

# Päevitus-luminofoor-ultraviolettlambid. Mõõtmisviis ja andmete esitamine

-  
E 61228:2008

EVS

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<div>E E</div> <div>EVS-EN 61228:2008 EN 61228:2008</div> <div>S 28 0 2008</div> <div>E 1 0 2008</div> <div>S</div>	<div>E E EN 61228:2008</div> <div>E 28 0 2008</div> <div>1 0 2008</div> <div>E</div>
---	--

ICS 1 2 0 2 1 0 0 1 0

EVS

Standardite reprodutseerimis- ja levitamisoigus kuulub Eesti Standardikeskusele									
	E	S							
10	10 1 E		: 60	0 0 E-	:	E	S	:	
Right to reproduce and distribute belongs to the Estonian Centre for Standardisation									
N		E		S					
10	10 1 E		: 60	0 0 E-	:	E	S	:	

English version

**Fluorescent ultraviolet lamps used for tanning -  
Measurement and specification method  
(IEC 61228:2008)**

Lampes fluorescentes à ultraviolet  
utilisées pour le bronzage -  
Méthode de mesure et de spécification  
(CEI 61228:2008)

UV-Leuchtstofflampen  
für Bräunungszwecke -  
Verfahren zur Messung und Beschreibung  
(IEC 61228:2008)

This European Standard was approved by CENELEC on 2008-02-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

**CENELEC**

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

**Central Secretariat: rue de Stassart 35, B - 1050 Brussels**

## Foreword

The text of document 34A/1242/FDIS, future edition 2 of IEC 61228, prepared by SC 34A, Lamps, of IEC TC 34, Lamps and related equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61228 on 2008-02-01.

This European Standard supersedes EN 61228:1994 + A1:1996.

In EN 61128:2008, an equivalency code for the lamps is introduced. This equivalency code characterises the spectral energy distribution and is to be applied when replacing lamps in tanning equipment.

The following dates were fixed:

- |  |       |            |
|--|-------|------------|
| – latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement | (dop) | 2008-11-01 |
| – latest date by which the national standards conflicting with the EN have to be withdrawn   | (dow) | 2011-02-01 |

Annex ZA has been added by CENELEC.

---

## Endorsement notice

The text of the International Standard IEC 61228:2008 was approved by CENELEC as a European Standard without any modification.

---

EVS

## Annex ZA (normative)

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

The following referenced documents are indispensable for the application of this document. 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 60050-845	1987	International Electrotechnical Vocabulary (IEV) - Chapter 845: Lighting	-	-
IEC 60081	- <sup>1)</sup>	Double-capped fluorescent lamps - Performance specifications	EN 60081	1998 <sup>2)</sup>
IEC 60335-2-27	- <sup>1)</sup>	Household and similar electrical appliances - Safety - Part 2-27: Particular requirements for appliances for skin exposure to ultraviolet and infrared radiation	EN 60335-2-27	2003 <sup>2)</sup>
IEC 60901	- <sup>1)</sup>	Single-capped fluorescent lamps - Performance specifications	EN 60901	1996 <sup>2)</sup>
IEC 62471	- <sup>1)</sup>	Photobiological safety of lamps and lamp systems	-	-
CIE 63	1984	The spectroradiometric measurement of light sources	-	-

---

<sup>1)</sup> Undated reference.

<sup>2)</sup> Valid edition at date of issue.

EVS

## CONTENTS

FOREWORD.....	3
1 Scope.....	5
2 Normative references .....	5
3 Terms and definitions .....	5
4 General test conditions.....	7
4.1 Ageing.....	7
4.2 Operating position .....	7
4.3 Ambient temperature .....	7
4.4 Test voltage .....	7
4.5 Ballast.....	7
5 Test requirements .....	7
5.1 General.....	7
5.2 Spectroradiometric measuring system .....	7
6 Measurement and evaluation procedure .....	8
6.1 Measurement .....	8
6.2 Calculation of the total effective UV irradiance .....	8
6.3 Correction factors.....	8
7 Lamp specification.....	9
8 Lamp marking.....	9
Annex A (normative) Determination of the optimum UV irradiance of fluorescent UV lamps.....	11
Annex B (normative) Ultraviolet action spectra.....	12
Figure B.1 – UV action spectra for erythema and NMSC .....	12
Table B.1 – Weighting factors $S(\lambda)$ for the erythema and the NMSC action spectrum .....	13

EVS

## FLUORESCENT ULTRAVIOLET LAMPS USED FOR TANNING – MEASUREMENT AND SPECIFICATION METHOD

### 1 Scope

This International Standard describes the method of measuring, evaluating and specifying the characteristics of fluorescent ultraviolet lamps that are used in appliances for tanning purposes. It includes specific requirements regarding the marking of such lamps.

These recommendations relate only to type testing.

### 2 Normative references

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

IEC 60050-845:1987, *International Electrotechnical Vocabulary (IEV) – Chapter 845: Lighting*

IEC 60081, *Double-capped fluorescent lamps – Performance specifications*

IEC 60901, *Single-capped fluorescent lamps – Performance specifications*

IEC 60335-2-27, *Household and similar electrical appliances – Safety – Part 2-27: Particular requirements for appliances for skin exposure to ultraviolet and infrared radiation*

CIE 63:1984, *The spectroradiometric measurement of light sources*

IEC 62471, *Photobiological safety of lamps and lamp systems*

### 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

#### 3.1

##### **ultraviolet lamp**

lamp which radiates especially strongly in the ultraviolet, the visible radiation produced, if any, not being of direct interest

[IEV 845-07-52]

#### 3.2

##### **fluorescent lamp**

discharge lamp of the low-pressure mercury type in which most of the light is emitted by one or several layers of phosphors excited by the ultraviolet radiation from the discharge

[IEV 845-07-26]