FORMULA 4.255.1

$$\int_0^1 \frac{\ln x}{1 + x^{2p}} (1 - x^2) x^{p-2} \, dx = -\left(\frac{\pi}{2p}\right)^2 \frac{\sin\left(\frac{\pi}{2p}\right)}{\cos^2\left(\frac{\pi}{2p}\right)}$$