FORMULA 4.272.14

$$\int_0^1 \left(\ln \frac{1}{x}\right)^{r-1} \frac{x^{p-1}\,dx}{(1+x^q)^s} = \Gamma(r) \sum_{k=0}^{\infty} \binom{-s}{k} \frac{1}{(p+kq)^s}$$