



Memorandum

Subject: **INFORMATION:** Revised Recommended
Minimum Maintained Retroreflectivity Levels
for Blue and Brown Traffic Signs

Date: APR - 5 2012

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In Reply Refer To:
HSST

To: Safety Field
MUTCD Field
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This memorandum supersedes the memorandum dated February 24, 2009 and revises the recommended minimum maintained retroreflectivity levels for white-on-blue signs and white-on-brown signs.

Section 2A.08 of the MUTCD, Maintaining Minimum Retroreflectivity of traffic signs allows the option for public agencies to exclude traffic signs with blue or brown backgrounds from the standard. The Federal Highway Administration (FHWA) completed research on recommended minimum retroreflectivity levels for these sign colors in 2008. That research report has recently been corrected after an error was discovered in the reported results for white legend on blue background and white legend on brown background retroreflectivity levels. The amended published research results are shown in the table below:

Minimum maintained recommended retroreflectivity levels

Sign Color	Sheeting Type (ASTM D4956-11a**)				Additional Criteria
	Beaded Sheeting			Prismatic Sheeting III, IV, VIII, IX, XI	
	I	II	III		
White on Blue	W*; B ≥ 3	W*; B ≥ 5	W*; B ≥ 12	W ≥ 250; B ≥ 12	Overhead
	W*; B ≥ 3	W ≥ 120; B ≥ 7			Ground-mounted
White on Brown	W*; Br ≥ 1	W*; Br ≥ 5	W*; Br ≥ 10	W ≥ 350; Br ≥ 10	Overhead
	W*; Br ≥ 1	W ≥ 150; Br ≥ 5			Ground-mounted

The minimum retroreflectivity levels shown in this table are in units of cd/lx/m² measured at an observation angle of 0.2° and an entrance angle of -4.0°.
 * This sheeting type should not be used for this color for this application.
 ** The current version of the specification ASTM D4956-11a combined Types VII, VIII and X as Type VIII.

The complete research report, with errata is available on the Internet at:
<http://www.fhwa.dot.gov/publications/research/safety/08029/>. The FHWA may consider

a future rulemaking to amend the MUTCD to include white-on-blue signs and white-on-brown signs. This research will be taken into account if future rulemaking is proposed. However, at this time, the recommended values are not required by regulations. It remains the option of public agencies to consider these recommended minimum maintained retroreflectivity values as they monitor, install and replace white-on-blue signs and white-on-brown signs. If you have further questions, please contact:

- Cathy Satterfield, Office of Highway Safety, (708) 283-3552; or
- Carl Andersen, TFHRC, (202) 493-3366