SLOVENSKI STANDARD
SIST EN 60662:1996/A6:1996

01-junij-1996

Visokotlačne natrijeve sijalke (IEC 60662:1980/A6:1994)

High-pressure sodium vapour lamps (IEC 60662:1980/A6:1994)

Natriumdampf-Hochdrucklampen (IEC 60662:1980/A6:1994)

Lampes à vapeur de sodium à haute pression (CEI 60662:1980/A6:1994)

Ta slovenski standard je istoveten z: **EN 60662:1993/A6:1994**

ICS:

29.140.30	Fluorescenčne sijalke. Sijalke	Fluorescent lamps. Discharge lamps

SIST EN 60662:1996/A6:1996 **en**

EUROPEAN STANDARD

NORME EUROPEENNE

EUROPÄISCHE NORM

EN 60662/A6

July 1994

UDC 621.327.532.2:620.1
ICS 29.140.30

Descriptors: Sodium vapor lamp, characteristic, particular requirements, conception requirement

Amendment A6 to the English version of EN 60662

High-pressure sodium vapour lamps
(IEC 662:1980/A6:1994)

Lampes à vapeur de sodium à haute pression
(CEI 662:1980/A6:1994)

Natriumdampf-Hochdrucklampen

(IEC 662:1980/A6:1994)

This amendment A6 modifies the European Standard EN 60662:1993. It was approved by CENELEC on 1994-03-08. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 amendment 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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and 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

Ref. No. EN 60662:1993/A6:1994 E

FOREWORD

The text of document 34A(CO)691, as prepared by Sub-Committee 34A: Lamps, of IEC Technical Committee 34: Lamps and related equipment, was submitted to the IEC-CENELEC parallel vote in July 1993.

The reference document was approved by CENELEC as amendment A6 to EN 60662 on 8 March 1994.

The following dates were fixed:

- latest date of publication of an identical national standard	(dop)	1995-07-15
- latest date of withdrawal of conflicting national standards	(dow)	1995-07-15

For products which have complied with EN 60662:1993 and its amendments A4:1994 and A5:1994 before 1995-07-15, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 2000-07-15.

ENDORSEMENT NOTICE

The text of amendment 6:1994 to the International Standard IEC 662:1980 was approved by CENELEC as an amendment to the European Standard without any modification.

NORME INTERNATIONALE
INTERNATIONAL STANDARD

CEI
IEC
662

1980

AMENDEMENT 6
AMENDMENT 6

1994-06

Amendement 6

Lampes à vapeur de sodium à haute pression

Amendment 6

High-pressure sodium vapour lamps

Les feuilles de cet amendement sont à insérer dans la CEI 662 (1980).

The sheets contained in this amendment are to be inserted in IEC 662 (1980).

Bureau Central de la Commission Electrotechnique Internationale 3, rue de Varembé Genève, Suisse

Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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INSTRUCTIONS POUR L'INSERTION DES NOUVELLES PAGES ET FEUILLES DANS LA PUBLICATION 662

1. Retirer la page de titre et les pages 1, 2, 3 et 4.
   Insérer la nouvelle page de titre et les nouvelles pages 1, 2, 3 et 4.

ANNEXES

2. Retirer les pages 52 et 53 existantes.
   Insérer l'annexe F, pages 52 à 65, ainsi que les pages 66 et 67.

FEUILLES DE CARACTÉRISTIQUES TECHNIQUES

3. Retirer feuilles de caractéristiques techniques 2110-1 page 2, 2130-1 page 1 et 2140-1 page 2.
   Insérer les nouvelles feuilles de caractéristiques techniques (1994), 2110-1 page 2, 3130-1 page 1 et 2140-1 page 2 amendées.

INSTRUCTIONS FOR THE INSERTION OF NEW PAGES AND SHEETS IN PUBLICATION 662

1. Remove existing title page and pages 1, 2, 3 and 4.
   Insert new title page and new pages 1, 2, 3 and 4.

ANNEXES

2. Remove existing pages 52 and 53.
   Insert annex F, pages 52 to 65, as well as pages 66 and 67.

TECHNICAL DATA SHEETS

3. Remove technical data sheets 2110-1 page 2, 2130-1 page 1 and 2140-1 page 2.
   Insert new (1994), technical data sheets 2110 1 page 2, 2130-1 page 1 and 2140-1 page 2 amended.

AVANT-PROPOS

Le présent amendement a été établi par le sous-comité 34A: Lampes, du comité d'études 34 de la CEI: Lampes et équipements associés. Le texte de cet amendement est issu des documents suivants:

DIS	Rapport de vote
34A(BC)691	34A(BC)699

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

FOREWORD

This amendment has been prepared by sub-committee 34A: Lamps, of IEC technical committee 34: Lamps and related equipment. The text of this amendment is based on the following documents:

DIS	Report on voting
34A(CO)691	34A(CO)699

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

NORME INTERNATIONALE
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Première édition
First edition
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Modifiée selon les amendements:
Amended in accordance with Amendments:
1 (1986), 2 (1987), 3 (1990), 4 (1992), 5 (1993) et/and 6 (1994)

Lampes à vapeur de sodium à haute pression

High-pressure sodium vapour lamps

Bureau Central de la Commission Electrotechnique Internationale 3, rue de Varembé Genève, Suisse

Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CONTENTS

Stabilization is as defined in subclause E.1.2.1. The presence in the test area of highly reflective surfaces and sources of radiation should be avoided. When the bare lamp reaches a stable operating condition, the lamp voltage shall be recorded.

E.2.2.2 The lamp shall be permitted to cool to essentially ambient temperature for a minimum of one hour before being transferred to the test luminaire. The luminaire shall be at a stabilized temperature of 25 °C ± 5 °C.

E.2.2.3 The lamp shall be operated in the test luminaire for a period of at least 60 min and until lamp stabilization has been achieved. Operation shall occur on the same reference ballast specified in E.2.1.2, which shall be located outside the test luminaire. Stabilization is determined in an identical way with the method specified in subclause E.1.2.1.

E.2.2.4 The final value of lamp voltage recorded during the stabilization check of subclause E.2.2.3 shall be recorded.

E.2.2.5 The lamp voltage increase for the luminaire under test is determined by calculating the recorded stabilized lamp voltage of subclause E.2.2.4 minus the stabilized bare lamp voltage of subclause E.2.2.1. This value of voltage increase shall be used for comparison with the value specified on the relevant lamp data sheet.

Annex F
(informative)

HPS lamp drop-out voltage measurement procedure

Introduction

The following procedure may be used to measure drop-out voltages of high-pressure sodium (HPS) lamps. Experience has shown that this kind of measurement is difficult to make and the consistency of results is affected by several factors.

Speculation has been made that the wide variety of results reported in the past is due to variations in experimental setup and procedure. It is anticipated that the use of one common method will permit the comparison of data from different sources. The procedure contained herein is recommended as that common method.

F.1 Objective

The purpose of the subject procedure is to obtain data from lamps that will help to establish the "maximum voltage" line at the right-hand side of a quadrilateral diagram.

F.2 Theory

Operating limits of an HPS lamp are defined by a quadrilateral diagram, such as figure F.2.

Typically, the voltage of an HPS lamp increases through life. At some point in time a critical voltage is reached where the ballast will not be able to sustain the lamp. This voltage is called the drop-out voltage and it is a function of both lamp and ballast operating characteristics. In order to avoid differences in ballast operating characteristics due to design and manufacturing variations, a reference ballast is used in this procedure to determine drop-out voltage of a test lamp.

This procedure for measuring drop-out points involves operating a test lamp on a reference ballast and artificially raising the lamp's voltage until the drop-out point is reached. The lamp voltage is related to the amalgam temperature and can be increased by raising the temperature of the amalgam cold spot area. This heating can be accomplished by using either an external source of radiant heat or by redirecting some of the test lamp's radiation back onto itself. A metal cylinder lowered over the lamp or other artificial methods provide a convenient and controllable means of reflecting energy from the lamp back onto the arc tube within the lamp. Clear lamps are recommended for this test work. Coated lamps diffuse this radiant energy and complicate the experiment. Therefore, they should be avoided.

In some lamp designs a reservoir, external to the arc tube, serves as the amalgam cold spot. In lamps without an external reservoir, one or both ends of the arc tube can serve as the cold spot. When the end of the arc tube that has the cold spot is artificially heated, an equivalent or greater amount of heat must be applied to the opposite end of the arc tube. This can be accomplished artificially by placing a metal cylinder or aluminium foil over the "opposite" end of the lamp.

As the cold spot end is heated by artificial means, the lamp's voltage and wattage rise for the particular supply voltage being used. They can be recorded as they follow the ballast curve. A drop-out point can be obtained from these data. See figure F.3, as an example where voltage-wattage plots were made at various supply voltages and the drop-out points identified from the discontinuity of plot direction.

F.3 Methods of artificial heating

There are four commonly used methods of artificially heating the lamp's arc tube. These are listed below in order of preference.

F.3.1 *Metal sleeve*

The inside diameter of the metal sleeve should be only slightly larger than the outside diameter of the test lamp. Aluminium foil can be used to cover the inside surface of the sleeve to increase its reflectivity. An adjustable, mechanical drive to control sleeve movement is advantageous but not absolutely necessary.

After the test lamp has been started and reached its normal operation point, the sleeve is to be positioned over the lamp from the end opposite to the cold spot. The rate of increasing coverage of the lamp is limited by "equilibrium" (see clause F.4 "Description of equilibrium").

As the expected drop-out point is approached, the coverage rate must be slowed down.

F.3.2 *Metal sleeve and projection lamp*

When method F.3.1 does not drive the test lamp to drop-out, externally generated heat must be applied also. An incandescent, ellipsoidal-mirror-type projection lamp should be used. It is necessary to be able to focus the projection lamp's light output on the test lamp's cold spot. The projection lamp is to be controlled by means of an adjustable auto-transformer.

In this method, the metal sleeve is stopped at a position where the cold spot end is still exposed. Then the (pre-aimed) projection lamp's output is slowly increased to heat up the cold spot.