00	-1.2093124E 00	-1.1989136E 00	-1.2091103E 00
-1.2164803E 00	-1.2166328E 00	-1.2055931E 00	-1.2277336E 00	-1.2115211E 00	-1.2176704E 00
-1.2105904E 00	-1.2080002E 00	-1.2177315E 00	-1.1980820E 00	-1.2078323E 00	-1.2216110E 00
-1.2107124E 00	-1.2183838E 00	-1.2072830E 00	-1.2244530E 00	-1.1927338E 00	-1.2050934E 00
-1.2294731E 00	-1.2183533E 00	-1.2065201E 00	-1.2086830E 00	-1.2045631E 00	-1.2084236E 00

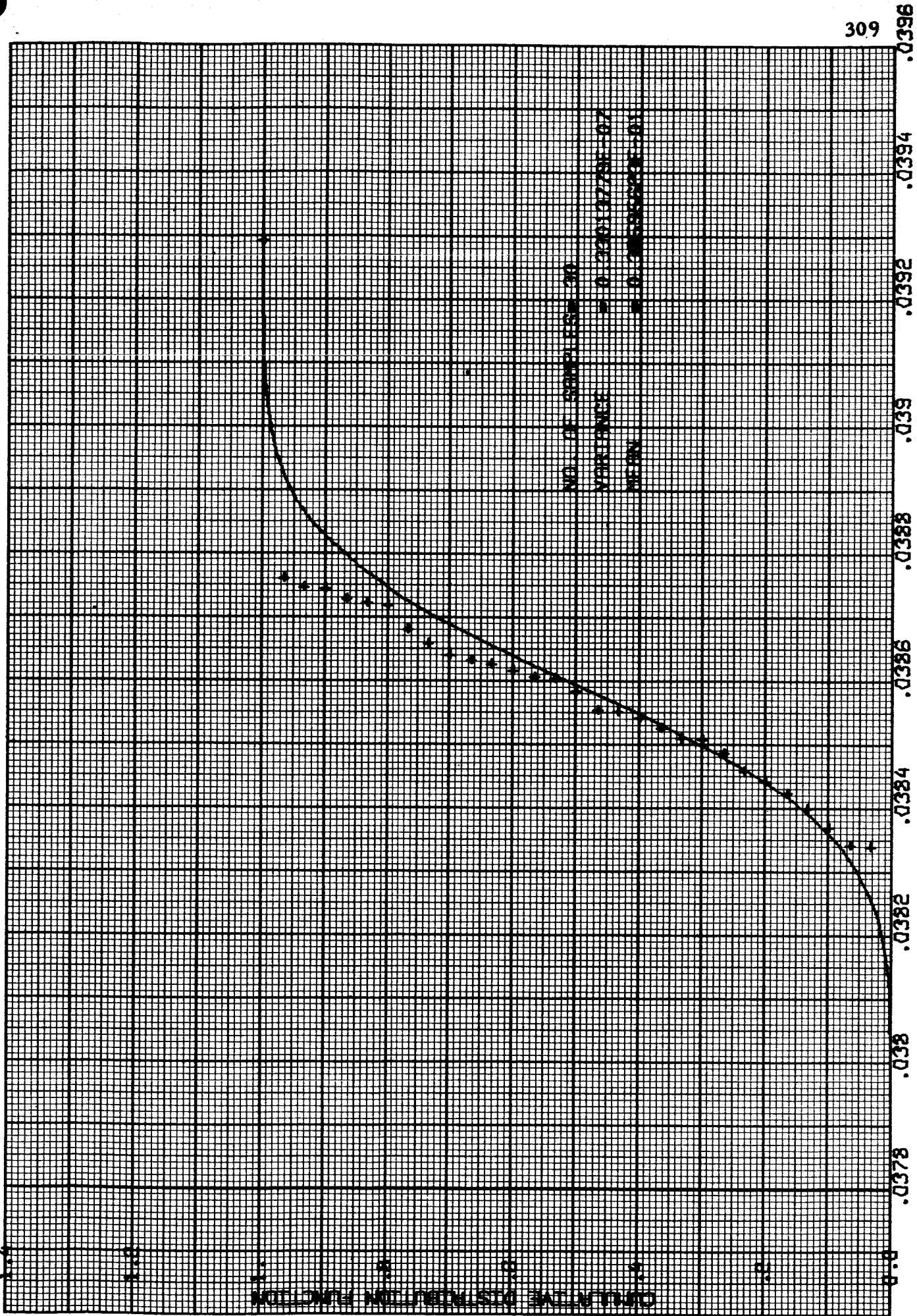
NINTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF MUTUAL EARTH-SUN VISIBILITY TIME			UNSORTED SAMPLES		
6.7165000E 03	6.7158000E 03	6.6649000E 03	6.6925000E 03	6.8144000E 03	6.7168000E 03
6.6872000E 03	6.6801999E 03	6.7502000E 03	6.6134000E 03	6.6875000E 03	6.6875000E 03
6.7283999E 03	6.7190000E 03	6.6881000E 03	6.7065000E 03	6.6571999E 03	6.5653999E 03
6.7188000E 03	6.6637000E 03	6.7215000E 03	6.5771999E 03	6.7738000E 03	6.7681000E 03
6.5978000E 03	6.7092000E 03	6.7501000E 03	6.6897000E 03	6.7335000E 03	6.7434000E 03

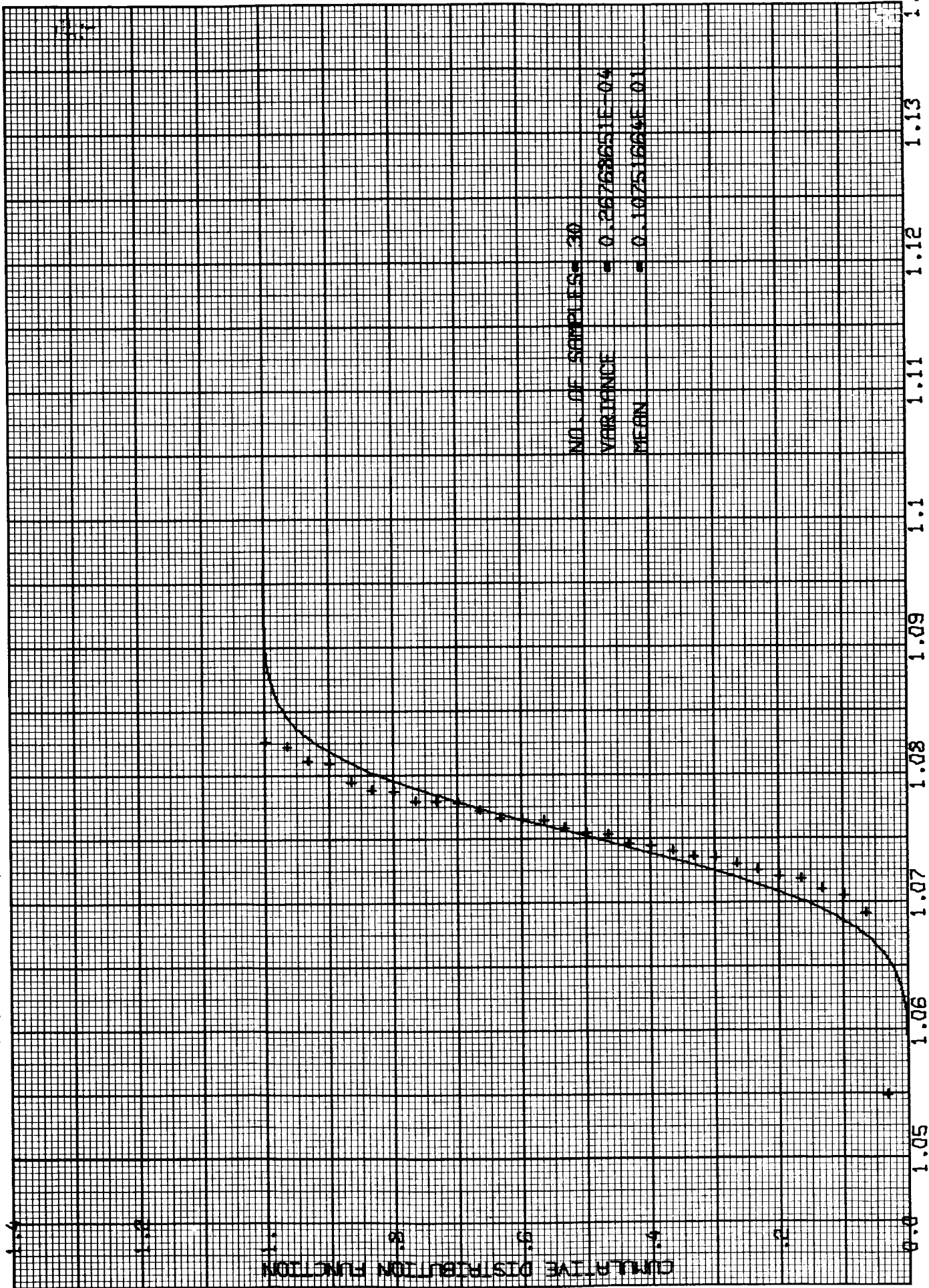
NINTH TARGET PASS



NINTH TARGET PASS



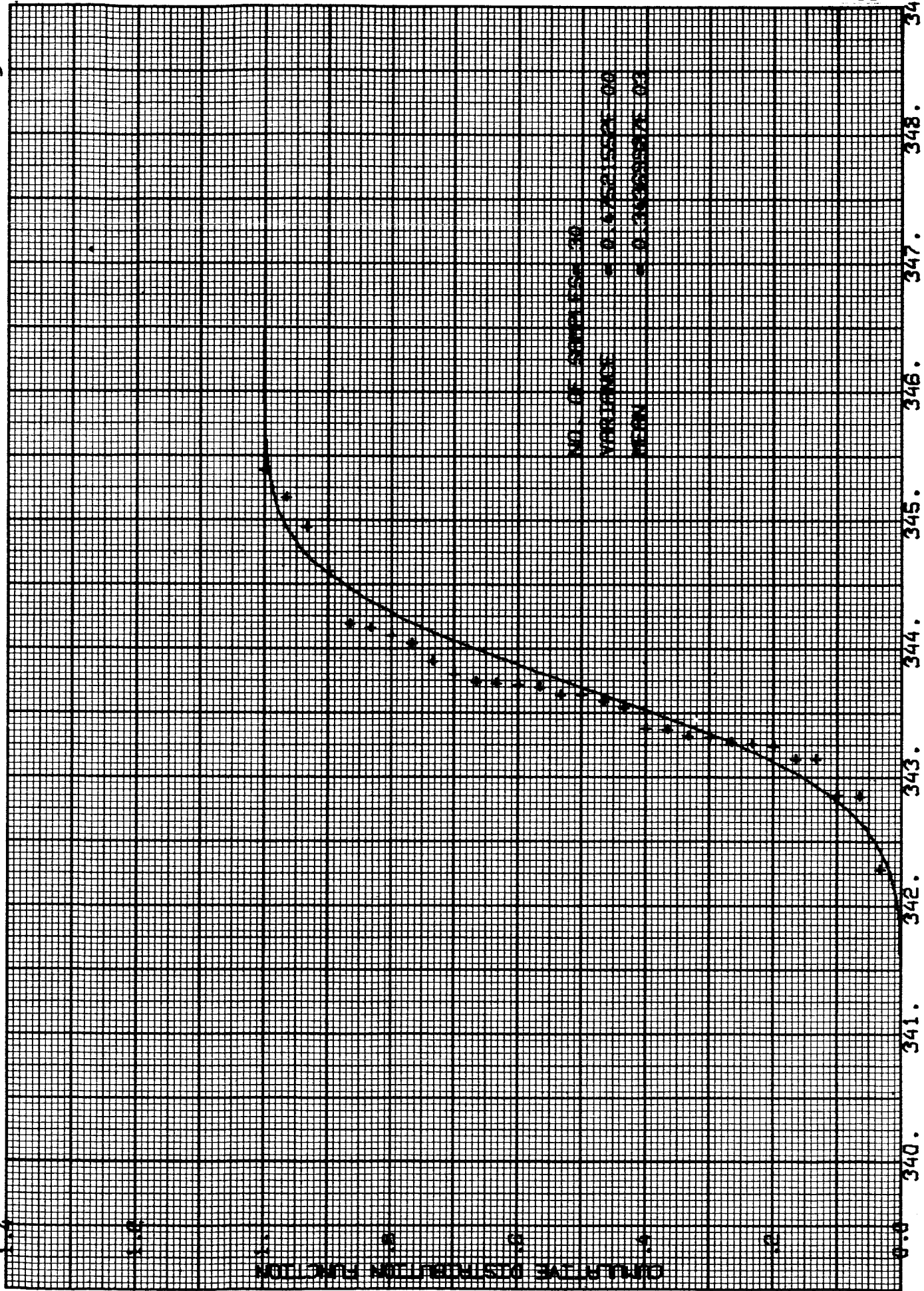
NINTH TARGET PASS



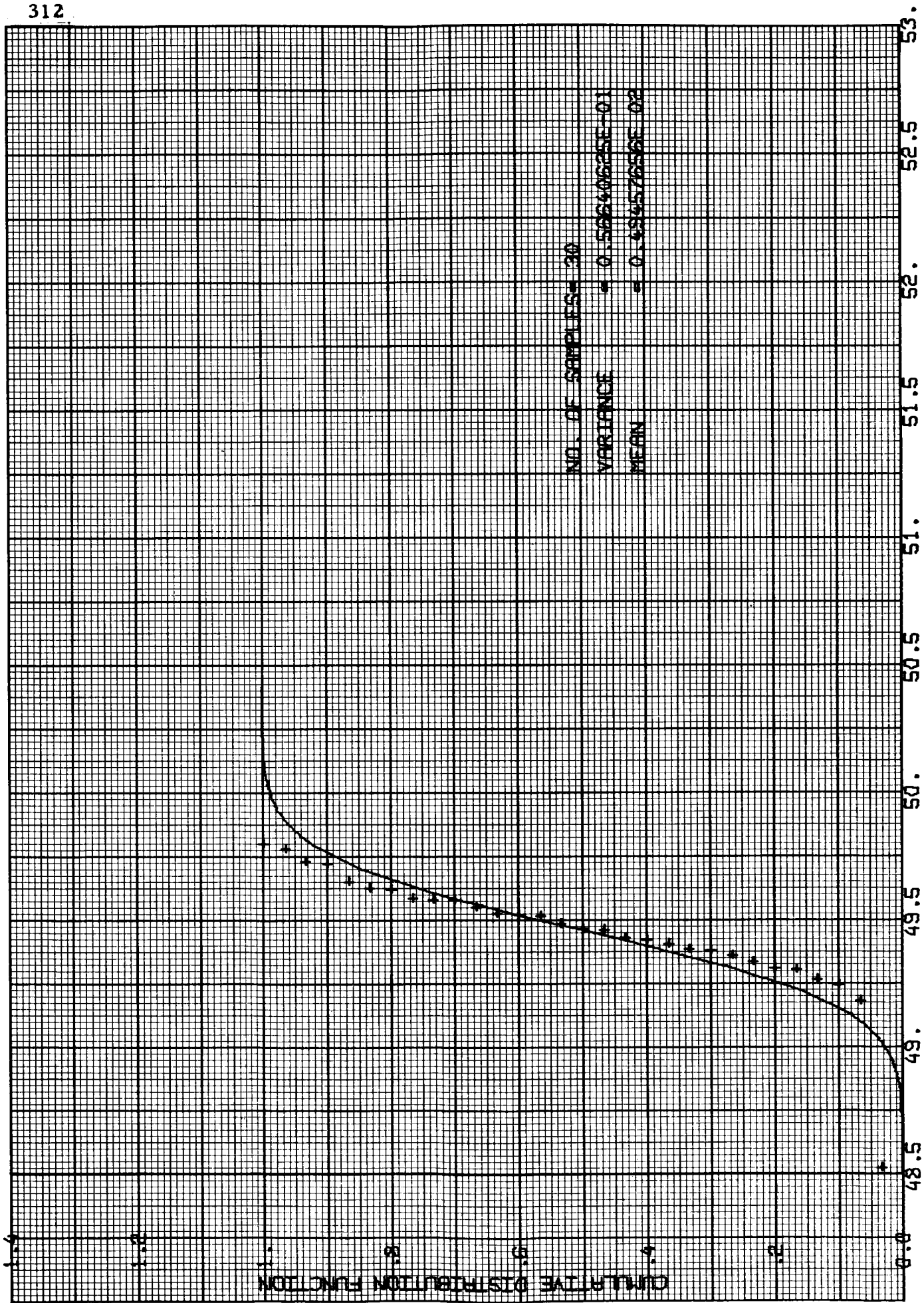
SAMPLE CUMULATIVE DISTRIBUTION OF RESOLUTION

NINTH TARGET PASS

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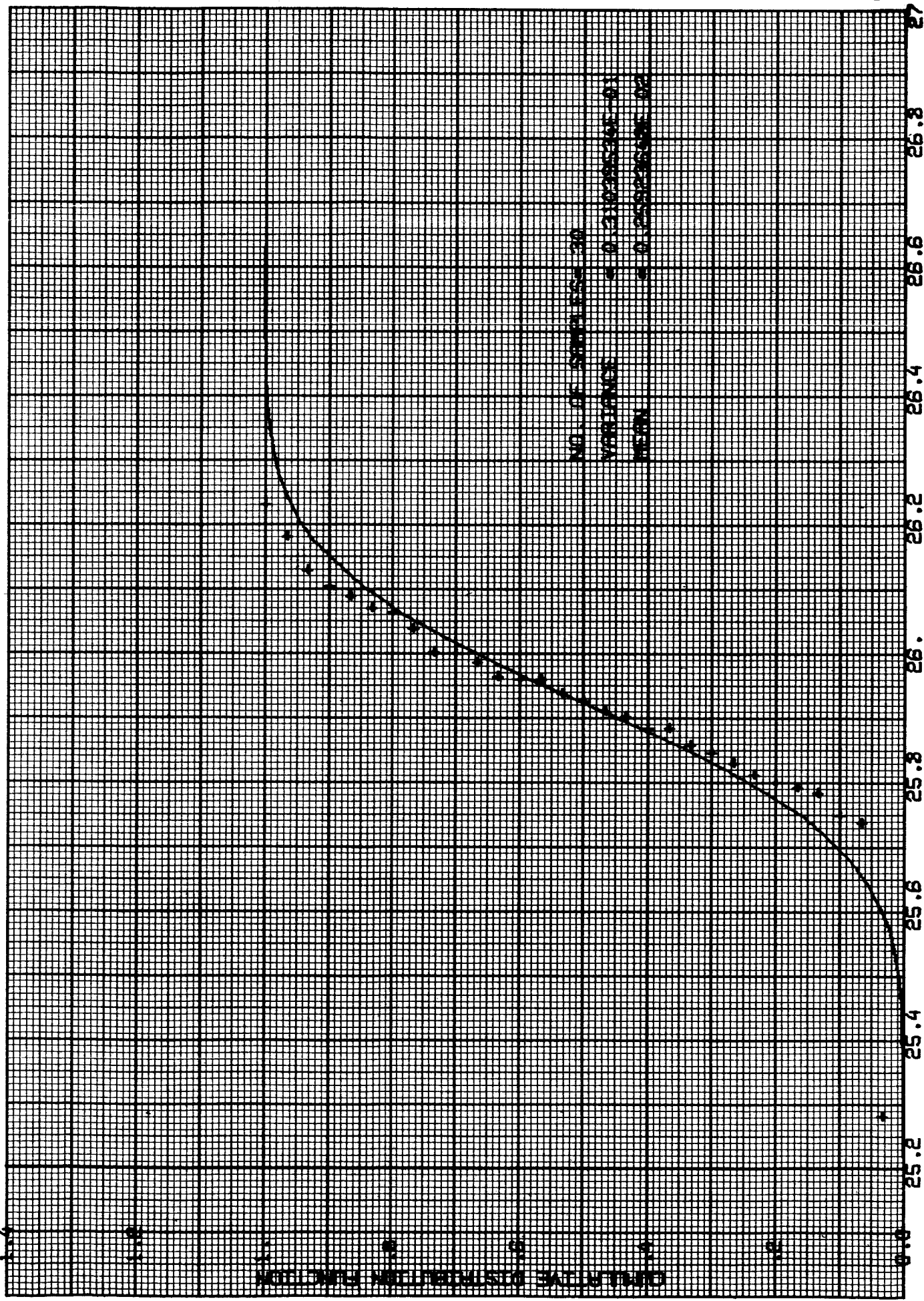


NINTH TARGET PASS

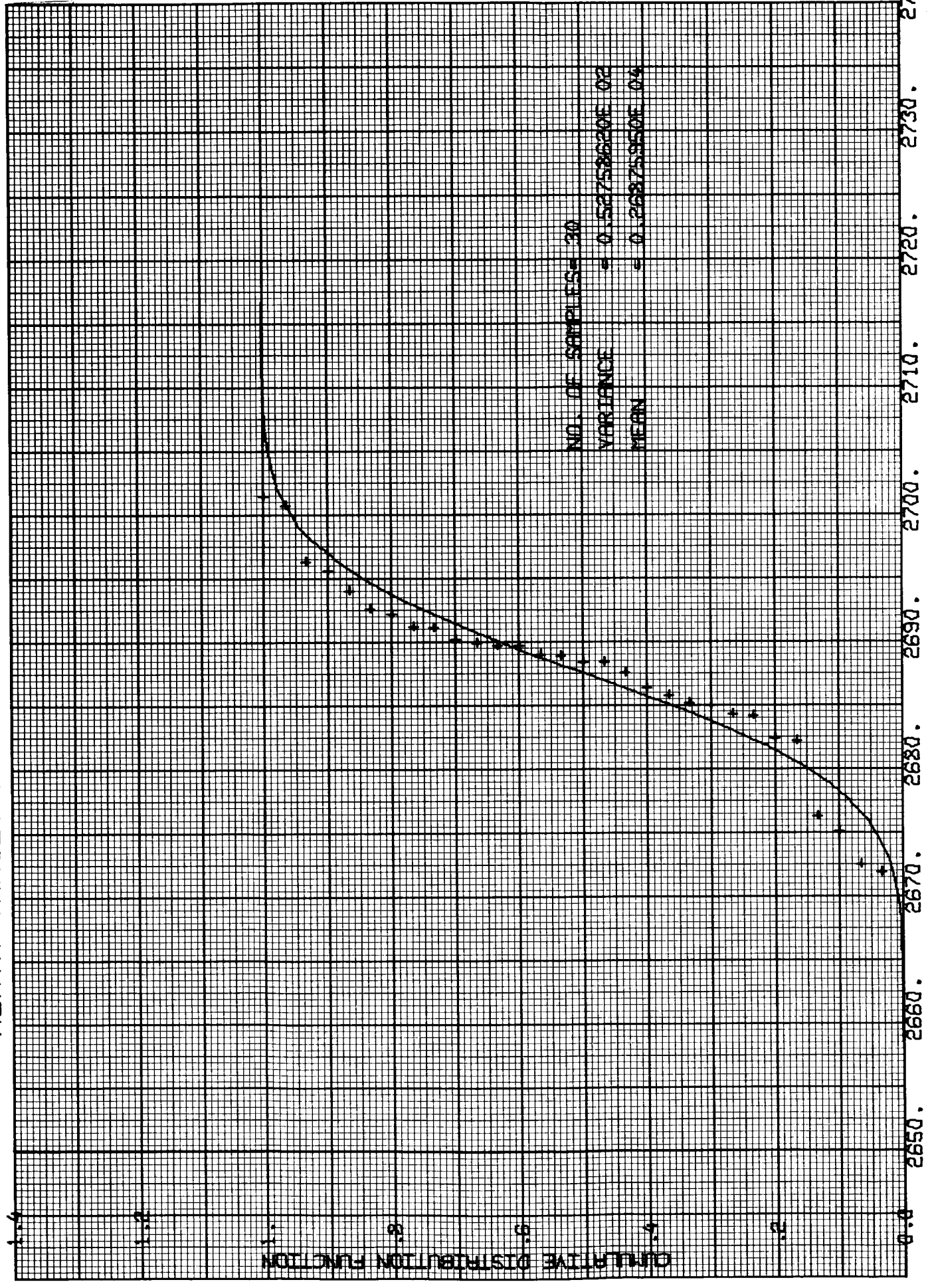


SAMPLE CUMULATIVE DISTRIBUTION OF ALTITUDE

NINTH TARGET PASS

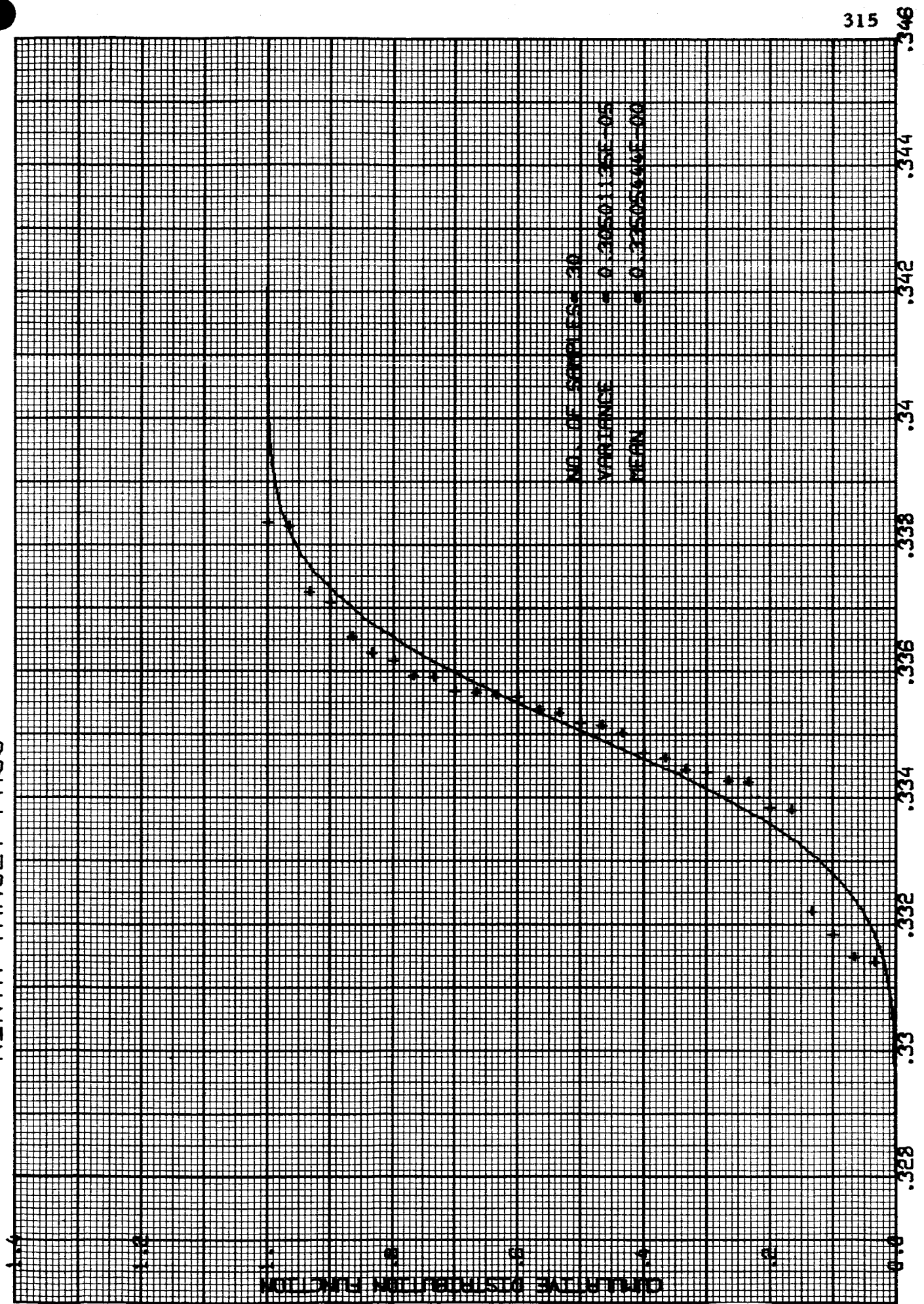


NINTH TARGET PASS

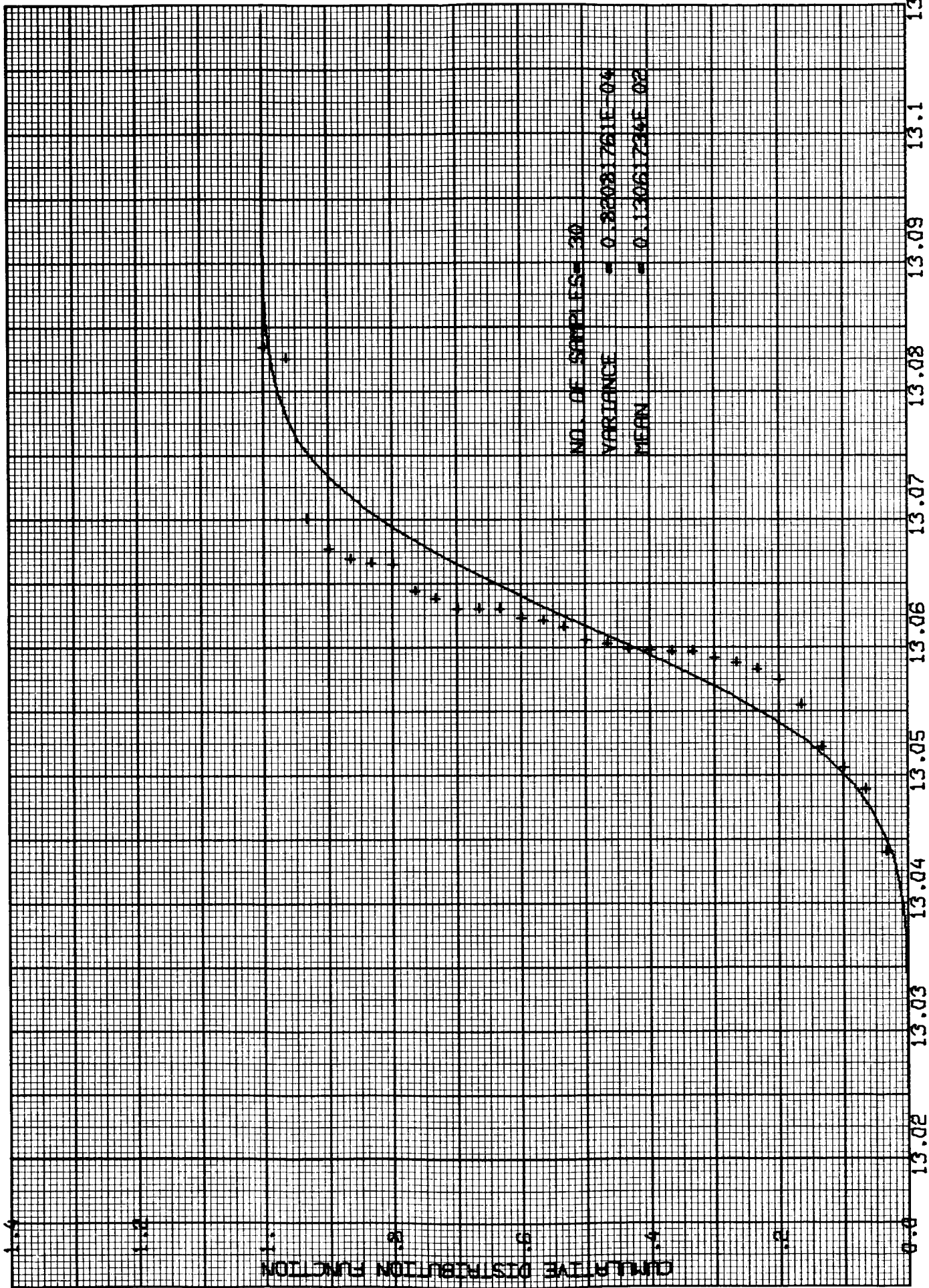


SAMPLE CUMULATIVE DISTRIBUTION OF SEMI-MAJOR AXIS

NINTH TARGET PASS

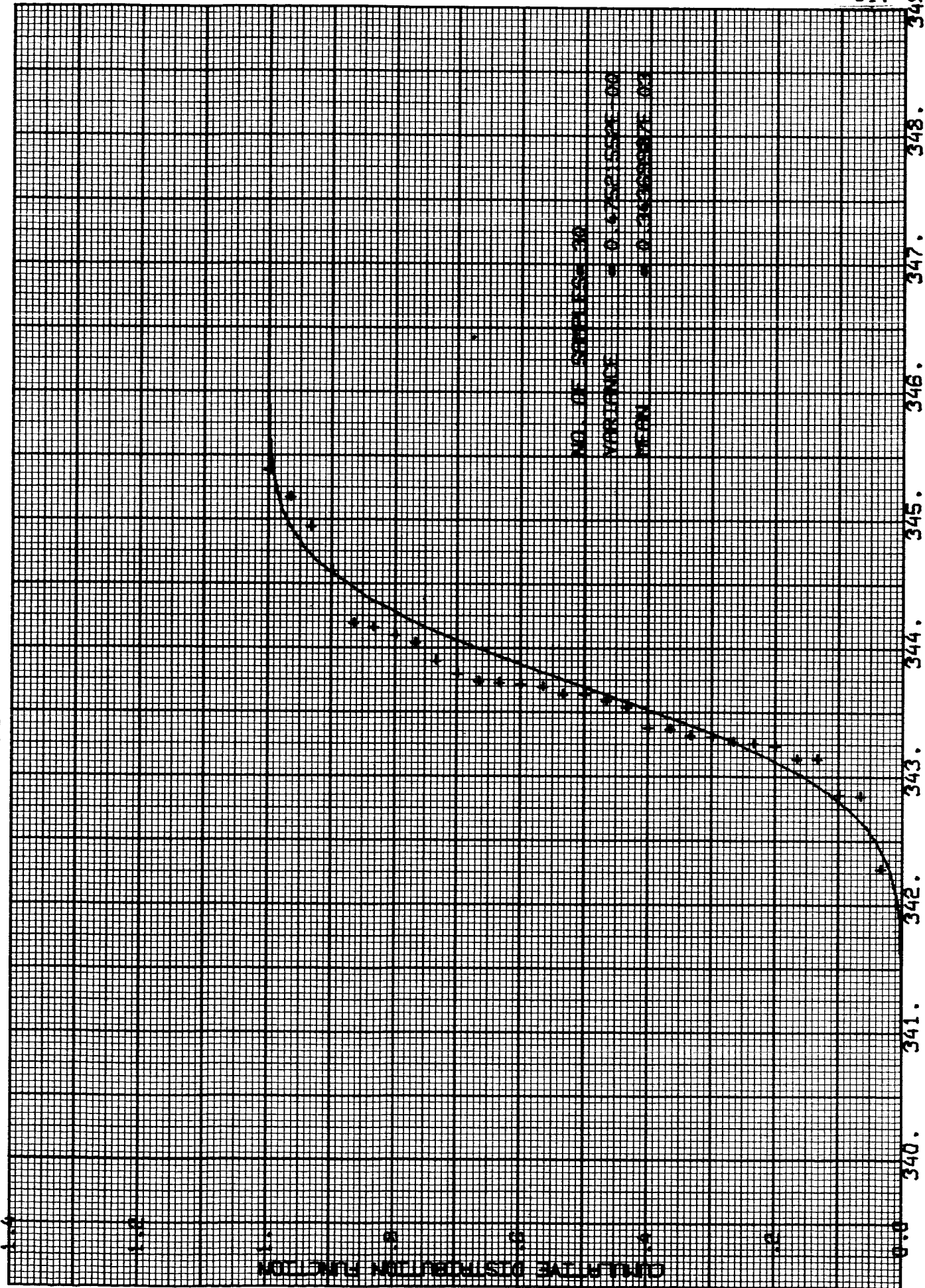


NINTH TARGET PASS



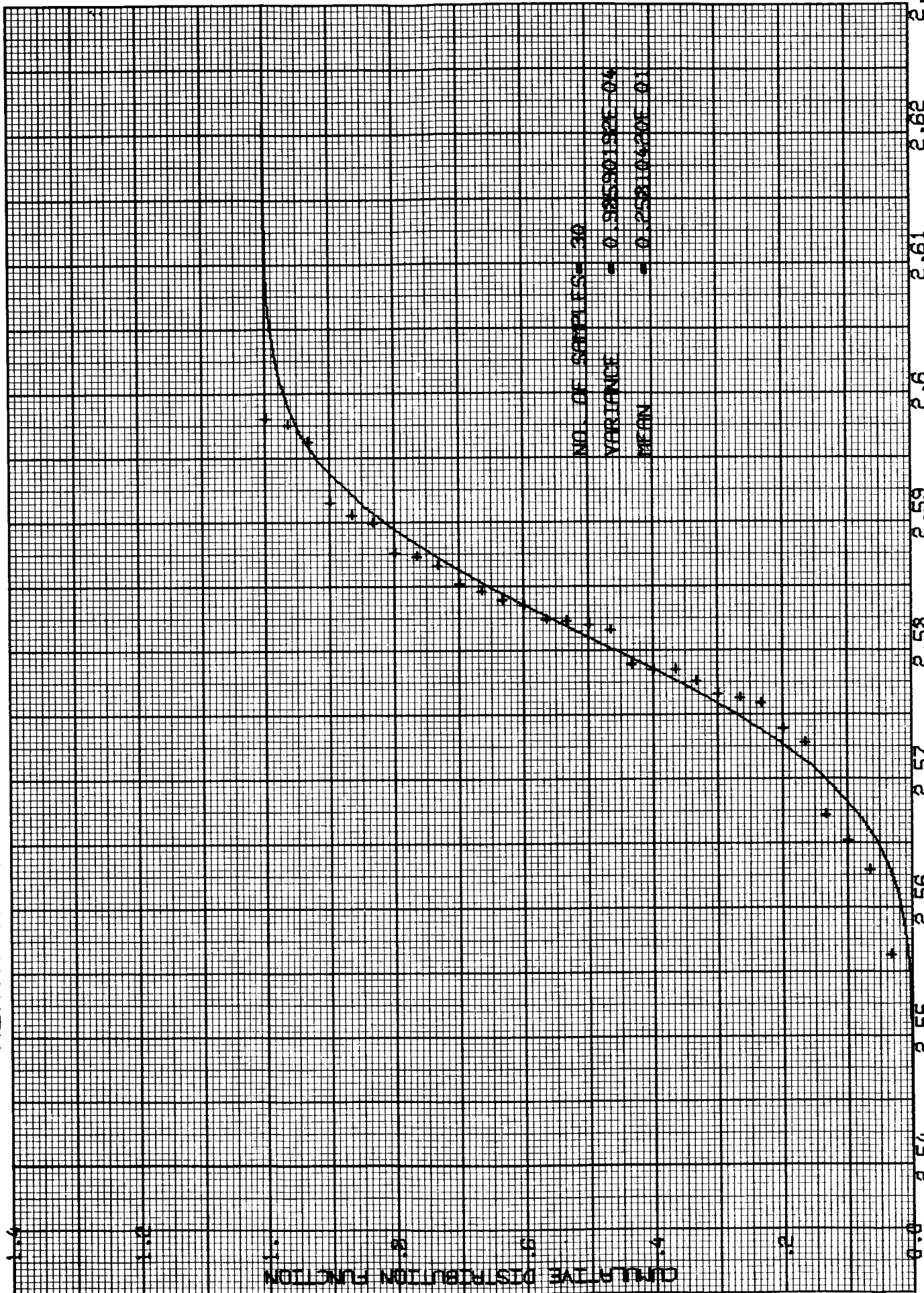
SAMPLE CUMULATIVE DISTRIBUTION OF INCLINATION

NINTH TARGET PASS



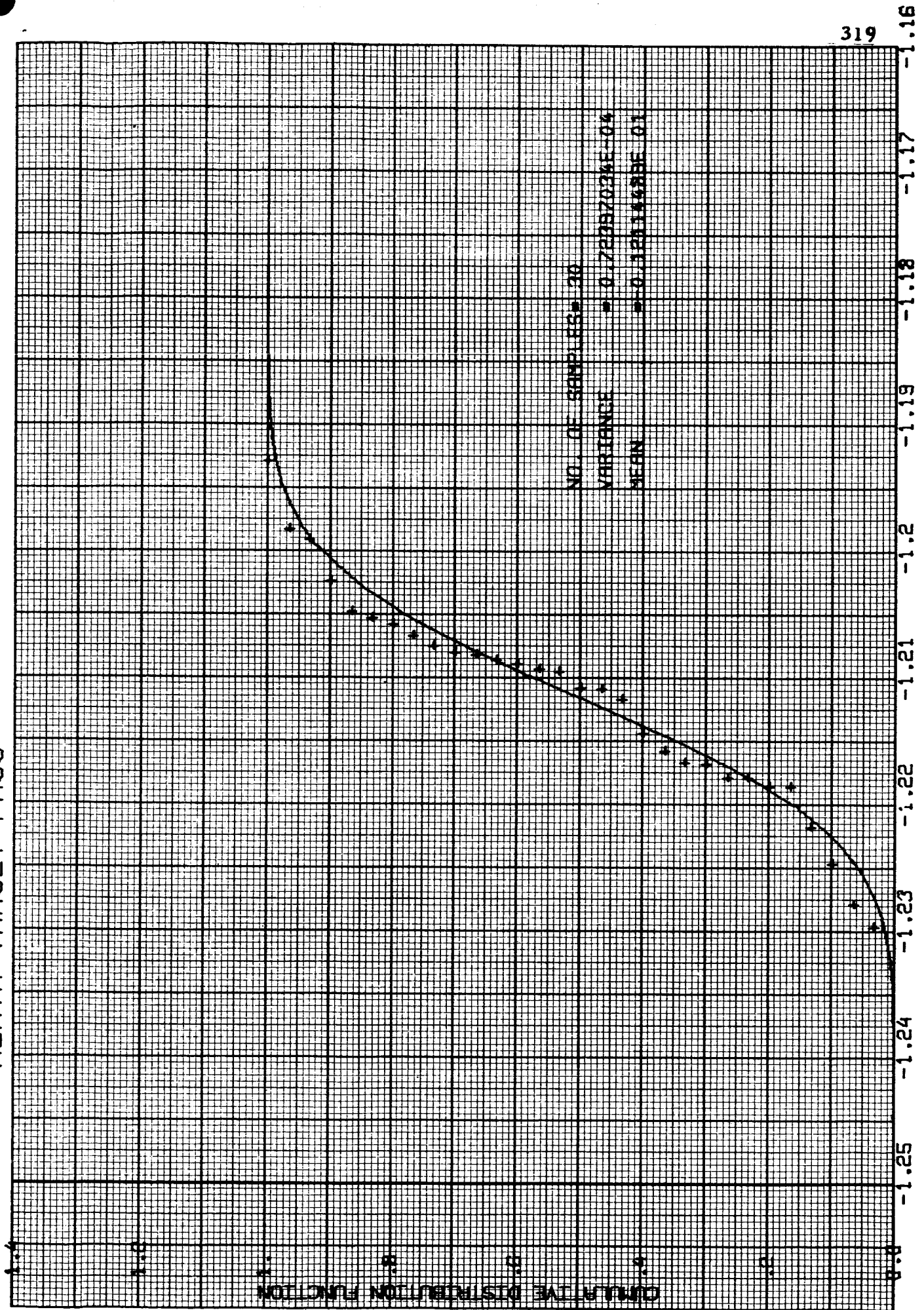
SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE

NINTH TARGET PASS



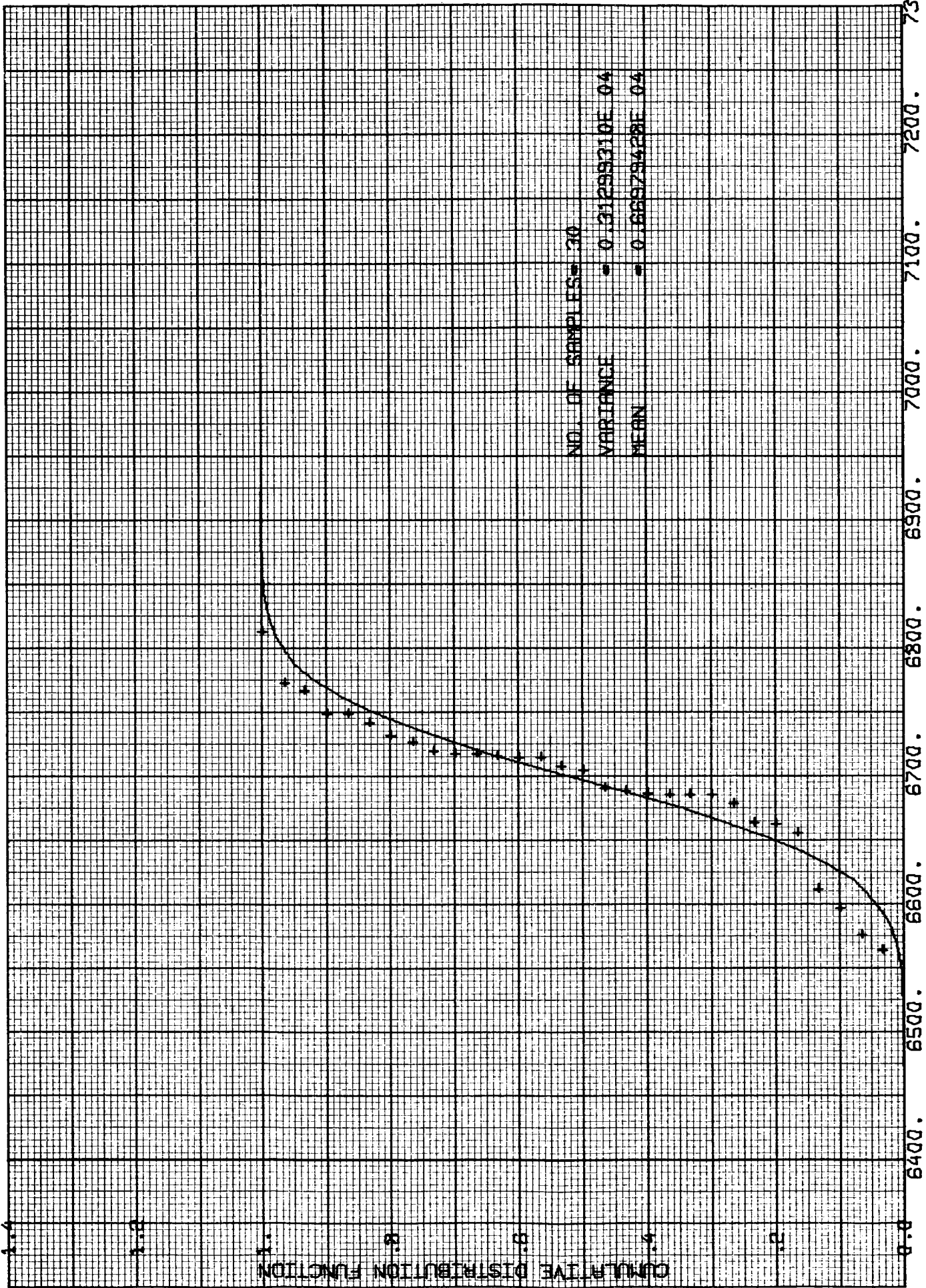
SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE

NINTH TARGET PASS



SAMPLE CUMULATIVE DISTRIBUTION OF MEAN ANOMALY

NINTH TARGET PASS



SAMPLE CUMULATIVE DISTRIBUTION OF MUTUAL EARTH-SUN VISIBILITY TIME

TENTH TARGET PASS
SAMPLE STATE VECTORS

X	Y	Z	VX	VY	VZ
0.16932162E 04	-0.57598607E 03	-0.37883413E-05	0.57699367E 00	0.17718106E 01	0.43199987E-00
0.16972361E 04	-0.56308328E 03	0.52991058E-05	0.56392780E 00	0.17766760E 01	0.43246491E-00
0.17020385E 04	-0.54817536E 03	-0.20888203E-05	0.54799442E 00	0.17805424E 01	0.43195999E-00
0.17006204E 04	-0.55285252E 03	0.33929563E-05	0.55302855E 00	0.17796817E 01	0.43231977E-00
0.16830271E 04	-0.60524712E 03	0.11211589E-05	0.60825886E 00	0.17635824E 01	0.43280213E-00
0.16917101E 04	-0.57960712E 03	0.46685009E-05	0.58096117E 00	0.17704182E 01	0.43264066E-00
0.16966654E 04	-0.56453288E 03	-0.57516040E-05	0.56507295E 00	0.17752452E 01	0.43233585E-00
0.16975641E 04	-0.56175017E 03	-0.29247138E-05	0.56213871E 00	0.17760157E 01	0.43246139E-00
0.16927499E 04	-0.57589567E 03	-0.81945511E-06	0.57751124E 00	0.17732853E 01	0.43253008E-00
0.17060746E 04	-0.53607716E 03	-0.74987127E-06	0.53475568E 00	0.17827149E 01	0.43261714E-00
0.17013010E 04	-0.55119453E 03	-0.59102284E-05	0.55116770E 00	0.17800392E 01	0.43235236E-00
0.16967718E 04	-0.56477135E 03	0.76823561E-06	0.56520554E 00	0.17750592E 01	0.43242332E-00
0.16915832E 04	-0.57947844E 03	-0.31047931E-05	0.58098308E 00	0.17710628E 01	0.43240086E-00
0.16938730E 04	-0.57259044E 03	0.17963731E-05	0.57381552E 00	0.17733251E 01	0.43266404E-00
0.16973947E 04	-0.56239036E 03	0.12716444E-05	0.56282865E 00	0.17761087E 01	0.43226165E-00
0.16974238E 04	-0.56219385E 03	0.24575783E-05	0.56311800E 00	0.17768802E 01	0.43190963E-00
0.17015807E 04	-0.54898286E 03	-0.57813084E-06	0.54897433E 00	0.17799713E 01	0.43217634E-00
0.17122598E 04	-0.51212385E 03	0.43376002E-05	0.51029701E 00	0.17901208E 01	0.43198158E-00
0.16962788E 04	-0.56627069E 03	0.21696325E-05	0.56706259E 00	0.17755850E 01	0.43252721E-00
0.16990723E 04	-0.55677927E 03	-0.55318855E-06	0.55694126E 00	0.17774660E 01	0.43207163E-00
0.16940530E 04	-0.57270335E 03	0.12778480E-06	0.57386622E 00	0.17732854E 01	0.43241321E-00
0.17109384E 04	-0.51879506E 03	-0.15170532E-05	0.51692250E 00	0.17877936E 01	0.43191167E-00
0.16932897E 04	-0.57482155E 03	0.35843398E-05	0.57665285E 00	0.17743251E 01	0.43282346E-00
0.16886172E 04	-0.58802144E 03	-0.43963904E-05	0.59019674E 00	0.17691109E 01	0.43290847E-00
0.17093926E 04	-0.52572142E 03	0.59358239E-06	0.52387708E 00	0.17858090E 01	0.43184446E-00
0.16957688E 04	-0.56769288E 03	-0.31679450E-06	0.56837530E 00	0.17747893E 01	0.43251703E-00
0.16886383E 04	-0.58833808E 03	0.11880342E-05	0.59033880E 00	0.17683271E 01	0.43259358E-00
0.16984173E 04	-0.55993664E 03	-0.44314635E-05	0.56032068E 00	0.17768326E 01	0.43235558E-00
0.16936132E 04	-0.57421129E 03	0.27814481E-05	0.57553933E 00	0.17731503E 01	0.43213317E-00
0.16929226E 04	-0.57670840E 03	0.12764312E-05	0.57797600E 00	0.17722811E 01	0.43326644E-00

TENTH TARGET PASS

SAMPLE VARIANCE OF SELENOGRAPHIC STATE VECTOR

	1	2	3	4	5	6
1	4.2862068E 01	1.3240517E 02	2.9961515E-08	-1.3990941E-01	3.7042025E-02	-1.3048895E-03
2	1.3240517E 02	4.1309052E 02	7.2599133E-07	-4.3645608E-01	1.1458614E-01	-4.2935075E-03
3	2.9961515E-08	7.2599133E-07	9.3032993E-12	-5.1774675E-10	5.5895622E-10	9.0023896E-11
4	-1.3990941E-01	-4.3645608E-01	-5.1774675E-10	4.6119607E-04	-1.2099332E-04	4.5443403E-06
5	3.7042025E-02	1.1458614E-01	5.5895622E-10	-1.2099332E-04	3.2490697E-05	-1.0934369E-06
6	-1.3048895E-03	-4.2935075E-03	9.0023896E-11	4.5443403E-06	-1.0934369E-06	1.2948595E-07

CORRESPONDING CORRELATION MATRIX

	1	2	3	4	5	6
1	1.000000E 00	9.9505198E-01	1.5004057E-03	-9.9510194E-01	9.9260999E-01	-5.5389297E-01
2	9.9505198E-01	9.9999998E-01	1.1710901E-02	-9.9994276E-01	9.8907665E-01	-5.8705431E-01
3	1.5004057E-03	1.1710901E-02	1.000000E 00	-7.9041665E-03	3.2149911E-02	8.2021551E-02
4	-9.9510194E-01	-9.9994276E-01	-7.9041665E-03	1.000000E 00	-9.8841441E-01	5.8805333E-01
5	9.9260999E-01	9.8907665E-01	3.2149911E-02	-9.8841441E-01	1.000000E 00	-5.3309289E-01
6	-5.5389297E-01	-5.8705431E-01	8.2021551E-02	5.8805333E-01	-5.3309289E-01	9.9999998E-01

SAMPLE MEAN OF SELENOGRAPHIC STATE VECTOR

1.6971363E 03	-5.6289772E 02	-3.2147104E-09	5.6350335E-01	1.7760431E 00	4.3238887E-01
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TENTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF TIME FROM TRANSLUNAR INJECTION

		UNSORTED SAMPLES	
5.0022646E 05	5.0062593E 05	4.9982022E 05	5.0032552E 05
5.0003421E 05	4.9993840E 05	5.0089656E 05	4.9905168E 05
5.0056798E 05	5.0050547E 05	5.0004963E 05	5.0022322E 05
5.0054747E 05	4.9958969E 05	5.0046697E 05	4.9891529E 05
4.9920415E 05	5.0024629E 05	5.0050815E 05	5.0015650E 05
		5.0145497E 05	5.0016282E 05
		5.0011535E 05	4.9985991E 05
		4.9973243E 05	4.9876996E 05
		5.0120322E 05	5.0098797E 05
		5.0068488E 05	5.0057761E 05

TENTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF V / H

		UNSORTED SAMPLES	
3.7850814E-02	3.8090777E-02	3.8119216E-02	3.8064770E-02
3.8134602E-02	3.8150153E-02	3.8240263E-02	3.7952489E-02
3.8178715E-02	3.8217776E-02	3.8124224E-02	3.8164681E-02
3.8014772E-02	3.8238355E-02	3.8058724E-02	3.8289362E-02
3.7875474E-02	3.8032529E-02	3.8102736E-02	3.7970940E-02
		3.7861318E-02	3.8044696E-02
		3.7958151E-02	3.7998557E-02
		3.8258963E-02	3.8811208E-02
		3.8129337E-02	3.8212342E-02
		3.8014238E-02	3.7904871E-02

TENTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF RESOLUTION

		UNSORTED SAMPLES	
1.0959230E 00	1.0894318E 00	1.0879629E 00	1.0899353E 00
1.0875980E 00	1.0870859E 00	1.0856950E 00	1.0918400E 00
1.0868557E 00	1.0857408E 00	1.0879639E 00	1.0872235E 00
1.0915676E 00	1.0844299E 00	1.0902335E 00	1.0820518E 00
1.0938883E 00	1.0908568E 00	1.0892380E 00	1.0923326E 00
		1.0969179E 00	1.0903715E 00
		1.0928839E 00	1.0914267E 00
		1.0838756E 00	1.0677347E 00
		1.0892938E 00	1.0865409E 00
		1.0916887E 00	1.0949445E 00

TENTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF LONGITUDE		UNSORTED SAMPLES	
3.4121309E 02	3.4164597E 02	3.4214781E 02	3.4199124E 02
3.4159613E 02	3.4168982E 02	3.4121101E 02	3.4255641E 02
3.4109029E 02	3.4132288E 02	3.4166864E 02	3.4167491E 02
3.4153938E 02	3.4185624E 02	3.4132130E 02	3.4313152E 02
3.4290479E 02	3.4149099E 02	3.4079116E 02	3.4175357E 02
		3.4022049E 02	3.4108770E 02
		3.4204850E 02	3.4158995E 02
		3.4211868E 02	3.4334848E 02
		3.4124918E 02	3.4080052E 02
		3.4127102E 02	3.4118816E 02

TENTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF ALTITUDE		UNSORTED SAMPLES	
5.0412459E 01	5.0113860E 01	5.0046294E 01	5.0137023E 01
5.0029509E 01	5.0005950E 01	4.9941970E 01	5.0224639E 01
4.9995360E 01	4.9944076E 01	5.0046340E 01	5.0012282E 01
5.0212111E 01	4.9883773E 01	5.0150741E 01	4.9774383E 01
5.0318862E 01	5.0179412E 01	5.0104949E 01	5.0247298E 01
		5.0458220E 01	5.0157088E 01
		5.0272658E 01	5.0205626E 01
		4.9858276E 01	4.9115798E 01
		5.0107512E 01	4.9980880E 01
		5.0217682E 01	5.0367447E 01

TENTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF SIDE OVERLAP		UNSORTED SAMPLES	
2.6687641E 01	2.6415785E 01	2.6413336E 01	2.6452567E 01
2.6384160E 01	2.6365367E 01	2.6244596E 01	2.6579057E 01
2.6315396E 01	2.6267049E 01	2.6397083E 01	2.6363669E 01
2.6477980E 01	2.6296223E 01	2.6442855E 01	2.6274312E 01
2.6713895E 01	2.6466935E 01	2.6385204E 01	2.6544405E 01
		2.6606477E 01	2.6458400E 01
		2.6551406E 01	2.6514366E 01
		2.6284263E 01	2.5749945E 01
		2.6329982E 01	2.6266115E 01
		2.6499359E 01	2.6566866E 01

TENTH TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF SEMI-MAJOR AXIS
 UNSORTED SAMPLES

2.6883805E 03	2.6911017E 03	2.6843144E 03	2.6888302E 03	2.7014178E 03	2.6875458E 03
2.6849725E 03	2.6841853E 03	2.6955359E 03	2.6762873E 03	2.6883324E 03	2.6851262E 03
2.6899113E 03	2.6896344E 03	2.6857406E 03	2.6896578E 03	2.6823344E 03	2.6718361E 03
2.6911390E 03	2.6821677E 03	2.6901276E 03	2.6724772E 03	2.7006734E 03	2.6962369E 03
2.6750407E 03	2.6890085E 03	2.6925388E 03	2.6864070E 03	2.6922056E 03	2.6939348E 03

TENTH TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF ECCENTRICITY
 UNSORTED SAMPLES

3.3494372E-01	3.3572405E-01	3.3407112E-01	3.3515576E-01	3.3813558E-01	3.3482997E-01
3.3424150E-01	3.3405480E-01	3.3688328E-01	3.3200842E-01	3.3498264E-01	3.3421431E-01
3.3547641E-01	3.3542616E-01	3.3442627E-01	3.3540354E-01	3.3364703E-01	3.3130768E-01
3.3569941E-01	3.3359931E-01	3.3547105E-01	3.3122245E-01	3.3808103E-01	3.3704127E-01
3.3166202E-01	3.3518694E-01	3.3608375E-01	3.3451388E-01	3.3595896E-01	3.3633131E-01

TENTH TARGET PASS
 SAMPLE CUMULATIVE DISTRIBUTION OF INCLINATION
 UNSORTED SAMPLES

1.3053659E 01	1.3062935E 01	1.3055402E 01	1.3061401E 01	1.3062610E 01	1.3072961E 01
1.3066060E 01	1.3070762E 01	1.3058561E 01	1.3086592E 01	1.3063774E 01	1.3069543E 01
1.3061780E 01	1.3069921E 01	1.3062926E 01	1.3047065E 01	1.3063444E 01	1.3066373E 01
1.3065364E 01	1.3060588E 01	1.3062754E 01	1.3067102E 01	1.3062213E 01	1.3069546E 01
1.3064884E 01	1.3067497E 01	1.3065085E 01	1.3066098E 01	1.3051965E 01	1.3085520E 01

TENTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE

		UNSORTED SAMPLES	
3.4121309E 02	3.4164597E 02	3.4199124E 02	3.4108770E 02
3.4159613E 02	3.4168982E 02	3.421101E 02	3.4158995E 02
3.4109030E 02	3.4132288E 02	3.4166864E 02	3.4334848E 02
3.4153938E 02	3.4185624E 02	3.4132130E 02	3.4080052E 02
3.4290479E 02	3.4149099E 02	3.4079116E 02	3.4118816E 02

TENTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE

		UNSORTED SAMPLES	
2.9083900E 00	2.8850403E 00	2.9005165E 00	2.8938332E 00
2.9061089E 00	2.9052734E 00	2.8995628E 00	2.9083977E 00
2.9012337E 00	2.8954544E 00	2.9100151E 00	2.8995628E 00
2.9029808E 00	2.9063110E 00	2.8941689E 00	2.8992500E 00
2.9177055E 00	2.9160042E 00	2.8961639E 00	2.9017601E 00

TENTH TARGET PASS

SAMPLE CUMULATIVE DISTRIBUTION OF MEAN ANOMALY

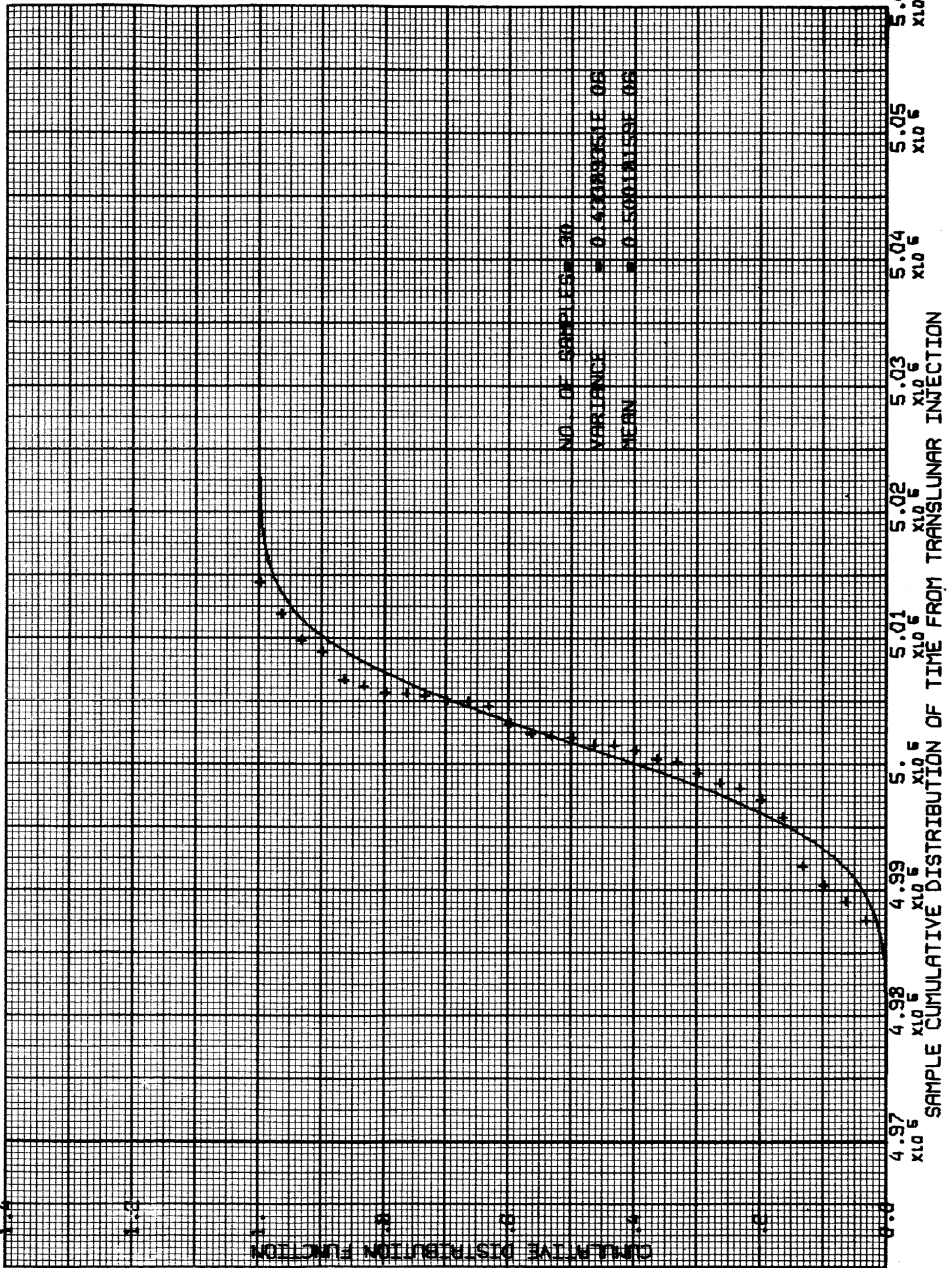
		UNSORTED SAMPLES	
-1.3655434E 00	-1.3517914E 00	-1.3649635E 00	-1.3591003E 00
-1.3669815E 00	-1.3672714E 00	-1.3544617E 00	-1.3681602E 00
-1.3602600E 00	-1.3577423E 00	-1.3681602E 00	-1.3744431E 00
-1.3602905E 00	-1.3693924E 00	-1.3569717E 00	-1.3537521E 00
-1.3817635E 00	-1.3682404E 00	-1.3557205E 00	-1.3574524E 00

TENTH TARGET PASS

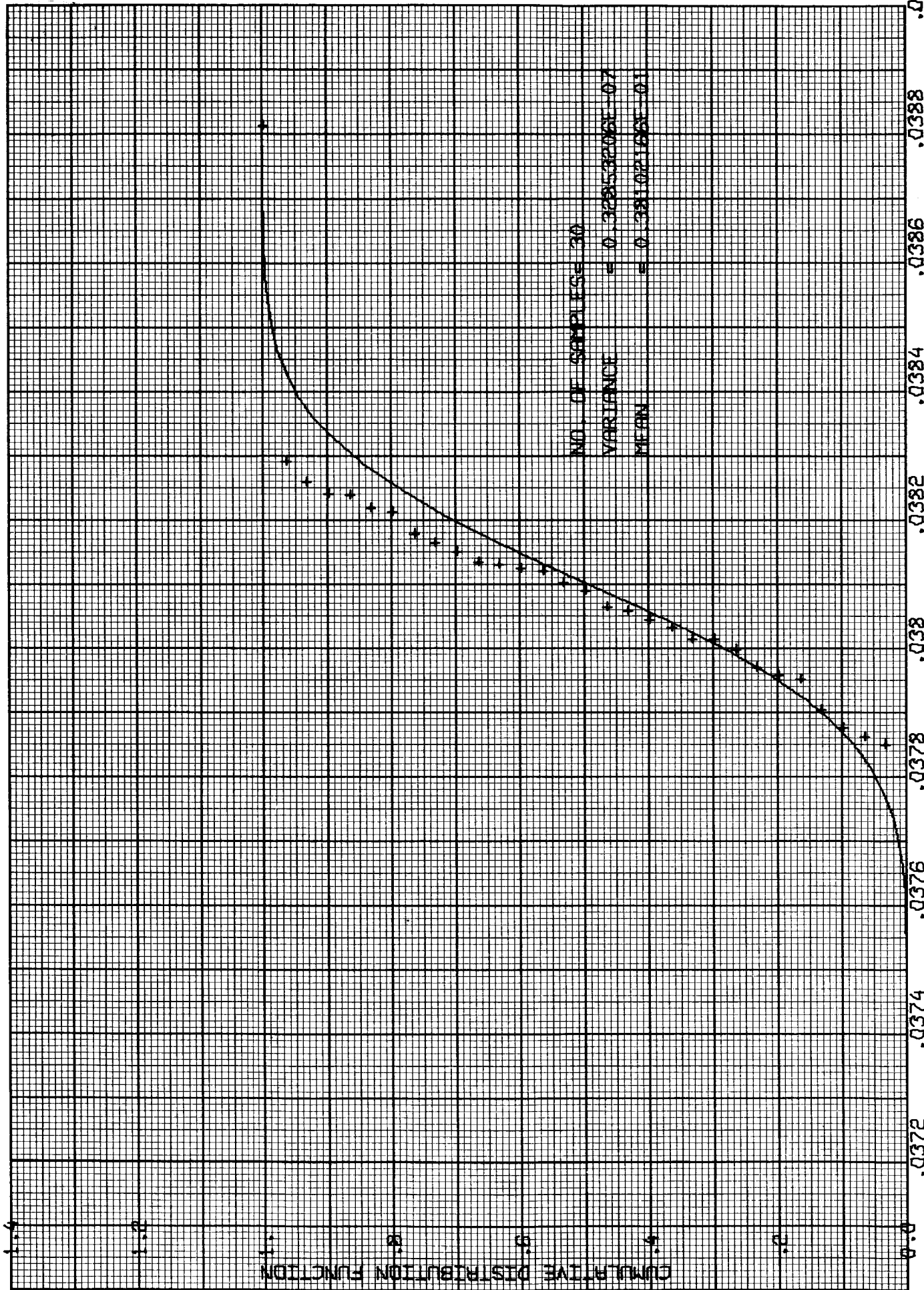
SAMPLE CUMULATIVE DISTRIBUTION OF MUTUAL EARTH-SUN VISIBILITY TIME

		UNSORTED SAMPLES	
6.8415000E 03	6.8414000E 03	6.7893000E 03	6.8416000E 03
6.8115000E 03	6.8044000E 03	6.8765000E 03	6.8119000E 03
6.8536000E 03	6.8443000E 03	6.8126000E 03	6.6875000E 03
6.8443000E 03	6.7876000E 03	6.8468000E 03	6.8943999E 03
6.7204000E 03	6.8343000E 03	6.8758000E 03	6.8694000E 03

TENTH TARGET PASS

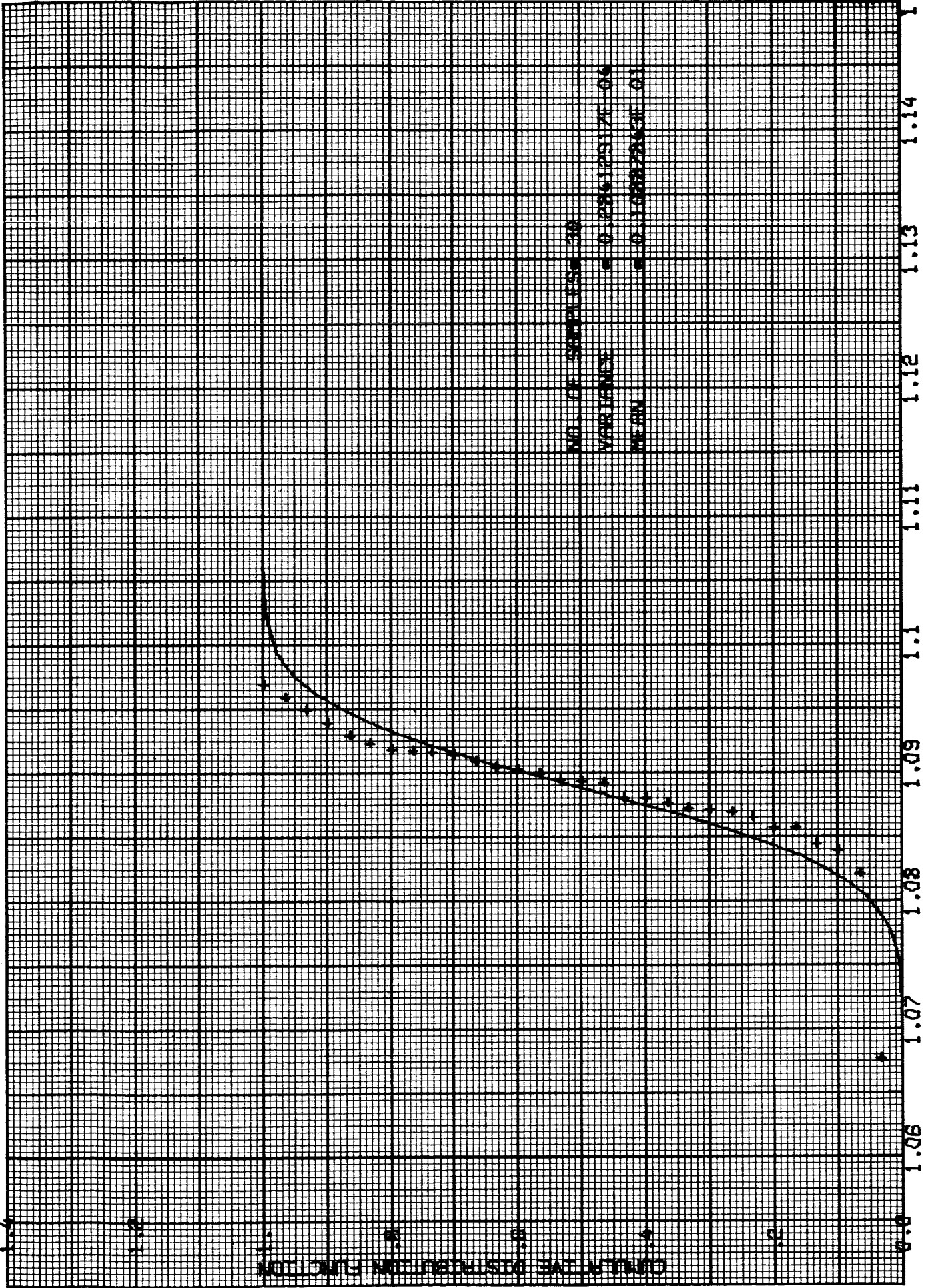


TENTH TARGET PASS



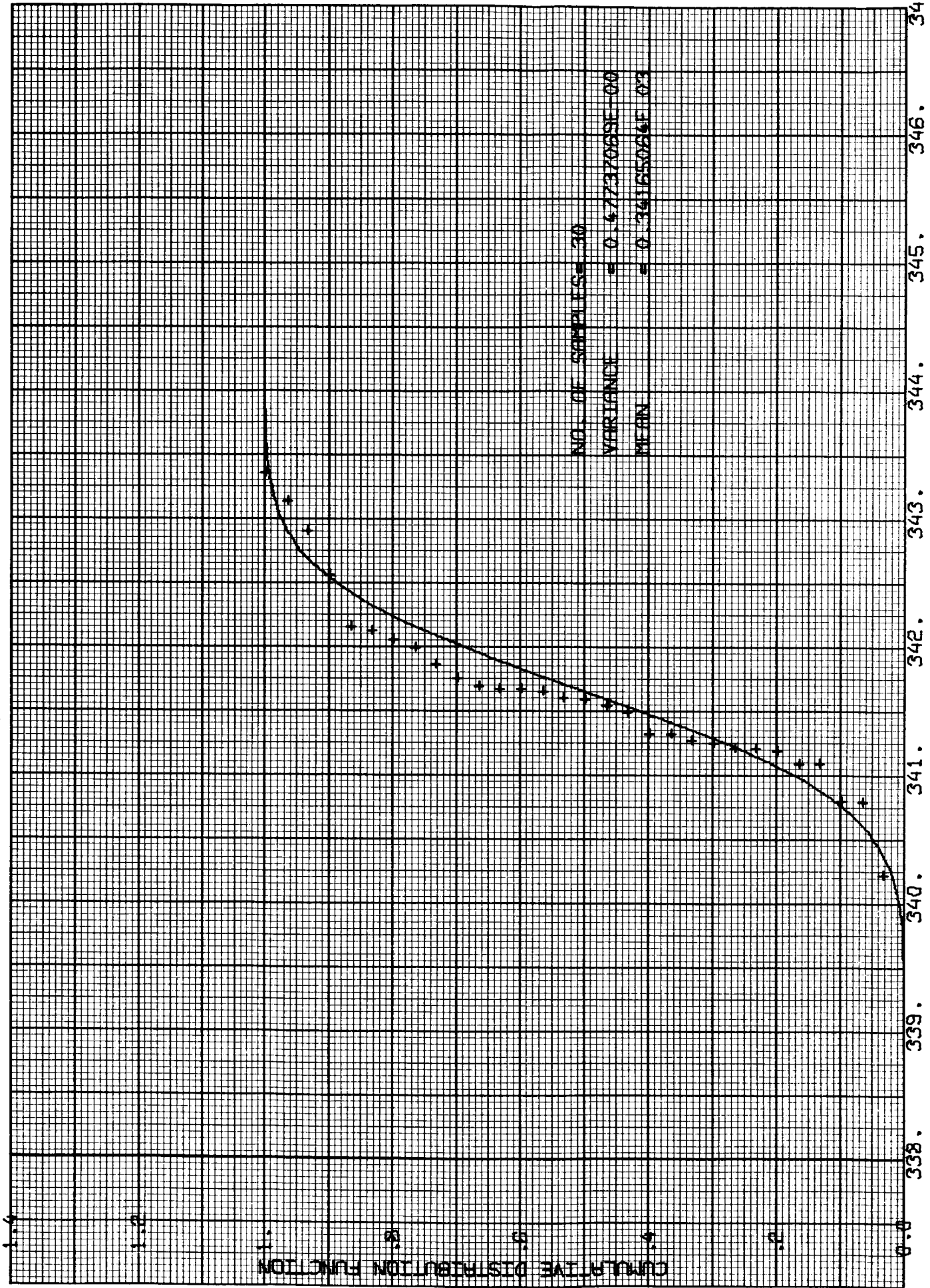
SAMPLE CUMULATIVE DISTRIBUTION OF V / H

TENTH TARGET PASS



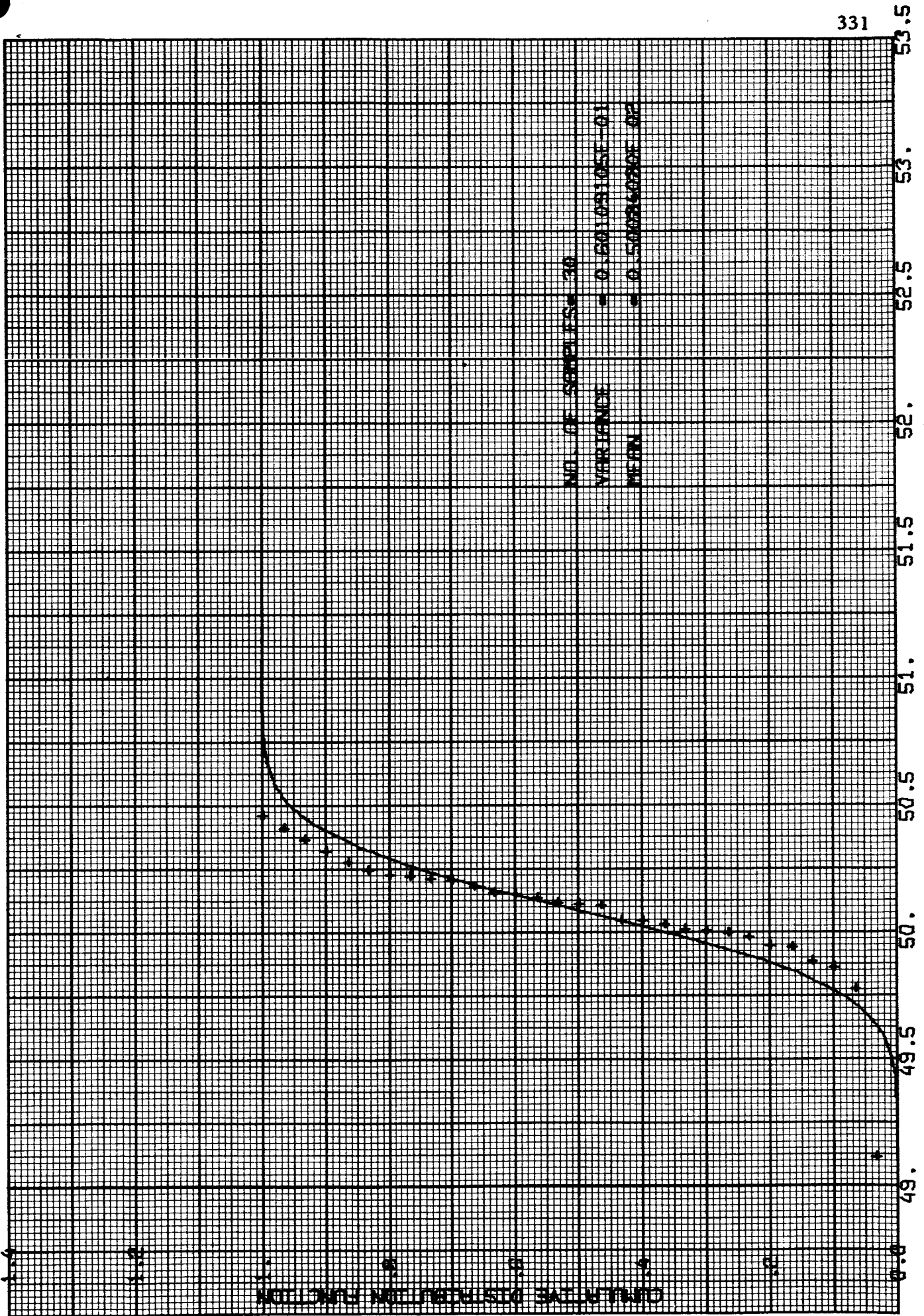
SAMPLE CUMULATIVE DISTRIBUTION OF RESOLUTION

TENTH TARGET PASS

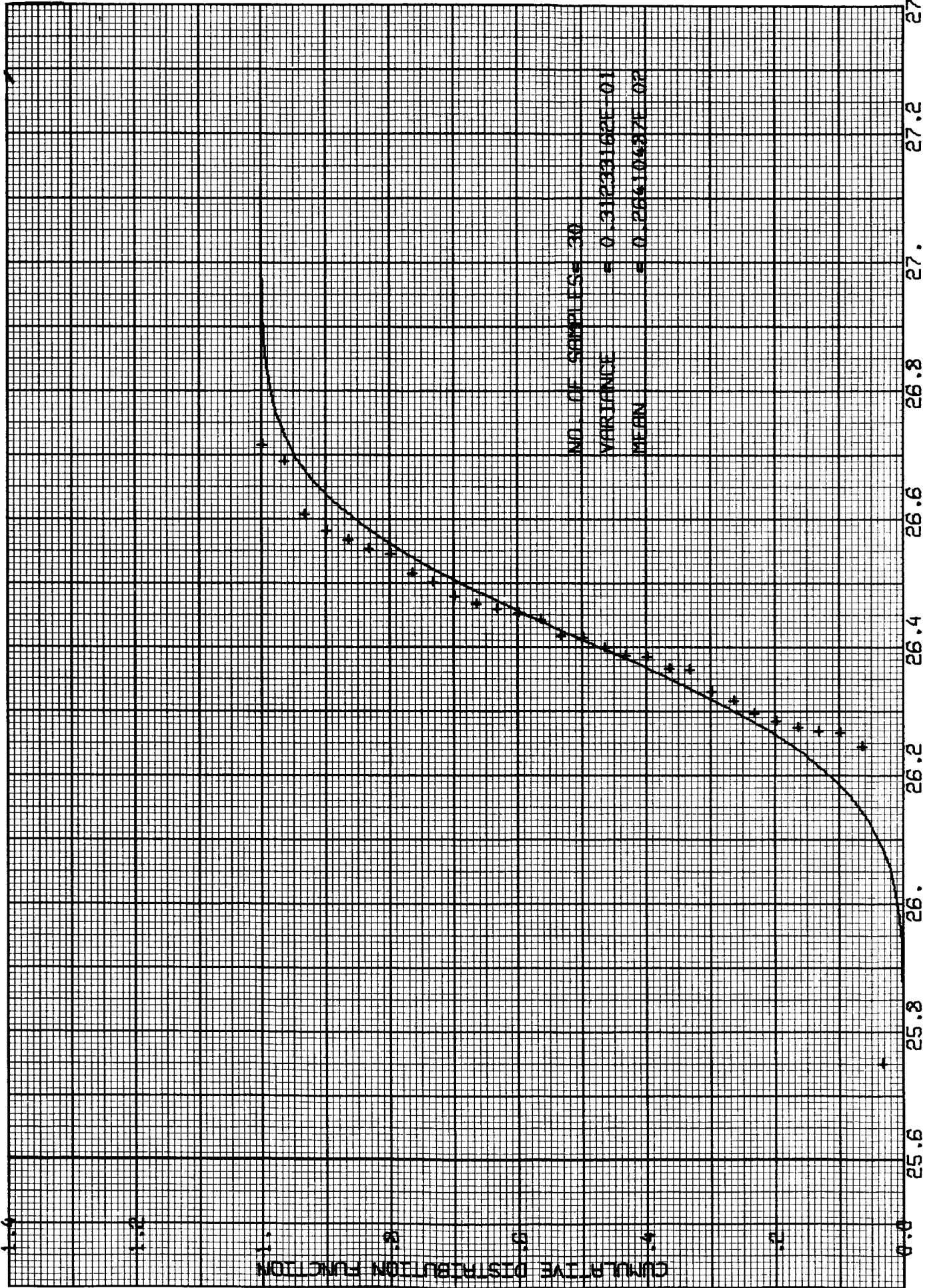


SAMPLE CUMULATIVE DISTRIBUTION OF LONGITUDE

TENTH TARGET PASS

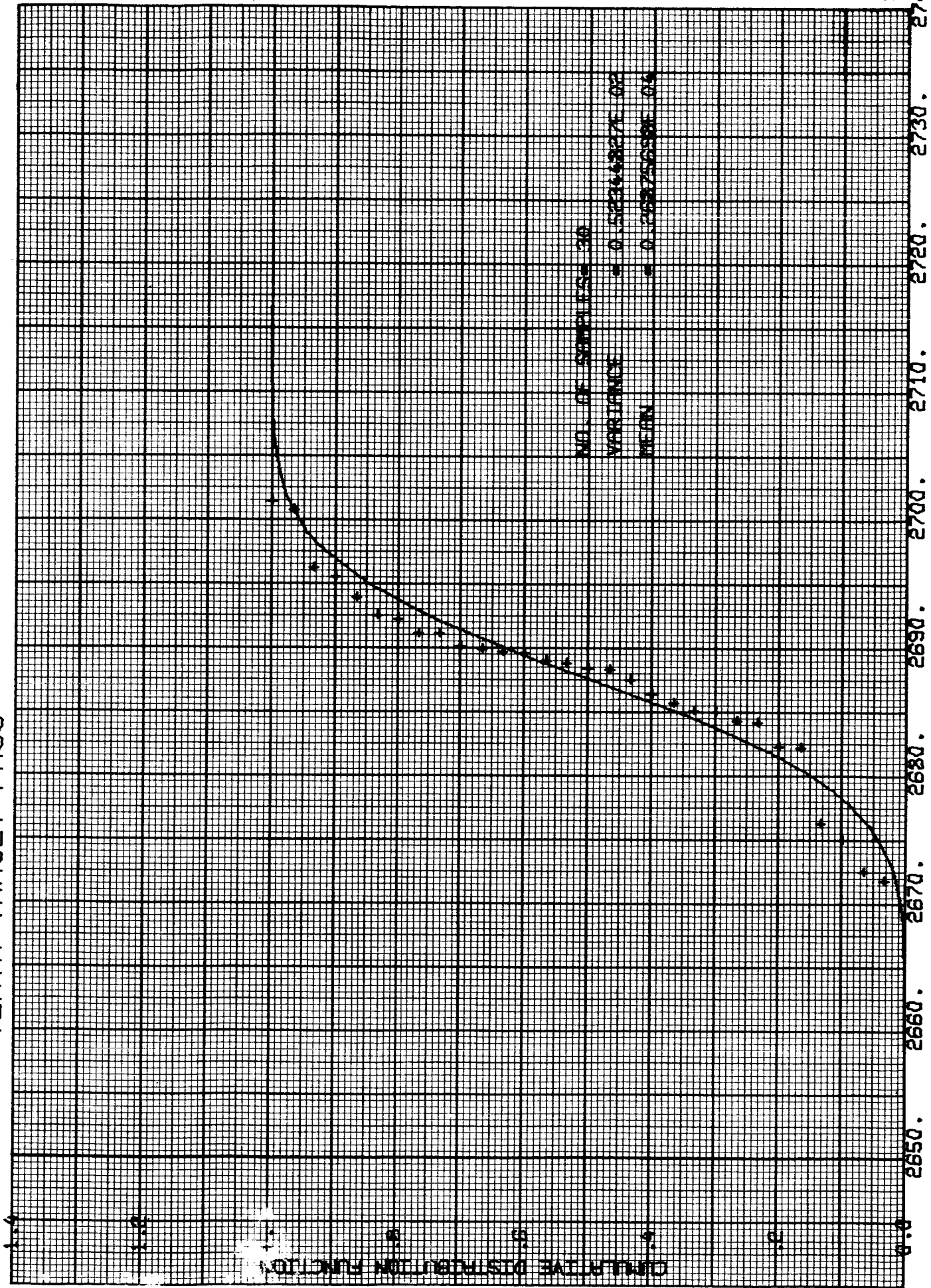


TENTH TARGET PASS

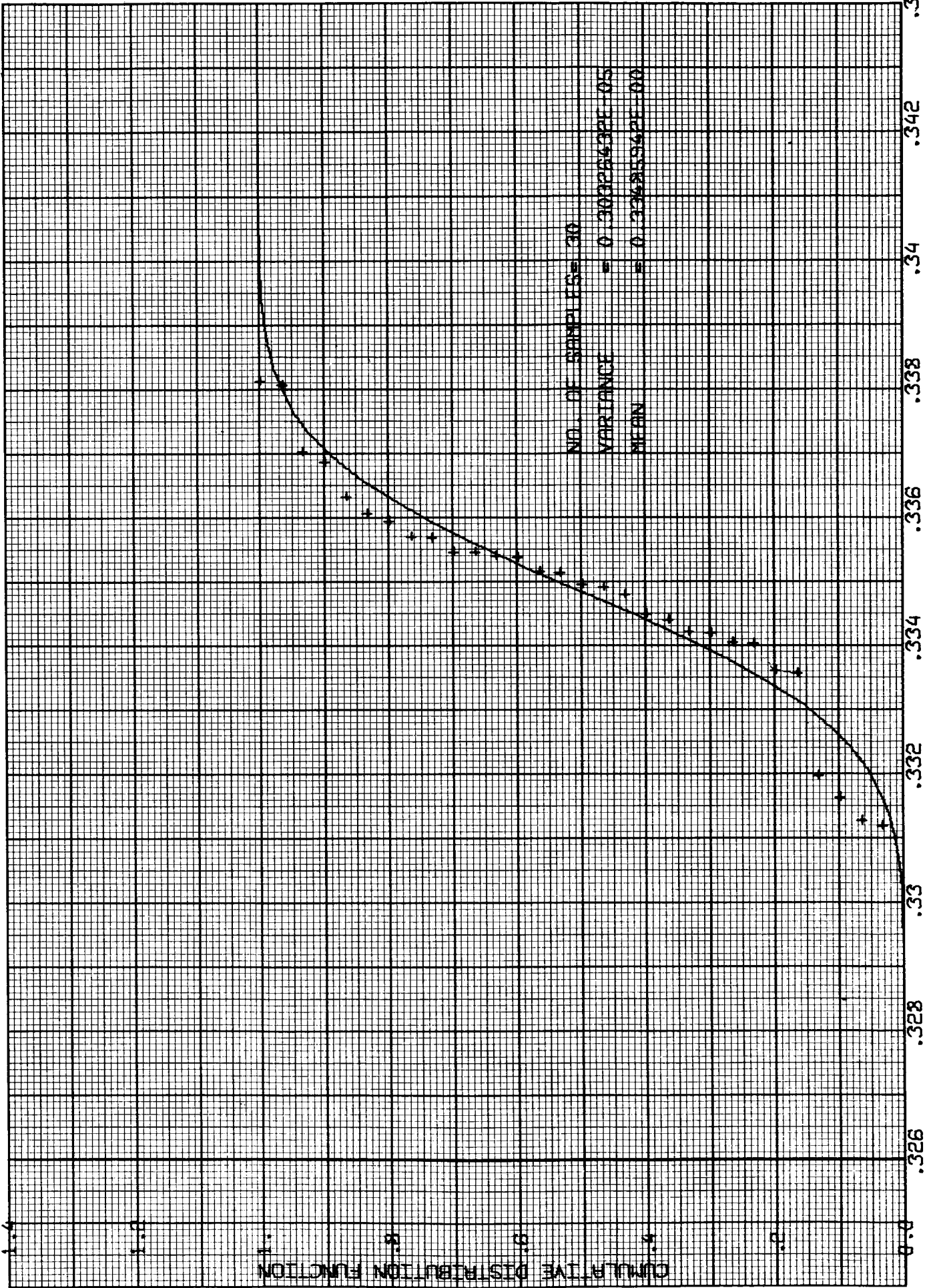


SAMPLE CUMULATIVE DISTRIBUTION OF SIDE OVERLAP

TENTH TARGET PASS

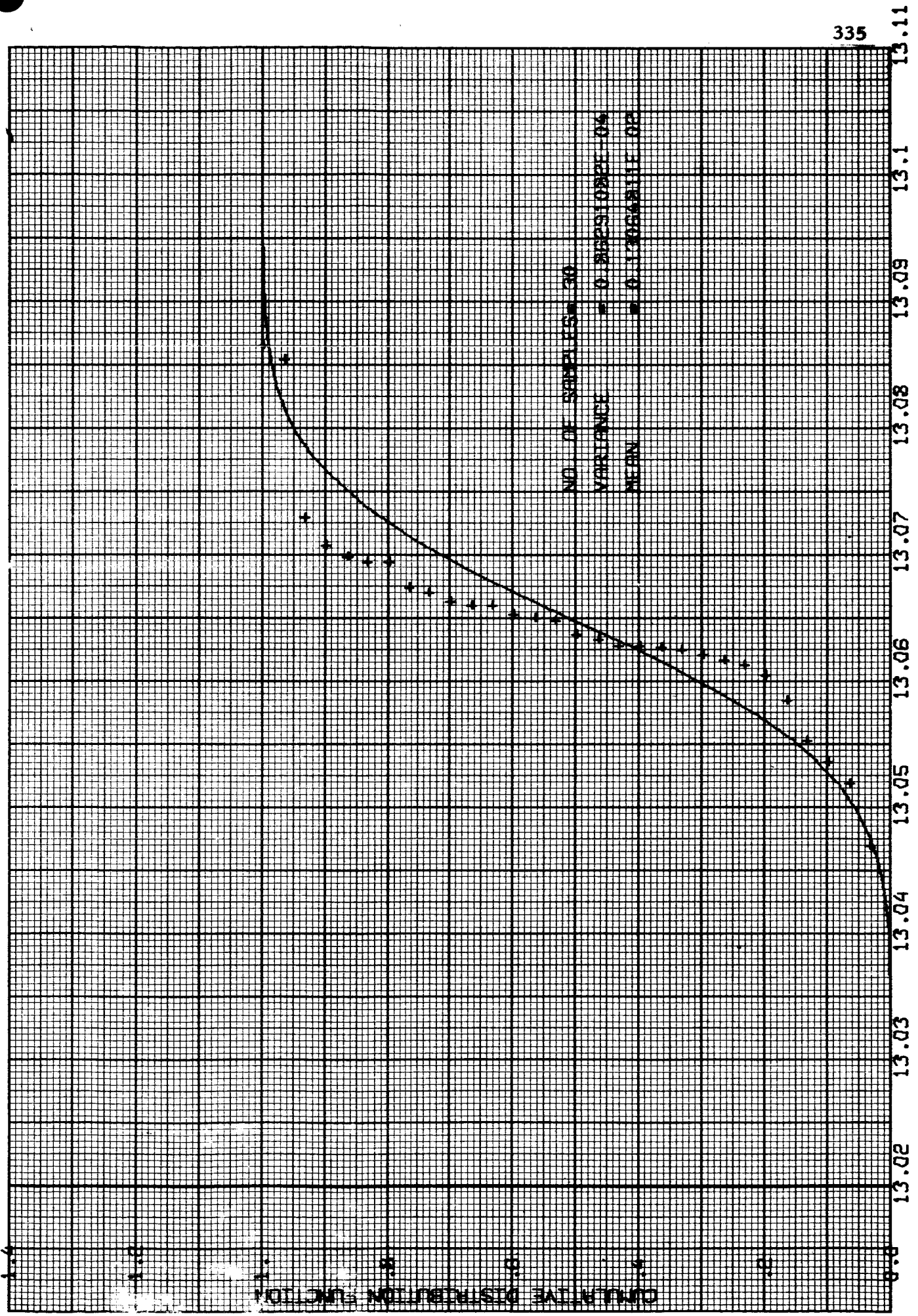


TENTH TARGET PASS

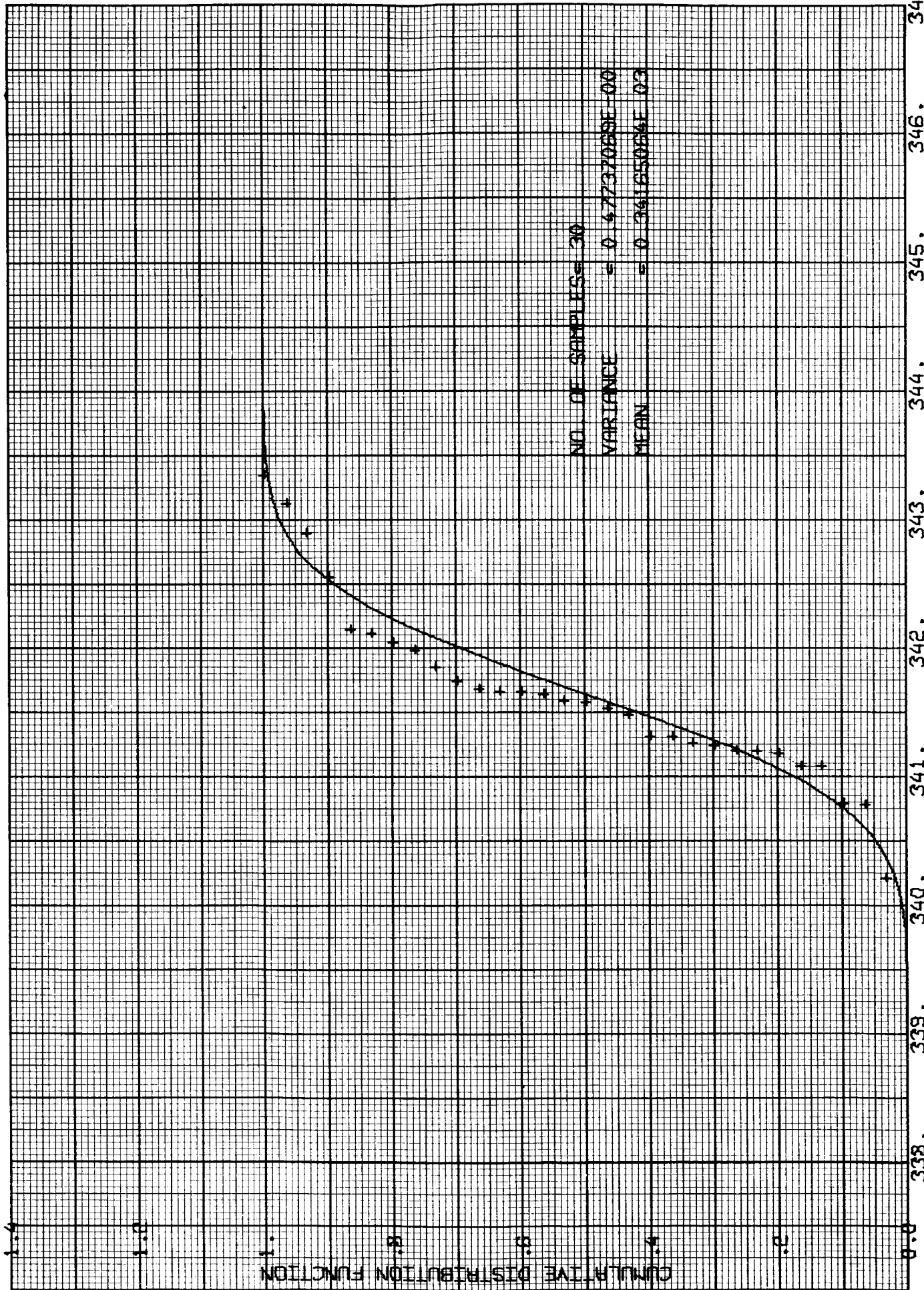


SAMPLE CUMULATIVE DISTRIBUTION OF ECCENTRICITY

TENTH TARGET PASS

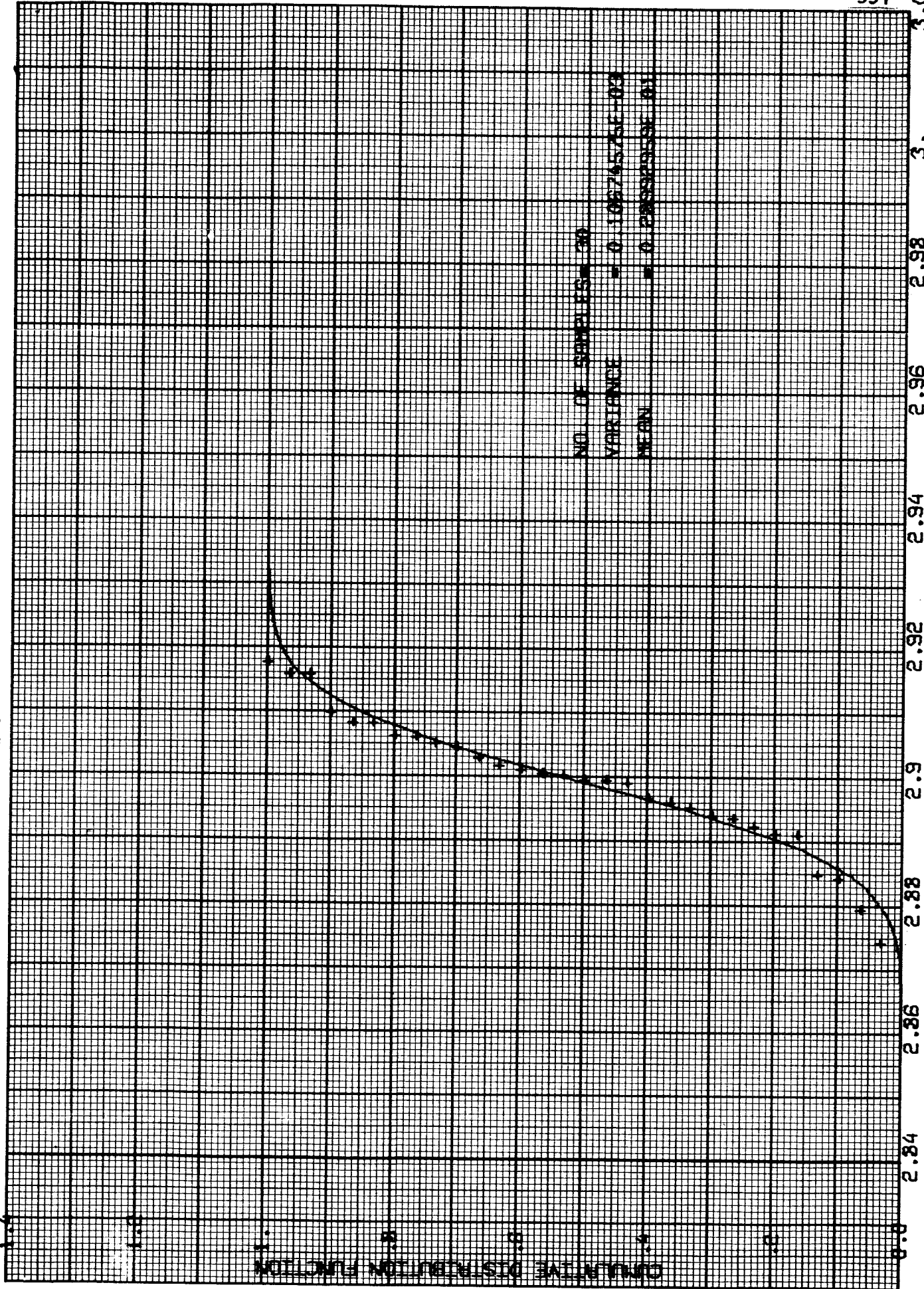


TENTH TARGET PASS



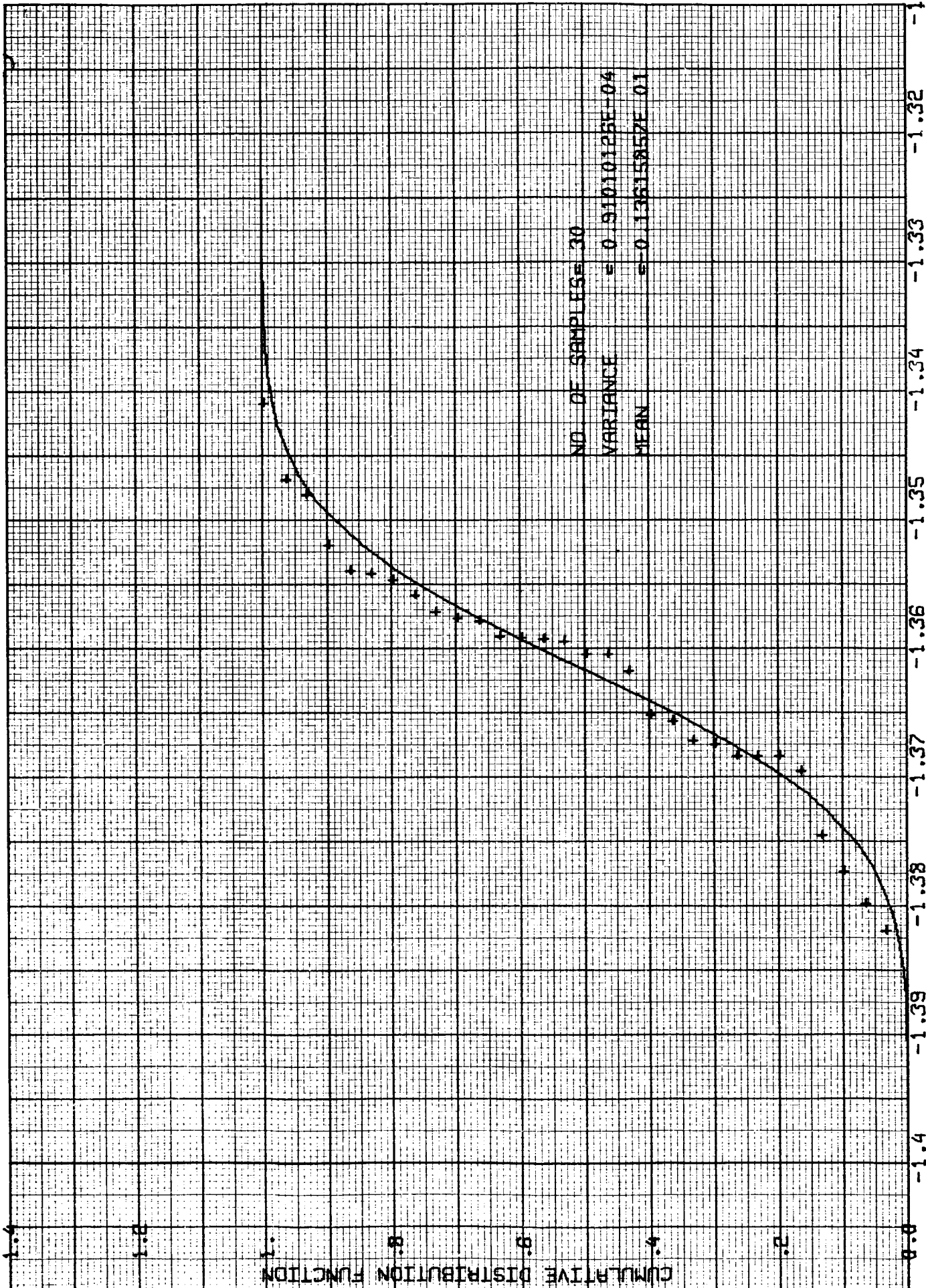
SAMPLE CUMULATIVE DISTRIBUTION OF ASCENDING NODE

TENTH TARGET PASS



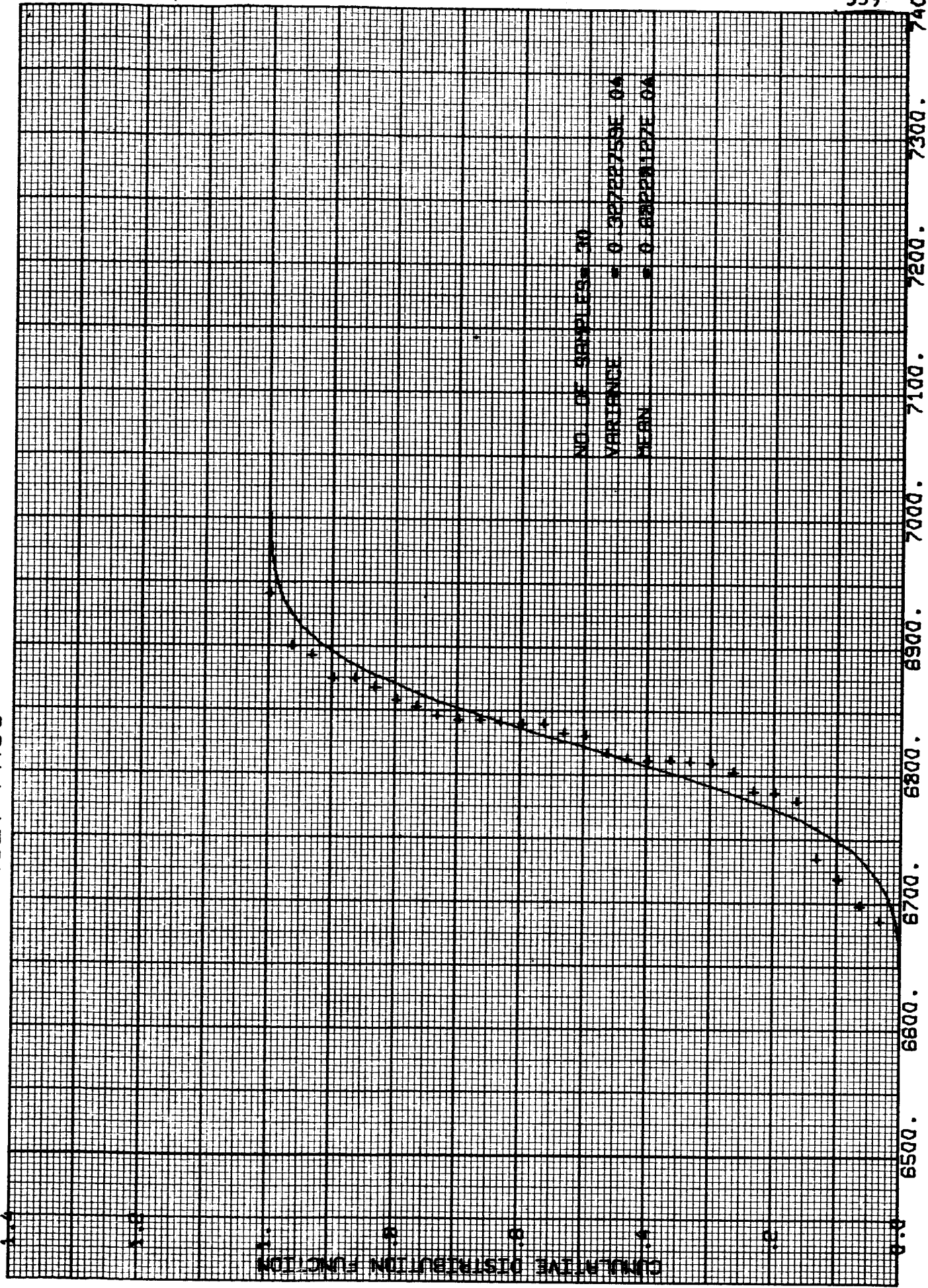
SAMPLE CUMULATIVE DISTRIBUTION OF ARGUMENT OF PERIGEE

TENTH TARGET PASS



SAMPLE CUMULATIVE DISTRIBUTION OF MEAN ANOMALY

TENTH TARGET PASS



SAMPLE CUMULATIVE DISTRIBUTION OF MUTUAL EARTH-SUN VISIBILITY TIME

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4. CONCLUSIONS

The successful completion of this study has demonstrated the feasibility of performing n-body precision integration dispersion analyses for a specific lunar orbiter mission. The TRW Space Navigation Simulation program was successfully adapted to simulate the specified Lunar Orbiter mission from translunar injection through two finite burn midcourse maneuvers, two finite burn deboost maneuvers, and ten passes over the specified photographic target latitude. The nominal trajectory was targeted to achieve the desired photographic orbit characteristics and a targeting procedure was mechanized to compute the required finite burn maneuvers for trajectory dispersions about the nominal. Thirty complete launch-to-mission-completion Monte Carlo dispersed Lunar Orbiter sample missions were generated incorporating the guidance law mechanized for the study, and the statistical results have been presented in the most meaningful way.

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5. NEW TECHNOLOGY

This section is included to comply with requirements of the "New Technology" clause of the Master Agreement under which this report was prepared. This report contains the results of a study performed using the Space Navigation Simulation program and certain other computer programs developed by TRW Systems prior to the performance of this Task Order. The specific adaptations required to perform this study did not necessitate innovations or extensions of current capabilities.

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APPENDIX A

TRACKING MODEL DATA

Table A-1 summarizes the geocentric station vector data for the three DSIF stations specified for this study in Reference 10. Table A-2 presents the tracking covariance matrices generated for the nominal TON-4 reference trajectory and represented at a time corresponding to initiation of each finite burn maneuver. The four tracking phases simulated were:

- 1) First Midcourse: 0^h to 15^h post-injection
- 2) Second Midcourse: 15^h to 70^h post-injection
- 3) First Deboost: 70^h to 90^h post-injection
- 4) Second Deboost: 90^h to 106^h post-injection

The spacecraft was tracked, when visible, by each of the specified DSIF stations. Prior to both midcourses and the first deboost maneuver range (R), azimuth (A), elevation (E), and range rate (\dot{R}) data were considered in generating the respective covariance matrices Λ_1 , Λ_2 , and Λ_3 . During the intermediate orbit and prior to the second deboost maneuver, only range and range rate data were considered. The radar random noise values assumed are:

$$\sigma_R = 66 \text{ feet}$$

$$\sigma_A = 0.06 \text{ degrees}$$

$$\sigma_E = 0.06 \text{ degrees}$$

$$\sigma_{\dot{R}} = 0.066 \text{ feet per second}$$

The data sampling rate for all stations was 1 per minute, provided the spacecraft was visible (not eclipsed) to the station at an elevation angle greater than 5 degrees above the horizon. Tracking data were taken from the beginning of each tracking phase to one hour before the end, at which time the covariance matrices were computed and then propagated to the epoch of the respective maneuver.

TABLE A-1

STATION VECTOR DATA*

<u>DSIF Station</u>		<u>Geocentric</u>	<u>Geocentric</u>	<u>Geocentric</u>
<u>ID No.</u>	<u>Station</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Radius</u>
		<u>(degrees)</u>	<u>(degrees)</u>	<u>(kilometers)</u>
12	Goldstone	35.11861 N	243.19445 E	6372.0449
41	Woomera	31.21236 S	136.88614 E	6372.5481
61	Madrid	40.334 N	355.751 E	6374.37

*JPL Technical Memorandum 33-83, dated April 24, 1964, "System Capabilities and Development Schedule of the Deep Space Instrumentation Facility", 1964-68 (Revision 1).

TABLE A-2
TRACKING COVARIANCE MATRICES*

Λ_1 - EPOCH OF FIRST MIDCOURSE - 15 HOURS POST-INJECTION 1966 24 JUN 1^h 1^m

	1	2	3	4	5	6
1	3.3407110E 04	-1.4593174E 04	-8.6735216E 04	7.5416595E-01	-5.6666160E-01	-1.9918838E 00
2	-1.4593174E 04	2.3377590E 04	2.7336750E 04	-4.1757767E-01	4.6303943E-01	8.2053375E-01
3	-8.6735216E 04	2.7336750E 04	2.3210102E 05	-1.9019008E 00	1.3428335E 00	5.2101073E 00
4	7.5416595E-01	-4.1757767E-01	-1.9019008E 00	1.7986013E-05	-1.4060743E-05	-4.5873528E-05
5	-5.6666160E-01	4.6303943E-01	1.3428335E 00	-1.4060743E-05	1.2631352E-05	3.3767022E-05
6	-1.9918838E 00	8.2053375E-01	5.2101073E 00	-4.5873528E-05	3.3767022E-05	1.2201314E-04

Λ_2 - EPOCH OF SECOND MIDCOURSE - 70 HOURS POST-INJECTION 26 JUN 8^h 1^m

	1	2	3	4	5	6
1	4.3342731E 02	2.5495319E 02	-1.2429739E 03	-1.4537360E-03	6.3016155E-03	-7.5311487E-03
2	2.5495319E 02	8.6796619E 02	-2.6424559E 03	-2.8991634E-03	2.9627363E-03	-5.6727450E-04
3	-1.2429739E 03	-2.6424559E 03	8.8566750E 03	7.9430971E-03	-1.3409764E-02	1.2886364E-02
4	-1.4537360E-03	-2.8991634E-03	7.9430971E-03	5.0428078E-08	-4.8119079E-08	-5.1881683E-08
5	6.3016155E-03	2.9627363E-03	-1.3409764E-02	-4.8119079E-08	1.4079956E-07	-9.7972366E-08
6	-7.5311487E-03	-5.6727450E-04	1.2886364E-02	-5.1881683E-08	-9.7972366E-08	3.0818598E-07

Λ_3 - EPOCH OF FIRST DEBOOST SEQUENCE - 90 HOURS POST-INJECTION 27 JUN 4^h 0.5^m

	1	2	3	4	5	6
1	1.2119791E 05	-9.8654469E 04	2.7724214E 05	4.7213526E-01	-1.2474927E 00	4.7748008E 00
2	-9.8654469E 04	1.1475920E 05	-3.2049205E 05	-5.3985016E-01	1.5570164E 00	-5.2656824E 00
3	2.7724214E 05	-3.2049205E 05	8.9560272E 05	1.4902507E 00	-4.3509337E 00	1.4762106E 01
4	4.7213526E-01	-5.3985016E-01	1.4902507E 00	3.5191205E-06	-6.8867842E-06	2.2435776E-05
5	-1.2474927E 00	1.5570164E 00	-4.3509337E 00	-6.8867842E-06	2.2739157E-05	-7.5306413E-05
6	4.7748008E 00	-5.2656824E 00	1.4762106E 01	2.2435776E-05	-7.5306413E-05	2.5915568E-04

Λ_4 - EPOCH OF SECOND DEBOOST SEQUENCE - 106 HOURS POST-INJECTION 27 JUN 20^h 0.5^m

	1	2	3	4	5	6
1	1.2908953E 03	-3.3807641E 03	4.4506699E 03	3.2747272E-01	9.9400977E-01	1.9833892E 00
2	-3.3807641E 03	1.1366865E 04	-1.5825227E 04	-8.6173607E-01	3.2094428E 00	-5.8074288E 00
3	4.4506699E 03	-1.5825227E 04	2.2278148E 04	1.1324151E 00	-4.3919527E 00	7.7891892E 00
4	3.2747272E-01	-8.6173607E-01	1.1324151E 00	1.0765023E-04	-3.9436036E-04	7.1917188E-04
5	-9.9400977E-01	3.2094428E 00	-4.3919527E 00	-3.9436036E-04	1.7351924E-03	-2.9329036E-03
6	1.9833892E 00	-5.8074288E 00	7.7891892E 00	7.1917188E-04	-2.9329036E-03	5.1214101E-03

*UNITS: Feet squared. Feet squared per second squared

Table A-3 illustrates the periods of tracking coverage for each of the specified DSIF stations, including the times of the four finite burn maneuvers.

The remainder of this Appendix contains listings of the tracking data for each tracking phase and each specified DSIF station having spacecraft visibility above the 5 degree elevation angle constraint. These data are presented at 10 minute intervals from translunar injection through the tenth target pass in the photographic orbit. Table A-4 presents the print key and parameter definitions for these data listings.

TABLE A-3. GROUND STATION VISIBILITIES
TON-4 REFERENCE TRAJECTORY

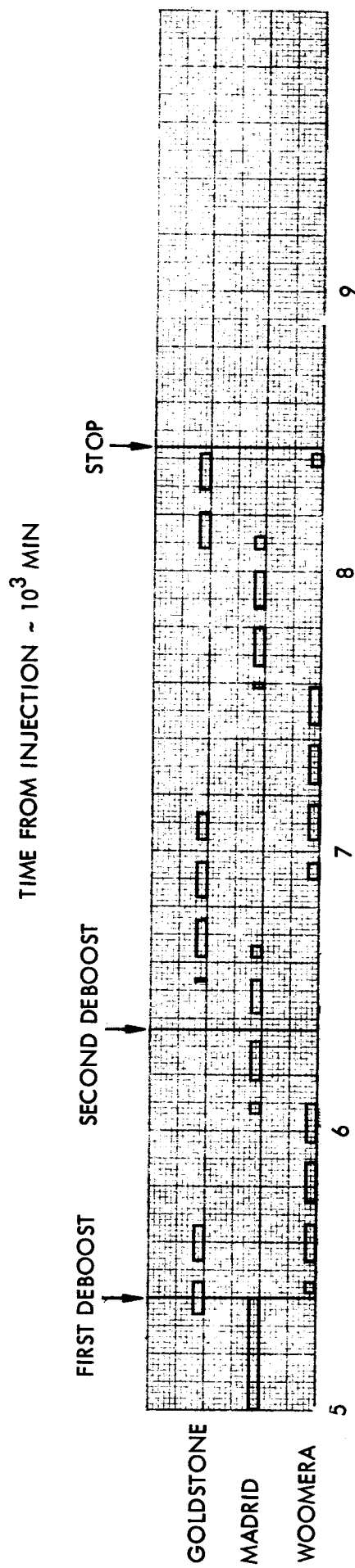
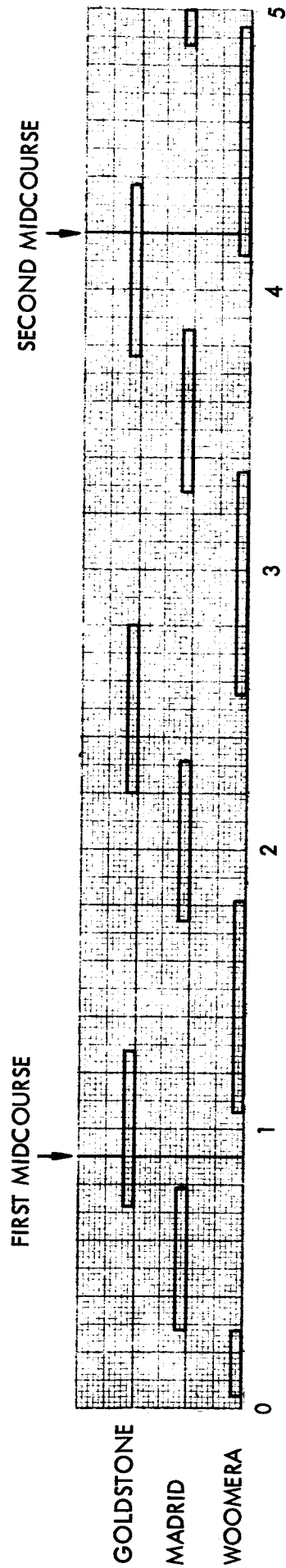


TABLE A-4

TRACKING DATA PRINT KEY

FORMAT

XX¹

DAY MONTH

Hour Mins T-ST² Azimuth Deg Elevation Deg Range NM Range Rate Ft/Sec Delta F³ CPS Look Angle⁴ Deg Az Rate Deg/Min El Rate Deg/Min

DEFINITIONS

- (1) Station call letters; Goldstone (GO), Madrid (MA), Woomera (WO)
- (2) Time in minutes from the start of the particular phase
- (3) DELTA F = RANGE RATE/1.300282
- (4) Angle between radar slant range vector and the direction cosines of the injection velocity vector. These data were included for spin stabilized vehicles and are not applicable for this mission.

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23 JUNE

RISE (5.0 DEG. ELEV. 23 JUNE 21 HOURS 55.4 MINUTES AZIMUTH 117.872 DEG.

HOUR	MINS	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
22	.800	720.000	118.655	5.958	69366.88281	4859.883	3737.561	68.501	.145	.176
22	10.800	730.000	120.125	7.712	69845.22461	4828.604	3713.505	68.599	.149	.174
22	20.800	740.000	121.636	9.444	70320.60547	4799.875	3691.411	68.692	.153	.172
22	30.800	750.000	123.189	11.152	70793.27246	4773.650	3671.242	68.782	.158	.170
22	40.800	760.000	124.789	12.834	71263.47168	4749.878	3652.960	68.867	.162	.167
22	50.800	770.000	126.437	14.487	71731.44336	4728.508	3636.525	68.949	.167	.164
23	.800	780.000	128.137	16.108	72197.41992	4709.481	3621.892	69.028	.173	.160
23	10.800	790.000	129.891	17.695	72661.62891	4692.737	3609.015	69.104	.178	.157
23	20.800	800.000	131.703	19.246	73124.29883	4678.214	3597.846	69.176	.184	.153
23	30.800	810.000	133.574	20.756	73585.63867	4665.844	3588.332	69.246	.190	.149
23	40.800	820.000	135.508	22.223	74045.86035	4655.556	3580.420	69.313	.197	.144
23	50.800	830.000	137.507	23.644	74505.16602	4647.277	3574.053	69.377	.203	.140
	.800	840.000	139.573	25.014	74963.75098	4640.930	3569.172	69.439	.210	.134
	10.800	850.000	141.709	26.331	75421.80273	4636.436	3565.716	69.500	.217	.129
	20.800	860.000	143.915	27.590	75879.49609	4633.711	3563.620	69.558	.224	.123
	30.800	870.000	146.192	28.787	76337.00488	4632.671	3562.820	69.614	.231	.116
	40.800	880.000	148.543	29.918	76794.48926	4633.227	3563.248	69.669	.239	.110
	50.800	890.000	150.965	30.979	77252.10742	4635.290	3564.835	69.722	.246	.102
	.800	900.000	153.459	31.966	77709.99707	4638.768	3567.509	69.774	.253	.095
	10.800	910.000	156.022	32.875	78168.29590	4643.564	3571.198	69.825	.260	.087
	20.800	920.000	158.652	33.701	78627.13281	4649.583	3575.827	69.875	.266	.078
	30.800	930.000	161.345	34.441	79086.61914	4656.728	3581.321	69.925	.272	.070
	40.800	940.000	164.096	35.090	79546.86133	4664.898	3587.605	69.974	.278	.060
	50.800	950.000	166.900	35.647	80007.95508	4673.994	3594.600	70.022	.283	.051
1	.800	960.000	169.749	36.106	80469.99121	4683.912	3602.228	70.070	.287	.041
2	10.800	970.000	172.637	36.467	80933.04297	4694.552	3610.410	70.118	.290	.031
2	20.800	980.000	175.553	36.726	81397.17578	4705.810	3619.069	70.166	.293	.021
2	30.800	990.000	178.490	36.882	81862.44629	4717.582	3628.122	70.214	.294	.010
2	40.800	1000.000	181.437	36.935	82328.90137	4729.767	3637.493	70.263	.295	.000
2	50.800	1010.000	184.385	36.884	82796.57617	4742.260	3647.101	70.312	.294	-.010
3	.800	1020.000	187.323	36.729	83265.49414	4754.958	3656.867	70.362	.293	-.021
3	10.800	1030.000	190.242	36.471	83735.67285	4767.761	3666.713	70.412	.291	-.031
3	20.800	1040.000	193.133	36.113	84207.11719	4780.565	3676.560	70.463	.287	-.041
3	30.800	1050.000	195.987	35.655	84679.82129	4793.271	3686.332	70.515	.283	-.051

24 JUNE

24 JUNE

HOUR	MIN	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
3	40.800	1060.000	198.797	35.102	85153.77148	4805.780	3695.952	70.568	.279	-.060
3	50.800	1070.000	201.556	34.455	85628.94043	4817.994	3705.346	70.623	.273	-.069
4	.800	1080.000	204.257	33.718	86105.29883	4829.818	3714.439	70.679	.267	-.078
4	10.800	1090.000	206.898	32.896	86582.80664	4841.156	3723.159	70.736	.261	-.086
4	20.800	1100.000	209.473	31.992	87061.40137	4851.919	3731.436	70.794	.254	-.094
4	30.800	1110.000	211.981	31.009	87541.02734	4862.014	3739.200	70.854	.247	-.102
4	40.800	1120.000	214.419	29.953	88021.61133	4871.356	3746.384	70.916	.240	-.109
4	50.800	1130.000	216.787	28.828	88503.08105	4879.859	3752.923	70.980	.233	-.116
5	.800	1140.000	219.085	27.636	88985.34570	4887.441	3758.755	71.045	.226	-.122
5	10.800	1150.000	221.314	26.384	89468.30762	4894.023	3763.817	71.112	.219	-.128
5	20.800	1160.000	223.475	25.074	89951.86719	4899.529	3768.051	71.181	.213	-.134
5	30.800	1170.000	225.569	23.710	90435.91602	4903.886	3771.402	71.252	.206	-.139
5	40.800	1180.000	227.599	22.296	90920.33496	4907.023	3773.815	71.326	.200	-.144
5	50.800	1190.000	229.566	20.836	91405.00098	4908.875	3775.239	71.401	.194	-.148
6	.800	1200.000	231.474	19.332	91889.78320	4909.378	3775.626	71.478	.188	-.152
6	10.800	1210.000	233.326	17.788	92374.54687	4908.472	3774.929	71.558	.182	-.156
6	20.800	1220.000	235.123	16.207	92859.14844	4906.102	3773.106	71.640	.177	-.160
6	30.800	1230.000	236.870	14.592	93343.43945	4902.216	3770.118	71.724	.172	-.163
6	40.800	1240.000	238.569	12.945	93827.27246	4896.764	3765.925	71.810	.168	-.166
6	50.800	1250.000	240.223	11.268	94310.48730	4889.703	3760.494	71.898	.163	-.169
7	.800	1260.000	241.835	9.565	94792.92383	4880.989	3753.793	71.989	.159	-.172
7	10.800	1270.000	243.409	7.837	95274.41504	4870.587	3745.793	72.082	.156	-.174
7	20.800	1280.000	244.947	6.085	95754.79687	4858.464	3736.469	72.178	.152	-.176

SET (5.0 DEG. ELEV.) 24 JUNE 7 HOURS 26.9 MINUTES AZIMUTH 245.874 DEG.

RISE (5.0 DEG. ELEV.) 24 JUNE 22 HOURS 41.7 MINUTES AZIMUTH 112.448 DEG.

22	50.800	2210.000	113.800	6.637	119797.20410	594.191	456.971	84.080	.148	.179
23	.800	2220.000	115.298	8.413	119855.96387	596.321	458.609	84.164	.151	.177
23	10.800	2230.000	116.831	10.168	119915.04004	600.492	461.816	84.245	.155	.174
23	20.800	2240.000	118.400	11.900	119974.62598	606.673	466.570	84.326	.159	.172
23	30.800	2250.000	120.010	13.606	120034.91992	614.829	472.843	84.405	.163	.169
23	40.800	2260.000	121.664	15.286	120096.11816	624.924	480.606	84.483	.168	.167
23	50.800	2270.000	123.364	16.936	120158.40430	636.915	489.828	84.560	.172	.163

HOUR	MINS	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
1	.800	2280.000	125.113	18.555	120221.96973	650.758	500.474	84.636	.178	.160
	10.800	2290.000	126.915	20.139	120286.99121	666.405	512.508	84.711	.183	.157
	20.800	2300.000	128.773	21.686	120353.64160	683.805	525.890	84.785	.189	.153
	30.800	2310.000	130.690	23.193	120422.09375	702.905	540.579	84.858	.195	.149
	40.800	2320.000	132.669	24.657	120492.51562	723.647	556.531	84.930	.201	.144
	50.800	2330.000	134.712	26.074	120565.06543	745.970	573.698	85.002	.208	.139
	.800	2340.000	136.822	27.442	120639.89355	769.813	592.036	85.073	.214	.134
1	10.800	2350.000	139.002	28.756	120717.15039	795.111	611.491	85.143	.221	.129
1	20.800	2360.000	141.253	30.013	120796.97559	821.794	632.012	85.213	.229	.123
1	30.800	2370.000	143.576	31.208	120879.49512	849.794	653.546	85.282	.236	.116
1	40.800	2380.000	145.973	32.339	120964.84668	879.036	676.035	85.352	.243	.110
1	50.800	2390.000	148.443	33.400	121053.14453	909.449	699.424	85.421	.251	.103
2	.800	2400.000	150.987	34.387	121144.49609	940.954	723.654	85.489	.258	.095
2	10.800	2410.000	153.601	35.297	121239.01270	973.474	748.664	85.558	.265	.087
2	20.800	2420.000	156.285	36.126	121336.78906	1006.930	774.393	85.627	.272	.079
2	30.800	2430.000	159.033	36.868	121437.90723	1041.239	800.779	85.696	.278	.070
2	40.800	2440.000	161.841	37.522	121542.45605	1076.320	827.759	85.765	.284	.061
2	50.800	2450.000	164.704	38.082	121650.50586	1112.090	855.268	85.835	.289	.051
3	.800	2460.000	167.613	38.547	121762.11133	1148.465	883.243	85.905	.293	.042
3	10.800	2470.000	170.562	38.913	121877.33984	1185.360	911.617	85.975	.297	.032
3	20.800	2480.000	173.541	39.179	121996.23340	1222.689	940.326	86.046	.299	.021
3	30.800	2490.000	176.541	39.342	122118.82812	1260.367	969.303	86.118	.301	.011
3	40.800	2500.000	179.551	39.402	122245.15918	1298.308	998.482	86.190	.301	.001
3	50.800	2510.000	182.560	39.359	122375.24805	1336.428	1027.798	86.263	.301	-.009
4	.800	2520.000	185.559	39.213	122509.10547	1374.640	1057.186	86.338	.299	-.020
4	10.800	2530.000	188.536	38.965	122646.73730	1412.861	1086.580	86.413	.296	-.030
4	20.800	2540.000	191.484	38.617	122788.14258	1451.005	1115.916	86.489	.293	-.040
4	30.800	2550.000	194.391	38.170	122933.30176	1488.991	1145.129	86.567	.288	-.049
4	40.800	2560.000	197.251	37.629	123082.20312	1526.736	1174.157	86.646	.283	-.059
4	50.800	2570.000	200.056	36.994	123234.82031	1564.158	1202.938	86.726	.278	-.068
5	.800	2580.000	202.800	36.272	123391.10742	1601.179	1231.409	86.807	.271	-.077
5	10.800	2590.000	205.479	35.464	123551.02832	1637.721	1259.512	86.890	.264	-.085
5	20.800	2600.000	208.088	34.575	123714.53809	1673.707	1287.188	86.975	.257	-.093
5	30.800	2610.000	210.626	33.610	123881.56543	1709.064	1314.379	87.061	.250	-.100
5	40.800	2620.000	213.090	32.571	124052.04883	1743.718	1341.030	87.149	.243	-.107

GO

25 JUNE

HOUR	MIN	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
5	50.800	2630.000	215.480	31.465	124225.91797	1777.599	1367.087	87.238	.235	-.114
6	.800	2640.000	217.796	30.294	124403.09375	1810.640	1392.498	87.330	.228	-.120
6	10.800	2650.000	220.039	29.063	124583.48926	1842.775	1417.212	87.423	.221	-.126
6	20.800	2660.000	222.210	27.776	124767.00684	1873.941	1441.181	87.518	.214	-.131
6	30.800	2670.000	224.311	26.436	124953.55078	1904.078	1464.358	87.615	.207	-.136
6	40.800	2680.000	226.343	25.047	125143.02148	1933.128	1486.699	87.714	.200	-.141
6	50.800	2690.000	228.311	23.613	125335.30176	1961.038	1508.164	87.816	.194	-.146
7	.800	2700.000	230.216	22.137	125530.28418	1987.754	1528.710	87.919	.187	-.150
7	10.800	2710.000	232.061	20.621	125727.84180	2013.228	1548.301	88.024	.182	-.153
7	20.800	2720.000	233.850	19.070	125927.84863	2037.415	1566.902	88.132	.176	-.157
7	30.800	2730.000	235.585	17.485	126130.17773	2060.272	1584.481	88.242	.171	-.160
7	40.800	2740.000	237.269	15.870	126334.70410	2081.759	1601.006	88.354	.166	-.163
7	50.800	2750.000	238.906	14.226	126541.27539	2101.840	1616.450	88.468	.161	-.166
8	.800	2760.000	240.498	12.556	126749.76367	2120.484	1630.788	88.585	.157	-.168
8	10.800	2770.000	242.049	10.861	126960.01660	2137.660	1643.997	88.703	.153	-.171
8	20.800	2780.000	243.562	9.145	127171.89551	2153.341	1656.057	88.825	.149	-.173
8	30.800	2790.000	245.038	7.408	127385.25000	2167.505	1666.950	88.948	.146	-.175
8	40.800	2800.000	246.482	5.653	127599.92480	2180.133	1676.662	89.074	.143	-.176

SET (5.0 DEG. ELEV.) 25 JUNE 8 HOURS 44.5 MINUTES AZIMUTH 247.012 DEG.

RISE (5.0 DEG. ELEV. 26 JUNE HOURS 40.2 MINUTES AZIMUTH 115.464 DEG.

26 JUNE

HOUR	MINS	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
1	40.800	3760.000	115.554	5.106	141545.86719	1343.718	1033.405	105.384	.141	.166
1	50.800	3770.000	116.982	6.761	141680.81445	1389.787	1068.835	105.522	.144	.164
1	10.800	3780.000	118.441	8.395	141820.41406	1437.812	1105.769	105.659	.147	.162
1	20.800	3790.000	119.933	10.007	141964.84375	1487.767	1144.188	105.794	.151	.160
1	30.800	3800.000	121.459	11.595	142114.30664	1539.624	1184.069	105.929	.154	.158
1	40.800	3810.000	123.022	13.158	142268.98047	1593.349	1225.387	106.062	.158	.155
1	50.800	3820.000	124.625	14.693	142429.05078	1648.909	1268.117	106.194	.162	.152
2	10.800	3830.000	126.270	16.198	142594.69531	1706.267	1312.228	106.326	.167	.149
2	20.800	3840.000	127.960	17.672	142766.09375	1765.383	1357.692	106.456	.171	.146
2	30.800	3850.000	129.696	19.111	142943.41406	1826.216	1404.477	106.586	.176	.142
2	40.800	3860.000	131.481	20.515	143126.82422	1888.721	1452.547	106.714	.181	.138
2	50.800	3870.000	133.317	21.879	143316.48242	1952.853	1501.869	106.842	.186	.134
3	10.800	3880.000	135.206	23.202	143512.56055	2018.561	1552.403	106.969	.192	.130
3	20.800	3890.000	137.150	24.481	143715.19727	2085.797	1604.111	107.096	.197	.126
3	30.800	3900.000	139.151	25.713	143924.55078	2154.507	1656.954	107.221	.203	.121
3	40.800	3910.000	141.209	26.894	144140.75586	2224.636	1710.887	107.346	.209	.116
3	50.800	3920.000	143.326	28.023	144363.95312	2296.127	1765.869	107.471	.215	.110
4	10.800	3930.000	145.503	29.096	144594.27930	2368.923	1821.853	107.595	.221	.104
4	20.800	3940.000	147.739	30.109	144831.85156	2442.962	1878.794	107.719	.227	.098
4	30.800	3950.000	150.034	31.059	145076.79297	2518.183	1936.644	107.842	.232	.092
4	40.800	3960.000	152.388	31.943	145329.22656	2594.524	1995.355	107.965	.238	.085
4	50.800	3970.000	154.798	32.759	145589.24609	2671.920	2054.877	108.088	.244	.078
5	10.800	3980.000	157.262	33.502	145856.95703	2750.303	2115.159	108.210	.249	.071
5	20.800	3990.000	159.777	34.169	146132.45117	2829.609	2176.150	108.333	.254	.063
5	30.800	4000.000	162.339	34.759	146415.82422	2909.769	2237.798	108.455	.258	.055
5	40.800	4010.000	164.944	35.268	146707.15039	2990.712	2300.049	108.577	.262	.047
5	50.800	4020.000	167.586	35.694	147006.50781	3072.373	2362.851	108.699	.266	.038
6	10.800	4030.000	170.259	36.035	147313.95703	3154.677	2426.148	108.822	.269	.030
6	20.800	4040.000	172.957	36.290	147629.56641	3237.556	2489.887	108.944	.271	.021
6	30.800	4050.000	175.672	36.456	147953.38477	3320.937	2554.013	109.066	.272	.012
6	40.800	4060.000	178.397	36.534	148285.46094	3404.750	2618.471	109.189	.273	.003
6	50.800	4070.000	181.125	36.522	148625.83203	3488.923	2683.205	109.312	.273	-.006
6	10.800	4080.000	183.848	36.421	148974.52344	3573.384	2748.160	109.435	.272	-.015
6	20.800	4090.000	186.557	36.232	149331.57031	3658.061	2813.283	109.558	.270	-.023
6	30.800	4100.000	189.246	35.955	149696.98633	3742.884	2878.517	109.682	.268	-.032

26 JUNE

HOUR	MIN	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
6	30.800	4110.000	191.908	35.591	150070.78516	3827.780	2943.808	109.806	.265	-.041
6	40.800	4120.000	194.536	35.144	150452.96875	3912.681	3009.102	109.931	.261	-.049
6	50.800	4130.000	197.125	34.614	150843.53125	3997.515	3074.345	110.056	.257	-.057
7	.800	4140.000	199.669	34.004	151242.46289	4082.215	3139.484	110.181	.252	-.065
7	10.800	4150.000	202.164	33.316	151649.75000	4166.710	3204.466	110.307	.247	-.072
7	20.800	4160.000	204.607	32.555	152065.36914	4250.935	3269.241	110.434	.242	-.080
7	30.800	4170.000	206.994	31.722	152489.29102	4334.823	3333.756	110.561	.236	-.087
7	40.800	4180.000	209.323	30.821	152921.47266	4418.309	3397.962	110.689	.230	-.093
7	50.800	4190.000	211.593	29.856	153361.87891	4501.328	3461.809	110.817	.224	-.100
8	.800	4200.000	213.803	28.828	153810.46094	4583.819	3525.250	110.946	.218	-.106
8	10.800	4210.000	215.952	27.742	154267.15820	4665.722	3588.238	111.076	.212	-.111
8	20.800	4220.000	218.042	26.601	154731.91211	4746.975	3650.727	111.206	.206	-.117
8	30.800	4230.000	220.072	25.407	155204.65039	4827.522	3712.673	111.337	.200	-.122
8	40.800	4240.000	222.044	24.164	155685.31055	4907.306	3774.032	111.469	.194	-.127
8	50.800	4250.000	223.959	22.875	156173.80664	4986.275	3834.764	111.601	.189	-.131
9	.800	4260.000	225.819	21.543	156670.05859	5064.375	3894.829	111.734	.183	-.135
9	10.800	4270.000	227.626	20.169	157173.98047	5141.557	3954.186	111.868	.178	-.139
9	20.800	4280.000	229.381	18.758	157685.47656	5217.773	4012.801	112.003	.173	-.143
9	30.800	4290.000	231.087	17.311	158204.44141	5292.974	4070.636	112.138	.168	-.146
9	40.800	4300.000	232.746	15.830	158730.78711	5367.120	4127.659	112.274	.164	-.150
9	50.800	4310.000	234.360	14.318	159264.40039	5440.168	4183.837	112.410	.159	-.153
10	.800	4320.000	235.932	12.776	159805.17383	5512.078	4239.141	112.547	.155	-.156
10	10.800	4330.000	237.464	11.207	160352.98828	5582.814	4293.541	112.685	.151	-.158
10	20.800	4340.000	238.958	9.613	160907.72461	5652.341	4347.012	112.823	.148	-.161
10	30.800	4350.000	240.417	7.995	161469.26758	5720.626	4399.527	112.962	.144	-.163
10	40.800	4360.000	241.842	6.355	162037.49414	5787.641	4451.066	113.102	.141	-.165

SET (5.0 DEG. ELEV.) 26 JUNE 10 HOURS 49.0 MINUTES AZIMUTH 242.983 DEG.

RISE (5.0 DEG. ELEV. 27 JUNE 2 HOURS 55.1 MINUTES AZIMUTH 118.277 DEG.

GO

27 JUNE

HOUR	MINS	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
3	.800	5340.000	119.114	5.963	235722.26367	9733.797	7485.913	123.591	.148	.169
3	10.800	5350.000	120.609	7.640	236687.83398	9822.633	7554.233	123.632	.151	.167
3	20.800	5360.000	122.141	9.292	237662.27734	9913.432	7624.063	123.673	.155	.164
3	30.800	5370.000	123.711	10.918	238645.78125	10006.166	7695.382	123.713	.159	.161
3	40.800	5380.000	125.323	12.515	239638.53320	10100.804	7768.164	123.752	.163	.158
3	50.800	5390.000	126.979	14.081	240640.73047	10197.310	7842.383	123.790	.168	.155
4	.800	5400.000	128.680	15.614	241652.54297	10295.646	7918.010	123.827	.173	.152

27 JUNE

RISE (5.0 DEG. ELEV. 27 JUNE 4 HOURS 9.9 MINUTES AZIMUTH 202.283 DEG.

HR	MIN	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN	
4	9.878	.000	202.283	44.130	200010.95508	5118.125	3936.165	20.845	.326	-.079	
4	19.878	10.000	205.462	43.282	200514.67773	5008.013	3851.482	20.804	.310	-.090	
4	29.878	20.000	208.491	42.330	200989.33594	4567.349	3512.584	20.727	.296	-.100	
4	39.878	30.000	211.432	41.292	201079.67187	4521.646	3477.435	20.660	.285	-.109	
4	49.878	40.000	214.216	40.163	201497.17578	3918.157	3013.314	20.554	.272	-.117	
4	59.878	50.000	216.871	38.957	201851.44922	3249.721	2499.243	20.428	.259	-.124	
VEHICLE IS ECLIPSED BY THE MOON.											
6	9.878	120.000	232.610	28.875	202392.47656	-1685.123	-1295.967	19.383	.197	-.161	
6	19.878	130.000	234.555	27.250	202192.83984	-2351.220	-1808.239	19.254	.192	-.165	
6	29.878	140.000	236.453	25.585	201930.41016	-2947.469	-2266.792	19.144	.188	-.168	
6	39.878	150.000	238.314	23.880	201615.73047	-3390.079	-2607.187	19.060	.185	-.172	
6	49.878	160.000	240.151	22.136	201271.29687	-3512.681	-2701.477	19.010	.183	-.176	
6	59.878	170.000	241.976	20.350	200942.12500	-3020.213	-2322.737	19.004	.182	-.181	
7	9.878	180.000	243.796	18.521	200707.50195	-1545.890	-1188.888	19.046	.182	-.185	
7	19.878	190.000	245.601	16.652	200670.40039	911.279	700.832	19.125	.179	-.189	
7	29.878	200.000	247.360	14.753	200891.23242	3475.846	2673.148	19.207	.172	-.191	
7	39.878	210.000	249.041	12.840	201326.40820	5151.321	3961.695	19.255	.164	-.192	
7	49.878	220.000	250.634	10.922	201874.24805	5797.196	4458.415	19.254	.155	-.192	
7	59.878	230.000	252.147	9.002	202448.93359	5758.413	4428.588	19.205	.148	-.192	
8	9.878	240.000	253.594	7.079	202999.60547	5352.088	4116.098	19.117	.142	-.192	
8	19.878	250.000	254.989	5.155	203500.11133	4764.251	3664.014	19.001	.137	-.193	

SET (5.0 DEG. ELEV.) 27 JUNE 8 HOURS 20.7 MINUTES AZIMUTH 255.114 DEG.

11	49.878	460.000	314.027	60.445	200933.63867	4220.050	3245.489	16.941	-.388	-.144	
11	59.878	470.000	310.316	58.965	201321.47266	3622.346	2785.815	16.831	-.355	-.152	
12	9.878	480.000	306.911	57.417	201647.28320	2970.114	2284.208	16.703	-.326	-.158	
VEHICLE IS ECLIPSED BY THE MOON.											
13	19.878	550.000	289.153	45.176	202010.27148	-1964.698	-1510.978	15.665	-.199	-.189	

28 JUNE

HOUR	MINS	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
	20.789	260.000	124.454	20.523	203897.82031	-3878.482	-2982.801	84.067	.184	.156
	30.789	270.000	126.321	22.072	203478.65820	-4602.123	-3539.327	83.939	.190	.154
	40.789	280.000	128.252	23.606	202991.91797	-5228.933	-4021.384	83.837	.197	.153
	50.789	290.000	130.258	25.133	202454.58789	-5584.860	-4295.115	83.772	.205	.153
1	.789	300.000	132.351	26.659	201910.10352	-5288.854	-4067.467	83.757	.214	.153
1	10.789	310.000	134.546	28.189	201451.26562	-3754.523	-2887.469	83.802	.225	.153
1	20.789	320.000	136.848	29.705	201214.34375	-897.245	-690.038	83.896	.235	.149
1	30.789	330.000	139.245	31.160	201273.17969	1939.677	1491.736	83.994	.244	.141
1	40.789	340.000	141.714	32.510	201555.22070	3548.965	2729.381	84.052	.250	.129
1	50.789	350.000	144.242	33.742	201937.54102	4053.054	3117.057	84.058	.256	.117
2	.789	360.000	146.828	34.861	202335.71484	3940.788	3030.718	84.019	.261	.106
2	10.789	370.000	149.470	35.873	202706.32422	3532.021	2716.350	83.945	.267	.096
2	20.789	380.000	152.169	36.784	203028.90430	2985.605	2296.121	83.845	.273	.086
2	30.789	390.000	154.924	37.595	203293.96289	2374.975	1826.507	83.726	.278	.076
VEHICLE IS ECLIPSED BY THE MOON.										
3	50.789	470.000	178.527	40.595	203032.33203	-3194.715	-2456.940	82.588	.307	-.001
4	.789	480.000	181.601	40.538	202681.51758	-3899.601	-2999.042	82.479	.308	-.010
4	10.789	490.000	184.696	40.389	202266.46094	-4471.392	-3438.786	82.399	.311	-.019
4	20.789	500.000	187.817	40.149	201810.20703	-4678.346	-3597.947	82.359	.314	-.028
4	30.789	510.000	190.973	39.821	201369.82227	-4049.208	-3114.100	82.373	.317	-.037
4	40.789	520.000	194.162	39.399	201057.48242	-2024.785	-1557.189	82.446	.320	-.047
4	50.789	530.000	197.347	38.869	201005.63867	1023.829	787.390	82.556	.316	-.059
5	.789	540.000	200.456	38.221	201240.28711	3525.747	2711.525	82.653	.305	-.071
5	10.789	550.000	203.439	37.456	201658.49219	4744.963	3649.180	82.702	.291	-.082
5	20.789	560.000	206.283	36.584	202146.76172	5030.285	3868.611	82.700	.278	-.092
5	30.789	570.000	208.996	35.619	202636.01758	4822.832	3709.066	82.655	.265	-.101
5	40.789	580.000	211.587	34.571	203091.61523	4377.581	3366.640	82.577	.254	-.109
5	50.789	590.000	214.069	33.449	203496.93945	3818.392	2936.588	82.475	.243	-.116
6	.789	600.000	216.448	32.260	203843.94727	3202.633	2463.030	82.354	.233	-.122
VEHICLE IS ECLIPSED BY THE MOON.										
7	20.789	680.000	232.642	20.886	204194.49609	-2511.154	-1931.238	81.192	.179	-.159
7	30.789	690.000	234.420	19.274	203910.46094	-3225.744	-2480.804	81.082	.176	-.163
7	40.789	700.000	236.174	17.621	203563.29102	-3757.148	-2889.487	81.002	.175	-.167
7	50.789	710.000	237.921	15.925	203184.14062	-3802.166	-2924.109	80.966	.175	-.172
8	.789	720.000	239.674	14.178	202846.68164	-2805.078	-2157.284	80.986	.176	-.177

HOUR	MINS	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
8	10.789	730.000	241.433	12.382	202679.49023	-361.450	-277.978	81.061	.175	-.182
8	20.789	740.000	243.165	10.544	202794.75781	2642.033	2031.892	81.157	.170	-.185
8	30.789	750.000	244.827	8.684	203168.38281	4703.986	3617.666	81.225	.162	-.187
8	40.789	760.000	246.404	6.815	203693.22070	5554.177	4271.517	81.243	.153	-.187

SET (5.0 DEG. ELEV.) 28 JUNE 8 HOURS 50.5 MINUTES AZIMUTH 247.857 DEG.

RISE (5.0 DEG. ELEV. 28 JUNE 23 HOURS 58.0 MINUTES AZIMUTH 116.476 DEG.

VEHICLE IS ECLIPSED BY THE MOON.

40.789	1720.000	123.121	11.944	205824.16211	-4693.203	-3609.373	70.345	.164	.159
50.789	1730.000	124.781	13.534	205319.48437	-5503.035	-4232.186	70.227	.169	.159
.789	1740.000	126.497	15.127	204747.03320	-6009.776	-4621.902	70.148	.175	.160
10.789	1750.000	128.283	16.736	204158.69922	-5715.546	-4395.620	70.125	.183	.162
20.789	1760.000	130.151	18.363	203665.41992	-3989.678	-3068.318	70.166	.191	.163
30.789	1770.000	132.105	19.986	203410.76562	-1107.827	-851.990	70.255	.199	.161
40.789	1780.000	134.130	21.558	203435.95703	1454.954	1118.953	70.343	.205	.153
50.789	1790.000	136.209	23.045	203660.63867	2913.929	2240.997	70.397	.210	.144
.789	1800.000	138.335	24.436	203982.15234	3482.588	2678.333	70.407	.215	.134
10.789	1810.000	140.507	25.734	204331.49219	3528.935	2713.977	70.377	.219	.125
20.789	1820.000	142.724	26.945	204669.91992	3290.443	2530.561	70.315	.224	.117
30.789	1830.000	144.989	28.072	204976.26562	2893.824	2225.535	70.228	.229	.109
40.789	1840.000	147.302	29.118	205238.45117	2403.534	1848.471	70.120	.234	.101
50.789	1850.000	149.663	30.083	205448.99805	1851.494	1423.917	69.997	.238	.093

VEHICLE IS ECLIPSED BY THE MOON.

4	10.789	1930.000	170.186	34.935	204719.17969	-4146.091	-3188.609	68.854	.274	.029
4	20.789	1940.000	172.955	35.189	204270.91797	-4895.362	-3764.846	68.762	.280	.022
4	30.789	1950.000	175.788	35.370	203766.14648	-5215.878	-4011.344	68.714	.287	.014
4	40.789	1960.000	178.698	35.478	203274.60156	-4508.324	-3467.189	68.726	.295	.007
4	50.789	1970.000	181.685	35.504	202927.32031	-2287.275	-1759.061	68.801	.302	-.002
5	.789	1980.000	184.710	35.427	202847.85547	660.901	508.275	68.909	.302	-.014
5	10.789	1990.000	187.708	35.228	203032.75781	2896.746	2227.783	69.002	.297	-.026
5	20.789	2000.000	190.636	34.906	203383.70703	4051.657	3115.983	69.054	.289	-.038
5	30.789	2010.000	193.480	34.468	203808.16992	4449.813	3422.191	69.063	.280	-.049
5	40.789	2020.000	196.237	33.924	204248.51172	4415.692	3395.949	69.033	.271	-.059
5	50.789	2030.000	198.908	33.284	204672.51367	4142.089	3185.531	68.973	.263	-.069
6	.789	2040.000	201.496	32.556	205062.11133	3730.590	2869.062	68.887	.255	-.077
6	10.789	2050.000	204.003	31.746	205406.53125	3233.005	2486.388	68.781	.247	-.085
6	20.789	2060.000	206.432	30.860	205698.68164	2674.900	2057.169	68.660	.239	-.092

VEHICLE IS ECLIPSED BY THE MOON.

WO

23 JUNE

RISE (5.0 DEG. ELEV. 23 JUNE 10 HOURS 40.2 MINUTES AZIMUTH 247.576 DEG.

HOUR	MINS	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
10	40.800	40.000	247.734	5.745	8443.78442	12494.671	9609.201	10.024	.263	.982
10	50.800	50.000	250.073	13.743	9738.32068	13565.549	10432.775	8.684	.207	.642
11	.800	60.000	251.928	18.971	11100.74280	13950.643	10728.937	14.166	.165	.419
11	10.800	70.000	253.405	22.369	12482.73755	14001.789	10768.271	19.449	.131	.270
11	20.800	80.000	254.571	24.528	13860.82568	13891.011	10683.075	23.840	.103	.168
11	30.800	90.000	255.477	25.818	15223.69019	13703.226	10538.657	27.475	.079	.094
11	40.800	100.000	256.163	26.481	16566.08301	13481.372	10368.037	30.526	.059	.041
11	50.800	110.000	256.660	26.678	17885.85083	13247.599	10188.251	33.126	.041	.000
12	.800	120.000	256.995	26.521	19182.44824	13013.425	10008.156	35.375	.026	-.031
12	10.800	130.000	257.190	26.088	20456.15869	12784.749	9832.289	37.344	.013	-.055
12	20.800	140.000	257.264	25.438	21707.68433	12564.438	9662.856	39.089	.002	-.074
12	30.800	150.000	257.232	24.614	22937.92358	12353.693	9500.780	40.650	-.008	-.090
12	40.800	160.000	257.107	23.647	24147.83691	12152.794	9346.276	42.059	-.017	-.103
12	50.800	170.000	256.902	22.564	25338.39111	11961.523	9199.176	43.340	-.024	-.113
13	.800	180.000	256.624	21.384	26510.51367	11779.395	9059.108	44.514	-.031	-.122
13	10.800	190.000	256.282	20.123	27665.07715	11605.796	8925.599	45.596	-.037	-.130
13	20.800	200.000	255.883	18.795	28802.89331	11440.065	8798.141	46.599	-.043	-.136
13	30.800	210.000	255.430	17.408	29924.70239	11281.534	8676.221	47.533	-.048	-.141
13	40.800	220.000	254.930	15.974	31031.18628	11129.554	8559.339	48.407	-.052	-.146
13	50.800	230.000	254.386	14.497	32122.95996	10983.513	8447.024	49.228	-.057	-.149
14	.800	240.000	253.799	12.986	33200.58252	10842.837	8338.835	50.003	-.061	-.153
14	10.800	250.000	253.174	11.445	34264.55566	10706.995	8234.364	50.736	-.064	-.155
14	20.800	260.000	252.512	9.879	35315.33398	10575.497	8133.234	51.432	-.068	-.158
14	30.800	270.000	251.814	8.292	36353.32178	10447.893	8035.098	52.095	-.072	-.160
14	40.800	280.000	251.082	6.687	37378.88525	10323.774	7939.642	52.728	-.075	-.161
14	50.800	290.000	250.315	5.068	38392.34814	10202.763	7846.577	53.334	-.078	-.162

SET (5.0 DEG. ELEV.) 23 JUNE 14 HOURS 51.2 MINUTES AZIMUTH 250.298 DEG.

RISE (5.0 DEG. ELEV. 24 JUNE 3 HOURS 39.6 MINUTES AZIMUTH 104.177 DEG.

24 JUNE

HOUR	MINS	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
3	40.800	1060.000	104.036	5.231	86807.03027	3312.550	2547.563	74.093	-0.121	.199
3	50.800	1070.000	102.835	7.225	87132.28711	3275.398	2518.990	74.185	-0.120	.200
4	.800	1080.000	101.642	9.233	87453.99414	3240.666	2492.279	74.275	-0.119	.201
4	10.800	1090.000	100.456	11.252	87772.39258	3208.360	2467.434	74.360	-0.118	.202
4	20.800	1100.000	99.273	13.282	88087.72070	3178.480	2444.455	74.443	-0.118	.204
4	30.800	1110.000	98.091	15.322	88400.21387	3151.024	2423.339	74.523	-0.118	.204
4	40.800	1120.000	96.907	17.372	88710.11719	3125.983	2404.081	74.599	-0.119	.205
4	50.800	1130.000	95.718	19.429	89017.66895	3103.347	2386.672	74.672	-0.119	.206
5	.800	1140.000	94.520	21.494	89323.10059	3083.098	2371.100	74.743	-0.120	.207
5	10.800	1150.000	93.310	23.565	89626.65039	3065.218	2357.349	74.810	-0.122	.207
5	20.800	1160.000	92.084	25.642	89928.55176	3049.682	2345.400	74.875	-0.124	.208
5	30.800	1170.000	90.837	27.723	90229.03320	3036.462	2335.233	74.937	-0.126	.208
5	40.800	1180.000	89.567	29.807	90528.32324	3025.524	2326.821	74.997	-0.128	.209
5	50.800	1190.000	88.266	31.893	90826.63965	3016.832	2320.137	75.054	-0.132	.209
6	.800	1200.000	86.931	33.980	91124.21094	3010.344	2315.147	75.109	-0.135	.209
6	10.800	1210.000	85.554	36.067	91421.24902	3006.016	2311.818	75.161	-0.140	.209
6	20.800	1220.000	84.129	38.151	91717.96387	3003.797	2310.112	75.212	-0.145	.208
6	30.800	1230.000	82.648	40.233	92014.55859	3003.634	2309.986	75.260	-0.151	.208
6	40.800	1240.000	81.101	42.309	92311.23926	3005.469	2311.398	75.307	-0.158	.207
6	50.800	1250.000	79.478	44.377	92608.19727	3009.243	2314.300	75.351	-0.166	.206
7	.800	1260.000	77.767	46.436	92905.62109	3014.887	2318.641	75.394	-0.176	.205
7	10.800	1270.000	75.953	48.483	93203.69141	3022.336	2324.369	75.436	-0.187	.204
7	20.800	1280.000	74.019	50.514	93502.58203	3031.515	2331.429	75.476	-0.200	.202
7	30.800	1290.000	71.946	52.526	93802.46289	3042.349	2339.761	75.515	-0.215	.200
7	40.800	1300.000	69.710	54.515	94103.49414	3054.760	2349.306	75.552	-0.233	.197
7	50.800	1310.000	67.284	56.474	94405.82129	3068.667	2360.001	75.589	-0.253	.194
8	.800	1320.000	64.633	58.397	94709.59473	3083.982	2371.779	75.624	-0.278	.190
8	10.800	1330.000	61.719	60.277	95014.94629	3100.620	2384.575	75.659	-0.306	.185
8	20.800	1340.000	58.496	62.103	95322.00098	3118.490	2398.318	75.693	-0.340	.180
8	30.800	1350.000	54.909	63.863	95630.87598	3137.499	2412.938	75.727	-0.379	.172
8	40.800	1360.000	50.897	65.542	95941.68457	3157.555	2428.361	75.760	-0.425	.163
8	50.800	1370.000	46.394	67.121	96254.52051	3178.560	2444.516	75.793	-0.477	.152
9	.800	1380.000	41.330	68.578	96569.47168	3200.416	2461.325	75.825	-0.537	.139
9	10.800	1390.000	35.645	69.884	96886.61914	3223.024	2478.712	75.858	-0.601	.122
9	20.800	1400.000	29.301	71.008	97206.03320	3246.285	2496.601	75.891	-0.668	.102

WO

24 JUNE

HOUR	MINS	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
9	30.800	1410.000	22.304	71.915	97527.77246	3270.095	2514.912	75.924	-.731	.079
9	40.800	1420.000	14.725	72.572	97851.88574	3294.354	2533.569	75.957	-.783	.052
9	50.800	1430.000	6.717	72.949	98178.41309	3318.958	2552.491	75.991	-.815	.023
10	.800	1440.000	358.510	73.027	98507.38184	3343.806	2571.600	76.026	-.822	-.007
10	10.800	1450.000	350.369	72.802	98838.81152	3368.793	2590.817	76.061	-.802	-.037
10	20.800	1460.000	342.549	72.286	99172.70996	3393.819	2610.063	76.097	-.759	-.065
10	30.800	1470.000	335.244	71.504	99509.08105	3418.780	2629.261	76.134	-.700	-.090
10	40.800	1480.000	328.567	70.488	99847.90820	3443.577	2648.331	76.171	-.635	-.112
10	50.800	1490.000	322.553	69.272	100189.17187	3468.108	2667.197	76.211	-.568	-.130
11	.800	1500.000	317.184	67.892	100532.84082	3492.275	2685.783	76.251	-.506	-.145
11	10.800	1510.000	312.408	66.375	100878.87109	3515.980	2704.014	76.293	-.450	-.158
11	20.800	1520.000	308.160	64.748	101227.21777	3539.128	2721.816	76.336	-.401	-.168
11	30.800	1530.000	304.371	63.030	101577.82129	3561.625	2739.117	76.380	-.358	-.176
11	40.800	1540.000	300.976	61.240	101930.60840	3583.377	2755.846	76.427	-.322	-.182
11	50.800	1550.000	297.917	59.391	102285.50293	3604.297	2771.935	76.475	-.291	-.188
12	.800	1560.000	295.145	57.493	102642.41797	3624.297	2787.316	76.525	-.264	-.192
12	10.800	1570.000	292.617	55.556	103001.25781	3643.292	2801.925	76.576	-.242	-.195
12	20.800	1580.000	290.296	53.586	103361.92383	3661.201	2815.698	76.630	-.223	-.198
12	30.800	1590.000	288.153	51.591	103724.30078	3677.944	2828.574	76.685	-.206	-.201
12	40.800	1600.000	286.160	49.574	104088.26758	3693.446	2840.496	76.743	-.192	-.203
12	50.800	1610.000	284.298	47.539	104453.70410	3707.635	2851.408	76.803	-.180	-.204
13	.800	1620.000	282.547	45.490	104820.47461	3720.440	2861.256	76.865	-.170	-.205
13	10.800	1630.000	280.893	43.430	105188.43555	3731.797	2869.990	76.929	-.161	-.206
13	20.800	1640.000	279.321	41.362	105557.44824	3741.643	2877.563	76.996	-.153	-.207
13	30.800	1650.000	277.820	39.286	105927.35156	3749.920	2883.929	77.065	-.147	-.208
13	40.800	1660.000	276.382	37.206	106297.99512	3756.573	2889.044	77.136	-.141	-.208
13	50.800	1670.000	274.996	35.123	106669.21191	3761.550	2892.872	77.210	-.136	-.208
14	.800	1680.000	273.656	33.038	107040.83496	3764.805	2895.376	77.286	-.132	-.209
14	10.800	1690.000	272.354	30.952	107412.69434	3766.295	2896.522	77.364	-.128	-.209
14	20.800	1700.000	271.086	28.867	107784.60937	3765.979	2896.279	77.445	-.125	-.208
14	30.800	1710.000	269.846	26.784	108156.40430	3763.824	2894.621	77.528	-.123	-.208
14	40.800	1720.000	268.629	24.703	108527.89648	3759.796	2891.523	77.614	-.121	-.208
14	50.800	1730.000	267.431	22.626	108898.89551	3753.869	2886.965	77.703	-.119	-.207
15	.800	1740.000	266.247	20.554	109269.21484	3746.020	2880.929	77.794	-.118	-.207
15	10.800	1750.000	265.075	18.487	109638.65918	3736.229	2873.399	77.887	-.117	-.206

WO

24 JUNE

HOUR	MINS	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
15	20.800	1760.000	263.911	16.426	110007.04492	3724.480	2864.363	77.983	--.116	--.206
15	30.800	1770.000	262.752	14.373	110374.17285	3710.762	2853.813	78.081	--.116	--.205
15	40.800	1780.000	261.594	12.327	110739.84766	3695.067	2841.743	78.182	--.116	--.204
15	50.800	1790.000	260.435	10.290	111103.87598	3677.393	2828.150	78.285	--.116	--.203
16	.800	1800.000	259.273	8.262	111466.05859	3657.738	2813.034	78.391	--.117	--.202
16	10.800	1810.000	258.103	6.245	111826.20312	3636.107	2796.399	78.499	--.117	--.201

SET (5.0 DEG. ELEV.) 24 JUNE 16 HOURS 17.0 MINUTES AZIMUTH 257.373 DEG.

RISE (5.0 DEG. ELEV. 25 JUNE 4 HOURS 47.5 MINUTES AZIMUTH 102.787 DEG.

WO

25 JUNE

HOUR	MIN	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
4	50.800	2570.000	102.403	5.654	124959.46582	43.835	33.712	89.224	-0.116	.198
5	.800	2580.000	101.252	7.636	124963.38281	35.850	27.571	89.339	-0.115	.199
5	10.800	2590.000	100.109	9.627	124966.62109	30.113	23.159	89.452	-0.114	.200
5	20.800	2600.000	98.971	11.627	124969.40430	26.623	20.475	89.564	-0.114	.200
5	30.800	2610.000	97.836	13.634	124971.95020	25.377	19.516	89.674	-0.113	.201
5	40.800	2620.000	96.702	15.647	124974.48926	26.368	20.279	89.783	-0.114	.202
5	50.800	2630.000	95.565	17.667	124977.23145	29.586	22.754	89.890	-0.114	.202
6	.800	2640.000	94.422	19.692	124980.40234	35.016	26.930	89.996	-0.115	.203
6	10.800	2650.000	93.271	21.721	124984.22266	42.643	32.795	90.101	-0.116	.203
6	20.800	2660.000	92.108	23.754	124988.89941	52.443	40.332	90.204	-0.117	.203
6	30.800	2670.000	90.930	25.790	124994.65039	64.395	49.524	90.306	-0.119	.204
6	40.800	2680.000	89.732	27.827	125001.68750	78.470	60.348	90.407	-0.121	.204
6	50.800	2690.000	88.511	29.865	125010.21387	94.634	72.779	90.507	-0.123	.204
7	.800	2700.000	87.263	31.904	125020.44824	112.856	86.794	90.606	-0.126	.204
7	10.800	2710.000	85.981	33.941	125032.57227	133.097	102.360	90.703	-0.130	.204
7	20.800	2720.000	84.662	35.976	125046.79785	155.315	119.447	90.800	-0.134	.203
7	30.800	2730.000	83.297	38.008	125063.31055	179.465	138.020	90.895	-0.139	.203
7	40.800	2740.000	81.880	40.034	125082.30371	205.500	158.043	90.990	-0.145	.202
7	50.800	2750.000	80.404	42.055	125103.95801	233.370	179.476	91.084	-0.151	.202
8	.800	2760.000	78.858	44.067	125128.45020	263.021	202.280	91.177	-0.158	.201
8	10.800	2770.000	77.231	46.070	125155.95898	294.395	226.409	91.269	-0.167	.200
8	20.800	2780.000	75.512	48.060	125186.64941	327.434	251.818	91.361	-0.177	.198
8	30.800	2790.000	73.686	50.035	125220.68066	362.075	278.459	91.452	-0.189	.197
8	40.800	2800.000	71.735	51.992	125258.21191	398.255	306.284	91.543	-0.202	.195
8	50.800	2810.000	69.640	53.927	125299.38477	435.904	335.238	91.633	-0.218	.192
9	.800	2820.000	67.376	55.835	125344.34570	474.956	365.271	91.723	-0.236	.189
9	10.800	2830.000	64.917	57.712	125393.22949	515.337	396.327	91.813	-0.257	.186
9	20.800	2840.000	62.228	59.551	125446.16602	556.976	428.350	91.902	-0.282	.182
9	30.800	2850.000	59.270	61.343	125503.27246	599.795	461.281	91.992	-0.311	.177
9	40.800	2860.000	55.999	63.079	125564.65918	643.719	495.061	92.082	-0.344	.170
9	50.800	2870.000	52.362	64.747	125630.43848	688.668	529.630	92.171	-0.384	.163
10	.800	2880.000	48.300	66.332	125700.69922	734.562	564.925	92.261	-0.429	.154
10	10.800	2890.000	43.753	67.815	125775.54395	781.323	600.887	92.351	-0.481	.143
10	20.800	2900.000	38.658	69.175	125855.04199	828.866	637.451	92.442	-0.539	.129
10	30.800	2910.000	32.966	70.385	125939.26367	877.108	674.552	92.533	-0.600	.113

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25 JUNE

HOUR	MINS	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
10	40.800	2920.000	26.652	71.416	126028.28516	925.967	712.128	92.624	--.662	.093
10	50.800	2930.000	19.734	72.237	126122.15625	975.359	750.113	92.716	--.720	.071
11	.800	2940.000	12.295	72.818	126220.93066	1025.198	788.443	92.809	--.765	.045
11	10.800	2950.000	4.489	73.134	126324.64551	1075.402	827.053	92.902	--.792	.018
11	20.800	2960.000	356.535	73.170	126433.32910	1125.886	865.878	92.997	--.795	--.011
11	30.800	2970.000	348.675	72.925	126547.01172	1176.565	904.854	93.092	--.773	--.038
11	40.800	2980.000	341.137	72.412	126665.70020	1227.356	943.915	93.188	--.731	--.064
11	50.800	2990.000	334.091	71.653	126789.41211	1278.177	983.000	93.286	--.676	--.087
12	.800	3000.000	327.636	70.678	126918.13770	1328.945	1022.044	93.384	--.614	--.107
12	10.800	3010.000	321.804	69.518	127051.87207	1379.579	1060.984	93.484	--.552	--.124
12	20.800	3020.000	316.578	68.205	127190.59570	1429.999	1099.761	93.585	--.494	--.138
12	30.800	3030.000	311.912	66.764	127334.28320	1480.126	1138.312	93.687	--.441	--.150
12	40.800	3040.000	307.746	65.219	127482.90625	1529.885	1176.579	93.791	--.394	--.159
12	50.800	3050.000	304.018	63.589	127636.41602	1579.198	1214.504	93.897	--.353	--.167
13	.800	3060.000	300.669	61.889	127794.77734	1627.993	1252.031	94.004	--.318	--.173
13	10.800	3070.000	297.645	60.133	127957.92383	1676.197	1289.103	94.112	--.288	--.178
13	20.800	3080.000	294.898	58.330	128125.80078	1723.739	1325.666	94.223	--.262	--.182
13	30.800	3090.000	292.390	56.490	128298.33398	1770.554	1361.669	94.335	--.240	--.186
13	40.800	3100.000	290.085	54.618	128475.45605	1816.576	1397.063	94.449	--.221	--.189
13	50.800	3110.000	287.954	52.721	128657.07910	1861.741	1431.798	94.564	--.205	--.191
14	.800	3120.000	285.973	50.803	128843.11328	1905.990	1465.828	94.682	--.191	--.193
14	10.800	3130.000	284.121	48.868	129033.47461	1949.264	1499.109	94.801	--.179	--.194
14	20.800	3140.000	282.379	46.920	129228.05371	1991.510	1531.598	94.923	--.169	--.195
14	30.800	3150.000	280.734	44.960	129426.75391	2032.672	1563.255	95.047	--.160	--.196
14	40.800	3160.000	279.172	42.993	129629.46680	2072.703	1594.041	95.172	--.152	--.197
14	50.800	3170.000	277.682	41.018	129836.07129	2111.558	1623.923	95.300	--.146	--.198
15	.800	3180.000	276.254	39.039	130046.45117	2149.192	1652.866	95.430	--.140	--.198
15	10.800	3190.000	274.880	37.056	130260.48926	2185.563	1680.838	95.562	--.135	--.198
15	20.800	3200.000	273.553	35.072	130478.05566	2220.635	1707.810	95.696	--.131	--.198
15	30.800	3210.000	272.266	33.087	130699.01660	2254.374	1733.758	95.832	--.127	--.198
15	40.800	3220.000	271.013	31.103	130923.24219	2286.749	1758.656	95.970	--.124	--.198
15	50.800	3230.000	269.790	29.120	131150.59570	2317.731	1782.484	96.111	--.121	--.198
16	.800	3240.000	268.592	27.140	131380.94141	2347.296	1805.220	96.254	--.119	--.198
16	10.800	3250.000	267.414	25.163	131614.13672	2375.423	1826.852	96.399	--.117	--.197
16	20.800	3260.000	266.254	23.190	131850.03516	2402.091	1847.362	96.546	--.115	--.197

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25 JUNE

HOUR	MINS	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
16	30.800	3270.000	265.107	21.222	132088.49414	2427.287	1866.739	96.695	--.114	--.196
16	40.800	3280.000	263.969	19.260	132329.36914	2450.998	1884.974	96.846	--.113	--.196
16	50.800	3290.000	262.839	17.305	132572.51172	2473.215	1902.061	97.000	--.113	--.195
17	.800	3300.000	261.714	15.357	132817.77539	2493.932	1917.993	97.156	--.112	--.194
17	10.800	3310.000	260.590	13.418	133065.00977	2513.146	1932.770	97.314	--.112	--.194
17	20.800	3320.000	259.465	11.486	133314.06250	2530.857	1946.391	97.474	--.113	--.193
17	30.800	3330.000	258.336	9.565	133564.79687	2547.069	1958.859	97.636	--.113	--.192
17	40.800	3340.000	257.202	7.654	133817.05664	2561.785	1970.177	97.800	--.114	--.191
17	50.800	3350.000	256.060	5.754	134070.69336	2575.018	1980.353	97.966	--.115	--.189

SET (5.0 DEG. ELEV.) 25 JUNE 17 HOURS 54.8 MINUTES AZIMUTH 255.603 DEG.

RISE (5.0 DEG. ELEV. 26 JUNE 6 HOURS 44.5 MINUTES AZIMUTH 106.582 DEG.

26 JUNE

HOUR	MINS	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
6	50.800	4130.000	105.903	6.173	152426.87695	2578.921	1983.355	112.208	--.109	.188
7	.800	4140.000	104.823	8.059	152683.60937	2621.149	2015.831	112.347	--.107	.189
7	10.800	4150.000	103.754	9.956	152944.61523	2665.459	2049.908	112.485	--.106	.190
7	20.800	4160.000	102.694	11.863	153210.10156	2711.852	2085.587	112.621	--.106	.191
7	30.800	4170.000	101.641	13.779	153480.26758	2760.326	2122.867	112.756	--.105	.192
7	40.800	4180.000	100.593	15.704	153755.32812	2810.879	2161.746	112.888	--.105	.193
7	50.800	4190.000	99.547	17.637	154035.48047	2863.502	2202.216	113.019	--.105	.194
8	.800	4200.000	98.501	19.577	154320.93359	2918.186	2244.272	113.148	--.105	.194
8	10.800	4210.000	97.453	21.524	154611.88477	2974.919	2287.903	113.276	--.105	.195
8	20.800	4220.000	96.400	23.477	154908.54102	3033.685	2333.098	113.402	--.106	.196
8	30.800	4230.000	95.339	25.435	155211.09961	3094.466	2379.842	113.526	--.106	.196
8	40.800	4240.000	94.269	27.398	155519.75781	3157.240	2428.119	113.649	--.108	.197
8	50.800	4250.000	93.185	29.366	155834.70898	3221.984	2477.912	113.770	--.109	.197
9	.800	4260.000	92.084	31.336	156156.15820	3288.673	2529.200	113.890	--.111	.197
9	10.800	4270.000	90.964	33.310	156484.28125	3357.274	2581.958	114.008	--.113	.197
9	20.800	4280.000	89.818	35.285	156819.27148	3427.758	2636.165	114.125	--.116	.198
9	30.800	4290.000	88.644	37.262	157161.31445	3500.090	2691.793	114.241	--.119	.198
9	40.800	4300.000	87.435	39.239	157510.59375	3574.230	2748.811	114.355	--.123	.198
9	50.800	4310.000	86.187	41.216	157867.28125	3650.139	2807.191	114.468	--.127	.198
10	.800	4320.000	84.891	43.191	158231.54687	3727.777	2866.899	114.580	--.132	.197
10	10.800	4330.000	83.542	45.163	158603.55664	3807.095	2927.899	114.691	--.138	.197
10	20.800	4340.000	82.129	47.132	158983.48828	3888.047	2990.157	114.801	--.145	.197
10	30.800	4350.000	80.642	49.094	159371.49219	3970.581	3053.630	114.910	--.153	.196
10	40.800	4360.000	79.069	51.050	159767.72266	4054.645	3118.281	115.017	--.162	.195
10	50.800	4370.000	77.396	52.996	160172.32422	4140.186	3184.068	115.124	--.173	.194
11	.800	4380.000	75.604	54.930	160585.44336	4227.145	3250.945	115.230	--.186	.193
11	10.800	4390.000	73.673	56.849	161007.22070	4315.463	3318.867	115.335	--.201	.191
11	20.800	4400.000	71.577	58.750	161437.78125	4405.079	3387.787	115.439	--.219	.189
11	30.800	4410.000	69.285	60.629	161877.25781	4495.931	3457.658	115.542	--.240	.187
11	40.800	4420.000	66.760	62.478	162325.75977	4587.951	3528.428	115.645	--.266	.183
11	50.800	4430.000	63.953	64.293	162783.40234	4681.076	3600.046	115.747	--.296	.179
12	.800	4440.000	60.809	66.064	163250.29492	4775.234	3672.461	115.849	--.334	.174
12	10.800	4450.000	57.256	67.779	163726.53516	4870.358	3745.617	115.950	--.378	.168
12	20.800	4460.000	53.211	69.424	164212.20898	4966.376	3819.461	116.050	--.432	.160
12	30.800	4470.000	48.573	70.980	164707.40820	5063.216	3893.936	116.150	--.497	.150

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26 JUNE

HOUR	MINS	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
12	40.800	4480.000	43.234	72.422	165212.20898	5160.803	3968.987	116.250	-.573	.138
12	50.800	4490.000	37.081	73.720	165726.67578	5259.064	4044.556	116.349	-.659	.121
13	.800	4500.000	30.027	74.837	166250.88281	5357.924	4120.586	116.448	-.752	.101
13	10.800	4510.000	22.050	75.728	166784.87305	5457.305	4197.016	116.547	-.842	.076
13	20.800	4520.000	13.240	76.349	167328.69922	5557.132	4273.790	116.645	-.916	.047
13	30.800	4530.000	3.843	76.662	167882.40820	5657.328	4350.847	116.743	-.957	.015
13	40.800	4540.000	354.247	76.646	168446.01953	5757.815	4428.128	116.842	-.955	-.018
13	50.800	4550.000	344.891	76.301	169019.57227	5858.515	4505.573	116.940	-.910	-.050
14	.800	4560.000	336.152	75.651	169603.07031	5959.351	4583.122	117.038	-.834	-.079
14	10.800	4570.000	328.259	74.735	170196.52734	6060.246	4660.716	117.136	-.743	-.103
14	20.800	4580.000	321.292	73.598	170799.95508	6161.122	4738.297	117.233	-.651	-.123
14	30.800	4590.000	315.218	72.282	171413.33594	6261.902	4815.803	117.331	-.566	-.139
14	40.800	4600.000	309.946	70.826	172036.65820	6362.510	4893.177	117.429	-.491	-.152
14	50.800	4610.000	305.365	69.258	172669.91016	6462.872	4970.362	117.527	-.427	-.161
15	.800	4620.000	301.365	67.603	173313.05078	6562.910	5047.298	117.626	-.374	-.169
15	10.800	4630.000	297.849	65.880	173966.05273	6662.553	5123.929	117.724	-.330	-.175
15	20.800	4640.000	294.733	64.101	174628.87500	6761.727	5200.200	117.822	-.294	-.180
15	30.800	4650.000	291.948	62.280	175301.46289	6860.360	5276.055	117.921	-.264	-.184
15	40.800	4660.000	289.437	60.423	175983.76367	6958.381	5351.440	118.020	-.239	-.187
15	50.800	4670.000	287.156	58.539	176675.70703	7055.723	5426.302	118.119	-.218	-.190
16	.800	4680.000	285.067	56.631	177377.22461	7152.316	5500.589	118.218	-.200	-.192
16	10.800	4690.000	283.139	54.706	178088.24609	7248.097	5574.250	118.317	-.186	-.193
16	20.800	4700.000	281.347	52.766	178808.67773	7343.001	5647.237	118.417	-.173	-.195
16	30.800	4710.000	279.671	50.814	179538.43945	7436.966	5719.502	118.517	-.162	-.196
16	40.800	4720.000	278.093	48.852	180277.42578	7529.931	5790.999	118.617	-.153	-.197
16	50.800	4730.000	276.598	46.883	181025.54883	7621.839	5861.682	118.717	-.146	-.197
17	.800	4740.000	275.176	44.909	181782.68945	7712.632	5931.507	118.818	-.139	-.198
17	10.800	4750.000	273.814	42.930	182548.74023	7802.261	6000.437	118.919	-.133	-.198
17	20.800	4760.000	272.505	40.948	183323.58008	7890.670	6068.430	119.020	-.129	-.198
17	30.800	4770.000	271.241	38.965	184107.08984	7977.812	6135.448	119.121	-.124	-.198
17	40.800	4780.000	270.016	36.981	184899.13672	8063.640	6201.455	119.222	-.121	-.198
17	50.800	4790.000	268.822	34.998	185699.59375	8148.111	6266.419	119.324	-.118	-.198
18	.800	4800.000	267.656	33.015	186508.32422	8231.183	6330.306	119.425	-.115	-.198
18	10.800	4810.000	266.512	31.035	187325.19141	8312.817	6393.088	119.527	-.113	-.198
18	20.800	4820.000	265.387	29.057	188150.04102	8392.979	6454.737	119.629	-.112	-.198

WO

26 JUNE

HOUR	MIN	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
18	30.800	4830.000	264.277	27.083	188982.73242	8471.632	6515.227	119.732	--.110	--.197
18	40.800	4840.000	263.178	25.113	189823.11719	8548.749	6574.535	119.834	--.109	--.197
18	50.800	4850.000	262.087	23.148	190671.03711	8624.303	6632.640	119.936	--.109	--.196
19	.800	4860.000	261.002	21.188	191526.35156	8698.266	6689.523	120.039	--.108	--.196
19	10.800	4870.000	259.919	19.235	192388.87891	8770.619	6745.167	120.141	--.108	--.195
19	20.800	4880.000	258.837	17.289	193258.47461	8841.342	6799.557	120.243	--.108	--.194
19	30.800	4890.000	257.752	15.350	194134.97266	8910.420	6852.683	120.346	--.109	--.193
19	40.800	4900.000	256.662	13.420	195018.20898	8977.839	6904.533	120.448	--.109	--.193
19	50.800	4910.000	255.565	11.499	195908.02148	9043.591	6955.100	120.550	--.110	--.192
20	.800	4920.000	254.458	9.588	196804.24609	9107.667	7004.378	120.653	--.111	--.191
20	10.800	4930.000	253.340	7.688	197706.71094	9170.064	7052.365	120.755	--.112	--.189
20	20.800	4940.000	252.208	5.799	198615.25586	9230.781	7099.061	120.856	--.114	--.188

SET (5.0 DEG. ELEV.) 26 JUNE 20 HOURS 25.1 MINUTES AZIMUTH 251.725 DEG.

27 JUNE

RISE (5.0 DEG. ELEV. 27 JUNE 4 HOURS 22.1 MINUTES AZIMUTH 95.264 DEG.

HR	MIN	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
4	29.878	20.000	94.351	6.627	202903.79492	2865.080	2203.429	20.179	-.117	.208
4	39.878	30.000	93.155	8.718	202823.70508	2777.454	2136.040	20.082	-.117	.208
4	49.878	40.000	91.993	10.799	203067.34180	2141.265	1646.770	19.949	-.115	.208
4	59.878	50.000	90.843	12.873	203244.63477	1442.657	1109.495	19.798	-.115	.207
VEHICLE IS ECLIPSED BY THE MOON.										
6	9.878	120.000	82.510	27.297	202479.60156	-3639.439	-2798.961	18.619	-.129	.206
6	19.878	130.000	81.190	29.354	202086.29492	-4319.166	-3321.715	18.478	-.135	.206
6	29.878	140.000	79.808	31.413	201628.89844	-4928.197	-3790.099	18.358	-.142	.206
6	39.878	150.000	78.348	33.476	201118.00391	-5383.374	-4140.159	18.266	-.150	.206
6	49.878	160.000	76.791	35.543	200576.10547	-5518.891	-4244.380	18.210	-.161	.207
6	59.878	170.000	75.113	37.618	200048.17969	-5039.343	-3875.577	18.202	-.174	.208
7	9.878	180.000	73.296	39.699	199613.63672	-3574.560	-2749.065	18.246	-.189	.208
7	19.878	190.000	71.334	41.777	199376.17773	-1115.421	-857.830	18.330	-.203	.207
7	29.878	200.000	69.255	43.836	199397.72070	1469.313	1129.995	18.420	-.213	.204
7	39.878	210.000	67.091	45.857	199636.37500	3179.241	2445.040	18.479	-.220	.200
7	49.878	220.000	64.853	47.829	199991.43359	3865.333	2972.688	18.491	-.228	.195
7	59.878	230.000	62.528	49.752	200377.39648	3867.807	2974.591	18.456	-.238	.190
8	9.878	240.000	60.090	51.623	200743.40039	3502.609	2693.730	18.383	-.250	.185
8	19.878	250.000	57.509	53.442	201063.30664	2955.962	2273.324	18.283	-.266	.179
8	29.878	260.000	54.757	55.205	201324.44922	2323.542	1786.953	18.162	-.285	.173
VEHICLE IS ECLIPSED BY THE MOON.										
9	49.878	340.000	22.573	66.217	200977.71094	-3216.371	-2473.595	17.001	-.550	.085
9	59.878	350.000	16.881	66.975	200628.54687	-3842.551	-2955.167	16.890	-.588	.066
10	9.878	360.000	10.825	67.522	200222.75195	-4347.286	-3343.341	16.805	-.622	.043
10	19.878	370.000	4.471	67.832	199778.49414	-4589.354	-3529.506	16.752	-.647	.018
10	29.878	380.000	357.918	67.883	199333.52930	-4305.387	-3311.118	16.744	-.661	-.009
10	39.878	390.000	351.298	67.658	198958.09961	-3117.511	-2397.565	16.787	-.660	-.037
10	49.878	400.000	344.778	67.157	198754.22070	-856.228	-658.494	16.876	-.641	-.063
10	59.878	410.000	338.540	66.409	198803.53125	1825.393	1403.844	16.980	-.604	-.085
11	9.878	420.000	332.727	65.466	199091.41992	3831.466	2946.642	17.061	-.558	-.102
11	19.878	430.000	327.392	64.373	199524.94531	4787.944	3682.235	17.096	-.510	-.116
11	29.878	440.000	322.523	63.161	200011.45312	4967.202	3820.096	17.082	-.465	-.127
11	39.878	450.000	318.082	61.847	200491.63477	4706.342	3619.478	17.027	-.424	-.136

WO

27 JUNE

HOUR	MINS	T-ST	AZIMUTH DEGREES	ELEVATION DEGRES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	FL RATE DEG/MIN
13	29.878	560.000	287.217	43.264	201782.51172	-2638.780	-2029.391	15.541	-0.188	-0.193
13	39.878	570.000	285.384	41.308	201492.09961	-3220.149	-2476.500	15.439	-0.179	-0.198
13	49.878	590.000	283.641	39.304	201153.37305	-3589.844	-2760.820	15.367	-0.170	-0.203
13	59.878	590.000	281.979	37.245	200797.47656	-3517.518	-2705.196	15.334	-0.163	-0.209
14	9.878	600.000	280.388	35.124	200485.24219	-2637.808	-2028.643	15.350	-0.156	-0.215
14	19.878	610.000	278.858	32.944	200313.26367	-666.497	-512.579	15.414	-0.150	-0.220
14	29.878	620.000	277.380	30.731	200376.93359	1982.267	1524.490	15.503	-0.145	-0.222
14	39.878	630.000	275.946	28.525	200690.08984	4209.365	3237.271	15.578	-0.141	-0.219
14	49.878	640.000	274.550	26.357	201173.52734	5410.587	4161.087	15.610	-0.138	-0.214
14	59.878	650.000	273.185	24.235	201730.16211	5750.057	4422.161	15.593	-0.135	-0.210
15	9.878	660.000	271.847	22.154	202292.26562	5572.701	4285.763	15.533	-0.133	-0.206
15	19.878	670.000	270.533	20.105	202821.84766	5121.537	3938.790	15.438	-0.130	-0.203
15	29.878	680.000	269.237	18.083	203299.21094	4530.773	3484.454	15.317	-0.129	-0.201
15	39.878	690.000	267.958	16.082	203714.33789	3868.872	2975.410	15.176	-0.127	-0.199

VEHICLE IS ECLIPSED BY THE MOON.

SET (5.0 DEG. ELEV.) 27 JUNE 16 HOURS 36.4 MINUTES AZIMUTH 260.869 DEG.

WG

28 JUNE

HOUR	MINS	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
12	50.789	1010.000	301.091	62.669	202958.66211	3393.387	2609.732	78.915	-.340	-.172
13	.789	1020.000	297.860	60.926	203264.10547	2786.694	2143.146	78.790	-.307	-.176
VEHICLE IS ECLIPSED BY THE MOON.										
14	10.789	1090.000	281.776	47.803	203528.41406	-2241.203	-1723.628	77.772	-.176	-.197
14	20.789	1100.000	280.064	45.816	203268.23047	-3020.423	-2322.898	77.652	-.166	-.200
14	30.789	1110.000	278.443	43.793	202935.38477	-3688.746	-2836.881	77.559	-.158	-.204
14	40.789	1120.000	276.901	41.723	202550.74219	-4012.673	-3086.002	77.504	-.151	-.210
14	50.789	1130.000	275.425	39.592	202169.90430	-3507.545	-2697.527	77.502	-.145	-.216
15	.789	1140.000	274.005	37.395	201905.43359	-1592.498	-1224.733	77.561	-.140	-.222
15	10.789	1150.000	272.628	35.157	201892.08203	1380.093	1061.379	77.659	-.136	-.224
15	20.789	1160.000	271.287	32.927	202161.04102	3879.973	2983.947	77.746	-.133	-.221
15	30.789	1170.000	269.976	30.739	202617.22656	5168.160	3974.645	77.790	-.130	-.216
15	40.789	1180.000	268.693	28.601	203151.62305	5541.545	4261.802	77.784	-.127	-.211
15	50.789	1190.000	267.433	26.508	203695.22656	5409.790	4160.474	77.735	-.125	-.207
16	.789	1200.000	266.194	24.450	204211.65234	5019.851	3860.586	77.652	-.123	-.204
16	10.789	1210.000	264.972	22.422	204682.29687	4496.533	3458.122	77.542	-.122	-.202
16	20.789	1220.000	263.763	20.418	205097.31055	3900.089	2999.418	77.412	-.120	-.199
16	30.789	1230.000	262.564	18.434	205451.06250	3258.708	2506.155	77.267	-.119	-.197

VEHICLE IS ECLIPSED BY THE MOON.

SET (5.0 DEG. ELEV.) 28 JUNE 17 HOURS 40.3 MINUTES AZIMUTH 254.282 DEG.

RISE (5.0 DEG. ELEV. 29 JUNE 5 HOURS 32.5 MINUTES AZIMUTH 108.052 DEG.

29 JUNE

HOUR	MINS	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
5	40.789	2020.000	107.103	6.663	205772.19927	2903.879	2233.269	68.591	-.115	.201
5	50.789	2030.000	105.973	8.673	206044.91211	2590.355	1992.149	68.495	-.111	.201
6	.789	2040.000	104.877	10.679	206279.44336	2142.167	1647.464	68.375	-.108	.200
6	10.789	2050.000	103.808	12.683	206465.31641	1610.796	1238.805	68.237	-.106	.200
6	20.789	2060.000	102.761	14.686	206595.71289	1021.597	785.674	68.085	-.104	.200

VEHICLE IS ECLIPSED BY THE MOON.

MA

23 JUNE

RISE (5.0 DEG. ELEV. 23 JUNE 14 HOURS 34.7 MINUTES AZIMUTH 131.259 DEG.

HOUR	MINS	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
14	40.800	280.000	132.099	5.876	37416.37500	8500.248	6537.235	57.264	.138	.143
14	50.800	290.000	133.507	7.296	38249.90283	8382.747	6446.869	57.604	.144	.141
15	.800	300.000	134.971	8.693	39072.18604	8272.433	6362.030	57.927	.149	.138
15	10.800	310.000	136.490	10.064	39883.91162	8168.856	6282.373	58.232	.155	.136
15	20.800	320.000	138.065	11.406	40685.72559	8071.611	6207.585	58.522	.160	.133
15	30.800	330.000	139.697	12.717	41478.23389	7980.321	6137.377	58.797	.166	.129
15	40.800	340.000	141.385	13.993	42262.00684	7894.642	6071.484	59.060	.172	.126
15	50.800	350.000	143.129	15.231	43037.58154	7814.252	6009.659	59.310	.177	.122
16	.800	360.000	144.931	16.429	43805.46875	7738.853	5951.673	59.548	.183	.118
16	10.800	370.000	146.790	17.583	44566.14355	7668.166	5897.310	59.776	.189	.113
16	20.800	380.000	148.706	18.691	45320.06152	7601.927	5846.368	59.995	.194	.108
16	30.800	390.000	150.678	19.748	46067.64697	7539.888	5798.656	60.204	.200	.103
16	40.800	400.000	152.707	20.753	46809.30371	7481.811	5753.991	60.405	.206	.098
16	50.800	410.000	154.791	21.701	47545.41113	7427.471	5712.200	60.599	.211	.092
17	.800	420.000	156.929	22.590	48276.32812	7376.653	5673.118	60.785	.216	.086
17	10.800	430.000	159.119	23.417	49002.39404	7329.150	5636.585	60.965	.222	.079
17	20.800	440.000	161.359	24.178	49723.92334	7284.762	5602.448	61.139	.226	.073
17	30.800	450.000	163.647	24.872	50441.21533	7243.299	5570.560	61.308	.231	.066
17	40.800	460.000	165.979	25.495	51154.54980	7204.573	5540.777	61.471	.235	.059
17	50.800	470.000	168.353	26.044	51864.18750	7168.406	5512.962	61.630	.239	.051
18	.800	480.000	170.763	26.518	52570.37256	7134.622	5486.980	61.785	.243	.044
18	10.800	490.000	173.207	26.915	53273.33252	7103.051	5462.701	61.936	.246	.036
18	20.800	500.000	175.679	27.232	53973.27734	7073.530	5439.997	62.084	.248	.028
18	30.800	510.000	178.173	27.468	54670.40234	7045.896	5418.744	62.228	.250	.020
18	40.800	520.000	180.685	27.623	55364.88477	7019.993	5398.823	62.370	.252	.011
18	50.800	530.000	183.209	27.695	56056.88770	6995.669	5380.116	62.509	.253	.003
19	.800	540.000	185.739	27.683	56746.56104	6972.774	5362.509	62.647	.253	-.005
19	10.800	550.000	188.270	27.589	57434.03662	6951.163	5345.889	62.782	.253	-.014
19	20.800	560.000	190.795	27.412	58119.43799	6930.694	5330.147	62.916	.252	-.022
19	30.800	570.000	193.309	27.153	58802.86670	6911.231	5315.178	63.048	.251	-.030
19	40.800	580.000	195.807	26.814	59484.42041	6892.637	5300.879	63.179	.249	-.038
19	50.800	590.000	198.285	26.394	60164.17139	6874.782	5287.147	63.309	.247	-.046
20	.800	600.000	200.736	25.897	60842.19336	6857.539	5273.886	63.439	.244	-.054

23 JUNE

HOUR	MINS	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
20	10.800	610.000	203.159	25.324	61518.53857	6840.785	5261.001	63.568	.241	-.061
20	20.800	620.000	205.548	24.678	62193.24658	6824.397	5248.398	63.697	.237	-.068
20	30.800	630.000	207.901	23.960	62866.34912	6808.260	5235.987	63.825	.233	-.075
20	40.800	640.000	210.215	23.173	63537.86768	6792.261	5223.683	63.954	.229	-.082
20	50.800	650.000	212.488	22.320	64207.80566	6776.291	5211.401	64.082	.225	-.089
21	.800	660.000	214.719	21.403	64876.16650	6760.243	5199.059	64.211	.221	-.095
21	10.800	670.000	216.906	20.427	65542.93359	6744.015	5186.579	64.340	.217	-.101
21	20.800	680.000	219.049	19.392	66208.08594	6727.511	5173.886	64.470	.212	-.106
21	30.800	690.000	221.148	18.302	66871.58984	6710.634	5160.907	64.600	.208	-.112
21	40.800	700.000	223.203	17.161	67533.40527	6693.295	5147.572	64.731	.203	-.117
21	50.800	710.000	225.214	15.970	68193.48340	6675.407	5133.815	64.863	.199	-.121
22	.800	720.000	227.182	14.732	68851.76465	6656.887	5119.572	64.995	.195	-.126
22	10.800	730.000	229.109	13.451	69508.18262	6637.657	5104.783	65.129	.191	-.130
22	20.800	740.000	230.994	12.128	70162.66113	6617.641	5089.389	65.263	.187	-.134
22	30.800	750.000	232.841	10.767	70815.12305	6596.769	5073.337	65.399	.183	-.138
22	40.800	760.000	234.651	9.369	71465.47852	6574.975	5056.576	65.536	.179	-.142
22	50.800	770.000	236.424	7.937	72113.63379	6552.194	5039.056	65.673	.176	-.145
23	.800	780.000	238.164	6.473	72759.48926	6528.369	5020.733	65.812	.172	-.148

SET (5.0 DEG. ELEV.) 23 JUNE 23 HOURS 10.7 MINUTES AZIMUTH 239.848 DEG.

RISE (5.0 DEG. ELEV. 24 JUNE 15 HOURS 4.2 MINUTES AZIMUTH 115.336 DEG.

MA

24 JUNE

HOUR	MINS	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
15	10.800	1750.000	116.423	6.092	110354.22266	1556.806	1197.284	79.275	.166	.165
15	20.800	1760.000	118.094	7.734	110507.73145	1552.561	1194.019	79.345	.169	.163
15	30.800	1770.000	119.799	9.351	110660.91113	1550.222	1192.220	79.413	.172	.160
15	40.800	1780.000	121.540	10.942	110813.95801	1549.756	1191.862	79.480	.176	.158
15	50.800	1790.000	123.318	12.504	110967.04590	1551.127	1192.916	79.545	.180	.155
16	.800	1800.000	125.137	14.035	111120.36035	1554.294	1195.352	79.609	.184	.152
16	10.800	1810.000	127.000	15.534	111274.07422	1559.213	1199.135	79.672	.188	.148
16	20.800	1820.000	128.908	16.996	111428.35937	1565.839	1204.230	79.733	.193	.144
16	30.800	1830.000	130.864	18.420	111583.37891	1574.120	1210.599	79.794	.198	.140
16	40.800	1840.000	132.871	19.803	111739.29980	1584.004	1218.200	79.853	.203	.136
16	50.800	1850.000	134.929	21.142	111896.26855	1595.435	1226.991	79.911	.209	.132
17	.800	1860.000	137.042	22.434	112054.44043	1608.354	1236.927	79.969	.214	.127
17	10.800	1870.000	139.210	23.676	112213.96094	1622.700	1247.960	80.026	.220	.122
17	20.800	1880.000	141.435	24.865	112374.96582	1638.408	1260.041	80.082	.225	.116
17	30.800	1890.000	143.718	25.997	112537.58691	1655.412	1273.118	80.137	.231	.110
17	40.800	1900.000	146.058	27.069	112701.94727	1673.643	1287.139	80.192	.237	.104
17	50.800	1910.000	148.457	28.078	112868.16504	1693.030	1302.048	80.247	.243	.098
18	.800	1920.000	150.912	29.020	113036.35156	1713.500	1317.791	80.301	.248	.091
18	10.800	1930.000	153.424	29.892	113206.61035	1734.976	1334.308	80.355	.254	.084
18	20.800	1940.000	155.989	30.691	113379.03711	1757.384	1351.540	80.408	.259	.076
18	30.800	1950.000	158.606	31.413	113553.71875	1780.643	1369.428	80.462	.264	.068
18	40.800	1960.000	161.270	32.055	113730.73535	1804.674	1387.910	80.516	.269	.060
18	50.800	1970.000	163.977	32.615	113910.16309	1829.397	1406.924	80.569	.273	.052
19	.800	1980.000	166.723	33.091	114092.05859	1854.729	1426.405	80.623	.276	.043
19	10.800	1990.000	169.502	33.479	114276.48730	1880.588	1446.292	80.678	.279	.034
19	20.800	2000.000	172.307	33.778	114463.48730	1906.889	1466.519	80.732	.282	.025
19	30.800	2010.000	175.132	33.987	114653.10254	1933.549	1487.023	80.788	.283	.016
19	40.800	2020.000	177.970	34.104	114845.36816	1960.483	1507.737	80.843	.284	.007
19	50.800	2030.000	180.812	34.130	115040.30078	1987.608	1528.597	80.900	.284	.002
20	.800	2040.000	183.653	34.063	115237.91797	2014.839	1549.540	80.957	.284	.011
20	10.800	2050.000	186.483	33.905	115438.22852	2042.091	1570.499	81.015	.282	.020
20	20.800	2060.000	189.296	33.656	115641.22461	2069.283	1591.411	81.074	.280	.029
20	30.800	2070.000	192.085	33.318	115846.90332	2096.329	1612.211	81.134	.277	.038
20	40.800	2080.000	194.844	32.892	116055.23926	2123.150	1632.838	81.195	.274	.047
20	50.800	2090.000	197.566	32.381	116266.20996	2149.663	1653.229	81.257	.270	.055

MA

24 JUNE

HOUR	MINS	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
21	.800	2100.000	200.246	31.787	116479.77637	2175.791	1673.322	81.321	.266	-.063
21	10.800	2110.000	202.880	31.113	116695.90820	2201.452	1693.058	81.386	.261	-.071
21	20.800	2120.000	205.464	30.362	116914.54297	2226.572	1712.376	81.452	.256	-.079
21	30.800	2130.000	207.995	29.536	117135.63086	2251.076	1731.221	81.520	.250	-.086
21	40.800	2140.000	210.471	28.640	117359.10449	2274.888	1749.535	81.589	.245	-.093
21	50.800	2150.000	212.889	27.676	117584.89062	2297.940	1767.263	81.660	.239	-.100
22	.800	2160.000	215.250	26.649	117812.91309	2320.161	1784.352	81.732	.233	-.106
22	10.800	2170.000	217.553	25.561	118043.08691	2341.485	1800.752	81.806	.227	-.112
22	20.800	2180.000	219.797	24.416	118275.32129	2361.847	1816.411	81.882	.222	-.117
22	30.800	2190.000	221.985	23.217	118509.51367	2381.186	1831.284	81.960	.216	-.122
22	40.800	2200.000	224.116	21.967	118745.56348	2399.442	1845.324	82.040	.210	-.127
22	50.800	2210.000	226.192	20.670	118983.36133	2416.559	1858.488	82.122	.205	-.132
23	.800	2220.000	228.215	19.329	119222.78711	2432.483	1870.735	82.205	.200	-.136
23	10.800	2230.000	230.187	17.946	119463.72949	2447.164	1882.026	82.291	.195	-.140
23	20.800	2240.000	232.110	16.525	119706.05566	2460.553	1892.323	82.379	.190	-.144
23	30.800	2250.000	233.986	15.068	119949.63965	2472.607	1901.593	82.468	.185	-.147
23	40.800	2260.000	235.818	13.577	120194.34570	2483.284	1909.804	82.560	.181	-.151
23	50.800	2270.000	237.607	12.055	120440.03516	2492.544	1916.926	82.654	.177	-.154

MA

25 JUNE

HOUR	MINS	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
	.800	2280.000	239.357	10.505	120686.56934	2500.353	1922.932	82.751	.173	-.156
	10.800	2290.000	241.070	8.928	120933.80371	2506.680	1927.797	82.849	.170	-.159
	20.800	2300.000	242.749	7.326	121181.58203	2511.496	1931.501	82.949	.166	-.161
	30.800	2310.000	244.396	5.702	121429.76465	2514.774	1934.022	83.052	.163	-.163

SET (5.0 DEG. ELEV.) 25 JUNE HOURS 35.1 MINUTES AZIMUTH 245.095 DEG.

RISE (5.0 DEG. ELEV.) 25 JUNE 16 HOURS 36.8 MINUTES AZIMUTH 116.635 DEG.

16	40.800	3280.000	117.282	5.629	133116.51172	398.531	306.496	97.736	.160	.155
16	50.800	3290.000	118.898	7.164	133157.33203	428.473	329.523	97.865	.163	.152
17	.800	3300.000	120.543	8.675	133201.19727	460.269	353.976	97.994	.166	.150
17	10.800	3310.000	122.219	10.160	133248.29297	493.889	379.833	98.122	.169	.147
17	20.800	3320.000	123.928	11.617	133298.79883	529.303	407.068	98.249	.173	.144
17	30.800	3330.000	125.672	13.045	133352.88477	566.475	435.655	98.375	.176	.141
17	40.800	3340.000	127.453	14.442	133410.73437	605.368	465.567	98.500	.180	.138
17	50.800	3350.000	129.273	15.805	133472.50391	645.942	496.771	98.625	.184	.135
18	.800	3360.000	131.134	17.132	133538.35937	688.156	529.236	98.750	.188	.131
18	10.800	3370.000	133.038	18.421	133608.46680	731.967	562.929	98.873	.193	.127
18	20.800	3380.000	134.986	19.670	133682.97461	777.326	597.813	98.997	.197	.123
18	30.800	3390.000	136.980	20.876	133762.03320	824.187	633.853	99.119	.202	.118
18	40.800	3400.000	139.019	22.036	133845.79492	872.500	671.008	99.242	.206	.114
18	50.800	3410.000	141.107	23.148	133934.39844	922.210	709.239	99.364	.211	.109
19	.800	3420.000	143.242	24.209	134027.97852	973.265	748.503	99.486	.216	.104
19	10.800	3430.000	145.426	25.217	134126.66016	1025.610	788.760	99.607	.221	.098
19	20.800	3440.000	147.658	26.169	134230.57422	1079.186	829.963	99.729	.226	.092
19	30.800	3450.000	149.937	27.062	134339.83789	1133.933	872.067	99.850	.230	.086
19	40.800	3460.000	152.263	27.893	134454.55664	1189.794	915.027	99.971	.235	.080
19	50.800	3470.000	154.634	28.661	134574.84766	1246.703	958.795	100.093	.239	.073
20	.800	3480.000	157.048	29.361	134700.81055	1304.602	1003.322	100.214	.243	.067
20	10.800	3490.000	159.502	29.992	134832.53711	1363.424	1048.560	100.335	.247	.060
20	20.800	3500.000	161.993	30.551	134970.11328	1423.105	1094.459	100.457	.251	.052
20	30.800	3510.000	164.518	31.037	135113.62109	1483.580	1140.968	100.579	.254	.045
20	40.800	3520.000	167.073	31.448	135263.14062	1544.781	1188.036	100.701	.257	.037
20	50.800	3530.000	169.652	31.781	135418.73633	1606.643	1235.612	100.824	.259	.029

25 JUNE

HOUR	MINS	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
21	.800	3540.000	172.251	32.036	135580.46875	1669.099	1283.644	100.947	.261	.022
21	10.800	3550.000	174.864	32.211	135748.39648	1732.080	1332.080	101.071	.262	.014
21	20.800	3560.000	177.486	32.306	135922.56445	1795.519	1380.869	101.195	.262	.005
21	30.800	3570.000	180.111	32.320	136103.01758	1859.348	1429.958	101.319	.262	-.003
21	40.800	3580.000	182.732	32.254	136289.79102	1923.501	1479.295	101.445	.262	-.011
21	50.800	3590.000	185.346	32.108	136482.91602	1987.908	1528.829	101.571	.261	-.019
22	.800	3600.000	187.944	31.882	136682.40820	2052.504	1578.507	101.698	.259	-.027
22	10.800	3610.000	190.523	31.577	136888.28320	2117.223	1628.280	101.825	.257	-.034
22	20.800	3620.000	193.076	31.196	137100.55469	2181.997	1678.095	101.954	.254	-.042
22	30.800	3630.000	195.600	30.739	137319.22266	2246.762	1727.903	102.083	.251	-.049
22	40.800	3640.000	198.090	30.208	137544.28711	2311.453	1777.655	102.213	.247	-.057
22	50.800	3650.000	200.542	29.606	137775.72656	2376.008	1827.302	102.345	.243	-.064
23	.800	3660.000	202.954	28.935	138013.53320	2440.364	1876.796	102.477	.239	-.070
23	10.800	3670.000	205.321	28.197	138257.68555	2504.459	1926.089	102.610	.235	-.077
23	20.800	3680.000	207.643	27.395	138508.15039	2568.234	1975.136	102.745	.230	-.083
23	30.800	3690.000	209.917	26.532	138764.89258	2631.630	2023.892	102.880	.225	-.089
23	40.800	3700.000	212.143	25.609	139027.87500	2694.591	2072.313	103.017	.220	-.095
23	50.800	3710.000	214.320	24.631	139297.05078	2757.061	2120.356	103.155	.215	-.101

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26 JUNE

HOUR	MINS	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
	.800	3720.000	216.447	23.599	139572.37109	2818.986	2167.981	103.294	.210	-.106
	10.800	3730.000	218.525	22.517	139853.77734	2880.315	2215.146	103.435	.205	-.111
	20.800	3740.000	220.554	21.387	140141.20312	2940.995	2261.813	103.576	.200	-.115
	30.800	3750.000	222.535	20.212	140434.59180	3000.981	2307.946	103.719	.196	-.120
	40.800	3760.000	224.469	18.993	140733.86523	3060.225	2353.509	103.863	.191	-.124
	50.800	3770.000	226.357	17.735	141038.95117	3118.682	2398.466	104.009	.187	-.128
1	.800	3780.000	228.201	16.439	141349.77148	3176.312	2442.787	104.156	.182	-.131
1	10.800	3790.000	230.002	15.107	141666.23828	3233.072	2486.439	104.304	.178	-.135
1	20.800	3800.000	231.762	13.741	141988.26758	3288.925	2529.394	104.453	.174	-.138
1	30.800	3810.000	233.484	12.344	142315.76172	3343.835	2571.623	104.604	.170	-.141
1	40.800	3820.000	235.167	10.918	142648.63477	3397.770	2613.103	104.756	.167	-.144
1	50.800	3830.000	236.816	9.465	142986.77930	3450.698	2653.807	104.909	.163	-.147
2	.800	3840.000	238.431	7.985	143330.10742	3502.588	2693.714	105.064	.160	-.149
2	10.800	3850.000	240.015	6.482	143678.50391	3553.416	2732.804	105.219	.157	-.151

SET (5.0 DEG. ELEV.) 26 JUNE 2 HOURS 20.5 MINUTES AZIMUTH 241.527 DEG.

RISE (5.0 DEG. ELEV.) 26 JUNE 19 HOURS 8.6 MINUTES AZIMUTH 120.708 DEG.

19	10.800	4870.000	121.059	5.332	193192.34570	6741.739	5184.829	120.062	.161	.151
19	20.800	4880.000	122.680	6.828	193862.01172	6821.551	5246.209	120.139	.164	.148
19	30.800	4890.000	124.333	8.298	194539.64258	6903.067	5308.900	120.215	.167	.146
19	40.800	4900.000	126.019	9.740	195225.40820	6986.259	5372.880	120.289	.170	.143
19	50.800	4910.000	127.740	11.152	195919.47070	7071.096	5438.125	120.363	.174	.140
20	.800	4920.000	129.499	12.532	196621.98828	7157.546	5504.610	120.435	.178	.136
20	10.800	4930.000	131.296	13.879	197333.11914	7245.569	5572.306	120.507	.182	.133
20	20.800	4940.000	133.134	15.189	198053.02148	7335.128	5641.183	120.577	.186	.129
20	30.800	4950.000	135.013	16.460	198781.84375	7426.181	5711.208	120.647	.190	.125
20	40.800	4960.000	136.936	17.691	199519.72461	7518.686	5782.350	120.716	.195	.121
20	50.800	4970.000	138.904	18.879	200266.81641	7612.593	5854.571	120.783	.199	.117
21	.800	4980.000	140.917	20.020	201023.24219	7707.858	5927.835	120.850	.204	.112
21	10.800	4990.000	142.977	21.114	201789.13867	7804.426	6002.103	120.916	.208	.107
21	20.800	5000.000	145.083	22.156	202564.63672	7902.246	6077.333	120.982	.213	.102
21	30.800	5010.000	147.237	23.144	203349.85937	8001.263	6153.483	121.046	.218	.096
21	40.800	5020.000	149.436	24.076	204144.90430	8101.420	6230.510	121.110	.222	.090

MA

26 JUNE

HOUR	MINS	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
21	50.800	5030.000	151.682	24.949	204949.90234	8202.659	6308.369	121.174	.227	.084
22	.800	5040.000	153.973	25.760	205764.95117	8304.916	6387.012	121.237	.231	.078
22	10.800	5050.000	156.307	26.506	206590.14258	8408.132	6466.391	121.299	.235	.071
22	20.800	5060.000	158.682	27.185	207425.56836	8512.241	6546.458	121.361	.239	.065
22	30.800	5070.000	161.096	27.795	208271.31641	8617.178	6627.161	121.422	.243	.057
22	40.800	5080.000	163.545	28.334	209127.46484	8722.877	6708.450	121.483	.247	.050
22	50.800	5090.000	166.027	28.798	209994.08984	8829.270	6790.273	121.543	.250	.043
23	.800	5100.000	168.536	29.187	210871.25195	8936.287	6872.576	121.603	.252	.035
23	10.800	5110.000	171.070	29.498	211759.00781	9043.859	6955.306	121.662	.254	.027
23	20.800	5120.000	173.622	29.731	212657.40625	9151.914	7038.407	121.722	.256	.019
23	30.800	5130.000	176.188	29.885	213566.49805	9260.381	7121.825	121.781	.257	.011
23	40.800	5140.000	178.763	29.957	214486.32227	9369.188	7205.505	121.839	.258	.003
23	50.800	5150.000	181.340	29.949	215416.90234	9478.262	7289.389	121.898	.258	-.005

MA

27 JUNE

HOUR	MINS	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
	.800	5160.000	183.916	29.861	216358.26367	9587.530	7373.424	121.956	.257	-.013
	10.800	5170.000	186.483	29.691	217310.41797	9696.920	7457.552	122.014	.256	-.021
	20.800	5180.000	189.037	29.442	218273.39062	9806.359	7541.717	122.072	.255	-.029
	30.800	5190.000	191.572	29.113	219247.15430	9915.773	7625.863	122.129	.252	-.037
	40.800	5200.000	194.084	28.707	220231.72461	10025.090	7709.935	122.187	.250	-.044
	50.800	5210.000	196.569	28.224	221227.08008	10134.237	7793.876	122.244	.247	-.052
1	.800	5220.000	199.022	27.667	222233.20703	10243.143	7877.632	122.301	.244	-.059
1	10.800	5230.000	201.439	27.038	223250.07812	10351.737	7961.148	122.359	.240	-.067
1	20.800	5240.000	203.818	26.338	224277.63867	10459.948	8044.369	122.416	.236	-.073
1	30.800	5250.000	206.157	25.570	225315.87891	10567.709	8127.244	122.473	.232	-.080
1	40.800	5260.000	208.452	24.736	226364.71875	10674.948	8209.717	122.530	.227	-.087
1	50.800	5270.000	210.703	23.840	227424.13086	10781.600	8291.740	122.587	.223	-.093
2	.800	5280.000	212.908	22.883	228494.03906	10887.601	8373.261	122.643	.218	-.099
2	10.800	5290.000	215.066	21.868	229574.39453	10992.883	8454.230	122.700	.214	-.104
2	20.800	5300.000	217.179	20.798	230665.08984	11097.387	8534.600	122.757	.209	-.110
2	30.800	5310.000	219.244	19.675	231766.06836	11201.049	8614.323	122.814	.204	-.115
2	40.800	5320.000	221.264	18.503	232877.23828	11303.812	8693.354	122.870	.200	-.120
2	50.800	5330.000	223.238	17.283	233998.50781	11405.618	8771.650	122.927	.195	-.124
3	.800	5340.000	225.167	16.019	235129.79883	11506.413	8849.167	122.984	.191	-.129
3	10.800	5350.000	227.054	14.712	236270.97266	11606.140	8925.864	123.040	.187	-.133
3	20.800	5360.000	228.899	13.364	237421.93750	11704.752	9001.703	123.097	.182	-.137
3	30.800	5370.000	230.703	11.979	238582.58789	11802.198	9076.645	123.153	.178	-.140
3	40.800	5380.000	232.469	10.559	239752.80273	11898.433	9150.656	123.210	.175	-.144
3	50.800	5390.000	234.199	9.104	240932.47656	11993.413	9223.702	123.266	.171	-.147
4	.800	5400.000	235.893	7.618	242121.44336	12087.098	9295.751	123.323	.168	-.150

ELAPSED TIME .0217

27 JUNE

RISE (5.0 DEG. ELEV. 27 JUNE 15 HOURS 5.5 MINUTES AZIMUTH 108.813 DEG.

HOUR	MINS	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	FL RATE DEG/MIN
15	9.878	660.000	109.545	5.764	203237.14648	3375.079	2595.651	13.744	.167	.172
15	19.878	670.000	111.228	7.458	203551.36523	2956.371	2273.638	13.649	.169	.167
15	29.878	680.000	112.932	9.108	203816.33984	2393.882	1841.048	13.528	.172	.163
15	39.878	690.000	114.661	10.718	204021.73047	1757.454	1351.595	13.390	.174	.159
VEHICLE IS ECLIPSED BY THE MOON.										
16	59.878	770.000	129.753	22.413	203165.62109	-4017.445	-3089.672	12.130	.207	.135
17	9.878	780.000	131.857	23.748	202735.15430	-4684.154	-3602.414	12.012	.214	.132
17	19.878	790.000	134.030	25.063	202245.62500	-5191.137	-3992.316	11.922	.221	.131
17	29.878	800.000	136.279	26.363	201721.44922	-5341.416	-4107.891	11.871	.229	.129
17	39.878	810.000	138.618	27.652	201213.62305	-4791.290	-3684.808	11.868	.239	.128
17	49.878	820.000	141.056	28.928	200811.04883	-3167.469	-2435.986	11.917	.249	.126
17	59.878	830.000	143.593	30.170	200619.65234	-619.823	-476.684	12.005	.258	.121
18	9.878	840.000	146.209	31.341	200685.85352	1853.037	1425.104	12.094	.265	.112
18	19.878	850.000	148.881	32.407	200954.44922	3413.776	2625.412	12.151	.269	.101
18	29.878	860.000	151.595	33.357	201329.25195	4048.860	3113.832	12.163	.273	.089
18	39.878	870.000	154.342	34.192	201734.27344	4079.894	3137.700	12.133	.276	.078
18	49.878	880.000	157.121	34.918	202124.04297	3774.747	2903.022	12.068	.279	.067
18	59.878	890.000	159.930	35.539	202473.94141	3291.152	2531.106	11.976	.282	.057
19	9.878	900.000	162.766	36.059	202770.91602	2712.663	2086.212	11.863	.285	.047
19	19.878	910.000	165.625	36.481	203007.93945	2081.805	1601.041	11.735	.287	.037
VEHICLE IS ECLIPSED BY THE MOON.										

ELAPSED TIME .0117

MA

27 JUNE

RISE (5.0 DEG. ELEV. 27 JUNE 20 HOURS .8 MINUTES AZIMUTH 177.593 DEG.

HOUR	MINS	T-ST	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGREES	AZ RATE DEG/MIN	EL RATE DEG/MIN
20	50.789	50.000	192.118	36.156	202913.52734	-2579.669	-1983.931	86.672	.284	-.045
21	.789	60.000	194.949	35.667	202624.15234	-3274.306	-2518.150	86.554	.282	-.053
21	10.789	70.000	197.762	35.100	202269.17578	-3894.378	-2995.026	86.458	.281	-.061
21	20.789	80.000	200.562	34.457	201861.64258	-4306.182	-3311.730	86.394	.280	-.068
21	30.789	90.000	203.362	33.740	201435.02734	-4211.177	-3238.664	86.374	.280	-.075
21	40.789	100.000	206.169	32.949	201064.16797	-3074.305	-2364.337	86.411	.281	-.083
21	50.789	110.000	208.977	32.081	200876.08594	-522.017	-401.464	86.501	.280	-.091
22	.789	120.000	211.739	31.127	200978.28906	2523.840	1940.995	86.608	.272	-.100
22	10.789	130.000	214.396	30.084	201338.25781	4531.844	3485.278	86.683	.259	-.108
22	20.789	140.000	216.922	28.970	201830.89258	5274.201	4056.198	86.703	.246	-.115
22	30.789	150.000	219.323	27.785	202354.84961	5250.711	4038.133	86.674	.234	-.122
22	40.789	160.000	221.613	26.541	202855.86719	4857.113	3735.430	86.604	.224	-.127
22	50.789	170.000	223.807	25.245	203308.66211	4296.301	3304.130	86.506	.215	-.132
23	.789	180.000	225.917	23.901	203701.92578	3661.410	2815.859	86.386	.207	-.137

VEHICLE IS ECLIPSED BY THE MOON.

28 JUNE

HOUR	MIN	T-SI	AZIMUTH DEGREES	ELEVATION DEGREES	RANGE NAUT MILES	RANGE RATE FT/SEC	DELTA F CPS	LOOK ANGLE DEGRFFS	AZ RATE DFG/MIN	FL RATE DEG/MIN
	20.789	260.000	240.674	11.860	204395.03125	-2028.618	-1560.137	85.178	.169	-.162
	30.789	270.000	242.353	10.222	204159.67187	-2749.157	-2114.277	85.052	.167	-.165
	40.789	280.000	244.023	8.555	203855.18359	-3369.746	-2591.550	84.951	.167	-.168
	50.789	290.000	245.695	6.857	203501.95898	-3714.380	-2856.596	84.884	.168	-.171
1	.789	300.000	247.385	5.125	203142.98242	-3401.576	-2616.029	84.865	.170	-.175

SET (5.0 DEG. ELEV.) 28 JUNE 1 HOURS 1.5 MINUTES AZIMUTH 247.494 DEG.

RISE (5.0 DEG. ELEV. 28 JUNE 16 HOURS 17.9 MINUTES AZIMUTH 116.786 DEG.

16	20.789	1220.000	117.273	5.461	205961.01562	1822.186	1401.378	75.624	.167	.156
16	30.789	1230.000	118.957	7.004	206110.65820	1202.524	924.818	75.478	.170	.152
VEHICLE IS ECLIPSED BY THE MOON.										
17	40.789	1300.000	131.592	16.869	205224.81836	-4022.863	-3093.839	74.355	.194	.131
17	50.789	1310.000	133.562	18.164	204786.90234	-4835.311	-3718.664	74.229	.200	.129
18	.789	1320.000	135.592	19.442	204274.53125	-5498.814	-4228.939	74.134	.206	.127
18	10.789	1330.000	137.693	20.712	203715.43359	-5708.965	-4390.559	74.083	.214	.127
18	20.789	1340.000	139.881	21.980	203180.92969	-4885.926	-3757.590	74.092	.224	.127
18	30.789	1350.000	142.164	23.240	202801.19141	-2572.079	-1978.094	74.162	.233	.125
18	40.789	1360.000	144.532	24.459	202696.02930	412.419	317.177	74.261	.240	.118
18	50.789	1370.000	146.955	25.593	202854.31641	2592.068	1993.466	74.342	.244	.108
19	.789	1380.000	149.411	26.620	203169.62891	3630.419	2792.025	74.379	.247	.097
19	10.789	1390.000	151.892	27.540	203546.19922	3903.094	3001.729	74.371	.249	.087
19	20.789	1400.000	154.397	28.358	203926.88867	3758.563	2890.575	74.325	.252	.077
19	30.789	1410.000	156.926	29.080	204281.34961	3394.970	2610.949	74.249	.254	.068
19	40.789	1420.000	159.477	29.711	204593.49219	2912.723	2240.070	74.150	.256	.059
19	50.789	1430.000	162.049	30.252	204854.30664	2361.098	1815.835	74.033	.258	.050
20	.789	1440.000	164.641	30.707	205058.25781	1763.398	1356.165	73.902	.260	.041
VEHICLE IS ECLIPSED BY THE MOON.										
21	10.789	1510.000	183.114	31.577	204584.27344	-3423.783	-2633.108	72.888	.267	-.015
21	20.789	1520.000	185.787	31.390	204206.21680	-4215.326	-3241.855	72.780	.268	-.022
21	30.789	1530.000	188.478	31.131	203758.60156	-4789.572	-3683.487	72.707	.271	-.029
21	40.789	1540.000	191.202	30.802	203280.07812	-4749.832	-3652.924	72.683	.274	-.036
21	50.789	1550.000	193.969	30.402	202862.11133	-3456.308	-2658.122	72.721	.279	-.044
22	.789	1560.000	196.766	29.921	202645.69531	-759.636	-584.209	72.813	.280	-.053

APPENDIX B

NOMINAL TRAJECTORY DATA

Table B-1 presents selected parameters from the nominal reference trajectory used in the TON-4 study. Since, by definition, the nominal trajectory does not execute any midcourse maneuvers these event times are not presented in the table. The parameters selected, correspond to those for which statistical data have been given for the 30 dispersed samples.

Table B-2 presents the injection covariance matrix as provided in Reference 6 for the S-110 reference trajectory specified for this study.

TABLE B-1

SELECTED TRAJECTORY DATA FOR TON-4

NOMINAL

Event	Time From Translunar Injection (sec)	CARTESIAN STATE VECTOR					
		X (km)	Y (km)	Z (km)	\dot{X} (km/sec)	\dot{Y} (km/sec)	\dot{Z} (km/sec)
1*	0.0	5534.8005	3475.2115	604.80262	-4.2202660	8.3838742	-5.6008610
6	323981.05	992.93655	1989.25902	330.74058	-2.0180856	0.92839091	0.56249086
7	324544.70	-2.4996068	2357.7613	535.72701	-1.4544514	0.38402820	0.14684922
8	381581.04	-3587.9431	-55.930437	2.0543389	0.01476658	-0.95539198	-0.22093483
9	381599.35	-3587.6134	-72.967187	-1.93556705	0.02165038	-0.92806307	-0.21464540
10	387827.38	1784.0976	-0.37410159	-0.00000099	0.00038065	1.8670384	0.43198011
11	400319.51	1783.2138	-64.217158	-0.00000169	0.06443415	1.8656725	0.43210367
12	412811.62	1780.1008	-127.91322	0.00000064	0.12830741	1.8620797	0.43220734
13	425303.70	1774.7608	-191.47329	0.00000024	0.19201406	1.8562650	0.43229122
14	437795.77	1767.1883	-254.88712	-0.00000040	0.25554538	1.8482269	0.43235594
15	450287.79	1757.4021	-317.97415	0.00000345	0.31871527	1.8379875	0.43240190
16	462779.77	1745.3965	-380.74454	-0.00000178	0.38153742	1.8255458	0.43242968
17	475271.70	1731.2039	-443.02008	0.00000139	0.44382847	1.8109385	0.43244010
18	487763.60	1714.8078	-504.85046	0.00000071	0.50564446	1.7941536	0.43243367
19	500255.45	1696.2571	-566.03775	0.00000284	0.56678260	1.7752451	0.43241112

*Event 1 is in an ECI (true of date) coordinate system
Events 6-19 are selenographic

TABLE B-1 (cont'd)
 SELECTED TRAJECTORY DATA FOR TON-4

Event	Semi-Major Axis (km)	Eccentricity	Inclination (deg)	Ascending Node (deg)	Argument of Perifocus (deg)	Mean Anomaly (deg)	Spacecraft Weight (lb)	Sun Look Angle (deg)	ACXI (deg)	DLXI (deg)
1*	199837.08	0.96719382	31.597135	220.77666	165.98719	0.01646349	850.0	---	---	---
6	-5517.2640	1.4073953	16.587773	33.513797	30.472847	Undefined	850.0	79.644878	24.437493	-15.895984
7	2768.3716	0.29650390	12.9985847	10.226290	-1.3160629	49.359806	648.21330	79.650208	24.437493	-15.895984
8	2768.7081	0.29604841	13.019333	1.0349411	-0.14561081	180.00000	648.21330	27.447837	125.74796	31.331842
9	2686.8048	0.33555799	13.019330	1.0314971	-0.17936707	180.59939	641.65512	27.447648	125.74796	31.331842
10	2688.4466	0.33638349	13.027394	359.98798	0.00128555	359.99939	---	---	---	---
11	2688.4432	0.33628421	13.032717	357.93755	0.32683945	359.84711				
12	2688.4372	0.33617141	13.037732	355.88994	0.65168762	359.69507				
13	2688.4279	0.33604526	13.042439	353.84236	0.97572327	359.54330				
14	2688.4159	0.33590639	13.046849	351.79265	1.2989197	359.39178				
15	2688.4008	0.33575495	13.050968	349.74419	1.6212120	359.24055				
16	2688.3836	0.33559185	13.054803	347.69415	1.9425049	359.08962				
17	2688.3633	0.33541716	13.058372	345.64589	2.2628136	358.93898				
18	2688.3401	0.33523162	13.061680	343.59523	2.5820427	358.78866				
19	2688.3145	0.33503579	13.064741	341.54624	2.9001579	358.63866				

*Classical orbital elements for:

Event 1 is in an ECI coordinate system (true of date)

Events 6-19 are selenographic

ACXI, DLXI, are selenocentric (inertial)

TABLE B-1 (cont'd)
 SELECTED TRAJECTORY DATA FOR TON-4

Event	Sensed Velocity (ft/sec)	Total Fuel Used to Date (lb)	V/H (rad/sec)	Resolution (m)	Longitude* (deg)	Altitude (km)	Side Overlap (km)	Mutual Earth Sun Visibility (sec)
7	2441.5120	201.78670	---	---	90.060743	679.77019	---	---
9	91.608344	208.34488	---	---	181.16516	1850.2658	---	---
10	---	---	0.04155514	1.0001662	359.98798	46.007645	---	5691.0155
11			0.04130608	1.0060803	357.93755	46.279694	23.487641	5817.9375
12			0.04101591	1.0130575	355.88994	46.600647	23.742670	5944.8594
13			0.04068715	1.0210790	353.84236	46.969635	24.018329	6071.9610
14			0.04032284	1.0301159	351.79265	47.385330	24.318063	6199.0703
15			0.03992589	1.0401449	349.74419	47.846664	24.678695	6326.0625
16			0.03949963	1.0511332	347.69415	48.352127	25.056814	6452.7735
17			0.03904735	1.0630476	345.64589	48.900192	25.493457	6579.0547
18			0.03857234	1.0758544	343.59523	49.489304	25.935776	6704.7656
19			0.03807788	1.0895167	341.54624	50.117767	26.438856	6829.7656

*Selenographic

TABLE B-2
S-110 REFERENCE TRAJECTORY STATE COVARIANCE MATRIX*

	X	Y	Z	\dot{X}	\dot{Y}	\dot{Z}
X	0.18511408E 03	-0.19614099E 03	0.41609889E 02	-0.12699362E-01	-0.14596668E-00	-0.76364507E-01
Y	-0.19614099E 03	0.32380489E 03	-0.83077575E 02	0.17685748E-00	0.19942808E-00	0.13980903E-00
Z	0.41609886E 02	-0.83077572E 02	0.36900124E 03	-0.23706642E-00	0.18063381E-01	0.26717748E-00
\dot{X}	-0.12699362E-01	0.17685748E-00	-0.23706642E-00	0.47901167E-03	-0.54901133E-04	-0.30896133E-03
\dot{Y}	-0.14596668E-00	0.19942808E-00	0.18063381E-01	-0.54901136E-04	0.33505778E-03	0.48563853E-03
\dot{Z}	-0.76364507E-01	0.13980903E-00	0.26717748E-00	-0.30896133E-03	0.48563852E-03	0.10221869E-02

*ECI (true equinox and equator of date). Units are kilometers and seconds.

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