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AUSTRALIAN ATOMIC ENERGY COMMISSION
RESEARCH ESTABLISHMENT

LUCAS HEIGHTS RESEARCH LABORATORIES

DATA BANK OF DEVELOPED SINGLE-PHASE FLOW THROUGH A
SQUARE-PITCH ROD CLUSTER FOR FOUR REYNOLDS NUMBERS

by

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ABSTRACT

Complete tabulated data of the mean velocity profiles, wall shear stress distribution and all components of the Reynolds stresses are presented for developed single-phase flow through a square-pitch rod array ($p/d = 1.107$) at Reynolds numbers of 22.6×10^3 , 46.3×10^3 , 133×10^3 and 207.6×10^3 .

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The following descriptors have been selected from the INIS Thesaurus to describe the subject content of this report for information retrieval purposes. For further details please refer to IAEA-INIS-12 (INIS: Manual for Indexing) and IAEA-INIS-13 (INIS: Thesaurus) published in Vienna by the International Atomic Energy Agency.

EXPERIMENTAL DATA; FLOW RATE; FUEL ELEMENT CLUSTERS; FUEL RODS; REACTOR LATTICE PARAMETERS; REYNOLDS NUMBER; SHEAR; SQUARE CONFIGURATION; STRESSES; TURBULENT FLOW; VELOCITY

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1. INTRODUCTION

Complete tabulated data of the mean velocity profiles, wall shear stress distribution and all components of the Reynolds stresses are presented for developed single-phase flow through a square-pitched rod array ($p/d = 1.107$) at Reynolds numbers of 22.6×10^3 , 46.3×10^3 , 133×10^3 and 207.6×10^3 . A discussion of the results and a graphical presentation of some of the data are given in Hooper et al. [1983].

1.1 Reference

Hooper, J.D., Wood, D.H. and Crawford, W.J. [1983] - Developed single-phase turbulent flow through a square-pitch rod cluster for an extended range of Reynolds numbers. AAEC/E558.

2. REYNOLDS NUMBER OF 22.6×10^3 2.1 Wall Shear Stress Distribution

AIR DENSITY 1.155 KG/M**3
 KINEMATIC VISCOSITY 1.622E-05 M**2/SEC

AVERAGE WALL SHEAR STRESS 0.0914 PA

ANGLE AND TW(THETA)

-85.0	0.064	-80.1	0.067	-75.1	0.077
-70.2	0.084	-64.9	0.091	-60.0	0.098
-55.0	0.103	-50.1	0.108	-45.1	0.109
-39.9	0.109	-35.0	0.105	-30.0	0.103
-25.1	0.099	-20.1	0.096	-15.2	0.086
-9.9	0.081	-5.0	0.079	0.0	0.077
4.9	0.079	9.8	0.083	15.1	0.089
20.0	0.094	25.0	0.098	29.9	0.100
34.9	0.105	39.8	0.108	45.0	0.112
50.0	0.108	54.9	0.103	59.9	0.098
64.8	0.089	70.1	0.081	75.0	0.079
80.0	0.070	84.9	0.064		

2.2 Mean Velocity Profiles

MEAN VELOCITY AT -10.0 DEGREES.
 WALL SHEAR STRESS 0.0814 PA
 FRICTION VELOCITY 0.2654 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00077	2.920	12.6	11.001
0.00127	3.090	20.8	11.641
0.00177	3.310	29.0	12.470
0.00277	3.560	45.3	13.412
0.00377	3.740	61.7	14.090
0.00477	3.850	78.1	14.504
0.00677	4.030	110.8	15.182
0.00877	4.070	143.5	15.333
0.01077	4.040	176.3	15.220
0.01277	3.910	209.0	14.730

MEAN VELOCITY AT -5.0 DEGREES.
 WALL SHEAR STRESS 0.0795 PA
 FRICTION VELOCITY 0.2623 M/SEC

Y (M)	U (M/SEC)	Y+	U+
0.00077	2.800	12.5	10.673
0.00127	3.050	20.5	11.626
0.00177	3.250	28.6	12.388
0.00277	3.520	44.8	13.417
0.00377	3.670	61.0	13.989
0.00477	3.780	77.2	14.409
0.00677	3.910	109.5	14.704
0.00877	3.910	141.8	14.904
0.01077	3.790	174.2	14.447

MEAN VELOCITY AT 0.0 DEGREES.
 WALL SHEAR STRESS 0.0766 PA
 FRICTION VELOCITY 0.2575 M/SEC

Y (M)	U (M/SEC)	Y+	U+
0.00077	2.850	12.2	11.069
0.00127	3.130	20.2	12.157
0.00177	3.330	28.1	12.933
0.00277	3.540	44.0	13.749
0.00377	3.770	59.8	14.642
0.00477	3.770	75.7	14.642
0.00677	3.880	107.5	15.069
0.00877	3.880	139.2	15.069
0.01077	3.740	171.0	14.526

MEAN VELOCITY AT 5.0 DEGREES.
 WALL SHEAR STRESS 0.0796 PA
 FRICTION VELOCITY 0.2625 M/SEC

Y (M)	U (M/SEC)	Y+	U+
0.00077	2.800	12.5	10.668
0.00127	3.130	20.6	11.925
0.00177	3.310	28.6	12.611
0.00277	3.540	44.8	13.487
0.00377	3.700	61.0	14.097
0.00477	3.780	77.2	14.401
0.00677	3.910	109.6	14.897
0.00877	3.940	141.9	15.011
0.01077	3.810	174.3	14.516
0.01277	3.530	206.6	13.449

MEAN VELOCITY AT 10.0 DEGREES.
 WALL SHEAR STRESS 0.0836 PA
 FRICTION VELOCITY 0.2690 M/SEC

Y (M)	U (M/SEC)	Y+	U+
0.00077	2.850	12.8	10.596
0.00127	3.160	21.1	11.748
0.00177	3.360	29.4	12.492
0.00277	3.600	45.9	13.384
0.00377	3.760	62.5	13.979
0.00477	3.870	79.1	14.388
0.00677	4.060	112.3	15.094
0.00877	4.080	145.4	15.169
0.01077	4.060	178.6	15.094
0.01277	3.910	211.8	14.536
0.01377	3.810	228.3	14.165

MEAN VELOCITY AT 15.0 DEGREES.
 WALL SHEAR STRESS 0.0892 PA
 FRICTION VELOCITY 0.2778 M/SEC

Y (M)	U (M/SEC)	Y+	U+
0.00077	2.910	13.2	10.474
0.00127	3.320	21.8	11.949
0.00177	3.500	30.3	12.597
0.00277	3.720	47.4	13.389
0.00377	3.890	64.6	14.001
0.00477	4.010	81.7	14.433
0.00677	4.150	116.0	14.936
0.00877	4.280	150.2	15.404
0.01077	4.310	184.5	15.512
0.01277	4.270	218.7	15.368
0.01477	4.210	253.0	15.152
0.01677	4.100	287.3	14.757
0.01877	3.920	321.5	14.109

MEAN VELOCITY AT 20.0 DEGREES.
 WALL SHEAR STRESS 0.0937 PA
 FRICTION VELOCITY 0.2849 M/SEC

Y (M)	U (M/SEC)	Y+	U+
0.00077	3.070	13.5	10.777
0.00127	3.450	22.3	12.110
0.00177	3.620	31.1	12.707
0.00277	3.870	48.7	13.585
0.00377	4.030	66.2	14.146
0.00477	4.150	83.8	14.568
0.00677	4.290	118.9	15.059
0.00877	4.420	154.0	15.515
0.01077	4.470	189.2	15.691
0.01277	4.510	224.5	15.831
0.01477	4.540	259.4	15.937
0.01677	4.430	294.5	15.950
0.01877	4.490	329.7	15.761
0.02077	4.410	364.8	15.480
0.02277	4.320	399.9	15.164

MEAN VELOCITY AT 25.0 DEGREES.
 WALL SHEAR STRESS 0.0984 PA
 FRICTION VELOCITY 0.2919 M/SEC

Y (M)	U (M/SEC)	Y+	U+
0.00077	3.250	13.9	11.135
0.00127	3.570	22.9	12.231
0.00177	3.760	31.9	12.882
0.00277	3.970	49.8	13.602
0.00377	4.120	67.8	14.116
0.00477	4.260	85.8	14.595
0.00677	4.450	121.8	15.246
0.00877	4.600	157.8	15.760
0.01077	4.690	193.8	16.069
0.01277	4.750	229.8	16.274
0.01477	4.810	265.8	16.480
0.01677	4.830	301.8	16.548
0.01877	4.860	337.8	16.651
0.02077	4.870	373.7	16.685
0.02277	4.850	409.7	16.617
0.02477	4.820	445.7	16.514
0.02677	4.810	481.7	16.480
0.02877	4.800	517.7	16.445
0.03077	4.720	553.7	16.171

MEAN VELOCITY AT 30.0 DEGREES.
 WALL SHEAR STRESS 0.1004 PA
 FRICTION VELOCITY 0.2948 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00077	3.360	14.0	11.396
0.00127	3.570	23.1	12.108
0.00177	3.800	32.2	12.888
0.00277	4.040	50.4	13.702
0.00377	4.240	68.5	14.381
0.00477	4.410	86.7	14.957
0.00677	4.600	123.1	15.602
0.00877	4.720	159.4	16.009
0.01077	4.850	195.8	16.450
0.01277	4.950	232.1	16.789
0.01477	5.060	268.5	17.162
0.01677	5.080	304.8	17.230
0.01877	5.140	341.2	17.433
0.02077	5.170	377.5	17.535
0.02277	5.220	413.9	17.705
0.02477	5.240	450.3	17.772
0.02677	5.260	486.6	17.840
0.02877	5.290	523.0	17.942
0.03077	5.280	559.3	17.908
0.03277	5.300	595.7	17.976
0.03477	5.320	632.0	18.044
0.03677	5.290	668.4	17.942

MEAN VELOCITY AT 35.0 DEGREES.
 WALL SHEAR STRESS 0.1049 PA
 FRICTION VELOCITY 0.3014 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00077	3.400	14.3	11.280
0.00127	3.620	23.6	12.010
0.00177	3.860	32.9	12.806
0.00277	4.170	51.5	13.834
0.00377	4.340	70.1	14.398
0.00477	4.480	88.6	14.863
0.00577	4.580	107.2	15.195
0.00677	4.650	125.8	15.427
0.00877	4.830	163.0	16.024
0.01077	4.940	200.1	16.389
0.01277	5.080	237.3	16.854
0.01477	5.160	274.5	17.119
0.01677	5.230	311.6	17.351
0.01977	5.330	367.4	17.683
0.02277	5.420	423.1	17.981
0.02577	5.470	478.9	18.147
0.02877	5.510	534.6	18.280
0.03177	5.550	590.4	18.413
0.03677	5.590	683.3	18.545
0.04177	5.530	776.2	18.346
0.04677	5.470	869.1	18.147

MEAN VELOCITY AT 40.0 DEGREES.
 WALL SHEAR STRESS 0.1078 PA
 FRICTION VELOCITY 0.3055 M/SEC

Y (M)	U (M/SEC)	Y+	U+
0.00077	3.760	14.5	12.308
0.00127	3.790	23.9	12.406
0.00177	3.960	33.3	12.962
0.00277	4.250	52.2	13.912
0.00377	4.420	71.0	14.468
0.00477	4.570	89.8	14.959
0.00577	4.670	108.7	15.286
0.00677	4.780	127.5	15.646
0.00877	4.950	165.2	16.203
0.01077	5.090	202.9	16.661
0.01277	5.220	240.5	17.087
0.01477	5.310	278.2	17.381
0.01677	5.380	315.9	17.510
0.01977	5.470	372.4	17.905
0.02277	5.580	428.9	18.265
0.02577	5.650	485.4	18.494
0.02877	5.690	541.9	18.625
0.03177	5.730	598.4	18.756
0.03677	5.770	692.6	18.887
0.04177	5.730	786.7	18.756
0.04677	5.640	880.9	18.461
0.05177	5.490	975.1	17.970

MEAN VELOCITY AT 45.0 DEGREES.
 WALL SHEAR STRESS 0.1122 PA
 FRICTION VELOCITY 0.3117 M/SEC

Y (M)	U (M/SEC)	Y+	U+
0.00077	3.480	14.8	11.166
0.00127	3.830	24.4	12.289
0.00177	4.030	34.0	12.931
0.00277	4.280	53.2	13.733
0.00377	4.440	72.4	14.246
0.00477	4.600	91.7	14.760
0.00577	4.720	110.9	15.145
0.00677	4.790	130.1	15.369
0.00877	4.980	168.5	15.979
0.01077	5.130	206.9	16.460
0.01277	5.220	245.4	16.749
0.01477	5.360	283.8	17.198
0.01677	5.460	322.2	17.519
0.01977	5.530	379.9	17.743
0.02277	5.630	437.5	18.064
0.02577	5.710	495.2	18.321
0.02877	5.750	552.8	18.449
0.03177	5.750	610.5	18.449
0.03677	5.760	706.5	18.481
0.04177	5.700	802.6	18.289
0.04677	5.620	898.7	18.032
0.05177	5.460	994.7	17.519
0.05677	5.290	1090.8	16.973

MEAN VELOCITY AT 50.0 DEGREES.
WALL SHEAR STRESS 0.1076 PA
FRICTION VELOCITY 0.3053 M/SEC

Y (M)	U (M/SEC)	Y+	U+
0.00077	3.420	14.5	11.204
0.00127	3.710	23.9	12.154
0.00177	3.940	33.3	12.907
0.00277	4.180	52.1	13.694
0.00377	4.390	70.9	14.382
0.00477	4.460	89.8	14.611
0.00577	4.620	108.6	15.135
0.00677	4.730	127.4	15.495
0.00877	4.910	165.0	16.085
0.01077	5.070	202.7	16.609
0.01277	5.190	240.3	17.002
0.01477	5.270	278.0	17.264
0.01677	5.380	315.6	17.625
0.01977	5.460	372.1	17.887
0.02277	5.520	428.5	18.083
0.02577	5.560	485.0	18.214
0.02877	5.610	541.4	18.378
0.03177	5.590	597.9	18.313
0.03677	5.560	692.0	18.214
0.04177	5.490	786.1	17.985
0.04677	5.450	880.2	17.854
0.05177	5.390	974.3	17.659

2.3 Reynolds Stresses

SCAN ANGLE = 10

Y/YMAX	U	V	W	UV	UW	VW	R
0.575	1.629	0.648	1.320	0.382	0.650	-0.078	2.408
0.632	1.605	0.679	1.340	0.362	0.726	0.003	2.416
0.690	1.570	0.671	1.345	0.331	0.776	0.083	2.361
0.747	1.564	0.609	1.313	0.298	0.679	-0.076	2.271
0.805	1.527	0.663	1.349	0.241	0.879	-0.008	2.296
0.862	1.531	0.571	1.314	0.195	0.914	-0.023	2.156
0.920	1.501	0.601	1.327	0.184	0.928	0.012	2.165
0.977	1.498	0.603	1.320	0.135	0.921	0.041	2.170
1.035	1.486	0.592	1.320	0.108	0.757	0.020	2.151
1.092	1.475	0.627	1.322	0.087	0.757	0.078	2.158
1.150	1.489	0.604	1.303	0.027	0.950	0.096	2.140
1.207	1.502	0.632	1.292	0.031	0.948	0.093	2.162

SCAN ANGLE = 5

Y/YMAX	U	V	W	UV	UW	VW	R
0.641	1.568	0.622	1.425	0.317	0.462	-0.214	2.438
0.692	1.516	0.661	1.439	0.298	0.501	-0.174	2.403
0.744	1.482	0.630	1.423	0.231	0.514	-0.255	2.309
0.795	1.473	0.580	1.446	0.186	0.581	-0.218	2.299
0.846	1.446	0.527	1.374	0.169	0.545	-0.155	2.128
0.898	1.384	0.582	1.431	0.123	0.573	-0.199	2.157
0.949	1.367	0.704	1.393	0.010	0.635	-0.403	2.152
1.000	1.355	0.603	1.412	0.058	0.595	-0.117	2.097
1.052	1.355	0.594	1.400	0.007	0.602	-0.112	2.075
1.103	1.361	0.552	1.407	0.003	0.616	-0.057	2.068
1.154	1.341	0.638	1.417	-0.035	0.611	-0.051	2.106
1.206	1.365	0.622	1.367	-0.073	0.589	-0.065	2.059

SCAN ANGLE = 0

Y/YMAX	U	V	W	UV	UW	VW	R
0.666	1.487	0.691	1.495	0.297	0.076	-0.393	2.461
0.706	1.455	0.684	1.502	0.260	0.080	-0.300	2.422
0.746	1.424	0.672	1.507	0.221	0.070	-0.496	2.375
0.786	1.392	0.674	1.482	0.189	0.093	-0.439	2.294
0.826	1.355	0.698	1.519	0.166	0.060	-0.340	2.315
0.867	1.355	0.675	1.506	0.131	0.063	-0.354	2.290
0.907	1.319	0.707	1.517	0.100	0.079	-0.364	2.269
0.947	1.310	0.683	1.527	0.065	0.050	-0.260	2.257
0.987	1.298	0.683	1.514	0.041	0.053	-0.344	2.221
1.027	1.282	0.719	1.523	0.015	0.089	-0.307	2.240
1.067	1.291	0.688	1.511	-0.029	0.060	-0.269	2.212
1.107	1.294	0.703	1.521	-0.050	0.064	-0.344	2.241

SCAN ANGLE 5							
Y/YMAX	U	V	W	UV	UW	VW	U
1.495	1.424	0.750	1.424	0.336	-0.361	-0.403	2.414
0.692	1.440	0.792	1.437	0.298	-0.373	-0.450	2.383
0.744	1.404	0.759	1.435	0.261	-0.385	-0.548	2.305
0.795	1.358	0.799	1.468	0.238	-0.424	-0.402	2.318
0.846	1.332	0.804	1.484	0.187	-0.450	-0.433	2.311
0.898	1.318	0.815	1.474	0.154	-0.473	-0.530	2.287
0.949	1.309	0.787	1.456	0.123	-0.513	-0.485	2.225
1.000	1.300	0.764	1.438	0.071	-0.516	-0.586	2.185
1.052	1.300	0.776	1.456	0.041	-0.516	-0.388	2.221
1.103	1.315	0.777	1.448	0.009	-0.544	-0.451	2.215
1.154	1.309	0.839	1.472	-0.036	-0.535	-0.388	2.294
1.206	1.336	0.821	1.475	-0.070	-0.558	-0.307	2.318
SCAN ANGLE 10							
Y/YMAX	U	V	W	UV	UW	VW	U
1.582	0.872	1.321	0.444	-0.614	-0.327	-0.327	2.571
0.632	1.565	0.835	1.244	0.411	-0.664	-0.479	2.478
0.690	1.530	0.880	1.463	0.383	-0.722	-0.444	2.487
0.747	1.506	0.907	1.407	0.344	-0.798	-0.384	2.535
0.805	1.486	0.869	1.525	0.315	-0.848	-0.484	2.469
0.862	1.473	0.864	1.373	0.278	-0.848	-0.555	2.418
0.920	1.445	0.903	1.408	0.239	-0.911	-0.469	2.437
0.977	1.453	0.871	1.491	0.203	-0.931	-0.468	2.402
1.035	1.447	0.930	1.377	0.167	-0.916	-0.561	2.427
1.092	1.455	0.920	1.393	0.109	-0.967	-0.458	2.453
1.150	1.471	0.895	1.385	0.072	-0.969	-0.441	2.442
1.207	1.510	0.897	1.366	0.046	-0.943	-0.440	2.475
SCAN ANGLE 15							
Y/YMAX	U	V	W	UV	UW	VW	U
1.681	0.897	1.175	0.504	-0.596	-0.339	-0.339	2.506
0.547	1.668	0.865	1.186	0.500	-0.697	-0.297	2.469
0.606	1.624	0.920	1.227	0.467	-0.755	-0.330	2.495
0.664	1.613	0.906	1.197	0.449	-0.793	-0.492	2.428
0.723	1.604	0.903	1.216	0.456	-0.874	-0.397	2.433
0.781	1.617	0.877	1.230	0.414	-0.971	-0.439	2.449
0.840	1.596	0.939	1.265	0.422	-0.994	-0.440	2.515
0.899	1.607	0.950	1.261	0.369	-1.058	-0.319	2.537
0.957	1.706	0.936	1.250	0.366	-1.077	-0.480	2.508
1.016	1.605	0.941	1.249	0.334	-1.090	-0.420	2.511
1.075	1.617	0.911	1.245	0.316	-1.110	-0.548	2.498
1.133	1.606	0.952	1.242	0.250	-1.092	-0.597	2.514

SCAN ANGLE 20

Y/YMAX	U	V	W	UV	UW	VW	Q
0.400	1.603	0.850	1.103	0.457	-0.415	-0.119	2.254
0.473	1.588	0.804	1.065	0.457	-0.452	-0.265	2.151
0.545	1.559	0.864	1.098	0.452	-0.579	-0.191	2.192
0.617	1.583	0.846	1.062	0.443	-0.660	-0.321	2.176
0.689	1.580	0.885	1.099	0.449	-0.770	-0.274	2.245
0.761	1.582	0.860	1.098	0.429	-0.804	-0.310	2.213
0.833	1.588	0.847	1.088	0.396	-0.864	-0.336	2.211
0.906	1.591	0.892	1.070	0.388	-0.894	-0.190	2.256
0.978	1.593	0.889	1.084	0.377	-0.938	0.158	2.237
1.050	1.595	0.909	1.076	0.337	-0.946	-0.377	2.233
1.122	1.591	0.932	1.084	0.284	-0.919	0.187	2.286
1.194	1.602	0.972	1.038	0.257	-0.793	0.167	2.293

SCAN ANGLE 25

Y/YMAX	U	V	W	UV	UW	VW	Q
0.322	1.548	0.882	1.145	0.475	-0.323	-0.060	2.243
0.399	1.527	0.845	1.091	0.454	-0.312	-0.094	2.110
0.477	1.526	0.836	1.067	0.454	-0.375	-0.101	2.084
0.554	1.538	0.865	1.059	0.464	-0.386	-0.035	2.117
0.631	1.546	0.860	1.042	0.432	-0.546	-0.217	2.107
0.709	1.569	0.856	1.011	0.432	-0.624	-0.023	2.108
0.786	1.571	0.882	1.023	0.408	-0.696	-0.323	2.146
0.864	1.578	0.906	1.011	0.406	-0.722	-0.256	2.166
0.941	1.592	0.885	0.998	0.371	-0.756	-0.363	2.157
1.018	1.583	0.927	1.013	0.363	-0.787	-0.302	2.195
1.096	1.562	1.019	1.044	0.299	-0.782	-0.337	2.283
1.173	1.557	1.004	1.012	0.252	-0.732	-0.410	2.238

SCAN ANGLE 30

Y/YMAX	U	V	W	UV	UW	VW	Q
0.256	1.600	0.864	1.266	0.529	-0.125	-0.124	2.455
0.338	1.527	0.908	1.190	0.507	-0.151	-0.054	2.286
0.420	1.505	0.832	1.107	0.473	-0.224	0.006	2.092
0.502	1.484	0.850	1.084	0.444	-0.295	-0.088	2.050
0.585	1.488	0.874	1.069	0.426	-0.378	-0.072	2.060
0.667	1.493	0.877	1.053	0.428	-0.440	-0.116	2.035
0.749	1.521	0.870	1.014	0.414	-0.516	-0.387	2.050
0.831	1.522	0.922	1.025	0.409	-0.563	-0.256	2.109
0.913	1.541	0.888	0.947	0.367	-0.590	-0.195	2.030
0.995	1.516	0.977	0.993	0.346	-0.602	-0.267	2.120
1.077	1.510	1.014	0.957	0.326	-0.592	-0.199	2.113
1.159	1.504	1.013	0.947	0.280	-0.592	-0.222	2.093

Y/YMAX	U	U	U	U	U	U	U
1.184	1.009	0.740	0.684	0.033	-0.140	-0.060	1.017
1.090	1.059	0.761	0.690	0.107	-0.162	-0.027	1.090
0.997	1.129	0.736	0.720	0.147	-0.187	-0.075	1.163
0.904	1.193	0.716	0.739	0.184	-0.205	-0.151	1.238
0.811	1.236	0.745	0.753	0.218	-0.223	-0.106	1.360
0.718	1.268	0.737	0.857	0.259	-0.235	-0.058	1.443
0.625	1.288	0.781	0.728	0.288	-0.210	-0.080	1.566
0.532	1.326	0.816	1.000	0.343	-0.162	-0.043	1.712
0.439	1.354	0.919	1.135	0.397	-0.120	0.041	1.983
0.346	1.405	0.933	1.238	0.445	-0.093	-0.122	2.188
0.253	1.506	0.925	1.324	0.534	-0.053	-0.121	2.439
0.160	1.563	1.008	1.443	0.651	-0.049	-0.081	2.922

SCAN ANGLE 40

Y/YMAX	U	U	U	U	U	U	U
1.186	1.358	0.937	0.838	0.200	-0.366	-0.101	1.708
1.097	1.385	0.940	0.863	0.261	-0.394	-0.074	1.773
1.007	1.414	0.906	0.887	0.274	-0.414	-0.164	1.802
0.918	1.439	0.885	0.907	0.321	-0.438	-0.204	1.839
0.829	1.455	0.884	0.760	0.365	-0.417	-0.084	1.886
0.739	1.442	0.869	0.992	0.350	-0.391	-0.157	1.909
0.650	1.430	0.874	1.035	0.387	-0.344	-0.100	1.939
0.560	1.431	0.872	1.087	0.407	-0.290	-0.102	1.995
0.471	1.434	0.873	1.131	0.447	-0.212	0.062	2.048
0.382	1.456	0.873	1.185	0.473	-0.172	-0.014	2.144
0.292	1.502	0.907	1.287	0.518	-0.098	-0.057	2.368
0.203	1.630	0.924	1.366	0.598	-0.082	-0.092	2.688

SCAN ANGLE 35

SCAN ANGLE		45					
Y/YMAX	U	V	W	UV	UW	VW	Q
0.126	1.693	0.982	1.423	0.638	0.015	-0.378	2.929
0.199	1.536	0.924	1.310	0.570	0.025	-0.106	2.466
0.272	1.425	0.923	1.227	0.512	0.000	-0.073	2.194
0.345	1.310	0.860	1.105	0.398	0.009	-0.159	1.839
0.419	1.228	0.815	1.013	0.329	-0.028	-0.020	1.599
0.492	1.148	0.743	0.918	0.245	-0.039	-0.048	1.356
0.565	1.064	0.724	0.857	0.194	-0.049	-0.027	1.195
0.638	1.014	0.686	0.783	0.146	-0.033	-0.059	1.055
0.712	0.950	0.664	0.719	0.104	-0.020	-0.054	0.931
0.785	0.894	0.653	0.687	0.063	-0.004	-0.049	0.834
0.858	0.859	0.638	0.639	0.025	0.004	-0.074	0.777
0.931	0.838	0.662	0.649	-0.014	0.008	-0.028	0.780
1.005	0.836	0.671	0.647	-0.059	0.012	-0.033	0.784
1.078	0.862	0.693	0.662	-0.107	0.003	0.002	0.831
1.151	0.905	0.714	0.696	-0.157	0.015	-0.054	0.907
1.224	0.972	0.720	0.708	-0.198	0.005	-0.019	0.983

SCAN ANGLE		50					
Y/YMAX	U	V	W	UV	UW	VW	Q
0.160	1.693	0.988	1.404	0.677	0.111	-0.137	2.907
0.253	1.562	0.962	1.287	0.639	0.107	-0.118	2.511
0.346	1.457	0.926	1.208	0.532	0.090	-0.148	2.217
0.439	1.330	0.907	1.126	0.443	0.076	-0.084	1.929
0.532	1.218	0.851	1.019	0.360	0.058	-0.048	1.625
0.625	1.120	0.770	0.909	0.250	0.075	-0.049	1.337
0.718	1.019	0.751	0.844	0.191	0.099	-0.073	1.158
0.811	0.946	0.755	0.783	0.129	0.100	-0.004	1.039
0.904	0.907	0.724	0.777	0.066	0.125	-0.038	0.975
0.997	0.891	0.710	0.749	0.035	0.144	0.003	0.930
1.090	0.884	0.720	0.744	-0.002	0.147	0.025	0.927
1.184	0.895	0.714	0.739	-0.031	0.150	0.014	0.928

3. REYNOLDS NUMBER OF 46.3×10^3 3.1 Wall Shear Stress Distribution

AIR DENSITY 1.218 KG/M**3
 KINEMATIC VISCOSITY 1.475E-05 M**2/SEC

AVERAGE WALL SHEAR STRESS 0.2412 PA

ANGLE AND TW(THETA)

0.0	0.202	4.9	0.209	-5.0	0.207
-9.9	0.209	-15.2	0.225	-20.1	0.243
-25.1	0.254	-30.0	0.263	-35.0	0.276
-39.9	0.285	-45.1	0.291	-50.1	0.285
-55.0	0.274	-60.0	0.263	-64.9	0.240
-70.2	0.225	-75.1	0.202	-80.1	0.173
-85.0	0.157	9.8	0.221	15.1	0.234
20.0	0.252	25.0	0.267	29.9	0.278
34.9	0.287	39.8	0.291	45.0	0.298
50.0	0.294	54.9	0.281	59.9	0.256
64.8	0.240	70.1	0.223	75.0	0.202
80.0	0.173	84.9	0.157		

3.2 Mean Velocity Profiles

MEAN VELOCITY AT -60.0 DEGREES.
 WALL SHEAR STRESS 0.2631 PA
 FRICTION VELOCITY 0.4648 M/SEC

Y (M)	U (M/SEC)	Y+	U+
0.00240	7.320	75.6	15.748
0.00290	7.450	91.4	16.028
0.00340	7.530	107.1	16.200
0.00440	7.700	138.7	16.566
0.00540	7.950	170.2	17.104
0.00640	8.160	201.7	17.555
0.00739	8.350	232.9	17.964
0.00840	8.470	264.7	18.222
0.01040	8.710	327.7	18.739
0.01240	8.940	390.8	19.234
0.01439	9.100	453.5	19.578
0.01639	9.270	516.5	19.944
0.01840	9.380	579.8	20.180
0.02040	9.450	642.9	20.331
0.02339	9.400	737.1	20.223
0.02839	9.250	894.6	19.901

MEAN VELOCITY AT -50.0 DEGREES.
 WALL SHEAR STRESS 0.2850 PA
 FRICTION VELOCITY 0.4837 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00240	7.800	78.7	16.125
0.00290	7.920	95.1	16.374
0.00390	8.110	127.9	16.766
0.00489	8.330	160.4	17.221
0.00589	8.590	193.2	17.759
0.00689	8.690	225.9	17.965
0.00790	8.870	259.1	18.338
0.00890	8.920	291.9	18.441
0.00990	9.120	324.7	18.854
0.01189	9.360	389.9	19.351
0.01389	9.540	455.5	19.723
0.01590	9.680	521.4	20.012
0.01789	9.780	586.7	20.219
0.01989	9.950	652.3	20.570
0.02289	10.090	750.6	20.860
0.02589	10.130	849.0	20.942
0.02889	10.180	947.4	21.046
0.03189	10.170	1045.8	21.025
0.03489	10.150	1144.2	20.984
0.04589	9.990	1504.9	20.653

MEAN VELOCITY AT -45.0 DEGREES.
 WALL SHEAR STRESS 0.2908 PA
 FRICTION VELOCITY 0.4886 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00240	7.800	79.5	15.964
0.00290	8.000	96.1	16.373
0.00390	8.230	129.2	16.844
0.00489	8.540	162.0	17.479
0.00589	8.690	195.1	17.786
0.00689	8.800	228.2	18.011
0.00790	9.010	261.7	18.440
0.00890	9.090	294.8	18.604
0.01090	9.360	361.1	19.157
0.01290	9.570	427.3	19.587
0.01489	9.630	493.2	19.709
0.01689	9.890	559.5	20.242
0.01889	9.990	625.7	20.446
0.02089	10.150	692.0	20.774
0.02390	10.270	791.7	21.019
0.02789	10.400	923.9	21.285
0.03189	10.470	1056.4	21.429
0.03589	10.470	1188.9	21.429
0.04089	10.430	1354.5	21.347
0.04589	10.250	1520.1	20.978
0.05089	9.990	1685.7	20.446
0.05589	9.620	1851.4	19.689
0.06089	9.250	2017.0	18.932
0.06589	8.800	2182.6	18.011

MEAN VELOCITY AT -40.0 DEGREES.
 WALL SHEAR STRESS 0.2847 PA
 FRICTION VELOCITY 0.4835 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00240	7.800	78.7	16.134
0.00290	8.000	95.1	16.548
0.00390	8.300	127.8	17.168
0.00489	8.350	160.3	17.272
0.00589	8.640	193.1	17.871
0.00689	8.820	225.8	18.244
0.00790	8.960	258.9	18.533
0.00890	9.050	291.7	18.719
0.00990	9.140	324.5	18.906
0.01189	9.400	389.7	19.443
0.01389	9.570	455.3	19.795
0.01590	9.780	521.1	20.229
0.01789	9.920	586.4	20.519
0.01989	10.030	651.9	20.747
0.02289	10.200	750.3	21.098
0.02589	10.310	848.6	21.326
0.02889	10.430	946.9	21.574
0.03189	10.470	1045.2	21.657
0.03489	10.500	1143.6	21.719
0.04589	10.340	1504.1	21.388

MEAN VELOCITY AT -35.0 DEGREES.
 WALL SHEAR STRESS 0.2762 PA
 FRICTION VELOCITY 0.4762 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00240	7.640	77.5	16.044
0.00290	7.800	93.6	16.380
0.00390	8.130	125.9	17.074
0.00489	8.300	157.9	17.431
0.00589	8.500	190.1	17.851
0.00689	8.640	222.4	18.145
0.00790	8.780	255.0	18.439
0.00890	8.940	287.3	18.775
0.00990	9.050	319.6	19.006
0.01189	9.250	383.8	19.426
0.01389	9.400	448.4	19.741
0.01590	9.550	513.3	20.056
0.01789	9.660	577.5	20.287
0.01989	9.830	642.1	20.644
0.02189	9.910	706.7	20.812
0.02490	9.990	803.8	20.980
0.02789	10.110	900.4	21.232
0.03889	10.230	1255.5	21.484

MEAN VELOCITY AT -30.0 DEGREES.
 WALL SHEAR STRESS 0.2631 PA
 FRICTION VELOCITY 0.4648 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00240	7.490	75.6	16.114
0.00290	7.690	91.4	16.544
0.00390	7.880	122.9	16.953
0.00489	8.110	154.1	17.448
0.00589	8.250	185.6	17.749
0.00689	8.470	217.1	18.222
0.00790	8.540	249.0	18.373
0.00890	8.710	280.5	18.739
0.01090	8.920	343.5	19.191
0.01290	9.050	406.5	19.470
0.01489	9.230	469.2	19.857
0.01689	9.360	532.2	20.137
0.01889	9.450	595.3	20.331
0.02089	9.530	658.3	20.503
0.02289	9.580	721.3	20.610
0.02789	9.660	878.9	20.783

MEAN VELOCITY AT -25.0 DEGREES.
 WALL SHEAR STRESS 0.2559 PA
 FRICTION VELOCITY 0.4584 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00240	7.370	74.6	16.079
0.00290	7.480	90.1	16.319
0.00340	7.600	105.7	16.581
0.00440	7.800	136.7	17.017
0.00540	8.010	167.8	17.475
0.00640	8.200	198.9	17.890
0.00739	8.290	229.6	18.086
0.00840	8.410	261.0	18.348
0.00939	8.500	291.8	18.544
0.01139	8.650	353.9	18.872
0.01340	8.800	416.4	19.199
0.01540	8.870	478.6	19.352
0.01739	8.960	540.4	19.548
0.02339	8.960	726.8	19.548

MEAN VELOCITY AT -20.0 DEGREES.
 WALL SHEAR STRESS 0.2428 PA
 FRICTION VELOCITY 0.4464 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00240	7.150	72.6	16.015
0.00290	7.320	87.8	16.396
0.00340	7.430	102.9	16.642
0.00440	7.640	133.2	17.113
0.00540	7.800	163.4	17.471
0.00640	7.950	193.7	17.807
0.00739	8.060	223.7	18.054
0.00840	8.180	254.2	18.322
0.00939	8.230	284.2	18.434
0.01139	8.350	344.7	18.703
0.01340	8.400	405.6	18.815
0.01540	8.450	466.1	18.927
0.01540	8.450	466.1	18.927
0.01939	8.300	586.9	18.591

MEAN VELOCITY AT -15.0 DEGREES.
 WALL SHEAR STRESS 0.2248 PA
 FRICTION VELOCITY 0.4296 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00240	6.860	69.9	15.967
0.00290	7.030	84.5	16.363
0.00340	7.150	99.0	16.642
0.00440	7.370	128.2	17.154
0.00540	7.530	157.3	17.527
0.00640	7.630	186.4	17.759
0.00739	7.760	215.3	18.062
0.00840	7.850	244.7	18.272
0.00939	7.900	273.5	18.388
0.01040	7.950	302.9	18.504
0.01139	7.950	331.8	18.504
0.01240	7.900	361.2	18.388
0.01439	7.850	419.1	18.272

MEAN VELOCITY AT -10.0 DEGREES.
 WALL SHEAR STRESS 0.2094 PA
 FRICTION VELOCITY 0.4146 M/SEC

Y (M)	U (M/SEC)	Y+	U+
0.00240	6.620	67.5	15.968
0.00290	6.800	81.5	16.402
0.00340	6.950	95.6	16.764
0.00440	7.150	123.7	17.246
0.00540	7.320	151.8	17.656
0.00640	7.430	179.9	17.921
0.00739	7.480	207.7	18.042
0.00840	7.590	236.1	18.307
0.00939	7.590	263.9	18.307
0.01040	7.510	292.3	18.114
0.01139	7.430	320.1	17.921
0.01240	7.370	348.5	17.777
0.01340	7.200	376.6	17.367
0.01439	7.030	404.5	16.957
0.01639	6.620	460.7	15.968

MEAN VELOCITY AT -5.0 DEGREES.
 WALL SHEAR STRESS 0.2067 PA
 FRICTION VELOCITY 0.4120 M/SEC

Y (M)	U (M/SEC)	Y+	U+
0.00240	6.620	67.0	16.069
0.00290	6.680	81.0	16.214
0.00340	6.840	95.0	16.651
0.00440	7.030	122.9	17.064
0.00540	7.200	150.8	17.476
0.00640	7.290	178.8	17.695
0.00739	7.340	206.4	17.816
0.00840	7.370	234.6	17.889
0.00939	7.290	262.3	17.695
0.01040	7.200	290.5	17.476
0.01139	7.030	318.1	17.064
0.01240	6.800	346.3	16.505

MEAN VELOCITY AT 0.0 DEGREES.
 WALL SHEAR STRESS 0.2022 PA
 FRICTION VELOCITY 0.4075 M/SEC

Y (M)	U (M/SEC)	Y+	U+
0.00240	6.680	66.3	16.393
0.00290	6.670	80.1	16.369
0.00340	6.730	93.9	16.516
0.00390	6.920	107.7	16.982
0.00440	6.990	121.6	17.154
0.00489	7.150	135.1	17.546
0.00540	7.200	149.2	17.669
0.00589	7.200	162.7	17.669
0.00640	7.230	176.8	17.743
0.00689	7.290	190.3	17.890
0.00739	7.290	204.2	17.890
0.00790	7.320	218.2	17.964
0.00840	7.260	232.1	17.816
0.00890	7.230	245.9	17.743
0.00939	7.200	259.4	17.669
0.00990	7.120	273.5	17.473
0.01040	6.980	287.3	17.129
0.01090	6.920	301.1	16.982
0.01139	6.800	314.7	16.688
0.01189	6.650	328.5	16.319
0.01240	6.560	342.6	16.099

MEAN VELOCITY AT 5.0 DEGREES.
 WALL SHEAR STRESS 0.2096 PA
 FRICTION VELOCITY 0.4149 M/SEC

Y (M)	U (M/SEC)	Y+	U+
0.00240	6.650	67.5	16.029
0.00290	6.740	81.6	16.246
0.00340	6.860	95.6	16.535
0.00390	6.980	109.7	16.824
0.00440	7.090	123.8	17.089
0.00489	7.150	137.5	17.234
0.00540	7.260	151.9	17.499
0.00589	7.290	165.7	17.571
0.00689	7.320	193.8	17.644
0.00790	7.400	222.2	17.837
0.00890	7.320	250.3	17.644
0.00990	7.260	278.5	17.499
0.01090	7.090	306.6	17.089
0.01189	6.890	334.4	16.607

MEAN VELOCITY AT 10.0 DEGREES.
WALL SHEAR STRESS 0.2215 PA
FRICTION VELOCITY 0.4264 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00240	6.800	69.4	15.946
0.00290	6.890	83.8	16.157
0.00340	7.030	98.3	16.486
0.00440	7.230	127.2	16.955
0.00540	7.340	156.1	17.212
0.00640	7.530	185.0	17.658
0.00739	7.570	213.7	17.752
0.00840	7.630	242.9	17.893
0.00939	7.640	271.5	17.916
0.01040	7.610	300.7	17.846
0.01139	7.480	329.3	17.541
0.01240	7.370	358.5	17.283

3.3 Reynolds Stresses

SCAN ANGLE - 60

Y/YMAX	U	V	W	UV	UW	VW	Q
0.236	1.816	0.970	1.221	0.664	-0.123	-0.041	2.865
0.323	1.745	0.973	1.209	0.643	-0.126	-0.125	2.726
0.410	1.681	0.959	1.158	0.615	-0.147	0.084	2.543
0.497	1.605	0.921	1.099	0.549	-0.152	0.026	2.317
0.585	1.550	0.877	1.055	0.490	-0.186	0.097	2.144
0.672	1.467	0.871	0.987	0.433	-0.157	0.091	1.942
0.759	1.369	0.845	0.934	0.356	-0.187	0.049	1.730
0.846	1.313	0.832	0.870	0.287	-0.204	0.042	1.586
0.934	1.254	0.838	0.847	0.189	-0.212	0.039	1.496
1.021	1.200	0.811	0.796	0.126	-0.221	0.056	1.366
1.108	1.185	0.814	0.773	0.041	-0.241	-0.002	1.332
1.195	1.196	0.812	0.737	-0.028	-0.251	-0.000	1.317

SCAN ANGLE - 50

Y/YMAX	U	V	W	UV	UW	VW	Q
0.147	1.866	0.996	1.393	0.717	-0.115	-0.057	3.206
0.240	1.824	0.982	1.247	0.675	-0.077	0.070	2.924
0.333	1.704	0.921	1.158	0.601	-0.046	0.023	2.546
0.426	1.572	0.887	1.059	0.515	-0.094	0.143	2.199
0.519	1.408	0.855	0.968	0.417	-0.091	0.022	1.826
0.612	1.280	0.802	0.880	0.312	-0.111	0.003	1.527
0.705	1.180	0.757	0.789	0.201	-0.151	-0.031	1.294
0.798	1.121	0.740	0.735	0.092	-0.184	-0.046	1.172
0.892	1.102	0.745	0.723	0.012	-0.235	-0.057	1.146
0.985	1.123	0.755	0.723	-0.045	-0.278	0.016	1.176
1.078	1.189	0.744	0.703	-0.093	-0.300	-0.042	1.231
1.171	1.189	0.779	0.712	-0.117	-0.310	-0.041	1.264

SCAN ANGLE - 45

Y/YMAX	U	V	W	UV	UW	VW	Q
0.189	1.849	0.906	1.235	0.649	0.041	0.008	2.883
0.262	1.700	0.860	1.128	0.543	0.005	0.008	2.451
0.335	1.572	0.820	1.042	0.499	0.020	0.044	2.115
0.409	1.428	0.779	0.965	0.405	-0.007	0.049	1.789
0.482	1.298	0.748	0.891	0.311	-0.008	0.055	1.520
0.555	1.154	0.729	0.843	0.248	-0.042	0.038	1.287
0.628	1.070	0.681	0.745	0.176	-0.056	0.013	1.082
0.702	0.998	0.658	0.691	0.122	-0.077	0.055	0.953
0.775	0.936	0.662	0.688	0.053	-0.099	-0.000	0.894
0.848	0.938	0.636	0.656	-0.016	-0.125	0.006	0.857
0.921	0.943	0.626	0.611	-0.044	-0.127	0.005	0.827
0.995	0.941	0.647	0.627	-0.090	-0.113	-0.049	0.849
1.068	0.960	0.670	0.643	-0.142	-0.112	-0.063	0.892
1.141	1.009	0.669	0.673	-0.180	-0.096	-0.063	0.959
1.214	1.077	0.721	0.700	-0.258	-0.105	-0.066	1.085

Y/YMAX	U	V	W	UV	UW	VW	Q
0.323	1.818	0.969	1.290	0.631	0.243	-0.155	2.954
0.410	1.775	0.907	1.193	0.590	0.278	-0.059	2.698
0.497	1.762	0.892	1.174	0.552	0.373	-0.034	2.639
0.585	1.726	0.943	1.147	0.556	0.438	-0.027	2.592
0.672	1.736	0.917	1.135	0.536	0.488	0.110	2.572
0.759	1.756	0.910	1.088	0.522	0.590	0.141	2.549
0.846	1.763	0.901	1.054	0.508	0.647	0.171	2.516
0.934	1.773	0.950	1.036	0.487	0.713	0.071	2.560
1.021	1.742	0.969	1.006	0.445	0.674	0.113	2.492
1.108	1.729	0.931	1.003	0.440	0.669	0.210	2.431
1.195	1.739	0.923	0.949	0.380	0.690	0.139	2.388

SCAN ANGLE - 30

Y/YMAX	U	V	W	UV	UW	VW	Q
0.276	1.778	0.931	1.245	0.650	0.147	-0.031	2.789
0.365	1.705	0.888	1.178	0.575	0.177	-0.079	2.541
0.455	1.623	0.913	1.134	0.515	0.226	-0.042	2.376
0.544	1.595	0.864	1.088	0.457	0.264	-0.062	2.238
0.633	1.552	0.869	1.041	0.420	0.318	-0.008	2.123
0.723	1.538	0.854	1.015	0.411	0.374	0.037	2.062
0.812	1.546	0.860	0.963	0.419	0.411	0.042	2.029
0.902	1.543	0.823	0.953	0.377	0.454	0.024	1.984
0.991	1.504	0.834	0.889	0.378	0.406	0.152	1.874
1.081	1.425	0.860	0.895	0.303	0.409	0.117	1.786
1.170	1.395	0.855	0.874	0.296	0.402	0.133	1.720

SCAN ANGLE - 35

Y/YMAX	U	V	W	UV	UW	VW	Q
0.240	1.817	0.868	1.221	0.601	0.143	-0.163	2.772
0.333	1.642	0.873	1.168	0.541	0.117	-0.034	2.411
0.426	1.551	0.801	1.040	0.439	0.138	-0.060	2.065
0.519	1.460	0.803	1.011	0.390	0.162	-0.009	1.900
0.612	1.369	0.780	0.944	0.342	0.170	0.085	1.687
0.705	1.275	0.791	0.911	0.304	0.189	0.034	1.540
0.798	1.199	0.759	0.835	0.238	0.157	0.047	1.355
0.892	1.114	0.737	0.810	0.207	0.166	0.054	1.220
0.985	1.035	0.711	0.732	0.156	0.129	0.089	1.056
1.078	0.946	0.699	0.711	0.089	0.094	0.107	0.944
1.171	0.890	0.679	0.676	0.025	0.048	0.045	0.855

SCAN ANGLE - 40

Y/YMAX	U	V	W	UV	UW	VW	Q
0.518	1.972	0.933	1.257	0.569	0.801	0.115	3.170
0.586	1.933	0.963	1.288	0.555	0.938	0.188	3.162
0.654	1.939	0.952	1.285	0.514	1.016	0.205	3.158
0.723	1.933	0.996	1.312	0.528	1.120	0.181	3.226
0.791	1.941	0.888	1.259	0.471	1.159	0.172	3.070
0.860	1.924	0.968	1.289	0.477	1.242	0.310	3.150
0.928	1.914	0.977	1.272	0.464	1.241	0.240	3.117
0.996	1.931	0.907	1.252	0.421	1.282	0.287	3.060
1.065	1.926	0.912	1.234	0.398	1.298	0.283	3.032
1.133	1.941	0.933	1.218	0.339	1.305	0.208	3.060
1.202	1.924	0.946	1.220	0.278	1.285	0.218	3.043

SCAN ANGLE - 15

Y/YMAX	U	V	W	UV	UW	VW	Q
0.441	1.861	0.971	1.211	0.576	0.570	0.018	2.936
0.513	1.864	0.957	1.211	0.560	0.672	0.145	2.929
0.585	1.861	0.980	1.223	0.532	0.783	0.084	2.960
0.657	1.871	0.971	1.222	0.548	0.888	0.038	2.968
0.729	1.894	0.956	1.204	0.538	0.967	0.142	2.975
0.801	1.905	0.919	1.127	0.532	0.958	0.221	2.871
0.874	1.892	0.950	1.182	0.495	1.045	0.125	2.939
0.946	1.899	0.941	1.154	0.512	1.083	0.270	2.913
1.018	1.887	0.963	1.131	0.467	1.074	0.308	2.882
1.090	1.916	0.949	1.119	0.435	1.103	0.248	2.912
1.162	1.882	1.008	1.138	0.420	1.091	0.274	2.927

SCAN ANGLE - 20

Y/YMAX	U	V	W	UV	UW	VW	Q
0.373	1.850	0.910	1.137	0.595	0.370	-0.045	2.773
0.451	1.812	0.929	1.186	0.568	0.452	0.061	2.777
0.528	1.806	0.919	1.140	0.554	0.483	0.049	2.703
0.606	1.809	0.928	1.152	0.538	0.595	0.109	2.731
0.683	1.797	0.952	1.146	0.527	0.686	0.078	2.724
0.760	1.806	0.970	1.136	0.507	0.787	0.083	2.746
0.838	1.801	1.002	1.167	0.518	0.826	0.175	2.805
0.915	1.834	0.962	1.106	0.517	0.861	0.168	2.757
0.993	1.836	0.950	1.082	0.484	0.864	0.252	2.721
1.070	1.817	0.987	1.087	0.446	0.852	0.258	2.730
1.147	1.816	0.979	1.046	0.422	0.882	0.181	2.675

SCAN ANGLE - 25

SCAN ANGLE - 10

Y/YMAX	U	V	W	UV	UM	VM	Q
0.586	1.957	0.823	1.308	0.501	0.811	0.037	3.110
0.644	1.917	0.886	1.359	0.476	0.944	0.125	3.152
0.701	1.904	0.846	1.346	0.439	0.983	0.126	3.076
0.759	1.904	0.809	1.327	0.403	1.022	0.117	3.021
0.816	1.840	0.890	1.379	0.368	1.084	0.159	3.040
0.874	1.839	0.855	1.363	0.326	1.160	0.064	2.986
0.931	1.832	0.847	1.351	0.274	1.144	0.158	2.950
0.989	1.849	0.892	1.343	0.283	1.178	0.210	3.010
1.046	1.805	0.905	1.389	0.226	1.233	0.192	3.002
1.104	1.830	0.918	1.360	0.185	1.255	0.197	3.021
1.161	1.815	0.933	1.356	0.136	1.181	0.266	3.001

SCAN ANGLE - 5

Y/YMAX	U	V	W	UV	UM	VM	Q
0.641	1.809	0.855	1.476	0.393	0.628	0.049	3.091
0.692	1.797	0.877	1.474	0.382	0.684	0.006	3.086
0.744	1.747	0.834	1.494	0.301	0.754	0.069	2.990
0.795	1.746	0.809	1.487	0.295	0.707	0.025	2.956
0.846	1.722	0.859	1.497	0.229	0.787	0.084	2.973
0.898	1.706	0.797	1.455	0.186	0.782	0.130	2.831
0.949	1.690	0.819	1.460	0.160	0.767	0.109	2.830
1.000	1.679	0.871	1.464	0.083	0.797	0.112	2.861
1.052	1.668	0.884	1.504	0.032	0.871	0.056	2.913
1.103	1.686	0.873	1.502	0.018	0.845	0.094	2.930
1.154	1.703	0.868	1.483	-0.033	0.857	0.101	2.926

SCAN ANGLE 0

Y/YMAX	U	V	W	UV	UM	VM	Q
0.666	1.725	0.815	1.518	0.311	0.099	-0.114	2.971
0.720	1.715	0.797	1.516	0.281	0.142	-0.119	2.937
0.773	1.667	0.784	1.483	0.182	0.157	-0.164	2.798
0.826	1.630	0.804	1.520	0.145	0.113	-0.131	2.807
0.880	1.599	0.808	1.537	0.115	0.146	-0.045	2.787
0.933	1.560	0.841	1.563	0.031	0.098	-0.163	2.793
0.987	1.563	0.844	1.550	0.012	0.196	-0.085	2.779
1.040	1.576	0.840	1.534	-0.086	0.196	-0.067	2.772
1.093	1.567	0.868	1.552	-0.126	0.133	-0.066	2.808
1.147	1.583	0.877	1.536	-0.162	0.168	-0.059	2.817
1.200	1.620	0.880	1.514	-0.227	0.128	-0.011	2.845

SCAN ANGLE		5					
Y/YMAX	U	V	W	UV	UW	VW	Q
0.590	1.756	0.862	1.453	0.366	-0.421	-0.231	2.969
0.641	1.714	0.859	1.445	0.261	-0.411	-0.379	2.882
0.692	1.695	0.858	1.484	0.248	-0.426	-0.323	2.906
0.744	1.638	0.858	1.485	0.190	-0.440	-0.422	2.812
0.795	1.643	0.838	1.468	0.168	-0.521	-0.239	2.778
0.846	1.593	0.839	1.487	0.103	-0.492	-0.373	2.727
0.898	1.609	0.792	1.446	0.023	-0.546	-0.238	2.653
0.949	1.602	0.802	1.482	0.014	-0.549	-0.018	2.703
1.000	1.613	0.832	1.492	-0.075	-0.550	-0.223	2.760
1.052	1.606	0.835	1.496	-0.104	-0.596	-0.242	2.758
1.103	1.624	0.854	1.475	-0.183	-0.527	-0.241	2.772
1.154	1.633	0.922	1.479	-0.214	-0.562	-0.345	2.852

SCAN ANGLE		10					
Y/YMAX	U	V	W	UV	UW	VW	Q
0.529	1.898	0.918	1.372	0.475	-0.709	-0.270	3.163
0.586	1.883	0.884	1.380	0.352	-0.853	-0.266	3.115
0.644	1.832	0.870	1.353	0.350	-0.866	-0.468	2.973
0.701	1.816	0.899	1.384	0.308	-0.946	-0.383	3.010
0.759	1.809	0.895	1.369	0.231	-0.954	-0.420	2.973
0.816	1.806	0.885	1.356	0.163	-0.996	-0.410	2.941
0.874	1.778	0.880	1.391	0.139	-1.005	-0.372	2.935
0.931	1.774	0.876	1.392	0.086	-1.073	-0.473	2.926
0.989	1.782	0.891	1.403	0.038	-1.051	-0.540	2.969
1.046	1.806	0.926	1.383	-0.017	-1.085	-0.380	3.016
1.104	1.827	0.918	1.397	-0.096	-1.053	-0.544	3.065
1.161	1.874	0.890	1.394	-0.142	-1.095	-0.437	3.123

4. REYNOLDS NUMBER OF 133×10^3 4.1 Wall Shear Stress Distribution

AIR DENSITY 1.145 KG/M**3
 KINEMATIC VISCOSITY 1.644E-05 M**2/SEC

AVERAGE WALL SHEAR STRESS 1.8400 PA

ANGLE AND TW(THETA)

-85.0	1.141	-80.1	1.315	-75.1	1.521
-70.2	1.677	-60.0	1.915	-55.0	2.113
-50.1	2.107	-39.9	2.175	-35.0	2.123
-30.0	2.074	-25.1	1.984	-20.1	1.915
-15.2	1.769	-9.9	1.677	-5.0	1.642
0.0	1.619	4.9	1.648	9.8	1.694
15.1	1.791	20.0	1.893	25.0	1.995
29.9	2.063	34.9	2.129	39.8	2.175
45.0	2.180	50.0	2.147	54.9	2.052
59.9	1.950	64.8	1.837	70.1	1.711
75.0	1.550	80.0	1.397		

4.2 Mean Velocity Profiles

MEAN VELOCITY AT -15.0 DEGREES.
 WALL SHEAR STRESS 1.7651 PA
 FRICTION VELOCITY 1.2416 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00199	22.040	150.3	17.751
0.00249	22.580	188.1	18.186
0.00299	23.100	225.8	18.605
0.00349	23.670	263.6	19.064
0.00449	24.400	339.1	19.652
0.00550	25.020	415.4	20.151
0.00749	25.750	565.7	20.739
0.01049	26.290	792.2	21.174
0.01449	25.660	1094.3	20.667
0.01849	23.760	1396.4	19.136

MEAN VELOCITY AT -10.0 DEGREES.
 WALL SHEAR STRESS 1.6761 PA
 FRICTION VELOCITY 1.2099 M/SEC

Y (M)	U (M/SEC)	Y+	U+
0.00199	21.310	146.5	17.613
0.00249	21.810	183.2	18.026
0.00299	22.290	220.0	18.423
0.00349	22.730	256.8	18.787
0.00449	23.510	330.4	19.432
0.00550	24.050	404.8	19.878
0.00749	24.750	551.2	20.456
0.01049	24.650	772.0	20.374
0.01449	22.440	1066.4	18.547

MEAN VELOCITY AT -5.0 DEGREES.
 WALL SHEAR STRESS 1.6422 PA
 FRICTION VELOCITY 1.1976 M/SEC

Y (M)	U (M/SEC)	Y+	U+
0.00199	20.840	145.0	17.402
0.00249	21.230	181.4	17.727
0.00299	21.810	217.8	18.211
0.00399	22.640	290.7	18.905
0.00499	23.310	363.5	19.464
0.00599	23.770	436.3	19.848
0.00799	24.120	582.0	20.140
0.00999	23.690	727.7	19.781
0.01299	21.390	946.3	17.861

MEAN VELOCITY AT 0.0 DEGREES.
 WALL SHEAR STRESS 1.6192 PA
 FRICTION VELOCITY 1.1892 M/SEC

Y (M)	U (M/SEC)	Y+	U+
0.00199	20.660	143.9	17.373
0.00249	21.280	180.1	17.895
0.00249	21.280	180.1	17.895
0.00299	21.810	216.3	18.340
0.00349	22.270	252.4	18.727
0.00399	22.610	288.6	19.013
0.00499	23.250	360.9	19.551
0.00599	23.660	433.3	19.896
0.00699	23.900	505.6	20.098
0.00899	23.610	650.3	19.854
0.01199	21.650	867.3	18.206

MEAN VELOCITY AT 5.0 DEGREES.
 WALL SHEAR STRESS 1.6490 PA
 FRICTION VELOCITY 1.2001 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00199	20.890	145.3	17.407
0.00249	21.360	181.8	17.799
0.00299	21.920	218.3	18.265
0.00349	22.380	254.8	18.649
0.00399	22.680	291.3	18.899
0.00499	23.370	364.3	19.474
0.00599	23.830	437.3	19.857
0.00699	24.100	510.3	20.082
0.00899	24.070	656.2	20.057
0.01100	23.250	803.0	19.374
0.01299	21.660	948.2	18.049

MEAN VELOCITY AT 10.0 DEGREES.
 WALL SHEAR STRESS 1.6978 PA
 FRICTION VELOCITY 1.2177 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00199	21.230	147.4	17.435
0.00249	21.760	184.4	17.870
0.00299	22.300	221.5	18.313
0.00349	22.730	258.5	18.667
0.00399	23.150	295.5	19.011
0.00499	23.700	369.6	19.463
0.00599	24.190	443.7	19.866
0.00699	24.610	517.7	20.210
0.00799	24.860	591.8	20.416
0.00999	24.820	739.9	20.383
0.01199	24.330	888.1	19.981
0.01399	23.280	1036.2	19.118

MEAN VELOCITY AT 15.0 DEGREES.
 WALL SHEAR STRESS 1.7935 PA
 FRICTION VELOCITY 1.2515 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00199	21.920	151.5	17.514
0.00249	22.430	189.6	17.922
0.00299	22.950	227.6	18.337
0.00349	23.400	265.7	18.697
0.00399	23.820	303.8	19.032
0.00499	24.470	379.9	19.552
0.00599	25.020	456.0	19.991
0.00699	25.360	532.1	20.263
0.00799	25.700	608.3	20.535
0.00899	25.900	684.4	20.694
0.01100	26.090	837.4	20.846
0.01299	25.960	988.9	20.742
0.01499	25.560	1141.2	20.423

MEAN VELOCITY AT 20.0 DEGREES.
 WALL SHEAR STRESS 1.8934 PA
 FRICTION VELOCITY 1.2859 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00199	22.580	155.7	17.559
0.00249	23.180	194.8	18.026
0.00299	23.690	233.9	18.423
0.00349	24.120	273.0	18.757
0.00399	24.480	312.1	19.037
0.00499	25.270	390.3	19.651
0.00599	25.760	468.5	20.032
0.00699	26.200	546.8	20.375
0.00799	26.610	625.0	20.693
0.00899	26.940	703.2	20.872
0.01100	27.310	860.4	21.238
0.01299	27.470	1016.1	21.362
0.01499	27.580	1172.5	21.448
0.01799	27.370	1407.2	21.284
0.02099	26.980	1641.8	20.981

MEAN VELOCITY AT 25.0 DEGREES.
 WALL SHEAR STRESS 1.9946 PA
 FRICTION VELOCITY 1.3198 M/SEC

Y (M)	U (M/SEC)	Y+	U+
0.00199	23.250	159.8	17.616
0.00249	23.720	199.9	17.972
0.00299	24.330	240.0	18.434
0.00349	24.800	280.2	18.790
0.00399	25.230	320.3	19.116
0.00499	25.960	400.6	19.669
0.00599	26.550	480.9	20.116
0.00699	26.930	561.2	20.404
0.00799	27.370	641.5	20.737
0.00999	27.970	802.0	21.192
0.01199	28.420	962.6	21.533
0.01399	28.710	1123.1	21.753
0.01599	28.890	1283.7	21.889
0.01799	29.010	1444.3	21.980
0.01999	29.070	1604.8	22.025
0.02399	29.070	1926.0	22.025

MEAN VELOCITY AT 30.0 DEGREES.
 WALL SHEAR STRESS 2.0640 PA
 FRICTION VELOCITY 1.3426 M/SEC

Y (M)	U (M/SEC)	Y+	U+
0.00199	23.760	162.5	17.697
0.00249	24.300	203.4	18.099
0.00299	24.800	244.2	18.472
0.00349	25.310	285.0	18.851
0.00399	25.760	325.9	19.187
0.00499	26.480	407.5	19.723
0.00599	27.050	489.2	20.147
0.00699	27.520	570.9	20.497
0.00799	27.990	652.5	20.848
0.00999	28.640	815.9	21.332
0.01199	29.220	979.2	21.764
0.01399	29.600	1142.5	22.047
0.01599	29.920	1305.9	22.285
0.01799	30.190	1469.2	22.486
0.01999	30.390	1632.5	22.635
0.02399	30.700	1959.2	22.866
0.02799	30.820	2285.9	22.955

MEAN VELOCITY AT 35.0 DEGREES.
 WALL SHEAR STRESS 2.1298 PA
 FRICTION VELOCITY 1.3639 M/SEC

Y (M)	U (M/SEC)	Y+	U+
0.00199	24.210	165.1	17.751
0.00249	24.680	206.6	18.096
0.00299	25.330	248.0	18.572
0.00349	25.700	289.5	18.844
0.00399	26.290	331.0	19.276
0.00499	26.880	414.0	19.709
0.00599	27.440	496.9	20.119
0.00699	27.980	579.9	20.515
0.00799	28.430	662.8	20.845
0.00999	29.180	828.8	21.395
0.01199	29.710	994.7	21.784
0.01399	30.180	1160.6	22.128
0.01599	30.600	1326.5	22.436
0.01799	30.950	1492.4	22.693
0.01999	31.260	1658.4	22.920
0.02399	31.720	1990.2	23.258
0.02799	32.040	2322.0	23.492
0.03199	32.320	2653.9	23.624
0.03399	32.760	2819.8	23.654

MEAN VELOCITY AT 40.0 DEGREES.
 WALL SHEAR STRESS 2.1751 PA
 FRICTION VELOCITY 1.3783 M/SEC

Y (M)	U (M/SEC)	Y+	U+
0.00199	24.650	166.8	17.885
0.00249	25.090	208.8	18.204
0.00299	25.670	250.7	18.625
0.00349	26.090	292.6	18.929
0.00399	26.520	334.5	19.241
0.00499	27.210	418.3	19.742
0.00599	27.840	502.2	20.199
0.00699	28.440	586.0	20.634
0.00799	28.750	669.9	20.859
0.00999	29.500	837.5	21.404
0.01199	30.150	1005.2	21.875
0.01399	30.670	1172.9	22.252
0.01599	31.040	1340.5	22.521
0.01799	31.460	1508.2	22.826
0.01999	31.820	1675.9	23.087
0.02399	32.340	2011.2	23.464
0.02799	32.720	2346.6	23.740
0.03199	32.960	2681.9	23.914
0.03799	33.040	3185.0	23.972
0.04400	32.720	3688.8	23.740

MEAN VELOCITY AT 45.0 DEGREES.
 WALL SHEAR STRESS 2.1804 PA
 FRICTION VELOCITY 1.3800 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00199	24.580	167.0	17.812
0.00249	25.080	209.0	18.174
0.00299	25.660	251.0	18.595
0.00349	26.010	292.9	18.848
0.00399	26.470	334.9	19.182
0.00499	27.220	418.9	19.725
0.00599	27.840	502.8	20.175
0.00699	28.270	586.7	20.486
0.00799	28.710	670.7	20.805
0.00999	29.480	838.5	21.363
0.01199	30.100	1006.4	21.812
0.01399	30.650	1174.3	22.211
0.01599	31.120	1342.2	22.551
0.01799	31.500	1510.1	22.827
0.01999	31.820	1677.9	23.059
0.02399	32.370	2017.7	23.457
0.02799	32.670	2349.4	23.675
0.03599	32.880	3021.0	23.827
0.04400	32.450	3693.3	23.515
0.05199	31.430	4364.0	22.776

MEAN VELOCITY AT 50.0 DEGREES.
 WALL SHEAR STRESS 2.1473 PA
 FRICTION VELOCITY 1.3694 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00199	24.290	165.8	17.737
0.00249	24.700	207.4	18.037
0.00299	25.190	249.1	18.394
0.00399	26.090	332.4	19.052
0.00499	26.740	415.7	19.526
0.00699	27.890	582.3	20.366
0.00999	29.080	832.2	21.235
0.01399	30.270	1165.4	22.104
0.01799	31.120	1498.5	22.725
0.02299	31.730	1915.0	23.170
0.02799	31.980	2331.5	23.353
0.03599	31.750	2997.9	23.185
0.04400	31.420	3665.2	22.944
0.05199	30.980	4330.7	22.622
0.05999	29.940	4997.1	21.863
0.06799	28.170	5663.5	20.571

4.3 Reynolds Stresses

SCAN ANGLE - 15							
Y/YMAX	U	V	W	UV	UW	VW	Q
0.439	1.873	1.094	1.531	0.602	0.812	-0.001	3.524
0.508	1.874	1.024	1.530	0.586	0.902	0.119	3.450
0.576	1.861	1.031	1.521	0.542	0.986	0.310	3.419
0.645	1.854	0.995	1.554	0.541	1.132	0.176	3.421
0.713	1.843	0.985	1.526	0.524	1.211	0.229	3.349
0.781	1.828	0.985	1.534	0.483	1.320	0.279	3.334
0.850	1.826	0.990	1.545	0.431	1.374	0.220	3.311
0.918	1.810	0.994	1.570	0.392	1.426	0.312	3.365
0.987	1.819	0.924	1.559	0.313	1.456	0.163	3.296
1.055	1.830	0.988	1.510	0.306	1.455	0.319	3.303
1.124	1.822	1.025	1.508	0.263	1.446	0.335	3.321
1.192	1.829	1.016	1.466	0.210	1.405	0.240	3.262
SCAN ANGLE - 10							
Y/YMAX	U	V	W	UV	UW	VW	Q
0.517	1.765	0.992	1.585	0.478	0.753	-0.051	3.306
0.575	1.760	0.928	1.580	0.436	0.801	-0.035	3.228
0.632	1.734	0.944	1.614	0.432	0.915	-0.051	3.251
0.690	1.706	0.893	1.605	0.344	0.944	0.052	3.141
0.747	1.696	0.859	1.616	0.322	0.976	-0.020	3.112
0.805	1.685	0.844	1.612	0.284	1.018	-0.021	3.074
0.862	1.679	0.721	1.598	0.223	1.161	-0.003	2.947
0.920	1.641	0.801	1.559	0.165	1.063	-0.024	2.883
0.977	1.616	0.865	1.586	0.157	1.087	0.138	2.937
1.035	1.625	0.846	1.577	0.095	1.107	0.056	2.921
1.092	1.630	0.844	1.635	0.096	1.206	0.161	3.022
1.150	1.635	0.930	1.570	0.031	1.057	0.090	3.001
SCAN ANGLE - 5							
Y/YMAX	U	V	W	UV	UW	VW	Q
0.577	1.639	0.931	1.654	0.397	0.462	-0.062	3.145
0.628	1.612	0.940	1.653	0.360	0.490	-0.194	3.107
0.680	1.609	0.932	1.676	0.336	0.511	-0.166	3.133
0.731	1.579	0.893	1.670	0.270	0.507	-0.190	3.039
0.782	1.563	0.906	1.677	0.201	0.558	-0.183	3.038
0.834	1.535	0.920	1.689	0.156	0.538	-0.274	3.028
0.885	1.533	0.859	1.618	0.121	0.527	-0.068	2.853
0.936	1.500	0.831	1.661	0.064	0.585	-0.187	2.850
0.988	1.468	0.886	1.671	0.036	0.563	-0.149	2.867
1.039	1.493	0.833	1.669	-0.008	0.612	-0.130	2.855
1.090	1.479	0.900	1.648	-0.054	0.581	-0.133	2.857
1.142	1.492	0.894	1.656	-0.108	0.605	-0.106	2.885

Y/YMAX	U	V	W	UV	UM	VM	U
0.517	1.810	1.142	1.515	0.538	-0.684	-0.477	3.438
0.575	1.783	1.127	1.549	0.551	-0.763	-0.482	3.426
0.632	1.776	1.125	1.533	0.489	-0.840	-0.494	3.386
0.690	1.762	1.152	1.527	0.437	-0.913	-0.606	3.382
0.747	1.764	1.123	1.563	0.389	-1.043	-0.520	3.408
0.805	1.758	1.140	1.538	0.392	-1.062	-0.540	3.377
0.862	1.739	1.187	1.574	0.309	-1.146	-0.537	3.454
0.920	1.727	1.146	1.605	0.305	-1.200	-0.628	3.436
0.977	1.726	1.166	1.584	0.269	-1.221	-0.657	3.424
1.035	1.735	1.153	1.572	0.235	-1.255	-0.634	3.405
1.092	1.751	1.167	1.558	0.129	-1.242	-0.655	3.427
1.150	1.757	1.152	1.570	0.150	-1.247	-0.724	3.439

SCAN ANGLE 10

Y/YMAX	U	V	W	UV	UM	VM	U
0.577	1.667	1.027	1.610	0.475	-0.442	-0.521	3.213
0.628	1.640	1.046	1.636	0.415	-0.414	-0.347	3.239
0.680	1.631	1.014	1.631	0.357	-0.515	-0.558	3.174
0.731	1.612	1.017	1.636	0.374	-0.597	-0.666	3.181
0.782	1.597	1.017	1.636	0.305	-0.661	-0.439	3.130
0.834	1.584	0.981	1.645	0.236	-0.695	-0.547	3.089
0.885	1.561	0.979	1.633	0.216	-0.736	-0.555	3.031
0.936	1.532	0.978	1.656	0.158	-0.746	-0.522	3.024
0.988	1.528	1.008	1.649	0.122	-0.746	-0.559	3.036
1.039	1.532	1.001	1.646	0.088	-0.776	-0.510	3.028
1.090	1.537	0.991	1.660	0.051	-0.702	-0.438	3.050
1.142	1.554	1.021	1.639	-0.027	-0.776	-0.532	3.071

SCAN ANGLE 5

Y/YMAX	U	V	W	UV	UM	VM	U
0.600	1.570	1.089	1.714	0.410	-0.019	-0.282	3.294
0.653	1.558	0.944	1.664	0.322	-0.045	-0.377	3.045
0.706	1.540	0.971	1.712	0.287	-0.033	-0.408	3.124
0.760	1.528	0.957	1.682	0.230	-0.082	-0.349	3.059
0.813	1.515	0.944	1.689	0.167	-0.064	-0.379	3.020
0.867	1.478	0.966	1.725	0.115	-0.100	-0.310	3.044
0.920	1.481	0.925	1.716	0.097	-0.092	-0.293	2.998
0.973	1.467	0.815	1.648	0.034	-0.182	-0.295	2.767
1.027	1.429	0.912	1.652	-0.015	-0.104	-0.237	2.801
1.080	1.415	0.917	1.655	-0.049	-0.101	-0.370	2.791
1.133	1.436	0.940	1.647	-0.095	-0.117	-0.446	2.830
1.187	1.441	0.920	1.660	-0.145	-0.100	-0.310	2.839

SCAN ANGLE 0

Y/YMAX	U	U	U	U	U	U	U
0.290	1.820	1.037	1.428	0.515	-0.355	-0.054	3.213
0.373	1.811	1.030	1.326	0.575	-0.351	-0.090	3.050
0.457	1.815	1.091	1.304	0.482	-0.456	-0.109	3.091
0.541	1.797	1.158	1.322	0.494	-0.543	-0.153	3.159
0.625	1.831	1.120	1.292	0.507	-0.701	-0.195	3.138
0.709	1.835	1.204	1.309	0.475	-0.810	-0.186	3.265
0.793	1.866	1.213	1.282	0.470	-0.894	-0.271	3.298
0.876	1.871	1.191	1.296	0.461	-0.945	-0.424	3.299
0.960	1.873	1.202	1.243	0.440	-0.958	-0.553	3.248
1.044	1.859	1.299	1.277	0.423	-1.037	-0.407	3.388
1.128	1.864	1.229	1.215	0.319	-1.005	-0.634	3.229
1.212	1.854	1.255	1.186	0.298	-0.936	-0.581	3.210

SCAN ANGLE 25

Y/YMAX	U	U	U	U	U	U	U
0.360	1.846	1.113	1.273	0.729	-0.345	-0.100	3.133
0.433	1.851	1.091	1.211	0.673	-0.516	-0.178	3.042
0.505	1.843	1.067	1.383	0.612	-0.740	-0.217	3.223
0.577	1.875	1.148	1.299	0.523	-0.779	-0.162	3.262
0.649	1.886	1.129	1.316	0.473	-0.904	-0.416	3.282
0.721	1.889	1.157	1.316	0.496	-1.017	-0.393	3.320
0.793	1.900	1.167	1.343	0.485	-1.068	-0.533	3.387
0.866	1.897	1.239	1.372	0.458	-1.187	-0.625	3.509
0.938	1.905	1.250	1.370	0.469	-1.231	-0.437	3.533
1.010	1.913	1.197	1.339	0.440	-1.242	-0.606	3.443
1.082	1.901	1.219	1.340	0.397	-1.253	-0.644	3.448
1.154	1.903	1.293	1.321	0.359	-1.235	-0.539	3.507

SCAN ANGLE 20

Y/YMAX	U	U	U	U	U	U	U
0.439	1.926	1.104	1.377	0.618	-0.666	-0.219	3.412
0.508	1.924	1.077	1.351	0.559	-0.760	-0.396	3.345
0.576	1.920	1.112	1.346	0.537	-0.862	-0.571	3.367
0.645	1.906	1.131	1.393	0.664	-1.001	-0.317	3.426
0.713	1.876	1.236	1.551	0.531	-1.137	-0.412	3.726
0.781	1.915	1.221	1.483	0.547	-1.252	-0.449	3.678
0.850	1.910	1.242	1.473	0.519	-1.296	-0.570	3.680
0.918	1.904	1.259	1.642	0.510	-1.567	-0.624	3.953
0.987	1.899	1.266	1.522	0.479	-1.425	-0.551	3.764
1.055	1.919	1.249	1.472	0.377	-1.435	-0.633	3.706
1.124	1.915	1.330	1.505	0.440	-1.469	-0.672	3.850
1.192	1.912	1.305	1.520	0.345	-1.455	-0.559	3.835

SCAN ANGLE 15

SCAN ANGLE		30					
Y/YMAX	U	V	W	UV	UW	VW	θ
0.230	1.870	1.034	1.422	0.622	-0.330	0.541	3.294
0.318	1.800	1.264	1.465	0.617	-0.358	0.833	3.492
0.405	1.751	1.034	1.345	0.525	-0.291	0.658	2.973
0.492	1.701	1.037	1.293	0.559	-0.337	0.027	2.819
0.579	1.704	1.097	1.250	0.475	-0.426	0.137	2.835
0.667	1.709	1.113	1.390	0.447	-0.740	0.100	3.045
0.754	1.724	1.088	1.199	0.471	-0.604	-0.130	2.796
0.841	1.728	1.104	1.181	0.475	-0.653	-0.127	2.800
0.928	1.728	1.114	1.097	0.445	-0.683	-0.326	2.716
1.016	1.718	1.152	1.112	0.437	-0.721	-0.267	2.758
1.103	1.714	1.165	1.071	0.336	-0.699	-0.238	2.722
1.190	1.684	1.173	1.057	0.323	-0.707	-0.182	2.664

SCAN ANGLE		35					
Y/YMAX	U	V	W	UV	UW	VW	θ
0.182	1.816	1.130	1.599	0.729	-0.188	0.049	3.565
0.272	1.731	1.098	1.443	0.626	-0.103	-0.135	3.142
0.361	1.667	1.034	1.375	0.588	-0.130	-0.020	2.870
0.451	1.624	1.019	1.262	0.530	-0.186	-0.069	2.635
0.540	1.600	0.955	1.157	0.456	-0.262	0.213	2.407
0.629	1.556	0.963	1.107	0.432	-0.286	-0.122	2.288
0.719	1.561	0.962	1.076	0.392	-0.409	0.024	2.260
0.808	1.560	0.924	0.982	0.386	-0.425	-0.155	2.127
0.898	1.542	0.944	0.942	0.362	-0.449	-0.138	2.077
0.987	1.524	0.904	0.907	0.321	-0.449	-0.136	1.982
1.076	1.480	0.928	0.862	0.298	-0.427	-0.135	1.897
1.166	1.441	0.972	0.896	0.266	-0.416	-0.050	1.912

SCAN ANGLE		40					
Y/YMAX	U	V	W	UV	UW	VW	Q
0.144	1.906	1.127	1.652	0.753	-0.137	-0.158	3.816
0.202	1.811	1.140	1.564	0.745	-0.068	-0.212	3.512
0.259	1.722	1.119	1.513	0.683	-0.054	-0.064	3.253
0.317	1.649	1.068	1.433	0.618	-0.079	0.079	2.957
0.375	1.596	0.995	1.341	0.570	-0.083	0.002	2.668
0.433	1.520	1.008	1.289	0.494	-0.106	-0.055	2.495
0.490	1.486	0.926	1.195	0.450	-0.127	-0.079	2.247
0.548	1.439	0.901	1.148	0.404	-0.136	-0.049	2.100
0.606	1.416	0.854	1.070	0.364	-0.191	-0.038	1.939
0.664	1.393	0.835	1.009	0.323	-0.192	-0.042	1.829
0.721	1.368	0.793	0.943	0.282	-0.220	-0.003	1.695
0.779	1.337	0.753	0.914	0.258	-0.255	-0.051	1.595
0.837	1.308	0.779	0.850	0.222	-0.223	-0.093	1.520
0.895	1.268	0.730	0.821	0.194	-0.193	-0.191	1.407
0.952	1.205	0.814	0.826	0.177	-0.165	-0.067	1.398
1.010	1.194	0.790	0.751	0.133	-0.157	-0.034	1.307
1.068	1.155	0.718	0.704	0.098	-0.154	-0.106	1.173
1.126	1.113	0.709	0.662	0.095	-0.140	-0.025	1.090
1.184	1.068	0.746	0.703	0.056	-0.099	-0.112	1.095
1.241	1.025	0.766	0.721	-0.024	-0.079	-0.183	1.079

SCAN ANGLE		45					
Y/YMAX	U	V	W	UV	UW	VW	Q
0.113	1.930	1.147	1.585	0.815	0.017	-0.024	3.775
0.161	1.848	1.087	1.520	0.750	0.034	-0.222	3.454
0.209	1.748	1.096	1.479	0.703	0.042	-0.144	3.222
0.257	1.653	1.081	1.388	0.650	0.041	-0.098	2.914
0.305	1.558	1.026	1.320	0.567	0.020	-0.139	2.611
0.353	1.489	0.962	1.215	0.519	0.031	-0.121	2.310
0.401	1.419	0.924	1.151	0.445	0.005	0.002	2.097
0.449	1.340	0.906	1.081	0.379	-0.007	0.002	1.893
0.497	1.270	0.828	1.025	0.320	0.003	-0.096	1.674
0.545	1.237	0.761	0.949	0.273	-0.002	-0.036	1.504
0.593	1.178	0.702	0.869	0.215	0.026	-0.050	1.318
0.641	1.141	0.753	0.820	0.136	0.003	-0.003	1.270
0.689	1.060	0.718	0.846	0.139	0.023	-0.013	1.178
0.737	1.018	0.743	0.796	0.096	-0.002	0.000	1.111
0.785	1.001	0.677	0.765	0.090	0.035	-0.081	1.023
0.833	0.953	0.711	0.746	0.062	0.026	-0.057	0.986
0.881	0.960	0.664	0.692	0.034	0.062	-0.107	0.922
0.929	0.924	0.748	0.756	0.000	0.058	0.009	0.993
0.977	0.917	0.717	0.718	-0.025	0.082	-0.111	0.935
1.025	0.956	0.695	0.692	-0.070	0.053	0.048	0.938
1.073	0.951	0.737	0.692	-0.097	0.052	-0.009	0.964
1.121	0.999	0.704	0.716	-0.132	0.056	-0.012	1.004
1.169	1.033	0.727	0.674	-0.178	0.037	0.038	1.025
1.217	1.070	0.730	0.726	-0.233	0.056	-0.083	1.103

SCAN ANGLE 50							
Y/YMAX	U	V	W	UV	UM	VM	Q
0.144	1.937	1.192	1.592	0.806	0.175	-0.264	3.854
0.202	1.853	1.141	1.556	0.788	0.155	-0.182	3.579
0.259	1.791	1.173	1.490	0.745	0.165	-0.024	3.402
0.317	1.723	1.065	1.372	0.702	0.163	-0.163	2.993
0.375	1.635	1.034	1.296	0.667	0.139	-0.070	2.711
0.433	1.537	1.022	1.236	0.583	0.143	-0.103	2.468
0.490	1.455	0.983	1.177	0.531	0.135	-0.086	2.234
0.548	1.373	0.932	1.113	0.448	0.136	-0.061	1.996
0.606	1.286	0.903	1.049	0.355	0.138	-0.099	1.784
0.664	1.245	0.832	0.940	0.286	0.129	0.024	1.563
0.721	1.177	0.845	0.884	0.191	0.157	-0.042	1.440
0.779	1.103	0.826	0.904	0.188	0.174	-0.023	1.358

5. REYNOLDS NUMBER OF 207.6×10^3 5.1 Wall Shear Stress Distribution

AIR DENSITY 1.095 KG/M**3
 KINEMATIC VISCOSITY 1.769E-05 M**2/SEC

AVERAGE WALL SHEAR STRESS 4.4790 PA

ANGLE AND TW(THETA)

-85.0	3.239	-80.1	3.416	-75.1	3.852
-70.2	4.282	-64.9	4.510	-60.0	4.793
-55.0	5.012	-50.1	5.124	-45.1	5.263
-39.9	5.294	-35.0	5.182	-30.0	5.043
-25.1	4.846	-20.1	4.622	-15.2	4.339
-9.9	4.197	-5.0	3.997	0.0	3.939
4.9	3.997	9.8	4.139	15.1	4.339
20.0	4.564	25.0	4.846	29.9	4.958
34.9	5.182	39.8	5.263	45.0	5.236
50.0	5.155	54.9	5.012	59.9	4.734
64.8	4.452	70.1	4.168	75.0	3.765
80.0	3.357	84.9	2.641		

5.2 Mean Velocity Profiles

MEAN VELOCITY AT -20.0 DEGREES.
 WALL SHEAR STRESS 4.6165 PA
 FRICTION VELOCITY 2.0533 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00199	38.660	231.0	18.828
0.00249	39.660	289.0	19.315
0.00299	40.420	347.1	19.685
0.00399	41.900	463.1	20.406
0.00499	43.120	579.2	21.000
0.00599	43.920	695.3	21.390
0.00699	44.710	811.3	21.775
0.00799	45.290	927.4	22.057
0.00999	46.240	1159.5	22.520
0.01199	46.980	1391.7	22.880
0.01399	46.980	1623.8	22.880
0.01599	47.080	1856.0	22.929
0.02099	46.610	2436.3	22.700

MEAN VELOCITY AT -15.0 DEGREES.
 WALL SHEAR STRESS 4.3339 PA
 FRICTION VELOCITY 1.9894 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00199	37.290	223.8	18.744
0.00249	37.980	280.0	19.091
0.00299	38.890	336.3	19.548
0.00399	40.420	448.7	20.317
0.00499	41.480	561.2	20.850
0.00599	42.310	673.6	21.267
0.00699	43.330	786.1	21.780
0.00799	43.630	898.6	21.931
0.00999	44.320	1123.5	22.278
0.01199	44.510	1348.4	22.373
0.01399	44.120	1573.3	22.177
0.01699	42.920	1910.7	21.574

MEAN VELOCITY AT -10.0 DEGREES.
 WALL SHEAR STRESS 4.1927 PA
 FRICTION VELOCITY 1.9568 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00199	36.100	220.1	18.449
0.00249	36.580	275.4	18.694
0.00299	37.750	330.7	19.292
0.00399	39.110	441.4	19.987
0.00499	40.200	552.0	20.544
0.00599	41.270	662.6	21.091
0.00699	41.900	773.2	21.413
0.00799	42.310	883.8	21.622
0.00899	42.520	994.4	21.730
0.01100	42.410	1216.8	21.673
0.01299	41.480	1436.9	21.198
0.01499	39.330	1658.1	20.099

MEAN VELOCITY AT -5.0 DEGREES.
 WALL SHEAR STRESS 3.9966 PA
 FRICTION VELOCITY 1.9105 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00199	35.370	214.9	18.514
0.00249	35.860	268.9	18.770
0.00299	37.050	322.9	19.393
0.00399	38.550	430.9	20.178
0.00499	39.770	538.9	20.817
0.00599	40.200	646.9	21.042
0.00699	41.060	754.9	21.492
0.00799	41.270	862.9	21.602
0.00899	41.060	970.9	21.492
0.01100	40.200	1188.0	21.042
0.01299	37.750	1402.9	19.760
0.01499	37.050	1618.9	19.393

MEAN VELOCITY AT 0.0 DEGREES.
 WALL SHEAR STRESS 3.9388 PA
 FRICTION VELOCITY 1.8966 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00199	35.250	213.4	18.586
0.00249	35.620	267.0	18.781
0.00299	36.580	320.6	19.287
0.00399	37.980	427.8	20.025
0.00499	39.110	535.0	20.621
0.00599	39.770	642.2	20.969
0.00699	40.630	749.4	21.423
0.00799	41.690	856.6	21.981
0.00899	41.690	963.8	21.981
0.01100	39.110	1179.3	20.621
0.01299	36.100	1392.7	19.034

MEAN VELOCITY AT 5.0 DEGREES.
 WALL SHEAR STRESS 3.9995 PA
 FRICTION VELOCITY 1.9112 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00199	35.370	215.0	18.507
0.00249	35.620	269.0	18.638
0.00299	36.580	323.0	19.140
0.00399	38.210	431.1	19.993
0.00499	39.330	539.1	20.579
0.00699	40.200	755.2	21.034
0.00799	40.850	863.2	21.374
0.00899	41.060	971.2	21.484
0.00999	40.950	1079.3	21.427
0.01199	39.770	1295.4	20.809
0.01399	37.520	1511.4	19.632
0.01599	36.100	1727.5	18.889

MEAN VELOCITY AT 10.0 DEGREES.
 WALL SHEAR STRESS 4.1470 PA
 FRICTION VELOCITY 1.9461 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00199	36.100	218.9	18.550
0.00249	36.220	273.9	18.612
0.00299	36.820	328.9	18.920
0.00399	38.550	438.9	19.809
0.00499	39.770	549.0	20.436
0.00599	40.630	659.0	20.878
0.00699	41.480	769.0	21.315
0.00899	41.900	989.0	21.530
0.01100	41.480	1210.1	21.315
0.01299	40.200	1429.0	20.657
0.01499	37.750	1649.1	19.398

MEAN VELOCITY AT 15.0 DEGREES.
 WALL SHEAR STRESS 4.3438 PA
 FRICTION VELOCITY 1.9917 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00199	36.820	224.1	18.486
0.00249	37.050	280.4	18.602
0.00299	37.980	336.6	19.069
0.00399	39.770	449.2	19.968
0.00499	40.850	561.8	20.510
0.00599	41.690	674.4	20.932
0.00699	42.520	787.0	21.348
0.00899	43.330	1012.2	21.755
0.01100	43.720	1238.5	21.951
0.01299	43.330	1462.6	21.755
0.01699	41.060	1912.9	20.615

MEAN VELOCITY AT 20.0 DEGREES.
 WALL SHEAR STRESS 4.5641 PA
 FRICTION VELOCITY 2.0416 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00199	38.330	229.7	18.774
0.00249	38.550	287.4	18.882
0.00299	39.340	345.1	19.269
0.00399	40.970	460.5	20.068
0.00499	42.230	575.9	20.685
0.00599	43.050	691.3	21.086
0.00699	43.860	806.7	21.483
0.00799	44.450	922.1	21.772
0.00999	45.230	1152.9	22.154
0.01199	45.810	1383.8	22.438
0.01399	45.810	1614.6	22.438
0.01899	45.040	2191.6	22.061
0.02399	42.230	2768.7	20.685

MEAN VELOCITY AT 25.0 DEGREES.
 WALL SHEAR STRESS 4.8463 PA
 FRICTION VELOCITY 2.1038 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00199	39.450	236.7	18.752
0.00299	40.540	355.6	19.270
0.00399	42.230	474.5	20.074
0.00499	43.360	593.4	20.611
0.00599	44.260	712.4	21.038
0.00699	45.230	831.3	21.500
0.00899	46.380	1069.1	22.046
0.01100	47.130	1308.2	22.403
0.01299	47.860	1544.8	22.750
0.01499	48.230	1782.7	22.926
0.01699	48.320	2020.5	22.968
0.01899	48.410	2258.4	23.011
0.02399	48.050	2853.0	22.840
0.03399	44.650	4042.2	21.224

MEAN VELOCITY AT 30.0 DEGREES.
 WALL SHEAR STRESS 4.9627 PA
 FRICTION VELOCITY 2.1289 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00199	40.200	239.5	18.883
0.00299	41.690	359.8	19.583
0.00399	43.120	480.2	20.255
0.00499	44.510	600.5	20.908
0.00599	45.480	720.9	21.363
0.00699	46.420	841.2	21.805
0.00899	47.720	1081.9	22.415
0.01100	48.620	1323.8	22.838
0.01299	49.500	1563.3	23.252
0.01499	50.030	1804.0	23.501
0.01699	50.550	2044.6	23.745
0.01999	51.060	2405.7	23.984
0.02299	51.230	2766.7	24.064
0.02799	51.570	3368.4	24.224
0.03299	51.480	3970.2	24.182
0.04799	49.850	5775.3	23.416

MEAN VELOCITY AT 35.0 DEGREES.
 WALL SHEAR STRESS 5.1938 PA
 FRICTION VELOCITY 2.1758 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00199	41.270	244.8	18.968
0.00299	42.310	367.8	19.446
0.00399	44.120	490.8	20.278
0.00499	45.290	613.8	20.815
0.00599	46.240	736.7	21.252
0.00699	46.800	859.7	21.509
0.00899	48.080	1105.7	22.098
0.01100	49.150	1353.0	22.589
0.01299	50.030	1597.7	22.994
0.01499	50.720	1843.7	23.311
0.01699	51.400	2089.7	23.623
0.01999	52.070	2458.7	23.931
0.02299	52.650	2827.7	24.198
0.02599	52.900	3196.7	24.313
0.02899	53.060	3565.7	24.386
0.03399	53.390	4180.6	24.538
0.03899	53.230	4795.6	24.465
0.04899	52.400	6025.6	24.083

MEAN VELOCITY AT 40.0 DEGREES.
 WALL SHEAR STRESS 5.2618 PA
 FRICTION VELOCITY 2.1921 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00199	41.270	246.6	18.827
0.00299	42.520	370.5	19.397
0.00399	44.320	494.4	20.218
0.00499	45.480	618.3	20.747
0.00599	46.240	742.3	21.094
0.00699	47.350	866.2	21.600
0.00899	48.800	1114.0	22.262
0.01100	49.850	1363.1	22.741
0.01299	50.720	1609.7	23.138
0.01499	51.570	1857.5	23.525
0.01699	52.160	2105.4	23.795
0.01999	53.060	2477.1	24.205
0.02299	53.800	2848.9	24.543
0.02599	54.360	3220.6	24.798
0.02899	54.840	3592.4	25.017
0.03199	55.150	3964.1	25.159
0.03699	55.230	4583.7	25.195
0.04199	54.990	5203.3	25.086
0.05199	53.390	6442.5	24.356
0.06199	50.890	7681.6	23.215

MEAN VELOCITY AT 45.0 DEGREES.
WALL SHEAR STRESS 5.2359 PA
FRICTION VELOCITY 2.1867 M/SEC

Y (M)	U (M/SEC)	Y+	U+
0.00199	41.270	246.0	18.873
0.00299	42.520	369.6	19.445
0.00399	44.320	493.2	20.268
0.00499	45.480	616.8	20.798
0.00599	46.420	740.4	21.228
0.00699	47.350	864.1	21.654
0.00899	48.800	1111.3	22.317
0.01100	49.850	1359.7	22.797
0.01299	50.890	1605.7	23.272
0.01499	51.740	1853.0	23.661
0.01799	52.740	2223.8	24.118
0.02099	53.720	2594.6	24.567
0.02399	54.200	2965.5	24.786
0.02699	54.680	3336.3	25.006
0.02999	55.070	3707.1	25.184
0.03299	55.310	4078.0	25.294
0.03799	55.310	4696.0	25.294
0.04299	54.680	5314.1	25.006
0.04799	53.880	5932.2	24.640
0.05299	52.570	6550.2	24.041
0.05799	50.890	7168.3	23.272
0.06299	48.620	7786.4	22.234
0.06799	46.610	8404.4	21.315
0.07299	43.330	9022.5	19.815

MEAN VELOCITY AT 50.0 DEGREES.
 WALL SHEAR STRESS 5.1553 PA
 FRICTION VELOCITY 2.1698 M/SEC

Y (M)	U (M/SEC)	Y+	U+
0.00199	40.630	244.1	18.725
0.00299	42.100	366.7	19.403
0.00399	43.720	489.4	20.149
0.00499	45.090	612.1	20.781
0.00599	46.050	734.7	21.223
0.00699	46.800	857.4	21.569
0.00899	48.260	1102.7	22.242
0.01100	49.500	1349.2	22.813
0.01299	50.380	1593.3	23.219
0.01499	51.230	1838.6	23.610
0.01699	51.900	2083.9	23.919
0.01999	52.900	2451.9	24.380
0.02299	53.390	2819.9	24.606
0.02599	53.880	3187.9	24.832
0.03099	54.200	3801.1	24.979
0.03599	54.040	4414.4	24.905
0.04099	53.550	5027.7	24.680
0.04599	53.150	5641.0	24.495
0.05099	52.490	6254.3	24.191
0.05599	51.570	6867.6	23.767
0.06099	50.200	7480.9	23.136

MEAN VELOCITY AT 55.0 DEGREES.
 WALL SHEAR STRESS 5.0064 PA
 FRICTION VELOCITY 2.1382 M/SEC

Y (M)	U (M/SEC)	Y+	U+
0.00199	40.850	240.5	19.104
0.00299	41.690	361.4	19.497
0.00399	43.120	482.3	20.166
0.00499	44.320	603.2	20.727
0.00599	45.090	724.0	21.087
0.00699	46.050	844.9	21.536
0.00899	47.440	1086.6	22.186
0.01100	48.620	1329.6	22.738
0.01299	49.850	1570.1	23.314
0.01499	50.550	1811.9	23.641
0.01699	51.400	2053.6	24.038
0.01999	52.070	2416.3	24.352
0.02299	52.570	2778.9	24.586
0.02599	52.570	3141.5	24.586
0.03099	52.400	3745.9	24.506
0.03599	51.570	4350.2	24.118
0.04099	50.890	4954.6	23.800
0.04599	50.380	5559.0	23.561

MEAN VELOCITY AT 60.0 DEGREES.
 WALL SHEAR STRESS 4.7285 PA
 FRICTION VELOCITY 2.0781 M/SEC

Y (M)	U (M/SEC)	Y+	U+
0.00199	41.060	233.8	19.759
0.00299	40.630	351.2	19.552
0.00399	42.100	468.7	20.259
0.00499	43.330	586.2	20.851
0.00599	44.120	703.6	21.231
0.00699	44.900	821.1	21.607
0.00899	46.610	1056.1	22.430
0.01100	47.720	1292.2	22.964
0.01299	48.800	1525.9	23.484
0.01499	49.680	1760.9	23.907
0.01699	50.200	1995.8	24.157
0.01999	50.720	2348.2	24.407
0.02299	50.980	2700.6	24.533
0.02599	50.890	3053.1	24.489
0.03099	49.850	3640.4	23.989
0.03599	48.620	4227.8	23.397
0.04099	47.170	4815.1	22.699

MEAN VELOCITY AT 65.0 DEGREES.
 WALL SHEAR STRESS 4.4414 PA
 FRICTION VELOCITY 2.0140 M/SEC

Y (M)	U (M/SEC)	Y+	U+
0.00199	37.520	226.6	18.630
0.00299	39.110	340.4	19.419
0.00399	40.530	454.3	20.124
0.00499	42.100	568.1	20.904
0.00599	43.120	681.9	21.410
0.00699	43.920	795.8	21.808
0.00899	45.480	1023.5	22.582
0.01100	46.800	1252.3	23.238
0.01299	47.720	1478.9	23.695
0.01499	48.440	1706.6	24.052
0.01699	48.800	1934.3	24.231
0.01999	49.150	2275.8	24.405
0.02499	48.440	2845.1	24.052
0.02999	46.800	3414.3	23.238

MEAN VELOCITY AT 70.0 DEGREES.
 WALL SHEAR STRESS 4.1595 PA
 FRICTION VELOCITY 1.9490 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00199	36.340	219.2	18.645
0.00299	37.520	329.4	19.251
0.00399	39.330	439.6	20.179
0.00499	40.630	549.8	20.846
0.00599	41.690	660.0	21.390
0.00699	42.520	770.1	21.816
0.00899	44.120	990.5	22.637
0.01100	45.290	1211.9	23.237
0.01299	45.860	1431.2	23.530
0.01499	45.950	1651.5	23.576
0.01699	45.950	1871.9	23.576
0.02200	44.320	2423.9	22.740

MEAN VELOCITY AT 75.0 DEGREES.
 WALL SHEAR STRESS 3.7655 PA
 FRICTION VELOCITY 1.8544 M/SEC

Y (M)	V (M/SEC)	Y+	V+
0.00199	34.000	208.6	18.335
0.00299	35.620	313.4	19.208
0.00399	37.050	418.3	19.979
0.00499	38.440	523.1	20.729
0.00599	39.550	627.9	21.328
0.00699	40.420	732.7	21.797
0.00899	41.270	942.4	22.255
0.01100	42.100	1153.1	22.703
0.01299	42.000	1361.7	22.649
0.01499	41.060	1571.4	22.142
0.01699	39.770	1781.0	21.446
0.01899	37.520	1990.7	20.233

5.3 Reynolds Stresses

SCAN ANGLE - 20

Y/YMAX	U	V	W	UV	UW	VW	Q
0.360	1.966	1.026	1.330	0.575	-0.573	-0.227	3.342
0.433	1.973	1.007	1.313	0.580	-0.746	-0.300	3.315
0.505	1.995	0.994	1.333	0.556	-0.875	-0.315	3.374
0.577	1.976	1.076	1.389	0.576	-1.011	-0.283	3.496
0.649	1.997	1.028	1.356	0.531	-1.145	-0.477	3.443
0.721	2.013	1.034	1.377	0.542	-1.292	-0.435	3.510
0.793	2.016	1.078	1.411	0.570	-1.374	-0.444	3.608
0.866	2.037	1.049	1.372	0.509	-1.402	-0.755	3.567
0.938	2.036	1.066	1.417	0.483	-1.495	-0.731	3.644
1.010	2.039	1.101	1.387	0.459	-1.512	-0.702	3.648
1.082	2.039	1.115	1.393	0.409	-1.493	-0.627	3.670
1.154	2.041	1.100	1.334	0.339	-1.449	-0.831	3.577

SCAN ANGLE - 15

Y/YMAX	U	V	W	UV	UW	VW	Q
0.439	1.993	1.012	1.401	0.607	-0.819	-0.383	3.480
0.508	2.004	0.992	1.398	0.557	-0.965	-0.349	3.478
0.576	1.987	0.991	1.459	0.518	-1.098	-0.500	3.529
0.645	1.996	1.024	1.443	0.553	-1.200	-0.471	3.558
0.713	1.984	1.049	1.507	0.511	-1.336	-0.582	3.654
0.781	1.980	1.041	1.510	0.483	-1.423	-0.540	3.642
0.850	1.977	1.062	1.525	0.423	-1.549	-0.515	3.680
0.918	1.992	1.039	1.524	0.416	-1.566	-0.622	3.684
0.987	1.994	1.037	1.526	0.356	-1.615	-0.675	3.690
1.055	2.014	1.058	1.484	0.327	-1.651	-0.683	3.690
1.124	2.029	1.074	1.471	0.283	-1.604	-0.843	3.718
1.192	2.050	1.090	1.446	0.218	-1.547	-0.834	3.741

SCAN ANGLE - 10

Y/YMAX	U	V	W	UV	UW	VW	Q
0.517	1.861	0.997	1.551	0.507	-0.801	-0.474	3.431
0.575	1.863	0.967	1.565	0.491	-0.894	-0.556	3.427
0.632	1.844	1.000	1.623	0.444	-1.041	-0.476	3.517
0.690	1.842	0.986	1.617	0.396	-1.096	-0.621	3.490
0.747	1.831	0.966	1.620	0.356	-1.176	-0.639	3.455
0.805	1.827	0.967	1.627	0.329	-1.243	-0.661	3.460
0.862	1.807	1.016	1.645	0.297	-1.271	-0.707	3.502
0.920	1.812	1.032	1.646	0.219	-1.309	-0.678	3.531
0.977	1.808	1.069	1.670	0.145	-1.396	-0.701	3.602
1.035	1.827	1.021	1.655	0.150	-1.408	-0.587	3.561
1.092	1.846	1.002	1.635	0.097	-1.352	-0.817	3.542
1.150	1.870	1.027	1.632	0.034	-1.400	-0.638	3.608

SCAN ANGLE 5							
Y/YMAX	U	V	W	UV	UM	VM	U
0.577	1.582	1.062	1.711	0.384	0.514	-0.042	3.279
0.628	1.572	1.036	1.724	0.320	0.555	-0.079	3.259
0.680	1.556	1.041	1.723	0.340	0.588	0.046	3.237
0.731	1.512	1.038	1.755	0.242	0.647	-0.044	3.222
0.782	1.504	1.067	1.735	0.245	0.635	0.132	3.205
0.834	1.501	1.005	1.747	0.165	0.638	0.010	3.158
0.885	1.503	1.021	1.723	0.162	0.683	0.131	3.134
0.936	1.486	1.066	1.785	0.099	0.694	0.022	3.266
0.988	1.512	1.069	1.782	0.083	0.778	0.198	3.302
1.039	1.535	1.065	1.772	-0.004	0.718	0.196	3.316
1.090	1.551	1.090	1.782	0.003	0.744	0.251	3.385
1.142	1.582	1.040	1.743	-0.060	0.716	0.224	3.311

SCAN ANGLE 0							
Y/YMAX	U	V	W	UV	UM	VM	U
0.600	1.655	0.887	1.691	0.349	0.001	-0.519	3.193
0.653	1.626	0.900	1.720	0.302	0.017	-0.346	3.207
0.706	1.619	0.876	1.712	0.261	-0.003	-0.234	3.160
0.760	1.574	0.933	1.759	0.207	0.015	-0.360	3.221
0.813	1.573	0.950	1.750	0.116	-0.019	-0.336	3.221
0.867	1.576	0.864	1.750	0.107	-0.014	-0.278	3.147
0.920	1.561	0.899	1.768	0.056	-0.021	-0.348	3.187
0.973	1.575	0.901	1.792	0.001	-0.014	-0.334	3.251
1.027	1.596	0.935	1.826	-0.061	-0.012	-0.277	3.379
1.080	1.631	0.933	1.810	-0.082	0.001	-0.188	3.403
1.133	1.651	0.904	1.804	-0.166	-0.039	-0.282	3.399
1.187	1.666	0.954	1.823	-0.209	-0.031	-0.246	3.504

SCAN ANGLE - 5							
Y/YMAX	U	V	W	UV	UM	VM	U
0.577	1.742	0.916	1.662	0.429	-0.502	-0.589	3.318
0.628	1.724	0.910	1.709	0.400	-0.572	-0.465	3.361
0.680	1.687	0.961	1.705	0.348	-0.606	-0.631	3.338
0.731	1.671	0.918	1.729	0.265	-0.662	-0.625	3.311
0.782	1.652	0.970	1.730	0.216	-0.717	-0.570	3.331
0.834	1.655	0.966	1.743	0.177	-0.734	-0.450	3.354
0.885	1.654	0.950	1.756	0.127	-0.768	-0.589	3.362
0.936	1.662	0.941	1.758	0.074	-0.815	-0.458	3.370
0.988	1.656	0.957	1.762	0.023	-0.804	-0.555	3.380
1.039	1.668	0.945	1.743	-0.015	-0.793	-0.543	3.357
1.090	1.680	0.929	1.774	-0.050	-0.833	-0.517	3.416
1.142	1.699	0.956	1.730	-0.108	-0.813	-0.421	3.396

Y/YMAX	U	U	U	U	U	U	U
1.154	1.825	1.171	1.429	0.580	0.621	0.061	3.372
1.082	1.864	1.279	1.434	0.524	1.428	0.454	3.584
1.010	1.879	1.264	1.425	0.540	1.445	0.393	3.578
0.938	1.882	1.245	1.461	0.575	1.448	0.383	3.614
0.866	1.869	1.243	1.493	0.577	1.410	0.344	3.635
0.793	1.886	1.206	1.450	0.587	1.365	0.309	3.557
0.721	1.870	1.188	1.450	0.622	1.296	0.217	3.505
0.649	1.870	1.191	1.432	0.598	1.180	0.233	3.483
0.577	1.849	1.205	1.472	0.604	1.046	0.179	3.518
0.505	1.847	1.140	1.428	0.592	0.932	0.095	3.375
0.433	1.837	1.164	1.430	0.572	0.764	0.115	3.388
0.360	1.825	1.171	1.429	0.580	0.621	0.061	3.372

SCAN ANGLE 20

Y/YMAX	U	U	U	U	U	U	U
1.192	1.855	1.231	1.493	0.300	1.449	0.415	3.593
1.124	1.857	1.255	1.499	0.325	1.511	0.386	3.634
1.055	1.836	1.263	1.556	0.352	1.549	0.371	3.674
0.987	1.830	1.241	1.533	0.438	1.513	0.475	3.618
0.918	1.843	1.197	1.528	0.468	1.472	0.417	3.582
0.850	1.829	1.197	1.545	0.483	1.448	0.414	3.583
0.781	1.840	1.171	1.548	0.513	1.379	0.388	3.578
0.713	1.828	1.195	1.563	0.526	1.277	0.320	3.606
0.645	1.839	1.187	1.543	0.555	1.179	0.309	3.587
0.576	1.825	1.195	1.530	0.562	1.080	0.160	3.551
0.508	1.845	1.164	1.518	0.603	0.956	0.213	3.530
0.439	1.822	1.197	1.539	0.560	0.839	0.143	3.561

SCAN ANGLE 15

Y/YMAX	U	U	U	U	U	U	U
1.150	1.688	1.175	1.654	0.130	1.258	0.384	3.482
1.092	1.685	1.125	1.645	0.132	1.250	0.339	3.405
1.035	1.679	1.145	1.653	0.203	1.255	0.413	3.431
0.977	1.681	1.100	1.636	0.216	1.223	0.326	3.456
0.920	1.678	1.123	1.640	0.266	1.192	0.340	3.383
0.862	1.676	1.128	1.658	0.275	1.173	0.255	3.415
0.805	1.696	1.071	1.655	0.315	1.164	0.191	3.380
0.747	1.688	1.090	1.635	0.352	1.085	0.165	3.356
0.690	1.683	1.116	1.681	0.422	1.074	0.207	3.452
0.632	1.702	1.103	1.657	0.409	0.972	0.086	3.424
0.575	1.720	1.097	1.646	0.470	0.901	0.089	3.435
0.517	1.714	1.157	1.647	0.457	0.840	0.008	3.494

SCAN ANGLE 10

SCAN ANGLE		25					
Y/YMAX	U	V	W	UV	UW	VW	Q
0.290	1.765	1.072	1.368	0.570	0.355	-0.034	3.067
0.373	1.754	1.088	1.361	0.592	0.513	-0.039	3.056
0.457	1.760	1.150	1.379	0.604	0.661	0.050	3.160
0.541	1.757	1.189	1.391	0.625	0.800	0.092	3.218
0.625	1.784	1.173	1.406	0.614	0.953	0.070	3.268
0.709	1.791	1.200	1.399	0.622	1.047	0.212	3.303
0.793	1.804	1.217	1.412	0.643	1.121	0.372	3.366
0.876	1.813	1.237	1.384	0.639	1.189	0.317	3.366
0.960	1.813	1.249	1.392	0.621	1.246	0.325	3.392
1.044	1.813	1.254	1.350	0.568	1.190	0.388	3.342
1.128	1.790	1.225	1.293	0.456	1.086	0.290	3.187
1.212	1.771	1.262	1.281	0.397	1.041	0.332	3.187

SCAN ANGLE		30					
Y/YMAX	U	V	W	UV	UW	VW	Q
0.230	1.786	1.152	1.483	0.677	0.205	-0.084	3.358
0.318	1.744	1.080	1.433	0.681	0.243	-0.108	3.130
0.405	1.696	0.989	1.306	0.604	0.309	-0.100	2.781
0.492	1.627	1.075	1.335	0.619	0.378	0.039	2.794
0.579	1.619	1.074	1.320	0.604	0.462	-0.002	2.759
0.667	1.629	1.046	1.291	0.616	0.567	-0.014	2.707
0.754	1.612	1.072	1.270	0.591	0.612	0.009	2.681
0.841	1.608	1.129	1.270	0.607	0.718	0.164	2.737
0.928	1.598	1.127	1.205	0.535	0.695	0.084	2.638
1.016	1.608	1.118	1.210	0.552	0.743	0.213	2.650
1.103	1.622	1.101	1.136	0.458	0.710	0.333	2.567
1.190	1.567	1.125	1.124	0.424	0.682	0.148	2.493

SCAN ANGLE		35					
Y/YMAX	U	V	W	UV	UW	VW	Q
0.182	1.836	1.099	1.531	0.720	0.142	-0.189	3.462
0.272	1.734	1.000	1.370	0.649	0.148	-0.092	2.943
0.361	1.627	1.050	1.355	0.624	0.153	0.056	2.793
0.451	1.564	1.000	1.267	0.544	0.203	-0.104	2.525
0.540	1.511	0.998	1.241	0.508	0.272	-0.106	2.410
0.629	1.486	0.998	1.198	0.500	0.327	0.043	2.321
0.719	1.458	1.004	1.178	0.490	0.379	0.117	2.260
0.808	1.438	0.760	0.883	0.364	0.346	0.076	1.712
0.898	1.326	0.903	0.991	0.351	0.369	0.063	1.778
0.987	1.293	0.895	0.937	0.313	0.349	0.091	1.675
1.076	1.221	1.081	1.106	0.296	0.372	0.079	1.942
1.166	1.257	0.964	0.959	0.249	0.345	0.070	1.714

45							
SCAN ANGLE							
Y/YMAX	U	V	W	UV	UM	VM	Q
0.113	1.935	1.153	1.579	0.785	0.068	0.027	3.784
0.171	1.836	1.032	1.443	0.716	0.057	-0.029	3.259
0.229	1.722	1.014	1.381	0.689	0.035	0.025	2.949
0.287	1.608	0.955	1.281	0.601	0.022	0.005	2.569
0.345	1.513	0.946	1.228	0.532	0.015	0.036	2.347
0.404	1.400	0.933	1.166	0.437	0.019	0.120	2.095
0.462	1.323	0.897	1.067	0.359	0.005	0.044	1.847
0.520	1.233	0.867	1.021	0.294	0.012	0.030	1.656
0.578	1.161	0.891	0.961	0.189	0.001	-0.004	1.533
0.636	1.083	0.841	0.920	0.179	0.002	0.052	1.363
0.694	1.029	0.806	0.864	0.139	-0.016	0.024	1.228
0.752	0.970	0.805	0.844	0.091	-0.026	0.026	1.151
0.810	0.936	0.785	0.803	0.046	-0.036	-0.014	1.069
0.868	0.911	0.791	0.789	-0.002	-0.045	0.011	1.039
0.926	0.911	0.771	0.769	-0.037	-0.060	0.032	1.008
0.984	0.911	0.800	0.771	-0.077	-0.060	-0.024	1.032
1.042	0.941	0.782	0.766	-0.126	-0.059	-0.016	1.042
1.101	0.971	0.803	0.802	-0.170	-0.064	0.035	1.115
1.159	1.019	0.797	0.815	-0.204	-0.065	-0.010	1.169
1.217	1.082	0.820	0.838	-0.259	-0.074	0.017	1.272

40							
SCAN ANGLE							
Y/YMAX	U	V	W	UV	UM	VM	Q
0.144	1.910	1.040	1.496	0.746	0.122	-0.090	3.485
0.240	1.752	0.928	1.342	0.654	0.081	-0.081	2.865
0.336	1.582	0.959	1.289	0.545	0.074	-0.063	2.542
0.433	1.470	0.920	1.199	0.457	0.121	-0.030	2.222
0.529	1.374	0.912	1.147	0.404	0.146	0.096	2.017
0.625	1.287	0.921	1.078	0.341	0.153	0.016	1.833
0.721	1.245	0.873	0.991	0.301	0.173	0.091	1.647
0.818	1.159	0.873	0.974	0.227	0.166	0.008	1.527
0.914	1.101	0.852	0.905	0.183	0.145	0.060	1.379
1.010	1.036	0.843	0.856	0.147	0.123	0.068	1.258
1.107	0.973	0.842	0.822	0.068	0.093	0.080	1.167
1.203	0.935	0.836	0.808	0.006	0.064	0.081	1.113

SCAN ANGLE		50					
Y/YMAX	U	V	W	UV	UW	VW	Q
0.144	1.929	1.179	1.525	0.815	-0.057	0.044	3.719
0.240	1.816	1.033	1.440	0.731	-0.064	-0.001	3.220
0.336	1.670	1.048	1.329	0.673	-0.104	0.107	2.827
0.433	1.525	1.019	1.258	0.564	-0.108	0.074	2.473
0.529	1.387	0.985	1.136	0.440	-0.092	-0.006	2.093
0.625	1.261	1.003	1.050	0.257	-0.114	0.043	1.848
0.721	1.165	0.917	0.975	0.201	-0.125	0.007	1.574
0.818	1.106	0.869	0.915	0.105	-0.156	0.023	1.408
0.914	1.082	0.839	0.840	0.030	-0.194	-0.021	1.290
1.010	1.080	0.857	0.812	-0.027	-0.219	0.004	1.280
1.107	1.094	0.837	0.764	-0.035	-0.234	0.020	1.241
1.203	1.098	0.868	0.799	-0.114	-0.250	-0.029	1.299

SCAN ANGLE		55					
Y/YMAX	U	V	W	UV	UW	VW	Q
0.182	1.982	1.161	1.562	0.892	-0.139	0.054	3.859
0.272	1.882	1.199	1.526	0.866	-0.132	-0.053	3.653
0.361	1.804	1.147	1.453	0.800	-0.113	-0.061	3.340
0.451	1.706	1.107	1.367	0.740	-0.113	0.198	3.003
0.540	1.604	1.106	1.289	0.653	-0.131	0.086	2.729
0.629	1.481	1.077	1.214	0.537	-0.162	0.111	2.415
0.719	1.384	1.060	1.129	0.412	-0.186	-0.002	2.156
0.808	1.290	1.032	1.066	0.272	-0.222	0.030	1.932
0.898	1.239	1.030	1.020	0.142	-0.259	-0.006	1.818
0.987	1.224	1.039	0.985	0.032	-0.310	0.053	1.774
1.076	1.252	1.016	0.932	-0.061	-0.332	-0.074	1.734
1.166	1.299	1.048	0.935	-0.155	-0.391	-0.029	1.829

SCAN ANGLE		60					
Y/YMAX	U	V	W	UV	UW	VW	Q
0.230	2.006	1.187	1.524	0.928	-0.143	-0.049	3.879
0.318	1.935	1.176	1.479	0.877	-0.141	-0.066	3.657
0.405	1.845	1.120	1.369	0.820	-0.145	-0.003	3.267
0.492	1.755	1.145	1.389	0.773	-0.134	-0.061	3.161
0.579	1.667	1.085	1.300	0.654	-0.167	0.010	2.823
0.667	1.563	1.106	1.277	0.595	-0.198	-0.015	2.650
0.754	1.471	1.093	1.199	0.481	-0.189	-0.002	2.398
0.841	1.391	1.085	1.125	0.377	-0.208	-0.079	2.188
0.928	1.334	0.833	0.860	0.224	-0.196	-0.034	1.606
1.016	1.202	0.989	0.972	0.122	-0.226	-0.011	1.684
1.103	1.191	1.205	1.177	0.032	-0.290	-0.052	2.127
1.190	1.327	1.068	1.003	-0.070	-0.312	-0.093	1.953

SCAN ANGLE		65					
Y/YMAX	U	V	W	UV	UW	VW	Q
0.290	1.963	1.155	1.452	0.902	-0.133	-0.115	3.649
0.373	1.915	1.182	1.426	0.896	-0.131	-0.081	3.549
0.457	1.829	1.131	1.369	0.793	-0.149	-0.075	3.250
0.541	1.732	1.165	1.396	0.758	-0.191	0.040	3.154
0.625	1.675	1.098	1.290	0.666	-0.190	-0.003	2.838
0.709	1.585	1.114	1.298	0.570	-0.230	0.027	2.719
0.793	1.514	1.128	1.247	0.476	-0.275	0.025	2.560
0.876	1.470	1.138	1.199	0.358	-0.284	-0.063	2.447
0.960	1.428	1.091	1.136	0.302	-0.296	-0.081	2.260
1.044	1.395	1.085	1.106	0.197	-0.350	0.007	2.174
1.128	1.387	1.082	1.062	0.102	-0.353	-0.058	2.111
1.212	1.404	1.099	1.040	0.030	-0.385	-0.075	2.130

SCAN ANGLE		70					
Y/YMAX	U	V	W	UV	UW	VW	Q
0.360	1.819	1.132	1.386	0.768	-0.204	-0.106	3.254
0.433	1.770	1.130	1.370	0.752	-0.253	-0.152	3.143
0.505	1.710	1.059	1.235	0.682	-0.251	-0.029	2.785
0.577	1.629	1.106	1.285	0.623	-0.297	0.087	2.764
0.649	1.563	1.088	1.252	0.541	-0.304	-0.058	2.597
0.721	1.508	1.081	1.176	0.464	-0.314	-0.013	2.413
0.793	1.466	1.066	1.146	0.390	-0.351	0.011	2.298
0.866	1.434	1.085	1.130	0.297	-0.388	-0.060	2.256
0.938	1.438	1.067	1.081	0.232	-0.401	-0.089	2.187
1.010	1.454	1.040	1.065	0.144	-0.451	-0.090	2.165
1.082	1.464	1.085	1.054	0.070	-0.477	-0.149	2.216
1.154	1.512	1.074	1.022	0.008	-0.512	-0.155	2.242

SCAN ANGLE		75					
Y/YMAX	U	V	W	UV	UW	VW	Q
0.439	1.759	1.198	1.427	0.775	-0.397	-0.054	3.282
0.508	1.700	1.201	1.388	0.698	-0.390	-0.141	3.129
0.576	1.654	1.126	1.287	0.603	-0.432	-0.013	2.831
0.645	1.577	1.154	1.279	0.512	-0.466	-0.051	2.726
0.713	1.529	1.147	1.240	0.427	-0.450	-0.085	2.595
0.781	1.480	1.130	1.190	0.346	-0.470	-0.033	2.442
0.850	1.468	1.120	1.162	0.237	-0.480	-0.140	2.380
0.918	1.470	1.131	1.146	0.164	-0.494	-0.118	2.375
0.987	1.507	1.128	1.132	0.064	-0.546	-0.204	2.411
1.055	1.574	1.146	1.098	-0.017	-0.577	-0.253	2.498
1.124	1.630	1.139	1.112	-0.114	-0.615	-0.255	2.595
1.192	1.691	1.178	1.131	-0.180	-0.667	-0.292	2.763