I asked Tenko Raykov to comment on this and here is his answer:

"For the setting described (congeneric model, no error covariances), coefficient alpha can be a serious under-estimate of scale reliability even at the population level (if the entire population was studied), and obviously in a given sample the same may happen. The underlying reason is discussed in detail and 'qualitative terms' in Novick & Lewis, Psychometrika, 1967, and in 'quantitative terms' in Raykov, 1997, MBR.
Simply put, it boils down to the extent to which the construct loadings (factor loadings) are dissimilar - the more they are so, the more pronounced the underestimation 'bias' of alpha is. (Examples of this kind are also given in Raykov, 1997, and Raykov, 2001, BJMSP). The alternative formula used by the colleague asking this question, is identical to that of the 'omega' coefficient, which is reliability itself in this setting.
Thus, unless the conditions indicated in Table 1 on p. 344 in Raykov, MBR, 1997, hold (when alpha is close to reliability in the population, even with somewhat dissimilar loadings), the preferred measure of reliability is the reliability coefficient itself - which would be only natural, logically - i.e., the omega coefficient mentioned above. For the particular question asked, it may also help to work out a confidence interval for reliability.
For this, the R-function 'ci.rel' in ch. 7 of Raykov & Marcoulides, 2011, "Introduction to Psychometric Theory", could be used (see also the more general discussion there on point and interval estimation of reliability, in particular with Mplus at the software level)."