$$\frac{\partial D(X,w,b)}{\partial w} = \frac{D(X+\epsilon,w,b) - D(X-\epsilon,w,b)}{(X+\epsilon)-(X-\epsilon)} = \frac{[w(X+\epsilon)+b] - [w(X-\epsilon)+b]}{(X+\epsilon)+(-X+\epsilon)}$$

$$= \frac{[w(X+\epsilon)+b]+[-w(X-\epsilon)-b]}{(X-X)+(\epsilon+\epsilon)} = \frac{[wX+w\epsilon+b]+[-wX+w\epsilon-b]}{2\epsilon}$$

$$= \frac{(wX-wX)+(w\epsilon+w\epsilon)+(b-b)}{2\epsilon} = \frac{2w\epsilon}{2\epsilon} = \frac{w\epsilon}{\epsilon} = w$$