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INTERNATIONAL STANDARD



**Energy performance of lamp controlgear –
Part 1: Controlgear for fluorescent lamps – Method of measurement to determine
the total input power of controlgear circuits and the efficiency of controlgear**

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ELECTROTECHNICAL
COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ENERGY PERFORMANCE OF LAMP CONTROLGEAR –

**Part 1: Controlgear for fluorescent lamps –
Method of measurement to determine the total input power
of controlgear circuits and the efficiency of controlgear**

FOREWORD

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IEC 62442-1 has been prepared by subcommittee 34C: Auxiliaries for lamps, of IEC technical committee 34: Lighting. It is an International Standard.

This third edition cancels and replaces the second edition published in 2018. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) this edition has been harmonized with IEC 62442-2 and IEC 62442-3;
- b) the reference to and use of the measurement methods for non-active power consumption in accordance with IEC 63103 have been added.

The text of this International Standard is based on the following documents:

Draft	Report on voting
34C/1545/FDIS	34C/1548/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

A list of all parts in the IEC 62442 series, published under the general title *Energy performance of lamp controlgear*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

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- withdrawn,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

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ENERGY PERFORMANCE OF LAMP CONTROLGEAR –

Part 1: Controlgear for fluorescent lamps – Method of measurement to determine the total input power of controlgear circuits and the efficiency of controlgear

1 Scope

This part of IEC 62442 defines a measurement and calculation method of the total input power for controlgear-lamp circuits when operating with their associated fluorescent lamp(s). The calculation method for the efficiency of the lamp controlgear is also defined. This document applies to electrical controlgear-lamp circuits consisting only of the controlgear and the lamp(s). It is intended for use on DC supplies up to 1 000 V and/or AC supplies up to 1 000 V at 50 Hz or 60 Hz.

NOTE Requirements for testing individual controlgear during production are not included.

This document specifies the measurement method for the total input power and the calculation method of the controlgear efficiency for all controlgear used for domestic and normal commercial purposes operating with the following fluorescent lamps:

- ~~linear~~ double-capped fluorescent lamps (IEC 60081);
- ~~single-ended (compact)~~ single-capped fluorescent lamps (IEC 60901);
- other general purpose low-pressure mercury fluorescent lamps.

This document does not apply to:

- controlgear which form an integral part of the lamp;
- controllable wire-wound magnetic controlgear.
- ~~luminaires, which rely on additional optical performance aspects.~~

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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, *International Electrotechnical Vocabulary (IEV) – Part 845: Lighting* (available at <http://www.electropedia.org>)

IEC 60081:1997, *Double-capped fluorescent lamps – Performance specifications*
IEC 60081:1997/AMD4:2010

IEC 60901:1996, *Single-capped fluorescent lamps – Performance specifications*
IEC 60901:1996/AMD5:2011

IEC 60921:2004, *Ballasts for tubular fluorescent lamps – Performance requirements*

IEC 60929:2011, *AC and/or DC-supplied electronic control gear for tubular fluorescent lamps – Performance requirements*

~~IEC 61347-2-3, Lamp control gear – Part 2-3: Particular requirements for AC and/or DC supplied electronic control gear for fluorescent lamps~~

~~IEC 61347-2-8, Lamp control gear – Part 2-8: Particular requirements for ballasts for fluorescent lamps~~

IEC 63103:2020, *Lighting equipment – Non-active mode power measurement*

IEC TS 63105, *Lighting systems and related equipment – Vocabulary*

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Energy performance of lamp controlgear –
Part 1: Controlgear for fluorescent lamps – Method of measurement to determine
the total input power of controlgear circuits and the efficiency of controlgear**

**Performance énergétique des appareillages de lampes –
Partie 1: Appareillages des lampes à fluorescence – Méthode de mesurage pour
la détermination de la puissance d'entrée totale des circuits d'appareillage et du
rendement des appareillages**

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IEC 63103:2020, *Lighting equipment – Non-active mode power measurement*

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COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

PERFORMANCE ÉNERGÉTIQUE DES APPAREILLAGES DE LAMPES –

Partie 1: Appareillages des lampes à fluorescence – Méthode de mesurage pour la détermination de la puissance d'entrée totale des circuits d'appareillage et du rendement des appareillages

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L'IEC 62442-1 a été établie par le sous-comité 34C: Appareils auxiliaires pour lampes, du comité d'études 34 de l'IEC: Eclairage. Il s'agit d'une Norme internationale.

Cette troisième édition annule et remplace la deuxième édition parue en 2018. Cette édition constitue une révision technique.

Cette édition inclut les modifications techniques majeures suivantes par rapport à l'édition précédente:

- a) cette édition a été harmonisée avec l'IEC 62442-2 et l'IEC 62442-3;

- b) des références à l'IEC 63103 ont été ajoutées afin d'appliquer les méthodes de mesurage de la consommation de puissance en mode non actif.

Le texte de cette Norme internationale est issu des documents suivants:

Projet	Rapport de vote
34C/1545/FDIS	34C/1548/RVD

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à son approbation.

La version française de cette norme n'a pas été soumise au vote.

La langue employée pour l'élaboration de cette Norme internationale est l'anglais.

Ce document a été rédigé selon les Directives ISO/IEC, Partie 2, il a été développé selon les Directives ISO/IEC, Partie 1 et les Directives ISO/IEC, Supplément IEC, disponibles sous www.iec.ch/members_experts/refdocs. Les principaux types de documents développés par l'IEC sont décrits plus en détail sous www.iec.ch/standardsdev/publications.

Une liste de toutes les parties de la série IEC 62442, publiées sous le titre général *Performance énergétique des appareillages de lampes*, se trouve sur le site web de l'IEC.

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PERFORMANCE ÉNERGÉTIQUE DES APPAREILLAGES DE LAMPES –

Partie 1: Appareillages des lampes à fluorescence – Méthode de mesurage pour la détermination de la puissance d'entrée totale des circuits d'appareillage et du rendement des appareillages

1 Domaine d'application

La présente partie de l'IEC 62442 définit une méthode de mesurage et de calcul de la puissance d'entrée totale pour les circuits appareillage-lampe qui fonctionnent avec la ou les lampes à fluorescence qui leur sont associées. La méthode de calcul du rendement des appareillages de lampes est également définie. Le présent document s'applique aux circuits appareillage-lampe électriques constitués exclusivement de l'appareillage et de la ou des lampes. Il s'applique aux alimentations en courant continu jusqu'à 1 000 V et/ou aux alimentations en courant alternatif jusqu'à 1 000 V à 50 Hz ou 60 Hz.

NOTE Les exigences pour les essais des appareillages individuels pendant la production ne sont pas incluses.

Le présent document spécifie la méthode de mesurage de la puissance d'entrée totale et la méthode de calcul du rendement pour l'ensemble des appareillages à usage domestique et usage commercial normal, qui fonctionnent avec les lampes à fluorescence suivantes:

- lampes à fluorescence à deux culots (IEC 60081);
- lampes à fluorescence à culot unique (IEC 60901);
- autres lampes à fluorescence à vapeur de mercure à basse pression destinées à un usage général.

Le présent document ne s'applique pas aux:

- appareillages qui font partie intégrante de la lampe;
- appareillages de commande magnétiques bobinés gradables.

2 Références normatives

Les documents suivants sont cités dans le texte de sorte qu'ils constituent, pour tout ou partie de leur contenu, des exigences du présent document. Pour les références datées, seule l'édition citée s'applique. Pour les références non datées, la dernière édition du document de référence s'applique (y compris les éventuels amendements).

IEC 60050-845, *Vocabulaire électrotechnique international (IEV) – Partie 845: Eclairage* (disponible à l'adresse <http://www.electropedia.org>)

IEC 60081:1997, *Lampes à fluorescence à deux culots – Prescriptions de performance*
IEC 60081:1997/AMD4:2010

IEC 60901:1996, *Lampes à fluorescence à culot unique – Prescriptions de performances*
IEC 60901:1996/AMD5:2011

IEC 60921:2004, *Ballasts pour lampes tubulaires à fluorescence – Exigences de performances*

IEC 60929:2011, *Appareillages électroniques alimentés en courant alternatif et/ou continu pour lampes tubulaires à fluorescence – Exigences de performances*

IEC 63103:2020, *Appareils d'éclairage – Mesure de puissance en mode non actif*

IEC TS 63105, *Lighting systems and related equipment – Vocabulary* (disponible en anglais seulement)