REPORT No. 286

AERODYNAMIC CHARACTERISTICS OF AIRFOILS—V

CONTINUATION OF REPORTS
Nos. 93, 124, 182, AND 244

By

NATIONAL ADVISORY COMMITTEE
FOR AERONAUTICS

REPRINT OF REPORT No. 286, ORIGINALLY PUBLISHED APRIL, 1928

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INTRODUCTION

This collection of data on airfoils has been made from the published reports of a number of the leading aerodynamic laboratories of this country and Europe.[1] The information which was originally expressed according to the different customs of the several laboratories is here presented in a uniform series of charts and tables suitable for the use of designing engineers and for purposes of general reference.

It is a well-known fact that the results obtained in different laboratories, because of their individual methods of testing, are not strictly comparable even if proper scale corrections for size of model and speed of test are supplied. It is, therefore, unwise to compare too closely the coefficients of two wing sections tested in different laboratories. Tests of different wing sections from the same source, however, may be relied on to give true relative values.

The absolute system of coefficients has been used, since it is thought by the National Advisory Committee for Aeronautics that this system is the one most suited for international use and yet it is one from which a desired transformation can be easily made. For this purpose a set of transformation constants is given.

Each airfoil section is given a reference number, and the test data are presented in the form of curves from which the coefficients can be read with sufficient accuracy for designing purposes. The dimensions of the profile of each section are given at various stations along the chord in per cent of the chord length, the latter also serving as the datum line. When two sets of ordinates are necessary, on account of taper in chord or ordinate, those for the maximum section (at center of span) are given on the individual characteristic sheets, while those for the tip (dotted) section are given in separate tables, page 375. The shape of the section is also shown with reasonable accuracy to enable one to more clearly visualize the section under consideration, the outside of the heavy line representing the profile.

The authority for the results here presented is given as the name of the laboratory at which the experiments were conducted, as explained under abbreviations, with the size of model, wind velocity, and year of test.

TRANSFORMATION CONSTANTS

For the convenience of those who prefer to use a system of units other than the absolute system, there is given below a table of transformation constants based on the standard condition adopted by the National Advisory Committee for Aeronautics of—

Temperature	=15° C.	=59° F.
Pressure	=760 mm Hg.	=29.92 in. Hg.
Humidity	=0.	
Gravity	=9.80665 m/s^2	=32.1740 ft./sec.^{2}

[1] A previous collection of airfoil sections numbered 1 to 623 and Charts 1 to 16 may be found in N. A. C. A. Reports Nos. 93, 124, 182, and 244

thus giving values of specific weight of air

$$W = 1.2255 \text{ kg/m}^3 = 0.07651 \text{ lb./ft.}^3$$

and of density

$\rho = 0.12497$ in the French engineering or kilogram, meter, second system.

Or $\rho = 0.002378$ in the English or pound, foot, second system.

In absolute units	$P = CV^2\rho/2$
In kg/m² (m/s)	$P = .0625\ CV^2$
In kg/m² (km/h)	$P = .004822\ CV^2$
In lb./sq. ft. (ft./sec.)	$P = .001189\ CV^2$
In lb./sq. ft. (mi./hr.)	$P = .002558\ CV^2$

(Note that these constants are half as large as those used in Reports Nos. 93 and 124 and that the absolute coefficients used in this report are twice as large as the old coefficients. See Report No. 240 regarding change in absolute coefficients.)

INDEX

Three separate types of index are given—chart indexes which make it possible for a designer to select the wing section most suitable for the particular design in which he is interested; a group index which is arranged by countries and laboratories at which tests were conducted, each section also being designated by a reference number; and an alphabetical index.

CHART INDEX

In order that the designer may easily pick out a wing section which is suited to the type of airplane on which he is working, four index charts are given which classify the wings according to their aerodynamic and structural properties. In the charts of this report a lower-case letter is placed adjacent to the reference number giving Vl values, so that a comparison can be made without referring to the individual drawings. In this value V represents the wind velocity in feet per second and l a linear dimension, the chord length in feet.

In chart No. 17 the minimum drag, C_D is plotted against the L/D at one-fourth the maximum lift, C_L. This chart should be used in choosing a wing section for a high-speed airplane, the wing sections being more suited for this use the farther they are from the lower left-hand corner.

In chart No. 18 the mean spar depth is plotted against the maximum lift, C_L, in order to show the possible strength and lightness of the wing structure. The higher the maximum lift coefficient is the smaller will be the wing area and the lighter the structural weight, and in the same way the greater the depth of the spars the lighter will be their weight, so that the sections the greatest distance from the lower left-hand corner will give the lightest and strongest wings. The "mean spar depth" is obtained by assuming the spars to be located, respectively, at 15 and 60 per cent of the chord, and by dividing the sum of their thicknesses, in per cent of chord length at these points, by 2. In the case of sections tapered in ordinate or chord, or both, the mean spar depth of the maximum section (section at center of span) is taken in per cent of the constant chord for the ordinate taper, and of the mean chord for the chord taper, although accompanied, in certain airfoils, with an ordinate taper.

In chart No. 19 the maximum L/D is plotted against the maximum lift, C_L, which is of use in choosing the wing section for a slow and efficient airplane. In the same way as before the sections farthest from the lower left-hand corner are the best for this purpose.

In chart No. 20 the L/D at two-thirds the maximum lift, C_L is plotted against the maximum lift, C_L. This chart can be used for choosing a section that will give an efficient climb or a long range at cruising speed. The best sections for this purpose will be farthest from the lower left-hand corner of the chart.

CHART INDEX

	Page
Chart No. 17. Minimum drag, C_D, plotted against L/D at one-fourth the maximum lift, C_L	180
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INDEX OF ABBREVIATIONS

Name of laboratory at which tests were made	Abbreviations used on figures
Langley Memorial Aeronautical Laboratory (N. A. C. A.), U. S. A	L. M. A. L.
Washington Navy Yard, U. S. A	W. N. Y.
Engineering Division, McCook Field, U. S. A	McC. F.
Royal Aircraft Establishment, Great Britain	R. A. E.
Service Technique de l'Aeronautique, France	S. T. Aé
Ergebnisse der Aerodynamischen Versuchsanstalt zu Göttingen, Germany	Göttingen.
Instituto Sperimentale Aeronautico, Italy	I. S. A.
Laboratorio della Direzione del Genio Aeronautico, Italy	D. G. A.
Laboratoire Aerotechnique de Rhode St. Genese-Bruxelles, Belgium	Rhode St. Genese.

GROUP INDEX

Airfoil	Wind tunnel where tested	Report reference number
UNITED STATES		
N. A. C. A. 81J	L. M. A. L	624
N. A. C. A.-CYH	do	625
B-2 (Modified M-80)	W. N. Y	626
C-2 (Modified M-80)	do	627
Boeing 103	do	628
N-22	do	629
N-23	do	630
N-24	do	631
Clark Y-15	McC. F	632
Clark Y-18	do	633
Clark Y-21	do	634
GREAT BRITAIN		
R. A. F. 25	R. A. E	635
R. A. F. 26	do	636
R. A. F. 27	do	637
R. A. F. 28	do	638
R. A. F. 34	do	639
GERMANY		
Göttingen 417a	Göttingen	640
Göttingen 456	do	641
Göttingen 458	do	642
Göttingen 461	do	[1] 430
Göttingen 462	do	643
Göttingen 464	do	644
Göttingen 481	do	645
481a	do	646
482	do	647
483	do	648
484	do	649
Göttingen 490	do	650
491	do	651
492	do	652
493	do	653
Göttingen 494	do	654
Göttingen 495	do	655
Göttingen 496	do	656
497	do	657
498	do	658
Göttingen 499	do	659
Göttingen 500	do	660
501	do	661
502	do	662
503	do	663
504	do	664
505	do	665
Göttingen 506	do	666
Göttingen 509	do	667
Göttingen 510	do	668
Göttingen 511	do	669
Göttingen 512	do	670
Göttingen 513	do	671
Göttingen 514	do	672
Göttingen 518	do	673
Göttingen 522	do	674
523	do	675
527	do	676
Göttingen 528	do	677
Göttingen 529	do	678
Göttingen 530	do	679
Göttingen 531	do	680
GERMANY—continued		
532	Göttingen	681
533	do	682
534	do	683
535	do	684
546	do	685
547	do	686
548	do	687
549	do	688
559	do	689
561	do	690
562	do	691
570	do	692
571	do	693
572	do	694
573	do	695
574	do	696
575	do	697
587	do	698
590	do	699
592	do	700
593	do	701
595	do	702
FRANCE		
Eiffel 400 (Pescara)	S. T. Aé. Lab	703
Eiffel 401 (Pescara)	do	704
Eiffel 403 (Pescara)	do	705
Eiffel 428 (Blériot)	do	706
Eiffel 430 (Lachassagne)	do	707
Eiffel 431 (Lachassagne)	do	708
St. Cyr 150 (Royer)	do	709
St. Cyr 151 (Royer)	do	710
St. Cyr 154 (Royer)	do	711
St. Cyr 155 (Royer)	do	712
St. Cyr 158 (Royer)	do	713
St. Cyr 159 (Royer)	do	714
St. Cyr 160 (Royer)	do	715
St. Cyr 161 (Royer)	do	716
St. Cyr 171 (Royer)	do	717
St. Cyr 172 (Royer)	do	718
St. Cyr 173 (Royer)	do	719
St. Cyr 175 (Royer)	do	720
St. Cyr 176 (Royer)	do	721
St. Cyr 177 (Royer)	do	722
St. Cyr 178 (Royer)	do	723
St. Cyr 185 (Monge)	do	724
St. Cyr 234 (Bartel 17-IC)	do	725
St. Cyr 236 (Bartel 26-IC)	do	726
St. Cyr 238 (Bartel 4-IC)	do	727
St. Cyr 241 (Bartel 37-IIC)	do	728
St. Cyr 244 (Bartel 35-IIIC)	do	729
BELGIUM		
Rhode St. Genese 28	Rhode St. Genese	730
Rhode St. Genese 30	do	731
Rhode St. Genese 32	do	732
Rhode St. Genese 34	do	733
Rhode St. Genese 36	do	734

[1] Göttingen 461 of this series published in Report No. 182.

Airfoil	Wind tunnel where tested	Report reference number	Airfoil	Wind tunnel where tested	Report reference number
ITALY			ITALY—continued		
I. S. A. 571	I. S. A.	735	I. S. A. 923b	I. S. A.	748
I. S. A. 573	do	736	I. S. A. 960	do	749
I. S. A. 607	do	737	I. S. A. 961	do	750
I. S. A. 608	do	738	I. S. A. 962	do	751
I. S. A. 666	do	739	I. S. A. 993	do	752
I. S. A. 691	do	740	I. S. A. 994a	do	753
I. S. A. 692	do	741	I. S. A. 994c	do	754
I. S. A. 802	do	742	Bambino 5	D. G. A.	755
I. S. A. 808	do	743	Bambino 6	do	756
I. S. A. 843	do	744	Bambino, E: 7	do	757
I. S. A. 906	do	745	D. G. A. 1138	do	758
I. S. A. 909	do	746	D. G. A. 1182	do	759
I. S. A. 923a	do	747			

ALPHABETICAL INDEX

Airfoil	Report reference number
B-2 (Modified M-80)	626
Bambino 5	755
Bambino 6	756
Bambino, E: 7	757
Boeing 103	628
C-2 (Modified M-80)	627
Clark Y-15	632
Clark Y-18	633
Clark Y-21	634
D. G. A. 1138	758
D. G. A. 1182	759
Eiffel 400 (Pescara)	703
Eiffel 401 (Pescara)	704
Eiffel 403 (Pescara)	705
Eiffel 428 (Blériot)	706
Eiffel 430 (Lachassagne)	707
Eiffel 431 (Lachassagne)	708
[illegible] 417a	640
[illegible] 456	641
Göttingen 458	642
Göttingen 461	[1] 430
Göttingen 462	643
Göttingen 464	644
Göttingen 481	645
Göttingen 481a	646
Göttingen 482	647
[illegible] 483	648
[illegible] 484	649
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Göttingen 505	665
Göttingen 506	666
Göttingen 509	667
Göttingen 510	668
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[illegible] 587	698
[illegible] 590	699
[illegible] 592	700
[illegible] 593	701
[illegible] 595	702
I. S. A. 571	735
I. S. A. 573	736
I. S. A. 607	737
I. S. A. 608	738
I. S. A. 666	739
I. S. A. 691	740
I. S. A. 692	741
I. S. A. 802	742
I. S. A. 808	743
I. S. A. 843	744
I. S. A. 906	745
I. S. A. 909	746
I. S. A. 923a	747
I. S. A. 923b	748
I. S. A. 960	749
I. S. A. 961	750
I. S. A. 962	751
I. S. A. 993	752
I. S. A. 994a	753
I. S. A. 994c	754
N-22	629
N-23	630
N-24	631
N. A. C. A. 81J	624
N. A. C. A.—CYH	625
R. A. F. 25	635
R. A. F. 26	636
R. A. F. 27	637
R. A. F. 28	638
R. A. F. 34	639
Rhode St. Genese 28	730
[illegible] St. Genese 30	731
[illegible] Genese 32	732
[illegible] Genese 34	733
Rhode St. Genese 36	734
St. Cyr 150 (Royer)	709
St. Cyr 151 (Royer)	710
St. Cyr 154 (Royer)	711
St. Cyr 155 (Royer)	712
St. Cyr 158 (Royer)	713
St. Cyr 159 (Royer)	714
St. Cyr 160 (Royer)	715
St. Cyr 161 (Royer)	716
St. Cyr 171 (Royer)	717
St. Cyr 172 (Royer)	718
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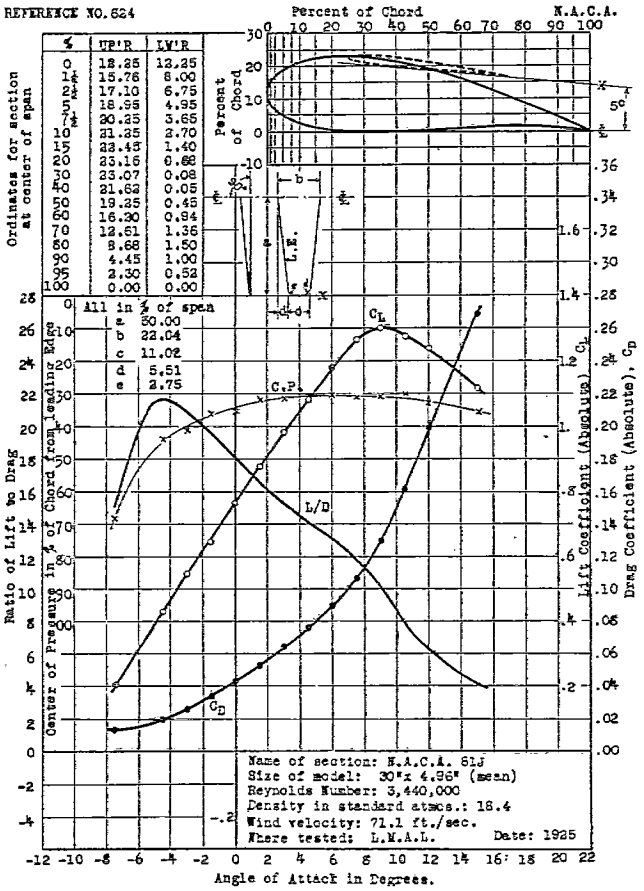
St. Cyr 175 (Royer)	720
St. Cyr 176 (Royer)	721
St. Cyr 177 (Royer)	722
St. Cyr 178 (Royer)	723
St. Cyr 185 (Monge)	724
St. Cyr 234 (Bartel 17-IC)	725
St. Cyr 236 (Bartel 26-IC)	726
St. Cyr 238 (Bartel 4-IC)	727
St. Cyr 241 (Bartel 37-IIC)	728
St. Cyr 244 (Bartel 35-IIIC)	729

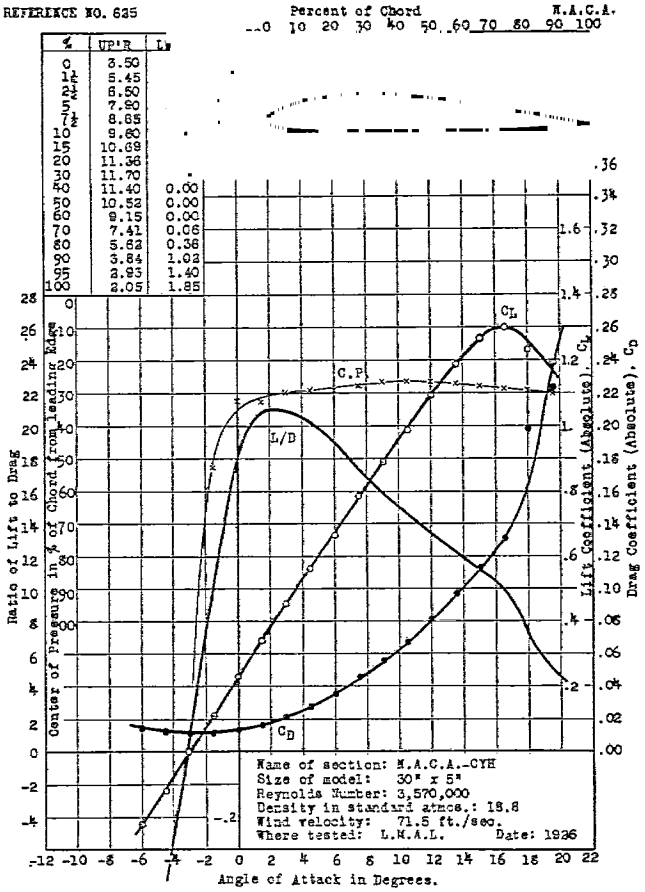
[1] Gottingen 461 of this series published in Report No. 182.

REFERENCE NO. 624



%	UP'R	LW'R
0	18.25	12.25
1¼	15.76	8.00
2½	17.10	6.75
5	18.95	4.95
7½	20.25	3.65
10	21.25	2.70
15	23.45	1.40
20	23.16	0.68
30	23.07	0.08
40	21.62	0.05
50	19.25	0.45
60	16.30	0.94
70	12.61	1.36
80	8.68	1.50
90	4.45	1.00
95	2.30	0.52
100	0.00	0.00

REFERENCE NO. 625



%	UP'R	LW'R
0	3.50	
1¼	5.45	
2½	6.50	
5	7.90	
7½	8.85	
10	9.80	
15	10.69	
20	11.36	
30	11.70	
40	11.40	0.00
50	10.52	0.00
60	9.15	0.00
70	7.41	0.06
80	5.82	0.36
90	3.84	1.02
95	2.93	1.40
100	2.05	1.85

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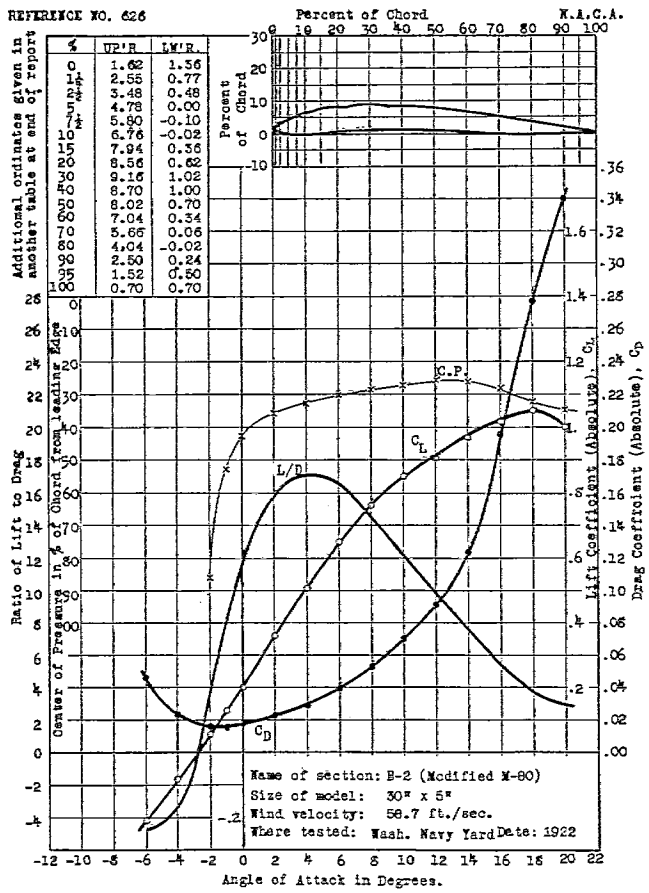
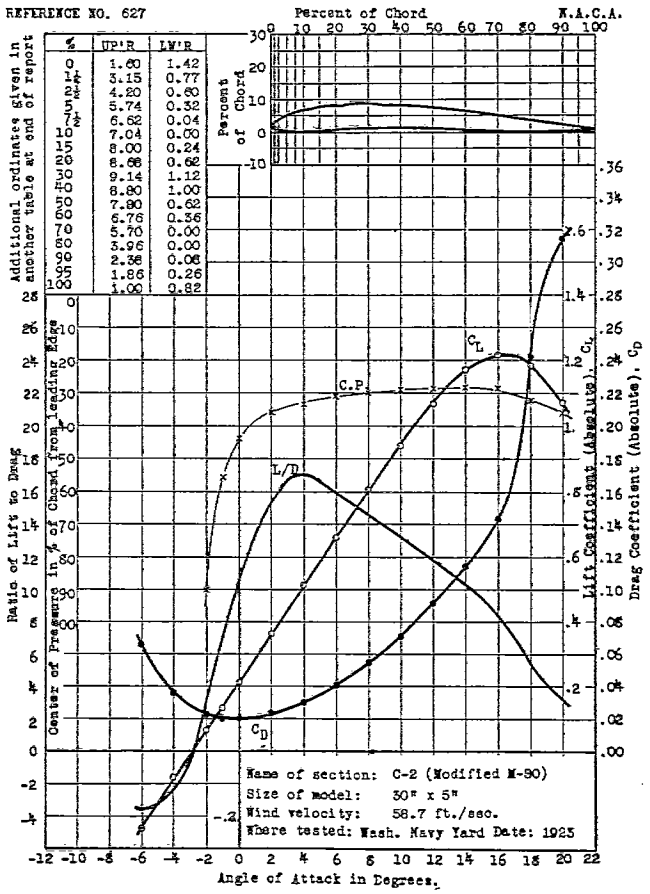


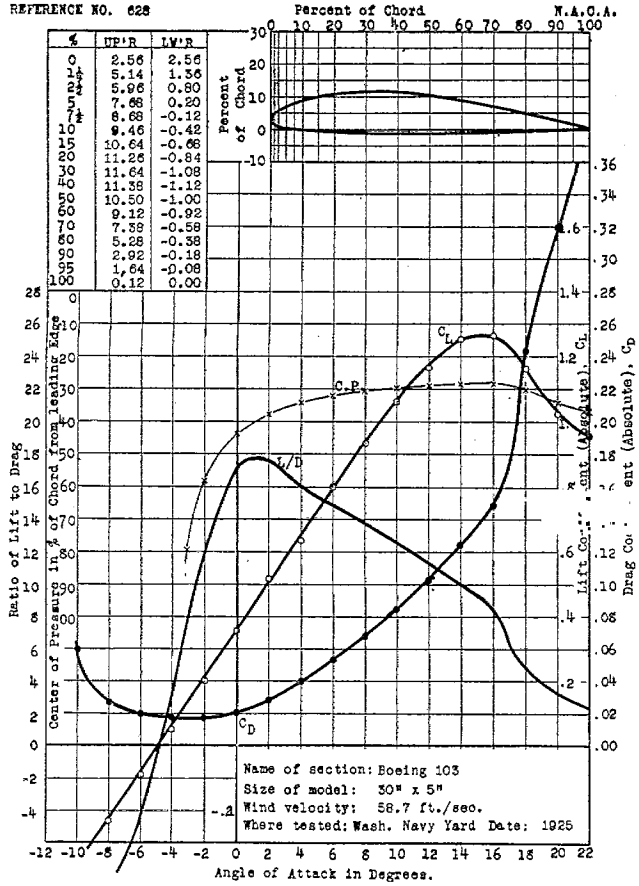
%	UP'R	LW'R
0	1.62	1.36
1¼	2.55	0.77
2½	3.48	0.48
5	4.78	0.00
7½	5.80	-0.10
10	6.76	-0.02
15	7.94	0.36
20	8.56	0.62
30	9.16	1.02
40	8.70	1.00
50	8.02	0.70
60	7.04	0.34
70	5.66	0.06
80	4.04	-0.02
90	2.50	0.24
95	1.52	0.50
100	0.70	0.70

REFERENCE NO. 627



%	UP'R	LW'R
0	1.60	1.42
1¼	3.15	0.77
2½	4.20	0.60
5	5.74	0.32
7½	6.62	0.04
10	7.04	0.00
15	8.00	0.24
20	8.66	0.62
30	9.14	1.12
40	8.80	1.00
50	7.80	0.62
60	6.76	0.36
70	5.70	0.00
80	3.96	0.00
90	2.36	0.06
95	1.86	0.26
100	1.00	0.82

REFERENCE NO. 628



%	UP'R	LW'R
0	2.56	2.56
1¼	5.14	1.36
2½	5.96	0.80
5	7.68	0.20
7½	8.68	-0.12
10	9.46	-0.42
15	10.64	-0.66
20	11.26	-0.84
30	11.64	-1.08
40	11.38	-1.12
50	10.50	-1.00
60	9.12	-0.92
70	7.38	-0.58
80	5.28	-0.38
90	2.92	-0.18
95	1.64	-0.08
100	0.12	0.00

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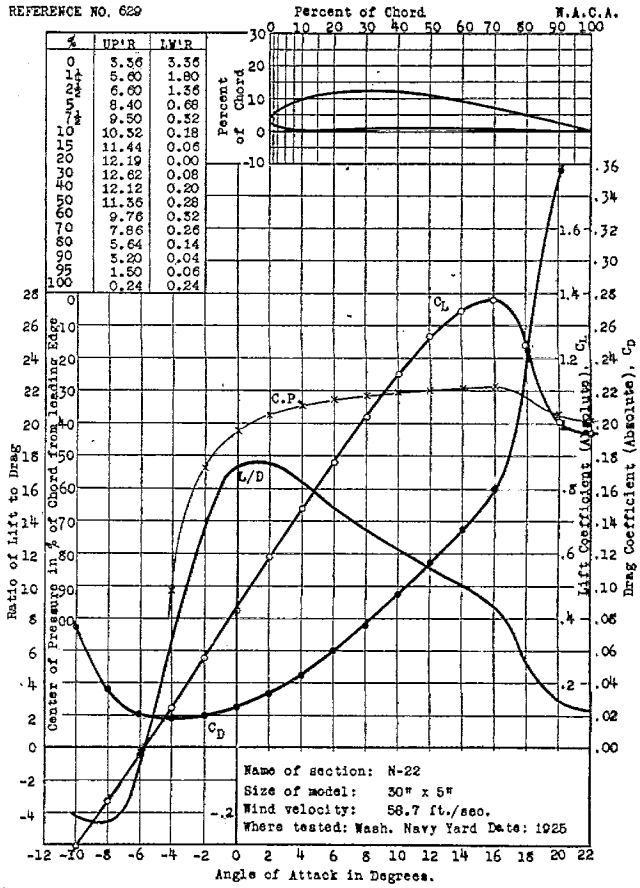
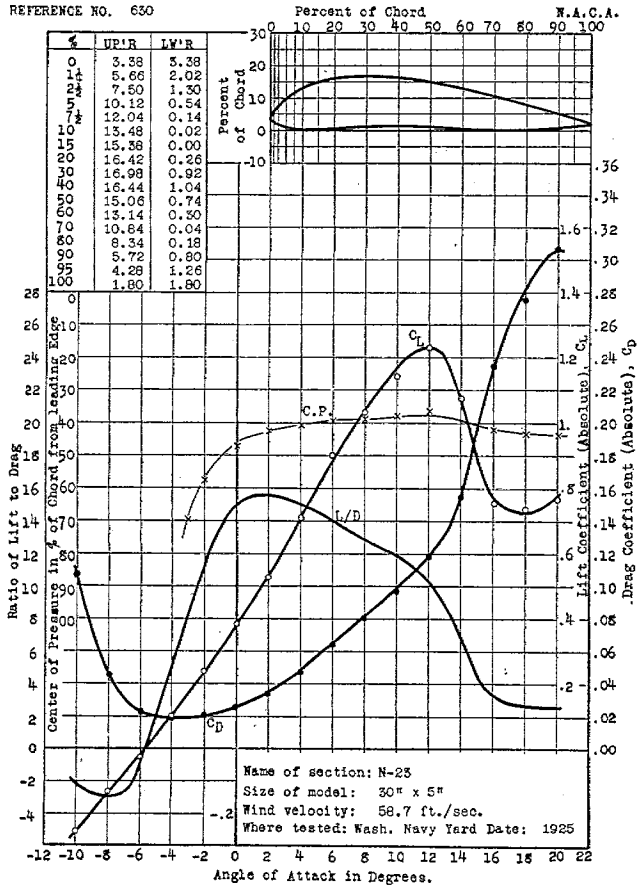


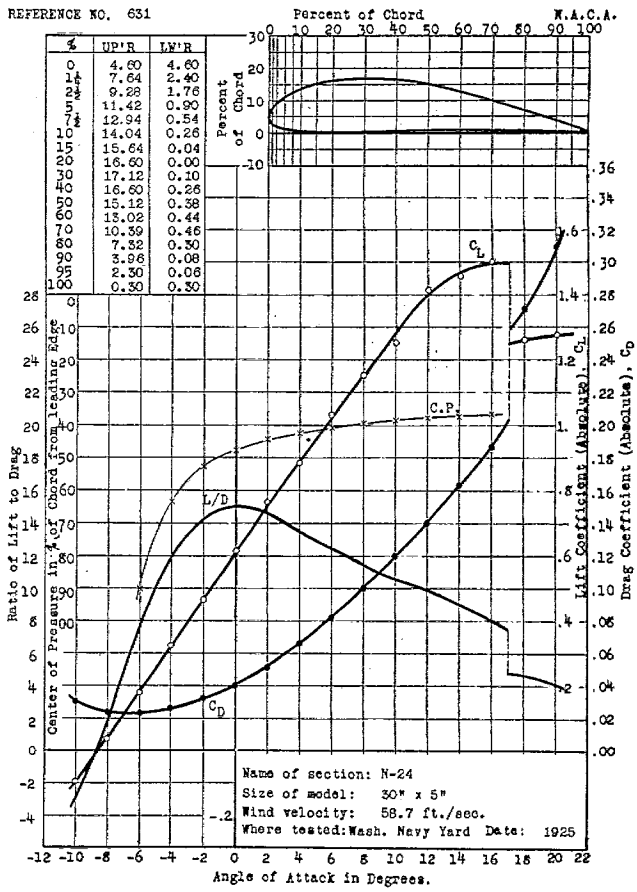
%	UP'R	LW'R
0	3.36	3.36
1¼	5.80	1.90
2½	6.80	1.36
5	8.40	0.68
7½	9.50	0.32
10	10.32	0.18
15	11.44	0.06
20	12.19	0.00
30	12.82	0.08
40	12.12	0.20
50	11.36	0.28
60	9.76	0.32
70	7.86	0.26
80	5.64	0.14
90	3.20	0.04
95	1.50	0.06
100	0.24	0.24

REFERENCE NO. 630



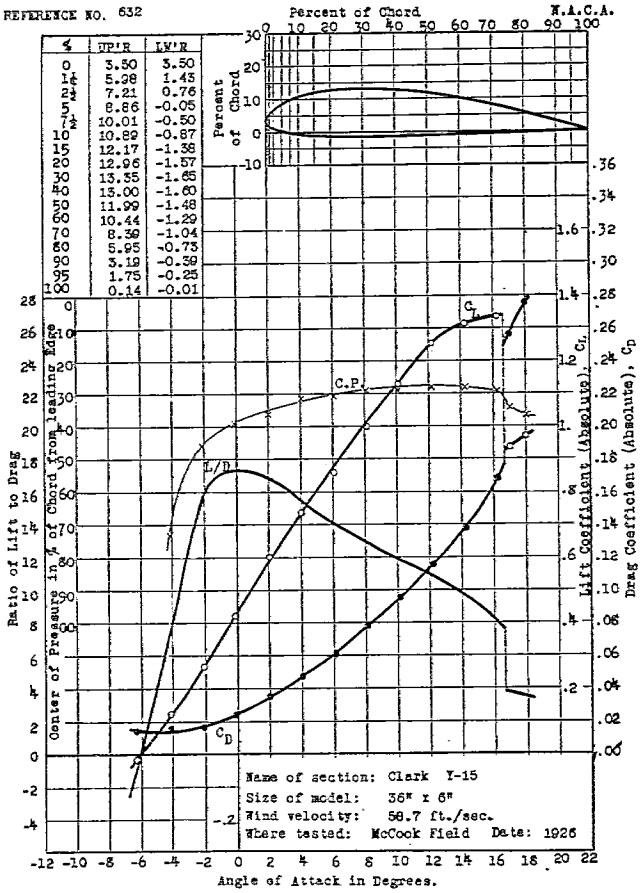
%	UP'R	LW'R
0	3.38	3.38
1¼	5.66	2.02
2½	7.50	1.30
5	10.12	0.54
7½	12.04	0.14
10	13.48	0.02
15	15.38	0.00
20	16.42	0.26
30	16.98	0.92
40	16.44	1.04
50	15.06	0.74
60	13.14	0.30
70	10.84	0.04
80	8.34	0.18
90	5.72	0.80
95	4.28	1.26
100	1.80	1.80

REFERENCE NO. 631



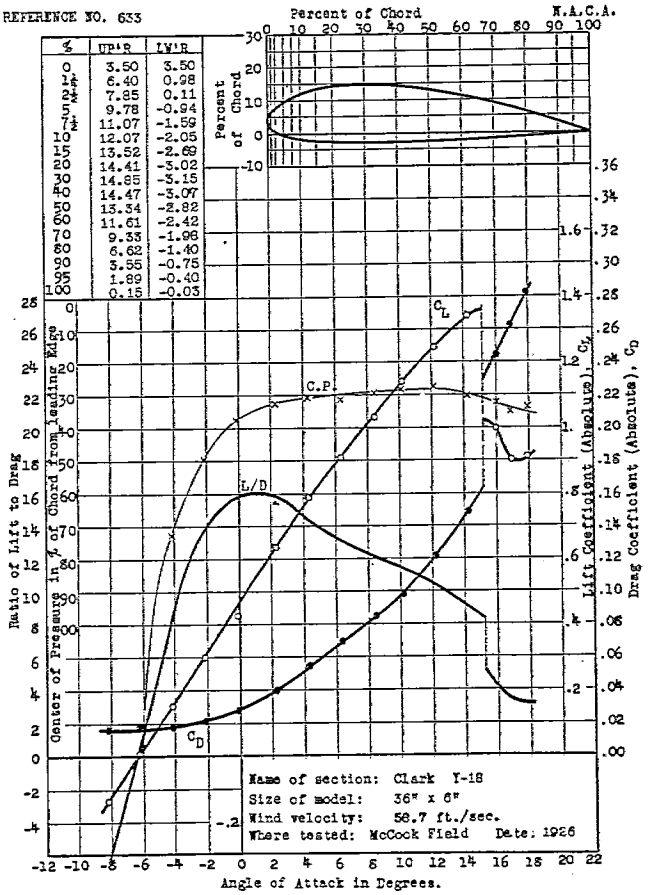
%	UP'R	LW'R
0	4.60	4.60
1¼	7.64	2.40
2½	9.28	1.76
5	11.42	0.90
7½	12.94	0.54
10	14.04	0.26
15	15.64	0.04
20	16.60	0.00
30	17.12	0.10
40	16.60	0.26
50	15.12	0.38
60	13.02	0.44
70	10.39	0.46
80	7.32	0.30
90	3.96	0.08
95	2.30	0.06
100	0.30	0.30

REFERENCE NO. 632



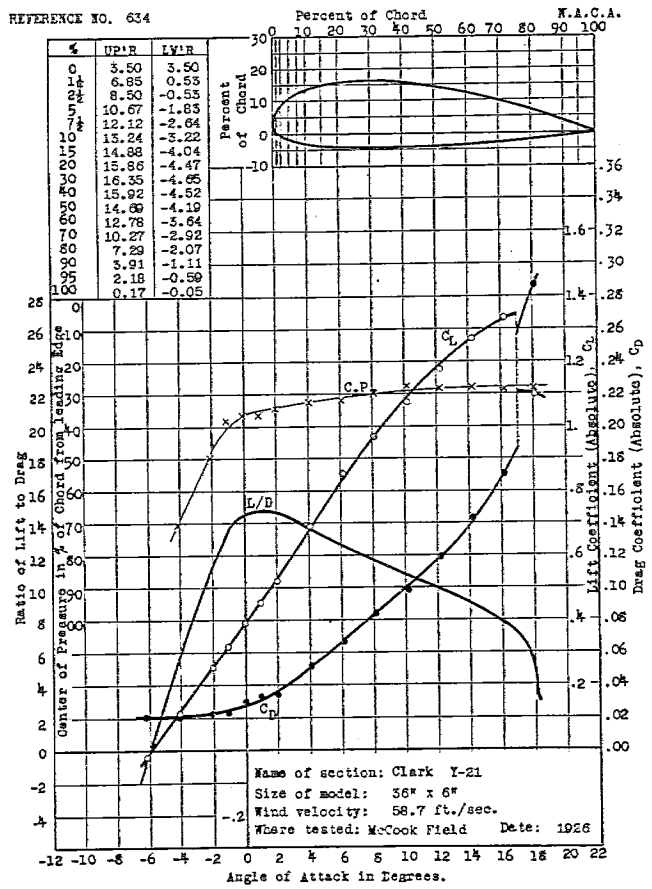
%	UP'R	LW'R
0	3.50	3.50
1¼	5.98	1.45
2½	7.21	0.76
5	8.86	-0.05
7½	10.01	-0.50
10	10.82	-0.87
15	12.17	-1.38
20	12.96	-1.57
30	13.55	-1.65
40	13.00	-1.60
50	11.99	-1.48
60	10.44	-1.29
70	8.39	-1.04
80	5.95	-0.73
90	3.19	-0.39
95	1.75	-0.25
100	0.14	-0.01

REFERENCE NO. 633



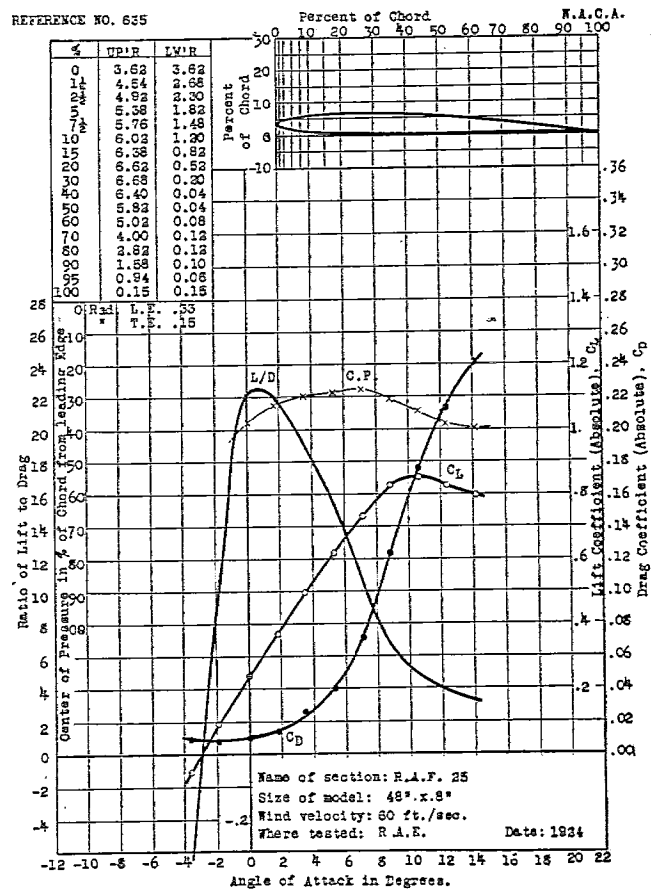
%	UP'R	LW'R
0	3.50	3.50
1¼	6.40	0.98
2½	7.85	0.11
5	9.78	-0.94
7½	11.07	-1.59
10	12.07	-2.05
15	13.52	-2.69
20	14.41	-3.02
30	14.85	-3.15
40	14.47	-3.07
50	13.34	-2.82
60	11.61	-2.42
70	9.33	-1.96
80	6.62	-1.40
90	3.55	-0.75
95	1.89	-0.40
100	0.15	-0.03

REFERENCE NO. 634



%	UP'R	LW'R
0	3.50	3.50
1¼	6.85	0.53
2½	8.50	-0.53
5	10.67	-1.83
7½	12.12	-2.64
10	13.24	-3.22
15	14.88	-4.04
20	15.86	-4.47
30	16.35	-4.65
40	15.92	-4.52
50	14.69	-4.19
60	12.78	-3.64
70	10.27	-2.92
80	7.29	-2.07
90	3.91	-1.11
95	2.18	-0.59
100	0.17	-0.05

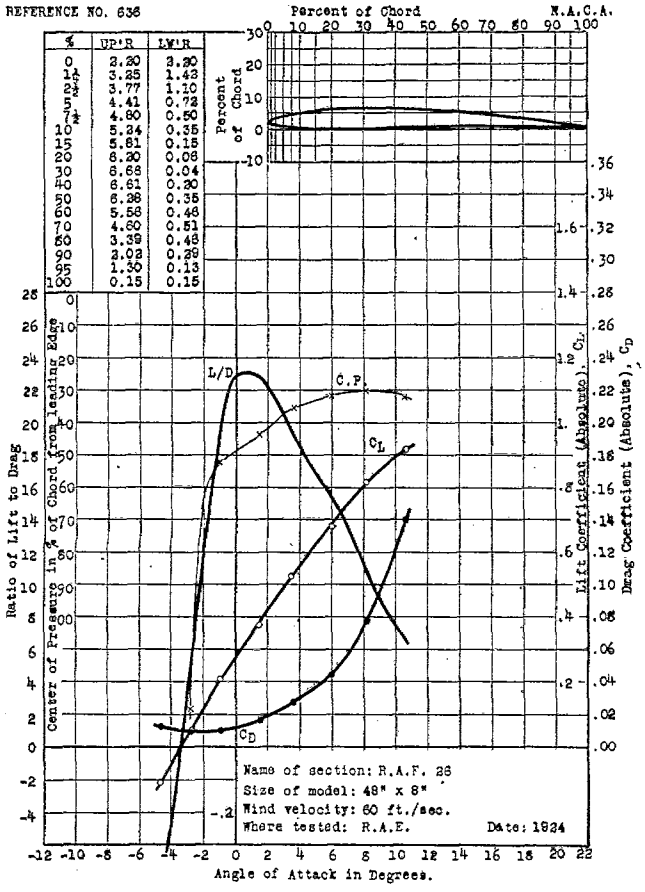
REFERENCE NO. 635



%	UP'R	LW'R
0	3.62	3.62
1¼	4.54	2.68
2½	4.92	2.30
5	5.38	1.82
7½	5.76	1.48
10	6.02	1.20
15	6.38	0.82
20	6.62	0.52
30	6.68	0.20
40	6.40	0.04
50	5.82	0.04
60	5.02	0.08
70	4.00	0.12
80	2.82	0.12
90	1.58	0.10
95	0.94	0.06
100	0.15	0.15

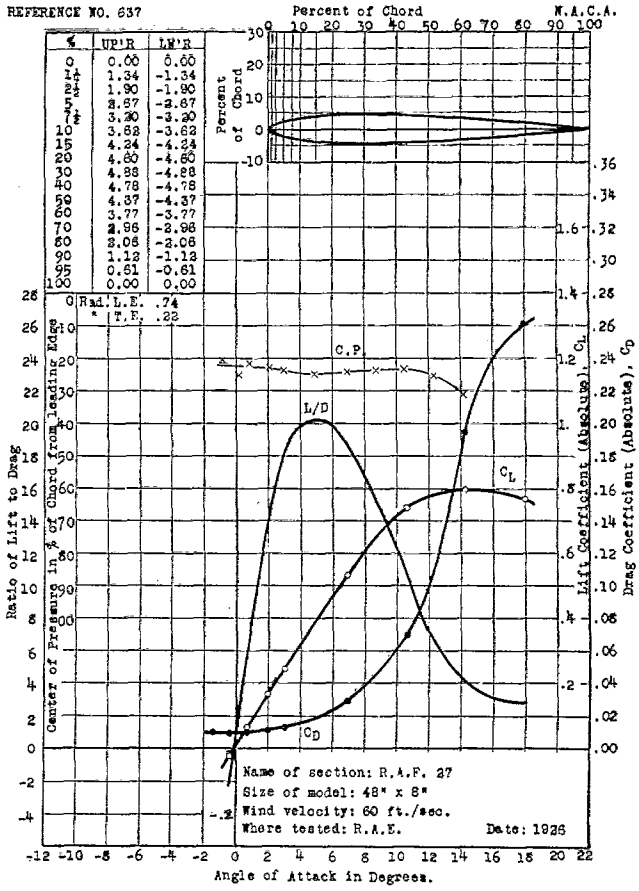
Rad.	L.E. .53
"	T.E. .15

REFERENCE NO. 636



%	UP'R	LW'R
0	2.20	2.20
1¼	3.25	1.42
2½	3.77	1.10
5	4.41	0.72
7½	4.80	0.50
10	5.24	0.35
15	5.81	0.15
20	6.20	0.06
30	6.68	0.04
40	6.61	0.20
50	6.38	0.35
60	5.56	0.46
70	4.60	0.51
80	3.39	0.48
90	2.02	0.29
95	1.30	0.13
100	0.15	0.15

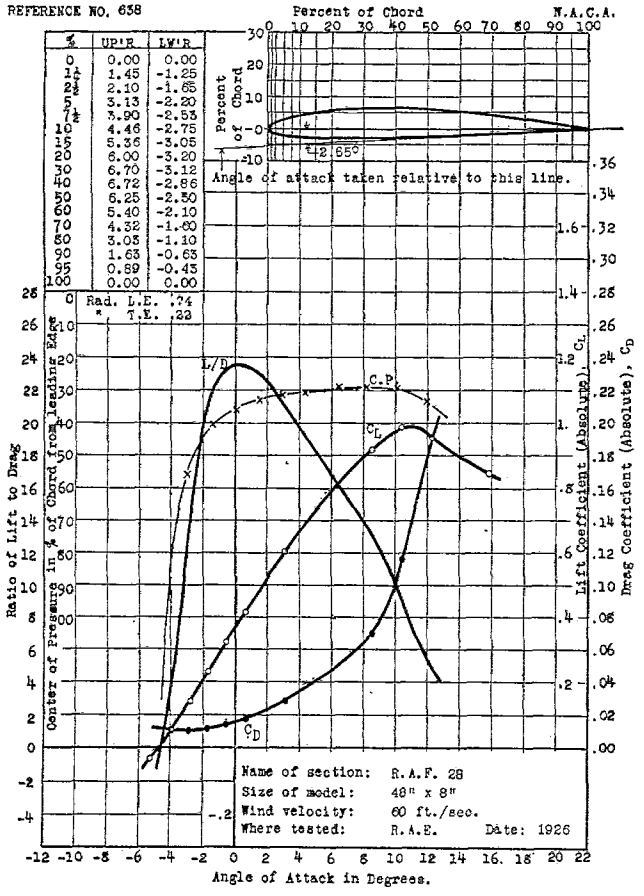
REFERENCE NO. 637



%	UP'R	LW'R
0	0.00	0.00
1¼	1.34	-1.34
2½	1.90	-1.90
5	2.67	-2.67
7½	3.20	-3.20
10	3.62	-3.62
15	4.24	-4.24
20	4.60	-4.60
30	4.88	-4.88
40	4.78	-4.78
50	4.37	-4.37
60	3.77	-3.77
70	2.98	-2.98
80	2.06	-2.06
90	1.12	-1.12
95	0.61	-0.61
100	0.00	0.00

Rad. L.E. .74
" T.E. .22

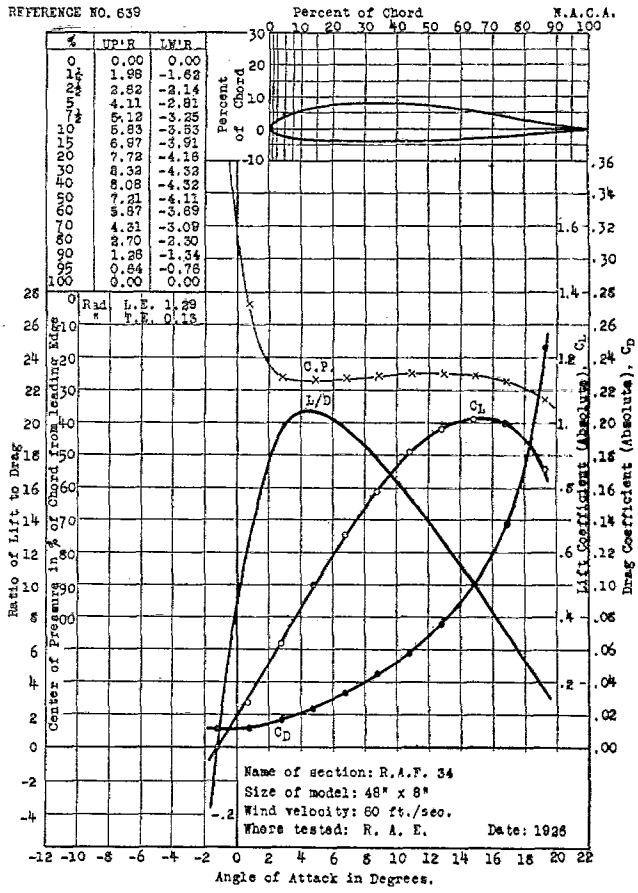
REFERENCE NO. 638



%	UP'R	LW'R
0	0.00	0.00
1¼	1.45	-1.25
2½	2.10	-1.65
5	3.13	-2.20
7½	3.90	-2.53
10	4.46	-2.75
15	5.36	-3.05
20	6.00	-3.20
30	6.70	-3.12
40	6.72	-2.86
50	6.25	-2.50
60	5.40	-2.10
70	4.32	-1.60
80	3.05	-1.10
90	1.63	-0.63
95	0.89	-0.43
100	0.00	0.00

Rad. L.E. .74
" T.E. .22

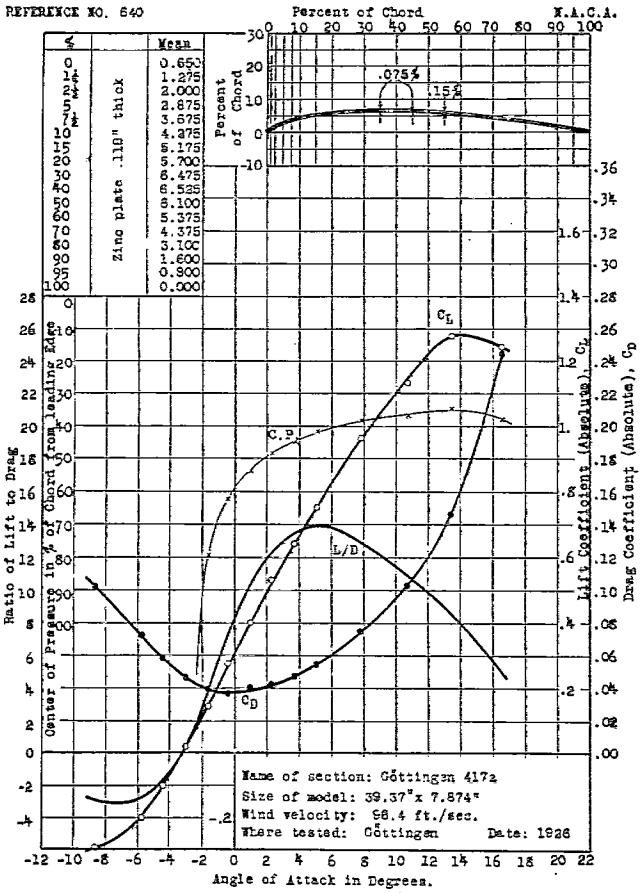
REFERENCE NO. 639



%	UP'R	LW'R
0	0.00	0.00
1¼	1.98	-1.62
2½	2.62	-2.14
5	4.11	-2.81
7½	5.12	-3.25
10	5.83	-3.53
15	6.97	-3.91
20	7.72	-4.16
30	8.32	-4.32
40	8.08	-4.32
50	7.21	-4.11
60	5.87	-3.69
70	4.31	-3.09
80	2.70	-2.30
90	1.26	-1.34
95	0.64	-0.76
100	0.00	0.00

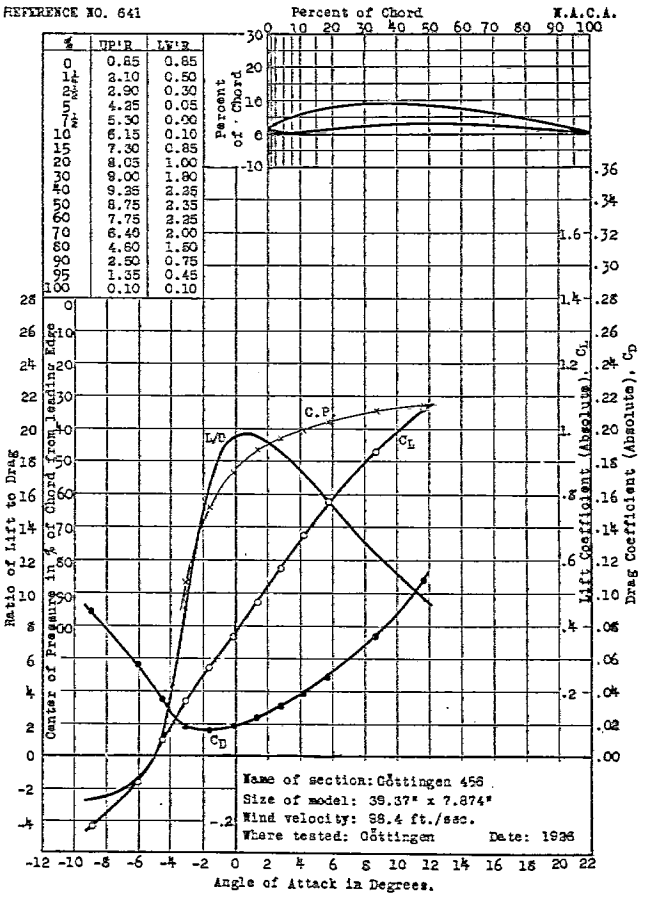
Rad. L.E. 1.29
" T.E. 0.13

REFERENCE NO. 640



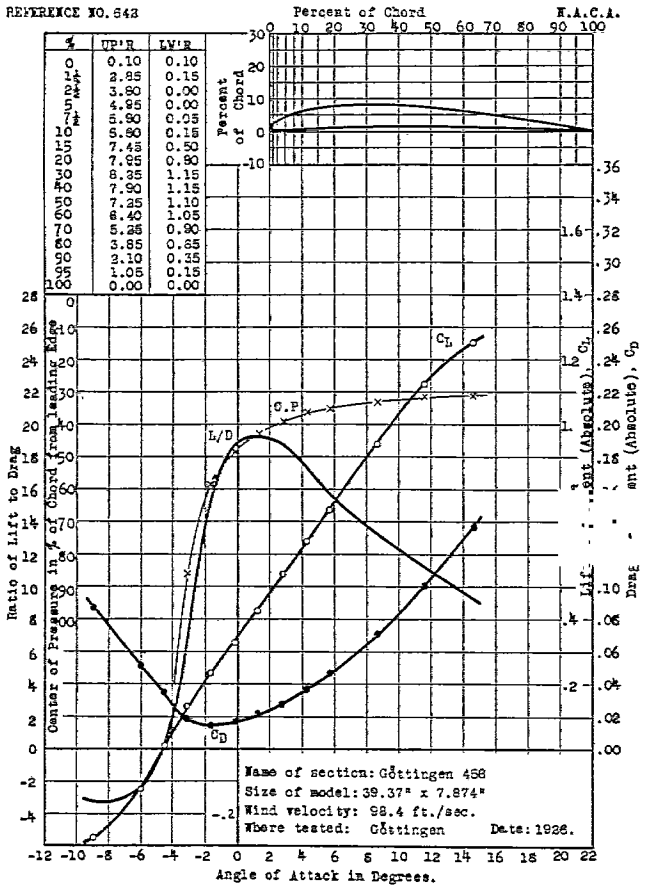
%	Mean
0	0.650
1¼	1.275
2½	2.000
5	2.875
7½	3.675
10	4.375
15	5.175
20	5.700
30	6.475
40	6.525
50	6.100
60	5.375
70	4.375
80	3.100
90	1.600
95	0.800
100	0.000

REFERENCE NO. 641



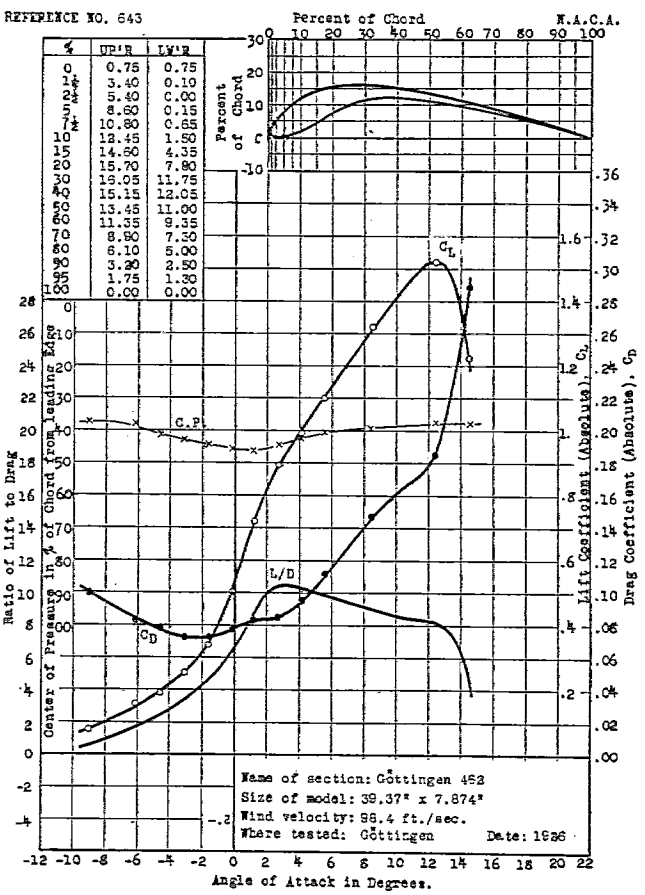
%	UP'R	LW'R
0	0.65	0.65
1¼	2.10	0.50
2½	2.90	0.30
5	4.25	0.05
7½	5.30	0.00
10	6.15	0.10
15	7.30	0.85
20	8.05	1.00
30	9.00	1.80
40	9.35	2.25
50	8.75	2.35
60	7.75	2.25
70	6.45	2.00
80	4.60	1.50
90	2.50	0.75
95	1.35	0.45
100	0.10	0.10

REFERENCE NO. 642



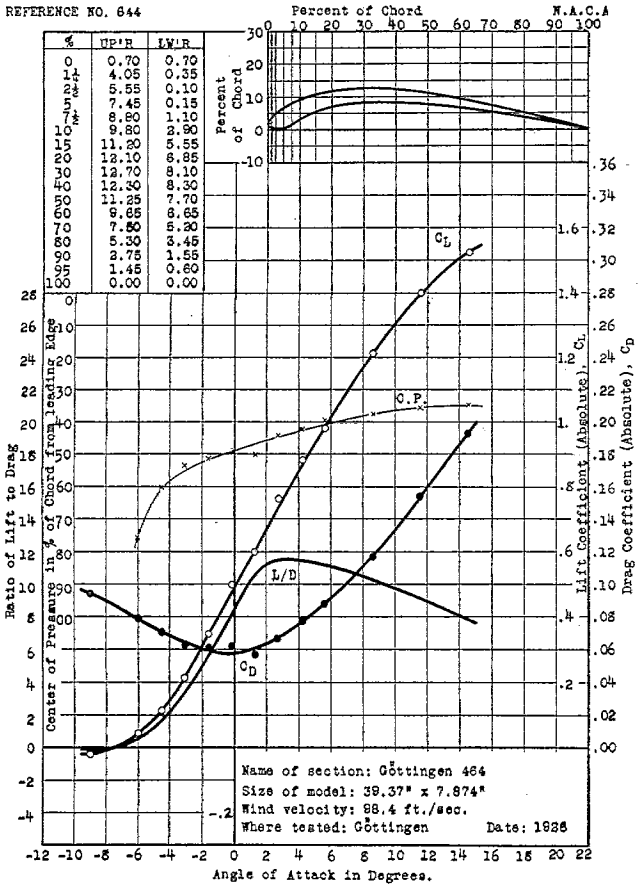
%	UP'R	LW'R
0	0.10	0.10
1¼	2.85	0.15
2½	3.80	0.00
5	4.95	0.00
7½	5.80	0.05
10	6.80	0.15
15	7.45	0.50
20	7.95	0.90
30	8.35	1.15
40	7.90	1.15
50	7.25	1.10
60	6.40	1.05
70	5.25	0.90
80	3.85	0.65
90	2.10	0.35
95	1.05	0.15
100	0.00	0.00

REFERENCE NO. 643



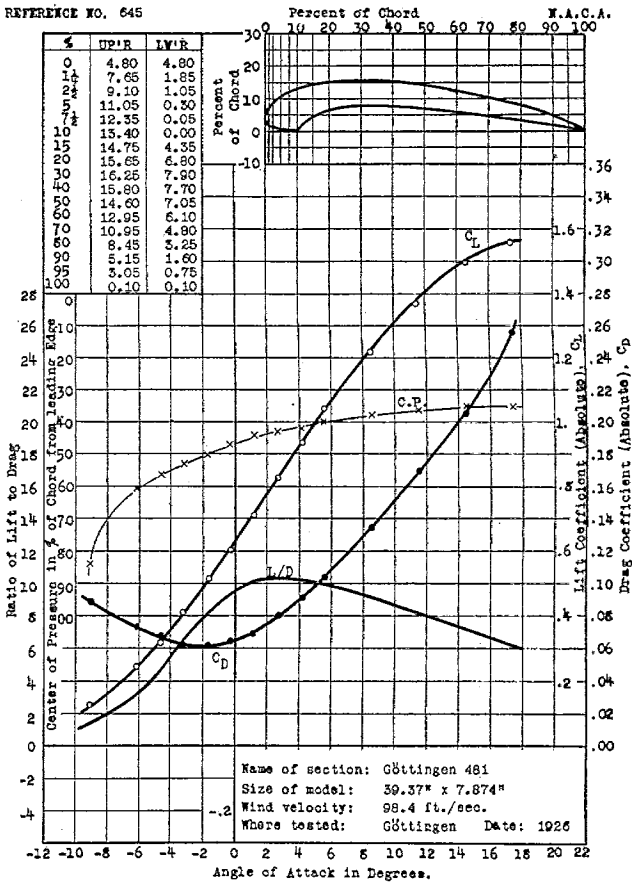
%	UP'R	LW'R
0	0.75	0.75
1¼	3.40	0.10
2½	5.40	0.00
5	8.60	0.15
7½	10.80	0.65
10	12.45	1.50
15	14.60	4.35
20	15.70	7.80
30	16.05	11.75
40	15.15	12.05
50	13.45	11.00
60	11.35	9.35
70	8.90	7.30
80	6.10	5.00
90	3.20	2.50
95	1.75	1.30
100	0.00	0.00

REFERENCE NO. 644



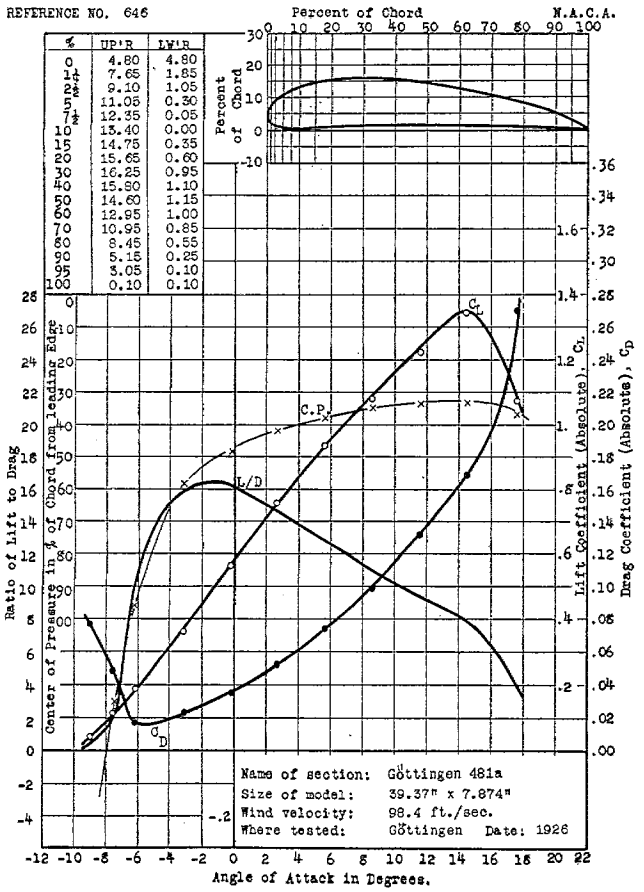
%	UP'R	LW'R
0	0.70	0.70
1¼	4.05	0.35
2½	5.55	0.10
5	7.45	0.15
7½	8.80	1.10
10	9.80	2.90
15	11.20	5.55
20	12.10	6.85
30	12.70	8.10
40	12.30	8.30
50	11.25	7.70
60	9.65	6.65
70	7.50	5.20
80	5.30	3.45
90	2.75	1.55
95	1.45	0.60
100	0.00	0.00

REFERENCE NO. 645



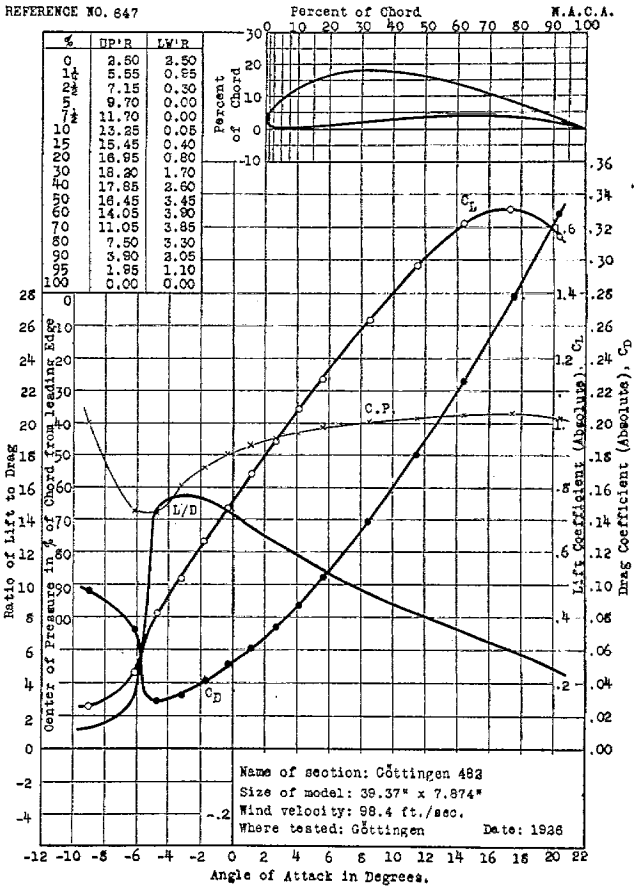
%	UP'R	LW'R
0	4.80	4.80
1¼	7.65	1.85
2½	9.10	1.05
5	11.05	0.30
7½	12.35	0.05
10	13.40	0.00
15	14.75	4.35
20	15.65	6.80
30	16.25	7.90
40	15.80	7.70
50	14.60	7.05
60	12.95	6.10
70	10.95	4.80
80	8.45	3.25
90	5.15	1.60
95	3.05	0.75
100	0.10	0.10

REFERENCE NO. 646



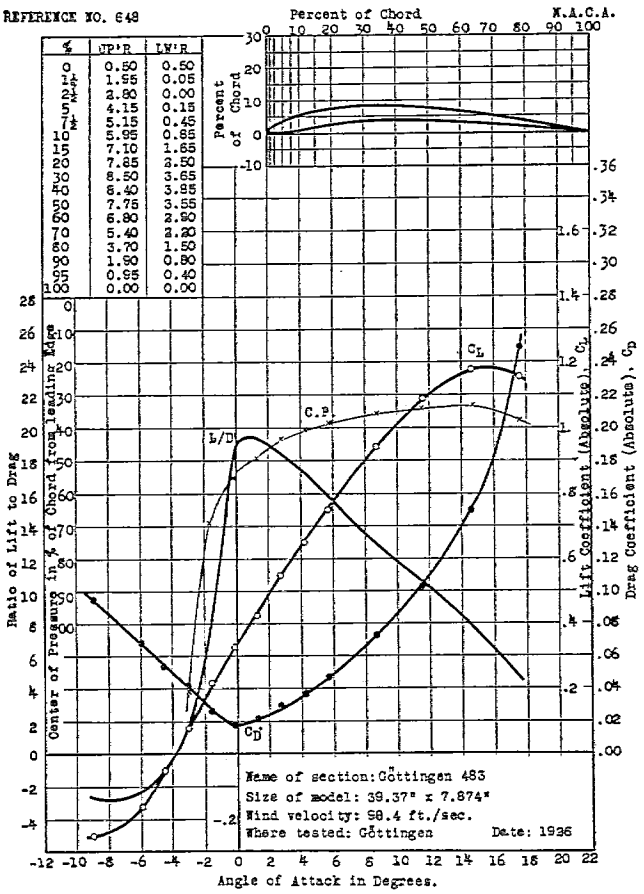
%	UP'R	LW'R
0	4.80	4.80
1¼	7.65	1.85
2½	9.10	1.05
5	11.05	0.30
7½	12.35	0.05
10	13.40	0.00
15	14.75	0.35
20	15.65	0.60
30	16.25	0.95
40	15.80	1.10
50	14.60	1.15
60	12.95	1.00
70	10.95	0.85
80	8.45	0.55
90	5.15	0.25
95	3.05	0.10
100	0.10	0.10

REFERENCE NO. 647



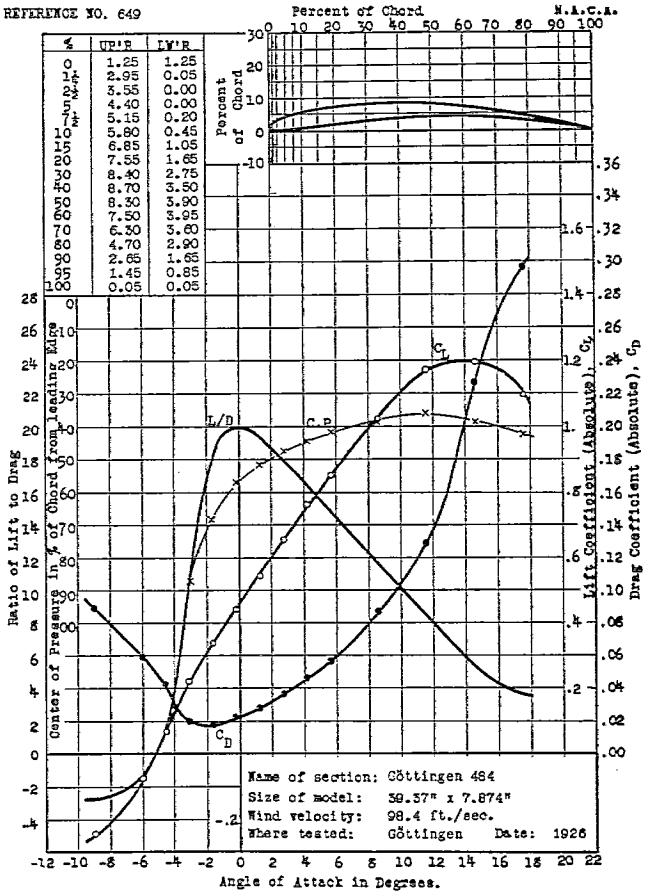
%	UP'R	LW'R
0	2.50	2.50
1¼	5.55	0.85
2½	7.15	0.30
5	9.70	0.00
7½	11.70	0.00
10	13.25	0.05
15	15.45	0.40
20	16.95	0.80
30	18.20	1.70
40	17.85	2.60
50	16.45	3.45
60	14.05	3.90
70	11.05	3.85
80	7.50	3.30
90	3.90	2.05
95	1.95	1.10
100	0.00	0.00

REFERENCE NO. 648



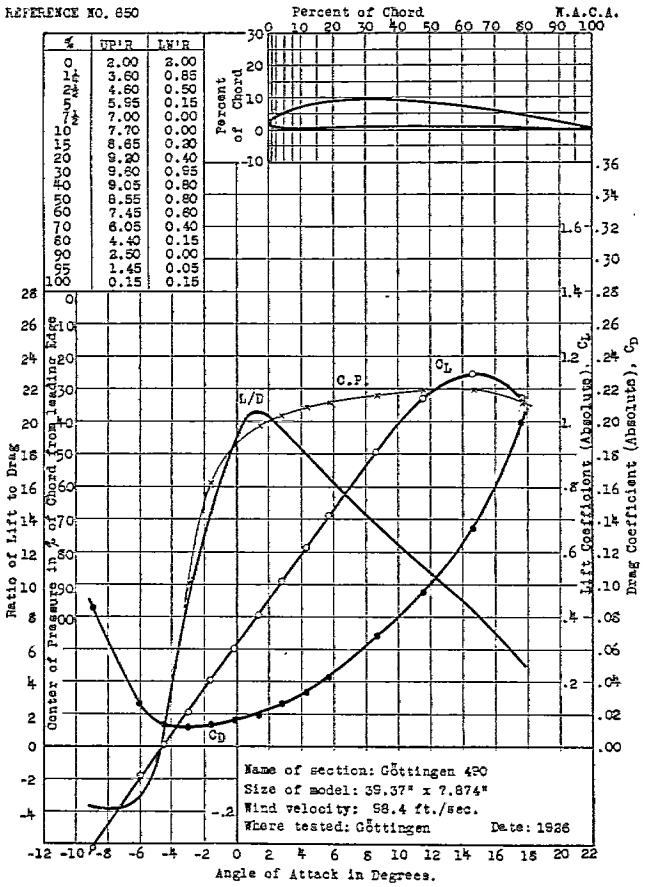
%	UP'R	LW'R
0	0.50	0.50
1¼	1.95	0.05
2½	2.80	0.00
5	4.15	0.15
7½	5.15	0.45
10	5.95	0.85
15	7.10	1.65
20	7.85	2.50
30	8.50	3.65
40	8.40	3.85
50	7.75	3.55
60	6.80	2.90
70	5.40	2.20
80	3.70	1.50
90	1.90	0.80
95	0.95	0.40
100	0.00	0.00

REFERENCE NO. 649



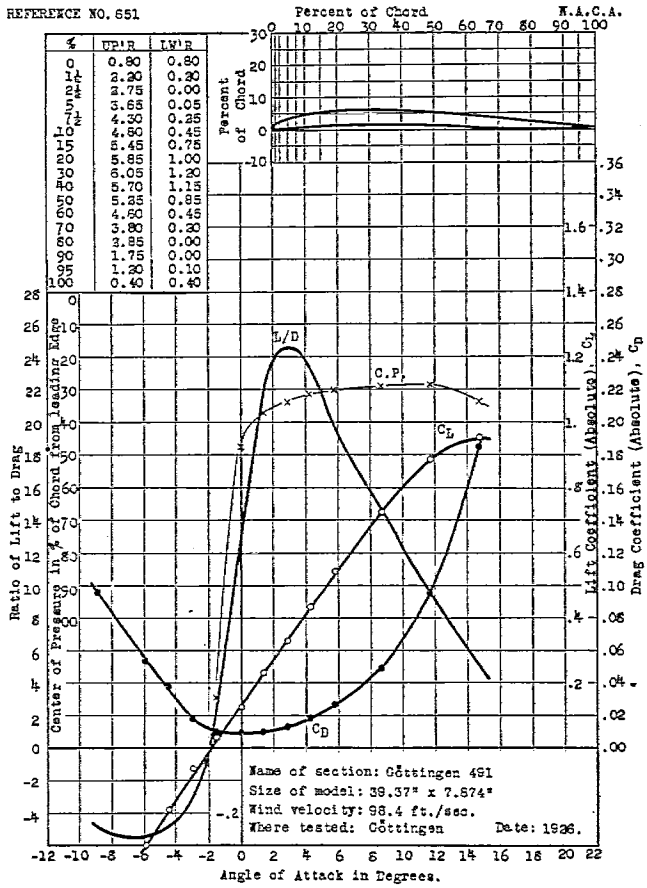
%	UP'R	LW'R
0	1.25	1.25
1¼	2.95	0.05
2½	3.55	0.00
5	4.40	0.00
7½	5.15	0.20
10	5.80	0.45
15	6.85	1.05
20	7.55	1.65
30	8.40	2.75
40	8.70	3.50
50	8.30	3.90
60	7.50	3.95
70	6.30	3.60
80	4.70	2.90
90	2.65	1.65
95	1.45	0.85
100	0.05	0.05

REFERENCE NO. 650



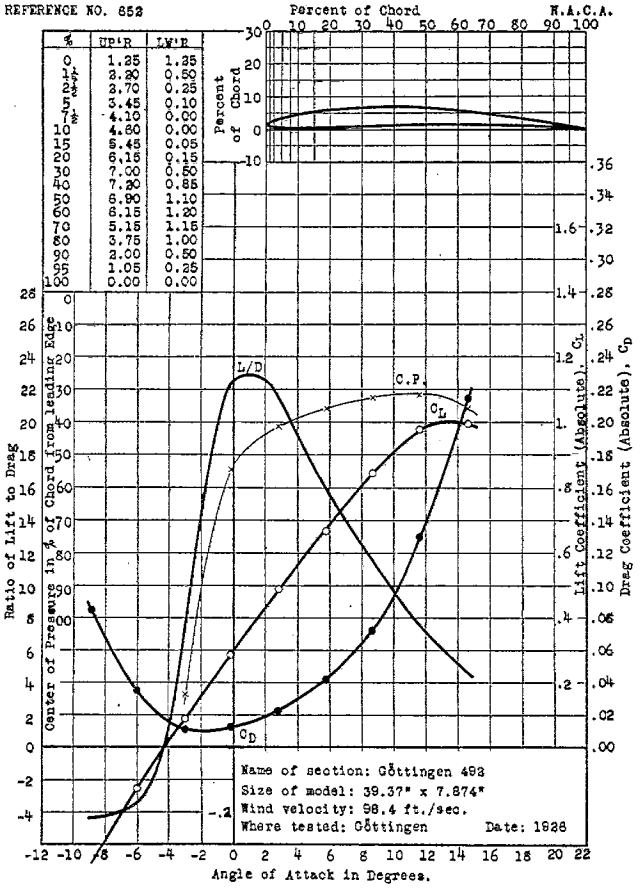
%	UP'R	LW'R
0	2.00	2.00
1¼	3.60	0.85
2½	4.60	0.50
5	5.95	0.15
7½	7.00	0.00
10	7.70	0.00
15	8.65	0.30
20	9.20	0.40
30	9.60	0.55
40	9.05	0.80
50	8.55	0.80
60	7.45	0.60
70	6.05	0.40
80	4.40	0.15
90	2.50	0.00
95	1.45	0.05
100	0.15	0.15

REFERENCE NO. 651



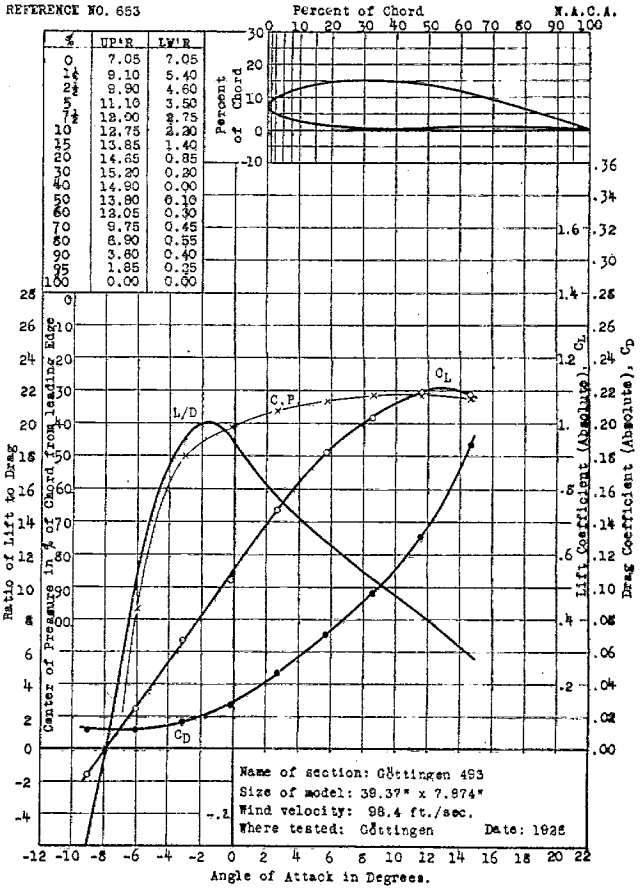
%	UP'R	LW'R
0	0.80	0.80
1¼	2.20	0.30
2½	2.75	0.00
5	3.65	0.05
7½	4.30	0.25
10	4.80	0.45
15	5.45	0.75
20	5.85	1.00
30	6.05	1.20
40	5.70	1.15
50	5.25	0.85
60	4.60	0.45
70	3.80	0.20
80	2.85	0.00
90	1.75	0.00
95	1.20	0.10
100	0.40	0.40

REFERENCE NO. 652



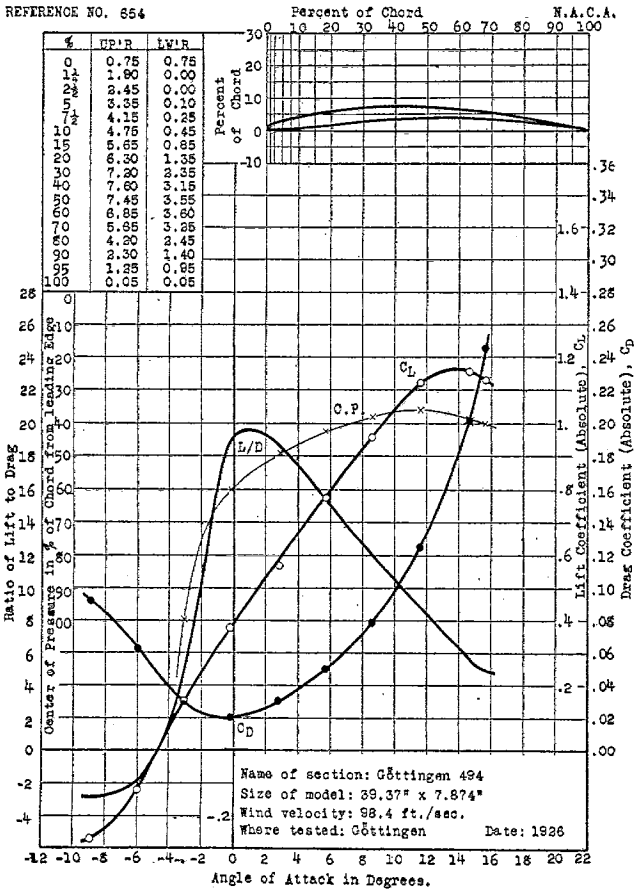
%	UP'R	LW'R
0	1.25	1.35
1¼	3.30	0.50
2½	3.70	0.25
5	3.45	0.10
7½	4.10	0.00
10	4.60	0.00
15	5.45	0.05
20	6.15	0.15
30	7.00	0.50
40	7.30	0.85
50	6.90	1.10
60	6.15	1.20
70	5.15	1.15
80	3.75	1.00
90	2.00	0.50
95	1.05	0.25
100	0.00	0.00

REFERENCE NO. 653



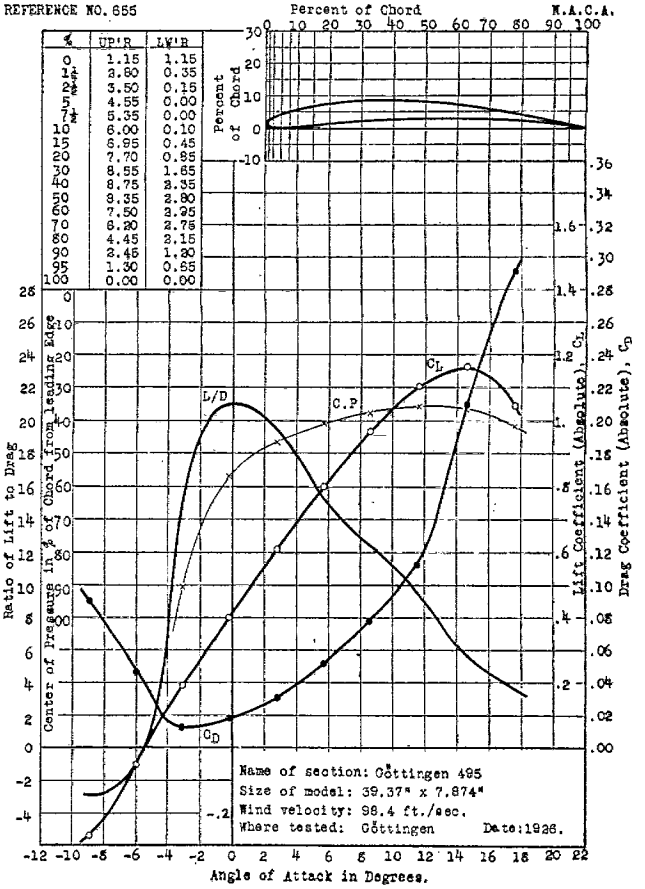
%	UP'R	LW'R
0	7.05	7.05
1¼	9.10	5.40
2½	9.90	4.60
5	11.10	3.50
7½	12.50	2.75
10	12.75	2.30
15	13.85	1.40
20	14.65	0.85
30	15.20	0.30
40	14.90	0.00
50	13.80	0.10
60	12.05	0.30
70	9.75	0.45
80	6.90	0.55
90	3.80	0.40
95	1.85	0.25
100	0.00	0.00

REFERENCE NO. 654



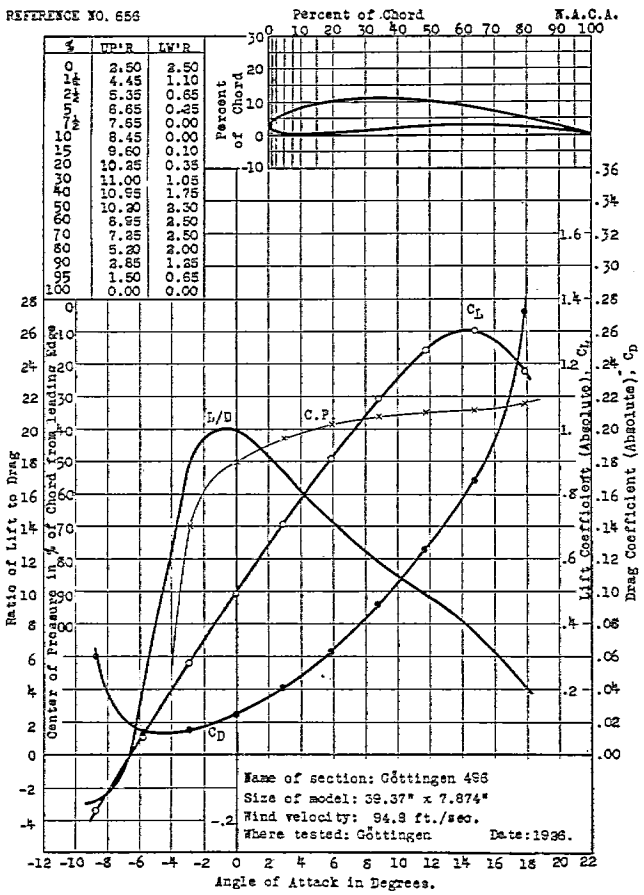
%	UP'R	LW'R
0	0.75	0.75
1¼	1.90	0.00
2½	2.45	0.00
5	3.35	0.10
7½	4.15	0.25
10	4.75	0.45
15	5.65	0.85
20	6.30	1.35
30	7.20	2.35
40	7.60	3.15
50	7.45	3.55
60	6.85	3.60
70	5.65	3.25
80	4.20	2.45
90	2.30	1.40
95	1.25	0.95
100	0.05	0.05

REFERENCE NO. 655



%	UP'R	LW'R
0	1.15	1.15
1¼	2.80	0.35
2½	3.50	0.15
5	4.55	0.00
7½	5.35	0.00
10	6.00	0.10
15	6.95	0.45
20	7.70	0.85
30	8.55	1.65
40	8.75	2.35
50	8.35	2.80
60	7.50	2.95
70	6.20	2.75
80	4.45	2.15
90	2.45	1.20
95	1.30	0.65
100	0.00	0.00

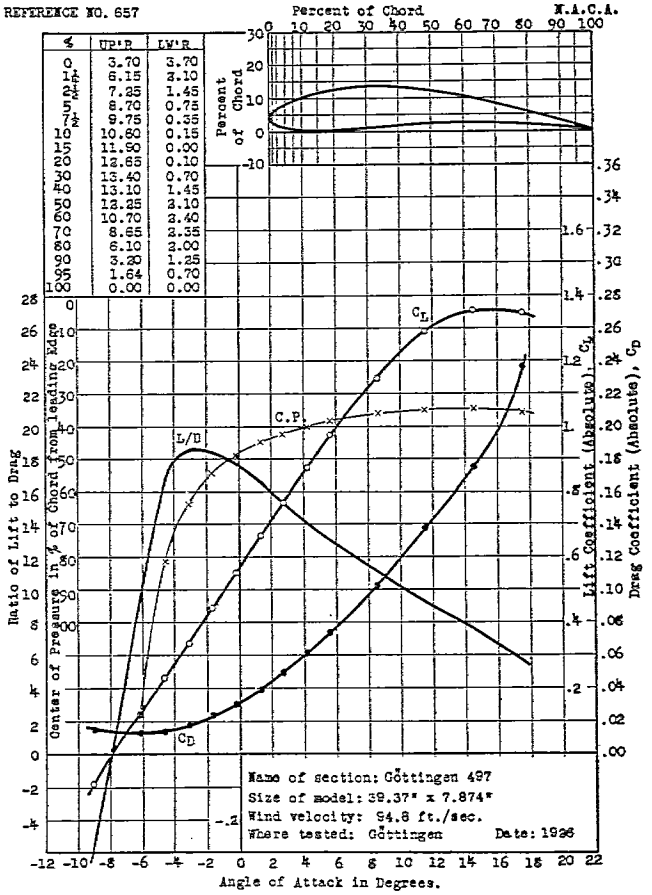
REFERENCE NO. 656



%	UP'R	LW'R
0	2.50	2.50
1¼	4.45	1.10
2½	5.35	0.65
5	6.65	0.25
7½	7.65	0.00
10	8.45	0.00
15	9.60	0.10
20	10.25	0.35
30	11.00	1.05
40	10.95	1.75
50	10.20	2.30
60	8.95	2.50
70	7.25	2.50
80	5.20	2.00
90	2.85	1.25
95	1.50	0.65
100	0.00	0.00

Name of section: Göttingen 496
Size of model: 39.37" x 7.874"
Wind velocity: 94.8 ft./sec.
Where tested: Göttingen Date: 1936.

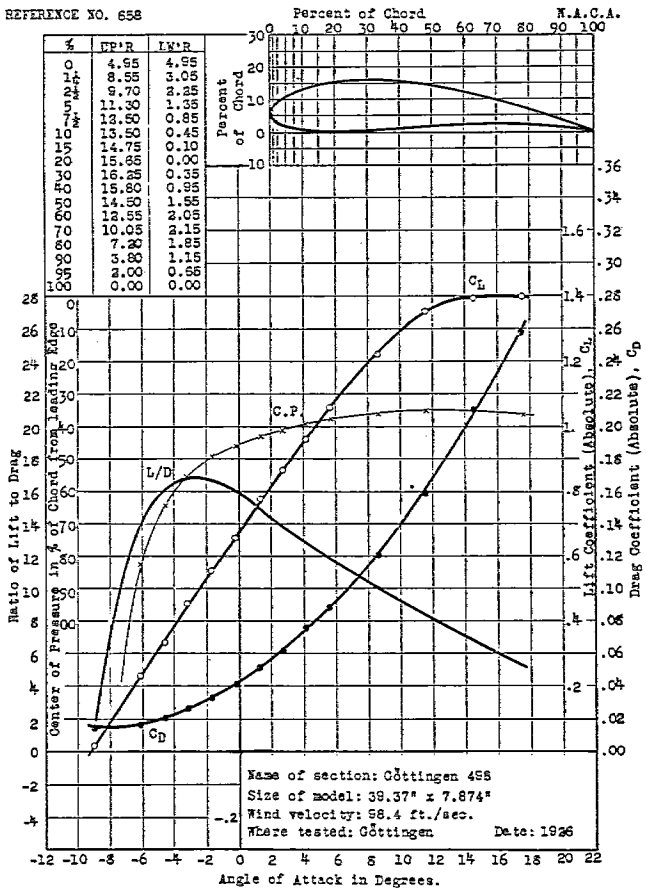
REFERENCE NO. 657



%	UP'R	LW'R
0	3.70	3.70
1¼	6.15	2.10
2½	7.85	1.45
5	8.70	0.75
7½	9.75	0.35
10	10.60	0.15
15	11.90	0.00
20	12.65	0.10
30	13.40	0.70
40	13.10	1.45
50	12.25	2.10
60	10.70	2.40
70	8.65	2.35
80	6.10	2.00
90	3.20	1.25
95	1.64	0.70
100	0.00	0.00

Name of section: Göttingen 497
Size of model: 39.37" x 7.874"
Wind velocity: 94.8 ft./sec.
Where tested: Göttingen Date: 1936

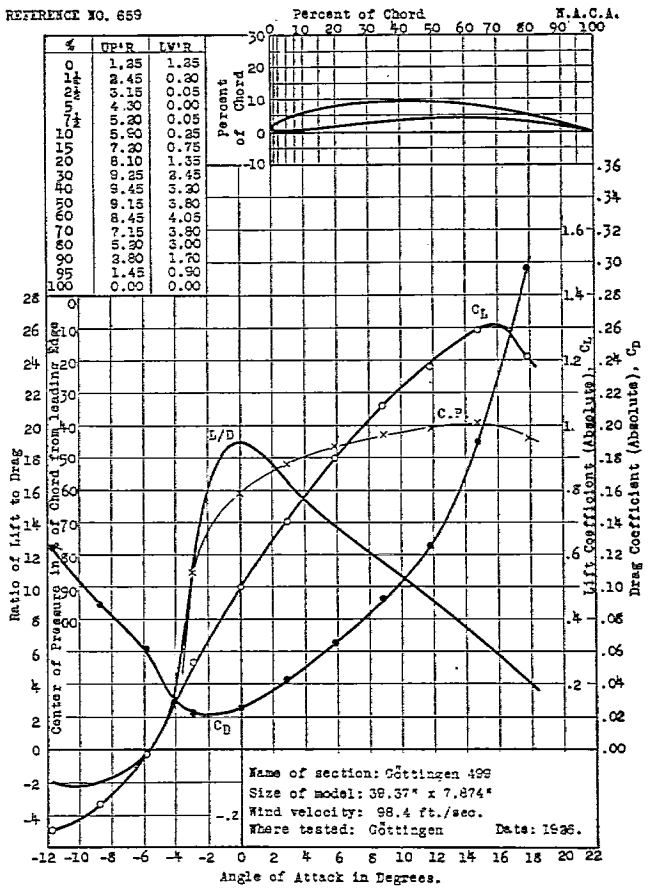
REFERENCE NO. 658



%	UP'R	LW'R
0	4.95	4.95
1¼	8.55	3.05
2½	9.70	2.25
5	11.30	1.35
7½	13.50	0.85
10	13.50	0.45
15	14.75	0.10
20	15.65	0.00
30	16.25	0.35
40	15.80	0.95
50	14.50	1.55
60	12.55	2.05
70	10.05	2.15
80	7.20	1.85
90	3.80	1.15
95	2.00	0.66
100	0.00	0.00

Name of section: Göttingen 498
Size of model: 39.37" x 7.874"
Wind velocity: 98.4 ft./sec.
Where tested: Göttingen Date: 1936

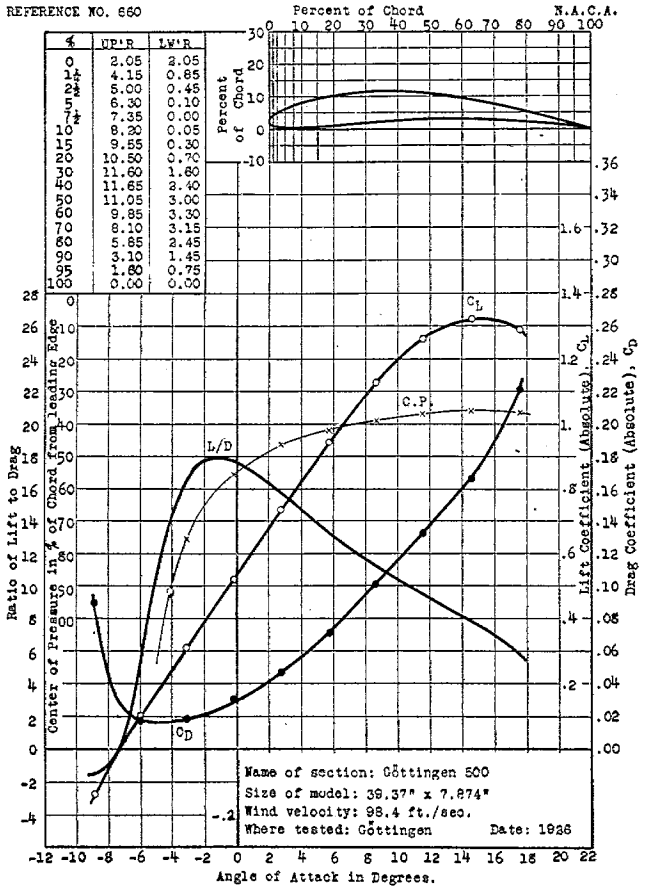
REFERENCE NO. 659



%	UP'R	LW'R
0	1.35	1.35
1¼	2.45	0.30
2½	3.15	0.05
5	4.30	0.00
7½	5.20	0.05
10	5.90	0.25
15	7.30	0.75
20	8.10	1.35
30	9.25	2.45
40	9.45	3.30
50	9.15	3.80
60	8.45	4.05
70	7.15	3.80
80	5.30	3.00
90	3.80	1.70
95	1.45	0.90
100	0.00	0.00

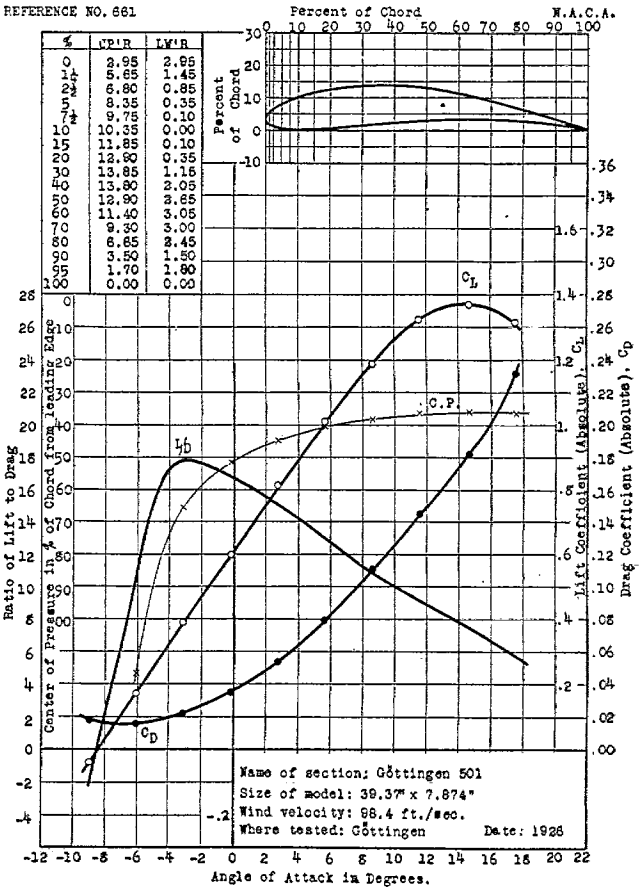
Name of section: Göttingen 499
Size of model: 39.37" x 7.874"
Wind velocity: 98.4 ft./sec.
Where tested: Göttingen Date: 1936.

REFERENCE NO. 660



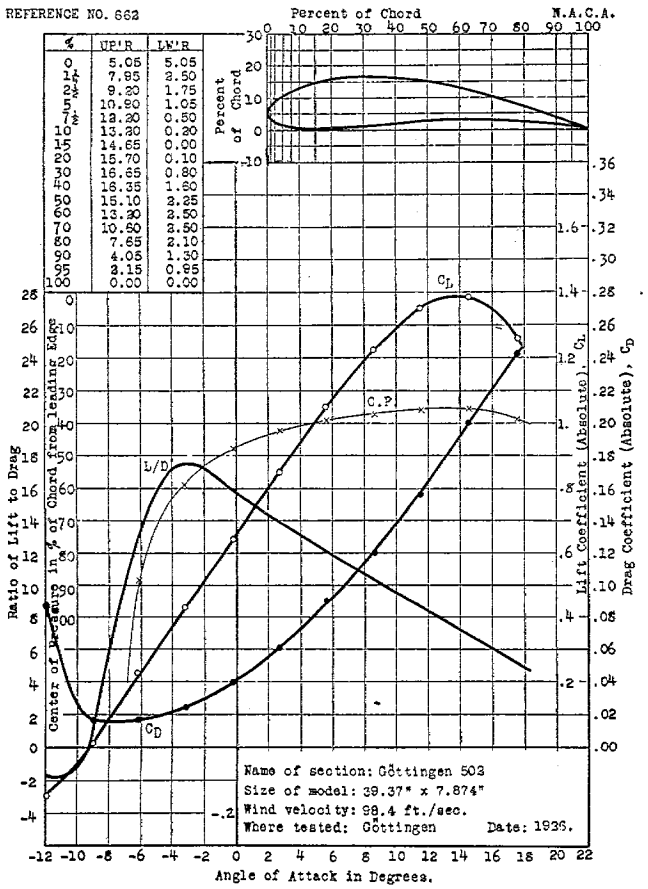
%	UP'R	LW'R
0	2.05	2.05
1¼	4.15	0.85
2½	5.00	0.45
5	6.30	0.10
7½	7.35	0.00
10	8.20	0.05
15	9.55	0.30
20	10.50	0.70
30	11.60	1.60
40	11.65	2.40
50	11.05	3.00
60	9.85	3.30
70	8.10	3.15
80	5.85	2.45
90	3.10	1.45
95	1.80	0.75
100	0.00	0.00

REFERENCE NO. 661



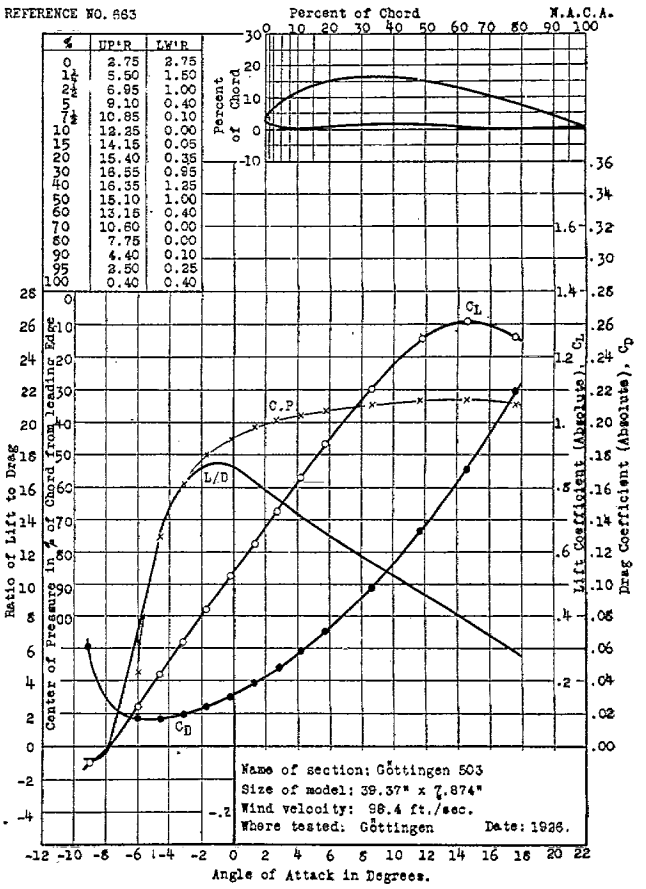
%	UP'R	LW'R
0	2.95	2.95
1¼	5.65	1.45
2½	6.80	0.85
5	8.35	0.35
7½	9.75	0.10
10	10.35	0.00
15	11.85	0.10
20	12.90	0.35
30	13.85	1.15
40	13.80	2.05
50	12.90	2.65
60	11.40	3.05
70	9.30	3.00
80	6.65	2.45
90	3.50	1.50
95	1.70	1.80
100	0.00	0.00

REFERENCE NO. 662



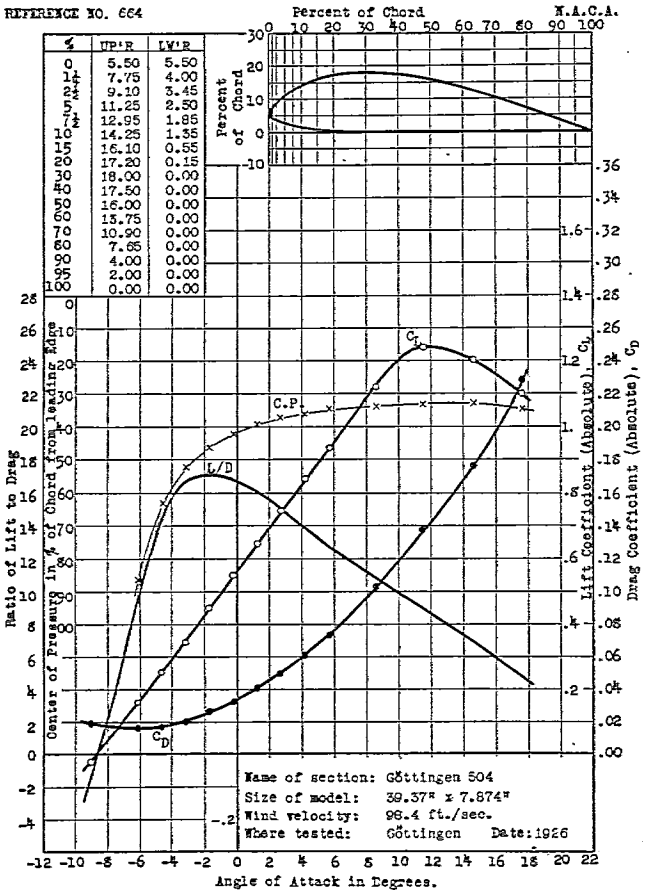
%	UP'R	LW'R
0	5.05	5.05
1¼	7.85	2.50
2½	9.20	1.75
5	10.90	1.05
7½	12.20	0.50
10	13.30	0.20
15	14.65	0.00
20	15.70	0.10
30	16.65	0.80
40	16.35	1.80
50	15.10	2.25
60	13.30	2.50
70	10.50	2.50
80	7.65	2.10
90	4.05	1.30
95	2.15	0.95
100	0.00	0.00

REFERENCE NO. 663



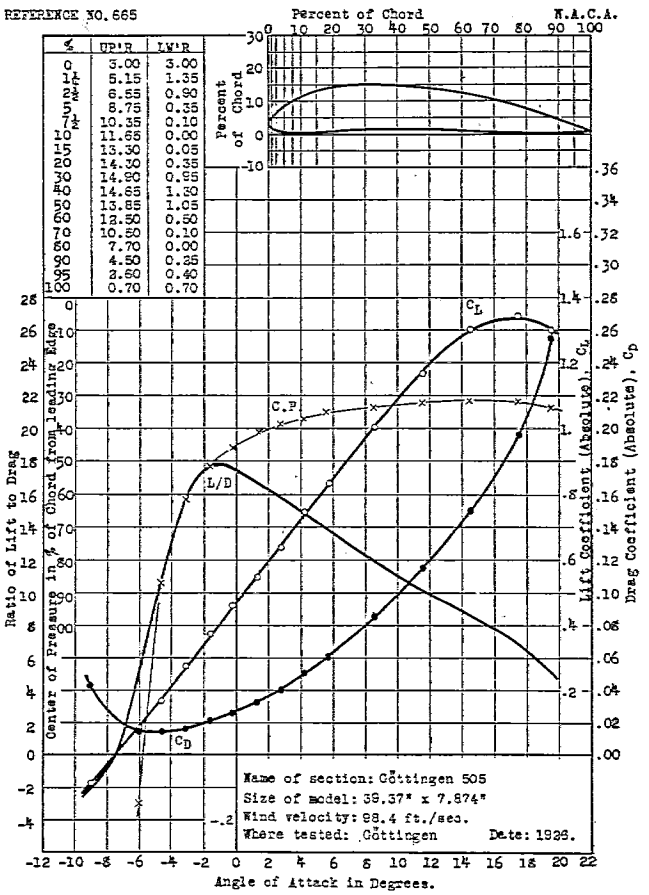
%	UP'R	LW'R
0	2.75	2.75
1¼	5.50	1.50
2½	6.95	1.00
5	9.10	0.40
7½	10.85	0.10
10	12.25	0.00
15	14.15	0.05
20	15.40	0.35
30	16.55	0.95
40	16.35	1.25
50	15.10	1.00
60	13.15	0.40
70	10.60	0.00
80	7.75	0.00
90	4.40	0.10
95	2.50	0.25
100	0.40	0.40

REFERENCE NO. 664



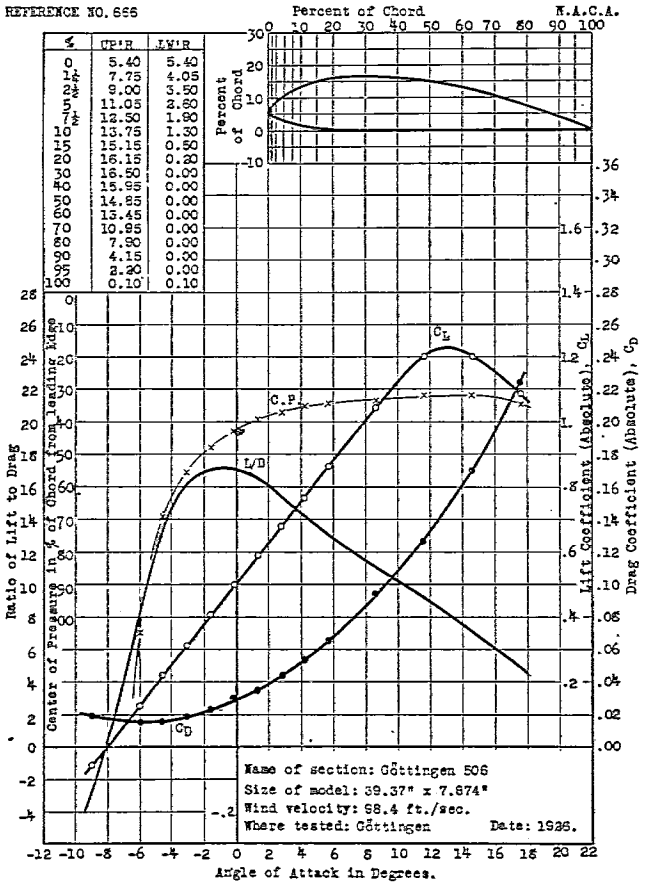
%	UP'R	LW'R
0	5.50	5.50
1¼	7.75	4.00
2½	9.10	3.45
5	11.25	2.50
7½	12.95	1.85
10	14.25	1.35
15	16.10	0.55
20	17.20	0.15
30	18.00	0.00
40	17.50	0.00
50	16.00	0.00
60	13.75	0.00
70	10.90	0.00
80	7.65	0.00
90	4.00	0.00
95	2.00	0.00
100	0.00	0.00

REFERENCE NO. 665



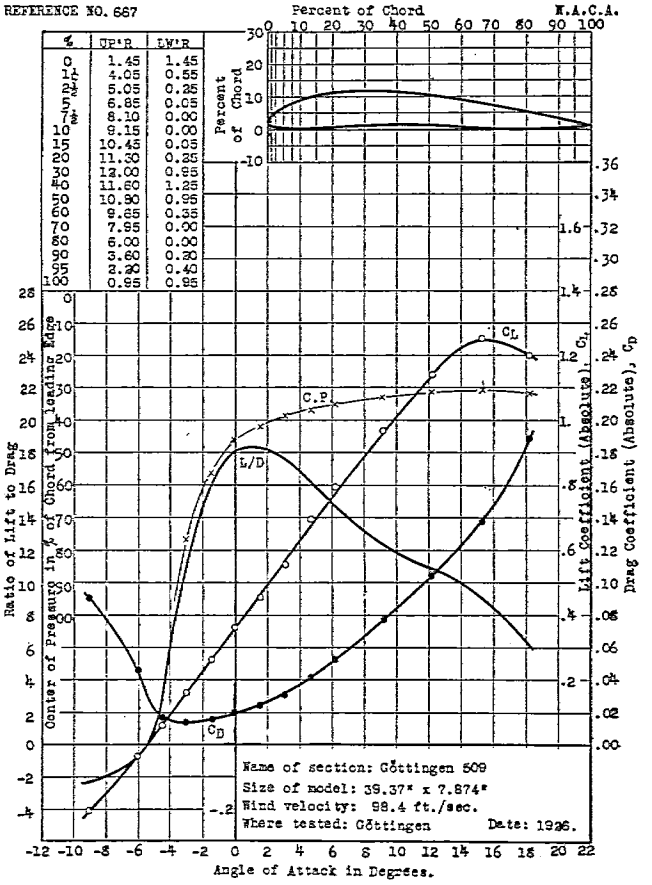
%	UP'R	LW'R
0	3.00	3.00
1¼	5.15	1.35
2½	6.55	0.90
5	8.75	0.35
7½	10.35	0.10
10	11.65	0.00
15	13.30	0.05
20	14.30	0.35
30	14.90	0.95
40	14.65	1.30
50	13.85	1.05
60	12.50	0.50
70	10.50	0.10
80	7.70	0.00
90	4.50	0.25
95	2.60	0.40
100	0.70	0.70

REFERENCE NO. 666



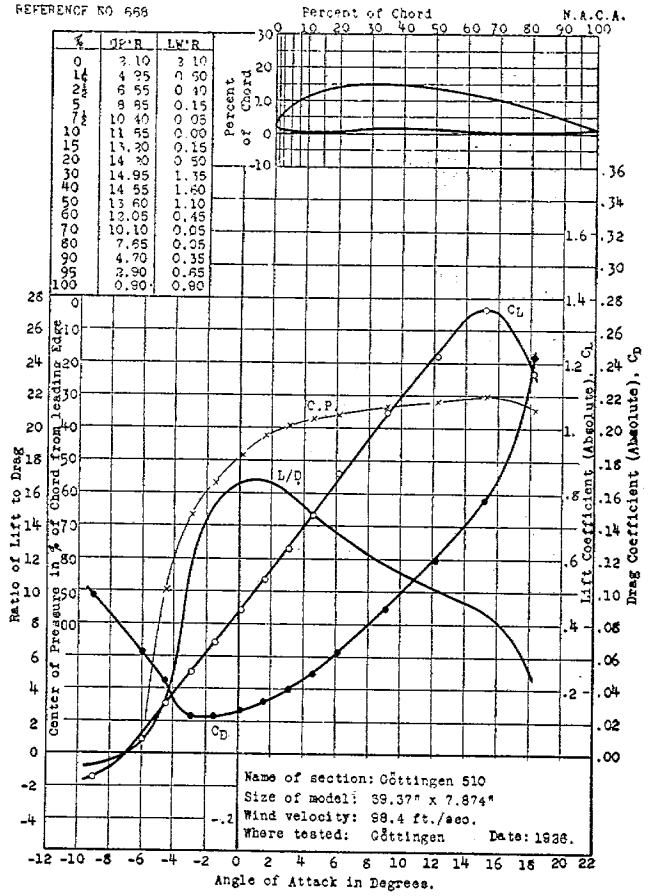
%	UP'R	LW'R
0	5.40	5.40
1¼	7.75	4.05
2½	9.00	3.50
5	11.05	2.60
7½	12.50	1.90
10	13.75	1.30
15	15.15	0.50
20	16.15	0.20
30	16.50	0.00
40	15.95	0.00
50	14.85	0.00
60	13.45	0.00
70	10.95	0.00
80	7.90	0.00
90	4.15	0.00
95	2.20	0.00
100	0.10	0.10

REFERENCE NO. 667



%	UP'R	LW'R
0	1.45	1.45
1¼	4.05	0.55
2½	5.05	0.25
5	6.85	0.05
7½	8.10	0.00
10	9.15	0.00
15	10.45	0.05
20	11.30	0.25
30	12.00	0.95
40	11.60	1.25
50	10.90	0.95
60	9.65	0.35
70	7.95	0.00
80	5.00	0.00
90	3.60	0.20
95	2.90	0.40
100	0.95	0.95

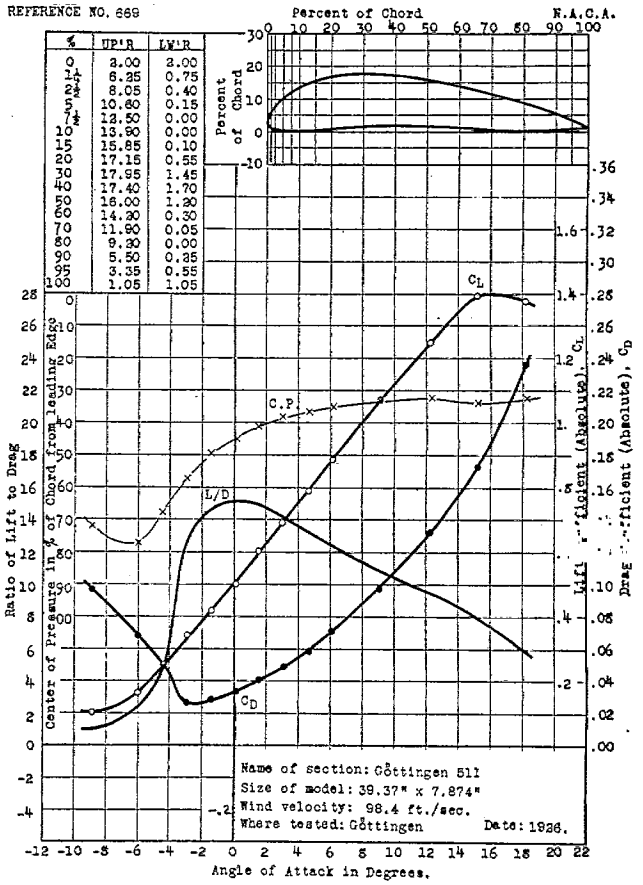
REFERENCE NO 668



%	UP'R	LW'R
0	3.10	3.10
1¼	4.95	0.50
2½	6.55	0.10
5	8.85	0.15
7½	10.40	0.05
10	11.55	0.00
15	13.30	0.15
20	14.30	0.50
30	14.95	1.35
40	14.55	1.60
50	13.60	1.10
60	12.05	0.45
70	10.10	0.05
80	7.65	0.05
90	4.70	0.35
95	2.90	0.65
100	0.90	0.90

Name of section: Göttingen 510
Size of model: 39.37" x 7.874"
Wind velocity: 98.4 ft./sec.
Where tested: Göttingen Date: 1936.

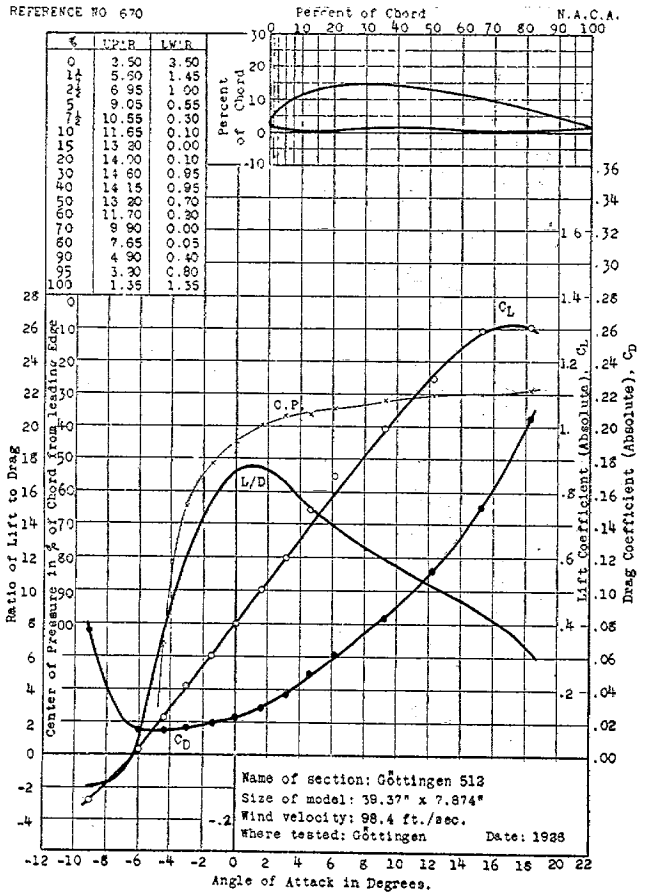
REFERENCE NO. 669



%	UP'R	LW'R
0	3.00	3.00
1¼	6.25	0.75
2½	8.05	0.40
5	10.60	0.15
7½	12.50	0.00
10	13.90	0.00
15	15.85	0.10
20	17.15	0.55
30	17.95	1.45
40	17.40	1.70
50	16.00	1.20
60	14.20	0.30
70	11.90	0.05
80	9.30	0.00
90	5.50	0.35
95	3.35	0.55
100	1.05	1.05

Name of section: Göttingen 511
Size of model: 39.37" x 7.874"
Wind velocity: 98.4 ft./sec.
Where tested: Göttingen Date: 1936.

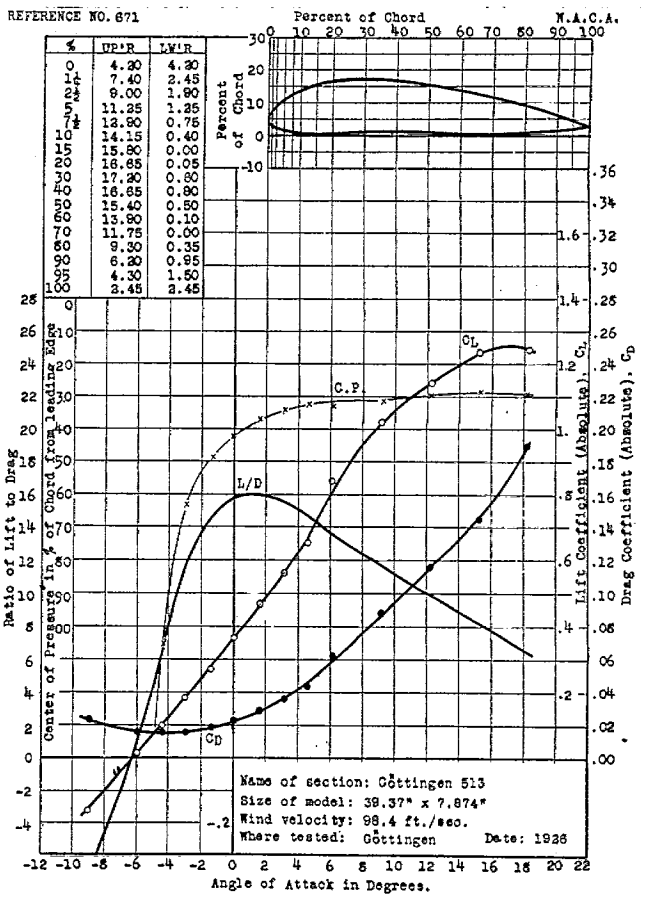
REFERENCE NO 670



%	UP'R	LW'R
0	3.50	3.50
1¼	5.60	1.45
2½	6.95	1.00
5	9.05	0.55
7½	10.55	0.30
10	11.65	0.10
15	13.20	0.00
20	14.00	0.10
30	14.60	0.95
40	14.15	0.95
50	13.20	0.70
60	11.70	0.30
70	9.90	0.00
80	7.65	0.05
90	4.90	0.40
95	3.30	0.80
100	1.35	1.35

Name of section: Göttingen 512
Size of model: 39.37" x 7.874"
Wind velocity: 98.4 ft./sec.
Where tested: Göttingen Date: 1936

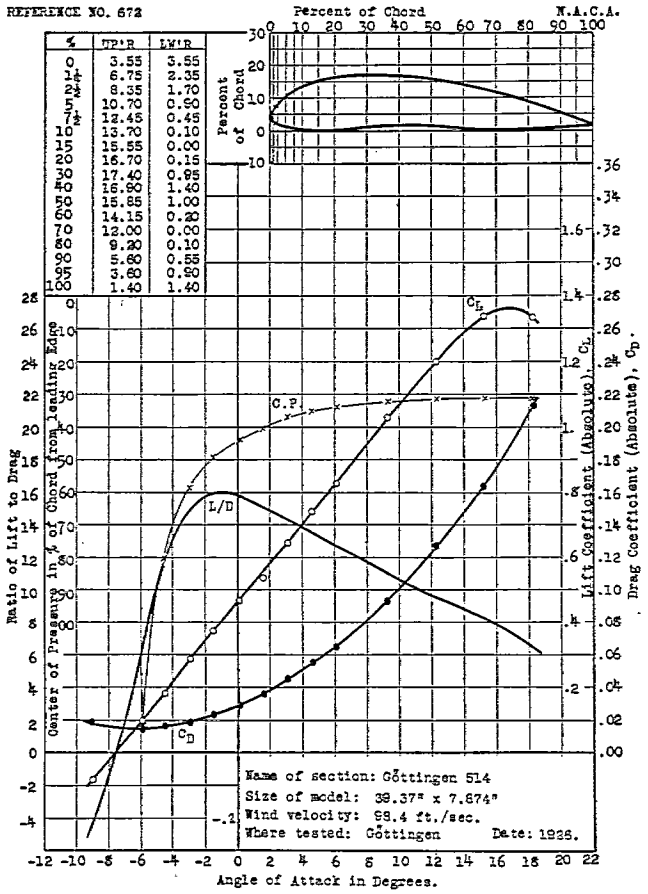
REFERENCE NO. 671



%	UP'R	LW'R
0	4.20	4.20
1¼	7.40	2.45
2½	9.00	1.90
5	11.25	1.25
7½	12.90	0.75
10	14.15	0.40
15	15.80	0.00
20	16.65	0.05
30	17.20	0.80
40	16.65	0.80
50	15.40	0.50
60	13.90	0.10
70	11.75	0.00
80	9.30	0.35
90	6.20	0.95
95	4.30	1.50
100	2.45	2.45

Name of section: Göttingen 513
Size of model: 39.37" x 7.874"
Wind velocity: 98.4 ft./sec.
Where tested: Göttingen Date: 1936

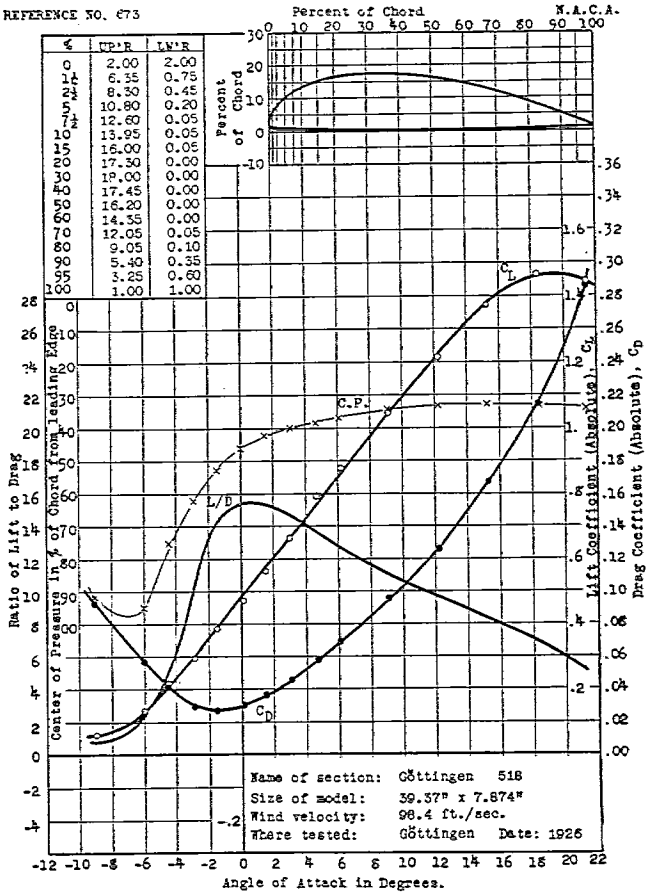
REFERENCE NO. 672



%	UP'R	LW'R
0	3.55	3.55
1¼	6.75	2.35
2½	8.35	1.70
5	10.70	0.90
7½	12.45	0.45
10	13.70	0.10
15	15.55	0.00
20	16.70	0.15
30	17.40	0.95
40	16.90	1.40
50	15.85	1.00
60	14.15	0.20
70	12.00	0.00
80	9.20	0.10
90	5.80	0.55
95	3.60	0.90
100	1.40	1.40

Name of section: Göttingen 514
Size of model: 39.37" x 7.874"
Wind velocity: 98.4 ft./sec.
Where tested: Göttingen Date: 1926.

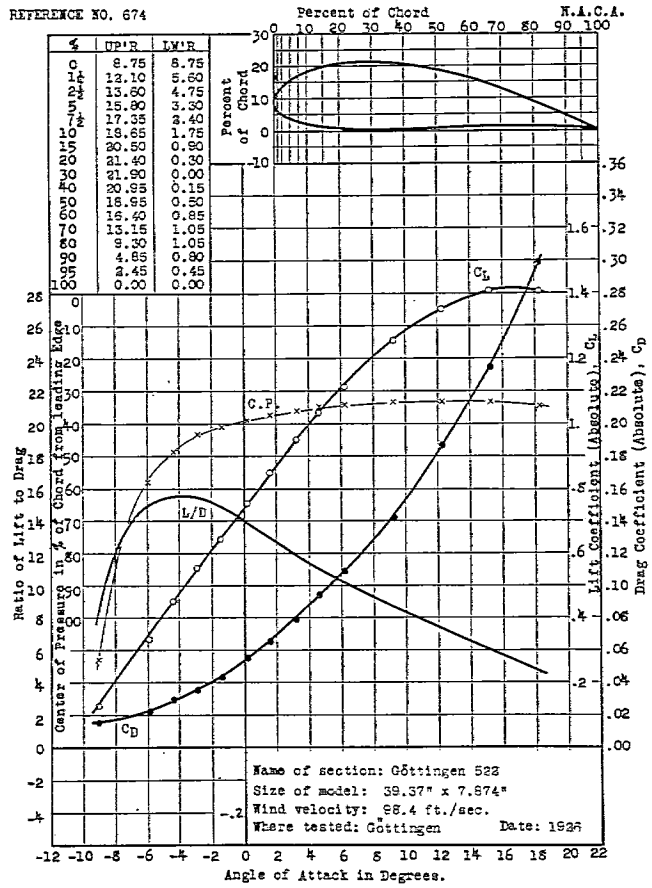
REFERENCE NO. 673



%	UP'R	LW'R
0	2.00	2.00
1¼	6.35	0.75
2½	8.30	0.45
5	10.80	0.20
7½	12.60	0.05
10	13.95	0.05
15	16.00	0.05
20	17.30	0.00
30	18.00	0.00
40	17.45	0.00
50	16.20	0.00
60	14.35	0.00
70	12.05	0.05
80	9.05	0.10
90	5.40	0.35
95	3.25	0.60
100	1.00	1.00

Name of section: Göttingen 518
Size of model: 39.37" x 7.874"
Wind velocity: 98.4 ft./sec.
Where tested: Göttingen Date: 1926

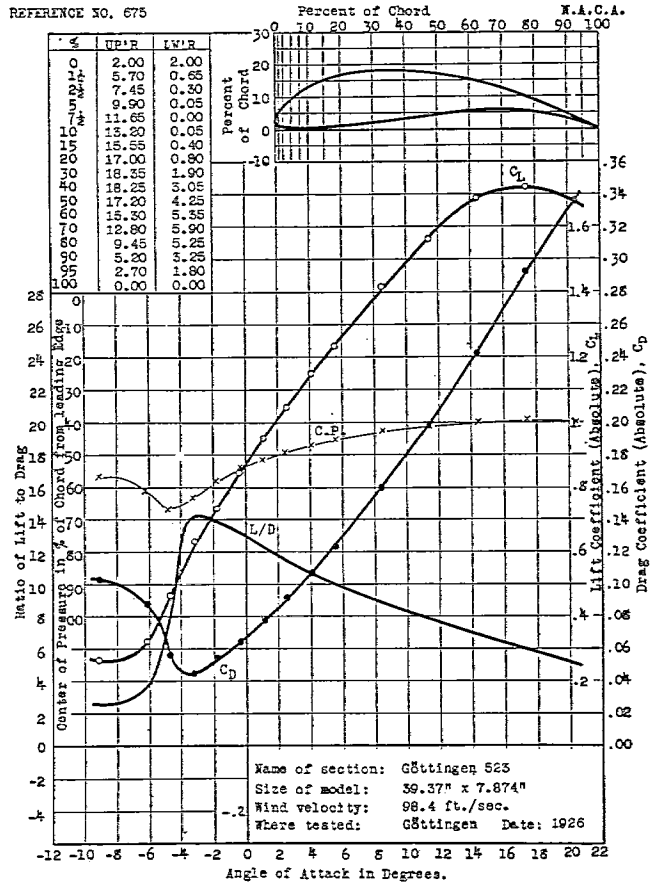
REFERENCE NO. 674



%	UP'R	LW'R
0	8.75	8.75
1¼	12.10	5.60
2½	13.60	4.75
5	15.80	3.30
7½	17.35	2.40
10	18.65	1.75
15	20.50	0.90
20	21.40	0.30
30	21.90	0.00
40	20.95	0.15
50	18.95	0.50
60	16.40	0.85
70	13.15	1.05
80	9.30	1.05
90	4.85	0.80
95	2.45	0.45
100	0.00	0.00

Name of section: Göttingen 522
Size of model: 39.37" x 7.874"
Wind velocity: 98.4 ft./sec.
Where tested: Göttingen Date: 1926

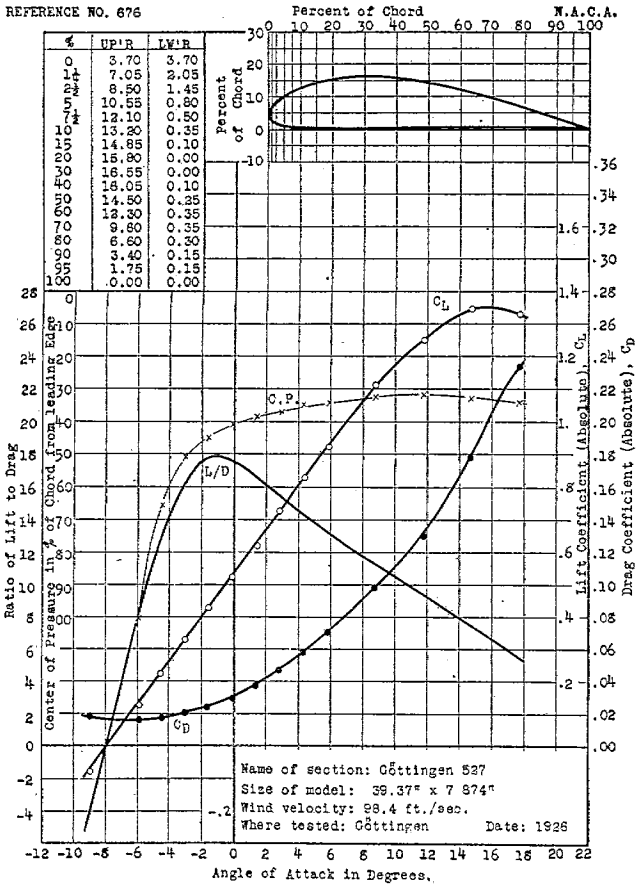
REFERENCE NO. 675



%	UP'R	LW'R
0	2.00	2.00
1¼	5.70	0.65
2½	7.45	0.30
5	9.90	0.05
7½	11.65	0.00
10	13.20	0.05
15	15.55	0.40
20	17.00	0.80
30	18.35	1.90
40	18.25	3.05
50	17.20	4.25
60	15.30	5.35
70	12.80	5.90
80	9.45	5.25
90	5.20	3.25
95	2.70	1.80
100	0.00	0.00

Name of section: Göttingen 523
Size of model: 39.37" x 7.874"
Wind velocity: 98.4 ft./sec.
Where tested: Göttingen Date: 1926

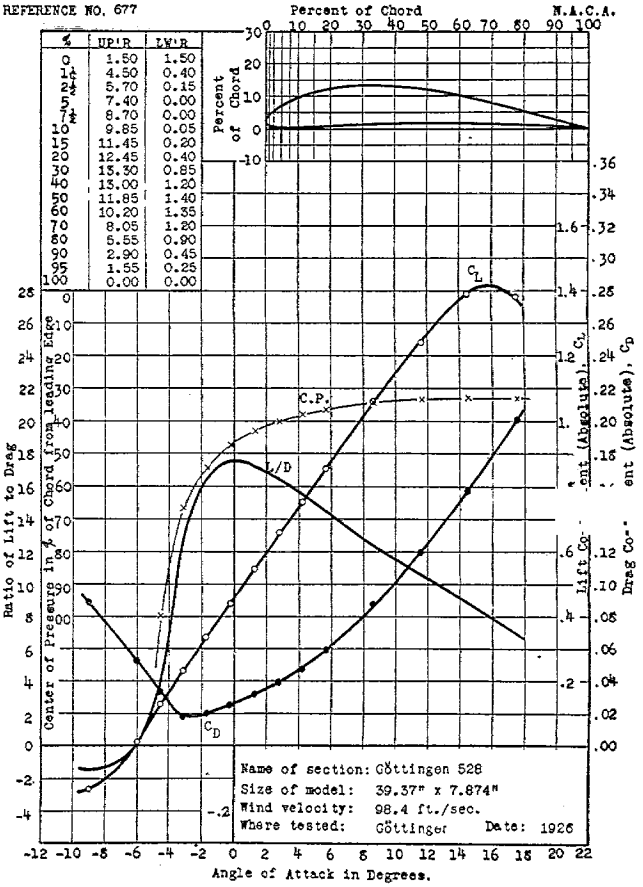
REFERENCE NO. 676



%	UP'R	LW'R
0	3.70	3.70
1¼	7.05	2.05
2½	8.50	1.45
5	10.55	0.80
7½	12.10	0.50
10	13.20	0.35
15	14.85	0.10
20	15.90	0.00
30	16.55	0.00
40	16.05	0.10
50	14.50	0.25
60	12.30	0.35
70	9.80	0.35
80	6.60	0.30
90	3.40	0.15
95	1.75	0.15
100	0.00	0.00

Name of section: Göttingen 527
Size of model: 39.37" x 7.874"
Wind velocity: 98.4 ft./sec.
Where tested: Göttingen Date: 1926

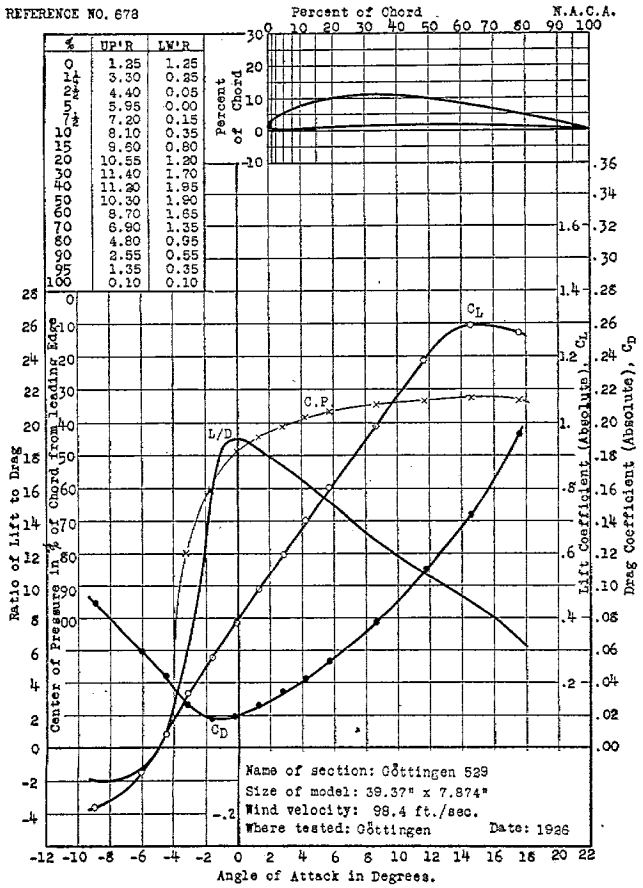
REFERENCE NO. 677



%	UP'R	LW'R
0	1.50	1.50
1¼	4.50	0.40
2½	5.70	0.15
5	7.40	0.00
7½	8.70	0.00
10	9.85	0.05
15	11.45	0.20
20	12.45	0.40
30	13.30	0.85
40	13.00	1.20
50	11.85	1.40
60	10.20	1.35
70	8.05	1.20
80	5.55	0.90
90	2.90	0.45
95	1.55	0.25
100	0.00	0.00

Name of section: Göttingen 528
Size of model: 39.37" x 7.874"
Wind velocity: 98.4 ft./sec.
Where tested: Göttinger Date: 1926

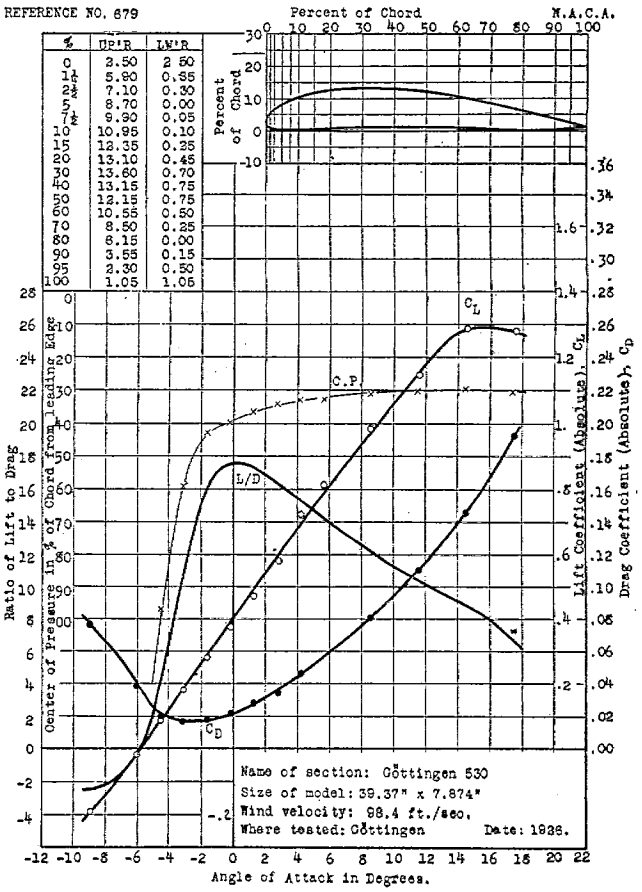
REFERENCE NO. 678



%	UP'R	LW'R
0	1.25	1.25
1¼	3.30	0.25
2½	4.40	0.05
5	5.95	0.00
7½	7.20	0.15
10	8.10	0.35
15	9.60	0.80
20	10.55	1.20
30	11.40	1.70
40	11.20	1.95
50	10.30	1.90
60	8.70	1.65
70	6.90	1.35
80	4.80	0.95
90	2.55	0.55
95	1.35	0.35
100	0.10	0.10

Name of section: Göttingen 529
Size of model: 39.37" x 7.874"
Wind velocity: 98.4 ft./sec.
Where tested: Göttingen Date: 1926

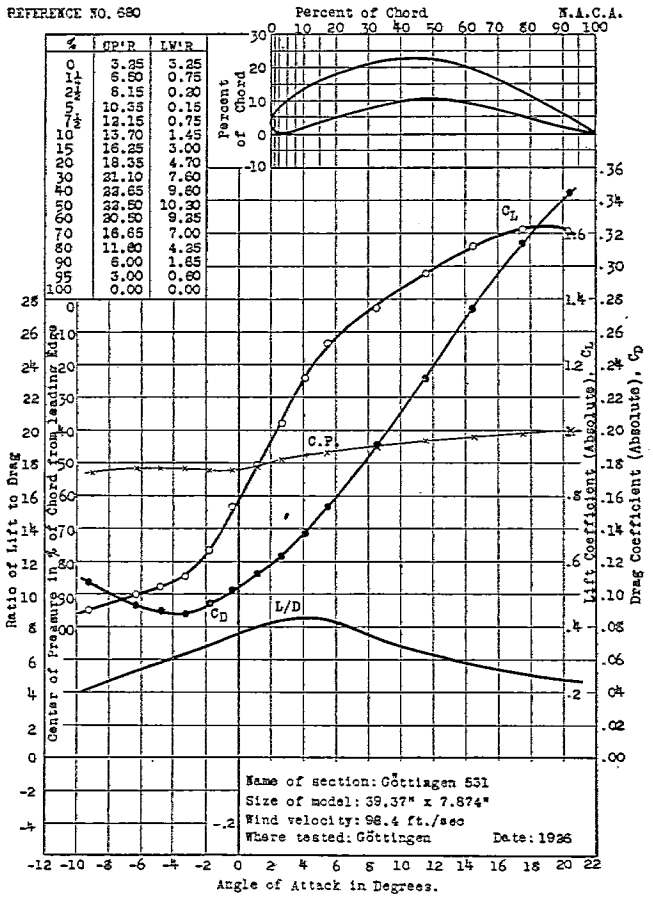
REFERENCE NO. 679



%	UP'R	LW'R
0	3.50	2.50
1¼	5.80	0.85
2½	7.10	0.30
5	8.70	0.00
7½	9.90	0.05
10	10.95	0.10
15	12.35	0.25
20	13.10	0.45
30	13.60	0.70
40	13.15	0.75
50	12.15	0.75
60	10.55	0.50
70	8.50	0.25
80	6.15	0.00
90	3.55	0.15
95	2.30	0.50
100	1.05	1.05

Name of section: Göttingen 530
Size of model: 39.37" x 7.874"
Wind velocity: 98.4 ft./sec.
Where tested: Göttingen Date: 1926.

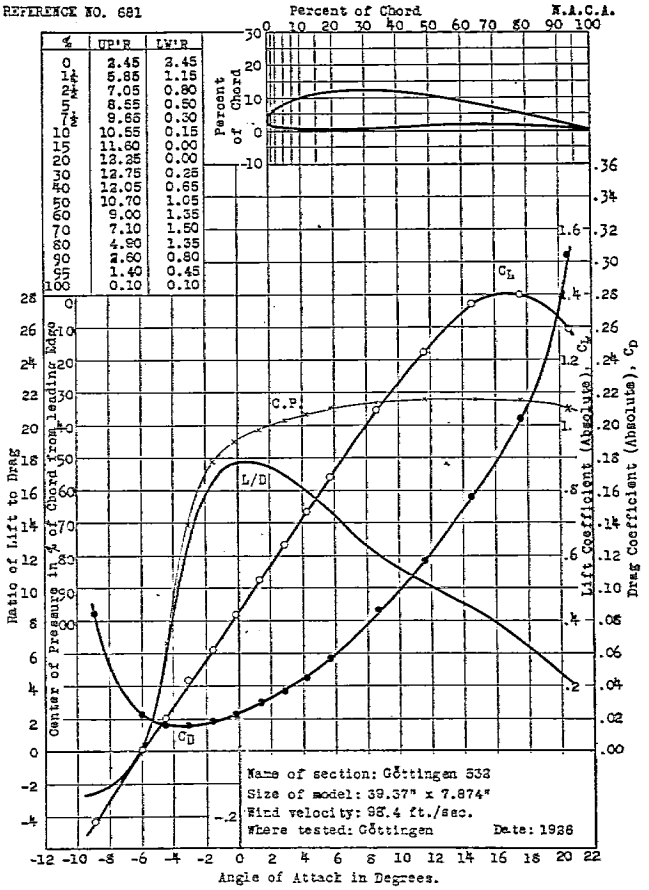
REFERENCE NO. 680



%	UP'R	LW'R
0	3.25	3.25
1¼	6.50	0.75
2½	8.15	0.20
5	10.35	0.15
7½	12.15	0.75
10	13.70	1.45
15	16.25	3.00
20	18.35	4.70
30	21.10	7.60
40	22.65	9.60
50	22.50	10.30
60	20.50	9.35
70	16.65	7.00
80	11.80	4.25
90	6.00	1.85
95	3.00	0.60
100	0.00	0.00

Name of section: Göttingen 531
Size of model: 39.37" x 7.874"
Wind velocity: 98.4 ft./sec
Where tested: Göttingen Date: 1926

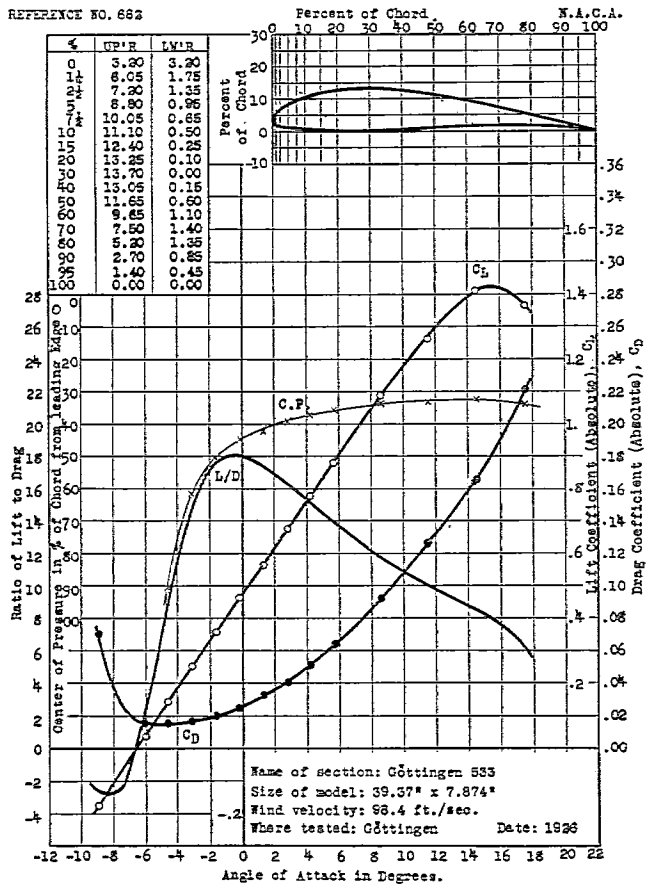
REFERENCE NO. 681



%	UP'R	LW'R
0	2.45	2.45
1¼	5.85	1.15
2½	7.05	0.80
5	8.55	0.50
7½	9.65	0.30
10	10.55	0.15
15	11.60	0.00
20	12.25	0.00
30	12.75	0.25
40	12.05	0.65
50	10.70	1.05
60	9.00	1.35
70	7.10	1.50
80	4.90	1.35
90	2.60	0.80
95	1.40	0.45
100	0.10	0.10

Name of section: Göttingen 532
Size of model: 39.37" x 7.874"
Wind velocity: 98.4 ft./sec.
Where tested: Göttingen Date: 1926

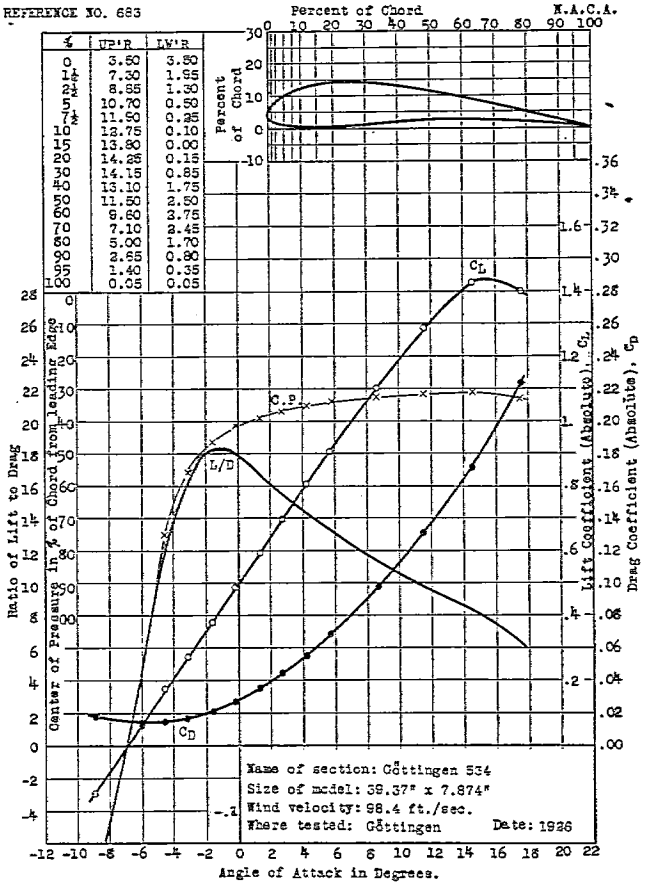
REFERENCE NO. 682



%	UP'R	LW'R
0	3.30	3.30
1¼	6.05	1.75
2½	7.30	1.35
5	8.80	0.95
7½	10.05	0.65
10	11.10	0.50
15	12.40	0.25
20	13.25	0.10
30	13.70	0.00
40	13.05	0.15
50	11.65	0.60
60	9.65	1.10
70	7.50	1.40
80	5.20	1.35
90	2.70	0.85
95	1.40	0.45
100	0.00	0.00

Name of section: Göttingen 533
Size of model: 39.37" x 7.874"
Wind velocity: 98.4 ft./sec.
Where tested: Göttingen Date: 1926

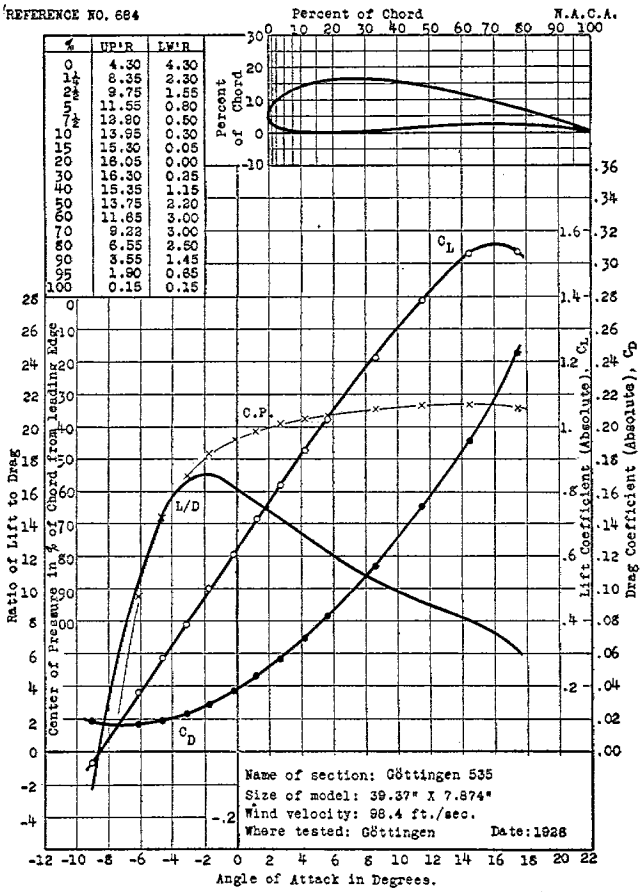
REFERENCE NO. 683



%	UP'R	LW'R
0	3.50	3.50
1¼	7.30	1.95
2½	8.85	1.30
5	10.70	0.50
7½	11.90	0.25
10	12.75	0.10
15	13.80	0.00
20	14.25	0.15
30	14.15	0.85
40	13.10	1.75
50	11.50	2.50
60	9.60	3.75
70	7.10	2.45
80	5.00	1.70
90	2.65	0.80
95	1.40	0.35
100	0.05	0.05

Name of section: Göttingen 534
Size of model: 39.37" x 7.874"
Wind velocity: 98.4 ft./sec.
Where tested: Göttingen Date: 1926

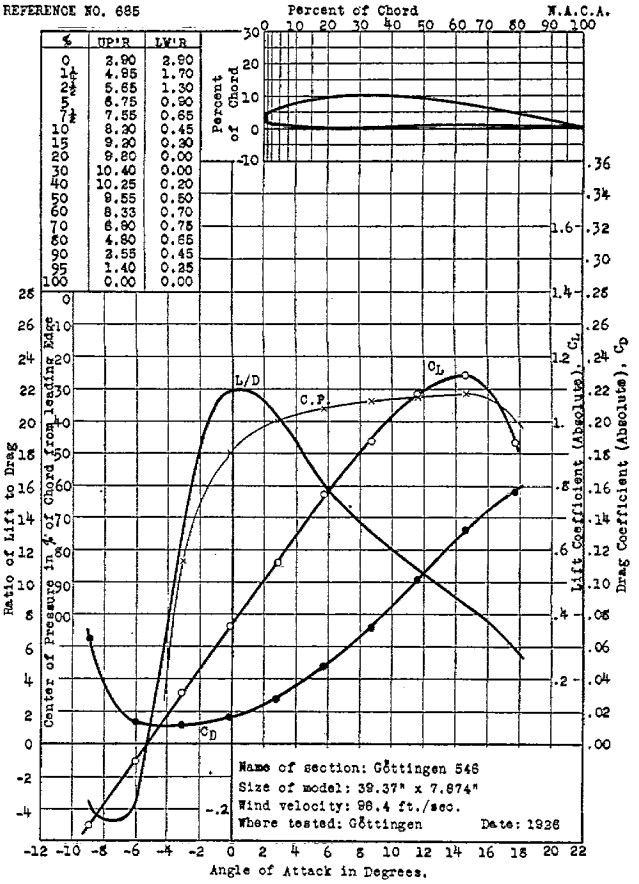
REFERENCE NO. 684



%	UP'R	LW'R
0	4.30	4.30
1¼	8.35	2.30
2½	9.75	1.55
5	11.55	0.80
7½	12.80	0.50
10	13.95	0.30
15	15.30	0.05
20	16.05	0.00
30	16.30	0.25
40	15.35	1.15
50	13.75	2.20
60	11.65	3.00
70	9.22	3.00
80	6.55	2.50
90	3.55	1.45
95	1.90	0.65
100	0.15	0.15

Name of section: Göttingen 535
Size of model: 39.37" X 7.874"
Wind velocity: 98.4 ft./sec.
Where tested: Göttingen Date: 1926

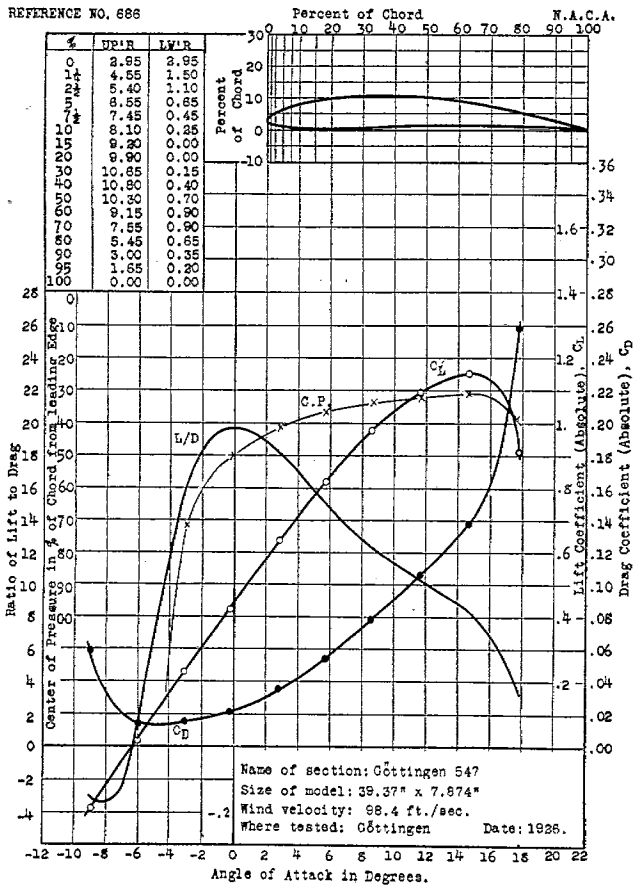
REFERENCE NO. 685



%	UP'R	LW'R
0	2.90	2.90
1¼	4.85	1.70
2½	5.65	1.30
5	6.75	0.90
7½	7.55	0.65
10	8.20	0.45
15	9.20	0.30
20	9.80	0.00
30	10.40	0.00
40	10.25	0.20
50	9.55	0.50
60	8.33	0.70
70	6.80	0.75
80	4.80	0.65
90	2.55	0.45
95	1.40	0.25
100	0.00	0.00

Name of section: Göttingen 546
Size of model: 39.37" x 7.874"
Wind velocity: 98.4 ft./sec.
Where tested: Göttingen Date: 1926

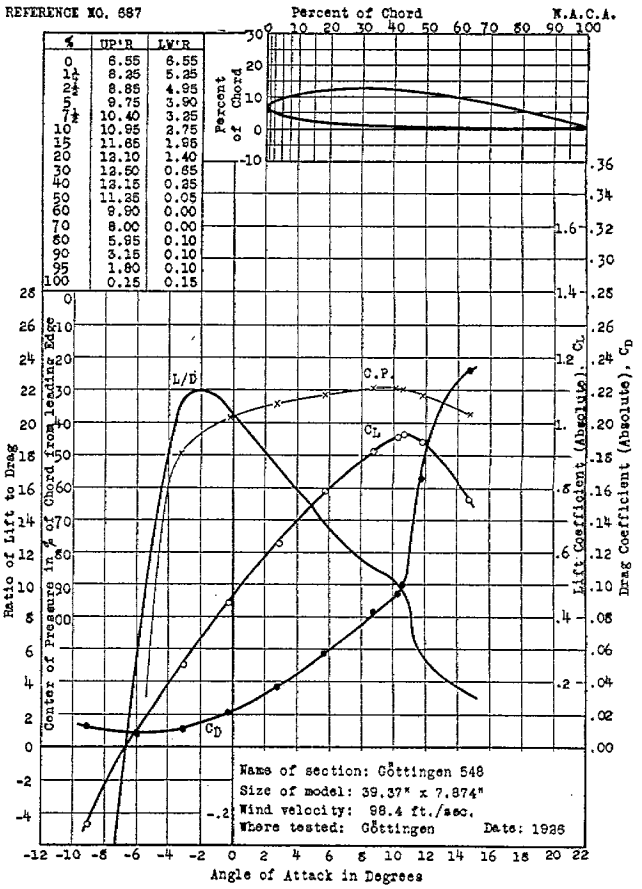
REFERENCE NO. 686



%	UP'R	LW'R
0	2.85	2.85
1¼	4.55	1.50
2½	5.40	1.10
5	6.55	0.65
7½	7.45	0.45
10	8.10	0.25
15	9.20	0.00
20	9.90	0.00
30	10.65	0.15
40	10.80	0.40
50	10.30	0.70
60	9.15	0.90
70	7.55	0.90
80	5.45	0.65
90	3.00	0.35
95	1.65	0.20
100	0.00	0.00

Name of section: Göttingen 547
Size of model: 39.37" x 7.874"
Wind velocity: 98.4 ft./sec.
Where tested: Göttingen Date: 1926.

REFERENCE NO. 687

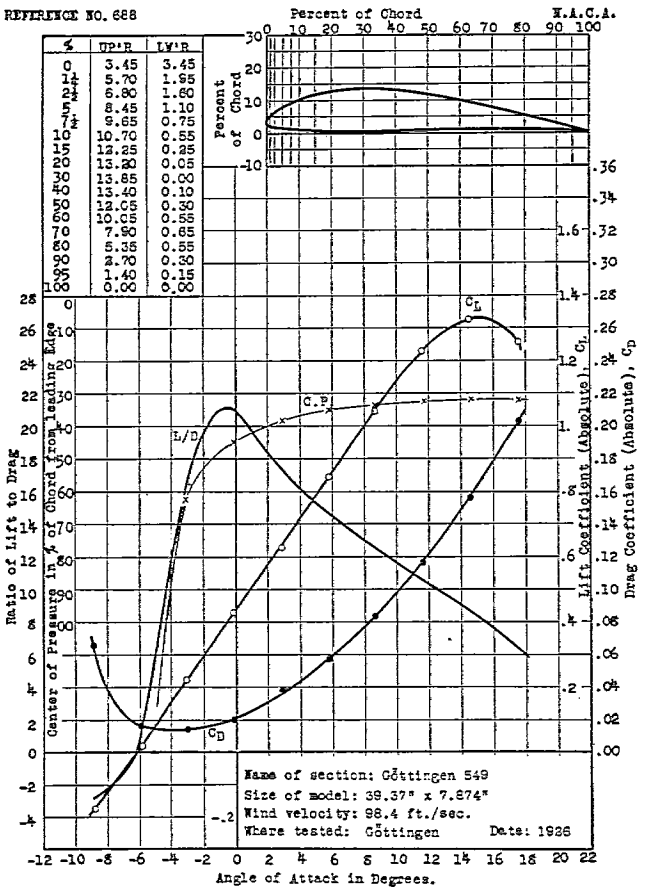


%	UP'R	LW'R
0	6.55	6.55
1¼	8.25	5.25
2½	8.85	4.35
5	9.75	3.90
7½	10.40	3.25
10	10.95	2.75
15	11.65	1.95
20	12.10	1.40
30	12.50	0.65
40	12.15	0.25
50	11.25	0.05
60	9.90	0.00
70	8.00	0.00
80	5.95	0.10
90	3.15	0.10
95	1.80	0.10
100	0.15	0.15

Name of section: Göttingen 548
Size of model: 39.37" x 7.874"
Wind velocity: 98.4 ft./sec.
Where tested: Göttingen Date: 1926

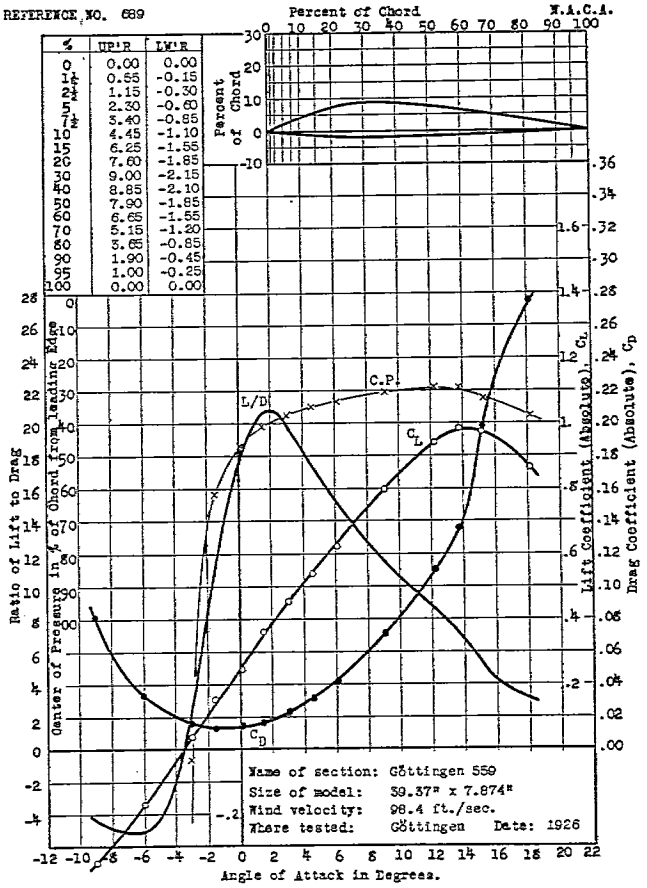
REFERENCE NO. 688

%	UP'R	LW'R
0	3.45	3.45
1¼	5.70	1.95
2½	6.80	1.60
5	8.45	1.10
7½	9.65	0.75
10	10.70	0.55
15	12.25	0.25
20	13.20	0.05
30	13.85	0.00
40	13.40	0.10
50	12.05	0.30
60	10.05	0.55
70	7.90	0.65
80	5.35	0.55
90	2.70	0.30
95	1.40	0.15
100	0.00	0.00



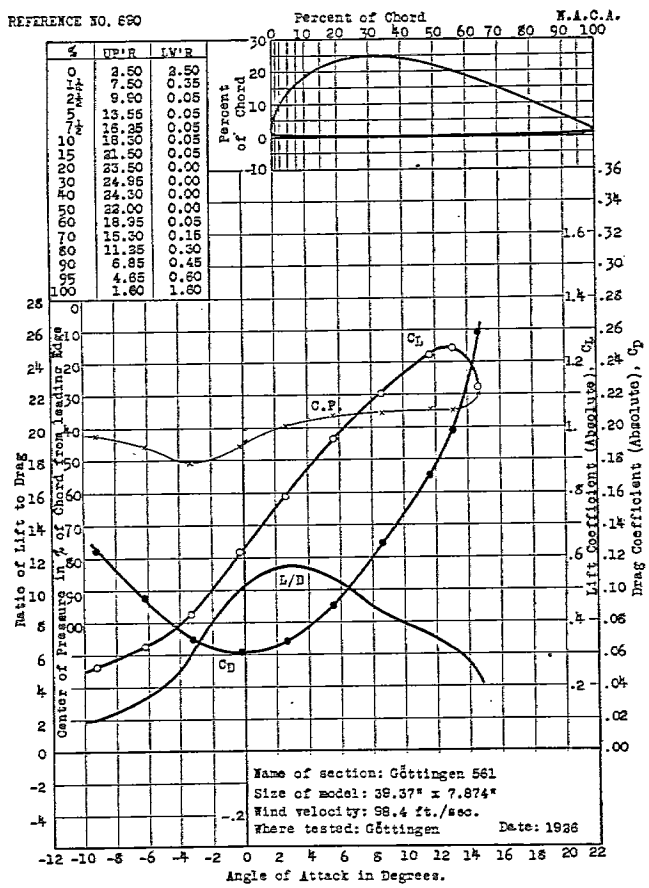
REFERENCE NO. 689

%	UP'R	LW'R
0	0.00	0.00
1¼	0.55	-0.15
2½	1.15	-0.30
5	2.30	-0.60
7½	3.40	-0.85
10	4.45	-1.10
15	6.25	-1.55
20	7.60	-1.85
30	9.00	-2.15
40	8.85	-2.10
50	7.90	-1.85
60	6.65	-1.55
70	5.15	-1.20
80	3.65	-0.85
90	1.90	-0.45
95	1.00	-0.25
100	0.00	0.00



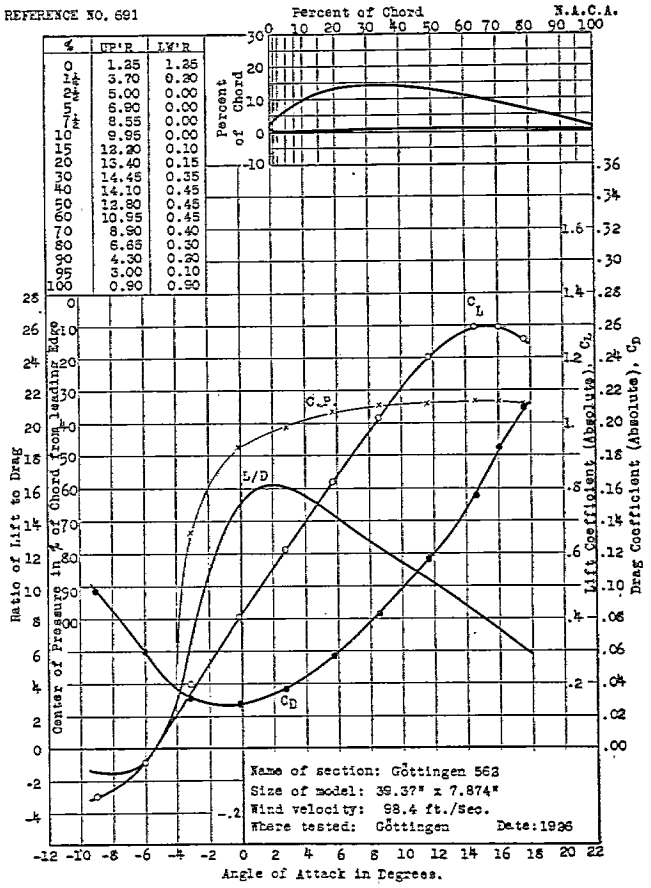
REFERENCE NO. 690

%	UP'R	LW'R
0	2.50	2.50
1¼	7.50	0.35
2½	9.90	0.05
5	13.55	0.05
7½	16.35	0.05
10	18.50	0.05
15	21.50	0.05
20	23.50	0.00
30	24.95	0.00
40	24.30	0.00
50	22.00	0.00
60	18.95	0.05
70	15.30	0.15
80	11.35	0.30
90	6.85	0.45
95	4.65	0.60
100	1.60	1.60



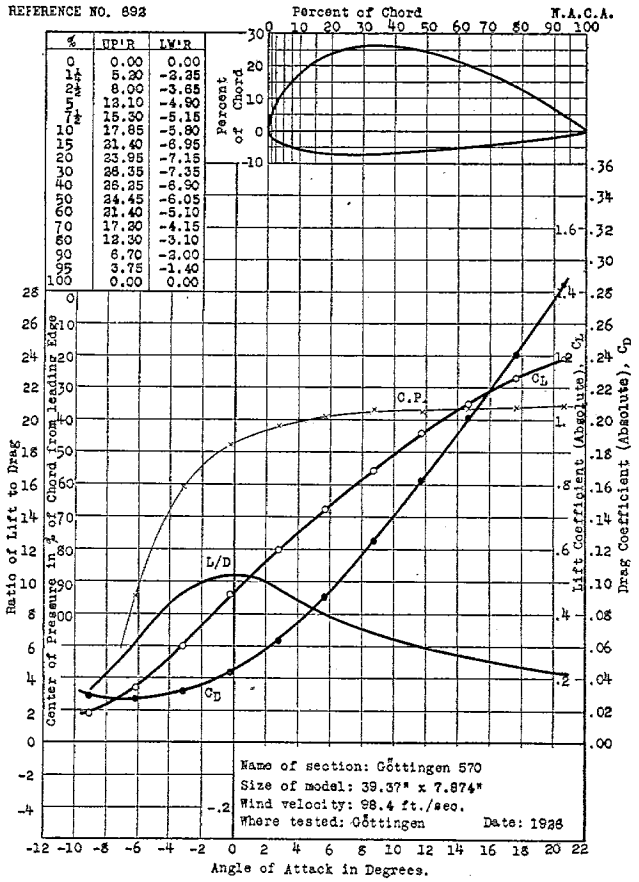
REFERENCE NO. 691

%	UP'R	LW'R
0	1.85	1.85
1¼	3.70	0.20
2½	5.00	0.00
5	6.90	0.00
7½	8.55	0.00
10	9.95	0.00
15	12.20	0.10
20	13.40	0.15
30	14.45	0.35
40	14.10	0.45
50	12.80	0.45
60	10.95	0.45
70	8.90	0.40
80	6.65	0.30
90	4.30	0.20
95	3.00	0.10
100	0.90	0.90



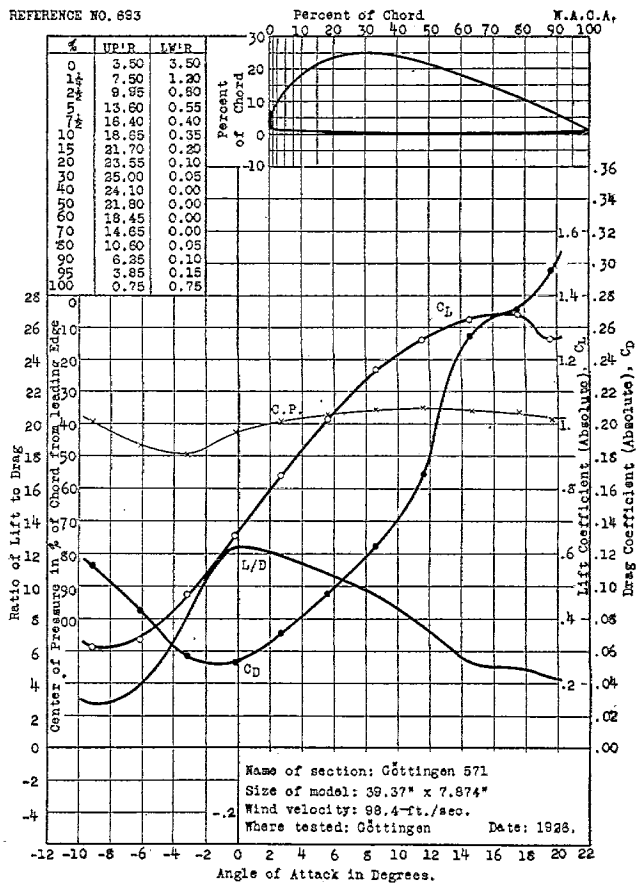
REFERENCE NO. 692

%	UP'R	LW'R
0	0.00	0.00
1¼	5.20	-2.35
2½	8.00	-3.65
5	13.10	-4.90
7½	15.30	-5.15
10	17.85	-5.80
15	21.40	-6.95
20	23.95	-7.15
30	26.35	-7.35
40	26.25	-6.90
50	24.45	-6.05
60	21.40	-5.10
70	17.30	-4.15
80	12.30	-3.10
90	6.70	-2.00
95	3.75	-1.40
100	0.00	0.00



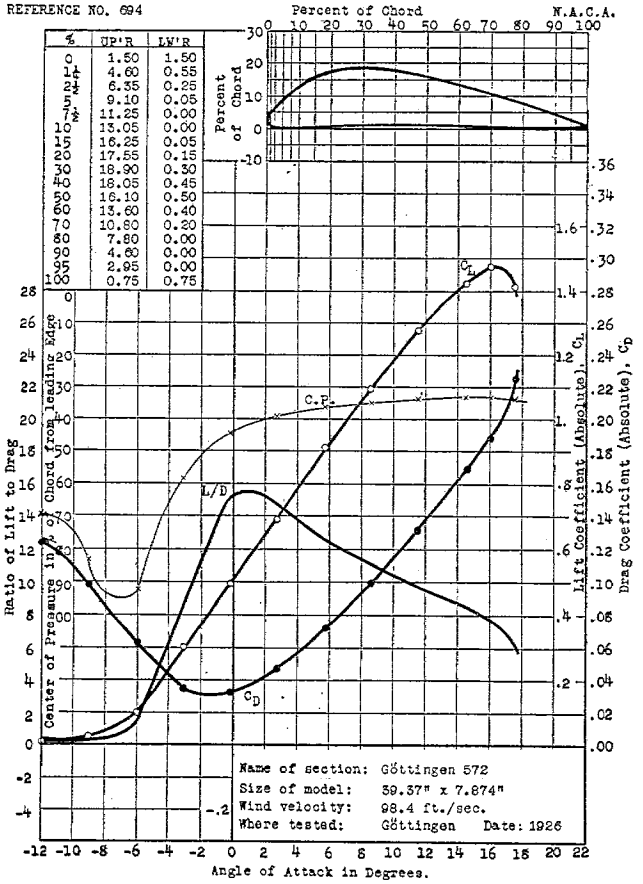
REFERENCE NO. 693

%	UP'R	LW'R
0	3.50	3.50
1¼	7.50	1.20
2½	9.95	0.80
5	13.60	0.55
7½	16.40	0.40
10	18.85	0.35
15	21.70	0.20
20	23.55	0.10
30	25.00	0.05
40	24.10	0.00
50	21.80	0.00
60	18.45	0.00
70	14.65	0.00
80	10.60	0.05
90	6.35	0.10
95	3.85	0.15
100	0.75	0.75



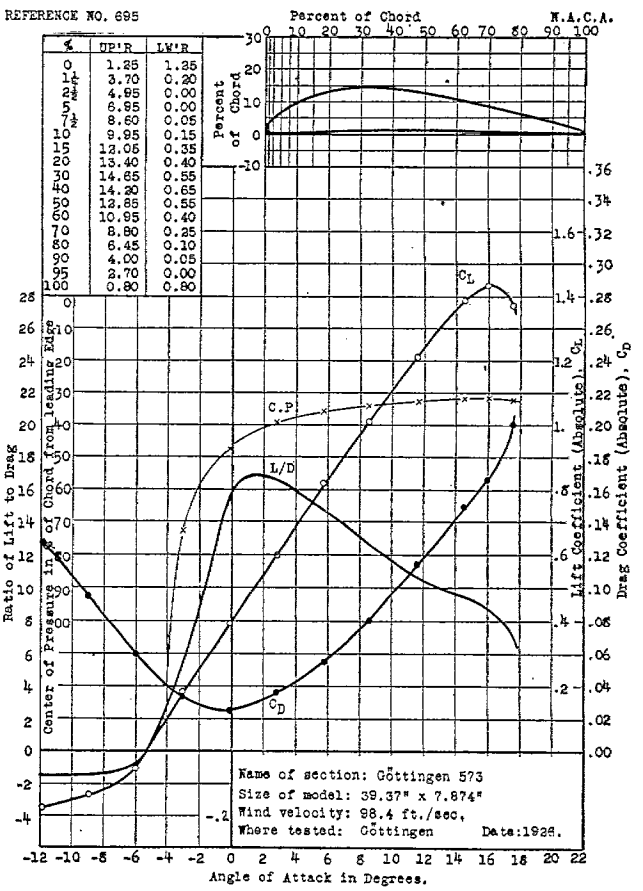
REFERENCE NO. 694

%	UP'R	LW'R
0	1.50	1.50
1¼	4.60	0.55
2½	6.35	0.25
5	9.10	0.05
7½	11.25	0.00
10	13.05	0.00
15	16.25	0.05
20	17.55	0.15
30	18.90	0.30
40	18.05	0.45
50	16.10	0.50
60	13.60	0.40
70	10.80	0.20
80	7.80	0.00
90	4.60	0.00
95	2.95	0.00
100	0.75	0.75



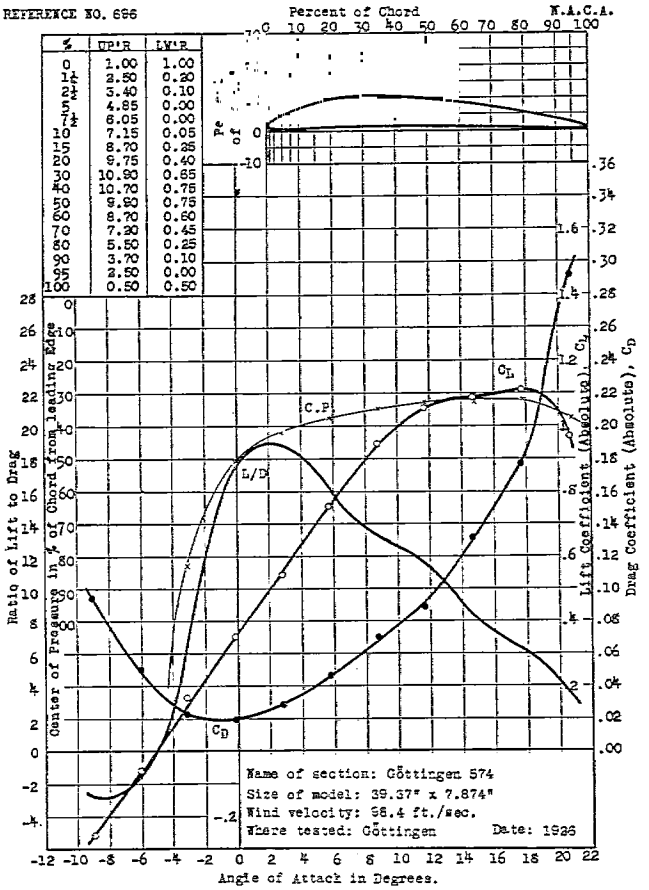
REFERENCE NO. 695

%	UP'R	LW'R
0	1.25	1.25
1¼	3.70	0.20
2½	4.95	0.00
5	6.95	0.00
7½	8.60	0.05
10	9.95	0.15
15	12.05	0.35
20	13.40	0.40
30	14.65	0.55
40	14.20	0.65
50	12.85	0.55
60	10.95	0.40
70	8.80	0.25
80	6.45	0.10
90	4.00	0.05
95	2.70	0.00
100	0.80	0.80



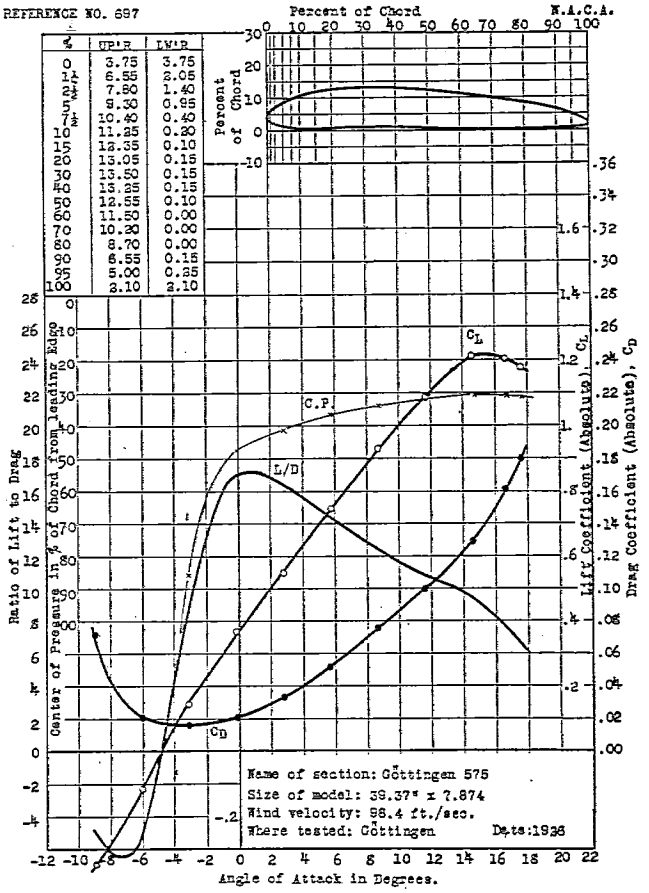
REFERENCE NO. 696

%	UP'R	LW'R
0	1.00	1.00
1¼	2.50	0.20
2½	3.40	0.10
5	4.85	0.00
7½	6.05	0.00
10	7.15	0.05
15	8.70	0.25
20	9.75	0.40
30	10.80	0.65
40	10.70	0.75
50	9.20	0.75
60	8.70	0.60
70	7.20	0.45
80	5.50	0.25
90	3.70	0.10
95	2.50	0.00
100	0.50	0.50



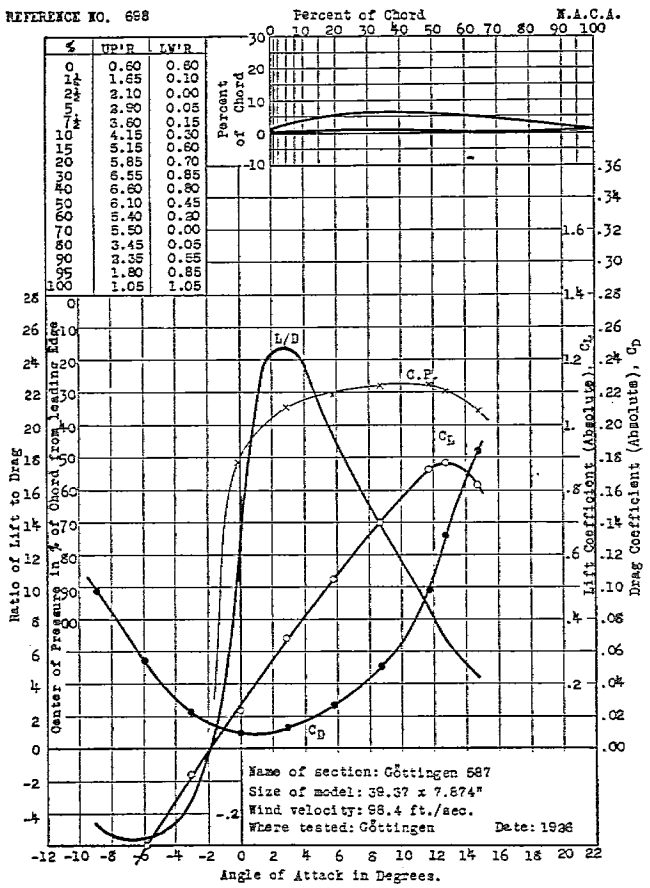
REFERENCE NO. 697

%	UP'R	LW'R
0	3.75	3.75
1¼	6.55	2.05
2½	7.80	1.40
5	9.30	0.95
7½	10.40	0.40
10	11.25	0.20
15	12.35	0.10
20	13.05	0.15
30	13.50	0.15
40	13.25	0.15
50	12.55	0.10
60	11.50	0.00
70	10.20	0.00
80	8.70	0.00
90	6.55	0.15
95	5.00	0.35
100	2.10	2.10



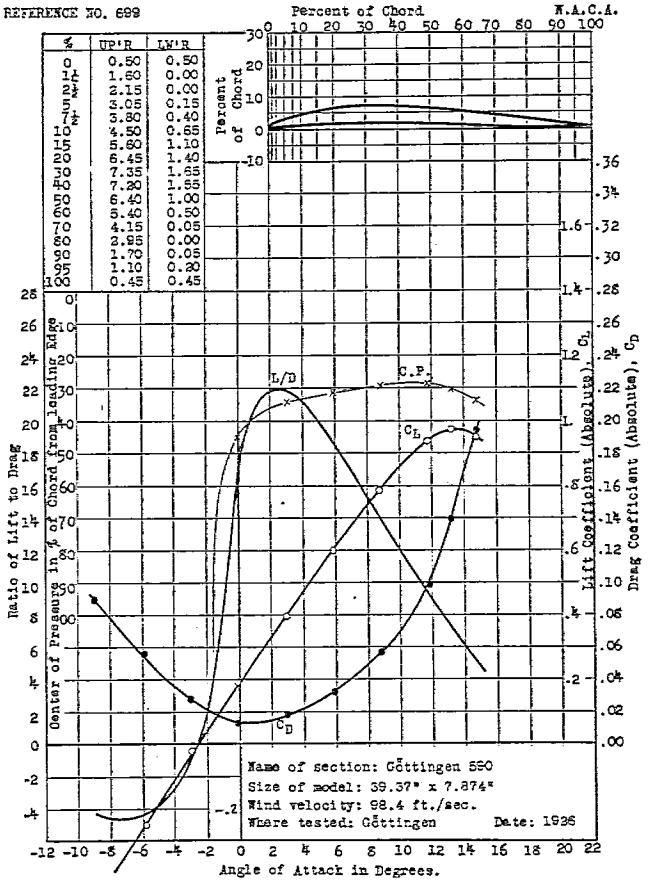
REFERENCE NO. 698

%	UP'R	LW'R
0	0.60	0.60
1¼	1.65	0.10
2½	2.10	0.00
5	2.90	0.05
7½	3.60	0.15
10	4.15	0.30
15	5.15	0.60
20	5.85	0.70
30	6.55	0.85
40	6.60	0.80
50	6.10	0.45
60	5.40	0.20
70	5.50	0.00
80	3.45	0.05
90	2.35	0.55
95	1.80	0.85
100	1.05	1.05

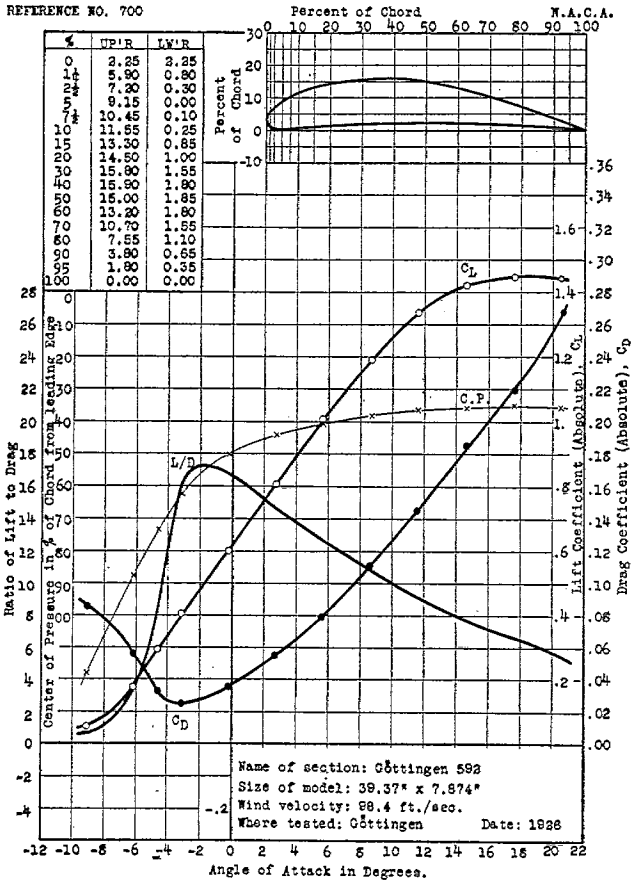


REFERENCE NO. 699

%	UP'R	LW'R
0	0.50	0.50
1¼	1.60	0.00
2½	2.15	0.00
5	3.05	0.15
7½	3.80	0.40
10	4.50	0.65
15	5.60	1.10
20	6.45	1.40
30	7.35	1.55
40	7.20	1.55
50	6.40	1.00
60	5.40	0.50
70	4.15	0.05
80	2.95	0.00
90	1.70	0.05
95	1.10	0.20
100	0.45	0.45

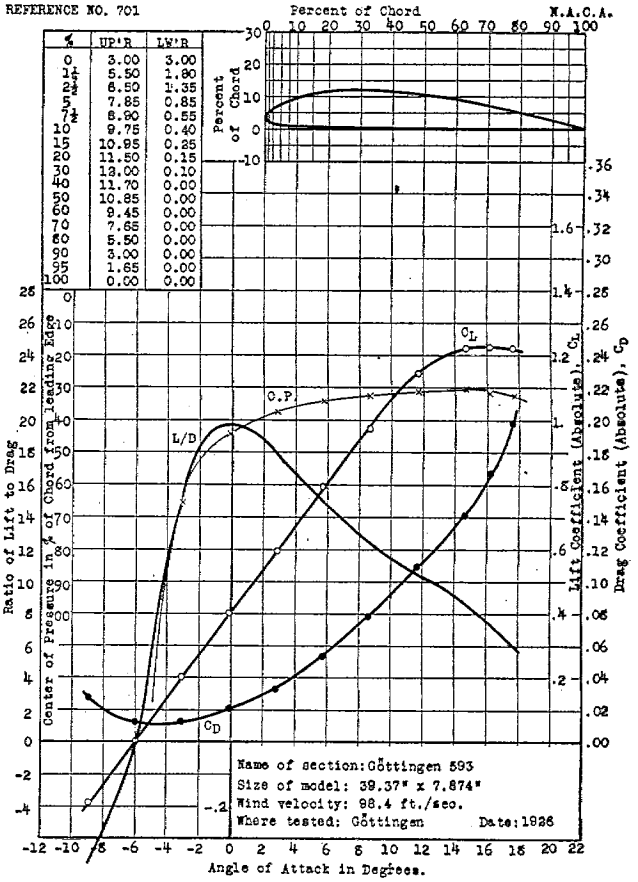


REFERENCE NO. 700



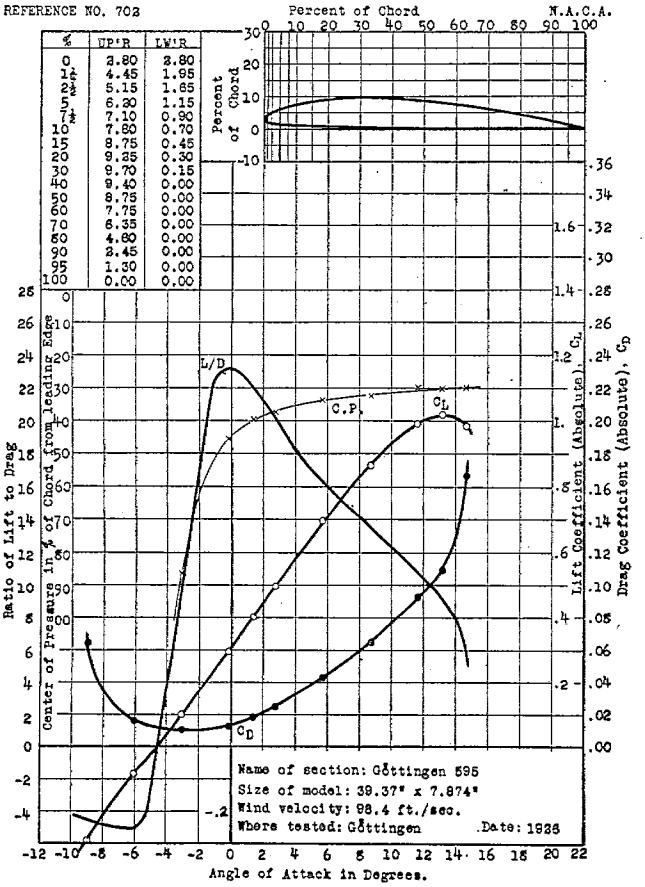
%	UP'R	LW'R
0	2.25	2.25
1¼	5.90	0.80
2½	7.20	0.30
5	9.15	0.00
7½	10.45	0.10
10	11.55	0.25
15	13.30	0.85
20	14.50	1.00
30	15.80	1.55
40	15.90	1.80
50	15.00	1.85
60	13.20	1.80
70	10.70	1.55
80	7.55	1.10
90	3.80	0.65
95	1.80	0.35
100	0.00	0.00

REFERENCE NO. 701



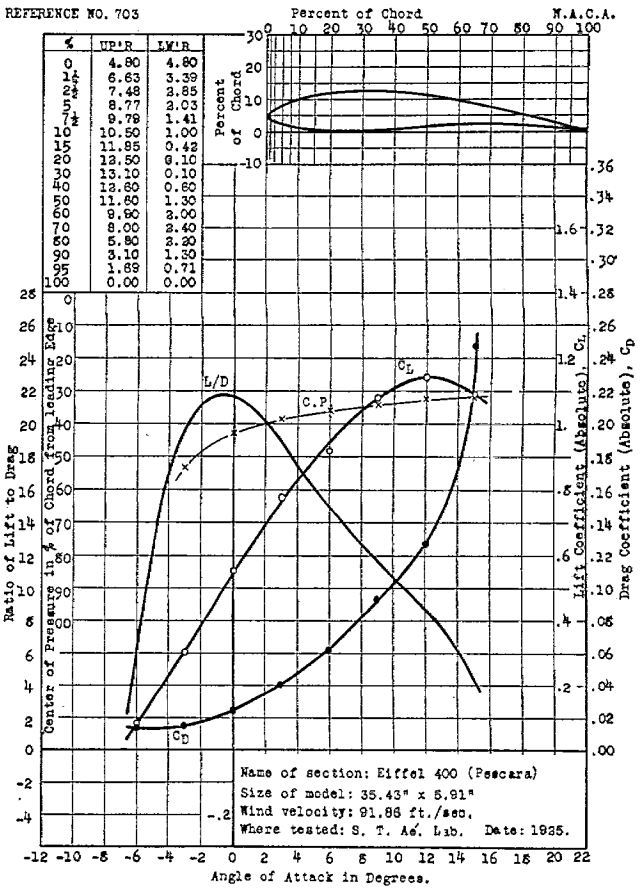
%	UP'R	LW'R
0	3.00	3.00
1¼	5.50	1.80
2½	6.50	1.35
5	7.85	0.85
7½	8.90	0.55
10	9.75	0.40
15	10.95	0.25
20	11.50	0.15
30	12.00	0.10
40	11.70	0.00
50	10.85	0.00
60	9.45	0.00
70	7.65	0.00
80	5.50	0.00
90	3.00	0.00
95	1.65	0.00
100	0.00	0.00

REFERENCE NO. 702



%	UP'R	LW'R
0	3.80	3.80
1¼	4.45	1.95
2½	5.15	1.65
5	6.30	1.15
7½	7.10	0.90
10	7.80	0.70
15	8.75	0.45
20	9.25	0.30
30	9.70	0.15
40	9.40	0.00
50	8.75	0.00
60	7.75	0.00
70	6.35	0.00
80	4.60	0.00
90	2.45	0.00
95	1.30	0.00
100	0.00	0.00

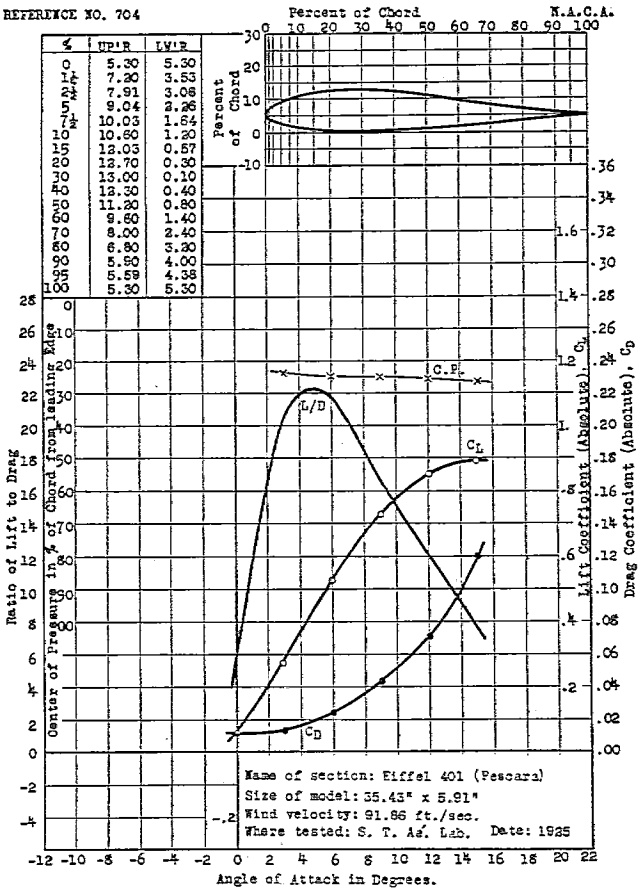
REFERENCE NO. 703



%	UP'R	LW'R
0	4.80	4.80
1¼	6.63	3.39
2½	7.48	2.85
5	8.77	2.03
7½	9.79	1.41
10	10.50	1.00
15	11.85	0.42
20	12.50	0.10
30	13.10	0.10
40	12.60	0.60
50	11.60	1.30
60	9.90	2.00
70	8.00	2.40
80	5.80	2.20
90	3.10	1.30
95	1.69	0.71
100	0.00	0.00

REFERENCE NO. 704

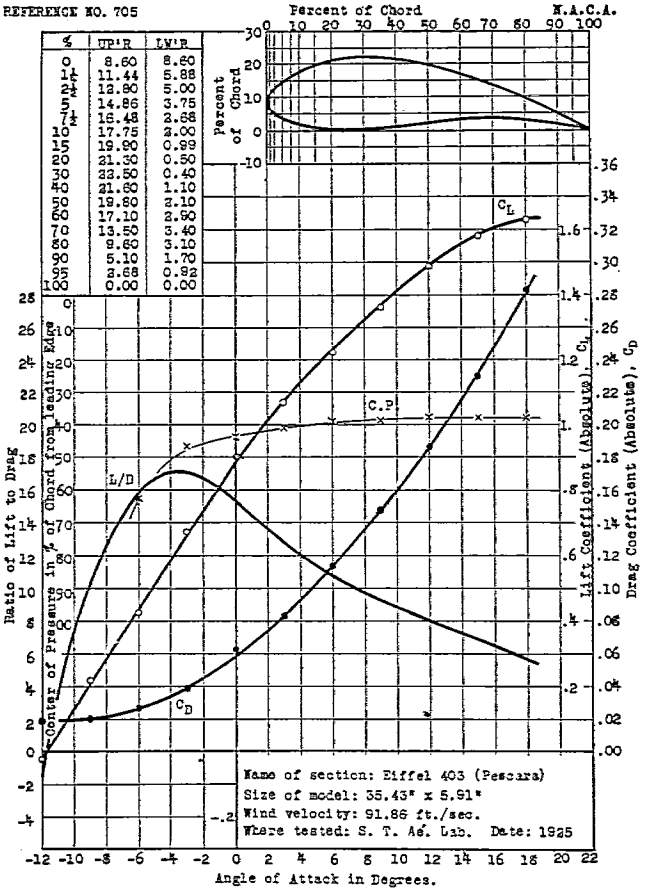
%	UP'R	LW'R
0	5.30	5.30
1¼	7.20	3.53
2½	7.91	3.08
5	9.04	2.26
7½	10.03	1.64
10	10.60	1.20
15	12.03	0.57
20	12.70	0.30
30	13.00	0.10
40	12.30	0.40
50	11.20	0.80
60	9.60	1.40
70	8.00	2.40
80	6.80	3.20
90	5.90	4.00
95	5.59	4.38
100	5.30	5.30



Name of section: Eiffel 401 (Pescara)
Size of model: 35.43" x 5.91"
Wind velocity: 91.86 ft./sec.
Where tested: S. T. Aé. Lab. Date: 1925

REFERENCE NO. 705

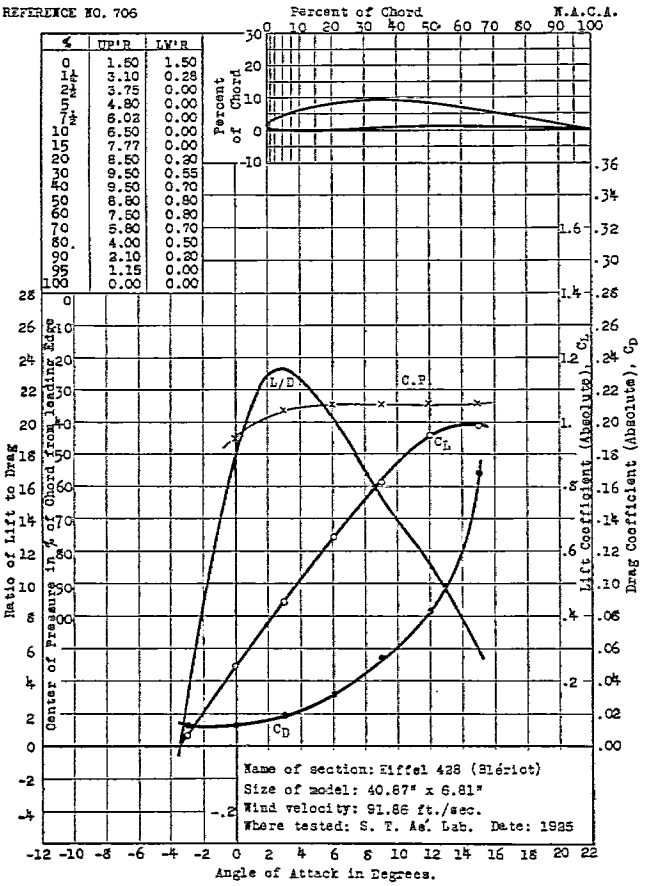
%	UP'R	LW'R
0	8.60	8.60
1¼	11.44	5.88
2½	12.80	5.00
5	14.86	3.75
7½	16.48	2.68
10	17.75	2.00
15	19.90	0.99
20	21.30	0.50
30	22.50	0.40
40	21.60	1.10
50	19.80	2.10
60	17.10	2.90
70	13.50	3.40
80	9.60	3.10
90	5.10	1.70
95	2.68	0.92
100	0.00	0.00



Name of section: Eiffel 403 (Pescara)
Size of model: 35.43" x 5.91"
Wind velocity: 91.86 ft./sec.
Where tested: S. T. Aé. Lab. Date: 1925

REFERENCE NO. 706

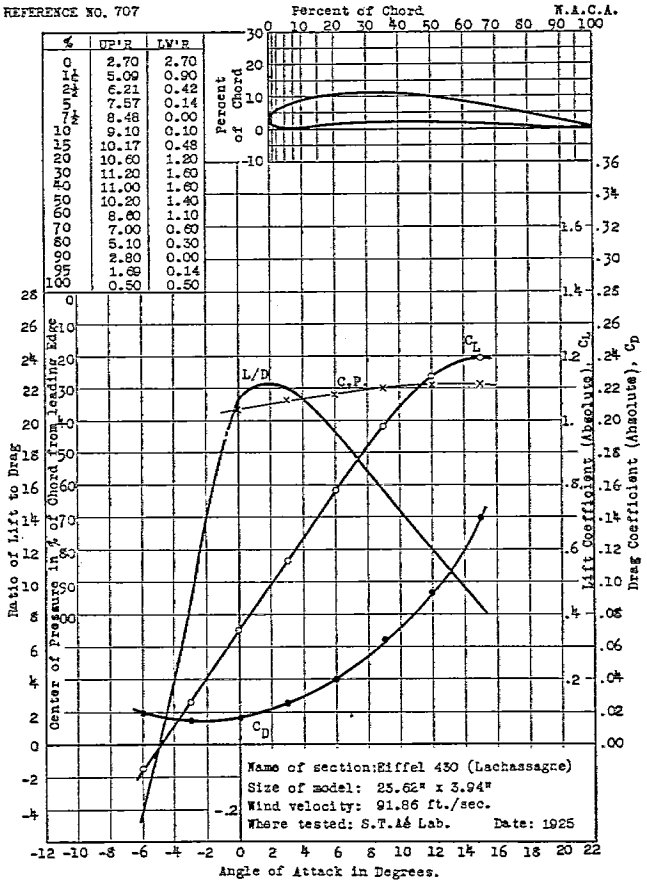
%	UP'R	LW'R
0	1.50	1.50
1¼	3.10	0.28
2½	3.75	0.00
5	4.80	0.00
7½	6.02	0.00
10	6.50	0.00
15	7.77	0.00
20	8.50	0.30
30	9.50	0.55
40	9.50	0.70
50	8.80	0.80
60	7.50	0.80
70	5.80	0.70
80	4.00	0.50
90	2.10	0.20
95	1.15	0.00
100	0.00	0.00



Name of section: Eiffel 428 (Blériot)
Size of model: 40.87" x 6.81"
Wind velocity: 91.86 ft./sec.
Where tested: S. T. Aé. Lab. Date: 1925

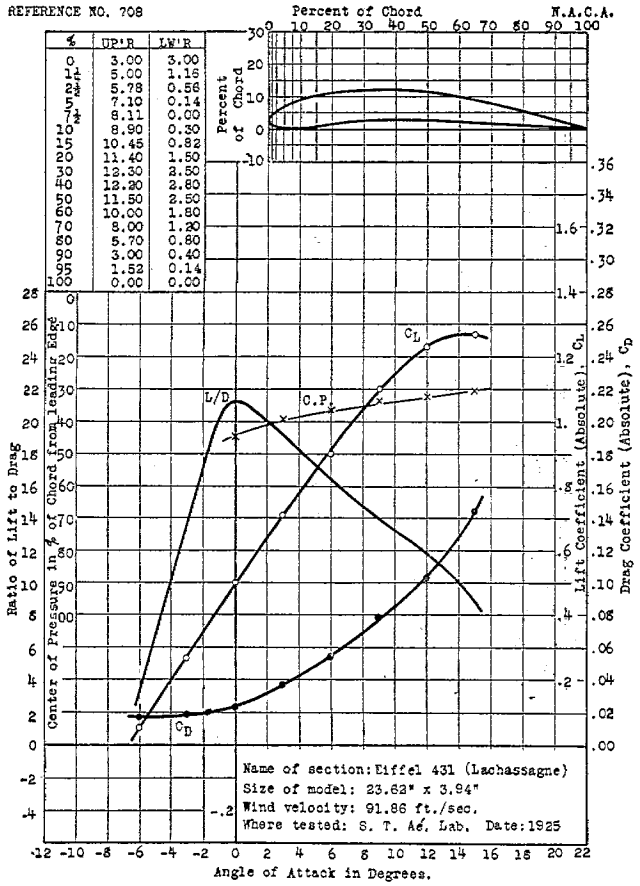
REFERENCE NO. 707

%	UP'R	LW'R
0	2.70	2.70
1¼	5.09	0.90
2½	6.21	0.42
5	7.57	0.14
7½	8.48	0.00
10	9.10	0.10
15	10.17	0.48
20	10.60	1.20
30	11.20	1.60
40	11.00	1.60
50	10.20	1.40
60	8.80	1.10
70	7.00	0.60
80	5.10	0.30
90	2.80	0.00
95	1.69	0.14
100	0.50	0.50



Name of section: Eiffel 430 (Lachassagne)
Size of model: 25.62" x 3.94"
Wind velocity: 91.86 ft./sec.
Where tested: S.T.Aé Lab. Date: 1925

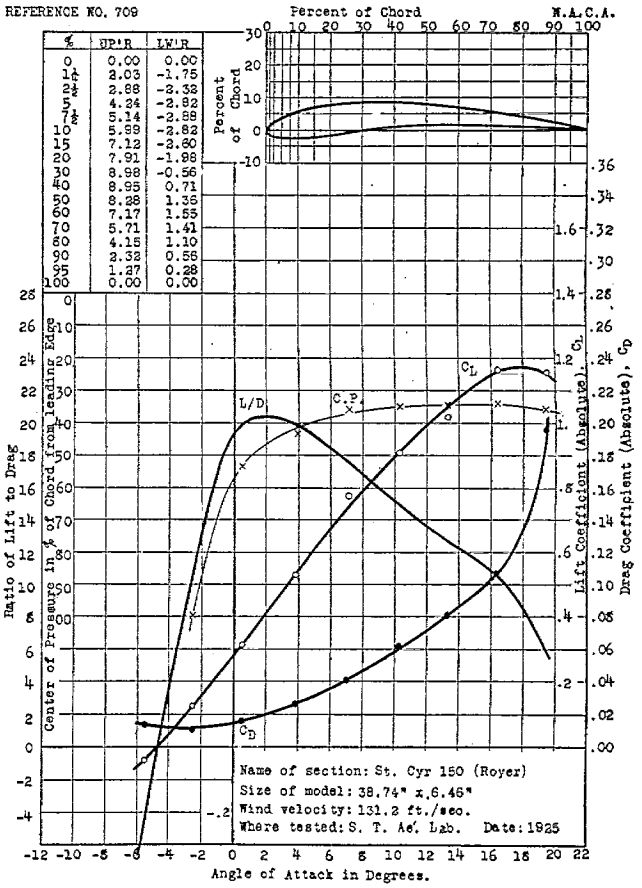
REFERENCE NO. 708



%	UP'R	LW'R
0	3.00	3.00
1¼	5.00	1.16
2½	5.78	0.56
5	7.10	0.14
7½	8.11	0.00
10	8.90	0.30
15	10.45	0.82
20	11.40	1.50
30	12.30	2.50
40	12.80	2.80
50	11.50	2.50
60	10.00	1.80
70	8.00	1.20
80	5.70	0.80
90	3.00	0.40
95	1.52	0.14
100	0.00	0.00

Name of section: Eiffel 431 (Lachassagne)
Size of model: 23.62" x 3.94"
Wind velocity: 91.86 ft./sec.
Where tested: S. T. Aé. Lab. Date: 1925

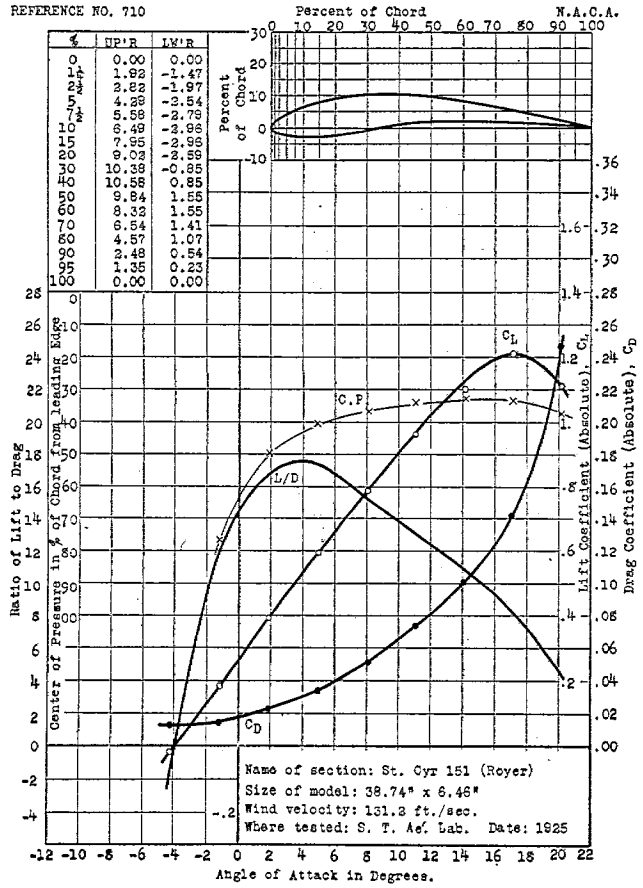
REFERENCE NO. 709



%	UP'R	LW'R
0	0.00	0.00
1¼	2.03	-1.75
2½	2.88	-2.38
5	4.24	-2.82
7½	5.14	-2.88
10	5.89	-2.82
15	7.12	-2.60
20	7.91	-1.98
30	8.98	-0.56
40	8.95	0.71
50	8.28	1.36
60	7.17	1.55
70	5.71	1.41
80	4.15	1.10
90	2.32	0.56
95	1.27	0.28
100	0.00	0.00

Name of section: St. Cyr 150 (Royer)
Size of model: 38.74" x 6.46"
Wind velocity: 131.2 ft./sec.
Where tested: S. T. Aé. Lab. Date: 1925

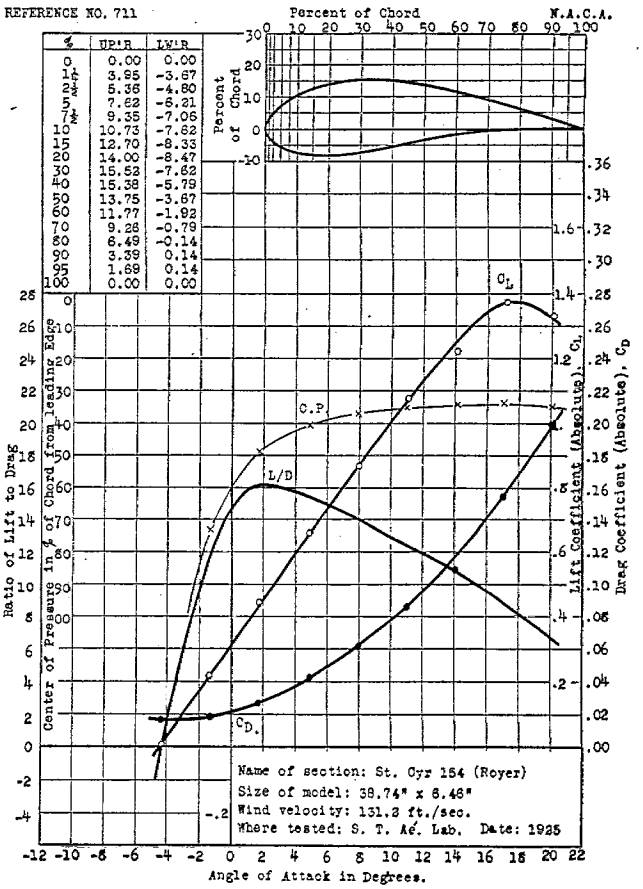
REFERENCE NO. 710



%	UP'R	LW'R
0	0.00	0.00
1¼	1.92	-1.47
2½	2.82	-1.97
5	4.28	-2.54
7½	5.58	-2.79
10	6.49	-2.98
15	7.95	-2.98
20	9.02	-2.89
30	10.38	-0.85
40	10.58	0.85
50	9.54	1.56
60	8.32	1.55
70	6.54	1.41
80	4.57	1.07
90	2.48	0.54
95	1.35	0.23
100	0.00	0.00

Name of section: St. Cyr 151 (Royer)
Size of model: 38.74" x 6.46"
Wind velocity: 131.2 ft./sec.
Where tested: S. T. Aé. Lab. Date: 1925

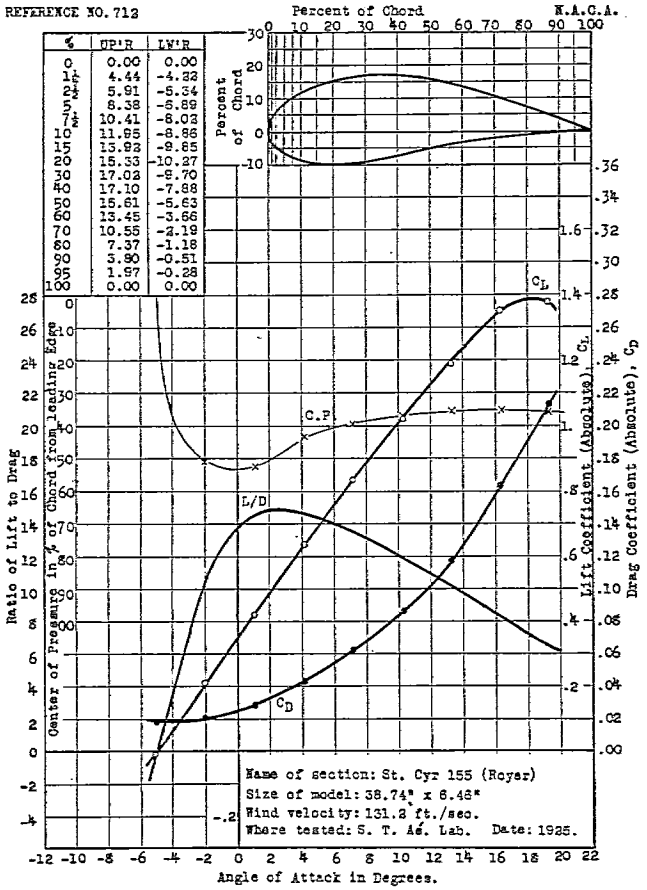
REFERENCE NO. 711



%	UP'R	LW'R
0	0.00	0.00
1¼	3.95	-3.67
2½	5.36	-4.80
5	7.62	-6.21
7½	9.35	-7.06
10	10.73	-7.62
15	12.70	-8.33
20	14.00	-8.47
30	15.52	-7.62
40	15.38	-5.79
50	13.75	-3.67
60	11.77	-1.92
70	9.28	-0.79
80	6.49	-0.14
90	3.39	0.14
95	1.68	0.14
100	0.00	0.00

Name of section: St. Cyr 154 (Royer)
Size of model: 38.74" x 6.46"
Wind velocity: 131.2 ft./sec.
Where tested: S. T. Aé. Lab. Date: 1925

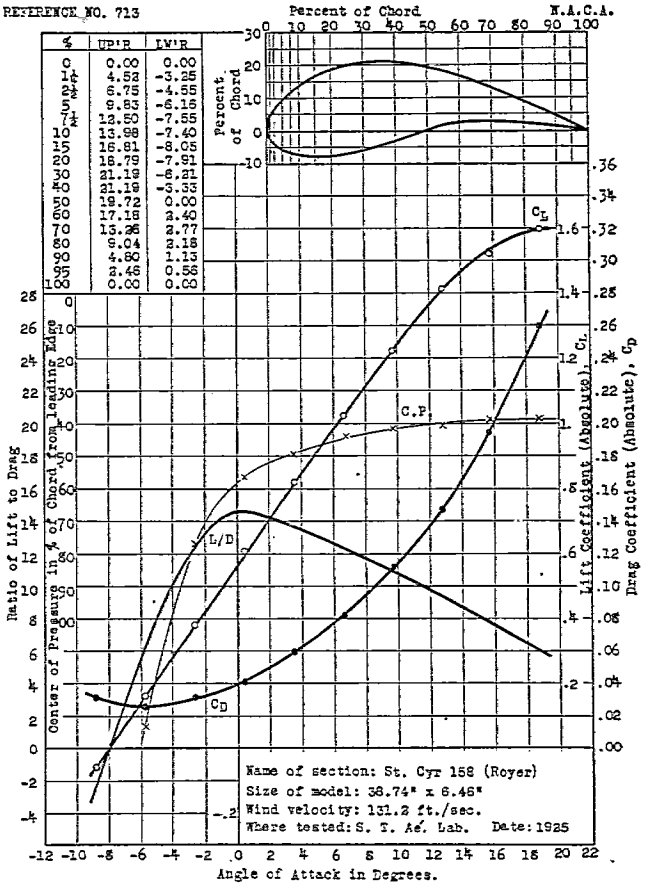
REFERENCE NO. 712



%	UP'R	LW'R
0	0.00	0.00
1¼	4.44	-4.22
2½	5.91	-5.34
5	8.38	-5.89
7½	10.41	-8.03
10	11.95	-8.86
15	13.92	-9.85
20	15.33	-10.27
30	17.02	-9.70
40	17.10	-7.88
50	15.61	-5.63
60	13.45	-3.66
70	10.55	-2.19
80	7.37	-1.18
90	3.80	-0.51
95	1.97	-0.28
100	0.00	0.00

Name of section: St. Cyr 155 (Royer)
Size of model: 38.74" x 6.46"
Wind velocity: 131.2 ft./sec.
Where tested: S. T. Aé. Lab. Date: 1925.

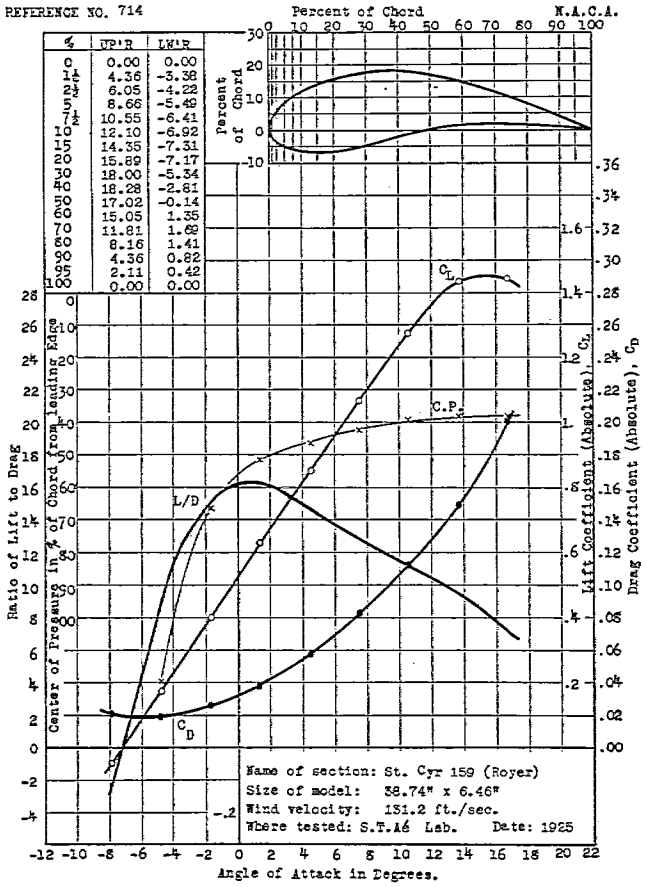
REFERENCE NO. 713



%	UP'R	LW'R
0	0.00	0.00
1¼	4.52	-3.25
2½	6.75	-4.55
5	9.83	-6.15
7½	12.50	-7.55
10	13.98	-7.40
15	16.81	-8.05
20	18.79	-7.91
30	21.19	-6.21
40	21.19	-3.33
50	19.72	0.00
60	17.18	2.40
70	13.26	2.77
80	9.04	2.18
90	4.60	1.13
95	2.48	0.58
100	0.00	0.00

Name of section: St. Cyr 158 (Royer)
Size of model: 38.74" x 6.46"
Wind velocity: 131.2 ft./sec.
Where tested: S. T. Aé. Lab. Date: 1925

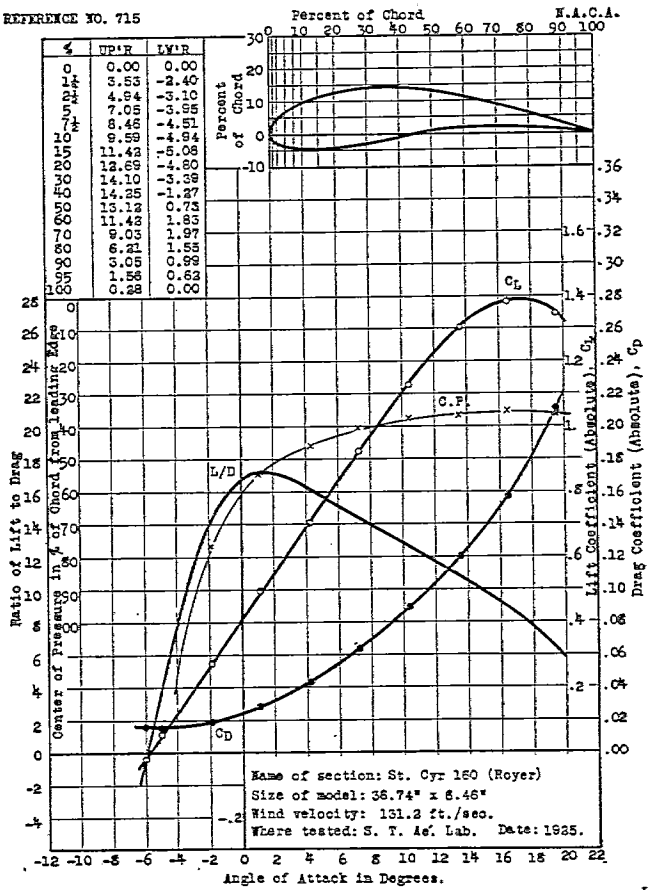
REFERENCE NO. 714



%	UP'R	LW'R
0	0.00	0.00
1¼	4.36	-3.38
2½	6.05	-4.22
5	8.66	-5.49
7½	10.55	-6.41
10	12.10	-6.92
15	14.35	-7.31
20	15.89	-7.17
30	18.00	-5.34
40	18.28	-2.81
50	17.02	-0.14
60	15.05	1.35
70	11.81	1.69
80	8.16	1.41
90	4.36	0.82
95	2.11	0.42
100	0.00	0.00

Name of section: St. Cyr 159 (Royer)
Size of model: 38.74" x 6.46"
Wind velocity: 131.2 ft./sec.
Where tested: S.T.Aé Lab. Date: 1925

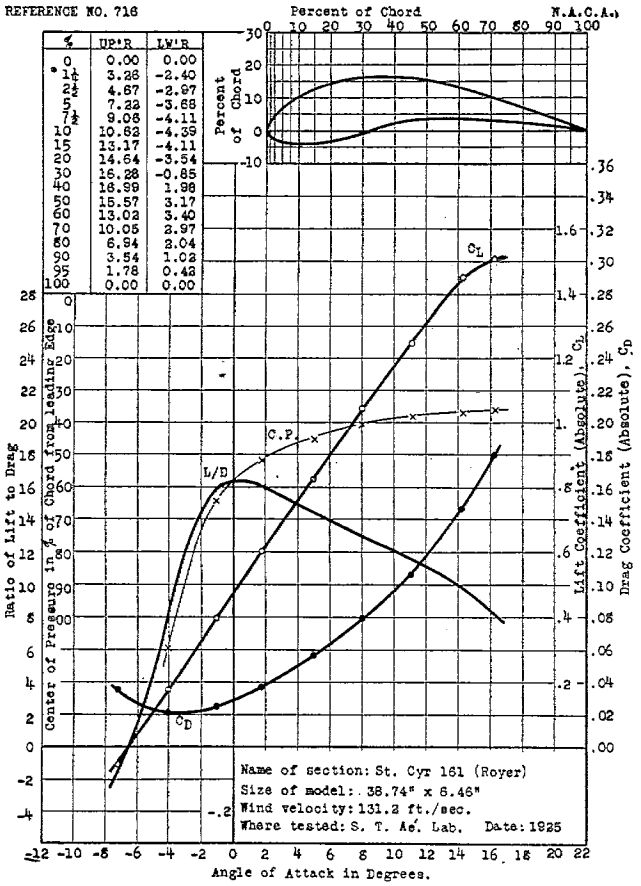
REFERENCE NO. 715



%	UP'R	LW'R
0	0.00	0.00
1¼	3.53	-2.40
2½	4.94	-3.10
5	7.05	-3.95
7½	8.46	-4.51
10	9.59	-4.94
15	11.42	-5.08
20	12.69	-4.80
30	14.10	-3.39
40	14.35	-1.27
50	13.12	0.73
60	11.42	1.83
70	9.03	1.97
80	6.21	1.55
90	3.05	0.99
95	1.56	0.62
100	0.28	0.00

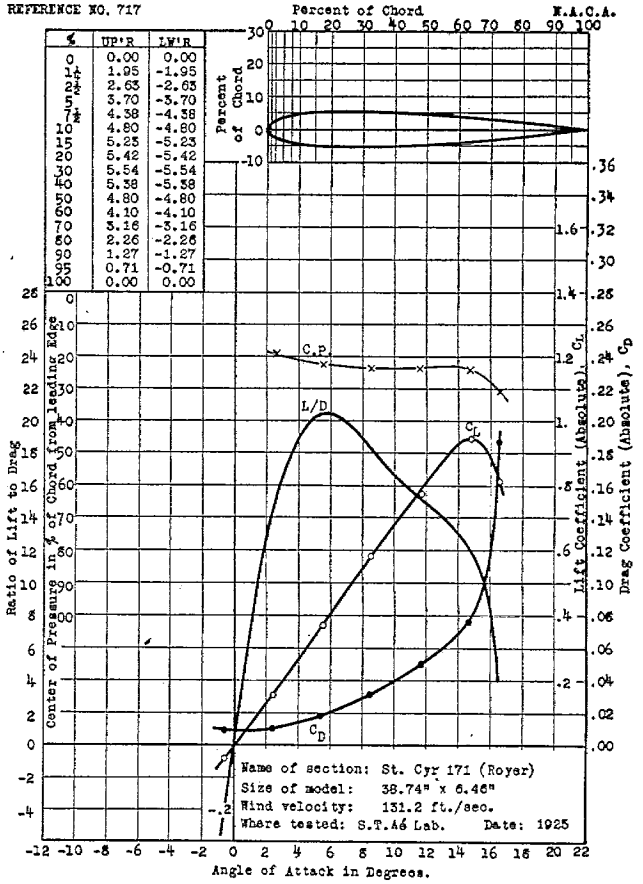
Name of section: St. Cyr 160 (Royer)
Size of model: 38.74" x 6.46"
Wind velocity: 131.2 ft./sec.
Where tested: S. T. Aé. Lab. Date: 1925.

REFERENCE NO. 716



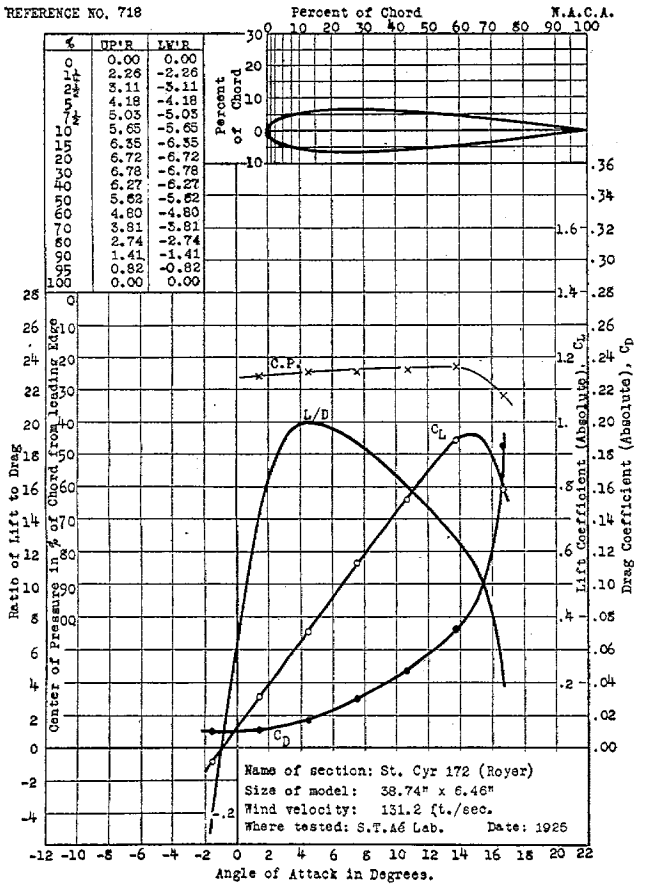
%	UP'R	LW'R
0	0.00	0.00
1¼	3.26	-2.40
2½	4.67	-2.97
5	7.22	-3.68
7½	9.06	-4.11
10	10.62	-4.39
15	13.17	-4.11
20	14.64	-3.54
30	16.28	-0.85
40	16.99	1.98
50	15.57	3.17
60	13.02	3.40
70	10.05	2.97
80	6.94	2.04
90	3.54	1.02
95	1.78	0.42
100	0.00	0.00

REFERENCE NO. 717



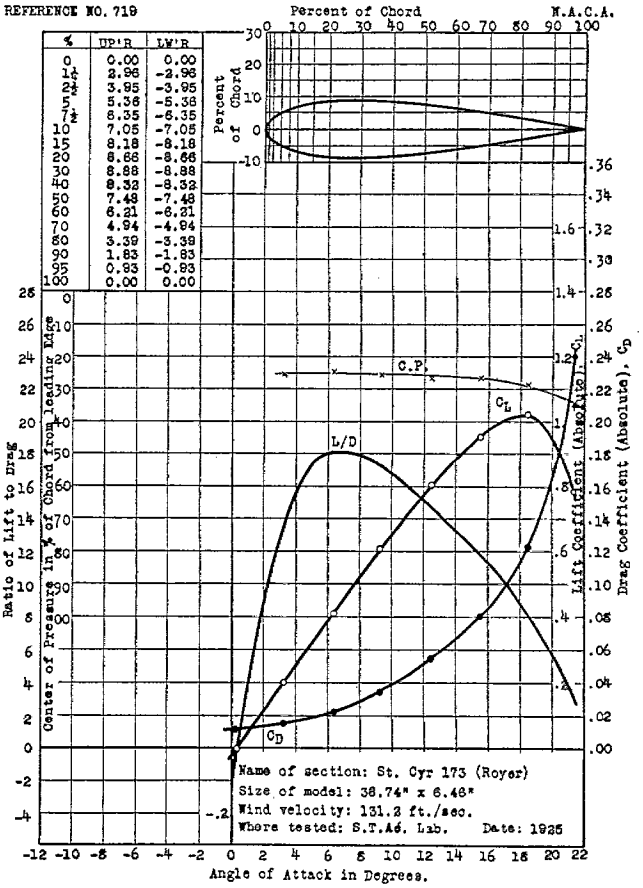
%	UP'R	LW'R
0	0.00	0.00
1¼	1.95	-1.95
2½	2.63	-2.63
5	3.70	-3.70
7½	4.38	-4.38
10	4.80	-4.80
15	5.23	-5.23
20	5.42	-5.42
30	5.54	-5.54
40	5.38	-5.38
50	4.80	-4.80
60	4.10	-4.10
70	3.16	-3.16
80	2.26	-2.26
90	1.27	-1.27
95	0.71	-0.71
100	0.00	0.00

REFERENCE NO. 718



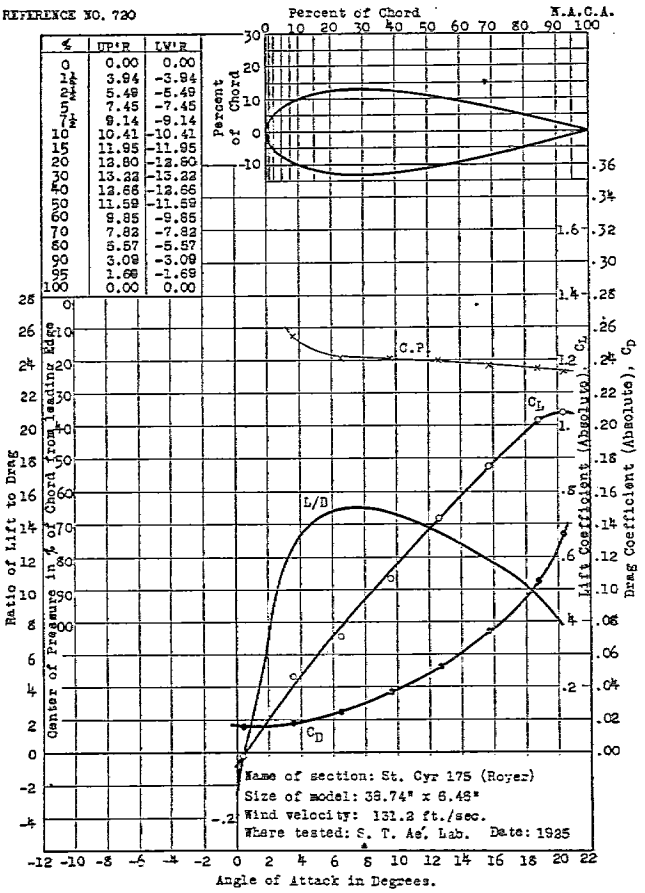
%	UP'R	LW'R
0	0.00	0.00
1¼	2.26	-2.26
2½	3.11	-3.11
5	4.18	-4.18
7½	5.03	-5.03
10	5.65	-5.65
15	6.35	-6.35
20	6.72	-6.72
30	6.78	-6.78
40	6.27	-6.27
50	5.62	-5.62
60	4.80	-4.80
70	3.81	-3.81
80	2.74	-2.74
90	1.41	-1.41
95	0.82	-0.82
100	0.00	0.00

REFERENCE NO. 719



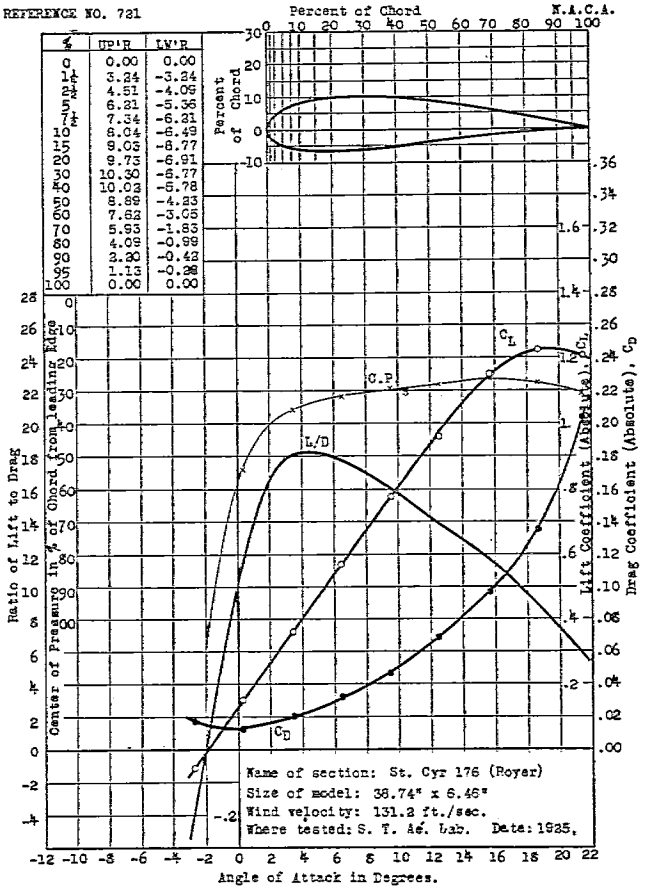
%	UP'R	LW'R
0	0.00	0.00
1¼	2.96	-2.96
2½	3.95	-3.95
5	5.36	-5.36
7½	6.35	-6.35
10	7.05	-7.05
15	8.18	-8.18
20	8.66	-8.66
30	8.88	-8.88
40	8.32	-8.32
50	7.48	-7.48
60	6.21	-6.21
70	4.94	-4.94
80	3.39	-3.39
90	1.83	-1.83
95	0.93	-0.93
100	0.00	0.00

REFERENCE NO. 720



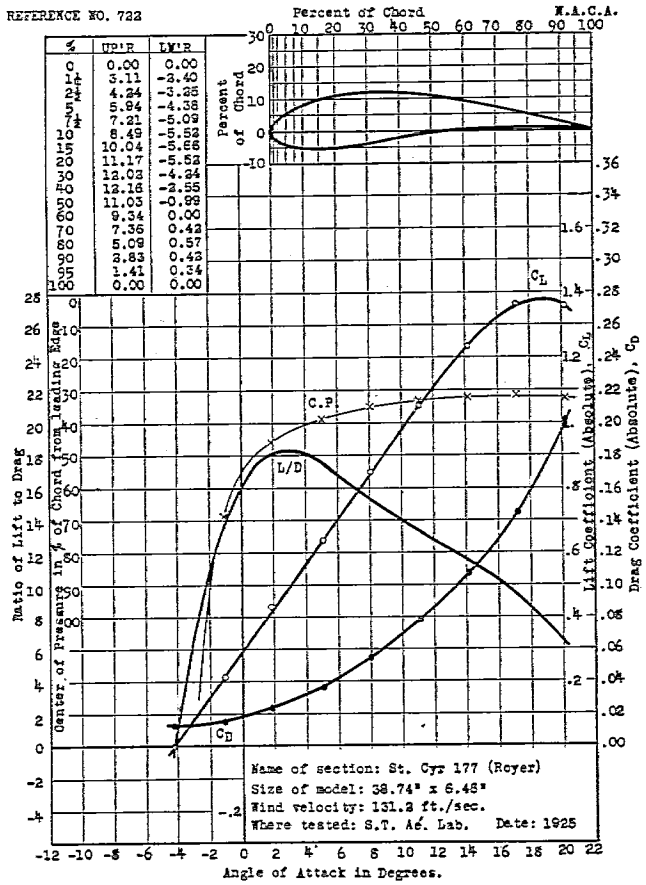
%	UP'R	LW'R
0	0.00	0.00
1¼	3.94	-3.94
2½	5.49	-5.49
5	7.45	-7.45
7½	9.14	-9.14
10	10.41	-10.41
15	11.95	-11.95
20	12.80	-12.80
30	13.22	-13.22
40	12.66	-12.66
50	11.59	-11.59
60	9.85	-9.85
70	7.82	-7.82
80	5.57	-5.57
90	3.09	-3.09
95	1.69	-1.69
100	0.00	0.00

REFERENCE NO. 721



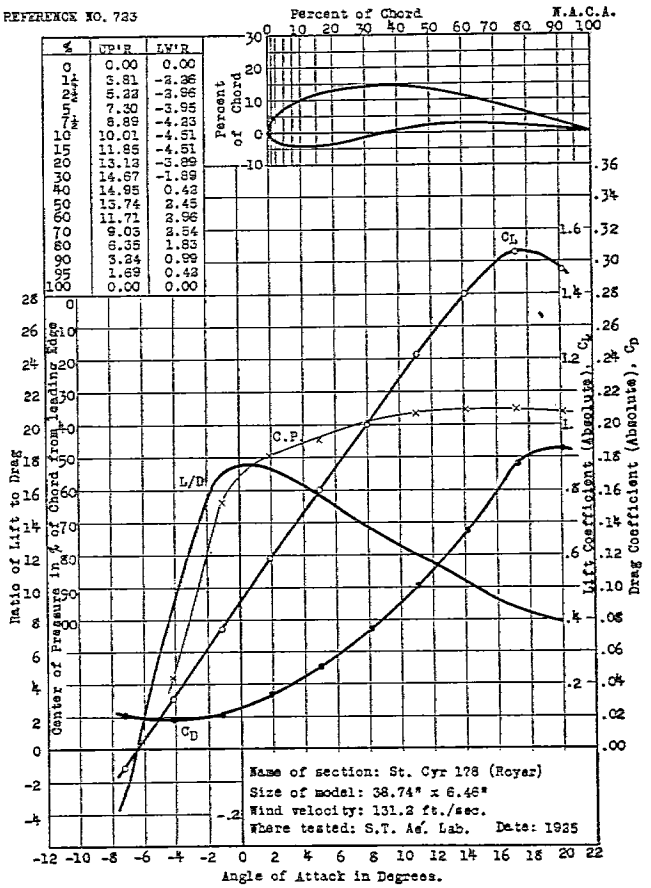
%	UP'R	LW'R
0	0.00	0.00
1¼	3.24	-3.24
2½	4.51	-4.09
5	6.21	-5.36
7½	7.34	-6.21
10	8.04	-6.49
15	9.03	-8.77
20	9.73	-6.91
30	10.30	-8.77
40	10.03	-5.78
50	8.89	-4.23
60	7.62	-3.05
70	5.93	-1.83
80	4.09	-0.99
90	2.30	-0.42
95	1.13	-0.28
100	0.00	0.00

REFERENCE NO. 722



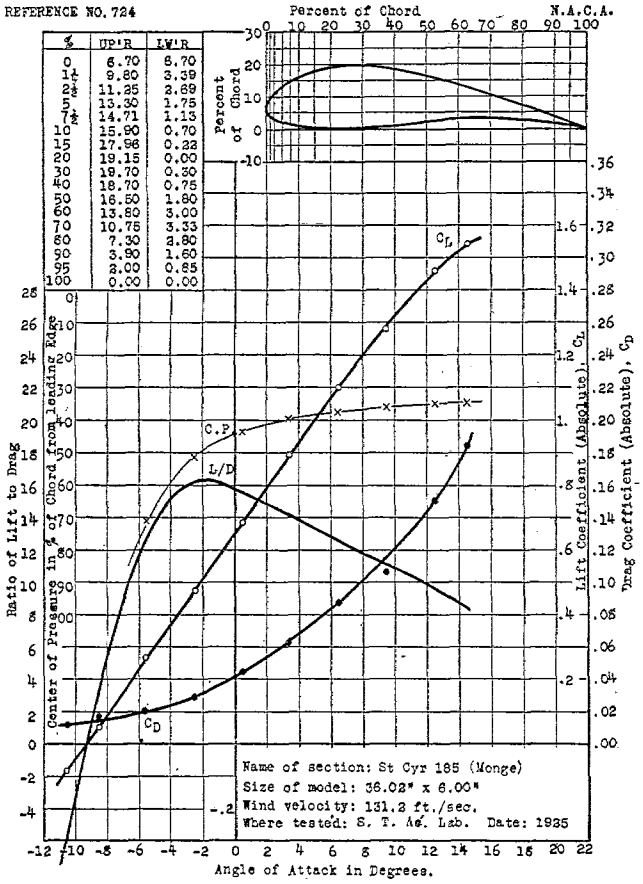
%	UP'R	LW'R
0	0.00	0.00
1¼	3.11	-3.40
2½	4.24	-3.28
5	5.94	-4.38
7½	7.21	-5.09
10	8.49	-5.52
15	10.04	-5.66
20	11.17	-5.52
30	12.03	-4.24
40	12.16	-2.55
50	11.03	-0.99
60	9.34	0.00
70	7.36	0.42
80	5.09	0.57
90	2.83	0.43
95	1.41	0.34
100	0.00	0.00

REFERENCE NO. 723



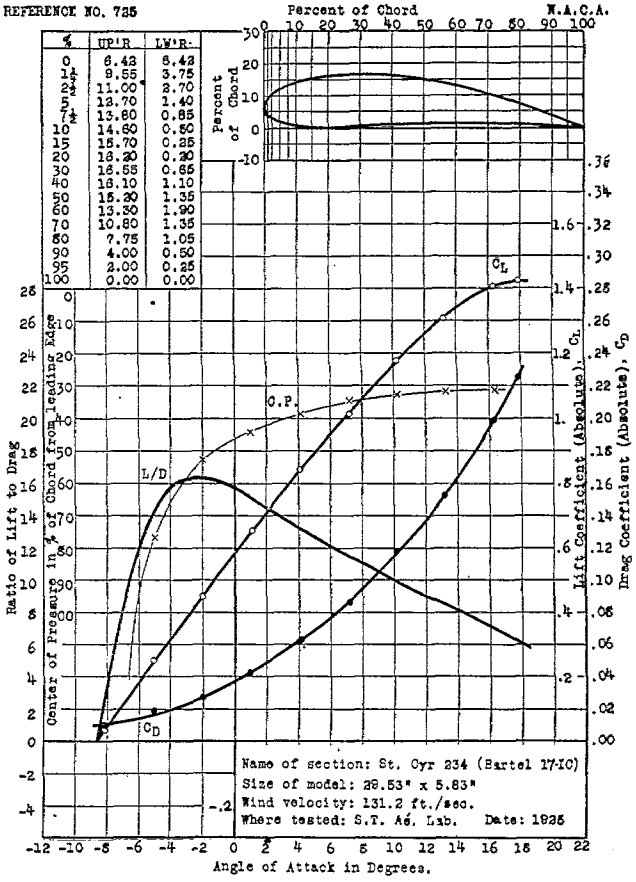
%	UP'R	LW'R
0	0.00	0.00
1¼	3.81	-2.36
2½	5.22	-3.96
5	7.30	-3.95
7½	8.89	-4.23
10	10.01	-4.51
15	11.85	-4.51
20	13.13	-3.89
30	14.67	-1.89
40	14.95	0.42
50	13.74	2.45
60	11.71	2.96
70	9.03	2.54
80	6.35	1.83
90	3.24	0.99
95	1.69	0.42
100	0.00	0.00

REFERENCE NO. 724



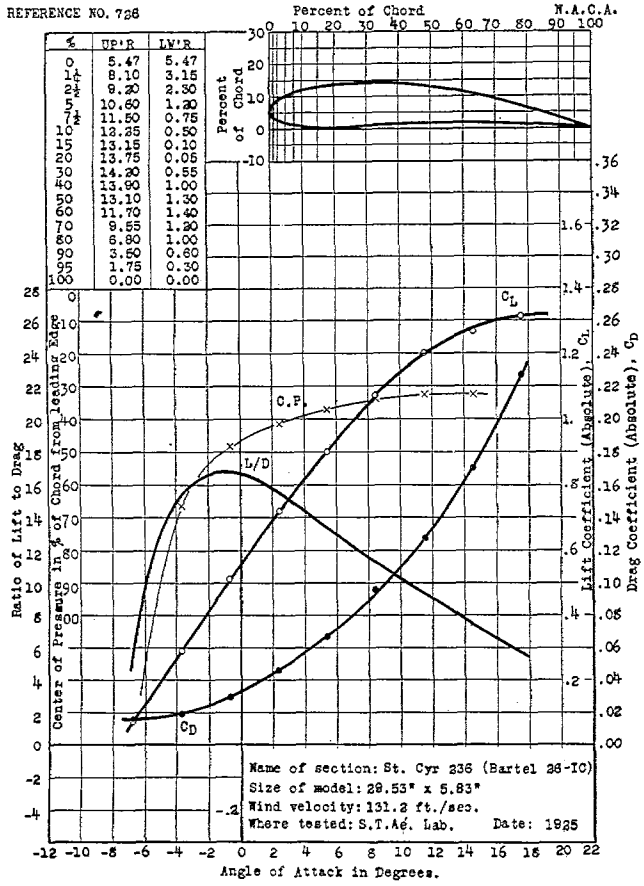
%	UP'R	LW'R
0	6.70	6.70
1¼	9.80	3.39
2½	11.25	2.69
5	13.30	1.75
7½	14.71	1.13
10	15.90	0.70
15	17.96	0.22
20	19.15	0.00
30	19.70	0.30
40	18.70	0.75
50	16.50	1.80
60	13.80	3.00
70	10.75	3.33
80	7.30	2.80
90	3.90	1.60
95	2.00	0.85
100	0.00	0.00

REFERENCE NO. 725



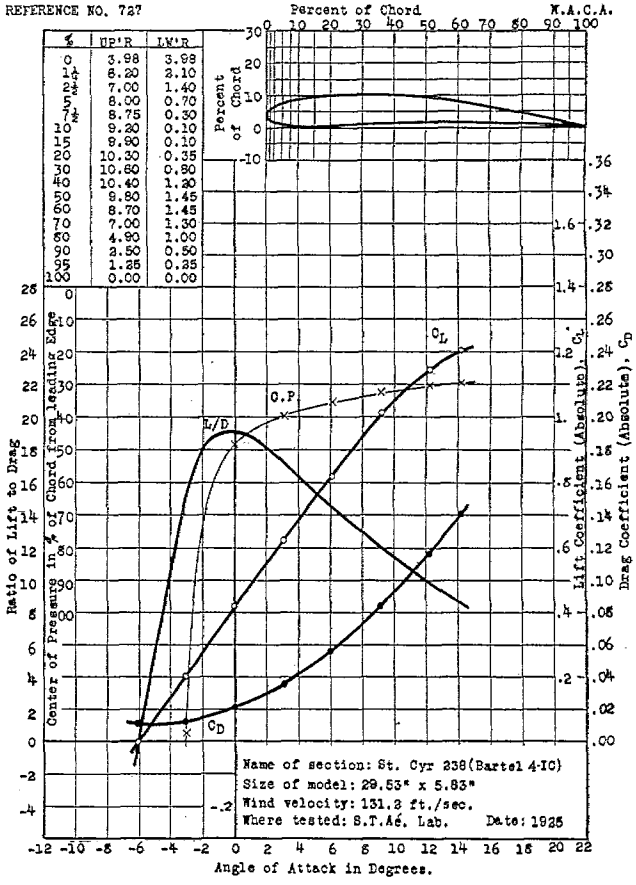
%	UP'R	LW'R
0	6.42	6.42
1¼	9.55	3.75
2½	11.00	2.70
5	12.70	1.40
7½	13.80	0.85
10	14.60	0.50
15	15.70	0.25
20	16.20	0.20
30	16.55	0.65
40	16.10	1.10
50	15.20	1.35
60	13.30	1.90
70	10.80	1.35
80	7.75	1.05
90	4.00	0.50
95	2.00	0.25
100	0.00	0.00

REFERENCE NO. 726



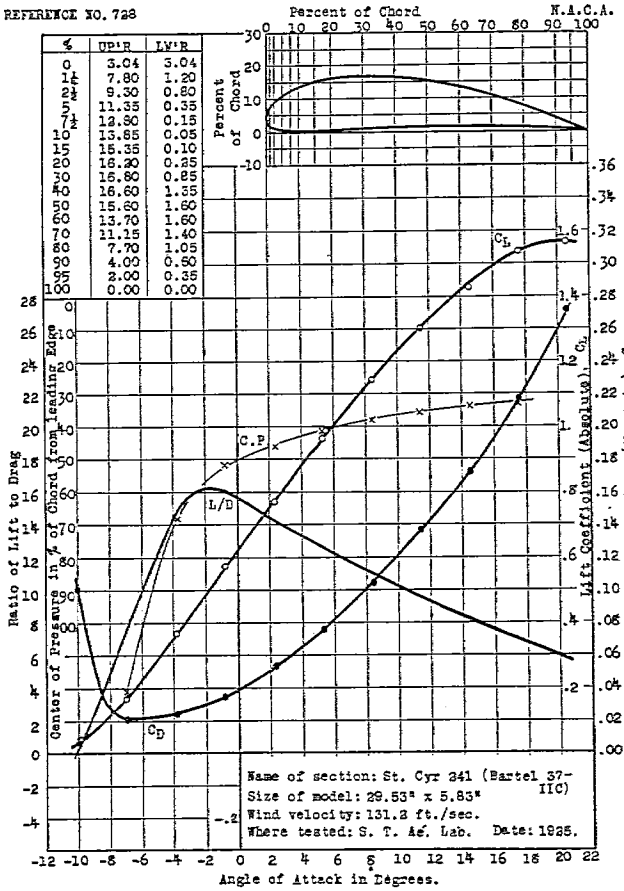
%	UP'R	LW'R
0	5.47	5.47
1¼	8.10	3.15
2½	9.20	2.30
5	10.60	1.20
7½	11.50	0.75
10	12.35	0.50
15	13.15	0.10
20	13.75	0.05
30	14.20	0.55
40	13.90	1.00
50	13.10	1.30
60	11.70	1.40
70	9.55	1.20
80	6.80	1.00
90	3.50	0.60
95	1.75	0.30
100	0.00	0.00

REFERENCE NO. 727



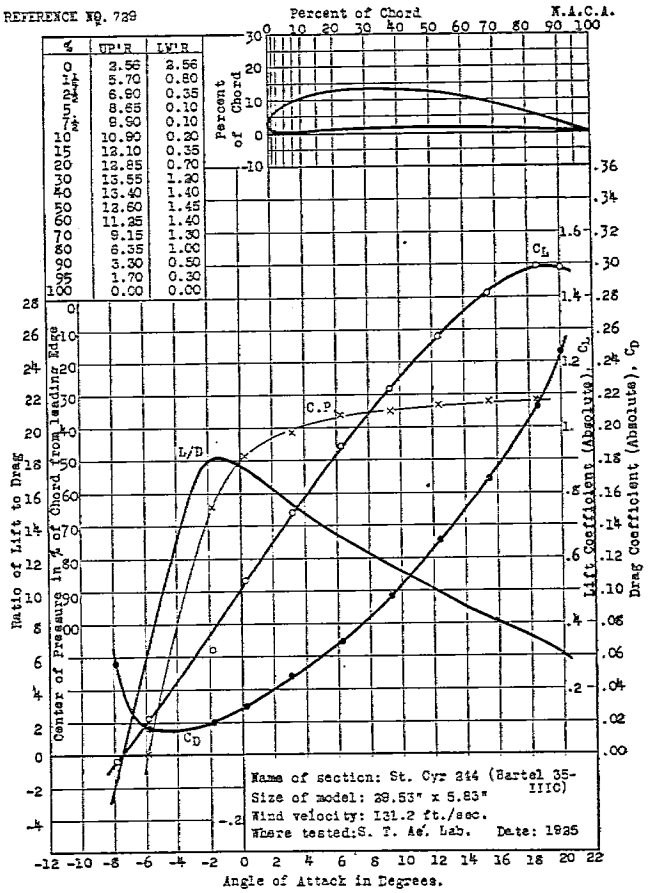
%	UP'R	LW'R
0	3.98	3.98
1¼	6.20	2.10
2½	7.00	1.40
5	8.00	0.70
7½	8.75	0.30
10	9.20	0.10
15	9.90	0.10
20	10.30	0.35
30	10.60	0.80
40	10.40	1.20
50	9.80	1.45
60	8.70	1.45
70	7.00	1.30
80	4.90	1.00
90	2.50	0.50
95	1.25	0.25
100	0.00	0.00

REFERENCE NO. 728



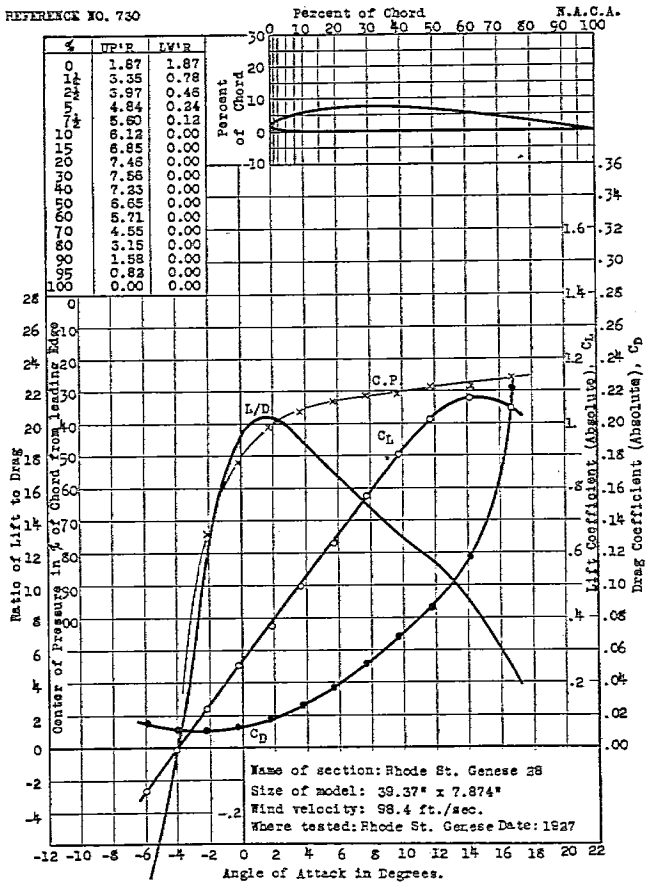
%	UP'R	LW'R
0	3.04	3.04
1¼	7.80	1.20
2½	9.30	0.80
5	11.35	0.35
7½	12.80	0.15
10	13.85	0.05
15	15.35	0.10
20	16.20	0.25
30	16.80	0.85
40	16.60	1.35
50	15.80	1.60
60	13.70	1.60
70	11.15	1.40
80	7.70	1.05
90	4.00	0.50
95	2.00	0.35
100	0.00	0.00

REFERENCE NO. 729



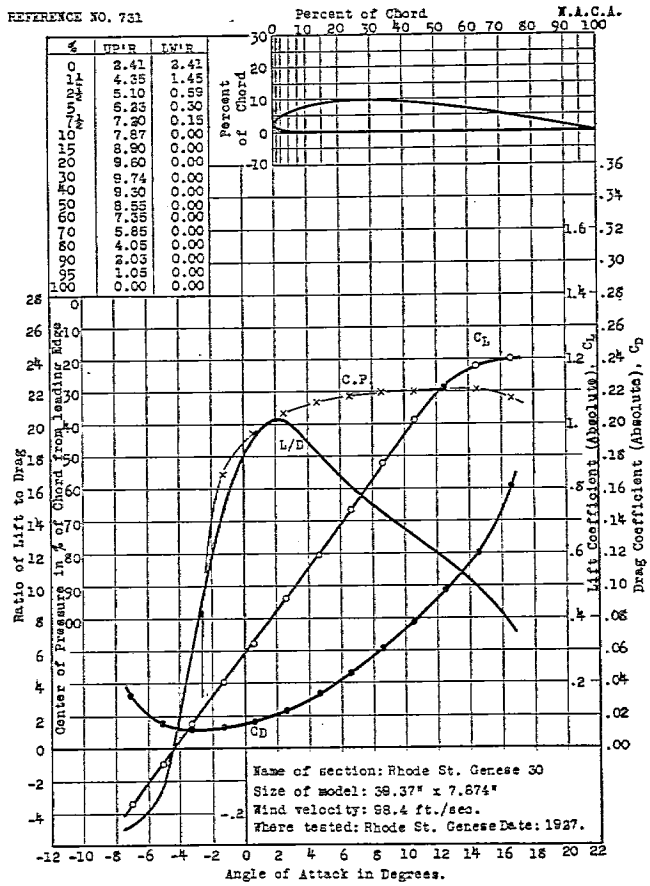
%	UP'R	LW'R
0	2.56	2.56
1¼	5.70	0.80
2½	6.90	0.35
5	8.65	0.10
7½	9.90	0.10
10	10.90	0.20
15	12.10	0.35
20	12.85	0.70
30	13.55	1.20
40	13.40	1.40
50	12.60	1.45
60	11.25	1.40
70	9.15	1.30
80	6.35	1.00
90	3.30	0.50
95	1.70	0.30
100	0.00	0.00

REFERENCE NO. 730



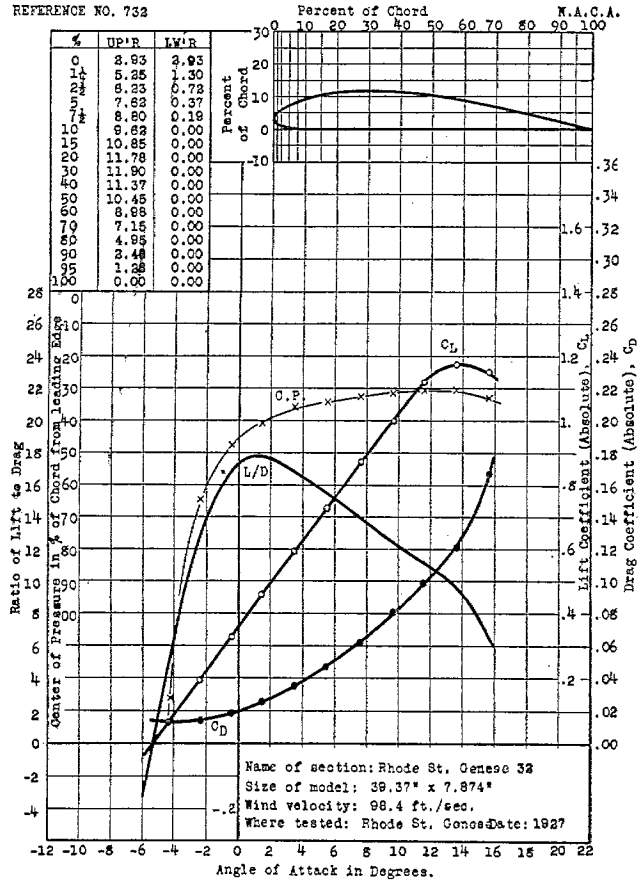
%	UP'R	LW'R
0	1.87	1.87
1¼	3.35	0.78
2½	3.97	0.46
5	4.84	0.24
7½	5.60	0.12
10	6.12	0.00
15	6.85	0.00
20	7.48	0.00
30	7.56	0.00
40	7.23	0.00
50	6.65	0.00
60	5.71	0.00
70	4.55	0.00
80	3.15	0.00
90	1.58	0.00
95	0.82	0.00
100	0.00	0.00

REFERENCE NO. 731



%	UP'R	LW'R
0	2.41	2.41
1¼	4.35	1.45
2½	5.10	0.59
5	6.23	0.30
7½	7.20	0.15
10	7.87	0.00
15	8.90	0.00
20	9.60	0.00
30	9.74	0.00
40	9.30	0.00
50	8.55	0.00
60	7.35	0.00
70	5.85	0.00
80	4.05	0.00
90	2.03	0.00
95	1.05	0.00
100	0.00	0.00

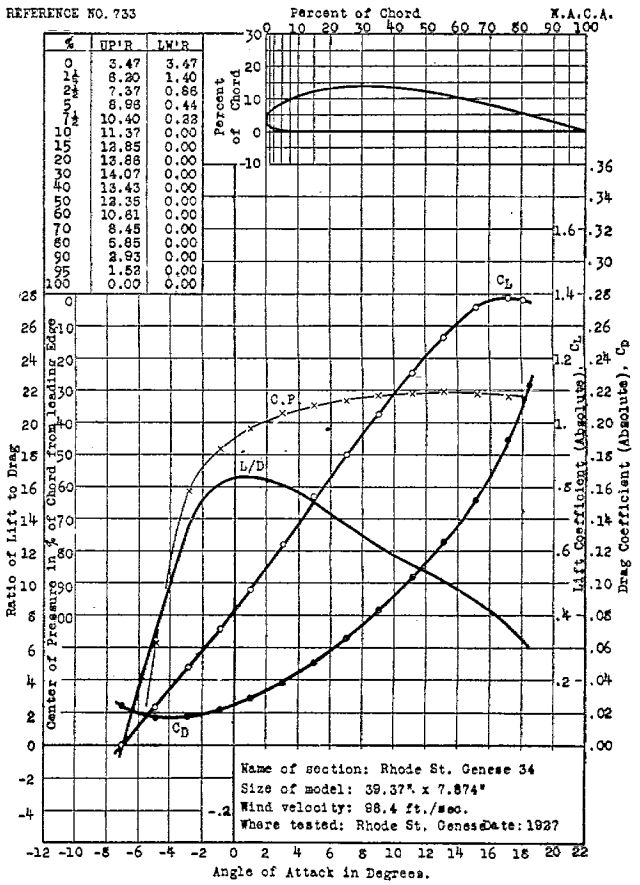
REFERENCE NO. 732



%	UP'R	LW'R
0	2.93	2.93
1¼	5.25	1.30
2½	6.23	0.72
5	7.62	0.37
7½	8.80	0.19
10	9.62	0.00
15	10.85	0.00
20	11.78	0.00
30	11.90	0.00
40	11.37	0.00
50	10.45	0.00
60	8.98	0.00
70	7.15	0.00
80	4.95	0.00
90	2.48	0.00
95	1.28	0.00
100	0.00	0.00

Name of section: Rhode St. Genese 32
Size of model: 39.37" x 7.874"
Wind velocity: 98.4 ft./sec.
Where tested: Rhode St. Genese Date: 1927

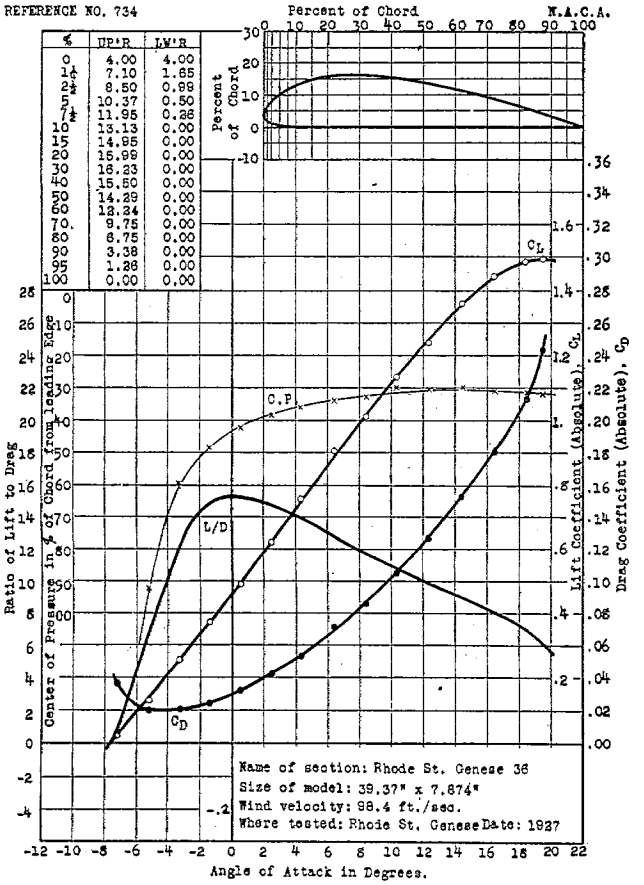
REFERENCE NO. 733



%	UP'R	LW'R
0	3.47	3.47
1¼	6.20	1.40
2½	7.37	0.86
5	8.98	0.44
7½	10.40	0.23
10	11.37	0.00
15	12.85	0.00
20	13.88	0.00
30	14.07	0.00
40	13.43	0.00
50	12.35	0.00
60	10.61	0.00
70	8.45	0.00
80	5.85	0.00
90	2.93	0.00
95	1.52	0.00
100	0.00	0.00

Name of section: Rhode St. Genese 34
Size of model: 39.37" x 7.874"
Wind velocity: 98.4 ft./sec.
Where tested: Rhode St. Genese Date: 1927

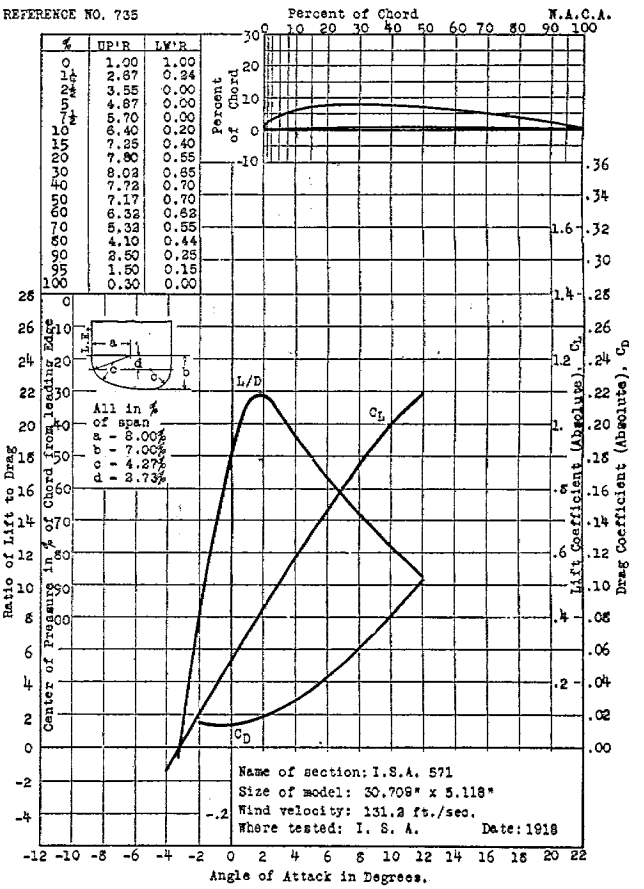
REFERENCE NO. 734



%	UP'R	LW'R
0	4.00	4.00
1¼	7.10	1.65
2½	8.50	0.89
5	10.37	0.50
7½	11.95	0.26
10	13.13	0.00
15	14.95	0.00
20	15.99	0.00
30	16.23	0.00
40	15.50	0.00
50	14.29	0.00
60	12.24	0.00
70	9.75	0.00
80	6.75	0.00
90	3.38	0.00
95	1.26	0.00
100	0.00	0.00

Name of section: Rhode St. Genese 36
Size of model: 39.37" x 7.874"
Wind velocity: 98.4 ft./sec.
Where tested: Rhode St. Genese Date: 1927

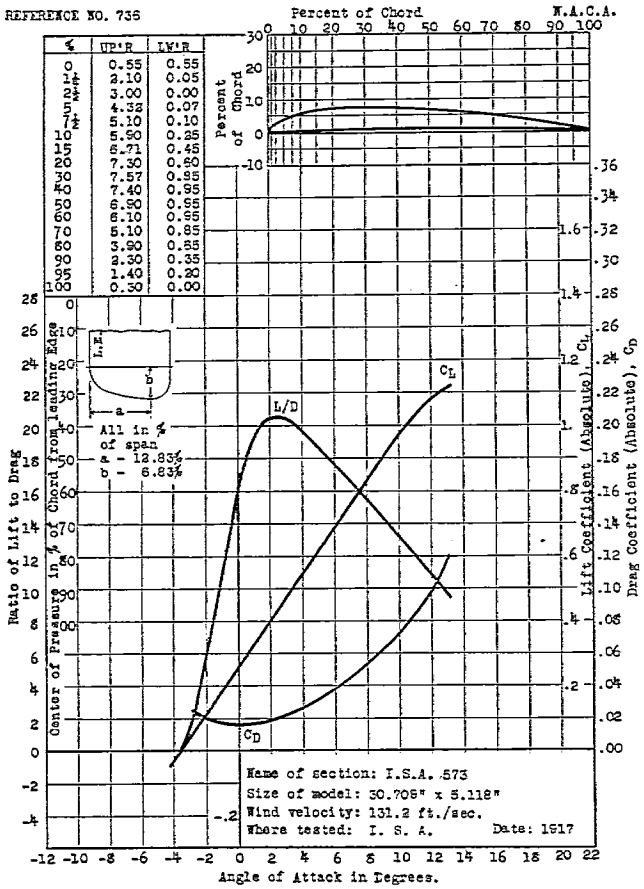
REFERENCE NO. 735



%	UP'R	LW'R
0	1.00	1.00
1¼	2.67	0.24
2½	3.55	0.00
5	4.87	0.00
7½	5.70	0.00
10	6.40	0.20
15	7.25	0.40
20	7.80	0.55
30	8.02	0.65
40	7.72	0.70
50	7.17	0.70
60	6.32	0.62
70	5.32	0.55
80	4.10	0.44
90	2.50	0.25
95	1.50	0.15
100	0.30	0.00

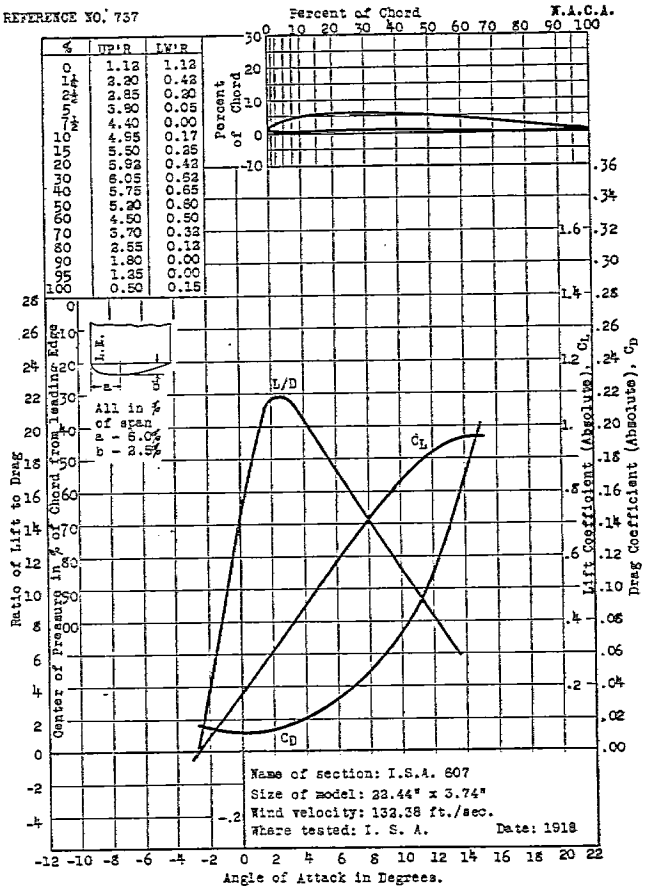
Name of section: I.S.A. 571
Size of model: 30.709" x 5.118"
Wind velocity: 131.2 ft./sec.
Where tested: I. S. A. Date: 1918

REFERENCE NO. 736



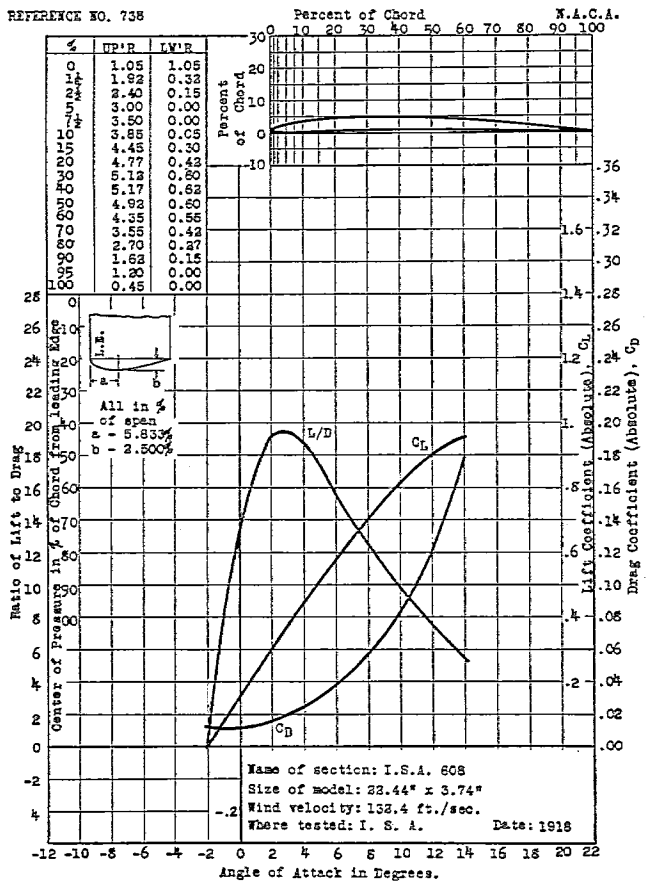
%	UP'R	LW'R
0	0.55	0.55
1¼	2.10	0.05
2½	3.00	0.00
5	4.32	0.07
7½	5.10	0.10
10	5.90	0.25
15	6.71	0.45
20	7.30	0.60
30	7.57	0.95
40	7.40	0.95
50	6.90	0.95
60	6.10	0.95
70	5.10	0.85
80	3.90	0.55
90	2.30	0.35
95	1.40	0.20
100	0.50	0.00

REFERENCE NO. 737



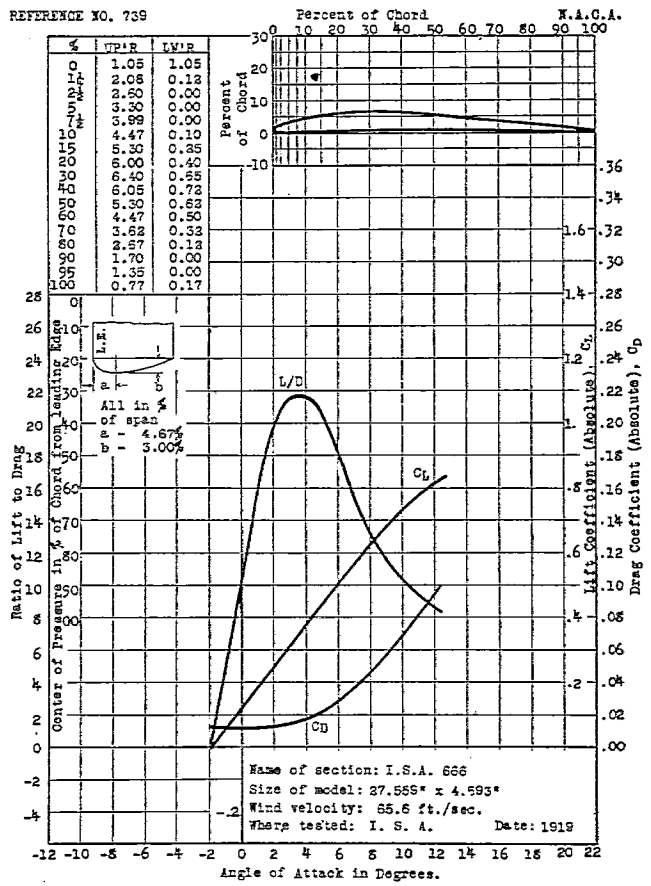
%	UP'R	LW'R
0	1.12	1.12
1¼	2.20	0.42
2½	2.85	0.20
5	3.80	0.05
7½	4.40	0.00
10	4.95	0.17
15	5.50	0.25
20	5.92	0.42
30	6.05	0.62
40	5.75	0.65
50	5.20	0.60
60	4.50	0.50
70	3.70	0.32
80	2.55	0.12
90	1.80	0.00
95	1.25	0.00
100	0.50	0.15

REFERENCE NO. 738



%	UP'R	LW'R
0	1.05	1.05
1¼	1.92	0.32
2½	2.40	0.15
5	3.00	0.00
7½	3.50	0.00
10	3.85	0.05
15	4.45	0.30
20	4.77	0.42
30	5.12	0.80
40	5.17	0.82
50	4.92	0.60
60	4.35	0.55
70	3.55	0.42
80	2.70	0.27
90	1.62	0.15
95	1.20	0.00
100	0.45	0.00

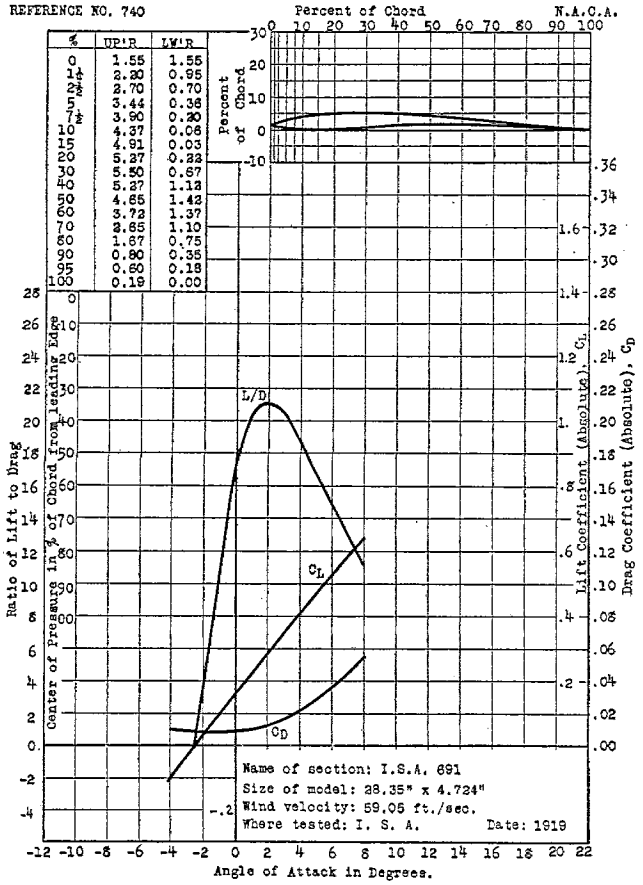
REFERENCE NO. 739



%	UP'R	LW'R
0	1.05	1.05
1¼	2.08	0.12
2½	2.50	0.00
5	3.30	0.00
7½	3.99	0.00
10	4.47	0.10
15	5.30	0.35
20	6.00	0.40
30	6.40	0.65
40	6.05	0.72
50	5.30	0.62
60	4.47	0.50
70	3.62	0.32
80	2.57	0.12
90	1.70	0.00
95	1.35	0.00
100	0.77	0.17

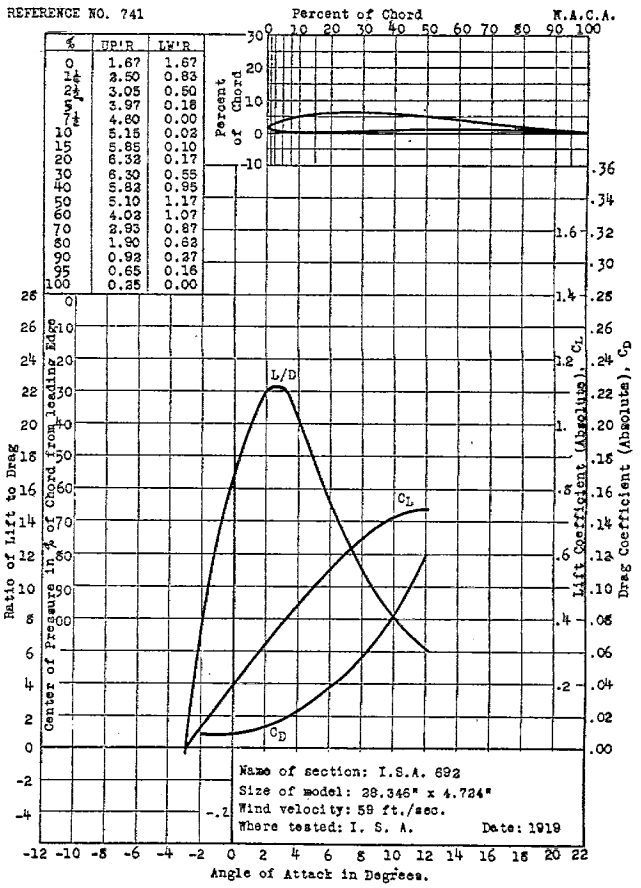
REFERENCE NO. 740

%	UP'R	LW'R
0	1.55	1.55
1¼	2.20	0.95
2½	2.70	0.70
5	3.44	0.38
7½	3.90	0.20
10	4.37	0.06
15	4.91	0.03
20	5.27	0.22
30	5.50	0.67
40	5.27	1.12
50	4.65	1.42
60	3.72	1.37
70	2.65	1.10
80	1.67	0.75
90	0.80	0.35
95	0.60	0.18
100	0.19	0.00



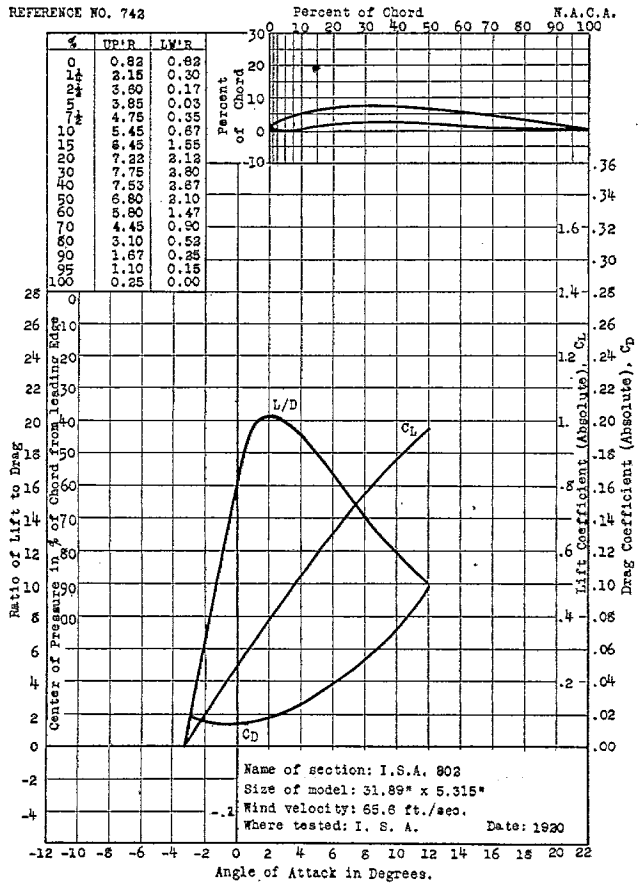
REFERENCE NO. 741

%	UP'R	LW'R
0	1.67	1.67
1¼	2.50	0.83
2½	3.05	0.50
5	3.97	0.18
7½	4.60	0.00
10	5.15	0.02
15	5.85	0.10
20	6.32	0.17
30	6.30	0.55
40	5.82	0.95
50	5.10	1.17
60	4.02	1.07
70	2.93	0.87
80	1.90	0.62
90	0.92	0.27
95	0.65	0.16
100	0.25	0.00



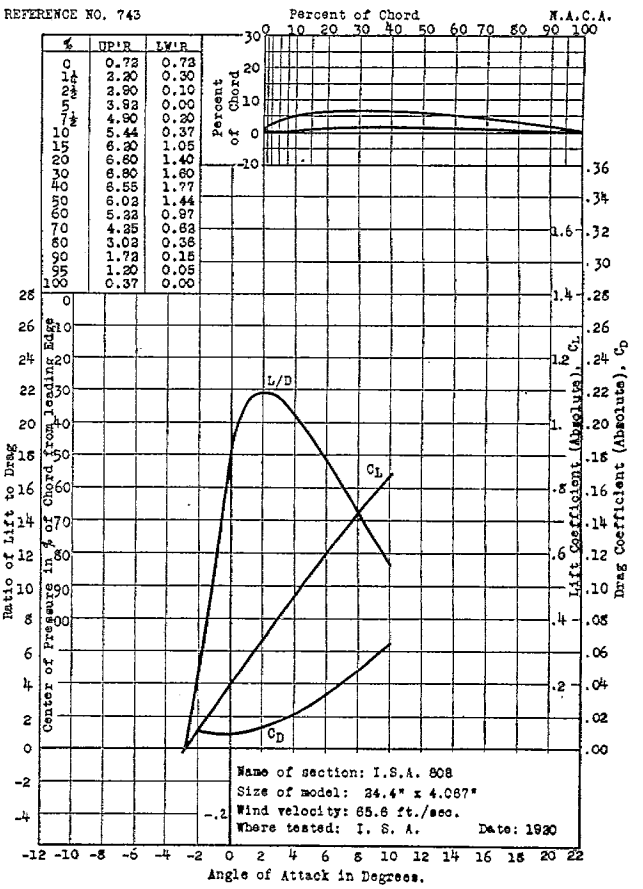
REFERENCE NO. 742

%	UP'R	LW'R
0	0.82	0.82
1¼	2.15	0.30
2½	3.60	0.17
5	5.85	0.03
7½	4.75	0.35
10	5.45	0.67
15	6.45	1.55
20	7.22	2.12
30	7.75	3.80
40	7.53	3.87
50	6.80	2.10
60	5.80	1.47
70	4.45	0.90
80	3.10	0.52
90	1.67	0.25
95	1.10	0.15
100	0.25	0.00

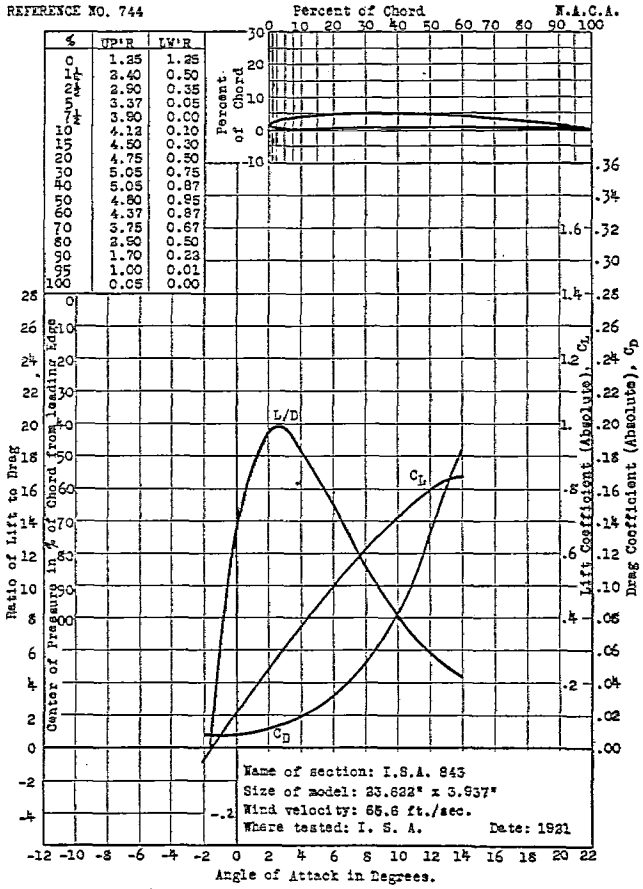


REFERENCE NO. 743

%	UP'R	LW'R
0	0.73	0.73
1¼	2.20	0.30
2½	2.90	0.10
5	3.92	0.00
7½	4.90	0.20
10	5.44	0.37
15	6.20	1.05
20	6.60	1.40
30	6.80	1.60
40	6.55	1.77
50	6.02	1.44
60	5.22	0.97
70	4.25	0.62
80	3.02	0.36
90	1.72	0.15
95	1.20	0.05
100	0.37	0.00

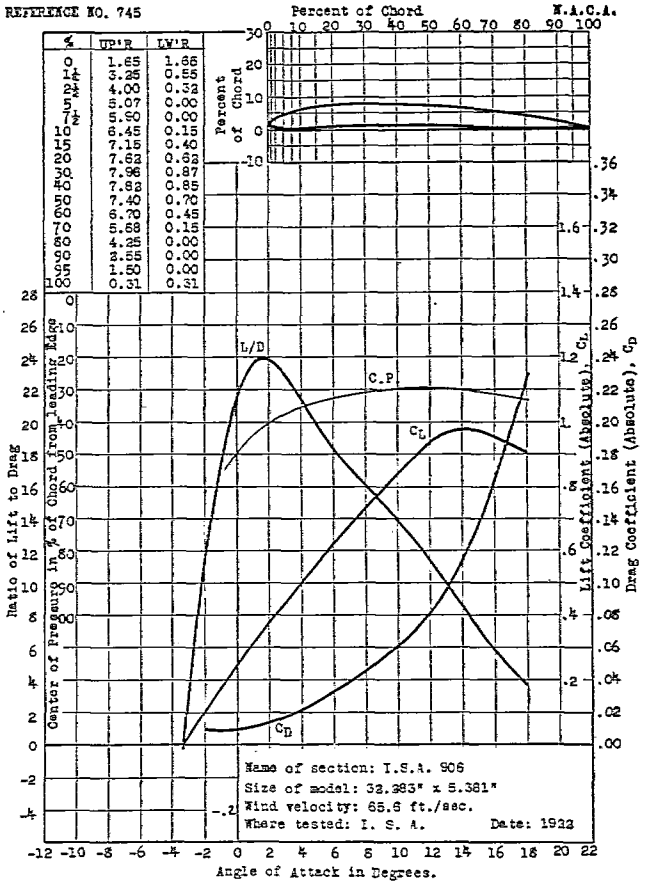


REFERENCE NO. 744



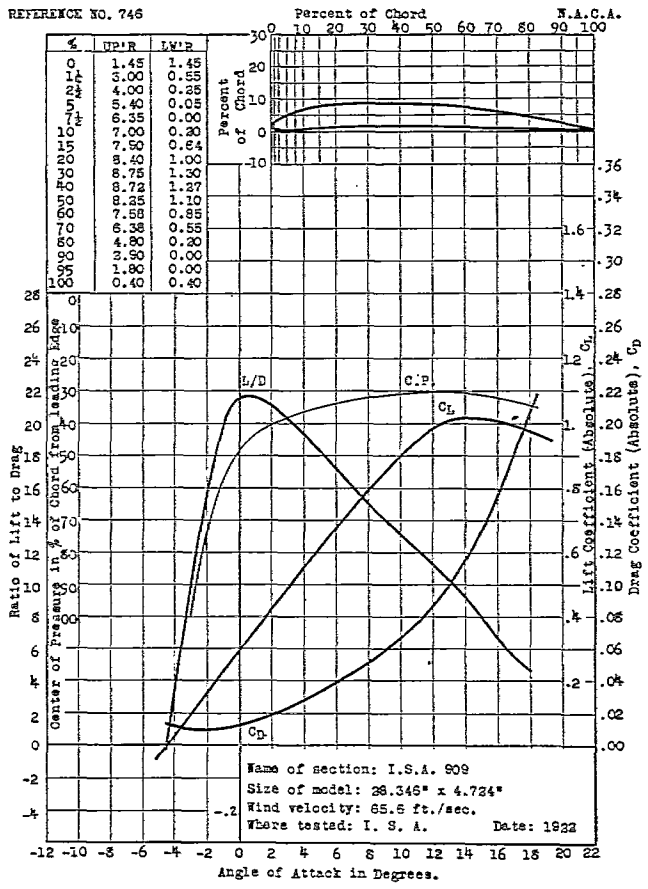
%	UP'R	LW'R
0	1.25	1.25
1¼	2.40	0.50
2½	2.90	0.35
5	3.37	0.05
7½	3.80	0.00
10	4.12	0.10
15	4.50	0.30
20	4.75	0.50
30	5.05	0.75
40	5.05	0.87
50	4.80	0.95
60	4.37	0.87
70	3.75	0.67
80	2.90	0.50
90	1.70	0.23
95	1.00	0.01
100	0.05	0.00

REFERENCE NO. 745



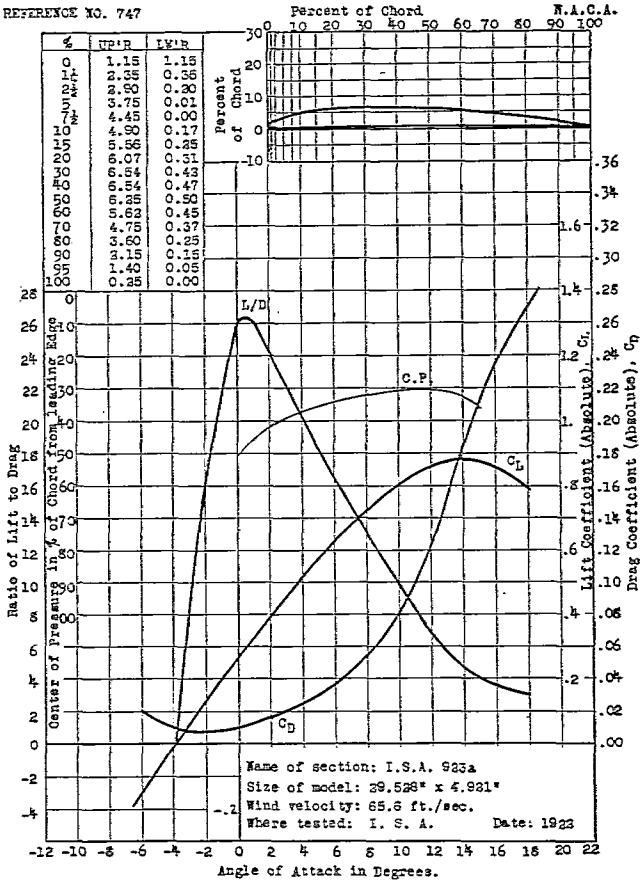
%	UP'R	LW'R
0	1.65	1.66
1¼	3.25	0.55
2½	4.00	0.32
5	5.07	0.00
7½	5.90	0.00
10	6.45	0.15
15	7.15	0.40
20	7.62	0.62
30	7.96	0.87
40	7.82	0.85
50	7.40	0.70
60	6.70	0.45
70	5.68	0.15
80	4.25	0.00
90	2.55	0.00
95	1.50	0.00
100	0.31	0.31

REFERENCE NO. 746



%	UP'R	LW'R
0	1.45	1.45
1¼	3.00	0.55
2½	4.00	0.25
5	5.40	0.05
7½	6.35	0.00
10	7.00	0.20
15	7.50	0.64
20	8.40	1.00
30	8.75	1.30
40	8.72	1.27
50	8.25	1.10
60	7.58	0.85
70	6.38	0.55
80	4.80	0.20
90	2.90	0.00
95	1.80	0.00
100	0.40	0.40

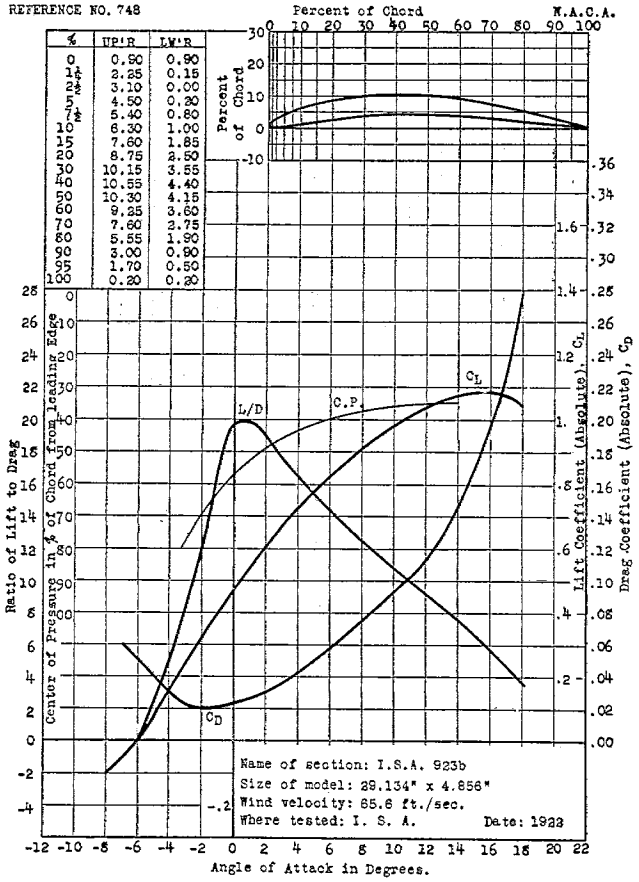
REFERENCE NO. 747



%	UP'R	LW'R
0	1.15	1.15
1¼	2.35	0.36
2½	2.90	0.20
5	3.75	0.01
7½	4.45	0.00
10	4.90	0.17
15	5.56	0.25
20	6.07	0.31
30	6.54	0.43
40	6.54	0.47
50	6.25	0.50
60	5.62	0.45
70	4.75	0.37
80	3.60	0.25
90	2.15	0.15
95	1.40	0.05
100	0.25	0.00

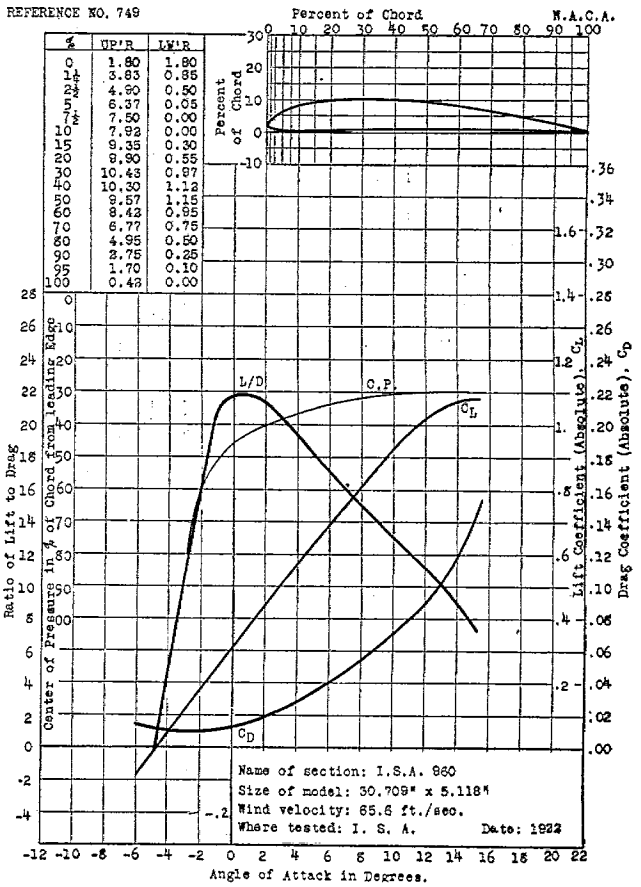
REFERENCE NO. 748

%	UP'R	LW'R
0	0.90	0.90
1¼	2.25	0.15
2½	3.10	0.00
5	4.50	0.20
7½	5.40	0.80
10	6.30	1.00
15	7.60	1.85
20	8.75	2.50
30	10.15	3.55
40	10.55	4.40
50	10.30	4.15
60	9.25	3.60
70	7.60	2.75
80	5.55	1.90
90	3.00	0.90
95	1.70	0.50
100	0.20	0.20



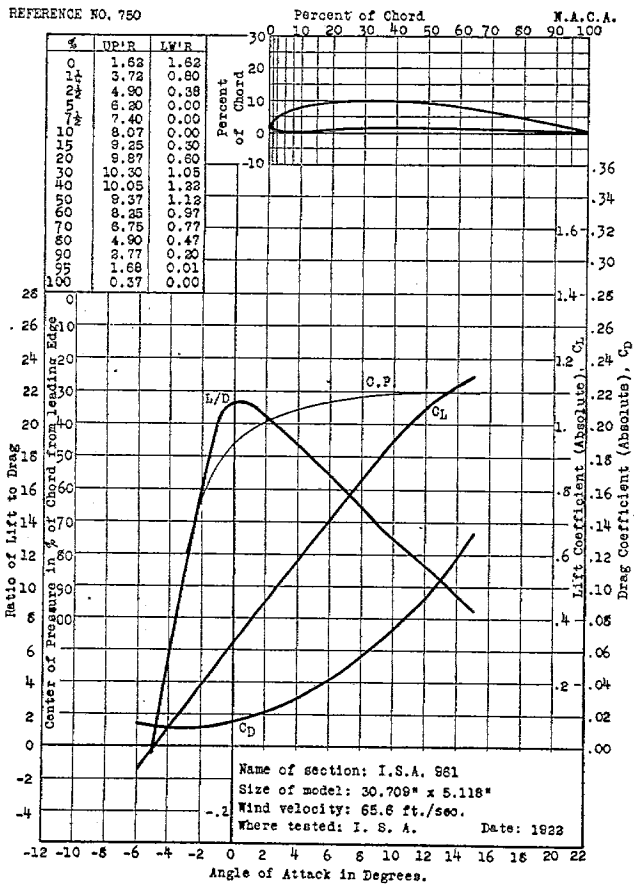
REFERENCE NO. 749

%	UP'R	LW'R
0	1.80	1.80
1¼	3.83	0.95
2½	4.90	0.50
5	6.37	0.05
7½	7.50	0.00
10	7.93	0.00
15	9.35	0.30
20	9.90	0.55
30	10.43	0.87
40	10.30	1.12
50	9.57	1.15
60	8.43	0.95
70	6.77	0.75
80	4.95	0.50
90	2.75	0.25
95	1.70	0.10
100	0.43	0.00



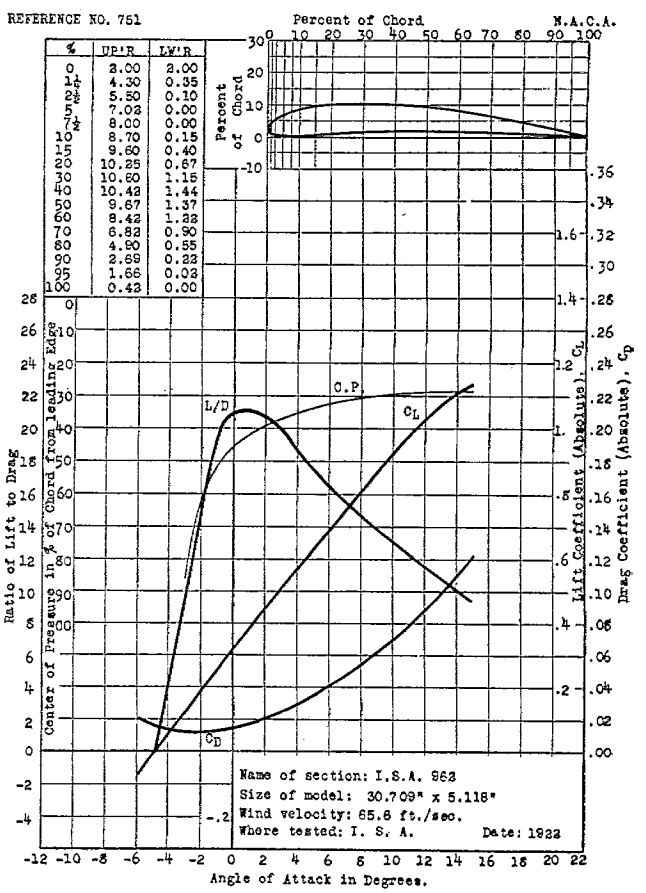
REFERENCE NO. 750

%	UP'R	LW'R
0	1.62	1.62
1¼	3.72	0.80
2½	4.90	0.38
5	6.20	0.00
7½	7.40	0.00
10	8.07	0.00
15	9.25	0.30
20	9.87	0.60
30	10.30	1.05
40	10.05	1.32
50	9.37	1.12
60	8.25	0.97
70	6.75	0.77
80	4.90	0.47
90	2.77	0.20
95	1.68	0.01
100	0.37	0.00



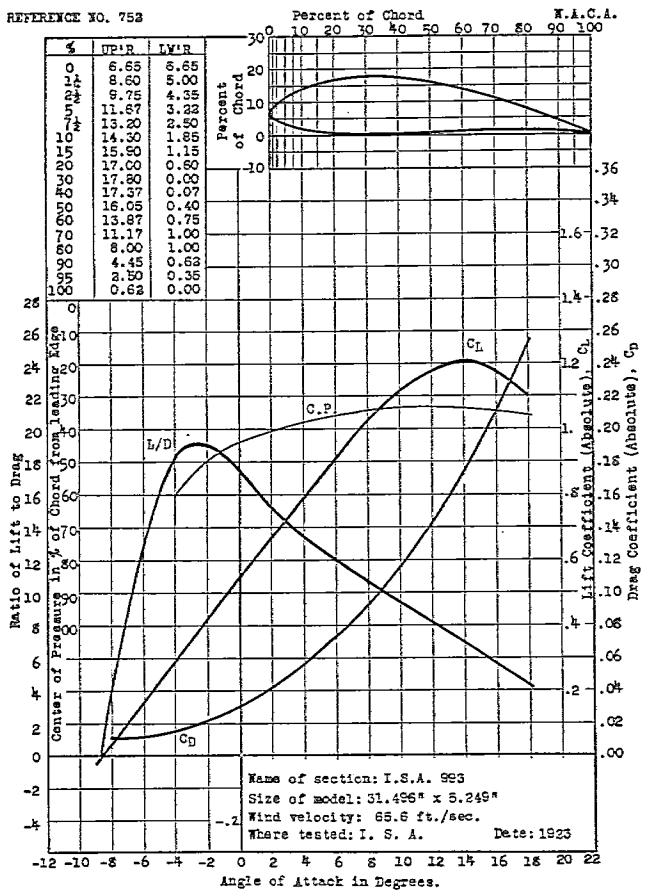
REFERENCE NO. 751

%	UP'R	LW'R
0	2.00	2.00
1¼	4.30	0.35
2½	5.50	0.10
5	7.02	0.00
7½	8.00	0.00
10	8.70	0.15
15	9.60	0.40
20	10.25	0.67
30	10.60	1.15
40	10.42	1.44
50	9.67	1.37
60	8.42	1.22
70	6.82	0.90
80	4.90	0.55
90	2.69	0.22
95	1.66	0.02
100	0.42	0.00



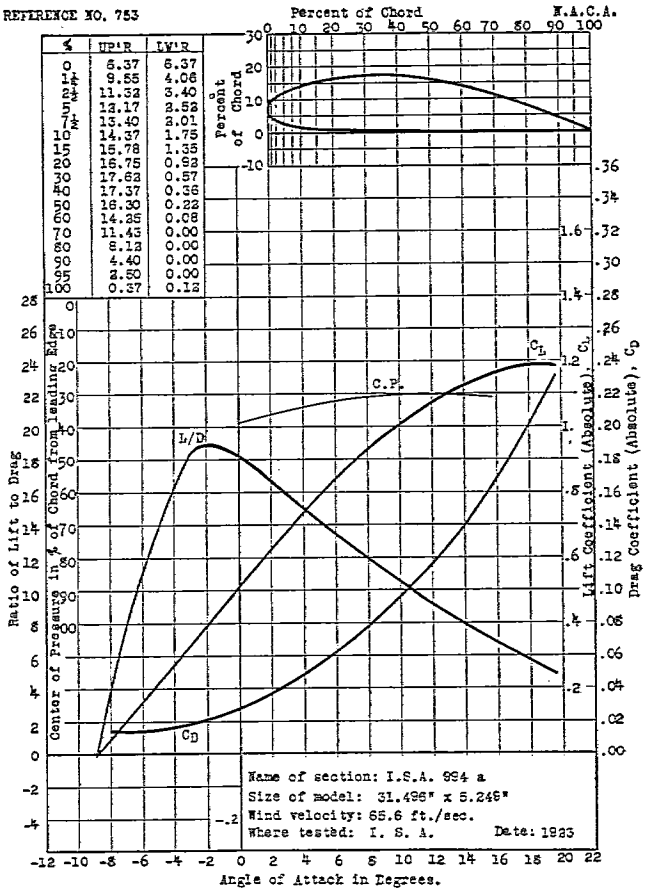
REFERENCE NO. 752

%	UP'R	LW'R
0	6.65	6.65
1¼	8.60	5.00
2½	9.75	4.35
5	11.67	3.22
7½	13.20	2.50
10	14.30	1.85
15	15.90	1.15
20	17.00	0.60
30	17.80	0.00
40	17.37	0.07
50	16.05	0.40
60	13.87	0.75
70	11.17	1.00
80	8.00	1.00
90	4.45	0.62
95	2.50	0.35
100	0.62	0.00



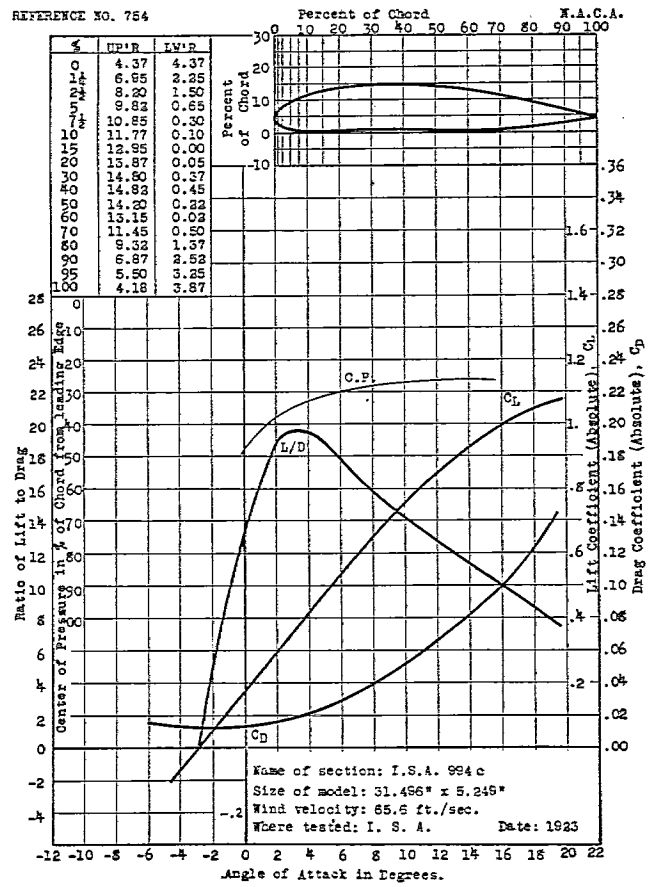
REFERENCE NO. 753

%	UP'R	LW'R
0	6.37	6.37
1¼	9.55	4.06
2½	11.52	3.40
5	13.17	2.52
7½	13.40	2.01
10	14.37	1.75
15	15.78	1.35
20	16.75	0.92
30	17.62	0.57
40	17.37	0.36
50	16.30	0.22
60	14.25	0.08
70	11.43	0.00
80	8.12	0.00
90	4.40	0.00
95	2.50	0.00
100	0.37	0.12



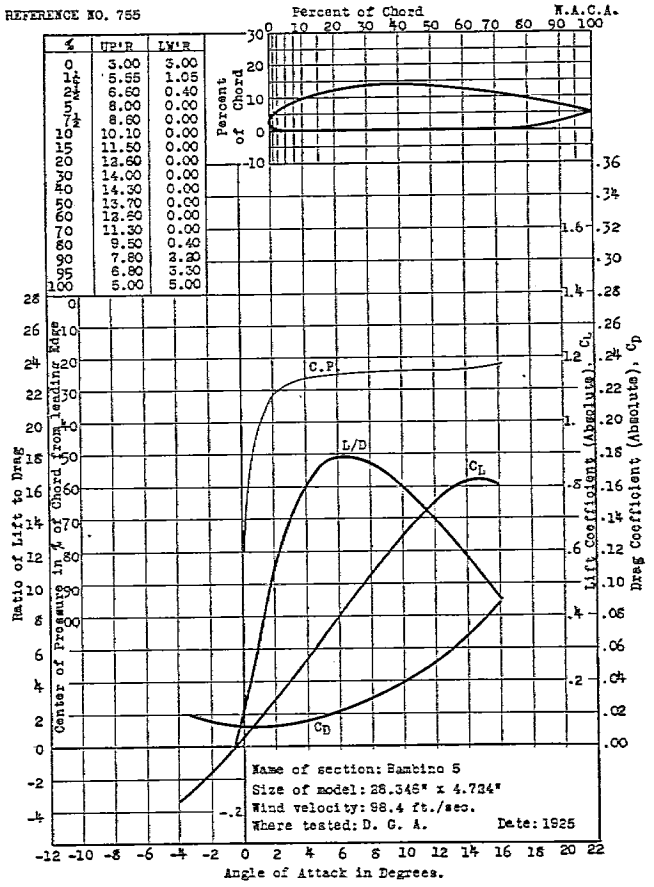
REFERENCE NO. 754

%	UP'R	LW'R
0	4.37	4.37
1¼	6.65	2.25
2½	8.20	1.50
5	9.82	0.65
7½	10.85	0.30
10	11.77	0.10
15	12.95	0.00
20	13.87	0.05
30	14.80	0.37
40	14.82	0.45
50	14.20	0.22
60	13.15	0.02
70	11.45	0.50
80	9.32	1.37
90	6.87	2.52
95	5.50	3.25
100	4.18	3.87

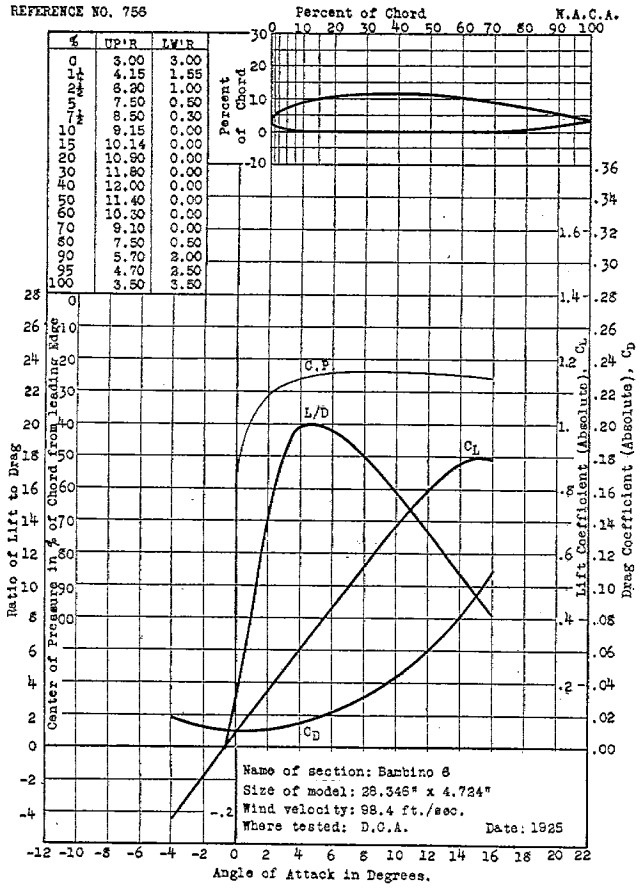


REFERENCE NO. 755

%	UP'R	LW'R
0	3.00	3.00
1¼	5.55	1.05
2½	6.60	0.40
5	8.00	0.00
7½	8.60	0.00
10	10.10	0.00
15	11.50	0.00
20	12.60	0.00
30	14.00	0.00
40	14.30	0.00
50	13.70	0.00
60	12.60	0.00
70	11.30	0.00
80	9.50	0.40
90	7.80	2.20
95	6.80	3.30
100	5.00	5.00

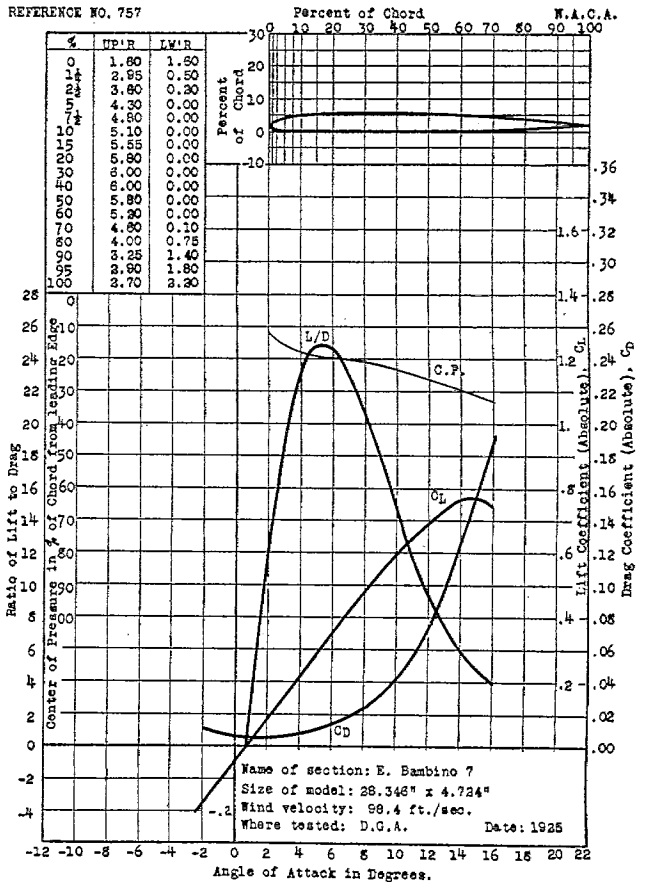


REFERENCE NO. 756



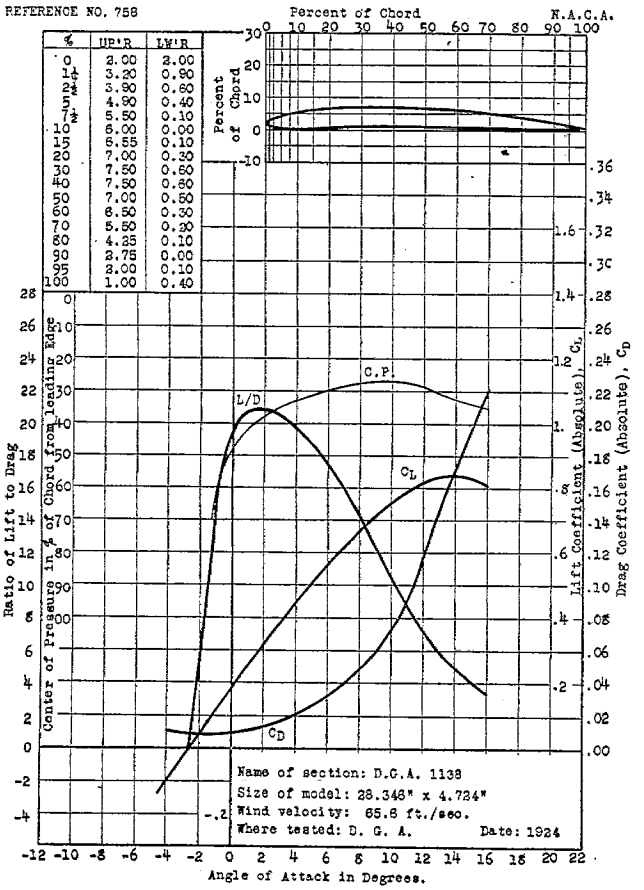
%	UP'R	LW'R
0	3.00	3.00
1¼	4.15	1.55
2½	6.20	1.00
5	7.50	0.50
7½	8.50	0.30
10	9.15	0.00
15	10.14	0.00
20	10.90	0.00
30	11.80	0.00
40	12.00	0.00
50	11.40	0.00
60	10.30	0.00
70	9.10	0.00
80	7.50	0.50
90	5.70	2.00
95	4.70	2.50
100	3.50	3.50

REFERENCE NO. 757



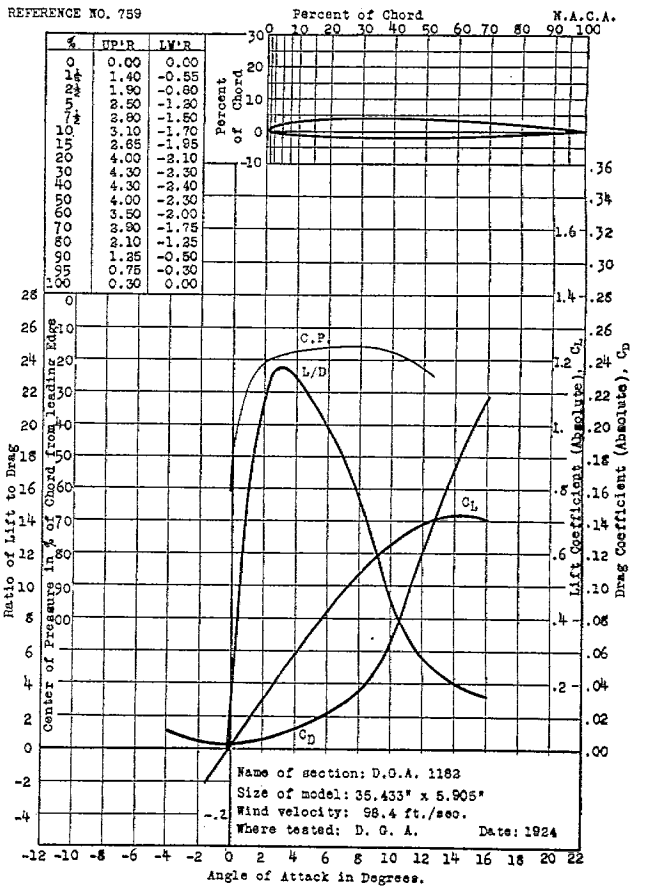
%	UP'R	LW'R
0	1.60	1.60
1¼	2.95	0.50
2½	3.80	0.20
5	4.30	0.00
7½	4.80	0.00
10	5.10	0.00
15	5.55	0.00
20	5.80	0.00
30	6.00	0.00
40	6.00	0.00
50	5.80	0.00
60	5.20	0.00
70	4.60	0.10
80	4.00	0.75
90	3.25	1.40
95	2.90	1.80
100	2.70	2.20

REFERENCE NO. 758



%	UP'R	LW'R
0	2.00	2.00
1¼	3.20	0.90
2½	3.90	0.60
5	4.90	0.40
7½	5.50	0.10
10	6.00	0.00
15	6.55	0.10
20	7.00	0.30
30	7.50	0.60
40	7.50	0.80
50	7.00	0.50
60	6.50	0.30
70	5.50	0.30
80	4.25	0.10
90	2.75	0.00
95	2.00	0.10
100	1.00	0.40

REFERENCE NO. 759



%	UP'R	LW'R
0	0.00	0.00
1¼	1.40	-0.55
2½	1.90	-0.80
5	2.50	-1.20
7½	2.80	-1.50
10	3.10	-1.70
15	2.65	-1.95
20	4.00	-2.10
30	4.30	-2.30
40	4.30	-2.40
50	4.00	-2.30
60	3.50	-2.00
70	3.90	-1.75
80	2.10	-1.25
90	1.25	-0.50
95	0.75	-0.30
100	0.30	0.00

TABLE OF ORDINATES NOT GIVEN ON INDIVIDUAL CHARACTERISTIC SHEETS

Ordinates for dotted section, at tip, where ratio of ordinate to chord differs from that of section at center of span

Stations in per cent of chord	Reference 624 N. A. C. A. 81J (tapered)	
	Upper	Lower
0	3.06	3.06
1.25	3.94	2.00
2.50	4.28	1.66
5.00	4.74	1.24
7.50	5.06	0.91
10	5.31	0.68
15	5.61	0.35
20	5.79	0.17
30	5.76	0.02
40	5.41	0.01
50	4.81	0.11
60	4.05	0.23
70	3.15	0.34
80	2.17	0.37
90	1.11	0.25
95	0.58	0.13
100	0.00	0.00

Additional ordinates required to give camber at stations, not given on individual characteristic sheets

Stations in per cent of chord	Reference 626 B-2 (Modified M-80)		Reference 627 C-2 (Modified M-80)	
	Upper	Lower	Upper	Lower
8.95		0.00		0.00
12.70	7.36		7.38	
22.50	8.28		8.58	0.78
25.00	8.96	0.78	8.92	0.98
35.00	8.70	1.06	8.82	1.12
45.00	8.40		8.20	
74.50		0.02		0.00
98.00			1.30	0.40
99.00			1.10	0.60

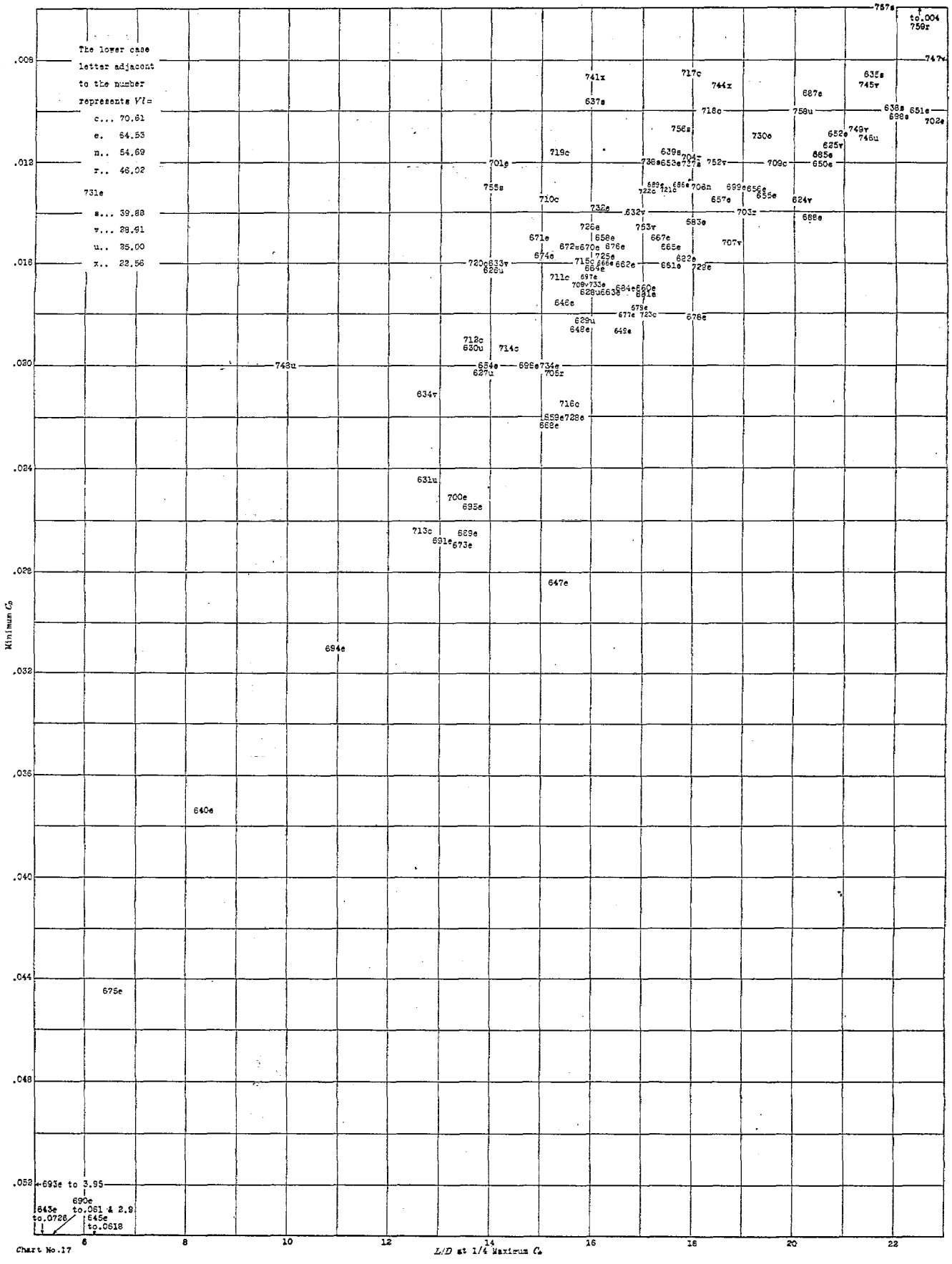
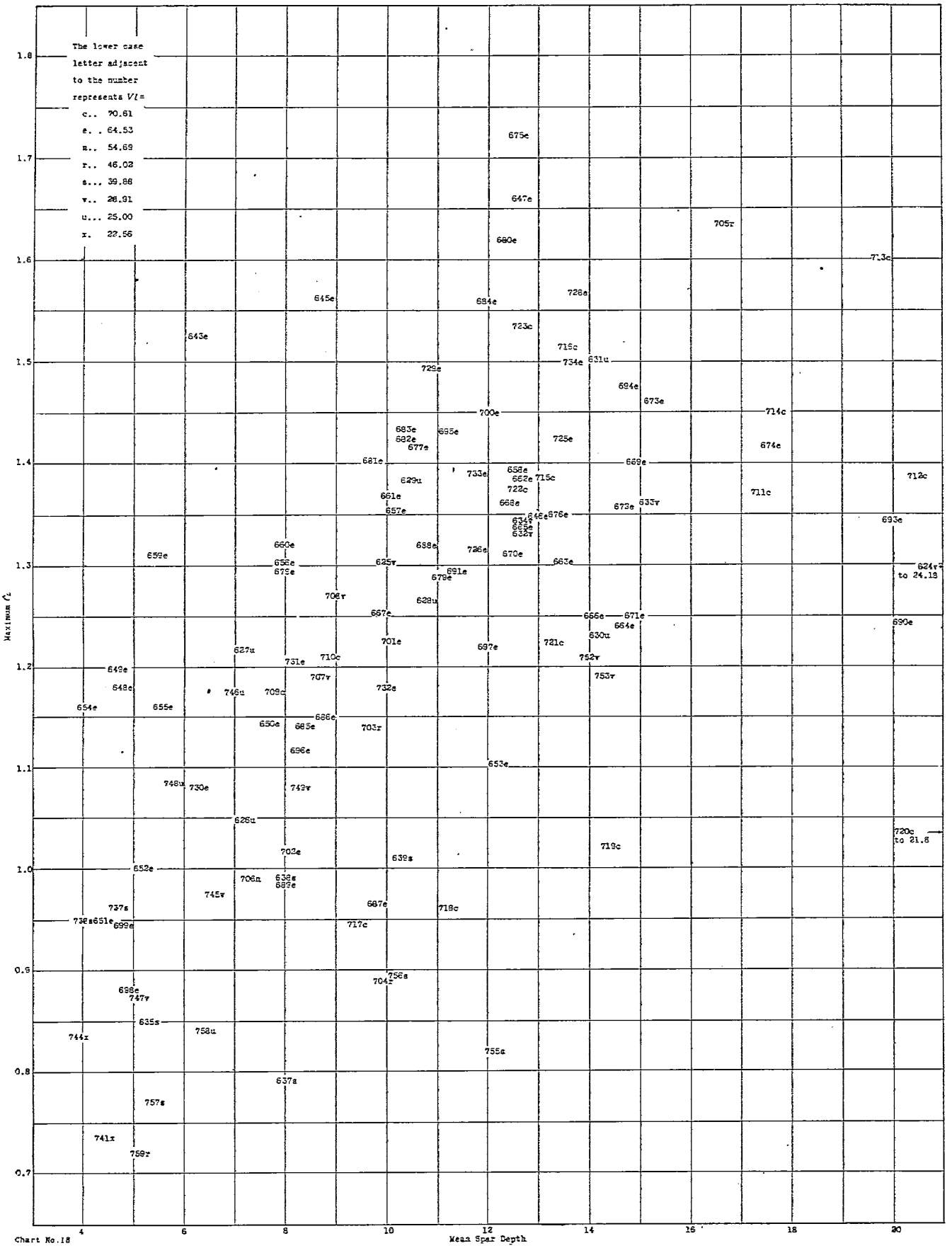

The lower case letter adjacent to the number represents Vl=
c... 70.61
e. 64.53
n.. 54.69
r.. 46.02
731e
s... 39.88
v... 28.91
u.. 35.00
x.. 22.56
Minimum C_D
L/D at 1/4 Maximum C_L
.008
.012
.016
.020
.024
.028
.032
.036
.040
.044
.048
.052
6
8
10
12
14
16
18
20
22
757s
to.004
759r
747v
741x
717c
744x
635s
745v
687e
637s
718c
758u
638s
651e
702e
756s
730e
749v
746u
652e
625v
685e
650e
719c
639s
704r
738s
653e
737s
752v
709c
701e
755s
710c
732e
632v
708n
699e
656e
655e
657e
624v
703r
688e
726e
753v
583e
671e
658e
667e
707v
672e
670e
676e
665e
674e
725e
720c
633v
626u
715c
666e
662e
661e
622e
729e
664e
711c
697e
708v
733e
628u
663e
684e
660e
681e
646e
679e
677e
723c
678e
629u
648e
649e
712c
630u
714c
743u
654e
627u
696e
734e
705r
634v
716c
659e
728e
668e
631u
700e
695e
713c
669e
691e
673e
647e
694e
640e
675e
693e to 3.95
690e
643e
to.0726
to.061 & 2.9
645e
to.0618

Chart No.17


The lower case letter adjacent to the number represents Vl =
c.. 70.61
e. . 64.53
m.. 54.69
r.. 46.02
s... 39.86
v.. 28.91
u... 25.00
x. 22.56
Maximum C_L
Mean Spar Depth
Chart No.18

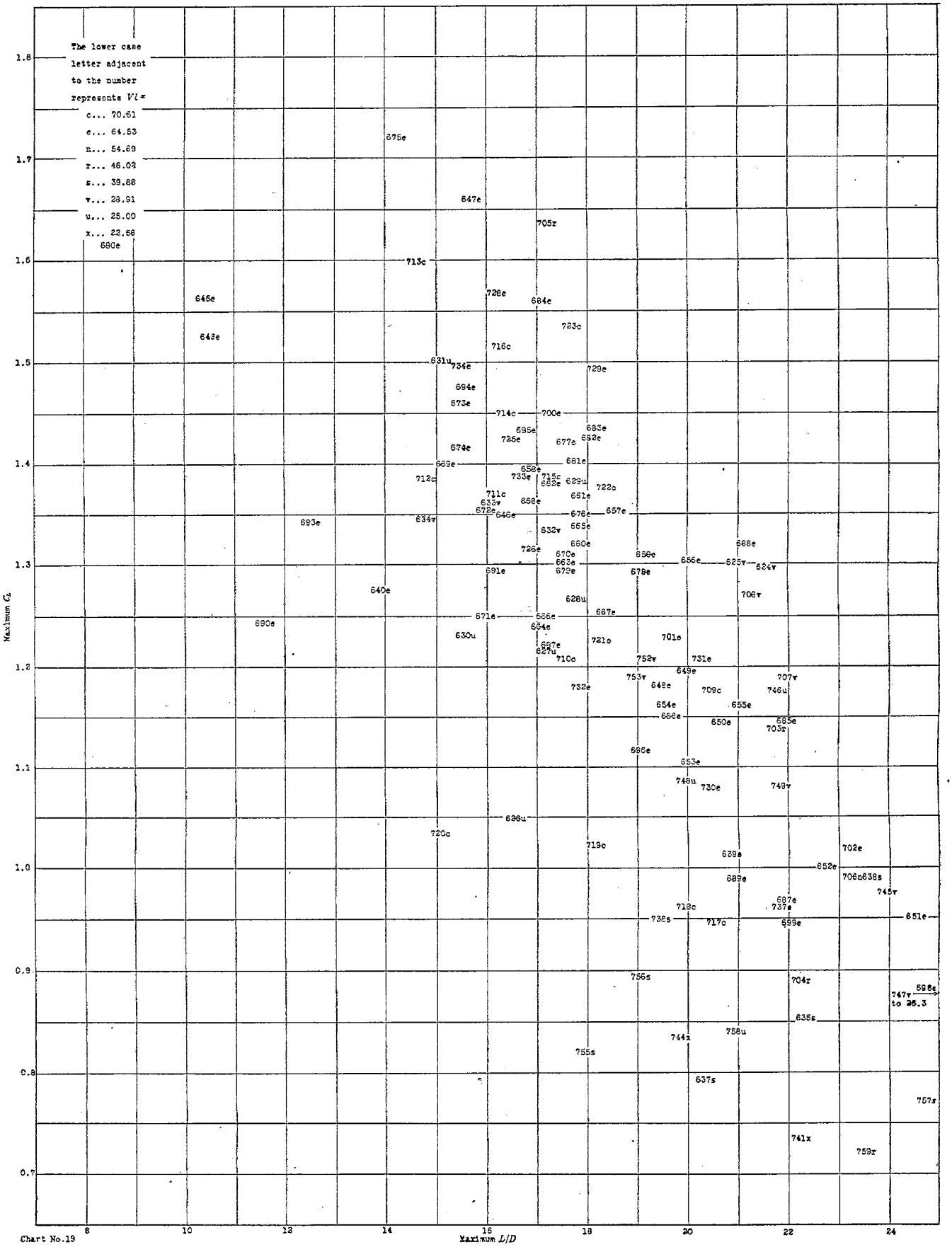

The lower case letter adjacent to the number represents Vl =
c... 70.61
e... 64.53
n... 54.69
r... 46.02
s... 39.88
v... 28.91
u... 25.00
x... 22.56
Maximum C_L
Maximum L/D
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1.0
0.9
0.8
0.7
6
10
12
14
16
18
20
22
24
675e
647e
705r
680e
713c
645e
728e
684e
643e
723c
716c
631u
734e
729e
694e
673e
714c
700e
695e
683e
725e
677e
682e
674e
681e
669e
658e
733e
715c
662e
629u
712c
722c
711c
633v
668e
661e
672e
646e
676e
657e
693e
634v
632v
665e
660e
688e
726e
670e
659e
656e
625v
624v
663e
691e
679e
678e
640e
628u
706v
671e
666e
667e
690e
664e
630u
721c
701e
697e
627u
710c
752v
731e
649e
753v
707v
732e
648e
709c
746u
654e
655e
656e
650e
685e
703r
696e
653e
748u
730e
749v
626u
720c
719c
702e
639e
652e
689e
706n638s
745v
687e
737e
718c
738s
717c
699e
651e
756s
704r
747v to 26.3
698e
635s
758u
744x
755s
637s
757s
741x
759r

Chart No.19

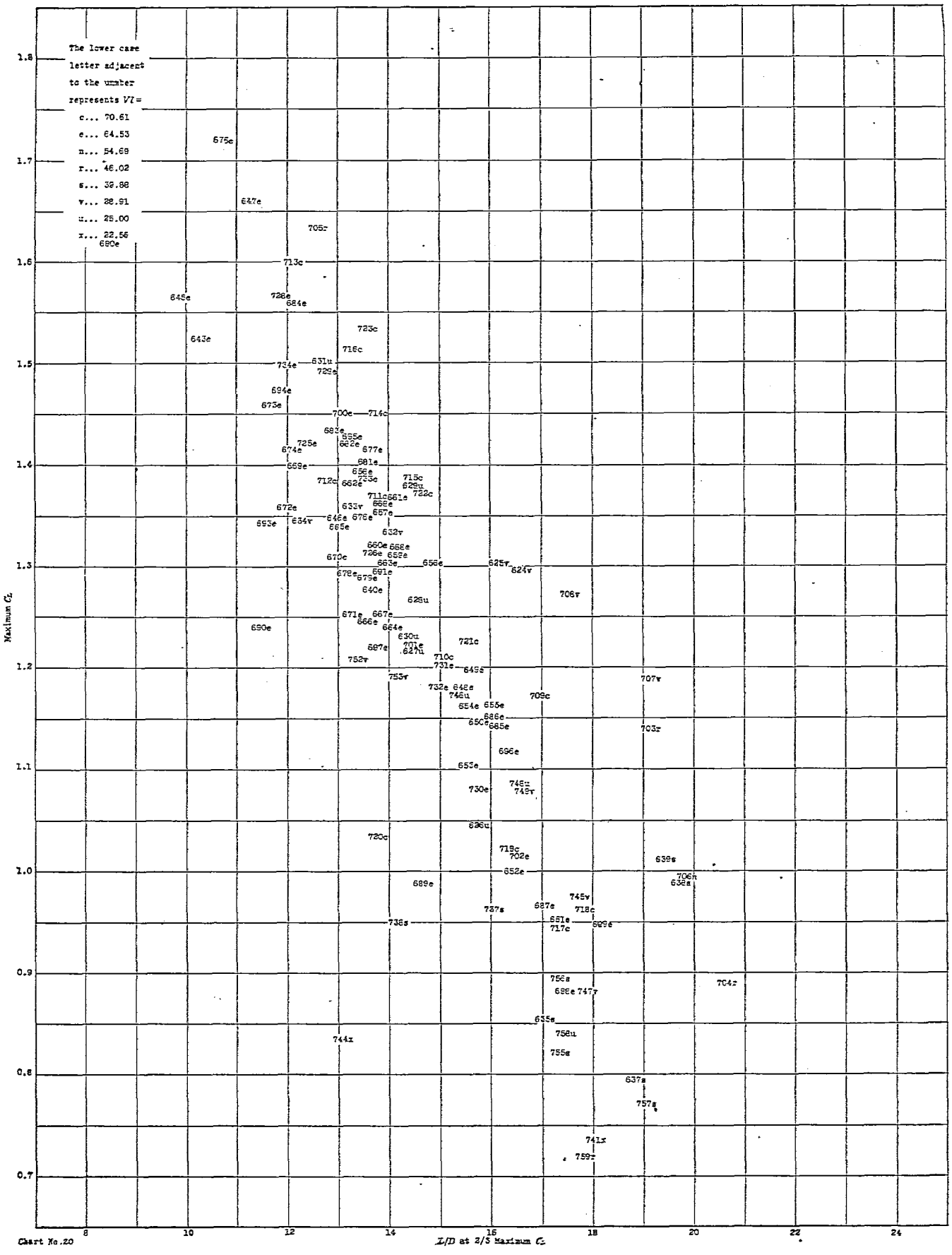

The lower case letter adjacent to the number represents VI =
c... 70.61
e... 64.53
n... 54.69
r... 46.02
s... 38.88
v... 28.91
u... 25.00
x... 22.56
Maximum C_L
L/D at 2/3 Maximum C_L
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1.0
0.9
0.8
0.7
8
10
12
14
16
18
20
22
24

Chart No.20