Absolutely summing composition operators on Bloch-type spaces

Let f be an analytic function on the open unit disk $\mathbb{D}$, and $\beta > 0$, the Bloch-type space $\mathcal{B}^\beta$ is defined by :

$$\mathcal{B}^\beta = \left\{ f \text{ analytic on } \mathbb{D};\ \sup_{z\in\mathbb{D}} (1-|z|^2)^\beta |f'(z)| < \infty \right\}$$

And the little Bloch-type space by :

$$\mathcal{B}_0^\beta = \left\{ f \text{ analytic on } \mathbb{D};\ \lim_{|z|\longrightarrow 1} (1-|z|^2)^\beta |f'(z)| = 0 \right\}$$

We are going to give the characterization for a composition operator $C_\varphi(f) = f \circ \varphi$ to be p-summing on Bloch-type spaces. When $p = 1$ we recover the characterization of nuclear composition operators. We construct an example of a conformal mapping of the unit disc $\mathbb{D}$ into itself with contact points with the unit circle $\mathbb{T}$, which induces a compact composition operator on $\mathcal{B}^1 = \mathcal{B}$ that fails to be p-summing for any $p \geq 1$.