$$\rightarrow \int_0^{\frac{\pi}{4}} \frac{1}{\cos x \cot x}\, dx = \int_0^{\frac{\pi}{4}} \sec x \cdot \tan x\, dx$$

$$= \sec x \Big|_0^{\pi/4}$$

$$= \sec \frac{\pi}{4} - \sec 0$$

$$= \frac{1}{\sqrt{2}/2} - \frac{1}{1}$$

$$= \frac{2}{\sqrt{2}} - 1$$

$$= \frac{\sqrt{4}}{\sqrt{2}} - 1$$

$$= \sqrt{\frac{4}{2}} - 1$$

$$= \sqrt{2} - 1$$