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I.S. EN 62595-2:2013

# LCD backlight unit -- Part 2: Electro-optical measurement methods of LED backlight unit (IEC 62595-2:2012 (EQV))

## I.S. EN 62595-2:2013

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<i>This document replaces:</i>	<i>This document is based on:</i> EN 62595-2:2013	<i>Published:</i> 8 February, 2013
This document was published under the authority of the NSAI and comes into effect on:  4 March, 2013		ICS number: 31.120 31.260
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English version

**LCD backlight unit -  
Part 2: Electro-optical measurement methods of LED backlight unit  
(IEC 62595-2:2012)**

Ecran LCD à rétro-éclairage -  
Partie 2: Méthodes de mesures  
électro-optiques d'un écran  
à retro-éclairage à DEL  
(CEI 62595-2:2012)

LCD-Hinterleuchtungseinheiten -  
Teil 2: Elektro-optische Messverfahren  
für LED-Hinterleuchtungseinheiten  
(IEC 62595-2:2012)

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European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

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## Foreword

The text of document 110/384/FDIS, future edition 1 of IEC 62595-2, prepared by IEC/TC 110 "Electronic display devices" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62595-2:2013.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2013-08-08
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2015-11-01

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## Endorsement notice

The text of the International Standard IEC 62595-2:2012 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 61747-1	NOTE	Harmonised as EN 61747-1.
ISO 11664-1:2007	NOTE	Harmonised as EN ISO 11664-1:2011 (not modified).
ISO 11664-5:2009	NOTE	Harmonised as EN ISO 11664-5:2011 (not modified).

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050	Series	International Electrotechnical Vocabulary (IEV)	-	-
IEC 61747-6	-	Liquid crystal and solid-state display devices - Part 6: Measuring methods for liquid crystal modules - Transmissive type	EN 61747-6	-
IEC 62595-1-2	-	LCD backlight unit - Part 1-2: Terminology and letter symbols	EN 62595-1-2	-
CIE publication 15	2004	Colorimetry	-	-

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## LCD BACKLIGHT UNIT –

## Part 2: Electro-optical measurement methods of LED backlight unit

## FOREWORD

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International Standard IEC 62595-2 has been prepared by IEC Technical Committee 110: Electronic display devices.

The text of this standard is based on the following documents:

FDIS	Report on voting
110/384/FDIS	110/406/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62595 series, published under the general title *LCD backlight unit*, can be found on the IEC website.



The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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## LCD BACKLIGHT UNIT –

### Part 2: Electro-optical measurement methods of LED backlight unit

#### 1 Scope

This part of IEC 62595 series specifies the standard measurement conditions and measuring methods for determining electrical, optical, and electro-optical parameters of LED backlight units for liquid crystal displays.

NOTE Other backlights (Cold Cathode Fluorescent Lamps (CCFLs), External Electrode Fluorescent Lamps (EEFLs), Hot Cathode Fluorescent Lamps (HCFLs), Carbon Nano Tube (CNT), etc.) are excluded from this standard.

#### 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050 (all parts), *International Electrotechnical Vocabulary* (available at <http://www.electropedia.org>)

IEC 61747-6, *Liquid crystal and solid-state display devices – Part 6: Measuring methods for liquid crystal modules – Transmissive type*

IEC 62595-1-2, *LCD Backlight unit – Part 1-2: Terminology and letter symbols*

CIE publication 15:2004, *Colorimetry*

#### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 62595-1-2 apply.

#### 4 General measurement conditions

##### 4.1 Standard atmospheric conditions for LED BLU

Unless otherwise specified, all tests and measurements for LED backlight unit shall be carried out after sufficient warm-up time for illumination sources and devices under test (see 4.3), under the standard environmental conditions, at a temperature of  $25\text{ °C} \pm 3\text{ °C}$ , at a relative humidity of 25 % to 85 %, and at an atmospheric pressure of 86 kPa to 106 kPa. When different environmental conditions are used, they shall be noted in the detail specification (see IEC 61747-6).

##### 4.2 Measuring setup

DUT, LMD, power source, driving and control devices for LED, and electrical measuring devices should be arranged appropriately for electro-optical measurements for LED BLU.

An example of measuring setup is shown in Figure 1.

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