8-12. Bar *BC* is pin-connected at its ends. Load $F \sim N\left(120, 10^2\right)$ kN is applied to pin *B*. If the modulus of elasticity follows $E \sim N\left(200, 20^2\right)$ GPa . Determine the distribution of the critical buckling load about the *y*-*y* axis. Also determine the probability of buckling of Bar *BC*. Assume that *E* and *F* are independent. (**Ans.** $p_f = 1.1449 \times 10^{-5}$)