Pod brightness is an important breeding objective for peanuts (*Arachis hypogaea* L) grown for the in-shell market. Although pods are not eaten, their aesthetic properties including brightness and hue may be important considerations on the part of the consumer before purchase. Pod brightness and hue were measured for jumbo and fancy pods for each sample graded as part of some tests in the N.C. State Univ. breeding program of 1996 and all plots from 1997 on. The mean values for each line in each trial are saved in a database across years. In order to reduce the impact of artificially low brightness values obtained when there are less than 100 g of jumbo or fancy pods, the weighted average brightness values for jumbo and fancy pods were analyzed. Data were subjected to analysis in which were estimated an environmental standard deviation ($\sigma^2_E$), stability variance (Wricke’s ecovalence, $\sigma^2_{stab}$), the coefficient of regression on the environmental mean ($\beta_i$), and the correlation of the line’s value with the environmental mean ($\rho_i$). Lines with regression slopes less than one tended to have large or small environmental and and stability variances. Lines with regression slopes greater than one tended to have large environmental variances and poor stability. There was a strong positive relationship between regression and correlation coefficients, indicating that poor stability was largely a function of deviation of the regression slope from one. Among lines with bright pods on average, stable lines ($b_i<1, P<0.05$), *i.e.*, those with consistently bright pods, included Bailey ($s_E=2.912$, $s_{stab}=2.212$, $b_i=0.831\pm0.057$, $r_i=0.874$, Sugg ($s_E=2.700$, $s_{stab}=2.101$, $b_i=0.867\pm0.052$, $r_i=0.919$), VA 98R ($s_E=2.601$, $s_{stab}=1.754$, $b_i=0.840\pm0.060$, $r_i=0.857$) and CHAMPS ($s_E=2.454$, $s_{stab}=1.620$, $b_i=0.798\pm0.059$, $r_i=0.904$). Other stable lines included cultivars and lines with darker pods on average, *i.e.*, they were consistently dark across environments. Experimental line N06007E ($s_E=4.334$, $s_{stab}=2.568$, $b_i=1.194\pm0.068$, $r_i=0.981$) was very responsive to the environmental index ($b_i>1, P<0.05$). Among lines with greater value per acre, including high-oleic release candidates N08070olJC, N08075olCT, N08081olJC, and N08082olJCT, the only stable line was Bailey. The release candidates all exhibited values of $b_i$ not significantly different from one although they also exhibited greater than average levels of mean pod brightness.