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16. Abstract In the formal study of glare, a major distinction has been made between subjective and objective effects of glare (referred to as discomfort glare and disability glare, respectively). Recently, both anecdotal reports and formal experiments have indicated that headlamp size and spectral power distribution affect discomfort glare, but no assessment has been made of whether these two factors also affect disability glare. Models of disability glare suggest that they should not. The present experiment was designed to provide empirical evidence about this issue. Subjects were presented with glare stimuli that varied in size (0.3 or 0.6 degrees of visual angle) and spectral power distribution (tungsten-halogen or high-intensity discharge). Discomfort glare was measured by numerical ratings of subjective discomfort. Disability glare was measured by determining the luminance threshold for detecting a pedestrian silhouette presented near the glare source. Spectral power distribution affected discomfort glare, although, in contrast to previous studies, which had shown small but statistically significant effects, size did not affect discomfort glare. Neither variable affected disability glare. These results indicate that, for size and spectral power distribution, effects on discomfort glare do not necessarily imply effects on disability glare. The fact that small, high-intensity discharge lamps do not seem to cause any special problems with disability glare under the conditions of this experiment is encouraging, particularly because disability glare is likely to have greater effects on safety than discomfort glare. However, given the importance of the issue, further studies of disability glare would be valuable. Also, even if effects on discomfort glare are not critical for safety, they are still of practical interest because driver comfort is important in itself, and they are of scientific interest because they have not been explained.					
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