
**Photography — Projection in indoor
rooms —**

Part 1:
Screen illumination test for still projectors

Photographie — Projection en salles —

Partie 1: Essai de luminosité de l'écran pour projecteurs fixes



Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 11315-1 was prepared by Technical Committee ISO/TC 42, *Photography*.

It cancels and replaces ISO 8341:1989, of which it constitutes a technical revision.

ISO 11315 consists of the following parts, under the general title *Photography — Projection in indoor rooms*:

- *Part 1: Screen illumination test for still projectors*
- *Part 2: Screen luminance test for still and video projection*
- *Part 3: Projection reflecting screens*
- *Part 4: Reflecting projection screens — Classification and measurement of reflected screen luminance levels and sound attenuation*

Annexes A and B of this part of ISO 11315 are for information only.

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Photography — Projection in indoor rooms —

Part 1:

Screen illumination test for still projectors

1 Scope

This part of ISO 11315 specifies a laboratory measuring method for determining the utilised flux of the projector and the uniformity of screen illuminance in darkened projection rooms for all types of purely optical still projection.

A standardized uniform light-measuring system allows comparison of screen illuminance values for different projection systems used alternately in practical use.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 11315. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 11315 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

CIE No. 15.2:1986, *Colorimetry* (2nd edition).

CIE No. 17.4:1987, *International Lighting Vocabulary* [Same edition as IEC 50(845):
International Electrotechnical Vocabulary, Chapter 845: *Lighting*.]

CIE No. 18.2:1983, *The Basis of Physical Photometry*.

CIE No. 69:1987, *Methods of Characterizing Illuminance Meters and Luminance Meters - Performance, Characteristics and Specifications*.

3 Definitions

For the purposes of this part of ISO 11315, the following definitions apply.

3.1 illumination: The application of visible radiation (light) to an object.
[CIE-Publ. No. 17]

3.2 luminous flux; light output: The quantity derived from radiant flux by evaluating the radiation according to its action upon a selective receptor, the spectral sensitivity of which is defined by the standard spectral luminous efficiencies.
[CIE-Publ. No. 17]

3.3 utilised flux: The luminous flux received on one side of the reference surface.
[CIE-Publ. No. 17]

3.4 still projection: All projection methods with one or more projectors for slides, overhead-projection transparencies, episcopic pictures for projection and transparent LCDs.

3.5 dark-room projection: An indoor room without any additional room lighting, except safety-lights for steps, emergency exits, etc.

3.6 uniformity ratio, g_2 : The ratio of the lowest measured illuminance/luminance to the highest measured illuminance/luminance, e.g. $E_{\min}/E_{\max}$ (x 100 in %).
[CIE-Publ. No. 17]

4 Preparation for photometric measurements

4.1 Preconditioning

Before the commencement of any test, the projector shall be conditioned by being kept under the environmental conditions of the testing laboratory for at least 8 h.

4.2 Projector set-up (light path)

While making the tests, the projector shall be operated with its normal components (e.g. light source, heat filter, condenser, lens), but without projection material (i.e. slides, films, etc. in the picture area or aperture plate).

4.3 Voltage, current and frequencies

4.3.1 The projector shall be operated from an adjustable power supply adjusted to within $\pm 0,5$ % of the rated voltage of the projector.

While adjusting the supply for tungsten lighting or non-controllable discharge lamps, the voltage shall be measured at the supply socket to which the recommended power supply cord of the projector is connected. The frequency of the power supply shall match the manufacturer's rating for the projector.