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Emily Norton*, Mathematics Dept, Kansas State University, 138 Cardwell Hall, Manhattan, KS 66506. *Irreducible Representations of Rational Cherednik Algebras for Exceptional Coxeter Groups*. Preliminary report.

Category \mathcal{O} for rational Cherednik algebras $H_c(W)$, W a complex reflection group, is a highest weight category with simple and standard objects indexed by the irreducible representations of W . A basic problem is to describe the multiplicities of simples in standards. I will give answers to this question for the rational Cherednik algebras of the Coxeter groups $W = H_4, F_4$ with equal parameters, E_6, E_7 , and E_8 , with the exception of a few parameters c where the denominator of c is small. I will also give a list of the finite-dimensional representations of $H_c(W)$, their graded characters, and their dimensions, where possible. As of the writing of this abstract, this list is complete except when c is a half-integer, and excepting one questionable representation for E_6 , and representations at parameters $\frac{r}{3}$, $\frac{r}{4}$, and $\frac{r}{6}$ for E_8 . (Received July 29, 2014)