1058-13-70 **Jason Laska*** (`laska@math.utk.edu`), Department of Mathematics, 104 Aconda Court, 1534 Cumberland Avenue, Knoxville, TN 37916. *Non-unique factorization, Cohen-Kaplansky Domains, and the invariant* $\overline{\Lambda}(R)$. Preliminary report.

We investigate some of the conjectures proposed by D.F. Anderson concerning nonunique factorization and the invariant $\overline{\Lambda}(R)$. Let R be an atomic integral domain and $x \in R$. We define $l(x) = \min\{m \mid x = \alpha_1\alpha_2 \dots \alpha_m\}$ where for each $1 \leq i \leq m$, α_i is an irreducible element of R. Additionally, define $\eta(x)$ as the number of nonassociate irreducible factorizations of x. Then $\overline{\Lambda}(R) = \lim_{n\to\infty} \frac{|\{\eta(x) | l(x)=n\}|}{n}$. Intuitively, $\overline{\Lambda}(R)$ describes the asymptotic behavior of the number of different number of nonassociate irreducible factorizations of elements with minimal length n. We show that if R is a one-dimensional analytically irreducible local FFD, then $\overline{\Lambda}(R) = 0$. (Received February 14, 2010)