1031-13-51 Janet C Vassilev and Adela N Vraciu* (vraciu@math.sc.edu). When is tight closure determined by the test ideal?

If R is a complete normal Cohen-Macaulay domain with perfect residue field, we prove that the equality $I^* = \tau I : \tau$ holds for every ideal I in R if and only if R is weakly F-regular.

The above-stated conclusion is not true in the absence of the normal hypothesis: when R is one-dimensional, the equality $I^* = \tau I : \tau$ holds for every ideal I in R (regardless of whether R is weakly F-regular or not). Note that in the one-dimensional case the normality and weak F-regularity are equivalent conditions. (Received July 31, 2007)