$$n = 25,\ \bar{x} = 270, s = 120,\ F(t) = 1 - 0.05 = 0.95$$

from the table of Laplace distribution $t = 1.96$

$$s = \sqrt{\frac{n}{n-1}\sigma^2}$$

$$\sigma = s\sqrt{\frac{n-1}{n}} = 120\sqrt{\frac{24}{25}} = 48\sqrt{6}$$

$$\bar{x} - t\frac{\sigma}{\sqrt{t}} < \overline{x_0} < \bar{x} + t\frac{\sigma}{\sqrt{t}}$$

$$\overline{x_0} < 270 + 1.96\frac{48\sqrt{6}}{\sqrt{24}} = 270 + 1.96 \cdot 24 = 317.4 < 360$$

so the baker's claim is true.