FORMULA 4.272.12

$$\int_0^1 \left(\ln\frac{1}{x}\right)^{\mu-1}\frac{x^{\nu-1}\,dx}{1-x^2} = \Gamma(\mu)\sum_{k=0}^{\infty}\frac{1}{(\nu+2k)^{\mu}} = \frac{1}{2^{\mu}}\Gamma(\mu)\zeta\left(\mu,\frac{\nu}{2}\right) \qquad \operatorname{Re}\mu>0,\ \operatorname{Re}\nu>0$$