FORMULA 3.261.1

$$\text{PV} \int_0^1 \frac{(1 - x \cos t)\, x^{\mu - 1}\, dx}{1 - 2x \cos t + x^2} = \sum_{k=0}^{\infty} \frac{\cos kt}{\mu + k} \quad \text{for } \operatorname{Re}\mu > 0,\ t \neq 2n\pi$$