

Overhead Guide Sign Retroreflectivity and Illumination

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Introduction

Compared to daylight driving, nighttime driving is more demanding because of visibility issues, such as a driver's visual acuity, contrast sensitivity, distance judgment, and color discrimination. Overhead highway signs are very important for enhancing driver guidance. The objective of these signs is to provide roadway drivers with information regarding destinations and other driving maneuvers required to safely reach specific destinations.

Roadway guide sign visibility during darkness is fundamental to driver safety, especially elderly drivers. Guide sign visibility can be improved by external sign illumination or the use of retroreflective sheeting on signs. Because energy conservation is essential in the midst of a worldwide energy crisis, various Departments of Transportation have investigated usage of energy-efficient lighting technology with overhead guide signs.



**Example of High Intensity (Type IV) Retroreflective Sheeting
Used for Experiment**

Project Description

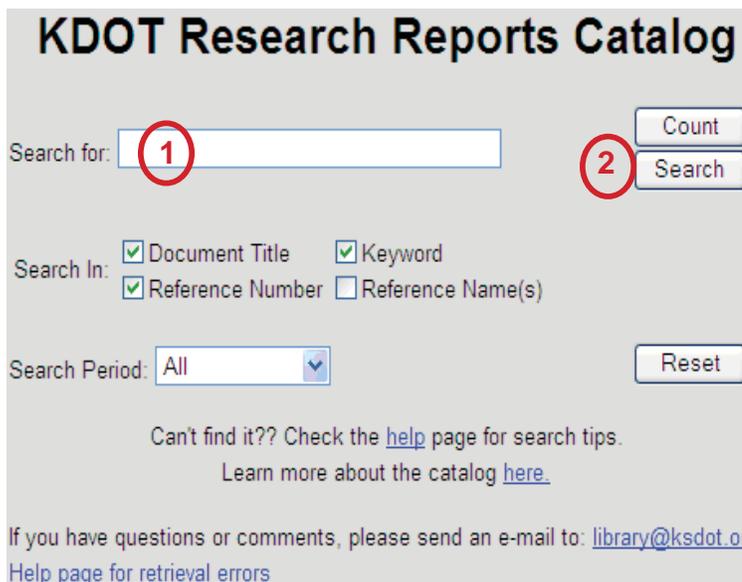
This report presents results of a survey related to overhead sign lighting usability by states, a laboratory experiment to compare the light distribution of five light sources used to illuminate overhead guide sign by several states, a cost analysis for the tested light sources, a field experiment to compare the visibility of three retroreflective sheeting used by states, a cost analysis for the tested retroreflective guide signs, and an analysis by determining the most cost-effective method of increasing overhead guide sign visibility to drivers during nighttime.

Project Results

In comparing the best options used to increase sign visibility, sign illumination and sign retroreflectivity, it is found that using retroreflective sheeting is more cost effective than sign illuminating.

Project Information

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