

$\psi$	(r4.54)	$\frac{4^{\frac{1}{n}} \rho \sqrt{\pi} \left(1 + \rho^{2n} - 2 \rho^n \cos[n \varphi]\right)^{-1/n} (\gamma - \text{Log}[\rho])^4}{\Gamma\left[\frac{1}{2} - \frac{1}{n}\right] \Gamma\left[1 + \frac{1}{n}\right]}$
$\text{Log}[\rho]$	(r4.56)	$\xi + O[\xi]^2$
$\rho^n$	(r4.56)	$1 + n \xi + O[\xi]^2$