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Standard Guide for Retroreflective Composite Optics Laboratory Procedures¹

This standard is issued under the fixed designation D8424; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This guide presents a series of options for evaluating lot-to-lot consistency of retroreflective composite optics of the same type and form from the same manufacturer and does not recommend any specific course of action to be taken. This guide is meant to increase the awareness of information and approaches and is not meant to recommend any specific course of action per ASTM's Form and Style for ASTM Standards definition for a Guide.

1.1.1 This guide does not determine lab procedure selection or acceptance criteria for a specific retroreflective composite optics product for its intended use. It is the responsibility of the manufacturer and customer to negotiate these details based on their specific needs.

1.1.2 This guide is not intended to predict in-service performance levels.

1.1.3 This guide is not intended for comparison of different types of composite optics or manufacturers of composite optics.

1.2 *Units*—The values stated in SI units are to be regarded as standard. The values given in parentheses after SI units are provided for information only and are not considered standard.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

¹ This guide is under the jurisdiction of ASTM Committee D01 on Paint and Related Coatings, Materials, and Applications and is the direct responsibility of Subcommittee D01.44 on Traffic Coatings.

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2. Referenced Documents

2.1 *ASTM Standards*:²

C702 Practice for Reducing Samples of Aggregate to Testing Size

D1921 Test Methods for Particle Size (Sieve Analysis) of Plastic Materials

D2486 Test Methods for Scrub Resistance of Wall Paints

D7428 Test Method for Resistance of Fine Aggregate to Degradation by Abrasion in the Micro-Deval Apparatus

E1349 Test Method for Reflectance Factor and Color by Spectrophotometry Using Bidirectional (45°:0° or 0°:45°) Geometry

E1710 Test Method for Measurement of Retroreflective Pavement Marking Materials with CEN-Prescribed Geometry Using a Portable Retroreflectometer

2.2 *AASHTO Standards*:³

AASHTO TP-130-18 Producing Draw Down Panels and Measuring the Coefficient of Retroreflected Luminance (R_L) of Pavement Markings in a Laboratory Panel

3. Terminology

3.1 *Definitions*:

3.1.1 *installed pavement markings, n*—pavement markings applied to a road surface for the purpose of guiding traffic.

3.1.2 *pavement marking material, n*—a pigmented binder system used for lane delineation for highways, parking lots, and other areas subject to vehicular traffic; applicable pavement marking materials include waterborne traffic paint, solvent borne traffic paint, thermoplastic, plural component such as epoxy, modified epoxy, polyurea, and methyl methacrylate.

3.1.3 *pavement marking sample, n*—a properly cured pavement marking of specified width, length, and thickness applied to an appropriate, substrate panel; the pavement marking has

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ Available from American Association of State Highway and Transportation Officials (AASHTO), 444 N. Capitol St., NW, Suite 249, Washington, DC 20001, <http://www.transportation.org>.