In recent years, it was proven that there exist precisely four order isomorphisms acting in the class of geometric convex functions. These are the Legendre transform $L$, the geometric duality transform $A$, their composition $J$, and the identity. It is known that $L$ and $A$ satisfy Santaló-type inequalities, e.g. the quantity $M(f) = \text{Vol}(f) \ast \text{Vol}(Lf)$ is bounded from above and below (here $\text{Vol}(f)$ stands for the integral over $\mathbb{R}^n$ of $e^{-f}$). We prove similar (asymptotically sharp) bounds
for the quantity $M^J(f) = \text{Vol}(Jf)/\text{Vol}(f)$, and describe the extremal functions. (Received July 31, 2018)