

DAMPING MOMENT STABILITY COEFFICIENT,  $C_{M\dot{\alpha}} + C_{M\dot{q}}$  (-)

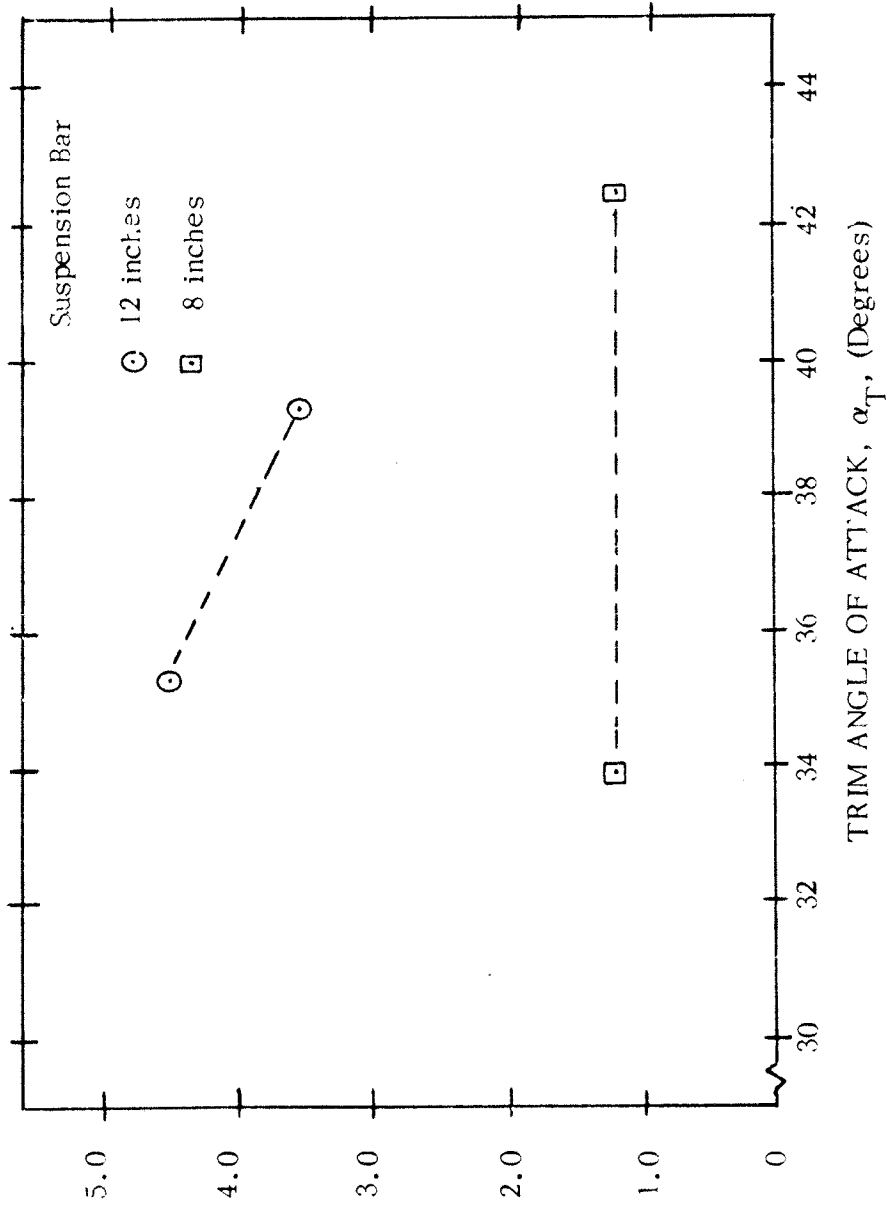


Figure 48b. Variation of Damping Moment Stability Coefficient with Trim Angle

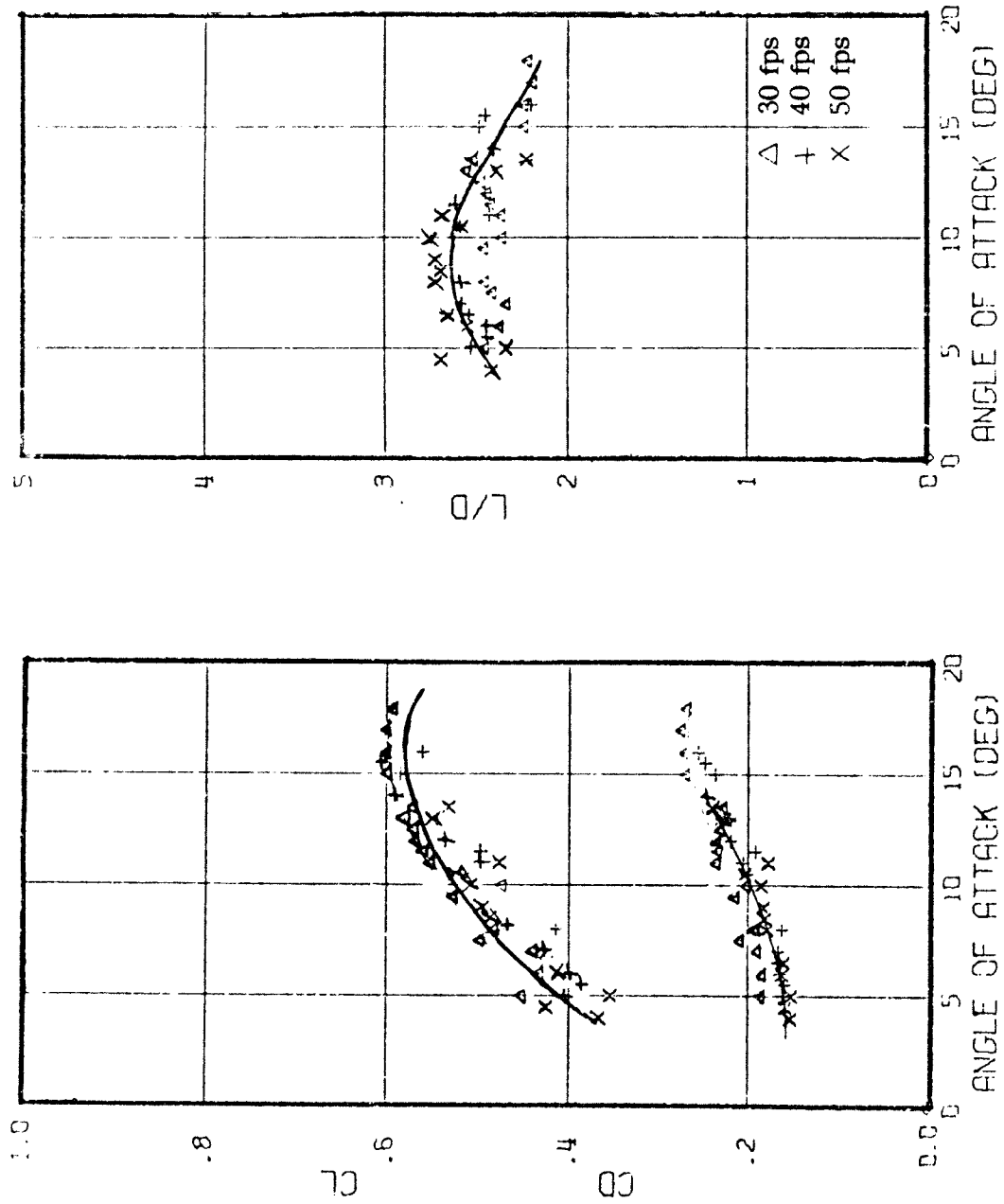


Figure 49. NASA Tether Tests: AR 1.0 Speed Summary

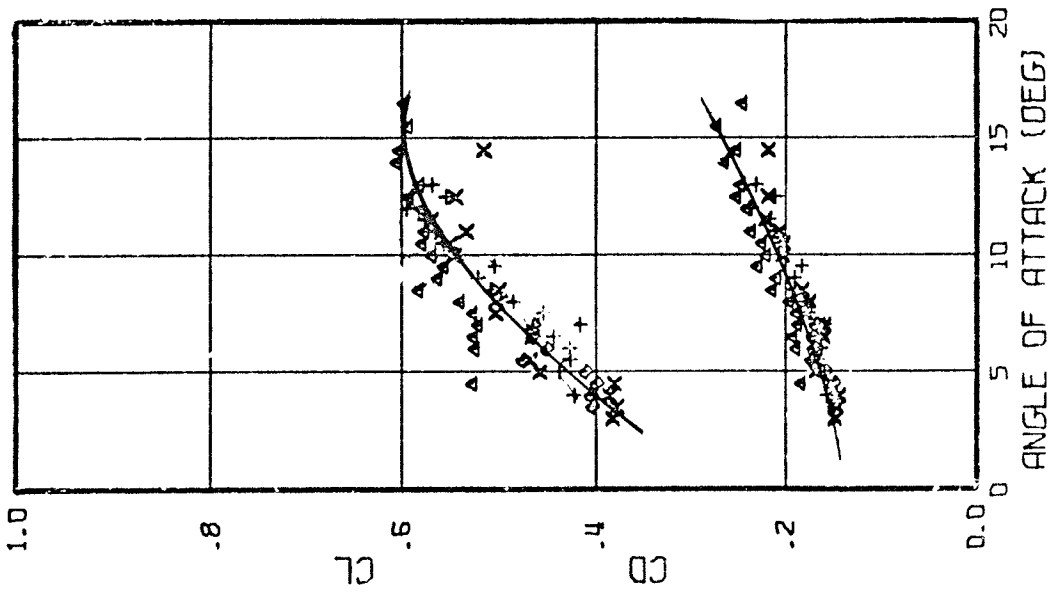
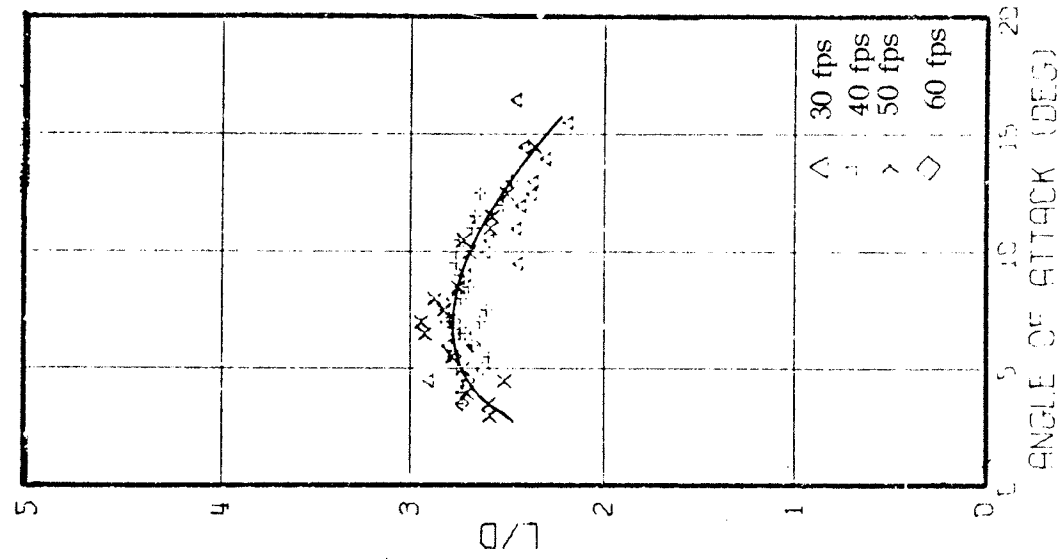


Figure 50. NASA Tether Tests: AR 1.5 Speed Summary

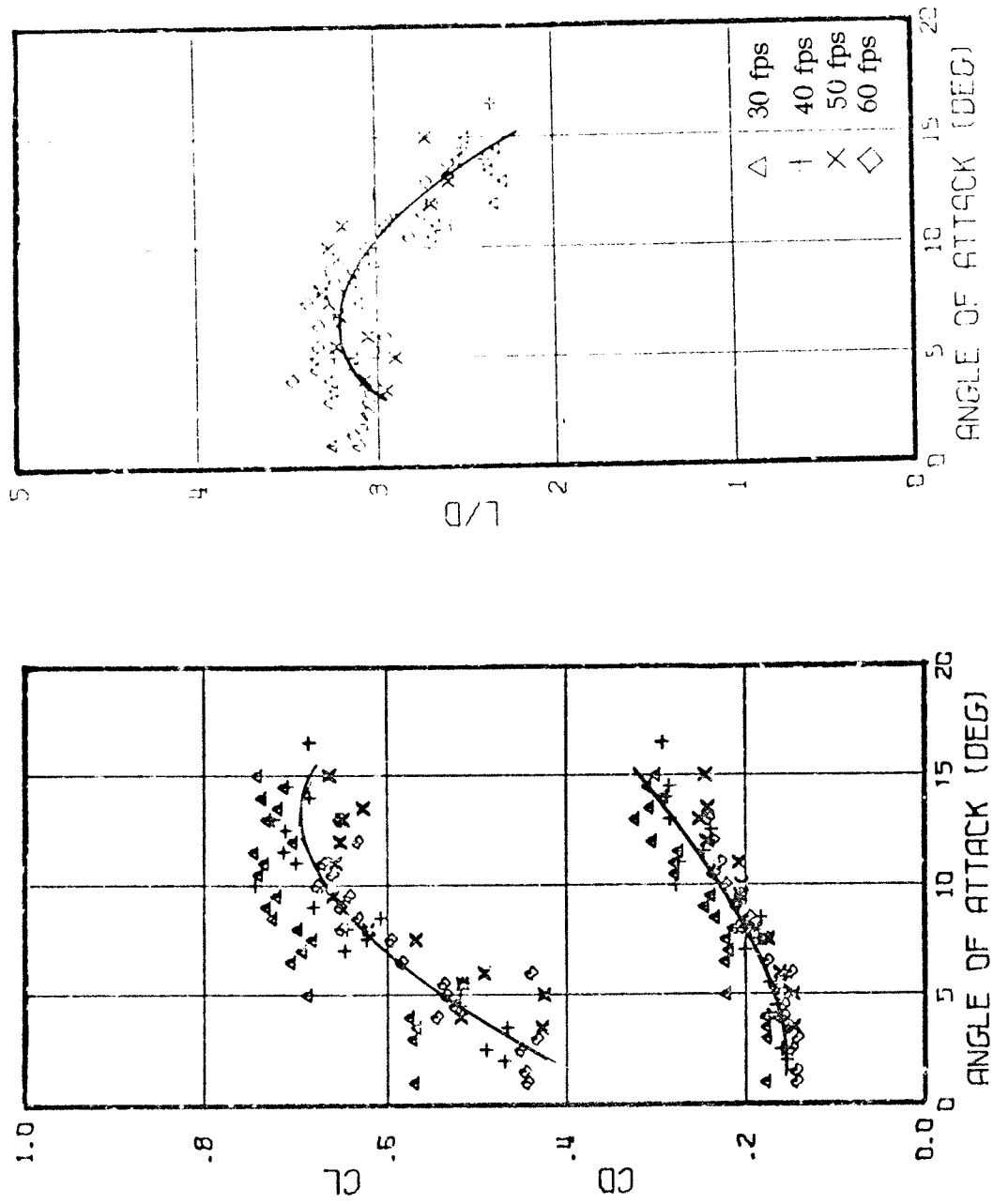


Figure 51. NASA Tether Tests: AR 2.0 Speed Summary

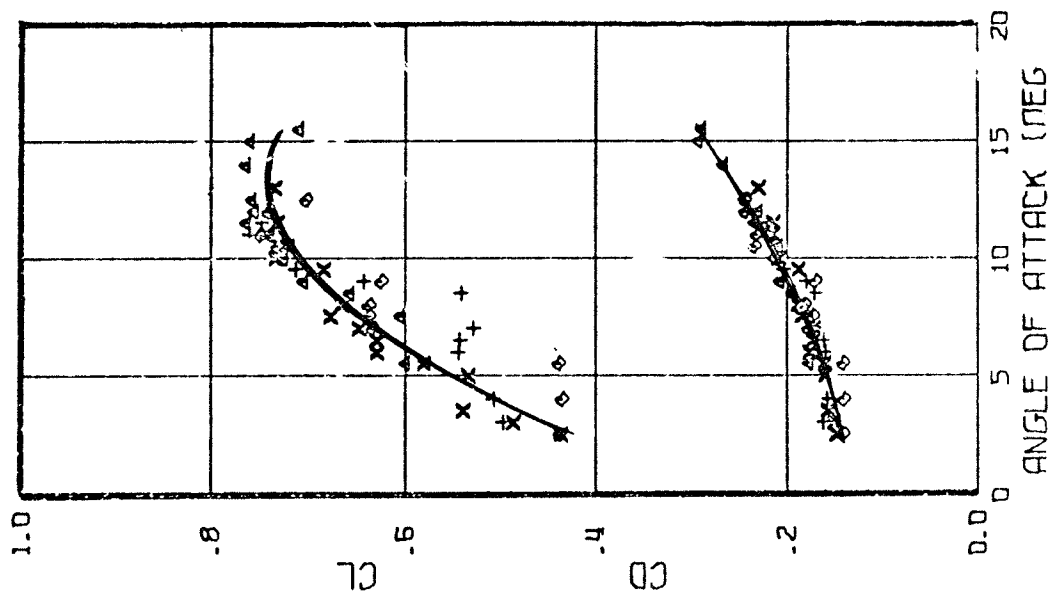
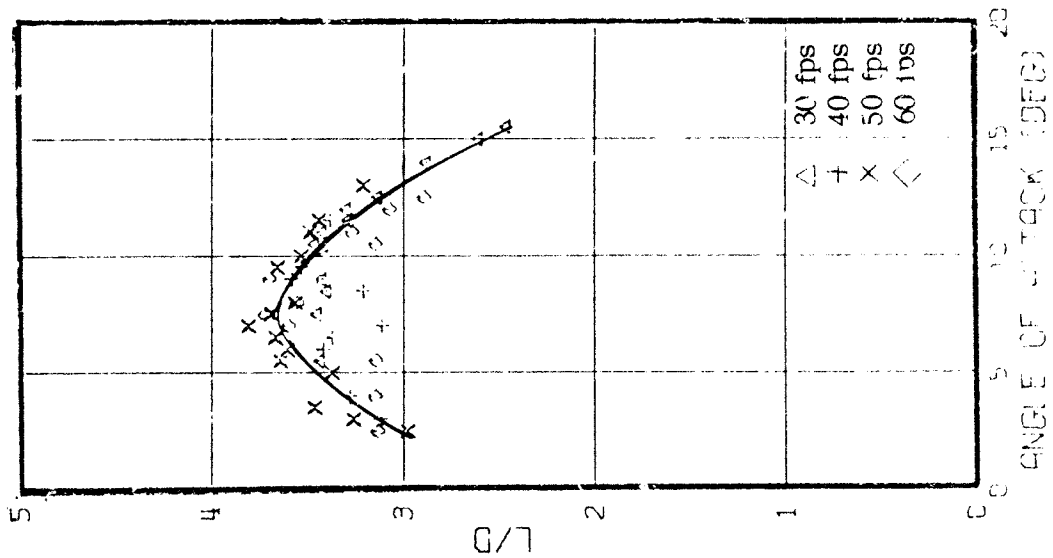


Figure 52. NASA Tether Tests: AR 2.5 Speed Summary

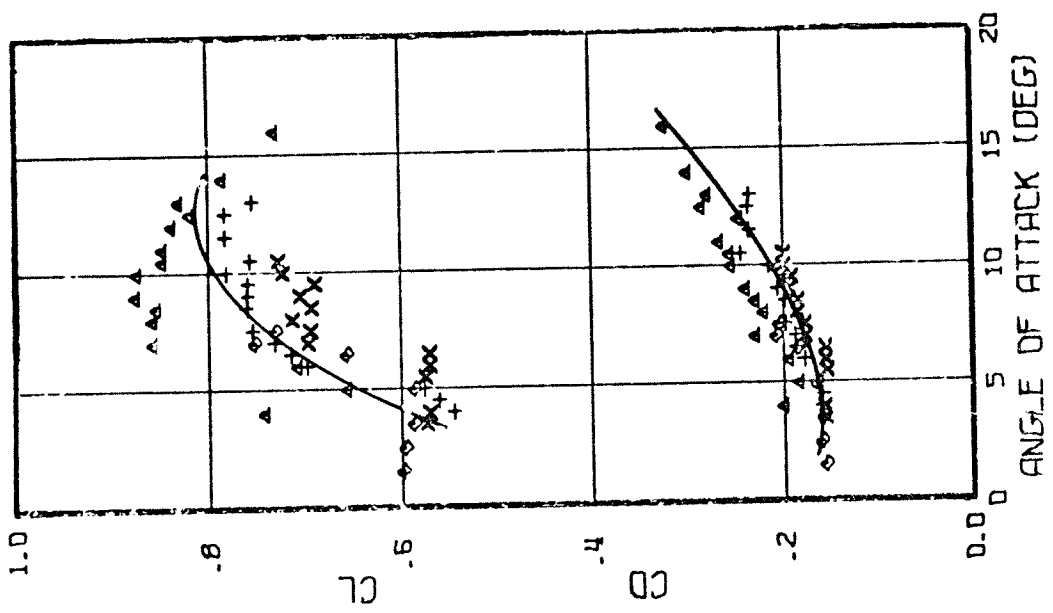
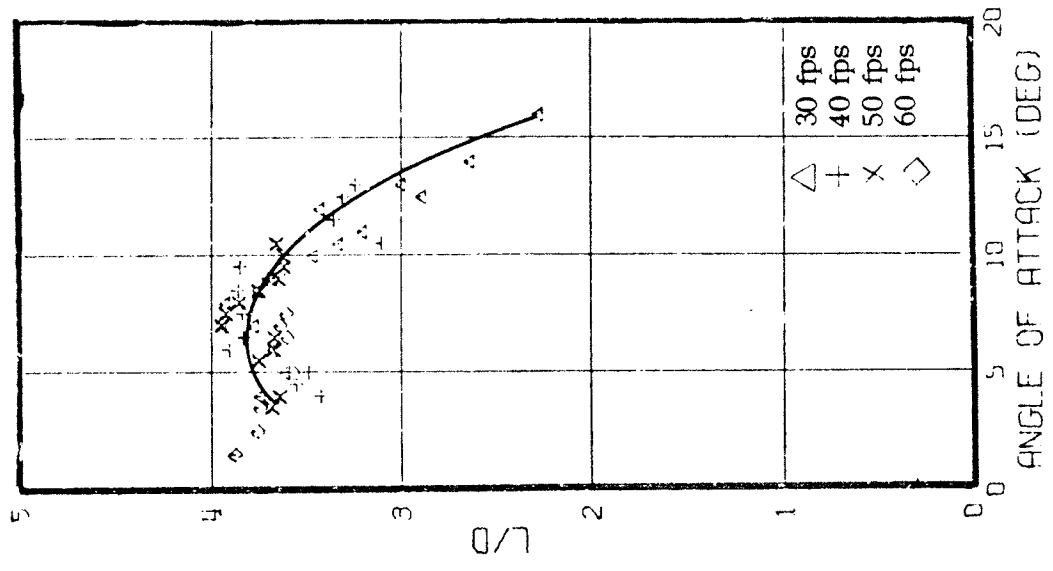


Figure 53. NASA Tether Tests: AR 3.0 Speed Summary

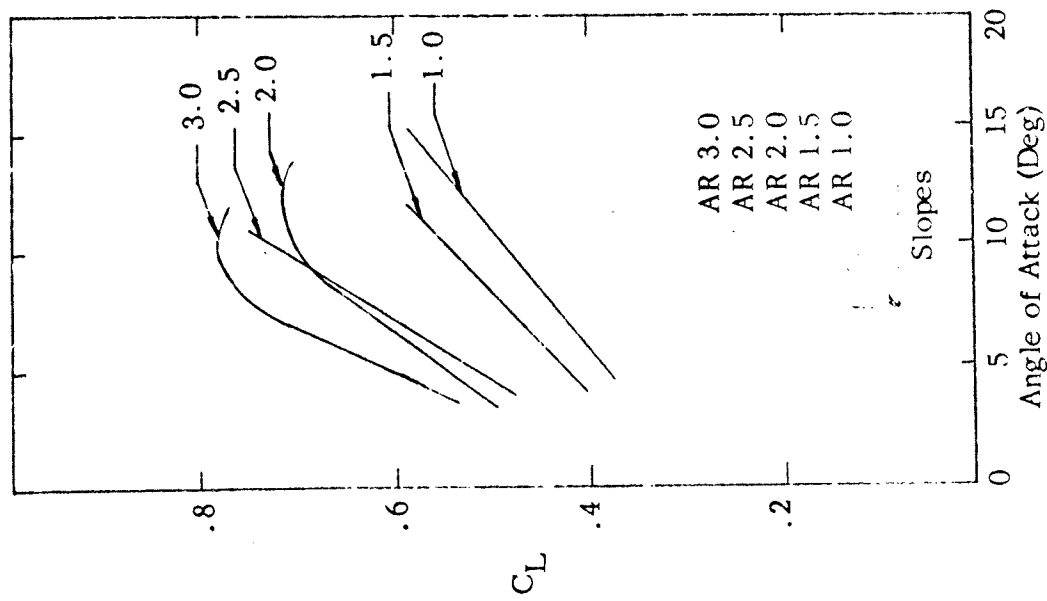
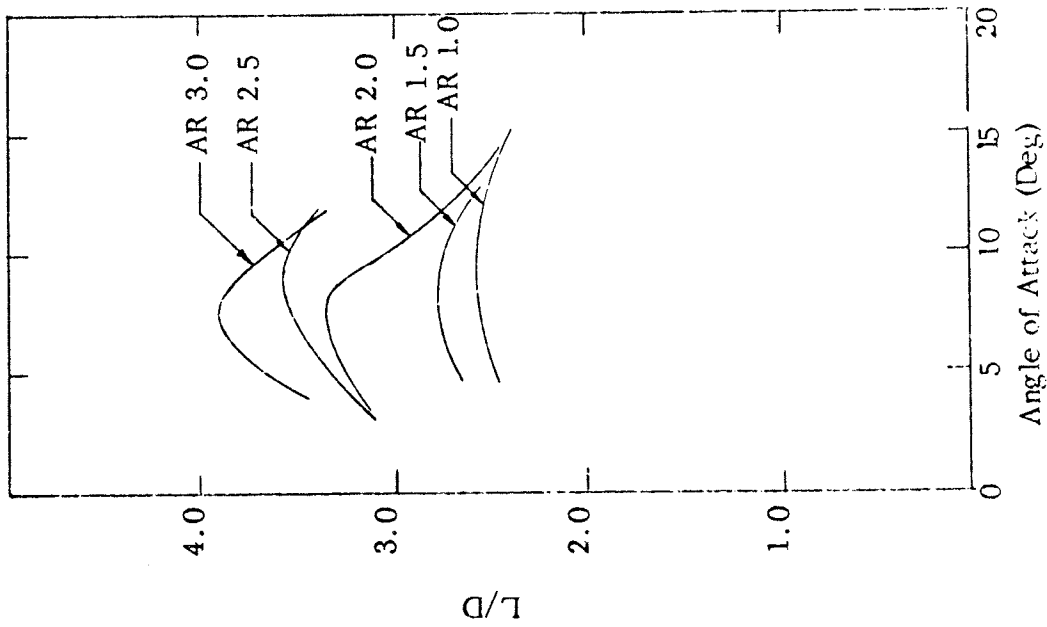
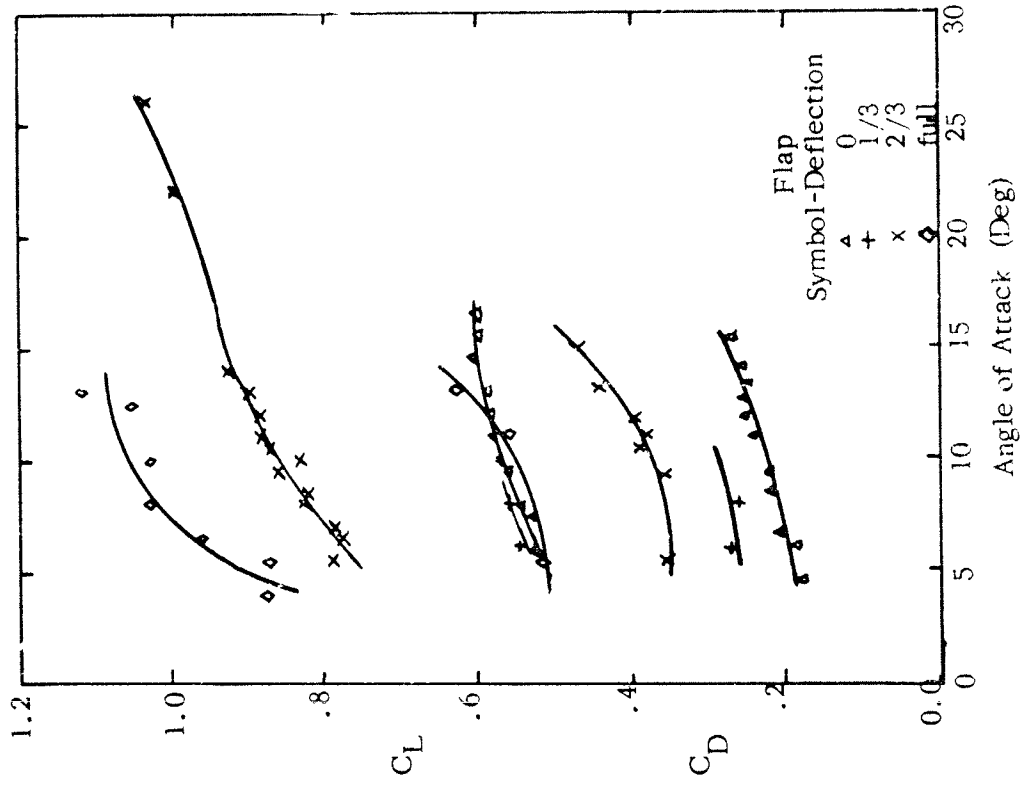
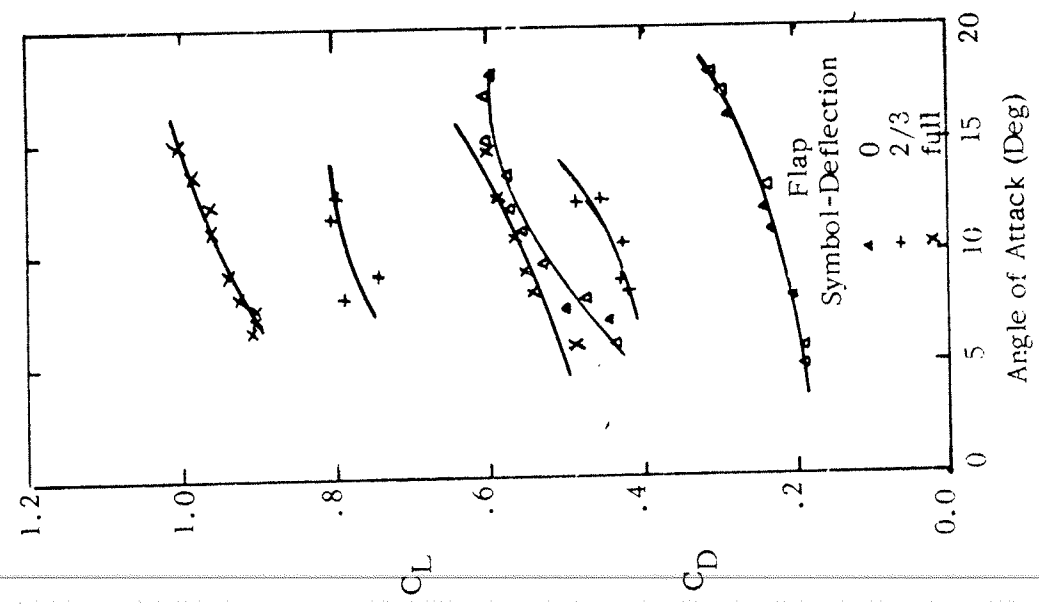


Figure 54. NASA TR 110. Tests: AR Summary at 40 feet per second



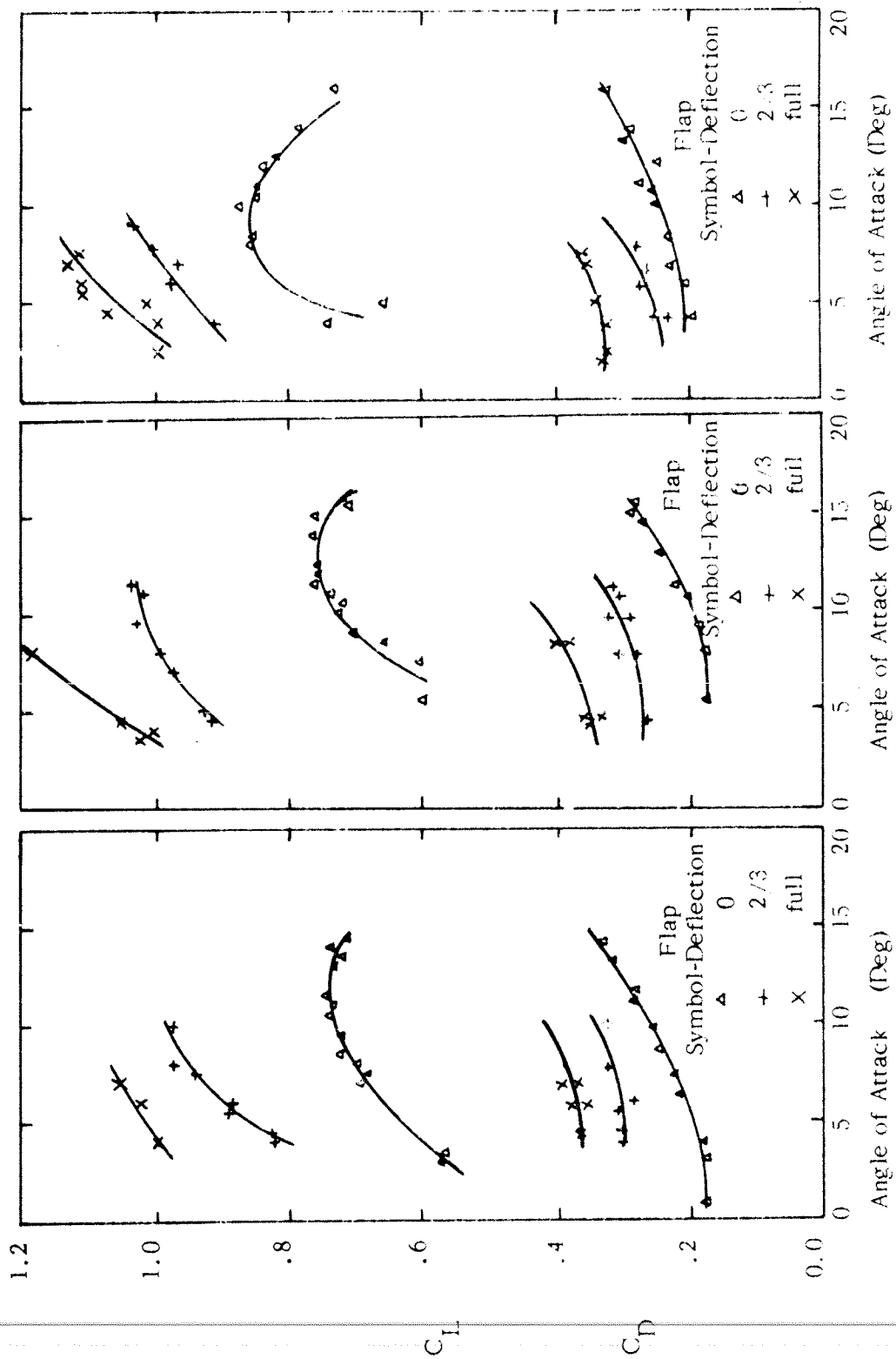
(a) AR 1.0



(b) AR 1.5

Figure 55.  $C_L$  and  $C_D$  vs  $\alpha$ . Tether Flap Deflection at 30 fps.



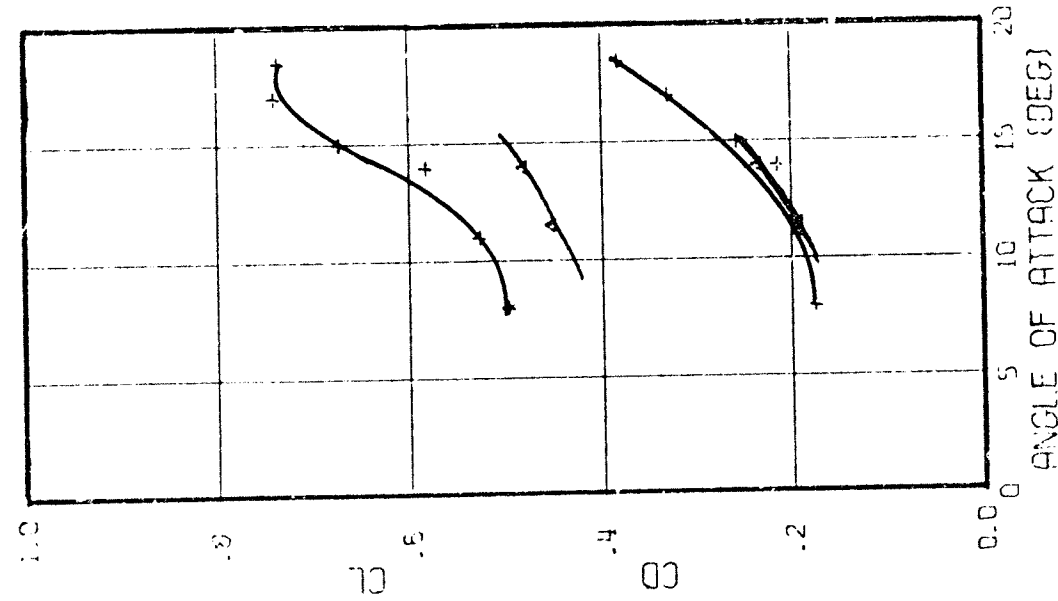


(c) AR 2.0

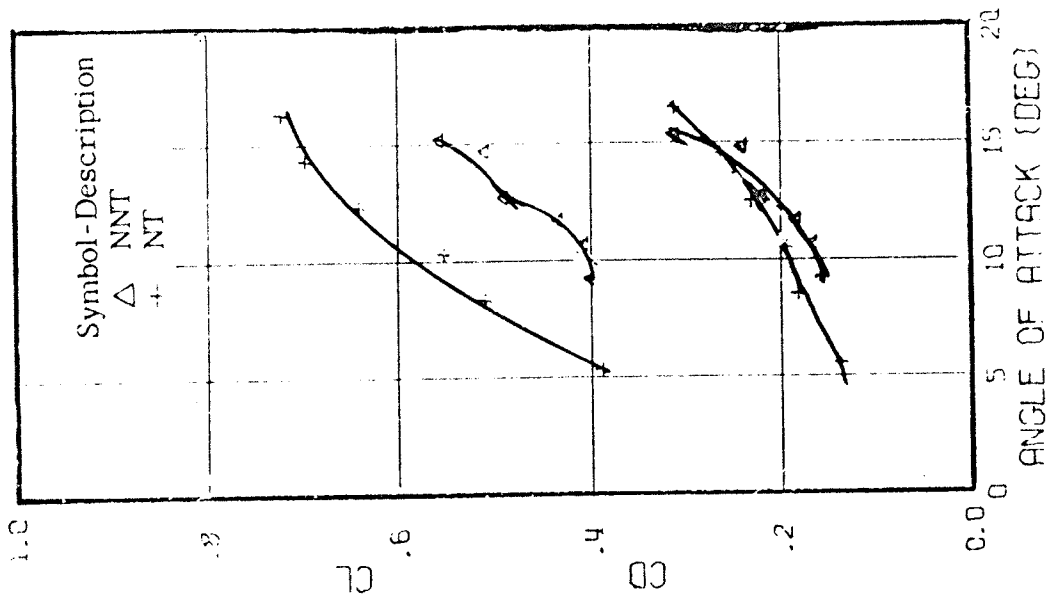
(d) AR 2.5

(e) AR 3.0

Figure 55 (continued).  $C_L$  and  $C_D$  vs  $\alpha$ . Tether Flap Deflection at 30 fps.

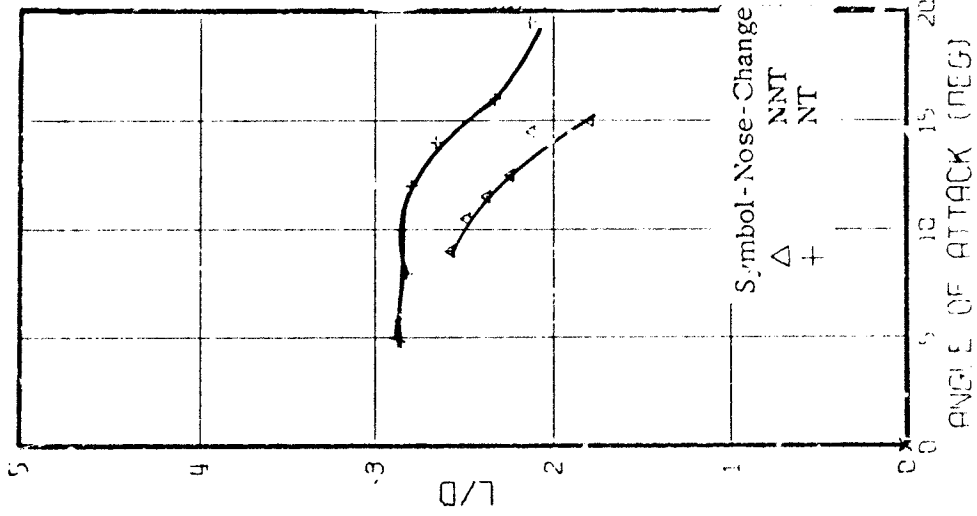


(a) V = 30 fps

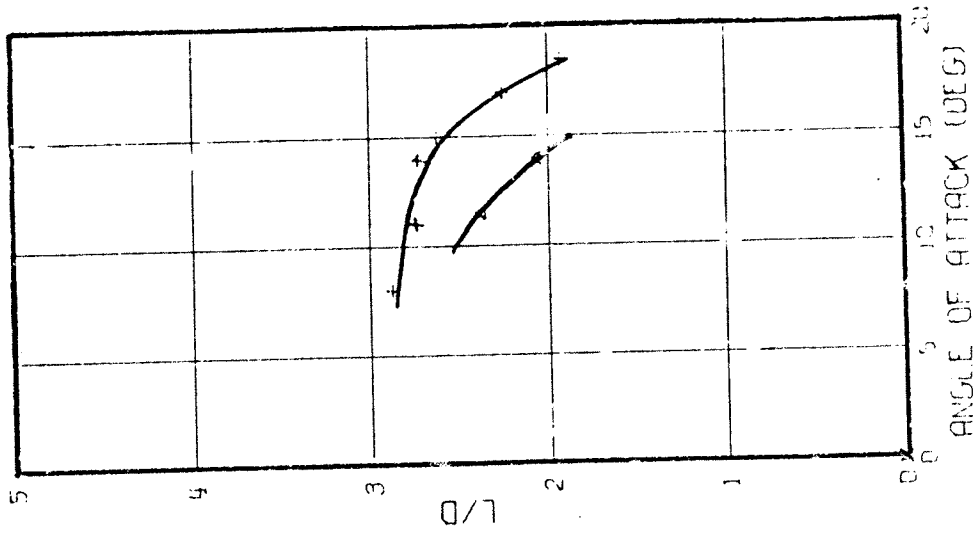


(b) V = 40 fps

Figure 56.  $C_D$  &  $C_L$  vs  $\alpha$ , Tether AR Model 1.0 with Leading Edge Opening Changed (without line drag)

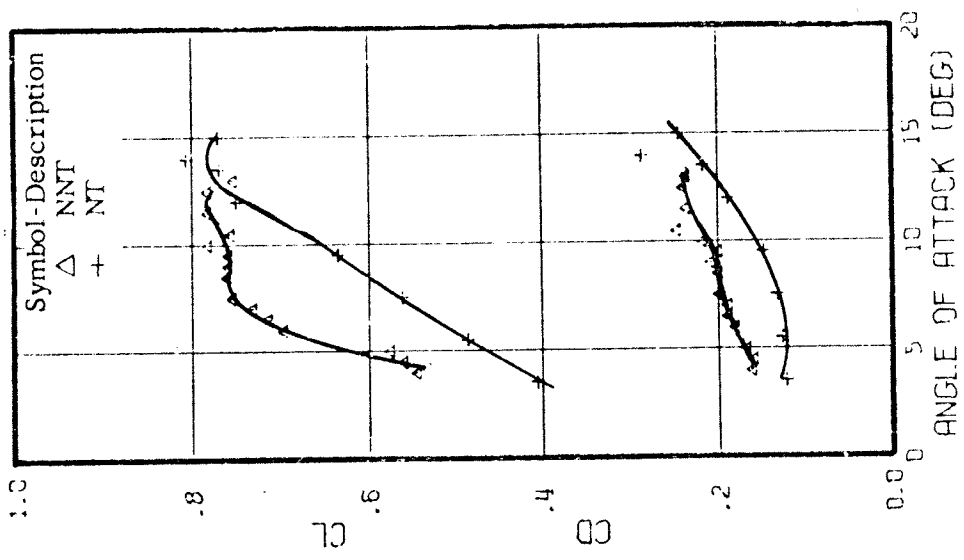


(a) V = 30 fps

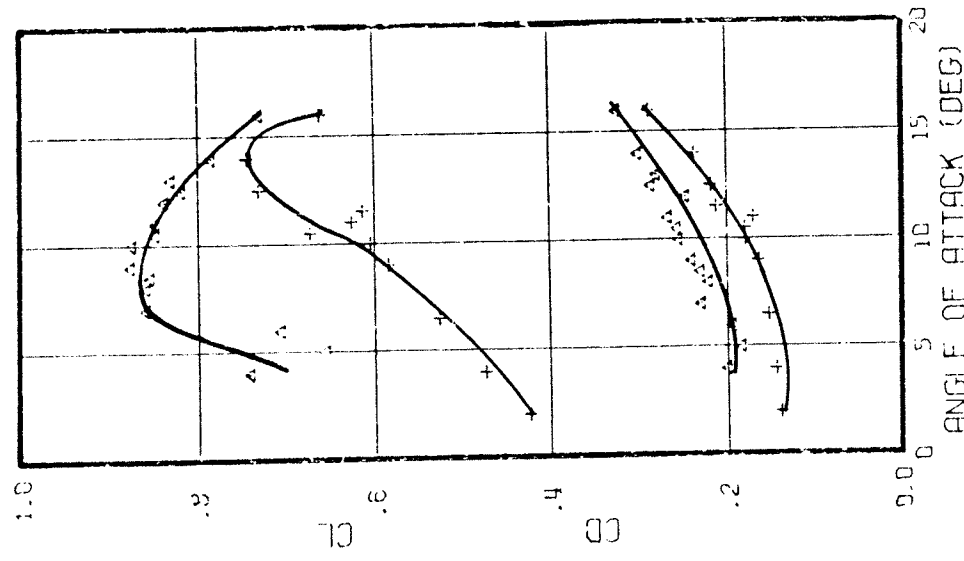


(b) V = 40 fps

Figure 57. L/D vs  $\alpha$ . Tether AR 1.0 Model with Leading Edge Opening Changed  
(without line drag)

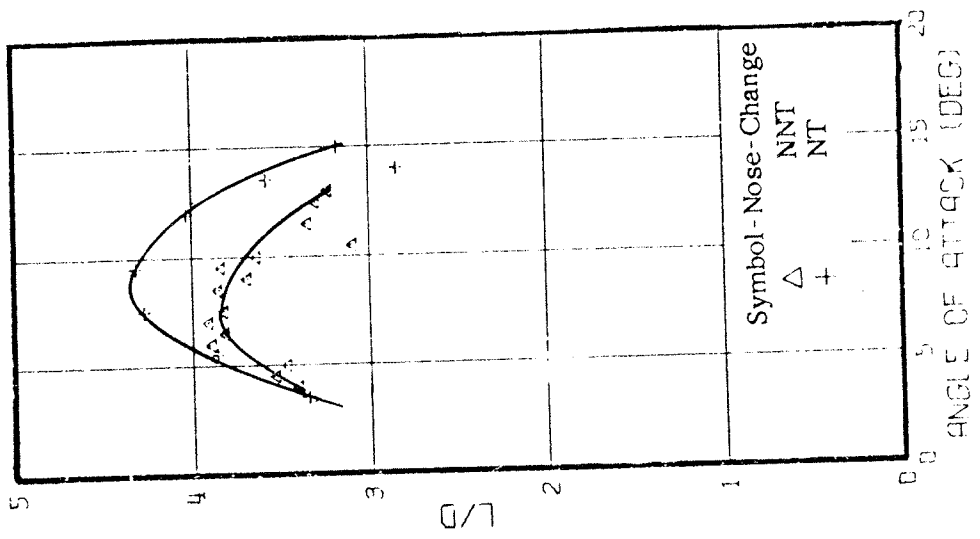


(a) 30 fps



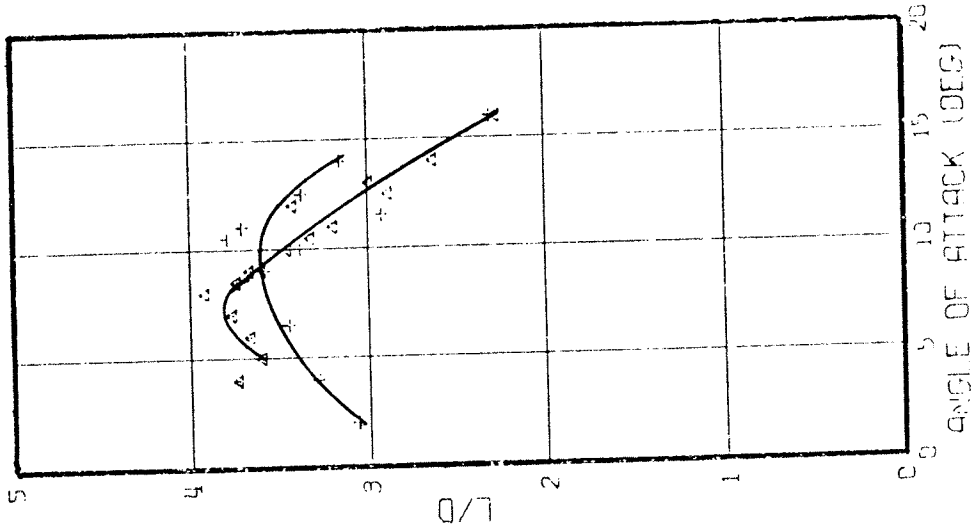
(b) 40 fps

Figure 58.  $C_D$  &  $C_L$  vs  $\alpha$  . Tether AR 3.0 Model w/Leading Edge Opening Changed without line drag



(a) 30 fps

Figure 59. L/D vs  $\alpha$ . Tether AR 3.0 Model with Leading Edge Opening Changed (without line drag)



(b) 40 fps

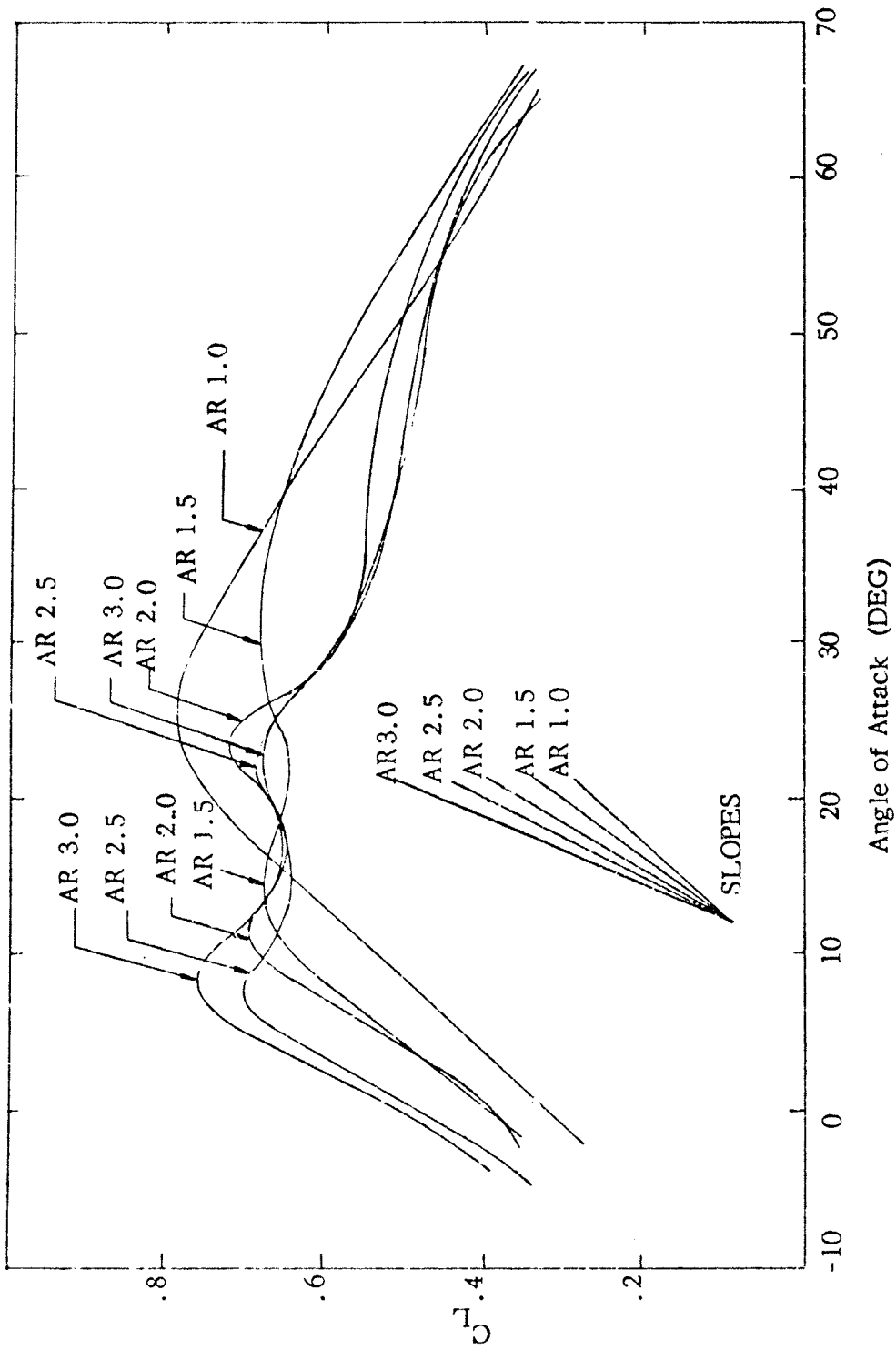


Figure 60.  $C_L$  vs  $\alpha$ . Strut AR Summary at 40 fps.

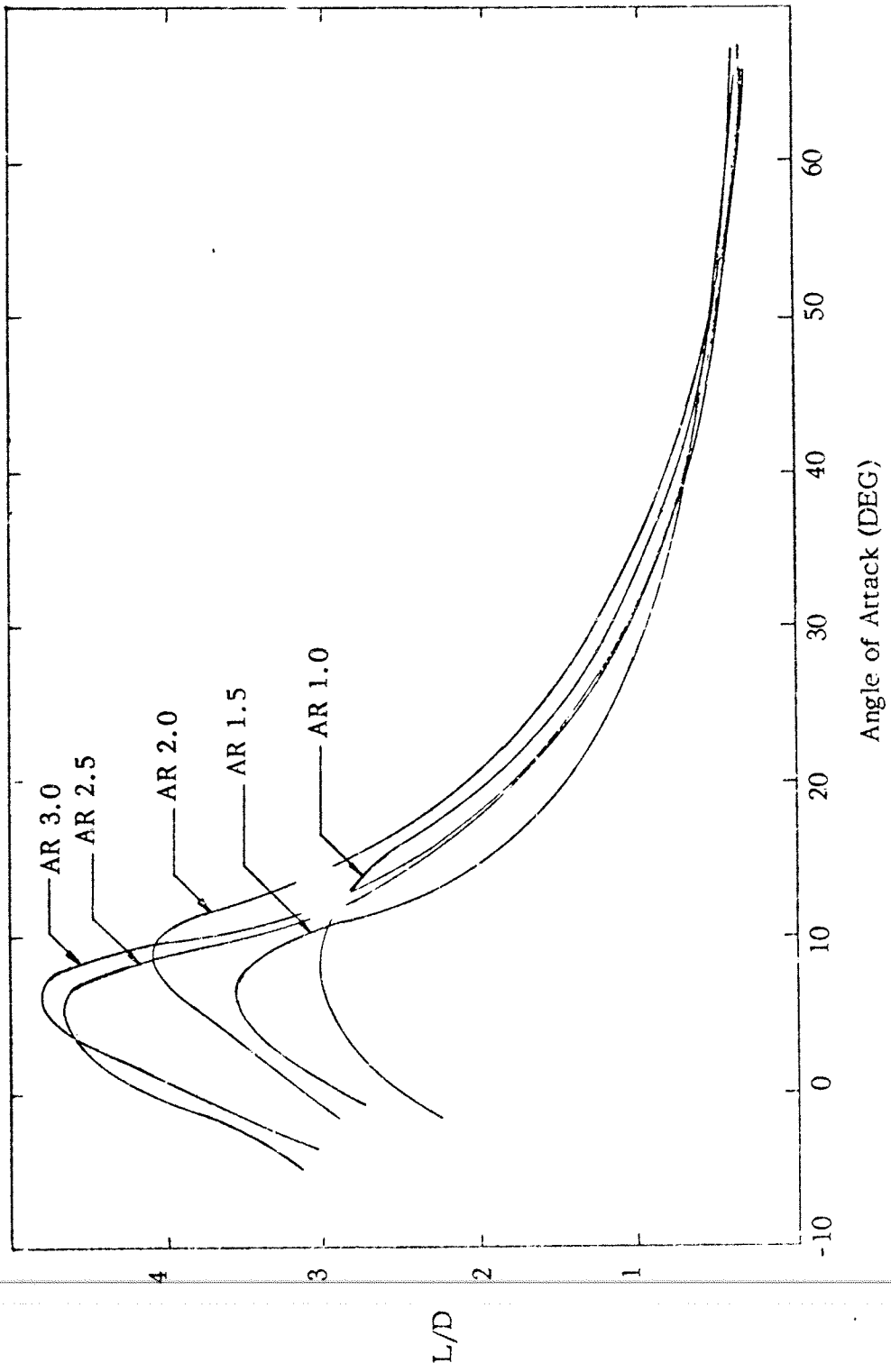


Figure 61. L/D vs  $\alpha$ . Strut AR Summary without line drag at 40 fps.

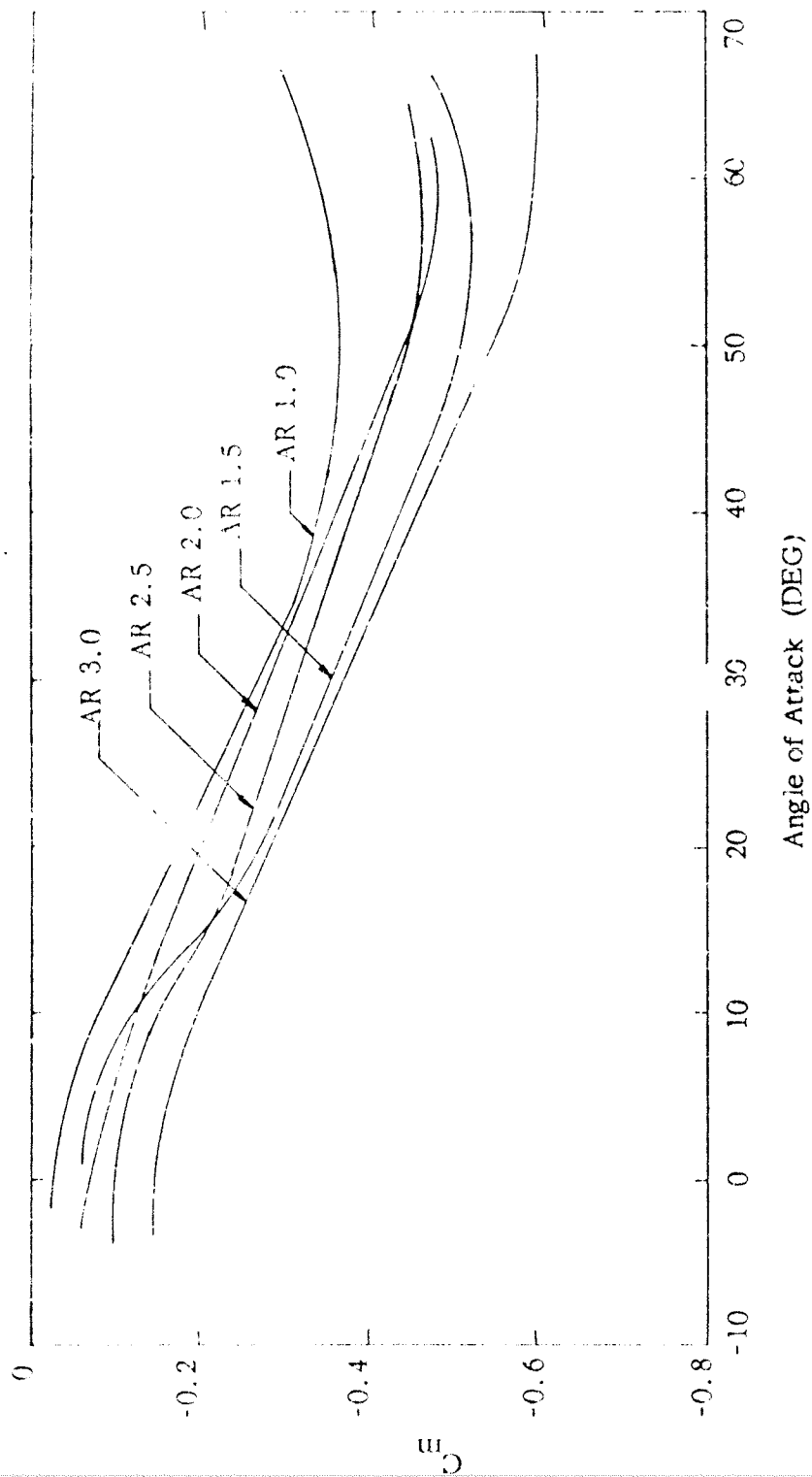


Figure 62.  $C_m$  vs  $\alpha$ . Strut AR Summary at 50 fps



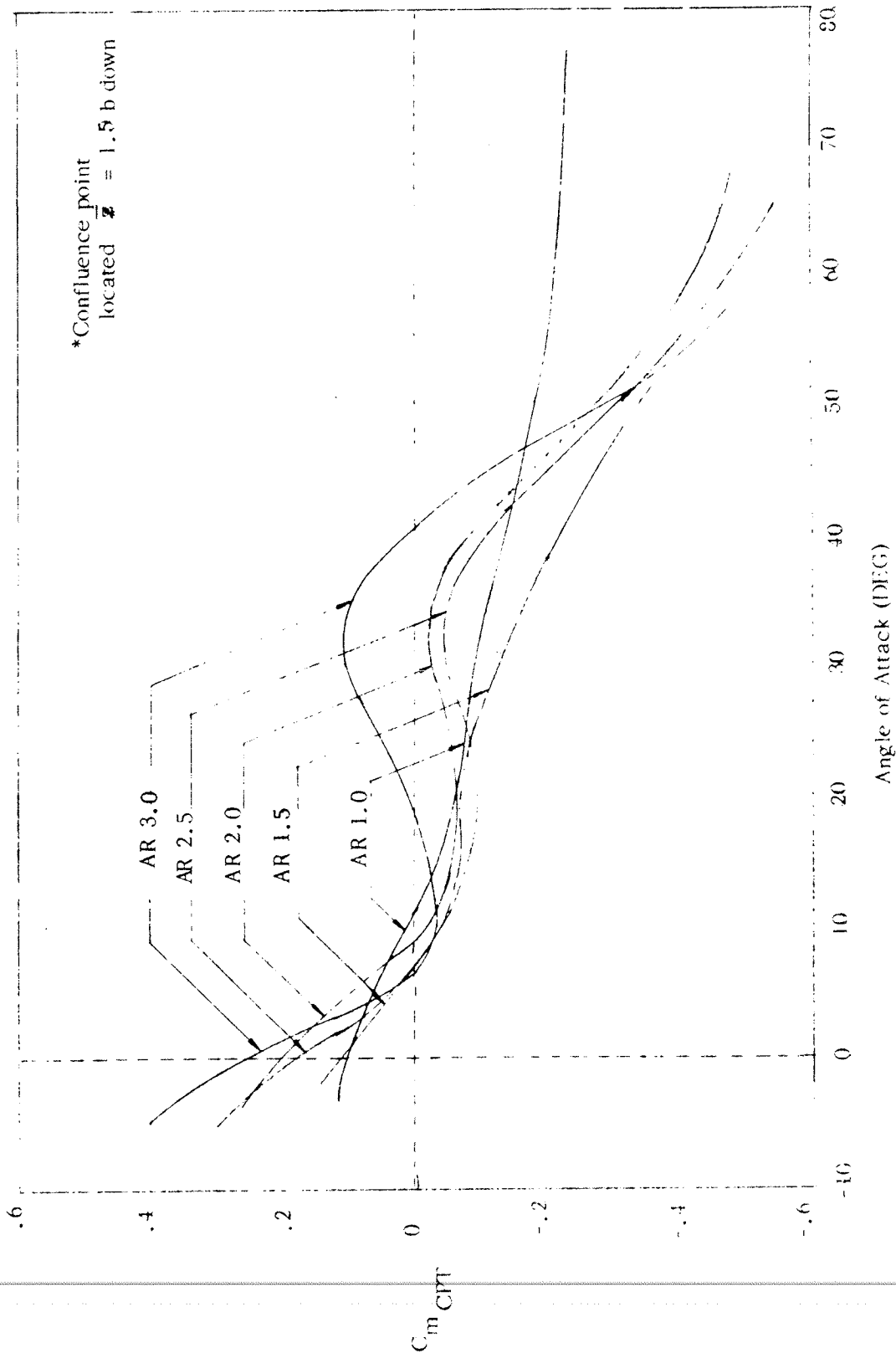


Figure 63. AR Summary. Pitching Moment about the Confluence point\*

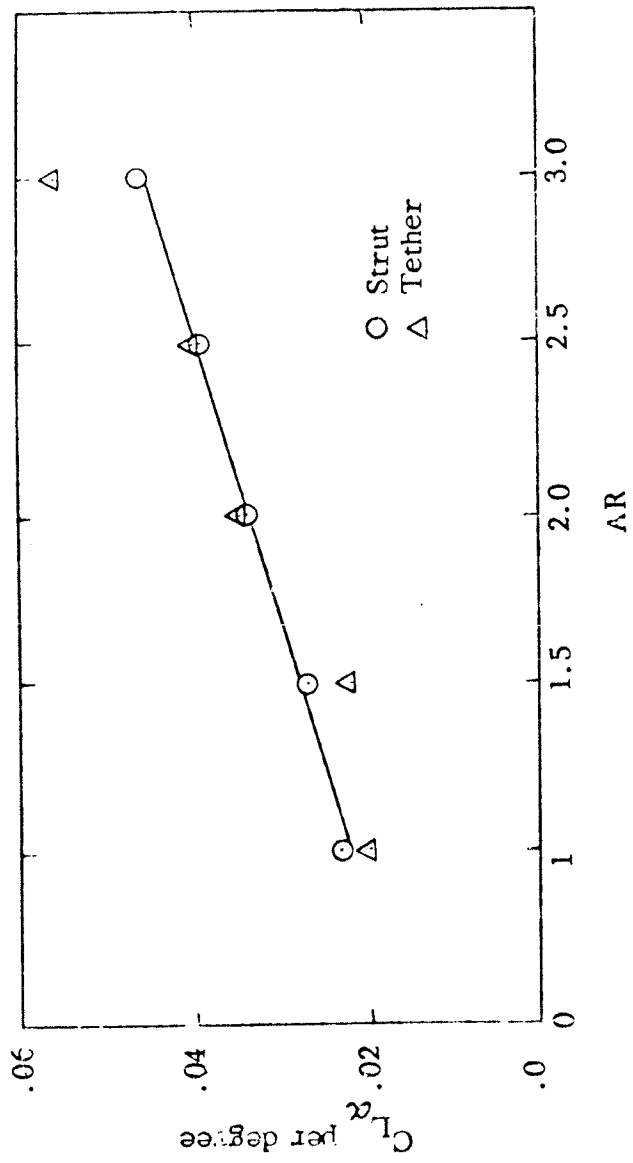
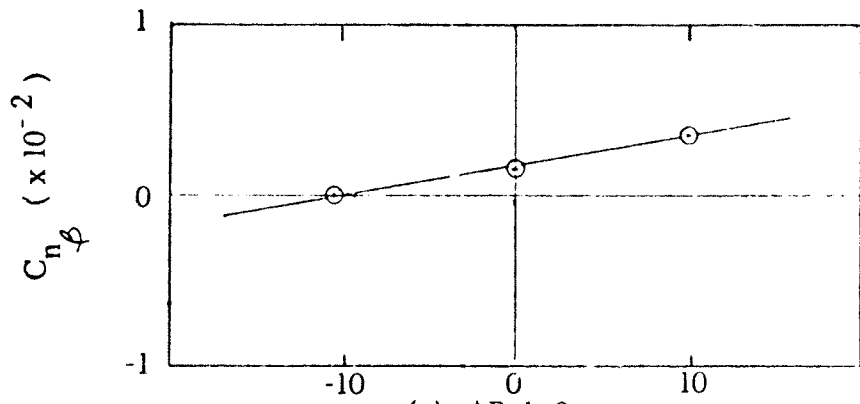
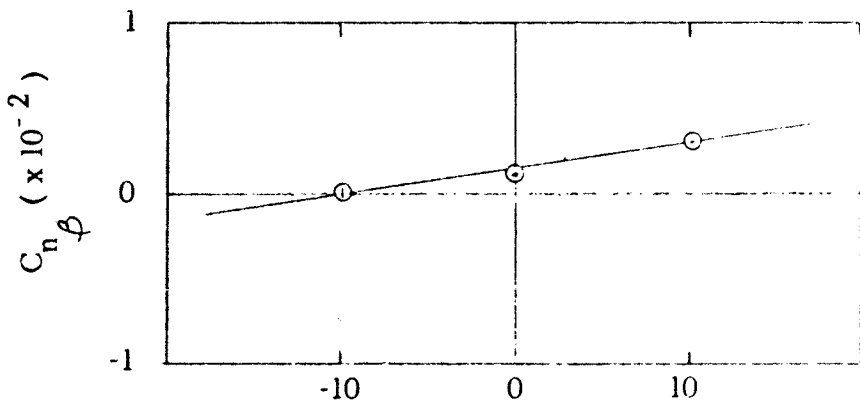


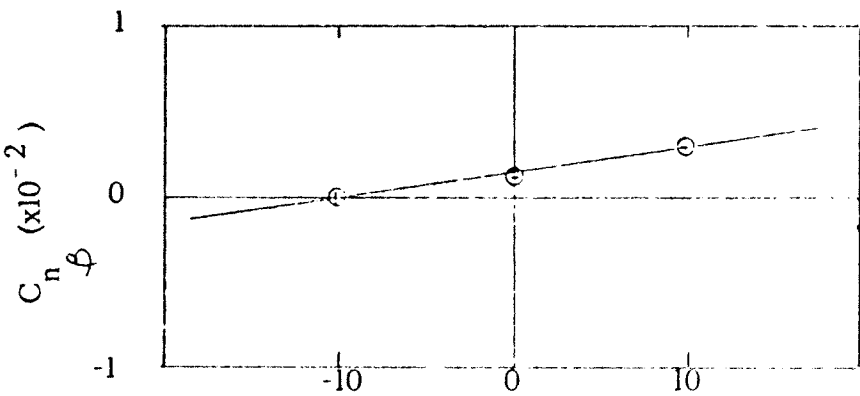
Figure 64.  $C_{L\alpha}$  per degree vs AR



(a) AR 1.0



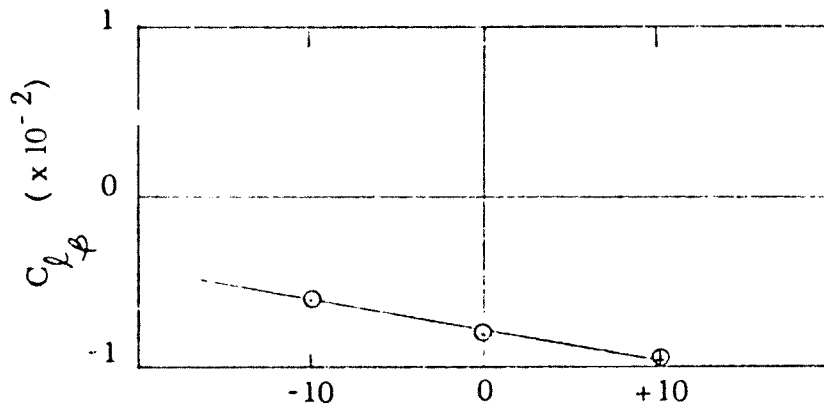
(b) AR 2.0



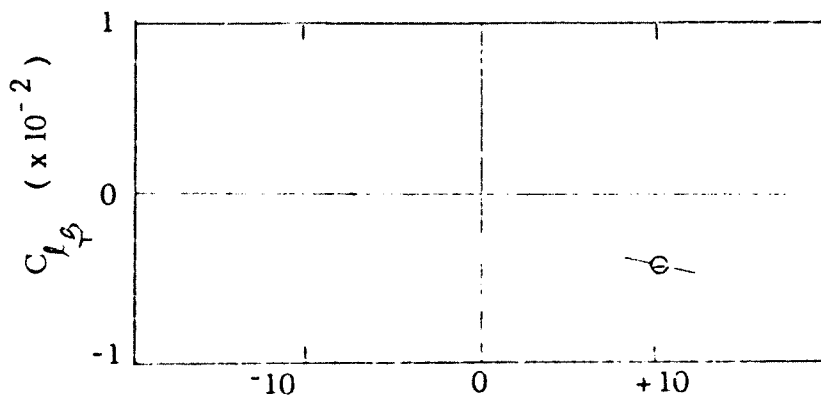
Angle of Attack (Deg)

(c) AR 3.0

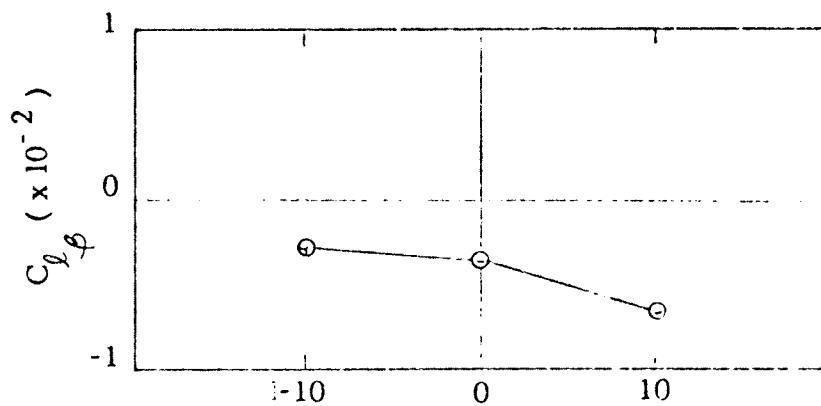
Figure 65.  $C_n$  vs  $\alpha$ . Strut Models at 40 fps.



(a) AR 1.0



(b) AR 2.0



Angle of Attack (Deg)

(c) AR 3.0

Figure 66.  $C_{l\beta}$  vs  $\alpha$ , Strut Models at 40 fps.

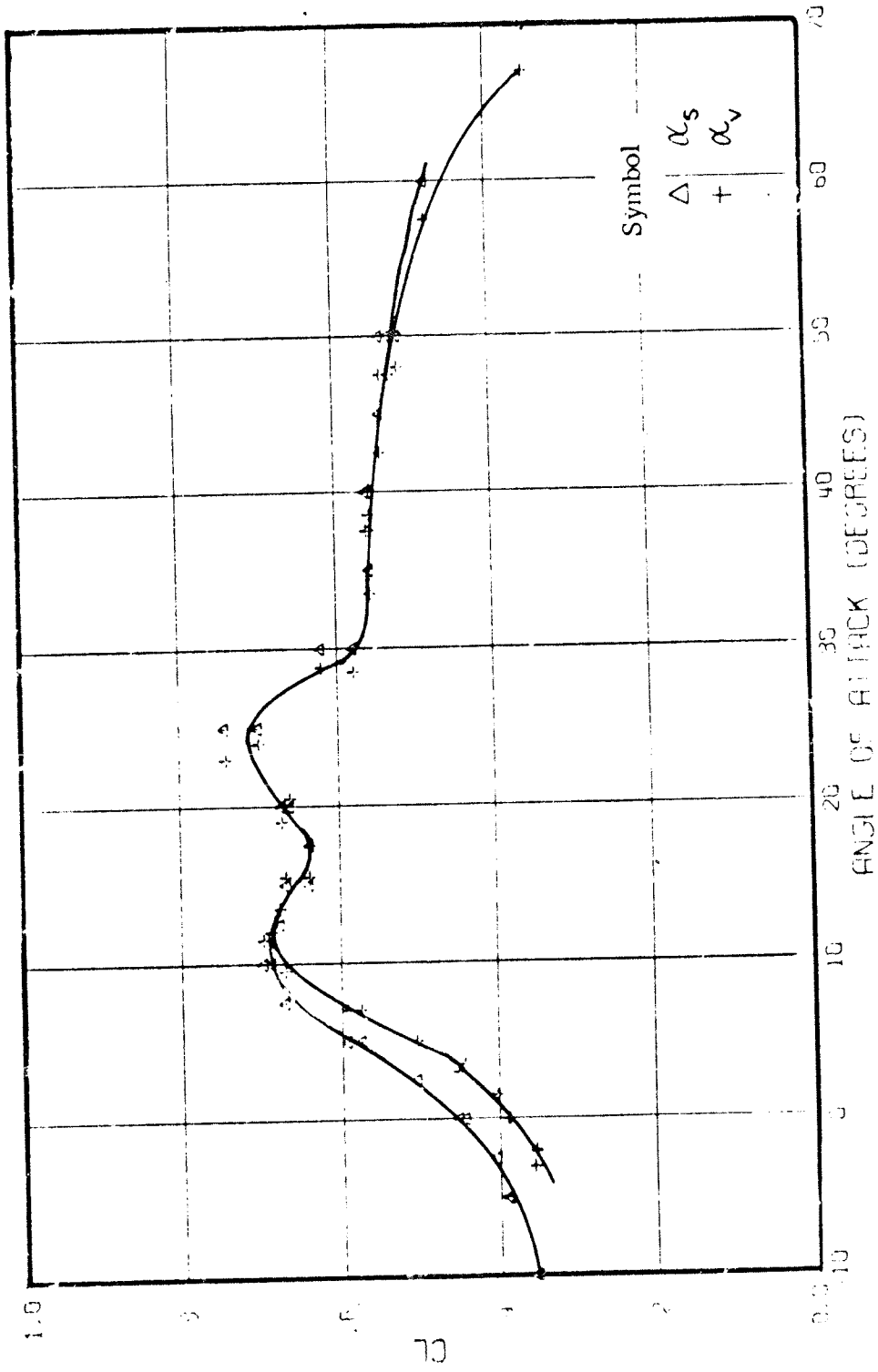


Figure 57.  $C_L$  vs  $\alpha_s, \alpha_v$ . Strut AR 2.0 Model

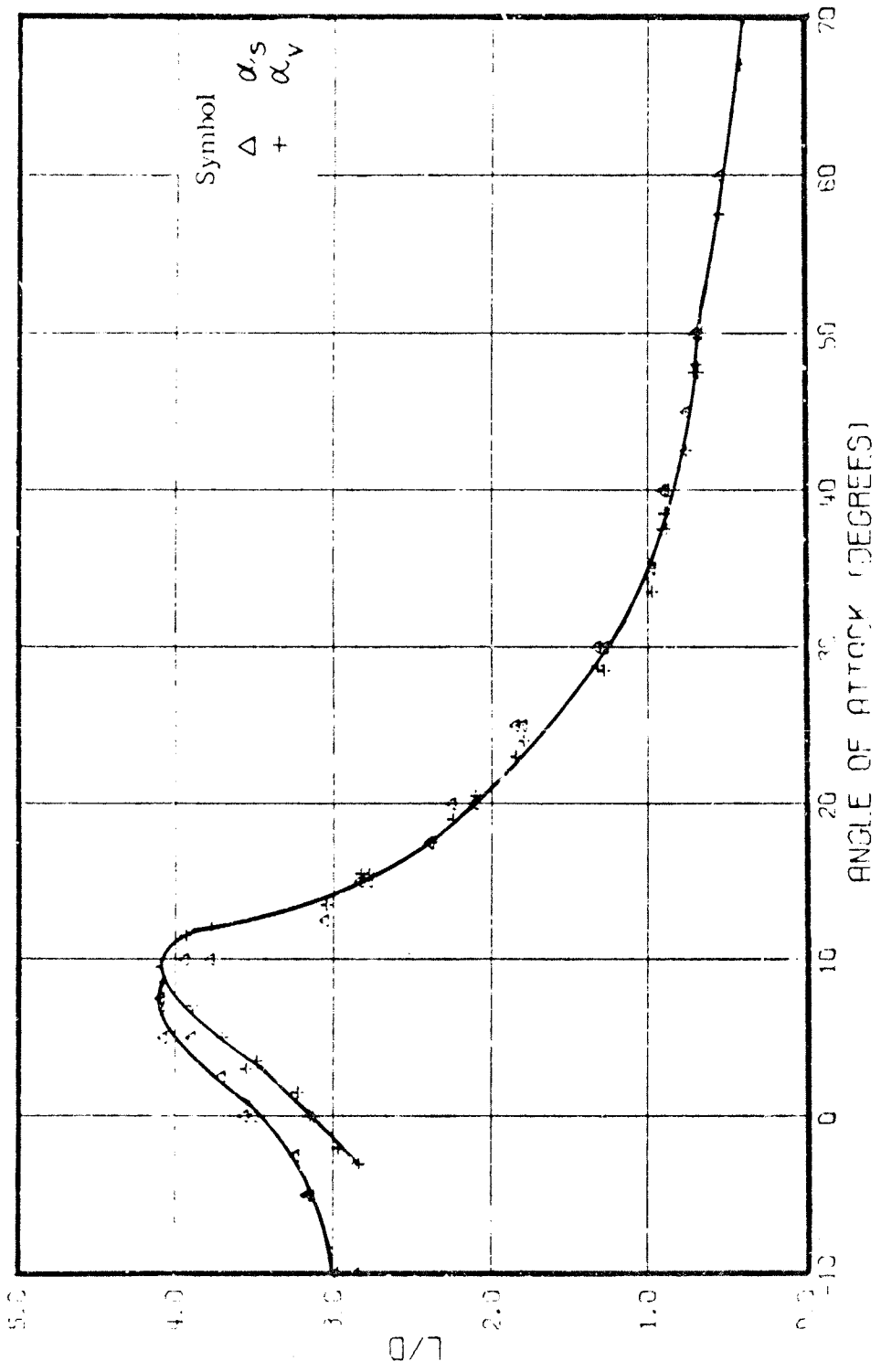


Figure 68.  $L/D$  vs  $\alpha_s$ ,  $\alpha_v$ , Strut AR 2.0 Model

General Summary

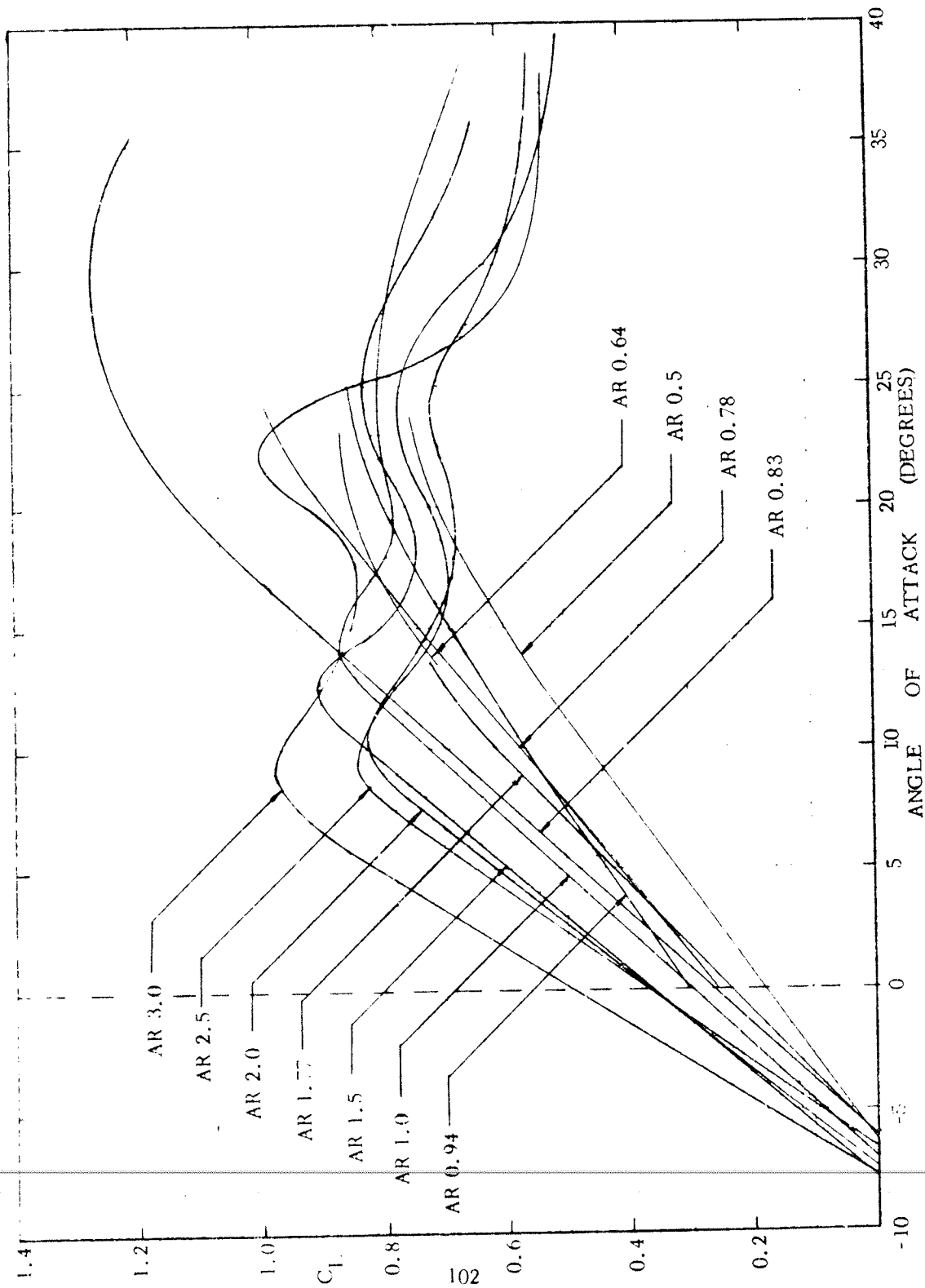


Figure 69. Lift Coefficient : AR Summary



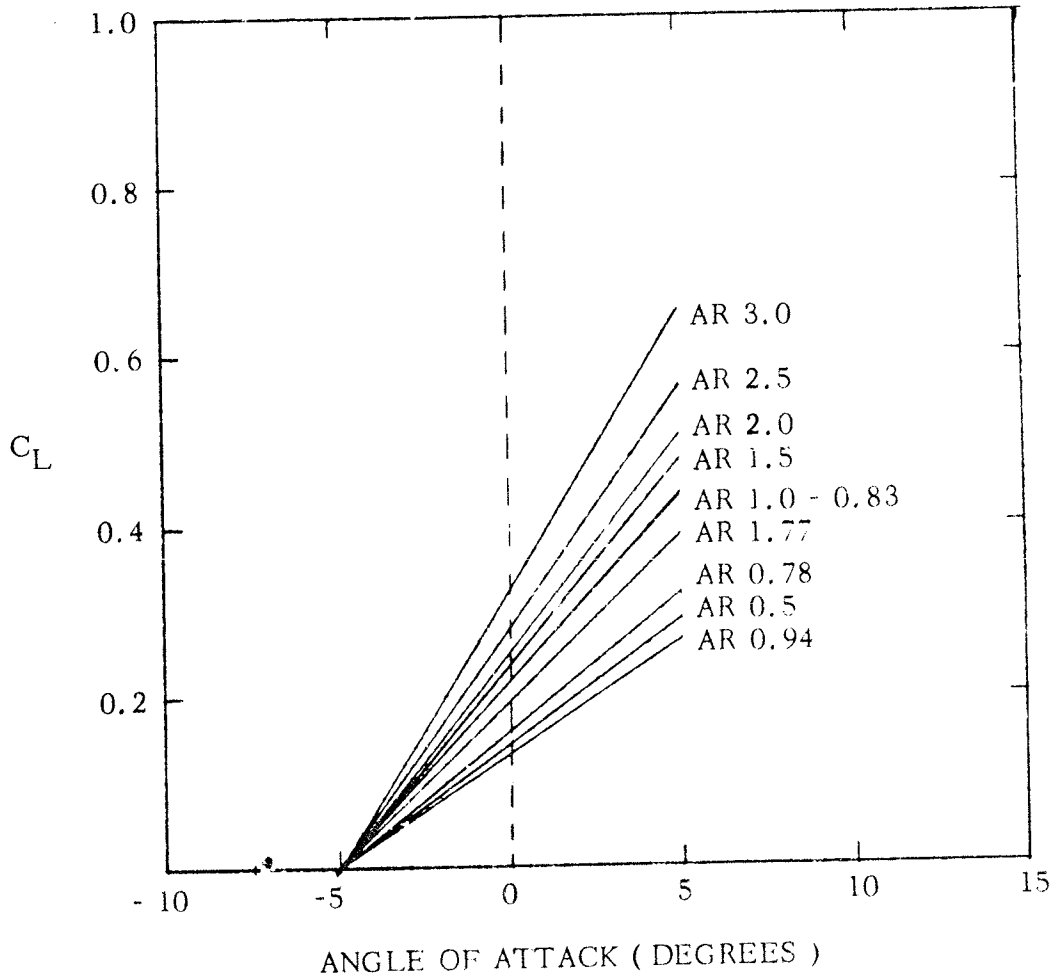


Figure 70. Lift Curve Slope Summary. Lift curve slopes brought through common intercept at  $\alpha = -5.6$

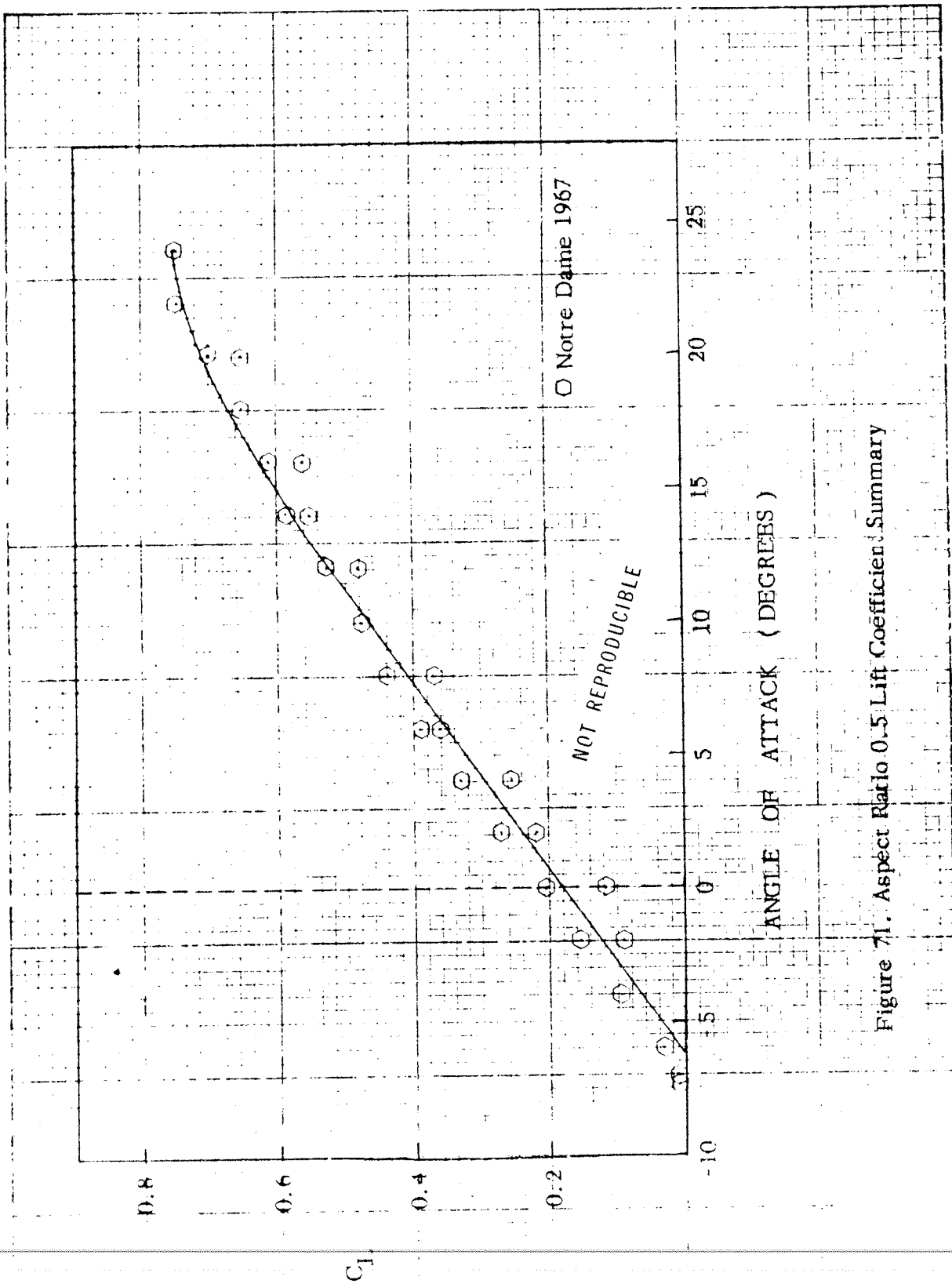


Figure 71. Aspect Ratio 0.5: Lift Coefficient Summary

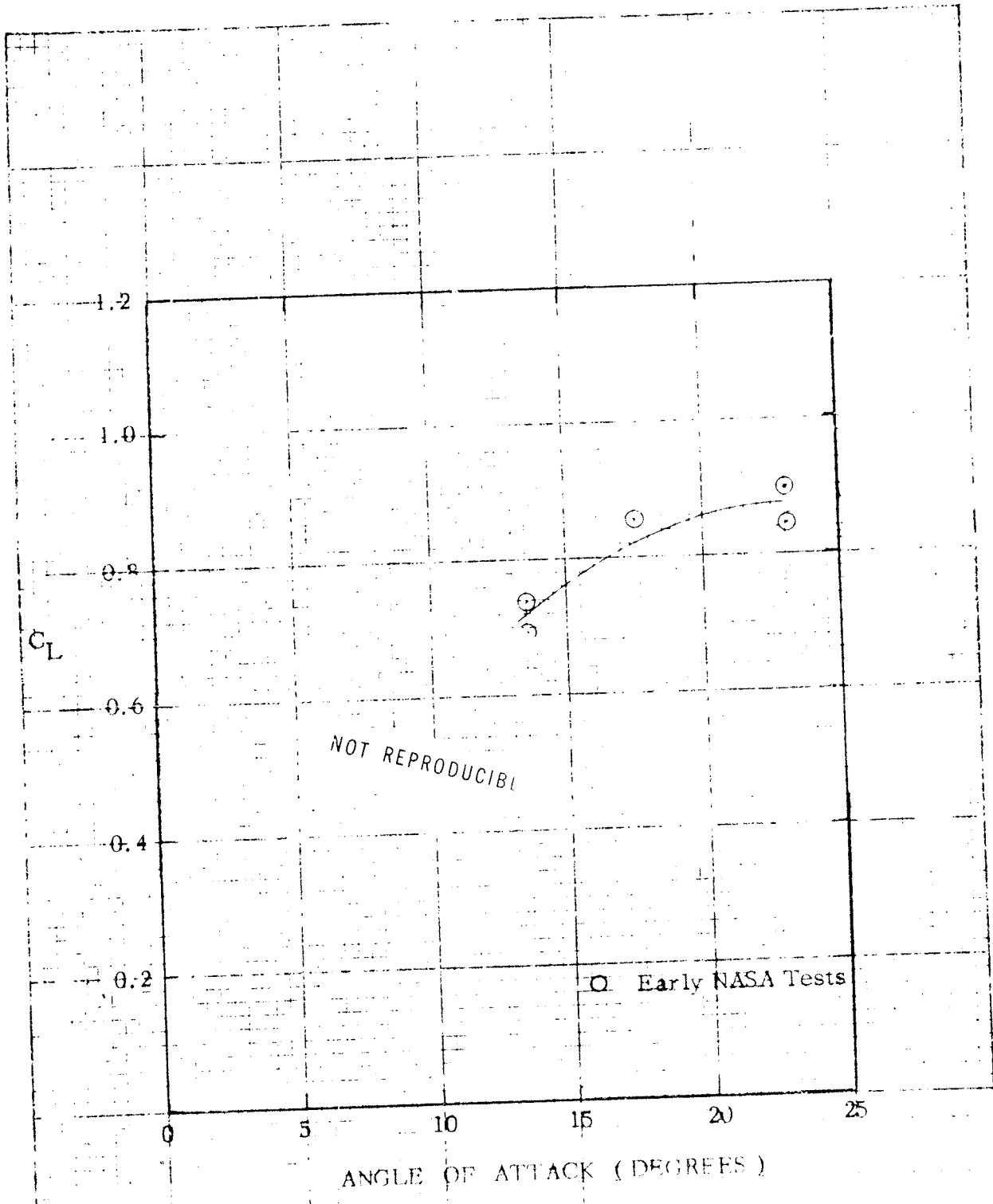


Figure 72. AR 0.64 Lift Coefficient Summary

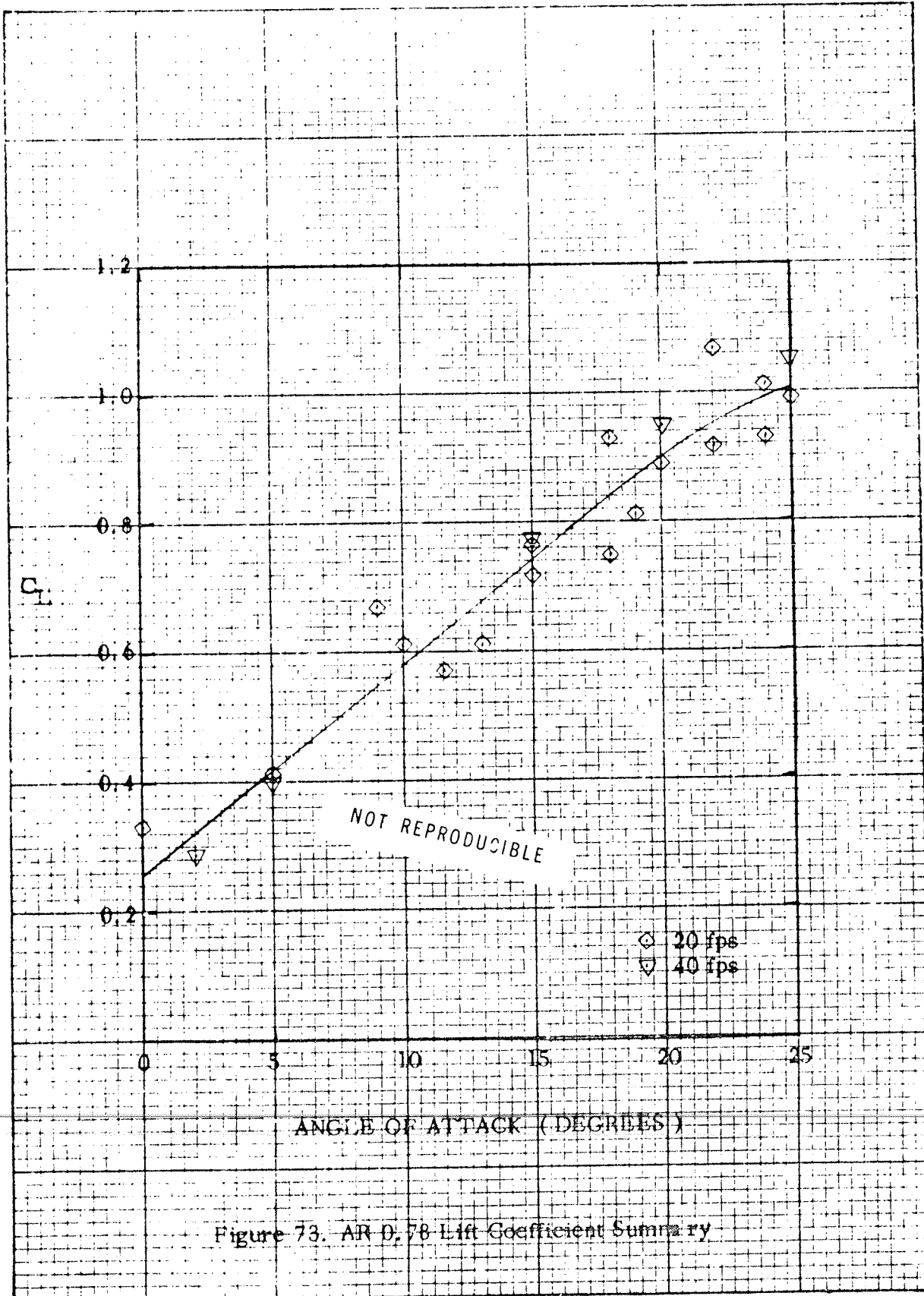


Figure 73. AR D. 78 Lift Coefficient Summary

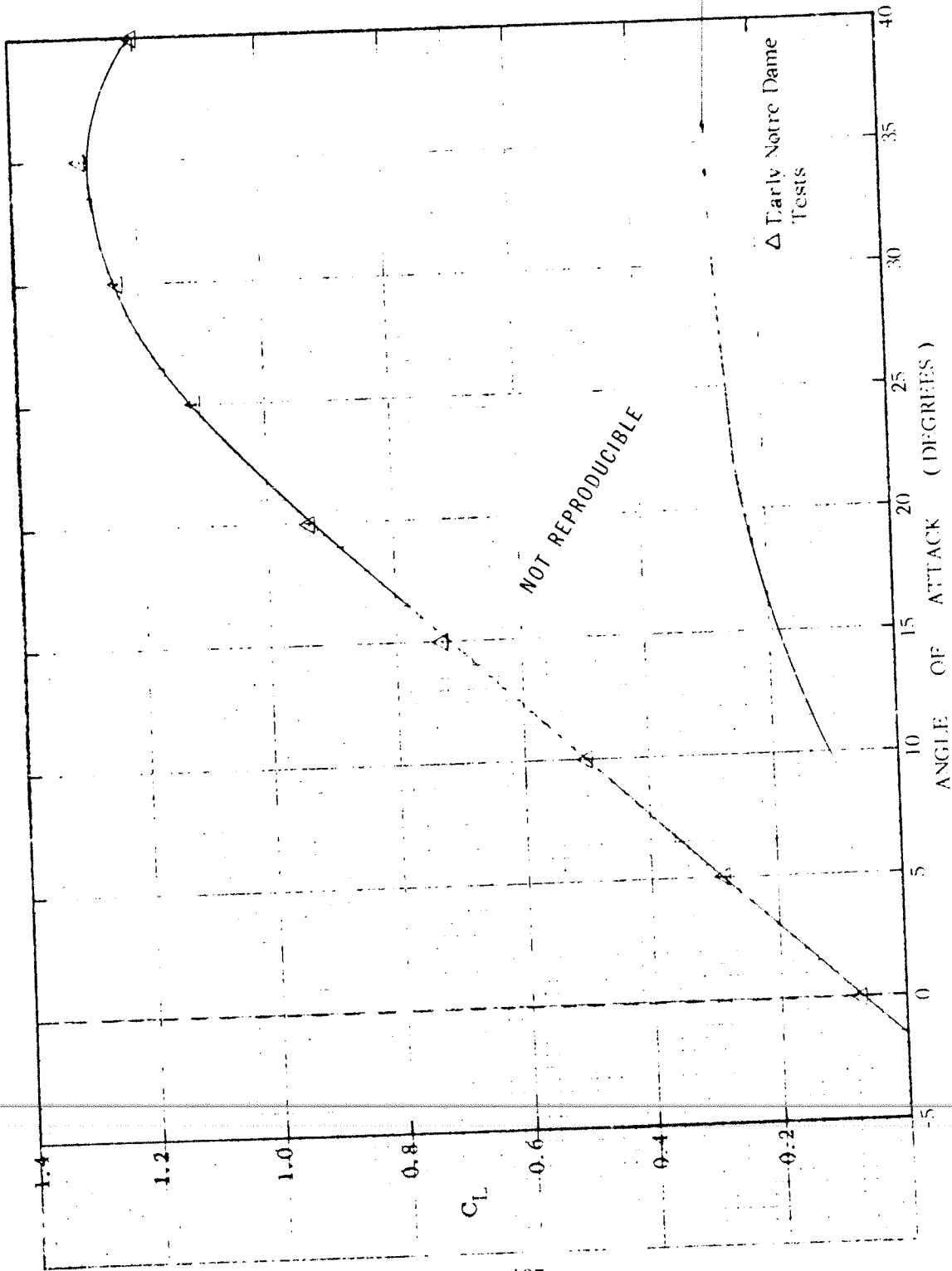


Figure 74. AR 0.83 Lift Coefficient Summary

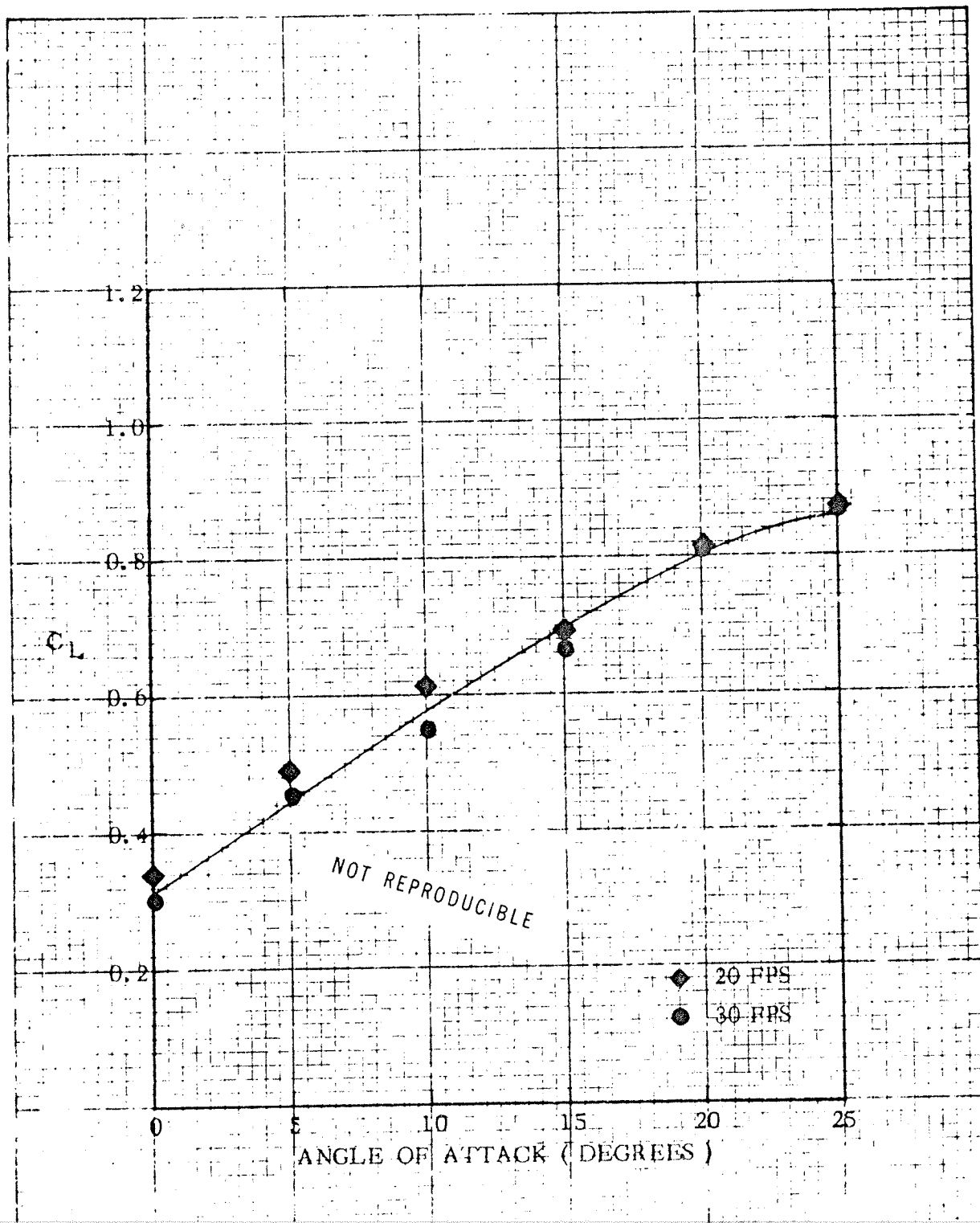


Figure 75. AR 0.94 Lift Coefficient Summary ( Early NASA Tests )

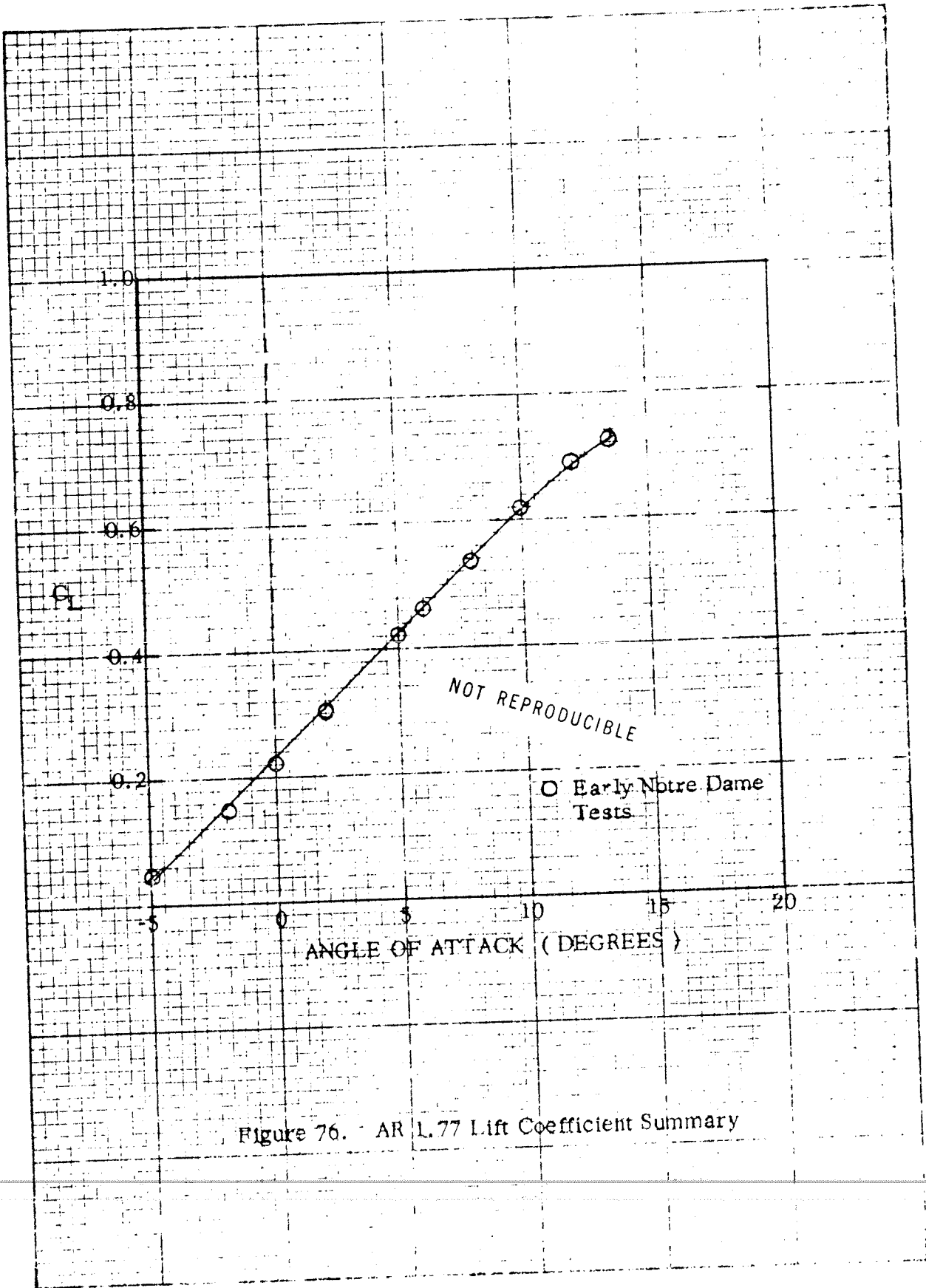


Figure 76. AR L.77 Lift Coefficient Summary

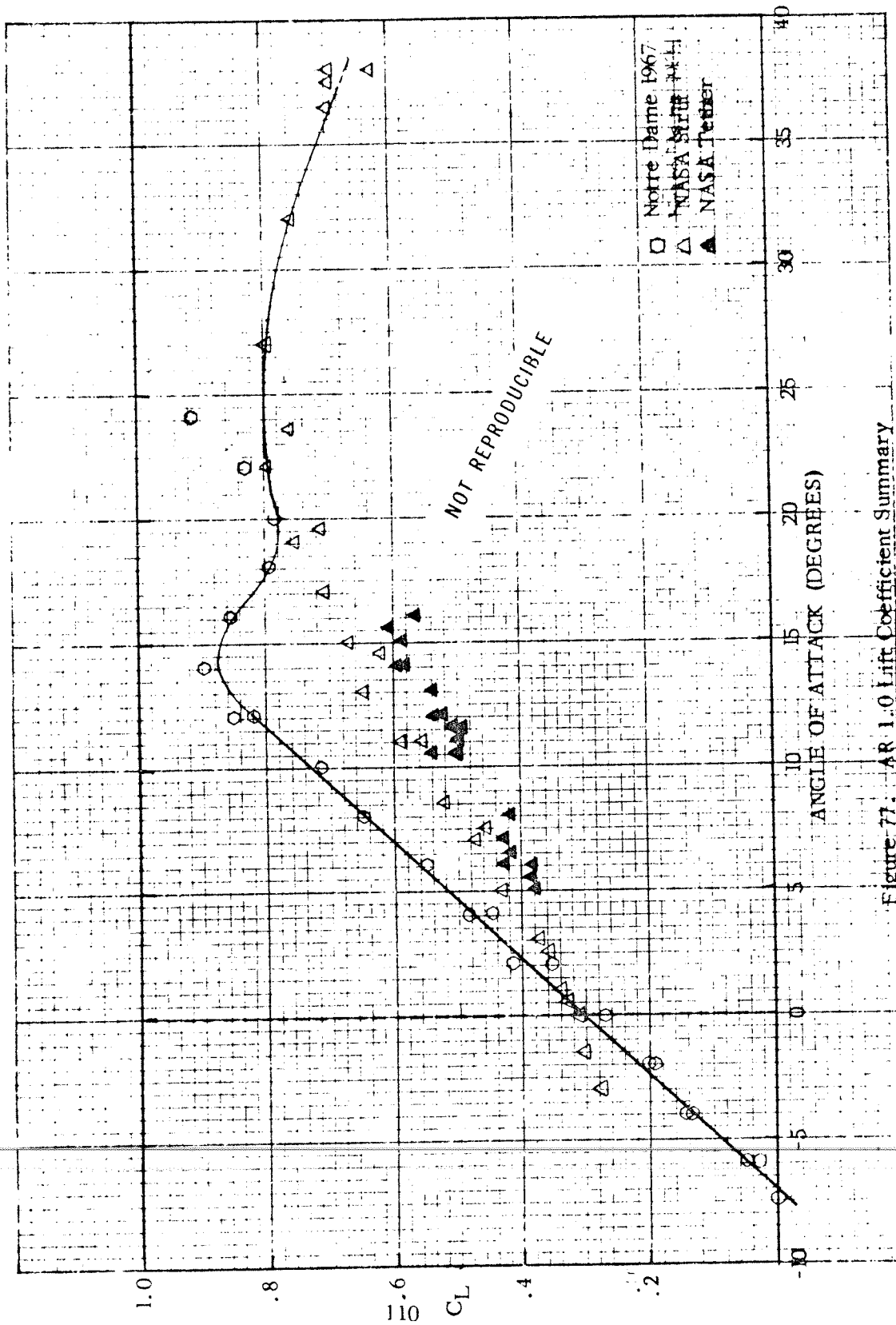


Figure 71. AR 1.0 Lift Coefficient Summary



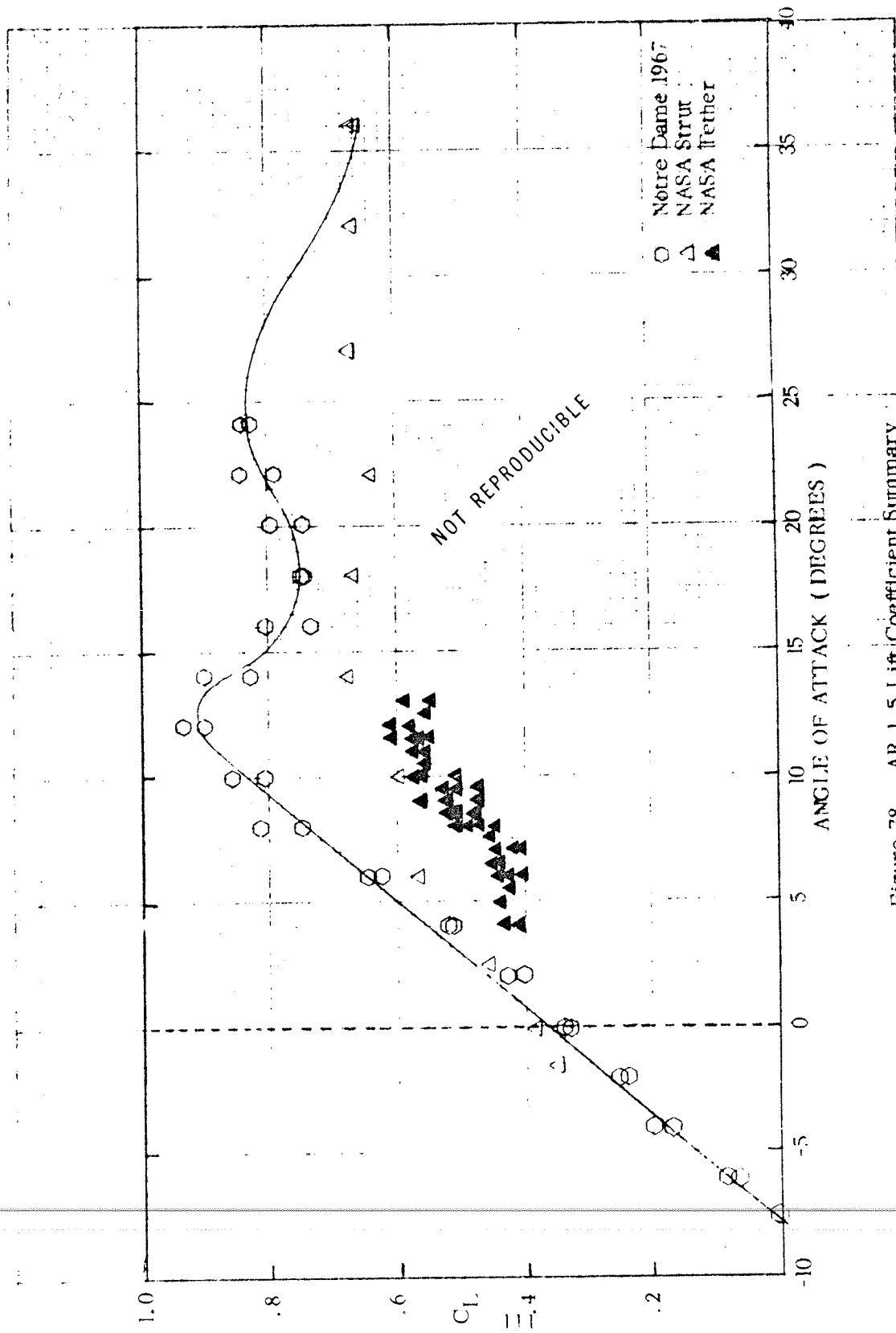


Figure 78. AR 1.5 Lift Coefficient Summary

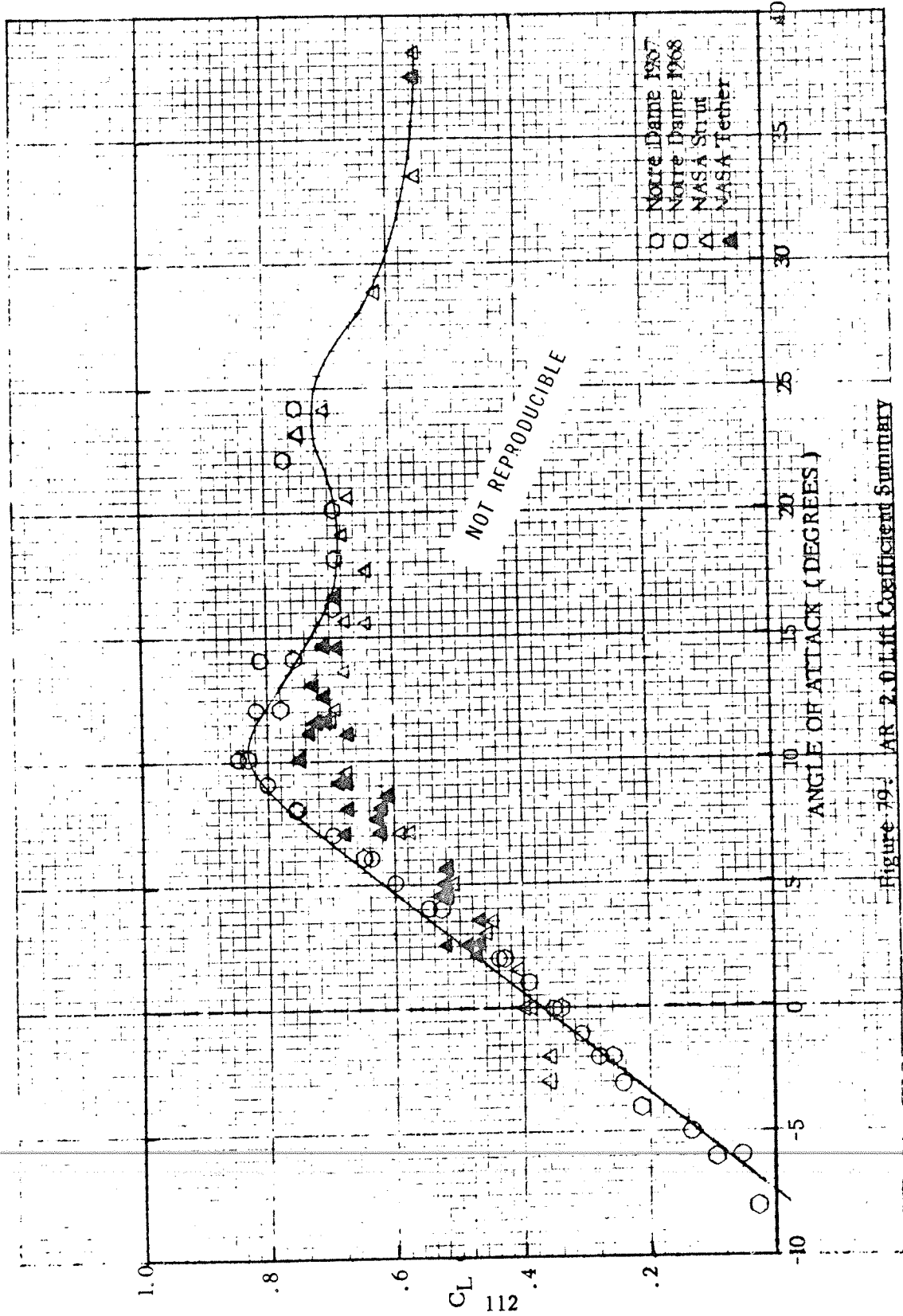


Figure 79: AR 2.0 Lift Coefficient Summary

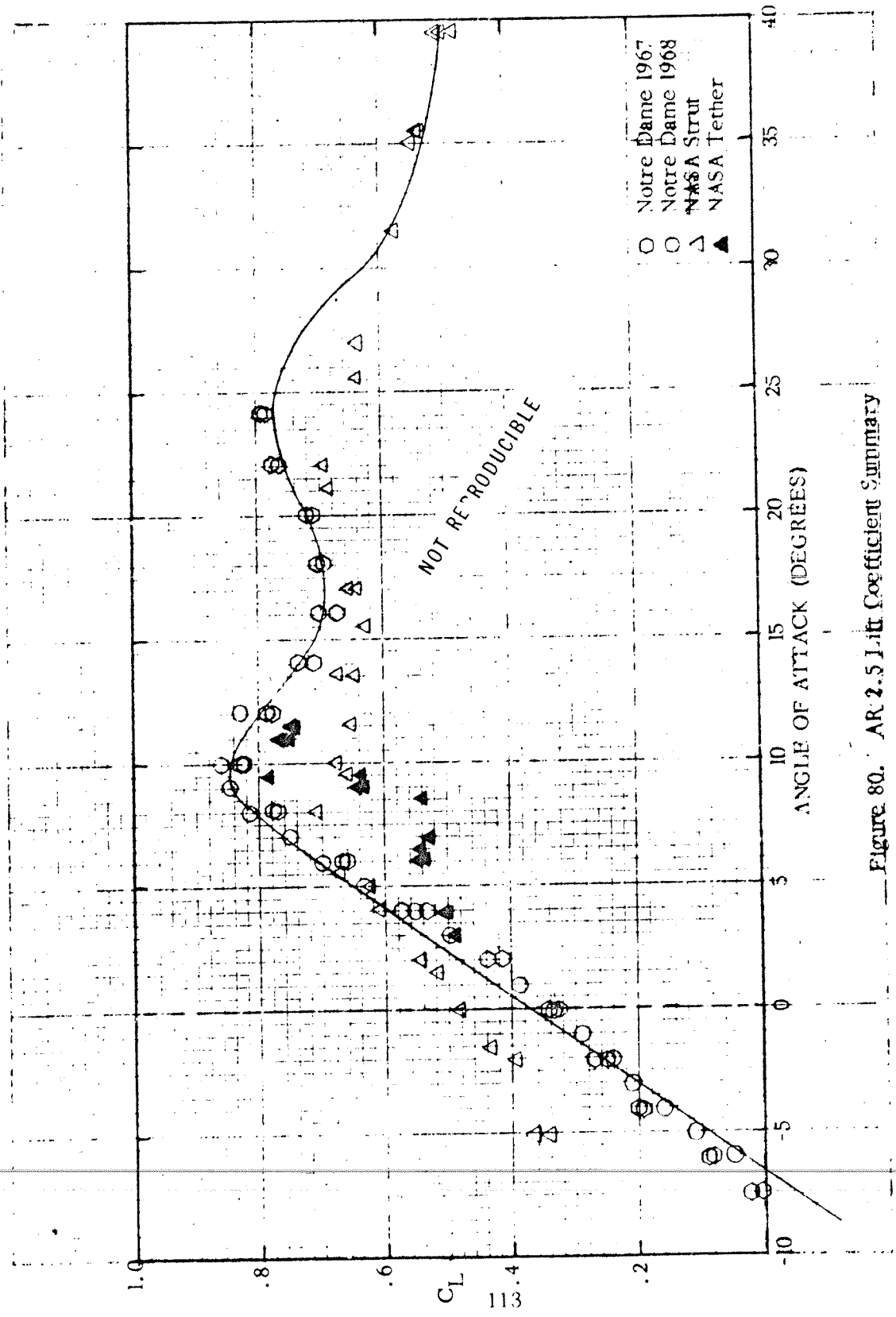


Figure 80. AR 2.5 Lift Coefficient Summary