

Technical Report Documentation Page

1. Report No. UMTRI-2001-14		2. Government Accession No.		3. Recipient's Catalog No.	
4. Title and Subtitle Rise-Time Requirements for High-Intensity Discharge Headlamps				5. Report Date April 2001	
				6. Performing Organization Code 302753	
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9. Performing Organization Name and Address The University of Michigan Transportation Research Institute 2901 Baxter Road Ann Arbor, Michigan 48109-2150 U.S.A.				10. Work Unit no. (TRAIS)	
				11. Contract or Grant No.	
12. Sponsoring Agency Name and Address The University of Michigan Industry Affiliation Program for Human Factors in Transportation Safety				13. Type of Report and Period Covered	
				14. Sponsoring Agency Code	
15. Supplementary Notes The Affiliation Program currently includes Adac Plastics, AGC America, Automotive Lighting, Avery Dennison, BMW, Corning, DaimlerChrysler, Denso, Donnelly, Federal-Mogul Lighting Products, Fiat, Ford, GE, Gentex, GM NAO Safety Center, Guardian Industries, Guide Corporation, Hella, Ichikoh Industries, Koito Manufacturing, LumiLeds, Magna International, Meridian Automotive Systems, North American Lighting, OSRAM Sylvania, Pennzoil-Quaker State, Philips Lighting, PPG Industries, Reflexite, Renault, Schefenacker International, Stanley Electric, TEXTRON Automotive, Valeo, Vidrio Plano, Visteon, Yoroka, 3M Personal Safety Products, and 3M Traffic Control Materials. Information about the Affiliation Program is available at: http://www.umich.edu/~industry					
16. Abstract <p>This study had two objectives. The first, more general objective was to provide background information about the maximum rise time that should be allowed for high-intensity discharge headlamps. The second, more specific objective was to evaluate whether SAE's current, rather stringent, recommendations should be relaxed or retained. To achieve these objectives, we considered several scenarios in which having early illumination is potentially of consequence. The scenarios included turning on the headlamps when starting to drive, turning on the headlamps when entering a dark tunnel, and switching between beams. New empirical data collected for this study included actual delays between turning on headlamps at night and starting to drive, and rise and falloff functions of tungsten-halogen low beams and high beams.</p> <p>We concluded that rise-time requirements should be more stringent for systems with noncontinuous low beam than for systems with continuous low beam, as is the case in the current SAE recommendations. Furthermore, we concluded that the current SAE recommendations for systems with noncontinuous low beam are justifiable. On the other hand, we concluded that the SAE recommendations for systems with continuous low beams could be relaxed by eliminating all minimum light-output requirements for delays of less than one second.</p>					
17. Key Words high-intensity discharge headlamps, gas discharge headlamps, rise time				18. Distribution Statement Unlimited	
19. Security Classification (of this report) None		20. Security Classification (of this page) None		21. No. of Pages 16	22. Price