To compare the results, some measurements need to be taken.

L = 3.75-3.8 ft (distance between supports)

I = moment of inertia of principle axis (in this case, Iy = 558.5 in^4)

E = 29007547.53 psi (elastic modulus or youngs modulus)

P = 1000 lbf

Using the equation of the elastic curve, this should yield a maximum deflection of:

1.17*10^-4 in

When you view the displacement of the beam, we see that the simulated maximum deflection is:

1.007*10^-4 in

This is 16% error, which is significant on a larger scale. This result shows that our simulation is a good approximation of performance.