

NACA 0006

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
1.25	.95	1.25	-.95
2.5	1.81	2.5	-1.81
5.0	1.78	5.0	-1.78
7.5	2.10	7.5	-2.10
10	2.84	10	-2.84
15	2.67	15	-2.67
20	2.87	20	-2.87
25	2.97	25	-2.97
30	3.00	30	-3.00
40	2.90	40	-2.90
50	2.65	50	-2.65
60	2.23	60	-2.23
70	1.83	70	-1.83
80	1.31	80	-1.31
90	.72	90	-.72
95	.40	95	-.40
100	(.06)	100	(-.06)
100	0	100	0

L. E. radius: 0.40

NACA 0009

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
1.25	1.42	1.25	-1.42
2.5	1.96	2.5	-1.96
5.0	2.67	5.0	-2.67
7.5	3.16	7.5	-3.16
10	3.51	10	-3.51
15	4.01	15	-4.01
20	4.30	20	-4.30
25	4.46	25	-4.46
30	4.50	30	-4.50
40	4.35	40	-4.35
50	3.97	50	-3.97
60	3.42	60	-3.42
70	2.75	70	-2.75
80	1.97	80	-1.97
90	1.09	90	-1.09
95	.60	95	-.60
100	(.10)	100	(-.10)
100	0	100	0

L. E. radius: 0.89

NACA 1408

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
1.189	1.324	1.311	-1.200
2.418	1.862	2.582	-1.620
4.896	2.602	5.104	-2.184
7.386	3.138	7.614	-2.458
9.883	3.558	10.117	-2.682
14.889	4.171	15.111	-2.953
19.904	4.574	20.096	-3.074
24.926	4.819	25.074	-3.101
29.950	4.989	30.050	-3.063
40.000	4.869	40.000	-2.869
50.020	4.502	49.980	-2.556
60.034	3.931	59.966	-2.133
70.041	3.193	69.959	-1.698
80.039	2.305	79.961	-1.193
90.027	1.271	89.973	-.659
95.016	.698	94.984	-.378
100.000	.084	100.000	-.084

L. E. radius: 0.70
Slope of radius through L. E.: 0.05

NACA 1410

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
1.174	1.639	1.326	-1.515
2.398	2.297	2.602	-2.055
4.870	3.194	5.130	-2.726
7.358	3.887	7.642	-3.157
9.854	4.388	10.146	-3.462
14.861	5.062	15.139	-3.844
19.880	5.531	20.120	-4.031
24.907	5.809	25.093	-4.091
29.937	5.940	30.063	-4.064
40.000	5.836	40.000	-3.836
50.025	5.385	49.975	-3.489
60.042	4.692	59.958	-2.974
70.051	3.804	69.949	-2.304
80.049	2.741	79.951	-1.629
90.034	1.513	89.966	-.901
95.021	.832	94.979	-.512
100.000	.105	100.000	-.105

L. E. radius: 1.10
Slope of radius through L. E.: 0.05

NACA 1412

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
1.158	1.954	1.342	-1.880
2.378	2.733	2.622	-2.491
4.845	3.786	5.155	-3.318
7.330	4.537	7.670	-3.857
9.824	5.118	10.176	-4.242
14.833	5.951	15.167	-4.733
19.857	6.486	20.143	-4.986
24.889	6.799	25.111	-5.081
29.925	6.940	30.075	-5.064
40.000	6.803	40.000	-4.803
50.029	6.267	49.971	-4.321
60.051	5.453	59.949	-3.673
70.061	4.413	69.939	-2.913
80.058	3.178	79.942	-2.066
90.040	1.753	89.990	-1.141
95.028	.968	94.978	-.646
100.000	.128	100.000	-.128

L. E. radius: 1.58
Slope of radius through L. E.: 0.05

NACA 2412

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
1.25	2.15	1.25	-1.65
2.5	2.99	2.5	-2.27
5.0	4.13	5.0	-3.01
7.5	4.96	7.5	-3.46
10	5.53	10	-3.75
15	6.61	15	-4.10
20	7.28	20	-4.28
25	7.67	25	-4.22
30	7.88	30	-4.12
40	7.80	40	-3.80
50	7.24	50	-3.34
60	6.38	60	-2.76
70	5.18	70	-2.14
80	3.75	80	-1.50
90	2.08	90	-.82
95	1.14	95	-.45
100	(.13)	100	(-.13)
100	0	100	0

L. E. radius: 1.58
Slope of radius through L. E.: 0.10

NACA 2415

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
1.25	2.71	1.25	-2.06
2.5	3.71	2.5	-2.85
5.0	5.07	5.0	-3.84
7.5	6.06	7.5	-4.47
10	6.83	10	-4.90
15	7.97	15	-5.42
20	8.70	20	-5.66
25	9.17	25	-5.70
30	9.38	30	-5.62
40	9.25	40	-5.25
50	8.87	50	-4.67
60	7.80	60	-3.90
70	6.10	70	-3.05
80	4.41	80	-2.15
90	2.45	90	-1.17
95	1.34	95	-.68
100	(.16)	100	(-.16)
100	0	100	0

L. E. radius: 2.48
Slope of radius through L. E.: 0.10

NACA 2418

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
1.25	3.28	1.25	-2.45
2.5	4.45	2.5	-3.44
5.0	6.08	5.0	-4.68
7.5	7.17	7.5	-5.48
10	8.05	10	-6.03
15	9.34	15	-6.74
20	10.15	20	-7.09
25	10.65	25	-7.18
30	10.88	30	-7.12
40	10.71	40	-6.71
50	9.89	50	-5.99
60	8.65	60	-5.04
70	7.02	70	-3.97
80	5.05	80	-2.80
90	2.81	90	-1.53
95	1.55	95	-.87
100	(.19)	100	(-.19)
100	0	100	0

L. E. radius: 3.56
Slope of radius through L. E.: 0.10

NACA 2421

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
1.25	3.87	1.25	-2.82
2.5	5.21	2.5	-4.02
5.0	7.00	5.0	-5.51
7.5	8.29	7.5	-6.48
10	9.28	10	-7.18
15	10.70	15	-8.05
20	11.59	20	-8.52
25	12.15	25	-8.67
30	12.38	30	-8.62
40	12.16	40	-8.16
50	11.22	50	-7.31
60	9.79	60	-6.17
70	7.94	70	-4.87
80	6.74	80	-3.44
90	5.18	90	-1.88
95	3.76	95	-1.06
100	(.22)	100	(-.22)
100	0	100	0

L. E. radius: 4.85
Slope of radius through L. E.: 0.10

NACA 2424

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.885	3.892	1.615	-3.646
2.012	5.449	2.988	-4.965
4.380	7.552	5.620	-6.614
6.820	9.032	8.180	-7.692
9.300	10.215	10.700	-8.465
14.333	11.898	15.667	-9.450
19.427	12.959	20.573	-9.959
24.566	13.593	25.445	-10.155
29.700	13.874	30.300	-10.124
40.000	13.606	40.000	-9.606
50.118	12.332	49.882	-8.644
60.203	10.963	59.797	-7.347
70.244	8.824	69.756	-5.824
80.233	6.362	79.767	-4.130
90.181	3.562	89.839	-2.280
95.088	1.980	94.912	-1.292
100.000	0	100.000	0

L. E. radius: 6.83
Slope of radius through L. E.: 0.10

NACA 4412

[Stations and ordinates given in percent of
airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
1.25	2.44	1.25	-1.48
2.5	3.89	2.5	-1.96
5.0	4.78	5.0	-2.49
7.5	5.76	7.5	-2.74
10	6.69	10	-2.88
15	7.89	15	-2.88
20	8.90	20	-2.74
25	9.41	25	-2.50
30	9.76	30	-2.26
40	9.80	40	-1.80
50	9.19	50	-1.40
60	8.14	60	-1.00
70	6.09	70	-0.85
80	4.89	80	-0.89
90	2.71	90	-0.22
95	1.47	95	-0.16
100	(.18)	100	(-.18)
100	-----	100	0

L. E. radius: 1.68
Slope of radius through L. E.: 0.20

NACA 4415

[Stations and ordinates given in percent of
airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
1.25	3.07	1.25	-1.79
2.5	4.17	2.5	-2.48
5.0	5.74	5.0	-3.27
7.5	6.91	7.5	-3.71
10	7.84	10	-3.96
15	9.27	15	-4.18
20	10.25	20	-4.15
25	10.62	25	-3.68
30	11.25	30	-3.75
40	11.25	40	-3.85
50	10.53	50	-2.72
60	9.30	60	-2.14
70	7.63	70	-1.55
80	5.55	80	-1.03
90	3.08	90	-0.57
95	1.67	95	-0.86
100	(.16)	100	(-.16)
100	-----	100	0

L. E. radius: 2.48
Slope of radius through L. E.: 0.20

NACA 4418

[Stations and ordinates given in percent of
airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
1.25	3.76	1.25	-2.11
2.5	5.00	2.5	-2.99
5.0	6.75	5.0	-4.06
7.5	8.06	7.5	-4.87
10	9.11	10	-5.06
15	10.66	15	-5.49
20	11.72	20	-5.56
25	12.40	25	-5.49
30	12.76	30	-5.26
40	12.70	40	-4.70
50	11.85	50	-4.02
60	10.44	60	-3.24
70	8.55	70	-2.45
80	6.22	80	-1.67
90	3.40	90	-0.88
95	1.89	95	-0.55
100	(.19)	100	(-.19)
100	-----	100	0

L. E. radius: 8.56
Slope of radius through L. E.: 0.20

NACA 4421

[Stations and ordinates given in percent of
airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
1.25	4.45	1.25	-2.42
2.5	5.84	2.5	-3.48
5.0	7.82	5.0	-4.78
7.5	9.24	7.5	-5.62
10	10.35	10	-6.15
15	12.04	15	-6.75
20	13.17	20	-6.94
25	13.88	25	-6.92
30	14.27	30	-6.70
40	14.16	40	-6.16
50	13.18	50	-5.34
60	11.60	60	-4.40
70	9.50	70	-3.35
80	6.91	80	-2.31
90	3.85	90	-1.27
95	2.11	95	-0.74
100	(.22)	100	(-.22)
100	-----	100	0

L. E. radius: 4.85
Slope of radius through L. E.: 0.20

NACA 4424

[Stations and ordinates given in percent of
airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.580	3.904	1.970	-3.472
1.538	5.624	2.464	-4.050
3.775	7.942	6.225	-6.086
6.163	9.651	8.847	-6.981
8.611	11.012	11.889	-7.512
13.674	13.045	16.326	-8.169
18.858	14.416	21.142	-8.416
24.111	15.287	25.889	-8.411
29.401	15.738	30.599	-8.238
40.000	15.806	40.000	-7.606
50.285	14.474	49.765	-6.668
60.405	12.674	59.595	-5.582
70.487	10.312	69.513	-4.312
80.464	7.447	79.596	-3.003
90.820	4.069	89.680	-1.655
95.193	2.240	94.804	-0.964
100.000	-----	100.000	0

L. E. radius: 8.33
Slope of radius through L. E.: 0.20

NACA 23012

[Stations and ordinates given in percent of
airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
1.25	2.67	1.25	-1.23
2.5	3.61	2.5	-1.71
5.0	4.91	5.0	-2.26
7.5	5.80	7.5	-2.61
10	6.43	10	-2.92
15	7.19	15	-3.50
20	7.50	20	-3.97
25	7.90	25	-4.28
30	7.55	30	-4.40
40	7.14	40	-4.48
50	6.41	50	-4.17
60	5.47	60	-3.67
70	4.36	70	-3.00
80	3.08	80	-2.16
90	1.68	90	-1.23
95	.92	95	-0.70
100	(.13)	100	(-.13)
100	-----	100	0

L. E. radius: 1.68
Slope of radius through L. E.: 0.305

NACA 23015

[Stations and ordinates given in percent of
airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
1.25	3.34	1.25	-1.54
2.5	4.44	2.5	-2.25
5.0	5.89	5.0	-3.04
7.5	6.90	7.5	-3.61
10	7.64	10	-4.09
15	8.52	15	-4.84
20	8.92	20	-5.41
25	9.08	25	-5.78
30	9.06	30	-5.96
40	8.89	40	-5.92
50	7.74	50	-5.50
60	6.61	60	-4.81
70	5.25	70	-3.91
80	3.73	80	-2.83
90	2.04	90	-1.59
95	1.12	95	-0.90
100	(.16)	100	(-.16)
100	-----	100	0

L. E. radius: 2.48
Slope of radius through L. E.: 0.305

NACA 23018

[Stations and ordinates given in percent of
airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
1.25	4.09	1.25	-1.83
2.5	5.29	2.5	-2.71
5.0	6.92	5.0	-3.80
7.5	8.01	7.5	-4.60
10	8.83	10	-5.22
15	9.80	15	-5.18
20	10.86	20	-5.06
25	10.58	25	-4.77
30	10.55	30	-4.47
40	10.04	40	-3.87
50	9.05	50	-3.61
60	7.75	60	-3.94
70	6.18	70	-4.52
80	4.40	80	-5.48
90	2.39	90	-1.94
95	1.82	95	-1.09
100	(.19)	100	(-.19)
100	-----	100	0

L. E. radius: 8.56
Slope of radius through L. E.: 0.305

NACA 23021

[Stations and ordinates given in percent of
airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
1.25	4.87	1.25	-2.08
2.5	6.14	2.5	-3.14
5.0	7.93	5.0	-4.52
7.5	9.13	7.5	-5.55
10	10.08	10	-6.32
15	11.19	15	-7.51
20	11.80	20	-8.80
25	12.05	25	-8.76
30	12.06	30	-8.95
40	11.49	40	-8.83
50	10.40	50	-8.14
60	8.90	60	-7.07
70	7.09	70	-5.72
80	5.05	80	-4.13
90	2.76	90	-2.80
95	1.53	95	-1.80
100	(.22)	100	(-.22)
100	-----	100	0

L. E. radius: 4.85
Slope of radius through L. E.: 0.305

NACA 23024

[Stations and ordinates given in percent of
airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.377	4.017	2.233	-3.308
1.331	5.764	3.669	-4.432
3.853	8.172	6.147	-6.862
6.601	9.894	8.899	-8.890
9.423	11.049	10.677	-10.617
15.001	12.523	14.999	-12.523
20.258	13.237	19.747	-14.703
25.263	13.635	24.733	-16.222
30.266	13.646	29.735	-17.454
40.226	12.623	39.744	-18.275
50.235	11.690	49.766	-19.482
60.202	10.008	59.798	-20.242
70.162	7.983	69.838	-20.664
80.116	5.687	79.884	-20.803
90.064	3.115	89.930	-20.673
95.036	1.724	94.964	-19.504
100	-----	100	0

L. E. radius: 6.33
Slope of radius through L. E.: 0.305

NACA 63,4-420

(Stations and ordinates given in percent of airfoil chord)

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.215	1.790	.785	-1.590
.430	2.196	1.070	-1.916
.687	2.827	1.613	-2.399
2.082	3.954	2.918	-3.210
4.538	6.557	5.462	-4.298
7.024	6.793	7.976	-5.097
9.526	7.817	10.474	-6.749
14.554	9.424	15.446	-8.732
19.603	10.589	20.397	-7.405
24.663	11.414	25.337	-7.824
29.732	11.896	30.268	-8.007
34.808	12.086	35.197	-7.916
39.874	11.909	40.126	-7.622
44.940	11.556	45.060	-7.176
50.000	11.025	50.000	-6.613
55.062	10.353	54.948	-5.953
60.066	9.492	59.905	-5.208
65.127	8.523	64.873	-4.403
70.148	7.438	69.852	-3.550
75.186	6.253	74.844	-2.673
80.150	4.990	79.850	-1.806
85.129	3.684	84.871	-.992
90.094	2.379	89.906	-.311
95.047	1.131	94.953	-.133
100	0	100	0

L. E. radius: 3.16
Slope of radius through L. E.: 0.168

NACA 63,4-420

 $\alpha = 0.3$

(Stations and ordinates given in percent of airfoil chord)

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.085	1.814	.935	-1.502
.280	2.241	1.240	-1.805
.691	2.912	1.809	-2.244
1.855	4.128	3.144	-2.968
4.288	5.878	5.712	-3.914
6.771	7.237	8.229	-4.601
9.280	8.366	10.720	-5.158
14.347	10.122	15.653	-5.996
19.468	11.410	20.542	-6.670
24.604	12.296	25.396	-6.948
29.803	12.781	30.192	-7.125
35.008	12.848	34.982	-7.108
40.148	12.694	39.855	-6.924
45.243	12.089	44.757	-6.637
50.308	11.288	49.692	-6.240
55.344	10.616	54.666	-5.786
60.363	9.497	59.647	-5.195
65.339	8.567	64.661	-4.563
70.305	7.120	69.695	-3.856
75.250	5.807	74.744	-3.111
80.197	4.453	79.803	-2.377
85.134	3.108	84.866	-1.568
90.073	1.836	89.927	-.846
95.025	.728	94.975	-.272
100.000	0	100.000	0

L. E. radius: 3.16
Slope of radius through L. E.: 0.262

NACA 63(420)-422

(Stations and ordinates given in percent of airfoil chord)

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.187	1.960	.813	-1.769
.398	2.402	1.102	-2.122
.850	3.088	1.650	-2.660
2.041	4.312	2.969	-3.568
4.492	6.080	5.508	-4.788
6.977	7.387	8.023	-5.661
9.478	8.496	10.522	-6.428
14.609	10.281	15.491	-7.589
19.688	11.469	20.437	-8.305
24.630	12.377	25.370	-8.797
29.705	12.890	30.295	-9.002
34.784	13.084	35.216	-9.914
39.801	12.983	40.199	-8.599
44.834	12.498	45.066	-8.112
50.000	11.907	50.000	-7.495
55.087	11.147	54.948	-6.767
60.104	10.227	59.898	-5.948
65.140	9.169	64.880	-5.049
70.163	7.988	69.837	-4.100
75.172	6.700	74.828	-3.120
80.165	5.329	79.835	-2.145
85.142	3.918	84.858	-1.226
90.103	2.513	89.897	-.446
95.081	1.181	94.949	-.083
100.000	0	100.000	0

L. E. radius: 3.82
Slope of radius through L. E.: 0.168

NACA 63(420)-517

(Stations and ordinates given in percent of airfoil chord)

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.200	1.551	.800	-1.801
.412	1.912	1.088	-1.562
.868	2.477	1.634	-1.941
2.058	3.498	2.942	-2.568
4.511	4.966	5.489	-3.886
6.996	6.104	8.004	-5.084
9.497	7.090	10.503	-6.466
14.527	8.842	15.478	-8.178
19.578	9.633	20.422	-9.553
24.642	10.410	25.368	-10.940
29.716	10.887	30.285	-10.027
34.791	11.053	35.209	-9.908
39.866	10.977	40.134	-9.521
44.896	10.699	45.064	-8.523
50.000	10.254	50.000	-7.738
55.085	9.680	54.948	-6.184
60.101	8.925	59.899	-5.560
65.135	8.067	64.885	-4.917
70.167	7.099	69.843	-4.239
75.166	6.080	74.834	-3.554
80.169	4.877	79.841	-2.897
85.137	3.663	84.863	-2.304
90.100	2.434	89.900	-1.50
95.080	1.213	94.960	-.307
100.000	0	100.000	0

L. E. radius: 2.283
Slope of radius through L. E.: 0.211

NACA 63-006

(Stations and ordinates given in percent of airfoil chord)

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.5	.508	.5	-.508
.75	.609	.75	-.609
1.25	.771	1.25	-.771
2.5	1.067	2.5	-1.067
5.0	1.462	5.0	-1.462
7.5	1.766	7.5	-1.766
10	2.010	10	-2.010
15	2.386	15	-2.386
20	2.666	20	-2.666
25	2.841	25	-2.841
30	2.964	30	-2.964
35	3.000	35	-3.000
40	2.971	40	-2.971
45	2.877	45	-2.877
50	2.728	50	-2.728
55	2.517	55	-2.517
60	2.287	60	-2.287
65	1.982	65	-1.982
70	1.670	70	-1.670
75	1.342	75	-1.342
80	1.008	80	-1.008
85	.683	85	-.683
90	.383	90	-.383
95	.138	95	-.138
100	0	100	0

L. E. radius: 0.297

NACA 63-009

(Stations and ordinates given in percent of airfoil chord)

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.5	.749	.5	-.749
.75	.906	.75	-.906
1.25	1.151	1.25	-1.151
2.5	1.682	2.5	-1.682
5.0	2.196	5.0	-2.196
7.5	2.655	7.5	-2.655
10	3.024	10	-3.024
15	3.591	15	-3.591
20	3.997	20	-3.997
25	4.276	25	-4.276
30	4.442	30	-4.442
35	4.500	35	-4.500
40	4.447	40	-4.447
45	4.296	45	-4.296
50	4.058	50	-4.058
55	3.739	55	-3.739
60	3.368	60	-3.368
65	2.928	65	-2.928
70	2.488	70	-2.488
75	1.968	75	-1.968
80	1.471	80	-1.471
85	.990	85	-.990
90	.560	90	-.560
95	.196	95	-.196
100	0	100	0

L. E. radius: 0.631

NACA 63-206

(Stations and ordinates given in percent of airfoil chord)

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.453	.561	.542	-.451
.703	.877	.797	-.837
1.197	.876	1.303	-.662
2.438	1.241	2.562	-.869
4.982	1.776	5.068	-1.144
7.429	2.189	7.571	-1.341
9.930	2.528	10.070	-1.492
14.984	3.088	15.066	-1.712
19.941	3.461	20.059	-1.859
24.950	3.786	25.000	-1.946
29.960	3.920	30.040	-1.982
34.970	4.030	35.030	-1.970
39.981	4.042	40.019	-1.900
44.991	3.972	45.009	-1.782
50.000	3.826	50.000	-1.620
55.008	3.612	54.992	-1.422
60.015	3.338	59.985	-1.196
65.026	3.012	64.980	-.982
70.033	2.642	69.977	-.668
75.034	2.237	74.977	-.447
80.022	1.804	79.978	-.212
85.019	1.356	84.981	-.010
90.013	.900	89.987	-.134
95.005	.454	94.994	-.178
100.000	0	100.000	0

L. E. radius: 0.297
Slope of radius through L. E.: 0.0842

NACA 63-209

(Stations and ordinates given in percent of airfoil chord)

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.437	.796	.563	-.696
.680	.978	.820	-.833
1.170	1.255	1.330	-1.041
2.408	1.765	2.592	-1.398
4.897	2.510	5.103	-1.878
7.894	3.077	7.906	-2.229
9.894	3.539	10.106	-2.565
14.901	4.288	15.099	-2.917
19.912	4.792	20.088	-3.200
24.925	5.189	25.075	-3.379
29.940	5.414	30.060	-3.470
34.956	5.530	35.044	-3.470
39.971	5.518	40.029	-3.376
44.986	5.391	45.014	-3.231
50.000	5.169	50.000	-2.953
55.012	4.834	54.988	-2.644
60.022	4.429	59.978	-2.297
65.029	3.958	64.971	-1.896
70.033	3.430	69.967	-1.466
75.034	2.861	74.966	-1.071
80.032	2.267	79.968	-.676
85.027	1.668	84.973	-.317
90.019	1.067	89.981	-.083
95.009	.512	94.991	-.120
100.000	0	100.000	0

L. E. radius: 0.631
Slope of radius through L. E.: 0.0842

NACA 63-210

(Stations and ordinates given in percent of airfoil chord)

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.430	.876	.570	-.776
.669	1.107	.831	-.967
1.162	1.379	1.338	-1.165
2.395	1.939	2.602	-1.567
4.586	2.763	5.114	-2.121
7.882	3.372	7.618	-2.524
9.882	3.877	10.118	-2.843
14.890	4.665	15.110	-3.319
19.902	5.240	20.098	-3.648
24.917	5.647	25.083	-3.857
29.933	5.910	30.067	-3.966
34.951	6.030	35.049	-3.970
39.968	6.009	40.032	-3.867
44.985	5.861	45.015	-3.671
50.000	5.599	50.000	-3.393
55.013	5.235	54.987	-3.045
60.024	4.786	59.976	-2.644
65.032	4.264	64.968	-2.204
70.036	3.684	69.964	-1.740
75.038	3.061	74.962	-1.271
80.036	2.414	79.964	-.822
85.030	1.761	84.970	-.415
90.021	1.121	89.979	-.057
95.010	.530	94.990	.102
100.000	0	100.000	0

NACA 631-212

(Stations and ordinates given in percent of airfoil chord)

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.417	1.032	.588	-.932
.687	1.260	.843	-1.120
1.146	1.022	1.355	-1.408
2.378	2.284	2.622	-1.912
4.908	3.288	5.137	-2.908
7.338	3.998	7.642	-3.115
9.859	4.554	10.141	-3.620
14.868	5.470	15.132	-4.124
19.892	6.137	20.118	-4.645
24.930	6.609	25.100	-4.810
29.920	6.901	30.080	-4.957
34.941	7.030	35.059	-4.970
39.982	6.991	40.038	-4.849
44.982	6.799	45.018	-4.609
50.000	6.478	50.000	-4.287
55.018	6.080	54.984	-3.840
60.038	5.491	59.971	-3.340
65.038	4.870	64.952	-2.810
70.043	4.132	69.957	-2.238
75.045	3.451	74.955	-1.601
80.042	2.698	79.958	-1.100
85.035	1.947	84.965	-.601
90.025	1.224	89.975	-.190
95.012	.590	94.988	.008
100.000	0	100.000	0

L. E. radius: 1.087
Slope of radius through L. E.: 0.0842

NACA 631-412

(Stations and ordinates given in percent of airfoil chord)

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.336	1.071	.664	-.871
.587	1.320	.933	-1.040
1.041	1.719	1.459	-1.291
2.257	2.400	2.743	-1.716
4.727	3.544	5.273	-2.380
7.218	4.879	7.782	-3.085
9.718	5.003	10.282	-3.995
14.735	6.138	15.265	-4.440
19.765	6.929	20.235	-5.740
24.800	7.409	25.200	-6.918
29.840	7.872	30.160	-8.084
34.882	8.059	35.118	-8.989
39.924	8.002	40.076	-8.778
44.964	7.804	45.036	-8.514
50.000	7.079	50.000	-8.104
55.031	7.125	54.969	-7.745
60.037	6.802	59.948	-7.275
65.076	6.899	64.924	-1.770
70.087	6.153	69.913	-1.265
75.089	4.844	74.911	-.704
80.084	3.492	79.916	-.308
85.070	2.618	84.930	.074
90.049	1.780	89.951	.839
95.028	.881	94.977	.333
100.000	0	100.000	0

L. E. radius: 1.087
Slope of radius through L. E.: 0.1685

NACA 632-015

(Stations and ordinates given in percent of airfoil chord)

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.5	1.204	.5	-1.204
.75	1.462	.75	-1.462
1.25	1.878	1.25	-1.878
2.5	2.610	2.5	-2.610
5.0	3.648	5.0	-3.648
7.5	4.427	7.5	-4.427
10	5.055	10	-5.055
15	6.011	15	-6.011
20	6.983	20	-6.983
25	7.155	25	-7.155
30	7.421	30	-7.421
35	7.800	35	-7.800
40	7.888	40	-7.888
45	7.099	45	-7.099
50	6.665	50	-6.665
55	6.103	55	-6.103
60	5.655	60	-5.655
65	4.721	65	-4.721
70	3.984	70	-3.984
75	3.119	75	-3.119
80	2.810	80	-2.810
85	1.541	85	-1.541
90	.852	90	-.852
95	.300	95	-.300
100	0	100	0

L. E. radius: 1.594

NACA 632-215

(Stations and ordinates given in percent of airfoil chord)

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.399	1.250	.601	-1.150
.687	1.526	.813	-1.388
1.120	1.940	1.380	-1.760
2.348	2.702	2.652	-2.430
4.820	3.990	5.171	-3.829
7.323	4.847	7.677	-5.009
9.823	5.560	10.177	-6.435
14.834	6.032	15.166	-7.336
19.853	7.437	20.148	-8.895
24.875	8.049	25.125	-10.269
29.900	8.392	30.100	-11.448
34.926	8.530	35.074	-10.470
39.952	8.457	40.043	-9.315
44.977	8.194	45.023	-8.004
50.000	7.768	50.000	-6.582
55.019	7.203	54.981	-5.018
60.038	6.524	59.965	-4.382
65.058	5.751	64.953	-3.691
70.063	4.906	69.947	-2.932
75.065	4.014	74.945	-2.224
80.061	3.105	79.940	-1.518
85.048	2.213	84.937	-.807
90.030	1.368	89.970	-.1394
95.014	.616	94.986	.016
100.000	0	100.000	0

L. E. radius: 1.594
Slope of radius through L. E.: 0.0842

NACA 632-415

(Stations and ordinates given in percent of airfoil chord)

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.300	1.287	.700	-1.087
.535	1.685	.975	-1.305
.891	2.074	1.500	-1.646
2.198	2.954	2.802	-2.220
4.680	4.364	5.340	-3.000
7.147	5.201	7.853	-3.565
9.647	6.077	10.353	-4.009
14.660	7.348	15.331	-4.656
19.705	8.279	20.295	-5.095
24.750	8.941	25.260	-5.301
29.800	9.302	30.200	-5.474
34.852	9.580	35.148	-5.489
39.905	9.827	40.095	-5.243
44.955	9.249	45.045	-4.909
50.000	8.871	50.000	-4.489
55.039	8.298	54.961	-3.918
60.070	7.595	59.930	-3.311
65.088	6.780	64.907	-2.660
70.106	5.877	69.884	-1.959
75.109	4.907	74.891	-1.227
80.102	3.900	79.898	-.718
85.085	2.885	84.915	-.193
90.069	1.884	89.941	.184
95.028	.981	94.972	.333
100.000	0	100.000	0

L. E. radius: 1.594
Slope of radius through L. E.: 0.1685

NACA 632-615

(Stations and ordinates given in percent of airfoil chord)

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.205	1.317	.795	-1.017
.418	1.634	1.082	-1.214
.886	2.169	1.634	-1.517
2.050	3.129	2.950	-2.013
4.492	4.500	5.508	-2.664
6.073	5.607	8.027	-3.128
9.473	6.578	10.527	-3.476
14.504	8.010	15.498	-3.972
19.558	9.066	20.442	-4.290
24.625	9.830	25.375	-4.480
29.700	10.331	30.300	-4.499
34.778	10.587	35.222	-4.407
39.867	10.598	40.143	-4.172
44.932	10.384	45.068	-3.814
50.000	9.974	50.000	-3.364
55.068	9.395	54.942	-2.823
60.106	8.695	59.895	-2.239
65.139	7.809	64.861	-1.629
70.168	6.847	69.841	-1.015
75.188	5.800	74.897	-.480
80.198	4.688	79.847	.083
85.127	3.535	84.873	.483
90.080	2.398	89.811	.704
95.042	1.245	94.858	.951
100.000	0	100.000	0

L. E. radius: 1.594
Slope of radius through L. E.: 0.2527

NACA 633-018

(Stations and ordinates given in percent of airfoil chord)

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.5	1.404	.5	-1.404
.75	1.718	.75	-1.718
1.25	2.217	1.25	-2.217
2.5	3.104	2.5	-3.104
5.0	4.382	5.0	-4.382
7.5	5.308	7.5	-5.308
10	6.068	10	-6.068
15	7.226	15	-7.226
20	8.048	20	-8.048
25	8.600	25	-8.600
30	8.013	30	-8.013
35	9.000	35	-9.000
40	8.945	40	-8.945
45	8.492	45	-8.492
50	7.942	50	-7.942
55	7.298	55	-7.298
60	6.458	60	-6.458
65	5.567	65	-5.567
70	4.622	70	-4.622
75	3.630	75	-3.630
80	2.601	80	-2.601
85	1.787	85	-1.787
90	.995	90	-.995
95	.348	95	-.348
100	0	100	0

L. E. radius: 2.120

NACA 633-218

(Stations and ordinates given in percent of airfoil chord)

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.382	1.440	.618	-1.849
.617	1.778	.883	-1.688
1.096	2.819	1.404	-2.105
2.819	3.285	2.681	-2.913
4.798	4.673	5.204	-4.041
7.288	5.728	7.712	-4.880
9.788	6.581	10.212	-5.547
14.801	7.895	15.199	-6.849
19.822	8.842	20.178	-7.820
24.850	9.494	25.150	-7.704
29.880	9.884	30.120	-7.940
34.911	10.080	35.089	-7.970
39.943	9.916	40.087	-7.774
44.973	9.677	45.027	-7.387
50.000	9.045	50.000	-6.839
55.028	8.351	54.977	-6.181
60.042	7.620	59.958	-5.584
65.058	6.897	64.946	-4.837
70.063	6.094	69.938	-4.080
75.064	5.244	74.936	-3.304
80.059	4.469	79.941	-2.504
85.049	3.459	84.951	-1.718
90.034	1.801	89.966	-.457
95.016	.064	94.984	-.082
100.000	0	100.000	0

L. E. radius: 2.120
Slope of radius through L. E.: 0.0842

NACA 633-418

(Stations and ordinates given in percent of airfoil chord)

Upper surface		Lower surface	
Station	Ordnate	Station	Ordinate
0	0	0	0
.287	1.484	.713	-1.284
.487	1.883	1.013	-1.583
.845	2.410	1.585	-1.982
2.140	3.455	2.840	-2.711
4.593	4.755	5.407	-3.711
7.077	6.139	7.923	-4.449
9.677	7.087	10.323	-5.019
14.003	8.590	15.998	-6.868
19.445	9.892	20.555	-8.448
24.090	10.885	25.301	-9.805
29.760	10.854	30.240	-10.986
34.528	11.053	35.177	-11.988
39.388	10.988	40.114	-12.702
44.346	10.872	45.054	-13.292
50.000	10.148	50.000	-13.786
55.048	9.446	54.954	-13.068
60.083	8.600	59.917	-12.132
65.110	7.628	64.800	-11.006
70.125	6.564	69.875	-2.670
75.128	5.488	74.872	-1.858
80.119	4.280	79.881	-1.090
85.098	3.130	84.901	-.438
90.089	2.017	89.931	.051
95.082	.978	94.968	.280
100.000	0	100.000	0

NACA 634-021

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.5	1.833	.5	-1.833
.75	1.937	.75	-1.937
1.25	2.527	1.25	-2.527
2.5	3.577	2.5	-3.577
5.0	6.065	5.0	-6.065
7.5	6.182	7.5	-6.182
10	7.080	10	-7.080
15	8.441	15	-8.441
20	9.410	20	-9.410
25	10.056	25	-10.056
30	10.412	30	-10.412
35	10.500	35	-10.500
40	10.298	40	-10.298
45	9.854	45	-9.854
50	9.206	50	-9.206
55	8.390	55	-8.390
60	7.441	60	-7.441
65	6.396	65	-6.396
70	5.290	70	-5.290
75	4.180	75	-4.180
80	3.064	80	-3.064
85	2.021	85	-2.021
90	1.113	90	-1.113
95	.892	95	-.892
100	0	100	0

L. E. radius: 2.650

NACA 634-221

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.867	1.627	.633	-1.627
.900	2.001	.900	-1.901
1.075	2.628	1.425	-2.414
2.292	3.757	2.708	-3.385
4.763	6.375	5.227	-4.743
7.263	6.601	7.747	-5.753
9.753	7.593	10.247	-6.559
14.767	9.111	15.238	-7.765
19.792	10.204	20.208	-8.612
24.824	10.946	25.176	-9.156
29.860	11.383	30.140	-9.439
34.897	11.529	35.103	-9.469
39.934	11.389	40.066	-9.227
44.969	10.949	45.031	-8.759
50.000	10.309	50.000	-8.103
55.027	9.485	54.973	-7.296
60.048	8.512	59.952	-6.370
65.063	7.420	64.937	-5.396
70.071	6.262	69.929	-4.318
75.073	5.054	74.927	-3.264
80.067	3.849	79.933	-2.257
85.060	2.608	84.944	-1.347
90.039	1.329	89.961	-.695
95.018	.708	94.982	-.075
100.000	0	100.000	0

L. E. radius: 2.650

Slope of radius through L. E.: 0.0842

NACA 634-421

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.287	1.661	.708	-1.451
.452	2.054	1.048	-1.774
.903	2.717	1.598	-2.289
2.086	3.925	2.914	-3.181
4.527	6.675	5.473	-4.411
7.007	7.010	7.993	-6.314
9.506	8.097	10.494	-8.029
14.535	9.774	15.465	-9.782
19.565	10.968	20.415	-11.509
24.549	11.837	25.351	-12.257
29.519	12.362	30.281	-12.864
34.793	12.568	35.207	-13.438
39.887	12.439	40.133	-13.155
44.987	12.044	45.063	-12.664
50.000	11.412	50.000	-11.700
55.054	10.580	54.945	-10.300
60.066	9.582	59.904	-8.5298
65.128	8.455	64.874	-6.435
70.149	7.232	69.867	-4.344
75.145	5.947	74.855	-2.357
80.135	4.643	79.805	-1.459
85.111	3.364	84.889	-.672
90.073	2.144	89.922	-.076
95.037	1.022	94.963	-.242
100.000	0	100.000	0

L. E. radius: 2.650

Slope of radius through L. E.: 0.1685

NACA 64-006

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.50	.494	.50	-.494
.75	.596	.75	-.596
1.25	.754	1.25	-.754
2.5	1.024	2.5	-1.024
5.0	1.405	5.0	-1.405
7.5	1.692	7.5	-1.692
10	1.928	10	-1.928
15	2.298	15	-2.298
20	2.572	20	-2.572
25	2.772	25	-2.772
30	2.907	30	-2.907
35	2.981	35	-2.981
40	2.995	40	-2.995
45	2.919	45	-2.919
50	2.775	50	-2.775
55	2.575	55	-2.575
60	2.331	60	-2.331
65	2.050	65	-2.050
70	1.740	70	-1.740
75	1.412	75	-1.412
80	1.072	80	-1.072
85	.737	85	-.737
90	.423	90	-.423
95	.157	95	-.157
100	0	100	0

L. E. radius: 0.266

NACA 64-009

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.50	.739	.50	-.739
.75	.892	.75	-.892
1.25	1.128	1.25	-1.128
2.5	1.533	2.5	-1.533
5.0	2.109	5.0	-2.109
7.5	2.543	7.5	-2.543
10	2.898	10	-2.898
15	3.455	15	-3.455
20	3.888	20	-3.888
25	4.170	25	-4.170
30	4.373	30	-4.373
35	4.479	35	-4.479
40	4.490	40	-4.490
45	4.364	45	-4.364
50	4.136	50	-4.136
55	3.825	55	-3.825
60	3.452	60	-3.452
65	3.026	65	-3.026
70	2.561	70	-2.561
75	2.060	75	-2.060
80	1.564	80	-1.564
85	1.069	85	-1.069
90	.611	90	-.611
95	.227	95	-.227
100	0	100	0

L. E. radius: 0.579

NACA 64-108

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.472	.662	.528	-.662
.719	.828	.781	-.788
1.215	1.058	1.285	-1.060
2.460	1.467	2.540	-1.271
4.956	2.032	5.044	-1.716
7.455	2.471	7.545	-2.047
9.955	2.832	10.045	-2.316
14.958	3.405	15.042	-2.733
19.962	3.835	20.038	-3.039
24.968	4.162	25.032	-3.266
29.974	4.370	30.026	-3.398
34.980	4.494	35.020	-3.464
39.987	4.528	40.013	-3.466
44.994	4.431	45.006	-3.335
50.000	4.236	50.000	-3.132
55.005	3.959	54.995	-2.863
60.010	3.617	59.990	-2.545
65.013	3.219	64.987	-2.189
70.015	2.777	69.985	-1.805
75.016	2.302	74.984	-1.406
80.016	1.803	79.985	-1.005
85.013	1.297	84.987	-.625
90.010	.805	89.990	-.292
95.008	.364	94.995	-.048
100.000	0	100.000	0

L. E. radius: 0.455

Slope of radius through L. E.: 0.042

NACA 64-110

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.465	.844	.535	-.794
.712	1.023	.788	-.958
1.207	1.303	1.293	-1.195
2.450	1.793	2.550	-1.607
4.945	2.600	5.055	-2.184
7.443	3.037	7.557	-2.613
9.944	3.479	10.056	-2.968
14.947	4.175	15.053	-3.506
19.953	4.700	20.047	-3.904
24.959	5.067	25.041	-4.191
29.967	5.350	30.033	-4.378
34.975	5.495	35.025	-4.465
39.984	5.524	40.016	-4.452
44.992	5.391	45.008	-4.295
50.000	5.138	50.000	-4.034
55.007	4.788	54.993	-3.690
60.012	4.366	59.998	-3.284
65.015	3.890	64.994	-2.830
70.019	3.313	69.991	-2.341
75.020	2.729	74.990	-1.823
80.019	2.120	79.991	-1.324
85.016	1.512	84.994	-.840
90.012	.929	89.998	-.413
95.008	.406	94.994	-.060
100.000	0	100.000	0

L. E. radius: 0.720

Slope of radius through L. E.: 0.042

NACA 64-206

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.459	.542	.541	-.442
.704	.694	.796	-.624
1.198	.859	1.202	-.845
2.440	1.208	2.560	-1.336
4.934	1.719	5.066	-1.967
7.432	2.115	7.568	-2.257
9.933	2.444	10.067	-2.410
14.937	2.970	15.063	-2.624
19.943	3.387	20.057	-2.775
24.948	3.667	25.048	-2.877
29.961	3.879	30.039	-2.935
34.971	4.011	35.029	-2.951
39.981	4.066	40.019	-2.924
44.988	4.014	45.009	-2.824
50.000	3.878	50.000	-2.672
55.008	3.670	54.992	-2.480
60.013	3.402	59.985	-2.250
65.020	3.080	64.980	-1.920
70.023	2.712	69.977	-.768
75.025	2.307	74.975	-.517
80.024	1.898	79.978	-.278
85.020	1.490	84.980	-.064
90.015	.940	89.985	-.091
95.007	.473	94.983	-.139
100.000	0	100.000	0

L. E. radius: 0.266

Slope of radius through L. E.: 0.084

NACA 64-208

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.445	.706	.555	-.606
.688	.862	.812	-.722
1.180	1.110	1.320	-.890
2.421	1.549	2.579	-1.177
4.912	2.189	5.088	-1.567
7.410	2.681	7.590	-1.833
9.909	3.069	10.091	-2.065
14.916	3.741	15.085	-2.395
19.924	4.232	20.076	-2.640
24.936	4.598	25.065	-2.806
29.948	4.856	30.062	-2.912
34.961	5.009	35.059	-2.949
39.974	5.063	40.056	-2.921
44.988	4.978	45.012	-2.788
50.000	4.737	50.000	-2.581
55.011	4.406	54.989	-2.316
60.020	4.122	59.980	-2.010
65.027	3.733	64.973	-1.673
70.031	3.263	69.969	-1.319
75.032	2.749	74.968	-.959
80.031	2.200	79.969	-.608
85.027	1.634	84.973	-.288
90.019	1.067	89.981	-.033
95.010	.522	94.990	.110
100.000	0	100.000	0

L. E. radius: 0.455
Slope of radius through L. E.: 0.064

NACA 64-210

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.481	.867	.589	-.787
.678	1.066	.827	-.910
1.168	1.884	1.887	-1.140
2.401	1.894	2.590	-1.612
4.890	2.686	5.110	-2.024
7.887	3.248	7.818	-2.400
9.887	3.730	10.118	-2.702
14.884	4.514	15.106	-3.188
19.005	5.067	20.095	-3.505
24.919	5.588	25.081	-3.748
29.984	5.836	30.066	-3.892
34.951	6.010	35.049	-3.950
39.968	6.089	40.032	-3.917
44.985	5.988	45.015	-3.748
50.000	5.689	50.000	-3.483
55.014	5.188	54.987	-3.148
60.026	4.891	59.975	-2.749
65.038	4.375	64.967	-2.315
70.048	3.799	69.962	-1.855
75.040	3.176	74.960	-1.386
80.038	2.518	79.962	-.926
85.029	1.849	84.968	-.503
90.024	1.188	89.977	-.151
95.012	.684	94.988	.068
100.000	0	100.000	0

L. E. radius: 0.720
Slope of radius through L. E.: 0.084

NACA 641-012

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.5	.978	.5	-.978
.75	1.179	.75	-1.179
1.25	1.490	1.25	-1.490
2.5	2.085	2.5	-2.085
5.0	2.810	5.0	-2.810
7.5	3.394	7.5	-3.394
10	3.871	10	-3.871
15	4.620	15	-4.620
20	5.178	20	-5.178
25	5.576	25	-5.576
30	5.844	30	-5.844
35	5.978	35	-5.978
40	5.981	40	-5.981
45	5.798	45	-5.798
50	5.480	50	-5.480
55	5.058	55	-5.058
60	4.548	60	-4.548
65	3.974	65	-3.974
70	3.350	70	-3.350
75	2.695	75	-2.695
80	2.029	80	-2.029
85	1.332	85	-1.332
90	.780	90	-.780
95	.288	95	-.288
100	0	100	0

L. E. radius: 1.040

NACA 641-112

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.489	1.002	.541	-.952
.704	1.218	.796	-1.143
1.198	1.643	1.802	-1.435
2.441	2.127	2.559	-1.941
4.984	2.967	5.066	-2.651
7.432	3.605	7.568	-3.181
9.982	4.128	10.068	-3.612
14.980	4.956	15.064	-4.284
19.943	5.571	20.057	-4.775
24.951	6.024	25.049	-5.128
29.961	6.330	30.039	-5.368
34.971	6.498	35.020	-5.468
39.981	6.517	40.019	-5.445
44.991	6.346	45.009	-5.250
50.000	6.032	50.000	-4.925
55.008	5.604	54.992	-4.508
60.015	5.084	59.985	-4.012
65.020	4.489	64.980	-3.459
70.028	3.836	69.977	-2.864
75.034	3.143	74.976	-2.247
80.032	2.427	79.978	-1.631
85.019	1.718	84.981	-1.045
90.014	1.044	89.986	-.528
95.007	.446	94.993	-.130
100.000	0	100.000	0

L. E. radius: 1.040
Slope of radius through L. E.: 0.042

NACA 641-212

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.418	1.025	.582	-.925
.650	1.245	.841	-1.105
1.147	1.508	1.358	-1.379
2.382	2.218	2.618	-1.846
4.868	3.128	5.132	-2.491
7.354	3.815	7.636	-3.267
9.865	4.380	10.135	-3.852
14.872	5.291	15.125	-4.945
19.886	6.068	20.114	-5.876
24.903	6.470	25.097	-6.680
29.921	6.815	30.079	-7.371
34.941	7.008	35.059	-7.945
39.961	7.082	40.039	-8.310
44.982	6.985	45.018	-8.408
50.000	6.688	50.000	-8.377
55.016	6.151	54.984	-8.061
60.029	5.619	59.971	-7.477
65.039	5.004	64.961	-6.744
70.045	4.322	69.955	-5.878
75.047	3.590	74.953	-4.800
80.045	2.825	79.955	-3.523
85.038	2.054	84.962	-2.108
90.027	1.303	89.973	-.589
95.018	.604	94.987	.028
100.000	0	100.000	0

L. E. radius: 1.040
Slope of radius through L. E.: 0.084

NACA 641-412

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.388	1.064	.662	-.864
.589	1.265	.881	-1.025
1.045	1.690	1.455	-1.282
2.264	2.393	2.736	-1.649
4.738	3.430	5.262	-2.166
7.220	4.281	7.771	-2.636
9.730	4.896	10.270	-3.028
14.745	6.059	15.255	-3.267
19.772	6.760	20.228	-3.676
24.805	7.363	25.195	-3.783
29.842	7.786	30.168	-3.898
34.882	8.087	35.118	-3.917
39.923	8.128	40.077	-3.839
44.968	7.988	45.037	-3.608
50.000	7.686	50.000	-3.274
55.032	7.246	54.968	-2.880
60.069	6.690	59.941	-2.401
65.078	6.088	64.922	-1.913
70.090	5.293	69.910	-1.405
75.094	4.483	74.901	-.908
80.090	3.619	79.911	-.435
85.075	2.722	84.924	-.088
90.056	1.818	89.945	.280
95.027	.910	94.978	.545
100.000	0	100.000	0

L. E. radius: 1.040
Slope of radius through L. E.: 0.168

NACA 642-015

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.50	1.208	.50	-1.208
.75	1.456	.75	-1.456
1.25	1.842	1.25	-1.842
2.5	2.528	2.5	-2.528
5.0	3.504	5.0	-3.504
7.5	4.240	7.5	-4.240
10	4.842	10	-4.842
15	5.735	15	-5.735
20	6.480	20	-6.480
25	6.985	25	-6.985
30	7.319	30	-7.319
35	7.482	35	-7.482
40	7.473	40	-7.473
45	7.224	45	-7.224
50	6.810	50	-6.810
55	6.268	55	-6.268
60	5.620	60	-5.620
65	4.895	65	-4.895
70	4.113	70	-4.113
75	3.296	75	-3.296
80	2.472	80	-2.472
85	1.677	85	-1.677
90	.950	90	-.950
95	.346	95	-.346
100	0	100	0

L. E. radius: 1.590

NACA 642-215

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.899	1.254	.601	-1.154
.887	1.522	.883	-1.382
1.122	1.945	1.378	-1.781
2.353	2.710	2.647	-2.388
4.836	3.816	5.164	-3.184
7.331	4.681	7.669	-3.818
9.831	5.356	10.169	-4.322
14.840	6.456	15.160	-5.110
19.847	7.274	20.143	-5.682
24.878	7.879	25.122	-6.089
29.901	8.290	30.099	-6.346
34.926	8.512	35.074	-6.462
39.952	8.544	40.048	-6.402
44.977	8.319	45.023	-6.129
50.000	7.913	50.000	-5.707
55.020	7.381	54.980	-5.171
60.036	6.691	59.964	-4.549
65.048	5.926	64.952	-3.865
70.056	5.085	69.945	-3.141
75.068	4.191	74.942	-2.401
80.075	3.287	79.945	-1.675
85.044	2.349	84.954	-.908
90.033	1.496	89.967	-.182
95.016	.682	94.984	.080
100.000	0	100.000	0

L. E. radius: 1.590
Slope of radius through L. E.: 0.084

NACA 642-415

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.269	1.291	.701	-1.091
.528	1.579	.974	-1.299
.968	2.088	1.504	-1.610
2.207	2.883	2.788	-2.189
4.519	4.121	5.327	-2.857
7.102	5.075	7.888	-3.379
9.662	5.864	10.338	-3.790
14.681	7.122	15.319	-4.480
19.714	8.060	20.286	-4.882
24.766	8.771	25.244	-5.191
29.808	9.260	30.197	-5.372
34.858	9.541	35.147	-5.421
39.904	9.614	40.096	-5.380
44.954	9.414	45.046	-5.084
50.000	9.010	50.000	-4.604
55.040	8.466	54.960	-4.076
60.072	7.782	59.928	-3.478
65.096	6.984	64.904	-2.834
70.111	6.085	69.889	-2.167
75.115	5.084	74.885	-1.504
80.109	4.062	79.891	-.808
85.092	3.020	84.908	-.238
90.066	1.982	89.934	.080
95.032	.976	94.958	.288
100.000	0	100.000	0

L. E. radius: 1.590
Slope of radius through L. E.: 0.168

NACA 643-018

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.50	1.428	.50	-1.428
.75	1.720	.75	-1.720
1.25	2.177	1.25	-2.177
2.5	3.005	2.5	-3.005
5.0	4.180	5.0	-4.180
7.5	5.070	7.5	-5.070
10	5.808	10	-5.808
15	6.942	15	-6.942
20	7.782	20	-7.782
25	8.391	25	-8.391
30	8.789	30	-8.789
35	8.979	35	-8.979
40	8.952	40	-8.952
45	8.800	45	-8.800
50	8.414	50	-8.414
55	7.445	55	-7.445
60	6.688	60	-6.688
65	5.782	65	-5.782
70	4.842	70	-4.842
75	3.806	75	-3.806
80	2.888	80	-2.888
85	1.951	85	-1.951
90	1.101	90	-.101
95	.400	95	-.400
100	0	100	0

L. E. radius: 2.208

NACA 643-218

[Stations and ordinates given in percent of airfoil chord]

NACA 643-418

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.283	1.508	.737	-1.308
.486	1.840	1.014	-1.560
.950	2.370	1.550	-1.942
2.152	3.857	2.848	-2.613
4.609	4.800	5.891	-3.638
7.095	5.908	7.905	-4.212
9.595	6.823	10.406	-4.765
14.617	8.277	15.383	-5.588
10.657	9.368	20.343	-6.182
24.707	10.176	25.293	-6.596
29.763	10.730	30.237	-6.842
34.823	11.037	35.177	-6.917
39.885	11.093	40.115	-6.809
44.945	10.820	45.056	-6.440
50.000	10.320	50.000	-5.908
55.047	9.635	54.953	-5.255
60.096	8.799	59.914	-4.515
65.114	7.841	64.886	-3.721
70.121	6.784	69.809	-2.896
75.125	5.634	74.864	-2.074
80.127	4.477	79.873	-1.233
85.108	3.294	84.892	-.602
90.077	2.132	89.923	-.064
95.037	1.030	94.963	.234
100.000	0	100.000	0

L. E. radius: 2.208
Slope of radius through L. E.: 0.168

NACA 643-618

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.150	1.534	.850	-1.234
.359	1.885	1.141	-1.485
.805	2.452	1.095	-1.810
1.932	3.518	3.018	-2.402
4.417	5.093	5.583	-3.197
6.895	6.312	8.105	-3.768
9.395	7.322	10.605	-4.220
14.427	8.937	15.573	-4.590
19.486	10.153	20.514	-5.377
24.560	11.065	25.440	-5.695
29.645	11.698	30.355	-5.866
34.735	12.065	35.265	-5.885
39.827	12.163	40.173	-5.737
44.917	11.915	45.083	-5.345
50.000	11.423	50.000	-4.805
55.071	10.780	54.929	-4.160
60.129	9.870	59.871	-3.444
65.171	8.750	64.829	-2.590
70.196	7.574	69.804	-1.922
75.203	6.354	74.797	-1.174
80.191	5.270	79.809	-.494
85.161	3.963	84.839	.075
90.115	2.648	89.885	.456
95.050	1.344	94.944	.652
100.000	0	100.000	0

L. E. radius: 2.208
Slope of radius through L. E.: 0.253

NACA 644-021

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.50	1.646	.50	-1.646
.75	1.985	.75	-1.985
1.25	2.517	1.25	-2.517
2.5	3.485	2.5	-3.485
5.0	4.871	5.0	-4.871
7.5	5.915	7.5	-5.915
10	6.769	10	-6.769
15	8.108	15	-8.108
20	9.095	20	-9.095
25	9.807	25	-9.807
30	10.269	30	-10.269
35	10.481	35	-10.481
40	10.481	40	-10.481
45	10.030	45	-10.030
50	9.404	50	-9.404
55	8.607	55	-8.607
60	7.678	60	-7.678
65	6.649	65	-6.649
70	5.549	70	-5.549
75	4.416	75	-4.416
80	3.287	80	-3.287
85	2.213	85	-2.213
90	1.245	90	-1.245
95	.449	95	-.449
100	0	100	0

L. E. radius: 2.884

NACA 644-221

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.362	1.690	.638	-1.590
.596	2.049	.904	-1.909
1.075	2.618	1.425	-2.404
2.297	3.665	2.703	-3.293
4.772	5.182	5.228	-4.650
7.264	6.834	7.736	-5.486
9.763	7.282	10.237	-5.248
14.776	8.778	15.224	-7.432
19.799	9.889	20.201	-8.297
24.829	10.701	25.177	-8.911
29.861	11.240	30.139	-9.296
34.897	11.610	35.103	-9.450
39.933	11.602	40.067	-9.380
44.968	11.125	45.032	-8.985
50.000	10.507	50.000	-8.301
55.027	9.702	54.978	-7.512
60.050	8.746	59.950	-6.607
65.065	7.679	64.925	-5.610
70.075	6.521	69.898	-4.577
75.077	5.310	74.823	-3.520
80.073	4.082	79.827	-2.490
85.061	2.835	84.839	-1.539
90.044	1.761	89.858	-.727
95.021	.765	94.879	-.183
100.000	0	100.000	0

L. E. radius: 2.884
Slope of radius through L. E.: 0.084

NACA 644-421

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.227	1.723	.773	-1.523
.445	2.101	1.055	-1.821
.908	2.707	1.897	-2.279
2.096	3.834	2.904	-3.090
4.846	5.482	5.456	-4.218
7.023	6.744	7.972	-5.048
9.828	7.786	10.472	-5.718
14.603	9.442	15.447	-6.780
19.599	10.678	20.401	-7.494
24.587	11.591	25.843	-8.011
29.723	12.209	30.277	-8.321
34.794	12.539	35.206	-8.419
39.805	12.572	40.135	-8.288
44.836	12.220	45.084	-7.840
50.000	11.610	50.000	-7.198
55.055	10.797	54.945	-6.417
60.069	9.819	59.901	-5.535
65.131	8.708	64.869	-4.598
70.160	7.491	69.850	-3.603
75.154	6.203	74.846	-2.628
80.145	4.876	79.855	-1.692
85.122	3.566	84.878	-.864
90.087	2.276	89.913	-.208
95.042	1.079	94.958	.135
100.000	0	100.000	0

L. E. radius: 2.884
Slope of radius through L. E.: 0.168

NACA 65,3-018

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.5	1.324	.5	-1.324
.75	1.599	.75	-1.599
1.25	2.004	1.25	-2.004
2.5	2.728	2.5	-2.728
5.0	3.831	5.0	-3.831
7.5	4.701	7.5	-4.701
10	5.424	10	-5.424
15	6.568	15	-6.568
20	7.434	20	-7.434
25	8.068	25	-8.068
30	8.568	30	-8.568
35	8.898	35	-8.898
40	8.990	40	-8.990
45	8.916	45	-8.916
50	8.563	50	-8.563
55	8.045	55	-8.045
60	7.317	60	-7.317
65	6.450	65	-6.450
70	5.496	70	-5.496
75	4.456	75	-4.456
80	3.390	80	-3.390
85	2.326	85	-2.326
90	1.324	90	-1.324
95	.492	95	-.492
100	0	100	0

L. E. radius: 1.92

NACA 65,3-418

 $\alpha = 0.8$

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.248	1.416	.752	-1.194
.467	1.786	1.033	-1.412
.931	2.224	1.569	-1.732
2.131	3.133	2.868	-2.273
4.578	4.542	5.422	-3.074
7.053	6.672	7.947	-4.688
9.544	8.617	10.456	-6.193
14.568	8.149	15.442	-4.957
19.592	9.319	20.408	-5.527
24.641	10.283	25.359	-6.937
29.700	10.909	30.300	-8.217
34.765	11.369	35.235	-9.361
39.835	11.600	40.165	-9.376
44.932	11.602	45.068	-9.230
49.979	11.307	50.021	-8.979
55.045	10.751	54.954	-8.539
60.105	9.974	59.894	-7.898
65.155	8.916	64.845	-7.090
70.193	7.599	69.807	-6.057
75.219	6.051	74.781	-4.251
80.249	4.299	79.779	-1.773
85.221	3.618	84.779	-.810
90.136	2.296	89.865	-.345
95.049	.930	94.951	-.050
100.000	0	100.000	0

L. E. radius: 1.92
Slope of radius through L. E.: 0.194

NACA 65,3-618

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.178	1.434	.824	-1.134
.387	1.787	1.113	-1.347
.841	2.236	1.659	-1.641
2.030	3.245	2.970	-2.120
4.467	4.742	5.253	-2.846
6.940	6.940	8.060	-3.396
9.434	8.945	10.566	-3.843
14.438	8.565	15.542	-4.327
19.509	9.806	20.491	-5.030
24.576	10.767	25.424	-5.397
29.654	11.477	30.346	-5.645
34.738	11.954	35.262	-5.774
40.000	12.201	40.174	-5.775
44.915	12.201	45.065	-5.631
49.836	11.902	50.000	-5.254
55.077	11.330	54.923	-4.760
60.142	10.529	59.858	-4.103
65.191	9.537	64.809	-3.367
70.222	8.398	69.778	-2.506
75.233	7.135	74.767	-1.765
80.224	5.771	79.776	-.995
85.192	4.336	84.808	-.298
90.138	2.895	89.862	-.234
95.065	1.435	94.932	-.461
100.000	0	100.000	0

L. E. radius: 1.92
Slope of radius through L. E.: 0.253

NACA 65(216)-415

 $\alpha = 0.5$

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.244	1.286	.756	-.960
.469	1.498	1.031	-1.110
.930	1.947	1.870	-1.359
2.121	2.837	2.879	-1.801
4.564	4.175	5.436	-2.411
7.044	5.208	7.956	-2.832
9.540	6.073	10.460	-3.189
14.581	7.465	15.439	-3.673
19.608	8.518	20.392	-4.022
24.669	9.315	25.331	-4.267
29.742	9.900	30.258	-4.428
34.825	10.279	35.175	-4.507
40.016	10.467	40.084	-4.523
45.019	10.435	44.981	-4.448
50.138	10.131	49.847	-4.251
55.268	9.512	54.737	-3.940
60.305	8.645	59.695	-3.521
65.308	7.575	64.692	-2.995
70.281	6.373	69.719	-2.409
75.237	5.162	74.763	-1.818
80.180	3.930	79.820	-1.273
85.117	2.689	84.883	-.723
90.063	1.523	89.938	-.306
MA.020	.000	94.980	-.030

NACA 65-009

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.5	.700	.5	-.700
.75	.845	.75	-.845
1.25	1.058	1.25	-1.058
2.5	1.421	2.5	-1.421
5.0	1.961	5.0	-1.961
7.5	2.283	7.5	-2.283
10	2.736	10	-2.736
15	3.269	15	-3.269
20	3.727	20	-3.727
25	4.050	25	-4.050
30	4.282	30	-4.282
35	4.431	35	-4.431
40	4.496	40	-4.496
45	4.469	45	-4.469
50	4.386	50	-4.386
55	4.266	55	-4.266
60	4.143	60	-4.143
65	3.928	65	-3.928
70	3.656	70	-3.656
75	3.343	75	-3.343
80	2.985	80	-2.985
85	2.580	85	-2.580
90	2.138	90	-2.138
95	1.680	95	-1.680
100	0	100	0

L. E. radius: 0.552

NACA 65-206

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.460	.524	.540	-.424
.708	.642	.794	-.602
1.200	.822	1.300	-.808
2.444	1.140	2.556	-.768
4.989	1.625	5.061	-.998
7.487	2.012	7.568	-1.164
9.980	2.840	10.064	-1.806
14.989	2.869	15.061	-1.823
19.945	3.277	20.056	-1.886
24.958	3.692	25.047	-1.866
29.962	3.824	30.038	-1.880
34.971	3.982	35.029	-1.922
39.981	4.069	40.019	-1.927
44.990	4.078	45.010	-1.888
49.990	4.008	50.000	-1.797
54.999	3.836	54.991	-1.646
59.999	3.589	59.991	-1.447
64.999	3.276	64.991	-1.216
69.999	2.907	69.991	-0.969
74.999	2.489	74.991	-0.687
79.999	2.029	79.991	-0.387
84.999	1.538	84.991	-.102
89.999	1.027	89.991	-.007
94.999	.511	94.991	.121
100.000	0	100.000	0

L. E. radius: 0.240
Slope of radius through L. E.: 0.084

NACA 65-209

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.441	.748	.559	-.648
.684	.912	.816	-.772
1.177	1.182	1.328	-.948
2.417	1.605	2.588	-1.233
4.908	2.275	5.092	-1.643
7.405	2.805	7.595	-1.957
9.904	3.251	10.096	-2.217
14.909	3.971	15.091	-2.626
19.918	4.522	20.082	-2.930
24.920	4.944	25.071	-3.154
29.923	5.254	30.068	-3.310
34.926	5.461	35.044	-3.401
39.971	5.587	40.029	-3.426
44.988	5.564	45.014	-3.374
49.990	5.439	50.000	-3.283
54.991	5.181	54.987	-3.091
59.992	4.814	59.976	-2.872
64.993	4.368	64.967	-2.585
69.994	3.858	69.961	-2.254
74.995	3.297	74.959	-1.884
79.996	2.601	79.960	-1.467
84.996	1.938	84.965	-1.009
89.996	1.255	89.974	-.587
94.997	.590	94.987	-.221
100.000	0	100.000	0

L. E. radius: 0.552
Slope of radius through L. E.: 0.084

NACA 65-210

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.485	.819	.555	-.719
.678	.999	.822	-.859
1.160	1.278	1.331	-1.059
2.408	1.757	2.592	-1.385
4.898	2.491	5.102	-1.859
7.394	3.090	7.606	-2.221
9.894	3.555	10.106	-2.521
14.899	4.338	15.101	-2.992
19.909	4.988	20.091	-3.446
24.921	5.497	25.079	-3.807
29.936	5.782	30.064	-3.788
34.951	5.954	35.049	-3.594
39.968	6.007	40.032	-3.325
44.984	6.058	45.016	-2.898
49.990	6.010	50.000	-2.309
54.991	5.826	54.986	-1.635
59.992	5.517	59.977	-0.876
64.993	5.112	64.974	-0.082
69.994	4.618	69.977	-1.164
74.995	4.070	74.985	-1.890
79.996	3.472	79.988	-2.601
84.996	2.827	84.992	-3.271
89.996	2.132	89.972	-3.887
94.997	.622	94.986	-.010
100.000	0	100.000	0

L. E. radius: 0.687
Slope of radius through L. E.: 0.084

NACA 65-410

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.872	.881	.628	-.001
.607	1.061	.898	-.781
1.089	1.872	1.411	-.944
2.818	1.985	2.682	-1.191
4.797	2.800	5.208	-1.636
7.289	3.487	7.711	-1.791
9.788	4.067	10.212	-1.999
14.798	5.000	15.202	-2.814
19.817	5.731	20.188	-3.247
24.843	6.290	25.167	-3.710
29.872	6.702	30.128	-3.814
34.903	6.983	35.097	-3.583
39.938	7.138	40.064	-2.854
44.968	7.155	45.082	-2.778
49.990	7.018	50.000	-2.586
54.999	6.720	54.971	-2.240
59.999	6.298	59.947	-1.821
64.999	5.741	64.927	-1.321
69.999	5.069	69.915	-.821
74.999	4.372	74.910	-.321
79.999	3.677	79.912	-.183
84.999	2.929	84.924	-.037
89.999	2.142	89.943	-.230
94.999	.937	94.971	-.327
100.000	0	100.000	0

L. E. radius: 0.687
Slope of radius through L. E.: 0.108

NACA 651-012

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.5	.928	.5	-.928
.75	1.109	.75	-1.109
1.25	1.887	1.25	-1.887
2.5	1.875	2.5	-1.875
5.0	2.600	5.0	-2.600
7.5	3.172	7.5	-3.172
10	3.647	10	-3.647
15	4.402	15	-4.402
20	4.975	20	-4.975
25	5.408	25	-5.408
30	5.716	30	-5.716
35	5.912	35	-5.912
40	6.007	40	-6.007
45	6.049	45	-6.049
50	6.757	50	-6.757
55	6.412	55	-6.412
60	6.943	60	-6.943
65	6.881	65	-6.881
70	3.743	70	-3.743
75	3.089	75	-3.089
80	2.845	80	-2.845
85	1.880	85	-1.880
90	.947	90	-.947
95	.854	95	-.854
100	0	100	0

L. E. radius: 1.000

NACA 651-212

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.428	.970	.577	-.870
.604	1.176	.836	-1.086
1.164	1.491	1.846	-1.277
2.891	2.088	2.609	-1.086
4.878	2.919	5.122	-2.287
7.373	3.598	7.627	-2.745
9.879	4.162	10.127	-3.128
14.879	5.073	15.121	-3.727
19.880	5.770	20.110	-4.178
24.880	6.300	25.094	-4.510
29.882	6.687	30.077	-4.748
34.942	6.942	35.058	-4.889
39.961	7.068	40.039	-4.936
44.981	7.044	45.019	-4.854
49.990	6.860	50.000	-4.654
54.991	6.507	54.988	-4.374
59.992	6.024	59.980	-3.872
64.993	5.411	64.967	-3.361
69.994	4.715	69.960	-2.771
74.995	3.954	74.947	-2.164
79.996	3.140	79.948	-1.548
84.996	2.302	84.965	-.956
89.996	1.408	89.967	-.429
94.997	.672	94.988	-.040
100.000	0	100.000	0

L. E. radius: 1.000
Slope of radius through L. E.: 0.084

NACA 651-212

$\alpha = 0.6$

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.399	.982	.601	-.852
.638	1.194	.862	-1.012
1.124	1.520	1.376	-1.242
2.856	2.118	2.644	-1.625
4.837	3.017	5.163	-2.185
7.329	3.728	7.671	-2.600
9.827	4.330	10.173	-2.966
14.833	5.298	15.107	-3.500
19.848	6.042	20.152	-3.904
24.869	6.611	25.191	-4.197
29.894	7.029	30.108	-4.401
34.921	7.304	35.079	-4.518
39.951	7.444	40.049	-4.560
44.983	7.423	45.017	-4.475
49.997	7.281	49.988	-4.283
54.991	6.956	54.968	-3.988
59.994	6.518	59.966	-3.580
64.995	5.984	64.977	-3.124
69.996	5.342	69.970	-2.640
74.997	4.608	74.963	-2.131
79.998	3.829	79.950	-1.604
84.998	2.978	84.938	-1.085
89.999	2.077	89.934	-.565
94.999	.621	94.987	-.191
100.000	0	100.000	0

L. E. radius: 1.000
Slope of radius through L. E.: 0.110

NACA 651-412

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.847	1.010	.653	-.810
.680	1.286	.820	-.958
1.089	1.688	1.441	-1.160
2.268	2.284	2.717	-1.490
4.757	3.227	5.243	-1.958
7.247	4.010	7.733	-2.814
9.746	4.672	10.254	-3.604
14.747	5.741	15.248	-4.049
19.751	6.562	20.219	-4.578
24.811	7.193	25.189	-5.018
29.840	7.658	30.154	-5.370
34.884	7.971	35.116	-5.681
39.928	8.139	40.077	-5.855
44.982	8.169	45.038	-5.799
49.990	7.988	50.000	-5.551
54.991	7.602	54.985	-5.222
59.992	7.085	59.986	-4.801
64.993	6.440	64.914	-4.280
69.994	5.686	69.899	-3.751
75.007	4.847	74.893	-3.267
80.108	3.935	79.897	-2.751
85.090	2.974	84.910	-2.252
90.060	1.979	89.934	-1.699
95.038	.990	94.967	-1.278
100.000	0	100.000	0

NACA 652-215

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.406	1.170	.594	-1.070
.645	1.423	.855	-1.282
1.132	1.805	1.368	-1.591
2.386	2.506	2.635	-2.134
4.848	3.557	5.152	-2.926
7.342	4.380	7.658	-3.632
9.841	5.060	10.160	-4.035
14.848	6.175	15.152	-4.829
19.868	7.018	20.137	-5.428
24.862	7.668	25.118	-5.968
29.904	8.123	30.096	-6.179
34.927	8.426	35.073	-6.366
39.952	8.569	40.048	-6.427
44.976	8.522	45.024	-6.382
50.000	8.271	50.000	-6.065
55.021	7.815	54.979	-5.625
60.039	7.139	59.961	-5.047
65.053	6.438	64.947	-4.373
70.062	5.672	69.938	-3.628
75.066	4.838	74.935	-2.848
80.069	3.958	79.937	-2.061
85.065	2.949	84.945	-1.308
90.040	1.960	89.960	-0.626
95.020	.744	94.980	-.112
100.000	0	100.000	0

L. E. radius: 1.505
Slope of radius through L. E.: 0.064

NACA 652-415

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.318	1.208	.682	-1.008
.543	1.480	.957	-1.200
1.016	1.900	1.484	-1.472
2.231	2.680	2.769	-1.886
4.697	3.883	5.303	-2.569
7.184	4.794	7.816	-3.098
9.682	5.578	10.318	-3.510
14.697	6.842	15.303	-4.160
19.726	7.809	20.274	-4.625
24.764	8.560	25.236	-4.970
29.807	9.068	30.193	-5.205
34.854	9.455	35.146	-5.335
39.903	9.639	40.097	-5.355
44.953	9.617	45.047	-5.237
50.000	9.374	50.000	-4.962
55.043	8.910	54.957	-4.530
60.079	8.260	59.921	-3.976
65.108	7.492	64.894	-3.342
70.124	6.542	69.876	-2.664
75.131	5.532	74.869	-1.952
80.126	4.447	79.874	-1.263
85.109	3.320	84.881	-.628
90.080	2.175	89.920	-.107
95.040	1.068	94.960	.206
100.000	0	100.000	0

L. E. radius: 1.505
Slope of radius through L. E.: 0.168

NACA 652-415

 $\alpha = 0.5$

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.245	1.233	.755	-.957
.464	1.530	1.036	-1.182
.927	1.965	1.673	-1.877
2.126	2.812	2.874	-1.776
4.574	4.099	5.426	-2.335
7.054	5.122	7.946	-2.746
9.549	5.935	10.451	-3.081
14.668	7.383	15.432	-3.591
19.611	8.469	20.389	-3.968
24.671	9.280	25.329	-4.232
29.743	9.833	30.257	-4.411
34.825	10.280	35.175	-4.508
39.916	10.470	40.084	-4.526
45.019	10.423	44.981	-4.431
50.152	10.106	49.848	-4.236
55.262	9.501	54.738	-3.929
60.307	8.672	59.693	-3.548
65.314	7.684	64.686	-3.104
70.294	6.573	69.706	-2.609
75.258	5.387	74.747	-2.083
80.190	4.157	79.801	-1.545
85.137	2.930	84.863	-1.014
90.077	1.755	89.923	-.527
95.027	.715	94.973	-.139
100.000	0	100.000	0

L. E. radius: 1.505
Slope of radius through L. E.: 0.233

NACA 653-018

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.50	1.837	.50	-1.837
.75	1.908	.75	-1.908
1.25	2.014	1.25	-2.014
2.5	2.751	2.5	-2.751
5.0	3.866	5.0	-3.866
7.5	4.733	7.5	-4.733
10	5.457	10	-5.457
15	6.906	15	-6.906
20	7.478	20	-7.478
25	8.129	25	-8.129
30	8.695	30	-8.695
35	8.886	35	-8.886
40	8.999	40	-8.999
45	8.901	45	-8.901
50	8.568	50	-8.568
55	8.008	55	-8.008
60	7.267	60	-7.267
65	6.395	65	-6.395
70	5.426	70	-5.426
75	4.396	75	-4.396
80	3.338	80	-3.338
85	2.295	85	-2.295
90	1.319	90	-1.319
95	.490	95	-.490
100	0	100	0

L. E. radius: 1.96

NACA 653-218

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.388	1.383	.612	-1.283
.625	1.673	.875	-1.533
1.110	2.116	1.890	-1.902
2.340	2.982	2.660	-2.590
4.311	4.178	5.181	-3.546
6.311	5.163	7.688	-4.805
8.309	5.971	10.191	-5.937
14.818	7.276	15.182	-6.980
19.838	8.270	20.165	-7.676
24.858	9.023	25.142	-7.233
29.884	9.568	30.116	-7.622
34.912	9.916	35.088	-7.856
39.942	10.070	40.068	-7.928
44.972	9.996	45.028	-7.806
50.000	9.671	50.000	-7.465
55.028	9.108	54.974	-6.913
60.047	8.338	59.953	-6.196
65.063	7.425	64.937	-5.365
70.073	6.398	69.927	-4.464
75.077	5.290	74.923	-3.500
80.074	4.133	79.926	-2.541
85.063	2.967	84.937	-1.621
90.046	1.836	89.954	-.801
95.023	.805	94.977	-.178
100.000	0	100.000	0

L. E. radius: 1.96
Slope of radius through L. E.: 0.084

NACA 653-418

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.278	1.418	.722	-1.218
.503	1.729	.997	-1.449
.973	2.209	1.827	-1.781
2.181	3.104	2.819	-2.890
4.639	4.451	5.861	-3.217
7.122	5.566	7.877	-3.870
9.619	6.478	10.831	-4.410
14.836	7.942	15.864	-5.250
19.871	9.031	20.829	-5.877
24.716	9.914	25.284	-6.324
29.768	10.636	30.282	-6.648
34.825	10.944	35.175	-6.824
39.884	11.140	40.116	-6.856
44.943	11.091	45.057	-6.711
50.000	10.774	50.000	-6.382
55.051	10.193	54.949	-5.818
60.094	9.408	59.906	-5.124
65.126	8.464	64.874	-4.334
70.146	7.383	69.854	-3.480
75.154	6.183	74.846	-2.603
80.147	4.927	79.853	-1.748
85.127	3.633	84.873	-.946
90.092	2.350	89.906	-.232
95.046	1.120	94.954	-.144
100.000	0	100.000	0

L. E. radius: 1.96
Slope of radius through L. E.: 0.168

NACA 653-418

 $\alpha = 0.5$

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.197	1.440	.803	-1.164
.411	1.766	1.089	-1.378
.868	2.271	1.632	-1.683
2.057	3.233	2.943	-2.197
4.498	4.715	5.507	-2.961
6.966	5.891	8.084	-3.515
9.450	6.882	10.541	-3.978
14.481	8.482	15.519	-4.690
19.533	9.709	20.467	-5.213
24.604	10.643	25.395	-5.595
29.691	11.325	30.309	-5.853
34.789	11.770	35.211	-5.998
39.899	11.970	40.101	-6.028
45.022	11.897	44.973	-5.905
50.132	11.606	49.818	-5.626
55.313	10.788	54.657	-5.216
60.364	9.820	59.636	-4.696
65.372	8.674	64.628	-4.094
70.347	7.397	69.633	-3.433
75.298	6.086	74.702	-2.734
80.232	4.686	79.768	-2.024
85.159	3.247	84.841	-1.381
90.080	1.950	89.911	-.702
95.030	.777	94.970	-.201
100.000	0	100.000	0

L. E. radius: 1.96
Slope of radius through L. E.: 0.233

NACA 653-618

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.172	1.445	.828	-1.145
.385	1.776	1.115	-1.368
.839	2.298	1.661	-1.651
2.026	3.268	2.974	-2.162
4.462	4.776	5.538	-2.880
6.936	5.971	8.064	-3.427
9.431	6.973	10.569	-3.876
14.456	8.802	15.545	-4.564
19.506	9.848	20.494	-5.072
24.574	10.803	25.426	-5.453
29.652	11.604	30.346	-5.672
34.738	11.872	35.262	-5.792
39.826	12.210	40.174	-5.784
44.915	12.188	45.085	-5.616
50.000	11.877	50.000	-5.299
55.077	11.250	54.923	-4.723
60.141	10.479	59.859	-4.063
65.199	9.482	64.811	-3.323
70.219	8.338	69.781	-2.503
75.230	7.073	74.770	-1.705
80.220	5.719	79.780	-.943
85.189	4.306	84.811	-.268
90.138	2.863	89.862	-.289
95.068	1.483	94.832	-.463
100.000	0	100.000	0

L. E. radius: 1.96
Slope of radius through L. E.: 0.233

NACA 653-618

 $\alpha = 0.5$

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.089	1.469	.941	-1.055
.256	1.821	1.244	-1.289
.689	2.375	1.811	-1.493
1.846	3.449	3.154	-1.896
4.248	5.115	5.752	-2.489
6.706	6.448	8.294	-2.884
9.194	7.575	10.806	-3.219
14.225	9.404	15.775	-3.716
19.301	10.815	20.699	-4.071
24.407	11.898	25.668	-4.321
29.537	12.687	30.463	-4.479
34.684	13.209	35.316	-4.551
39.849	13.456	40.161	-4.540
45.034	13.395	44.966	-4.407
50.273	12.974	49.727	-4.154
55.468	12.173	54.532	-3.815
60.546	11.090	59.444	-3.404
65.657	9.906	64.435	-2.988
70.819	8.374	69.431	-2.498
75.445	6.561	74.555	-1.886
80.347	5.279	79.638	-1.261
84.290	5.720	84.781	-.844
90.133	2.333	89.867	-.391
95.048	.920	94.944	-.036
100.000	0	100.000	0

L. E. radius: 1.86
Slope of radius through L. E.: 0.340

NACA 654-221

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.372	1.537	.628	-1.467
.608	1.902	.892	-1.762
1.090	2.402	1.410	-2.188
2.814	3.835	2.684	-2.903
4.791	4.783	5.209	-4.151
7.280	5.918	7.720	-5.070
9.778	6.885	10.222	-5.831
14.787	8.370	15.213	-7.024
19.808	9.514	20.192	-7.922
24.884	10.881	25.166	-8.991
29.855	11.007	30.135	-9.003
34.898	11.404	35.102	-9.344
39.982	11.870	40.088	-9.428
44.987	11.461	45.033	-9.271
50.000	11.065	50.000	-8.849
55.080	10.372	54.970	-8.182
60.054	9.461	59.946	-7.319
65.072	8.390	64.928	-6.330
70.084	7.195	69.916	-5.261
75.088	5.918	74.912	-4.128
80.094	4.585	79.910	-3.003
85.072	3.270	84.928	-1.824
90.052	2.000	89.948	-.985
95.028	.861	94.974	-.229
100.000	0	100.000	0

L. E. radius: 2.50
Slope of radius through L. E.: 0.084

NACA 654-421

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.247	1.601	.753	-1.401
.488	1.956	1.082	-1.676
.888	2.498	1.667	-2.065
2.185	3.505	2.865	-2.761
4.682	5.085	5.417	-3.821
7.082	6.829	7.988	-4.683
9.587	7.871	10.443	-5.303
14.576	9.034	15.425	-6.342
19.616	10.304	20.384	-7.120
24.608	11.271	25.382	-7.801
29.729	11.976	30.271	-8.088
34.796	12.438	35.204	-8.313
39.865	12.640	40.135	-8.366
44.884	12.556	45.086	-8.176
50.000	12.158	50.000	-7.746
55.089	11.487	54.911	-7.087
60.108	10.581	59.892	-6.247
65.145	9.419	64.855	-5.299
70.168	8.166	69.832	-4.278
75.176	6.811	74.824	-3.231
80.167	5.385	79.833	-2.204
85.143	3.940	84.867	-1.248
90.104	2.514	89.898	-.440
95.081	1.176	94.949	-.088
100.000	0	100.000	0

L. E. radius: 2.50
Slope of radius through L. E.: 0.168

NACA 654-421

$a=0.5$

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.155	1.620	.845	-1.844
.308	1.991	1.187	-1.603
.513	2.558	1.637	-1.965
.792	3.081	2.036	-2.595
1.114	4.315	2.498	-3.551
1.480	6.651	3.120	-4.275
1.871	7.773	3.820	-4.809
2.286	9.572	4.580	-5.780
2.728	10.951	5.405	-6.455
3.198	12.000	6.282	-6.953
3.699	12.765	7.203	-7.293
4.234	13.268	8.168	-7.486
4.804	13.470	9.178	-7.536
5.409	13.303	10.234	-7.370
6.041	12.890	11.339	-7.010
6.702	12.066	12.485	-6.484
7.394	10.942	13.672	-5.818
8.118	9.637	14.902	-5.057
8.874	8.193	16.176	-4.229
9.664	6.604	17.494	-3.360
10.488	5.097	18.856	-2.485
11.347	3.580	20.164	-1.634
12.241	2.065	21.516	-.807
13.170	.833	22.914	-.287
100.000	0	100.000	0

L. E. radius: 2.50
Slope of radius through L. E.: 0.283

NACA 65(215)-114

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.456	1.073	.544	-1.028
.701	1.800	.799	-1.280
1.185	1.642	1.305	-1.534
2.437	2.261	2.568	-2.075
4.229	3.186	5.071	-2.870
7.428	3.906	7.574	-3.482
9.926	4.508	10.071	-3.992
14.929	5.472	15.074	-4.800
19.936	6.206	20.064	-5.410
24.945	6.761	25.055	-5.855
29.955	7.161	30.045	-6.189
34.966	7.418	35.034	-6.388
39.977	7.534	40.028	-6.462
44.988	7.480	45.011	-6.384
50.000	7.242	50.000	-6.138
55.010	6.820	54.990	-5.724
60.018	6.246	59.982	-5.174
65.025	5.558	64.975	-4.528
70.029	4.779	69.971	-3.807
75.031	3.942	74.969	-3.046
80.029	3.065	79.971	-2.269
85.025	2.181	84.975	-1.509
90.019	1.328	89.981	-.810
95.019	.557	94.981	-.241
100.000	0	100.000	0

L. E. radius: 1.811
Slope of radius through L. E.: 0.042

NACA 65(421)-420

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.258	1.537	.742	-1.337
.482	1.864	1.018	-1.584
.950	2.374	1.580	-1.940
2.182	3.358	2.818	-2.614
4.603	4.866	5.397	-3.802
7.083	6.066	7.917	-4.370
9.579	7.080	10.421	-4.992
14.586	8.585	15.404	-6.073
19.584	9.885	20.386	-6.701
24.584	10.815	25.316	-7.285
29.572	11.494	30.258	-7.809
34.585	11.939	35.105	-7.819
39.571	12.400	40.120	-7.888
44.587	12.066	45.083	-7.678
50.000	11.672	50.000	-7.200
55.056	11.018	54.944	-6.035
60.103	10.130	59.897	-5.842
65.138	9.060	64.862	-5.490
70.160	7.861	69.840	-4.978
75.167	6.583	74.833	-4.385
80.169	5.200	79.841	-3.721
85.168	3.815	84.844	-3.010
90.098	2.441	89.802	-.378
95.049	1.150	94.861	-.114
100.000	0	100.000	0

L. E. radius: 2.27
Slope of radius through L. E.: 0.168

NACA 66,1-212

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.424	.947	.576	-.947
.666	1.150	.834	-1.010
1.157	1.447	1.343	-1.238
2.895	1.986	2.606	-1.614
4.894	2.797	5.110	-2.165
7.379	3.441	7.021	-2.598
9.878	3.997	10.122	-2.963
14.884	4.845	15.116	-3.539
19.895	5.875	20.105	-4.382
24.909	6.112	25.091	-4.822
29.925	6.522	30.075	-4.578
34.943	6.816	35.087	-4.750
39.962	7.005	40.088	-4.893
44.981	7.068	45.019	-4.903
50.000	7.075	50.000	-4.959
55.019	6.959	54.981	-4.749
60.036	6.665	59.964	-4.523
65.051	6.195	64.949	-4.135
70.061	5.507	69.939	-3.563
75.066	4.683	74.934	-2.893
80.065	3.789	79.935	-2.167
85.062	2.770	84.942	-1.424
90.043	1.760	89.957	-.736
95.022	.792	94.978	-.160
100.000	0	100.000	0

L. E. radius: 0.888
Slope of radius through L. E.: 0.084

NACA 66(215)-016

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.5	1.184	.5	-1.184
.75	1.418	.75	-1.418
1.25	1.755	1.25	-1.755
2.5	2.378	2.5	-2.378
5.0	3.292	5.0	-3.292
7.5	4.007	7.5	-4.007
10	4.620	10	-4.620
15	5.005	15	-5.005
20	5.362	20	-5.362
25	5.650	25	-5.650
30	5.895	30	-5.895
35	6.100	35	-6.100
40	6.267	40	-6.267
45	6.397	45	-6.397
50	6.497	50	-6.497
55	6.565	55	-6.565
60	6.600	60	-6.600
65	6.612	65	-6.612
70	6.600	70	-6.600
75	6.565	75	-6.565
80	6.500	80	-6.500
85	6.400	85	-6.400
90	6.267	90	-6.267
95	6.000	95	-6.000
100	0	100	0

L. E. radius: 1.575

NACA 66(215)-216

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.401	1.280	.599	-1.180
.640	1.494	.860	-1.344
1.128	1.898	1.372	-1.644
2.362	2.680	2.638	-2.188
4.446	3.604	5.154	-2.972
7.440	4.428	7.660	-3.580
9.838	5.140	10.162	-4.100
14.845	6.276	15.155	-4.980
19.850	7.156	20.140	-5.564
24.879	7.844	25.121	-6.054
29.900	8.368	30.100	-6.422
34.924	8.736	35.076	-6.678
39.949	8.960	40.051	-6.888
44.974	9.062	45.028	-6.992
50.000	9.060	50.000	-6.992
55.025	8.975	54.975	-6.898
60.048	8.796	59.952	-6.704
65.067	8.532	64.933	-6.412
70.081	8.191	69.919	-5.997
75.087	7.680	74.913	-5.470
80.085	6.944	79.915	-4.802
85.075	5.905	84.925	-4.049
90.055	4.598	89.945	-3.169
95.028	.918	94.972	-.281
100.000	0	100.000	0

L. E. radius: 1.575
Slope of radius through L. E.: 0.084

NACA 66(215)-216

$a=0.6$

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.371	1.242	.629	-1.112
.607	1.601	.893	-1.319
1.091	1.888	1.409	-1.608
2.317	2.615	2.683	-2.127
4.794	3.701	5.206	-2.869
7.284	4.668	7.716	-3.441
9.781	5.308	10.219	-3.934
14.788	6.500	15.212	-4.702
19.806	7.428	20.194	-5.290
24.832	8.165	25.165	-5.741
29.862	8.708	30.132	-6.080
34.897	9.098	35.102	-6.31

NACA 66-006

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.50	.461	.50	-.461
.75	.554	.75	-.554
1.25	.693	1.25	-.693
2.5	.918	2.5	-.918
5.0	1.257	5.0	-1.257
7.5	1.524	7.5	-1.524
10	1.752	10	-1.752
15	2.119	15	-2.119
20	2.401	20	-2.401
25	2.618	25	-2.618
30	2.782	30	-2.782
35	2.899	35	-2.899
40	2.971	40	-2.971
45	3.000	45	-3.000
50	2.985	50	-2.985
55	2.924	55	-2.924
60	2.815	60	-2.815
65	2.611	65	-2.611
70	2.316	70	-2.316
75	1.963	75	-1.963
80	1.543	80	-1.543
85	1.107	85	-1.107
90	.665	90	-.665
95	.252	95	-.252
100	0	100	0

L. E. radius: 0.233

NACA 66-009

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.50	.687	.50	-.687
.75	.824	.75	-.824
1.25	1.030	1.25	-1.030
2.5	1.368	2.5	-1.368
5.0	1.880	5.0	-1.880
7.5	2.268	7.5	-2.268
10	2.626	10	-2.626
15	2.178	15	-2.178
20	3.601	20	-3.601
25	3.927	25	-3.927
30	4.178	30	-4.178
35	4.348	35	-4.348
40	4.457	40	-4.457
45	4.499	45	-4.499
50	4.475	50	-4.475
55	4.381	55	-4.381
60	4.204	60	-4.204
65	3.882	65	-3.882
70	3.428	70	-3.428
75	2.877	75	-2.877
80	2.263	80	-2.263
85	1.611	85	-1.611
90	.961	90	-.961
95	.374	95	-.374
100	0	100	0

L. E. radius: 0.530

NACA 66-206

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.461	.500	.539	-.499
.707	.622	.793	-.622
1.203	.798	1.298	-.798
2.447	1.102	2.553	-.730
4.941	1.572	5.059	-.940
7.439	1.947	7.561	-1.099
9.939	2.308	10.061	-1.234
14.942	2.791	15.058	-1.445
19.947	3.196	20.053	-1.605
24.944	3.513	25.046	-1.723
29.942	3.754	30.038	-1.810
34.971	3.929	35.029	-1.869
39.981	4.042	40.019	-1.900
44.990	4.096	45.010	-1.905
50.000	4.088	50.000	-1.932
55.009	4.020	54.991	-1.930
60.018	3.886	59.982	-1.744
65.026	3.641	64.974	-1.581
70.031	3.288	69.969	-1.344
75.034	2.848	74.960	-1.035
80.034	2.339	79.956	-.747
85.031	1.780	84.959	-.424
90.028	1.182	89.977	-.148
95.012	.578	94.988	-.054
100.000	0	100.000	0

L. E. radius: 0.223
Slope of radius through L. E.: 0.084

NACA 66-209

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.442	.735	.558	-.685
.686	.892	.814	-.752
1.179	1.135	1.321	-.921
2.420	1.582	2.580	-1.180
4.912	2.194	5.088	-1.562
7.409	2.705	7.591	-1.857
9.908	3.141	10.092	-2.107
14.912	3.850	15.088	-2.504
19.921	4.396	20.079	-2.804
24.931	4.821	25.069	-3.031
29.944	5.145	30.056	-3.201
34.957	5.378	35.043	-3.318
39.971	5.528	40.029	-3.380
44.986	5.594	45.014	-3.404
50.000	5.578	50.000	-3.373
55.014	5.478	54.986	-3.286
60.027	5.278	59.978	-3.133
65.038	4.912	64.962	-2.852
70.046	4.400	69.954	-2.458
75.050	3.772	74.956	-1.982
80.050	3.038	79.950	-1.466
85.044	2.288	84.956	-.937
90.034	1.477	89.963	-.448
95.018	.600	94.982	-.058
100.000	0	100.000	0

L. E. radius: 0.580
Slope of radius through L. E.: 0.084

NACA 66-210

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.438	.806	.564	-.706
.670	.980	.821	-.840
1.171	1.245	1.320	-1.031
2.412	1.699	2.588	-1.327
4.902	2.401	5.098	-1.769
7.399	2.968	7.601	-2.110
9.898	3.432	10.102	-2.389
14.908	4.202	15.097	-2.866
19.912	4.796	20.088	-3.204
24.924	5.257	25.076	-3.467
29.937	5.618	30.063	-3.664
34.952	5.882	35.048	-3.802
39.968	6.024	40.032	-3.882
44.984	6.095	45.016	-3.905
50.000	6.074	50.000	-3.868
55.016	5.960	54.984	-3.770
60.030	5.736	59.970	-3.604
65.042	5.432	64.968	-3.272
70.051	4.789	69.969	-2.815
75.056	4.071	74.964	-2.281
80.055	3.289	79.966	-1.607
85.049	2.445	84.951	-1.099
90.037	1.570	89.963	-.536
95.019	.724	94.981	-.092
100.000	0	100.000	0

L. E. radius: 0.662
Slope of radius through L. E.: 0.084

NACA 66-012

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.5	.906	.5	-.906
1.07	1.087	1.07	-1.087
1.858	1.25	1.858	-1.368
2.5	1.808	2.5	-1.808
5.0	2.496	5.0	-2.496
7.5	3.037	7.5	-3.037
10	3.496	10	-3.496
15	4.234	15	-4.234
20	4.801	20	-4.801
25	5.238	25	-5.238
30	5.568	30	-5.568
35	5.803	35	-5.803
40	5.947	40	-5.947
45	6.000	45	-6.000
50	5.965	50	-5.965
55	5.836	55	-5.836
60	5.688	60	-5.688
65	5.439	65	-5.439
70	4.515	70	-4.515
75	3.767	75	-3.767
80	2.944	80	-2.944
85	2.063	85	-2.063
90	1.234	90	-1.234
95	.474	95	-.474
100	0	100	0

L. E. radius: 0.952

NACA 66-212

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.424	.933	.576	-.853
.686	1.154	.834	-1.014
1.156	1.462	1.344	-1.248
2.395	1.991	2.605	-1.619
4.883	2.809	5.117	-2.177
7.379	3.459	7.621	-2.611
9.878	4.011	10.122	-2.977
14.883	4.066	15.117	-3.569
19.894	5.566	20.106	-4.004
24.908	6.132	25.092	-4.342
29.926	6.596	30.075	-4.595
34.943	6.838	35.057	-4.773
39.962	7.018	40.038	-4.878
44.981	7.098	45.019	-4.908
50.000	7.063	50.000	-4.862
55.019	6.971	54.981	-4.741
60.038	6.859	59.964	-4.517
65.051	6.169	64.949	-4.100
70.061	5.487	69.939	-3.543
75.068	4.681	74.934	-2.871
80.063	3.789	79.925	-2.147
85.057	2.788	84.918	-1.409
90.043	1.760	89.907	-.716
95.022	.789	94.978	-.157
100.000	0	100.000	0

L. E. radius: 0.682
Slope of radius through L. E.: 0.084

NACA 66-015

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.5	1.122	.5	-1.122
.75	1.343	.75	-1.343
1.25	1.675	1.25	-1.675
2.5	2.235	2.5	-2.235
5.0	3.100	5.0	-3.100
7.5	3.781	7.5	-3.781
10	4.358	10	-4.358
15	5.296	15	-5.296
20	5.995	20	-5.995
25	6.543	25	-6.543
30	6.956	30	-6.956
35	7.250	35	-7.250
40	7.480	40	-7.480
45	7.495	45	-7.495
50	7.450	50	-7.450
55	7.253	55	-7.253
60	6.959	60	-6.959
65	6.572	65	-6.572
70	6.078	70	-6.078
75	5.532	75	-5.532
80	4.936	80	-4.936
85	4.280	85	-4.280
90	3.589	90	-3.589
95	2.866	95	-2.866
100	0	100	0

L. E. radius: 1.435

NACA 66-215

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.406	1.168	.594	-1.083
.646	1.409	.854	-1.269
1.184	1.778	1.366	-1.564
2.370	2.417	2.630	-2.045
4.365	3.418	5.145	-2.781
7.349	4.202	7.651	-3.364
9.848	4.872	10.152	-3.838
14.854	5.367	15.146	-4.611
19.868	6.790	20.132	-5.198
24.886	7.437	25.114	-5.647
29.905	7.927	30.094	-6.063
34.929	8.280	35.071	-6.220
39.952	8.501	40.045	-6.359
44.976	8.563	45.024	-6.400
50.000	8.560	50.000	-6.347
55.023	8.378	54.977	-6.188
60.045	8.030	59.955	-5.898
65.068	7.402	64.937	-5.424
70.075	6.547	69.928	-4.603
75.081	5.626	74.919	-3.766
80.079	4.583	79.921	-2.801
85.070	3.202	84.930	-1.826
90.052	2.005	89.948	-.971
95.028	.881	94.974	-.249
100.000	0	100.000	0

L. E. radius: 1.435
Slope of radius through L. E.: 0.084

NACA 66-415

NACA 663-018

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.5	1.828	.5	-1.828
.75	1.871	.75	-1.871
1.25	1.952	1.25	-1.952
2.5	2.446	2.5	-2.446
5.0	3.600	5.0	-3.600
7.5	4.513	7.5	-4.513
10	5.210	10	-5.210
15	6.383	15	-6.383
20	7.188	20	-7.188
25	7.848	25	-7.848
30	8.346	30	-8.346
35	8.701	35	-8.701
40	8.918	40	-8.918
45	8.998	45	-8.998
50	8.942	50	-8.942
55	8.783	55	-8.783
60	8.523	60	-8.523
65	7.880	65	-7.880
70	6.507	70	-6.507
75	5.451	75	-5.451
80	4.208	80	-4.208
85	2.834	85	-2.834
90	1.714	90	-1.714
95	.040	95	-.040
100	0	100	0

L. E. radius: 1.955

NACA 663-218

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.899	1.858	.611	-1.268
.928	1.836	.873	-1.490
1.118	2.054	1.355	-1.840
2.846	2.828	2.654	-2.456
4.827	4.003	5.173	-3.370
7.320	4.983	7.680	-4.085
9.818	5.724	10.182	-4.690
14.825	7.004	15.175	-5.558
19.841	7.982	20.159	-6.300
24.808	8.742	25.187	-6.952
29.887	9.317	30.118	-7.373
34.914	9.781	35.086	-7.671
39.942	10.089	40.068	-7.847
44.971	10.098	45.029	-7.908
50.000	10.045	50.000	-7.889
55.028	9.828	54.972	-7.688
60.044	9.394	59.946	-7.282
65.075	8.610	64.925	-6.550
70.089	7.568	69.911	-5.524
75.095	6.245	74.905	-4.255
80.098	5.001	79.907	-3.400
85.081	3.666	84.919	-2.280
90.050	2.230	89.940	-1.168
95.030	.961	94.970	-.329
100.000	0	100.000	0

L. E. radius: 1.955

Slope of radius through L. E.: 0.084

NACA 663-418

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.280	1.405	.720	-1.205
.509	1.692	.991	-1.412
.981	2.147	1.519	-1.719
2.194	3.000	2.808	-2.256
4.656	4.806	5.844	-3.042
7.140	5.847	7.860	-3.681
9.636	6.281	10.804	-4.168
14.651	7.669	15.849	-4.977
19.683	8.778	20.817	-5.589
24.726	9.638	25.274	-6.063
29.775	10.287	30.226	-6.399
34.829	10.759	35.171	-6.589
39.885	11.059	40.115	-6.775
44.943	11.188	45.067	-6.808
50.000	11.148	50.000	-6.780
55.056	10.928	54.944	-6.543
60.107	10.464	59.893	-6.180
65.149	9.689	64.861	-5.619
70.178	8.589	69.822	-4.861
75.191	7.288	74.809	-3.868
80.185	5.784	79.815	-2.810
85.162	4.276	84.838	-1.684
90.120	2.744	89.880	-.676
95.060	1.275	94.940	-.011
100.000	0	100.000	0

L. E. radius: 1.955

Slope of radius through L. E.: 0.168

NACA 664-021

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.5	1.525	.5	-1.525
.75	1.804	.75	-1.804
1.25	2.240	1.25	-2.240
2.5	3.045	2.5	-3.045
5.0	4.269	5.0	-4.269
7.5	5.233	7.5	-5.233
10	6.052	10	-6.052
15	7.869	15	-7.869
20	8.876	20	-8.876
25	9.153	25	-9.153
30	9.788	30	-9.788
35	10.164	35	-10.164
40	10.407	40	-10.407
45	10.500	45	-10.500
50	10.484	50	-10.484
55	10.186	55	-10.186
60	9.692	60	-9.692
65	8.788	65	-8.788
70	7.610	70	-7.610
75	6.251	75	-6.251
80	4.795	80	-4.795
85	3.324	85	-3.324
90	1.924	90	-1.924
95	.717	95	-.717
100	0	100	0

L. E. radius: 2.550

NACA 664-221

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.872	1.570	.828	-1.470
.910	1.809	.890	-1.729
1.095	2.342	1.405	-2.128
2.823	3.226	2.077	-2.854
4.800	4.580	5.200	-3.948
7.291	5.653	7.709	-4.805
9.788	6.565	10.212	-5.531
14.797	8.089	15.203	-6.698
19.815	9.170	20.185	-7.578
24.840	10.047	25.160	-8.257
29.869	10.709	30.181	-8.765
34.900	11.188	35.100	-9.123
39.938	11.478	40.087	-9.380
44.987	11.585	45.083	-9.405
50.000	11.587	50.000	-9.351
55.032	11.281	54.968	-9.091
60.065	10.708	59.937	-8.621
65.087	9.823	64.919	-7.703
70.103	8.581	69.897	-6.537
75.106	7.145	74.881	-5.355
80.106	5.591	79.864	-4.199
85.092	3.998	84.904	-2.950
90.067	2.440	89.983	-1.408
95.034	1.032	94.968	-.400
100.000	0	100.000	0

L. E. radius: 2.550

Slope of radius through L. E.: 0.084

NACA 67,1-215

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.402	1.213	.598	-1.118
.642	1.460	.808	-1.390
1.128	1.867	1.372	-1.653
2.301	2.577	2.689	-2.205
4.848	3.557	5.152	-2.925
7.844	4.821	7.656	-3.473
9.845	4.947	10.155	-3.913
14.854	6.954	16.146	-4.008
19.869	8.735	20.181	-5.143
24.887	7.345	25.118	-5.658
29.905	7.825	30.092	-5.881
34.920	8.185	35.070	-6.135
39.935	8.490	40.047	-6.288
44.976	8.570	45.024	-6.380
50.000	8.600	50.000	-6.394
55.024	8.516	54.976	-6.326
60.047	8.302	59.953	-6.160
65.068	7.985	64.932	-5.875
70.086	7.373	69.914	-5.429
75.098	6.516	74.902	-4.725
80.100	5.385	79.900	-3.748
85.092	3.999	84.908	-2.653
90.071	2.587	89.920	-1.503
95.037	1.103	94.903	-.471
100.000	0	100.000	0

L. E. radius: 1.598

Slope of radius through L. E.: 0.084

NACA 747A315

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.229	1.305	.771	-1.081
.449	1.599	1.051	-1.207
.911	2.065	1.689	-1.478
2.109	2.935	2.891	-1.927
4.604	4.264	5.436	-2.518
7.088	5.286	7.947	-2.952
9.558	6.140	10.442	-3.304
14.099	7.497	15.501	-3.843
19.098	8.503	20.382	-4.247
24.788	9.242	25.242	-4.540
29.807	9.781	30.183	-4.773
35.001	9.983	34.999	-4.926
40.200	9.982	39.800	-5.020
45.375	9.672	44.625	-5.040
50.447	9.004	49.553	-5.014
55.463	8.206	54.537	-4.930
60.435	7.324	59.565	-4.772
65.360	6.305	64.634	-4.509
70.241	5.254	69.759	-4.110
75.180	4.080	74.870	-3.502
80.073	3.295	79.927	-2.743
85.088	2.257	84.932	-1.915
90.018	1.289	89.984	-1.097
95.004	.481	94.996	-.405
100.000	0	100.000	0

L. E. radius: 1.544

Slope of radius through L. E.: 0.282

NACA 747A415

[Stations and ordinates given in percent of airfoil chord]

Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
.188	1.818	.817	-.994
.398	1.622	1.102	-1.160
.602	2.100	1.648	-1.408
2.041	3.016	2.950	-1.822
4.487	4.411	5.513	-2.340
6.972	5.488	8.028	-2.780
9.470	6.390	10.524	-3.088
14.821	7.827	15.479	-3.501
19.868	8.897	20.402	-3.845
24.088	9.687	25.302	-4.095
29.818	10.216	30.182	-4.286
34.984	10.497	35.080	-4.411
40.176	10.490	39.824	-4.485
45.364	10.121	44.686	-4.498
50.447	9.516	49.553	-4.462
55.474	8.758	54.520	-4.381
60.464	7.850	59.546	-4.235
65.393	6.878	64.607	-3.992
70.278	5.838	69.727	-3.622
75.184	4.788	74.880	-3.053
80.107	3.692	79.898	-2.344
85.068	2.592	84.984	-1.578
90.087	1.540	89.963	-.838
95.015	.639	94.985	-.247
100.000	0	100.000	0

L. E. radius: 1.544

Slope of radius through L. E.: 0.274