Previous studies have shown that the visibility of a front turn signal is decreased if a headlamp is located near the turn signal. Consequently, both the U.S. and ECE regulations require the turn signals to be more intense in such situations. However, it is unclear how adjacent light sources affect suprathreshold aspects, such as conspicuity. The present field study was designed to examine the effects of several factors on the nighttime conspicuity of front turn signals. Specifically of interest were the effects of the number, luminous intensity, and spatial arrangement (including spacing) of the masking lamps. The following are the main findings:

(1) The conspicuity of a turn signal was significantly lower when it was separated from a 1000-cd low-beam headlamp by 50 mm rather than 100 mm (center-to-edge). A 200-cd turn signal at 100 mm was equal in conspicuity to a 288-cd turn signal at 50 mm. This effect is smaller than the effects obtained in previous studies using threshold-visibility paradigms.

(2) Adding a second masking light source, at the same 50-mm spacing as the first masking light source, significantly influenced the conspicuity of the turn signal. The effect of the second masking source can be compensated for by an increase in the turn signal intensity corresponding to 8.5% of the intensity of the second masking source.

(3) The conspicuity of the turn signal was unaffected by the spatial arrangement of two masking light sources.