Teevalgustus. Osa 4: Valgustuse mõõtemeetodid

Road lighting - Part 4: Methods of measuring lighting performance

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 13201-4:2007 sisaldab Euroopa standardi EN 13201-4:2003 ingliskeelset teksti.	This Estonian standard EVS-EN 13201-4:2007 consists of the English text of the European standard EN 13201-4:2003.
Standard on kinnitatud Eesti Standardikeskuse 20.02.2004 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 20.02.2004 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 26.11.2003.	Date of Availability of the European standard text 26.11.2003.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

ICS 93.080.40

Võtmesõnad: teevalgustus, valgusmõõtmised, valgustus

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 13201-4

November 2003

ICS 93.080.40

English version

Road lighting - Part 4: Methods of measuring lighting performance

Eclairage public - Partie 4: Méthodes de mesure des performances photométriques

Straßenbeleuchtung - Teil 4: Methoden zur Messung der Gütemerkmale von Straßenbeleuchtungsanlagen

This European Standard was approved by CEN on 1 September 2003.

CEN 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 Management Centre or to any CEN 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 CEN member into its own language and notified to the Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

Ref. No. EN 13201-4:2003 E

Contents

page

Foreword

This document (EN 13201-4:2003) has been prepared by Technical Committee CEN/TC 169 “Light and lighting”, the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2004, and conflicting national standards shall be withdrawn at the latest by May 2004.

This document EN 13201-4 has been worked out by the Joint Working Group of CEN/TC 169 “Light and lighting” and CEN/TC 226 “Road Equipment”, the secretariat of which is held by AFNOR.

Annex A is informative.

This document includes a Bibliography.

This standard, EN 13201 *Road lighting*, consists of three parts. This document is:

Part 4: *Methods of measuring lighting performance*

The other parts of EN 13201 are:

Part 2: *Performance requirements*

Part 3: *Calculation of performance*

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

The purpose of this part of this European standard is to establish conventions and procedures for lighting measurements of road lighting installations, and to give advice on the use and selection of luminance meters and illuminance meters.

The conventions for observer position and location of measurement points are those adopted in EN 13201-3. However, relaxation from these is permitted where the measurements are used for monitoring the performance of an installation or other purposes. Conditions which may lead to inaccuracies are identified and precautions are given to minimize these.

A format for the presentation of the measurements is suggested.

1 Scope

This part of this European Standard specifies the procedures for making photometric and related measurements of road lighting installations. Examples are given of the form of the test report.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 13201-3, *Road lighting — Part 3: Calculation of performance.*

3 Photometric measurements

The procedures adopted should be suited to the purpose of the measurements. Where the measurements are required for comparison with calculated values then the utmost stringency will be required to ensure that a valid comparison can be made. Where the measurements are required for monitoring the state of an installation then it is possible that a more limited set of measurements at widely spaced locations will suffice. The main essential in this case is that the measurements are carried out in the same way each time monitoring is carried out. In other cases spot checks may be sufficient.

4 Measurement conditions

4.1 Stabilization after switch-on

Discharge lamps require a period of time for their light output to stabilize. Illuminance measurements at the same location or locations shall be taken at regular time intervals to ensure that stability has been reached, before definitive light measurements of the installation are made.

To ensure that stability is maintained during the period of measurement, monitoring readings shall be taken (see A.10).

4.2 Climatic conditions

The climatic conditions should be such as not to affect the measurements significantly, unless this is intended. High or low temperatures may affect the light output of thermally sensitive lamps or the accuracy of the light measuring instruments. Condensation of moisture on light transmitting surfaces of measuring instruments or on their electric circuits may affect their accuracy. High wind speeds may make the luminaires oscillate or make the measuring instruments vibrate. They may also lower the temperature of thermally sensitive lamps thereby affecting their light output. Even a slight dampness of the road surface may significantly affect the luminance of the road surface. The light transmission of the atmosphere will affect the light reaching the surface to be measured, and in the case of luminance measurements the light reaching the luminance meter from the surface to be measured.