F8. A cascade of vanes turns the airflow around each corner of the Wright Brothers Wind Tunnel. Assume the flow parameters are:

constant air density:	$\rho = 1.2\,\mathrm{kg/m^3}$
upstream air velocity:	$V = 30\,\mathrm{m/s}$
vane spacing:	$h = 0.4\,\mathrm{m}$
vane span:	$b = 2.5\,\mathrm{m}$
upstream flow angle:	$45°$
downstream flow angle:	$-45°$

Determine the force on each vane. Again, clearly draw a suitable control volume for your analysis.