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International Commission on Illumination
Commission Internationale de l'Eclairage
Internationale Beleuchtungskommission

International Standard

ILV: International Lighting Vocabulary

2nd Edition

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Foreword

International Standards produced by the Commission Internationale de l'Eclairage are concise documents on aspects of light and lighting that require a unique definition. They are a primary source of internationally accepted and agreed data which can be taken, essentially unaltered, into universal standard systems.

This CIE International Standard has been prepared by JTC 8 of the Commission Internationale de l'Eclairage. It includes definitions prepared by IEC TC 34/MT 2. The cooperation with IEC TC 34/MT 2 and IEC TC 1 is acknowledged.

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Introduction

The aim of the International Lighting Vocabulary (ILV) is to promote international standardization in the use of quantities, units, symbols and terminology related to the science and art of light and lighting, colour and vision, metrology of optical radiation over the ultraviolet, visible and infrared region, photobiology and photochemistry, and image technology. This vocabulary provides the definitions and essential information necessary for the understanding and correct usage of the terms included. It does not give extensive detail or explanations of the application of these terms; such information, relevant for experts in each specialized field, is available in the Technical Reports and International Standards produced by the CIE.

The first edition of the ILV was published in 1938, the latest, the first edition of CIE S 017, in 2011. In 2015 CIE JTC 8 was established and received the task to address any issues regarding terms and definitions related to the ILV. This includes coordination within CIE Divisions to maintain and update the ILV, coordination with the IEC on questions related to the incorporation of ILV terms and definitions into IEC 60050-845 "International Electrotechnical Vocabulary. Lighting", coordination with ISO/TC 12 on questions related to the incorporation of ILV terms and definitions into ISO 80000-7 "Quantities and units – Part 7: Light and radiation", and any further terminology issues within CIE.

This new edition of the ILV is the result of intensive work carried out by CIE JTC 8 in order to harmonize the content of the ILV in its version of 2011 (published as CIE S 017:2011) with the content of the International Electrotechnical Vocabulary (IEV), subject area "Lighting" (IEC 60050-845), considering the rules for drafting definitions as given in the ISO/IEC Directives, Part 2. In addition parallel work in ISO/TC 12/WG 19 (Revision ISO 80000, all parts) was considered in the harmonization process.

This document has been prepared considering comments on CIE DIS 017:2016, CIE FDIS 017:2019, IEC CDV 60050-845:2018, and IEC FDIS 60050-845:2019. It has been harmonized with IEC 60050-845, which is published in its second edition with the identical technical content, in close cooperation with IEC TC 1 and IEC TC 34.

Organization of a terminological entry

Each of the terminological entries corresponds to a concept, and comprises:

- the *ILV number*.
- the term designating the concept, called "*preferred term*", possibly accompanied by *synonyms* and *abbreviations*,
- possibly a *letter symbol for the quantity or unit*,
- the *definition* of the concept,
- possibly *non-verbal representations*, *examples* and *notes to entry*,
- possibly the *source*.

ILV number

The ILV number is comprised of three elements, separated by hyphens:

"17", representing the number of this CIE standard (note that this number is "845" in the corresponding IEC document IEC 60050-845);

the section number: 2 digits (same as in IEC 60050-845);

the entry number: 3 digits (with leading zeroes) (same as in IEC 60050-845).

EXAMPLE **17-21-003**

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Letter symbols for quantities and units

These symbols are given on a separate line following the ILV term or possible accompanying synonyms and abbreviations.

EXAMPLE

17-21-025
wavelength
λ

Preferred term and synonyms

The preferred term is the term that heads a terminological entry; it can be followed by synonyms. It is printed in boldface.

Synonyms:

The synonyms are printed on separate lines under the preferred term: preferred synonyms are printed in boldface, and admitted and deprecated synonyms are printed in lightface. Deprecated synonyms are prefixed by the text "DEPRECATED:".

Attributes

Each term (and synonym) can be followed by attributes giving additional information, which are printed in lightface on the same line as the corresponding term, following this term.

EXAMPLE

specific use of the term:

luminous efficacy, <of a light source>

national variant:

color, US

grammatical information:

cones, pl

light, <photometric> noun

deutan, adj

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Table 1 – Numbering and assignment of IEV/ILV sections

IEV 1987 Section	IEV 2020 Section	ILV 2020 Section	Title	Leader
845-01	845-21	17-21	Radiation, quantities and units	CIE
845-02	845-22	17-22	Vision, colour rendering	CIE
845-03	845-23	17-23	Colorimetry	CIE
845-04	845-24	17-24	Emission, optical properties of materials	CIE
845-05	845-25	17-25	Radiometric, photometric and colorimetric measurements: physical detectors	CIE
845-06	845-26	17-26	Actinic effects of optical radiation	CIE
845-07	845-27	17-27	Light sources	IEC/CIE
845-08	845-28	17-28	Components of electric light sources and auxiliary apparatus	IEC
845-09	845-29	17-29	Lighting technology and daylighting	CIE
845-10	845-30	17-30	Luminaires and their components	IEC/CIE
845-11	845-31	17-31	Visual signalling	CIE/IEC
	845-32	17-32	Imaging	CIE

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ILV: International Lighting Vocabulary

1 Scope

This document defines terms regarding all matters relating to light and lighting, colour and vision, photobiology and image technology. It forms the second edition of CIE S 017:2011 *ILV: International Lighting Vocabulary* and replaces the first edition.

2 Normative References

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3 Terms and definitions

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