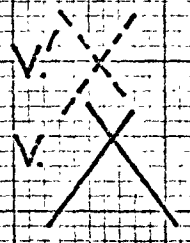


A 201



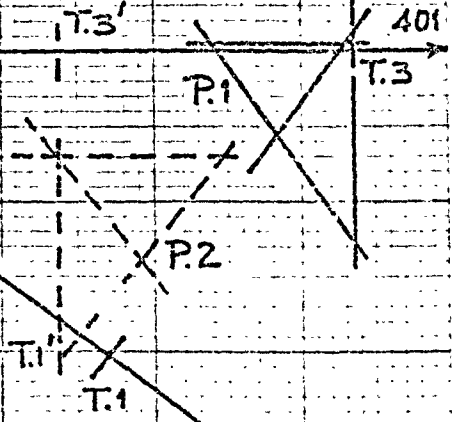
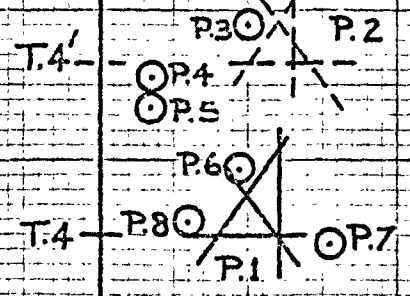
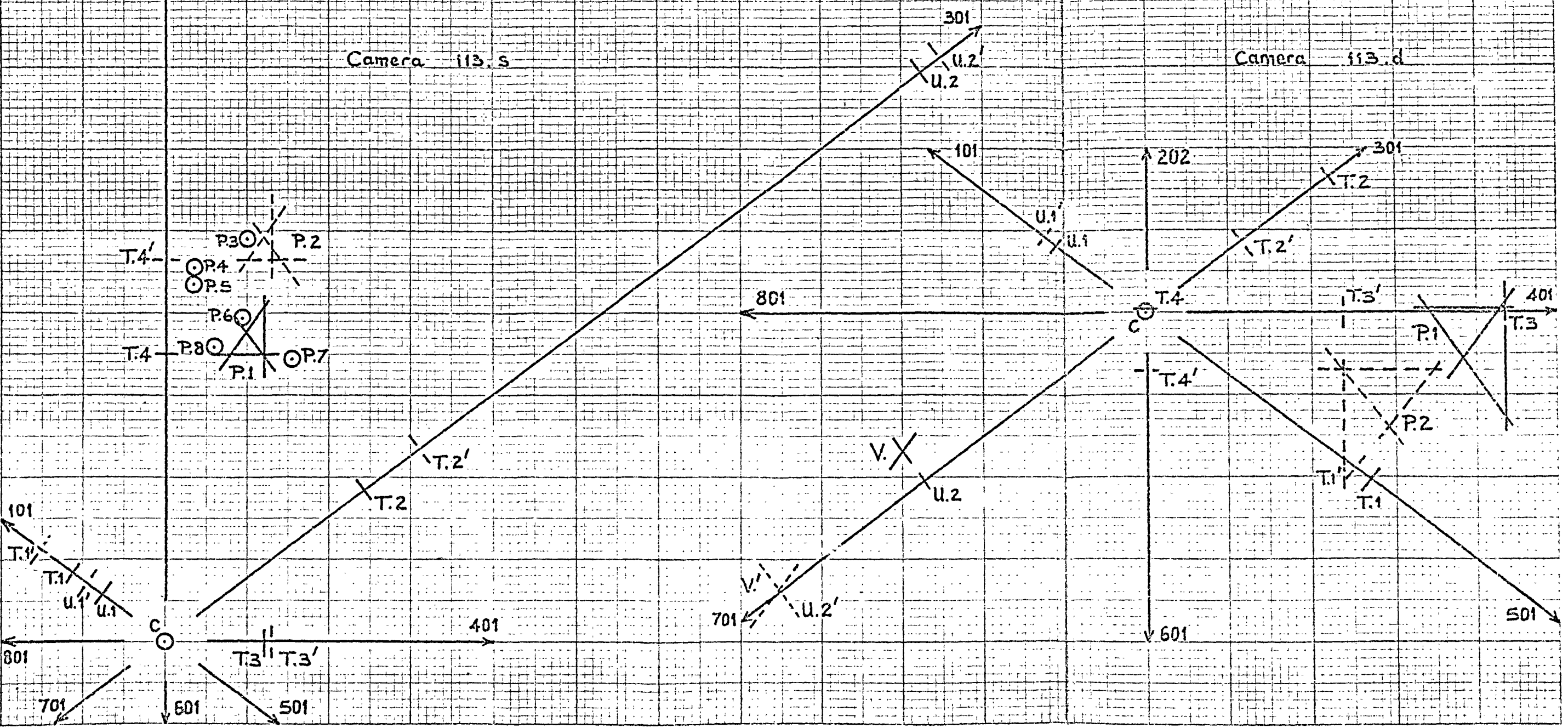
Location of principal points:

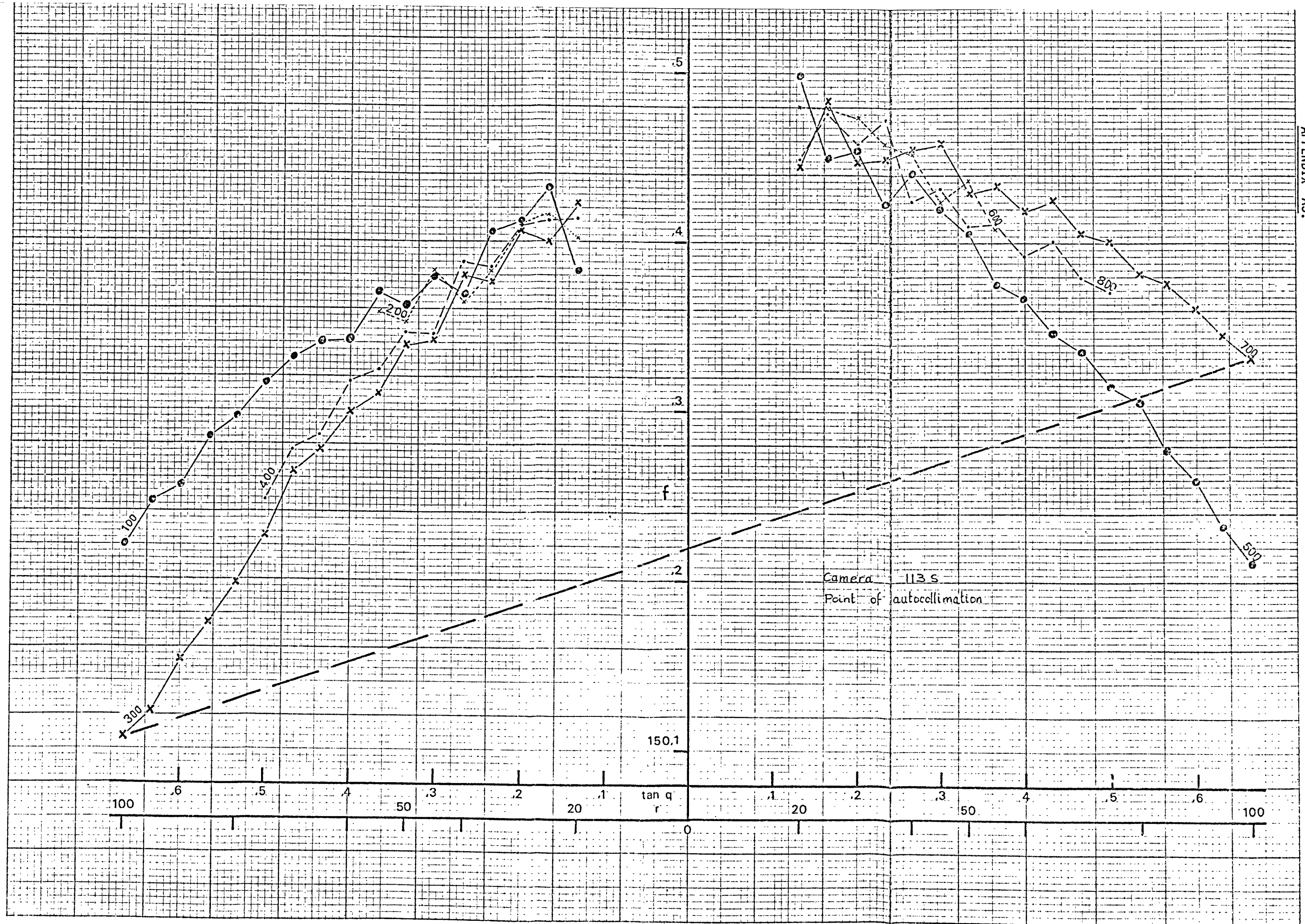
- P₁ = point of autocollimation
- C = centre of fiducial marks
- V = chosen origin of symmetry
- P₂, V' = second calibration

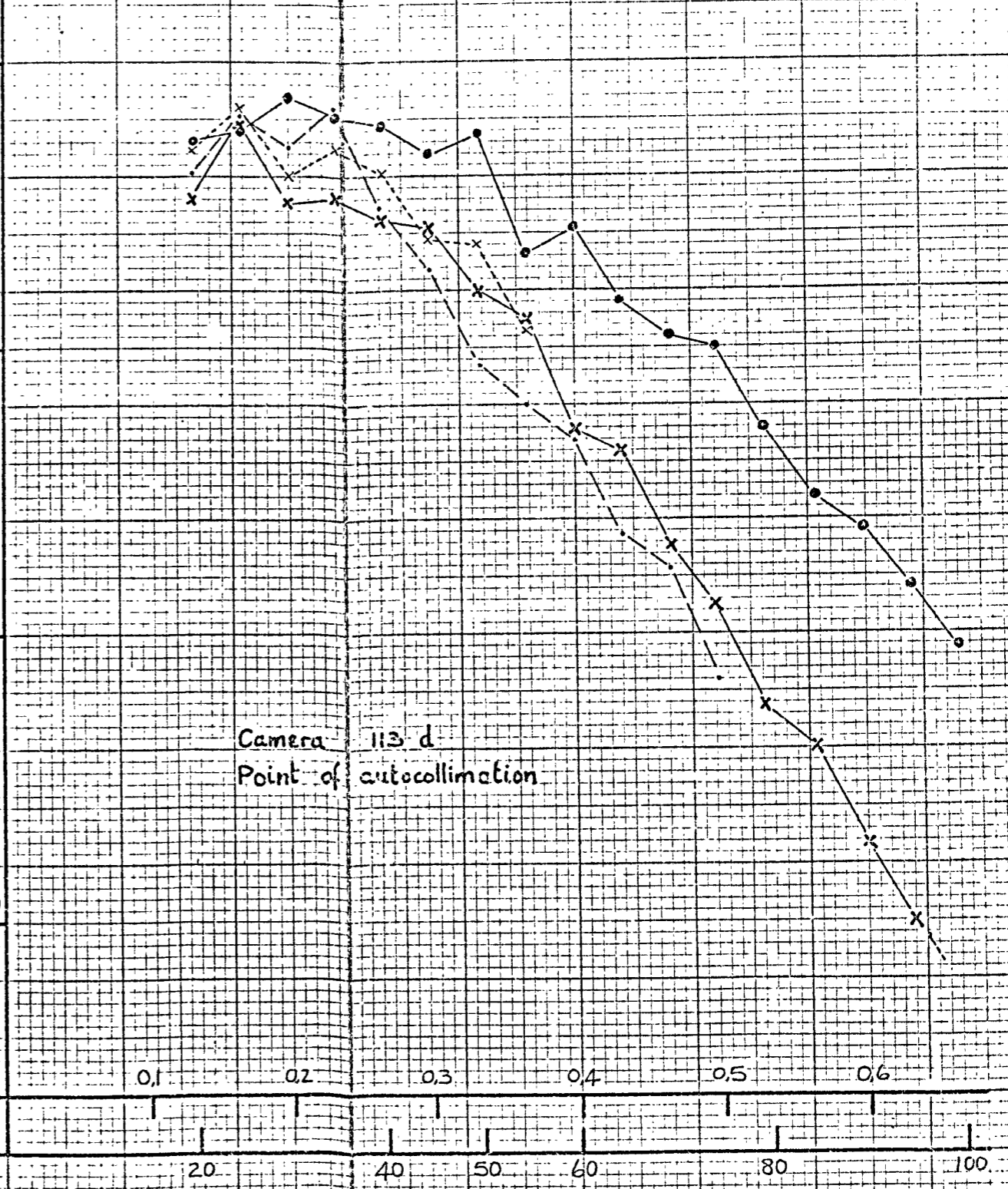
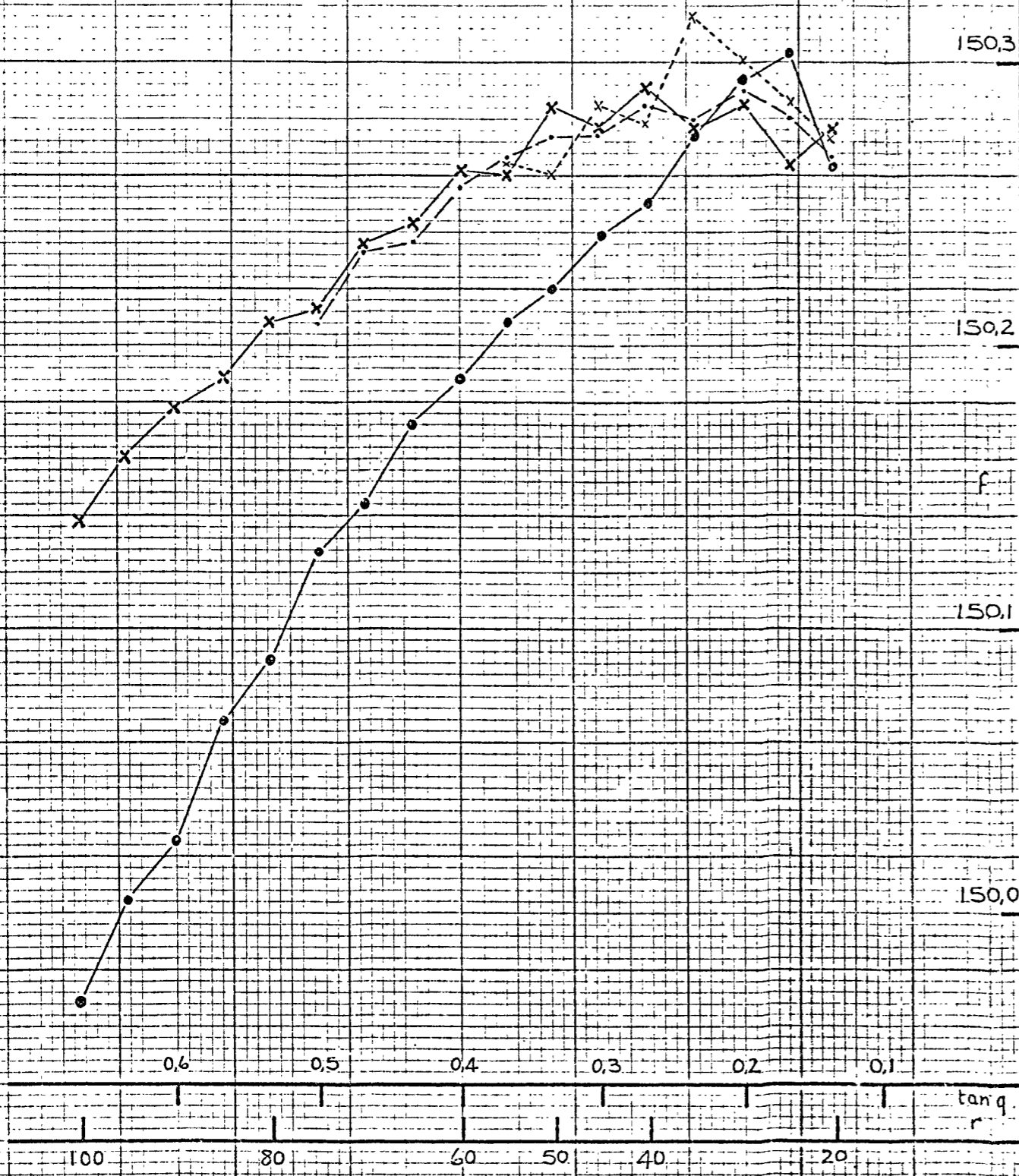
Scale 1mm = 1μm.

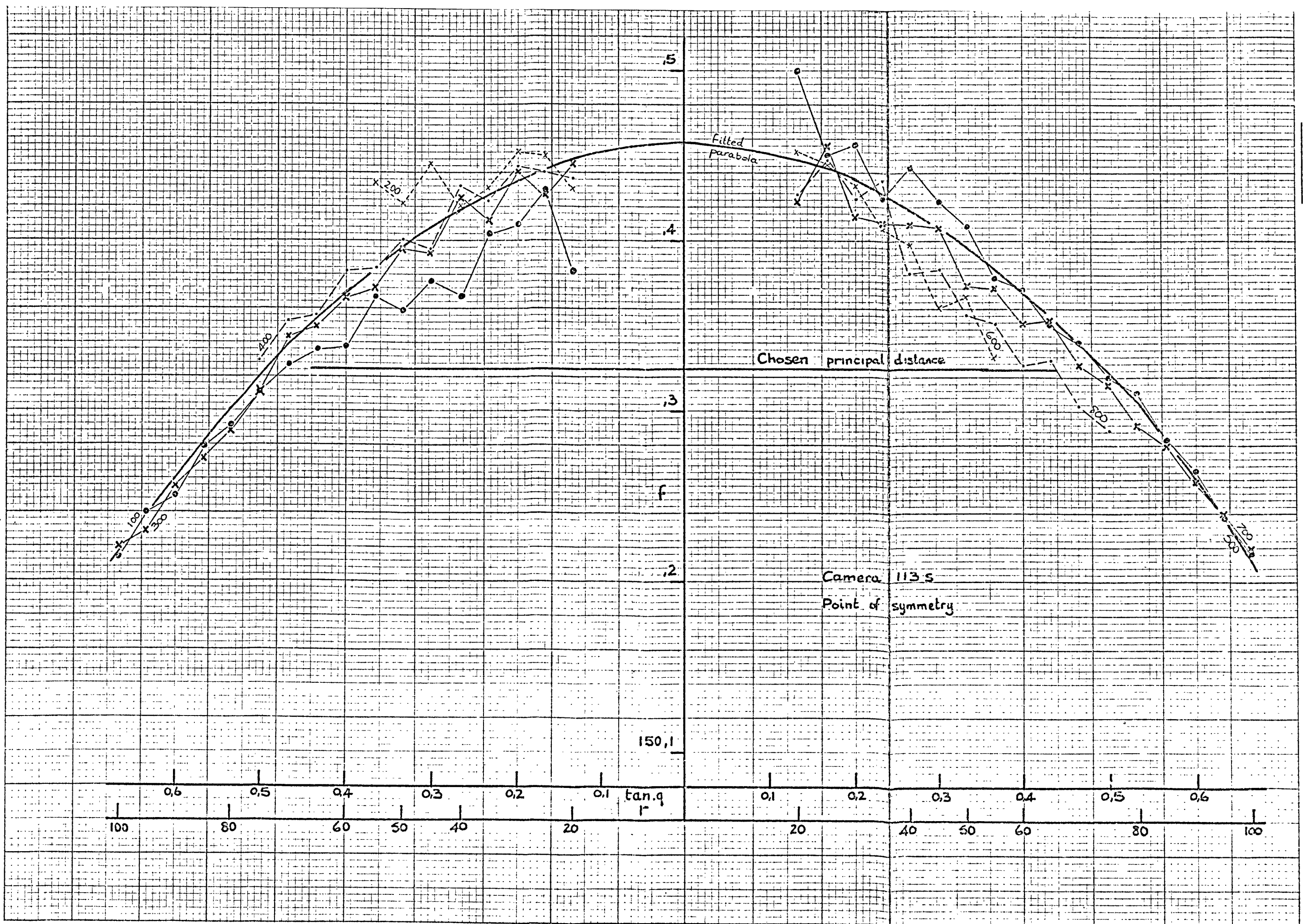
Camera 113.s

Camera 113.d









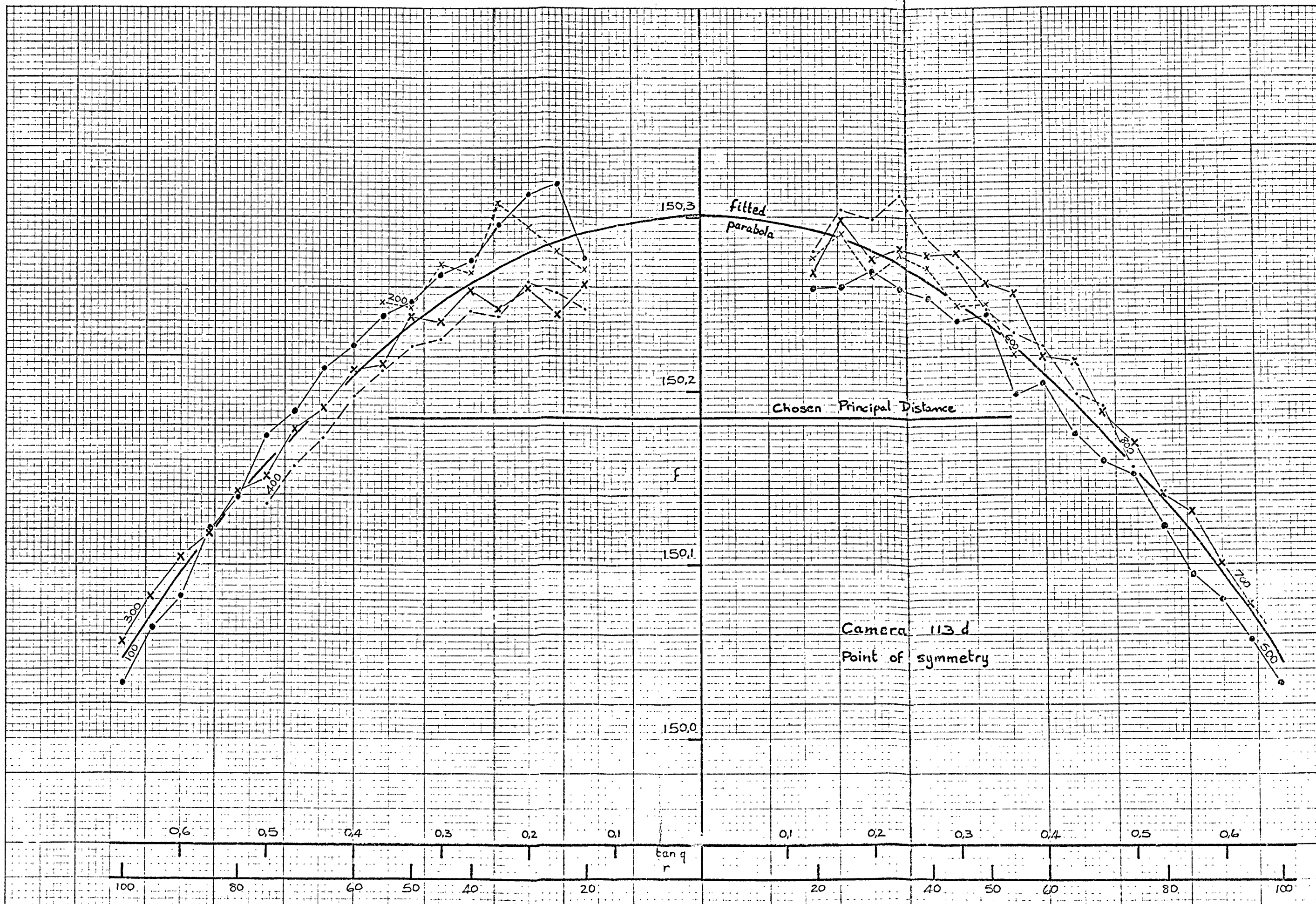


PLATE -14 NOMINAL P.D. 166.23 APPROX. DIST. TO 1ST WIRE 1.175

DEFINED P.P. 200.499 200.185 SELECTED P.P. 200.727

PLATE Y COORD. OF IMAGE LINES 200.576 200.371 200.187 200.061 199.789

PRINCIPAL POINT ON WIRES 3.10776 3.10884 3.11023 3.11236 3.11458
 RESIDUALS OF FITTED LINE -0.01 -0.03 0.04 0.01 -0.02 STD. DEVIATION 0.03 SLOPE 0.007082

POINTS	CONSTANTS OF UPPER AND LOWER RADIAL LINES				COORDINATES OF S		RESIDUALS OF LINE HEIGHTS					STD.DEV.
	M'	M''	N'	N''	L	H						
1 13	0.588088	3.79033	-0.590600	2.40533	-1.17503	3.09931	0.05	-0.08	0.06	-0.07	0.04	0.07
							-0.01	0.03	-0.03	0.03	-0.01	0.03
2 12	0.540478	3.73414	-0.543406	2.46105	-1.17456	3.09932	-0.14	0.08	0.14	-0.06	-0.02	0.11
							-0.05	0.01	0.05	0.01	-0.03	0.04
3 11	0.482311	3.66578	-0.484081	2.53085	-1.17440	3.09936	-0.09	0.03	0.11	-0.02	-0.03	0.07
							-0.14	0.12	0.00	0.10	-0.09	0.11
4 10	0.391498	3.55912	-0.394398	2.63649	-1.17399	3.09950	-0.08	0.02	0.07	0.07	-0.08	0.08
							-0.03	0.03	-0.03	0.06	-0.04	0.04
5 9	0.300257	3.45165	-0.301826	2.74508	-1.17355	3.09928	-0.04	0.01	0.06	-0.04	0.00	0.04
							-0.03	0.02	0.01	0.01	-0.01	0.02
6 8	0.180248	3.31092	-0.183121	2.88443	-1.17371	3.09936	-0.05	0.04	0.02	0.01	-0.02	0.03
							0.00	0.02	-0.01	-0.03	0.02	0.02

WEIGHTED MEAN COORDINATES OF S -1.17437 3.09935 SLOPE OF AXIS 1460.7 SECONDS
 INCREMENTS 0.00063 3.09935 ITERATION 1
 HT. BY EXTENSION OF AXIS EQUATION 3.09943

PRINCIPAL POINT ON WIRES 3.10775 3.10884 3.11022 3.11235 3.11457
 RESIDUALS OF FITTED LINE -0.01 -0.03 0.04 0.01 -0.02 STD. DEVIATION 0.03 SLOPE 0.007082

POINTS	CONSTANTS OF UPPER AND LOWER RADIAL LINES				COORDINATES OF S		RESIDUALS OF LINE HEIGHTS					STD.DEV.
	M'	M''	N'	N''	L	H						
1 13	0.588085	3.79033	-0.590597	2.40533	-1.17504	3.09931	0.05	-0.08	0.06	-0.07	0.04	0.07
							-0.01	0.03	-0.03	0.03	-0.01	0.03
2 12	0.540476	3.73414	-0.543404	2.46105	-1.17457	3.09932	-0.14	0.08	0.14	-0.06	-0.02	0.11
							-0.05	0.01	0.05	0.01	-0.03	0.04
3 11	0.482308	3.66578	-0.484080	2.53085	-1.17441	3.09936	-0.09	0.03	0.11	-0.02	-0.03	0.07
							-0.14	0.12	0.00	0.10	-0.09	0.12
4 10	0.391496	3.55912	-0.394395	2.63649	-1.17400	3.09950	-0.08	0.02	0.07	0.07	-0.08	0.08
							-0.03	0.03	-0.03	0.06	-0.04	0.04
5 9	0.300256	3.45165	-0.301826	2.74508	-1.17355	3.09928	-0.04	0.01	0.06	-0.04	0.00	0.04
							-0.03	0.02	0.01	0.01	-0.02	0.02
6 8	0.180247	3.31092	-0.183121	2.88443	-1.17372	3.09936	-0.05	0.04	0.02	0.01	-0.02	0.03
							-0.00	0.02	-0.01	-0.03	0.02	0.02

WEIGHTED MEAN COORDINATES OF S -1.17437 3.09935 SLOPE OF AXIS 1460.8 SECONDS
 INCREMENTS -0.00001 0.00000 ITERATION 2
 HT. BY EXTENSION OF AXIS EQUATION 3.09943
 SEC.SQD.W = 1.000050 TAN.W = 0.007082

PLATE 31 NOMINAL P.D. 161.33 APPROX. DIST. TO 1ST WIRE 1.790

DEFINED P.P. 199.514 199.126 SELECTED P.P. 199.799

PLATE Y COORD. OF IMAGE LINES 200.166 200.078 199.939 199.860 199.764

PRINCIPAL POINT ON WIRES 3.55668 3.55564 3.55455 3.55308 3.55106
 RESIDUALS OF FITTED LINE 0.02 0.02 -0.01 -0.07 0.05

STD. DEVIATION 0.04 SLOPE -0.003747

POINTS	CONSTANTS OF UPPER AND LOWER RADIAL LINES				COORDINATES OF S		RESIDUALS OF LINE HEIGHTS					STD.DEV.
	M'	M''	N'	N''	L	H						
1 13	0.606294	4.64866	-0.609142	2.47235	-1.79056	3.56305	0.03	0.06	-0.15	0.04	0.02	0.08
							-0.05	0.00	0.04	0.06	-0.06	0.05
2 12	0.557948	4.56190	-0.561302	2.55861	-1.78985	3.56326	0.04	-0.07	-0.01	0.07	-0.03	0.06
							-0.04	0.11	-0.07	-0.03	0.03	0.07
3 11	0.494370	4.44820	-0.497604	2.67245	-1.79011	3.56322	0.01	0.02	0.02	-0.10	0.06	0.06
							-0.06	-0.00	0.08	0.04	-0.06	0.06
4 10	0.402913	4.28438	-0.406085	2.83645	-1.78978	3.56325	-0.07	0.10	-0.01	-0.02	-0.00	0.06
							0.01	-0.05	0.03	0.04	-0.03	0.04
5 9	0.308573	4.11563	-0.312052	3.00479	-1.78987	3.56332	-0.03	0.02	0.07	-0.07	0.02	0.05
							-0.01	0.03	-0.02	-0.00	0.00	0.02
6 8	0.185447	3.89510	-0.189052	3.22500	-1.78930	3.56328	-0.04	0.06	0.03	-0.07	0.03	0.06
							-0.06	0.04	0.02	0.05	-0.05	0.05

WEIGHTED MEAN COORDINATES OF S -1.79002 3.56321 SLOPE OF AXIS -772.9 SECONDS
 INCREMENTS -0.00002 3.55321 ITERATION 1
 HT. BY EXTENSION OF AXIS EQUATION 3.56341

PRINCIPAL POINT ON WIRES 3.55668 3.55564 3.55455 3.55308 3.55106
 RESIDUALS OF FITTED LINE 0.02 0.02 -0.01 -0.07 0.05

STD. DEVIATION 0.04 SLOPE -0.003747

POINTS	CONSTANTS OF UPPER AND LOWER RADIAL LINES				COORDINATES OF S		RESIDUALS OF LINE HEIGHTS					STD.DEV.
	M'	M''	N'	N''	L	H						
1 13	0.606294	4.64866	-0.609142	2.47235	-1.79056	3.56305	0.03	0.06	-0.15	0.04	0.02	0.08
							-0.05	0.00	0.04	0.06	-0.06	0.05
2 12	0.557948	4.56190	-0.561302	2.55861	-1.78985	3.56326	0.04	-0.07	-0.01	0.07	-0.03	0.06
							-0.04	0.11	-0.07	-0.03	0.03	0.07
3 11	0.494370	4.44820	-0.497604	2.67245	-1.79011	3.56322	0.01	0.02	0.02	-0.10	0.06	0.06
							-0.06	-0.00	0.08	0.04	-0.06	0.06
4 10	0.402913	4.28438	-0.406085	2.83645	-1.78978	3.56325	-0.07	0.10	-0.01	-0.02	-0.00	0.06
							0.01	-0.05	0.03	0.04	-0.03	0.04
5 9	0.308573	4.11563	-0.312052	3.00479	-1.78987	3.56332	-0.03	0.02	0.07	-0.07	0.02	0.05
							-0.01	0.03	-0.02	-0.00	0.00	0.02
6 8	0.185447	3.89510	-0.189052	3.22500	-1.78930	3.56328	-0.04	0.06	0.03	-0.07	0.03	0.06
							-0.06	0.04	0.02	0.05	-0.05	0.05

WEIGHTED MEAN COORDINATES OF S -1.79002 3.56321 SLOPE OF AXIS -772.9 SECONDS
 INCREMENTS 0.00000 0.00000 ITERATION 2
 HT. BY EXTENSION OF AXIS EQUATION 3.56341

SEC.SQD.W = 1.000014 TAN.W = -0.003747

CAMERA 113S DIAGONAL 500-100 OBJECT DISTANCE 1.6M

PLATE 13 NOMINAL P.D. 166.23 APPROX. DIST. TO 1ST WIRE 1.181

DEFINED P.P. 200.810 201.254 SELECTED P.P. 200.773

PLATE Y COORD. OF IMAGE LINES 200.465 200.310 200.184 200.094 199.878

PRINCIPAL POINT ON WIRES 3.10179 3.10244 3.10327 3.10467 3.10607

RESIDUALS OF FITTED LINE -0.03 -0.01 0.07 -0.01 -0.02 STD. DEVIATION 0.04 SLOPE 0.004464

POINTS	CONSTANTS OF UPPER AND LOWER RADIAL LINES				COORDINATES OF S		RESIDUALS OF LINE HEIGHTS					STD.DEV.
	M'	M''	N'	N''	L	H						
1 13	0.587323	3.79059	-0.586298	2.40382	-1.18162	3.09660	0.01	-0.06	0.10	-0.06	0.01	0.07
2 12	0.540109	3.73427	-0.539127	2.45955	-1.18113	3.09633	-0.05	0.03	-0.02	0.11	-0.07	0.07
3 11	0.482090	3.66586	-0.480116	2.52945	-1.18104	3.09649	-0.12	0.06	0.14	-0.05	-0.03	0.10
4 10	0.391660	3.55906	-0.390801	2.63522	-1.18069	3.09663	-0.03	-0.01	0.08	-0.04	-0.00	0.05
5 9	0.300781	3.45146	-0.298635	2.74395	-1.18034	3.09644	-0.08	0.05	0.08	-0.04	-0.01	0.06
6 8	0.181255	3.31056	-0.180458	2.88349	-1.18069	3.09656	-0.14	0.12	0.01	0.08	-0.08	0.11
							-0.05	0.03	0.04	0.02	-0.03	0.04
							-0.04	0.04	-0.02	0.07	-0.05	0.05
							-0.07	0.03	0.08	-0.04	-0.01	0.06
							-0.04	0.01	0.04	0.01	-0.02	0.03
							-0.04	-0.01	0.07	0.00	-0.03	0.04
							0.01	0.04	-0.03	-0.07	0.05	0.05

WEIGHTED MEAN COORDINATES OF S -1.18103 3.09650 SLOPE OF AXIS 920.8 SECONDS

INCREMENTS -0.00003 3.09650 ITERATION 1

HT. BY EXTENSION OF AXIS EQUATION 3.09648

PRINCIPAL POINT ON WIRES 3.10179 3.10244 3.10327 3.10467 3.10607

RESIDUALS OF FITTED LINE -0.03 -0.01 0.07 -0.01 -0.02 STD. DEVIATION 0.04 SLOPE 0.004464

POINTS	CONSTANTS OF UPPER AND LOWER RADIAL LINES				COORDINATES OF S		RESIDUALS OF LINE HEIGHTS					STD.DEV.
	M'	M''	N'	N''	L	H						
1 13	0.587323	3.79059	-0.586298	2.40382	-1.18162	3.09660	0.01	-0.06	0.10	-0.06	0.01	0.07
2 12	0.540109	3.73427	-0.539127	2.45955	-1.18113	3.09633	-0.05	0.03	-0.02	0.11	-0.07	0.07
3 11	0.482091	3.66586	-0.480116	2.52945	-1.18104	3.09649	-0.12	0.06	0.14	-0.05	-0.03	0.10
4 10	0.391660	3.55906	-0.390801	2.63522	-1.18069	3.09663	-0.03	-0.01	0.08	-0.04	-0.00	0.05
5 9	0.300781	3.45146	-0.298634	2.74395	-1.18034	3.09644	-0.08	0.05	0.08	-0.04	-0.01	0.06
6 8	0.181255	3.31056	-0.180458	2.88349	-1.18069	3.09656	-0.14	0.12	0.01	0.08	-0.08	0.11
							-0.05	0.03	0.04	0.02	-0.03	0.04
							-0.04	0.04	-0.02	0.07	-0.05	0.05
							-0.07	0.03	0.08	-0.04	-0.01	0.06
							-0.04	0.01	0.04	0.01	-0.02	0.03
							-0.04	-0.01	0.07	0.00	-0.03	0.04
							0.01	0.04	-0.03	-0.07	0.05	0.05

WEIGHTED MEAN COORDINATES OF S -1.18103 3.09650 SLOPE OF AXIS 920.8 SECONDS

INCREMENTS 0.00000 -0.00000 ITERATION 2

HT. BY EXTENSION OF AXIS EQUATION 3.09648

SEC.SQD.W = 1.000020 TAN.W = 0.004464

CURVE CONSTANTS $R \cdot R^* = -0.3646 + R^* = -0.0004 + 166.192 = P.D.$
 SHIFT TO ORIGIN OF SYMMETRY 0.001

CALCED F	TAN.Q	DH(MM)	CALCED F	TAN.Q	DH(MM)	CALCED F	TAN.Q	DH(MM)	CALCED F	TAN.Q	DH(MM)	CALCED F	TAN.Q	DH(MM)
165.795	0.592	0.19	165.798	0.591	0.20	165.852	0.588	-0.04	165.848	0.587	-0.02	165.875	0.587	-0.22
	RADIAL			RADIAL			RADIAL			RADIAL			RADIAL	
	98.281			98.177			97.693			97.540			97.390	
165.884	0.544	0.04	165.936	0.542	-0.17	165.943	0.541	-0.22	165.907	0.541	-0.05	165.926	0.540	-0.19
	90.351			90.041			89.792			89.832			89.655	
165.938	0.487	0.05	165.974	0.485	-0.07	165.977	0.483	-0.09	165.962	0.482	-0.02	165.962	0.481	-0.01
	80.799			80.590			80.205			79.981			79.903	
166.007	0.395	0.08	166.025	0.395	0.03	166.043	0.392	-0.02	166.031	0.392	0.03	166.007	0.391	0.16
	65.636			65.515			65.136			65.039			64.889	
166.083	0.303	0.04	166.098	0.302	0.01	166.103	0.302	-0.01	166.069	0.301	0.11	166.069	0.301	0.12
	50.324			50.064			50.099			49.914			49.991	
166.193	0.184	-0.04	166.175	0.181	-0.02	166.184	0.182	-0.04	166.148	0.182	0.02	166.137	0.181	0.05
	30.481			30.027			30.149			30.164			30.116	
166.217	-0.181	0.07	166.162	-0.182	0.00	166.151	-0.182	-0.01	166.142	-0.182	-0.04	166.136	-0.181	-0.06
	-30.002			-30.237			-30.230			-30.157			-30.018	
166.143	-0.299	0.08	166.099	-0.300	-0.01	166.078	-0.301	-0.06	166.082	-0.300	-0.07	166.078	-0.300	-0.09
	-49.615			-49.833			-49.922			-49.840			-49.824	
166.085	-0.393	0.13	166.032	-0.395	-0.01	166.053	-0.392	0.05	166.020	-0.391	-0.08	166.025	-0.390	-0.07
	-65.217			-65.617			-65.157			-64.901			-64.754	
166.026	-0.481	0.23	165.943	-0.484	-0.05	165.974	-0.482	0.07	165.960	-0.481	0.00	165.971	-0.481	0.07
	-79.845			-80.337			-80.045			-79.895			-79.881	
165.910	-0.542	0.05	165.905	-0.542	0.03	165.896	-0.541	-0.01	165.904	-0.540	0.03	165.903	-0.540	0.02
	-90.028			-89.906			-89.871			-89.618			-89.613	
165.827	-0.590	-0.07	165.807	-0.589	-0.18	165.818	-0.588	-0.14	165.829	-0.586	-0.11	165.851	-0.587	0.03
	-97.904			-97.747			-97.653			-97.364			-97.384	

STD. DEVIATION OF CURVE ACROSS ONE DIAGONAL 0.10 MM.

CURVE VALUES, INTERPOLATED LINE POINTS AND TARGET HEIGHTS

P.D.	TAN.Q	LINE	TARGET	LINE	TARGET	LINE	TARGET	LINE	TARGET	LINE	TARGET
165.843	0.590	3.79031	3.7936	3.87902	3.8819	3.99923	3.9981	4.17394	4.1709	4.35588	4.3504
165.897	0.542	3.73415	3.7371	3.81545	3.8163	3.92611	3.9248	4.08682	4.0857	4.25409	4.2505
165.957	0.484	3.66574	3.6693	3.73835	3.7407	3.83713	3.8363	3.98046	3.9770	4.12985	4.1248
166.037	0.393	3.55902	3.5618	3.61803	3.6202	3.69819	3.6972	3.81454	3.8123	3.93595	3.9314
166.101	0.301	3.45156	3.4533	3.49681	3.4967	3.55831	3.5585	3.64761	3.6458	3.74062	3.7395
166.159	0.182	3.31072	3.3128	3.33798	3.3367	3.37495	3.3746	3.42866	3.4284	3.48462	3.4837
166.159	-0.181	2.88420	2.8851	2.85565	2.8558	2.81933	2.8184	2.76521	2.7649	2.70877	2.7102
166.102	-0.300	2.74484	2.7462	2.69941	2.6992	2.63776	2.6367	2.54847	2.5481	2.45532	2.4551
166.038	-0.392	2.63622	2.6356	2.57680	2.5729	2.49636	2.4961	2.37949	2.3820	2.25777	2.2626
165.959	-0.482	2.53070	2.5318	2.45759	2.4549	2.35881	2.3584	2.21534	2.2165	2.06586	2.0674
165.899	-0.541	2.46076	2.4592	2.37899	2.3782	2.26789	2.2673	2.10692	2.1090	1.93900	1.9415
165.845	-0.589	2.40508	2.4030	2.31509	2.3150	2.19539	2.1950	2.02038	2.0231	1.83798	1.8409

COMPOSITE CURVE CONSTANTS $R \cdot R^* = -0.3583 + 166.187 = P.D.$

CURVE VALUES FOR PLOTTING

0.05	166.185	0.10	166.177	0.15	166.165	0.20	166.148	0.25	166.125	0.30	166.098	0.35	166.066
0.40	166.029	0.45	165.987	0.50	165.940	0.55	165.888	0.60	165.832	0.65	165.770	0.70	165.703

STD. DEVIATION OF COMPOSITE CURVE 0.10 MM. HEIGHT AT THE WIRES

CURVE CONSTANTS R*R*-0.3521 + R*-0.0002 + 166.182 = P.D.
 SHIFT TO ORIGIN OF SYMMETRY 0.000

CALCED F	TAN.Q	DH(MM)	CALCED F	TAN.Q	DH(MM)	CALCED F	TAN.Q	DH(MM)	CALCED F	TAN.Q	DH(MM)	CALCED F	TAN.Q	DH(MM)
165.778	0.500	0.23	165.755	0.599	0.38	165.823	0.596	0.08	165.830	0.595	0.06	165.856	0.594	-0.12
	RADIAL			RADIAL			RADIAL			RADIAL			RADIAL	
	99.616			99.451			98.926			98.730			98.542	
165.884	0.552	0.01	165.938	0.550	-0.22	165.951	0.548	-0.30	165.904	0.548	-0.08	165.912	0.547	-0.14
	91.631			91.279			90.988			90.977			90.759	
165.932	0.494	0.05	165.976	0.492	-0.12	165.985	0.490	-0.16	165.963	0.488	-0.06	165.952	0.488	-0.01
	82.002			81.758			81.334			81.064			80.950	
166.003	0.402	0.06	166.018	0.401	0.02	166.050	0.399	-0.08	166.036	0.398	-0.03	166.005	0.397	0.13
	66.733			66.578			66.169			66.036			65.856	
166.103	0.309	-0.03	166.117	0.307	-0.07	166.119	0.307	-0.08	166.070	0.306	0.07	166.057	0.306	0.13
	51.332			51.044			51.051			50.832			50.884	
166.147	0.189	0.00	166.132	0.186	0.02	166.178	0.187	-0.05	166.127	0.187	0.04	166.092	0.186	0.13
	31.367			30.893			31.003			30.995			30.927	
166.202	-0.177	0.06	166.134	-0.178	-0.02	166.148	-0.178	-0.01	166.097	-0.177	-0.11	166.099	-0.176	-0.12
	-29.307			-29.536			-29.529			-29.444			-29.303	
166.135	-0.295	0.08	166.096	-0.296	-0.00	166.079	-0.297	-0.05	166.082	-0.296	-0.05	166.093	-0.296	-0.01
	-48.946			-49.154			-49.232			-49.137			-49.116	
166.100	-0.389	0.18	166.050	-0.391	0.05	166.061	-0.388	0.09	166.032	-0.387	-0.02	166.043	-0.386	0.02
	-64.562			-64.946			-64.464			-64.191			-64.032	
166.029	-0.477	0.23	165.948	-0.480	-0.04	165.977	-0.478	0.07	165.958	-0.477	-0.02	165.983	-0.477	0.13
	-79.180			-79.650			-79.333			-79.156			-79.130	
165.905	-0.538	0.02	165.890	-0.537	-0.05	165.891	-0.537	-0.06	165.910	-0.535	0.04	165.914	-0.535	0.07
	-89.349			-89.195			-89.138			-88.862			-88.838	
165.839	-0.586	-0.04	165.811	-0.584	-0.19	165.822	-0.584	-0.16	165.830	-0.582	-0.15	165.854	-0.582	-0.00
	-97.223			-97.032			-96.907			-96.585			-96.582	

STD. DEVIATION OF CURVE ACROSS ONE DIAGONAL 0.11 MM.

CURVE VALUES , INTERPOLATED LINE POINTS AND TARGET HEIGHTS

P.D.	TAN.Q	LINE	TARGET	LINE	TARGET	LINE	TARGET	LINE	TARGET	LINE	TARGET
165.837	0.597	3.78965	3.7936	3.87875	3.8819	3.99926	3.9981	4.17443	4.1709	4.35693	4.3504
165.890	0.549	3.73356	3.7371	3.81509	3.8163	3.92607	3.9248	4.08734	4.0857	4.25520	4.2505
165.949	0.491	3.66523	3.6693	3.73803	3.7407	3.83710	3.8363	3.98091	3.9770	4.13083	4.1248
166.027	0.399	3.55858	3.5618	3.61779	3.6202	3.69817	3.6972	3.81491	3.8123	3.93675	3.9314
166.090	0.307	3.45117	3.4533	3.49658	3.4967	3.55829	3.5585	3.64795	3.6458	3.74135	3.7395
166.148	0.187	3.31048	3.3128	3.33784	3.3367	3.37491	3.3746	3.42886	3.4284	3.48511	3.4837
166.152	-0.177	2.88427	2.8851	2.85670	2.8558	2.81937	2.8184	2.76512	2.7649	2.70865	2.7102
166.097	-0.296	2.74499	2.7462	2.69950	2.6992	2.63776	2.6367	2.54832	2.5481	2.45509	2.4551
166.036	-0.388	2.63647	2.6356	2.57695	2.5729	2.49633	2.4961	2.37927	2.3820	2.25735	2.2626
165.961	-0.478	2.53102	2.5318	2.45778	2.4549	2.35880	2.3584	2.21502	2.2165	2.06534	2.0674
165.903	-0.537	2.46113	2.4592	2.37915	2.3782	2.26787	2.2673	2.10663	2.1090	1.93842	1.9415
165.852	-0.584	2.40554	2.4030	2.31633	2.3150	2.19538	2.1950	2.02000	2.0231	1.83723	1.8409

CURVE CONSTANTS R*R*-0.3490 + R*-0.0004 + 166.383 = P.D.
 SHIFT TO ORIGIN OF SYMMETRY 0.001

CALCED F	TAN.Q	DH(MM)	CALCED F	TAN.Q	DH(MM)	CALCED F	TAN.Q	DH(MM)	CALCED F	TAN.Q	DH(MM)	CALCED F	TAN.Q	DH(MM)
166.026	0.584	0.12	166.022	0.583	0.15	166.066	0.580	-0.04	166.053	0.579	0.04	166.074	0.579	-0.10
	RADIAL			RADIAL			RADIAL			RADIAL			RADIAL	
	97.002			96.919			96.458			96.327			96.193	
166.098	0.536	0.03	166.140	0.534	-0.14	166.151	0.533	-0.21	166.111	0.533	-0.01	166.114	0.532	-0.03
	89.138			88.845			88.620			88.679			88.510	
166.139	0.479	0.08	166.175	0.478	-0.05	166.181	0.476	-0.07	166.155	0.475	0.06	166.162	0.474	0.03
	79.666			79.473			79.107			78.895			78.832	
166.200	0.389	0.10	166.229	0.388	0.03	166.232	0.386	0.03	166.225	0.385	0.06	166.216	0.384	0.12
	64.626			64.516			64.140			64.052			63.913	
166.303	0.297	-0.01	166.334	0.296	-0.08	166.336	0.296	-0.10	166.280	0.295	0.06	166.279	0.295	0.08
	49.435			49.179			49.210			49.017			49.091	
166.340	0.179	0.02	166.366	0.176	-0.02	166.420	0.177	-0.11	166.376	0.177	-0.04	166.365	0.176	-0.03
	29.700			29.243			29.358			29.357			29.298	
166.353	-0.184	0.00	166.320	-0.185	-0.05	166.347	-0.186	-0.01	166.352	-0.186	0.00	166.290	-0.185	-0.15
	-30.541			-30.826			-30.875			-30.856			-30.745	
166.325	-0.302	0.06	166.290	-0.303	-0.01	166.271	-0.304	-0.06	166.274	-0.304	-0.07	166.276	-0.304	-0.07
	-50.139			-50.417			-50.567			-50.548			-50.581	
166.274	-0.395	0.12	166.235	-0.398	0.01	166.239	-0.396	0.02	166.206	-0.395	-0.12	166.222	-0.394	-0.06
	-65.743			-66.215			-65.817			-65.633			-65.544	
166.210	-0.484	0.18	166.140	-0.487	-0.06	166.168	-0.486	0.05	166.155	-0.485	-0.01	166.183	-0.486	0.17
	-80.383			-80.956			-80.740			-80.672			-80.727	
166.098	-0.545	0.00	166.098	-0.545	0.00	166.086	-0.545	-0.06	166.115	-0.544	0.10	166.115	-0.544	0.12
	-90.586			-90.546			-90.593			-90.438			-90.499	
166.036	-0.593	-0.04	166.025	-0.592	-0.10	166.042	-0.592	-0.02	166.027	-0.591	-0.13	166.058	-0.591	0.09
	-98.493			-98.425			-98.422			-98.209			-98.304	

STD. DEVIATION OF CURVE ACROSS ONE DIAGONAL 0.08 MM.

CURVE VALUES , INTERPOLATED LINE POINTS AND TARGET HEIGHTS

P.D.	TAN.Q	LINE	TARGET	LINE	TARGET	LINE	TARGET	LINE	TARGET	LINE	TARGET
166.058	0.582	3.79058	3.7936	3.87917	3.8819	3.99923	3.9981	4.17370	4.1709	4.35541	4.3504
166.108	0.534	3.73439	3.7371	3.81560	3.8163	3.92609	3.9248	4.08658	4.0857	4.25372	4.2505
166.164	0.477	3.66594	3.6693	3.73845	3.7407	3.83711	3.8363	3.98032	3.9770	4.12949	4.1248
166.239	0.386	3.55911	3.5618	3.61806	3.6202	3.69821	3.6972	3.81448	3.8123	3.93575	3.9314
166.299	0.296	3.45153	3.4533	3.49676	3.4967	3.55828	3.5585	3.64767	3.6458	3.74073	3.7395
166.353	0.177	3.31060	3.3128	3.33789	3.3367	3.37491	3.3746	3.42878	3.4284	3.48490	3.4837
166.351	-0.185	2.88349	2.8851	2.85625	2.8558	2.81938	2.8184	2.76586	2.7649	2.70990	2.7102
166.295	-0.303	2.74399	2.7462	2.69893	2.6992	2.63777	2.6367	2.54917	2.5481	2.45678	2.4551
166.233	-0.396	2.63526	2.6356	2.57629	2.5729	2.49634	2.4961	2.38027	2.3820	2.25943	2.2626
166.156	-0.486	2.52959	2.5318	2.45693	2.4549	2.35881	2.3584	2.21624	2.2165	2.06780	2.0674
166.098	-0.545	2.45958	2.4592	2.37831	2.3782	2.26786	2.2673	2.10796	2.1090	1.94107	1.9415
166.046	-0.592	2.40387	2.4030	2.31543	2.3150	2.19547	2.1950	2.02133	2.0231	1.84005	1.8409

CURVE CONSTANTS R*R*-0.2982 + R*-0.0003 + 161.286 = P.D.
 SHIFT TO ORIGIN OF SYMMETRY 0.000

CALCED F	TAN.Q	DH(MM)	CALCED F	TAN.Q	DH(MM)	CALCED F	TAN.Q	DH(MM)	CALCED F	TAN.Q	DH(MM)	CALCED F	TAN.Q	DH(MM)
161.000	0.523	-0.10	161.022	0.622	-0.29	160.986	0.622	0.00	161.004	0.621	-0.19	161.005	0.620	-0.22
	RADIAL			RADIAL			RADIAL			RADIAL			RADIAL	
	100.374			100.282			100.186			100.080			99.943	
161.048	0.574	-0.11	161.036	0.573	-0.04	161.037	0.573	-0.05	161.040	0.572	-0.08	161.039	0.571	-0.07
	92.511			92.391			92.296			92.248			92.024	
161.086	0.510	-0.01	161.086	0.509	-0.00	161.088	0.509	-0.02	161.085	0.508	0.01	161.082	0.507	0.05
	82.117			82.012			82.034			81.919			81.742	
161.139	0.417	0.05	161.154	0.416	-0.02	161.135	0.416	0.10	161.136	0.416	0.11	161.148	0.416	0.03
	67.260			67.102			67.084			67.083			66.978	
161.173	0.322	0.12	161.199	0.322	0.03	161.204	0.322	0.01	161.184	0.321	0.12	161.207	0.321	-0.01
	51.855			51.864			51.847			51.734			51.715	
161.212	0.198	0.10	161.220	0.198	0.09	161.229	0.197	0.08	161.192	0.197	0.22	161.230	0.197	0.10
	31.927			31.881			31.814			31.778			31.810	
161.326	-0.179	0.13	161.259	-0.177	-0.01	161.280	-0.177	0.05	161.256	-0.176	-0.02	161.283	-0.176	0.07
	-28.766			-28.570			-28.541			-28.415			-28.343	
161.257	-0.301	0.14	161.248	-0.300	0.12	161.252	-0.299	0.16	161.246	-0.299	0.15	161.232	-0.298	0.09
	-48.526			-48.335			-48.246			-48.138			-48.001	
161.180	-0.394	0.07	161.194	-0.393	0.14	161.170	-0.393	0.02	161.166	-0.392	-0.00	161.181	-0.391	0.11
	-63.520			-63.359			-63.272			-63.172			-63.013	
161.130	-0.485	0.14	161.110	-0.484	0.03	161.120	-0.484	0.11	161.112	-0.482	0.05	161.117	-0.481	0.10
	-78.134			-77.973			-77.924			-77.736			-77.512	
161.049	-0.548	-0.03	161.027	-0.547	-0.19	161.052	-0.546	-0.03	161.038	-0.545	-0.17	161.039	-0.543	-0.20
	-88.268			-88.158			-87.976			-87.762			-87.566	
160.977	-0.596	-0.23	160.988	-0.594	-0.19	160.984	-0.593	-0.26	160.990	-0.592	-0.26	161.003	-0.591	-0.16
	-95.970			-95.687			-95.583			-95.371			-95.206	

STD. DEVIATION OF CURVE ACROSS ONE DIAGONAL 0.12 MM.

CURVE VALUES		INTERPOLATED LINE POINTS AND TARGET HEIGHTS		LINE TARGET		LINE TARGET		LINE TARGET		LINE TARGET	
P.D.	TAN.Q	LINE	TARGET	LINE	TARGET	LINE	TARGET	LINE	TARGET	LINE	TARGET
160.986	0.522	4.64830	4.6505	4.81632	4.8177	4.99811	4.9983	5.24608	5.2445	5.55332	5.5487
161.032	0.573	4.56152	4.5639	4.71637	4.7176	4.88337	4.8834	5.11168	5.1109	5.39443	5.3890
161.085	0.509	4.44783	4.4495	4.58500	4.5856	4.73300	4.7340	4.93538	4.9346	5.18599	5.1815
161.151	0.416	4.28405	4.2858	4.39579	4.3958	4.51655	4.5163	4.68151	4.6812	4.88569	4.8832
161.206	0.321	4.11533	4.1159	4.20092	4.2017	4.29336	4.2940	4.41988	4.4187	4.57628	4.5745
161.255	0.197	3.89476	3.8957	3.94630	3.9468	4.00191	4.0015	4.07810	4.0770	4.17215	4.1715
161.262	-0.177	3.22467	3.2220	3.17235	3.1718	3.11611	3.1159	3.03906	3.0410	2.94384	2.9476
161.216	-0.299	3.00440	3.0013	2.91811	2.9170	2.82505	2.8251	2.69777	2.6997	2.54011	2.5452
161.167	-0.393	2.83603	2.8332	2.72379	2.7226	2.60247	2.6024	2.43675	2.4384	2.23168	2.2369
161.105	-0.483	2.67212	2.6690	2.53432	2.5328	2.38581	2.3848	2.18261	2.1847	1.93112	1.9382
161.055	-0.546	2.55822	2.5546	2.40275	2.4000	2.23535	2.2349	2.00609	2.0093	1.72237	1.7302
161.014	-0.594	2.47198	2.4674	2.30341	2.3018	2.12139	2.1211	1.87264	1.8760	1.56473	1.5721

CURVE CONSTANTS $R \cdot R^* = -0.2832 + R^* 0.0002 + 161.270 = \text{P.D.}$
 SHIFT TO ORIGIN OF SYMMETRY -0.000

CALCED F	TAN.Q	DH(MM)	CALCED F	TAN.Q	DH(MM)	CALCED F	TAN.Q	DH(MM)	CALCED F	TAN.Q	DH(MM)	CALCED F	TAN.Q	DH(MM)
160.986	0.627	-0.04	161.001	0.627	-0.15	160.974	0.626	0.07	160.989	0.626	-0.08	160.987	0.625	-0.05
	RADIAL			RADIAL			RADIAL			RADIAL			RADIAL	
	101.076			100.989			100.907			100.807			100.675	
161.042	0.578	-0.11	161.035	0.578	-0.08	161.031	0.577	-0.06	161.028	0.577	-0.03	161.028	0.575	-0.02
	93.185			93.078			92.988			92.945			92.728	
161.084	0.514	-0.05	161.085	0.513	-0.05	161.065	0.513	0.08	161.066	0.512	0.09	161.079	0.511	-0.02
	82.754			82.660			82.679			82.574			82.412	
161.141	0.421	-0.01	161.157	0.420	-0.09	161.135	0.420	0.03	161.126	0.420	0.10	161.137	0.419	0.03
	67.851			67.703			67.692			67.695			67.597	
161.174	0.325	0.06	161.200	0.325	-0.03	161.183	0.325	0.04	161.181	0.325	0.06	161.175	0.324	0.11
	52.406			52.425			52.409			52.310			52.289	
161.234	0.201	0.01	161.248	0.201	-0.02	161.222	0.201	0.05	161.179	0.201	0.21	161.204	0.201	0.15
	32.446			32.411			32.345			32.316			32.353	
161.262	-0.175	0.03	161.219	-0.174	-0.05	161.280	-0.174	0.08	161.261	-0.173	0.04	161.277	-0.172	0.10
	-28.243			-28.042			-28.012			-27.879			-27.798	
161.210	-0.298	0.02	161.208	-0.296	0.01	161.208	-0.296	0.01	161.218	-0.295	0.07	161.231	-0.294	0.15
	-47.967			-47.769			-47.671			-47.560			-47.424	
161.172	-0.391	0.06	161.191	-0.389	0.16	161.166	-0.389	0.04	161.164	-0.388	0.04	161.173	-0.387	0.11
	-62.935			-62.767			-62.672			-62.565			-62.397	
161.109	-0.481	0.05	161.099	-0.480	-0.00	161.105	-0.480	0.03	161.103	-0.478	0.02	161.113	-0.477	0.11
	-77.497			-77.332			-77.273			-77.081			-76.853	
161.046	-0.544	-0.04	161.019	-0.543	-0.24	161.055	-0.542	0.01	161.057	-0.540	0.03	161.035	-0.539	-0.23
	-87.603			-87.481			-87.298			-87.086			-86.871	
160.998	-0.591	-0.09	160.994	-0.589	-0.15	160.994	-0.589	-0.18	161.008	-0.587	-0.07	161.017	-0.586	0.00
	-95.288			-94.988			-94.879			-94.665			-94.491	

STD. DEVIATION OF CURVE ACROSS ONE DIAGONAL 0.09 MM.

CURVE VALUES , INTERPOLATED LINE POINTS AND TARGET HEIGHTS

P.D.	TAN.Q	LINE	TARGET	LINE	TARGET	LINE	TARGET	LINE	TARGET	LINE	TARGET
160.982	0.627	4.64848	4.6505	4.81645	4.8177	4.99807	4.9983	5.24592	5.2445	5.55302	5.5487
161.025	0.577	4.56171	4.5639	4.71642	4.7176	4.88335	4.8834	5.11157	5.1109	5.39414	5.3890
161.076	0.513	4.44799	4.4495	4.58504	4.5856	4.73309	4.7340	4.93531	4.9346	5.18559	5.1815
161.140	0.420	4.28423	4.2858	4.39585	4.3958	4.51653	4.5163	4.68141	4.6812	4.88543	4.8832
161.192	0.325	4.11548	4.1159	4.20097	4.2017	4.29340	4.2940	4.41969	4.4187	4.57609	4.5745
161.240	0.201	3.89491	3.8957	3.94633	3.9468	4.00193	4.0015	4.07800	4.0770	4.17193	4.1715
161.247	-0.174	3.22477	3.2220	3.17241	3.1718	3.11615	3.1159	3.03900	3.0410	2.94357	2.9476
161.205	-0.296	3.00454	3.0013	2.91813	2.9170	2.82499	2.8251	2.69765	2.6997	2.53998	2.5452
161.158	-0.389	2.83621	2.8332	2.72390	2.7226	2.60247	2.6024	2.43662	2.4384	2.23133	2.2369
161.101	-0.479	2.67227	2.6690	2.53442	2.5328	2.38578	2.3848	2.18250	2.1847	1.93088	1.9382
161.054	-0.542	2.55838	2.5546	2.40273	2.4000	2.23535	2.2349	2.00612	2.0093	1.72199	1.7302
161.014	-0.589	2.47221	2.4674	2.30344	2.3018	2.12135	2.1211	1.87254	1.8760	1.56441	1.5721

COMPOSITE CURVE CONSTANTS $R \cdot R^* = -0.2907 + 161.278 = \text{P.D.}$

CURVE VALUES FOR PLOTTING

0.05	161.276	0.10	161.270	0.15	161.261	0.20	161.247	0.25	161.230	0.30	161.210	0.35	161.185
0.40	161.157	0.45	161.125	0.50	161.089	0.55	161.049	0.60	161.006	0.65	160.959	0.70	160.908

STD. DEVIATION OF COMPOSITE CURVE 0.11 MM. HEIGHT AT THE WIRES

CURVE CONSTANTS $R^*R^* = -0.2780 + R^* 0.0001 + 161.455 = P.D.$
 SHIFT TO ORIGIN OF SYMMETRY -0.000

CALCED F	TAN.Q	DH(MM)	CALCED F	TAN.Q	DH(MM)	CALCED F	TAN.Q	DH(MM)	CALCED F	TAN.Q	DH(MM)	CALCED F	TAN.Q	DH(MM)
161.187	0.612	-0.02	161.191	0.611	-0.05	161.166	0.611	0.18	161.185	0.610	0.01	161.183	0.610	0.05
	RADIAL			RADIAL			RADIAL			RADIAL			RADIAL	
	98.719			98.636			98.564			98.476			98.353	
161.248	0.564	-0.14	161.226	0.563	-0.00	161.231	0.562	-0.04	161.235	0.562	-0.08	161.221	0.561	0.03
	90.921			90.816			90.740			90.710			90.495	
161.283	0.500	-0.05	161.281	0.499	-0.04	161.278	0.499	-0.02	161.260	0.499	0.13	161.275	0.498	0.01
	80.592			80.507			80.543			80.438			80.286	
161.336	0.408	-0.01	161.363	0.407	-0.15	161.337	0.407	-0.01	161.328	0.407	0.05	161.326	0.407	0.08
	65.814			65.682			65.678			65.690			65.595	
161.392	0.313	-0.03	161.400	0.313	-0.06	161.406	0.313	-0.10	161.374	0.312	0.06	161.387	0.312	-0.01
	50.477			50.501			50.501			50.402			50.395	
161.411	0.190	0.04	161.441	0.189	-0.03	161.413	0.189	0.05	161.366	0.189	0.21	161.382	0.189	0.18
	30.590			30.569			30.512			30.492			30.535	
161.491	-0.187	0.13	161.446	-0.186	0.04	161.455	-0.185	0.07	161.447	-0.185	0.05	161.475	-0.184	0.17
	-30.174			-29.959			-29.910			-29.768			-29.680	
161.372	-0.310	-0.05	161.364	-0.309	-0.09	161.377	-0.308	-0.04	161.374	-0.307	-0.07	161.374	-0.306	-0.08
	-50.011			-49.797			-49.692			-49.566			-49.416	
161.319	-0.404	-0.08	161.333	-0.402	-0.03	161.319	-0.402	-0.11	161.319	-0.401	-0.14	161.330	-0.400	-0.07
	-65.103			-64.919			-64.817			-64.699			-64.521	
161.297	-0.495	0.10	161.291	-0.494	0.08	161.285	-0.493	0.04	161.296	-0.492	0.14	161.310	-0.491	0.29
	-79.840			-79.662			-79.586			-79.387			-79.149	
161.233	-0.558	0.02	161.212	-0.557	-0.13	161.237	-0.556	0.05	161.233	-0.555	0.00	161.228	-0.553	-0.06
	-90.072			-89.939			-89.737			-89.507			-89.289	
161.170	-0.607	-0.13	161.176	-0.605	-0.11	161.183	-0.604	-0.07	161.192	-0.602	-0.01	161.213	-0.601	0.24
	-97.854			-97.542			-97.425			-97.194			-97.015	

STD. DEVIATION OF CURVE ACROSS ONE DIAGONAL 0.10 MM.

CURVE VALUES , INTERPOLATED LINE POINTS AND TARGET HEIGHTS

P.D.	TAN.Q	LINE	TARGET	LINE	TARGET	LINE	TARGET	LINE	TARGET	LINE	TARGET
161.185	0.611	4.64863	4.6505	4.81560	4.8177	4.99809	4.9983	5.24576	5.2445	5.55268	5.5487
161.226	0.563	4.56186	4.5639	4.71658	4.7176	4.88335	4.8834	5.11135	5.1109	5.39389	5.3890
161.275	0.499	4.44819	4.4495	4.58517	4.5856	4.73298	4.7340	4.93520	4.9346	5.18529	5.1815
161.335	0.407	4.28445	4.2858	4.39593	4.3958	4.51650	4.5163	4.68123	4.6812	4.88516	4.8832
161.384	0.313	4.11566	4.1159	4.20111	4.2017	4.29333	4.2940	4.41961	4.4187	4.57572	4.5745
161.429	-0.189	3.89514	3.8957	3.94642	3.9468	4.00190	4.0015	4.07782	4.0770	4.17159	4.1715
161.430	-0.185	3.22506	3.2220	3.17253	3.1718	3.11607	3.1159	3.03876	3.0410	2.94316	2.9476
161.386	-0.308	3.00480	3.0013	2.91829	2.9170	2.82504	2.8251	2.69745	2.6997	2.53948	2.5452
161.338	-0.402	2.83644	2.8332	2.72393	2.7226	2.60248	2.6024	2.43645	2.4384	2.23097	2.2369
161.279	-0.493	2.67251	2.6690	2.53455	2.5328	2.38570	2.3848	2.18232	2.1847	1.93053	1.9382
161.231	-0.556	2.55865	2.5546	2.40296	2.4000	2.23532	2.2349	2.00581	2.0093	1.72163	1.7302
161.191	-0.604	2.47239	2.4674	2.30355	2.3018	2.12138	2.1211	1.87234	1.8760	1.56411	1.5721

CURVE CONSTANTS $R^*R^*-0.2597 + R^*-0.0001 + 161.448 = P.D.$
 SHIFT TO ORIGIN OF SYMMETRY 0.000

CALCED F	TAN.Q	DH(MM)	CALCED F	TAN.Q	DH(MM)	CALCED F	TAN.Q	DH(MM)	CALCED F	TAN.Q	DH(MM)	CALCED F	TAN.Q	DH(MM)
161.175	0.637	-0.01	161.195	0.637	-0.17	161.175	0.636	0.00	161.188	0.635	-0.13	161.190	0.634	-0.18
	RADIAL			RADIAL			RADIAL			RADIAL			RADIAL	
	102.813			102.704			102.604			102.481			102.332	
161.211	0.588	0.02	161.207	0.587	0.06	161.217	0.586	-0.01	161.227	0.586	-0.11	161.231	0.585	-0.16
	94.840			94.708			94.605			94.548			94.313	
161.267	0.523	-0.02	161.266	0.522	-0.02	161.259	0.522	0.04	161.257	0.521	0.07	161.279	0.520	-0.15
	84.331			84.210			84.215			84.087			83.910	
161.315	0.430	0.04	161.347	0.429	-0.12	161.330	0.428	-0.04	161.332	0.428	-0.06	161.336	0.428	-0.10
	69.316			69.149			69.120			69.107			68.987	
161.322	0.333	0.19	161.355	0.333	0.08	161.357	0.333	0.08	161.361	0.332	0.07	161.362	0.332	0.03
	53.770			53.767			53.737			53.619			53.582	
161.382	0.209	0.08	161.431	0.209	-0.03	161.396	0.208	0.07	161.365	0.208	0.19	161.385	0.208	0.14
	33.722			33.670			33.582			33.535			33.553	
161.501	-0.168	0.13	161.461	-0.167	0.07	161.470	-0.166	0.10	161.442	-0.166	0.03	161.469	-0.165	0.13
	-27.058			-26.881			-26.861			-26.746			-26.684	
161.422	-0.290	0.10	161.388	-0.289	-0.01	161.392	-0.288	-0.00	161.380	-0.288	-0.06	161.395	-0.287	0.02
	-46.748			-46.564			-46.486			-46.388			-46.270	
161.355	-0.382	0.02	161.365	-0.381	0.07	161.351	-0.381	0.00	161.333	-0.380	-0.12	161.322	-0.379	-0.22
	-61.662			-61.514			-61.442			-61.348			-61.190	
161.327	-0.472	0.15	161.303	-0.471	0.03	161.298	-0.471	-0.00	161.294	-0.470	-0.04	161.311	-0.469	0.10
	-76.180			-76.031			-75.986			-75.812			-75.605	
161.253	-0.534	-0.01	161.238	-0.534	-0.12	161.254	-0.533	-0.02	161.248	-0.532	-0.09	161.239	-0.530	-0.21
	-86.230			-86.138			-85.963			-85.766			-85.576	
161.225	-0.582	0.03	161.204	-0.580	-0.12	161.208	-0.580	-0.12	161.217	-0.578	-0.05	161.213	-0.577	-0.12
	-93.883			-93.597			-93.509			-93.312			-93.148	

STD. DEVIATION OF CURVE ACROSS ONE DIAGONAL 0.10 MM.

CURVE VALUES , INTERPOLATED LINE POINTS AND TARGET HEIGHTS

P.D.	TAN.Q	LINE	TARGET	LINE	TARGET	LINE	TARGET	LINE	TARGET	LINE	TARGET
161.175	0.636	4.64805	4.6505	4.81624	4.8177	4.99805	4.9983	5.24627	5.2445	5.55375	5.5487
161.216	0.587	4.56133	4.5639	4.71628	4.7176	4.88337	4.8834	5.11182	5.1109	5.39476	5.3890
161.264	0.522	4.44754	4.4495	4.58485	4.5856	4.73308	4.7340	4.93567	4.9346	5.18629	5.1815
161.324	0.429	4.28383	4.2858	4.39563	4.3958	4.51653	4.5163	4.68169	4.6812	4.88617	4.8832
161.373	0.333	4.11508	4.1159	4.20079	4.2017	4.29339	4.2940	4.41999	4.4187	4.57677	4.5745
161.419	0.208	3.89449	3.8957	3.94607	3.9468	4.00194	4.0015	4.07832	4.0770	4.17270	4.1715
161.430	-0.166	3.22437	3.2220	3.17225	3.1718	3.11612	3.1159	3.03927	3.0410	2.94428	2.9475
161.392	-0.288	3.00419	3.0013	2.91794	2.9170	2.82502	2.8251	2.69790	2.6997	2.54064	2.5452
161.350	-0.381	2.83580	2.8332	2.72363	2.7226	2.60256	2.6024	2.43695	2.4384	2.23191	2.2369
161.299	-0.471	2.67191	2.6690	2.53421	2.5328	2.38575	2.3848	2.18276	2.1847	1.93160	1.9382
161.257	-0.533	2.55795	2.5546	2.40267	2.4000	2.23533	2.2349	2.00633	2.0093	1.72274	1.7302
161.221	-0.580	2.47187	2.4674	2.30321	2.3018	2.12139	2.1211	1.87286	1.8760	1.56497	1.5721

COMPOSITE CURVE CONSTANTS $R^*R^*-0.2687 + 161.452 = P.D.$

CURVE VALUES FOR PLOTTING

0.05	161.450	0.10	161.445	0.15	161.436	0.20	161.424	0.25	161.408	0.30	161.389	0.35	161.366
0.40	161.340	0.45	161.310	0.50	161.277	0.55	161.240	0.60	161.200	0.65	161.156	0.70	161.109

STD. DEVIATION OF COMPOSITE CURVE 0.10 MM. HEIGHT AT THE WIRES

CAMERA 113D DIAGONAL 500-100 OBJECT DISTANCE 2,3M

PLATE 33 NOMINAL P.D. 161.15 APPROX. DIST. TO 1ST WIRE 1.790

DEFINED P.P. 198.033 200.500 SELECTED P.P. 197.991

PLATE Y COORD. OF IMAGE LINES 200.155 200.066 199.916 199.832 199.731

PRINCIPAL POINT ON WIRES 3.54190 3.53878 3.53552 3.53110 3.52540
 RESIDUALS OF FITTED LINE -0.02 0.05 0.01 -0.08 0.04

STD. DEVIATION 0.05 SLOPE -0.011032

POINTS	CONSTANTS OF UPPER AND LOWER RADIAL LINES				COORDINATES OF S		RESIDUALS OF LINE HEIGHTS					STD.DEV.
	M'	M''	N'	N''	L	H						
1 13	0.606985	4.64827	-0.608466	2.47197	-1.79053	3.56145	-0.03	0.15	-0.16	0.01	0.03	0.11
							-0.01	-0.04	0.04	0.05	-0.04	0.04
2 12	0.558568	4.56156	-0.560534	2.55818	-1.79016	3.56163	0.04	-0.03	-0.02	0.01	0.01	0.03
							-0.04	0.11	-0.09	0.02	0.00	0.07
3 11	0.495042	4.44782	-0.496934	2.67208	-1.79011	3.56164	-0.01	-0.01	0.02	0.01	-0.01	0.01
							-0.05	0.06	-0.02	0.03	-0.02	0.04
4 10	0.403516	4.28404	-0.405345	2.83604	-1.79018	3.56168	-0.01	0.07	-0.04	-0.05	0.04	0.05
							0.01	-0.07	0.05	0.07	-0.05	0.06
5 9	0.309178	4.11529	-0.311360	3.00440	-1.79020	3.56180	-0.04	0.04	0.05	-0.08	0.03	0.06
							0.01	0.02	-0.02	-0.03	0.02	0.02
6 8	0.186060	3.89476	-0.188322	3.22460	-1.79004	3.56170	-0.00	0.01	0.04	-0.09	0.04	0.05
							-0.07	0.06	-0.00	0.06	-0.05	0.06

WEIGHTED MEAN COORDINATES OF S -1.79024 3.56162 SLOPE OF AXIS -2275.4 SECONDS
 INCREMENTS -0.00024 3.56162 ITERATION 1
 HT. BY EXTENSION OF AXIS EQUATION 3.56163

PRINCIPAL POINT ON WIRES 3.54190 3.53878 3.53552 3.53110 3.52540
 RESIDUALS OF FITTED LINE -0.02 0.05 0.01 -0.08 0.04

STD. DEVIATION 0.05 SLOPE -0.011032

POINTS	CONSTANTS OF UPPER AND LOWER RADIAL LINES				COORDINATES OF S		RESIDUALS OF LINE HEIGHTS					STD.DEV.
	M'	M''	N'	N''	L	H						
1 13	0.506985	4.64827	-0.608467	2.47197	-1.79053	3.56145	-0.03	0.15	-0.16	0.01	0.03	0.11
							-0.01	-0.04	0.04	0.05	-0.04	0.04
2 12	0.558568	4.56156	-0.560535	2.55818	-1.79016	3.56163	0.04	-0.03	-0.02	0.01	0.01	0.03
							-0.04	0.11	-0.09	0.02	0.00	0.07
3 11	0.495042	4.44782	-0.496935	2.67208	-1.79010	3.56164	-0.01	-0.01	0.02	0.01	-0.01	0.01
							-0.05	0.06	-0.02	0.03	-0.02	0.04
4 10	0.403516	4.28404	-0.405345	2.83604	-1.79018	3.56168	-0.01	0.07	-0.04	-0.05	0.04	0.05
							0.01	-0.07	0.05	0.07	-0.05	0.06
5 9	0.309178	4.11529	-0.311360	3.00440	-1.79020	3.56180	-0.04	0.04	0.05	-0.08	0.03	0.06
							0.01	0.02	-0.02	-0.03	0.02	0.02
6 8	0.186060	3.89476	-0.188323	3.22460	-1.79004	3.56170	-0.00	0.01	0.04	-0.09	0.04	0.05
							-0.07	0.06	-0.00	0.06	-0.05	0.06

WEIGHTED MEAN COORDINATES OF S -1.79023 3.56162 SLOPE OF AXIS -2275.4 SECONDS
 INCREMENTS 0.00000 0.00000 ITERATION 2
 HT. BY EXTENSION OF AXIS EQUATION 3.56163
 SEC.SQD.W = 1.000122 TAN.W = -0.011032

PLATE 11 NOMINAL P.D. 166.03 APPROX. DIST. TO 1ST WIRE 1.171

DEFINED P.P. 199.711 201.017 SELECTED P.P. 199.622

PLATE Y COORD. OF IMAGE LINES 200.438 200.277 200.144 200.039 199.808

PRINCIPAL POINT ON WIRES 3.09188 3.09111 3.08993 3.08847 3.08691
 RESIDUALS OF FITTED LINE -0.03 -0.03 0.08 0.01 -0.03 STD. DEVIATION 0.05 SLOPE -0.005177

POINTS	CONSTANTS OF UPPER AND LOWER RADIAL LINES				COORDINATES OF S		RESIDUALS OF LINE HEIGHTS					STD.DEV.
	M'	M''	N'	N''	L	H						
1 13	0.589796	3.78973	-0.590901	2.40544	-1.17244	3.09823	0.08	-0.14	0.08	-0.03	0.01	0.09
							-0.10	0.06	0.05	0.05	-0.06	0.07
2 12	0.542539	3.73342	-0.543490	2.46108	-1.17155	3.09781	-0.15	0.08	0.17	-0.08	-0.02	0.12
							-0.05	0.03	0.05	-0.02	-0.01	0.04
3 11	0.484204	3.66512	-0.484164	2.53088	-1.17129	3.09797	-0.11	0.05	0.10	0.01	-0.05	0.08
							-0.14	0.13	0.01	0.08	-0.08	0.11
4 10	0.393222	3.55851	-0.394201	2.63642	-1.17103	3.09804	-0.07	-0.02	0.10	0.07	-0.08	0.08
							-0.06	0.06	-0.01	0.05	-0.04	0.05
5 9	0.301778	3.45111	-0.301432	2.74494	-1.17070	3.09782	-0.05	0.01	0.07	-0.02	-0.02	0.05
							-0.05	0.02	0.05	0.02	-0.04	0.04
6 8	0.181580	3.31045	-0.182614	2.88425	-1.17026	3.09796	-0.03	-0.03	0.07	0.02	-0.03	0.05
							-0.03	0.03	-0.02	0.03	-0.02	0.03

WEIGHTED MEAN COORDINATES OF S -1.17143 3.09799 SLOPE OF AXIS -1067.9 SECONDS
 INCREMENTS -0.00043 3.09799 ITERATION 1
 HT. BY EXTENSION OF AXIS EQUATION 3.09792

PRINCIPAL POINT ON WIRES 3.09188 3.09111 3.08993 3.08847 3.08691
 RESIDUALS OF FITTED LINE -0.03 -0.03 0.08 0.01 -0.03 STD. DEVIATION 0.05 SLOPE -0.005177

POINTS	CONSTANTS OF UPPER AND LOWER RADIAL LINES				COORDINATES OF S		RESIDUALS OF LINE HEIGHTS					STD.DEV.
	M'	M''	N'	N''	L	H						
1 13	0.589799	3.78973	-0.590902	2.40544	-1.17243	3.09823	0.08	-0.14	0.08	-0.03	0.01	0.09
							-0.10	0.06	0.05	0.05	-0.06	0.07
2 12	0.542541	3.73341	-0.543491	2.46108	-1.17154	3.09780	-0.15	0.08	0.16	-0.08	-0.02	0.12
							-0.05	0.03	0.05	-0.02	-0.01	0.04
3 11	0.484207	3.66512	-0.484165	2.53088	-1.17128	3.09797	-0.11	0.05	0.10	0.01	-0.05	0.08
							-0.14	0.13	0.01	0.08	-0.08	0.11
4 10	0.393224	3.55851	-0.394203	2.63642	-1.17102	3.09804	-0.07	-0.02	0.10	0.07	-0.08	0.08
							-0.06	0.06	-0.01	0.05	-0.04	0.05
5 9	0.301779	3.45111	-0.301432	2.74494	-1.17070	3.09782	-0.05	0.01	0.07	-0.02	-0.02	0.05
							-0.05	0.02	0.05	0.02	-0.04	0.04
6 8	0.181581	3.31045	-0.182614	2.88425	-1.17025	3.09795	-0.03	-0.03	0.07	0.02	-0.03	0.05
							-0.02	0.03	-0.02	0.03	-0.02	0.03

WEIGHTED MEAN COORDINATES OF S -1.17142 3.09799 SLOPE OF AXIS -1067.9 SECONDS
 INCREMENTS 0.00001 -0.00000 ITERATION 2
 HT. BY EXTENSION OF AXIS EQUATION 3.09792
 SEC.SQD.W = 1.000027 TAN.W = -0.005177

PLATE -34 NOMINAL P.D. 161.15 APPROX. DIST. TO 1ST WIRE 1.790

DEFINED P.P. 197.567 199.863 SELECTED P.P. 197.476

PLATE Y COORD. OF IMAGE LINES 200.171 200.069 199.916 199.821 199.717

PRINCIPAL POINT ON WIRES 3.53640 3.53234 3.52808 3.52216 3.51467
 RESIDUALS OF FITTED LINE 0.02 0.04 -0.04 -0.07 0.06 STD. DEVIATION 0.06 SLOPE -0.014545

POINTS	CONSTANTS OF UPPER AND LOWER RADIAL LINES				COORDINATES OF S		RESIDUALS OF LINE HEIGHTS					STD.DEV.
	M'	M''	N'	N''	L	H						
1 13	0.606642	4.64846	-0.608798	2.47215	-1.79055	3.56224	-0.02	0.10	-0.12	0.03	0.01	0.08
							-0.06	0.01	0.07	0.00	-0.03	0.05
2 12	0.558266	4.56173	-0.560839	2.55835	-1.79016	3.56234	0.01	-0.00	-0.01	-0.01	0.01	0.01
							-0.03	0.17	-0.10	-0.14	0.10	0.13
3 11	0.494695	4.44801	-0.497199	2.67222	-1.79030	3.56236	0.03	0.05	-0.08	-0.07	0.07	0.07
							-0.04	0.03	0.01	0.04	-0.03	0.04
4 10	0.403236	4.28420	-0.405694	2.83623	-1.78998	3.56242	-0.03	0.08	-0.02	-0.07	0.04	0.06
							0.02	-0.08	0.04	0.05	-0.03	0.05
5 9	0.308930	4.11543	-0.311551	3.00451	-1.79041	3.56231	-0.05	0.06	0.00	0.01	-0.02	0.04
							-0.03	0.00	0.03	0.02	-0.02	0.03
6 8	0.185826	3.89489	-0.188566	3.22474	-1.78997	3.56226	-0.02	0.05	0.02	-0.09	0.04	0.06
							-0.04	0.07	-0.05	0.02	-0.01	0.05

WEIGHTED MEAN COORDINATES OF S -1.79027 3.56232 SLOPE OF AXIS -2999.9 SECONDS
 INCREMENTS -0.00027 3.55232 ITERATION 1
 HT. BY EXTENSION OF AXIS EQUATION 3.56245

PRINCIPAL POINT ON WIRES 3.53639 3.53234 3.52807 3.52216 3.51467
 RESIDUALS OF FITTED LINE 0.02 0.04 -0.04 -0.07 0.06 STD. DEVIATION 0.06 SLOPE -0.014545

POINTS	CONSTANTS OF UPPER AND LOWER RADIAL LINES				COORDINATES OF S		RESIDUALS OF LINE HEIGHTS					STD.DEV.
	M'	M''	N'	N''	L	H						
1 13	0.506642	4.64846	-0.608799	2.47215	-1.79055	3.56224	-0.02	0.10	-0.12	0.03	0.01	0.08
							-0.06	0.01	0.07	0.00	-0.03	0.05
2 12	0.558266	4.56173	-0.560840	2.55835	-1.79015	3.56234	0.01	-0.00	-0.01	-0.01	0.01	0.01
							-0.03	0.17	-0.10	-0.14	0.10	0.13
3 11	0.494696	4.44801	-0.497199	2.67223	-1.79030	3.56236	0.03	0.05	-0.08	-0.07	0.07	0.07
							-0.04	0.03	0.01	0.04	-0.03	0.04
4 10	0.403236	4.28420	-0.405694	2.83623	-1.78998	3.56242	-0.03	0.08	-0.02	-0.07	0.04	0.06
							0.02	-0.08	0.04	0.05	-0.03	0.05
5 9	0.308930	4.11543	-0.311552	3.00451	-1.79041	3.56232	-0.05	0.06	0.00	0.01	-0.02	0.04
							-0.03	0.00	0.03	0.02	-0.02	0.03
6 8	0.185826	3.89489	-0.188567	3.22474	-1.78997	3.56226	-0.02	0.05	0.02	-0.09	0.04	0.06
							-0.04	0.07	-0.05	0.02	-0.01	0.05

WEIGHTED MEAN COORDINATES OF S -1.79027 3.56232 SLOPE OF AXIS -2999.9 SECONDS
 INCREMENTS 0.00000 0.00000 ITERATION 2
 HT. BY EXTENSION OF AXIS EQUATION 3.56245
 SEC.SQD.W = 1.000212 TAN.W = -0.014545

CAMERA 113D DIAGONAL 300-700 OBJECT DISTANCE 1,6M

PLATE -12 NOMINAL P.D. 166.03 APPROX. DIST. TO 1ST WIRE 1.175

DEFINED P.P. 199.665 200.067 SELECTED P.P. 199.490

PLATE Y COORD. OF IMAGE LINES 200.292 200.102 199.933 199.821 199.563

PRINCIPAL POINT ON WIRES 3.09731 3.09714 3.09688 3.09671 3.09639
 RESIDUALS OF FITTED LINE -0.03 0.00 0.07 -0.03 -0.00 STD. DEVIATION 0.04 SLOPE -0.000925

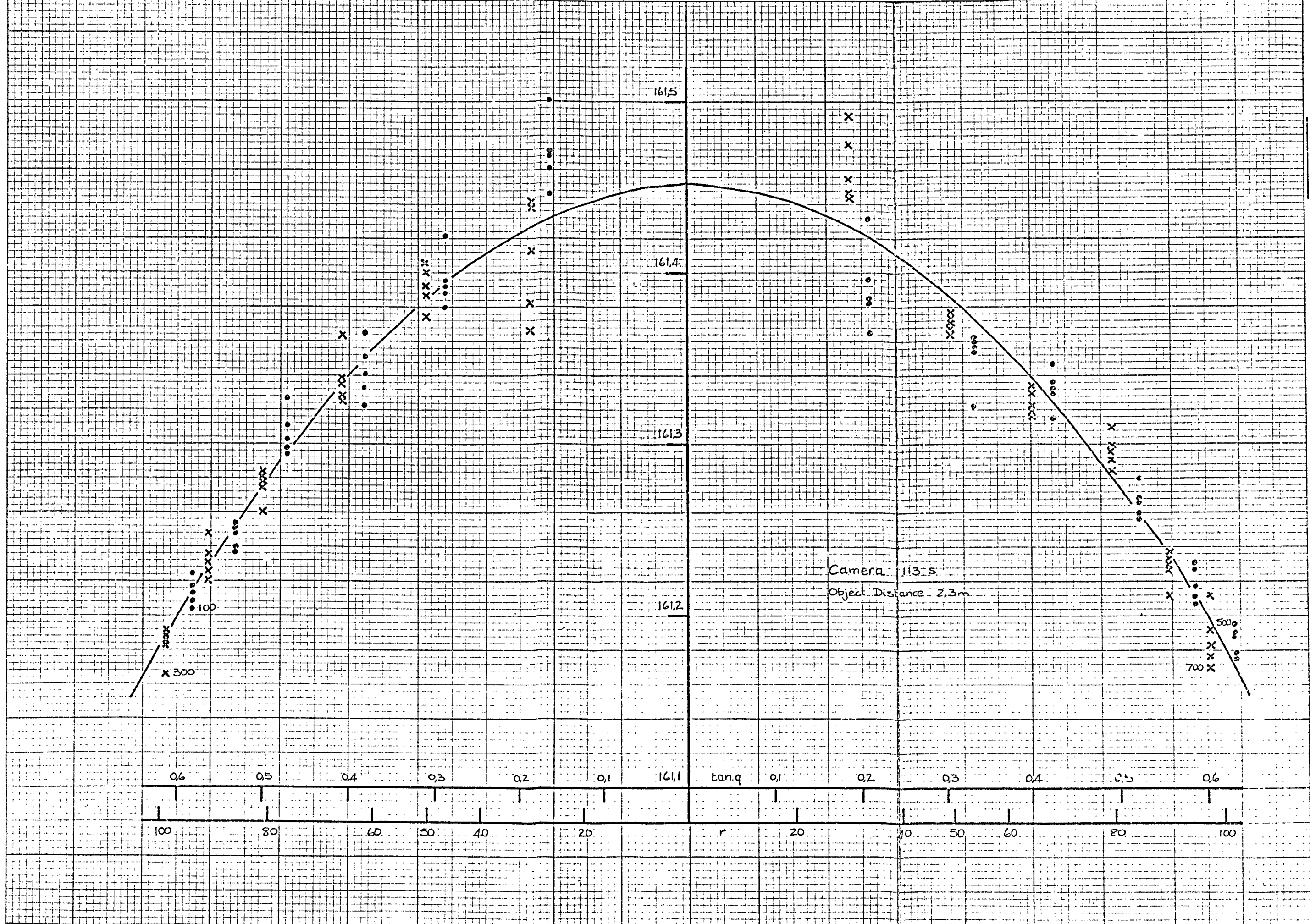
POINTS	CONSTANTS OF UPPER AND LOWER RADIAL LINES				COORDINATES OF S		RESIDUALS OF LINE HEIGHTS					STD.DEV.
	M'	M''	N'	N''	L	H						
1 13	0.588088	3.79033	-0.589652	2.40500	-1.17626	3.09858	0.01	-0.07	0.10	-0.06	0.01	0.07
							-0.08	0.05	0.04	0.04	-0.05	0.06
2 12	0.540770	3.73404	-0.542533	2.46075	-1.17538	3.09843	-0.12	0.08	0.12	-0.10	0.01	0.10
							-0.02	-0.00	0.04	-0.01	-0.01	0.02
3 11	0.482647	3.66566	-0.483262	2.53056	-1.17517	3.09847	-0.08	0.05	0.06	-0.01	-0.02	0.06
							-0.14	0.15	0.00	0.04	-0.05	0.10
4 10	0.391945	3.55896	-0.393500	2.63617	-1.17486	3.09848	-0.06	-0.00	0.07	0.04	-0.06	0.06
							-0.05	0.07	-0.04	0.04	-0.03	0.05
5 9	0.300607	3.45153	-0.301023	2.74479	-1.17470	3.09841	-0.04	0.01	0.05	-0.03	-0.00	0.03
							-0.05	0.02	0.05	0.00	-0.02	0.04
6 8	0.180823	3.31072	-0.182397	2.88417	-1.17435	3.09837	-0.01	-0.01	0.03	-0.01	-0.00	0.02
							-0.03	0.02	0.02	0.00	-0.01	0.02

WEIGHTED MEAN COORDINATES OF S -1.17531 3.09848 SLOPE OF AXIS -190.9 SECONDS
 INCREMENTS -0.00031 3.09848 ITERATION 1
 HT. BY EXTENSION OF AXIS EQUATION 3.09836

PRINCIPAL POINT ON WIRES 3.09731 3.09714 3.09688 3.09671 3.09639
 RESIDUALS OF FITTED LINE -0.03 0.00 0.07 -0.03 -0.00 STD. DEVIATION 0.04 SLOPE -0.000925

POINTS	CONSTANTS OF UPPER AND LOWER RADIAL LINES				COORDINATES OF S		RESIDUALS OF LINE HEIGHTS					STD.DEV.
	M'	M''	N'	N''	L	H						
1 13	0.588089	3.79033	-0.589653	2.40500	-1.17626	3.09858	0.01	-0.07	0.10	-0.06	0.01	0.07
							-0.08	0.05	0.04	0.04	-0.05	0.06
2 12	0.540771	3.73404	-0.542534	2.46075	-1.17538	3.09843	-0.11	0.08	0.12	-0.09	0.01	0.10
							-0.02	-0.00	0.04	-0.01	-0.01	0.02
3 11	0.482648	3.66566	-0.483262	2.53056	-1.17516	3.09847	-0.08	0.05	0.06	-0.01	-0.02	0.06
							-0.14	0.14	0.00	0.04	-0.05	0.10
4 10	0.391947	3.55896	-0.393501	2.63617	-1.17486	3.09848	-0.06	-0.00	0.07	0.04	-0.06	0.06
							-0.05	0.07	-0.04	0.04	-0.03	0.05
5 9	0.300607	3.45153	-0.301023	2.74479	-1.17470	3.09840	-0.04	0.01	0.05	-0.03	-0.00	0.03
							-0.05	0.02	0.05	0.00	-0.02	0.04
6 8	0.180823	3.31072	-0.182397	2.88417	-1.17434	3.09837	-0.00	-0.01	0.03	-0.01	-0.00	0.02
							-0.03	0.02	0.02	0.00	-0.01	0.02

WEIGHTED MEAN COORDINATES OF S -1.17530 3.09847 SLOPE OF AXIS -190.9 SECONDS
 INCREMENTS 0.00000 -0.00000 ITERATION 2
 HT. BY EXTENSION OF AXIS EQUATION 3.09836
 SEC.SQD.W = 1.000001 TAN.W = -0.000925



0.6 0.5 0.4 0.3 0.2 0.1 161.1 tan q 0.1 0.2 0.3 0.4 0.5 0.6
100 80 60 50 40 20 r 20 10 50 60 80 100

Camera 113.5
Object Distance 2.3m

100

x 300

500
700

