ANSI/IES LM-20-20

Illuminating ENGINEERING SOCIETY

APPROVED METHOD: PHOTOMETRY OF REFLECTOR TYPE LAMPS

AN AMERICAN NATIONAL STANDARD

Approved American National Standard ANSI

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Foreword

This approved method is a revision of *IES LM-20-13, IES Approved Method: Photometric Measuring and Reporting Tests on Reflector-Type Lamps*, published in 2013.

1.0 Introduction and Scope

1.1 Introduction

As used in this laboratory method, a *reflector type lamp* is a lamp having a reflective element(s) intended to redirect flux from the emitting element (e.g., filament, arc, LED) to form the intended spatial distribution of the light. For example, a reflective element might take the form of a reflective coating applied to the lamp bulb, or a reflector positioned relative to the emitting element and permanently affixed in this position. In addition, integrated LED lamps using reflective and refractive elements to create the intended spatial distribution are within the scope of this LM. Using the current IES definitions these lamps are called projector lamps, floodlights, pressed-reflector lamps, and spotlights, among other terms. Through popular usage, the scope of this LM covers the "bulb," which is component of a luminaire.

1.2 Scope

This Approved Method describes photometric testing procedures and reporting guidelines for reflector type lamps and LED based lamps that mimic this traditional style of lamp. The application of the described procedures and guidelines will improve reproducibility within a laboratory, and will improve measurement agreement and facilitate comparison of results between laboratories. This laboratory method does not apply to the following: lamps of standard bulb shape to which an integral reflector is added, such as silver-bowl and silvered-neck lamps; reflector type lamps that are designed for special applications, such as automotive headlamps and projection lamps, for which lamp specific test procedures have been established; or lamps that are known to have special testing requirements beyond those addressed in this laboratory method, such as linear fluorescent reflector lamps that have special temperature or orientation requirements.

2.0 Normative References

2.1 ANSI/IES LM-35-20

Illuminating Engineering Society. Approved Method: Photometric Testing of Floodlights Using High Intensity Discharge or Incandescent Filament Lamps. New York: IES; 2020.

2.2 ANSI/IES LM-45-20

Illuminating Engineering Society. Approved Method: Electrical and Photometric Measurements of General Service Incandescent Filament Lamps. New York: IES; 2020.

For measurements of general service incandescent filament lamps, the laboratory shall meet the requirements stated therein.

2.3 ANSI/IES LM-51-20

Illuminating Engineering Society. Approved Method: The Electrical and Photometric Measurements of High Intensity Discharge Lamps. New York: IES; 2020.

For measurements of high intensity discharge lamps, the laboratory shall meet the requirements stated therein.

2.4 ANSI/IES LM-54-20

Illuminating Engineering Society. Approved Method: IES Guide to Lamp Seasoning. New York: IES; 2020.

2.5 ANSI/IES LM-63-19

Illuminating Engineering Society. IES Standard File Format for Electronic Transfer of Photometric Data and Related Information. New York: IES; 2019.

2.6 ANSI/IES LM-66-20

Illuminating Engineering Society. Approved Method: Electrical and Photometric Measurements of Single-Ended Compact Fluorescent Lamps. New York: IES; 2020.

For measurements of single-based fluorescent lamps, the laboratory shall meet the requirements stated therein.