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CALCULATED SPANWISE LIFT DISTRIBUTIONS AND AERODYNAMIC INFLUENCE COEFFICIENTS FOR SWEPT WINGS IN SUBSONIC FLOW

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Langley Field, Va.

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CALCULATED SPANWISE LIFT DISTRIBUTIONS AND AERODYNAMIC INFLUENCE COEFFICIENTS FOR SWEPT WINGS IN SUBSONIC FLOW

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SUMMARY

Spanwise lift distributions have been calculated for 61 swept wings with various aspect ratios and taper ratios and with a variety of angle-of-attack or twist distributions, including flap and aileron deflections, by means of the Weissinger method with eight control points on the semi-span. Also calculated for these plan forms were aerodynamic influence coefficients which pertain to a certain definite set of stations along the span. The information presented herein can thus be used both in the analysis of untwisted wings or wings with known twist distributions and in aeroelastic calculations involving initially unknown twist distributions.

This paper supplements and is intended to be used in conjunction with NACA TN 3014, where the same type of information, calculated in the same way, is presented for 19 unswept wings.

INTRODUCTION

In the design of an airplane, a knowledge of the spanwise lift distribution on the wing is important in predicting structural loads and stability characteristics. For high-speed airplanes having flexible wings, the calculation of the spanwise lift distribution is an aeroelastic rather than a purely aerodynamic problem. In aeroelastic calculations, means are required for calculating the spanwise lift distribution expressed in terms of angle-of-attack (or twist) distributions which are initially unknown. Aerodynamic influence functions and coefficients are the most convenient means of accomplishing this purpose.

Several methods for calculating such aerodynamic influence functions and coefficients at arbitrary spanwise stations are developed and discussed in detail in reference 1. These methods employ either aerodynamic influence coefficients for prescribed spanwise stations or lift distributions for various prescribed continuous and discontinuous angle-of-attack conditions. For subsonic flow the required numerical values of

these quantities are presented in reference 1 for 19 unswept wings having various aspect ratios and taper ratios. The calculations were made on the Bell Telephone Laboratories X-66744 relay computer at the Langley Laboratory. A convenient matrix formulation of the Weissinger L-method with eight control points on the semispan was used.

In the present paper, numerical results corresponding to those given in reference 1 are presented for 61 swept wings in subsonic flow. The calculations of the present paper have been made in the same manner as those of reference 1 and may be used in the same way. For instance, the methods described in the body and the appendixes of reference 1 for calculating aerodynamic influence functions and influence coefficients at arbitrary spanwise stations can be used in conjunction with the information presented herein because they apply to any sweep angle. The present paper may, therefore, be considered a supplement to reference 1, and in order to facilitate its joint use with reference 1 the calculated information is presented herein in the same way as in reference 1.

SYMBOLS

A aspect ratio

b wing span

b_{ail} aileron span

b_f flap span

C_{BM} root bending-moment coefficient for unit angle of attack, $\frac{4 \times \text{Bending moment}}{qSb}$

C_{D_i} induced-drag coefficient at a unit angle of attack

C_L lift coefficient at a unit angle of attack

$C_{L_{1/2}}$ lift coefficient for one semispan of antisymmetrically loaded wing at a unit tip angle of attack, $\frac{L_{1/2}}{q\frac{S}{2}}$

C_{L_α} lift-curve slope per radian for additional-type loading

C_l rolling-moment coefficient

$C_{l_d} = -C_{l_p}$

C_{l_p} coefficient of damping in roll

c wing chord

c^* dimensionless chord, $\frac{c}{b/2}$

$\bar{c}$ average chord, S/b

c_l section lift coefficient

$L_{1/2}$ lift on one semispan

M free-stream Mach number

q dynamic pressure

S wing area

V free-stream speed

y lateral ordinate

y^* dimensionless lateral ordinate, $\frac{y}{b/2}$

$\bar{y}$ lateral ordinate of center of pressure of one semispan

α angle of attack, radians

Γ vortex strength

Γ^* dimensionless vortex strength or loading coefficient, $\frac{4\Gamma}{bV} = c^* c_l$

Λ angle of sweepback at the quarter-chord line, deg

λ taper ratio, c_t/c_r

$[Q]$ aerodynamic-influence-coefficient matrix

$\{\ \}$ column matrix

Subscripts:

a antisymmetric

s symmetric

r root

t tip

PRESENTATION OF RESULTS

Spanwise Lift Distributions

Geometric characteristics of the 61 plan forms treated in this paper are given in table I. These plan forms, together with the 19 plan forms considered in reference 1, are also shown in figure 1. Lift distributions due to the following continuous symmetric and antisymmetric angle-of-attack distributions have been calculated for each of the 61 plan forms.

Symmetric angle-of-attack distributions:

Constant	$(\alpha = 1)$
Linear	$\left(\alpha = \lvert y^* \rvert\right)$
Quadratic	$\left(\alpha = y^{*2}\right)$
Cubic	$\left(\alpha = \lvert y^{*3} \rvert\right)$
Straight-line	$\left(\alpha = \frac{c_t}{c}\lvert y^* \rvert\right)$

Antisymmetric angle-of-attack distributions:

Linear	$(\alpha = y^*)$
Quadratic	$\left(\alpha = y^{*2} \text{ for } y^* \geqq 0;\ \alpha = -y^{*2} \text{ for } y^* \leqq 0\right)$
Cubic	$\left(\alpha = y^{*3}\right)$
Quartic	$\left(\alpha = y^{*4} \text{ for } y^* \geqq 0;\ \alpha = -y^{*4} \text{ for } y^* \leqq 0\right)$
Quintic	$\left(\alpha = y^{*5}\right)$

The straight-line angle-of-attack condition was included to represent actual structural twists where the surface of the wing is generated by straight lines so that the product $c^*\alpha$, the deflection of the leading edge, varies linearly with y^*; that is

$$c^*\alpha = c_t^* y^* \alpha_t$$

or, for unit twist at the tip,

$$\alpha = \frac{c_t^*}{c^*}\left|y^*\right|$$

For untapered wings, the straight-line lift distribution is the same as the linear lift distribution, and for wings of zero taper ratio, it is undefined.

Lift distributions for flap-type and aileron-type angle-of-attack distributions are also presented. A correction has been made for the discontinuity in angle of attack by the method of appendix B of reference 1; this correction insures that the accuracy of the lift distributions for the discontinuous angle-of-attack conditions is of the same order as that for the continuous angle-of-attack conditions. The values of b_f/b and b_{ail}/b (ratios of the flap span to the total span and the aileron span to the total span, respectively) for which the lift distributions have been calculated are 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, and 1.0. As is usual, the flaps have been taken to be inboard and the ailerons outboard. The lift distribution for any flap or aileron configuration may be obtained, however, by linear superposition; thus, the lift distribution for an outboard flap extending, for example, from $y^* = 0.5$ to $y^* = 1.0$ can be obtained by subtracting the lift distribution for the inboard flap $\left(b_f/b = 0.5\right)$ from the additional lift distribution $\left(b_f/b = 1.0\right)$. A similar procedure can be used for inboard ailerons.

The lift distributions for the 61 plan forms considered are presented in figures 2 to 62. Table I serves as a table of contents for this group of figures. Parts (a) and (b) of each figure contain the lift distribution due to symmetric and antisymmetric continuous angle-of-attack distributions, respectively, for a given plan form, and parts (c) and (d) contain the lift distribution due to flaps and ailerons respectively, for the same plan form.

Aerodynamic Parameters

The aerodynamic parameters C_{L_α}, C_{BM}, $\bar{y}^*$, C_{D_i}, C_{l_d}, and $C_{L_{1/2}}$, calculated by the method of appendix A of reference 1, are presented in table II for the plan forms considered herein. The values of C_L and C_{BM} for a unit effective flap deflection, calculated in the same manner, are presented in table III, and the values of $C_{L_{1/2}}$ and C_l for a unit effective aileron deflection are presented in table IV.

These lift and moment coefficients pertain directly to full-chord flaps and ailerons set at an angle of attack (measured in the streamwise direction) of 1 radian. For partial-chord flaps and ailerons deflected by an angle of δ radians about their hinge lines, these coefficients must be multiplied by the quantity $\alpha_\delta \delta \cos \Lambda_h$, where α_δ is defined in terms of section properties as

$$\alpha_\delta = \frac{\dfrac{\partial c_l}{\partial \delta}}{\dfrac{\partial c_l}{\partial \alpha}}$$

and Λ_h is the angle of sweepback of the hinge line.

Aerodynamic Influence Coefficients for Stipulated Stations

Aerodynamic influence coefficients for symmetric and antisymmetric lift distributions were obtained by the method of appendix A of reference 1 and are presented as the matrices $\left[Q_s\right]$ and $\left[Q_a\right]$ in tables V(a) and V(b), respectively. Each influence-coefficient matrix in the table applies to a given plan form. These influence-coefficient matrices can be used to calculate the spanwise lift distribution for any continuous angle-of-attack condition from the following matrix expressions:

For the symmetric distributions,

$$\left\{\Gamma^*_s\right\} = C_{L_\alpha}\left[Q_s\right]\left\{\alpha_s\right\}$$

For the antisymmetric distributions,

$$\left\{\Gamma^*_a\right\} = C_{l_d}\left[Q_a\right]\left\{\alpha_a\right\}$$

In these expressions α is the angle of attack at stations $y^* = 0.9808$, 0.9239, 0.8315, 0.7071, 0.5556, 0.3827, 0.1951, and 0, and Γ^* is the desired lift at those stations. In this paper the convention is that the angle of attack for the station nearest the wing tip $(y^* = 0.9808)$ is the first element of the angle-of-attack matrix $\left\{\alpha\right\}$ and the lift at the same station is the first element of the lift distribution matrix $\left\{\Gamma^*\right\}$. The matrices $\left[Q_s\right]$ and $\left[Q_a\right]$ of table V are arranged accordingly.

If aerodynamic influence coefficients or aerodynamic influence functions are required for arbitrary stations, they may be calculated from the numerical data presented herein by the methods developed in reference 1.

DISCUSSION

The limitations of the Weissinger method have been discussed in reference 1 and elsewhere. To the extent that they apply to the results presented herein, they are summarized in the following paragraphs.

The results obtained by the Weissinger method apply only to angles of attack which are relatively small, because the method presupposes potential flow and at higher angles of attack the boundary-layer effects tend to become significant. In the case of swept wings these effects may be different from the effects on unswept wings, inasmuch as on swept wings a distinct leading-edge vortex may be formed at even moderate angles of attack. The effect of this vortex on the flow field is amenable to analytical treatment by potential-flow theory, but such an analysis is beyond the scope of this paper.

Basically, the Weissinger method applies to incompressible flow. However, by means of the three-dimensional Prandtl-Glauert rule it can be extended to compressible subsonic flow. This rule states that the pressure distribution, the lift, the rolling moment, and similar quantities for a wing with aspect ratio A, taper ratio λ, and angle of sweepback Λ flying at a subsonic Mach number M are equal to $1\Big/\sqrt{1 - M^2}$ times the

corresponding quantities for a wing with an aspect ratio $A\sqrt{1 - M^2}$, taper ratio λ, and angle of sweepback $\tan^{-1}\left(\frac{\tan \Lambda}{\sqrt{1 - M^2}}\right)$ flying in an incompressible medium at the same angle of attack. At Mach numbers approaching 1 the linearizations implied by this rule tend to lose validity; however, the results of linear theory (such as the Weissinger method in conjunction with the Prandtl-Glauert rule) are more nearly valid at very high subsonic Mach numbers for wings with high angles of sweepback and low aspect ratios than for unswept wings with moderate or high aspect ratios.

Inasmuch as the side of the fuselage tends to act as a reflection plate, a sweptback or a sweptforward wing with a large fuselage is equivalent, to a certain extent, to an M or a W wing, respectively. However, calculations of the lift distributions on M wings have indicated that the effects of the spanwise discontinuities in the local angle of sweepback are largely localized, so that the effects of nacelles and fuselage on the lift distribution at low angles of attack are not likely to be much larger for swept than for unswept wings.

The Weissinger method furnishes no information concerning the local chordwise centers of pressure. Some of the available theoretical information concerning this subject is summarized in reference 2 for sweptback as well as for unswept wings.

The Weissinger idea of concentrating the lift on the quarter-chord line and satisfying the boundary condition at the three-quarter-chord line, as well as the integral equation which consitutes the mathematical expression of this idea, is valid for the purpose of calculating lift distributions on all the plan forms considered herein and in reference 1. However, the numerical method used by Weissinger and also used herein and in reference 1 for solving this equation has the shortcoming that, unless many points are considered along the span, numerical difficulties arise at the root of swept wings of high aspect ratio and on all wings with zero taper ratio. Near the root, the difficulty stems from the fact that in the numerical treatment no points are considered between the root proper and a point at 20 percent of the semispan if eight points are used along the semispan (or 40 percent if four points are used). However, for a swept wing the kernel of the Weissinger equation, that is, the $F(y,\eta)$ function of reference 1, varies rapidly near the root and, consequently, so does the lift distribution within a distance of about one-half root chord from the root. This rapid variation cannot be taken into account properly in the case of wings of moderate and high aspect ratios, for which one-half root chord amounts to only a small fraction of the semispan. Similarly, at the tip of a wing with zero taper ratio

the lift distribution goes to zero with finite slope, whereas in the numerical treatment of the Weissinger equation the assumption is implied that it goes to zero with infinite slope.

These difficulties result in incorrect values of the lift distribution not only near the root or tip, but sometimes over most of the span. Calculations by means of more accurate methods and comparison with experimental results have indicated that for highly swept wings of large aspect ratio or wings with zero taper ratio, calculations with four points on the semispan may lead to unreliable results. Consequently, eight points were used in the calculations described herein. Even so, the lift distributions are likely to be less reliable for these wings than for others, at least in the regions near the root or the tip, as the case may be.

The manner in which results of the type presented here can be used to calculate lift distributions for known and initially unknown angle-of-attack or twist distributions has been discussed extensively in reference 1; in particular, the relative merits of the various methods of obtaining aerodynamic influence functions and coefficients from such results are discussed therein at some length. The discussion is equally pertinent to the present paper and, therefore, will not be repeated here.

CONCLUDING REMARKS

For a variety of angle-of-attack conditions (including flap and aileron deflections), spanwise lift distributions and aerodynamic influence coefficients pertaining to a certain definite set of stations along the span have been calculated by means of the Weissinger method with eight control points on the semispan for 61 swept wings with various taper ratios and aspect ratios and the results are presented herein.

This information supplements that presented previously for 19 unswept wings in NACA TN 3014. It can be used in the analysis of untwisted swept wings or swept wings with known twist as well as in aeroelastic calculations involving initially unknown twist distributions.

Langley Aeronautical Laboratory,
National Advisory Committee for Aeronautics,
Langley Field, Va., June 14, 1955.

REFERENCES

1. Diederich, Franklin W., and Zlotnick, Martin: Calculated Spanwise Lift Distributions and Aerodynamic Influence Coefficients for Unswept Wings in Subsonic Flow. NACA TN 3014, 1953.

2. Diederich, Franklin W.: A Simple Approximate Method for Calculating Spanwise Lift Distributions and Aerodynamic Influence Coefficients at Subsonic Speeds. NACA TN 2751, 1952.

TABLE I

GEOMETRIC PARAMETERS OF PLAN FORMS

Plan form	Λ, deg	A	λ	Figure
111	-45	1.5	0	2
113	-45	1.5	.50	3
114	-45	1.5	1.00	4
121	-45	3.0	0	5
122	-45	3.0	.25	6
123	-45	3.0	.50	7
124	-45	3.0	1.00	8
133	-45	6.0	.50	9
211	-30	1.5	0	10
213	-30	1.5	.50	11
214	-30	1.5	1.00	12
221	-30	3.0	0	13
222	-30	3.0	.25	14
223	-30	3.0	.50	15
224	-30	3.0	1.00	16
231	-30	6.0	0	17
232	-30	6.0	.25	18
233	-30	6.0	.50	19
234	-30	6.0	1.00	20
311 to 344	0	See reference 1		
411	30	1.5	0	21
412	30	1.5	.25	22
413	30	1.5	.50	23
414	30	1.5	1.00	24
415	30	1.5	1.50	25
421	30	3.0	0	26
422	30	3.0	.25	27
423	30	3.0	.50	28
424	30	3.0	1.00	29
425	30	3.0	1.50	30
431	30	6.0	0	31
432	30	6.0	.25	32
433	30	6.0	.50	33
434	30	6.0	1.00	34
435	30	6.0	1.50	35
441	30	12.0	0	36
443	30	12.0	.50	37

TABLE I.- Concluded

GEOMETRIC PARAMETERS OF PLAN FORMS

Plan form	Δ; deg	A	λ	Figure
511	45	1.5	0	38
512	45	1.5	.25	39
513	45	1.5	.50	40
514	45	1.5	1.00	41
515	45	1.5	1.50	42
521	45	3.0	0	43
522	45	3.0	.25	44
523	45	3.0	.50	45
524	45	3.0	1.00	46
525	45	3.0	1.50	47
531	45	6.0	0	48
532	45	6.0	.25	49
533	45	6.0	.50	50
534	45	6.0	1.00	51
541	45	12.0	0	52
611	60	1.5	0	53
612	60	1.5	.25	54
613	60	1.5	.50	55
614	60	1.5	1.00	56
615	60	1.5	1.50	57
621	60	3.0	0	58
622	60	3.0	.25	59
623	60	3.0	.50	60
624	60	3.0	1.00	61
631	60	6.0	0	62

TABLE II

FORCE AND MOMENT COEFFICIENTS FOR ANGLE-OF-ATTACK LOADINGS

Plan form	Additional loading				Damping-in-roll loading	
	C_{L_α}	C_{BM}	$\bar{y}^*$	C_{D_i}	C_{l_d}	$C_{L_{1/2}}$
111	1.64871	0.63258	0.38368	0.62777	0.11277	0.40239
113	1.85807	.76562	.41205	.73740	.13853	.47318
114	1.87569	.78408	.41802	.74780	.14144	.48134
121	2.42211	.87483	.36119	.73731	.17358	.64263
122	2.64357	1.03227	.39048	.77973	.22206	.77508
123	2.69454	1.08204	.40157	.78963	.23673	.81588
124	2.69043	1.11252	.41351	.77439	.24828	.84753
133	3.37812	1.33974	.39659	.63846	.34746	1.20486
211	1.76903	.69710	.39406	.69750	.12020	.42344
213	1.94394	.81123	.41731	.80348	.14090	.48000
214	1.94567	.82125	.42209	.80331	.14283	.48533
221	2.70036	1.01310	.37517	.86487	.19248	.69909
222	2.93175	1.17765	.40169	.63750	.23793	.82239
223	2.97252	1.22157	.41095	.94539	.24987	.85545
224	2.95065	1.24215	.42098	.92268	.25875	.87933
231	3.62802	1.28766	.35492	.85056	.27066	1.02066
232	3.87786	1.51704	.39121	.84030	.35628	1.24680
233	3.90762	1.58958	.40679	.82704	.38598	1.32540
234	3.84630	1.63416	.42487	.79134	.41112	1.38918
411	1.94963	.80456	.41267	.81311	.13116	.45239
412	2.00588	.84812	.42282	.85365	.14070	.47807
413	1.99173	.84872	.42612	.84167	.14210	.48171
414	1.94109	.83610	.43074	.80076	.14283	.48302
415	1.88573	.81975	.43471	.75812	.14291	.48245
421	3.01773	1.21773	.40353	.98994	.21456	.75159
422	3.12165	1.32624	.42485	1.03374	.24783	.83811
423	3.07014	1.32897	.43287	1.00308	.25464	.85488
424	2.92692	1.29864	.44369	.92385	.25878	.86253
425	2.79483	1.26357	.45211	.78405	.25989	.86235
431	3.95874	1.55052	.39167	.87882	.29904	1.06866
432	4.06464	1.73748	.42746	.87810	.37218	1.24710
433	3.98304	1.76646	.44350	.85662	.39444	1.29954
434	3.77202	1.74936	.46377	.80766	.41118	1.33356
435	3.58176	1.71222	.47804	.77202	.41682	1.33938

TABLE II - Concluded

FORCE AND MOMENT COEFFICIENTS FOR ANGLE-OF-ATTACK LOADINGS

Plan form	Additional loading				Damping-in-roll loading	
	C_{L_α}	C_{BM}	$\bar{y}^*$	C_{D_i}	C_{l_d}	$C_{L_{1/2}}$
441	4.59360	1.74852	0.38064	0.61536	0.36660	1.33740
443	4.56228	2.06748	.45317	.57984	.52188	1.68636
511	1.93662	.80382	.41506	.79992	.13040	.44868
512	1.97370	.83958	.42538	.82643	.13407	.44750
513	1.94378	.83430	.42922	.80235	.14097	.47640
514	1.86579	.81219	.43531	.74255	.14144	.47633
515	1.79034	.78903	.44072	.68868	.14132	.47480
521	2.84253	1.15554	.40651	.87363	.20313	.70869
522	2.90250	1.25139	.43114	.89571	.23721	.79458
523	2.82432	1.24569	.44106	.85671	.24426	.81084
524	2.64909	1.20486	.45482	.77559	.24834	.81672
525	2.50140	1.16445	.46552	.71559	.24927	.81513
531	3.50310	1.38696	.39592	.68226	.26766	.95028
532	3.54030	1.54428	.43620	.67188	.33576	1.10910
533	3.44442	1.56882	.45547	.65946	.35838	1.15986
534	3.23712	1.55268	.47965	.63384	.37584	1.19388
541	3.88932	1.50732	.38755	.43596	.31608	1.14264
611	1.81259	.75411	.41604	.70028	.12291	.42260
612	1.82760	.78737	.43082	.70988	.11837	.33245
613	1.77234	.77418	.43681	.67097	.13614	.45573
614	1.65722	.73998	.44652	.59592	.13653	.45416
615	1.55931	.70947	.45499	.53913	.13617	.45080
621	2.36382	.96159	.40679	.60540	.24783	.83811
622	2.37666	1.04664	.44038	.60717	.20790	.68451
623	2.28954	1.04175	.45500	.58014	.21687	.70428
624	2.11944	1.00566	.47449	.53079	.22263	.71343
631	2.67384	1.06410	.39797	.40284	.21018	.74508

TABLE III

LIFT AND BENDING-MOMENT COEFFICIENTS FOR UNIT EFFECTIVE FLAP DEFLECTION

Plan form	$\frac{b_f}{b} = 0.1$		$\frac{b_f}{b} = 0.2$		$\frac{b_f}{b} = 0.3$		$\frac{b_f}{b} = 0.4$		$\frac{b_f}{b} = 0.5$		$\frac{b_f}{b} = 0.6$		$\frac{b_f}{b} = 0.7$		$\frac{b_f}{b} = 0.8$		$\frac{b_f}{b} = 0.9$	
	C_L	C_{BM}	C_L	C_{BM}	C_L	C_{BM}	C_L	C_{BM}	C_L	C_{BM}	C_L	C_{BM}	C_L	C_{BM}	C_L	C_{BM}	C_L	C_{BM}
111	0.21522	0.05459	0.43004	0.11396	0.64086	0.17880	0.84243	0.24792	1.03155	0.32057	1.20650	0.39569	1.36334	0.47078	1.49634	0.54102	1.59750	0.60002
113	.22704	.06293	.45444	.13088	.68006	.20541	.89958	.28595	1.10931	.37148	1.30842	.46152	1.49145	.55275	1.65385	.64124	1.78370	.71826
114	.22656	.06410	.45419	.13350	.68105	.20987	.90275	.29264	1.11527	.38067	1.31734	.47331	1.50337	.56696	1.66856	.65747	1.80030	.73599
121	.32473	.06786	.65181	.14598	.97363	.23303	1.27758	.33156	1.55754	.43431	1.81395	.54231	2.03967	.65118	2.22597	.75171	2.36598	.83352
122	.32208	.07050	.64779	.15129	.97248	.24480	1.28526	.34878	1.57873	.46134	1.85743	.58586	2.11254	.71121	2.34294	.83976	2.53023	.95625
123	.31506	.07014	.63385	.15132	.95886	.24648	1.27323	.35352	1.57179	.47076	1.85994	.60021	2.12814	.73668	2.37393	.87561	2.57460	1.00128
124	.29883	.06729	.60681	.14673	.92202	.24189	1.23339	.35082	1.55318	.47190	1.82724	.60738	2.10384	.75111	2.35914	.89757	2.56683	1.02897
133	.38570	.06150	.78366	.14304	1.19220	.24816	1.58388	.37122	1.94490	.50910	2.29752	.66912	2.62602	.84384	2.94006	1.03230	3.20484	1.21320
211	.23072	.06231	.46025	.12906	.68308	.20108	.90048	.27743	1.10312	.35726	1.29086	.43938	1.45920	.52086	1.60250	.59706	1.71200	.66101
213	.24201	.07041	.48326	.14540	.72120	.22634	.95181	.31277	1.17146	.40367	1.37861	.49820	1.56813	.59309	1.73502	.68418	1.86798	.76302
214	.24036	.07094	.48039	.14657	.71777	.22839	.94844	.31595	1.16865	.40820	1.37681	.50415	1.56743	.60042	1.73541	.69275	1.86924	.77253
221	.36285	.08433	.72579	.17820	1.08144	.28263	1.41843	.39486	1.73013	.51324	2.01579	.63633	2.26737	.75900	2.47653	.87258	2.62860	.96513
222	.36493	.08952	.73116	.18876	1.09333	.30015	1.44210	.42186	1.76973	.55191	2.07882	.69075	2.36052	.83292	2.61133	.97341	2.81379	1.09821
223	.35961	.08991	.72210	.19014	1.08321	.30345	1.43304	.42822	1.76469	.56259	2.08116	.70743	2.37294	.85704	2.63339	1.00581	2.84736	1.13793
224	.34485	.08745	.69322	.18609	1.04802	.29919	1.39320	.42516	1.72350	.56214	2.04231	.71118	2.33865	.86589	2.60712	1.02000	2.82360	1.15644
231	.51084	.09516	1.02672	.20934	1.53252	.34338	2.00172	.48978	2.42118	.64518	2.79882	.80886	3.11952	.97092	3.37740	1.11798	3.55188	1.23324
232	.48672	.09372	.98136	.20634	1.47342	.34128	1.93914	.49326	2.36434	.65796	2.76486	.83934	3.12504	1.02828	3.45048	1.22088	3.71262	1.39710
233	.46158	.08940	.93522	.19896	1.41228	.33258	1.86930	.48328	2.29314	.65376	2.70222	.84390	3.08088	1.04712	3.43386	1.25946	3.72498	1.45686
234	.41862	.08088	.85378	.18348	1.30602	.31284	1.74376	.46422	2.16180	.63334	2.57332	.83358	2.96790	1.05012	3.34194	1.27950	3.65250	1.49274
411	.25683	.07633	.51078	.15672	.75855	.24161	.99629	.33080	1.22009	.42308	1.42706	.51693	1.61162	.60864	1.76870	.69402	1.88802	.76490
412	.25941	.07922	.51618	.16220	.76698	.25001	1.00802	.34227	1.23372	.43799	1.44743	.53568	1.63850	.63225	1.80374	.72336	1.93356	.80129
413	.25700	.07890	.51141	.16158	.75995	.24914	.99878	.34119	1.22444	.43679	1.43453	.53451	1.62449	.63132	1.78926	.72288	1.91915	.80141
414	.24996	.07700	.49743	.15780	.73914	.24351	.97125	.33378	1.19048	.42768	1.39490	.52400	1.58010	.61968	1.74151	.71051	1.86875	.78863
415	.24239	.07472	.48242	.15329	.71682	.23681	.94181	.32493	1.15430	.41682	1.35284	.51140	1.53311	.60564	1.69053	.69342	1.81523	.77279
421	.42417	.11651	.84228	.23952	1.24677	.37143	1.62897	.51073	1.97973	.63448	2.29693	.80034	2.56939	.94032	2.79204	1.06794	2.94798	1.16805
422	.42060	.11967	.83601	.24681	1.23858	.38304	1.61940	.52704	1.97193	.67674	2.29312	.83061	2.58177	.98307	2.82672	1.12733	3.01572	1.25109
423	.40842	.11721	.81198	.24201	1.20327	.37611	1.57362	.51831	1.91736	.66687	2.23488	.82080	2.51943	.97479	2.97621	1.12248	2.95963	1.25028
424	.38208	.11016	.76020	.22818	1.12743	.35393	1.47373	.49242	1.80048	.63630	2.10402	.78726	2.37960	.94014	2.62236	1.08832	2.81484	1.21809
425	.35731	.10314	.71233	.21447	1.05849	.33618	1.38807	.46731	1.69695	.60675	1.98864	.75462	2.25385	.90358	2.49369	1.05318	2.68329	1.18266
431	.61686	.14682	1.22076	.30654	1.79364	.48114	2.31486	.66830	2.77110	.85384	3.16734	1.04718	3.48972	1.22646	3.73920	1.38474	3.89640	1.50012

TABLE III - Concluded

LIFT AND BENDING-MOMENT COEFFICIENTS FOR UNIT EFFECTIVE FLAP DEFLECTION

Plan form	$\frac{b_f}{b} = 0.1$		$\frac{b_f}{b} = 0.2$		$\frac{b_f}{b} = 0.3$		$\frac{b_f}{b} = 0.4$		$\frac{b_f}{b} = 0.5$		$\frac{b_f}{b} = 0.6$		$\frac{b_f}{b} = 0.7$		$\frac{b_f}{b} = 0.8$		$\frac{b_f}{b} = 0.9$	
	C_L	C_{BM}	C_L	C_{BM}	C_L	C_{BM}	C_L	C_{BM}	C_L	C_{BM}	C_L	C_{BM}	C_L	C_{BM}	C_L	C_{BM}	C_L	C_{BM}
432	0.58644	0.14356	1.16256	0.30322	1.71132	0.48090	2.21346	0.66846	2.66004	0.86406	3.06210	1.06788	3.41088	1.27092	3.70794	1.46538	3.93312	1.63254
433	.55122	.13842	1.09476	.29166	1.61508	.46194	2.09418	.64572	2.52504	.84000	2.92206	1.04670	3.27648	1.25754	3.58926	1.46526	3.83490	1.64874
434	.48792	.12324	.97440	.26280	1.44726	.42180	1.88898	.59694	2.29326	.78612	2.67804	.99294	3.03192	1.20918	3.35484	1.42722	3.61392	1.62294
435	.43542	.10986	.87612	.23760	1.31262	.38694	1.72614	.55440	2.10948	.73818	2.48292	.94308	2.83206	1.16034	3.15684	1.38216	3.41952	1.58244
441	.79092	.15444	1.56132	.33560	2.27520	.53784	2.89116	.75588	3.39324	.97620	3.81672	1.19868	4.14504	1.40256	4.39560	1.57896	4.53636	1.69932
443	.64308	.13068	1.28308	.28992	1.89912	.47964	2.44512	.68904	2.91144	.91164	3.34644	1.15608	3.73380	1.41012	4.09152	1.66932	4.37292	1.90476
511	.25812	.07767	.51294	.15878	.76121	.24441	.99912	.35432	1.22250	.42707	1.42886	.52110	1.61034	.61235	1.76445	.69690	1.87952	.76620
512	.25865	.07946	.51432	.16254	.76347	.25023	1.00220	.34215	1.22682	.43719	1.43451	.53382	1.62068	.62891	1.78035	.71814	1.90461	.79404
513	.25463	.07853	.50625	.16067	.75132	.24743	.98586	.33837	1.20632	.43251	1.41026	.52858	1.59336	1.62297	1.75101	.71208	1.87439	.78827
514	.24485	.07565	.48662	.15489	.72167	.23870	.94599	.32664	1.15643	.41785	1.35152	.51110	1.52681	.60356	1.67876	.69119	1.79832	.76650
515	.23487	.07257	.46662	.14871	.69153	.22937	.90579	.31419	1.10666	.40242	1.29327	.49313	1.46198	.58852	1.60886	.66963	1.72490	.74394
521	.41640	.11475	.82521	.23580	1.21791	.36468	1.58511	.50004	1.91814	.63852	2.21373	.77751	2.46162	.90873	2.65776	1.02594	2.78858	1.11465
522	.40809	.11667	.80904	.24006	1.19382	.37143	1.55313	.50919	1.88064	.65124	2.17590	.79990	2.43309	.93789	2.64888	1.07100	2.81220	1.18339
523	.39213	.11298	.77703	.23265	1.14579	.36030	1.48971	.49461	1.80393	.63393	2.09007	.77736	2.34324	.92010	2.56038	1.05630	2.78880	1.17369
524	.35970	.10395	.71265	.21477	1.05069	.33390	1.36638	.46035	1.65875	.59322	1.92588	.73248	2.16894	.87354	2.38242	1.01055	2.55111	1.13034
525	.33018	.09540	.65541	.19815	.96861	.30999	1.26282	.43011	1.53364	.55782	1.79232	.69360	2.02734	.83874	2.23680	.96927	2.40366	1.08939
531	.58458	.13878	1.15050	.28872	1.67664	.45072	2.14308	.62040	2.53962	.79170	2.87472	.96198	3.13930	1.11832	3.35832	1.23340	3.45816	1.34826
532	.54504	.13482	1.07582	.28176	1.56678	.44166	2.00628	.61056	2.38728	.78498	2.72400	.96304	3.01176	1.14282	3.25404	1.31142	3.43452	1.45464
533	.50370	.12606	.99450	.26508	1.45306	.41838	1.86924	.58236	2.23362	.75462	2.56584	.93714	2.86026	1.12272	3.11952	1.30306	3.32148	1.46568
534	.43032	.10824	.84498	.22788	1.23678	.36306	1.60752	.51394	1.93984	.68670	2.29122	.87222	2.60034	1.06764	2.87592	1.26258	3.08880	1.43538
541	.71287	.12990	1.38646	.29800	2.13201	.50301	2.49644	.66496	2.93480	.86386	3.24505	1.03452	3.50185	1.20417	3.68976	1.34337	3.82569	1.45301
611	.25098	.07321	.49815	.15359	.73800	.23621	.96651	.32280	1.17896	.41162	1.37184	.50094	1.53843	.58608	1.67459	.66345	1.77047	.72483
612	.24872	.07628	.49389	.15396	.73148	.23985	.95706	.32739	1.16655	.41735	1.35693	.50798	1.52411	.59625	1.66415	.67811	1.77039	.74684
613	.24173	.07436	.47973	.15207	.70973	.23387	.92715	.31916	1.12829	.40680	1.31114	.49541	1.47834	.58221	1.60887	.66391	1.71407	.73265
614	.22700	.06986	.44969	.14289	.66347	.21972	.86415	.29987	1.04918	.37755	1.21833	.46695	1.36902	.55061	1.49867	.63003	1.60010	.69842
615	.21315	.06554	.42144	.13406	.62036	.20624	.80657	.28182	.97871	.35041	1.13751	.44153	1.28067	.52281	1.40523	.60069	1.50351	.66821
621	.37929	.10155	.74844	.20856	1.09647	.32173	1.41240	.43908	1.68798	.55704	1.92210	.67284	2.10834	.77892	2.24718	.87000	2.33859	.93486
622	.36393	.10155	.71694	.20859	1.04797	.32143	1.34634	.43836	1.60905	.55740	1.83879	.67737	2.05343	.79389	2.19333	.90204	2.31165	.99249
623	.34311	.09660	.67473	.19834	.98403	.30627	1.26333	.41850	1.51086	.53418	1.73211	.65310	1.92549	.77148	2.09034	.88446	2.21712	.98181
624	.30228	.08341	.59520	.17667	.86976	.27471	1.11990	.37878	1.34533	.48843	1.55403	.60447	1.74267	.72306	1.90947	.83919	2.04120	.94131
631	.52896	.11655	.94817	.22583	1.43329	.37148	1.68933	.47328	2.01236	.62458	2.22669	.74351	2.43464	.87892	2.55713	.96427	2.63673	1.03339

TABLE IV

LIFT AND ROLLING-MOMENT COEFFICIENTS FOR UNIT EFFECTIVE AILERON DEFLECTION

Plan form	$\frac{b_{ail}}{b} = 1.0$		$\frac{b_{ail}}{b} = 0.9$		$\frac{b_{ail}}{b} = 0.8$		$\frac{b_{ail}}{b} = 0.7$		$\frac{b_{ail}}{b} = 0.6$		$\frac{b_{ail}}{b} = 0.5$		$\frac{b_{ail}}{b} = 0.4$		$\frac{b_{ail}}{b} = 0.3$		$\frac{b_{ail}}{b} = 0.2$		$\frac{b_{ail}}{b} = 0.1$	
	$C_{L_{1/2}}$	C_l	$C_{L_{1/2}}$	C_l	$C_{L_{1/2}}$	C_l	$C_{L_{1/2}}$	C_l	$C_{L_{1/2}}$	C_l	$C_{L_{1/2}}$	C_l	$C_{L_{1/2}}$	C_l	$C_{L_{1/2}}$	C_l	$C_{L_{1/2}}$	C_l	$C_{L_{1/2}}$	C_l
111	0.79394	0.19406	0.76296	0.19109	0.69639	0.18221	0.60924	0.16769	0.51002	0.14807	0.40476	0.12405	0.29892	0.09668	0.19838	0.06767	0.10875	0.03911	0.03719	0.01412
113	.90153	.23283	.86966	.22956	.80036	.21974	.70832	.20332	.60159	.18131	.48612	.15372	.36744	.12183	.25091	.08712	.14304	.05193	.05276	.02001
114	.91647	.23816	.88439	.23480	.81437	.22472	.72105	.20804	.61250	.18518	.49481	.15681	.37374	.12408	.25493	.08856	.14514	.05268	.05346	.02027
121	1.31211	.30327	1.25484	.29853	1.13520	.28422	.98187	.26073	.81072	.22905	.63255	.19029	.45687	.14625	.29439	.10026	.15480	.05607	.04884	.01887
122	1.49070	.36825	1.43319	.36336	1.31247	.34854	1.15605	.32388	.97827	.28986	.78924	.24741	.59760	.19797	.41076	.14332	.23730	.08727	.08931	.03450
123	1.55127	.39018	1.49379	.38523	1.37280	.37017	1.21494	.34488	1.03371	.30963	.83877	.26511	.63846	.21264	.44028	.15423	.25410	.09342	.09498	.03657
124	1.59876	.40812	1.54173	.40317	1.42128	.38799	1.26261	.36213	1.07817	.32559	.87741	.27897	.66888	.22362	.46089	.16170	.26508	.09741	.09858	.03789
133	2.30398	.55968	2.20974	.55332	2.01966	.53370	1.78008	.50004	1.51134	.45240	1.22874	.39162	.94272	.31908	.65964	.23658	.39030	.14784	.15138	.06030
211	.83052	.20664	.79886	.20346	.73035	.19400	.64023	.17853	.53718	.15767	.42744	.13217	.31676	.10314	.21102	.07233	.11639	.04197	.04046	.01536
213	.91695	.23804	.88448	.23459	.81359	.22423	.71933	.20733	.61008	.18428	.49212	.15587	.37119	.12320	.25296	.08787	.14396	.05228	.05301	.02010
214	.92651	.24152	.89388	.23799	.82251	.22749	.72744	.21027	.61712	.18683	.49787	.15794	.37553	.12476	.25584	.08892	.14452	.05283	.05337	.02031
221	1.41459	.33606	1.35501	.33069	1.22898	.31470	1.06617	.28860	.88326	.25350	.69193	.21075	.50262	.16242	.32622	.11181	.17322	.06297	.05610	.02169
222	1.58562	.39873	1.52541	.39312	1.39728	.37629	1.23018	.34860	1.03939	.31074	.83664	.26391	.63093	.20982	.43107	.15093	.24690	.09081	.09193	.03349
223	1.63399	.41718	1.57560	.41142	1.44678	.39423	1.27794	.36582	1.08414	.32676	.87606	.27807	.66318	.22146	.45435	.15936	.26037	.09373	.09666	.03720
224	1.67247	.43116	1.61223	.42540	1.48338	.40800	1.31355	.37899	1.11717	.33885	.90474	.28851	.68589	.22971	.46998	.16306	.26898	.09888	.09963	.03851
231	2.16894	.48342	2.06178	.47332	1.84398	.45090	1.57164	.41112	1.27488	.35784	.97416	.29358	.68628	.22188	.42882	.14874	.21708	.08076	.06432	.02574
232	2.45322	.59236	2.34726	.58446	2.13222	.56004	1.86090	.51934	1.55982	.46410	1.24734	.39534	.93768	.31614	.64158	.22956	.37122	.14052	.14172	.05664
233	2.55312	.63252	2.44872	.62434	2.23698	.60036	1.96812	.55980	1.66620	.50334	1.34784	.43224	1.02994	.34834	.71022	.25506	.41400	.15672	.15756	.06270
234	2.62752	.66630	2.52664	.65868	2.32134	.63516	2.05818	.59490	1.75722	.53772	1.43370	.46416	1.09968	.37584	.76300	.27546	.44592	.16872	.16866	.06690
411	.88295	.22595	.85023	.22242	.77880	.21197	.68411	.19496	.57501	.17202	.45851	.14405	.34028	.11238	.22686	.07869	.12498	.04553	.04350	.01668
412	.91943	.23948	.88647	.23586	.81425	.22511	.71820	.20760	.60719	.18393	.48785	.15300	.36624	.12201	.24825	.08664	.14045	.05130	.05142	.01965
413	.92489	.24162	.89189	.23798	.81953	.22718	.72326	.20937	.61188	.18576	.49206	.15662	.36984	.12338	.25104	.08769	.14226	.05198	.05217	.01994
414	.92658	.24270	.89357	.23906	.82121	.22825	.72494	.21057	.61355	.18671	.49367	.15747	.37130	.12410	.25224	.08826	.14309	.05234	.05253	.02009
415	.92556	.24282	.89258	.23918	.82031	.22835	.72419	.21071	.61301	.18684	.49334	.15762	.37116	.12425	.25226	.08838	.14315	.05243	.05258	.02012
421	1.52841	.37965	1.46529	.37326	1.32994	.35433	1.15835	.32367	.95172	.28269	.74166	.23334	.53481	.17838	.34272	.12129	.17817	.06699	.05610	.02253
422	1.64520	.42495	1.58157	.41832	1.44408	.39861	1.26396	.36669	1.05903	.32382	.84246	.27180	.62592	.21303	.41985	.15060	.23589	.08883	.08547	.03396
423	1.66704	.43446	1.60341	.42777	1.46592	.40797	1.28574	.37978	1.08031	.33255	.86310	.27993	.64467	.22020	.43527	.15642	.24373	.09273	.08994	.03561
424	1.67337	.43980	1.60998	.43314	1.47387	.41334	1.29435	.38118	1.09033	.33792	.87414	.28312	.65562	.22491	.44469	.16020	.25221	.09325	.09270	.03669
425	1.66863	.44073	1.60534	.43410	1.46982	.41442	1.29252	.38247	1.09063	.33942	.87585	.28471	.65826	.22647	.44742	.16155	.25425	.09413	.09337	.03705
431	2.32896	.55158	2.21184	.54090	1.96806	.50964	1.66158	.45984	1.32888	.39462	.99636	.31806	.68616	.23568	.41544	.15360	.20028	.07980	.05604	.02418

TABLE IV - Concluded

LIFT AND ROLLING-MOMENT COEFFICIENTS FOR UNIT EFFECTIVE AILERON DEFLECTION

Plan form	$\frac{b_{ail}}{b} = 1.0$		$\frac{b_{ail}}{b} = 0.9$		$\frac{b_{ail}}{b} = 0.8$		$\frac{b_{ail}}{b} = 0.7$		$\frac{b_{ail}}{b} = 0.6$		$\frac{b_{ail}}{b} = 0.5$		$\frac{b_{ail}}{b} = 0.4$		$\frac{b_{ail}}{b} = 0.3$		$\frac{b_{ail}}{b} = 0.2$		$\frac{b_{ail}}{b} = 0.1$	
	$C_{l_{1/2}}$	C_l	$C_{l_{1/2}}$	C_l	$C_{l_{1/2}}$	C_l	$C_{l_{1/2}}$	C_l	$C_{l_{1/2}}$	C_l	$C_{l_{1/2}}$	C_l	$C_{l_{1/2}}$	C_l	$C_{l_{1/2}}$	C_l	$C_{l_{1/2}}$	C_l	$C_{l_{1/2}}$	C_l
432	2.55270	0.64686	2.43558	0.65594	2.19210	0.60384	1.88580	0.55254	1.55166	0.48492	1.21248	0.40428	0.88620	0.31494	0.58662	0.22164	0.32616	0.13062	0.11862	0.05028
433	2.61078	.67554	2.49444	.66468	2.25342	.63258	1.95102	.58134	1.62048	.51542	1.28190	.43182	.95094	.33996	.64038	.24228	.36246	.14466	.13580	.05628
434	2.63382	.69528	2.51922	.68454	2.28584	.65304	1.99044	.60270	1.66890	.53556	1.33494	.45366	1.00188	.36000	.68262	.25860	.39036	.15546	.14502	.06066
435	2.62008	.69972	2.50728	.68916	2.27736	.65844	1.99272	.60924	1.68054	.54336	1.35276	.46218	1.02114	.36816	.69930	.26532	.40146	.15984	.14946	.06240
441	3.16092	.70500	2.95308	.68892	2.54868	.64260	2.07732	.57132	1.60188	.48108	1.15548	.37896	.76380	.27300	.44304	.17184	.20280	.08520	.05256	.02400
443	3.52044	.89540	3.31980	.87780	2.93832	.83516	2.50260	.76428	2.05944	.67536	1.62036	.56952	1.20012	.45096	.81492	.32496	.46956	.19776	.17832	.07944
511	.87939	.22545	.84662	.22191	.77502	.21140	.68009	.19428	.57069	.17120	.45573	.14309	.33567	.11130	.22247	.07758	.12134	.04452	.04142	.01604
512	.91533	.23873	.88235	.23510	.81006	.22431	.71393	.20675	.60285	.18303	.48337	.15405	.36228	.12108	.24489	.08583	.13811	.05070	.05036	.01937
513	.91749	.24012	.88449	.23649	.81219	.22568	.71604	.20807	.60495	.18429	.48563	.15522	.36422	.12212	.24662	.08667	.13938	.05129	.05097	.01964
514	.91671	.24072	.88376	.23709	.81155	.22628	.71559	.20867	.60477	.18488	.48578	.15581	.36470	.12267	.24728	.08715	.14001	.05165	.05130	.01980
515	.91374	.24048	.88083	.23685	.80880	.22607	.71315	.20849	.60276	.18476	.48432	.15575	.36380	.12269	.24686	.08721	.13989	.05171	.05132	.01983
521	1.46907	.36471	1.40610	.35832	1.27083	.33942	1.09475	.30894	.89622	.26825	.69000	.21957	.48948	.16590	.30651	.11082	.15393	.05952	.04566	.01902
522	1.58169	.41025	1.51827	.40362	1.38162	.38403	1.20324	.35233	1.00155	.31002	.79041	.25896	.58188	.20178	.38634	.14169	.21414	.08295	.07692	.03144
523	1.60032	.41952	1.53699	.41286	1.40061	.39321	1.22274	.36138	1.02174	.31887	.81102	.26745	.60177	.20958	.40362	.14826	.22644	.08757	.08244	.03371
524	1.60077	.42402	1.53780	.41742	1.40271	.39786	1.22715	.36627	1.02915	.32400	.82119	.27276	.61341	.21471	.41457	.15267	.23445	.09066	.08598	.03486
525	1.59159	.42426	1.52904	.41772	1.39530	.39834	1.22226	.36708	1.02741	.32526	.82230	.27435	.61629	.21645	.41799	.15426	.23718	.09180	.08724	.03537
531	2.13978	.50508	2.02556	.49438	1.78856	.46392	1.48542	.41538	1.16772	.35268	.85794	.28038	.57726	.20418	.34002	.13014	.15822	.06338	.04194	.01884
532	2.33052	.59238	2.21466	.58164	1.97610	.55032	1.68120	.50082	1.36638	.43656	1.05438	.36120	.76134	.27906	.49836	.19476	.27438	.11388	.09906	.04362
533	2.38104	.62046	2.26602	.60972	2.03082	.57858	1.74198	.52944	1.43382	.46542	1.12470	.38952	.82806	.30528	.55440	.21672	.31260	.12906	.11508	.05010
534	2.14254	.57372	2.39592	.56490	1.83018	.54036	1.59378	.50310	1.32628	.45282	1.08516	.38784	.81774	.31002	.56070	.22434	.32316	.13584	.12042	.05322
541	2.83125	.63840	2.61711	.61308	2.22310	.56185	1.76063	.48970	1.36296	.41503	.94219	.31805	.65372	.23773	.37774	.15001	.17532	.07616	.05913	.02715
611	.84350	.21554	.81131	.21204	.74024	.20165	.64622	.18476	.53819	.16200	.42387	.13439	.30825	.10338	.19943	.07076	.10452	.03935	.05303	.01351
612	.89153	.23237	.85868	.22877	.78680	.21809	.69140	.20070	.58149	.17726	.46398	.14871	.34332	.11657	.23163	.08202	.12951	.04812	.04683	.01824
613	.88671	.23319	.85392	.22961	.78227	.21893	.68727	.20154	.57798	.17813	.46133	.14960	.34373	.11789	.23106	.08291	.12960	.04886	.04704	.01852
614	.88202	.23325	.84933	.22967	.77799	.21903	.68357	.20171	.57521	.17841	.45984	.15003	.34359	.11787	.23192	.08337	.13077	.04943	.04776	.01892
615	.87369	.23247	.84312	.22892	.77213	.21851	.67835	.20111	.57104	.17796	.45704	.14979	.34214	.11784	.23145	.08397	.13083	.04956	.04791	.01901
621	1.64171	.42540	1.58105	.41613	1.44125	.36112	1.25499	.35330	1.06320	.32186	.84921	.26941	.63813	.21296	.41939	.14884	.25189	.09333	.10219	.03966
622	1.40721	.36576	1.34523	.35946	1.21303	.34083	1.04289	.31092	.85452	.27144	.66279	.22458	.47954	.17313	.31269	.12024	.17052	.06960	.06042	.02613
623	1.42677	.37686	1.36497	.37056	1.23360	.35193	1.06312	.32205	.87909	.28257	.68937	.23362	.50592	.18337	.33603	.12915	.18708	.07593	.06780	.02901
624	1.42584	.38262	1.36464	.37635	1.23558	.35799	1.07166	.32865	.89145	.28989	.70647	.24339	.52488	.19122	.35337	.13581	.19990	.08064	.07326	.03108
631	1.75196	.41392	1.67537	.40143	1.43696	.37359	1.16566	.32881	.91341	.29132	.64436	.20073	.42206	.15306	.24029	.09333	.11387	.04914	.05119	.01463

TABLE V

AERODYNAMIC-INFLUENCE-COEFFICIENT MATRICES

(a) Symmetric loadings $\left[Q_s\right]$

Plan form 111

$$\begin{bmatrix} 0.0541 & 0.0164 & 0.0136 & 0.0021 & 0.0093 & -0.0002 & 0.0083 & -0.0004 \\ 0.0219 & 0.1364 & 0.0740 & 0.0340 & 0.0293 & 0.0193 & 0.0208 & 0.0079 \\ 0.0114 & 0.0656 & 0.2398 & 0.1344 & 0.0798 & 0.0636 & 0.0527 & 0.0253 \\ 0.0087 & 0.0387 & 0.1278 & 0.3439 & 0.2083 & 0.1384 & 0.1201 & 0.0538 \\ 0.0070 & 0.0320 & 0.0848 & 0.1995 & 0.4555 & 0.2930 & 0.2200 & 0.1045 \\ 0.0064 & 0.0274 & 0.0743 & 0.1446 & 0.2880 & 0.5739 & 0.4027 & 0.1714 \\ 0.0060 & 0.0262 & 0.0671 & 0.1327 & 0.2263 & 0.3982 & 0.7185 & 0.2988 \\ 0.0060 & 0.0253 & 0.0667 & 0.1261 & 0.2211 & 0.3449 & 0.5960 & 0.5519 \end{bmatrix}$$

Plan form 113

$$\begin{bmatrix} 0.0633 & 0.0572 & 0.0448 & 0.0393 & 0.0313 & 0.0266 & 0.0227 & 0.0109 \\ 0.0293 & 0.1559 & 0.1154 & 0.0850 & 0.0710 & 0.0569 & 0.0502 & 0.0231 \\ 0.0164 & 0.0812 & 0.2509 & 0.1710 & 0.1221 & 0.1015 & 0.0846 & 0.0404 \\ 0.0123 & 0.0506 & 0.1398 & 0.3423 & 0.2253 & 0.1622 & 0.1397 & 0.0635 \\ 0.0096 & 0.0407 & 0.0944 & 0.2030 & 0.4311 & 0.2857 & 0.2160 & 0.1024 \\ 0.0086 & 0.0344 & 0.0809 & 0.1479 & 0.2741 & 0.5247 & 0.3666 & 0.1555 \\ 0.0079 & 0.0325 & 0.0729 & 0.1347 & 0.2159 & 0.3648 & 0.6423 & 0.2662 \\ 0.0078 & 0.0315 & 0.0721 & 0.1283 & 0.2108 & 0.3169 & 0.5332 & 0.4906 \end{bmatrix}$$

Plan form 114

$$\begin{bmatrix} 0.0630 & 0.0577 & 0.0467 & 0.0429 & 0.0360 & 0.0314 & 0.0269 & 0.0128 \\ 0.0295 & 0.1561 & 0.1182 & 0.0910 & 0.0793 & 0.0654 & 0.0577 & 0.0265 \\ 0.0167 & 0.0822 & 0.2527 & 0.1767 & 0.1312 & 0.1116 & 0.0935 & 0.0444 \\ 0.0125 & 0.0516 & 0.1418 & 0.3450 & 0.2317 & 0.1701 & 0.1467 & 0.0665 \\ 0.0097 & 0.0411 & 0.0954 & 0.2044 & 0.4317 & 0.2878 & 0.2172 & 0.1024 \\ 0.0085 & 0.0343 & 0.0806 & 0.1474 & 0.2724 & 0.5194 & 0.3598 & 0.1514 \\ 0.0078 & 0.0321 & 0.0720 & 0.1330 & 0.2127 & 0.3582 & 0.6292 & 0.2589 \\ 0.0078 & 0.0310 & 0.0712 & 0.1264 & 0.2073 & 0.3103 & 0.5206 & 0.4809 \end{bmatrix}$$

Plan form 121

$$\begin{bmatrix} 0.0284 & -0.0051 & 0.0097 & -0.0068 & 0.0082 & -0.0066 & 0.0078 & -0.0033 \\ 0.0098 & 0.0719 & 0.0246 & 0.0082 & 0.0058 & 0.0039 & 0.0035 & 0.0015 \\ 0.0042 & 0.0302 & 0.1326 & 0.0535 & 0.0227 & 0.0152 & 0.0121 & 0.0052 \\ 0.0031 & 0.0149 & 0.0623 & 0.1933 & 0.0909 & 0.0437 & 0.0353 & 0.0140 \\ 0.0023 & 0.0118 & 0.0360 & 0.0994 & 0.2575 & 0.1343 & 0.0805 & 0.0367 \\ 0.0021 & 0.0096 & 0.0309 & 0.0654 & 0.1478 & 0.3268 & 0.1976 & 0.0756 \\ 0.0020 & 0.0095 & 0.0276 & 0.0603 & 0.1105 & 0.2139 & 0.4194 & 0.1653 \\ 0.0020 & 0.0092 & 0.0281 & 0.0571 & 0.1092 & 0.1808 & 0.3406 & 0.3403 \end{bmatrix}$$

TABLE V.- Continued

AERODYNAMIC-INFLUENCE-COEFFICIENT MATRICES

(a) Symmetric loadings $\left[Q_s\right]$ - Continued

Plan form 122

$$\begin{bmatrix} 0.0429 & 0.0336 & 0.0181 & 0.0116 & 0.0066 & 0.0051 & 0.0037 & 0.0018 \\ 0.0182 & 0.0993 & 0.0581 & 0.0280 & 0.0184 & 0.0114 & 0.0097 & 0.0039 \\ 0.0089 & 0.0462 & 0.1508 & 0.0784 & 0.0378 & 0.0262 & 0.0181 & 0.0086 \\ 0.0062 & 0.0253 & 0.0742 & 0.1983 & 0.1006 & 0.0520 & 0.0393 & 0.0160 \\ 0.0045 & 0.0190 & 0.0442 & 0.1037 & 0.2461 & 0.1299 & 0.0764 & 0.0345 \\ 0.0039 & 0.0154 & 0.0366 & 0.0683 & 0.1402 & 0.3002 & 0.1764 & 0.0662 \\ 0.0036 & 0.0148 & 0.0327 & 0.0622 & 0.1042 & 0.1945 & 0.3764 & 0.1462 \\ 0.0037 & 0.0144 & 0.0330 & 0.0592 & 0.1030 & 0.1644 & 0.3047 & 0.3068 \end{bmatrix}$$

Plan form 123

$$\begin{bmatrix} 0.0428 & 0.0361 & 0.0235 & 0.0163 & 0.0100 & 0.0072 & 0.0052 & 0.0024 \\ 0.0188 & 0.1017 & 0.0661 & 0.0373 & 0.0248 & 0.0156 & 0.0124 & 0.0051 \\ 0.0096 & 0.0489 & 0.1562 & 0.0885 & 0.0465 & 0.0317 & 0.0215 & 0.0100 \\ 0.0066 & 0.0272 & 0.0784 & 0.2034 & 0.1078 & 0.0571 & 0.0420 & 0.0169 \\ 0.0047 & 0.0202 & 0.0469 & 0.1068 & 0.2464 & 0.1305 & 0.0754 & 0.0335 \\ 0.0040 & 0.0160 & 0.0379 & 0.0697 & 0.1391 & 0.2932 & 0.1682 & 0.0616 \\ 0.0037 & 0.0151 & 0.0334 & 0.0626 & 0.1022 & 0.1874 & 0.3611 & 0.1378 \\ 0.0038 & 0.0148 & 0.0337 & 0.0596 & 0.1009 & 0.1579 & 0.2910 & 0.2956 \end{bmatrix}$$

Plan form 124

$$\begin{bmatrix} 0.0433 & 0.0378 & 0.0270 & 0.0207 & 0.0134 & 0.0095 & 0.0066 & 0.0030 \\ 0.0194 & 0.1043 & 0.0721 & 0.0455 & 0.0315 & 0.0201 & 0.0150 & 0.0061 \\ 0.0102 & 0.0513 & 0.1622 & 0.0981 & 0.0558 & 0.0377 & 0.0249 & 0.0111 \\ 0.0070 & 0.0290 & 0.0828 & 0.2110 & 0.1164 & 0.0631 & 0.0445 & 0.0174 \\ 0.0049 & 0.0212 & 0.0493 & 0.1110 & 0.2511 & 0.1329 & 0.0742 & 0.0320 \\ 0.0041 & 0.0162 & 0.0386 & 0.0707 & 0.1390 & 0.2897 & 0.1592 & 0.0557 \\ 0.0036 & 0.0150 & 0.0331 & 0.0619 & 0.0993 & 0.1799 & 0.3460 & 0.1275 \\ 0.0037 & 0.0146 & 0.0334 & 0.0589 & 0.0981 & 0.1505 & 0.2759 & 0.2856 \end{bmatrix}$$

Plan form 133

$$\begin{bmatrix} 0.0330 & 0.0238 & 0.0100 & 0.0053 & 0.0020 & 0.0017 & 0.0008 & 0.0005 \\ 0.0133 & 0.0731 & 0.0359 & 0.0119 & 0.0065 & 0.0028 & 0.0025 & 0.0008 \\ 0.0058 & 0.0310 & 0.1044 & 0.0412 & 0.0127 & 0.0072 & 0.0039 & 0.0018 \\ 0.0035 & 0.0143 & 0.0448 & 0.1290 & 0.0456 & 0.0144 & 0.0090 & 0.0031 \\ 0.0021 & 0.0095 & 0.0215 & 0.0565 & 0.1509 & 0.0524 & 0.0188 & 0.0077 \\ 0.0017 & 0.0065 & 0.0157 & 0.0291 & 0.0696 & 0.1738 & 0.0662 & 0.0175 \\ 0.0014 & 0.0060 & 0.0126 & 0.0249 & 0.0422 & 0.0928 & 0.2103 & 0.0649 \\ 0.0015 & 0.0060 & 0.0136 & 0.0239 & 0.0437 & 0.0740 & 0.1614 & 0.1945 \end{bmatrix}$$

TABLE V.- Continued

AERODYNAMIC-INFLUENCE-COEFFICIENT MATRICES

(a) Symmetric loadings $\left[Q_s\right]$ - Continued

Plan form 211

$$\begin{bmatrix} 0.0537 & 0.0258 & 0.0174 & 0.0099 & 0.0121 & 0.0066 & 0.0106 & 0.0028 \\ 0.0223 & 0.1356 & 0.0822 & 0.0477 & 0.0416 & 0.0324 & 0.0324 & 0.0143 \\ 0.0118 & 0.0668 & 0.2346 & 0.1440 & 0.0968 & 0.0824 & 0.0722 & 0.0352 \\ 0.0091 & 0.0404 & 0.1276 & 0.3356 & 0.2158 & 0.1559 & 0.1409 & 0.0652 \\ 0.0073 & 0.0334 & 0.0857 & 0.1977 & 0.4417 & 0.2962 & 0.2328 & 0.1126 \\ 0.0066 & 0.0285 & 0.0745 & 0.1442 & 0.2318 & 0.5528 & 0.3974 & 0.1721 \\ 0.0062 & 0.0271 & 0.0672 & 0.1318 & 0.2222 & 0.3861 & 0.6879 & 0.2887 \\ 0.0062 & 0.0262 & 0.0667 & 0.1253 & 0.2169 & 0.3356 & 0.5725 & 0.5240 \end{bmatrix}$$

Plan form 213

$$\begin{bmatrix} 0.0607 & 0.0554 & 0.0445 & 0.0409 & 0.0350 & 0.0317 & 0.0286 & 0.0140 \\ 0.0283 & 0.1502 & 0.1133 & 0.0872 & 0.0772 & 0.0664 & 0.0615 & 0.0292 \\ 0.0160 & 0.0790 & 0.2433 & 0.1706 & 0.1286 & 0.1134 & 0.1001 & 0.0489 \\ 0.0121 & 0.0498 & 0.1371 & 0.3342 & 0.2276 & 0.1732 & 0.1565 & 0.0732 \\ 0.0095 & 0.0400 & 0.0931 & 0.1999 & 0.4225 & 0.2897 & 0.2294 & 0.1109 \\ 0.0084 & 0.0337 & 0.0794 & 0.1457 & 0.2700 & 0.5146 & 0.3695 & 0.1599 \\ 0.0078 & 0.0315 & 0.0710 & 0.1318 & 0.2124 & 0.3588 & 0.6291 & 0.2635 \\ 0.0077 & 0.0305 & 0.0702 & 0.1253 & 0.2067 & 0.3120 & 0.5233 & 0.4772 \end{bmatrix}$$

Plan form 214

$$\begin{bmatrix} 0.0608 & 0.0561 & 0.0461 & 0.0435 & 0.0382 & 0.0351 & 0.0318 & 0.0155 \\ 0.0286 & 0.1513 & 0.1159 & 0.0915 & 0.0829 & 0.0724 & 0.0672 & 0.0318 \\ 0.0163 & 0.0802 & 0.2460 & 0.1752 & 0.1350 & 0.1203 & 0.1066 & 0.0519 \\ 0.0123 & 0.0507 & 0.1392 & 0.3376 & 0.2325 & 0.1785 & 0.1613 & 0.0753 \\ 0.0096 & 0.0405 & 0.0941 & 0.2014 & 0.4244 & 0.2913 & 0.2298 & 0.1108 \\ 0.0084 & 0.0336 & 0.0791 & 0.1452 & 0.2688 & 0.5117 & 0.3646 & 0.1569 \\ 0.0076 & 0.0311 & 0.0700 & 0.1299 & 0.2091 & 0.3530 & 0.6201 & 0.2582 \\ 0.0075 & 0.0300 & 0.0689 & 0.1229 & 0.2028 & 0.3053 & 0.5131 & 0.4710 \end{bmatrix}$$

Plan form 221

$$\begin{bmatrix} 0.0279 & 0.0029 & 0.0075 & -0.0014 & 0.0058 & -0.0021 & 0.0054 & -0.0011 \\ 0.0098 & 0.0716 & 0.0318 & 0.0140 & 0.0113 & 0.0080 & 0.0079 & 0.0033 \\ 0.0044 & 0.0308 & 0.1284 & 0.0623 & 0.0330 & 0.0255 & 0.0209 & 0.0099 \\ 0.0032 & 0.0160 & 0.0620 & 0.1859 & 0.0994 & 0.0585 & 0.0497 & 0.0216 \\ 0.0024 & 0.0127 & 0.0371 & 0.0984 & 0.2461 & 0.1420 & 0.0967 & 0.0454 \\ 0.0022 & 0.0103 & 0.0314 & 0.0658 & 0.1440 & 0.3104 & 0.2003 & 0.0810 \\ 0.0020 & 0.0100 & 0.0278 & 0.0598 & 0.1078 & 0.2046 & 0.3936 & 0.1586 \\ 0.0020 & 0.0095 & 0.0280 & 0.0564 & 0.1059 & 0.1736 & 0.3207 & 0.3142 \end{bmatrix}$$

TABLE V.- Continued

AERODYNAMIC-INFLUENCE-COEFFICIENT MATRICES

(a) Symmetric loadings $\left[Q_s\right]$ - Continued

Plan form 222

$$\begin{bmatrix} 0.0390 & 0.0320 & 0.0202 & 0.0150 & 0.0103 & 0.0085 & 0.0070 & 0.0034 \\ 0.0169 & 0.0918 & 0.0585 & 0.0343 & 0.0256 & 0.0187 & 0.0164 & 0.0074 \\ 0.0085 & 0.0437 & 0.1418 & 0.0821 & 0.0481 & 0.0371 & 0.0292 & 0.0140 \\ 0.0059 & 0.0245 & 0.0716 & 0.1889 & 0.1069 & 0.0658 & 0.0541 & 0.0238 \\ 0.0043 & 0.0186 & 0.0437 & 0.1015 & 0.2358 & 0.1374 & 0.0927 & 0.0433 \\ 0.0037 & 0.0150 & 0.0360 & 0.0679 & 0.1372 & 0.2873 & 0.1823 & 0.0730 \\ 0.0034 & 0.0141 & 0.0316 & 0.0607 & 0.1020 & 0.1875 & 0.3571 & 0.1425 \\ 0.0035 & 0.0137 & 0.0316 & 0.0575 & 0.0999 & 0.1587 & 0.2897 & 0.2857 \end{bmatrix}$$

Plan form 223

$$\begin{bmatrix} 0.0390 & 0.0337 & 0.0238 & 0.0188 & 0.0134 & 0.0108 & 0.0088 & 0.0042 \\ 0.0174 & 0.0936 & 0.0641 & 0.0413 & 0.0313 & 0.0229 & 0.0196 & 0.0088 \\ 0.0090 & 0.0458 & 0.1459 & 0.0894 & 0.0552 & 0.0423 & 0.0329 & 0.0156 \\ 0.0063 & 0.0261 & 0.0749 & 0.1928 & 0.1122 & 0.0700 & 0.0567 & 0.0247 \\ 0.0046 & 0.0195 & 0.0457 & 0.1038 & 0.2362 & 0.1378 & 0.0920 & 0.0426 \\ 0.0039 & 0.0154 & 0.0369 & 0.0686 & 0.1361 & 0.2820 & 0.1760 & 0.0695 \\ 0.0035 & 0.0143 & 0.0320 & 0.0606 & 0.0998 & 0.1815 & 0.3454 & 0.1362 \\ 0.0035 & 0.0138 & 0.0318 & 0.0571 & 0.0975 & 0.1528 & 0.2786 & 0.2771 \end{bmatrix}$$

Plan form 224

$$\begin{bmatrix} 0.0396 & 0.0351 & 0.0263 & 0.0219 & 0.0163 & 0.0130 & 0.0103 & 0.0048 \\ 0.0180 & 0.0962 & 0.0685 & 0.0470 & 0.0367 & 0.0270 & 0.0224 & 0.0099 \\ 0.0095 & 0.0480 & 0.1511 & 0.0964 & 0.0621 & 0.0475 & 0.0362 & 0.0168 \\ 0.0067 & 0.0276 & 0.0786 & 0.1992 & 0.1188 & 0.0747 & 0.0591 & 0.0254 \\ 0.0048 & 0.0203 & 0.0476 & 0.1071 & 0.2404 & 0.1397 & 0.0910 & 0.0414 \\ 0.0039 & 0.0156 & 0.0373 & 0.0691 & 0.1358 & 0.2800 & 0.1694 & 0.0651 \\ 0.0034 & 0.0140 & 0.0315 & 0.0594 & 0.0968 & 0.1751 & 0.3344 & 0.1287 \\ 0.0034 & 0.0134 & 0.0311 & 0.0555 & 0.0938 & 0.1453 & 0.2658 & 0.2699 \end{bmatrix}$$

Plan form 231

$$\begin{bmatrix} 0.0148 & -0.0059 & 0.0071 & -0.0058 & 0.0062 & -0.0055 & 0.0058 & -0.0027 \\ 0.0040 & 0.0394 & 0.0076 & 0.0044 & 0.0011 & 0.0028 & 0.0004 & 0.0012 \\ 0.0013 & 0.0138 & 0.0731 & 0.0220 & 0.0095 & 0.0054 & 0.0055 & 0.0018 \\ 0.0009 & 0.0054 & 0.0294 & 0.1082 & 0.0408 & 0.0177 & 0.0136 & 0.0056 \\ 0.0006 & 0.0041 & 0.0139 & 0.0479 & 0.1446 & 0.0627 & 0.0327 & 0.0148 \\ 0.0005 & 0.0030 & 0.0113 & 0.0266 & 0.0719 & 0.1828 & 0.0941 & 0.0325 \\ 0.0005 & 0.0030 & 0.0095 & 0.0238 & 0.0476 & 0.1069 & 0.2351 & 0.0862 \\ 0.0005 & 0.0028 & 0.0100 & 0.0221 & 0.0478 & 0.0864 & 0.1843 & 0.2036 \end{bmatrix}$$

TABLE V.- Continued

AERODYNAMIC-INFLUENCE-COEFFICIENT MATRICES

(a) Symmetric loadings $\left[Q_s\right]$ - Continued

Plan form 232

$$\begin{bmatrix} 0.0281 & 0.0190 & 0.0081 & 0.0051 & 0.0026 & 0.0023 & 0.0015 & 0.0008 \\ 0.0108 & 0.0610 & 0.0294 & 0.0118 & 0.0074 & 0.0047 & 0.0039 & 0.0017 \\ 0.0045 & 0.0250 & 0.0888 & 0.0376 & 0.0154 & 0.0103 & 0.0071 & 0.0033 \\ 0.0028 & 0.0115 & 0.0379 & 0.1145 & 0.0473 & 0.0208 & 0.0151 & 0.0061 \\ 0.0018 & 0.0079 & 0.0188 & 0.0514 & 0.1403 & 0.0606 & 0.0303 & 0.0135 \\ 0.0014 & 0.0057 & 0.0143 & 0.0283 & 0.0681 & 0.1684 & 0.0822 & 0.0274 \\ 0.0013 & 0.0053 & 0.0118 & 0.0244 & 0.0438 & 0.0950 & 0.2095 & 0.0741 \\ 0.0013 & 0.0052 & 0.0122 & 0.0228 & 0.0437 & 0.0758 & 0.1617 & 0.1836 \end{bmatrix}$$

Plan form 233

$$\begin{bmatrix} 0.0288 & 0.0221 & 0.0118 & 0.0074 & 0.0040 & 0.0030 & 0.0020 & 0.0010 \\ 0.0118 & 0.0652 & 0.0364 & 0.0166 & 0.0104 & 0.0060 & 0.0050 & 0.0020 \\ 0.0053 & 0.0282 & 0.0954 & 0.0450 & 0.0193 & 0.0126 & 0.0081 & 0.0038 \\ 0.0033 & 0.0134 & 0.0420 & 0.1200 & 0.0520 & 0.0227 & 0.0160 & 0.0062 \\ 0.0020 & 0.0090 & 0.0210 & 0.0541 & 0.1418 & 0.0608 & 0.0292 & 0.0128 \\ 0.0016 & 0.0062 & 0.0154 & 0.0292 & 0.0676 & 0.1645 & 0.0767 & 0.0246 \\ 0.0013 & 0.0056 & 0.0123 & 0.0244 & 0.0420 & 0.0896 & 0.1990 & 0.0678 \\ 0.0013 & 0.0054 & 0.0126 & 0.0227 & 0.0418 & 0.0705 & 0.1511 & 0.1760 \end{bmatrix}$$

Plan form 234

$$\begin{bmatrix} 0.0297 & 0.0244 & 0.0149 & 0.0100 & 0.0056 & 0.0038 & 0.0025 & 0.0011 \\ 0.0127 & 0.0692 & 0.0425 & 0.0220 & 0.0136 & 0.0077 & 0.0058 & 0.0022 \\ 0.0059 & 0.0312 & 0.1028 & 0.0528 & 0.0242 & 0.0150 & 0.0090 & 0.0041 \\ 0.0037 & 0.0153 & 0.0465 & 0.1279 & 0.0581 & 0.0251 & 0.0167 & 0.0061 \\ 0.0023 & 0.0100 & 0.0233 & 0.0579 & 0.1466 & 0.0621 & 0.0278 & 0.0118 \\ 0.0016 & 0.0066 & 0.0162 & 0.0301 & 0.0678 & 0.1629 & 0.0705 & 0.0209 \\ 0.0013 & 0.0056 & 0.0123 & 0.0239 & 0.0396 & 0.0836 & 0.1878 & 0.0595 \\ 0.0013 & 0.0054 & 0.0125 & 0.0220 & 0.0390 & 0.0637 & 0.1377 & 0.1681 \end{bmatrix}$$

Plan form 411

$$\begin{bmatrix} 0.0521 & 0.0420 & 0.0306 & 0.0304 & 0.0266 & 0.0274 & 0.0253 & 0.0134 \\ 0.0215 & 0.1350 & 0.0963 & 0.0739 & 0.0692 & 0.0642 & 0.0632 & 0.0311 \\ 0.0113 & 0.0671 & 0.2279 & 0.1586 & 0.1236 & 0.1164 & 0.1093 & 0.0549 \\ 0.0086 & 0.0407 & 0.1252 & 0.3245 & 0.2256 & 0.1809 & 0.1724 & 0.0831 \\ 0.0067 & 0.0328 & 0.0837 & 0.1928 & 0.4221 & 0.2996 & 0.2491 & 0.1232 \\ 0.0059 & 0.0274 & 0.0712 & 0.1397 & 0.2704 & 0.5242 & 0.3896 & 0.1727 \\ 0.0054 & 0.0257 & 0.0634 & 0.1261 & 0.2126 & 0.3678 & 0.6470 & 0.2752 \\ 0.0054 & 0.0248 & 0.0625 & 0.1195 & 0.2066 & 0.3203 & 0.5404 & 0.4876 \end{bmatrix}$$

TABLE V.- Continued

AERODYNAMIC-INFLUENCE-COEFFICIENT MATRICES

(a) Symmetric loadings $\left[Q_s\right]$ - Continued

Plan form 412

$$\begin{bmatrix} 0.0587 & 0.0535 & 0.0436 & 0.0417 & 0.0382 & 0.0372 & 0.0360 & 0.0181 \\ 0.0272 & 0.1450 & 0.1103 & 0.0879 & 0.0827 & 0.0766 & 0.0754 & 0.0370 \\ 0.0152 & 0.0756 & 0.2357 & 0.1687 & 0.1341 & 0.1260 & 0.1187 & 0.0595 \\ 0.0112 & 0.0468 & 0.1317 & 0.3259 & 0.2294 & 0.1850 & 0.1764 & 0.0850 \\ 0.0086 & 0.0369 & 0.0879 & 0.1938 & 0.4159 & 0.2959 & 0.2464 & 0.1217 \\ 0.0074 & 0.0303 & 0.0734 & 0.1390 & 0.2646 & 0.5099 & 0.3785 & 0.1677 \\ 0.0066 & 0.0278 & 0.0644 & 0.1237 & 0.2058 & 0.3548 & 0.6255 & 0.2657 \\ 0.0065 & 0.0266 & 0.0630 & 0.1166 & 0.1990 & 0.3074 & 0.5204 & 0.4714 \end{bmatrix}$$

Plan form 413

$$\begin{bmatrix} 0.0593 & 0.0546 & 0.0450 & 0.0434 & 0.0398 & 0.0388 & 0.0374 & 0.0188 \\ 0.0278 & 0.1473 & 0.1130 & 0.0908 & 0.0855 & 0.0791 & 0.0779 & 0.0382 \\ 0.0156 & 0.0775 & 0.2395 & 0.1724 & 0.1374 & 0.1290 & 0.1215 & 0.0608 \\ 0.0116 & 0.0481 & 0.1343 & 0.3300 & 0.2324 & 0.1873 & 0.1784 & 0.0860 \\ 0.0088 & 0.0376 & 0.0890 & 0.1952 & 0.4182 & 0.2967 & 0.2465 & 0.1218 \\ 0.0074 & 0.0303 & 0.0732 & 0.1382 & 0.2634 & 0.5093 & 0.3764 & 0.1664 \\ 0.0065 & 0.0273 & 0.0631 & 0.1212 & 0.2018 & 0.3502 & 0.6221 & 0.2635 \\ 0.0063 & 0.0258 & 0.0612 & 0.1130 & 0.1936 & 0.3009 & 0.5144 & 0.4697 \end{bmatrix}$$

Plan form 414

$$\begin{bmatrix} 0.0609 & 0.0563 & 0.0467 & 0.0450 & 0.0412 & 0.0399 & 0.0384 & 0.0193 \\ 0.0286 & 0.1516 & 0.1167 & 0.0939 & 0.0881 & 0.0812 & 0.0797 & 0.0391 \\ 0.0162 & 0.0800 & 0.2466 & 0.1775 & 0.1410 & 0.1317 & 0.1236 & 0.0618 \\ 0.0121 & 0.0496 & 0.1380 & 0.3383 & 0.2371 & 0.1897 & 0.1801 & 0.0868 \\ 0.0090 & 0.0382 & 0.0903 & 0.1980 & 0.4251 & 0.2988 & 0.2466 & 0.1217 \\ 0.0074 & 0.0300 & 0.0724 & 0.1367 & 0.2623 & 0.5122 & 0.3748 & 0.1650 \\ 0.0063 & 0.0262 & 0.0603 & 0.1162 & 0.1947 & 0.3434 & 0.6204 & 0.2613 \\ 0.0061 & 0.0243 & 0.0574 & 0.1059 & 0.1833 & 0.2886 & 0.5052 & 0.4706 \end{bmatrix}$$

Plan form 415

$$\begin{bmatrix} 0.0628 & 0.0580 & 0.0480 & 0.0461 & 0.0420 & 0.0404 & 0.0388 & 0.0195 \\ 0.0295 & 0.1561 & 0.1201 & 0.0963 & 0.0898 & 0.0822 & 0.0804 & 0.0393 \\ 0.0167 & 0.0823 & 0.2535 & 0.1819 & 0.1436 & 0.1331 & 0.1243 & 0.0622 \\ 0.0123 & 0.0509 & 0.1413 & 0.3467 & 0.2413 & 0.1913 & 0.1808 & 0.0869 \\ 0.0091 & 0.0387 & 0.0914 & 0.2009 & 0.4329 & 0.3011 & 0.2463 & 0.1214 \\ 0.0073 & 0.0296 & 0.0717 & 0.1356 & 0.2622 & 0.5168 & 0.3739 & 0.1638 \\ 0.0060 & 0.0251 & 0.0578 & 0.1118 & 0.1884 & 0.3373 & 0.6204 & 0.2597 \\ 0.0056 & 0.0226 & 0.0536 & 0.0992 & 0.1732 & 0.2759 & 0.4957 & 0.4719 \end{bmatrix}$$

TABLE V.- Continued

AERODYNAMIC-INFLUENCE-COEFFICIENT MATRICES

(a) Symmetric loadings $\left[Q_s\right]$ - Continued

Plan form 421

$$\begin{bmatrix} 0.0260 & 0.0192 & 0.0100 & 0.0124 & 0.0076 & 0.0108 & 0.0070 & 0.0053 \\ 0.0078 & 0.0720 & 0.0449 & 0.0301 & 0.0276 & 0.0244 & 0.0243 & 0.0117 \\ 0.0030 & 0.0286 & 0.1241 & 0.0770 & 0.0539 & 0.0496 & 0.0452 & 0.0230 \\ 0.0022 & 0.0139 & 0.0573 & 0.1789 & 0.1124 & 0.0830 & 0.0778 & 0.0371 \\ 0.0015 & 0.0103 & 0.0322 & 0.0924 & 0.2344 & 0.1530 & 0.1201 & 0.0593 \\ 0.0013 & 0.0079 & 0.0255 & 0.0585 & 0.1341 & 0.2933 & 0.2050 & 0.0883 \\ 0.0011 & 0.0072 & 0.0212 & 0.0502 & 0.0959 & 0.1896 & 0.3676 & 0.1525 \\ 0.0011 & 0.0067 & 0.0208 & 0.0460 & 0.0918 & 0.1580 & 0.2972 & 0.2889 \end{bmatrix}$$

Plan form 422

$$\begin{bmatrix} 0.0118 & 0.0101 & 0.0074 & 0.0066 & 0.0056 & 0.0053 & 0.0051 & 0.0025 \\ 0.0051 & 0.0280 & 0.0195 & 0.0140 & 0.0124 & 0.0109 & 0.0107 & 0.0052 \\ 0.0024 & 0.0130 & 0.0438 & 0.0284 & 0.0204 & 0.0184 & 0.0168 & 0.0084 \\ 0.0015 & 0.0067 & 0.0213 & 0.0588 & 0.0374 & 0.0276 & 0.0258 & 0.0123 \\ 0.0010 & 0.0047 & 0.0119 & 0.0303 & 0.0736 & 0.0478 & 0.0373 & 0.0184 \\ 0.0008 & 0.0034 & 0.0090 & 0.0186 & 0.0411 & 0.0895 & 0.0619 & 0.0265 \\ 0.0007 & 0.0029 & 0.0072 & 0.0153 & 0.0283 & 0.0561 & 0.1107 & 0.0456 \\ 0.0006 & 0.0027 & 0.0069 & 0.0138 & 0.0266 & 0.0456 & 0.0880 & 0.0874 \end{bmatrix}$$

Plan form 423

$$\begin{bmatrix} 0.0379 & 0.0333 & 0.0253 & 0.0225 & 0.0191 & 0.0178 & 0.0167 & 0.0084 \\ 0.0168 & 0.0912 & 0.0652 & 0.0474 & 0.0416 & 0.0362 & 0.0350 & 0.0170 \\ 0.0084 & 0.0438 & 0.1429 & 0.0939 & 0.0675 & 0.0599 & 0.0545 & 0.0273 \\ 0.0055 & 0.0233 & 0.0708 & 0.1897 & 0.1207 & 0.0883 & 0.0817 & 0.0388 \\ 0.0035 & 0.0158 & 0.0393 & 0.0973 & 0.2332 & 0.1495 & 0.1155 & 0.0569 \\ 0.0027 & 0.0110 & 0.0285 & 0.0578 & 0.1269 & 0.2785 & 0.1897 & 0.0807 \\ 0.0021 & 0.0092 & 0.0219 & 0.0459 & 0.0837 & 0.1685 & 0.3400 & 0.1390 \\ 0.0020 & 0.0082 & 0.0206 & 0.0401 & 0.0769 & 0.1331 & 0.2649 & 0.2700 \end{bmatrix}$$

Plan form 424

$$\begin{bmatrix} 0.0400 & 0.0356 & 0.0275 & 0.0246 & 0.0205 & 0.0187 & 0.0173 & 0.0086 \\ 0.0180 & 0.0970 & 0.0702 & 0.0515 & 0.0446 & 0.0379 & 0.0360 & 0.0175 \\ 0.0093 & 0.0476 & 0.1523 & 0.1008 & 0.0717 & 0.0623 & 0.0556 & 0.0278 \\ 0.0061 & 0.0257 & 0.0763 & 0.2007 & 0.1267 & 0.0905 & 0.0822 & 0.0389 \\ 0.0039 & 0.0170 & 0.0418 & 0.1016 & 0.2420 & 0.1514 & 0.1140 & 0.0559 \\ 0.0027 & 0.0112 & 0.0287 & 0.0574 & 0.1262 & 0.2812 & 0.1857 & 0.0779 \\ 0.0020 & 0.0087 & 0.0205 & 0.0425 & 0.0770 & 0.1593 & 0.3349 & 0.1346 \\ 0.0019 & 0.0074 & 0.0184 & 0.0351 & 0.0674 & 0.1175 & 0.2487 & 0.2678 \end{bmatrix}$$

TABLE V.- Continued

AERODYNAMIC-INFLUENCE-COEFFICIENT MATRICES

(a) Symmetric loadings $\left[Q_s\right]$ - Continued

Plan form 425

$$\begin{bmatrix} 0.0419 & 0.0375 & 0.0291 & 0.0259 & 0.0215 & 0.0191 & 0.0173 & 0.0086 \\ 0.0190 & 0.1019 & 0.0742 & 0.0543 & 0.0465 & 0.0387 & 0.0361 & 0.0174 \\ 0.0099 & 0.0503 & 0.1603 & 0.1060 & 0.0747 & 0.0636 & 0.0555 & 0.0276 \\ 0.0065 & 0.0273 & 0.0805 & 0.2104 & 0.1316 & 0.0920 & 0.0819 & 0.0384 \\ 0.0040 & 0.0178 & 0.0436 & 0.1054 & 0.2507 & 0.1535 & 0.1123 & 0.0547 \\ 0.0028 & 0.0113 & 0.0288 & 0.0572 & 0.1266 & 0.2854 & 0.1828 & 0.0753 \\ 0.0020 & 0.0083 & 0.0193 & 0.0400 & 0.0720 & 0.1524 & 0.3313 & 0.1306 \\ 0.0018 & 0.0067 & 0.0165 & 0.0311 & 0.0599 & 0.1044 & 0.2334 & 0.2652 \end{bmatrix}$$

Plan form 431

$$\begin{bmatrix} 0.0132 & 0.0092 & 0.0010 & 0.0058 & -0.0001 & 0.0051 & -0.0003 & 0.0025 \\ 0.0018 & 0.0400 & 0.0211 & 0.0095 & 0.0105 & 0.0065 & 0.0089 & 0.0031 \\ 0.0004 & 0.0097 & 0.0717 & 0.0370 & 0.0201 & 0.0189 & 0.0153 & 0.0085 \\ 0.0004 & 0.0030 & 0.0228 & 0.1055 & 0.0556 & 0.0341 & 0.0319 & 0.0145 \\ 0.0002 & 0.0022 & 0.0087 & 0.0400 & 0.1397 & 0.0777 & 0.0537 & 0.0268 \\ 0.0002 & 0.0013 & 0.0064 & 0.0185 & 0.0618 & 0.1758 & 0.1085 & 0.0438 \\ 0.0001 & 0.0013 & 0.0045 & 0.0146 & 0.0346 & 0.0928 & 0.2235 & 0.0881 \\ 0.0002 & 0.0011 & 0.0045 & 0.0120 & 0.0319 & 0.0673 & 0.1651 & 0.1891 \end{bmatrix}$$

Plan form 432

$$\begin{bmatrix} 0.0270 & 0.0205 & 0.0126 & 0.0100 & 0.0075 & 0.0067 & 0.0062 & 0.0031 \\ 0.0097 & 0.0593 & 0.0354 & 0.0208 & 0.0169 & 0.0133 & 0.0129 & 0.0062 \\ 0.0033 & 0.0211 & 0.0869 & 0.0475 & 0.0278 & 0.0234 & 0.0199 & 0.0103 \\ 0.0017 & 0.0076 & 0.0316 & 0.1126 & 0.0599 & 0.0364 & 0.0330 & 0.0151 \\ 0.0009 & 0.0044 & 0.0123 & 0.0432 & 0.1380 & 0.0749 & 0.0503 & 0.0250 \\ 0.0006 & 0.0026 & 0.0080 & 0.0189 & 0.0581 & 0.1654 & 0.0986 & 0.0390 \\ 0.0005 & 0.0022 & 0.0054 & 0.0139 & 0.0298 & 0.0808 & 0.2044 & 0.0790 \\ 0.0005 & 0.0018 & 0.0051 & 0.0108 & 0.0265 & 0.0544 & 0.1435 & 0.1745 \end{bmatrix}$$

Plan form 433

$$\begin{bmatrix} 0.0283 & 0.0228 & 0.0149 & 0.0118 & 0.0087 & 0.0075 & 0.0066 & 0.0034 \\ 0.0112 & 0.0644 & 0.0405 & 0.0247 & 0.0194 & 0.0149 & 0.0140 & 0.0067 \\ 0.0043 & 0.0254 & 0.0946 & 0.0531 & 0.0314 & 0.0253 & 0.0211 & 0.0107 \\ 0.0022 & 0.0097 & 0.0363 & 0.1194 & 0.0635 & 0.0379 & 0.0333 & 0.0152 \\ 0.0011 & 0.0053 & 0.0142 & 0.0460 & 0.1414 & 0.0750 & 0.0487 & 0.0241 \\ 0.0007 & 0.0029 & 0.0086 & 0.0191 & 0.0571 & 0.1637 & 0.0942 & 0.0364 \\ 0.0005 & 0.0023 & 0.0054 & 0.0131 & 0.0270 & 0.0745 & 0.1967 & 0.0743 \\ 0.0005 & 0.0018 & 0.0049 & 0.0097 & 0.0231 & 0.0464 & 0.1306 & 0.1687 \end{bmatrix}$$

TABLE V.- Continued

AERODYNAMIC-INFLUENCE-COEFFICIENT MATRICES

(a) Symmetric loadings $\left[Q_s\right]$ - Continued

Plan form 434

$$\begin{bmatrix} 0.0304 & 0.0254 & 0.0174 & 0.0138 & 0.0100 & 0.0082 & 0.0069 & 0.0034 \\ 0.0127 & 0.0706 & 0.0462 & 0.0290 & 0.0221 & 0.0163 & 0.0144 & 0.0068 \\ 0.0054 & 0.0299 & 0.1048 & 0.0603 & 0.0356 & 0.0273 & 0.0217 & 0.0108 \\ 0.0028 & 0.0121 & 0.0423 & 0.1304 & 0.0692 & 0.0399 & 0.0331 & 0.0148 \\ 0.0014 & 0.0064 & 0.0165 & 0.0503 & 0.1493 & 0.0763 & 0.0465 & 0.0225 \\ 0.0008 & 0.0032 & 0.0091 & 0.0195 & 0.0567 & 0.1652 & 0.0890 & 0.0327 \\ 0.0005 & 0.0022 & 0.0051 & 0.0120 & 0.0235 & 0.0665 & 0.1881 & 0.0678 \\ 0.0004 & 0.0016 & 0.0043 & 0.0080 & 0.0186 & 0.0355 & 0.1112 & 0.1605 \end{bmatrix}$$

Plan form 435

$$\begin{bmatrix} 0.0321 & 0.0272 & 0.0189 & 0.0151 & 0.0108 & 0.0084 & 0.0067 & 0.0033 \\ 0.0136 & 0.0752 & 0.0500 & 0.0316 & 0.0239 & 0.0169 & 0.0143 & 0.0065 \\ 0.0059 & 0.0327 & 0.1124 & 0.0653 & 0.0383 & 0.0283 & 0.0214 & 0.0103 \\ 0.0031 & 0.0136 & 0.0463 & 0.1393 & 0.0735 & 0.0410 & 0.0324 & 0.0140 \\ 0.0014 & 0.0070 & 0.0179 & 0.0535 & 0.1566 & 0.0777 & 0.0446 & 0.0209 \\ 0.0008 & 0.0033 & 0.0093 & 0.0195 & 0.0566 & 0.1676 & 0.0853 & 0.0296 \\ 0.0004 & 0.0021 & 0.0048 & 0.0111 & 0.0210 & 0.0612 & 0.1828 & 0.0625 \\ 0.0003 & 0.0014 & 0.0038 & 0.0067 & 0.0154 & 0.0282 & 0.0959 & 0.1534 \end{bmatrix}$$

Plan form 441

$$\begin{bmatrix} 0.0066 & 0.0049 & -0.0019 & 0.0037 & -0.0022 & 0.0034 & -0.0023 & 0.0016 \\ 0.0001 & 0.0225 & 0.0107 & 0.0006 & 0.0052 & -0.0004 & 0.0045 & -0.0001 \\ 0.0001 & 0.0015 & 0.0426 & 0.0183 & 0.0049 & 0.0075 & 0.0027 & 0.0033 \\ 0.0000 & 0.0005 & 0.0062 & 0.0647 & 0.0276 & 0.0107 & 0.0122 & 0.0041 \\ 0.0000 & 0.0003 & 0.0015 & 0.0136 & 0.0872 & 0.0387 & 0.0195 & 0.0108 \\ 0.0000 & 0.0001 & 0.0013 & 0.0039 & 0.0239 & 0.1098 & 0.0552 & 0.0187 \\ 0.0000 & 0.0002 & 0.0006 & 0.0032 & 0.0085 & 0.0386 & 0.1387 & 0.0493 \\ 0.0000 & 0.0000 & 0.0009 & 0.0019 & 0.0081 & 0.0196 & 0.0817 & 0.1280 \end{bmatrix}$$

Plan form 443

$$\begin{bmatrix} 0.0233 & 0.0161 & 0.0083 & 0.0057 & 0.0035 & 0.0027 & 0.0022 & 0.0011 \\ 0.0071 & 0.0477 & 0.0246 & 0.0113 & 0.0080 & 0.0050 & 0.0047 & 0.0020 \\ 0.0017 & 0.0126 & 0.0646 & 0.0291 & 0.0122 & 0.0095 & 0.0061 & 0.0035 \\ 0.0006 & 0.0029 & 0.0153 & 0.0780 & 0.0329 & 0.0134 & 0.0119 & 0.0044 \\ 0.0002 & 0.0013 & 0.0037 & 0.0178 & 0.0902 & 0.0374 & 0.0165 & 0.0088 \\ 0.0001 & 0.0006 & 0.0020 & 0.0046 & 0.0214 & 0.1020 & 0.0456 & 0.0135 \\ 0.0001 & 0.0005 & 0.0010 & 0.0030 & 0.0061 & 0.0276 & 0.1176 & 0.0380 \\ 0.0001 & 0.0003 & 0.0010 & 0.0015 & 0.0055 & 0.0103 & 0.0545 & 0.1075 \end{bmatrix}$$

TABLE V.- Continued

AERODYNAMIC-INFLUENCE-COEFFICIENT MATRICES

(a) Symmetric loadings $\left[Q_s\right]$ - Continued

Plan form 511

$$\begin{bmatrix} 0.0991 & 0.0861 & 0.0612 & 0.0658 & 0.0547 & 0.0609 & 0.0529 & 0.0301 \\ 0.0390 & 0.2623 & 0.1892 & 0.1489 & 0.1405 & 0.1332 & 0.1312 & 0.0653 \\ 0.0193 & 0.1268 & 0.4420 & 0.3110 & 0.2454 & 0.2343 & 0.2214 & 0.1118 \\ 0.0143 & 0.0744 & 0.2384 & 0.6302 & 0.4408 & 0.3573 & 0.3428 & 0.1660 \\ 0.0109 & 0.0588 & 0.1558 & 0.3698 & 0.8199 & 0.5852 & 0.4893 & 0.2427 \\ 0.0096 & 0.0483 & 0.1305 & 0.2640 & 0.5206 & 1.0190 & 0.7594 & 0.3374 \\ 0.0087 & 0.0447 & 0.1146 & 0.2358 & 0.4053 & 0.7110 & 1.2582 & 0.5357 \\ 0.0086 & 0.0428 & 0.1126 & 0.2223 & 0.3925 & 0.6170 & 1.0486 & 0.9489 \end{bmatrix}$$

Plan form 512

$$\begin{bmatrix} 0.0595 & 0.0542 & 0.0442 & 0.0425 & 0.0394 & 0.0388 & 0.0378 & 0.0190 \\ 0.0274 & 0.1468 & 0.1115 & 0.0892 & 0.0846 & 0.0792 & 0.0788 & 0.0387 \\ 0.0150 & 0.0756 & 0.2380 & 0.1704 & 0.1363 & 0.1293 & 0.1229 & 0.0617 \\ 0.0108 & 0.0456 & 0.1309 & 0.3285 & 0.2316 & 0.1880 & 0.1807 & 0.0874 \\ 0.0080 & 0.0349 & 0.0850 & 0.1921 & 0.4189 & 0.2987 & 0.2501 & 0.1239 \\ 0.0067 & 0.0278 & 0.0692 & 0.1345 & 0.2627 & 0.5137 & 0.3820 & 0.1695 \\ 0.0058 & 0.0250 & 0.0592 & 0.1175 & 0.2006 & 0.3535 & 0.6305 & 0.2678 \\ 0.0057 & 0.0236 & 0.0574 & 0.1093 & 0.1924 & 0.3038 & 0.5221 & 0.4761 \end{bmatrix}$$

Plan form 513

$$\begin{bmatrix} 0.0607 & 0.0556 & 0.0457 & 0.0440 & 0.0406 & 0.0399 & 0.0389 & 0.0196 \\ 0.0282 & 0.1502 & 0.1148 & 0.0920 & 0.0870 & 0.0813 & 0.0807 & 0.0397 \\ 0.0156 & 0.0781 & 0.2435 & 0.1746 & 0.1394 & 0.1318 & 0.1252 & 0.0629 \\ 0.0113 & 0.0473 & 0.1342 & 0.3343 & 0.2350 & 0.1902 & 0.1826 & 0.0883 \\ 0.0082 & 0.0357 & 0.0862 & 0.1939 & 0.4228 & 0.3000 & 0.2504 & 0.1241 \\ 0.0067 & 0.0277 & 0.0685 & 0.1329 & 0.2609 & 0.5146 & 0.3807 & 0.1685 \\ 0.0058 & 0.0242 & 0.0570 & 0.1132 & 0.1946 & 0.3480 & 0.6289 & 0.2664 \\ 0.0056 & 0.0225 & 0.0545 & 0.1036 & 0.1842 & 0.2948 & 0.5159 & 0.4764 \end{bmatrix}$$

Plan form 514

$$\begin{bmatrix} 0.0633 & 0.0582 & 0.0478 & 0.0458 & 0.0419 & 0.0408 & 0.0396 & 0.0200 \\ 0.0296 & 0.1569 & 0.1199 & 0.0957 & 0.0896 & 0.0830 & 0.0822 & 0.0405 \\ 0.0165 & 0.0818 & 0.2539 & 0.1812 & 0.1431 & 0.1342 & 0.1270 & 0.0639 \\ 0.0119 & 0.0494 & 0.1394 & 0.3464 & 0.2410 & 0.1927 & 0.1844 & 0.0892 \\ 0.0085 & 0.0365 & 0.0879 & 0.1976 & 0.4332 & 0.3031 & 0.2509 & 0.1244 \\ 0.0066 & 0.0271 & 0.0671 & 0.1302 & 0.2593 & 0.5204 & 0.3802 & 0.1675 \\ 0.0053 & 0.0224 & 0.0528 & 0.1055 & 0.1836 & 0.3385 & 0.6300 & 0.2651 \\ 0.0049 & 0.0200 & 0.0486 & 0.0925 & 0.1678 & 0.2761 & 0.5045 & 0.4801 \end{bmatrix}$$

TABLE V.- Continued

AERODYNAMIC-INFLUENCE-COEFFICIENT MATRICES

(a) Symmetric loadings $\left[Q_s\right]$ - Continued

Plan form 515

$$\begin{bmatrix} 0.0660 & 0.0606 & 0.0497 & 0.0473 & 0.0428 & 0.0412 & 0.0399 & 0.0201 \\ 0.0308 & 0.1634 & 0.1246 & 0.0988 & 0.0916 & 0.0838 & 0.0827 & 0.0407 \\ 0.0171 & 0.0851 & 0.2640 & 0.1872 & 0.1462 & 0.1355 & 0.1275 & 0.0642 \\ 0.0123 & 0.0511 & 0.1442 & 0.3585 & 0.2466 & 0.1943 & 0.1849 & 0.0894 \\ 0.0086 & 0.0373 & 0.0894 & 0.2016 & 0.4443 & 0.3060 & 0.2505 & 0.1243 \\ 0.0064 & 0.0266 & 0.0661 & 0.1286 & 0.2588 & 0.5272 & 0.3798 & 0.1665 \\ 0.0049 & 0.0210 & 0.0494 & 0.0993 & 0.1742 & 0.3296 & 0.6312 & 0.2639 \\ 0.0044 & 0.0179 & 0.0437 & 0.0831 & 0.1528 & 0.2565 & 0.4906 & 0.4832 \end{bmatrix}$$

Plan form 521

$$\begin{bmatrix} 0.0251 & 0.0222 & 0.0090 & 0.0152 & 0.0067 & 0.0138 & 0.0064 & 0.0069 \\ 0.0059 & 0.0725 & 0.0467 & 0.0307 & 0.0296 & 0.0256 & 0.0270 & 0.0126 \\ 0.0017 & 0.0250 & 0.1262 & 0.0787 & 0.0553 & 0.0521 & 0.0480 & 0.0247 \\ 0.0012 & 0.0101 & 0.0528 & 0.1829 & 0.1149 & 0.0857 & 0.0817 & 0.0392 \\ 0.0007 & 0.0071 & 0.0260 & 0.0879 & 0.2406 & 0.1572 & 0.1246 & 0.0619 \\ 0.0006 & 0.0050 & 0.0195 & 0.0508 & 0.1306 & 0.3025 & 0.2119 & 0.0915 \\ 0.0005 & 0.0045 & 0.0152 & 0.0416 & 0.0879 & 0.1887 & 0.3810 & 0.1581 \\ 0.0005 & 0.0040 & 0.0147 & 0.0367 & 0.0822 & 0.1527 & 0.3035 & 0.3016 \end{bmatrix}$$

Plan form 522

$$\begin{bmatrix} 0.0394 & 0.0334 & 0.0244 & 0.0217 & 0.0187 & 0.0179 & 0.0174 & 0.0088 \\ 0.0164 & 0.0926 & 0.0639 & 0.0456 & 0.0407 & 0.0363 & 0.0362 & 0.0178 \\ 0.0071 & 0.0405 & 0.1429 & 0.0917 & 0.0657 & 0.0600 & 0.0560 & 0.0284 \\ 0.0041 & 0.0185 & 0.0646 & 0.1902 & 0.1199 & 0.0888 & 0.0843 & 0.0405 \\ 0.0024 & 0.0116 & 0.0319 & 0.0910 & 0.2372 & 0.1529 & 0.1204 & 0.0599 \\ 0.0017 & 0.0075 & 0.0220 & 0.0499 & 0.1236 & 0.2886 & 0.1994 & 0.0856 \\ 0.0013 & 0.0062 & 0.0161 & 0.0383 & 0.0778 & 0.1712 & 0.3584 & 0.1477 \\ 0.0013 & 0.0054 & 0.0150 & 0.0325 & 0.0703 & 0.1325 & 0.2778 & 0.2859 \end{bmatrix}$$

Plan form 523

$$\begin{bmatrix} 0.0410 & 0.0356 & 0.0267 & 0.0237 & 0.0200 & 0.0188 & 0.0181 & 0.0092 \\ 0.0178 & 0.0979 & 0.0690 & 0.0495 & 0.0434 & 0.0381 & 0.0376 & 0.0185 \\ 0.0083 & 0.0451 & 0.1516 & 0.0981 & 0.0697 & 0.0624 & 0.0578 & 0.0293 \\ 0.0049 & 0.0215 & 0.0705 & 0.1988 & 0.1245 & 0.0907 & 0.0854 & 0.0410 \\ 0.0027 & 0.0131 & 0.0345 & 0.0944 & 0.2422 & 0.1533 & 0.1191 & 0.0593 \\ 0.0019 & 0.0080 & 0.0225 & 0.0493 & 0.1216 & 0.2881 & 0.1954 & 0.0834 \\ 0.0013 & 0.0062 & 0.0155 & 0.0357 & 0.0715 & 0.1622 & 0.3526 & 0.1442 \\ 0.0012 & 0.0051 & 0.0139 & 0.0289 & 0.0622 & 0.1189 & 0.2645 & 0.2835 \end{bmatrix}$$

TABLE V.- Continued

AERODYNAMIC INFLUENCE-COEFFICIENT MATRICES

(a) Symmetric loadings $\left[Q_s\right]$ - Continued

Plan form 524

$$\begin{bmatrix} 0.0440 & 0.0388 & 0.0295 & 0.0260 & 0.0215 & 0.0195 & 0.0183 & 0.0093 \\ 0.0196 & 0.1059 & 0.0756 & 0.0544 & 0.0466 & 0.0394 & 0.0381 & 0.0188 \\ 0.0096 & 0.0504 & 0.1647 & 0.1068 & 0.0746 & 0.0645 & 0.0583 & 0.0296 \\ 0.0058 & 0.0249 & 0.0782 & 0.2141 & 0.1320 & 0.0928 & 0.0854 & 0.0409 \\ 0.0032 & 0.0147 & 0.0377 & 0.1002 & 0.2545 & 0.1555 & 0.1167 & 0.0581 \\ 0.0020 & 0.0083 & 0.0228 & 0.0485 & 0.1205 & 0.2922 & 0.1905 & 0.0800 \\ 0.0013 & 0.0058 & 0.0140 & 0.0318 & 0.0626 & 0.1493 & 0.3465 & 0.1391 \\ 0.0011 & 0.0044 & 0.0117 & 0.0232 & 0.0505 & 0.0970 & 0.2411 & 0.2811 \end{bmatrix}$$

Plan form 525

$$\begin{bmatrix} 0.0467 & 0.0413 & 0.0315 & 0.0277 & 0.0225 & 0.0199 & 0.0181 & 0.0092 \\ 0.0209 & 0.1127 & 0.0808 & 0.0580 & 0.0489 & 0.0402 & 0.0378 & 0.0184 \\ 0.0104 & 0.0541 & 0.1755 & 0.1137 & 0.0783 & 0.0658 & 0.0577 & 0.0291 \\ 0.0063 & 0.0271 & 0.0839 & 0.2271 & 0.1385 & 0.0944 & 0.0845 & 0.0400 \\ 0.0034 & 0.0157 & 0.0401 & 0.1053 & 0.2663 & 0.1581 & 0.1142 & 0.0564 \\ 0.0020 & 0.0084 & 0.0230 & 0.0483 & 0.1210 & 0.2980 & 0.1866 & 0.0767 \\ 0.0012 & 0.0054 & 0.0129 & 0.0291 & 0.0566 & 0.1399 & 0.3418 & 0.1338 \\ 0.0009 & 0.0037 & 0.0100 & 0.0192 & 0.0422 & 0.0802 & 0.2189 & 0.2767 \end{bmatrix}$$

Plan form 531

$$\begin{bmatrix} 0.0125 & 0.0123 & -0.0001 & 0.0079 & -0.0014 & 0.0071 & -0.0017 & 0.0035 \\ 0.0006 & 0.0402 & 0.0244 & 0.0083 & 0.0126 & 0.0053 & 0.0112 & 0.0027 \\ 0.0001 & 0.0064 & 0.0739 & 0.0399 & 0.0196 & 0.0206 & 0.0153 & 0.0097 \\ 0.0001 & 0.0013 & 0.0179 & 0.1100 & 0.0585 & 0.0343 & 0.0342 & 0.0153 \\ 0.0000 & 0.0011 & 0.0048 & 0.0341 & 0.1467 & 0.0811 & 0.0557 & 0.0287 \\ 0.0000 & 0.0005 & 0.0036 & 0.0119 & 0.0554 & 0.1855 & 0.1145 & 0.0463 \\ 0.0000 & 0.0006 & 0.0020 & 0.0089 & 0.0251 & 0.0865 & 0.2377 & 0.0940 \\ 0.0000 & 0.0003 & 0.0022 & 0.0063 & 0.0220 & 0.0549 & 0.1650 & 0.2048 \end{bmatrix}$$

Plan form 532

$$\begin{bmatrix} 0.0306 & 0.0228 & 0.0138 & 0.0109 & 0.0082 & 0.0073 & 0.0069 & 0.0036 \\ 0.0099 & 0.0654 & 0.0384 & 0.0221 & 0.0180 & 0.0141 & 0.0142 & 0.0069 \\ 0.0025 & 0.0196 & 0.0936 & 0.0506 & 0.0285 & 0.0245 & 0.0207 & 0.0112 \\ 0.0010 & 0.0051 & 0.0280 & 0.1200 & 0.0630 & 0.0368 & 0.0347 & 0.0159 \\ 0.0004 & 0.0026 & 0.0079 & 0.0380 & 0.1466 & 0.0782 & 0.0516 & 0.0266 \\ 0.0003 & 0.0012 & 0.0047 & 0.0123 & 0.0516 & 0.1752 & 0.1037 & 0.0408 \\ 0.0002 & 0.0011 & 0.0025 & 0.0083 & 0.0203 & 0.0730 & 0.2169 & 0.0841 \\ 0.0002 & 0.0007 & 0.0025 & 0.0053 & 0.0171 & 0.0403 & 0.1390 & 0.1888 \end{bmatrix}$$

TABLE V.- Continued

AERODYNAMIC-INFLUENCE-COEFFICIENT MATRICES

(a) Symmetric loadings $\left[Q_s\right]$ - Continued

Plan form 533

$$\begin{bmatrix} 0.0325 & 0.0258 & 0.0165 & 0.0130 & 0.0094 & 0.0081 & 0.0073 & 0.0038 \\ 0.0122 & 0.0725 & 0.0447 & 0.0267 & 0.0208 & 0.0158 & 0.0152 & 0.0074 \\ 0.0038 & 0.0254 & 0.1042 & 0.0572 & 0.0328 & 0.0264 & 0.0222 & 0.0116 \\ 0.0016 & 0.0074 & 0.0340 & 0.1291 & 0.0672 & 0.0385 & 0.0347 & 0.0159 \\ 0.0006 & 0.0034 & 0.0098 & 0.0413 & 0.1512 & 0.0782 & 0.0494 & 0.0252 \\ 0.0003 & 0.0015 & 0.0052 & 0.0126 & 0.0504 & 0.1736 & 0.0984 & 0.0376 \\ 0.0002 & 0.0011 & 0.0026 & 0.0078 & 0.0176 & 0.0654 & 0.2075 & 0.0784 \\ 0.0002 & 0.0007 & 0.0025 & 0.0045 & 0.0142 & 0.0315 & 0.1222 & 0.1809 \end{bmatrix}$$

Plan form 534

$$\begin{bmatrix} 0.0352 & 0.0290 & 0.0194 & 0.0153 & 0.0108 & 0.0087 & 0.0074 & 0.0037 \\ 0.0142 & 0.0806 & 0.0518 & 0.0317 & 0.0239 & 0.0172 & 0.0154 & 0.0073 \\ 0.0052 & 0.0314 & 0.1175 & 0.0659 & 0.0378 & 0.0285 & 0.0226 & 0.0114 \\ 0.0023 & 0.0102 & 0.0415 & 0.1432 & 0.0738 & 0.0407 & 0.0340 & 0.0152 \\ 0.0008 & 0.0044 & 0.0121 & 0.0463 & 0.1611 & 0.0797 & 0.0465 & 0.0230 \\ 0.0005 & 0.0018 & 0.0057 & 0.0129 & 0.0498 & 0.1754 & 0.0921 & 0.0328 \\ 0.0002 & 0.0011 & 0.0025 & 0.0070 & 0.0145 & 0.0560 & 0.1963 & 0.0700 \\ 0.0002 & 0.0006 & 0.0021 & 0.0033 & 0.0106 & 0.0208 & 0.0972 & 0.1683 \end{bmatrix}$$

Plan form 541

$$\begin{bmatrix} 0.0062 & 0.0074 & -0.0028 & 0.0049 & -0.0031 & 0.0044 & -0.0032 & 0.0019 \\ -0.0006 & 0.0219 & 0.0145 & -0.0009 & 0.0073 & -0.0020 & 0.0064 & -0.0007 \\ 0.0002 & -0.0004 & 0.0431 & 0.0226 & 0.0032 & 0.0097 & 0.0010 & 0.0042 \\ -0.0000 & 0.0005 & 0.0024 & 0.0671 & 0.0320 & 0.0093 & 0.0144 & 0.0038 \\ 0.0000 & 0.0000 & 0.0008 & 0.0083 & 0.0919 & 0.0430 & 0.0186 & 0.0120 \\ 0.0000 & 0.0000 & 0.0006 & 0.0017 & 0.0174 & 0.1165 & 0.0599 & 0.0191 \\ -0.0000 & 0.0001 & 0.0002 & 0.0016 & 0.0041 & 0.0306 & 0.1469 & 0.0529 \\ 0.0000 & -0.0000 & 0.0005 & 0.0004 & 0.0045 & 0.0101 & 0.0726 & 0.1376 \end{bmatrix}$$

Plan form 611

$$\begin{bmatrix} 0.0489 & 0.0473 & 0.0287 & 0.0370 & 0.0260 & 0.0353 & 0.0258 & 0.0176 \\ 0.0158 & 0.1367 & 0.0978 & 0.0770 & 0.0733 & 0.0706 & 0.0698 & 0.0350 \\ 0.0060 & 0.0586 & 0.2324 & 0.1620 & 0.1280 & 0.1235 & 0.1178 & 0.0596 \\ 0.0041 & 0.0295 & 0.1159 & 0.3336 & 0.2317 & 0.1884 & 0.1820 & 0.0884 \\ 0.0028 & 0.0215 & 0.0686 & 0.1856 & 0.4366 & 0.3104 & 0.2598 & 0.1292 \\ 0.0024 & 0.0164 & 0.0541 & 0.1243 & 0.2674 & 0.5458 & 0.4053 & 0.1798 \\ 0.0020 & 0.0147 & 0.0451 & 0.1068 & 0.2004 & 0.3722 & 0.6770 & 0.2875 \\ 0.0020 & 0.0136 & 0.0437 & 0.0982 & 0.1913 & 0.3179 & 0.5590 & 0.5144 \end{bmatrix}$$

TABLE V.- Continued

AERODYNAMIC-INFLUENCE-COEFFICIENT MATRICES

(a) Symmetric loadings $\left[Q_s\right]$ - Continued

Plan form 612

$$\begin{bmatrix} 0.0639 & 0.0573 & 0.0458 & 0.0439 & 0.0407 & 0.0407 & 0.0401 & 0.0203 \\ 0.0287 & 0.1558 & 0.1162 & 0.0917 & 0.0873 & 0.0827 & 0.0832 & 0.0411 \\ 0.0145 & 0.0766 & 0.2494 & 0.1755 & 0.1395 & 0.1338 & 0.1284 & 0.0648 \\ 0.0094 & 0.0416 & 0.1291 & 0.3409 & 0.2372 & 0.1927 & 0.1869 & 0.0907 \\ 0.0060 & 0.0285 & 0.0753 & 0.1873 & 0.4330 & 0.3064 & 0.2567 & 0.1276 \\ 0.0046 & 0.0202 & 0.0559 & 0.1197 & 0.2573 & 0.5320 & 0.3935 & 0.1741 \\ 0.0037 & 0.0170 & 0.0439 & 0.0976 & 0.1840 & 0.3522 & 0.6557 & 0.2775 \\ 0.0035 & 0.0153 & 0.0412 & 0.0867 & 0.1709 & 0.2933 & 0.5337 & 0.5000 \end{bmatrix}$$

Plan form 613

$$\begin{bmatrix} 0.0662 & 0.0598 & 0.0481 & 0.0456 & 0.0418 & 0.0415 & 0.0410 & 0.0208 \\ 0.0302 & 0.1622 & 0.1215 & 0.0953 & 0.0896 & 0.0843 & 0.0849 & 0.0420 \\ 0.0159 & 0.0814 & 0.2596 & 0.1819 & 0.1430 & 0.1362 & 0.1308 & 0.0661 \\ 0.0104 & 0.0451 & 0.1354 & 0.3517 & 0.2422 & 0.1951 & 0.1893 & 0.0919 \\ 0.0066 & 0.0303 & 0.0778 & 0.1904 & 0.4404 & 0.3083 & 0.2574 & 0.1282 \\ 0.0047 & 0.0205 & 0.0550 & 0.1165 & 0.2537 & 0.5348 & 0.3926 & 0.1733 \\ 0.0036 & 0.0163 & 0.0409 & 0.0901 & 0.1720 & 0.3419 & 0.6558 & 0.2764 \\ 0.0033 & 0.0141 & 0.0371 & 0.0769 & 0.1546 & 0.2751 & 0.5239 & 0.5030 \end{bmatrix}$$

Plan form 614

$$\begin{bmatrix} 0.0709 & 0.0643 & 0.0516 & 0.0483 & 0.0433 & 0.0421 & 0.0415 & 0.0211 \\ 0.0326 & 0.1742 & 0.1303 & 0.1009 & 0.0928 & 0.0854 & 0.0859 & 0.0427 \\ 0.0174 & 0.0880 & 0.2780 & 0.1929 & 0.1480 & 0.1381 & 0.1321 & 0.0672 \\ 0.0116 & 0.0493 & 0.1450 & 0.3731 & 0.2515 & 0.1973 & 0.1909 & 0.0930 \\ 0.0071 & 0.0322 & 0.0813 & 0.1973 & 0.4584 & 0.3121 & 0.2573 & 0.1288 \\ 0.0048 & 0.0201 & 0.0535 & 0.1124 & 0.2502 & 0.5442 & 0.3918 & 0.1723 \\ 0.0033 & 0.0145 & 0.0357 & 0.0790 & 0.1526 & 0.3230 & 0.6582 & 0.2756 \\ 0.0028 & 0.0115 & 0.0302 & 0.0618 & 0.1274 & 0.2381 & 0.5009 & 0.5109 \end{bmatrix}$$

Plan form 615

$$\begin{bmatrix} 0.0754 & 0.0684 & 0.0547 & 0.0507 & 0.0445 & 0.0423 & 0.0413 & 0.0212 \\ 0.0347 & 0.1852 & 0.1382 & 0.1059 & 0.0957 & 0.0858 & 0.0857 & 0.0428 \\ 0.0185 & 0.0936 & 0.2950 & 0.2030 & 0.1527 & 0.1390 & 0.1315 & 0.0673 \\ 0.0124 & 0.0524 & 0.1533 & 0.3935 & 0.2605 & 0.1986 & 0.1902 & 0.0931 \\ 0.0075 & 0.0337 & 0.0845 & 0.2046 & 0.4770 & 0.3156 & 0.2552 & 0.1285 \\ 0.0047 & 0.0199 & 0.0529 & 0.1104 & 0.2497 & 0.5542 & 0.3896 & 0.1707 \\ 0.0029 & 0.0132 & 0.0322 & 0.0713 & 0.1384 & 0.3060 & 0.6580 & 0.2736 \\ 0.0022 & 0.0095 & 0.0252 & 0.0507 & 0.1070 & 0.2032 & 0.4718 & 0.5155 \end{bmatrix}$$

TABLE V.- Continued

AERODYNAMIC-INFLUENCE-COEFFICIENT MATRICES

(a) Symmetric loadings $\left[Q_s\right]$ - Continued

Plan form 621

$$\begin{bmatrix} 0.0239 & 0.0261 & 0.0055 & 0.0178 & 0.0029 & 0.0166 & 0.0029 & 0.0085 \\ 0.0029 & 0.0738 & 0.0498 & 0.0265 & 0.0305 & 0.0220 & 0.0290 & 0.0114 \\ 0.0002 & 0.0172 & 0.1328 & 0.0808 & 0.0523 & 0.0518 & 0.0470 & 0.0254 \\ 0.0003 & 0.0037 & 0.0419 & 0.1954 & 0.1182 & 0.0852 & 0.0839 & 0.0402 \\ 0.0000 & 0.0027 & 0.0133 & 0.0756 & 0.2600 & 0.1644 & 0.1299 & 0.0653 \\ 0.0001 & 0.0013 & 0.0089 & 0.0320 & 0.1198 & 0.3308 & 0.2282 & 0.0982 \\ 0.0000 & 0.0013 & 0.0056 & 0.0233 & 0.0654 & 0.1843 & 0.4236 & 0.1747 \\ 0.0001 & 0.0009 & 0.0055 & 0.0181 & 0.0570 & 0.1344 & 0.3218 & 0.3439 \end{bmatrix}$$

Plan form 622

$$\begin{bmatrix} 0.0474 & 0.0389 & 0.0270 & 0.0234 & 0.0195 & 0.0188 & 0.0187 & 0.0097 \\ 0.0181 & 0.1081 & 0.0714 & 0.0483 & 0.0421 & 0.0373 & 0.0384 & 0.0192 \\ 0.0056 & 0.0398 & 0.1613 & 0.0982 & 0.0667 & 0.0606 & 0.0576 & 0.0299 \\ 0.0025 & 0.0123 & 0.0593 & 0.2098 & 0.1250 & 0.0887 & 0.0862 & 0.0419 \\ 0.0010 & 0.0061 & 0.0198 & 0.0813 & 0.2585 & 0.1586 & 0.1232 & 0.0625 \\ 0.0006 & 0.0029 & 0.0113 & 0.0313 & 0.1109 & 0.3140 & 0.2115 & 0.0906 \\ 0.0003 & 0.0023 & 0.0063 & 0.0205 & 0.0525 & 0.1588 & 0.3946 & 0.1617 \\ 0.0003 & 0.0016 & 0.0058 & 0.0144 & 0.0431 & 0.1036 & 0.2831 & 0.3255 \end{bmatrix}$$

Plan form 623

$$\begin{bmatrix} 0.0500 & 0.0424 & 0.0303 & 0.0260 & 0.0211 & 0.0196 & 0.0192 & 0.0100 \\ 0.0207 & 0.1169 & 0.0793 & 0.0540 & 0.0458 & 0.0392 & 0.0397 & 0.0200 \\ 0.0079 & 0.0481 & 0.1758 & 0.1081 & 0.0724 & 0.0635 & 0.0595 & 0.0311 \\ 0.0036 & 0.0168 & 0.0689 & 0.2240 & 0.1318 & 0.0910 & 0.0868 & 0.0425 \\ 0.0014 & 0.0079 & 0.0233 & 0.0867 & 0.2668 & 0.1586 & 0.1203 & 0.0614 \\ 0.0008 & 0.0034 & 0.0121 & 0.0309 & 0.1082 & 0.3129 & 0.2046 & 0.0870 \\ 0.0004 & 0.0024 & 0.0061 & 0.0184 & 0.0449 & 0.1443 & 0.3843 & 0.1561 \\ 0.0004 & 0.0015 & 0.0052 & 0.0116 & 0.0348 & 0.0829 & 0.2586 & 0.3209 \end{bmatrix}$$

Plan form 624

$$\begin{bmatrix} 0.0546 & 0.0471 & 0.0344 & 0.0292 & 0.0230 & 0.0202 & 0.0189 & 0.0099 \\ 0.0235 & 0.1293 & 0.0892 & 0.0610 & 0.0501 & 0.0406 & 0.0394 & 0.0197 \\ 0.0102 & 0.0570 & 0.1960 & 0.1214 & 0.0796 & 0.0662 & 0.0591 & 0.0307 \\ 0.0049 & 0.0221 & 0.0811 & 0.2473 & 0.1432 & 0.0937 & 0.0856 & 0.0415 \\ 0.0019 & 0.0099 & 0.0278 & 0.0954 & 0.2853 & 0.1614 & 0.1153 & 0.0584 \\ 0.0010 & 0.0039 & 0.0128 & 0.0306 & 0.1070 & 0.3184 & 0.1953 & 0.0806 \\ 0.0004 & 0.0023 & 0.0054 & 0.0156 & 0.0358 & 0.1257 & 0.3711 & 0.1461 \\ 0.0003 & 0.0012 & 0.0042 & 0.0078 & 0.0248 & 0.0555 & 0.2176 & 0.3106 \end{bmatrix}$$

TABLE V.- Continued

AERODYNAMIC-INFLUENCE-COEFFICIENT MATRICES

(a) Symmetric loadings $\left[Q_s\right]$ - Concluded

Plan form 631

$$\begin{bmatrix} 0.0119 & 0.0159 & -0.0022 & 0.0098 & -0.0036 & 0.0087 & -0.0041 & 0.0043 \\ -0.0007 & 0.0404 & 0.0298 & 0.0043 & 0.0152 & 0.0011 & 0.0140 & 0.0011 \\ 0.0001 & 0.0015 & 0.0782 & 0.0456 & 0.0151 & 0.0220 & 0.0108 & 0.0106 \\ 0.0000 & 0.0003 & 0.0095 & 0.1198 & 0.0640 & 0.0298 & 0.0354 & 0.0139 \\ -0.0000 & 0.0003 & 0.0011 & 0.0228 & 0.1623 & 0.0865 & 0.0527 & 0.0300 \\ 0.0000 & 0.0000 & 0.0013 & 0.0036 & 0.0418 & 0.2061 & 0.1233 & 0.0480 \\ -0.0000 & 0.0002 & 0.0002 & 0.0033 & 0.0102 & 0.0700 & 0.2665 & 0.1053 \\ 0.0000 & -0.0000 & 0.0008 & 0.0009 & 0.0095 & 0.0285 & 0.1564 & 0.2405 \end{bmatrix}$$

(b) Antisymmetric loadings $\left[Q_a\right]$

Plan form 111

$$\begin{bmatrix} 0.7895 & 0.2427 & 0.1793 & 0.0346 & 0.0825 & 0.0034 & 0.0251 \\ 0.3170 & 1.9802 & 1.0382 & 0.4338 & 0.3056 & 0.1404 & 0.0766 \\ 0.1569 & 0.9189 & 3.4050 & 1.7805 & 0.8727 & 0.5081 & 0.2099 \\ 0.1085 & 0.4863 & 1.6633 & 4.6593 & 2.4336 & 1.1581 & 0.5325 \\ 0.0700 & 0.3308 & 0.8937 & 2.2667 & 5.6063 & 2.7052 & 1.0354 \\ 0.0449 & 0.1950 & 0.5527 & 1.1299 & 2.5528 & 5.9327 & 2.2616 \\ 0.0211 & 0.0962 & 0.2516 & 0.5391 & 0.9877 & 2.1671 & 5.1766 \end{bmatrix}$$

Plan form 113

$$\begin{bmatrix} 0.8439 & 0.7454 & 0.5521 & 0.4430 & 0.2948 & 0.1828 & 0.0804 \\ 0.3820 & 2.0437 & 1.4441 & 0.9628 & 0.6819 & 0.3944 & 0.1834 \\ 0.2009 & 1.0108 & 3.1943 & 1.9954 & 1.1910 & 0.7326 & 0.3173 \\ 0.1358 & 0.5616 & 1.6128 & 4.1398 & 2.3264 & 1.2093 & 0.5619 \\ 0.0869 & 0.3733 & 0.8861 & 2.0502 & 4.7614 & 2.3564 & 0.9195 \\ 0.0548 & 0.2215 & 0.5427 & 1.0380 & 2.1868 & 4.9093 & 1.8756 \\ 0.0258 & 0.1080 & 0.2487 & 0.4941 & 0.8541 & 1.8003 & 4.2289 \end{bmatrix}$$

TABLE V.- Continued

AERODYNAMIC-INFLUENCE-COEFFICIENT MATRICES

(b) Antisymmetric loadings $\left[Q_a\right]$ - Continued

Plan form 114

$$\begin{bmatrix} 0.8290 & 0.7401 & 0.5636 & 0.4718 & 0.3325 & 0.2134 & 0.0961 \\ 0.3780 & 2.0172 & 1.4502 & 1.0050 & 0.7440 & 0.4489 & 0.2118 \\ 0.2005 & 1.0052 & 3.1639 & 2.0176 & 1.2512 & 0.7937 & 0.3512 \\ 0.1358 & 0.5612 & 1.6056 & 4.1017 & 2.3449 & 1.2503 & 0.5879 \\ 0.0866 & 0.3721 & 0.8830 & 2.0355 & 4.7018 & 2.3463 & 0.9223 \\ 0.0544 & 0.2202 & 0.5390 & 1.0302 & 2.1598 & 4.8247 & 1.8428 \\ 0.0256 & 0.1071 & 0.2467 & 0.4896 & 0.8438 & 1.7694 & 4.1428 \end{bmatrix}$$

Plan form 121

$$\begin{bmatrix} 0.3950 & -0.0641 & 0.1168 & -0.0668 & 0.0648 & -0.0355 & 0.0212 \\ 0.1369 & 1.0016 & 0.3364 & 0.1021 & 0.0605 & 0.0258 & 0.0124 \\ 0.0575 & 0.4151 & 1.8294 & 0.7120 & 0.2516 & 0.1283 & 0.0466 \\ 0.0396 & 0.1924 & 0.8208 & 2.6120 & 1.1110 & 0.3962 & 0.1704 \\ 0.0250 & 0.1322 & 0.4098 & 1.1991 & 3.2768 & 1.3761 & 0.4323 \\ 0.0165 & 0.0771 & 0.2573 & 0.5753 & 1.4475 & 3.6210 & 1.2838 \\ 0.0078 & 0.0392 & 0.1165 & 0.2787 & 0.5480 & 1.3084 & 3.2835 \end{bmatrix}$$

Plan form 122

$$\begin{bmatrix} 0.5105 & 0.3962 & 0.2084 & 0.1239 & 0.0597 & 0.0332 & 0.0117 \\ 0.2151 & 1.1742 & 0.6731 & 0.3035 & 0.1715 & 0.0756 & 0.0333 \\ 0.1028 & 0.5345 & 1.7617 & 0.8750 & 0.3660 & 0.1902 & 0.0661 \\ 0.0667 & 0.2740 & 0.8234 & 2.2618 & 1.0403 & 0.4042 & 0.1660 \\ 0.0415 & 0.1794 & 0.4256 & 1.0544 & 2.6554 & 1.1331 & 0.3558 \\ 0.0264 & 0.1059 & 0.2614 & 0.5134 & 1.1746 & 2.8485 & 0.9965 \\ 0.0125 & 0.0526 & 0.1196 & 0.2473 & 0.4474 & 1.0297 & 2.5599 \end{bmatrix}$$

Plan form 123

$$\begin{bmatrix} 0.4868 & 0.4066 & 0.2566 & 0.1679 & 0.0882 & 0.0470 & 0.0172 \\ 0.2120 & 1.1473 & 0.7294 & 0.3866 & 0.2243 & 0.1038 & 0.0432 \\ 0.1048 & 0.5376 & 1.7392 & 0.9401 & 0.4337 & 0.2247 & 0.0792 \\ 0.0680 & 0.2805 & 0.8276 & 2.2078 & 1.0612 & 0.4293 & 0.1732 \\ 0.0420 & 0.1818 & 0.4306 & 1.0361 & 2.5382 & 1.0930 & 0.3422 \\ 0.0264 & 0.1066 & 0.2619 & 0.5052 & 1.1218 & 2.6781 & 0.9263 \\ 0.0125 & 0.0527 & 0.1197 & 0.2427 & 0.4275 & 0.9672 & 2.3929 \end{bmatrix}$$

TABLE V.- Continued

AERODYNAMIC-INFLUENCE-COEFFICIENT MATRICES

(b) Antisymmetric loadings $\left[Q_a\right]$ - Continued

Plan form 124

$$\begin{bmatrix} 0.4680 & 0.4040 & 0.2803 & 0.2027 & 0.1152 & 0.0618 & 0.0225 \\ 0.2078 & 1.1182 & 0.7532 & 0.4475 & 0.2752 & 0.1326 & 0.0533 \\ 0.1052 & 0.5354 & 1.7138 & 0.9871 & 0.4980 & 0.2613 & 0.0924 \\ 0.0686 & 0.2835 & 0.8280 & 2.1736 & 1.0906 & 0.4602 & 0.1818 \\ 0.0422 & 0.1824 & 0.4324 & 1.0256 & 2.4638 & 1.0716 & 0.3321 \\ 0.0262 & 0.1058 & 0.2597 & 0.4984 & 1.0850 & 2.5542 & 0.8662 \\ 0.0122 & 0.0520 & 0.1178 & 0.2383 & 0.4113 & 0.9196 & 2.2623 \end{bmatrix}$$

Plan form 133

$$\begin{bmatrix} 0.3211 & 0.2306 & 0.0958 & 0.0473 & 0.0157 & 0.0088 & 0.0017 \\ 0.1288 & 0.7090 & 0.3440 & 0.1091 & 0.0521 & 0.0153 & 0.0072 \\ 0.0553 & 0.2974 & 1.0068 & 0.3876 & 0.1058 & 0.0465 & 0.0108 \\ 0.0332 & 0.1325 & 0.4231 & 1.2330 & 0.4134 & 0.1002 & 0.0350 \\ 0.0184 & 0.0817 & 0.1871 & 0.5130 & 1.4131 & 0.4314 & 0.0833 \\ 0.0116 & 0.0443 & 0.1126 & 0.2170 & 0.5688 & 1.5350 & 0.3999 \\ 0.0052 & 0.0234 & 0.0486 & 0.1098 & 0.1948 & 0.5371 & 1.4675 \end{bmatrix}$$

Plan form 211

$$\begin{bmatrix} 0.7880 & 0.3757 & 0.2328 & 0.1249 & 0.1136 & 0.0483 & 0.0348 \\ 0.3226 & 1.9728 & 1.1466 & 0.5949 & 0.4275 & 0.2333 & 0.1207 \\ 0.1616 & 0.9288 & 3.3173 & 1.8705 & 1.0286 & 0.6356 & 0.2827 \\ 0.1113 & 0.4977 & 1.6335 & 4.4982 & 2.4502 & 1.2524 & 0.6013 \\ 0.0715 & 0.3361 & 0.8825 & 2.1999 & 5.3564 & 2.6440 & 1.0507 \\ 0.0457 & 0.1984 & 0.5437 & 1.1016 & 2.4476 & 5.6218 & 2.1642 \\ 0.0215 & 0.0976 & 0.2480 & 0.5251 & 0.9506 & 2.0581 & 4.8750 \end{bmatrix}$$

Plan form 213

$$\begin{bmatrix} 0.8309 & 0.7378 & 0.5558 & 0.4614 & 0.3260 & 0.2142 & 0.1003 \\ 0.3772 & 2.0167 & 1.4397 & 0.9886 & 0.7345 & 0.4526 & 0.2217 \\ 0.1989 & 1.0005 & 3.1596 & 2.0043 & 1.2445 & 0.8041 & 0.3694 \\ 0.1344 & 0.5566 & 1.5990 & 4.1013 & 2.3483 & 1.2697 & 0.6159 \\ 0.0856 & 0.3691 & 0.8784 & 2.0331 & 4.7209 & 2.3730 & 0.9561 \\ 0.0538 & 0.2183 & 0.5365 & 1.0285 & 2.1700 & 4.8563 & 1.8744 \\ 0.0253 & 0.1063 & 0.2455 & 0.4888 & 0.8479 & 1.7823 & 4.1706 \end{bmatrix}$$

TABLE V.- Continued

AERODYNAMIC-INFLUENCE-COEFFICIENT MATRICES

(b) Antisymmetric loadings $\left[Q_a\right]$ - Continued

Plan form 214

$$\begin{bmatrix} 0.8214 & 0.7350 & 0.5638 & 0.4791 & 0.3488 & 0.2341 & 0.1115 \\ 0.3750 & 2.0010 & 1.4453 & 1.0152 & 0.7716 & 0.4870 & 0.2414 \\ 0.1992 & 0.9987 & 3.1426 & 2.0196 & 1.2799 & 0.8406 & 0.3918 \\ 0.1349 & 0.5578 & 1.5967 & 4.0786 & 2.3577 & 1.2922 & 0.6318 \\ 0.0859 & 0.3691 & 0.8774 & 2.0246 & 4.6789 & 2.3629 & 0.9571 \\ 0.0538 & 0.2176 & 0.5341 & 1.0228 & 2.1493 & 4.7979 & 1.8522 \\ 0.0252 & 0.1056 & 0.2438 & 0.4849 & 0.8388 & 1.7594 & 4.1134 \end{bmatrix}$$

Plan form 221

$$\begin{bmatrix} 0.3909 & 0.0451 & 0.0940 & -0.0100 & 0.0491 & -0.0093 & 0.0157 \\ 0.1372 & 1.0008 & 0.4340 & 0.1749 & 0.1177 & 0.0581 & 0.0298 \\ 0.0498 & 0.4215 & 1.7701 & 0.8148 & 0.3618 & 0.2087 & 0.0852 \\ 0.0409 & 0.2024 & 0.8049 & 2.4866 & 1.1785 & 0.5089 & 0.2330 \\ 0.0256 & 0.1372 & 0.4071 & 1.1530 & 3.0679 & 1.3850 & 0.4928 \\ 0.0167 & 0.0797 & 0.2528 & 0.5558 & 1.3615 & 3.3390 & 1.2305 \\ 0.0079 & 0.0401 & 0.1144 & 0.2674 & 0.5179 & 1.2086 & 2.9890 \end{bmatrix}$$

Plan form 222

$$\begin{bmatrix} 0.4799 & 0.3884 & 0.2364 & 0.1625 & 0.0945 & 0.0570 & 0.0240 \\ 0.2049 & 1.1187 & 0.6938 & 0.3765 & 0.2407 & 0.1273 & 0.0593 \\ 0.0994 & 0.5165 & 1.7002 & 0.9274 & 0.4657 & 0.2694 & 0.1100 \\ 0.0645 & 0.2673 & 0.8048 & 2.1930 & 1.1014 & 0.5027 & 0.2260 \\ 0.0400 & 0.1740 & 0.4182 & 1.0317 & 2.5637 & 1.1729 & 0.4193 \\ 0.0252 & 0.1018 & 0.2547 & 0.5027 & 1.1395 & 2.7199 & 0.9964 \\ 0.0119 & 0.0501 & 0.1160 & 0.2403 & 0.4351 & 0.9839 & 2.4155 \end{bmatrix}$$

Plan form 223

$$\begin{bmatrix} 0.4630 & 0.3942 & 0.2677 & 0.1966 & 0.1202 & 0.0719 & 0.0305 \\ 0.2034 & 1.0996 & 0.7295 & 0.4355 & 0.2862 & 0.1550 & 0.0709 \\ 0.1016 & 0.5207 & 1.6829 & 0.9700 & 0.5165 & 0.3005 & 0.1236 \\ 0.0660 & 0.2736 & 0.8088 & 2.1521 & 1.1129 & 0.5208 & 0.2329 \\ 0.0406 & 0.1765 & 0.4221 & 1.0175 & 2.4766 & 1.1406 & 0.4081 \\ 0.0253 & 0.1025 & 0.2546 & 0.4954 & 1.0991 & 2.5944 & 0.9449 \\ 0.0119 & 0.0501 & 0.1156 & 0.2357 & 0.4189 & 0.9365 & 2.2942 \end{bmatrix}$$

TABLE V.- Continued

AERODYNAMIC-INFLUENCE-COEFFICIENT MATRICES

(b) Antisymmetric loadings $\left[Q_a\right]$ - Continued

Plan form 224

$$\begin{bmatrix} 0.4501 & 0.3925 & 0.2825 & 0.2199 & 0.1414 & 0.0853 & 0.0363 \\ 0.2010 & 1.0804 & 0.7446 & 0.4750 & 0.3243 & 0.1800 & 0.0815 \\ 0.1025 & 0.5211 & 1.6663 & 0.9996 & 0.5605 & 0.3303 & 0.1364 \\ 0.0669 & 0.2773 & 0.8111 & 2.1277 & 1.1303 & 0.5421 & 0.2408 \\ 0.0410 & 0.1778 & 0.4243 & 1.0096 & 2.4222 & 1.1227 & 0.4003 \\ 0.0252 & 0.1021 & 0.2529 & 0.4890 & 1.0700 & 2.5043 & 0.9023 \\ 0.0117 & 0.0495 & 0.1138 & 0.2308 & 0.4048 & 0.8987 & 2.2018 \end{bmatrix}$$

Plan form 231

$$\begin{bmatrix} 0.1984 & -0.0745 & 0.0832 & -0.0562 & 0.0488 & -0.0287 & 0.0161 \\ 0.0546 & 0.5276 & 0.1034 & 0.0505 & 0.0146 & 0.0176 & 0.0025 \\ 0.0176 & 0.1849 & 0.9732 & 0.2873 & 0.1025 & 0.0478 & 0.0210 \\ 0.0125 & 0.0684 & 0.3811 & 1.4238 & 0.4989 & 0.1627 & 0.0691 \\ 0.0071 & 0.0478 & 0.1618 & 0.5872 & 1.8379 & 0.6692 & 0.1880 \\ 0.0049 & 0.0260 & 0.1026 & 0.2536 & 0.7555 & 2.1132 & 0.6812 \\ 0.0022 & 0.0140 & 0.0450 & 0.1257 & 0.2706 & 0.7419 & 2.0173 \end{bmatrix}$$

Plan form 232

$$\begin{bmatrix} 0.3060 & 0.2063 & 0.0861 & 0.0506 & 0.0223 & 0.0140 & 0.0046 \\ 0.1175 & 0.6621 & 0.3144 & 0.1186 & 0.0662 & 0.0291 & 0.0132 \\ 0.0484 & 0.2683 & 0.9568 & 0.3925 & 0.1406 & 0.0728 & 0.0251 \\ 0.0292 & 0.1180 & 0.3961 & 1.2182 & 0.4686 & 0.1577 & 0.0647 \\ 0.0165 & 0.0737 & 0.1776 & 0.5086 & 1.4455 & 0.5288 & 0.1454 \\ 0.0104 & 0.0408 & 0.1068 & 0.2212 & 0.5881 & 1.5960 & 0.4987 \\ 0.0048 & 0.0208 & 0.0471 & 0.1080 & 0.2084 & 0.5548 & 1.5095 \end{bmatrix}$$

Plan form 233

$$\begin{bmatrix} 0.2916 & 0.2225 & 0.1161 & 0.0691 & 0.0327 & 0.0181 & 0.0063 \\ 0.1188 & 0.6571 & 0.3615 & 0.1568 & 0.0869 & 0.0373 & 0.0165 \\ 0.0522 & 0.2801 & 0.9545 & 0.4355 & 0.1668 & 0.0846 & 0.0282 \\ 0.0313 & 0.1280 & 0.4070 & 1.1844 & 0.4788 & 0.1633 & 0.0654 \\ 0.0175 & 0.0779 & 0.1848 & 0.4980 & 1.3598 & 0.4981 & 0.1339 \\ 0.0107 & 0.0424 & 0.1085 & 0.2152 & 0.5484 & 1.4635 & 0.4451 \\ 0.0049 & 0.0213 & 0.0472 & 0.1040 & 0.1915 & 0.5037 & 1.3720 \end{bmatrix}$$

TABLE V.- Continued

AERODYNAMIC-INFLUENCE-COEFFICIENT MATRICES

(b) Antisymmetric loadings $\left[Q_a\right]$ - Continued

Plan form 234

$$\begin{bmatrix} 0.2782 & 0.2263 & 0.1361 & 0.0866 & 0.0434 & 0.0226 & 0.0078 \\ 0.1177 & 0.6435 & 0.3892 & 0.1923 & 0.1075 & 0.0466 & 0.0190 \\ 0.0543 & 0.2855 & 0.9486 & 0.4723 & 0.1956 & 0.0966 & 0.0312 \\ 0.0327 & 0.1347 & 0.4157 & 1.1657 & 0.4952 & 0.1718 & 0.0659 \\ 0.0182 & 0.0805 & 0.1906 & 0.4934 & 1.3019 & 0.4767 & 0.1229 \\ 0.0108 & 0.0427 & 0.1086 & 0.2101 & 0.5177 & 1.3585 & 0.3947 \\ 0.0047 & 0.0211 & 0.0457 & 0.1001 & 0.1747 & 0.4592 & 1.2514 \end{bmatrix}$$

Plan form 411

$$\begin{bmatrix} 0.7696 & 0.6033 & 0.4093 & 0.3593 & 0.2547 & 0.1855 & 0.0887 \\ 0.3104 & 1.9606 & 1.3175 & 0.8843 & 0.6809 & 0.4424 & 0.2285 \\ 0.1509 & 0.9175 & 3.1950 & 1.9892 & 1.2453 & 0.8410 & 0.4047 \\ 0.1016 & 0.4874 & 1.5690 & 4.2766 & 2.4530 & 1.3592 & 0.6838 \\ 0.0639 & 0.3222 & 0.8413 & 2.0924 & 5.0200 & 2.5502 & 1.0523 \\ 0.0404 & 0.1886 & 0.5126 & 1.0465 & 2.2977 & 5.2168 & 2.0308 \\ 0.0189 & 0.0923 & 0.2333 & 0.4969 & 0.8944 & 1.9138 & 4.4876 \end{bmatrix}$$

Plan form 412

$$\begin{bmatrix} 0.8298 & 0.7335 & 0.5547 & 0.4724 & 0.3508 & 0.2439 & 0.1213 \\ 0.3734 & 2.0080 & 1.4338 & 1.0033 & 0.7760 & 0.5062 & 0.2610 \\ 0.1932 & 0.9843 & 3.1459 & 2.0120 & 1.2878 & 0.8693 & 0.4206 \\ 0.1280 & 0.5363 & 1.5738 & 4.0968 & 2.3778 & 1.3290 & 0.6688 \\ 0.0797 & 0.3491 & 0.8489 & 2.0138 & 4.7319 & 2.4126 & 0.9988 \\ 0.0493 & 0.2026 & 0.5115 & 1.0060 & 2.1652 & 4.8780 & 1.9005 \\ 0.0229 & 0.0977 & 0.2313 & 0.4746 & 0.8412 & 1.7880 & 4.1853 \end{bmatrix}$$

Plan form 413

$$\begin{bmatrix} 0.8244 & 0.7351 & 0.5631 & 0.4830 & 0.3605 & 0.2509 & 0.1249 \\ 0.3743 & 2.0033 & 1.4439 & 1.0204 & 0.7919 & 0.5179 & 0.2669 \\ 0.1962 & 0.9911 & 3.1423 & 2.0234 & 1.3026 & 0.8804 & 0.4264 \\ 0.1304 & 0.5440 & 1.5804 & 4.0822 & 2.3775 & 1.3324 & 0.6706 \\ 0.0810 & 0.3528 & 0.8527 & 2.0078 & 4.6971 & 2.3970 & 0.9931 \\ 0.0496 & 0.2030 & 0.5097 & 0.9985 & 2.1444 & 4.8292 & 1.8813 \\ 0.0227 & 0.0969 & 0.2283 & 0.4675 & 0.8290 & 1.7664 & 4.1417 \end{bmatrix}$$

TABLE V.- Continued

AERODYNAMIC-INFLUENCE-COEFFICIENT MATRICES

(b) Antisymmetric loadings $\left[Q_a\right]$ - Continued

Plan form 414

$$\begin{bmatrix} 0.8214 & 0.7357 & 0.5675 & 0.4890 & 0.3663 & 0.2551 & 0.1271 \\ 0.3747 & 2.0009 & 1.4498 & 1.0307 & 0.8019 & 0.5254 & 0.2707 \\ 0.1979 & 0.9955 & 3.1426 & 2.0323 & 1.3133 & 0.8883 & 0.4305 \\ 0.1321 & 0.5494 & 1.5866 & 4.0784 & 2.3806 & 1.3363 & 0.6726 \\ 0.0818 & 0.3551 & 0.8552 & 2.0051 & 4.6791 & 2.3884 & 0.9897 \\ 0.0493 & 0.2016 & 0.5053 & 0.9888 & 2.1263 & 4.7976 & 1.8677 \\ 0.0223 & 0.0945 & 0.2221 & 0.4559 & 0.8122 & 1.7454 & 4.1139 \end{bmatrix}$$

Plan form 415

$$\begin{bmatrix} 0.8213 & 0.7365 & 0.5693 & 0.4913 & 0.3684 & 0.2566 & 0.1279 \\ 0.3751 & 2.0021 & 1.4530 & 1.0348 & 0.8056 & 0.5280 & 0.2720 \\ 0.1986 & 0.9978 & 3.1459 & 2.0371 & 1.3178 & 0.8913 & 0.4321 \\ 0.1326 & 0.5514 & 1.5901 & 4.0812 & 2.3833 & 1.3380 & 0.6734 \\ 0.0817 & 0.3554 & 0.8558 & 2.0045 & 4.6757 & 2.3856 & 0.9883 \\ 0.0487 & 0.1995 & 0.5012 & 0.9815 & 2.1160 & 4.7863 & 1.8618 \\ 0.0211 & 0.0908 & 0.2157 & 0.4459 & 0.7979 & 1.7310 & 4.1038 \end{bmatrix}$$

Plan form 421

$$\begin{bmatrix} 0.3665 & 0.2651 & 0.1344 & 0.1461 & 0.0797 & 0.0753 & 0.0280 \\ 0.1080 & 1.0036 & 0.6046 & 0.3675 & 0.2845 & 0.1798 & 0.0951 \\ 0.0396 & 0.3855 & 1.6974 & 0.9759 & 0.5701 & 0.3856 & 0.1828 \\ 0.0259 & 0.1687 & 0.7283 & 2.3500 & 1.2743 & 0.6754 & 0.3404 \\ 0.0145 & 0.1063 & 0.3409 & 1.0508 & 2.8490 & 1.3994 & 0.5628 \\ 0.0092 & 0.0576 & 0.1996 & 0.4804 & 1.2357 & 3.0568 & 1.1731 \\ 0.0041 & 0.0282 & 0.0864 & 0.2229 & 0.4570 & 1.0956 & 2.7036 \end{bmatrix}$$

Plan form 422

$$\begin{bmatrix} 0.4626 & 0.3898 & 0.2743 & 0.2243 & 0.1610 & 0.1114 & 0.0552 \\ 0.1957 & 1.0867 & 0.7305 & 0.4783 & 0.3610 & 0.2310 & 0.1196 \\ 0.0893 & 0.4867 & 1.6634 & 1.0025 & 0.6074 & 0.4055 & 0.1943 \\ 0.0530 & 0.2311 & 0.7548 & 2.1514 & 1.1883 & 0.6376 & 0.3207 \\ 0.0294 & 0.1373 & 0.3587 & 0.9698 & 2.5094 & 1.2365 & 0.4991 \\ 0.0171 & 0.0726 & 0.2016 & 0.4368 & 1.0771 & 2.6453 & 1.0142 \\ 0.0074 & 0.0337 & 0.0851 & 0.1970 & 0.3899 & 0.9373 & 2.3336 \end{bmatrix}$$

TABLE V.- Continued

AERODYNAMIC-INFLUENCE-COEFFICIENT MATRICES

(b) Antisymmetric loadings $\left[Q_a\right]$ - Continued

Plan form 423

$$\begin{bmatrix} 0.4550 & 0.3932 & 0.2854 & 0.2353 & 0.1694 & 0.1166 & 0.0577 \\ 0.1988 & 1.0834 & 0.7465 & 0.4984 & 0.3758 & 0.2404 & 0.1241 \\ 0.0954 & 0.5027 & 1.6634 & 1.0185 & 0.6229 & 0.4145 & 0.1987 \\ 0.0574 & 0.2457 & 0.7707 & 2.1322 & 1.1849 & 0.6376 & 0.3201 \\ 0.0316 & 0.1441 & 0.3672 & 0.9630 & 2.4550 & 1.2092 & 0.4881 \\ 0.0178 & 0.0743 & 0.2012 & 0.4266 & 1.0422 & 2.5649 & 0.9813 \\ 0.0075 & 0.0334 & 0.0826 & 0.1875 & 0.3682 & 0.8969 & 2.2614 \end{bmatrix}$$

Plan form 424

$$\begin{bmatrix} 0.4500 & 0.3943 & 0.2920 & 0.2427 & 0.1750 & 0.1198 & 0.0592 \\ 0.2000 & 1.0803 & 0.7564 & 0.5124 & 0.3862 & 0.2464 & 0.1267 \\ 0.0991 & 0.5128 & 1.6662 & 1.0323 & 0.6352 & 0.4209 & 0.2016 \\ 0.0606 & 0.2570 & 0.7852 & 2.1274 & 1.1870 & 0.6385 & 0.3197 \\ 0.0331 & 0.1493 & 0.3745 & 0.9613 & 2.4225 & 1.1895 & 0.4790 \\ 0.0179 & 0.0744 & 0.1985 & 0.4146 & 1.0100 & 2.5034 & 0.9532 \\ 0.0072 & 0.0318 & 0.0776 & 0.1741 & 0.3407 & 0.8520 & 2.2051 \end{bmatrix}$$

Plan form 425

$$\begin{bmatrix} 0.4489 & 0.3951 & 0.2947 & 0.2457 & 0.1773 & 0.1208 & 0.0596 \\ 0.2006 & 1.0806 & 0.7610 & 0.5182 & 0.3904 & 0.2483 & 0.1273 \\ 0.1006 & 0.5172 & 1.6700 & 1.0393 & 0.6405 & 0.4228 & 0.2020 \\ 0.0620 & 0.2619 & 0.7926 & 2.1299 & 1.1894 & 0.6381 & 0.3187 \\ 0.0338 & 0.1515 & 0.3780 & 0.9619 & 2.4125 & 1.1804 & 0.4737 \\ 0.0179 & 0.0739 & 0.1960 & 0.4068 & 0.9923 & 2.4748 & 0.9379 \\ 0.0069 & 0.0304 & 0.0736 & 0.1645 & 0.3216 & 0.8211 & 2.1765 \end{bmatrix}$$

Plan form 431

$$\begin{bmatrix} 0.1750 & 0.1197 & 0.0182 & 0.0634 & 0.0074 & 0.0330 & 0.0029 \\ 0.0235 & 0.5297 & 0.2729 & 0.1198 & 0.1104 & 0.0559 & 0.0371 \\ 0.0052 & 0.1255 & 0.9429 & 0.4662 & 0.2276 & 0.1616 & 0.0718 \\ 0.0041 & 0.0360 & 0.2865 & 1.3633 & 0.6566 & 0.3107 & 0.1612 \\ 0.0016 & 0.0228 & 0.0952 & 0.4733 & 1.7325 & 0.7850 & 0.2961 \\ 0.0013 & 0.0098 & 0.0531 & 0.1661 & 0.6302 & 1.9635 & 0.7252 \\ 0.0004 & 0.0052 & 0.0195 & 0.0732 & 0.1936 & 0.6366 & 1.8505 \end{bmatrix}$$

TABLE V.- Continued

AERODYNAMIC-INFLUENCE-COEFFICIENT MATRICES

(b) Antisymmetric loadings $\left[Q_a\right]$ - Continued

Plan form 432

$$\begin{bmatrix} 0.2946 & 0.2222 & 0.1337 & 0.1009 & 0.0673 & 0.0463 & 0.0229 \\ 0.1051 & 0.6443 & 0.3781 & 0.2124 & 0.1534 & 0.0934 & 0.0496 \\ 0.0347 & 0.2259 & 0.9380 & 0.4936 & 0.2599 & 0.1714 & 0.0799 \\ 0.0167 & 0.0767 & 0.3280 & 1.1969 & 0.5863 & 0.2814 & 0.1434 \\ 0.0074 & 0.0389 & 0.1134 & 0.4235 & 1.4179 & 0.6384 & 0.2402 \\ 0.0040 & 0.0169 & 0.0565 & 0.1438 & 0.4984 & 1.5552 & 0.5692 \\ 0.0015 & 0.0075 & 0.0202 & 0.0592 & 0.1441 & 0.4816 & 1.4631 \end{bmatrix}$$

Plan form 433

$$\begin{bmatrix} 0.2858 & 0.2290 & 0.1466 & 0.1110 & 0.0734 & 0.0494 & 0.0242 \\ 0.1125 & 0.6467 & 0.4003 & 0.2335 & 0.1653 & 0.1000 & 0.0522 \\ 0.0423 & 0.2510 & 0.9437 & 0.5114 & 0.2741 & 0.1766 & 0.0825 \\ 0.0205 & 0.0914 & 0.3499 & 1.1739 & 0.5792 & 0.2779 & 0.1401 \\ 0.0089 & 0.0444 & 0.1226 & 0.4192 & 1.3489 & 0.6026 & 0.2254 \\ 0.0044 & 0.0186 & 0.0575 & 0.1382 & 0.4610 & 1.4477 & 0.5247 \\ 0.0016 & 0.0076 & 0.0199 & 0.0535 & 0.1265 & 0.4285 & 1.3587 \end{bmatrix}$$

Plan form 434

$$\begin{bmatrix} 0.2781 & 0.2309 & 0.1549 & 0.1185 & 0.0779 & 0.0510 & 0.0247 \\ 0.1153 & 0.6434 & 0.4143 & 0.2492 & 0.1744 & 0.1035 & 0.0531 \\ 0.0477 & 0.2680 & 0.9488 & 0.5284 & 0.2862 & 0.1798 & 0.0833 \\ 0.0238 & 0.1042 & 0.3707 & 1.1659 & 0.5788 & 0.2752 & 0.1365 \\ 0.0102 & 0.0492 & 0.1314 & 0.4203 & 1.3031 & 0.5737 & 0.2116 \\ 0.0047 & 0.0195 & 0.0575 & 0.1322 & 0.4276 & 1.3584 & 0.4833 \\ 0.0016 & 0.0070 & 0.0189 & 0.0460 & 0.1083 & 0.3698 & 1.2659 \end{bmatrix}$$

Plan form 435

$$\begin{bmatrix} 0.2756 & 0.2318 & 0.1584 & 0.1218 & 0.0798 & 0.0513 & 0.0246 \\ 0.1163 & 0.6429 & 0.4205 & 0.2563 & 0.1783 & 0.1040 & 0.0528 \\ 0.0500 & 0.2751 & 0.9535 & 0.5375 & 0.2916 & 0.1799 & 0.0825 \\ 0.0254 & 0.1103 & 0.3814 & 1.1681 & 0.5805 & 0.2724 & 0.1335 \\ 0.0108 & 0.0515 & 0.1356 & 0.4225 & 1.2872 & 0.5584 & 0.2030 \\ 0.0047 & 0.0194 & 0.0563 & 0.1275 & 0.4067 & 1.3124 & 0.4590 \\ 0.0016 & 0.0063 & 0.0179 & 0.0405 & 0.0973 & 0.3318 & 1.2174 \end{bmatrix}$$

TABLE V.- Continued

AERODYNAMIC-INFLUENCE-COEFFICIENT MATRICES

(b) Antisymmetric loadings $\left[Q_a\right]$ - Continued

Plan form 441

$$\begin{bmatrix} 0.0843 & 0.0595 & -0.0188 & 0.0360 & -0.0141 & 0.0190 & -0.0046 \\ -0.0025 & 0.2843 & 0.1291 & 0.0151 & 0.0485 & 0.0049 & 0.0164 \\ 0.0018 & 0.0185 & 0.5369 & 0.2202 & 0.0635 & 0.0641 & 0.0195 \\ 0.0002 & 0.0070 & 0.0731 & 0.8100 & 0.3242 & 0.1129 & 0.0690 \\ 0.0003 & 0.0030 & 0.0184 & 0.1574 & 1.0751 & 0.4186 & 0.1336 \\ 0.0001 & 0.0016 & 0.0092 & 0.0375 & 0.2534 & 1.2910 & 0.4384 \\ 0.0001 & 0.0004 & 0.0037 & 0.0143 & 0.0561 & 0.3074 & 1.3411 \end{bmatrix}$$

Plan form 443

$$\begin{bmatrix} 0.2039 & 0.1408 & 0.0721 & 0.0480 & 0.0276 & 0.0178 & 0.0087 \\ 0.0624 & 0.4167 & 0.2131 & 0.0963 & 0.0635 & 0.0335 & 0.0185 \\ 0.0149 & 0.1090 & 0.5629 & 0.2488 & 0.1004 & 0.0641 & 0.0271 \\ 0.0053 & 0.0251 & 0.1297 & 0.6779 & 0.2733 & 0.0994 & 0.0534 \\ 0.0020 & 0.0091 & 0.0300 & 0.1447 & 0.7776 & 0.2892 & 0.0888 \\ 0.0007 & 0.0040 & 0.0103 & 0.0328 & 0.1600 & 0.8548 & 0.2755 \\ 0.0005 & 0.0002 & 0.0056 & 0.0066 & 0.0350 & 0.1562 & 0.8737 \end{bmatrix}$$

Plan form 511

$$\begin{bmatrix} 0.7565 & 0.6388 & 0.4240 & 0.4001 & 0.2718 & 0.2110 & 0.0958 \\ 0.2906 & 1.9664 & 1.3378 & 0.9204 & 0.7129 & 0.4708 & 0.2423 \\ 0.1337 & 0.8969 & 3.2016 & 2.0136 & 1.2736 & 0.8678 & 0.4191 \\ 0.0882 & 0.4621 & 1.5494 & 4.2932 & 2.4733 & 1.3799 & 0.6958 \\ 0.0540 & 0.3002 & 0.8152 & 2.0836 & 5.0421 & 2.5677 & 1.0616 \\ 0.0340 & 0.1729 & 0.4911 & 1.0314 & 2.2985 & 5.2438 & 2.0423 \\ 0.0157 & 0.0841 & 0.2214 & 0.4872 & 0.8907 & 1.9211 & 4.5129 \end{bmatrix}$$

Plan form 512

$$\begin{bmatrix} 0.8605 & 0.7605 & 0.5742 & 0.4923 & 0.3690 & 0.2582 & 0.1290 \\ 0.3691 & 2.0852 & 1.4841 & 1.0411 & 0.8122 & 0.5331 & 0.2759 \\ 0.1638 & 0.9926 & 3.2595 & 2.0821 & 1.3385 & 0.9083 & 0.4409 \\ 0.0685 & 0.4944 & 1.5748 & 4.2374 & 2.4592 & 1.3757 & 0.6944 \\ -0.0185 & 0.2675 & 0.7611 & 2.0143 & 4.8901 & 2.4875 & 1.0335 \\ -0.0610 & 0.1031 & 0.4098 & 0.9406 & 2.1908 & 5.0674 & 1.9706 \\ -0.0948 & -0.0245 & 0.1836 & 0.3662 & 0.8420 & 1.8407 & 4.3474 \end{bmatrix}$$

TABLE V.- Continued

AERODYNAMIC-INFLUENCE-COEFFICIENT MATRICES

(b) Antisymmetric loadings $\left[Q_a\right]$ - Continued

Plan form 513

$$\begin{bmatrix} 0.8305 & 0.7397 & 0.5666 & 0.4874 & 0.3657 & 0.2557 & 0.1278 \\ 0.3760 & 2.0159 & 1.4520 & 1.0280 & 0.8014 & 0.5267 & 0.2722 \\ 0.1952 & 0.9917 & 3.1586 & 2.0345 & 1.3139 & 0.8917 & 0.4332 \\ 0.1274 & 0.5356 & 1.5751 & 4.1004 & 2.3904 & 1.3435 & 0.6779 \\ 0.0767 & 0.3389 & 0.8326 & 1.9971 & 4.7178 & 2.4096 & 0.9997 \\ 0.0454 & 0.1883 & 0.4850 & 0.9731 & 2.1355 & 4.8542 & 1.8914 \\ 0.0200 & 0.0874 & 0.2109 & 0.4464 & 0.8131 & 1.7667 & 4.1693 \end{bmatrix}$$

Plan form 514

$$\begin{bmatrix} 0.8290 & 0.7414 & 0.5710 & 0.4923 & 0.3696 & 0.2584 & 0.1291 \\ 0.3772 & 2.0172 & 1.4592 & 1.0368 & 0.8084 & 0.5315 & 0.2746 \\ 0.1978 & 0.9989 & 3.1640 & 2.0437 & 1.3220 & 0.8969 & 0.4359 \\ 0.1300 & 0.5438 & 1.5850 & 4.1014 & 2.3931 & 1.3457 & 0.6790 \\ 0.0780 & 0.3424 & 0.8360 & 1.9944 & 4.7025 & 2.4009 & 0.9960 \\ 0.0447 & 0.1856 & 0.4767 & 0.9564 & 2.1108 & 4.8238 & 1.8780 \\ 0.0182 & 0.0826 & 0.1996 & 0.4252 & 0.7842 & 1.7384 & 4.1443 \end{bmatrix}$$

Plan form 515

$$\begin{bmatrix} 0.8300 & 0.7432 & 0.5732 & 0.4944 & 0.3711 & 0.2592 & 0.1295 \\ 0.3781 & 2.0210 & 1.4638 & 1.0409 & 0.8111 & 0.5331 & 0.2754 \\ 0.1987 & 1.0027 & 3.1711 & 2.0495 & 1.3254 & 0.8988 & 0.4368 \\ 0.1307 & 0.5471 & 1.5905 & 4.1080 & 2.3959 & 1.3465 & 0.6794 \\ 0.0767 & 0.3432 & 0.8370 & 1.9936 & 4.7015 & 2.3980 & 0.9945 \\ 0.0432 & 0.1824 & 0.4696 & 0.9436 & 2.0949 & 4.8127 & 1.8721 \\ 0.0225 & 0.0784 & 0.1890 & 0.4086 & 0.7584 & 1.7166 & 4.1355 \end{bmatrix}$$

Plan form 521

$$\begin{bmatrix} 0.3522 & 0.3051 & 0.1265 & 0.1785 & 0.0778 & 0.0949 & 0.0282 \\ 0.0823 & 1.0094 & 0.6313 & 0.3808 & 0.3097 & 0.1935 & 0.1060 \\ 0.0226 & 0.3380 & 1.7292 & 1.0080 & 0.5956 & 0.4110 & 0.1959 \\ 0.0149 & 0.1237 & 0.6792 & 2.4175 & 1.3208 & 0.7075 & 0.3598 \\ 0.0071 & 0.0740 & 0.2813 & 1.0208 & 2.9561 & 1.4586 & 0.5895 \\ 0.0046 & 0.0362 & 0.1558 & 0.4298 & 1.2385 & 3.1959 & 1.2285 \\ 0.0018 & 0.0174 & 0.0626 & 0.1912 & 0.4359 & 1.1268 & 2.8444 \end{bmatrix}$$

TABLE V.- Continued

AERODYNAMIC-INFLUENCE-COEFFICIENT MATRICES

(b) Antisymmetric loadings $\left[Q_a\right]$ - Continued

Plan form 522

$$\begin{bmatrix} 0.4811 & 0.4029 & 0.2837 & 0.2345 & 0.1710 & 0.1202 & 0.0602 \\ 0.1982 & 1.1212 & 0.7511 & 0.4948 & 0.3790 & 0.2464 & 0.1289 \\ 0.0825 & 0.4772 & 1.7030 & 1.0256 & 0.6269 & 0.4248 & 0.2056 \\ 0.0442 & 0.2019 & 0.7267 & 2.1959 & 1.2146 & 0.6574 & 0.3338 \\ 0.0217 & 0.1090 & 0.3079 & 0.9345 & 2.5680 & 1.2687 & 0.5146 \\ 0.0117 & 0.0514 & 0.1594 & 0.3810 & 1.0538 & 2.7248 & 1.0464 \\ 0.0046 & 0.0225 & 0.0610 & 0.1612 & 0.3539 & 0.9404 & 2.4232 \end{bmatrix}$$

Plan form 523

$$\begin{bmatrix} 0.4729 & 0.4061 & 0.2934 & 0.2428 & 0.1765 & 0.1232 & 0.0617 \\ 0.2036 & 1.1193 & 0.7666 & 0.5117 & 0.3894 & 0.2525 & 0.1317 \\ 0.0923 & 0.5025 & 1.7065 & 1.0404 & 0.6387 & 0.4305 & 0.2086 \\ 0.0508 & 0.2242 & 0.7521 & 2.1755 & 1.2066 & 0.6537 & 0.3315 \\ 0.0246 & 0.1188 & 0.3208 & 0.9280 & 2.5031 & 1.2341 & 0.5006 \\ 0.0126 & 0.0540 & 0.1595 & 0.3674 & 1.0081 & 2.6285 & 1.0074 \\ 0.0047 & 0.0224 & 0.0581 & 0.1488 & 0.3229 & 0.8863 & 2.3386 \end{bmatrix}$$

Plan form 524

$$\begin{bmatrix} 0.4679 & 0.4077 & 0.2997 & 0.2487 & 0.1800 & 0.1245 & 0.0623 \\ 0.2059 & 1.1180 & 0.7771 & 0.5236 & 0.3961 & 0.2551 & 0.1327 \\ 0.0984 & 0.5187 & 1.7133 & 1.0540 & 0.6474 & 0.4330 & 0.2097 \\ 0.0558 & 0.2420 & 0.7754 & 2.1728 & 1.2055 & 0.6502 & 0.3292 \\ 0.0270 & 0.1268 & 0.3326 & 0.9278 & 2.4642 & 1.2076 & 0.4887 \\ 0.0130 & 0.0547 & 0.1570 & 0.3515 & 0.9636 & 2.5522 & 0.9734 \\ 0.0044 & 0.0209 & 0.0525 & 0.1322 & 0.2836 & 0.8220 & 2.2708 \end{bmatrix}$$

Plan form 525

$$\begin{bmatrix} 0.4670 & 0.4089 & 0.3026 & 0.2513 & 0.1813 & 0.1245 & 0.0621 \\ 0.2070 & 1.1195 & 0.7825 & 0.5291 & 0.3987 & 0.2550 & 0.1324 \\ 0.1007 & 0.5255 & 1.7198 & 1.0614 & 0.6510 & 0.4324 & 0.2089 \\ 0.0581 & 0.2499 & 0.7870 & 2.1775 & 1.2067 & 0.6470 & 0.3268 \\ 0.0280 & 0.1303 & 0.3383 & 0.9295 & 2.4523 & 1.1944 & 0.4815 \\ 0.0130 & 0.0543 & 0.1546 & 0.3414 & 0.9389 & 2.5152 & 0.9542 \\ 0.0043 & 0.0195 & 0.0486 & 0.1207 & 0.2581 & 0.7764 & 2.2347 \end{bmatrix}$$

TABLE V.- Continued

AERODYNAMIC-INFLUENCE-COEFFICIENT MATRICES

(b) Antisymmetric loadings $\left[Q_a\right]$ - Continued

Plan form 531

$$\begin{bmatrix} 0.1653 & 0.1575 & 0.0054 & 0.0853 & -0.0008 & 0.0456 & 0.0006 \\ 0.0080 & 0.5278 & 0.3113 & 0.1118 & 0.1315 & 0.0542 & 0.0458 \\ 0.0017 & 0.0819 & 0.9658 & 0.5018 & 0.2314 & 0.1802 & 0.0768 \\ 0.0017 & 0.0160 & 0.2238 & 1.4197 & 0.6993 & 0.3271 & 0.1778 \\ 0.0003 & 0.0109 & 0.0527 & 0.4069 & 1.8331 & 0.8434 & 0.3193 \\ 0.0005 & 0.0031 & 0.0287 & 0.1081 & 0.5826 & 2.1160 & 0.7909 \\ 0.0000 & 0.0022 & 0.0077 & 0.0450 & 0.1451 & 0.6321 & 2.0355 \end{bmatrix}$$

Plan form 532

$$\begin{bmatrix} 0.3224 & 0.2394 & 0.1430 & 0.1087 & 0.0736 & 0.0518 & 0.0263 \\ 0.1040 & 0.6876 & 0.3995 & 0.2226 & 0.1639 & 0.1016 & 0.0556 \\ 0.0261 & 0.2036 & 0.9807 & 0.5146 & 0.2676 & 0.1827 & 0.0862 \\ 0.0103 & 0.0507 & 0.2838 & 1.2450 & 0.6108 & 0.2915 & 0.1540 \\ 0.0036 & 0.0220 & 0.0720 & 0.3678 & 1.4826 & 0.6725 & 0.2541 \\ 0.0017 & 0.0075 & 0.0315 & 0.0933 & 0.4463 & 1.6486 & 0.6112 \\ 0.0005 & 0.0031 & 0.0088 & 0.0342 & 0.1004 & 0.4560 & 1.5869 \end{bmatrix}$$

Plan form 533

$$\begin{bmatrix} 0.3120 & 0.2466 & 0.1558 & 0.1180 & 0.0786 & 0.0539 & 0.0272 \\ 0.1165 & 0.6946 & 0.4235 & 0.2446 & 0.1748 & 0.1074 & 0.0576 \\ 0.0359 & 0.2402 & 0.9931 & 0.5312 & 0.2821 & 0.1855 & 0.0887 \\ 0.0143 & 0.0671 & 0.3148 & 1.2196 & 0.5973 & 0.2849 & 0.1483 \\ 0.0048 & 0.0269 & 0.0822 & 0.3662 & 1.3989 & 0.6257 & 0.2352 \\ 0.0020 & 0.0088 & 0.0324 & 0.0894 & 0.4036 & 1.5145 & 0.5562 \\ 0.0006 & 0.0029 & 0.0092 & 0.0289 & 0.0845 & 0.3885 & 1.4551 \end{bmatrix}$$

Plan form 534

$$\begin{bmatrix} 0.3025 & 0.2482 & 0.1640 & 0.1247 & 0.0820 & 0.0542 & 0.0270 \\ 0.1216 & 0.6915 & 0.4387 & 0.2600 & 0.1823 & 0.1089 & 0.0575 \\ 0.0439 & 0.2663 & 1.0026 & 0.5487 & 0.2935 & 0.1860 & 0.0885 \\ 0.0183 & 0.0830 & 0.3443 & 1.2118 & 0.5926 & 0.2786 & 0.1423 \\ 0.0060 & 0.0319 & 0.0926 & 0.3704 & 1.3424 & 0.5865 & 0.2175 \\ 0.0022 & 0.0098 & 0.0325 & 0.0852 & 0.3650 & 1.4005 & 0.5046 \\ 0.0008 & 0.0022 & 0.0097 & 0.0214 & 0.0703 & 0.3120 & 1.3355 \end{bmatrix}$$

TABLE V.- Continued

AERODYNAMIC-INFLUENCE-COEFFICIENT MATRICES

(b) Antisymmetric loadings $\left[Q_a\right]$ - Continued

Plan form 541

$$\begin{bmatrix} 0.0775 & 0.0879 & -0.0280 & 0.0472 & -0.0194 & 0.0245 & -0.0060 \\ -0.0091 & 0.2728 & 0.1709 & 0.0010 & 0.0653 & -0.0016 & 0.0223 \\ 0.0035 & -0.0086 & 0.5368 & 0.2648 & 0.0531 & 0.0796 & 0.0180 \\ -0.0010 & 0.0081 & 0.0236 & 0.8322 & 0.3687 & 0.1106 & 0.0816 \\ 0.0006 & -0.0013 & 0.0125 & 0.0886 & 1.1273 & 0.4655 & 0.1425 \\ -0.0002 & 0.0017 & 0.0008 & 0.0199 & 0.1769 & 1.3819 & 0.4926 \\ 0.0002 & -0.0009 & 0.0036 & 0.0013 & 0.0330 & 0.2438 & 1.4899 \end{bmatrix}$$

Plan form 611

$$\begin{bmatrix} 0.7206 & 0.6798 & 0.3957 & 0.4399 & 0.2599 & 0.2357 & 0.0923 \\ 0.2286 & 1.9854 & 1.3536 & 0.9376 & 0.7326 & 0.4877 & 0.2506 \\ 0.0810 & 0.8139 & 3.2806 & 2.0617 & 1.3093 & 0.8963 & 0.4337 \\ 0.0501 & 0.3637 & 0.4933 & 4.4478 & 2.5589 & 1.4286 & 0.7213 \\ 0.0271 & 0.2198 & 0.7212 & 2.0850 & 5.2689 & 2.6788 & 1.1055 \\ 0.0166 & 0.1165 & 0.4119 & 0.9825 & 2.3590 & 5.5173 & 2.1457 \\ 0.0071 & 0.0549 & 0.1758 & 0.4499 & 0.8925 & 2.0068 & 4.7733 \end{bmatrix}$$

Plan form 612

$$\begin{bmatrix} 0.9317 & 0.8445 & 0.6442 & 0.5498 & 0.4142 & 0.2914 & 0.1460 \\ 0.3262 & 2.3229 & 1.6634 & 1.1581 & 0.9081 & 0.5987 & 0.3106 \\ 0.0397 & 1.0553 & 3.6525 & 2.3130 & 1.4875 & 1.0139 & 0.4930 \\ -0.1363 & 0.4606 & 1.7185 & 4.7198 & 2.7307 & 1.5275 & 0.7726 \\ -0.2009 & 0.2177 & 0.9076 & 2.2162 & 5.4711 & 2.7886 & 1.1586 \\ -0.7620 & -0.1079 & 0.3719 & 0.8740 & 2.3258 & 5.6396 & 2.1846 \\ -2.3085 & -0.6622 & -0.5478 & -0.1472 & 0.6123 & 1.7989 & 4.7809 \end{bmatrix}$$

Plan form 613

$$\begin{bmatrix} 0.8575 & 0.7591 & 0.5774 & 0.4965 & 0.3738 & 0.2628 & 0.1316 \\ 0.3839 & 2.0717 & 1.4821 & 1.0454 & 0.8178 & 0.5400 & 0.2799 \\ 0.1922 & 0.9977 & 3.2301 & 2.0696 & 1.3359 & 0.9109 & 0.4434 \\ 0.1164 & 0.5061 & 1.5601 & 4.1781 & 2.4279 & 1.3650 & 0.6905 \\ 0.0618 & 0.2879 & 0.7610 & 1.9604 & 4.8053 & 2.4494 & 1.0147 \\ 0.0308 & 0.1398 & 0.3990 & 0.8785 & 2.1042 & 4.9630 & 1.9300 \\ 0.0132 & 0.0739 & 0.1504 & 0.3708 & 0.7531 & 1.7715 & 4.2912 \end{bmatrix}$$

TABLE V.- Continued

AERODYNAMIC-INFLUENCE-COEFFICIENT MATRICES

(b) Antisymmetric loadings $\left[Q_a\right]$ - Continued

Plan form 614

$$\begin{bmatrix} 0.8571 & 0.7624 & 0.5825 & 0.5001 & 0.3752 & 0.2634 & 0.1321 \\ 0.3871 & 2.0773 & 1.4918 & 1.0526 & 0.8205 & 0.5412 & 0.2807 \\ 0.1983 & 1.0127 & 3.2425 & 2.0790 & 1.3393 & 0.9120 & 0.4445 \\ 0.1238 & 0.5257 & 1.5813 & 4.1831 & 2.4266 & 1.3632 & 0.6902 \\ 0.0658 & 0.3010 & 0.7696 & 1.9567 & 4.7817 & 2.4336 & 1.0083 \\ 0.0335 & 0.1407 & 0.3886 & 0.8453 & 2.0533 & 4.9151 & 1.9097 \\ 0.0151 & 0.0528 & 0.1434 & 0.3294 & 0.6847 & 1.7104 & 4.2558 \end{bmatrix}$$

Plan form 615

$$\begin{bmatrix} 0.8598 & 0.7660 & 0.5858 & 0.5025 & 0.3758 & 0.2634 & 0.1322 \\ 0.3891 & 2.0859 & 1.4994 & 1.0575 & 0.8217 & 0.5409 & 0.2808 \\ 0.2004 & 1.0206 & 3.2568 & 2.0877 & 1.3410 & 0.9115 & 0.4446 \\ 0.1258 & 0.5337 & 1.5927 & 4.1972 & 2.4286 & 1.3613 & 0.6899 \\ 0.0669 & 0.3044 & 0.7744 & 1.9574 & 4.7807 & 2.4270 & 1.0054 \\ 0.0316 & 0.1368 & 0.3766 & 0.8232 & 2.0202 & 4.8954 & 1.9003 \\ 0.0081 & 0.0491 & 0.1214 & 0.3057 & 0.6319 & 1.6618 & 4.2444 \end{bmatrix}$$

Plan form 621

$$\begin{bmatrix} 0.4626 & 0.3898 & 0.2743 & 0.2243 & 0.1610 & 0.1114 & 0.0552 \\ 0.1957 & 1.0867 & 0.7305 & 0.4783 & 0.3610 & 0.2310 & 0.1196 \\ 0.0893 & 0.4867 & 1.6634 & 1.0025 & 0.6074 & 0.4055 & 0.1943 \\ 0.0530 & 0.2311 & 0.7548 & 2.1514 & 1.1883 & 0.6376 & 0.3207 \\ 0.0294 & 0.1373 & 0.3587 & 0.9698 & 2.5094 & 1.2365 & 0.4991 \\ 0.0171 & 0.0726 & 0.2016 & 0.4368 & 1.0771 & 2.6453 & 1.0142 \\ 0.0074 & 0.0337 & 0.0851 & 0.1970 & 0.3899 & 0.9373 & 2.3336 \end{bmatrix}$$

Plan form 622

$$\begin{bmatrix} 0.5412 & 0.4412 & 0.3005 & 0.2465 & 0.1798 & 0.1287 & 0.0652 \\ 0.2056 & 1.2294 & 0.7985 & 0.5125 & 0.3945 & 0.2594 & 0.1377 \\ 0.0630 & 0.4461 & 1.8199 & 1.0640 & 0.6386 & 0.4391 & 0.2144 \\ 0.0259 & 0.1302 & 0.6457 & 2.3242 & 1.2584 & 0.6745 & 0.3474 \\ 0.0087 & 0.0564 & 0.1887 & 0.8325 & 2.7402 & 1.3405 & 0.5405 \\ 0.0041 & 0.0181 & 0.0813 & 0.2435 & 0.9787 & 2.9692 & 1.1372 \\ 0.0010 & 0.0078 & 0.0216 & 0.0896 & 0.2514 & 0.9404 & 2.7115 \end{bmatrix}$$

TABLE V.- Concluded

AERODYNAMIC-INFLUENCE-COEFFICIENT MATRICES

(b) Antisymmetric loadings $\left[Q_a\right]$ - Concluded

Plan form 623

$$\begin{bmatrix} 0.5279 & 0.4439 & 0.3114 & 0.2541 & 0.1834 & 0.1295 & 0.0658 \\ 0.2174 & 1.2274 & 0.8185 & 0.5314 & 0.4032 & 0.2630 & 0.1394 \\ 0.0818 & 0.4981 & 1.8307 & 1.0838 & 0.6512 & 0.4429 & 0.2170 \\ 0.0352 & 0.1660 & 0.6941 & 2.2955 & 1.2397 & 0.6639 & 0.3412 \\ 0.0119 & 0.0686 & 0.2098 & 0.8283 & 2.6351 & 1.2802 & 0.5165 \\ 0.0050 & 0.0213 & 0.0834 & 0.2302 & 0.9078 & 2.8081 & 1.0729 \\ 0.0012 & 0.0081 & 0.0202 & 0.0786 & 0.2091 & 0.8464 & 2.5693 \end{bmatrix}$$

Plan form 624

$$\begin{bmatrix} 0.5187 & 0.4446 & 0.3182 & 0.2595 & 0.1849 & 0.1282 & 0.0649 \\ 0.2221 & 1.2235 & 0.8305 & 0.5442 & 0.4070 & 0.2611 & 0.1380 \\ 0.0951 & 0.5320 & 1.8407 & 1.1016 & 0.6584 & 0.4406 & 0.2153 \\ 0.0436 & 0.1982 & 0.7395 & 2.2902 & 1.2329 & 0.6520 & 0.3342 \\ 0.0150 & 0.0804 & 0.2306 & 0.8330 & 2.5691 & 1.2299 & 0.4943 \\ 0.0056 & 0.0233 & 0.0837 & 0.2153 & 0.8411 & 2.6730 & 1.0133 \\ 0.0011 & 0.0073 & 0.0180 & 0.0637 & 0.1648 & 0.7335 & 2.4442 \end{bmatrix}$$

Plan form 631

$$\begin{bmatrix} 0.1527 & 0.1970 & -0.0172 & 0.1017 & -0.0161 & 0.0545 & -0.0039 \\ -0.0108 & 0.5193 & 0.3665 & 0.0715 & 0.1506 & 0.0338 & 0.0534 \\ 0.0032 & 0.0157 & 1.0014 & 0.5575 & 0.1967 & 0.1942 & 0.0687 \\ -0.0004 & 0.0058 & 0.1110 & 1.5241 & 0.7634 & 0.3146 & 0.1930 \\ 0.0002 & 0.0017 & 0.0133 & 0.2669 & 2.0281 & 0.9384 & 0.3385 \\ 0.0000 & 0.0003 & 0.0074 & 0.0340 & 0.4522 & 2.4311 & 0.9225 \\ -0.0000 & 0.0005 & 0.0002 & 0.0147 & 0.0605 & 0.5756 & 2.4682 \end{bmatrix}$$

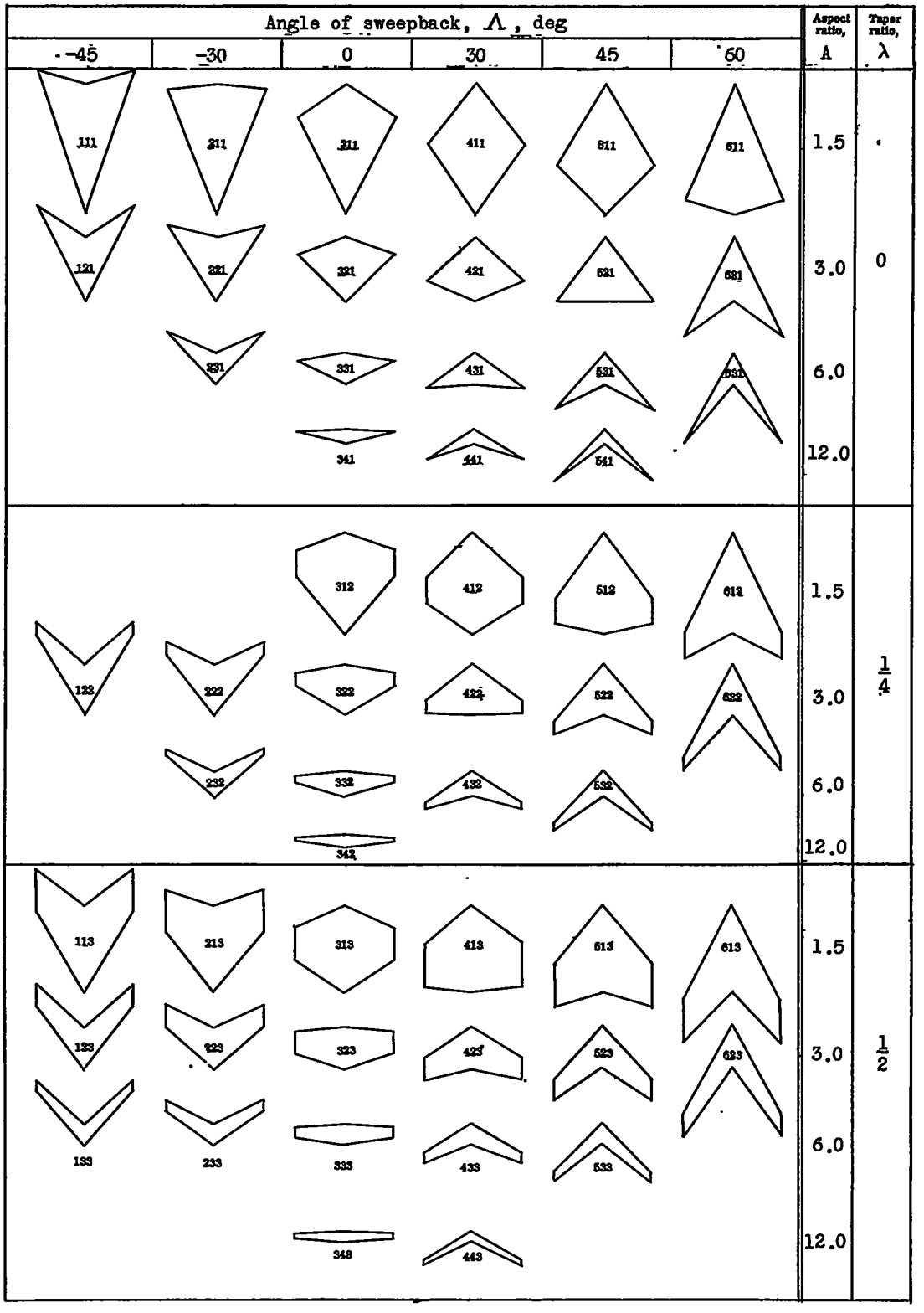


Figure 1.- Plan forms for which spanwise lift distributions are calculated.

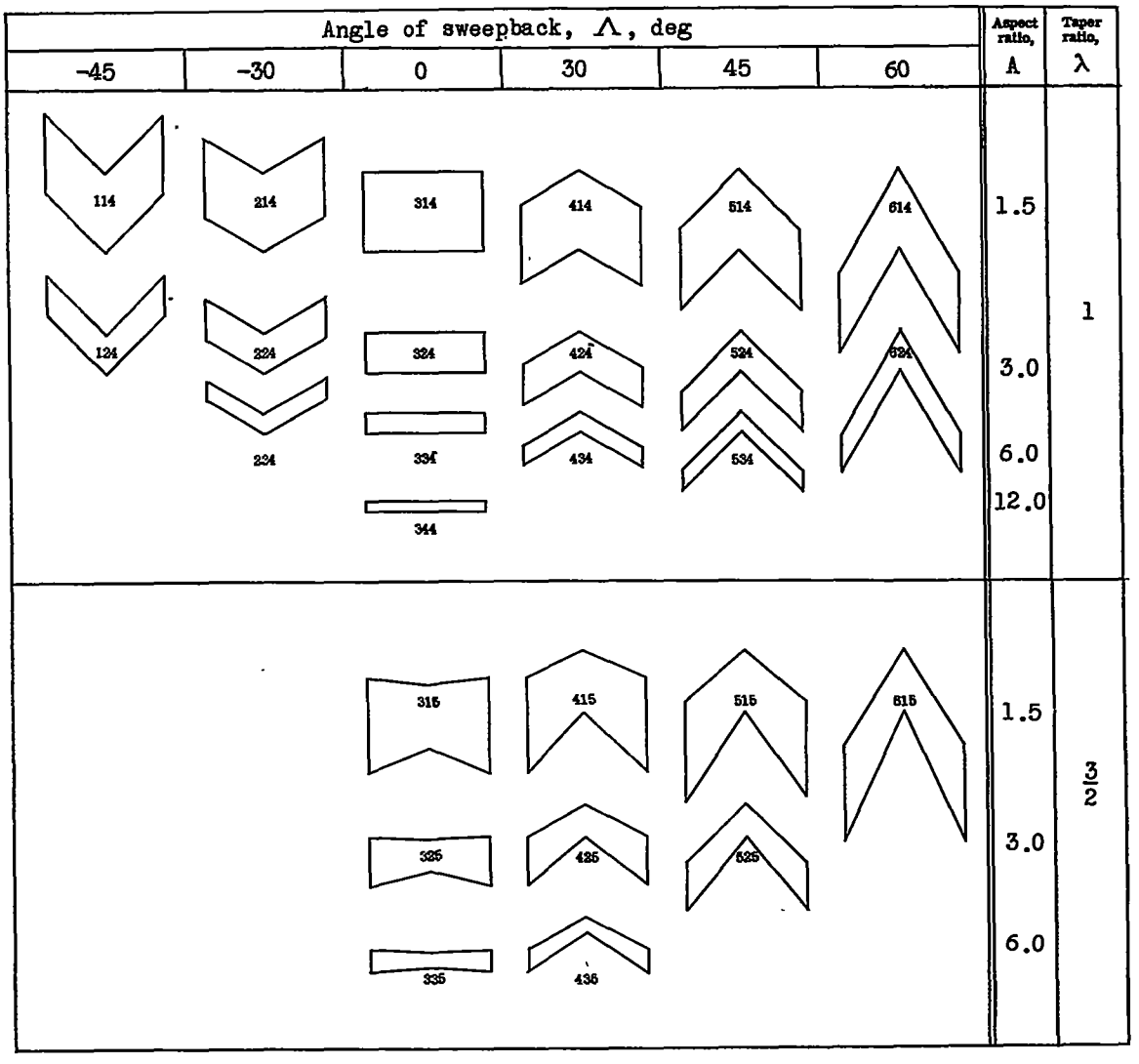
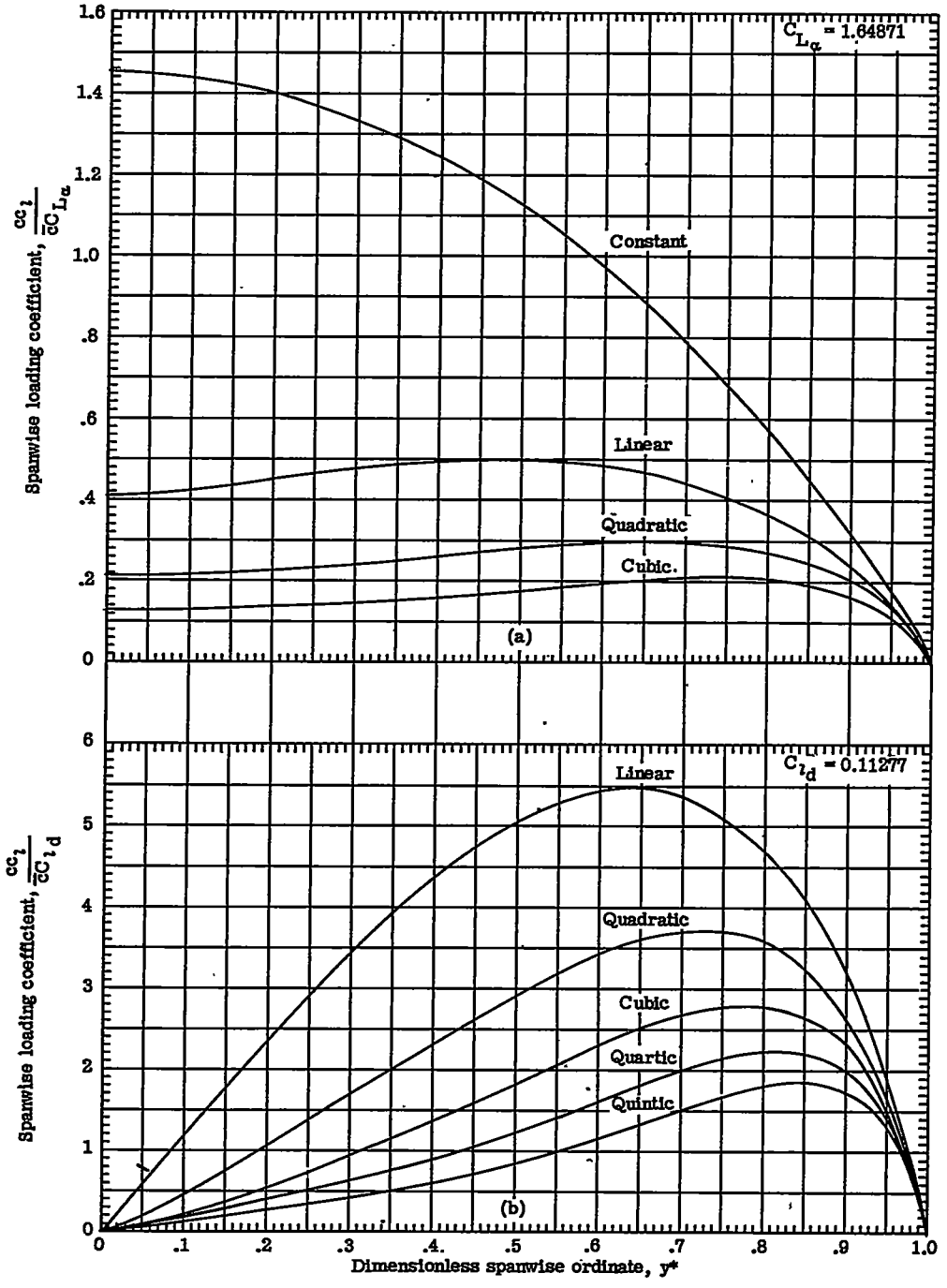


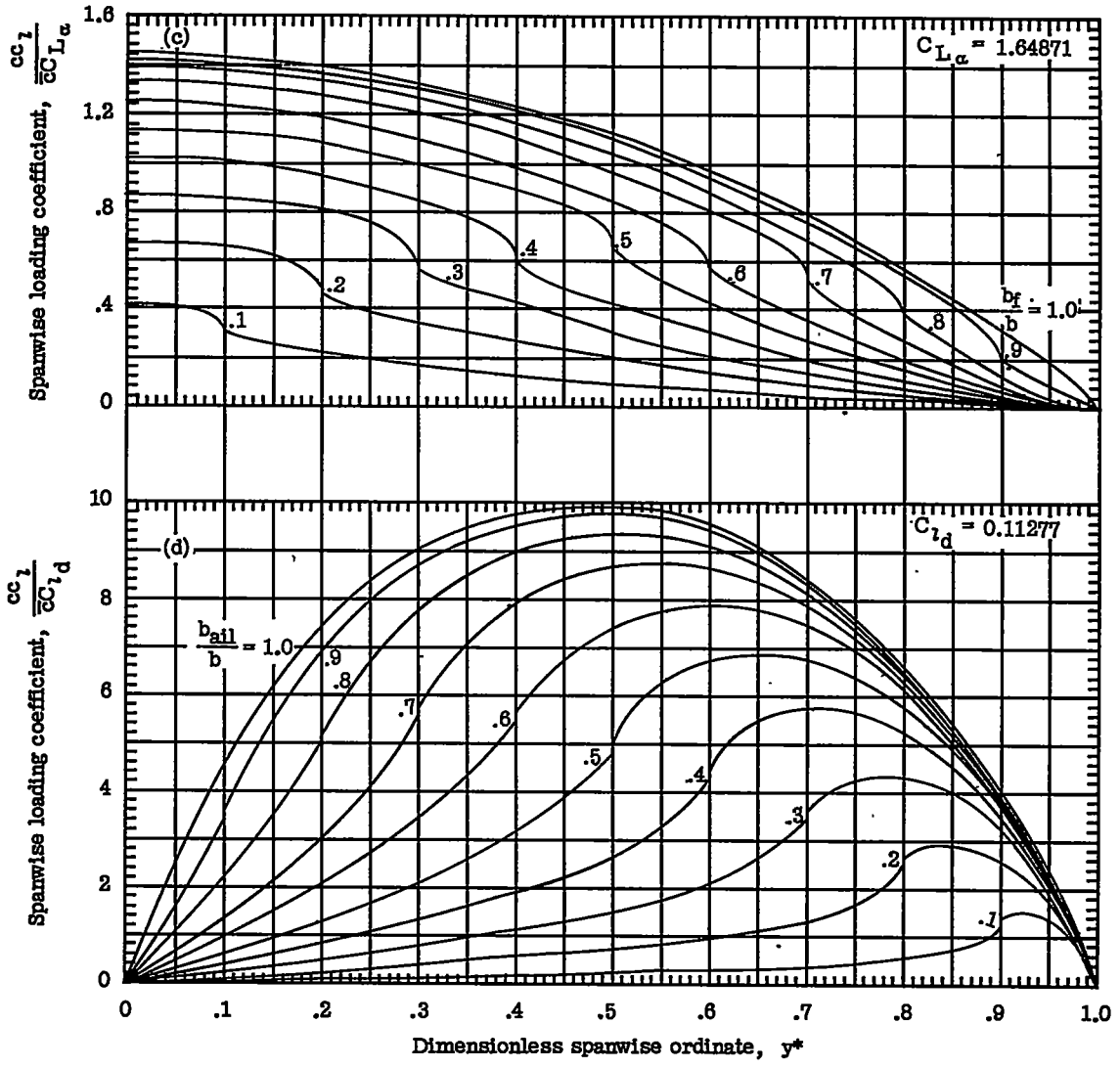
Figure 1.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

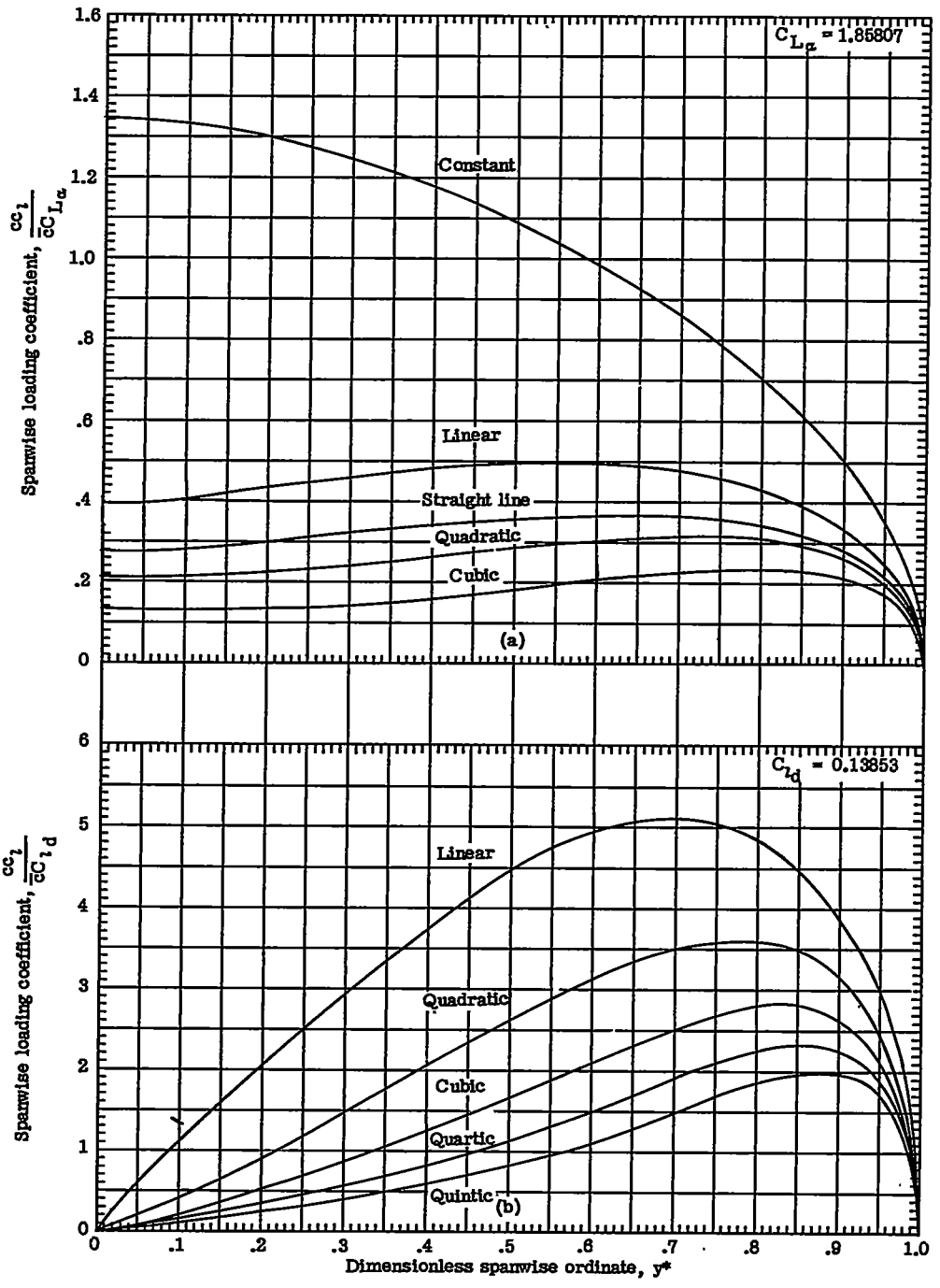
Figure 2.- Spanwise lift distributions for plan form 111 ($A = 1.5$; $\lambda = 0$; $\Lambda = -45^{\circ}$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

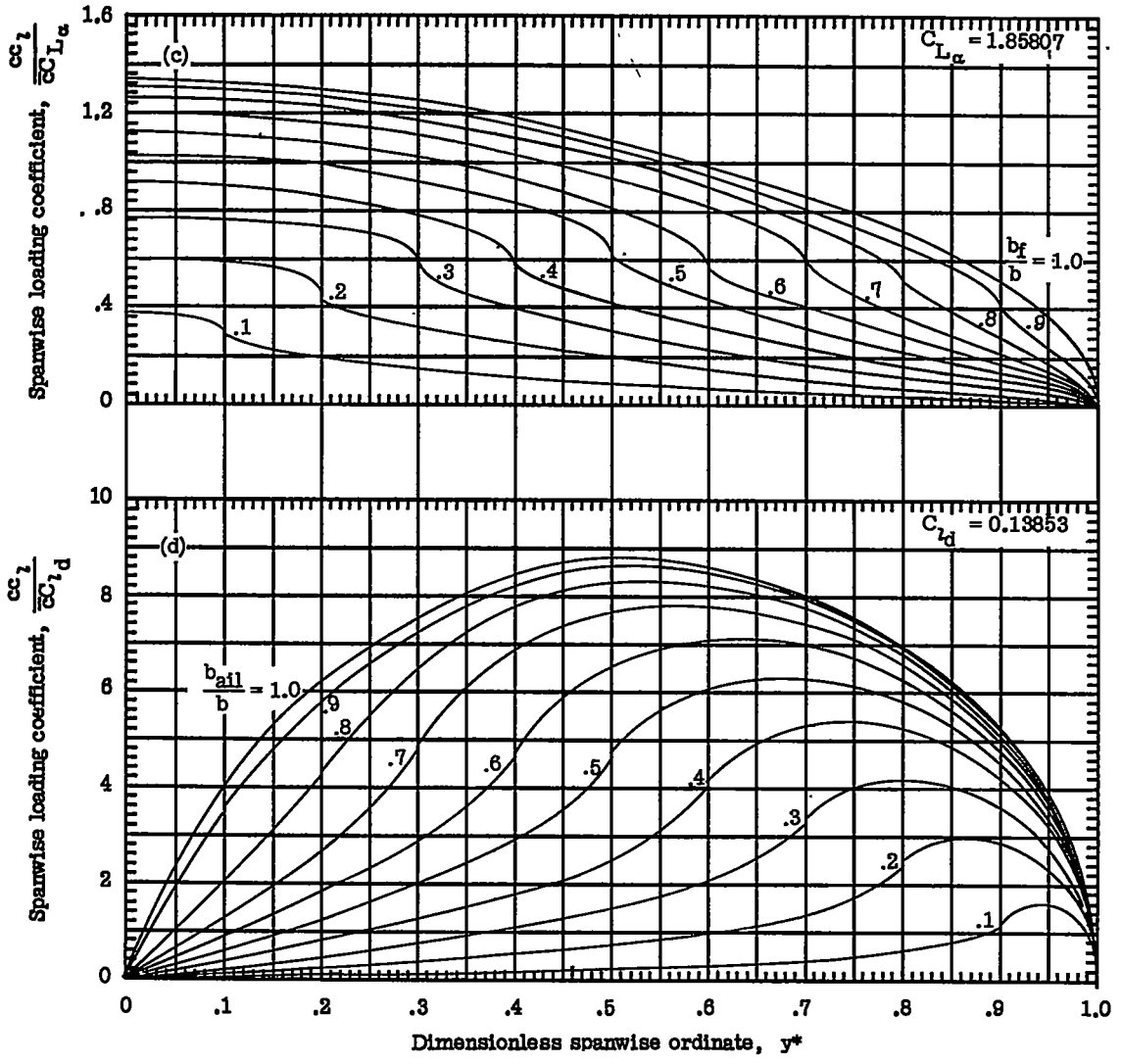
Figure 2.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

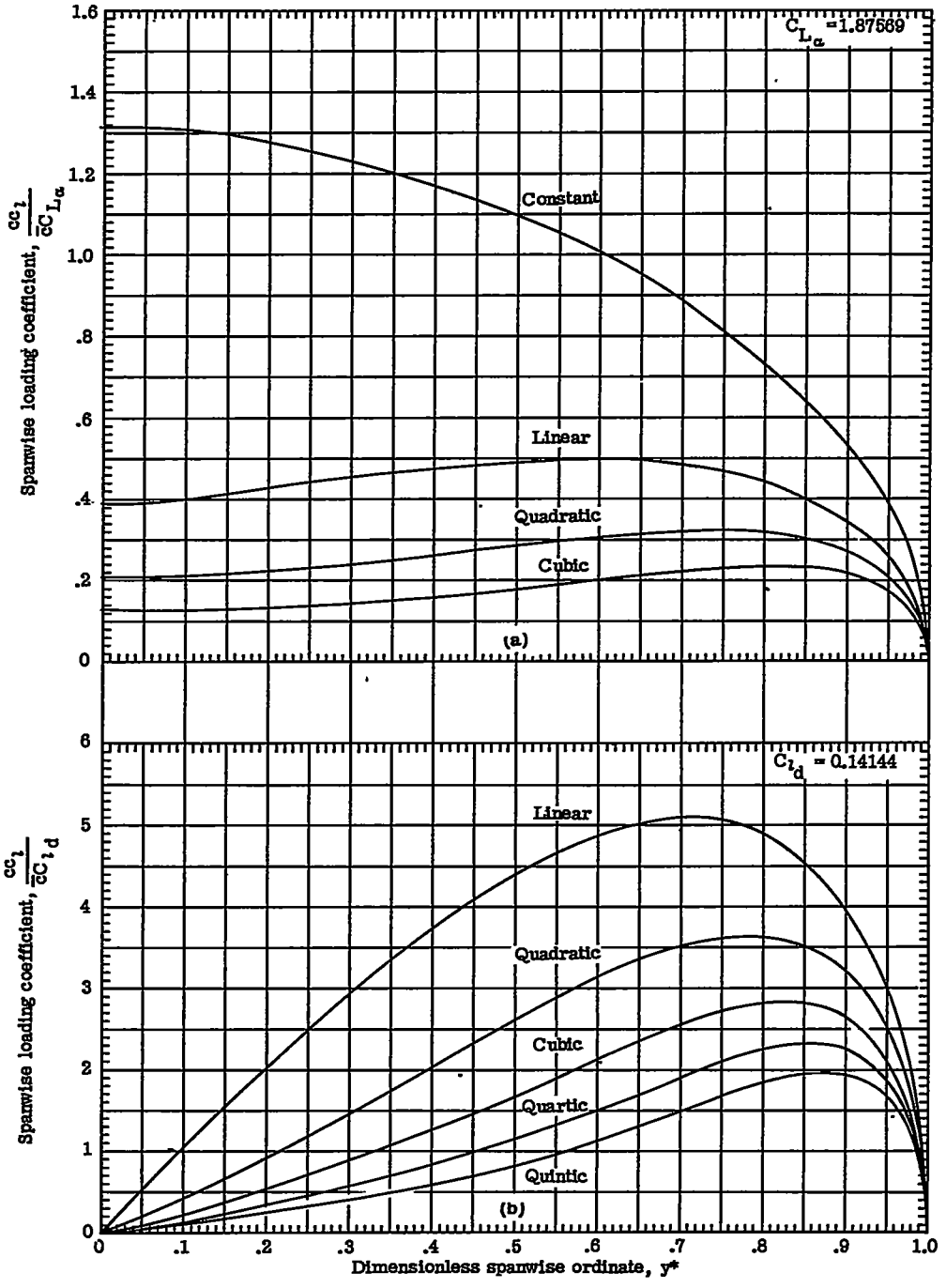
Figure 3.- Spanwise lift distributions for plan form 113 ($A = 1.5$; $\lambda = 0.50$; $\Lambda = -45^{\circ}$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

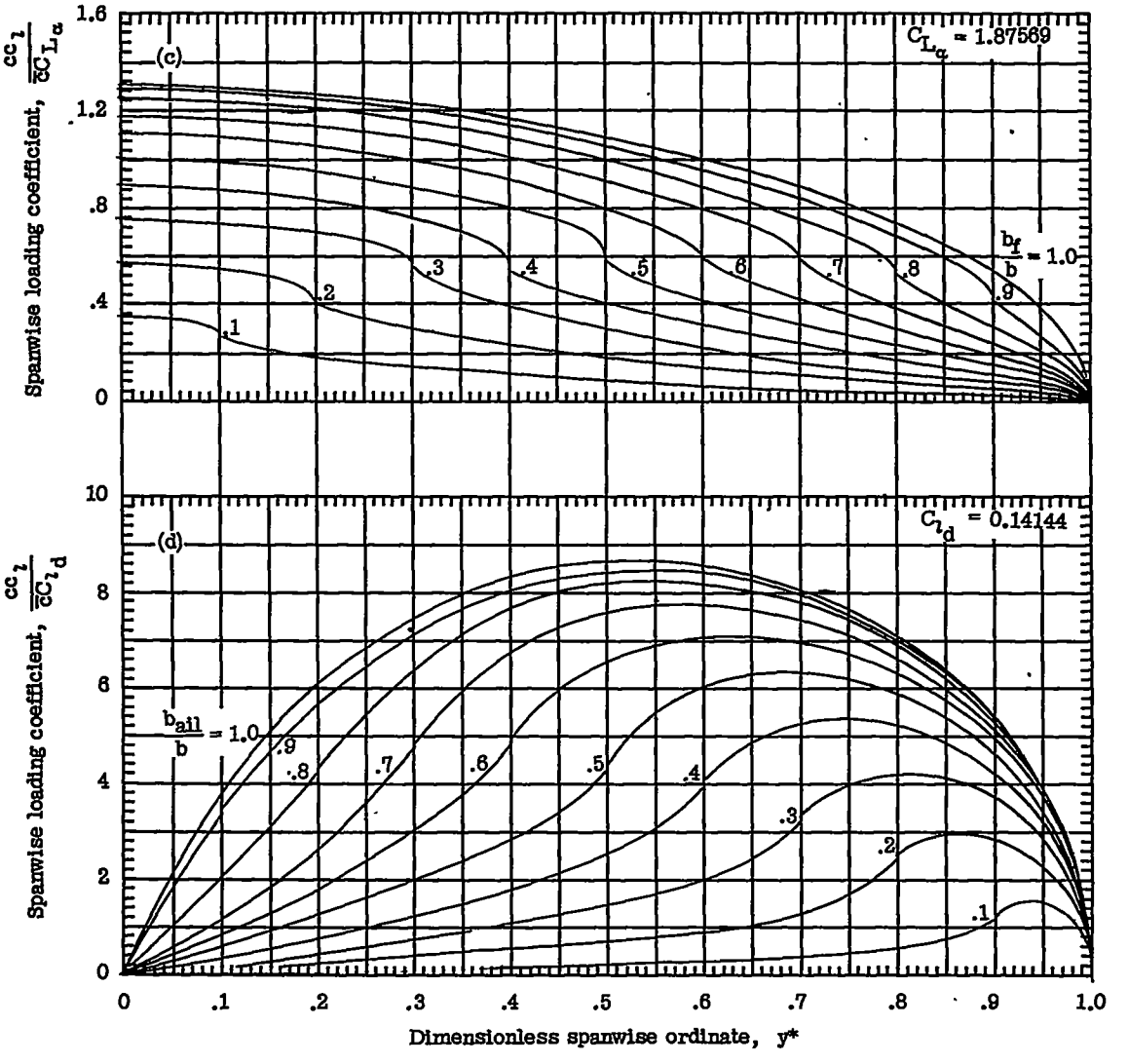
Figure 3.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

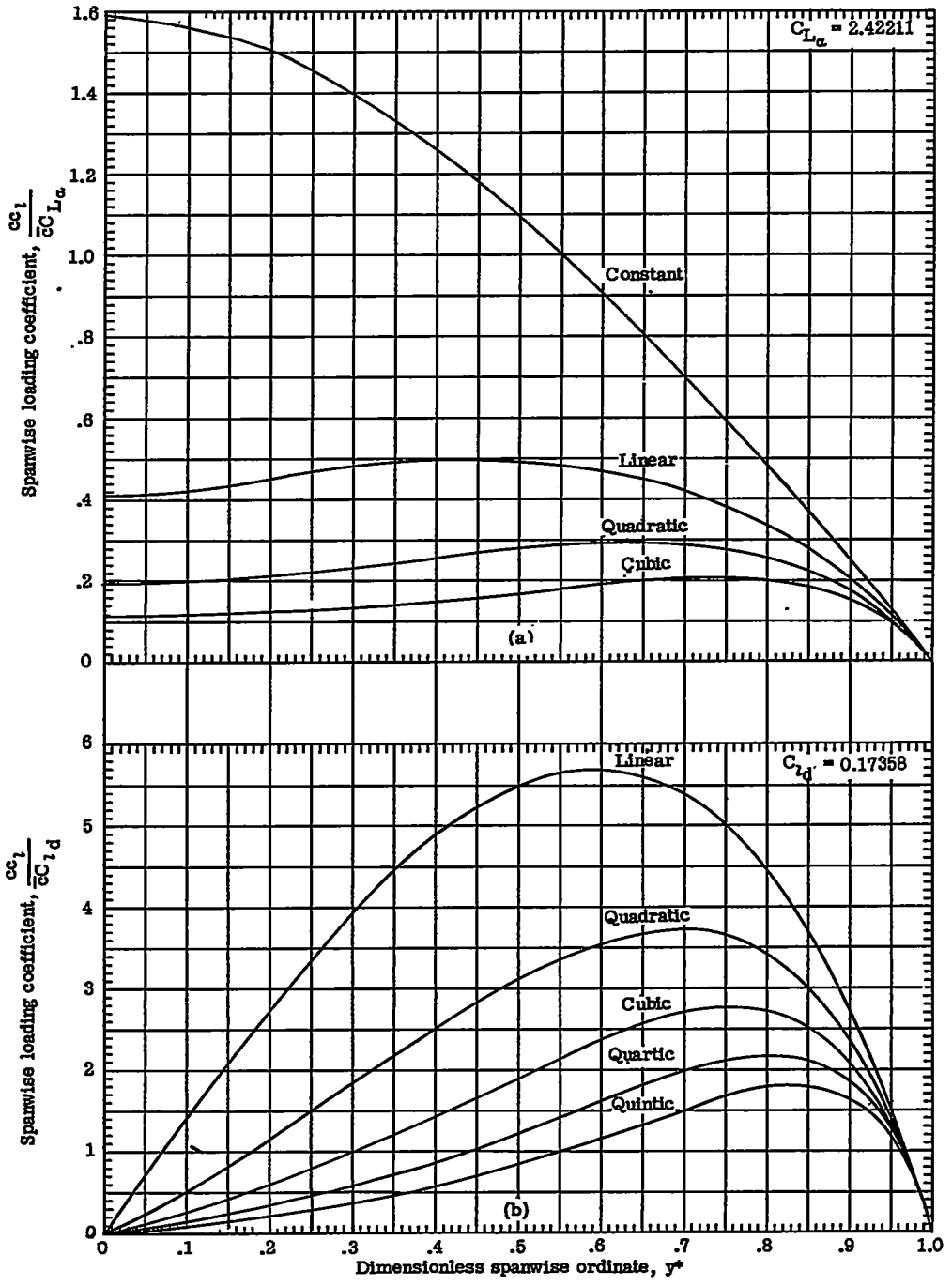
Figure 4.- Spanwise lift distributions for plan form 114 ($A \doteq 1.5$; $\lambda = 1.00$; $\Lambda = -45^{\circ}$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

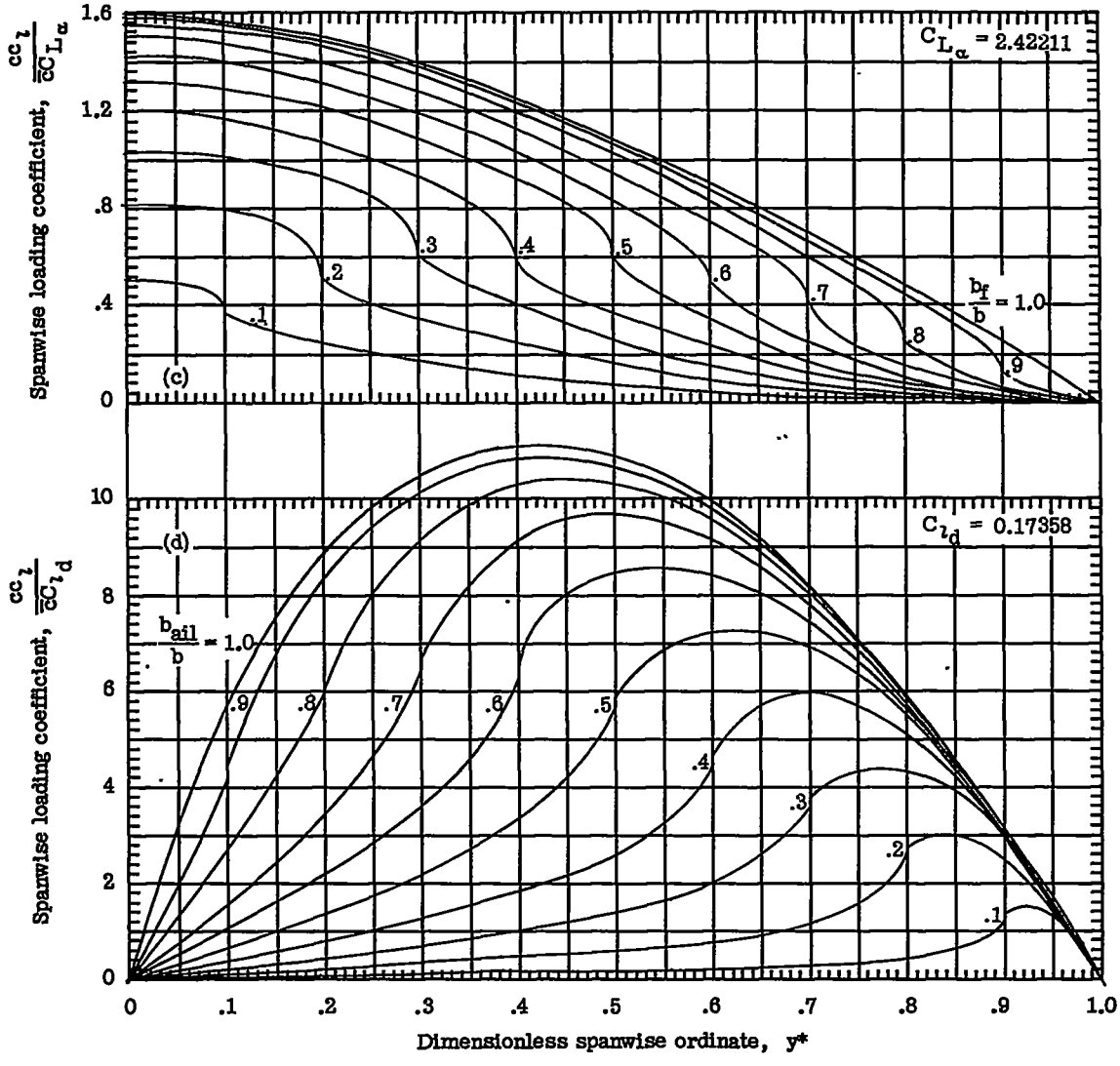
Figure 4.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

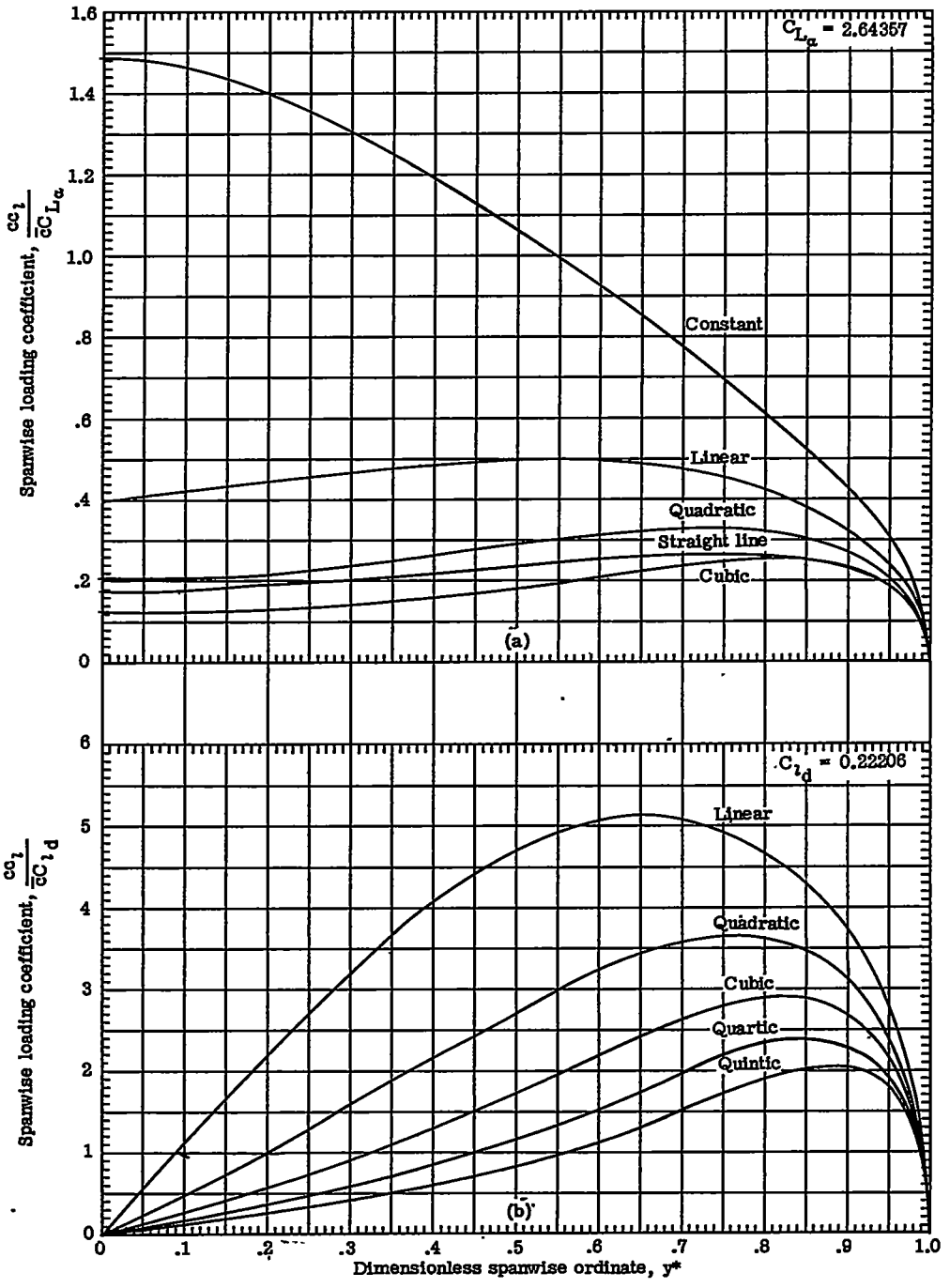
Figure 5.- Spanwise lift distributions for plan form 121 ($A = 3.0$; $\lambda = 0$; $\Lambda = -45^\circ$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

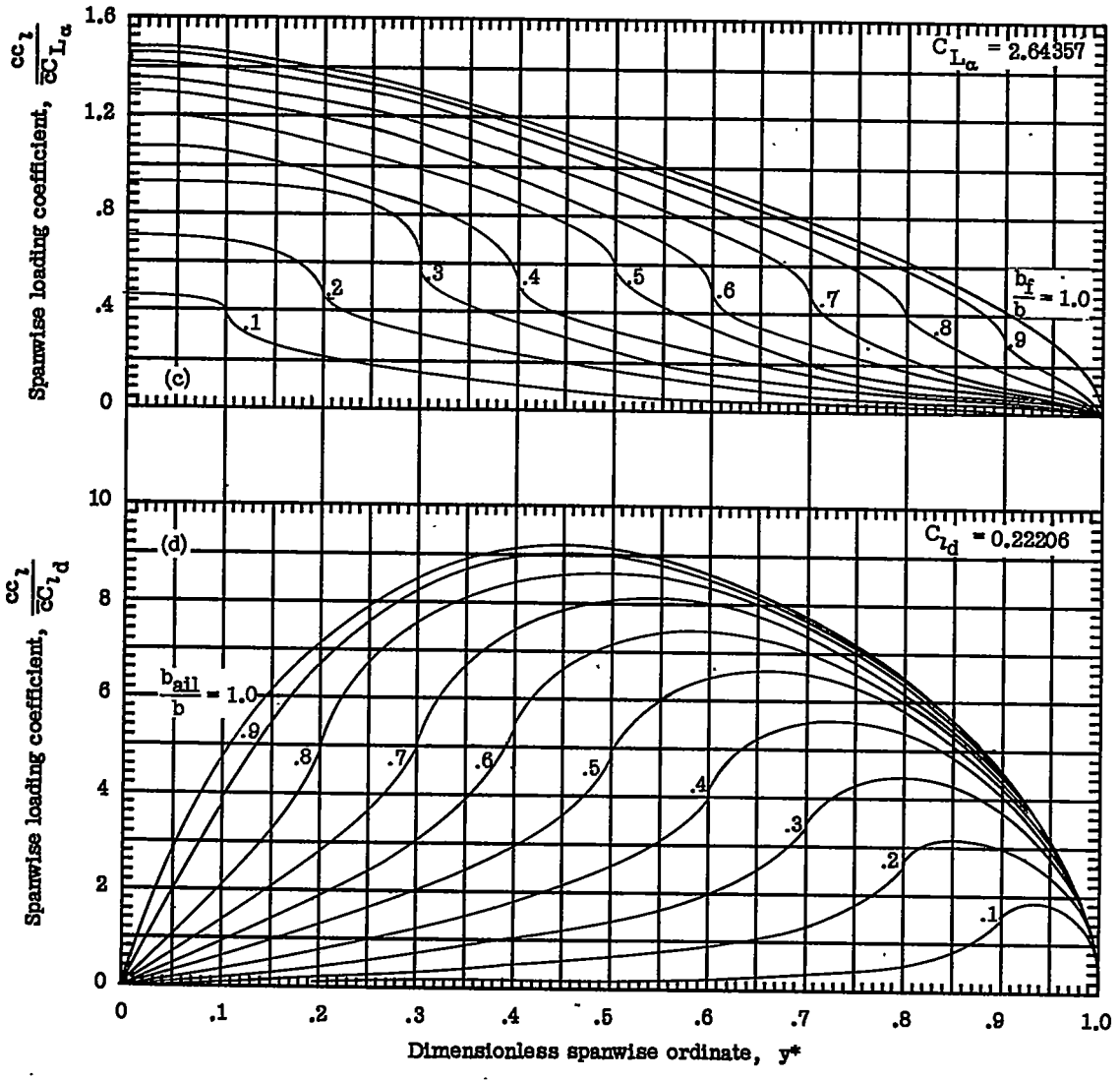
Figure 5.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

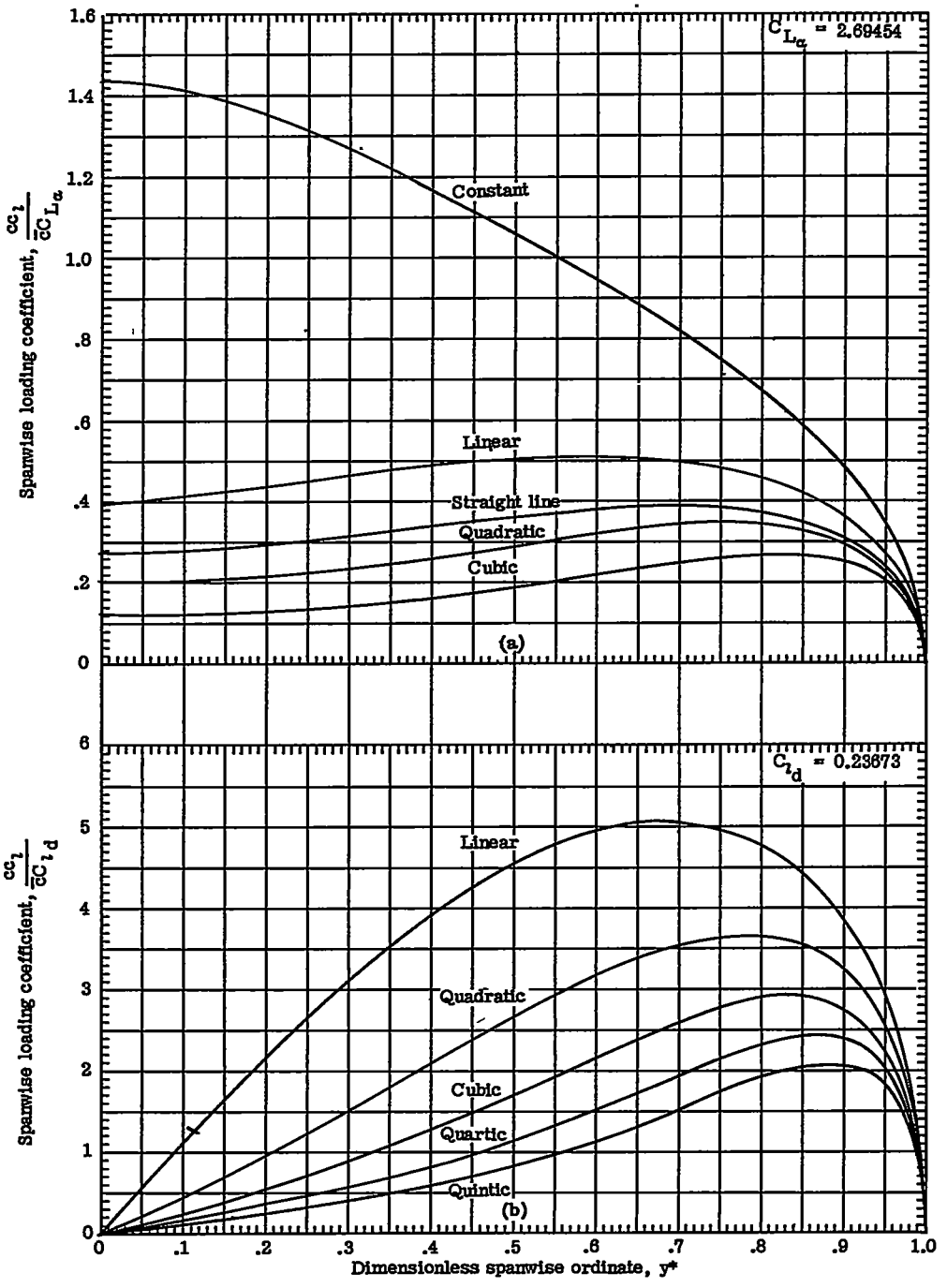
Figure 6.- Spanwise lift distributions for plan form 122 ($A = 3.0$; $\lambda = 0.25$; $\Lambda = -45^\circ$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

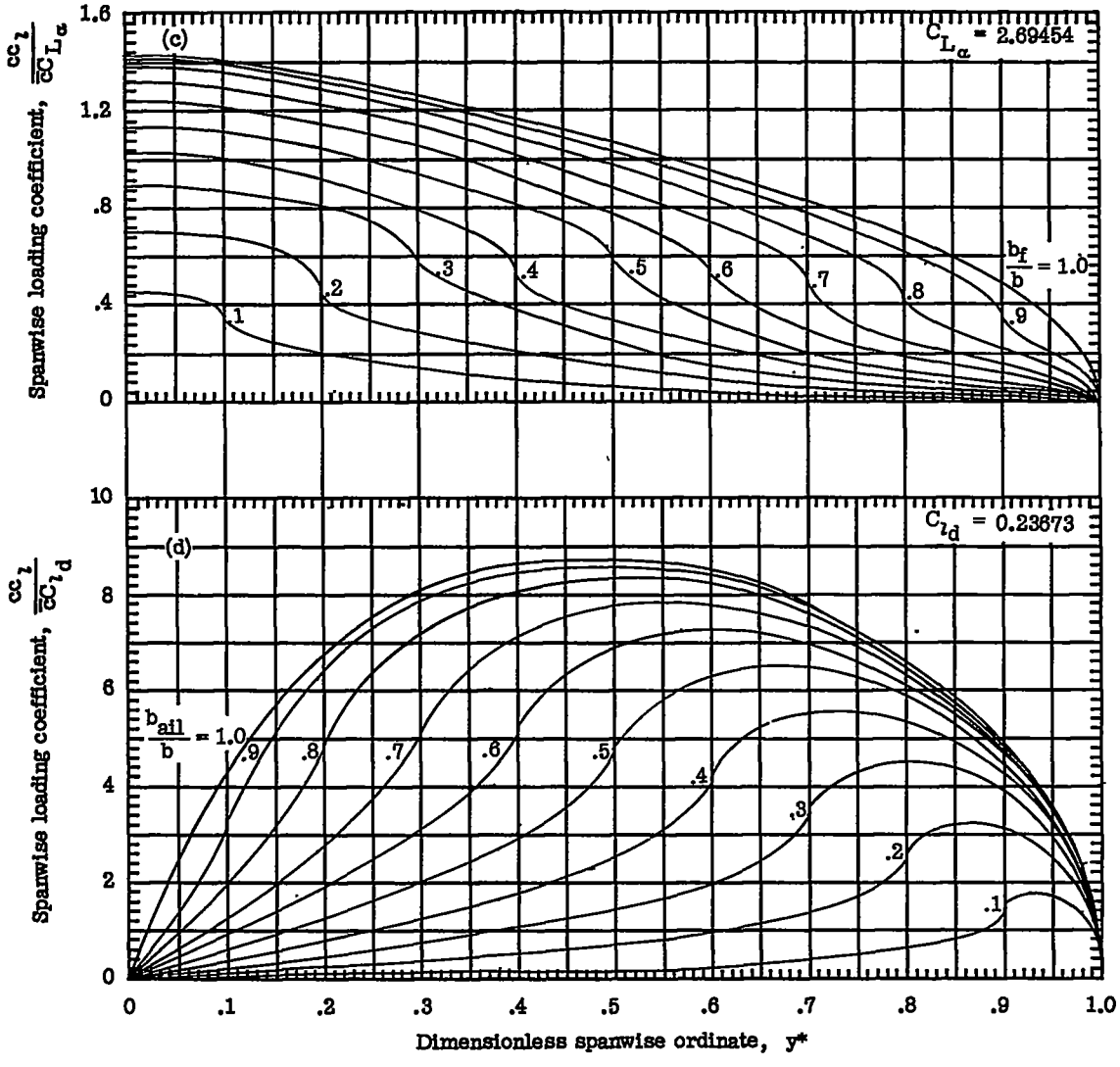
Figure 6.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

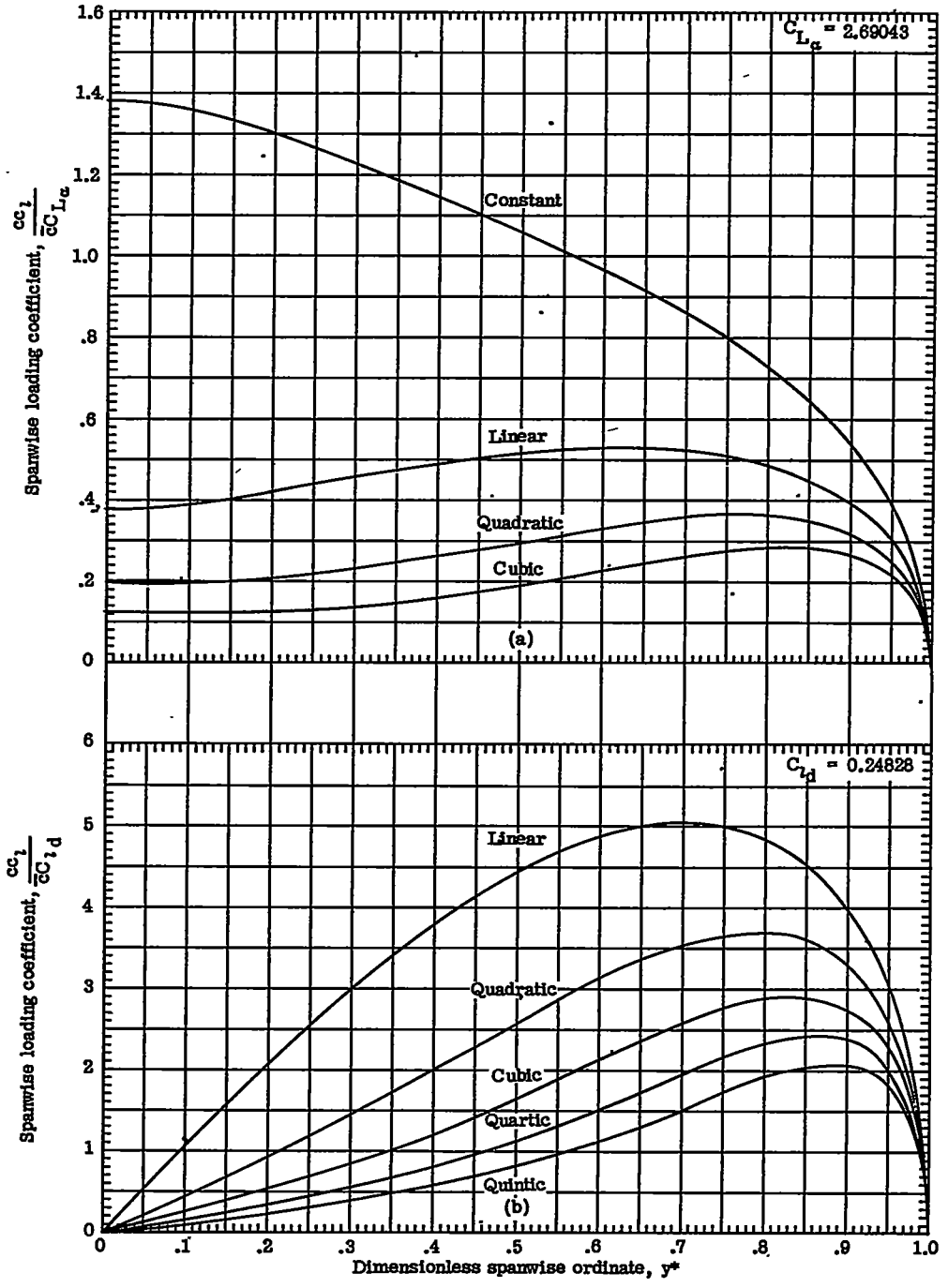
Figure 7.- Spanwise lift distributions for plan form 123 ($A = 3.0$; $\lambda = 0.50$; $\Lambda = -45^\circ$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

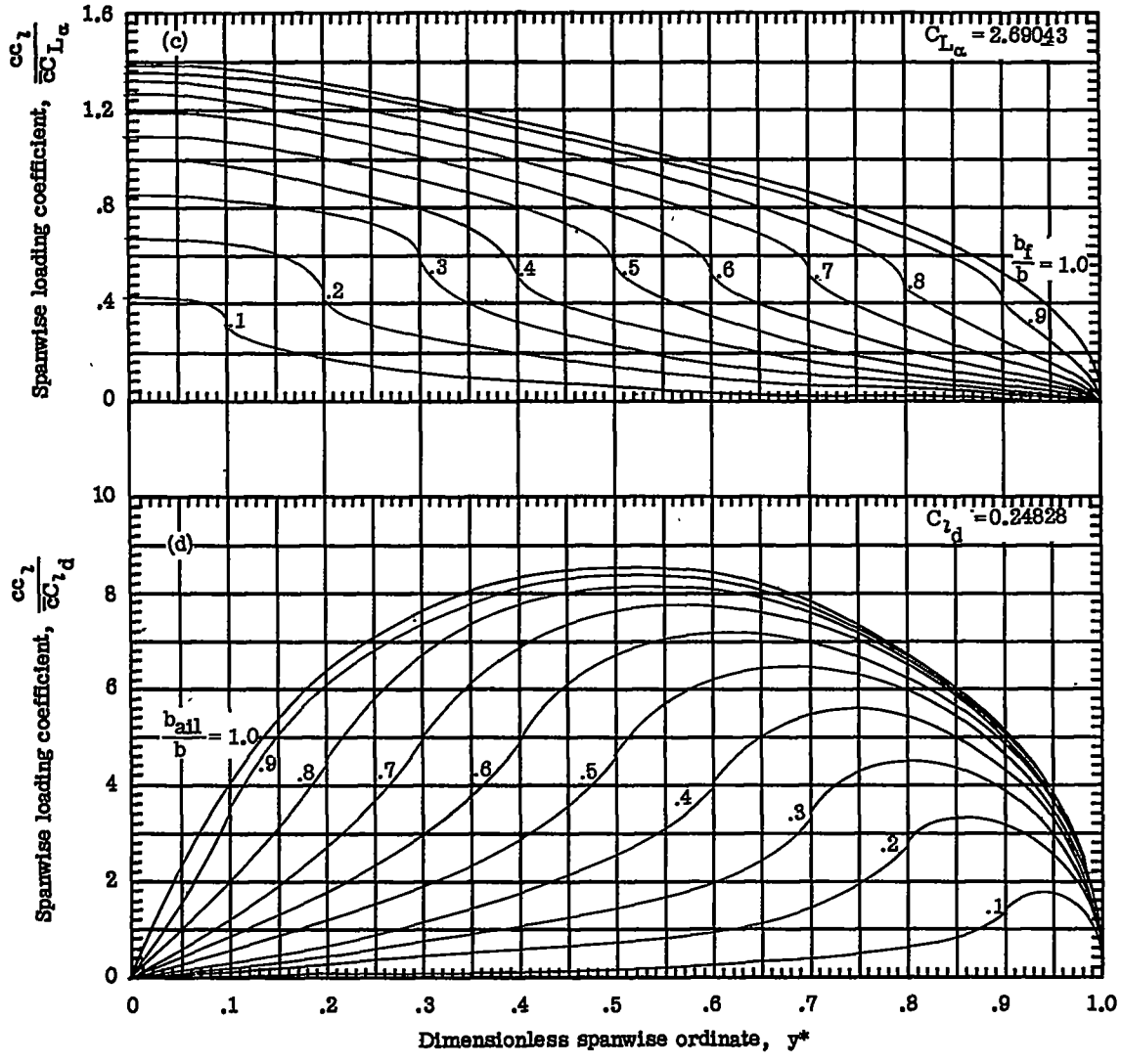
Figure 7.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

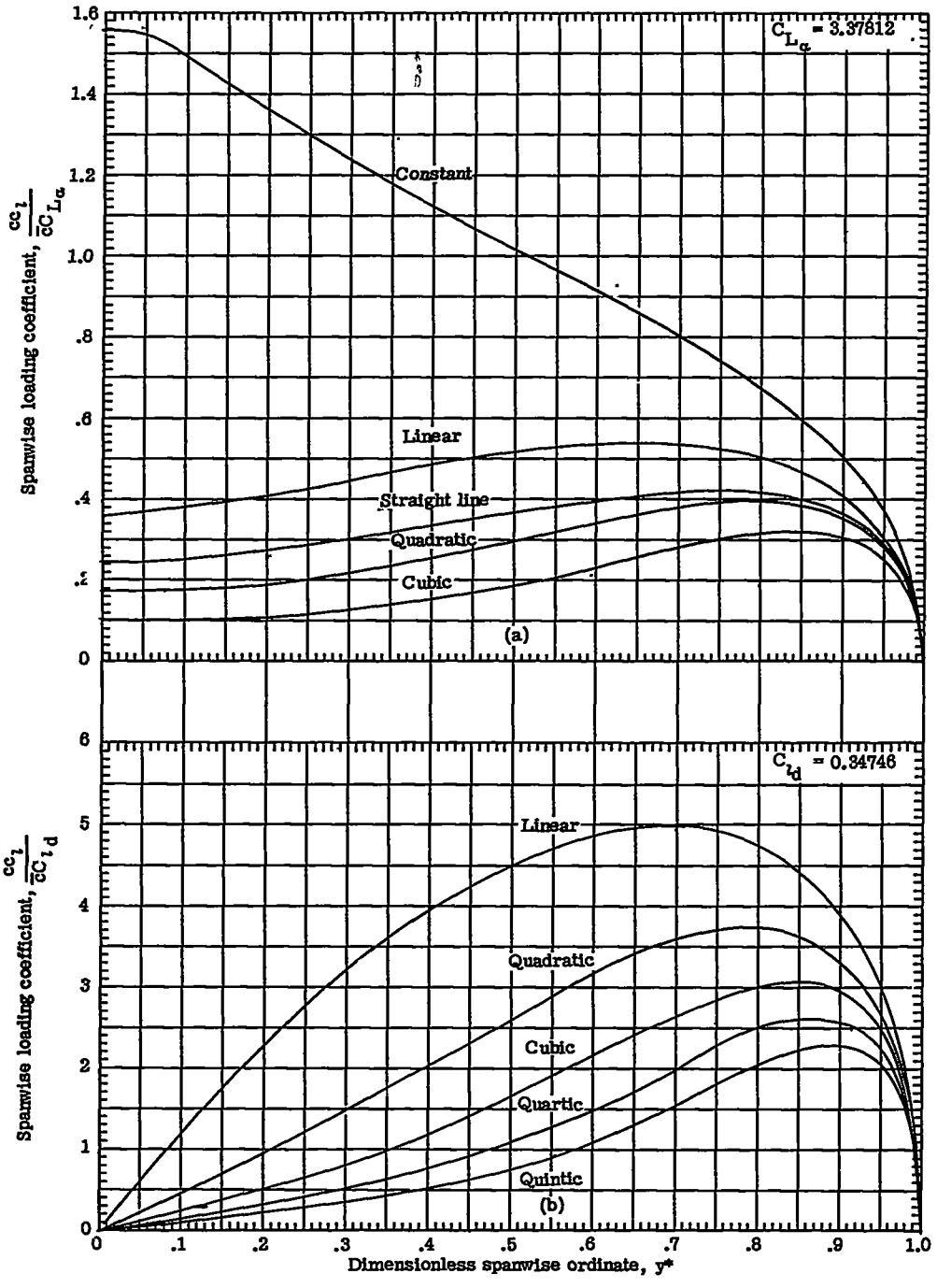
Figure 8.- Spanwise lift distributions for plan form 124 ($A = 3.0$; $\lambda = 1.00$; $\Lambda = -45^{\circ}$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

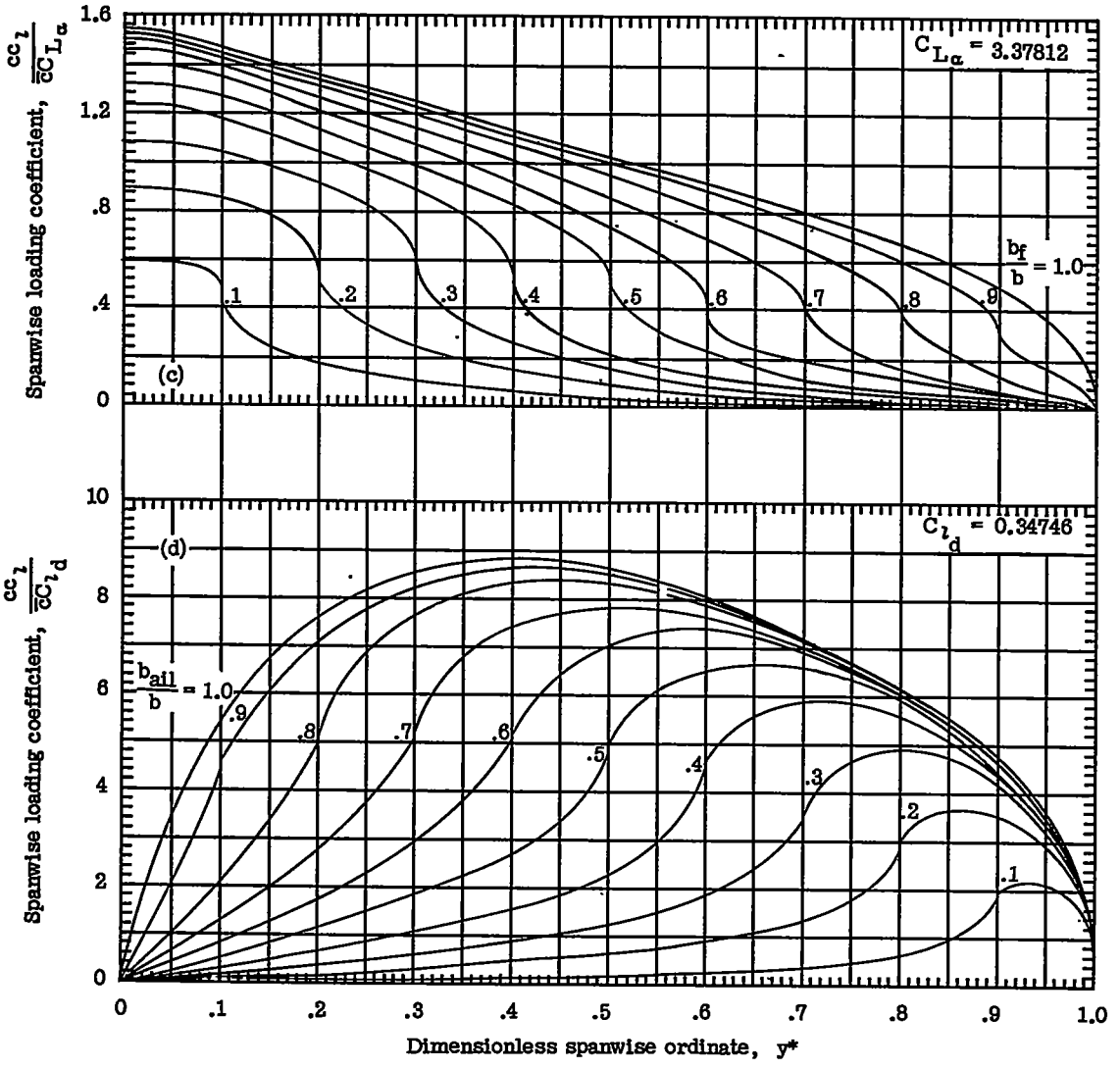
Figure 8.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

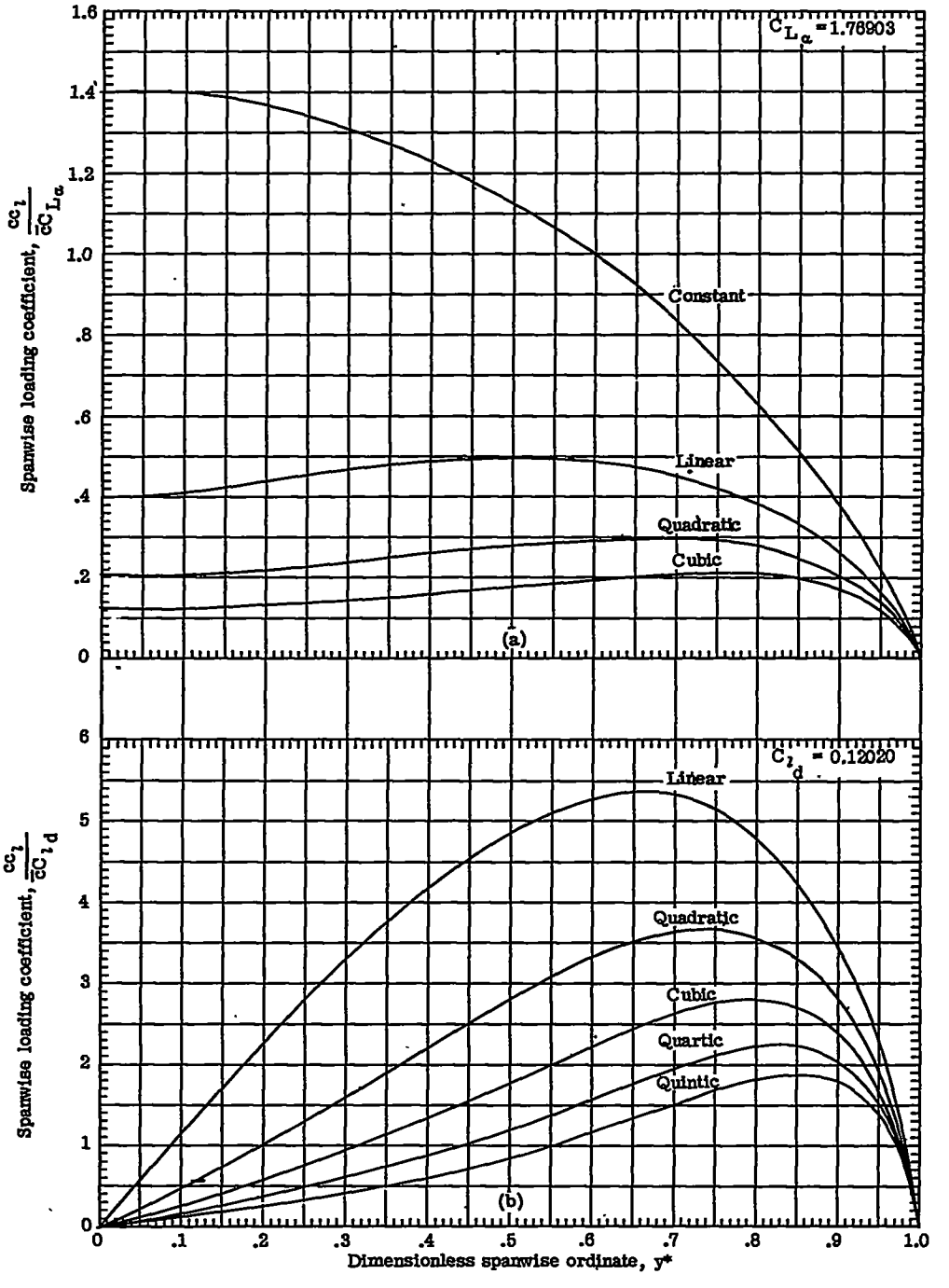
Figure 9.- Spanwise lift distributions for plan form 133 ($A = 6.0$; $\lambda = 0.50$; $\Lambda \doteq -45^{\circ}$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

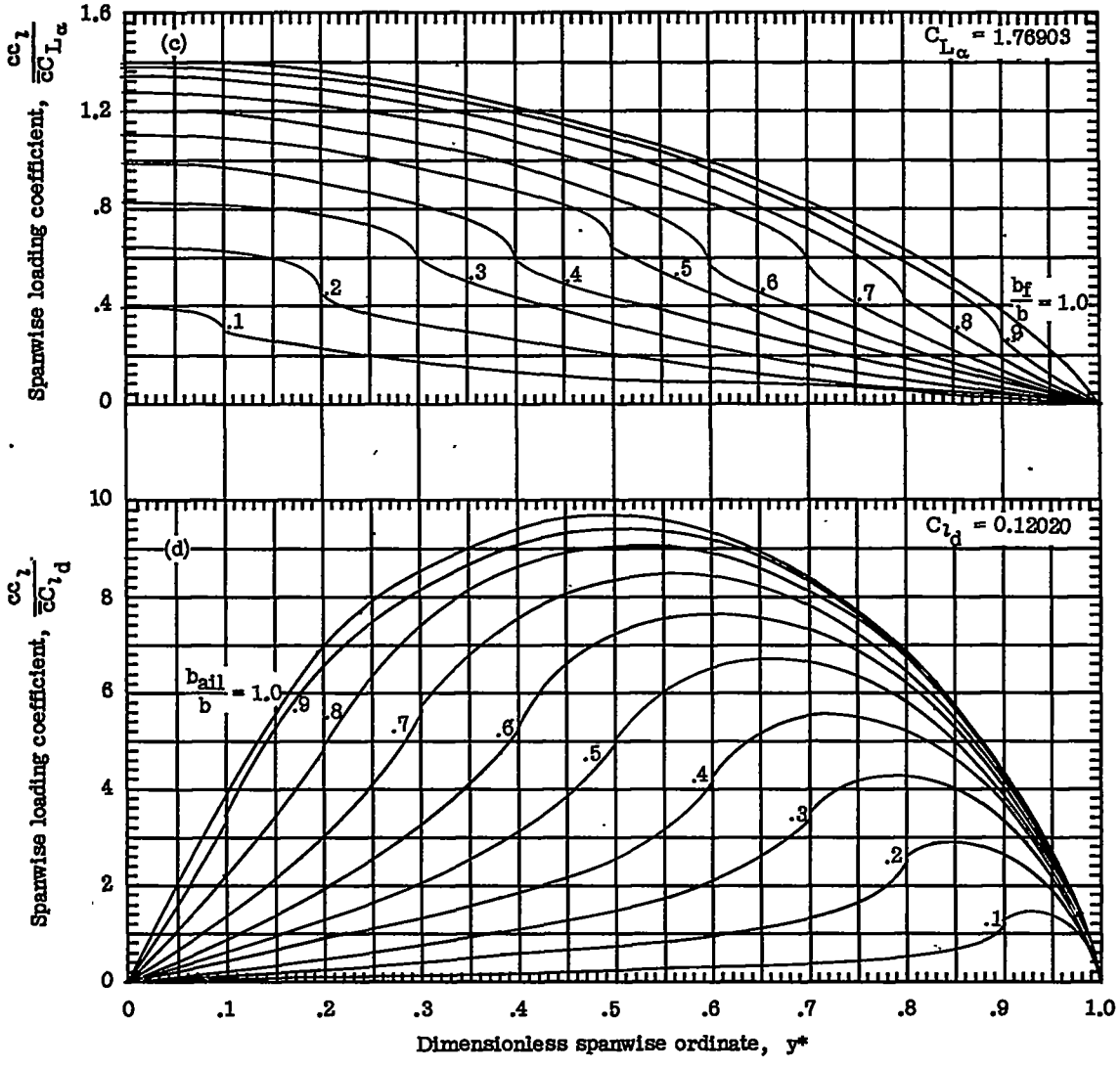
Figure 9.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

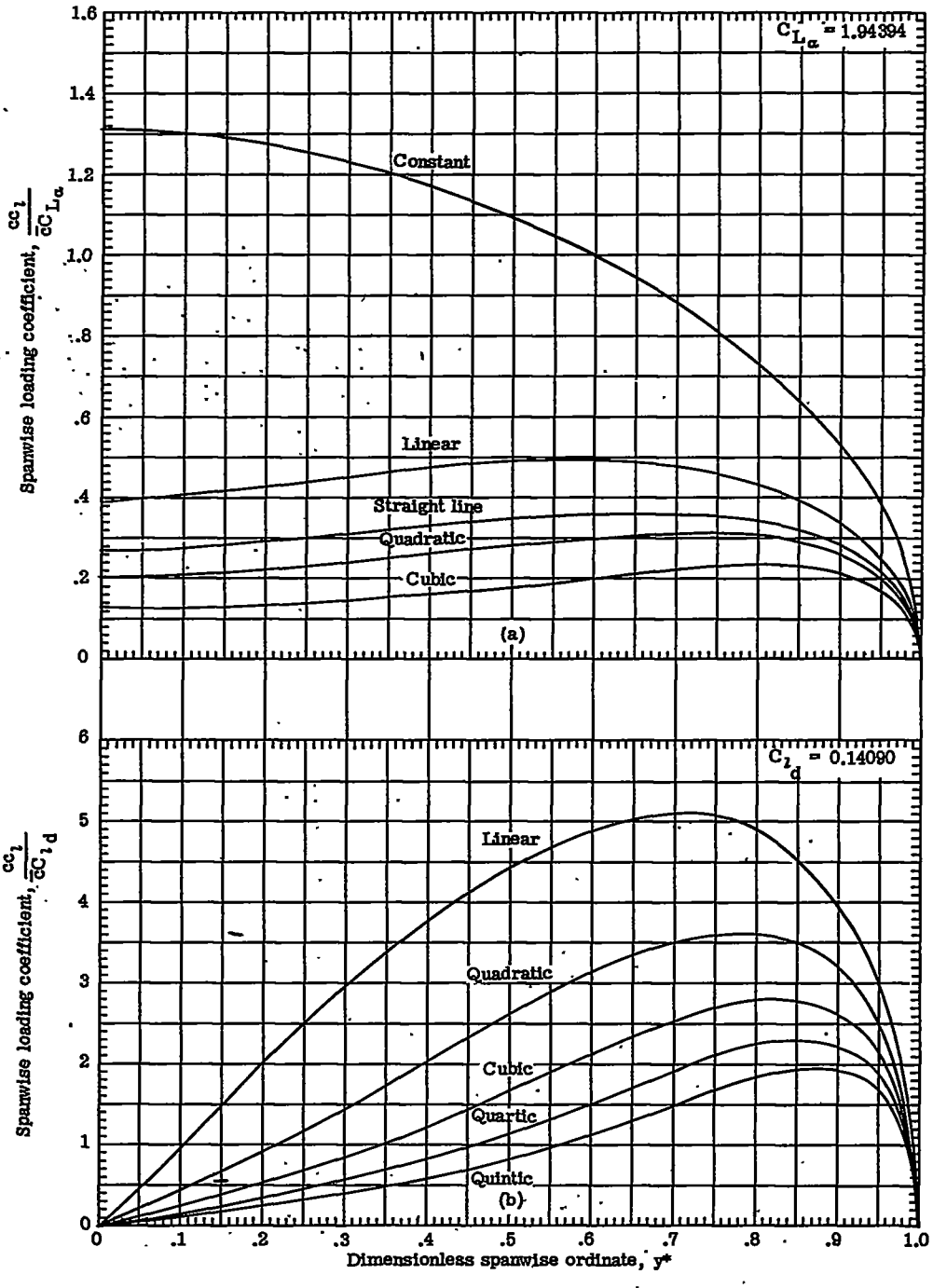
Figure 10.- Spanwise lift distributions for plan form 211 (A = 1.5; λ = 0; Λ = -30°).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

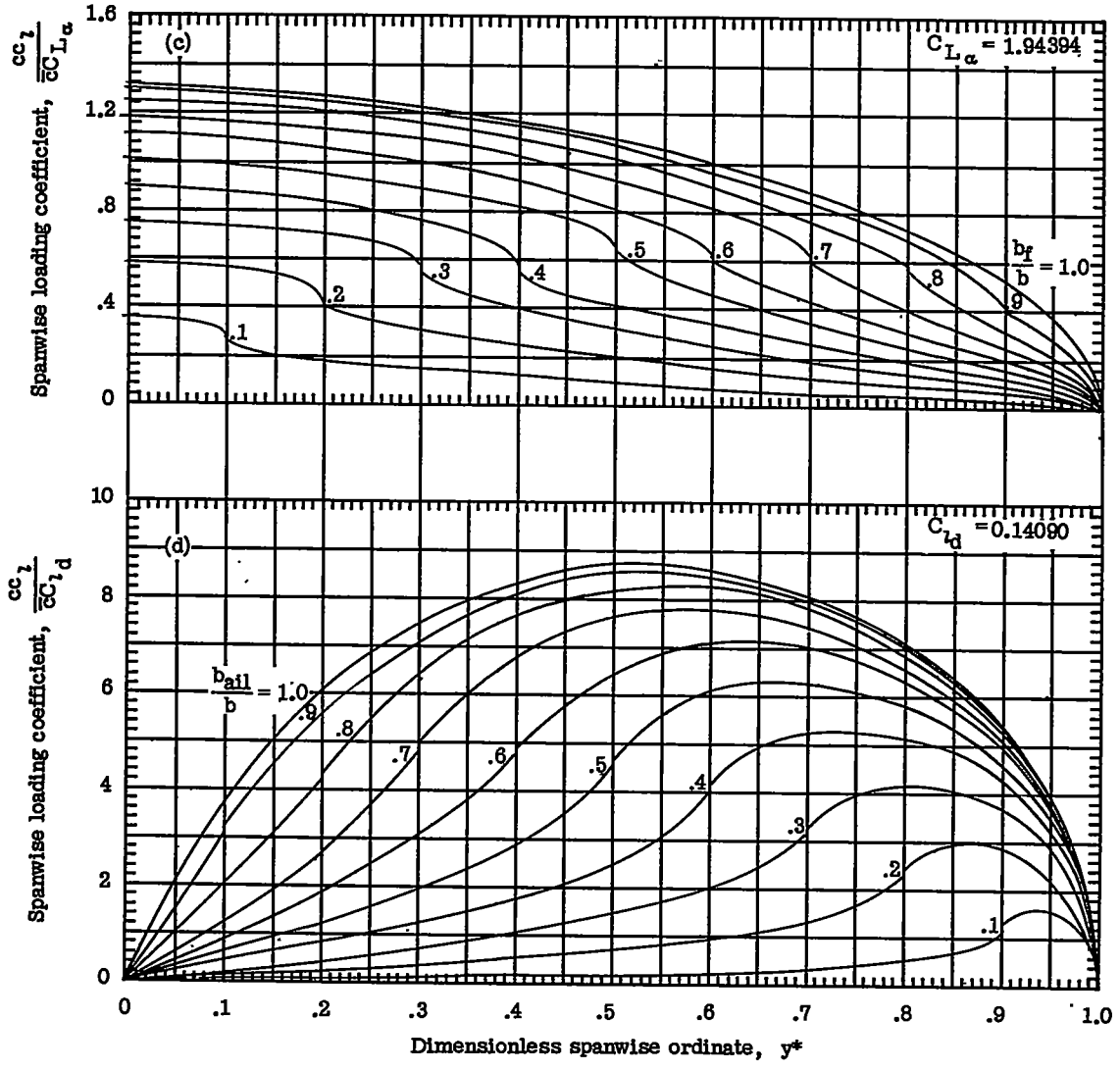
Figure 10.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

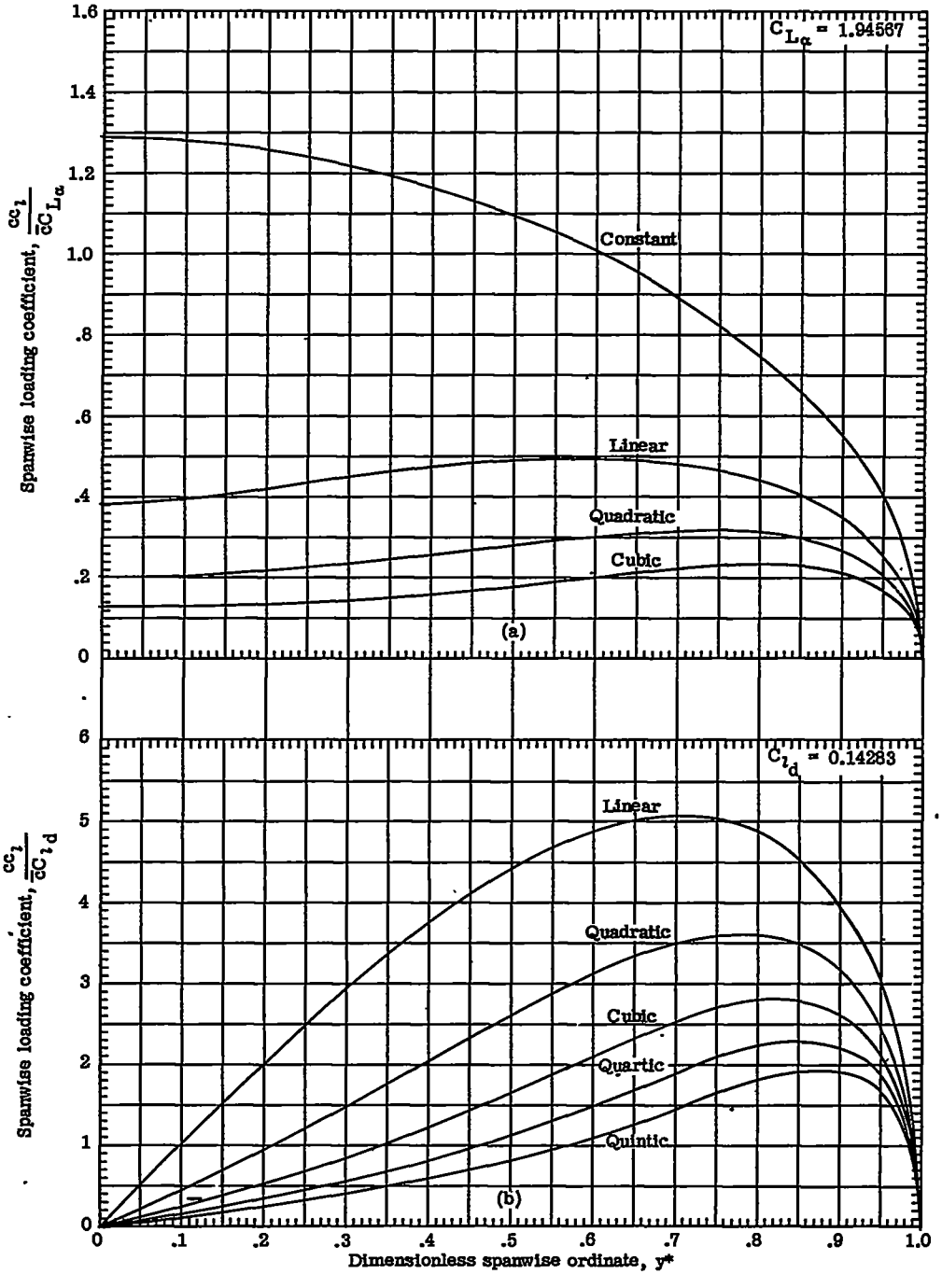
Figure 11.- Spanwise lift distributions for plan form 213 ($A = 1.5$; $\lambda = 0.50$; $\Lambda = -30^\circ$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

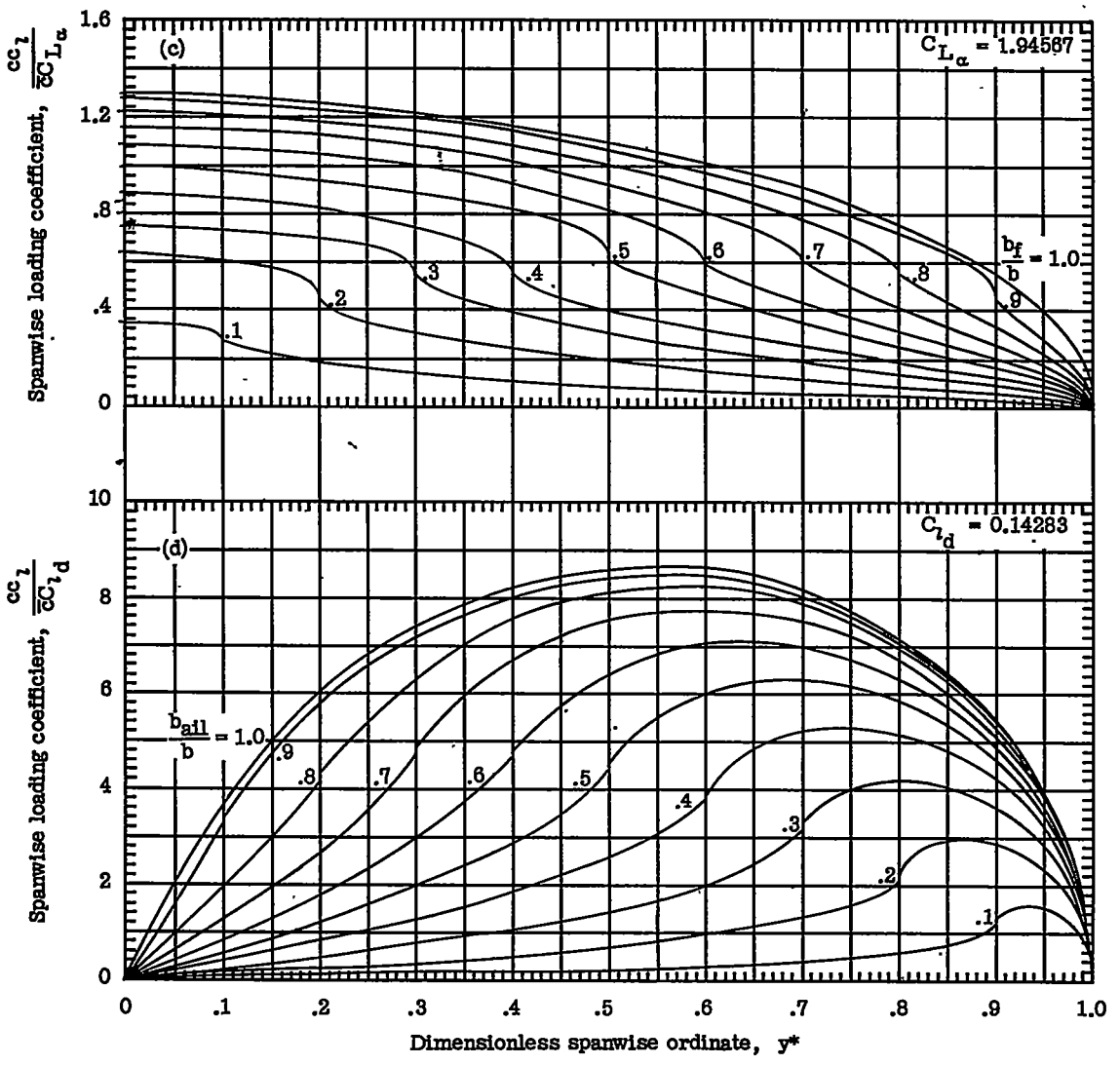
Figure 11.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

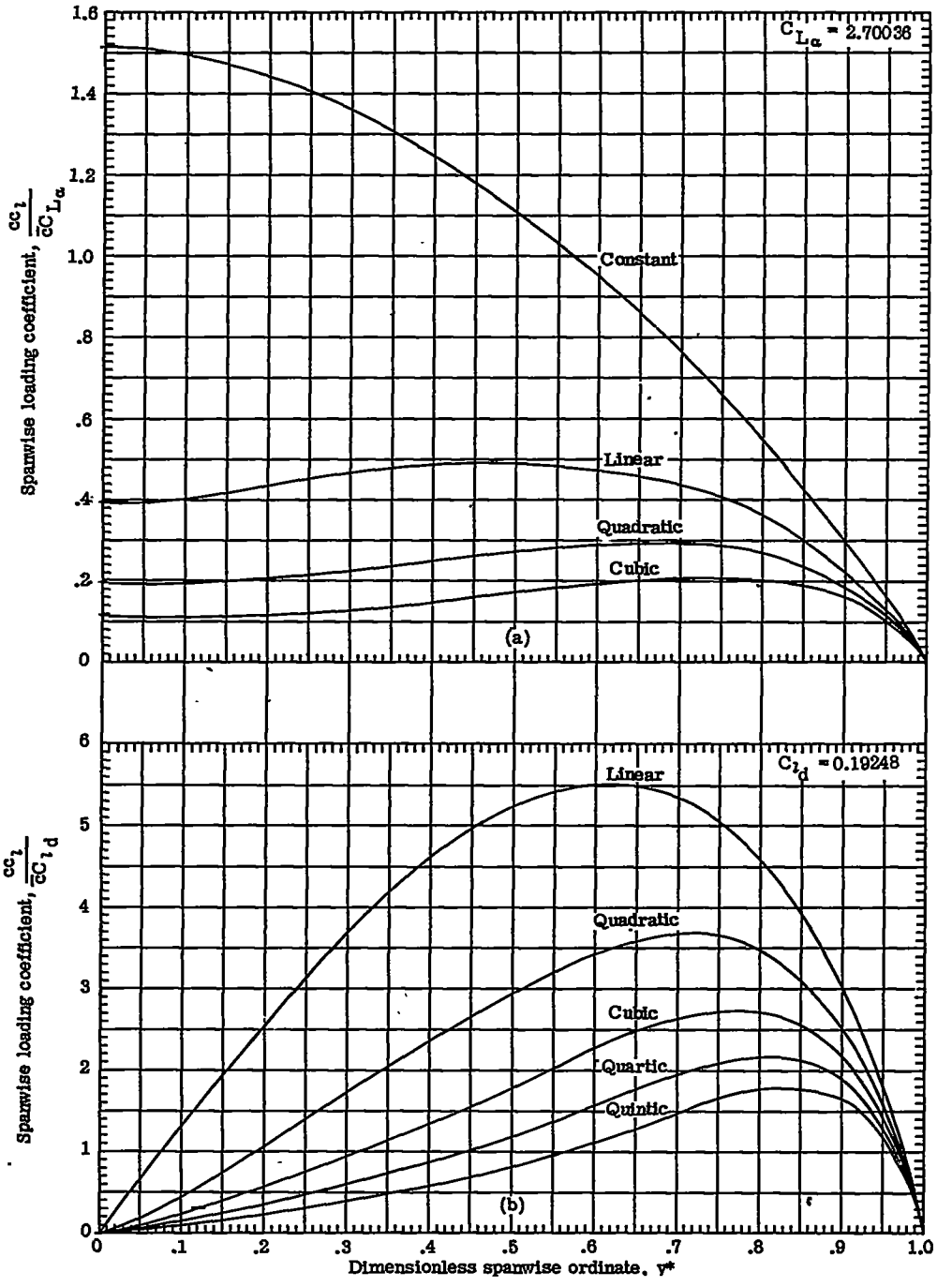
Figure 12.- Spanwise lift distributions for plan form 214 ($A = 1.5$; $\lambda = 1.00$; $\Lambda = -30^\circ$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

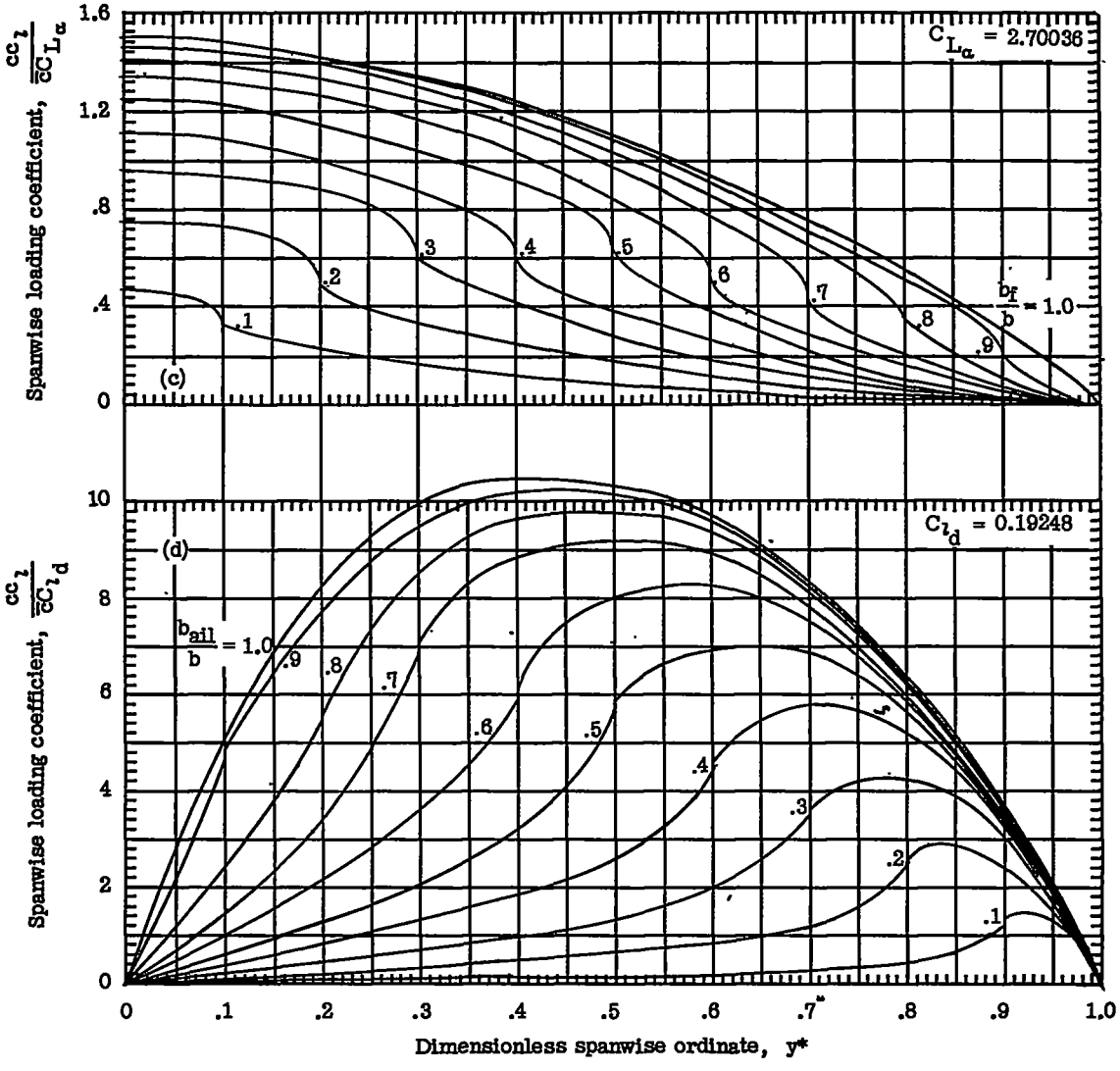
Figure 12.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

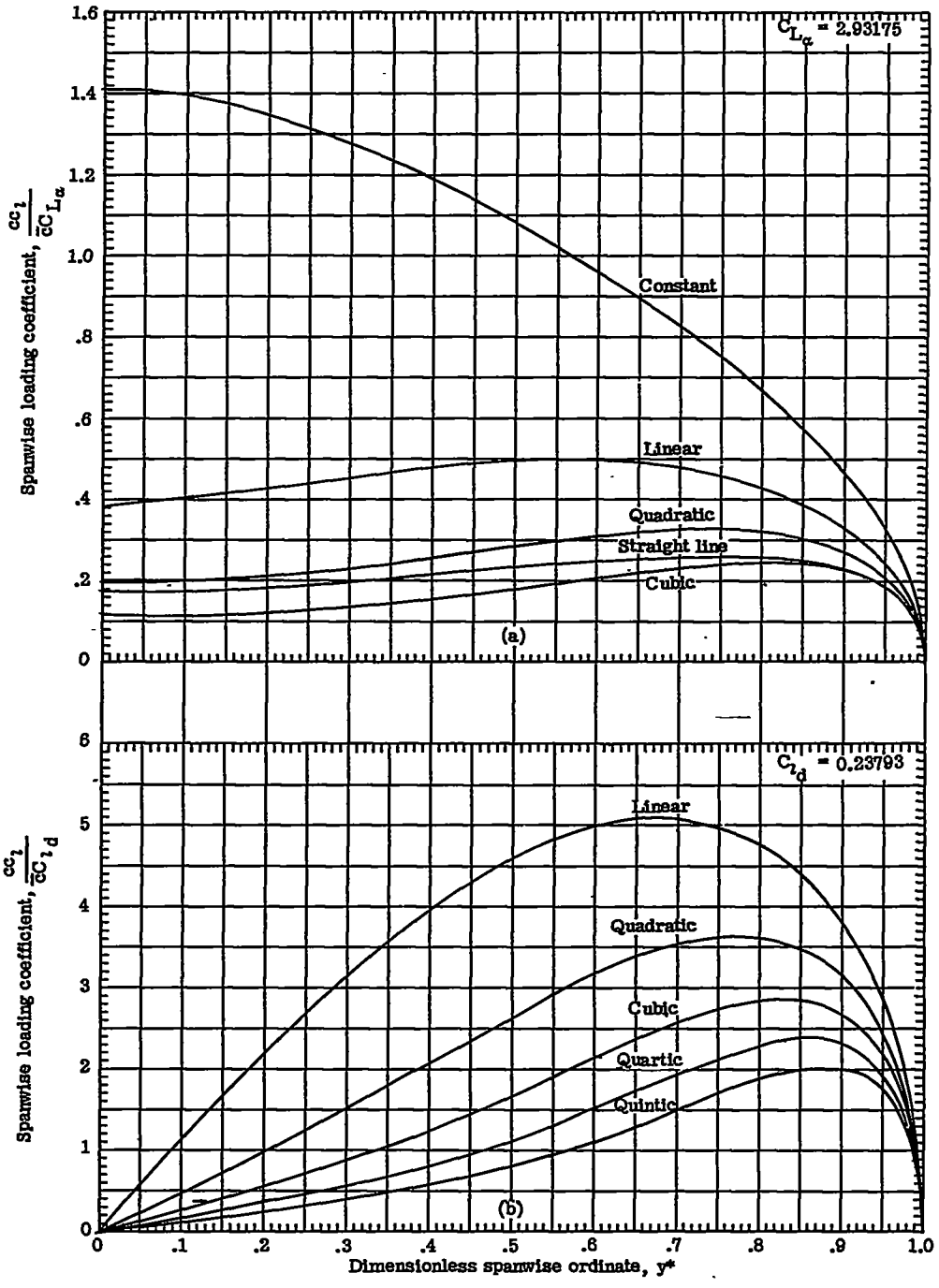
Figure 13.- Spanwise lift distributions for plan form 221 ($A = 30$; $\lambda = 0$; $\Lambda = -30^{\circ}$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

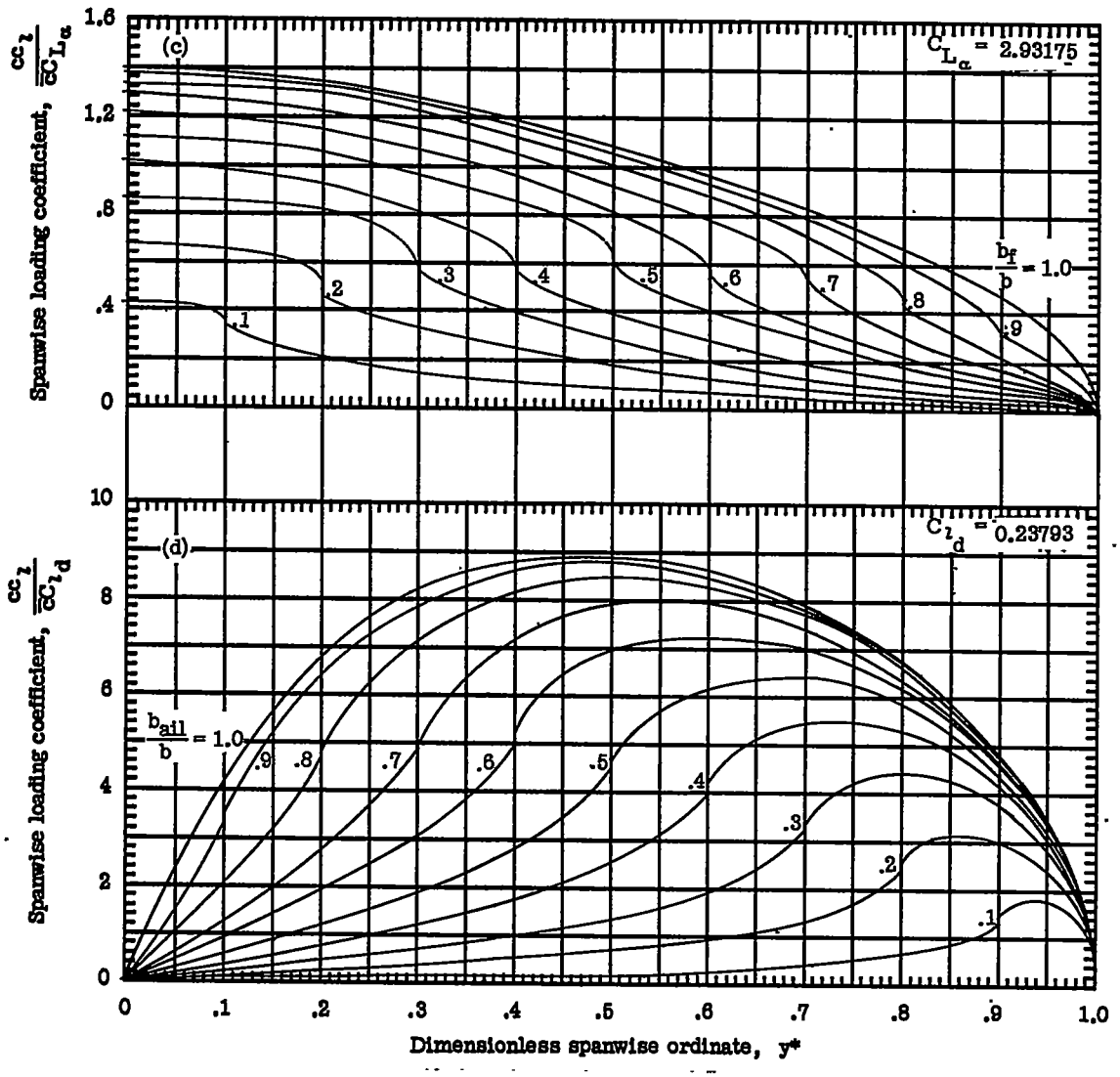
Figure 13.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

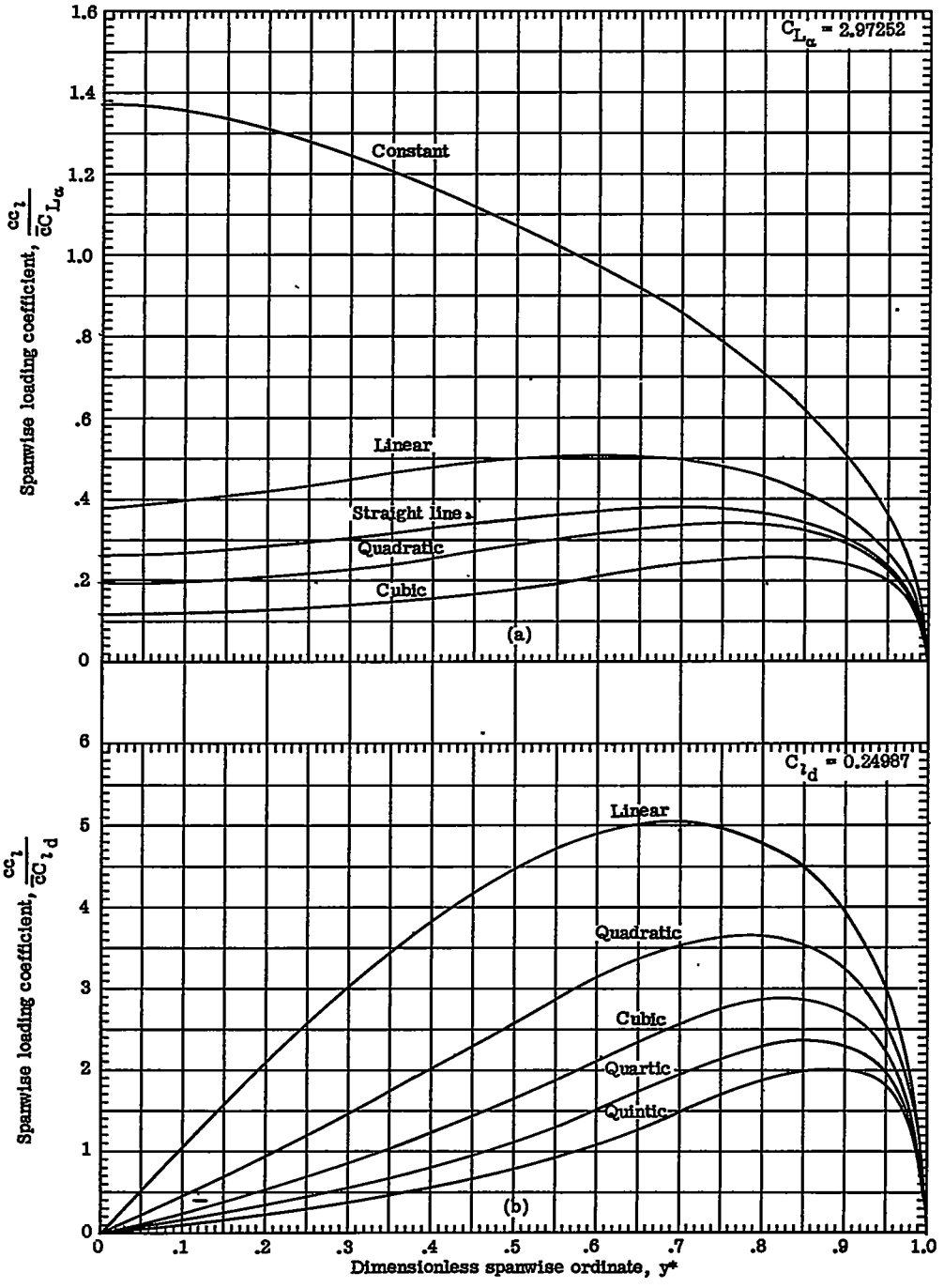
Figure 14.- Spanwise lift distributions for plan form 222 ($A = 3.0$; $\lambda = 0.25$; $\Lambda = -30^\circ$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

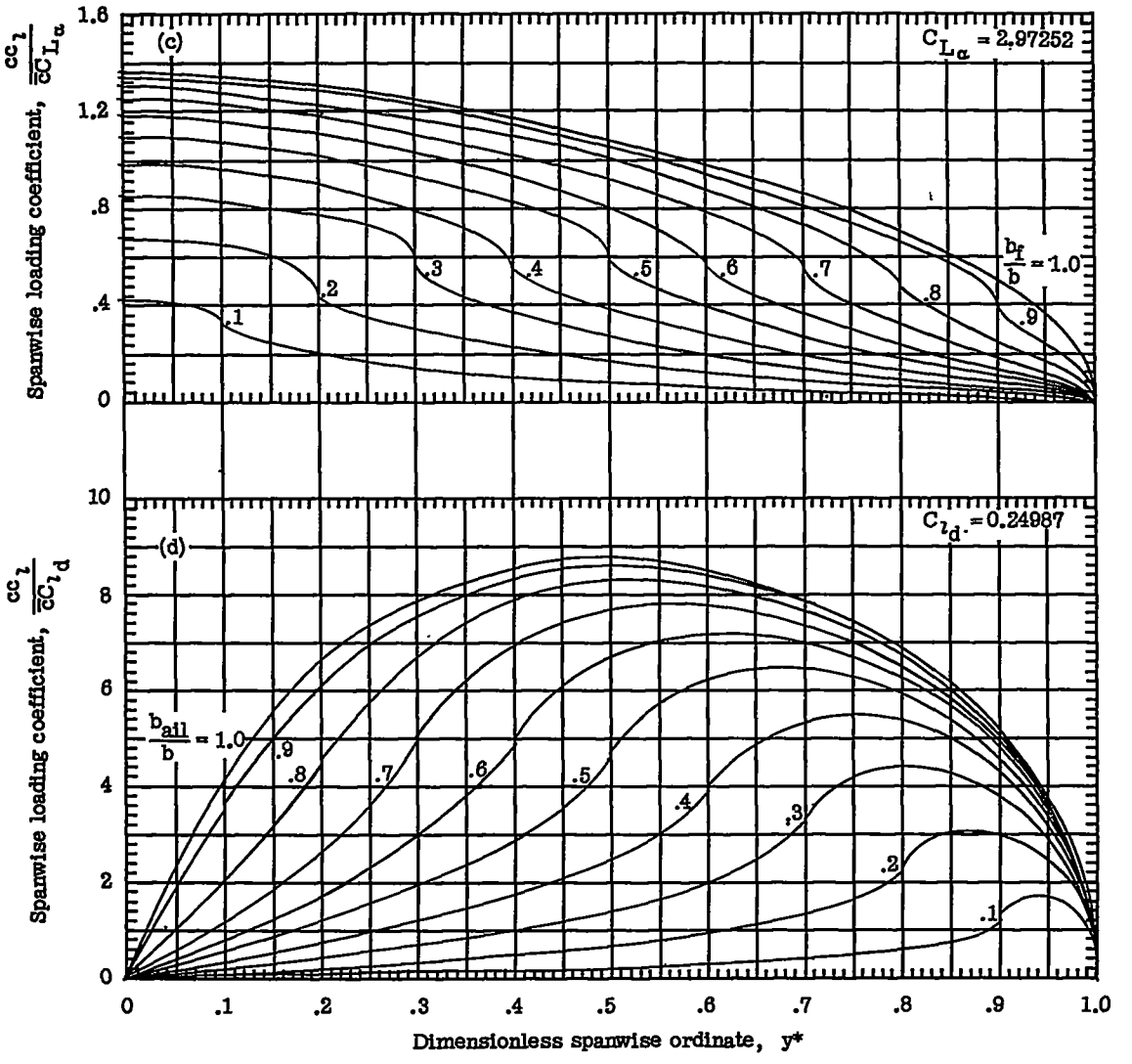
Figure 14.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

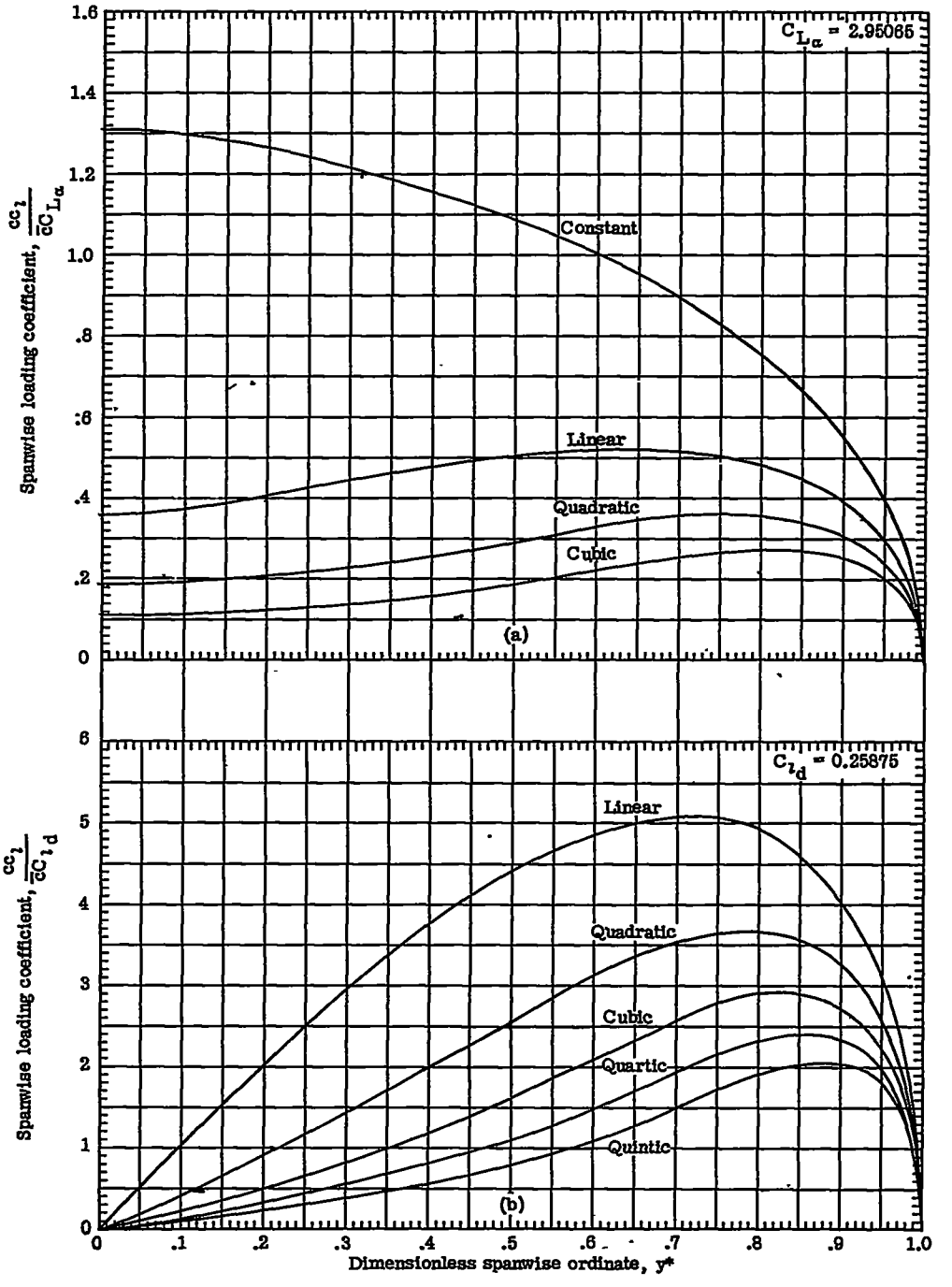
Figure 15.- Spanwise lift distributions for plan form 223 ($A = 3.0$; $\lambda = 0.50$; $\Lambda = -30^{\circ}$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

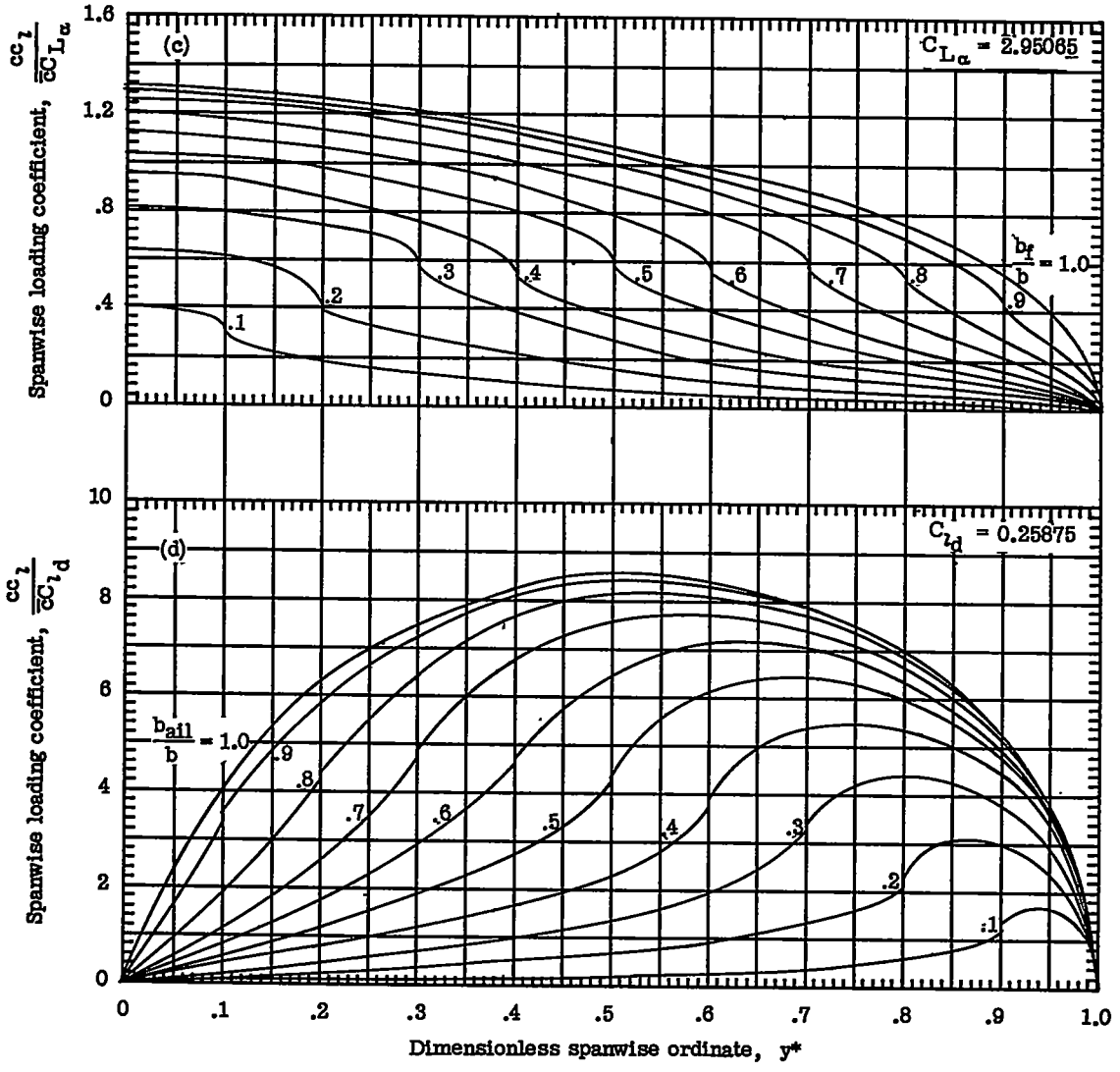
Figure 15.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

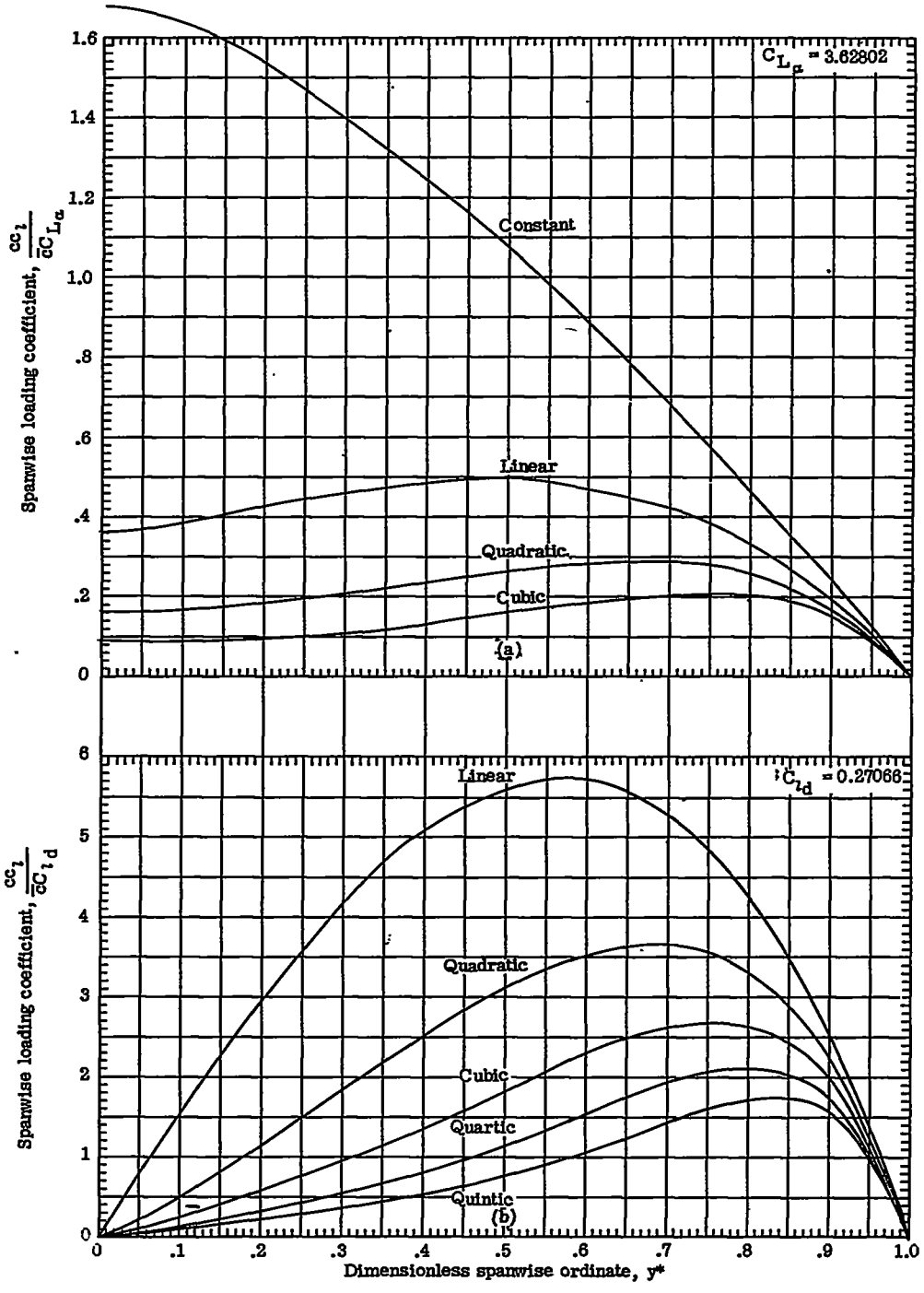
Figure 16.- Spanwise lift distributions for plan form 224 ($A = 3.0$; $\lambda = 1.00$; $\Lambda = -30^\circ$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

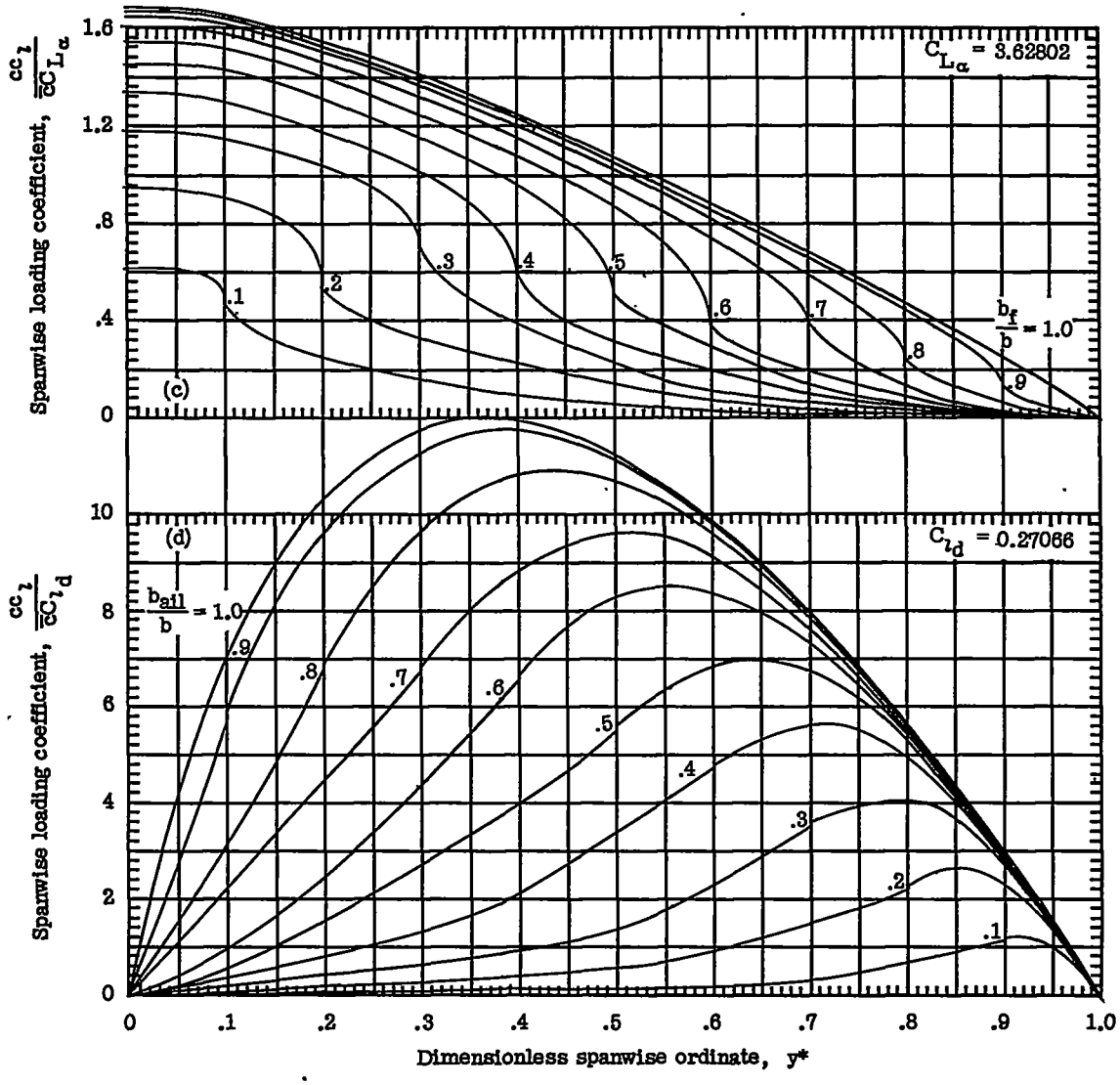
Figure 16.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

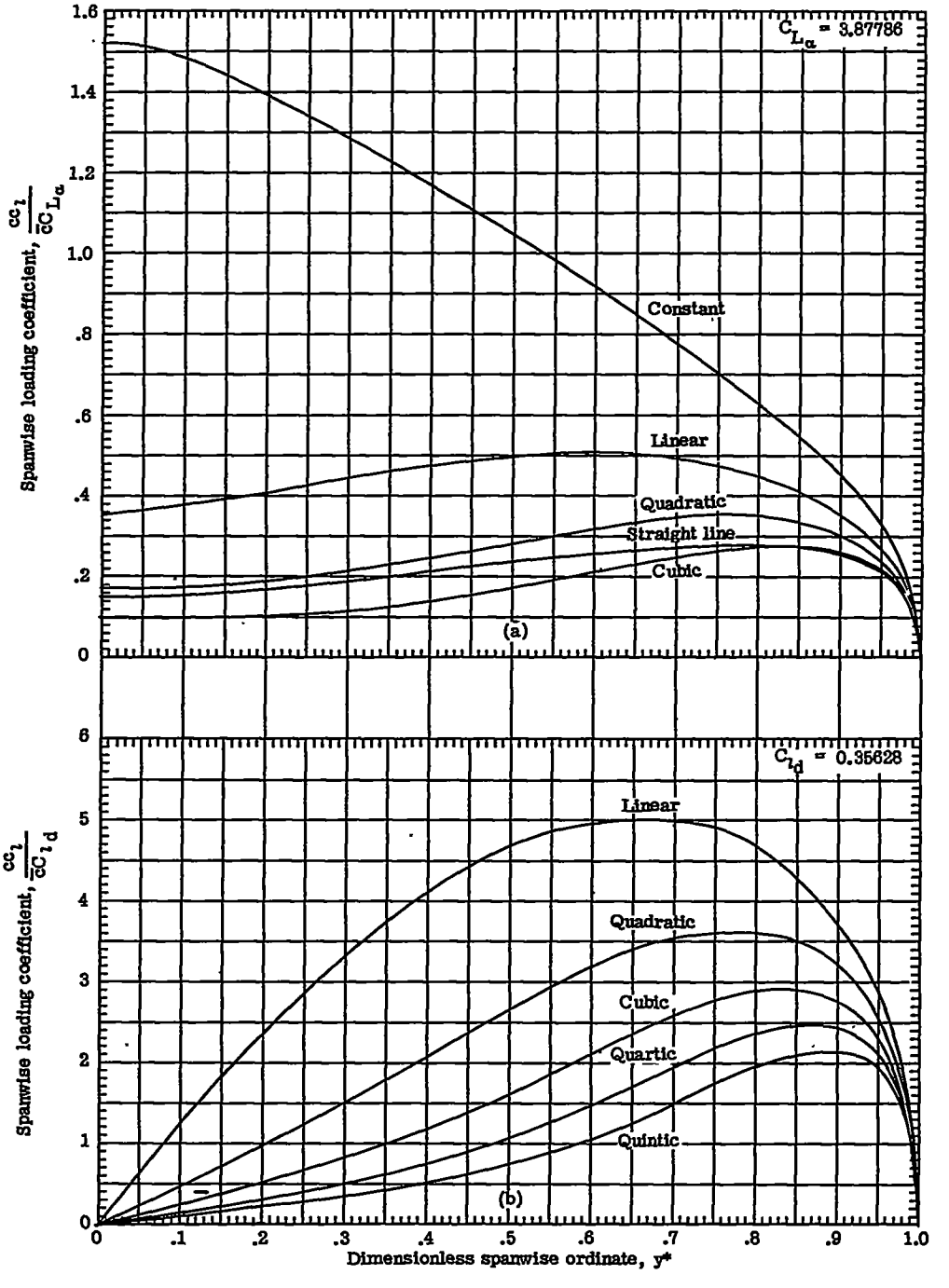
Figure 17.- Spanwise lift distributions for plan form 231 ($A = 6.0$; $\lambda = 0$; $\Lambda = -30^{\circ}$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

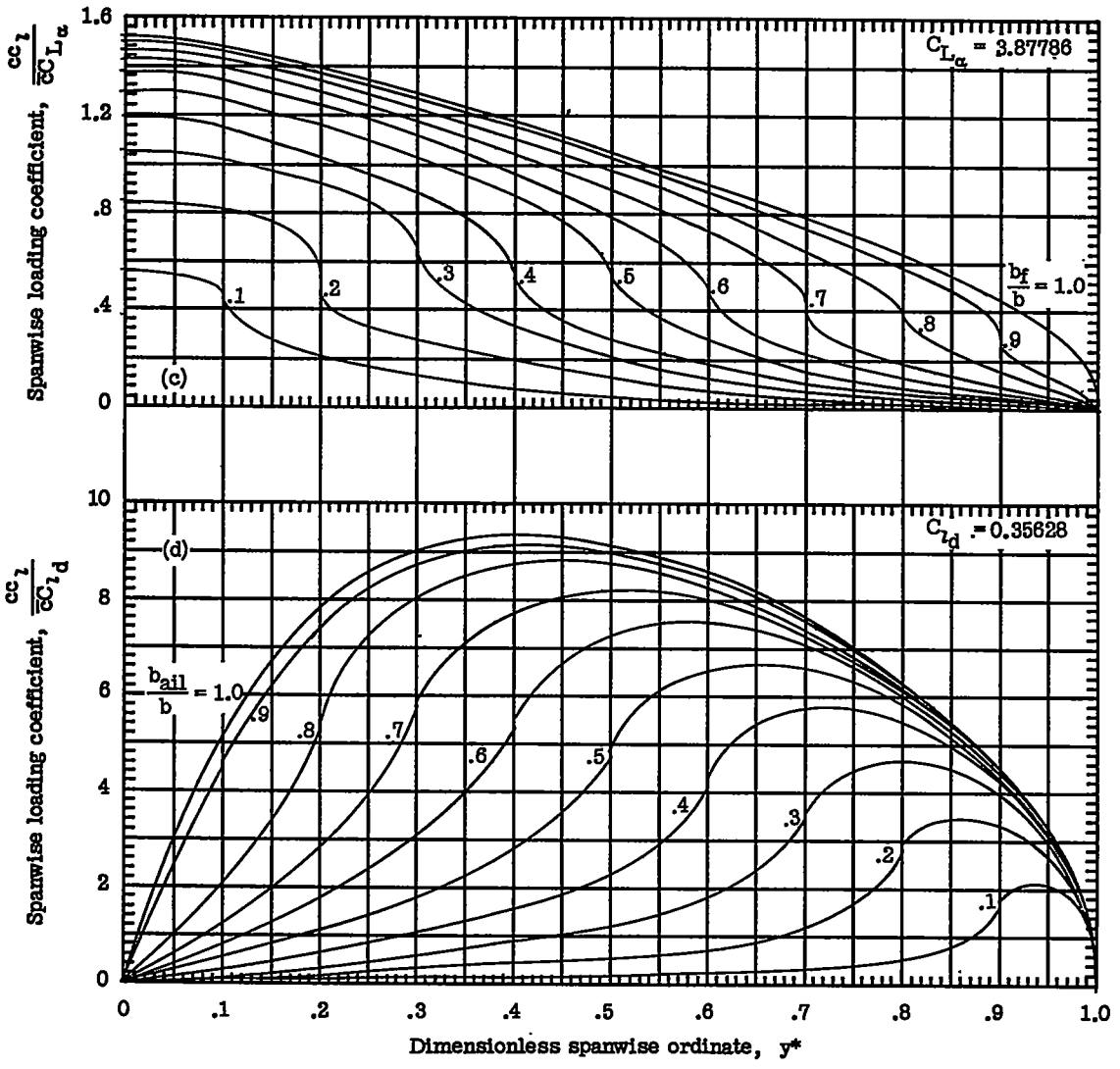
Figure 17.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

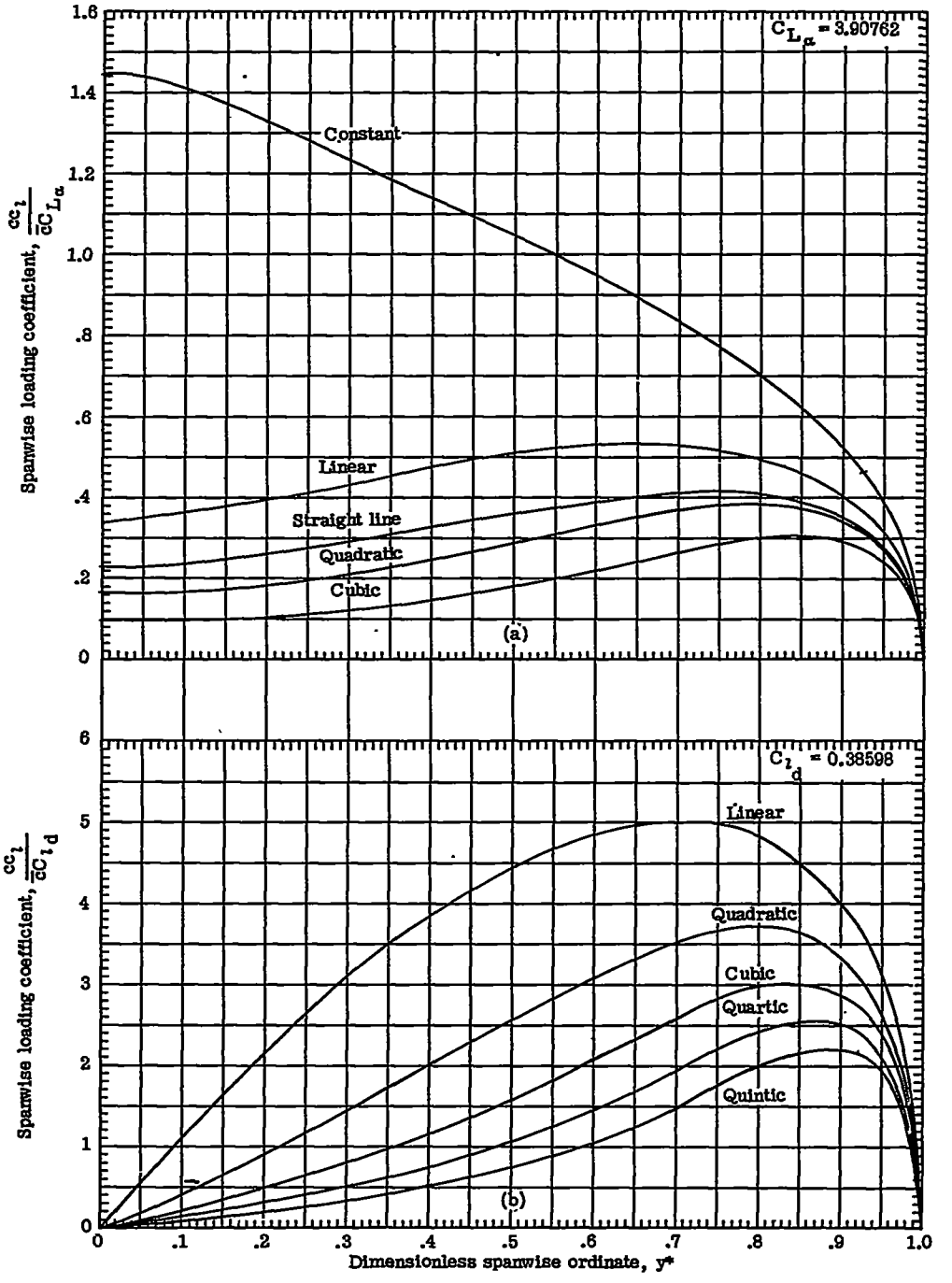
Figure 18.- Spanwise lift distributions for plan form 232 ($A = 6.0$; $\lambda = 0.25$; $\Lambda = -30^\circ$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

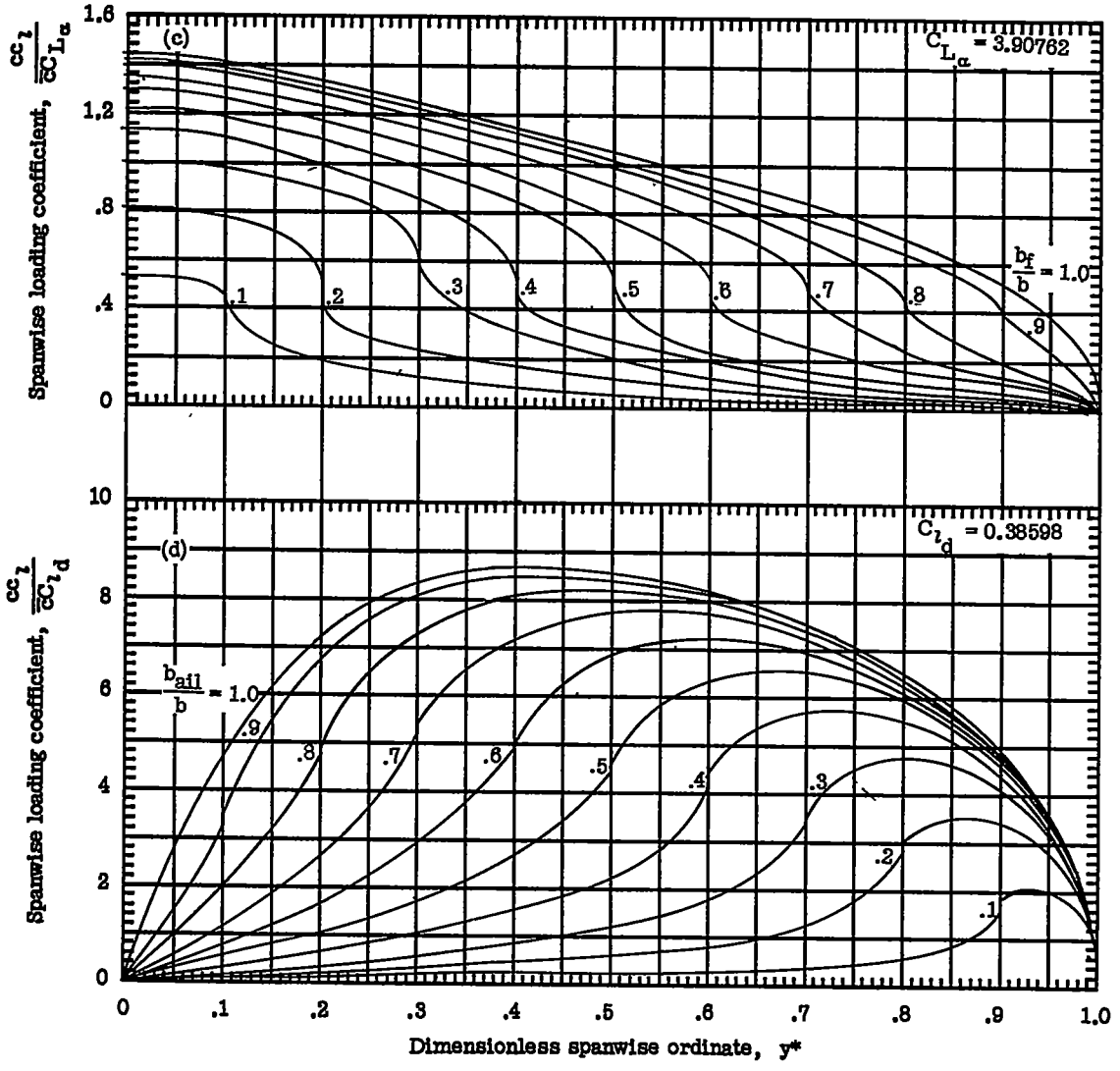
Figure 18.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

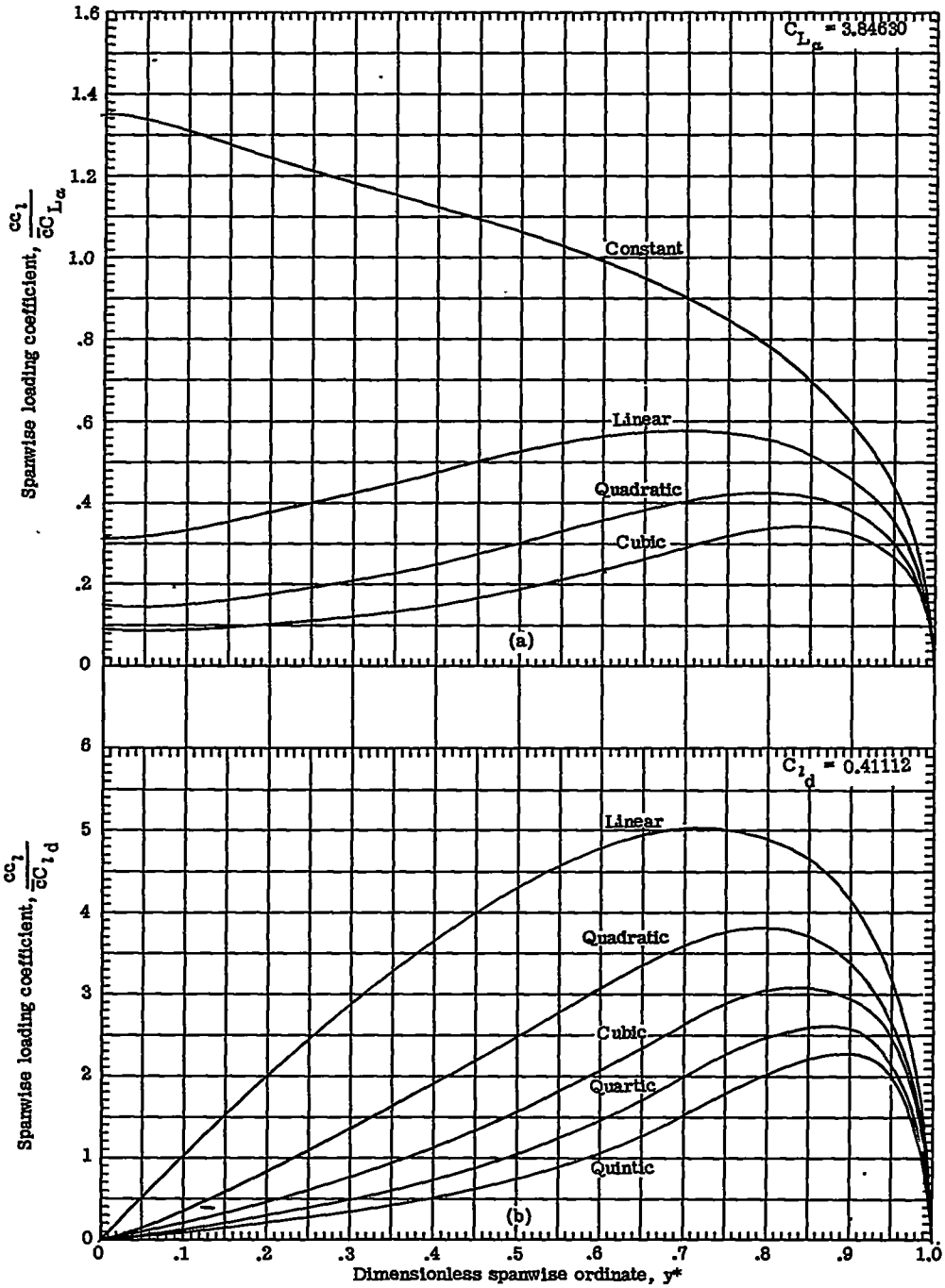
Figure 19.- Spanwise lift distributions for plan form 233 ($A = 6.0$; $\lambda = 0.50$; $\Lambda = -30^{\circ}$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

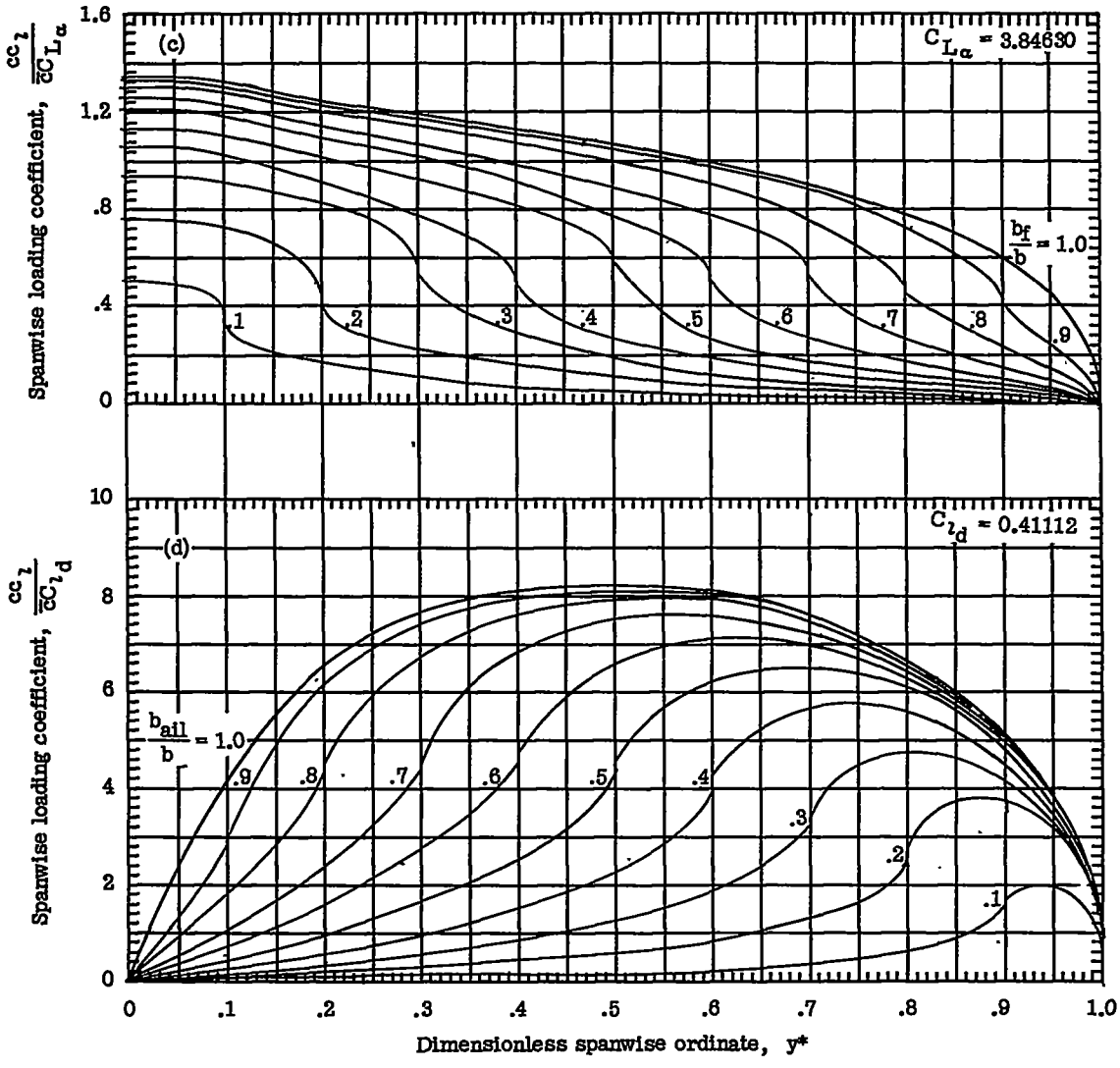
Figure 19.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

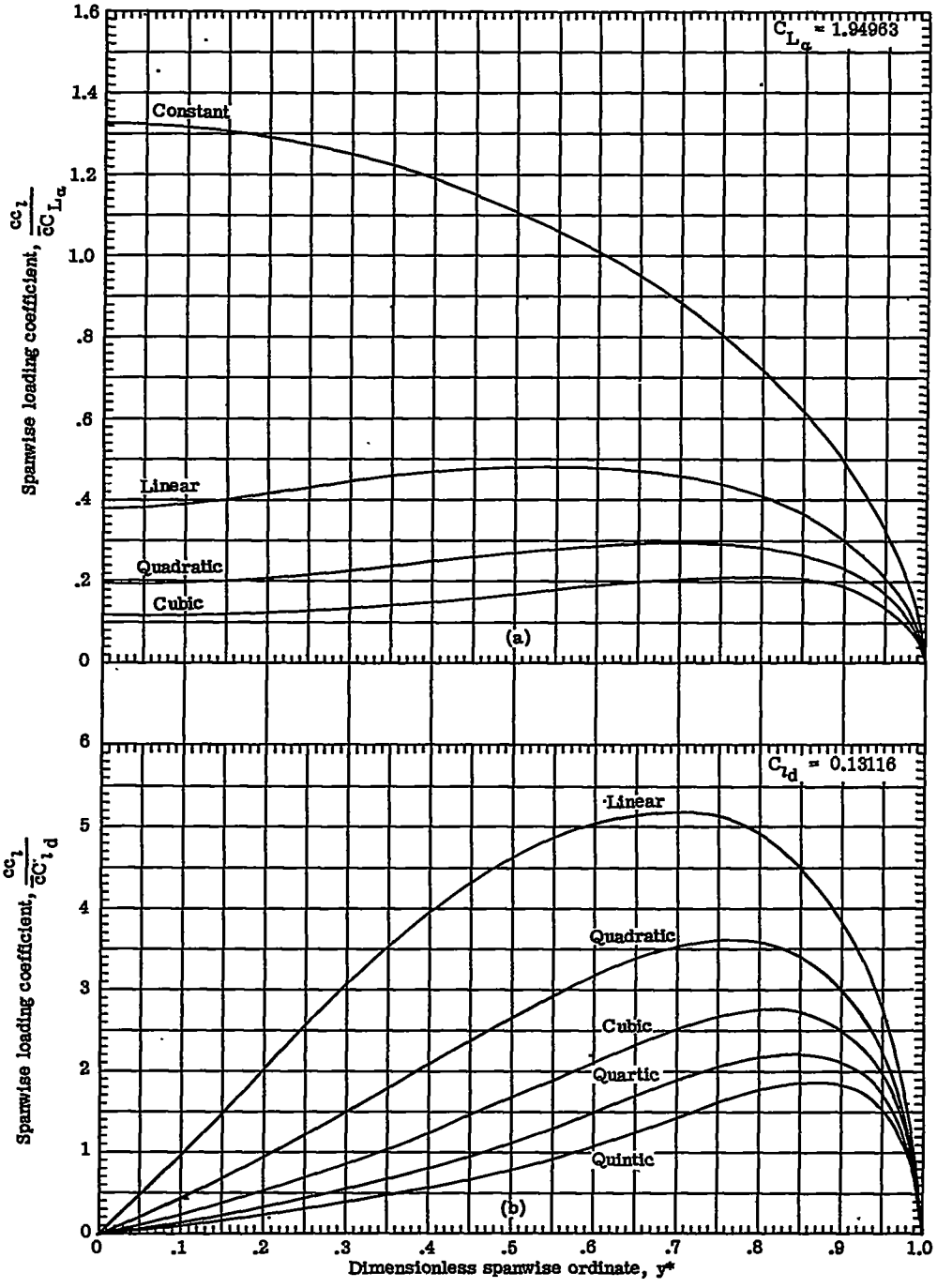
Figure 20.- Spanwise lift distributions for plan form 234 ($A = 6.0$; $\lambda = 1.00$; $\Lambda = -30^\circ$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

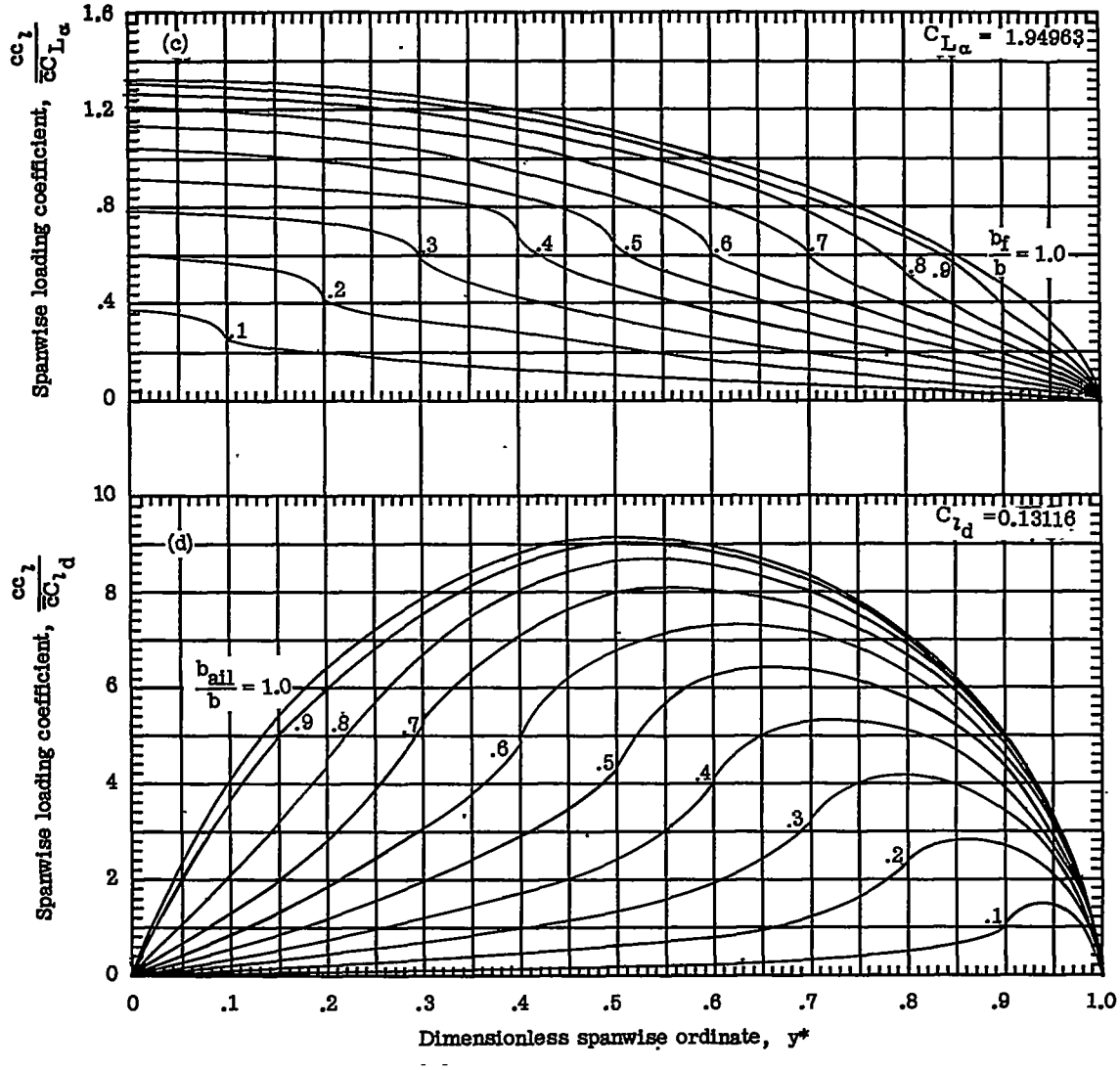
Figure 20.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

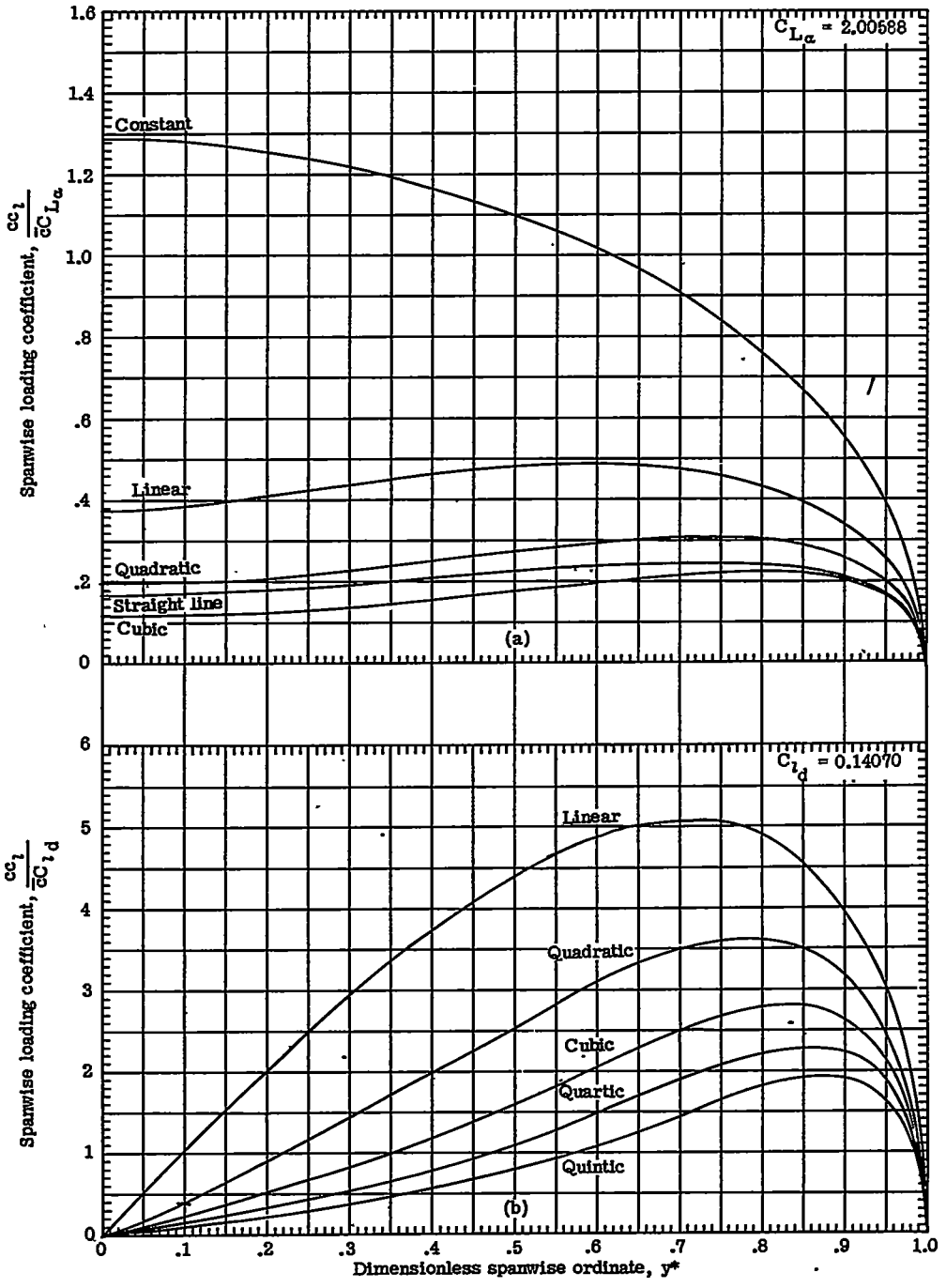
Figure 21.- Spanwise lift distributions for plan form 411 ($A = 1.5$; $\lambda = 0$; $\Lambda = 30^\circ$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

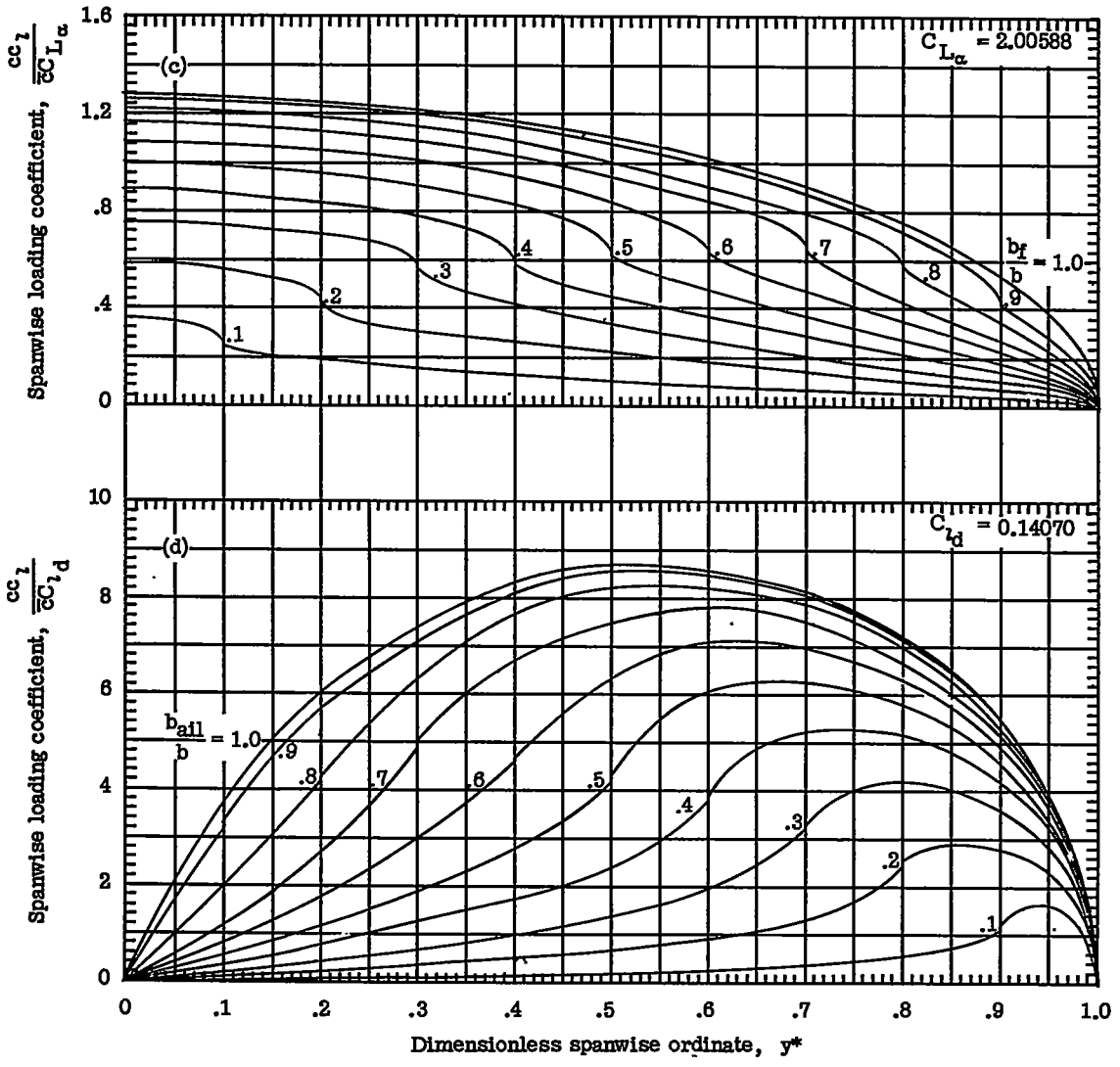
Figure 21.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

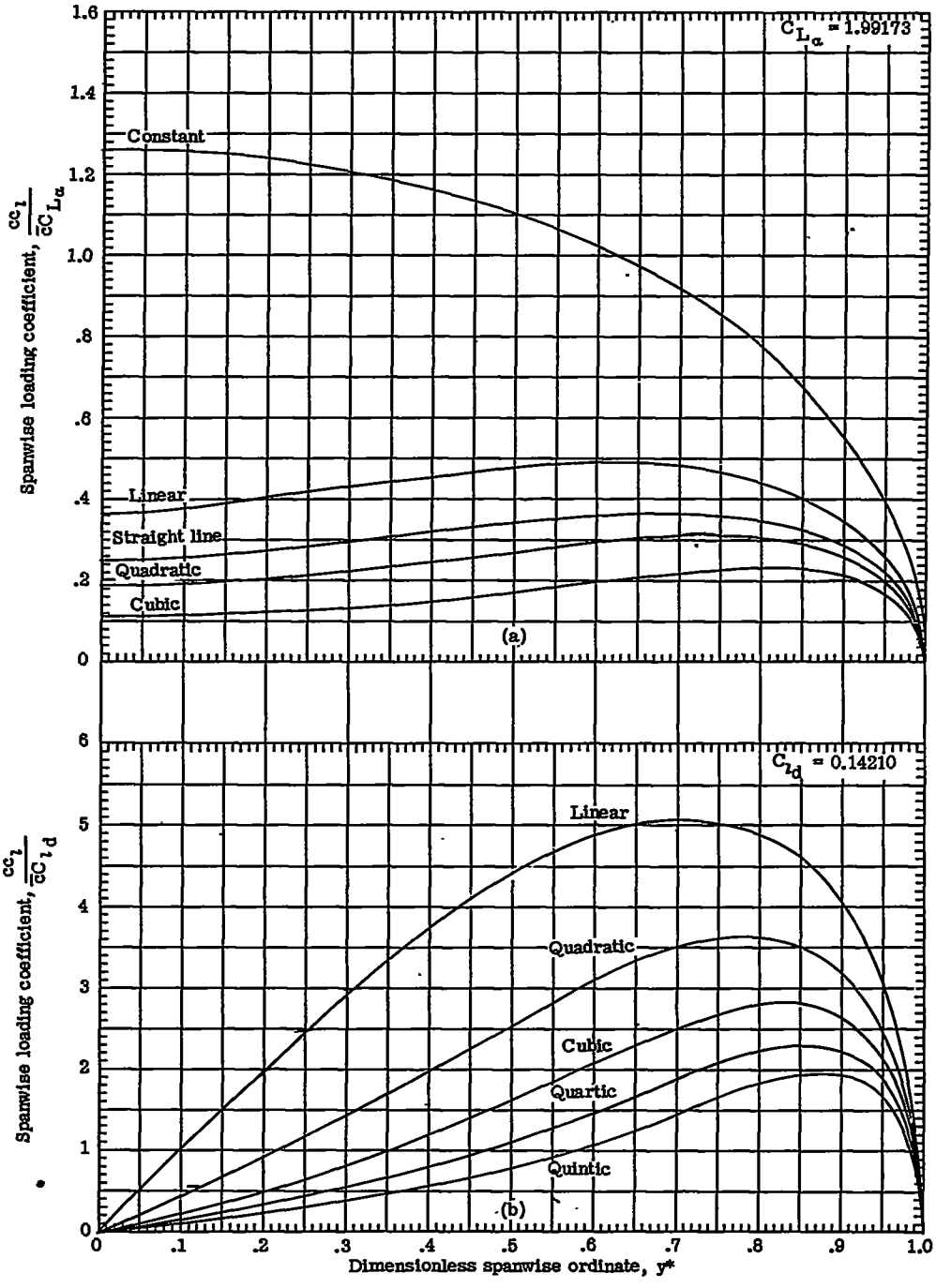
Figure 22.- Spanwise lift distributions for plan form 412 ($A = 1.5$; $\lambda = 0.25$; $\Lambda = 30^\circ$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

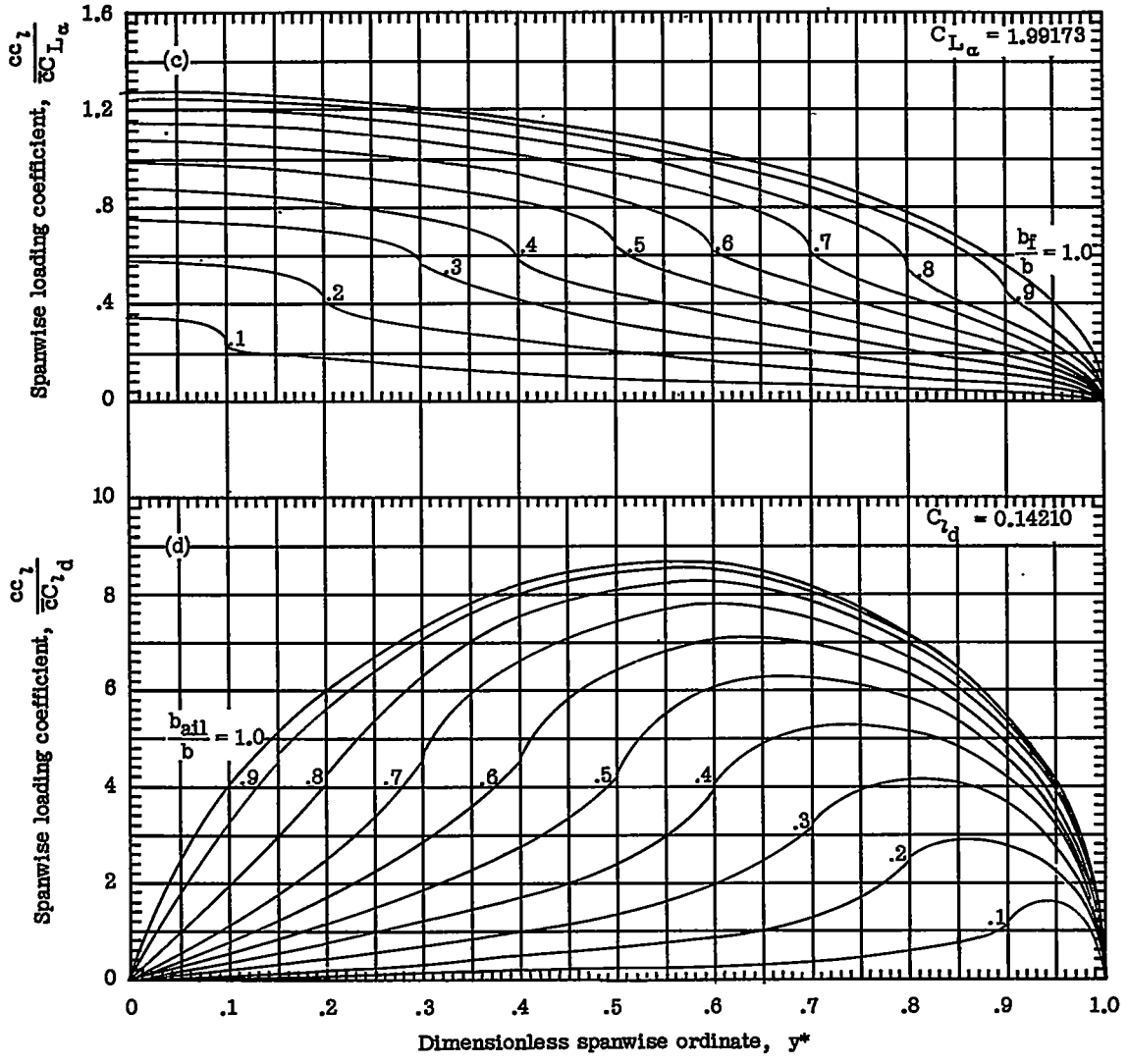
Figure 22.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

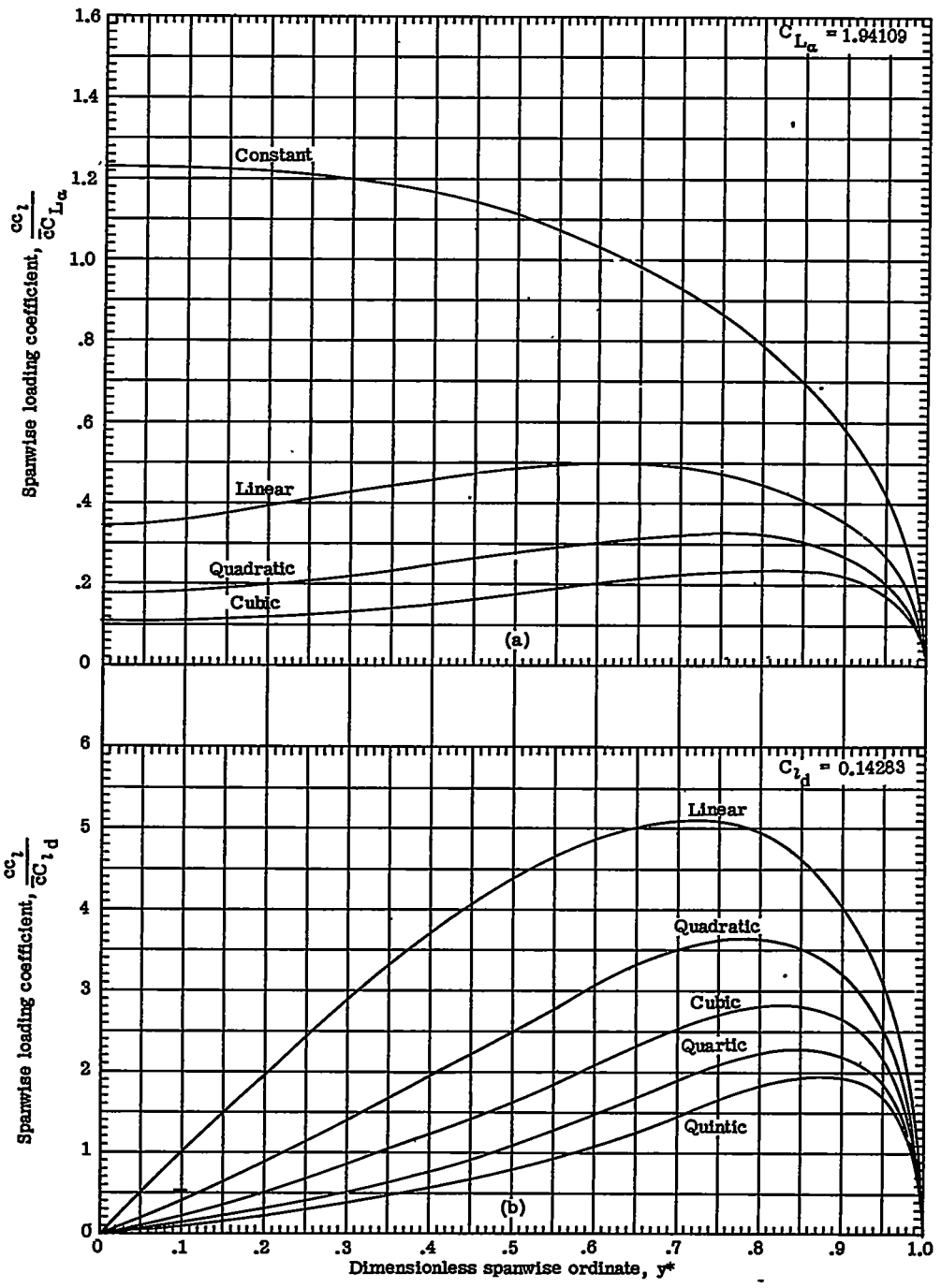
Figure 23.- Spanwise lift distributions for plan form 413 ($A = 1.5$; $\lambda = 0.50$; $\Lambda = 30^\circ$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

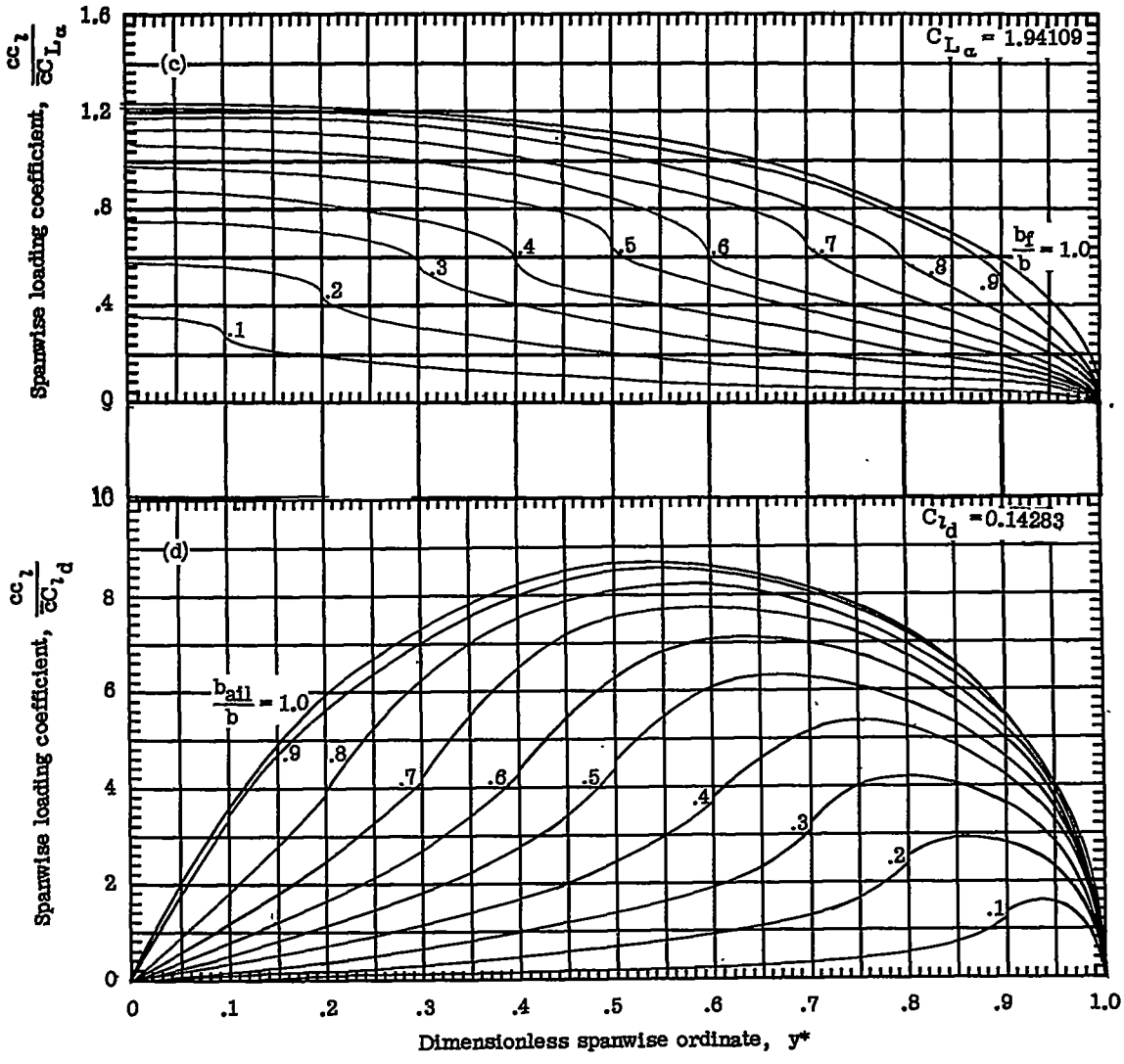
Figure 23.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

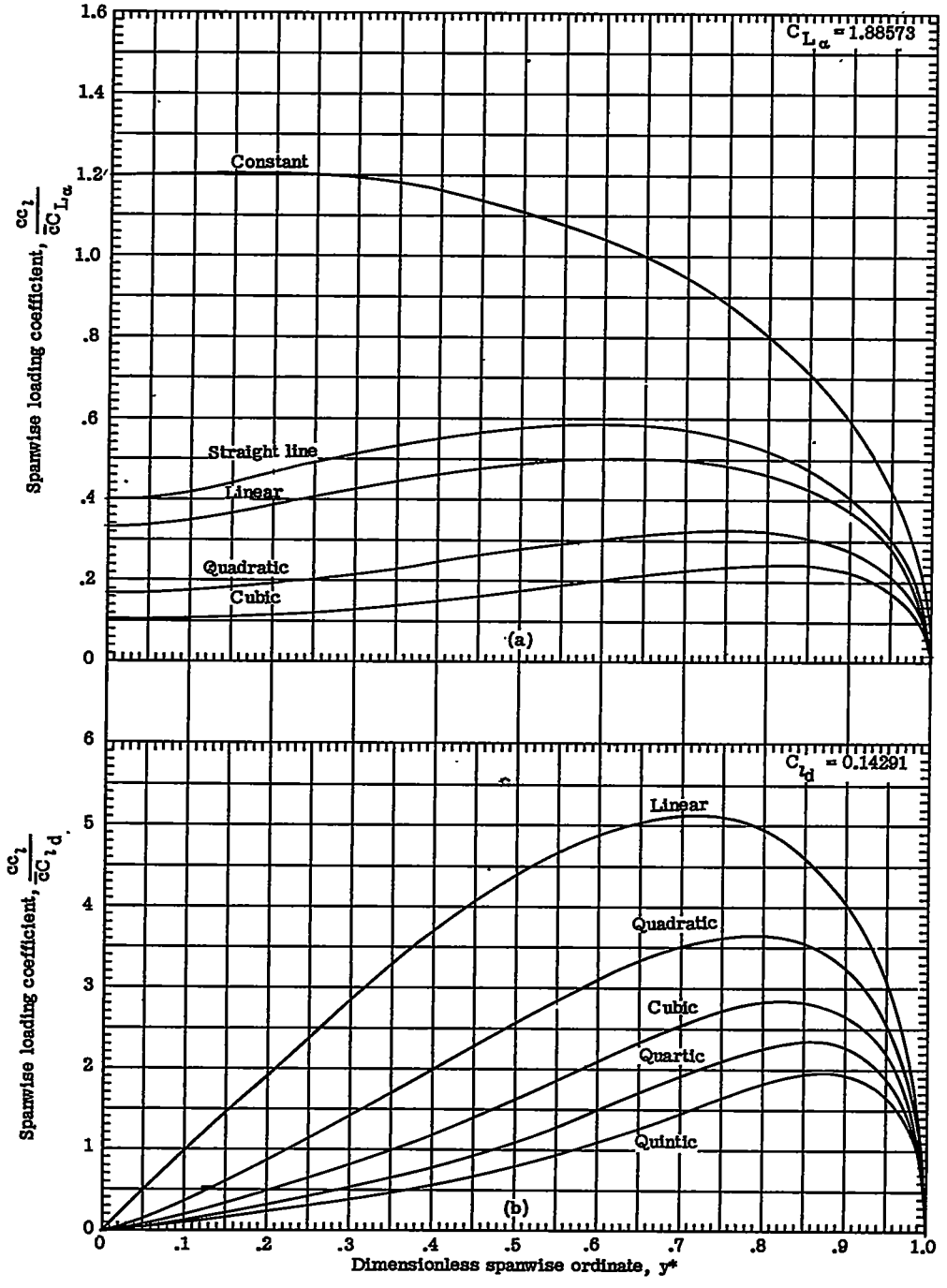
Figure 24.- Spanwise lift distributions for plan form 414 ($A = 1.5$; $\lambda = 1.00$; $\Lambda = 30^\circ$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

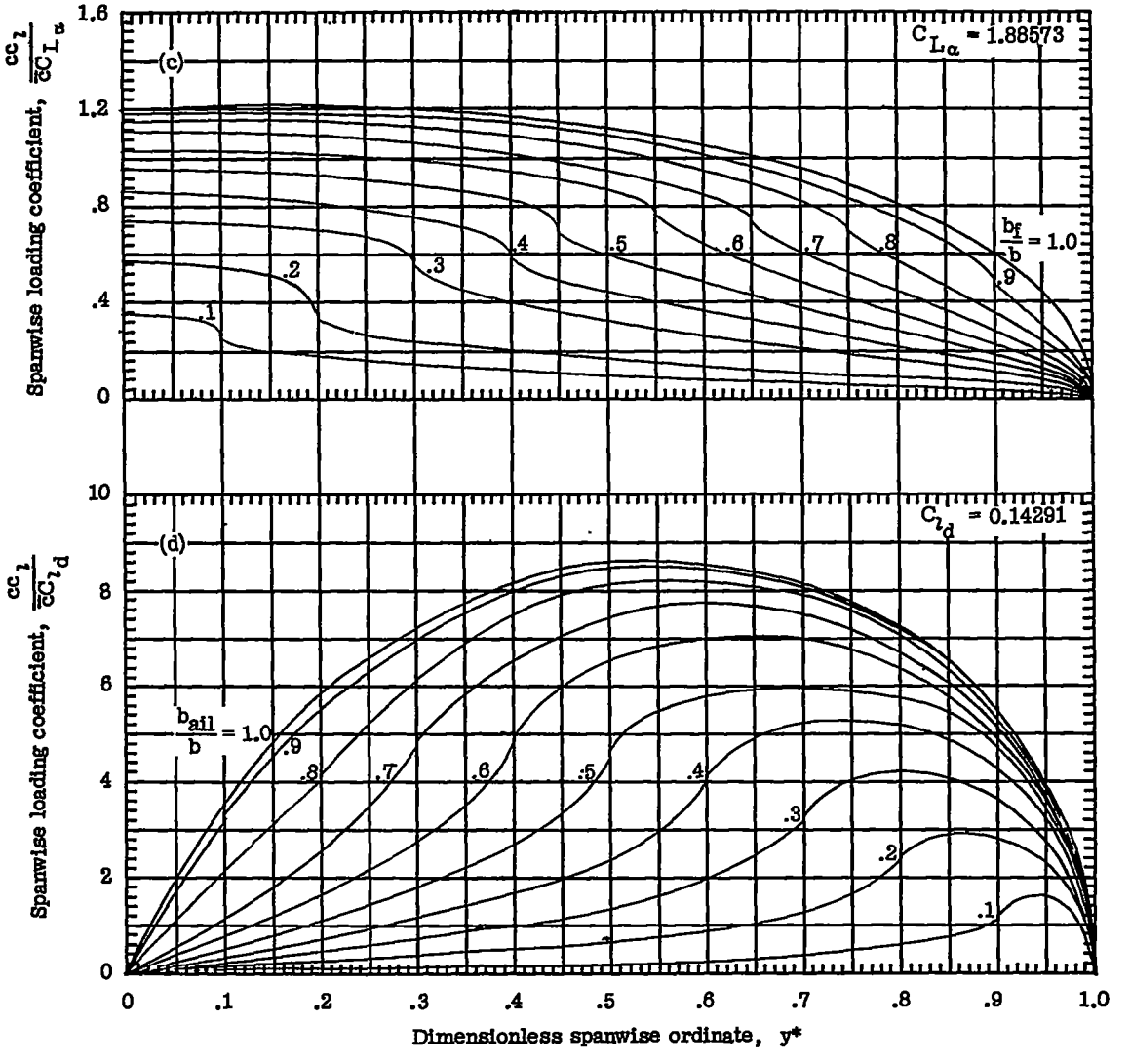
Figure 24.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

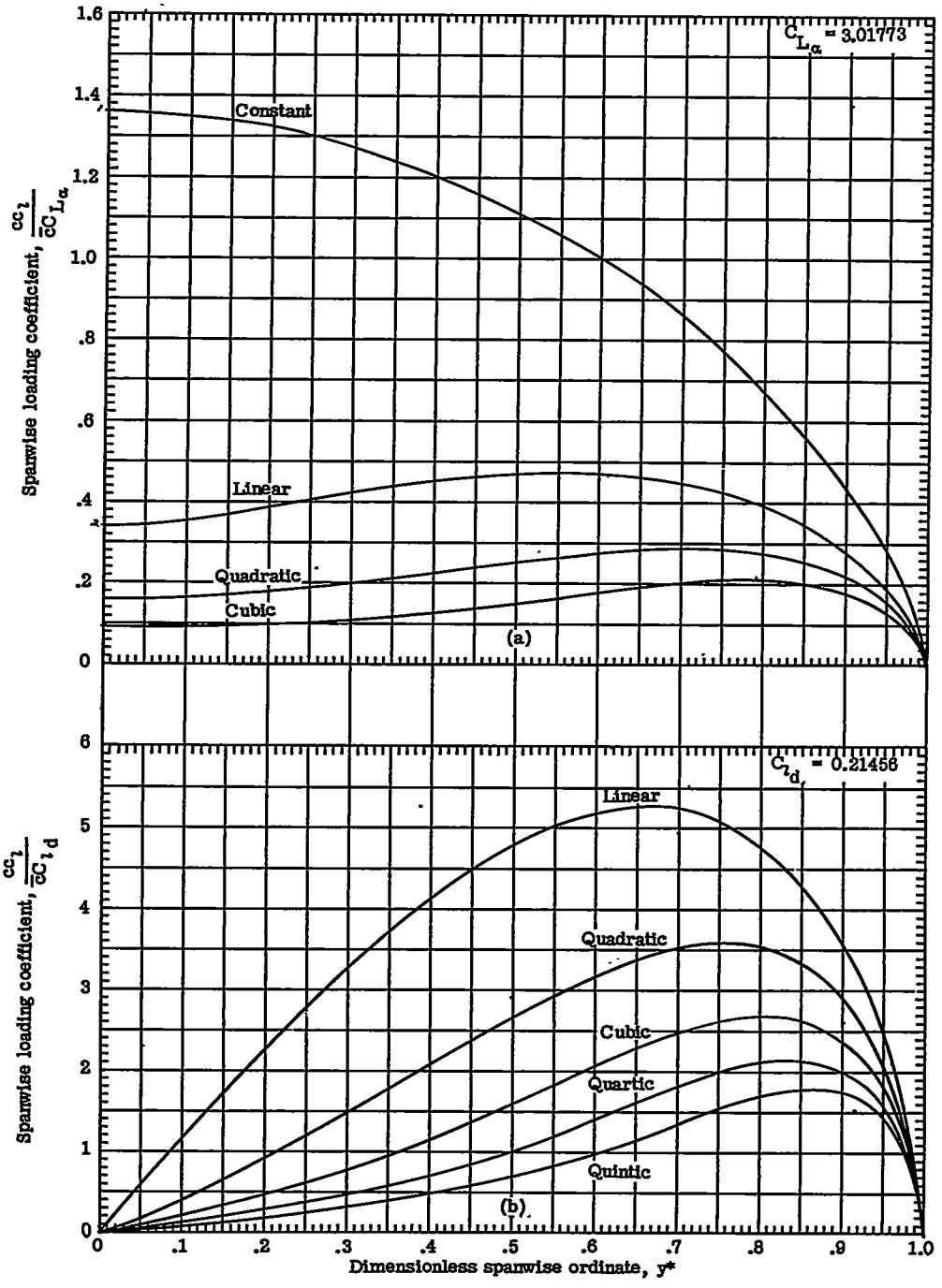
Figure 25.- Spanwise lift distributions for plan form 415 ($A = 1.5$; $\lambda = 1.50$; $\Lambda = 30^{\circ}$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

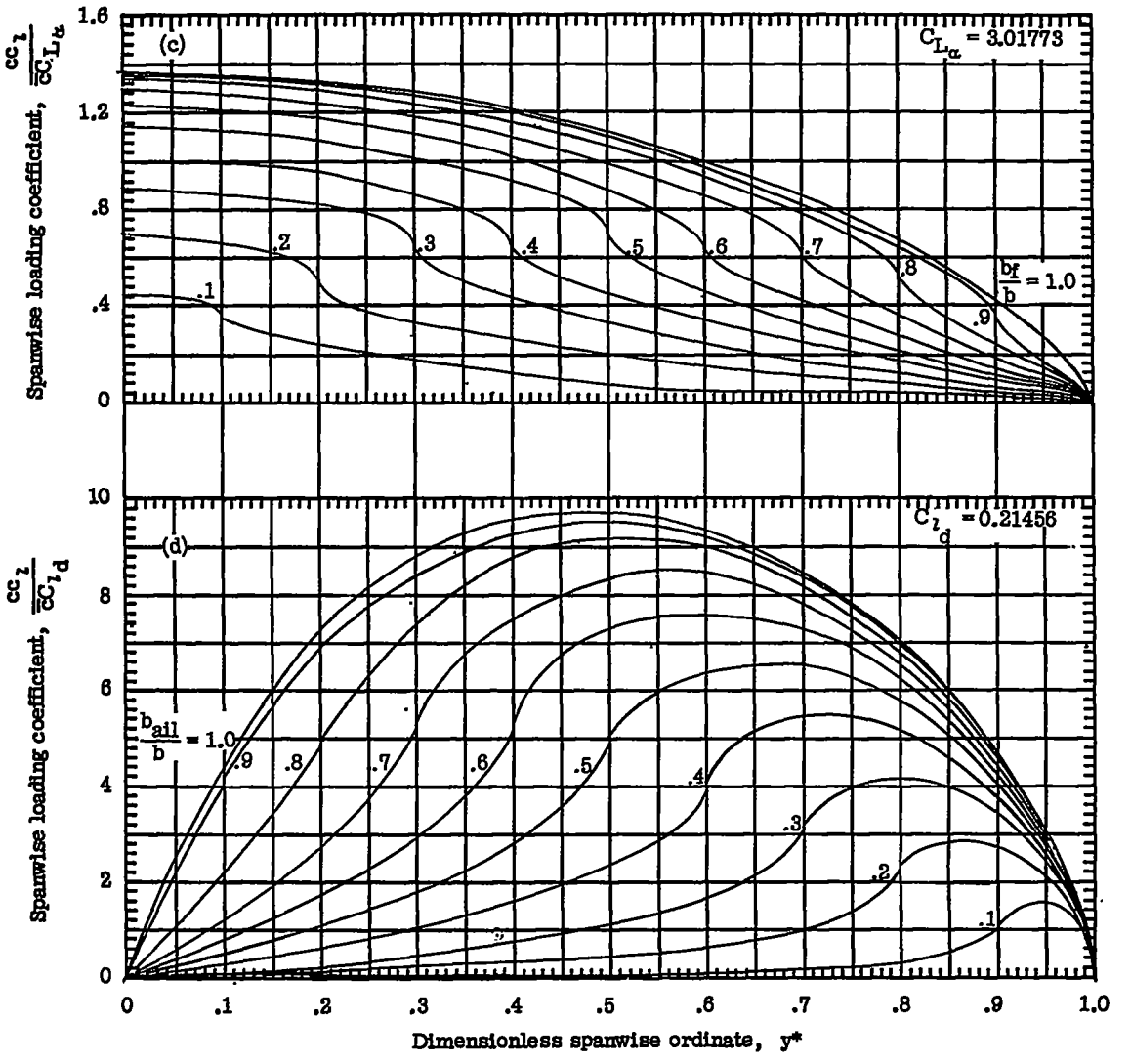
Figure 25.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

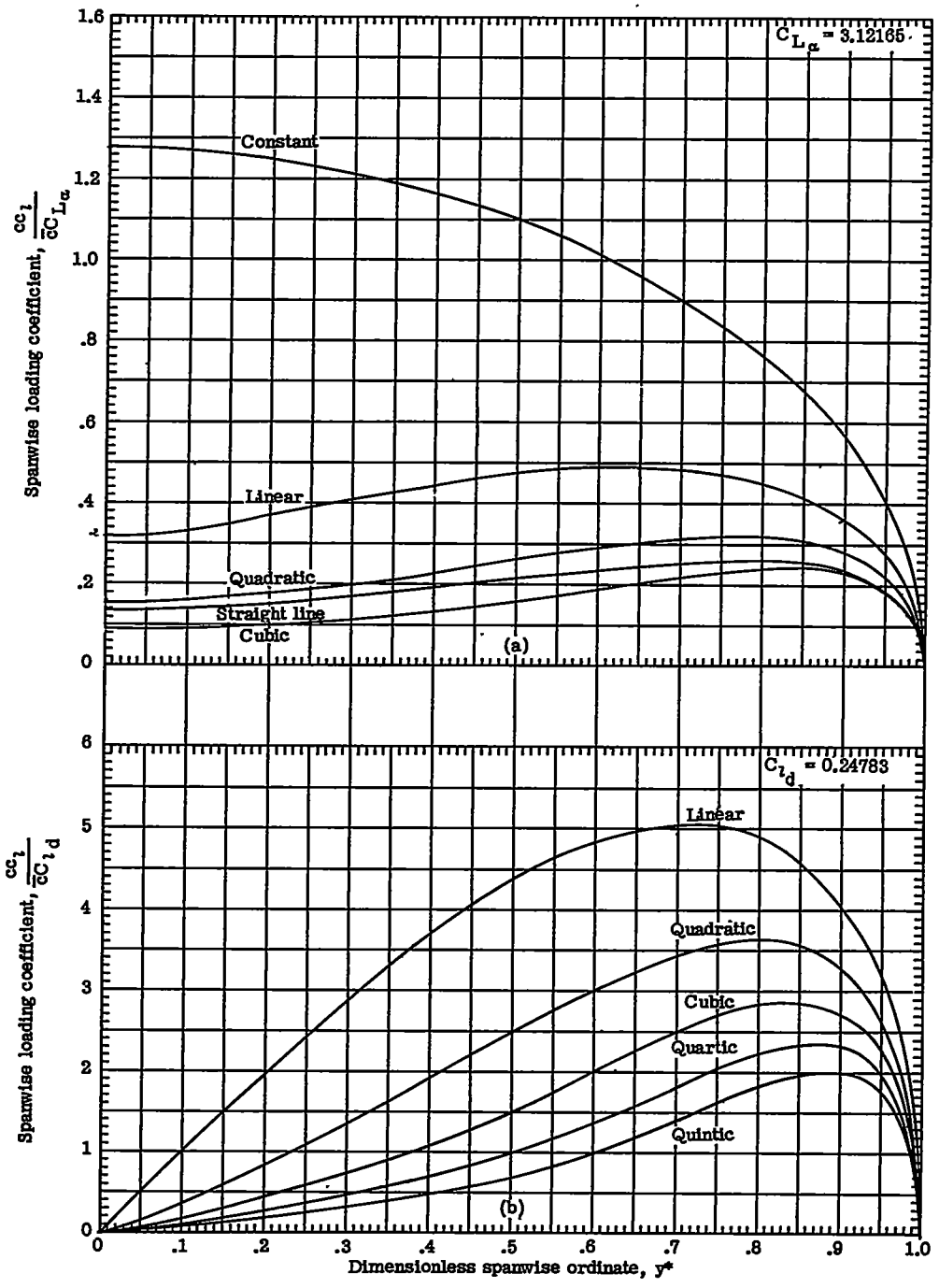
Figure 26.- Spanwise lift distributions for plan form 421 ($A = 3.0$; $\lambda = 0$; $\Lambda = 30^{\circ}$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

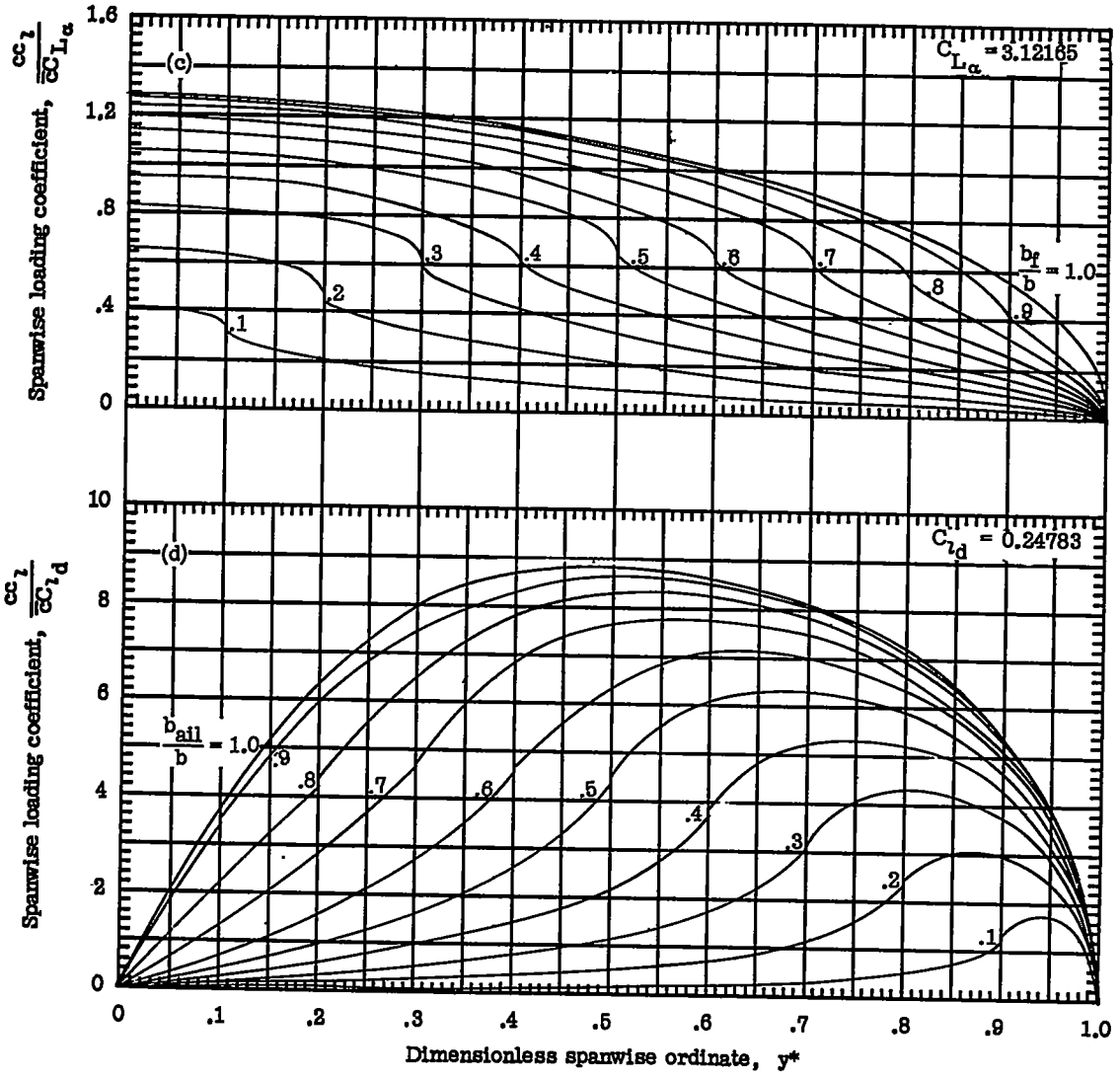
Figure 26.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

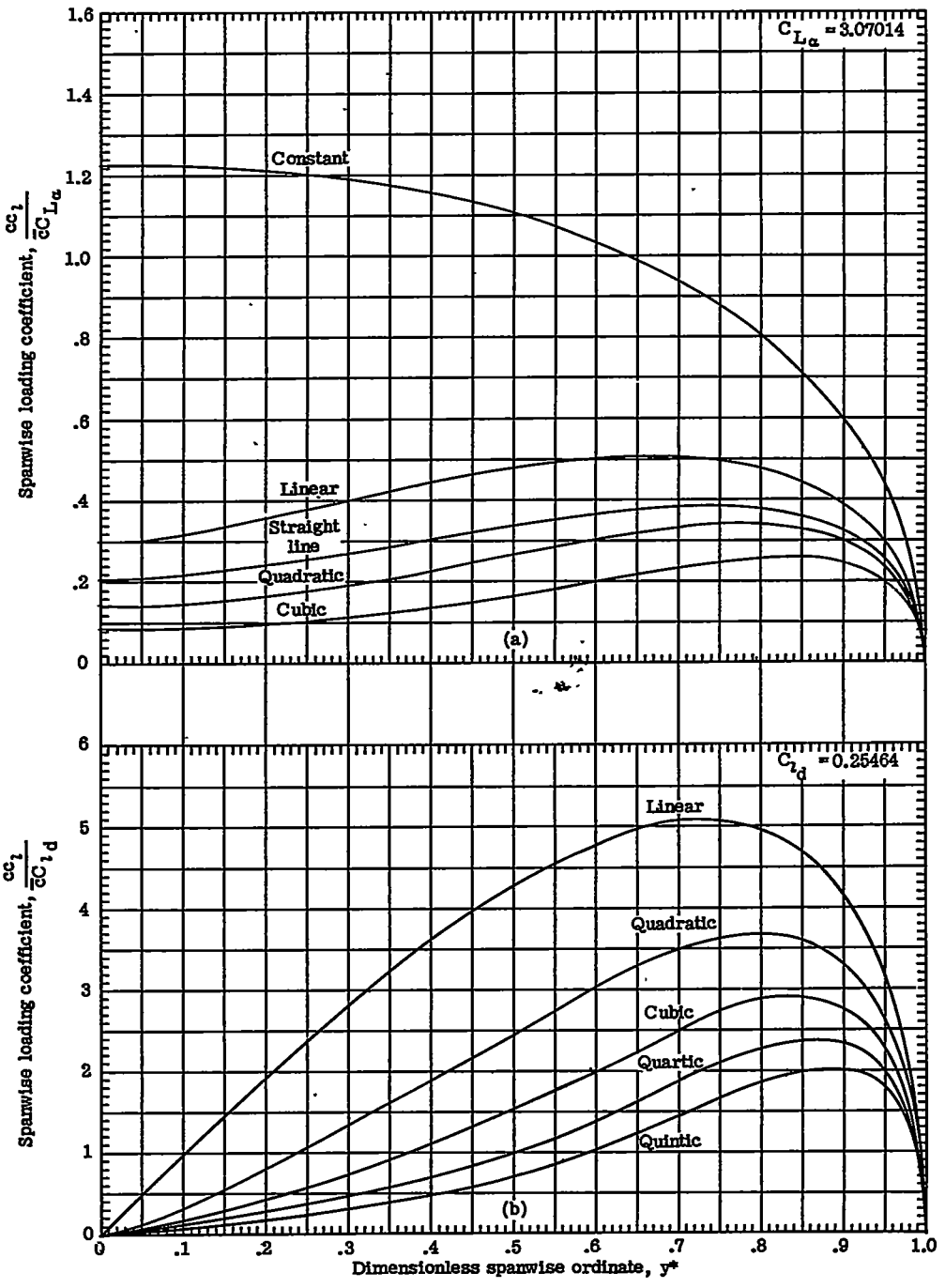
Figure 27.- Spanwise lift distributions for plan form 422 ($A = 3.0$; $\lambda = 0.25$; $\Lambda = 30^\circ$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

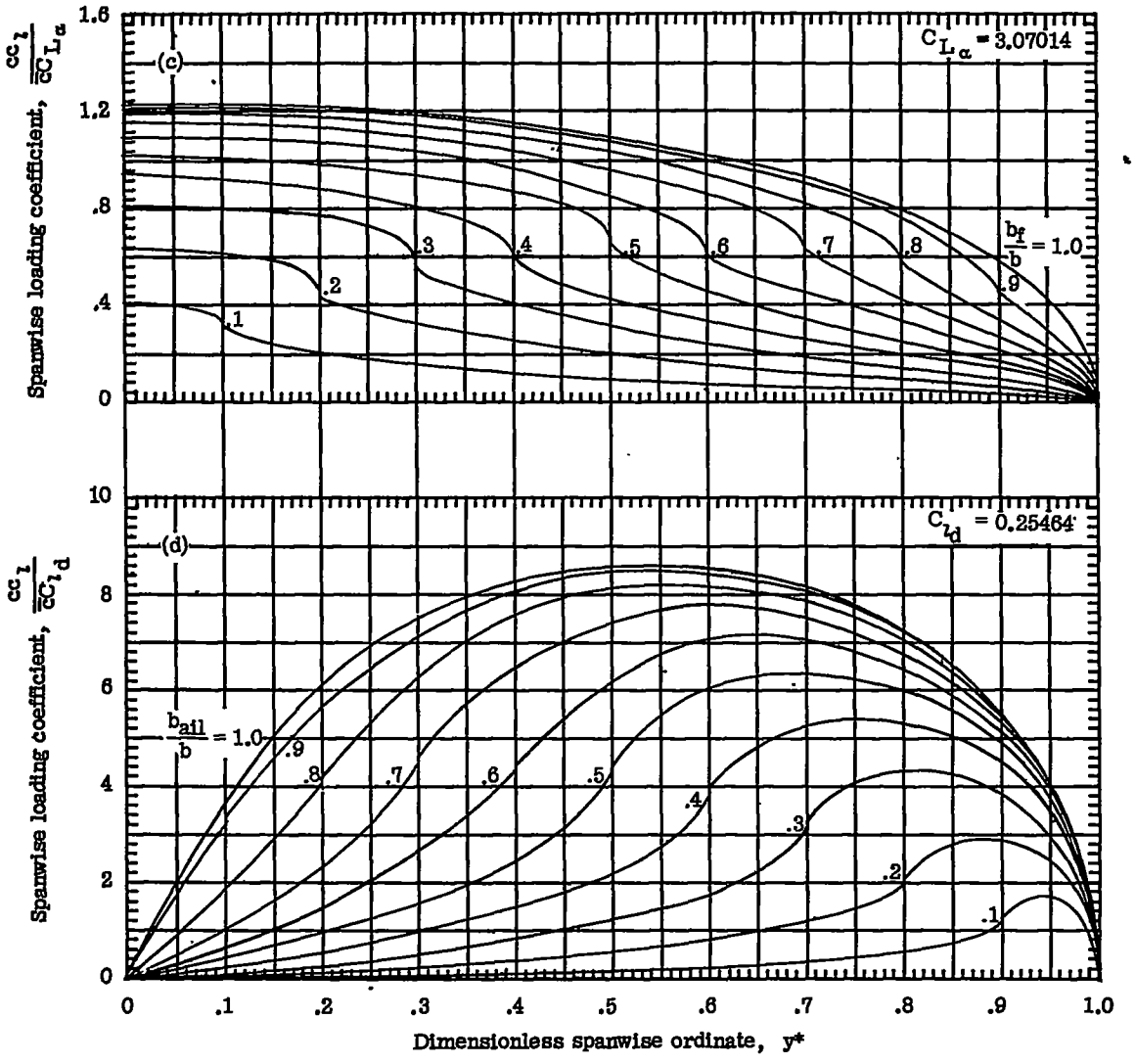
Figure 27.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

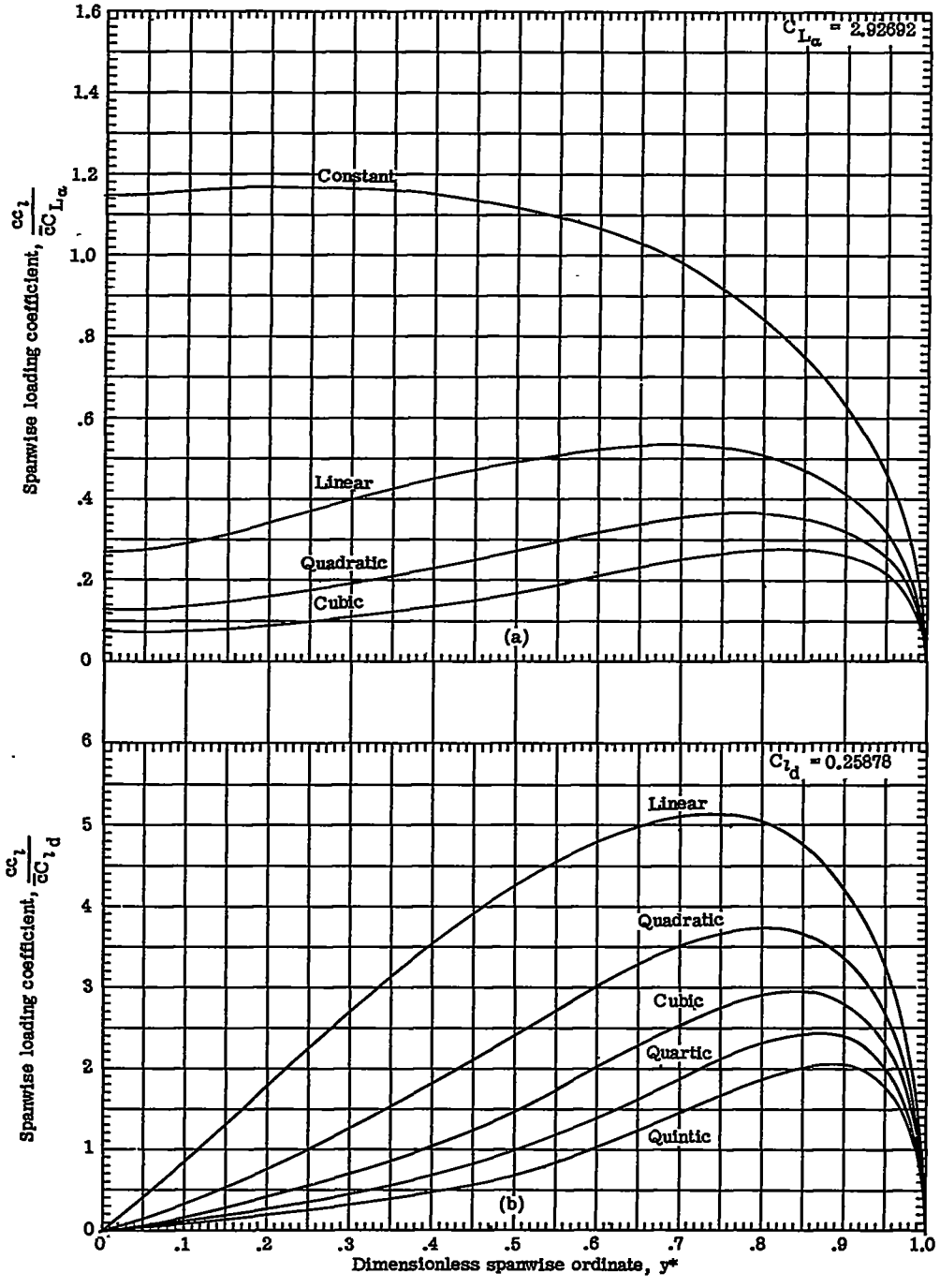
Figure 28.- Spanwise lift distributions for plan form 423 (A = 3.0; λ = 0.50, Λ = 30°).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

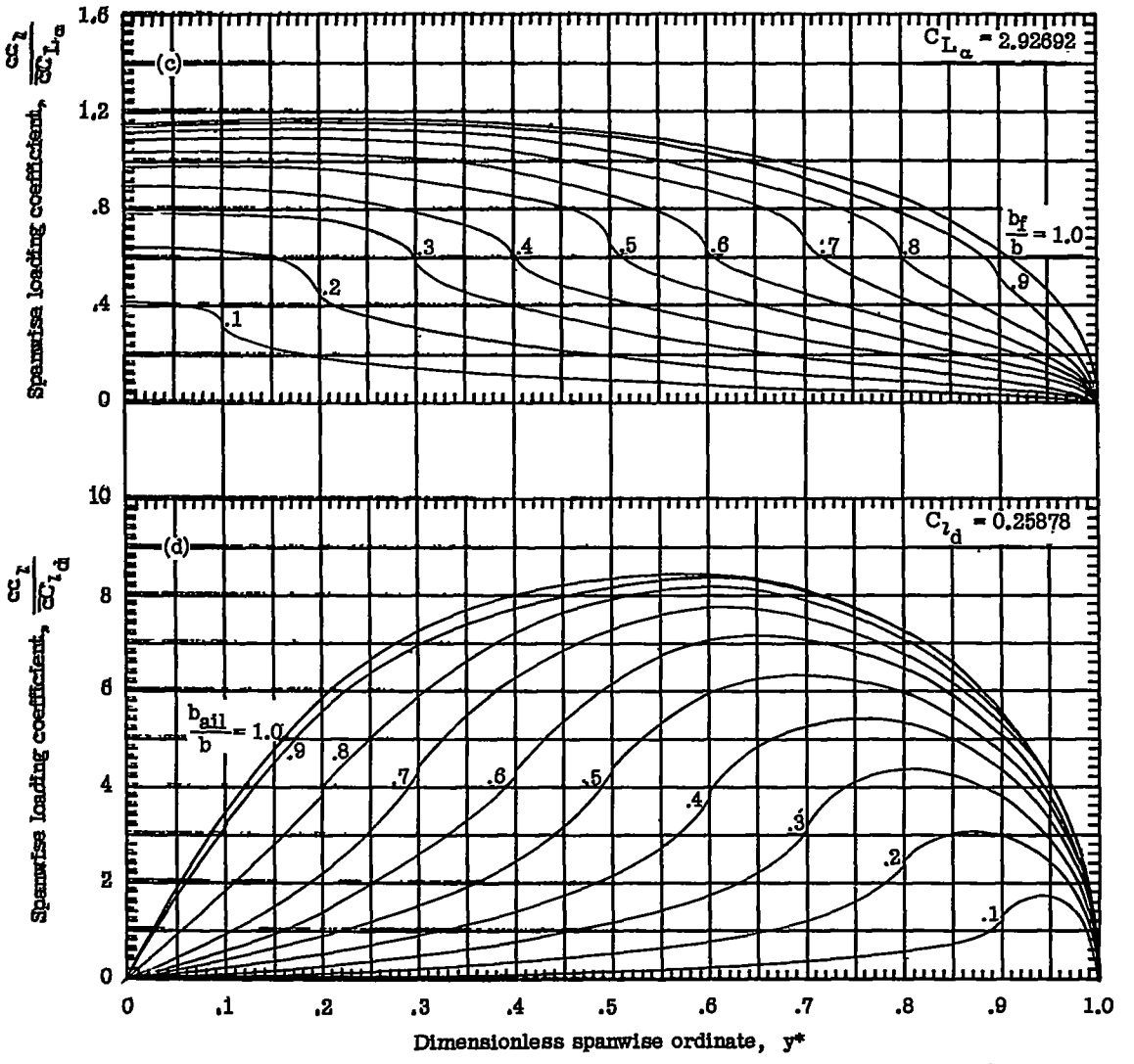
Figure 28.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

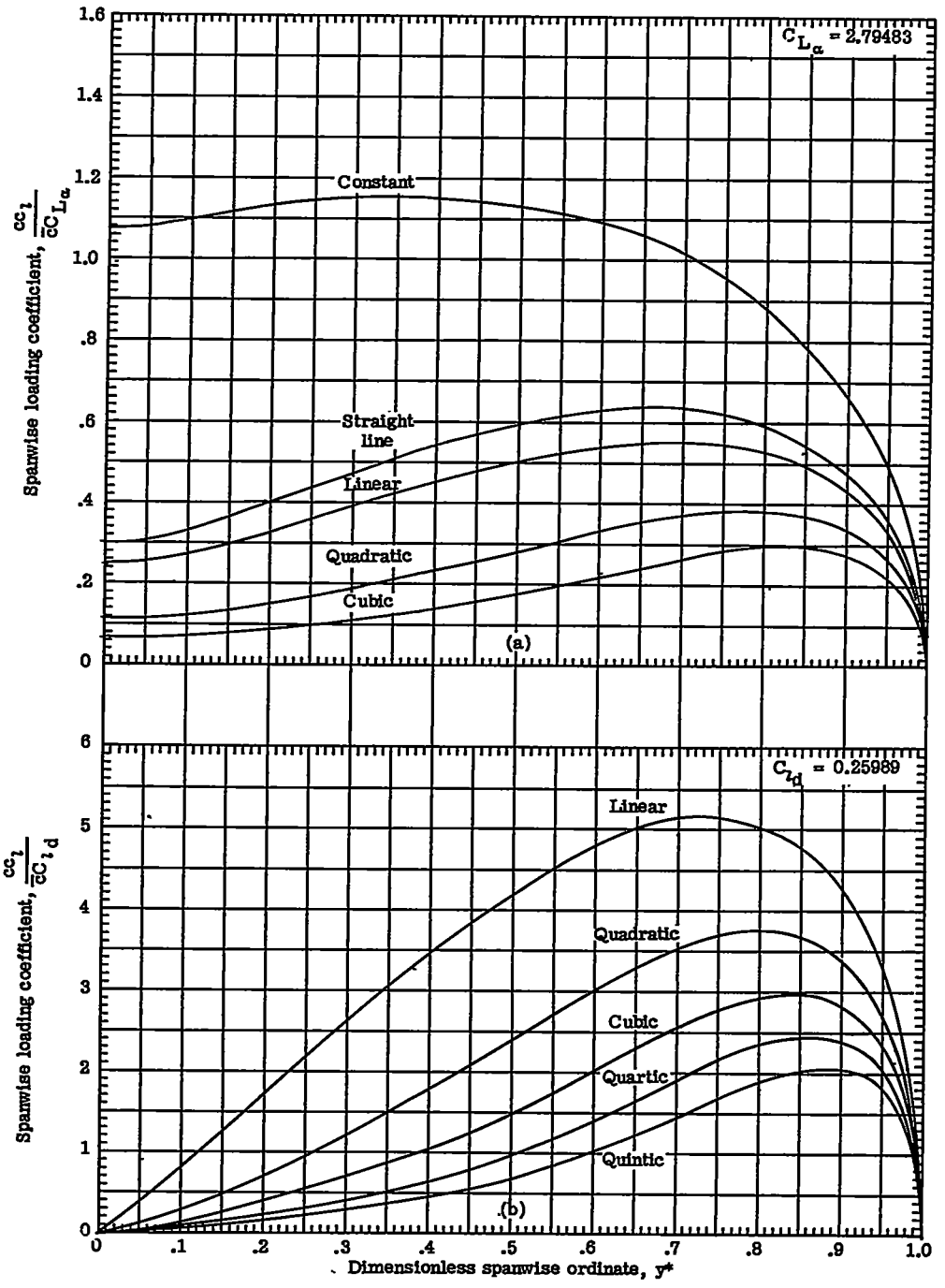
Figure 29.- Spanwise lift distributions for plan form 424 ($A = 3.0$; $\lambda = 1.00$; $\Lambda = 30^{\circ}$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

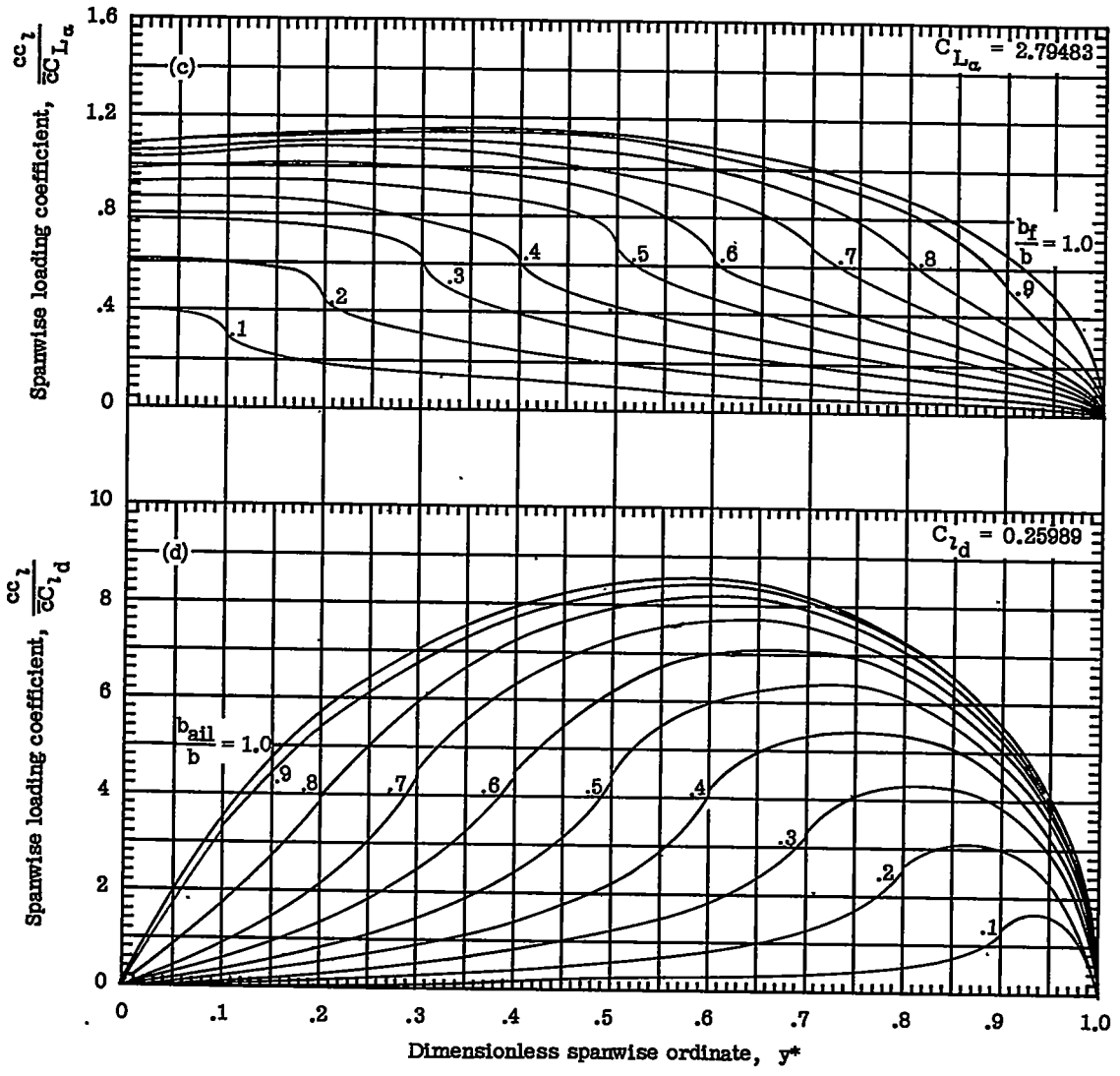
Figure 29.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

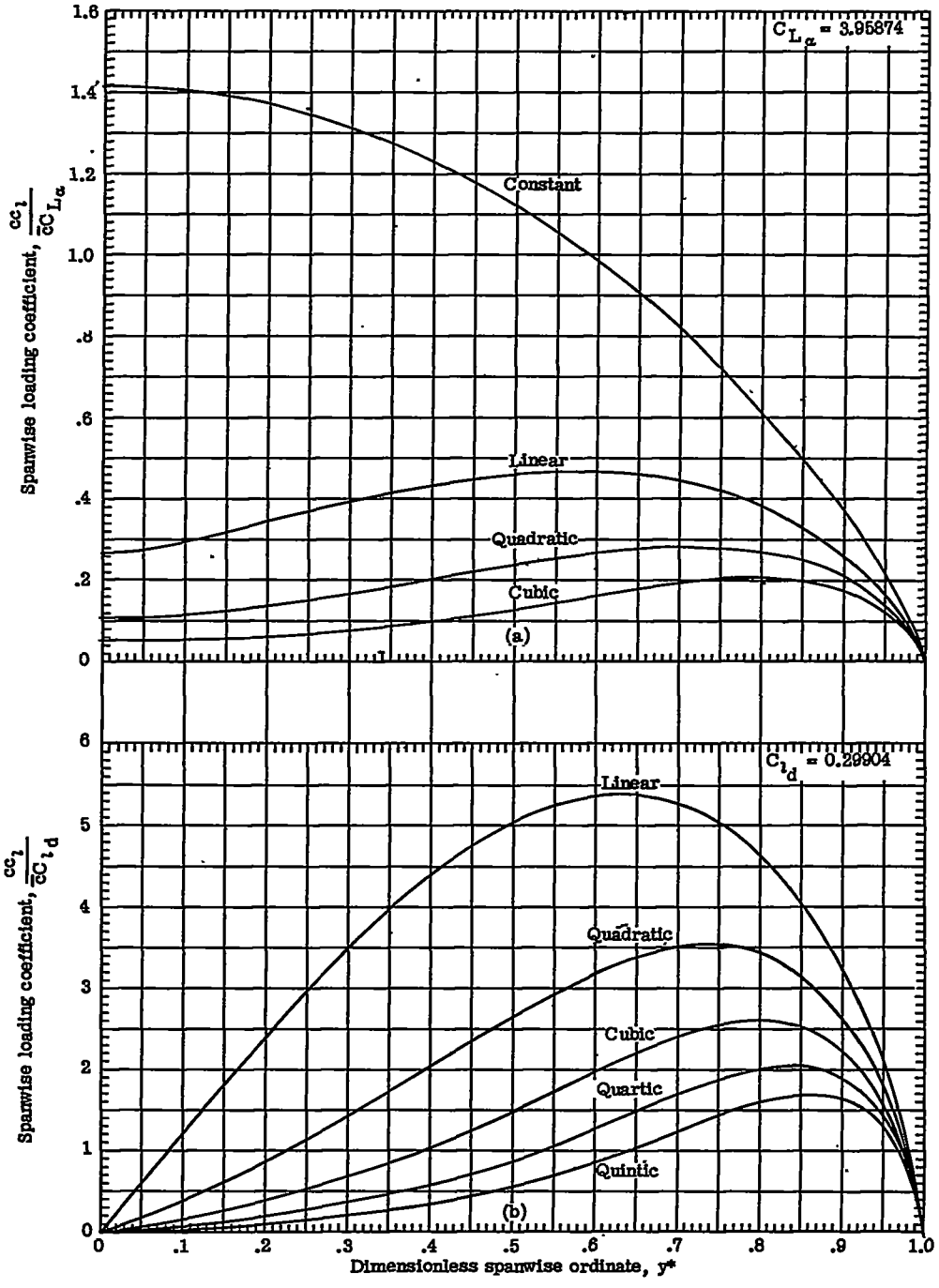
Figure 30.- Spanwise lift distributions for plan form 425 ($A = 3.0$; $\lambda = 1.50$; $\Lambda = 30^{\circ}$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

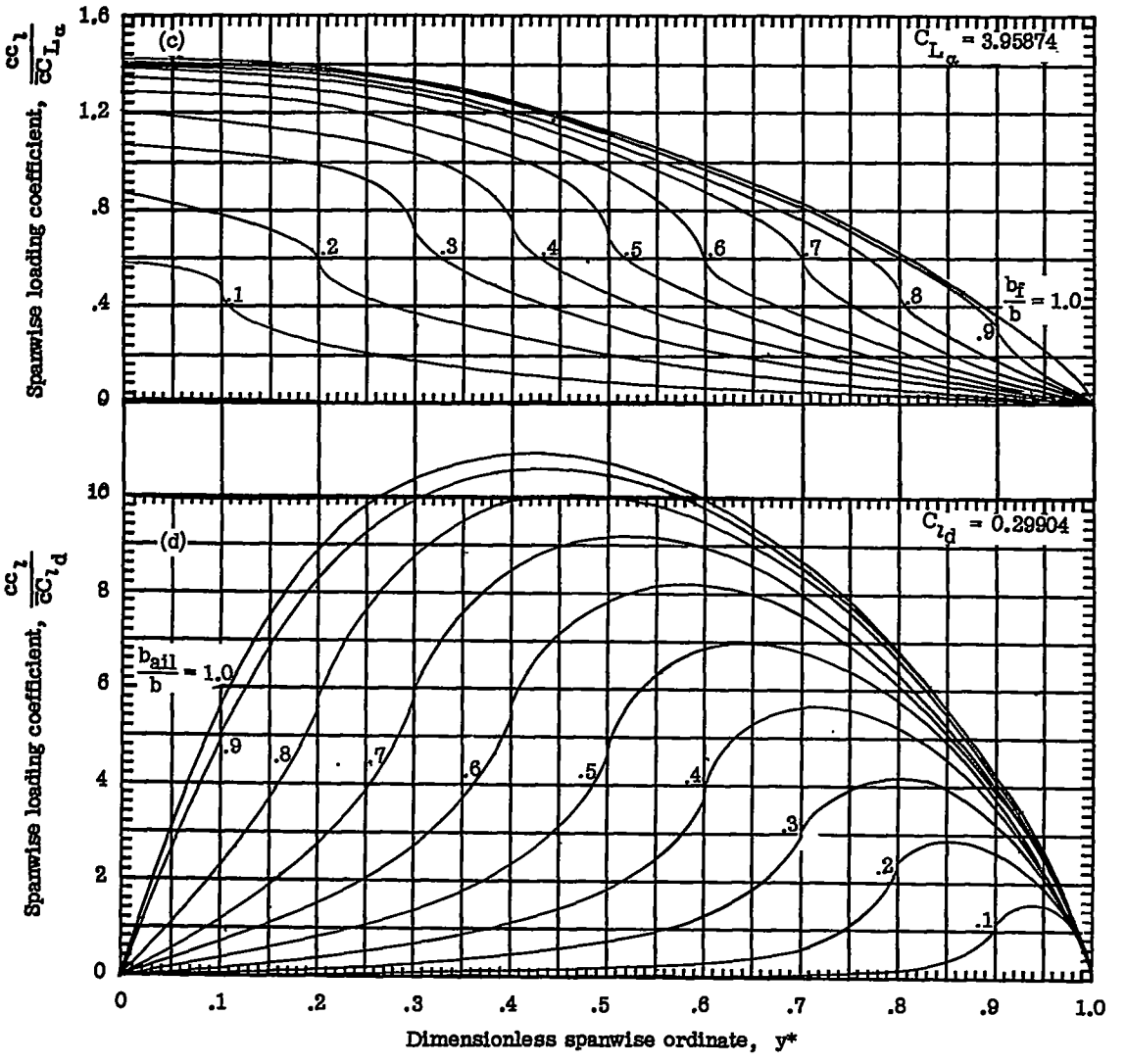
Figure 30.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

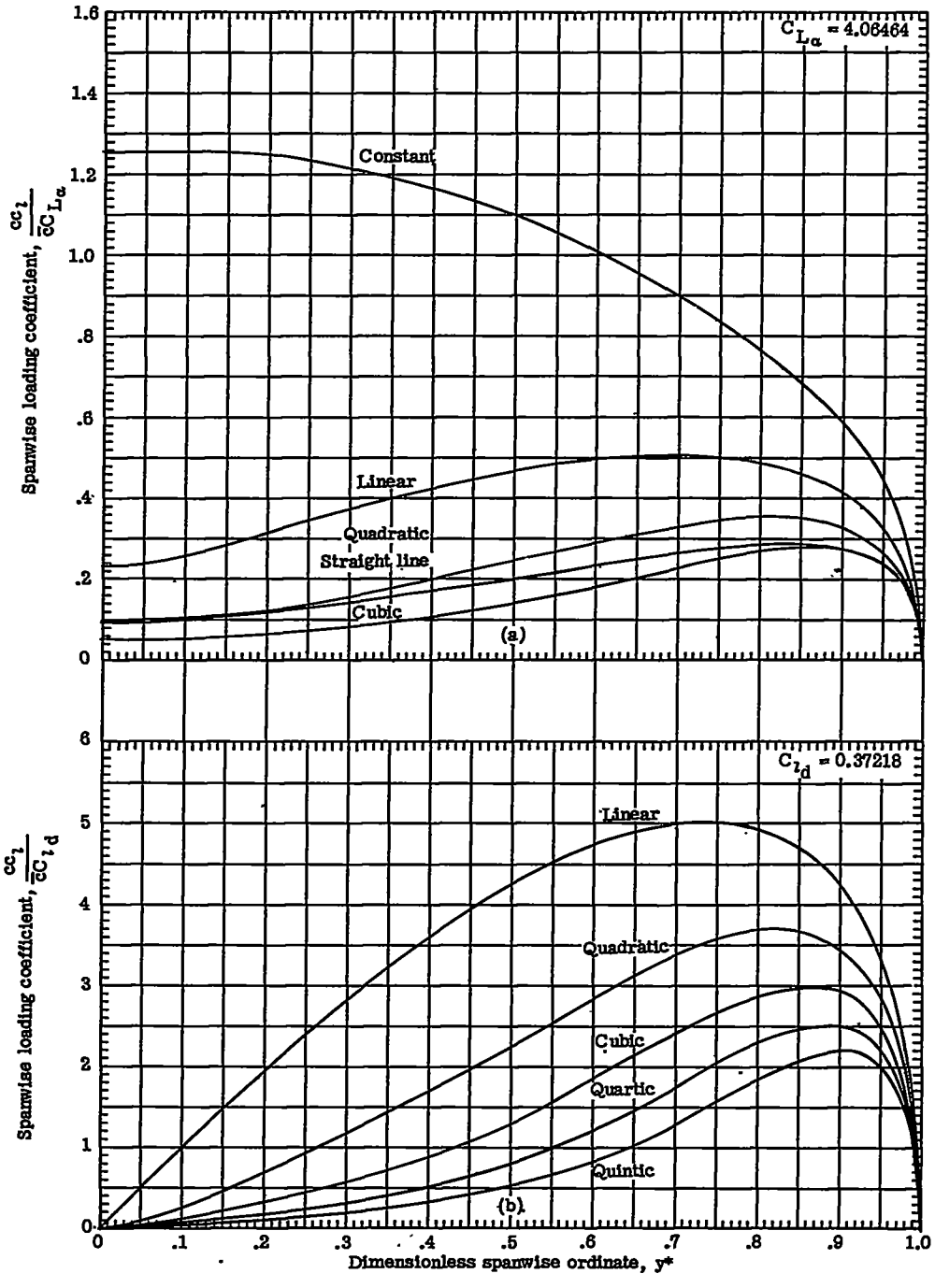
Figure 31.- Spanwise lift distributions for plan form 431 ($A = 6.0$; $\lambda = 0$; $\Lambda = 30^{\circ}$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

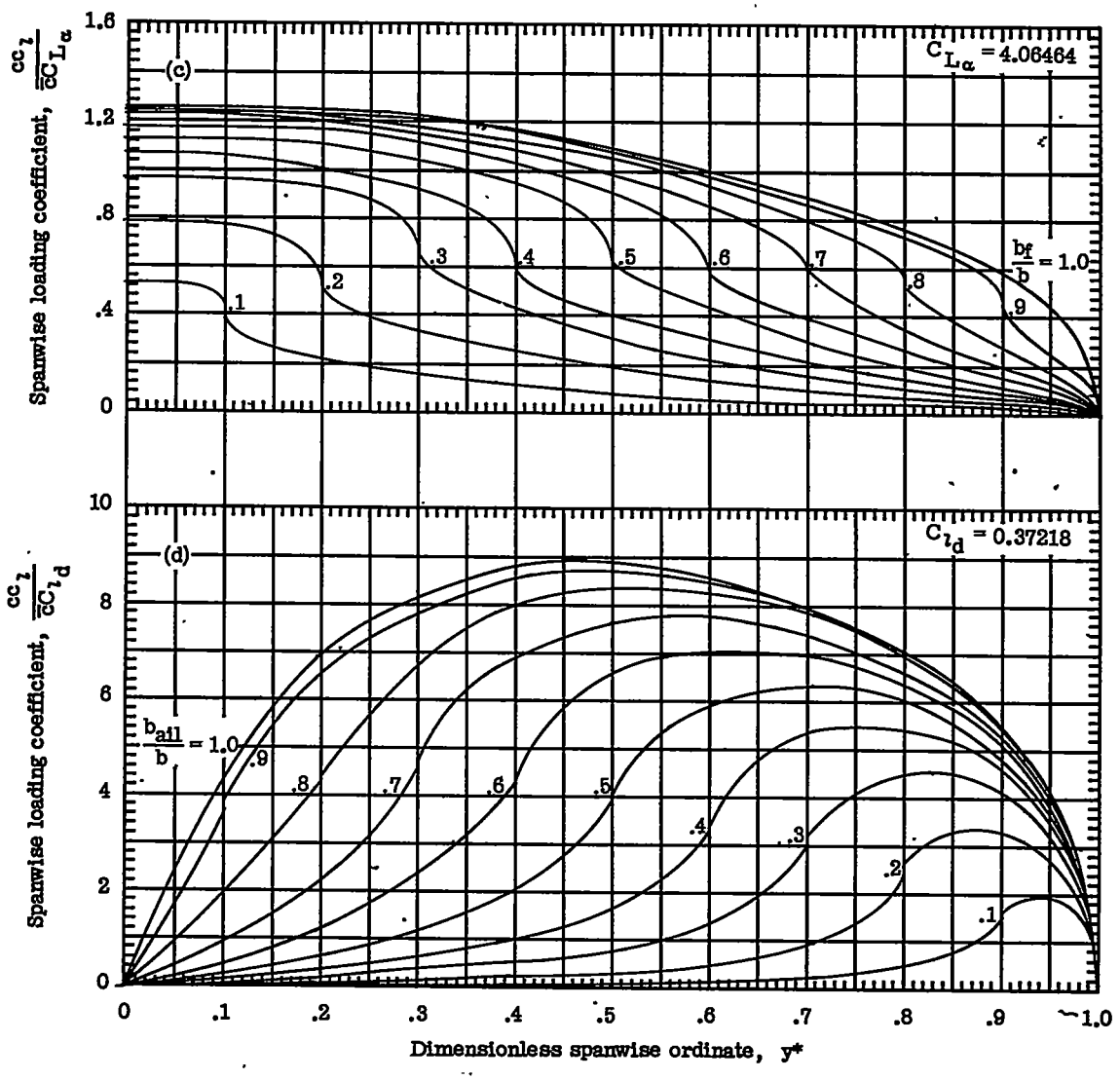
Figure 31.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

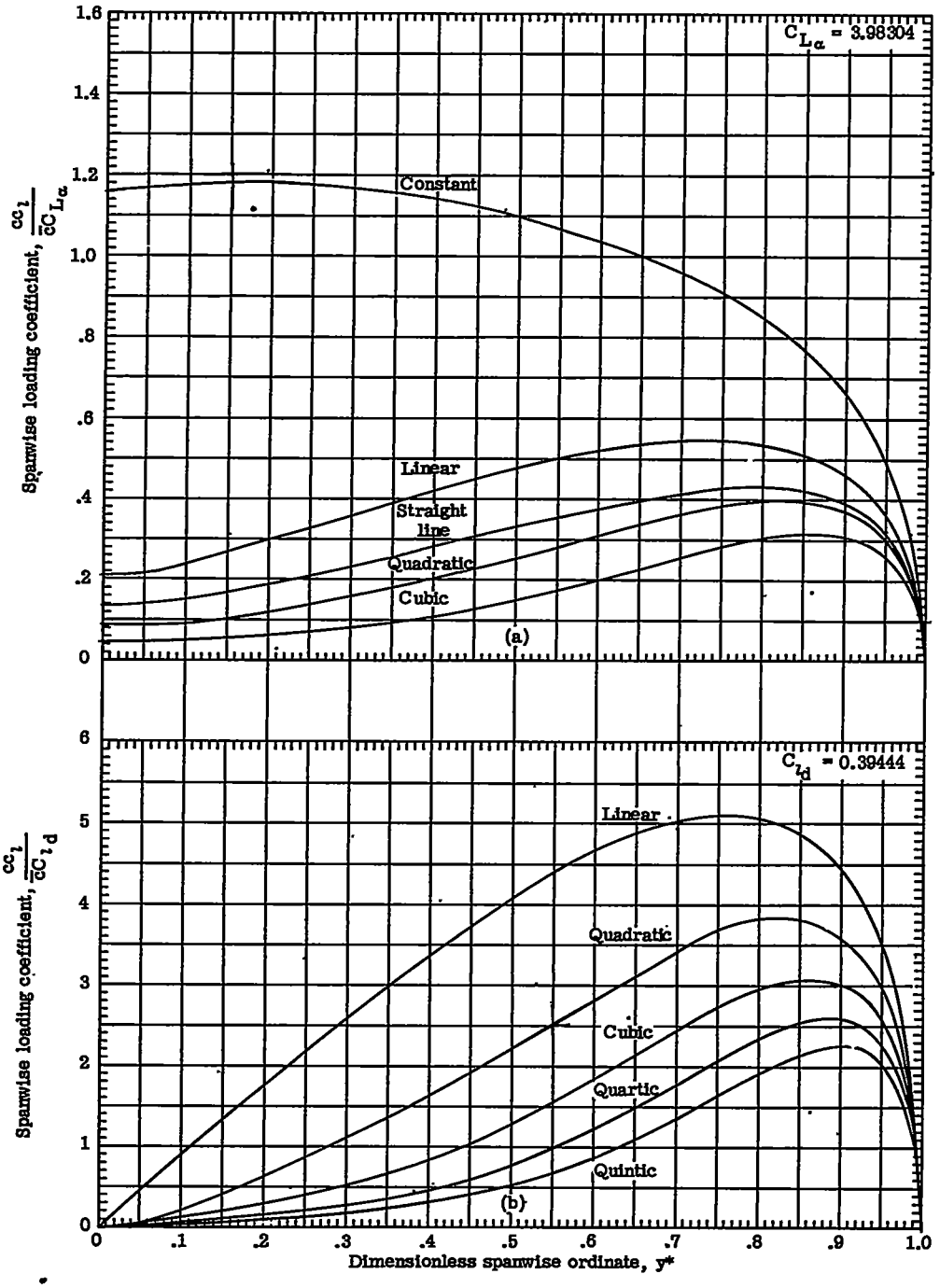
Figure 32.- Spanwise lift distributions for plan form 432 ($A = 6.0$; $\lambda = 0.25$; $\Lambda = 30^{\circ}$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

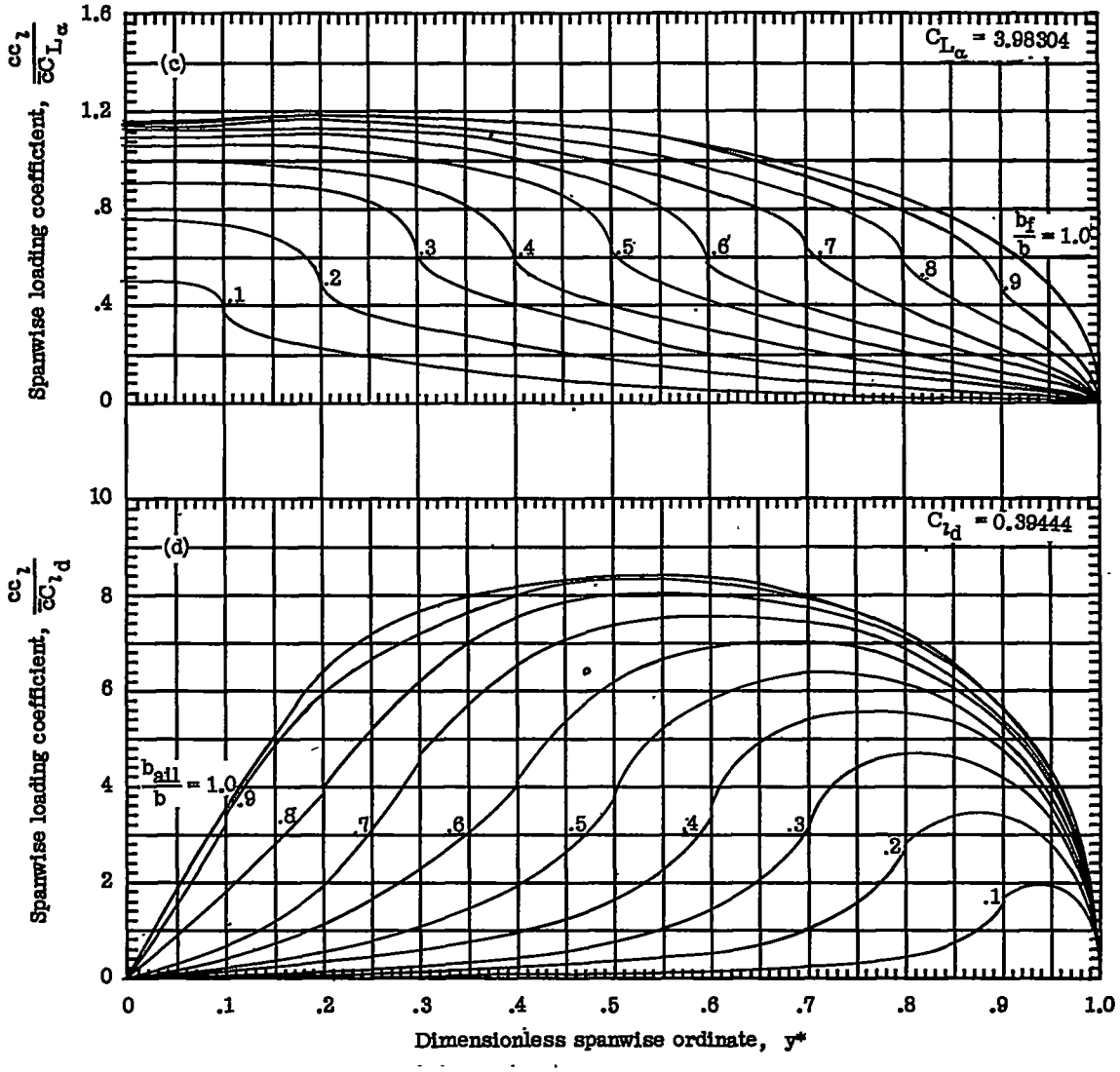
Figure 32.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

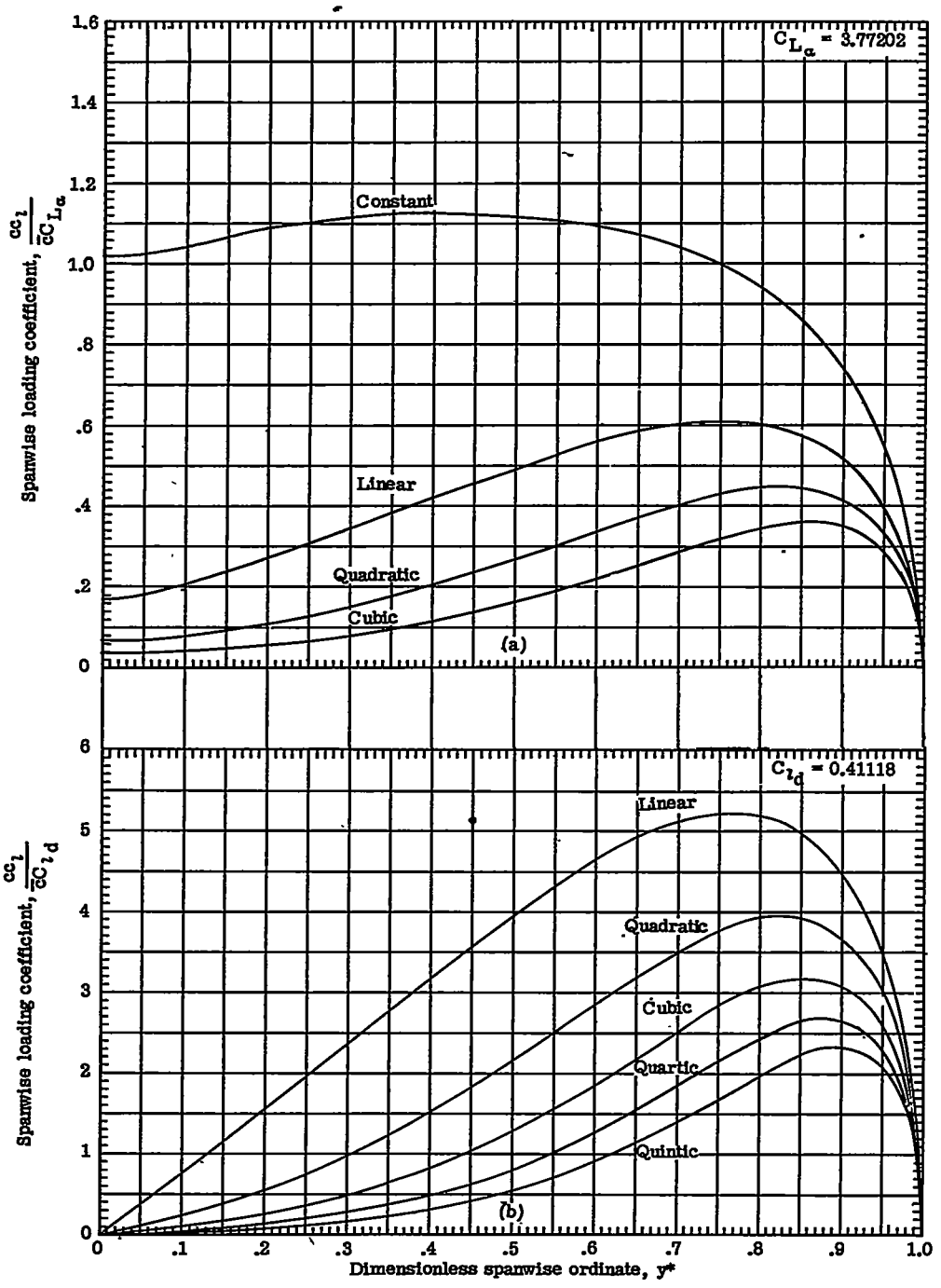
Figure 33.- Spanwise lift distributions for plan form 433 ($A = 6.0$; $\lambda = 0.50$; $\Lambda = 30^{\circ}$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

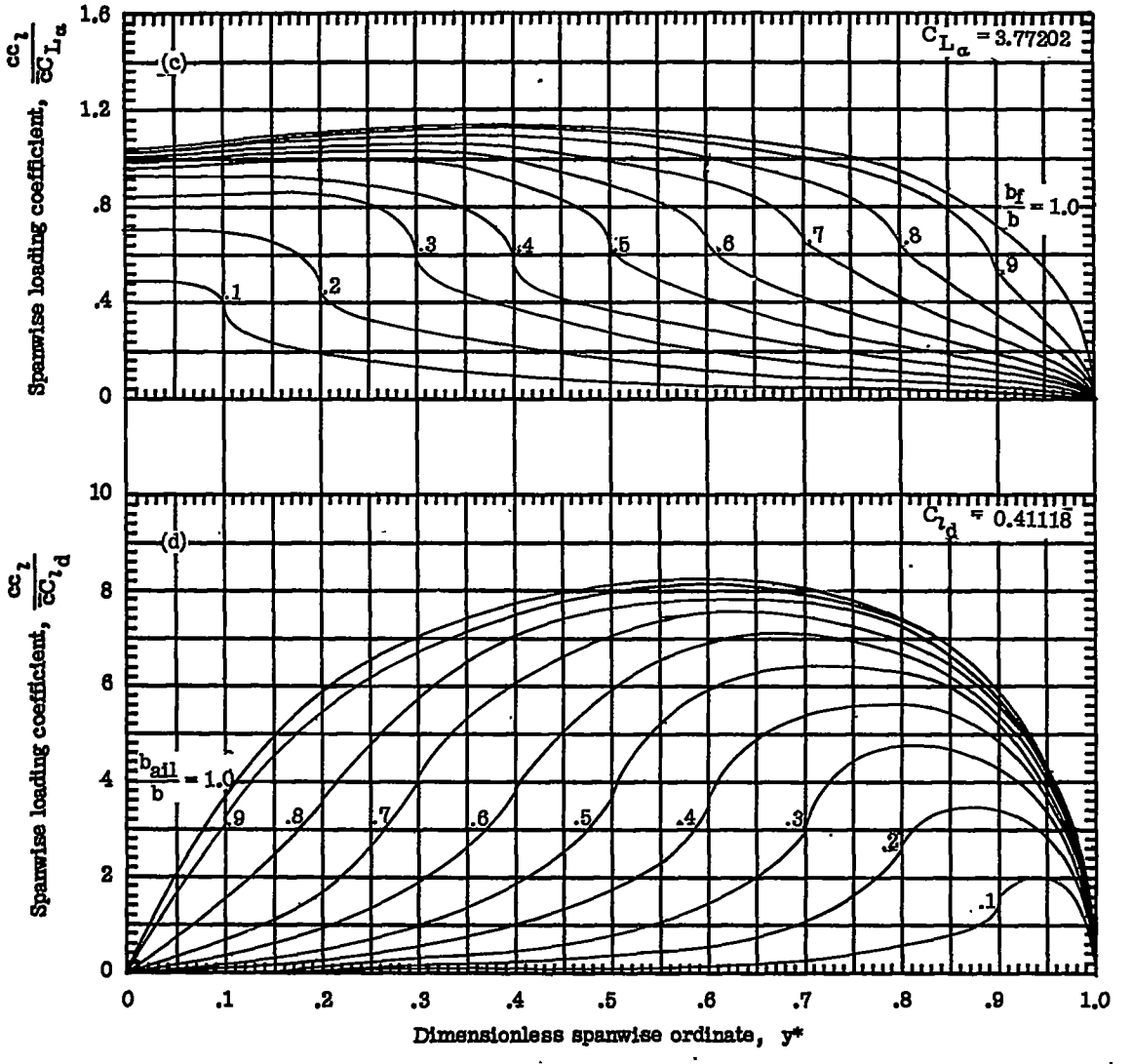
Figure 33.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

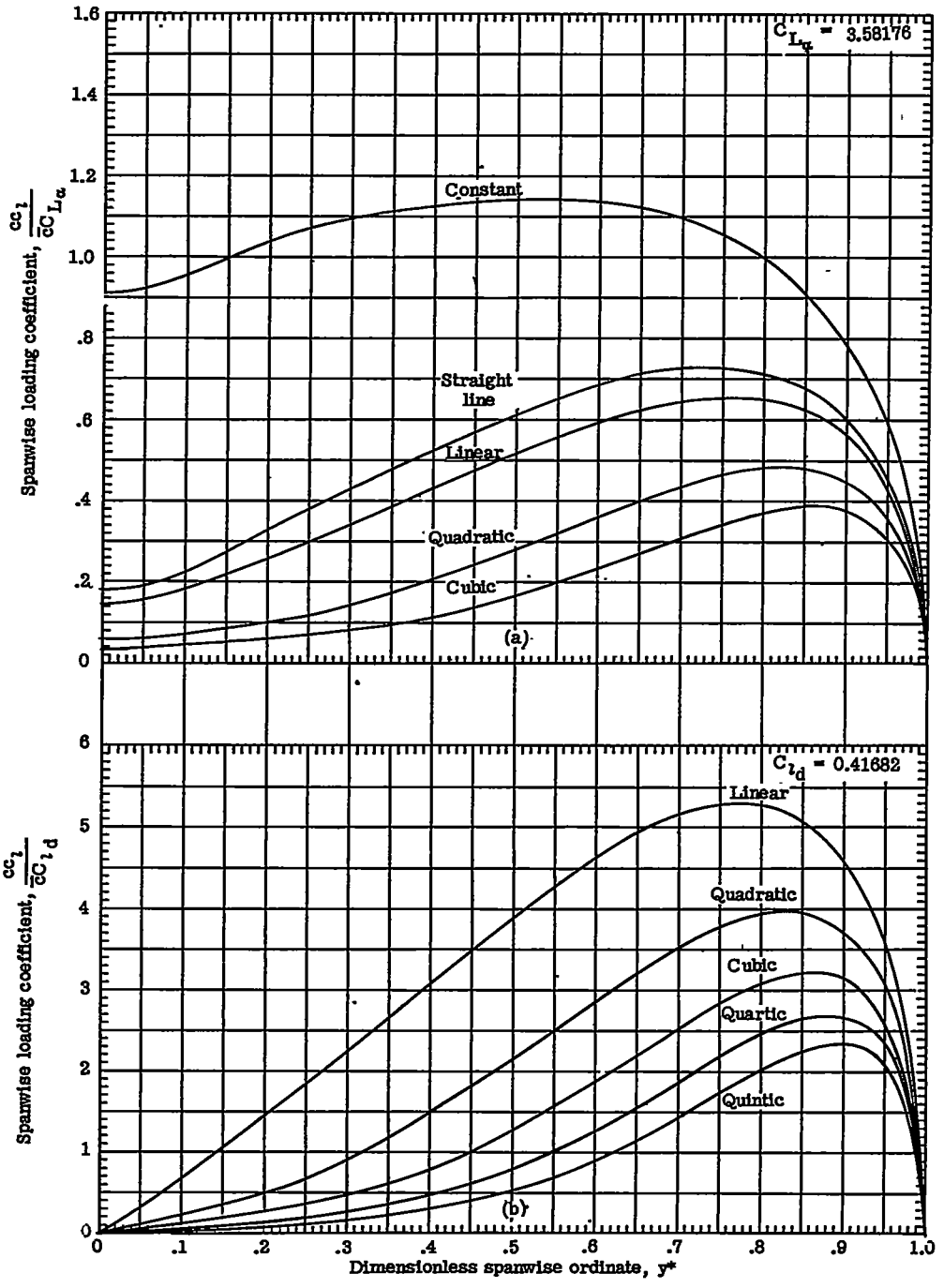
Figure 34.- Spanwise lift distributions for plan form 434 ($A = 6.0$; $\lambda = 1.00$; $\Lambda = 30^\circ$).



(c) Lift distribution for inboard flap.

(b) Lift distribution for outboard aileron.

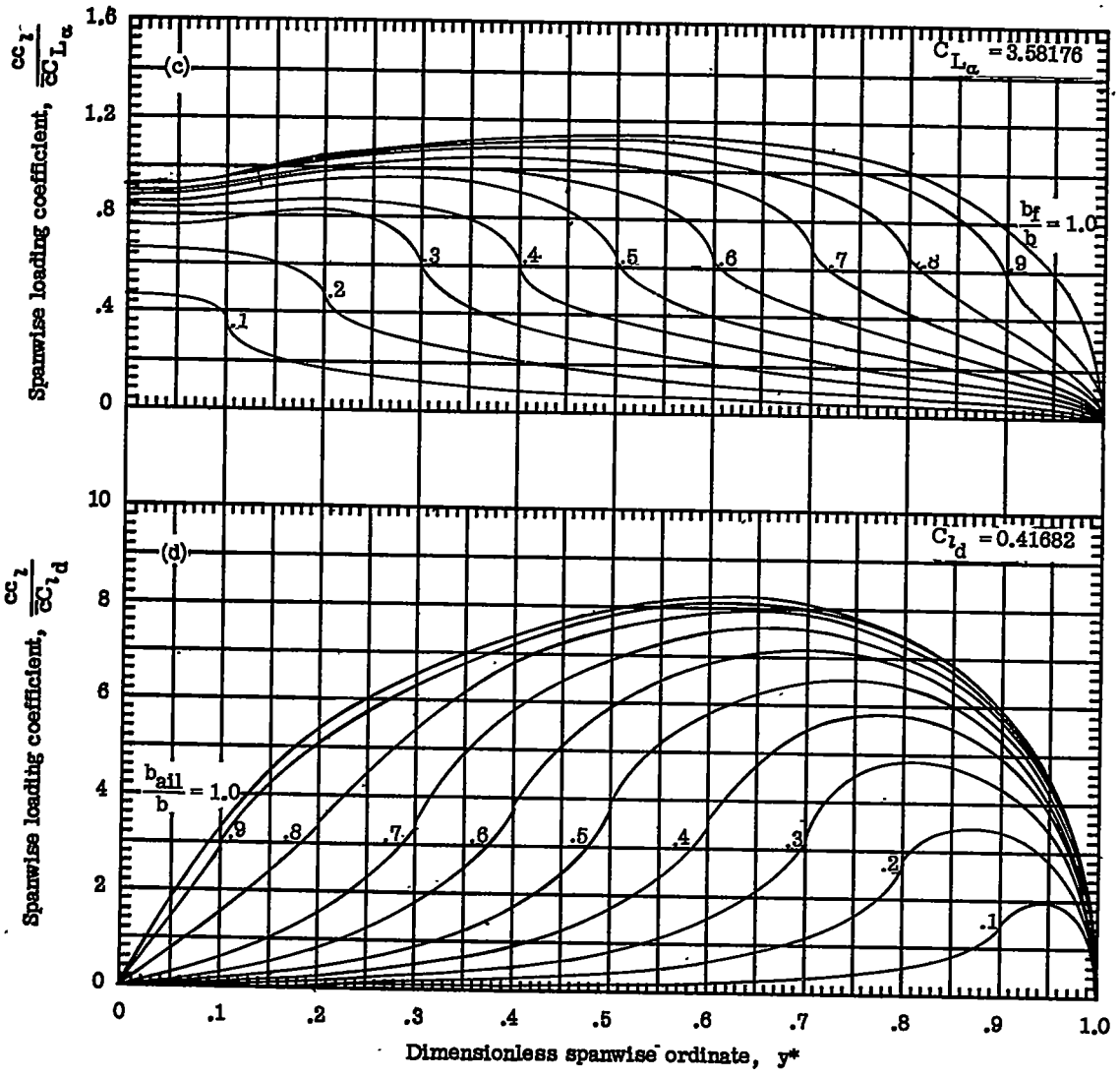
Figure 34.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

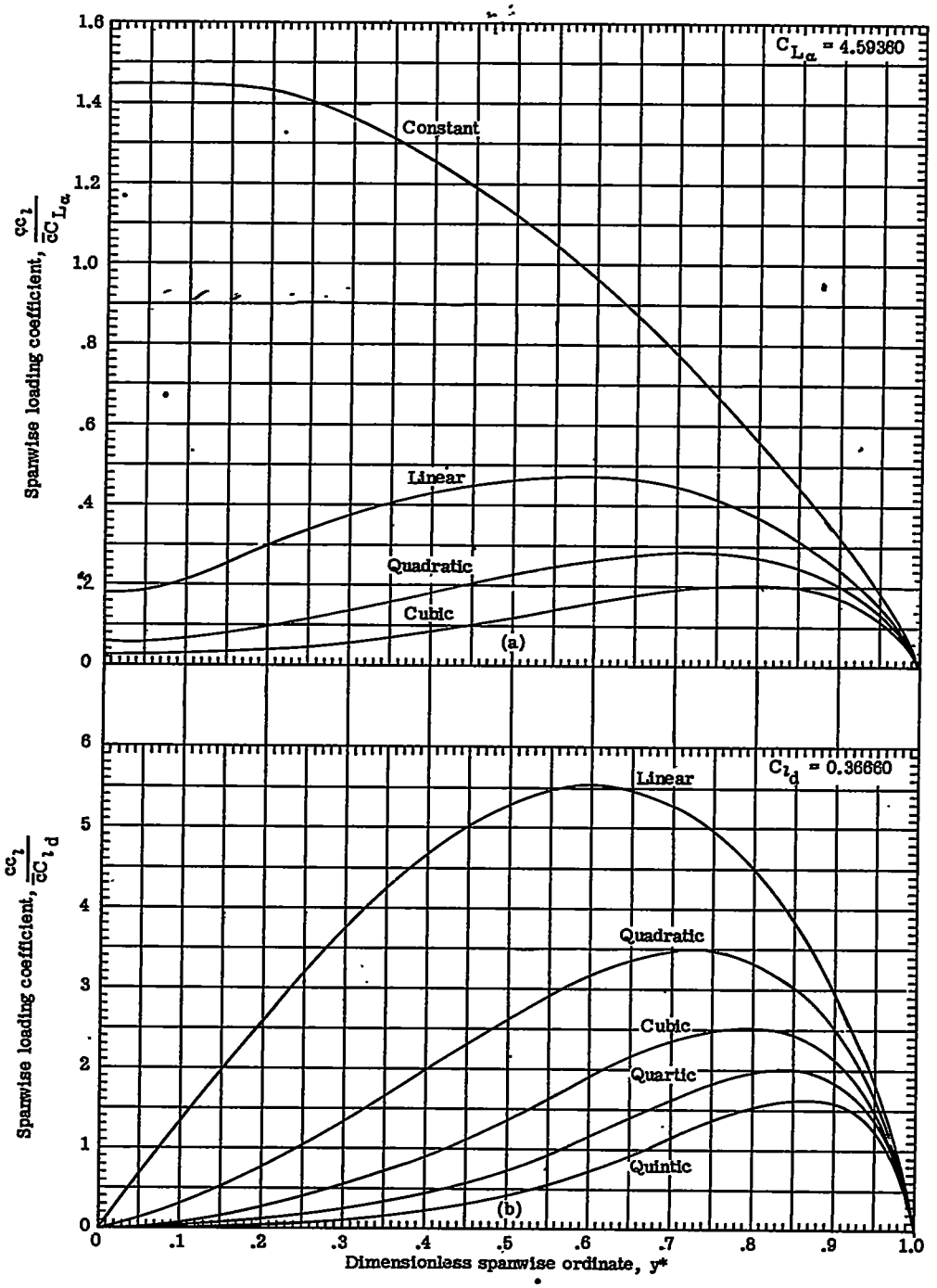
Figure 35.- Spanwise lift distributions for plan form 435 ($A = 6.0$; $\lambda = 1.50$; $\Lambda = 30^\circ$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

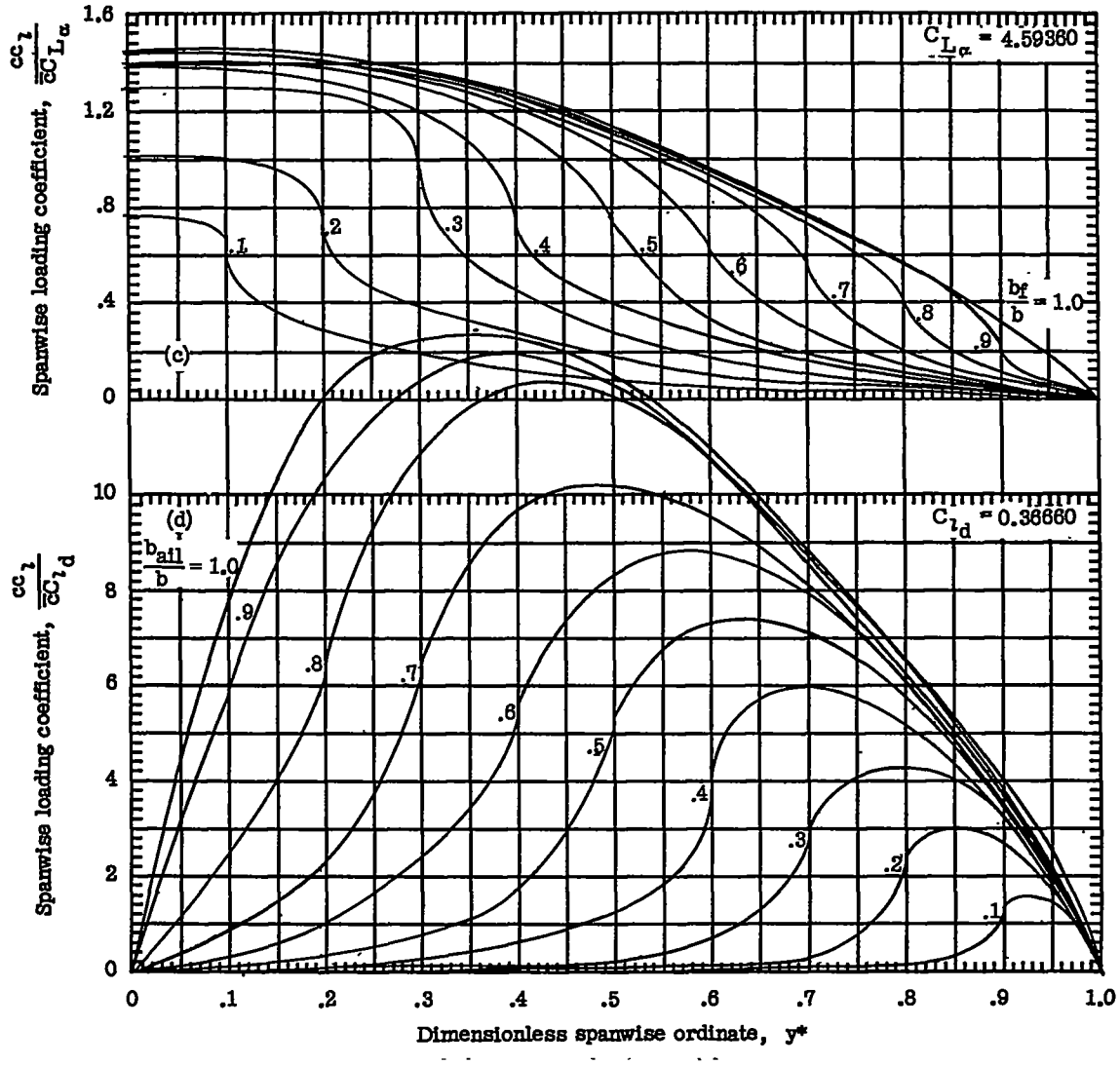
Figure 35.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

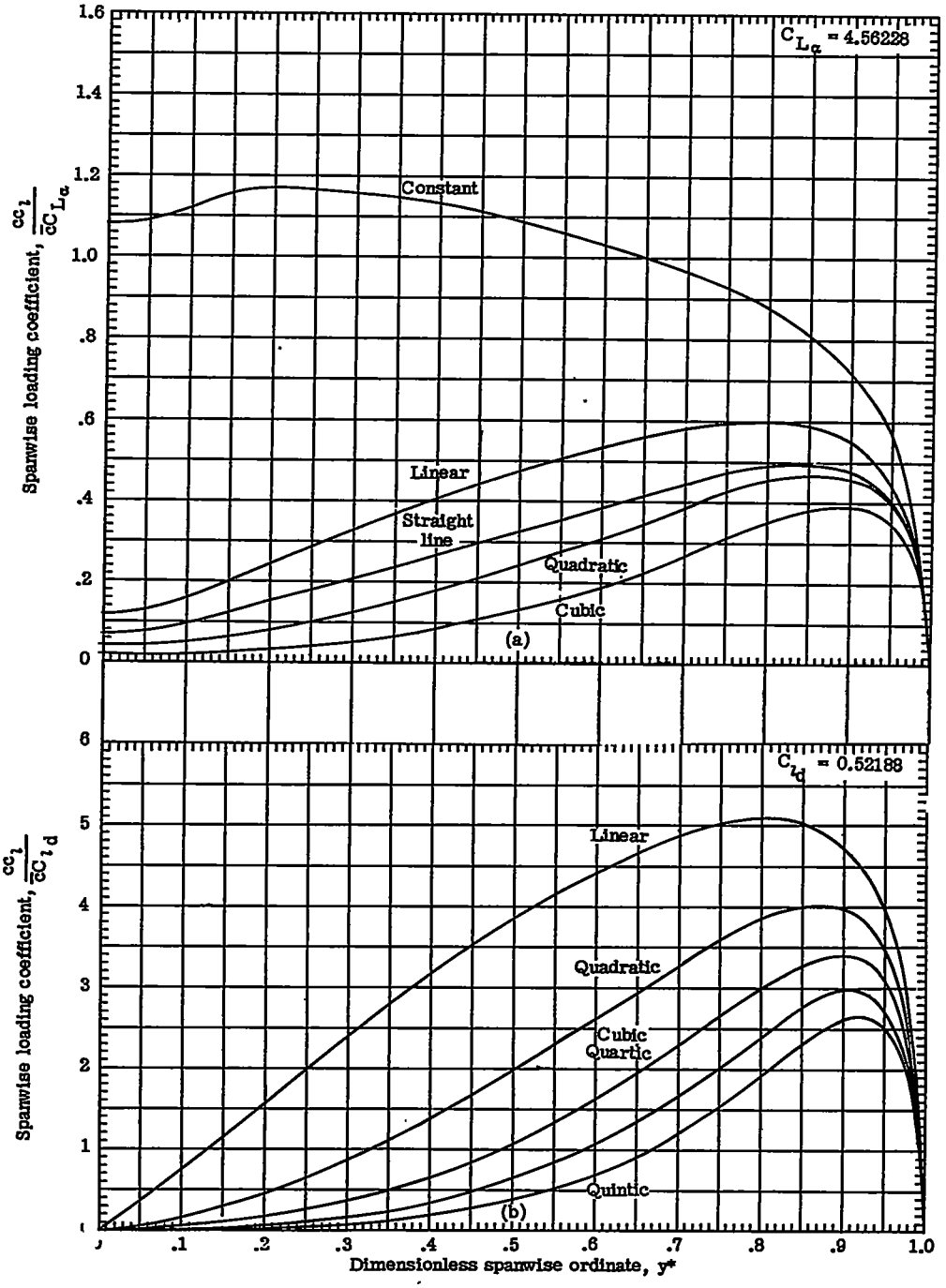
Figure 36.- Spanwise lift distributions for plan form 441 (A = 12.0; λ = 0; Λ = 30°).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

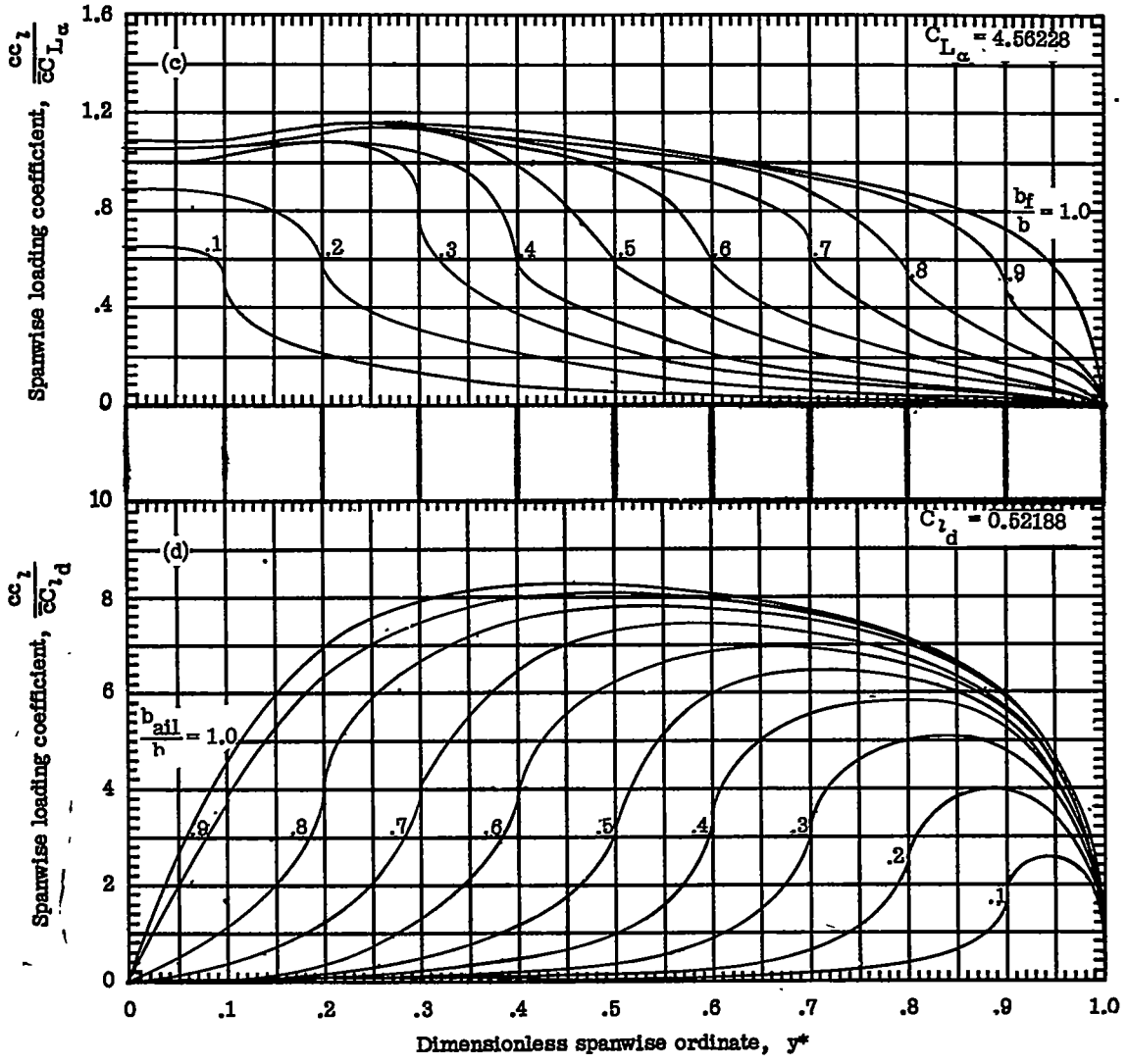
Figure 36.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

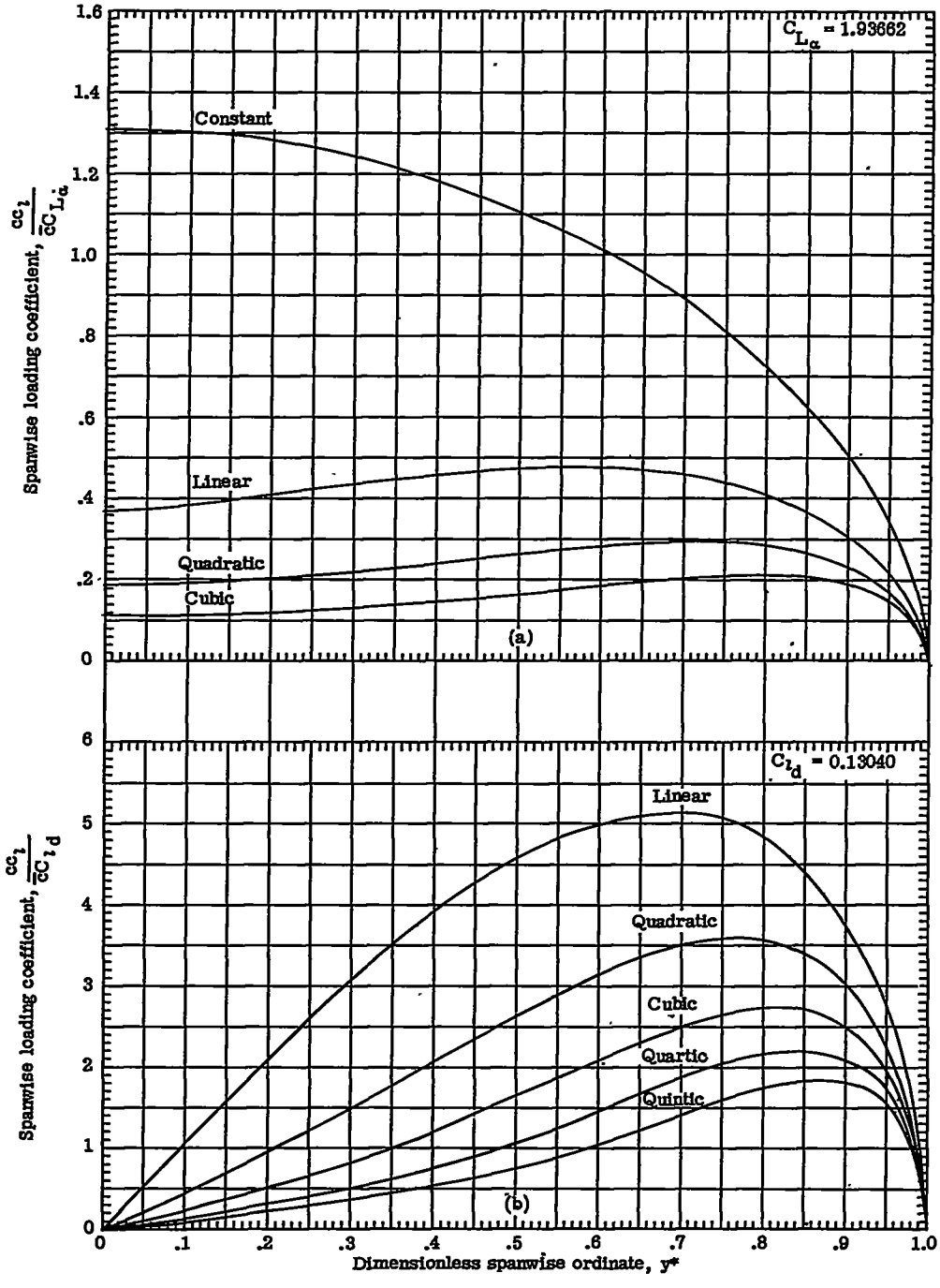
Figure 37.- Spanwise lift distributions for plan form 443 ($A = 12.0$; $\lambda = 0.50$; $\Lambda = 30^{\circ}$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

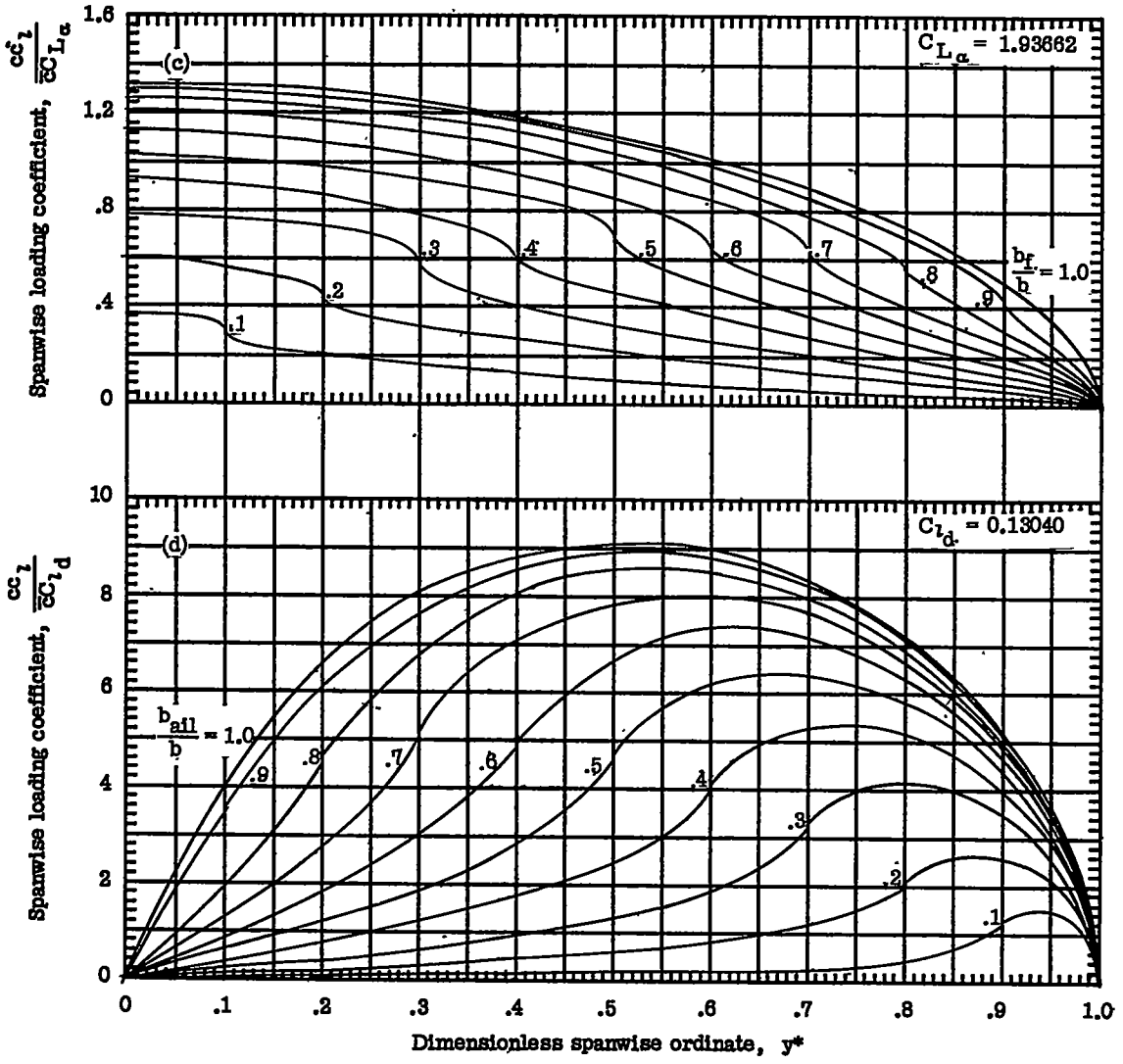
Figure 37.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

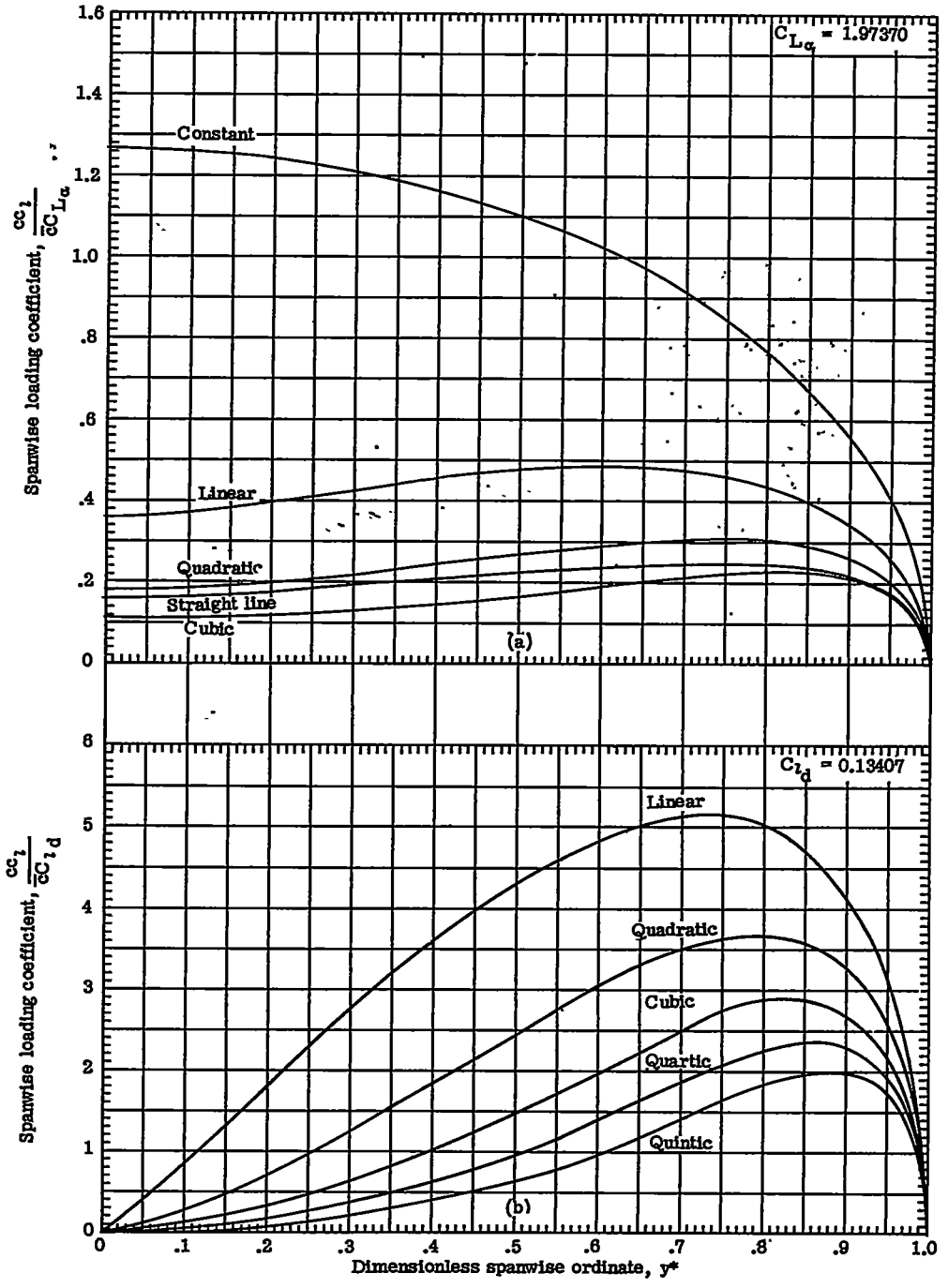
Figure 38.- Spanwise lift distributions for plan form 511 ($A = 1.5$; $\lambda = 0$; $\Lambda = 45^{\circ}$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

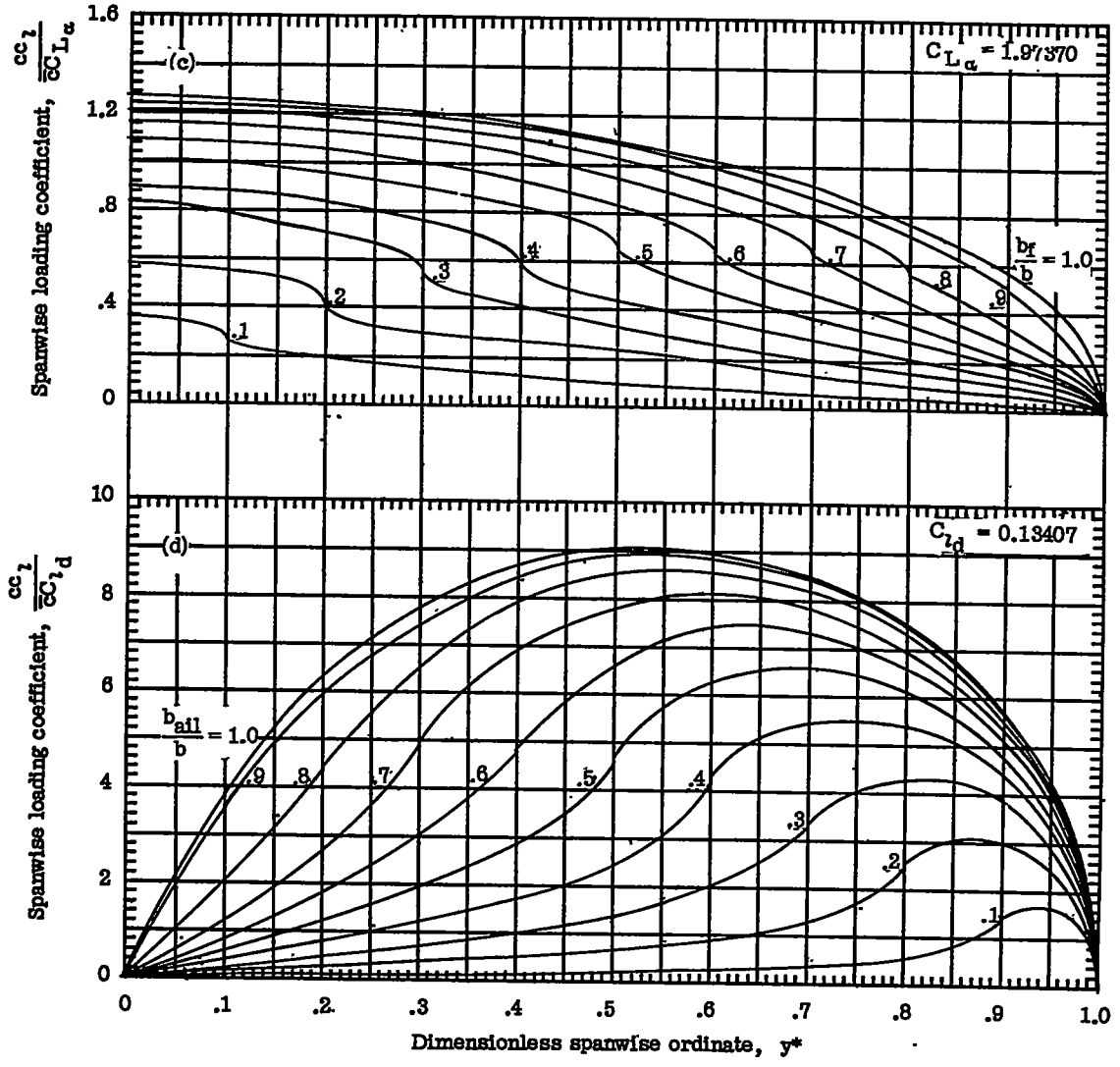
Figure 38.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

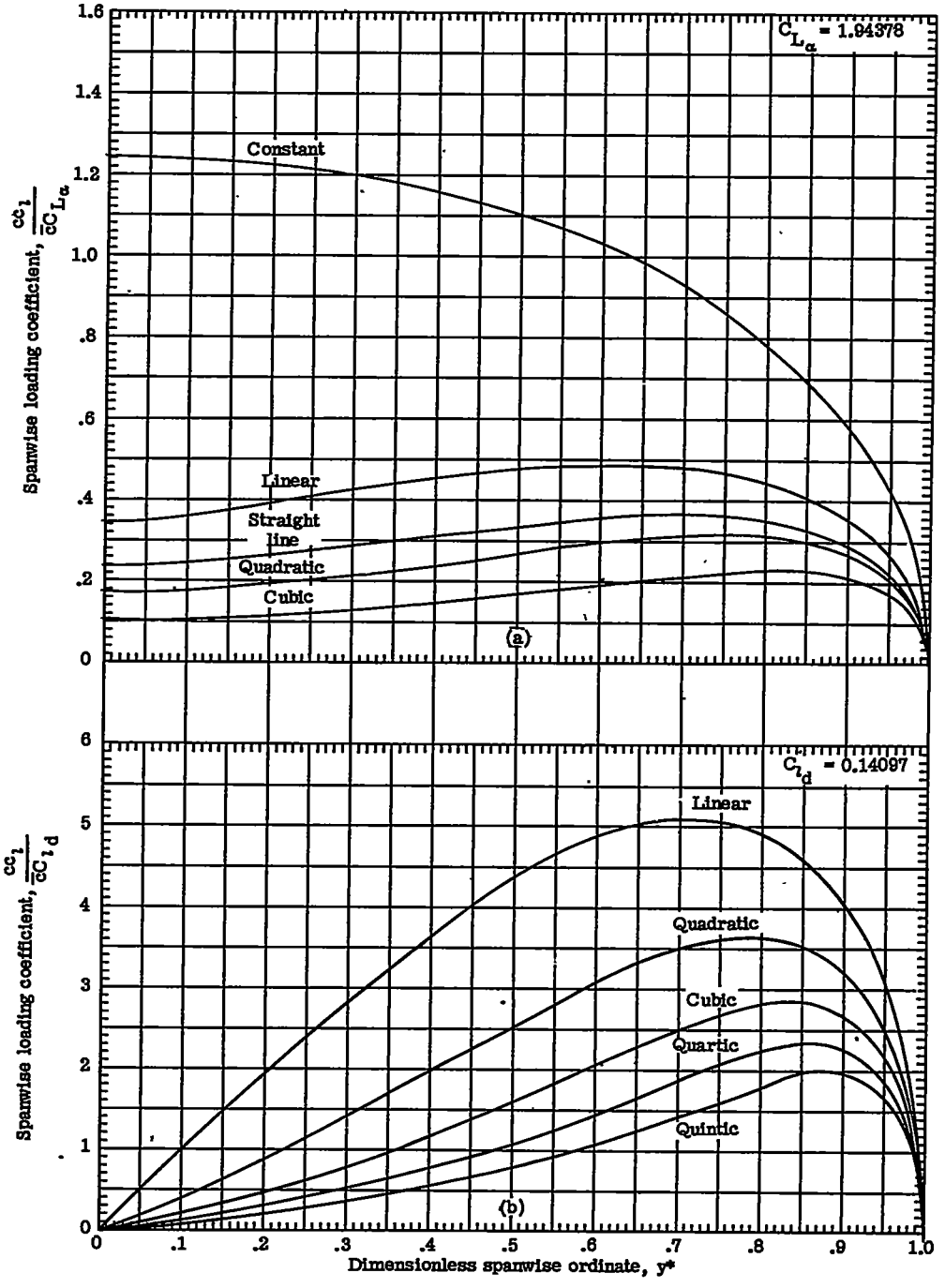
Figure 39.- Spanwise lift distributions for plan form 512 ($A = 1.5$; $\lambda = 0.25$; $\Lambda = 45^{\circ}$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

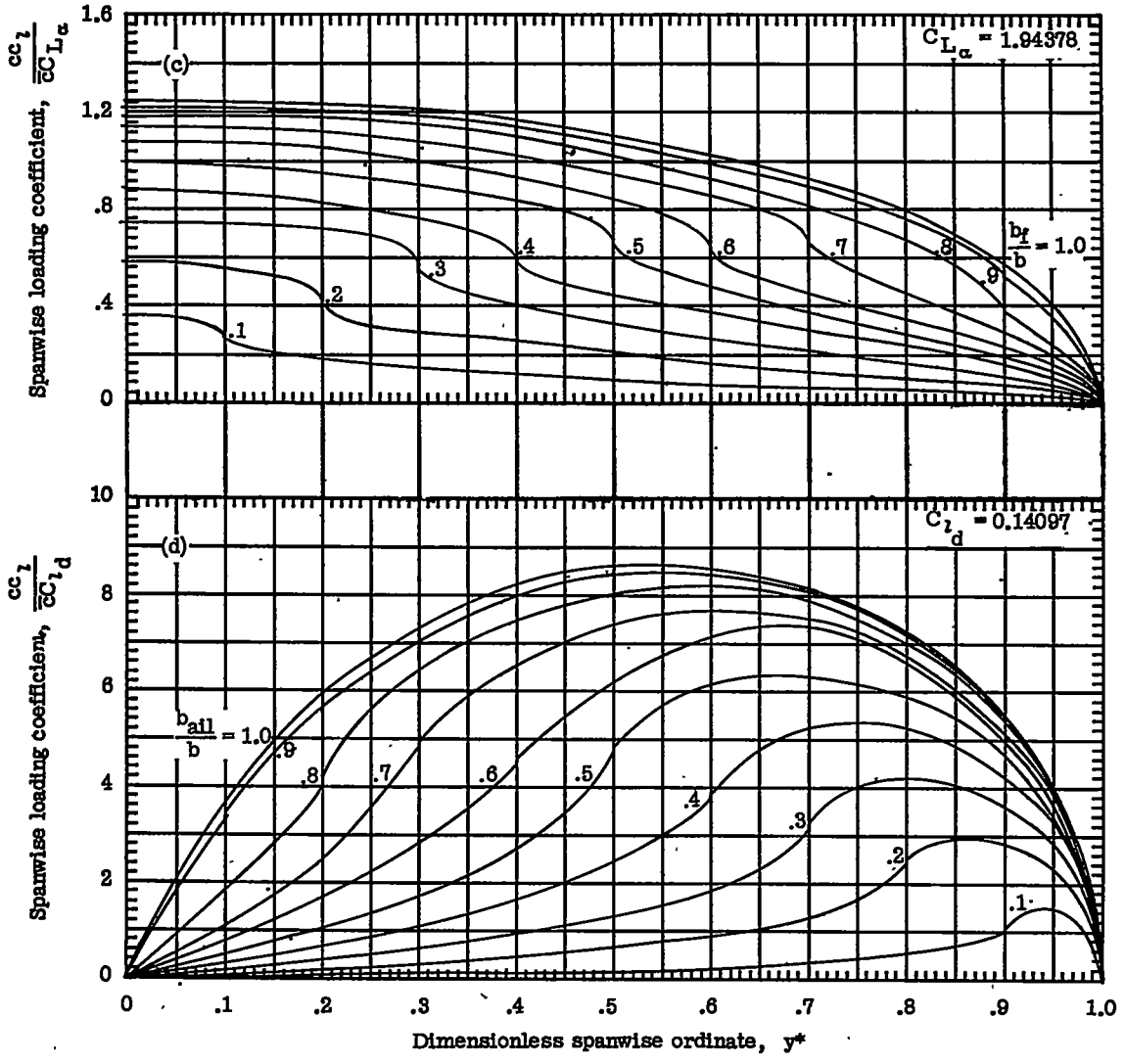
Figure 39.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

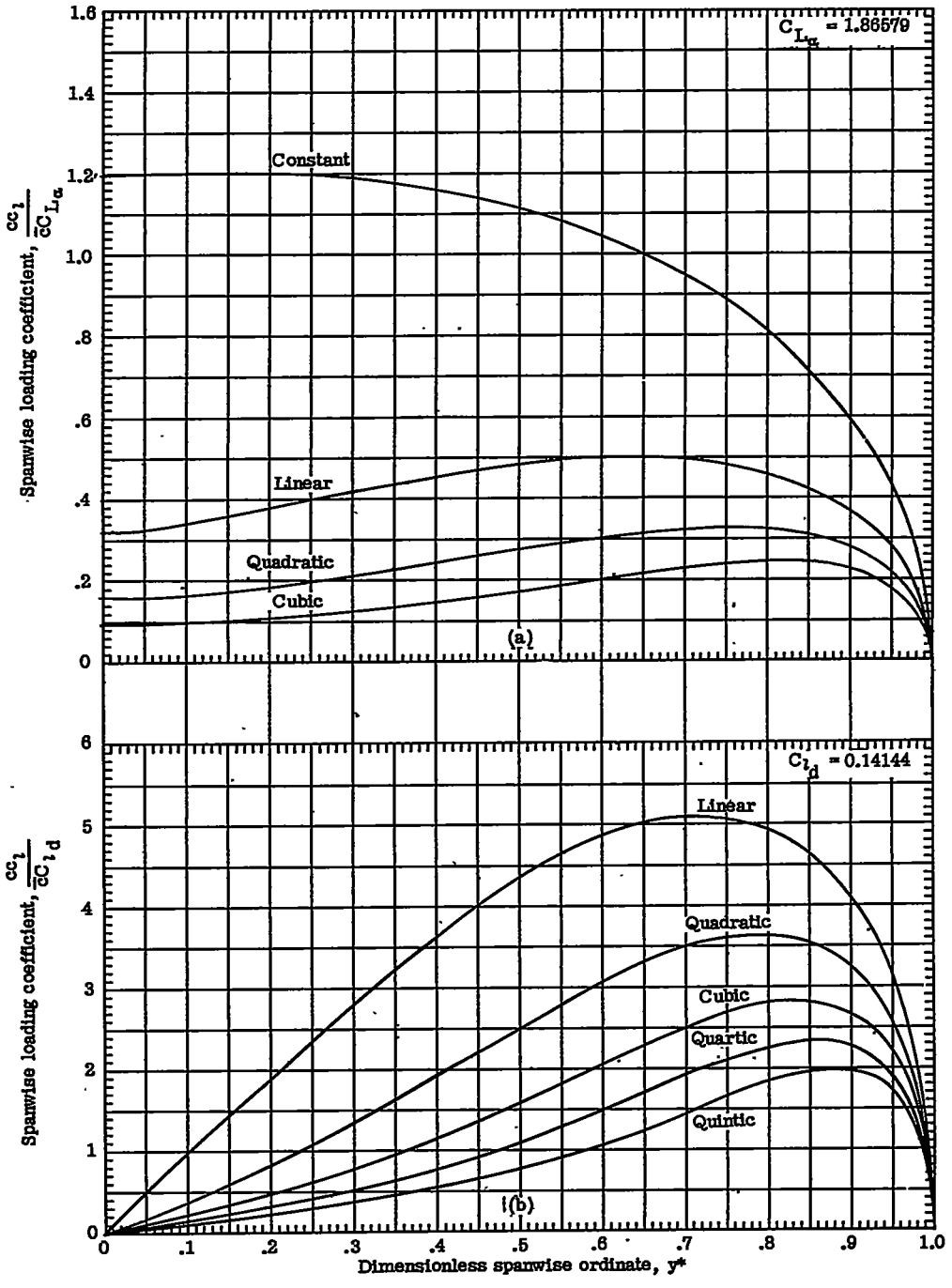
Figure 40.- Spanwise lift distributions for plan form 513 ($A = 1.5$; $\lambda = 0.50$; $\Lambda = 45^\circ$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

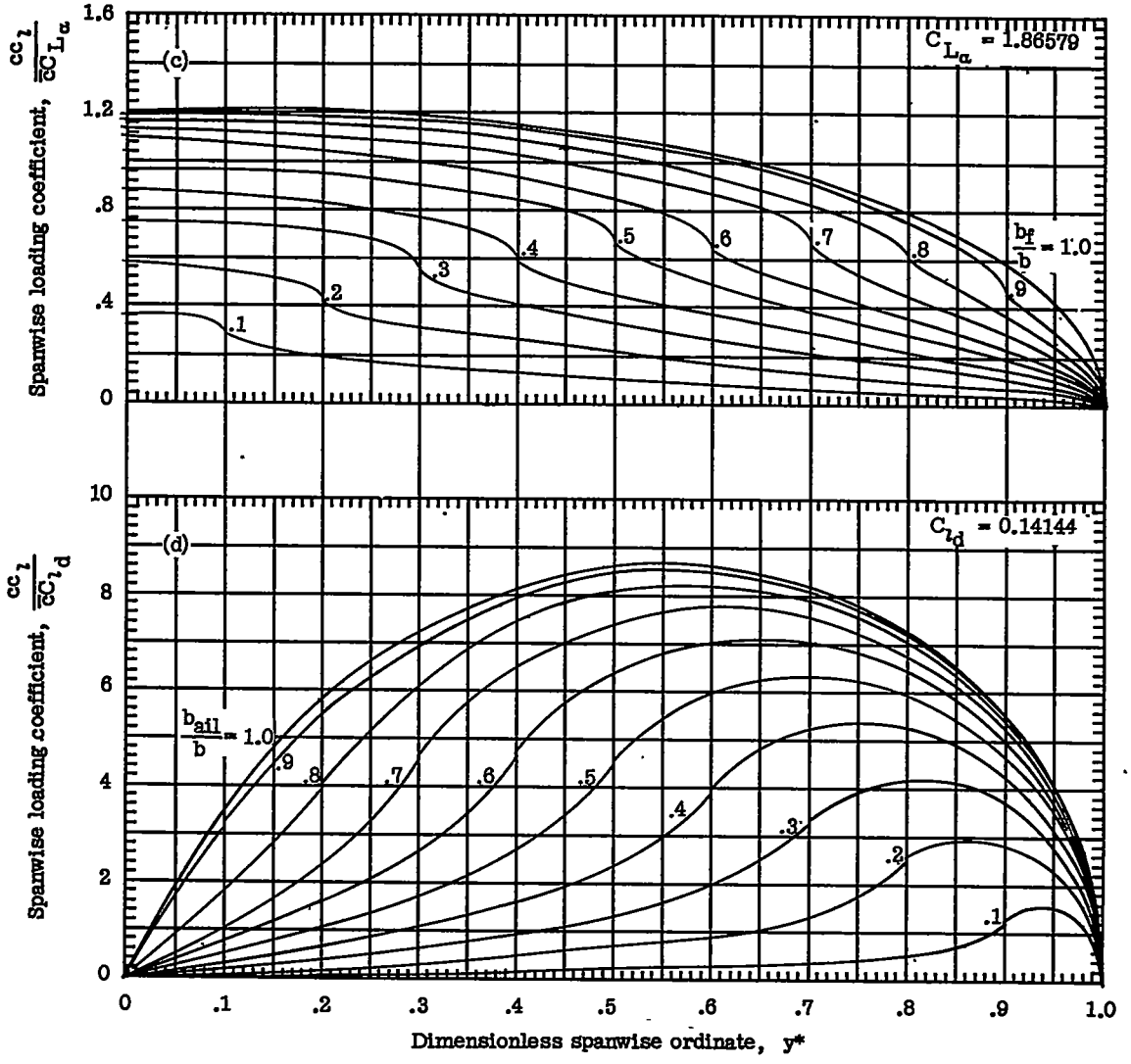
Figure 40.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

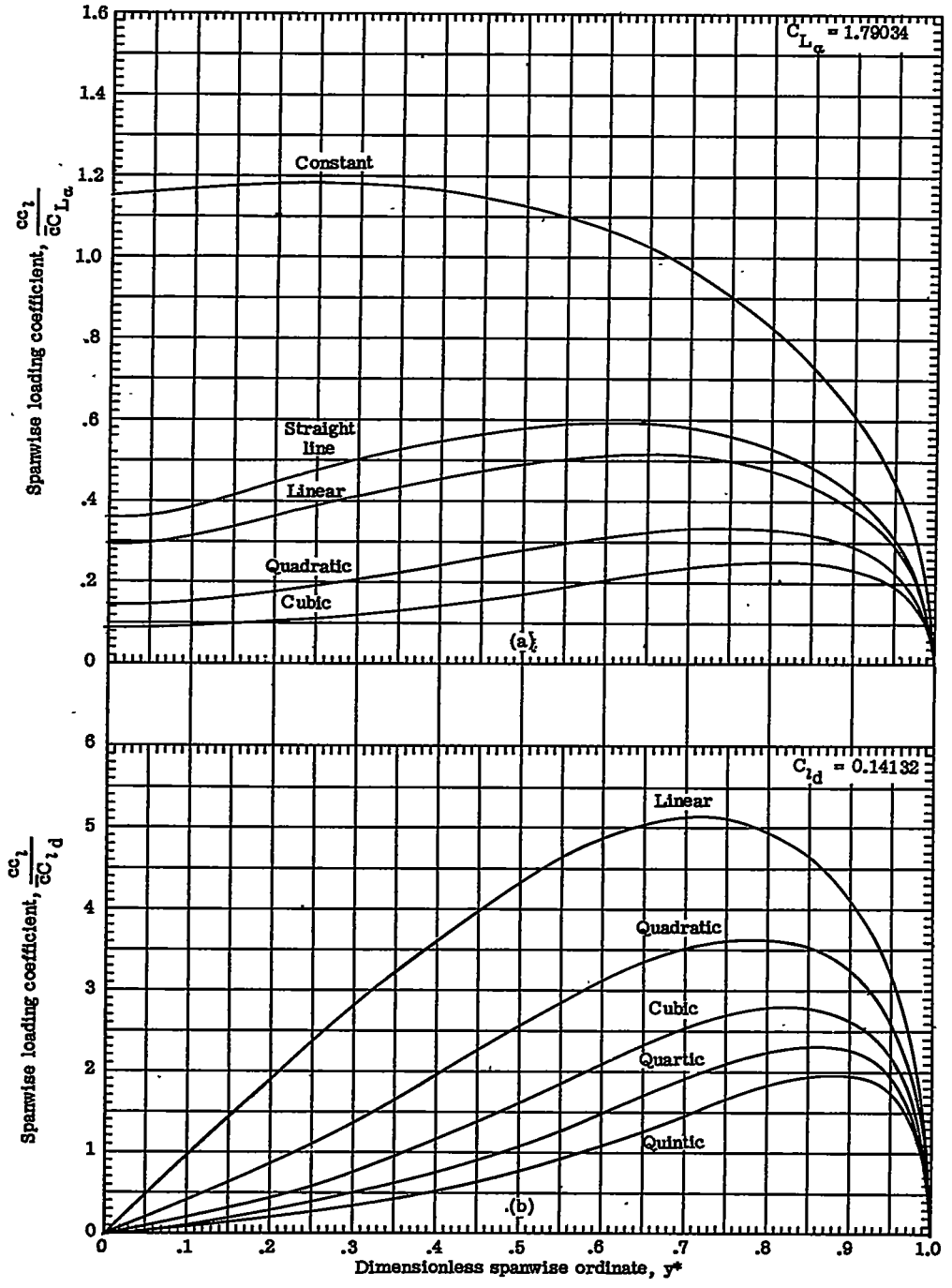
Figure 41.- Spanwise lift distributions for plan form 514 (A = 1.5; λ = 1.00; Λ = 45°).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

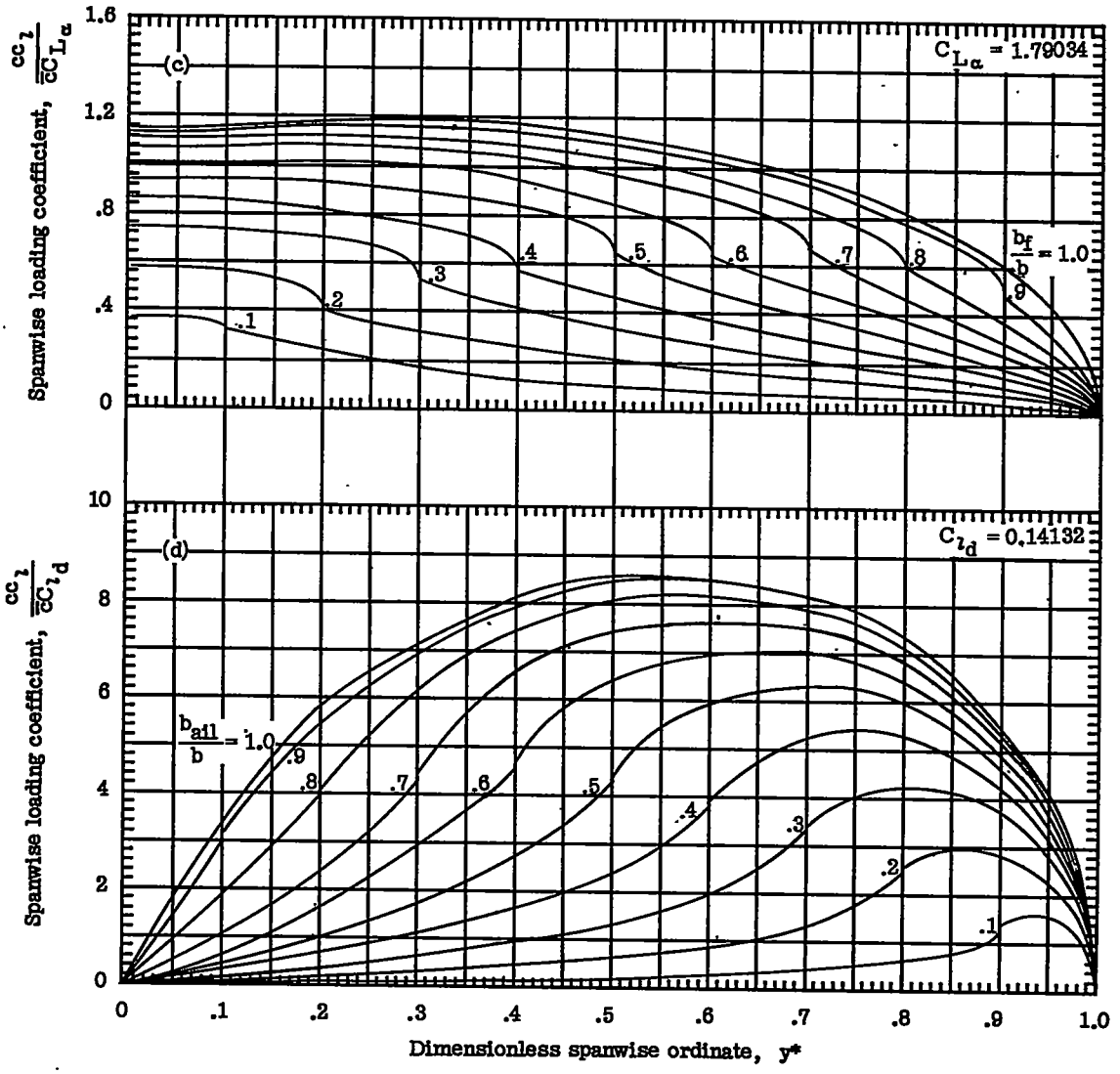
Figure 41.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

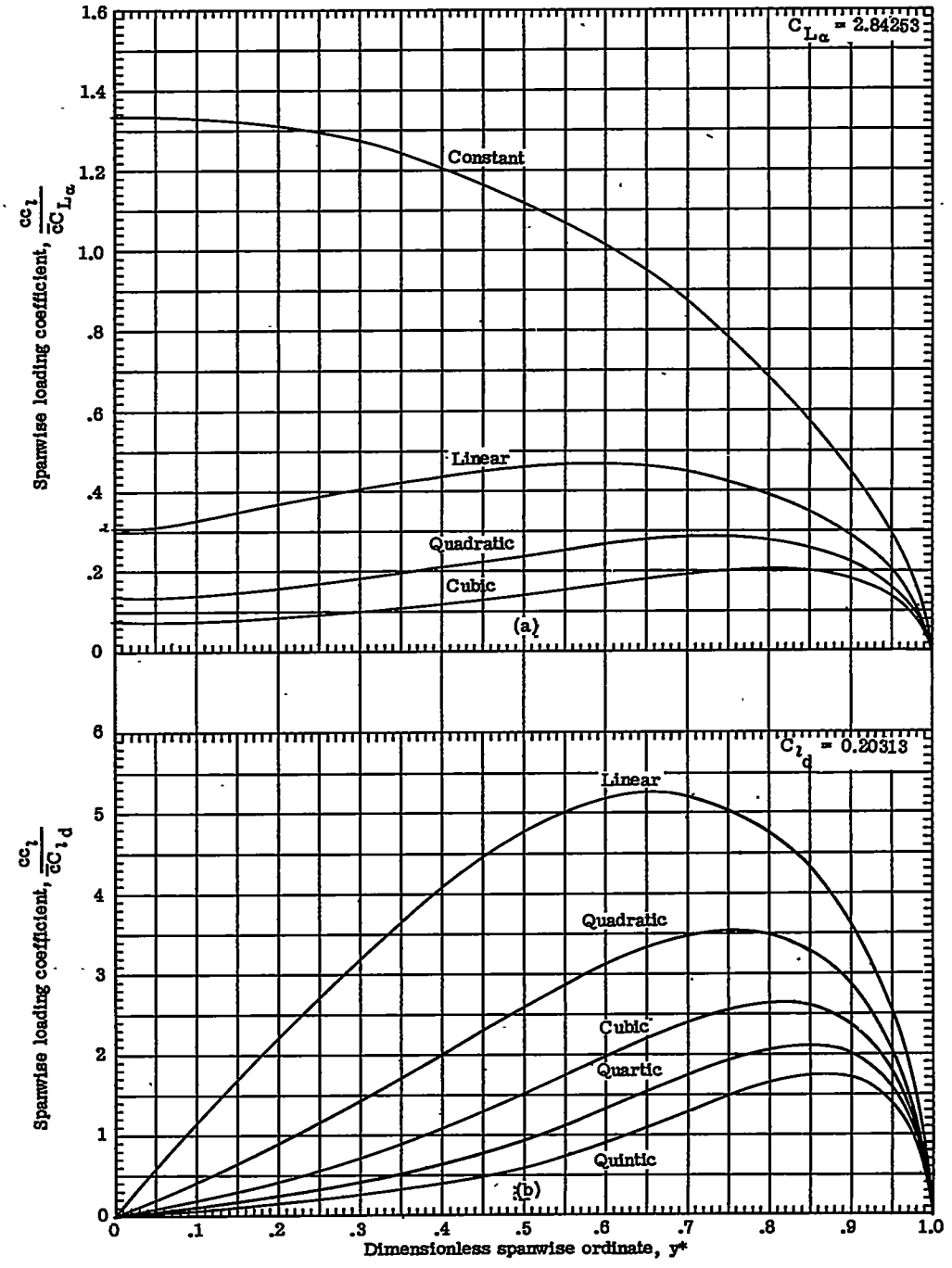
Figure 42.- Spanwise lift distributions for plan form 515 ($A = 1.5$; $\lambda = 1.50$; $\Lambda = 45^{\circ}$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

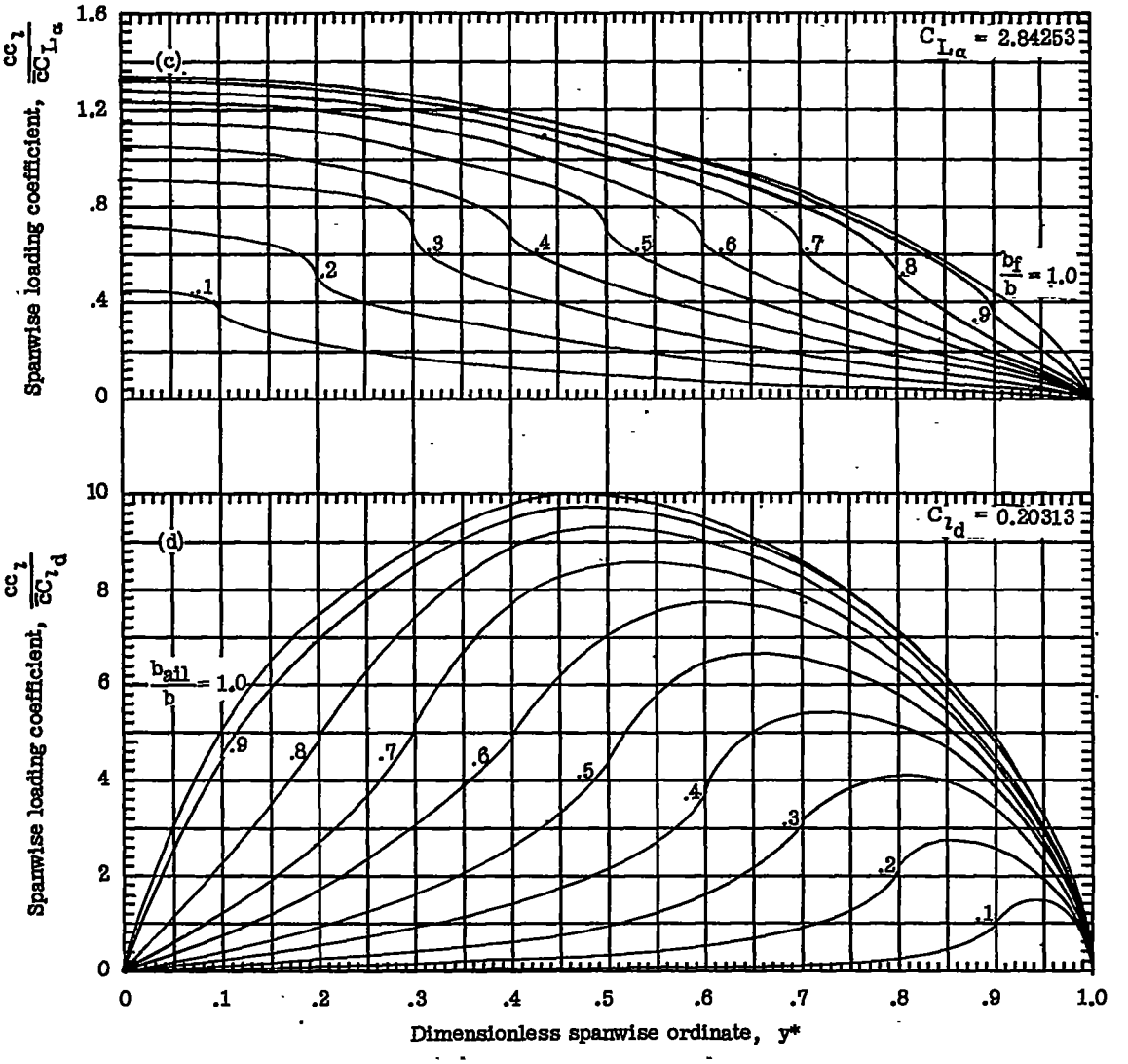
Figure 42.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

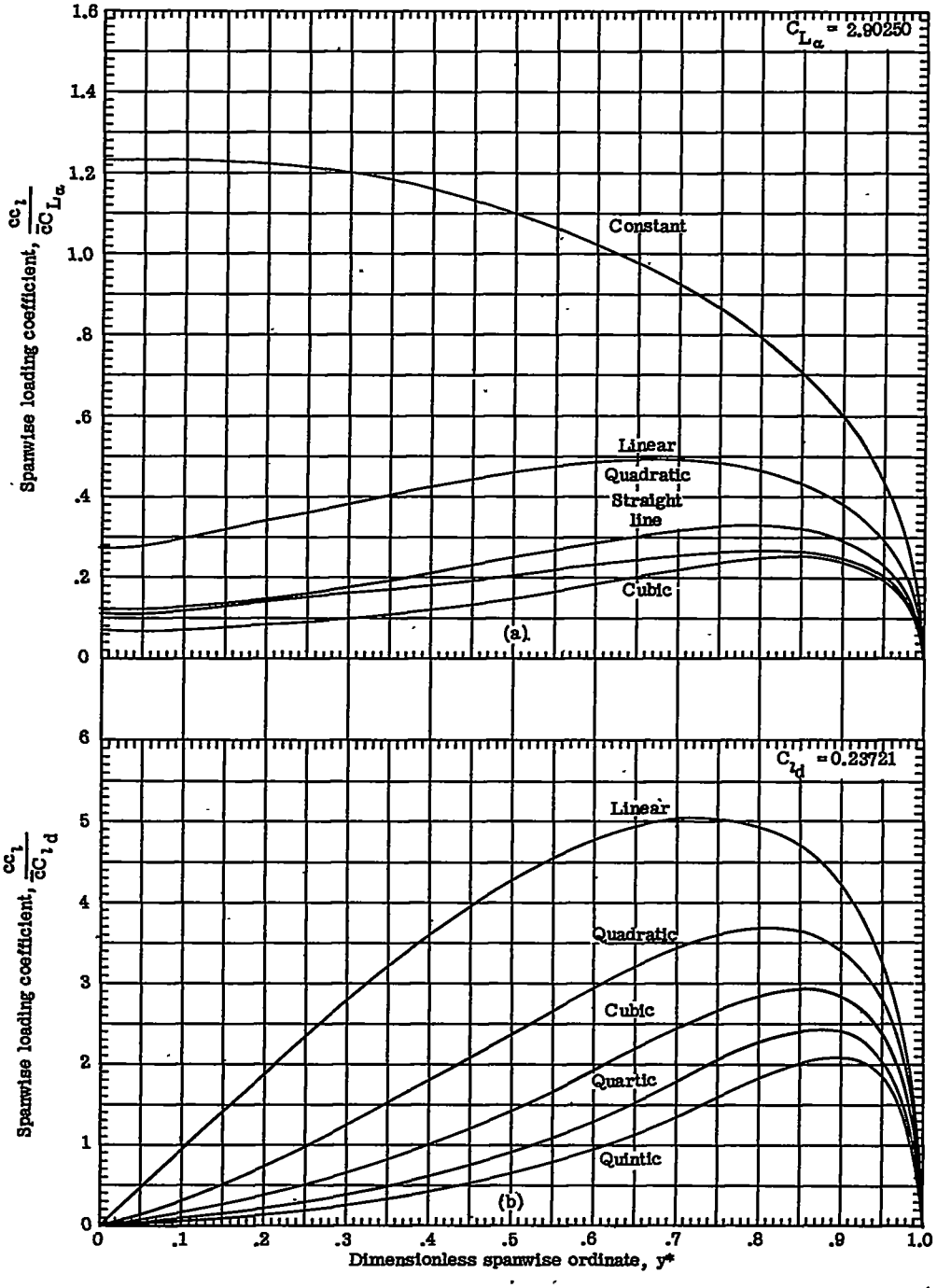
Figure 43.- Spanwise lift distributions for plan form 521 ($A = 3.0$; $\lambda = 0$; $\Lambda = 45^{\circ}$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

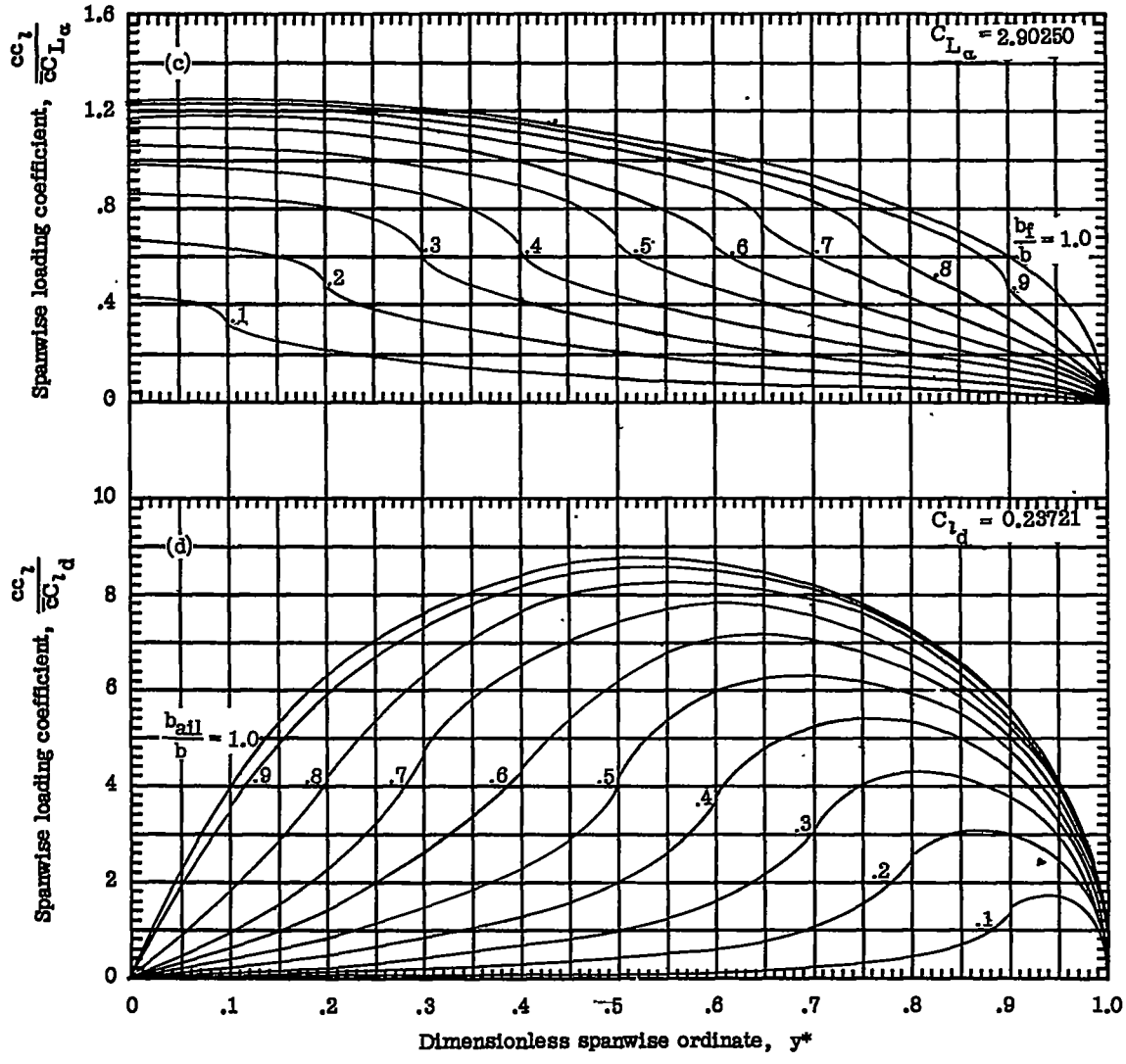
Figure 43.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

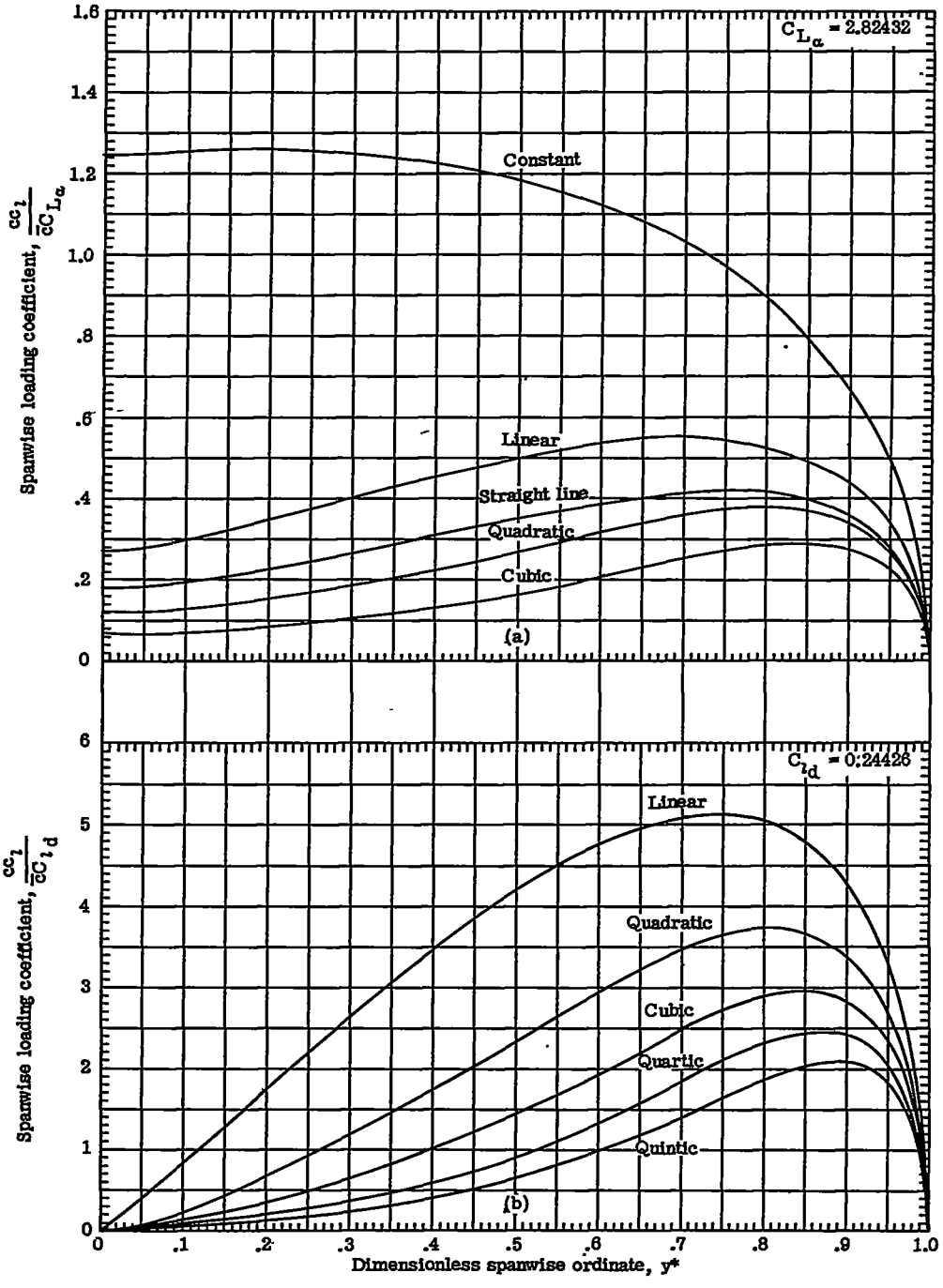
Figure 44.- Spanwise lift distributions for plan form 522 ($A = 3.0$; $\lambda = 0.25$; $\Lambda = 45^\circ$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

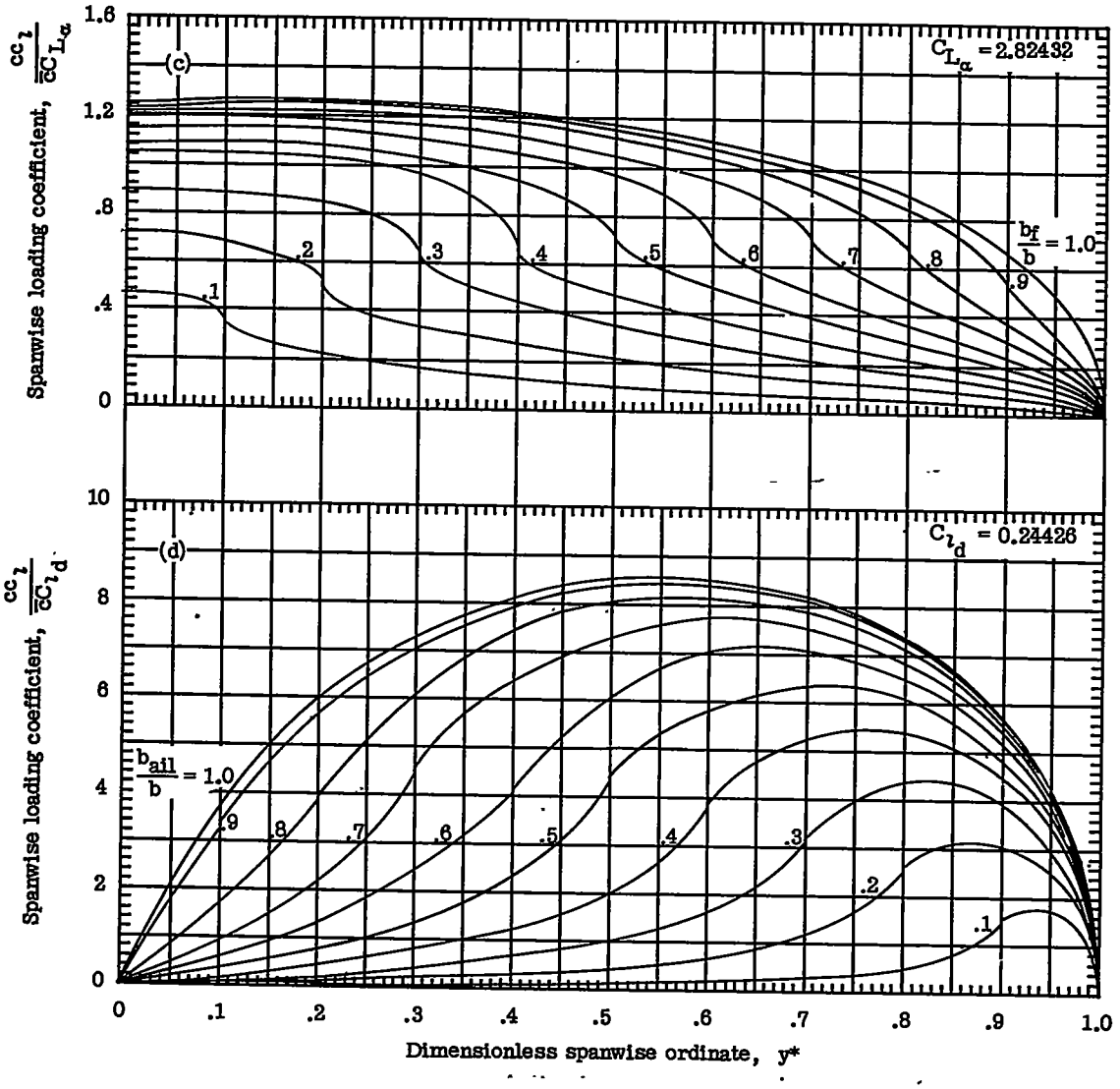
Figure 44.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

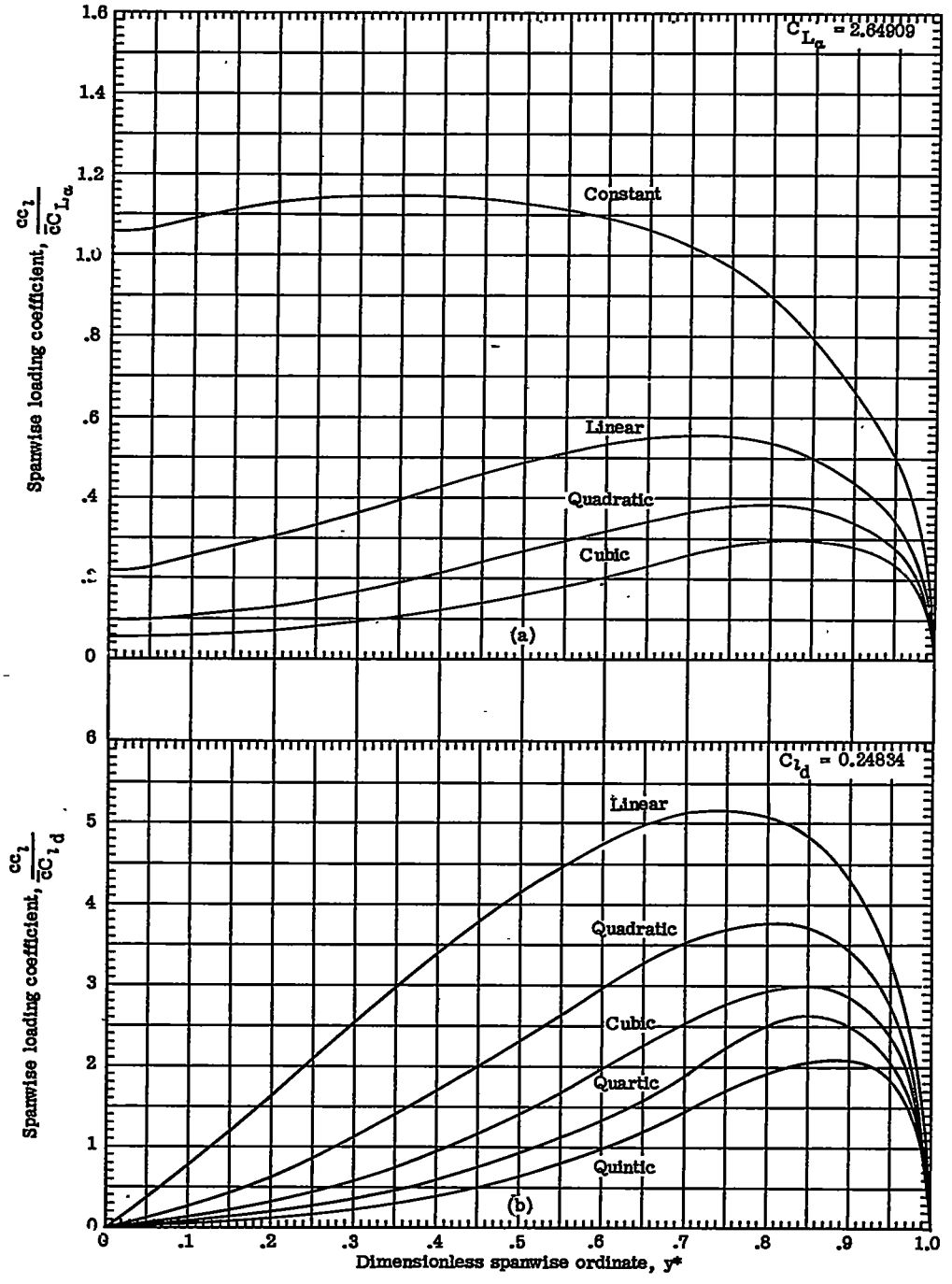
Figure 45.- Spanwise lift distributions for plan form 523 ($A = 3.0$; $\lambda = 0.50$; $\Lambda = 45^{\circ}$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

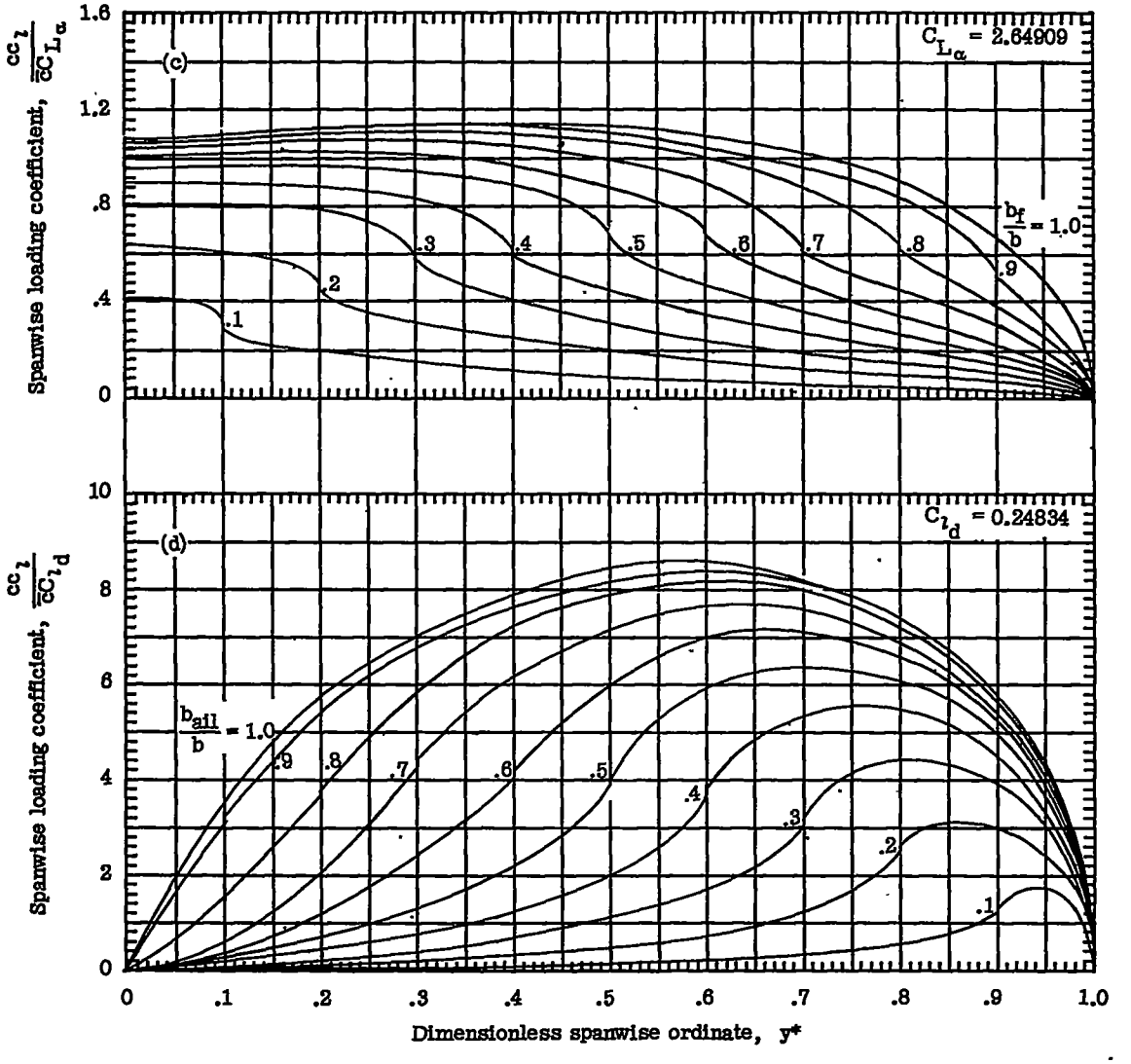
Figure 45.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

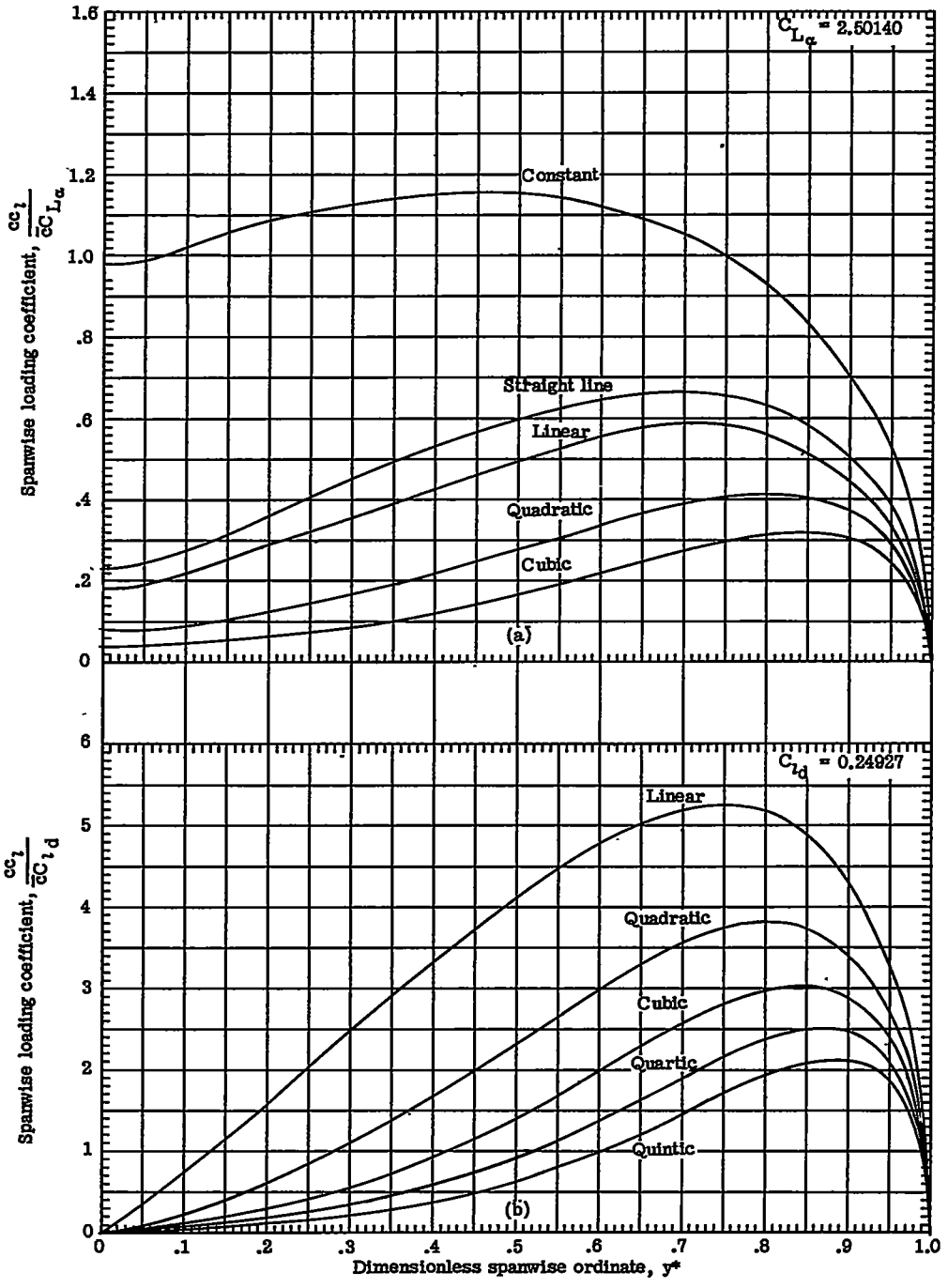
Figure 46.- Spanwise lift distributions for plan form 524 ($A = 3.0$; $\lambda = 1.00$; $\Lambda = 45^{\circ}$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

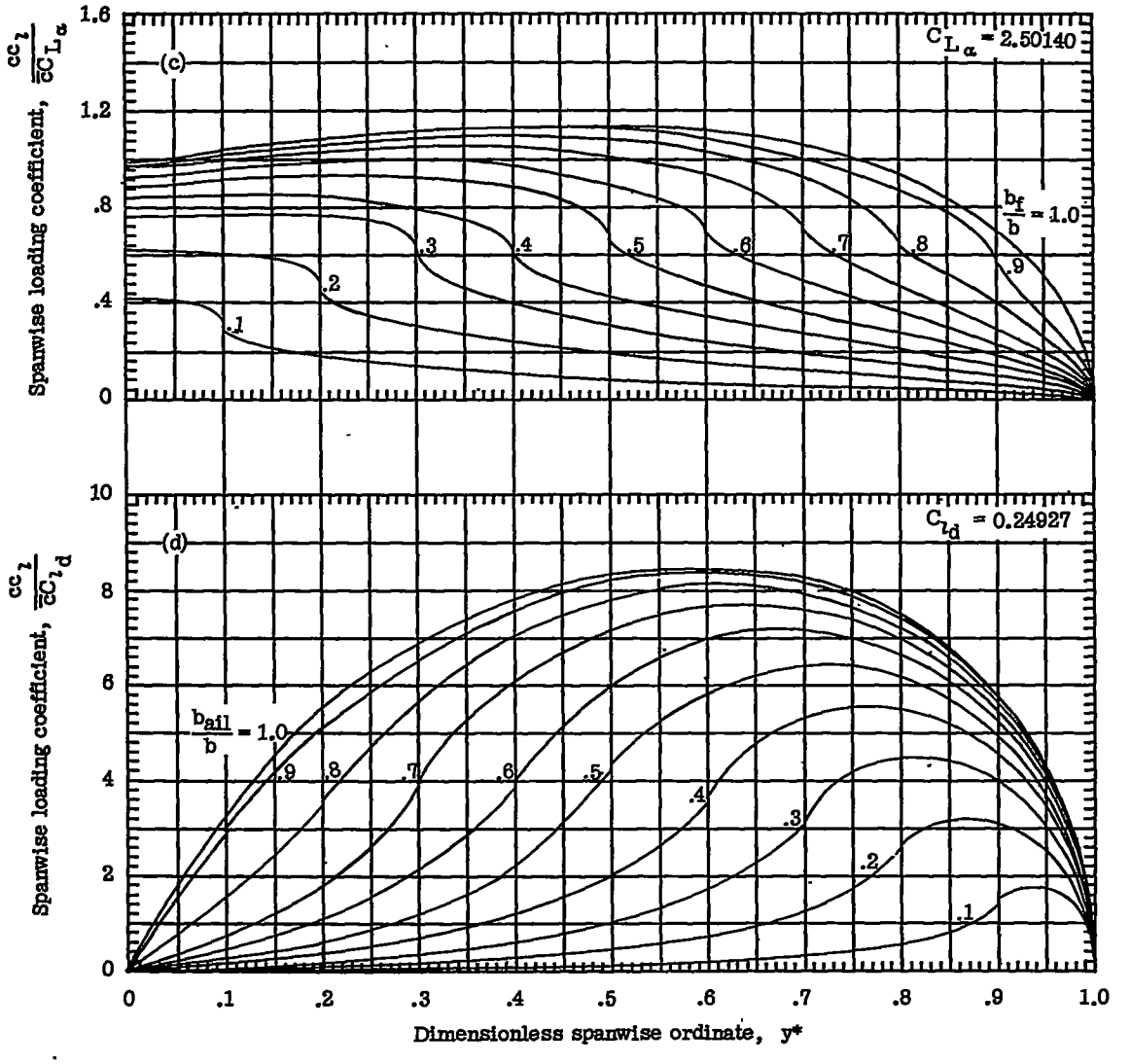
Figure 46.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

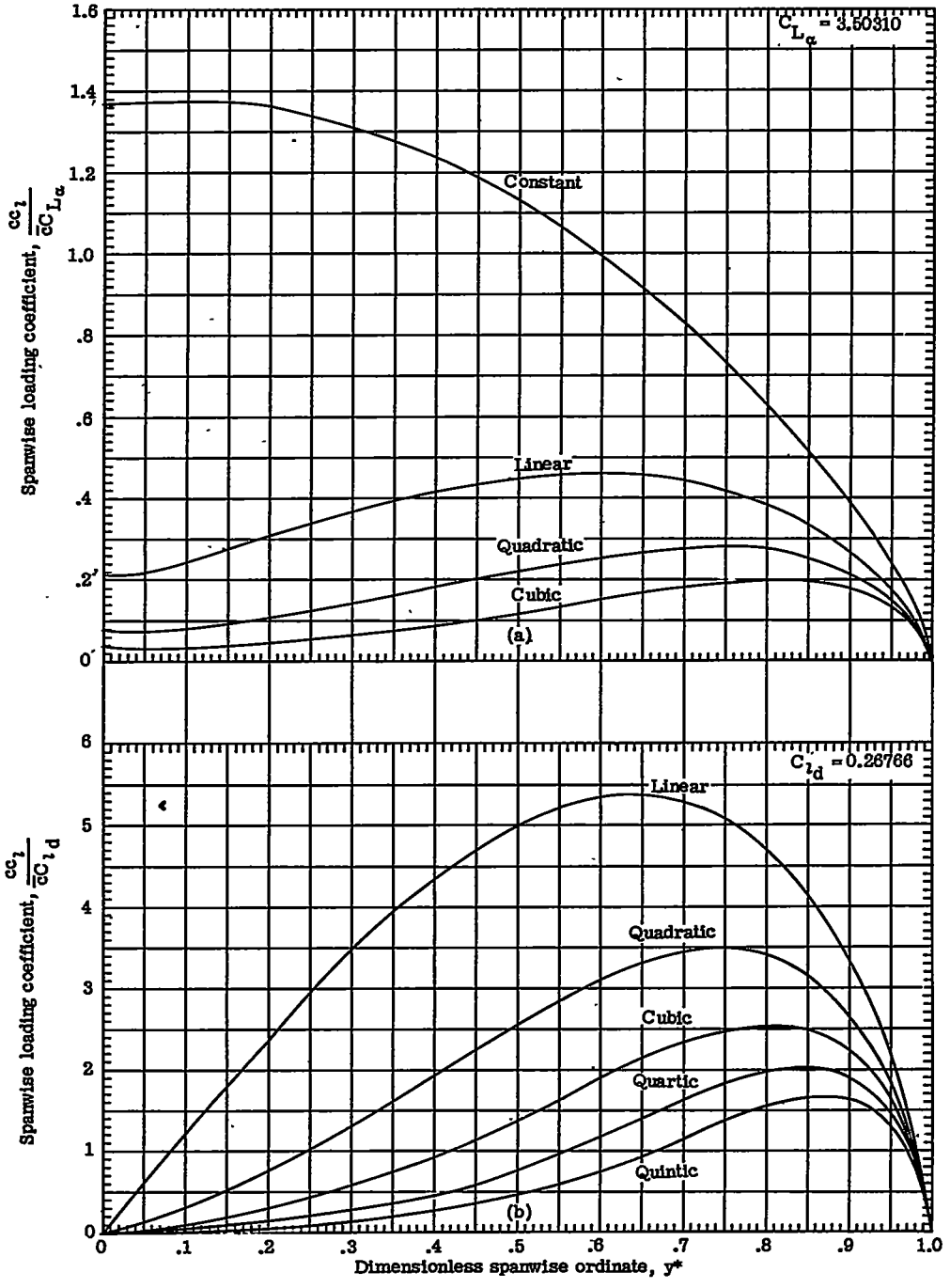
Figure 47.- Spanwise lift distributions for plan form 525 ($A = 3.0$; $\lambda = 1.50$; $\Lambda = 45^{\circ}$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

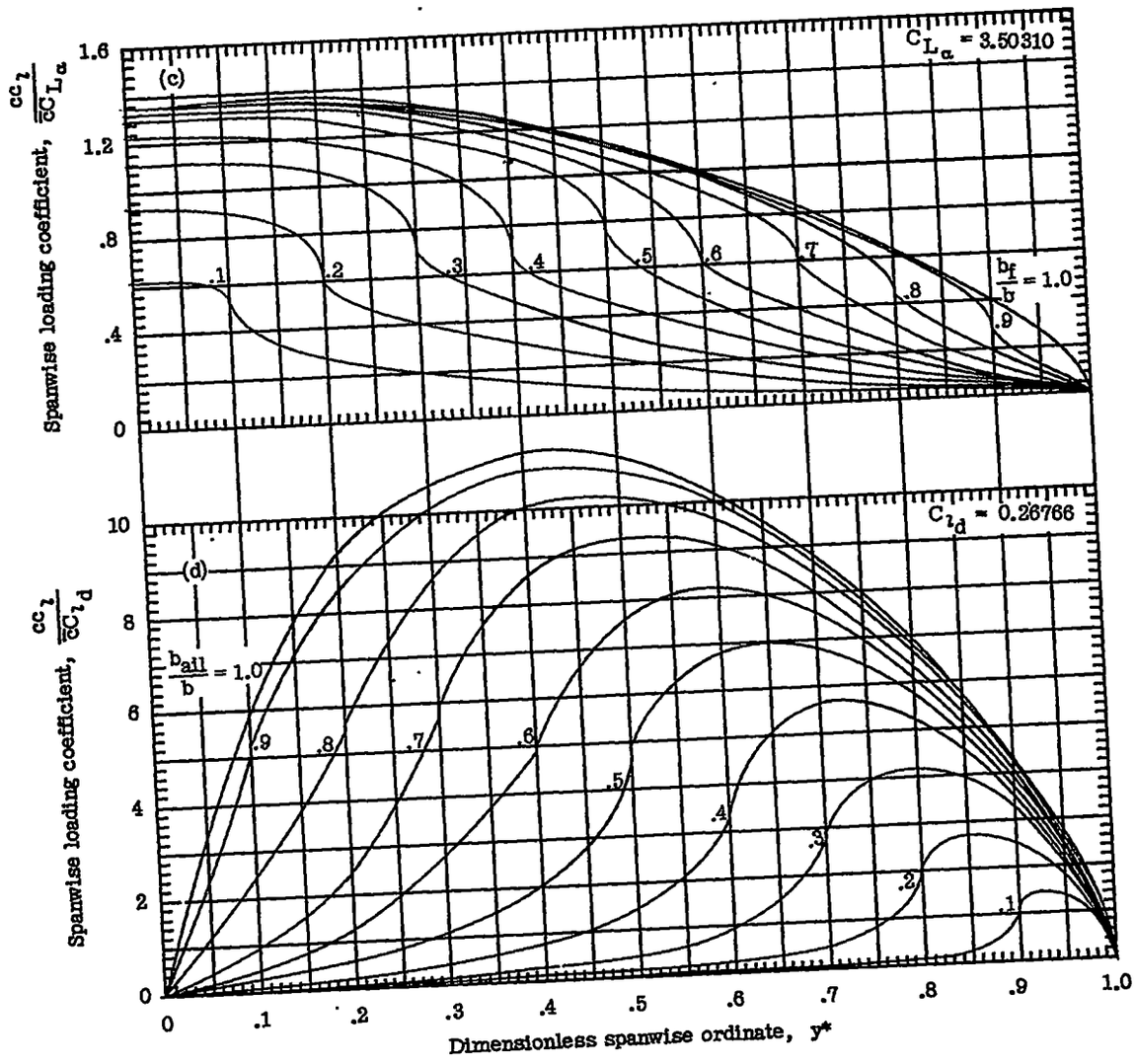
Figure 47.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

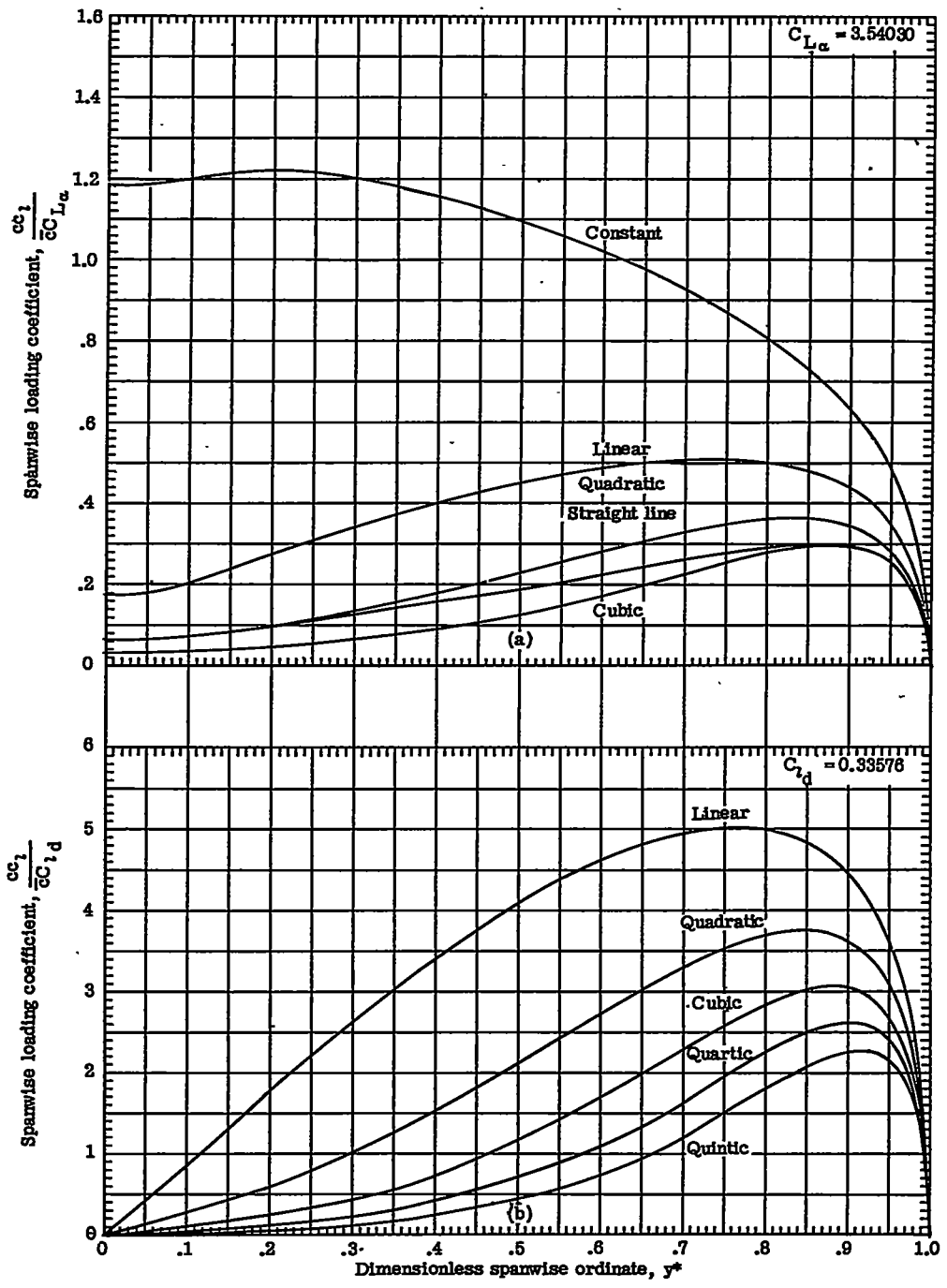
Figure 48.- Spanwise lift distributions for plan form 531 ($A = 6.0$; $\lambda = 0$; $\Lambda = 45^{\circ}$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

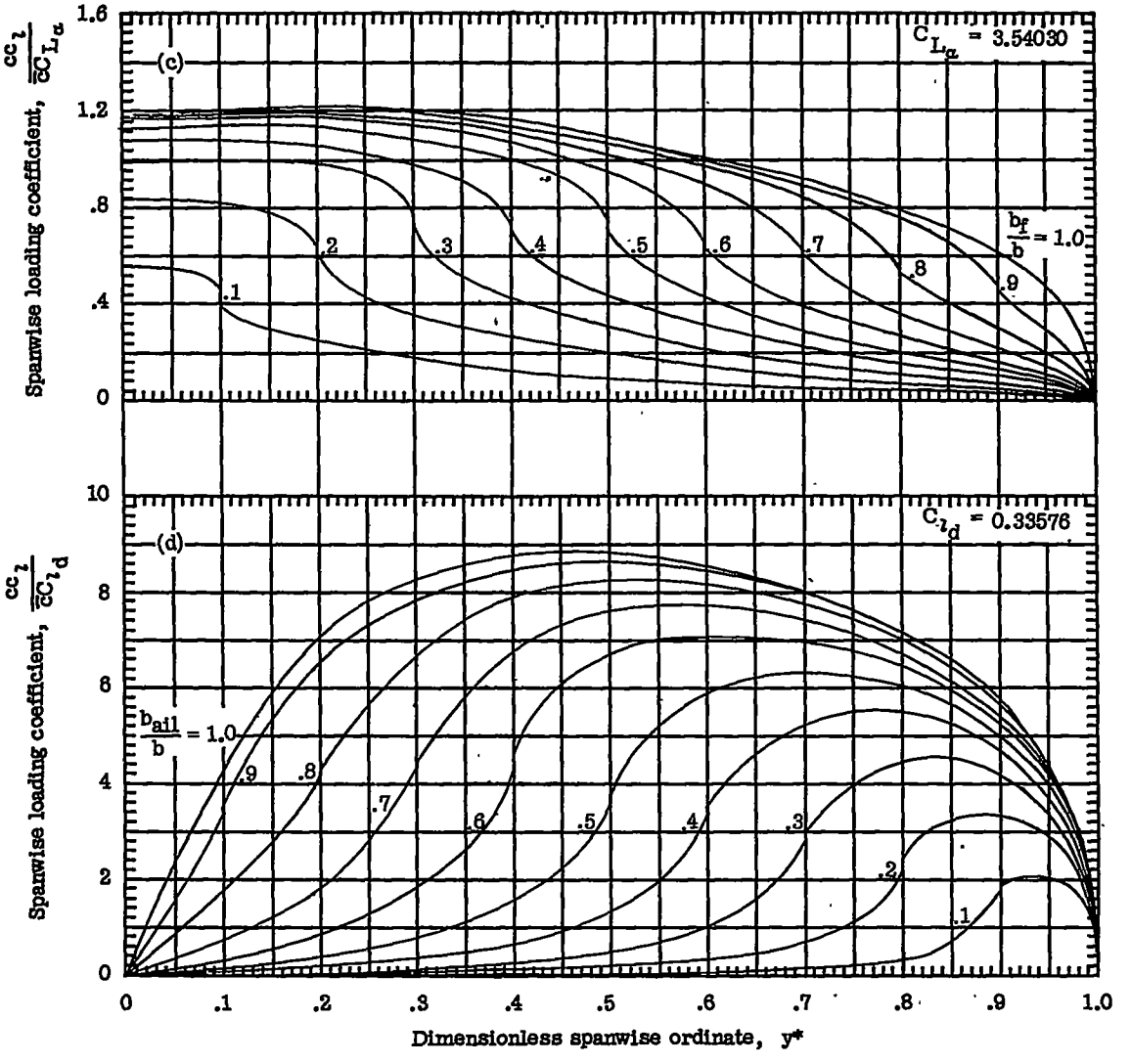
Figure 48.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

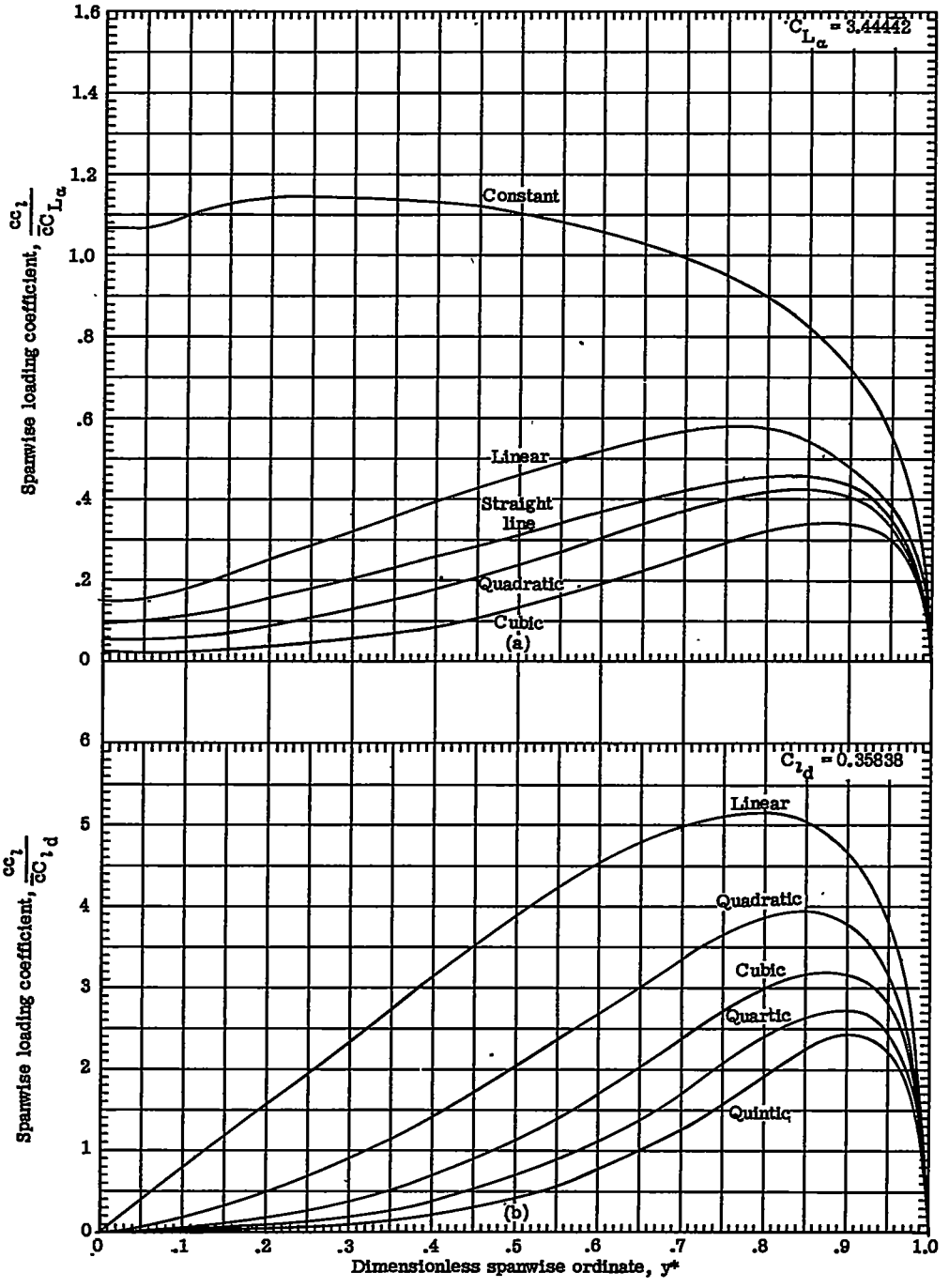
Figure 49.- Spanwise lift distributions for plan form 532 (A = 6.0; λ = 0.25; Λ = 45°).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

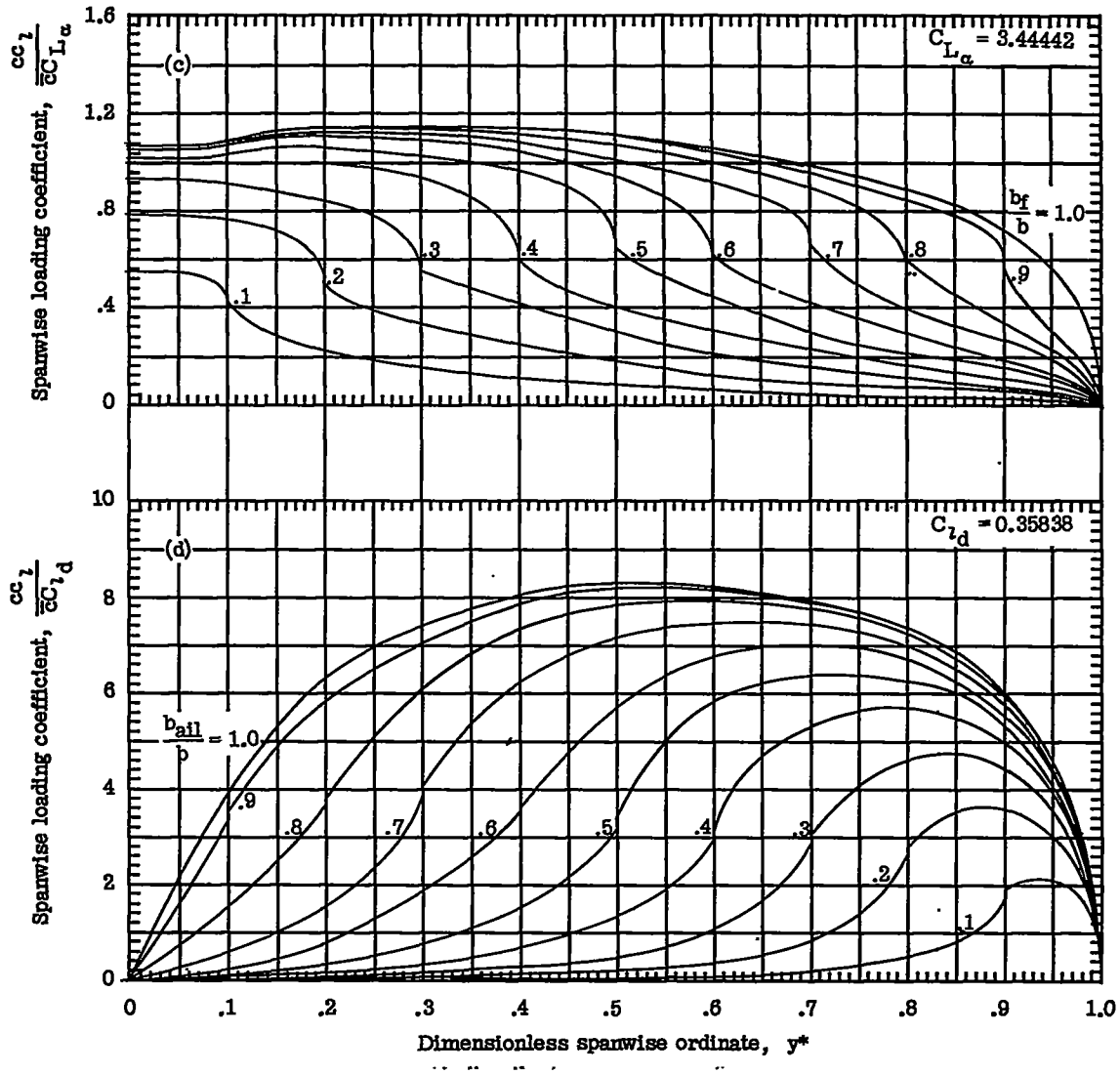
Figure 49.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

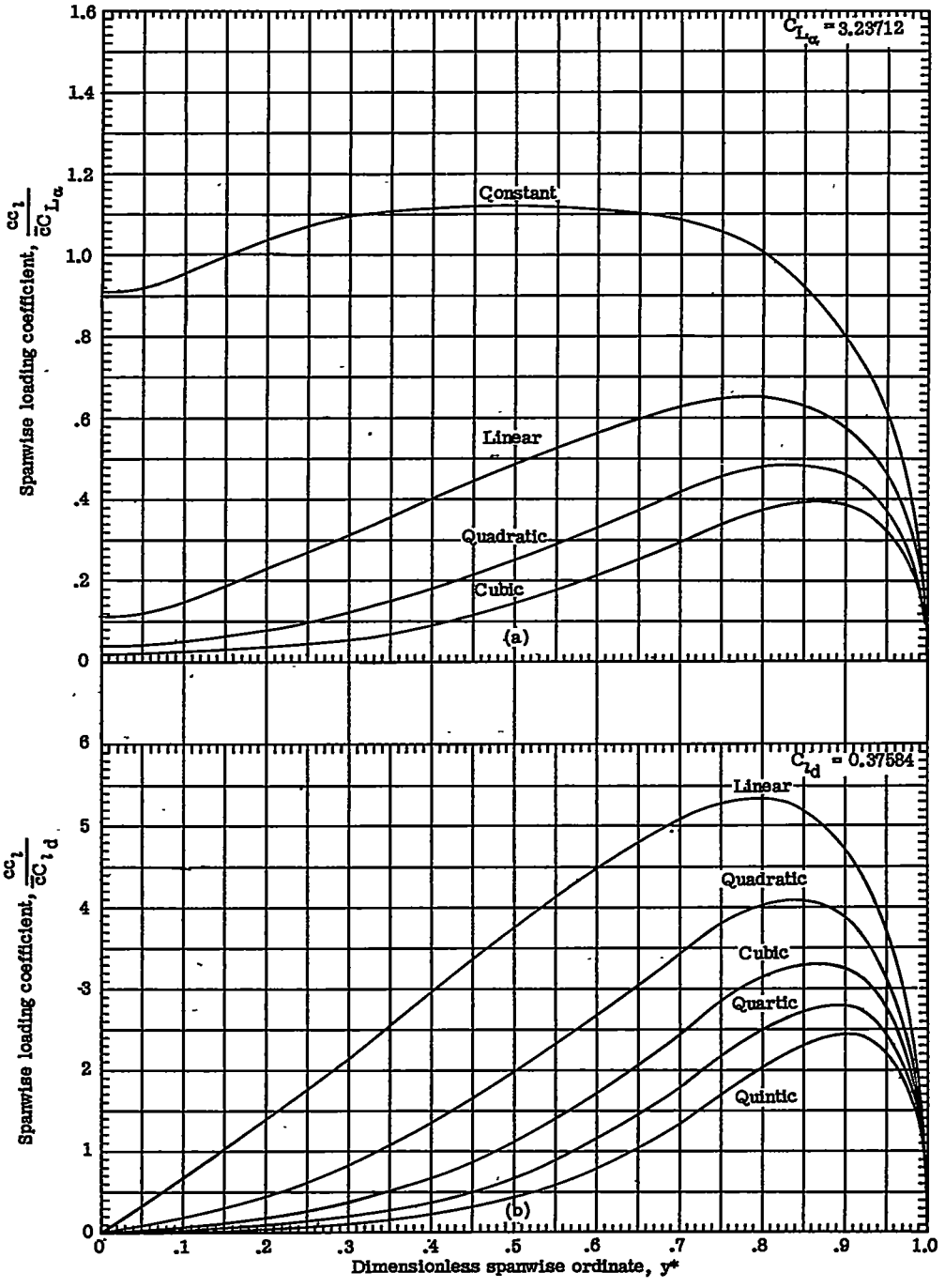
Figure 50.- Spanwise lift distributions for plan form 533 ($A = 6.0$; $\lambda = 0.50$; $\Lambda = 45^{\circ}$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

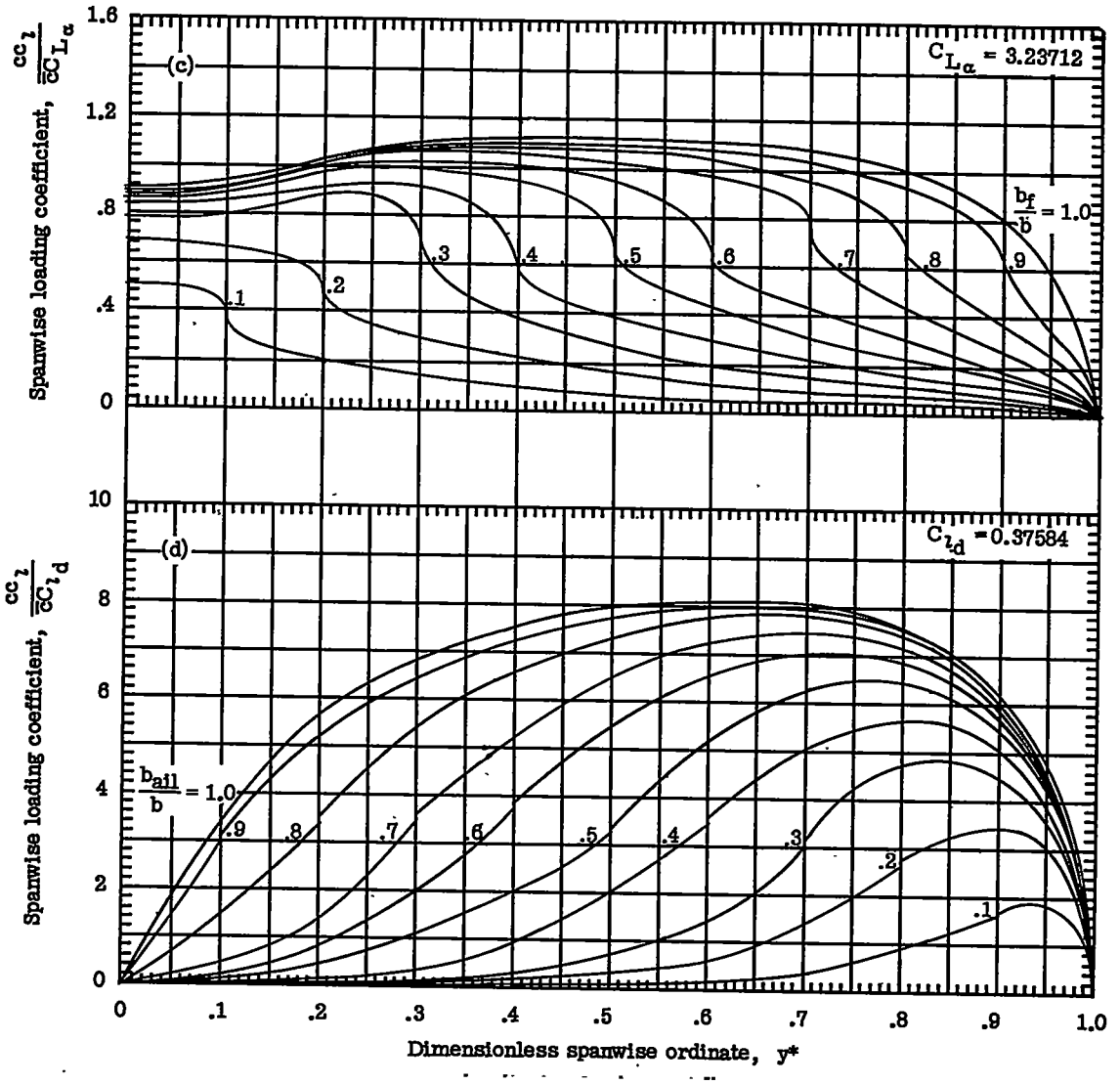
Figure 50.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

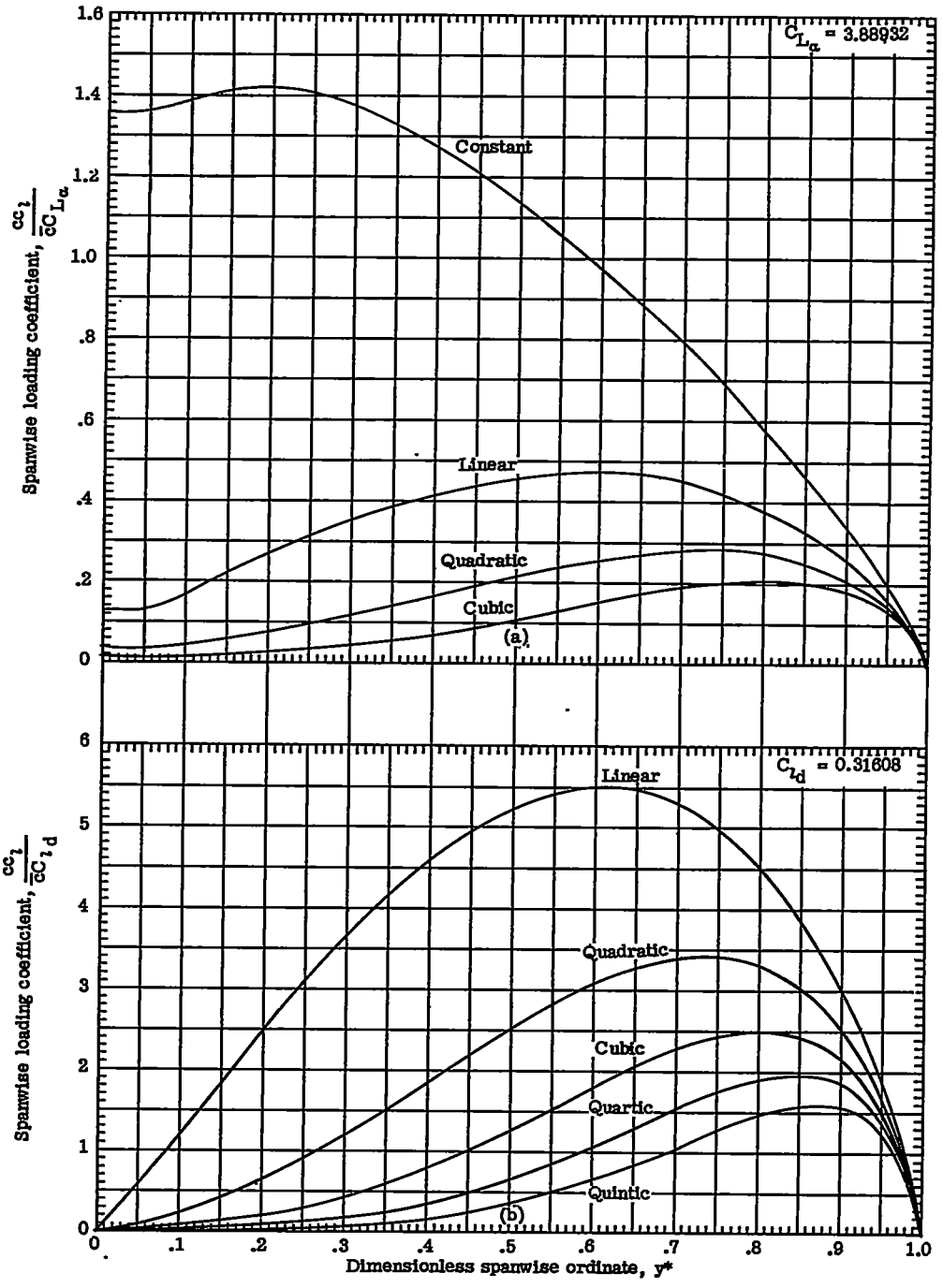
Figure 51.- Spanwise lift distributions for plan form 534 ($A = 6.0$; $\lambda = 1.00$; $\Lambda = 45^\circ$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

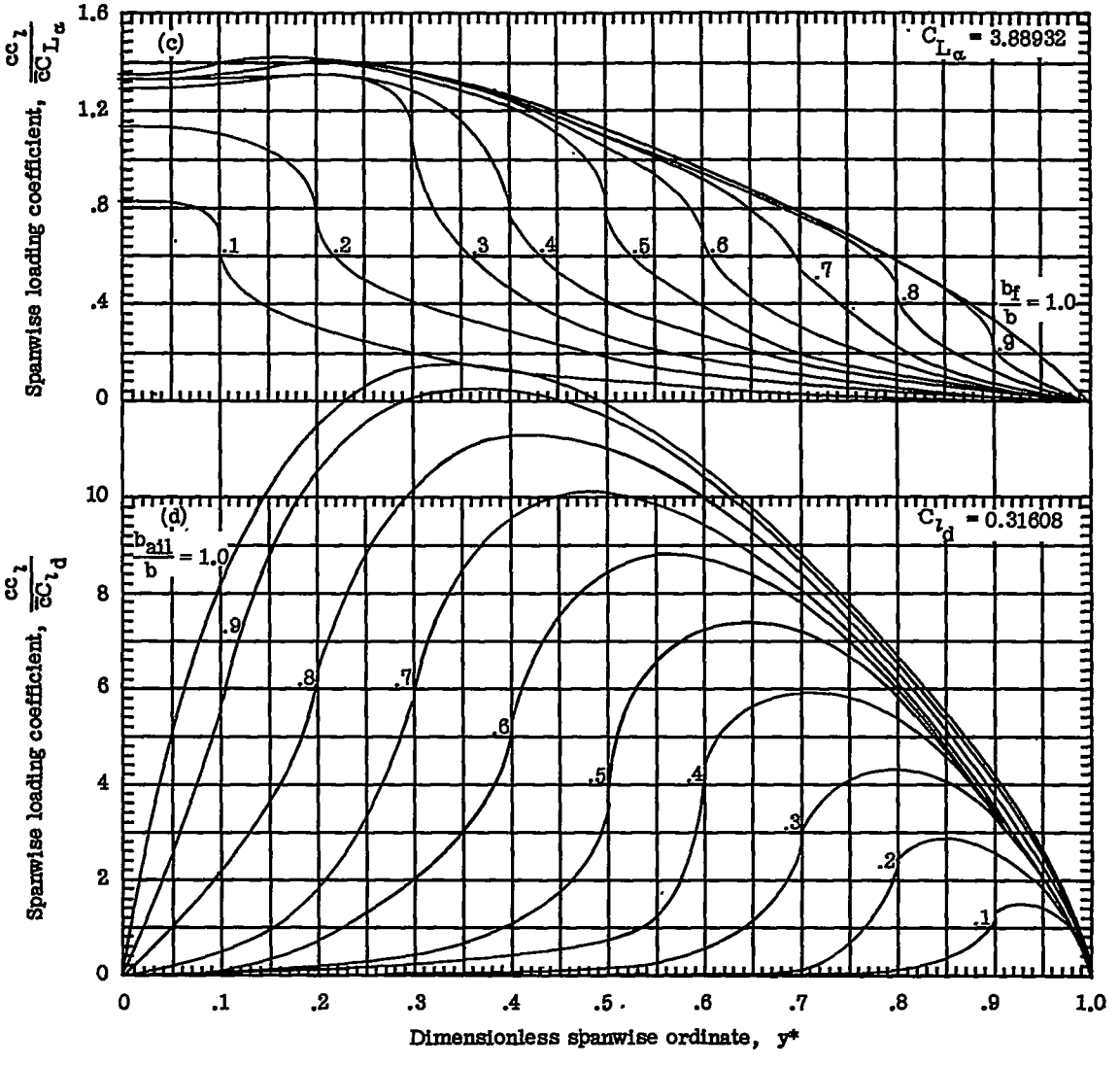
Figure 51.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

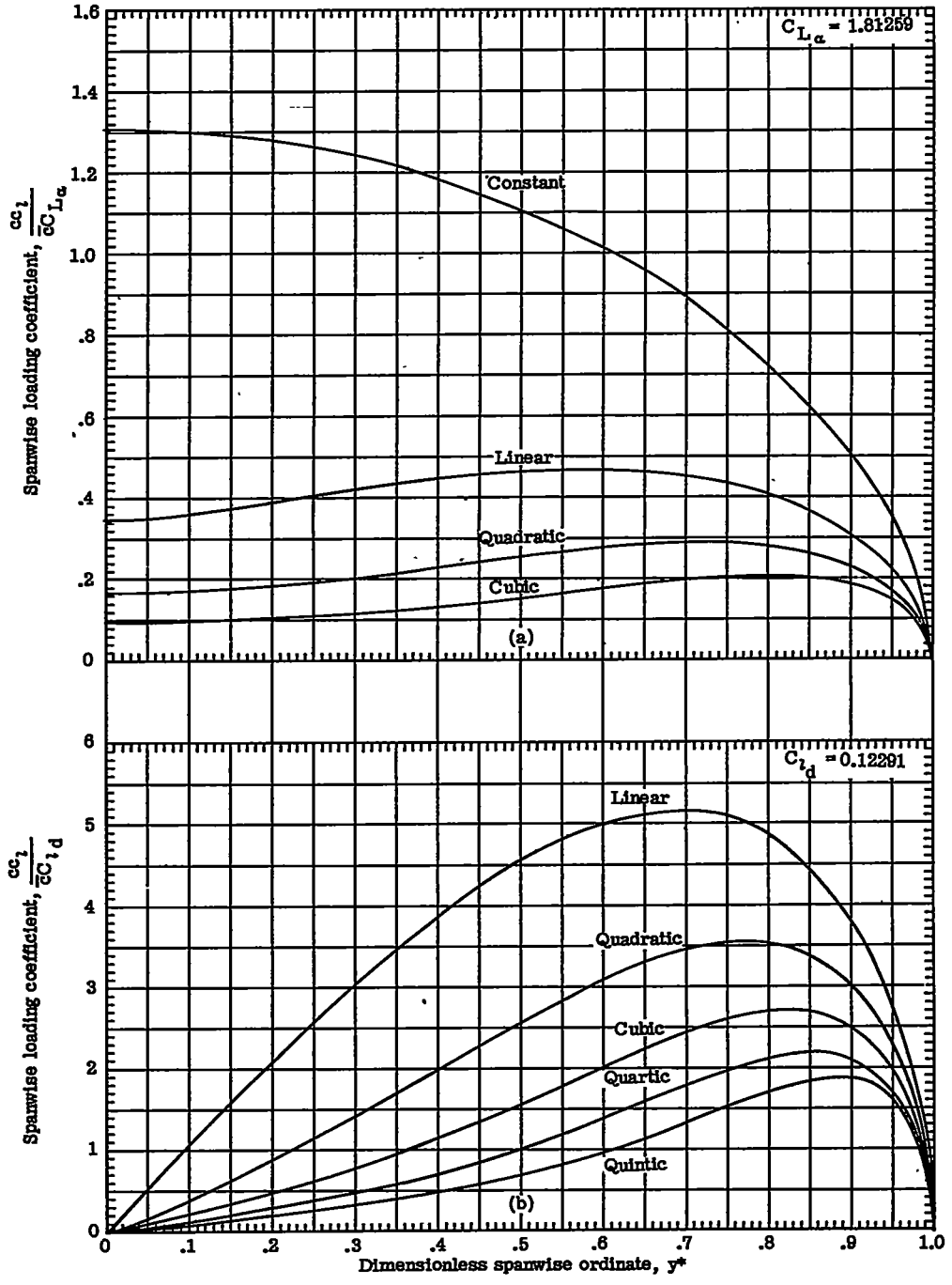
Figure 52.- Spanwise lift distributions for plan form 541 ($A = 12.0$; $\lambda = 0$; $\Lambda = 45^{\circ}$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

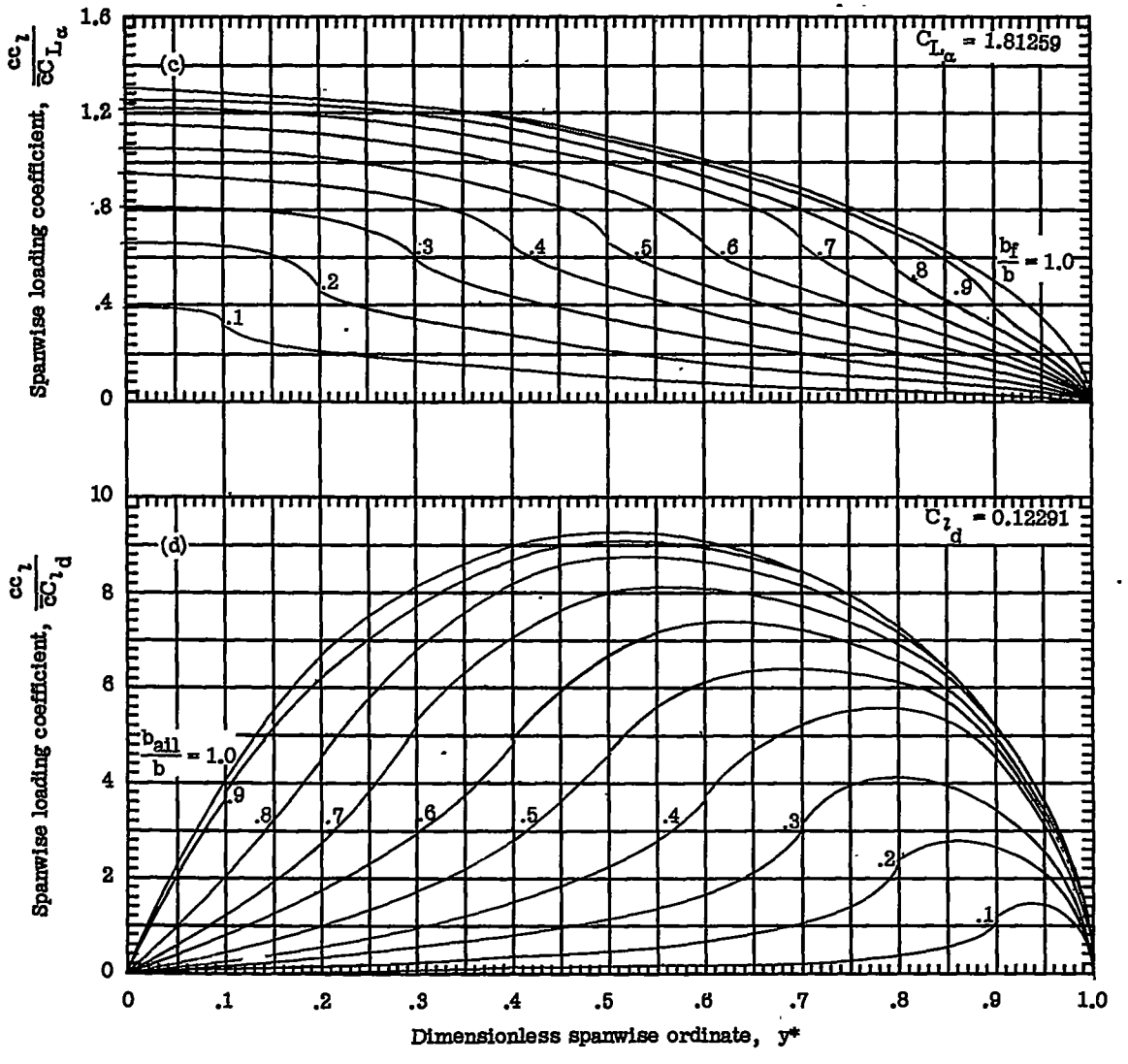
Figure 52.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

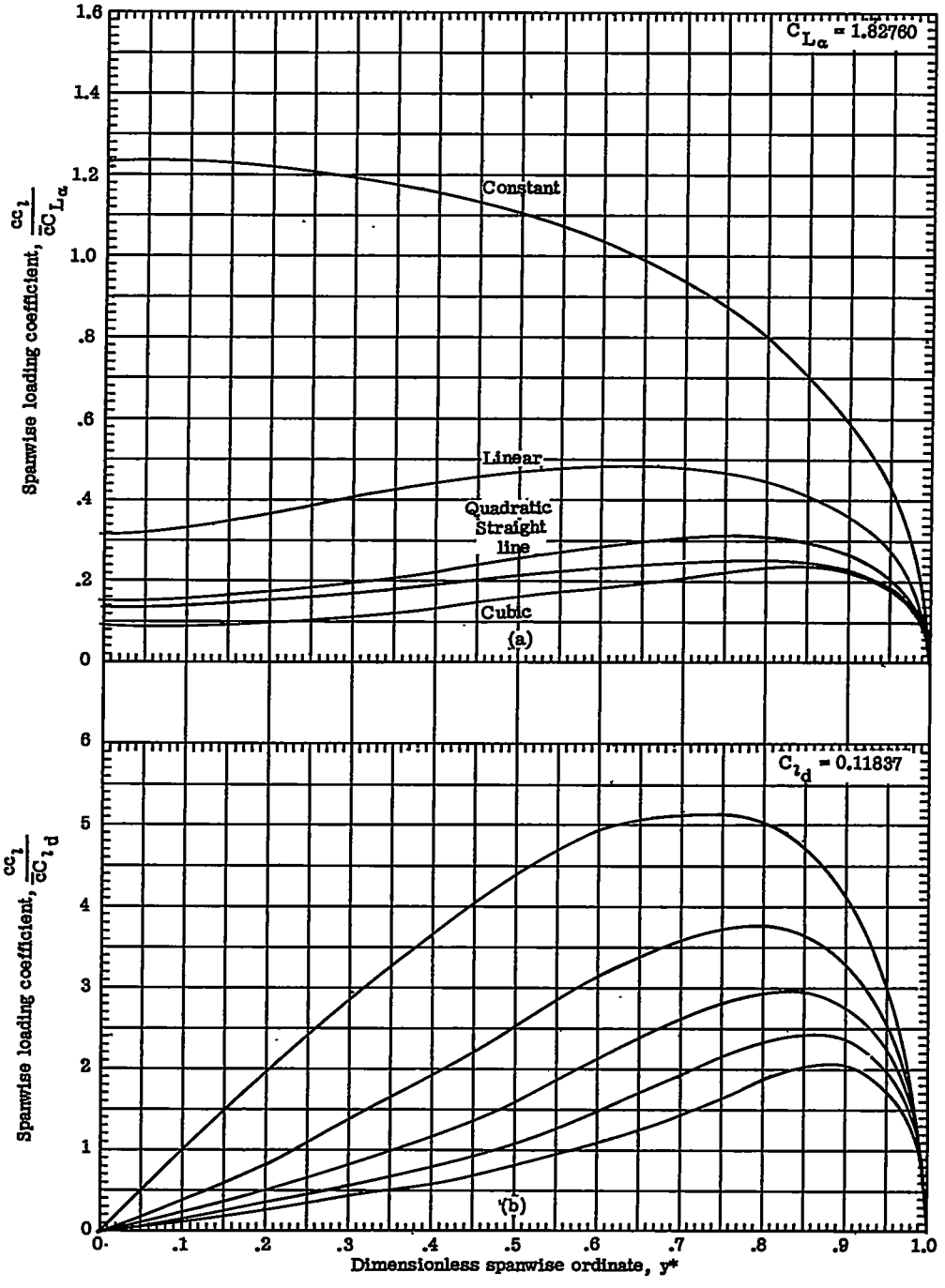
Figure 53.- Spanwise lift distributions for plan form 611 (A = 1.5; λ = 0; Λ = 60°).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

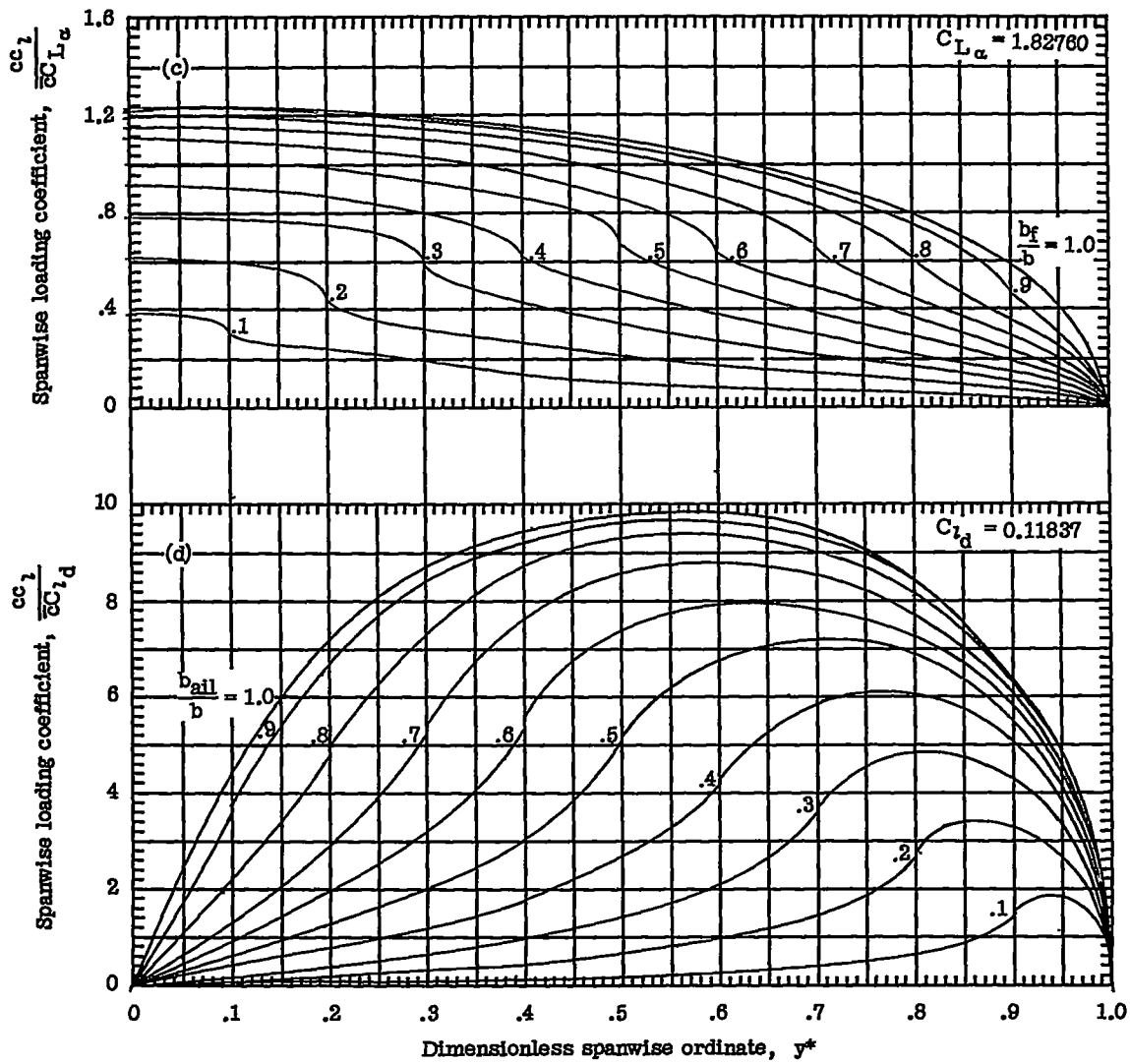
Figure 53.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

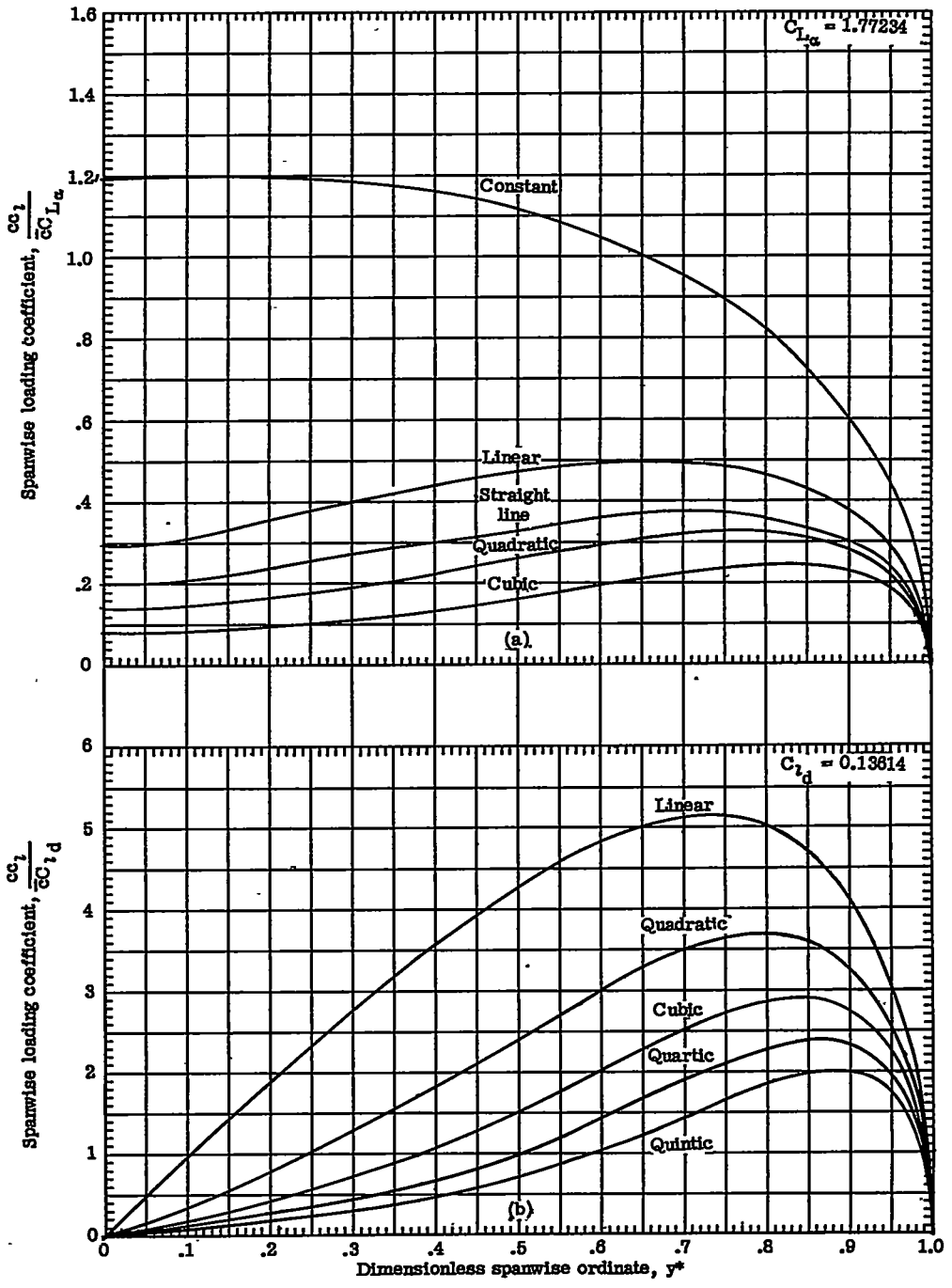
Figure 54.- Spanwise lift distributions for plan form 612 ($A = 1.5$; $\lambda = 0.25$; $\Lambda = 60^{\circ}$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

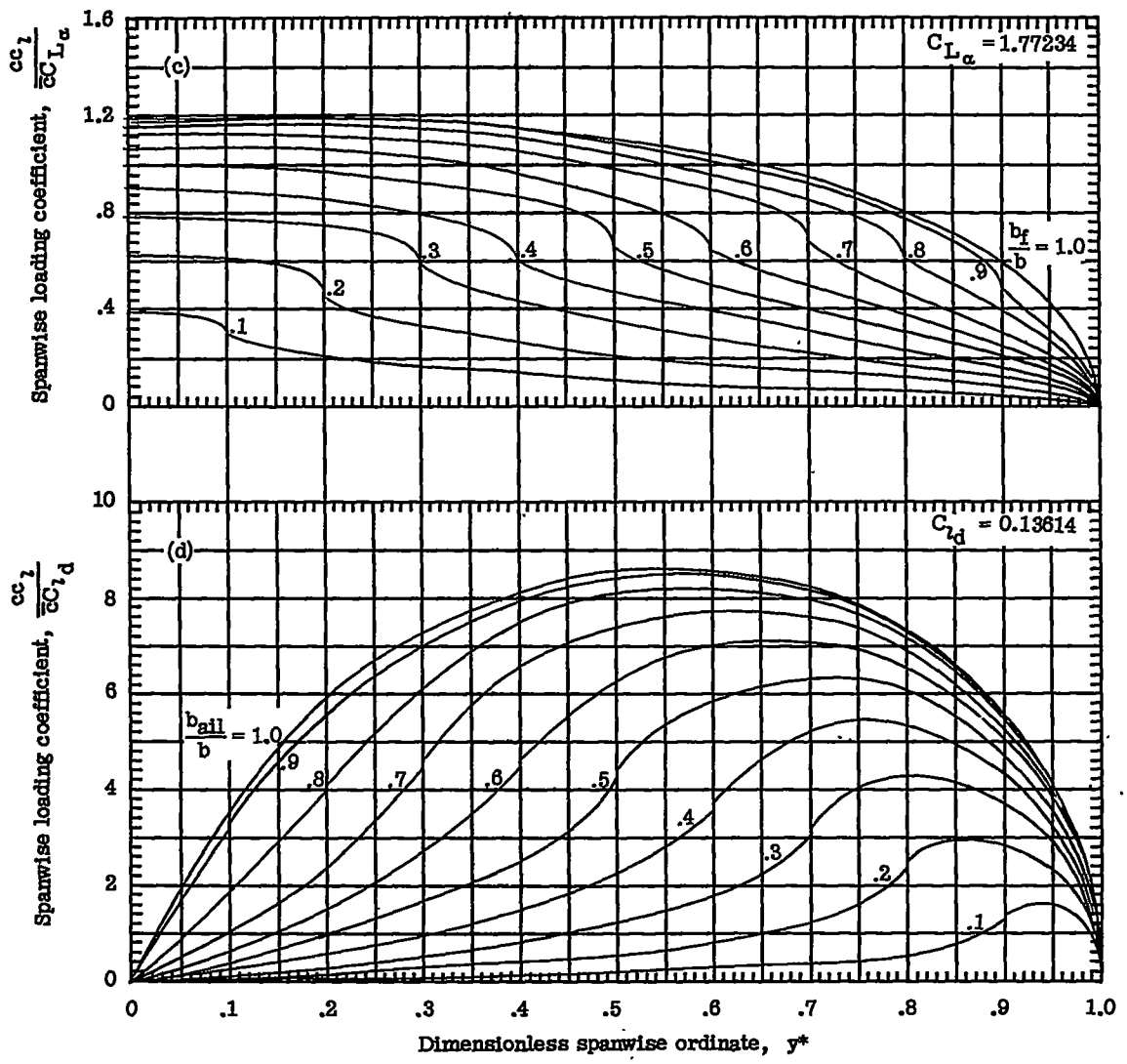
Figure 54.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

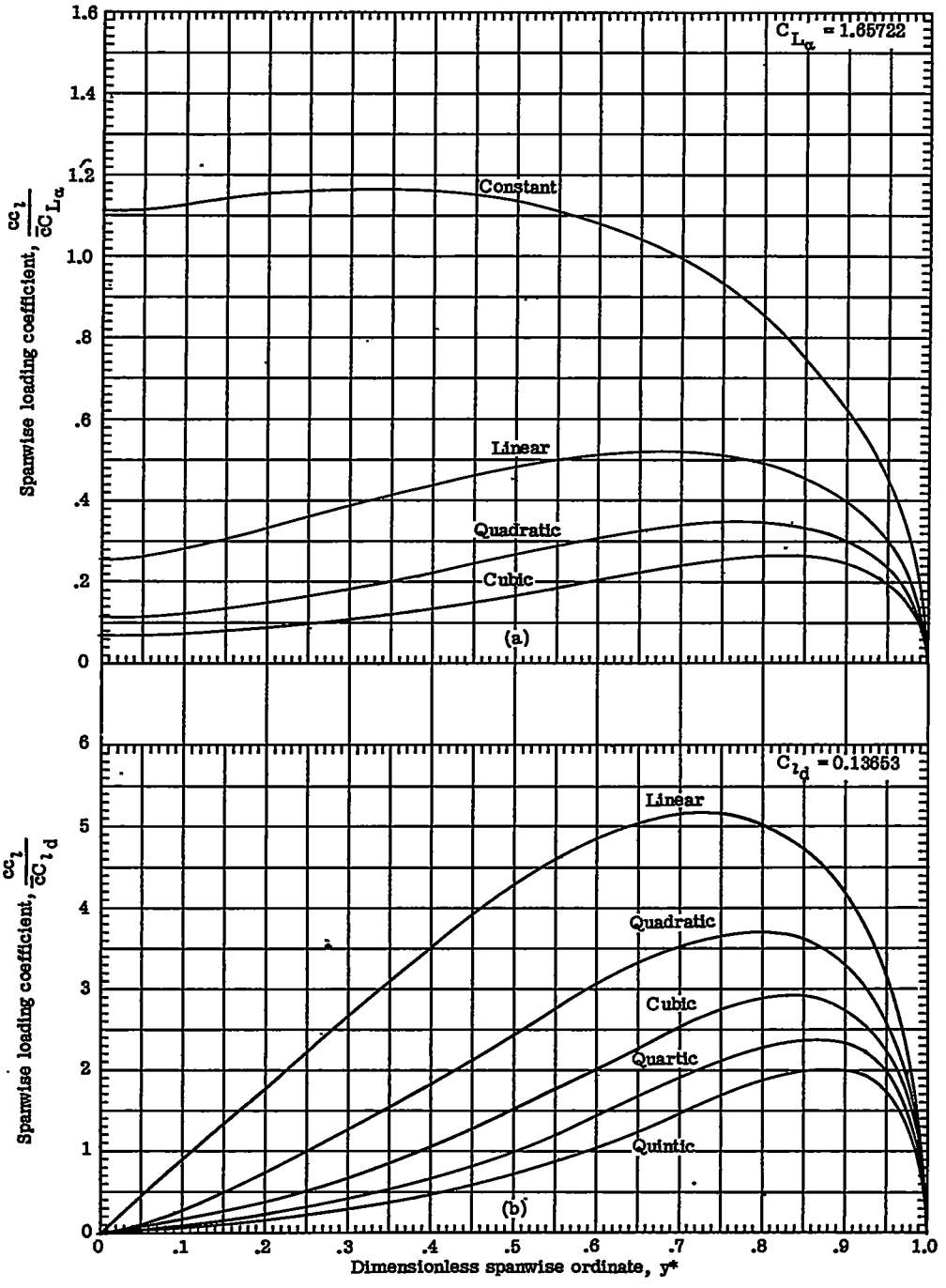
Figure 55.- Spanwise lift distributions for plan form 613 ($A = 1.5$; $\lambda = 0.50$; $\Lambda = 60^\circ$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

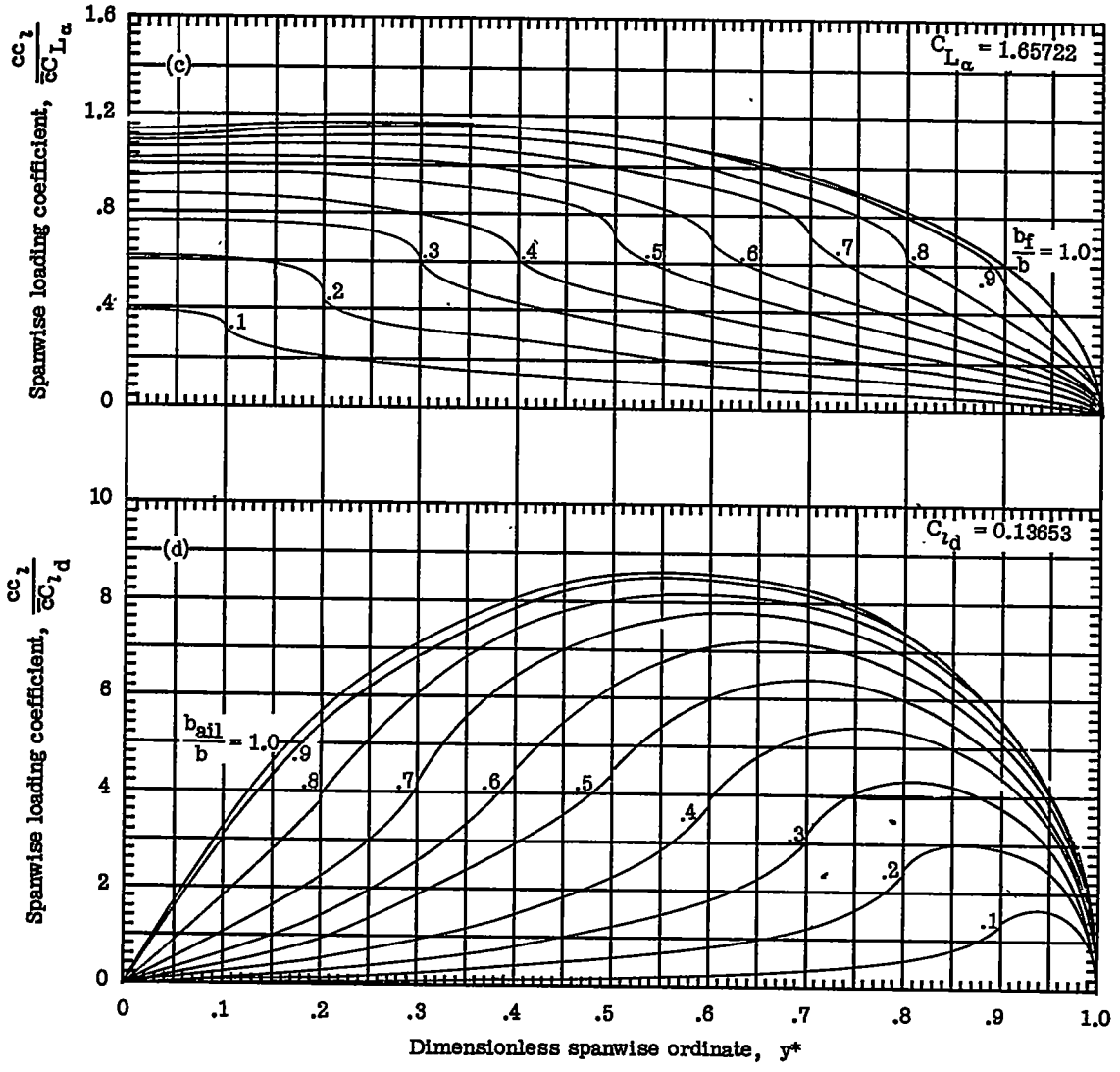
Figure 55.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

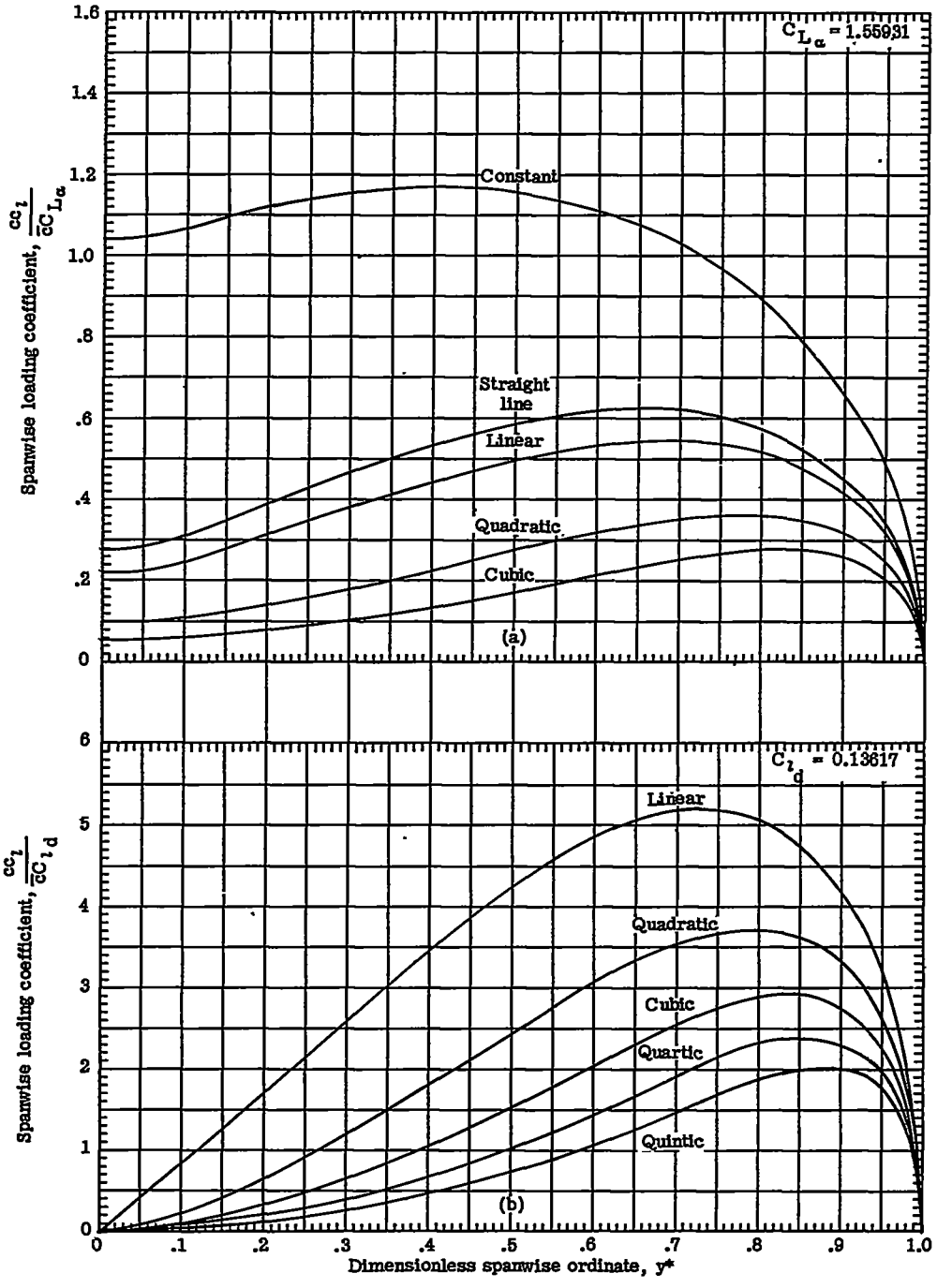
Figure 56.- Spanwise lift distributions for plan form 614 ($A = 1.5$; $\lambda = 1.00$; $\Lambda = 60^{\circ}$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

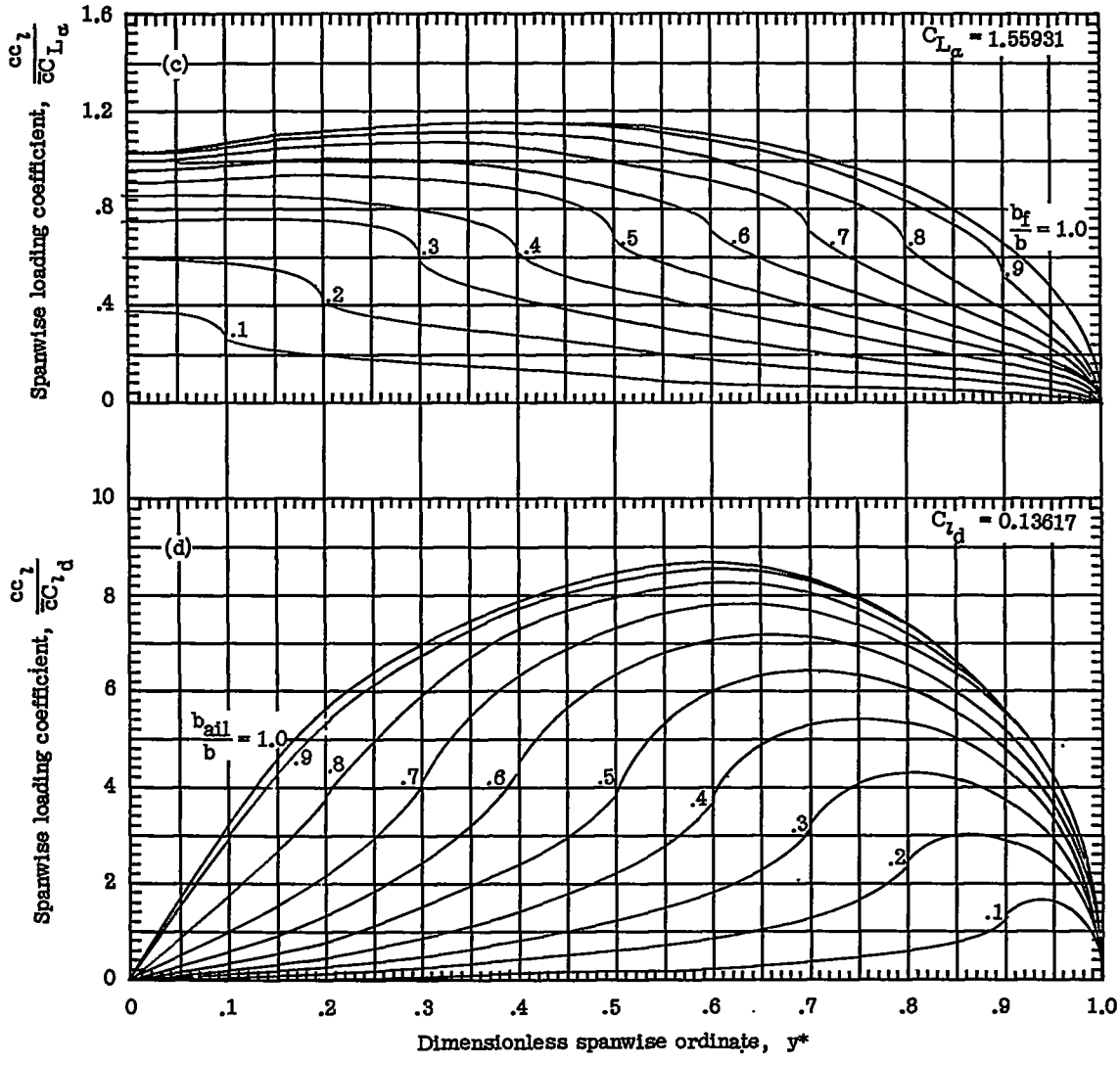
Figure 56.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

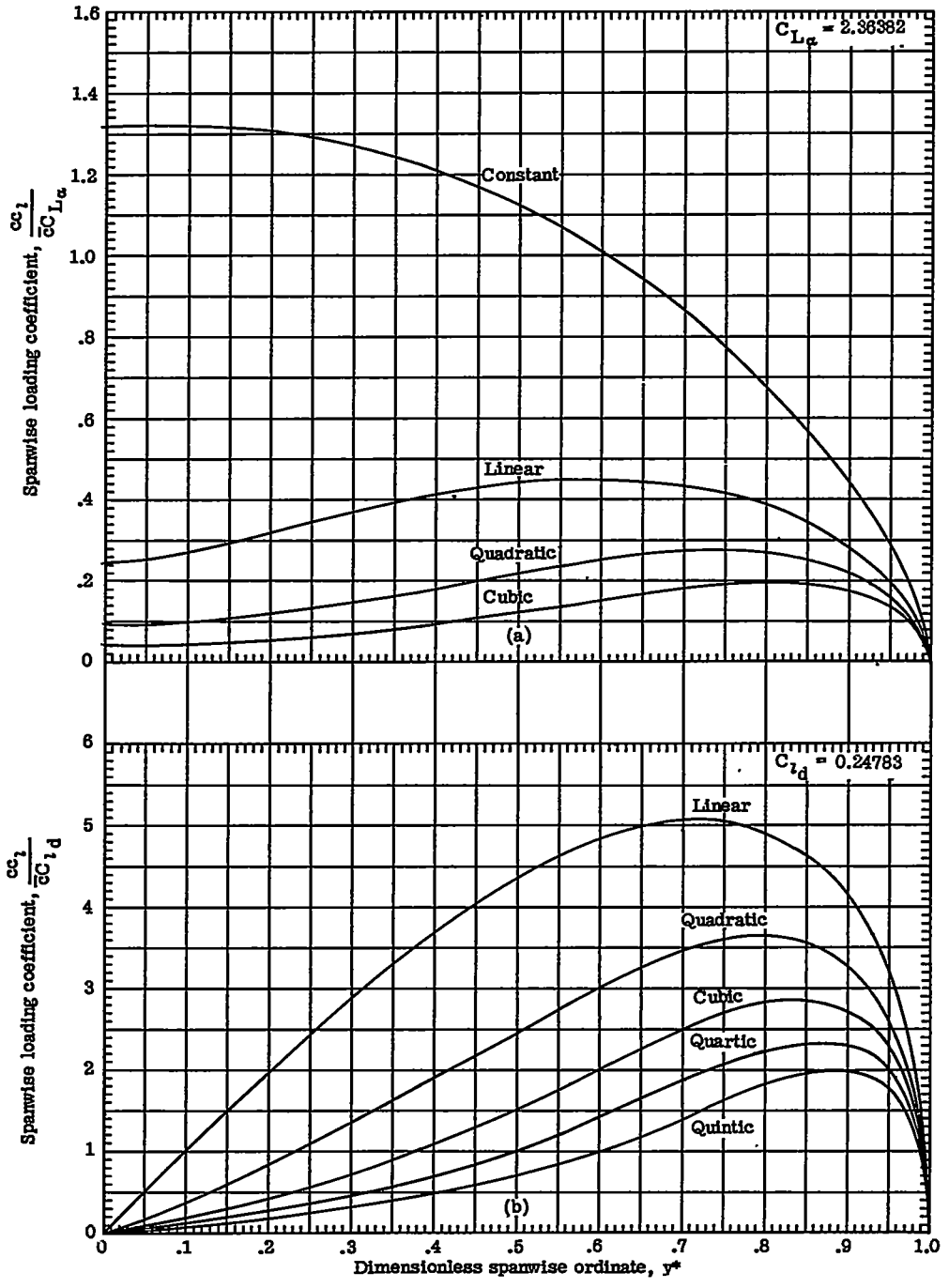
Figure 57.- Spanwise lift distributions for plan form 615 ($A = 1.5$; $\lambda = 1.50$; $\Lambda = 60^\circ$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

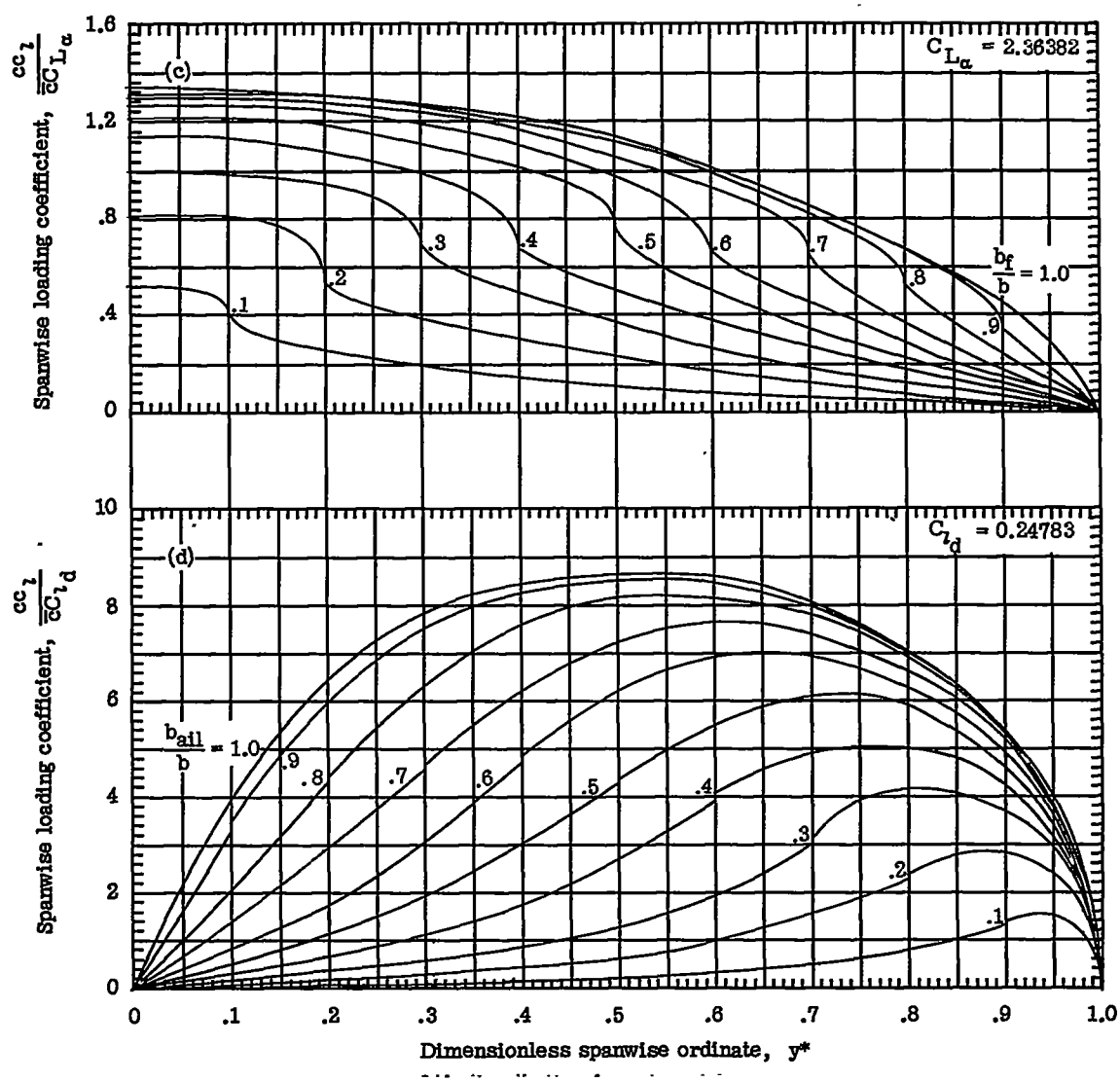
Figure 57.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

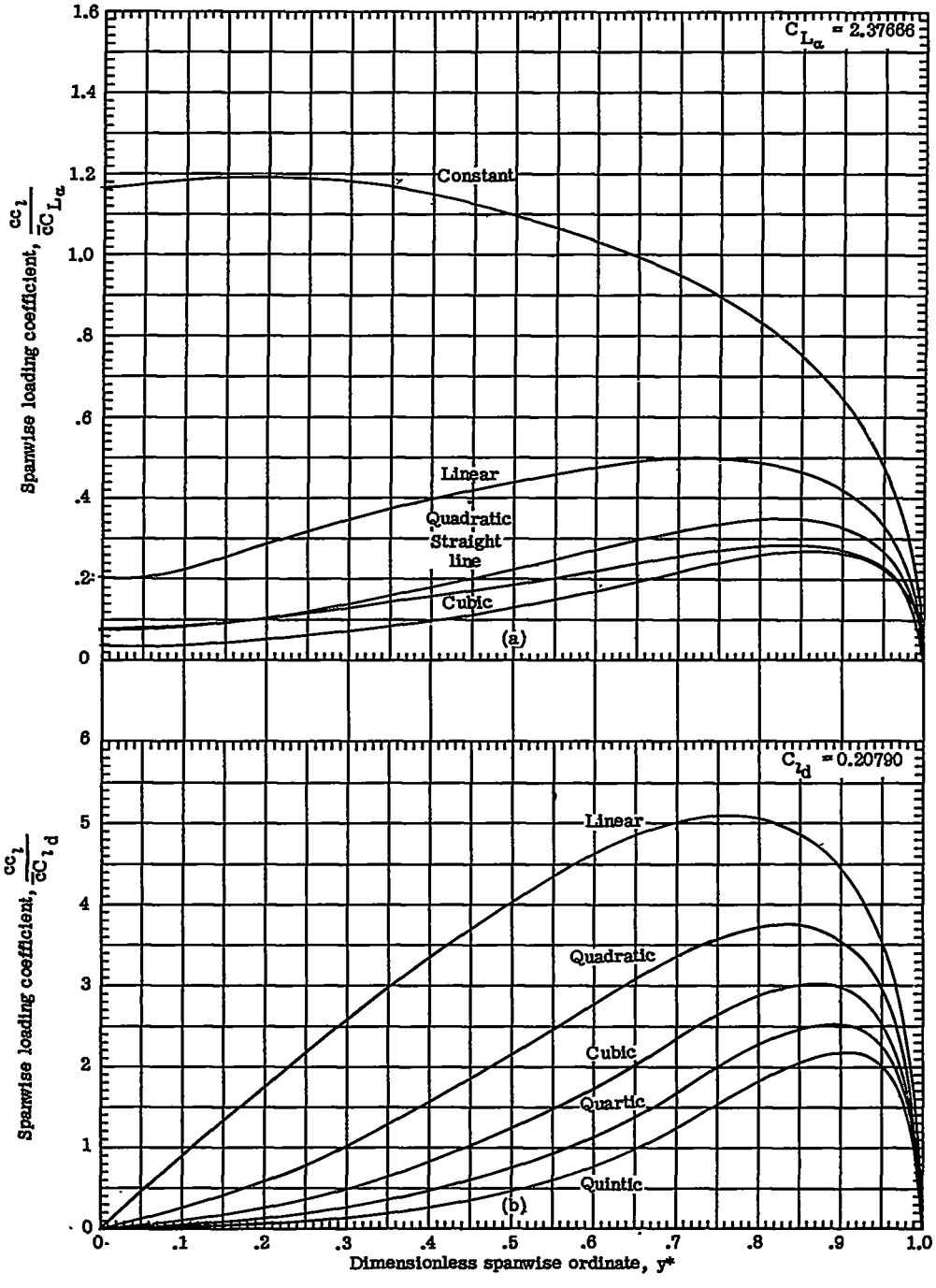
Figure 58.- Spanwise lift distributions for plan form 621 ($A = 3.0$; $\lambda = 0$; $\Lambda = 60^\circ$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

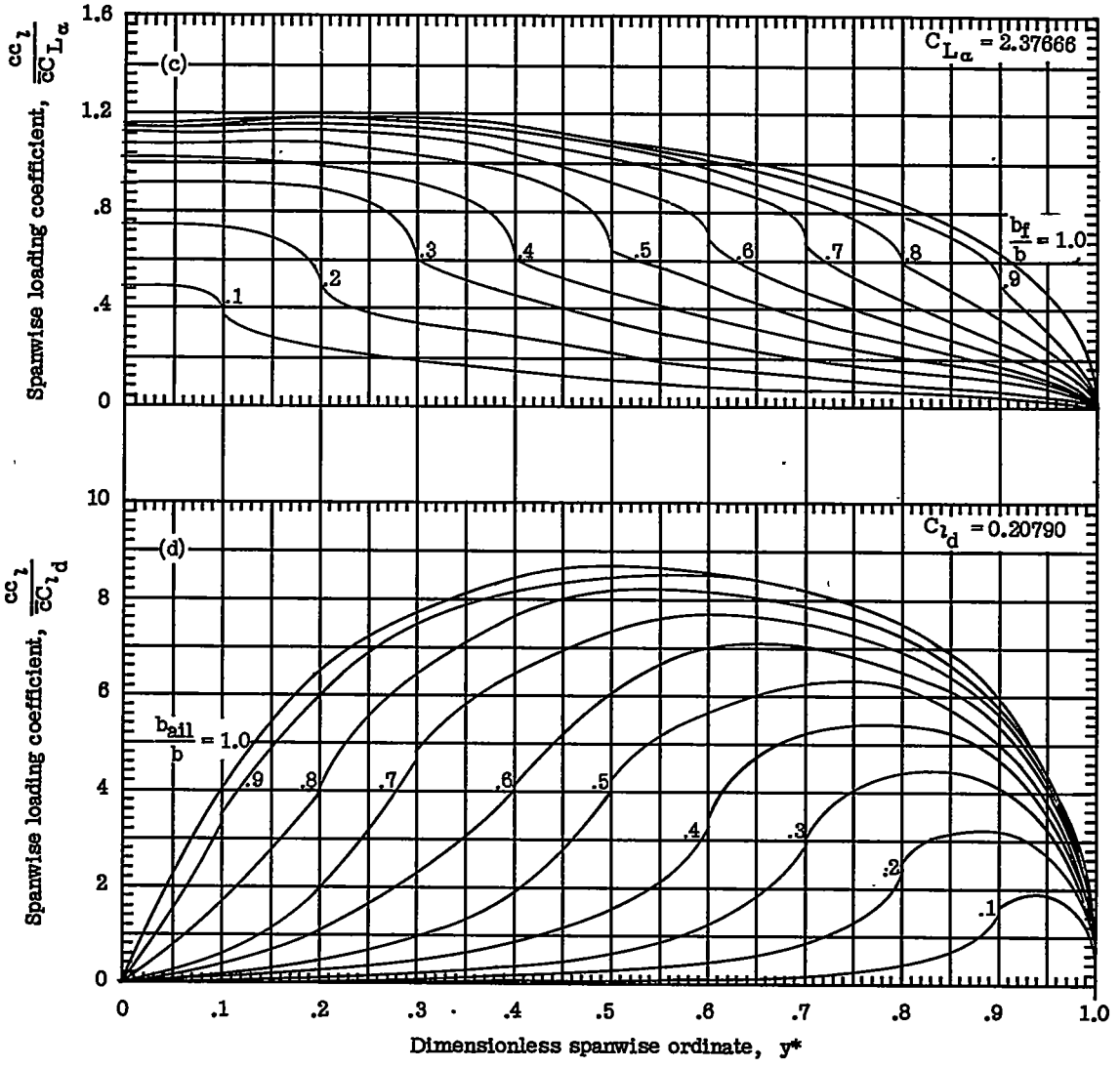
Figure 58.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

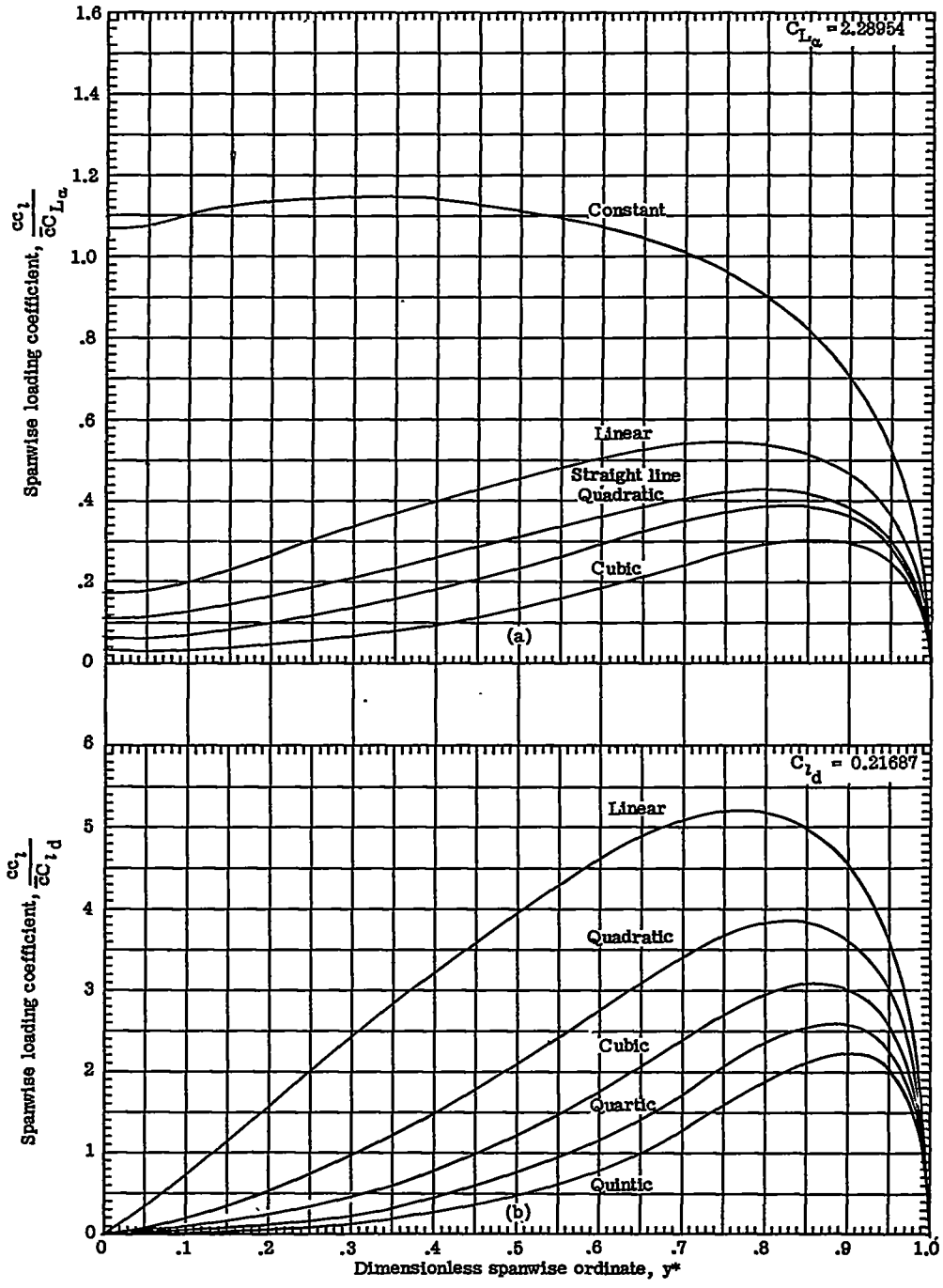
Figure 59.- Spanwise lift distributions for plan form 622 ($A = 3.0$; $\lambda = 0.25$; $\Lambda = 60^{\circ}$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

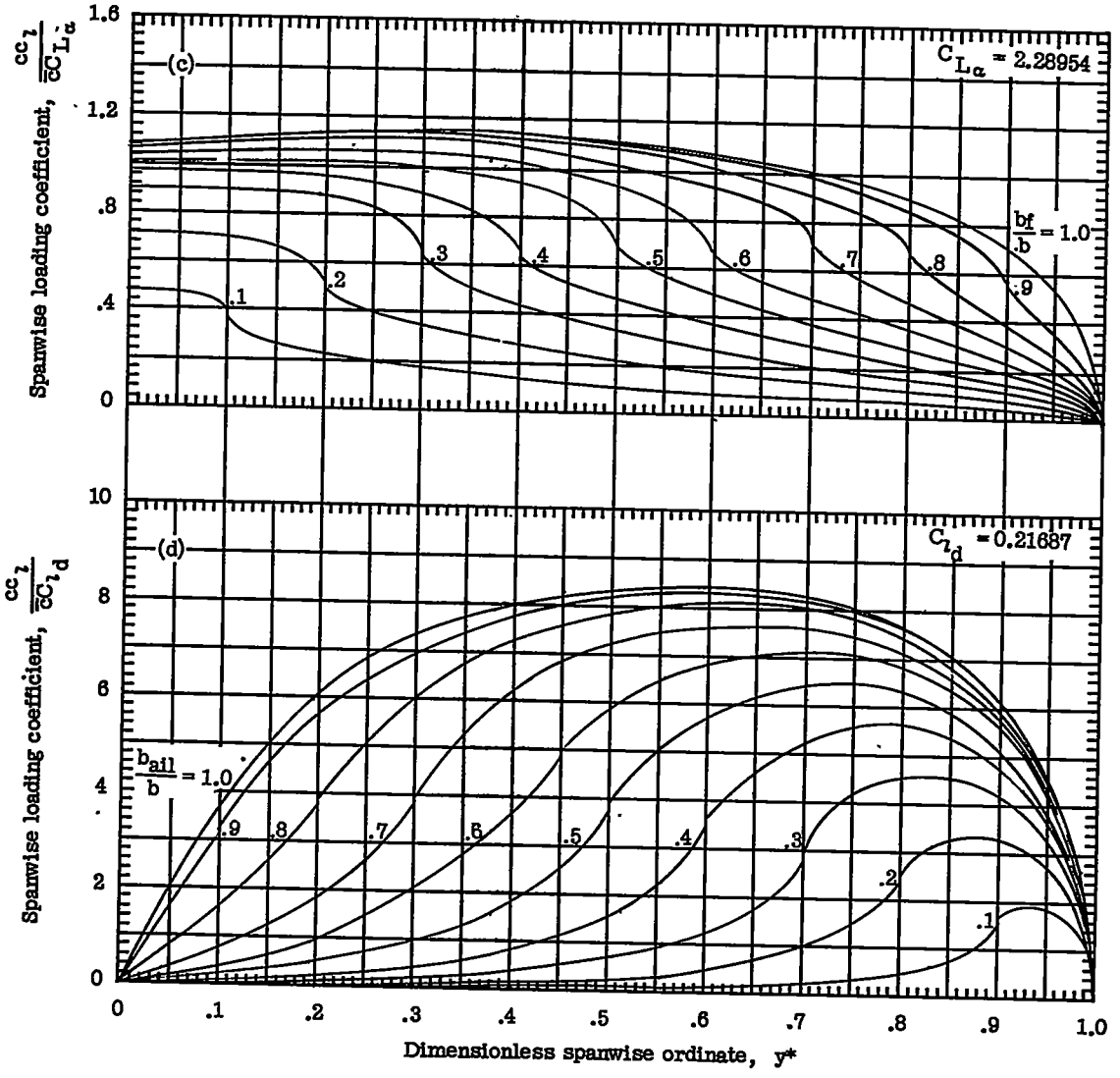
Figure 59.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

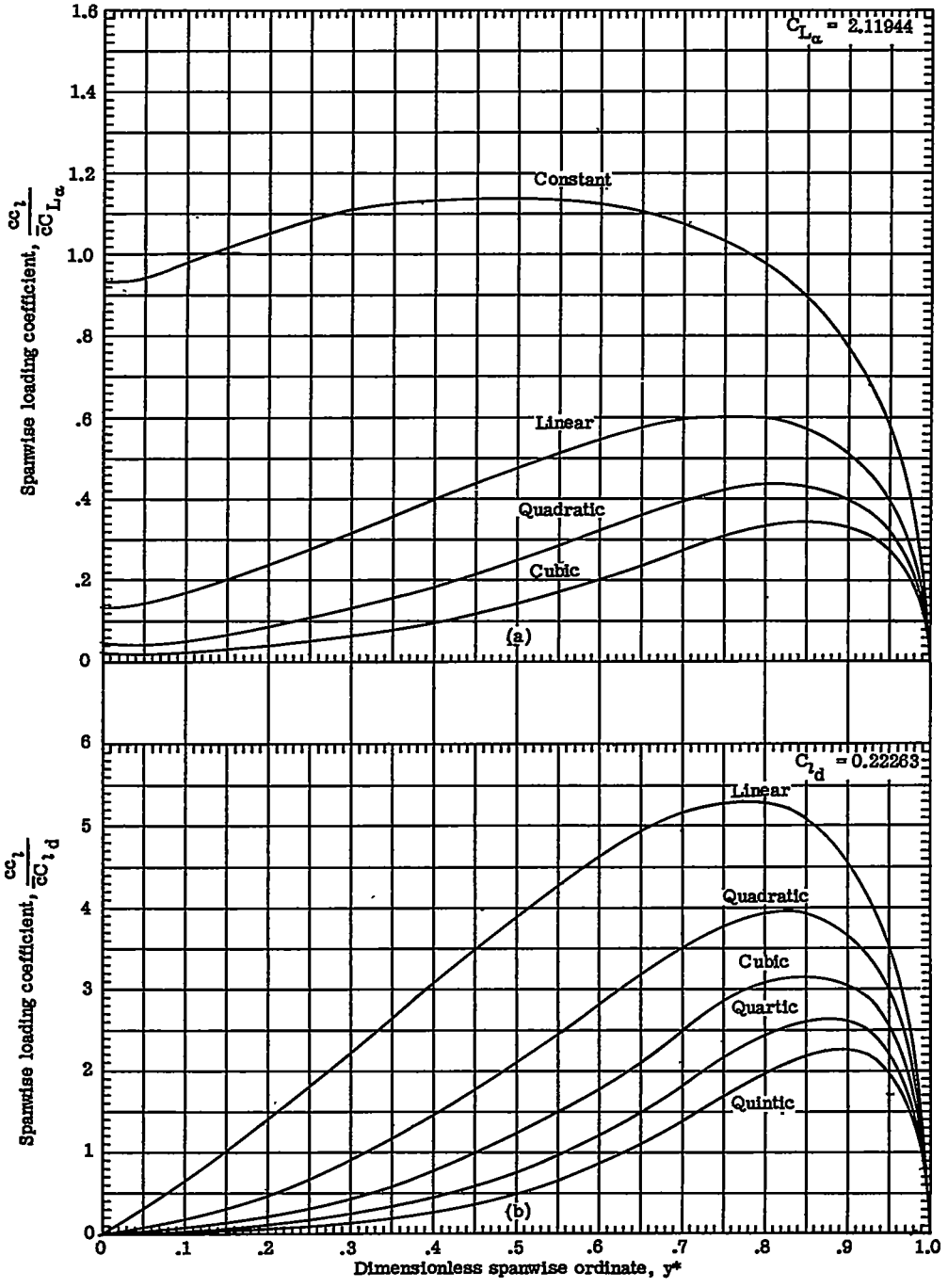
Figure 60.- Spanwise lift distributions for plan form 623 ($A = 3.0$; $\lambda = 0.50$; $\Lambda = 60^\circ$).



(c) Lift distribution for inboard flap.

(d) Lift distribution for outboard aileron.

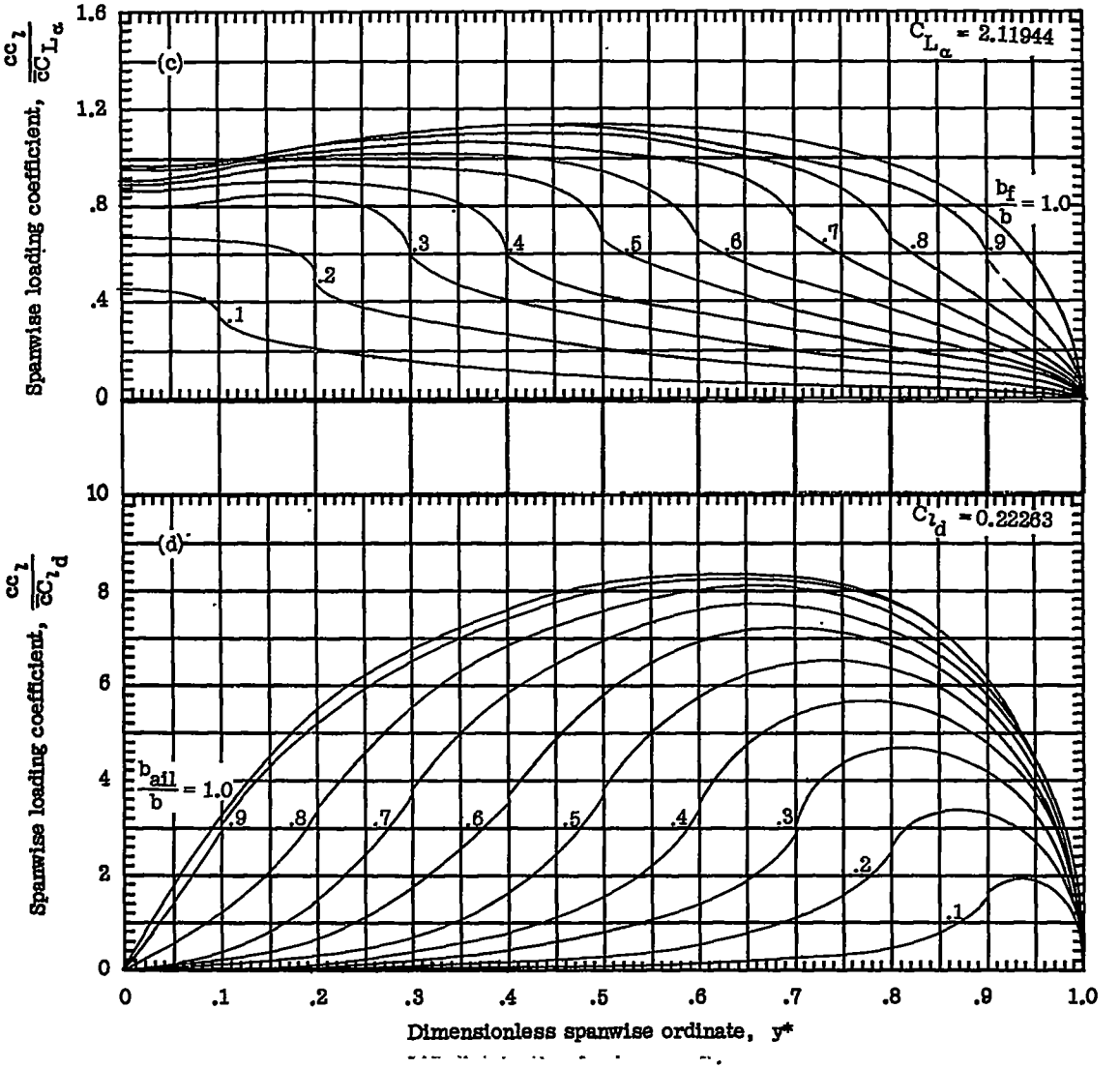
Figure 60.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

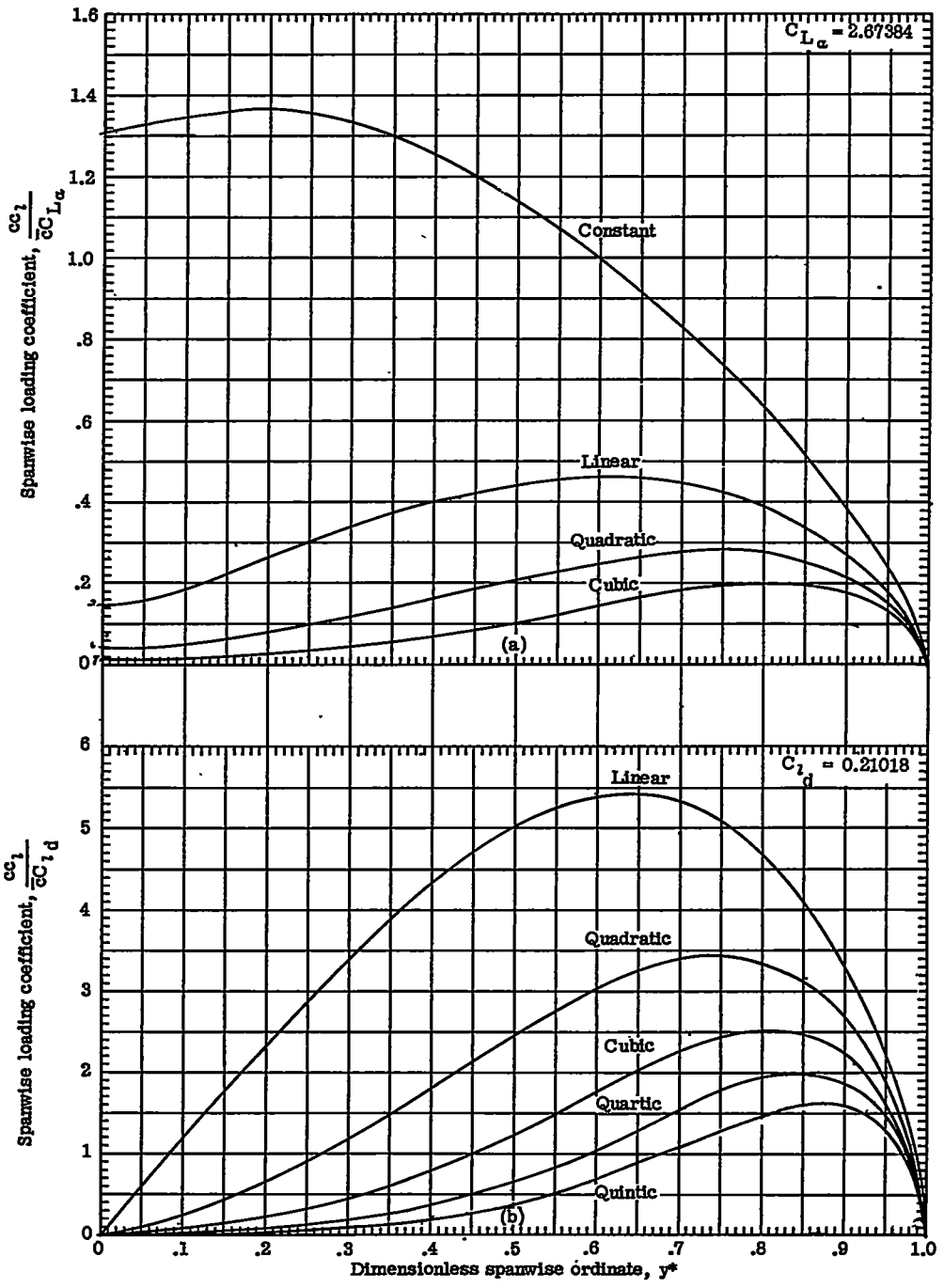
Figure 61.- Spanwise lift distributions for plan form 624 ($A = 3.0$; $\lambda = 1.00$; $\Lambda = 60^\circ$).



(c) Lift distributions for inboard flap.

(d) Lift distribution for outboard aileron.

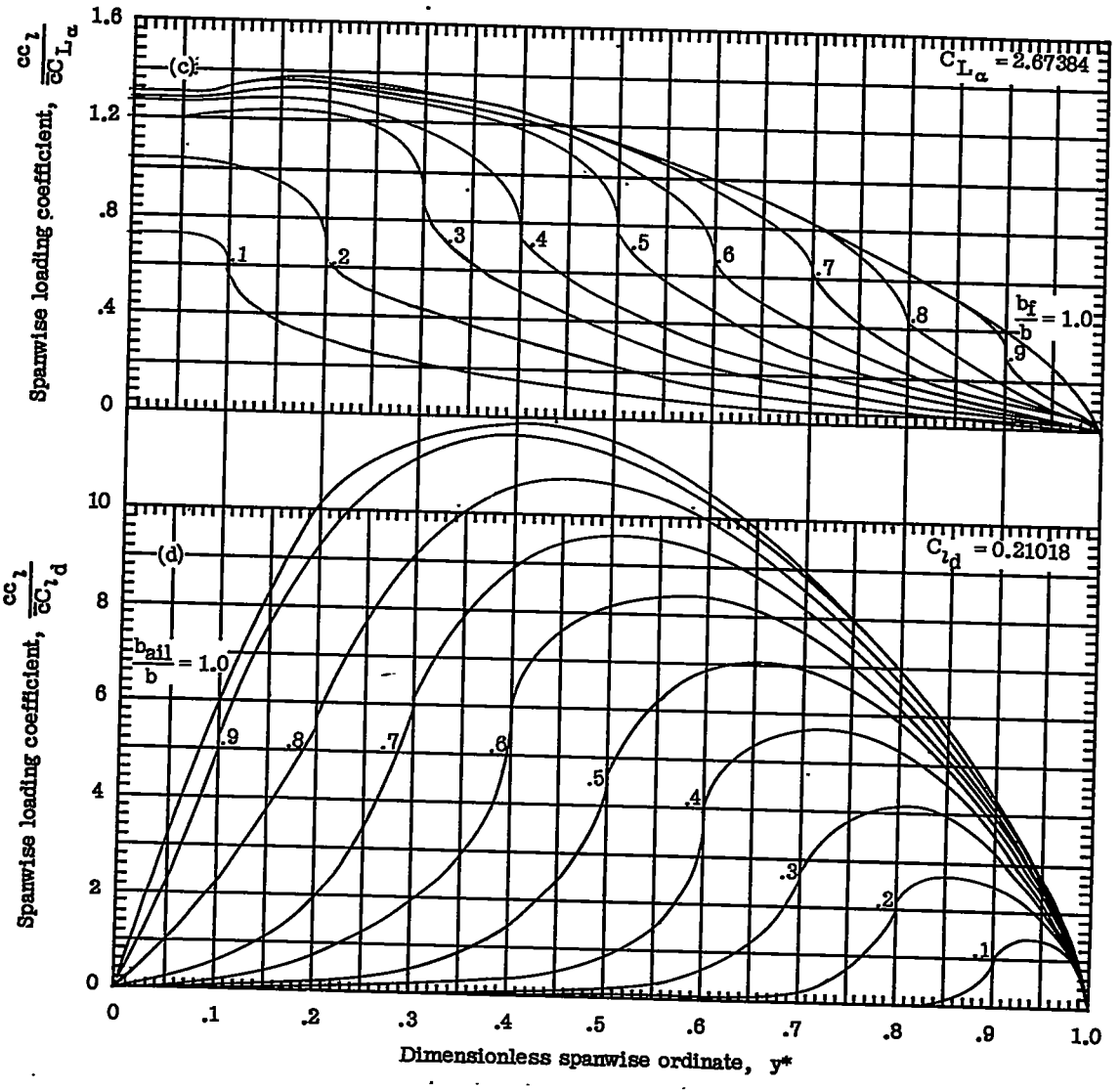
Figure 61.- Concluded.



(a) Symmetric lift distributions.

(b) Antisymmetric lift distributions.

Figure 62.- Spanwise lift distributions for plan form 631 ($A = 6.0$; $\lambda = 0$; $\Lambda = 60^{\circ}$).



(c) Lift distributions for inboard flap.

(d) Lift distributions for outboard aileron.

Figure 62.- Concluded.