

APPENDIX D, NACA SECTION DATA

Table D1, NACA 0012 Coordinates

X/c	Y/c	X/c	Y/c	X/c	Y/c
1.000000	0.001260	0.053594	0.036612	0.443287	-0.056144
0.992704	0.002274	0.044211	0.033717	0.461875	-0.055178
0.979641	0.004079	0.036254	0.030913	0.480488	-0.054127
0.964244	0.006169	0.029567	0.028218	0.499117	-0.052996
0.947231	0.008434	0.023982	0.025653	0.517763	-0.051786
0.929323	0.010765	0.019310	0.023217	0.536430	-0.050503
0.910956	0.013101	0.015371	0.020871	0.555117	-0.049149
0.892372	0.015420	0.012012	0.018579	0.573821	-0.047728
0.873723	0.017700	0.009117	0.016316	0.592538	-0.046245
0.855041	0.019931	0.006653	0.014058	0.611266	-0.044701
0.836311	0.022119	0.004621	0.011797	0.630004	-0.043098
0.817558	0.024266	0.003007	0.009544	0.648751	-0.041440
0.798819	0.026366	0.001777	0.007318	0.667502	-0.039728
0.780088	0.028414	0.000894	0.005155	0.686255	-0.037964
0.761336	0.030413	0.000322	0.003059	0.705012	-0.036149
0.742560	0.032370	0.000036	0.001014	0.723780	-0.034284
0.723780	0.034284	0.000036	-0.001014	0.742560	-0.032370
0.705012	0.036149	0.000322	-0.003059	0.761336	-0.030413
0.686255	0.037964	0.000894	-0.005155	0.780088	-0.028414
0.667502	0.039728	0.001777	-0.007318	0.798819	-0.026366
0.648751	0.041440	0.003007	-0.009544	0.817558	-0.024266
0.630004	0.043098	0.004621	-0.011797	0.836311	-0.022119
0.611266	0.044701	0.006653	-0.014058	0.855041	-0.019931
0.592538	0.046245	0.009117	-0.016316	0.873723	-0.017700
0.573821	0.047728	0.012012	-0.018579	0.892372	-0.015420
0.555117	0.049149	0.015371	-0.020871	0.910956	-0.013101
0.536430	0.050503	0.019310	-0.023217	0.929323	-0.010765
0.517763	0.051786	0.023982	-0.025653	0.947231	-0.008434
0.499117	0.052996	0.029567	-0.028218	0.964244	-0.006169
0.480488	0.054127	0.036254	-0.030913	0.979641	-0.004079
0.461875	0.055178	0.044211	-0.033717	0.992704	-0.002274
0.443287	0.056144	0.053594	-0.036612	1.000000	-0.001260
0.424740	0.057019	0.064541	-0.039548		
0.406241	0.057796	0.077039	-0.042449		
0.387789	0.058466	0.090903	-0.045220		
0.369372	0.059023	0.105827	-0.047784		
0.350989	0.059462	0.121548	-0.050098		
0.332648	0.059779	0.137852	-0.052138		
0.314366	0.059965	0.154596	-0.053909		
0.296159	0.060009	0.171676	-0.055421		
0.278033	0.059903	0.189011	-0.056692		
0.259997	0.059634	0.206544	-0.057733		
0.242060	0.059191	0.224236	-0.058562		
0.224236	0.058562	0.242060	-0.059191		
0.206544	0.057733	0.259997	-0.059634		
0.189011	0.056692	0.278033	-0.059903		
0.171676	0.055421	0.296159	-0.060009		
0.154596	0.053909	0.314366	-0.059965		
0.137852	0.052138	0.332648	-0.059779		
0.121548	0.050098	0.350989	-0.059462		
0.105827	0.047785	0.369372	-0.059023		
0.090903	0.045220	0.387789	-0.058466		
0.077039	0.042449	0.406241	-0.057796		
0.064541	0.039548	0.424740	-0.057019		

Table D2, NACA 65-012 Section Coordinates

X/c	Y/c	X/c	Y/c	X/c	Y/c
0.997069	0.000350	0.229257	0.052469	0.262457	-0.054986
0.990093	0.000770	0.212711	0.051006	0.279096	-0.056050
0.976837	0.001616	0.196209	0.049400	0.295753	-0.056989
0.961758	0.002711	0.179752	0.047645	0.312423	-0.057803
0.946147	0.004102	0.163342	0.045733	0.329102	-0.058495
0.930220	0.005819	0.146997	0.043653	0.345787	-0.059063
0.913926	0.007811	0.130780	0.041398	0.362469	-0.059506
0.897276	0.009989	0.114769	0.038958	0.379135	-0.059823
0.880436	0.012250	0.098934	0.036298	0.395772	-0.060007
0.863592	0.014555	0.083182	0.033374	0.412373	-0.060049
0.846764	0.016904	0.067863	0.030231	0.428941	-0.059940
0.829898	0.019297	0.053692	0.026986	0.445485	-0.059675
0.812985	0.021721	0.040774	0.023597	0.462010	-0.059251
0.796056	0.024158	0.029523	0.020227	0.478520	-0.058662
0.779136	0.026587	0.021161	0.017426	0.495015	-0.057907
0.762235	0.028993	0.015170	0.015078	0.511502	-0.056988
0.745355	0.031368	0.010625	0.012932	0.527998	-0.055906
0.728493	0.033705	0.007086	0.010839	0.544529	-0.054662
0.711647	0.035999	0.004451	0.008730	0.561117	-0.053270
0.694818	0.038242	0.002566	0.006638	0.577762	-0.051745
0.678014	0.040426	0.001269	0.004623	0.594444	-0.050106
0.661248	0.042541	0.000454	0.002720	0.611135	-0.048362
0.644522	0.044576	0.000052	0.000897	0.627825	-0.046518
0.627825	0.046518	0.000052	-0.000897	0.644522	-0.044576
0.611135	0.048362	0.000454	-0.002720	0.661248	-0.042541
0.594444	0.050106	0.001269	-0.004623	0.678014	-0.040426
0.577762	0.051745	0.002566	-0.006638	0.694818	-0.038242
0.561117	0.053270	0.004451	-0.008730	0.711647	-0.035999
0.544529	0.054662	0.007086	-0.010839	0.728493	-0.033705
0.527998	0.055906	0.010625	-0.012932	0.745355	-0.031368
0.511501	0.056988	0.015170	-0.015078	0.762235	-0.028993
0.495014	0.057907	0.021161	-0.017426	0.779136	-0.026587
0.478520	0.058662	0.029523	-0.020227	0.796056	-0.024158
0.462010	0.059251	0.040774	-0.023597	0.812985	-0.021721
0.445485	0.059675	0.053693	-0.026986	0.829898	-0.019297
0.428941	0.059940	0.067863	-0.030231	0.846764	-0.016905
0.412373	0.060049	0.083182	-0.033374	0.863592	-0.014555
0.395772	0.060007	0.098934	-0.036298	0.880436	-0.012250
0.379135	0.059823	0.114769	-0.038958	0.897276	-0.009989
0.362469	0.059506	0.130780	-0.041398	0.913926	-0.007811
0.345786	0.059063	0.146997	-0.043653	0.930220	-0.005819
0.329101	0.058495	0.163342	-0.045733	0.946147	-0.004102
0.312422	0.057803	0.179752	-0.047645	0.961758	-0.002711
0.295753	0.056989	0.196209	-0.049400	0.976837	-0.001616
0.279096	0.056050	0.212712	-0.051006	0.990093	-0.000770
0.262457	0.054986	0.229258	-0.052469	0.997069	-0.000350
0.245841	0.053794	0.245842	-0.053794		

area = 0.08206
 thick. = 0.12002
 camber = -0.00000
 $r_{LE} = 0.01391$
 $\Delta\theta_{TE} = 15.76^\circ$

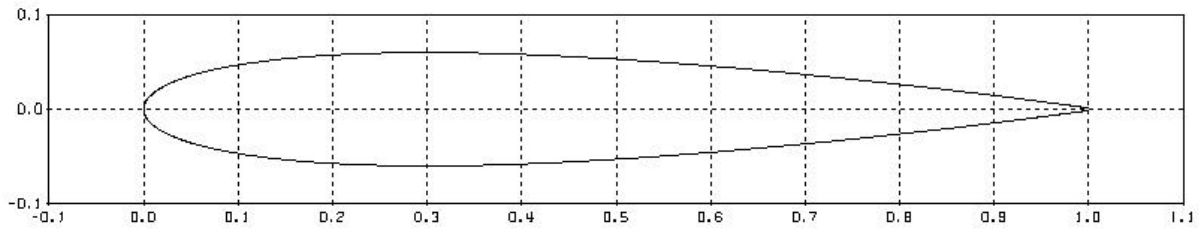


Fig. D1, NACA 0012 Section Shape

NACA 0012 $Re = 500000$ $Ma = 0.000$ $Ner_{tL} = 9.000$
 NACA 0012 $Re = 1000000$ $Ma = 0.000$ $Ner_{tL} = 9.000$
 NACA 0012 $Re = 2000000$ $Ma = 0.000$ $Ner_{tL} = 9.000$

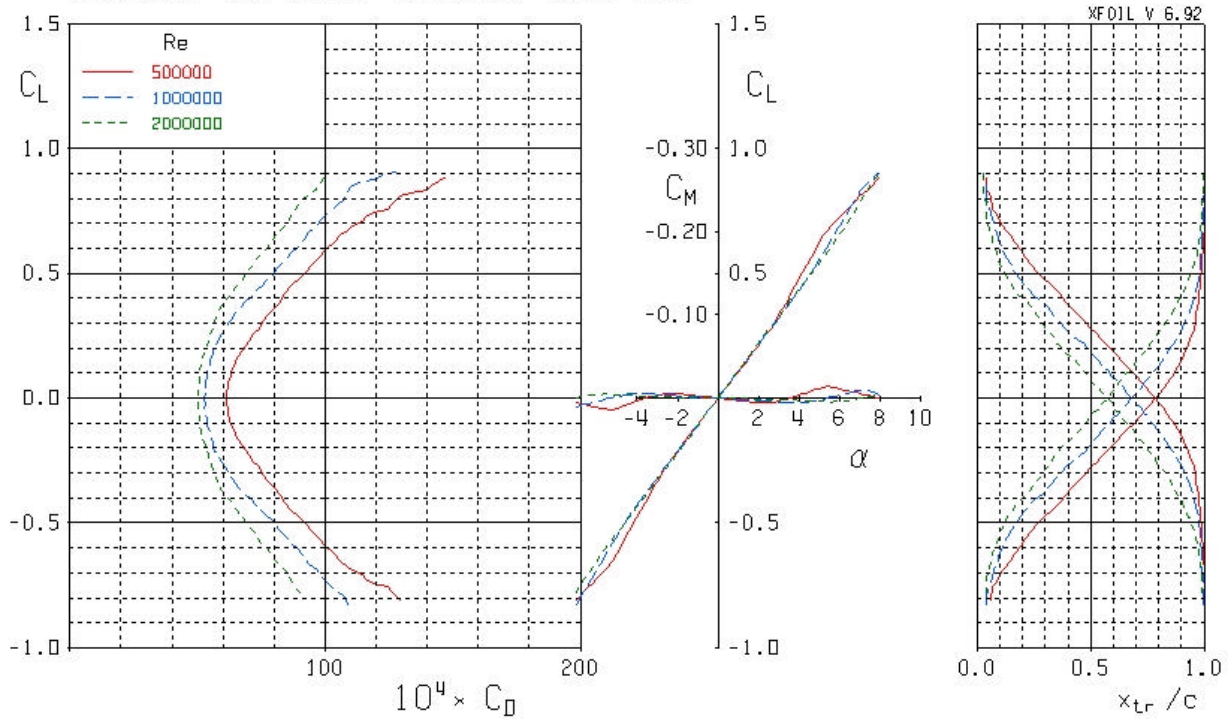


Fig. D2, NACA 0012 Performance, Natural Transition

area = 0.07794
 thick. = 0.12010
 camber = -0.00000
 $r_{LE} = 0.00814$
 $\Delta\theta_{TE} = 6.77^\circ$

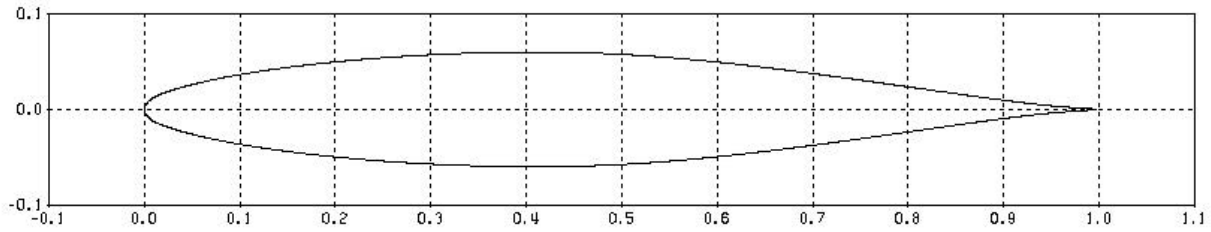


Fig. D3, NACA 65-012 Section Shape

NACA 65-012	Re = 500000	Ma = 0.000	Nerjt = 9.000
NACA 65-012	Re = 1000000	Ma = 0.000	Nerjt = 9.000
NACA 65-012	Re = 2000000	Ma = 0.000	Nerjt = 9.000

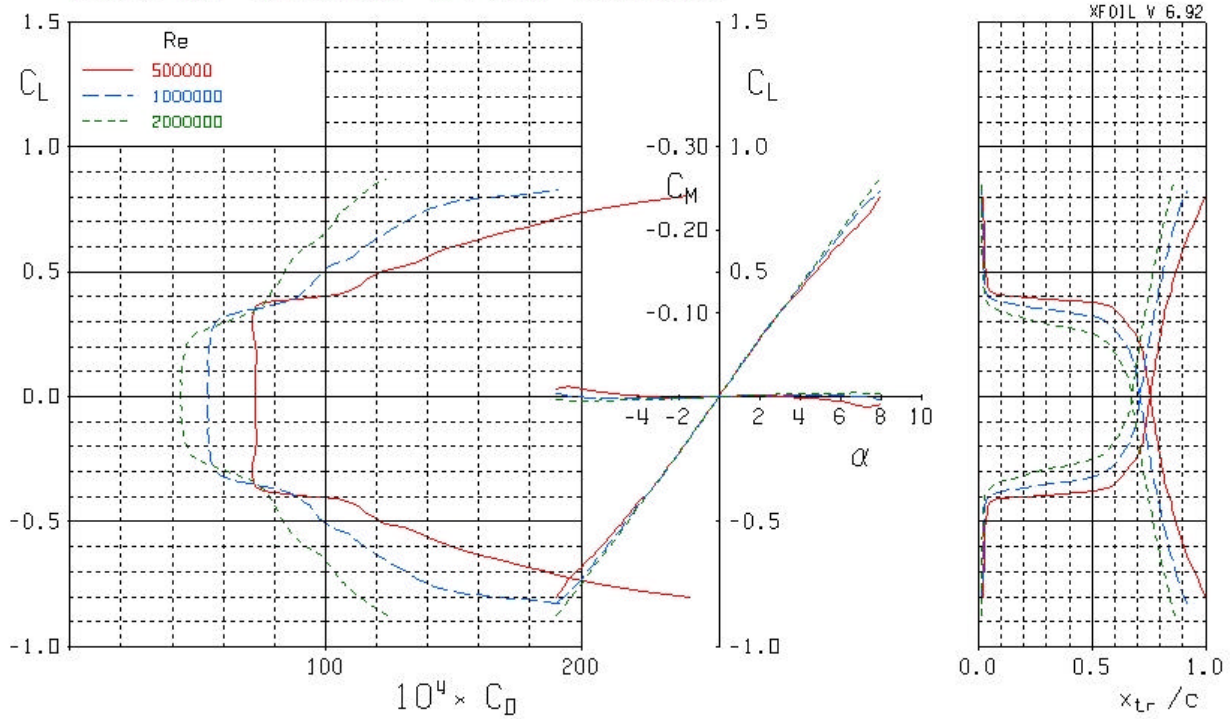


Fig. D4, NACA 65-012 Performance, Natural Transition