



DOT HS 809 973

December 2005

Assessment of Headlamp Glare and Potential Countermeasures

Survey of Advanced Front Lighting System (AFS) Research and Technology



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Technical Report Documentation	Page			
1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.		
DOT HS 809 973				
4. Title and Subtitle	5. Report Date			
Assessment of Headlamp Glare and Potential Countermeasures:		December 2005		
Survey of Advanced Front Lighting System (AFS)		6. Performing Organization Code		
7. Author(s)	8. Performing Organization Report No.			
Yukio Akashi, John Van Derlofs				
Fay				
9. Performing Organization Name and Add	10. Work Unit No. (TRAIS)			
Lighting Research Center, Rensselaer Polytechnic Institute				
	11. Contract or Grant No.			
11 FOY, INY 12180		DTNH22-99-D-07005		
National Highway Traffic Safety	, Administration	Task 7 Final Report		
NHTSA NRD-13	Administration			
400 7th St SW				
Washington DC 20590		14. Sponsoring Agency Code		
15. Supplementary Notes	COTP for this project			
IMICITAEL PETEL WAS LITE INFLIGA	COTR IOI this project.			
16. Abstract				
The goal of advanced front li	ghting systems (AFS) is to active	ely control headlamp beam		
patterns to meet the dynamic	requirements of changing road	way geometries and visibility		
conditions AFS is being rapidly introduced worldwide due to its attractive styling aspects and				
notential safety benefits. How	vever before AFS becomes more	re aggressively implemented it is		
potential salety benefits. However, before ALS becomes more aggressively implemented, it is				
necessary to better understand the impacts of AFS on unvers, other vehicles, and				
pedestrians. To achieve this understanding, this survey investigated comments on AFS from				
the NHISA database (Docket 13957), reviewed relevant literature, and held a phone				
conterence with automobile and headlamp manufacturers for industry feedback. The detailed				
results of the survey are described in this report.				
This survey led to a general conclusion that although a significant number of studies on AFS				

This survey led to a general conclusion that, although a significant number of studies on AFS have been done, due to inconsistency in metrics used and lack of information on experimental procedure and scenarios, further research is still needed to quantify the effectiveness of AFS. In order to evaluate AFS technology, it is important to first identify the appropriate visibility, glare, and safety metrics and test methods. Second, based on these common metrics and test methods, examine the effectiveness of AFS compared to other vehicle forward lighting systems. Based on these findings, two tasks are proposed as future NHTSA research: (1) identify appropriate metrics, performance measures, and test scenarios for AFS; and (2) develop an AFS prototype for evaluation.

17. Key Words headlamp, headlight, disability glare, d visibility, AFS, bending beam, town be beam, adverse weather beam	iscomfort glare, am, motorway	18. Distribution Statement			
19. Security Classif. (of this report) Unclassified	20. Security Classif. (Unclassif	of this page) ied	21. No. of Pages	22. Price	
Form DOT F 1700.7 (8-72) Reproduction of completed page authorized					

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