A recent study by Huey, Dekker, and Lyons (1994) concluded that a difference between two signal lamp intensities of less than 25% cannot be detected reliably by most drivers. Consequently, Huey et al. recommended that an intensity difference of 25% be used as a criterion for inconsequential noncompliance with federal regulations for signal lamps. The present study was designed to evaluate just noticeable differences for glare intensities of oncoming low-beam headlamps. The results of this study indicate that, under controlled conditions, just noticeable differences in the low-beam headlighting context are between 11% and 19%. In real-world conditions, just noticeable differences would probably be somewhat larger. Therefore, the recommendation by Huey et al. of using 25% as a criterion for inconsequential noncompliance of signal lamps is also about right for low-beam headlamps, at least with respect to how headlamps themselves are perceived by other drivers (such as discomfort glare). The 25% value may also apply with respect to how headlamps affect the ability of drivers to see illuminated objects, but further research on that issue would be desirable.