We consider the inverse problem of reconstructing the optical parameters of the radiative transfer equation (RTE) from boundary measurements in the diffusion limit. In the diffusive regime, the forward problem for the stationary RTE is well approximated by an elliptic equation. However, the connection between the inverse problem for the RTE and the inverse problem for the elliptic equation has not been fully developed. This problem is particularly interesting because the former one is mildly ill-posed, with a Hölder type stability estimate, while the latter is well known to be severely ill-posed with a logarithmic type stability estimate. In this talk, we will illustrate stability estimates for the inverse problem for the RTE and its dependence on Kn. In particular, the stability is Hölder in all regimes, but the coefficient deteriorates exponentially, making the inverse problem of the RTE severely ill-posed when Kn is small. In this way we connect the two inverse problems. Numerical results agree with the analysis of worsening stability as the Knudsen number gets smaller. (Received February 02, 2020)