PD CEN/TR 13201-1:2014

BSI Standards Publication

Road lighting

Part 1: Guidelines on selection of lighting classes

This Published Document is the UK implementation of CEN/TR 13201-1:2014. It supersedes PD CEN/TR 13201-1:2004 which is withdrawn.

The UK participation in its preparation was entrusted by Technical Committee EL/1, Light and lighting applications, to Subcommittee EL/1/2, Road lighting.

A list of organizations represented on this committee can be obtained on request to its secretary.

ISBN 978 0 580 80624 7
ICS 93.080.40

Compliance with a British Standard cannot confer immunity from legal obligations.

This Published Document was published under the authority of the Standards Policy and Strategy Committee on 31 December 2014.

Amendments issued since publication

Date	Text affected

TECHNICAL REPORT CEN/TR 13201-1

TECHNISCHER BERICHT December 2014

ICS 93.080.40 Supersedes CEN/TR 13201-1:2004

English Version

Road lighting - Part 1: Guidelines on selection of lighting classes

Éclairage public - Partie 1: Sélection des classes d'éclairage

Straßenbeleuchtung - Teil 1: Leitfaden zur Auswahl der Beleuchtungsklassen

This Technical Report was approved by CEN on 9 December 2013. It has been drawn up by the Technical Committee CEN/TC 169.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Ref. No. CEN/TR 13201-1:2014 E

Contents

Page

Foreword

This document (CEN/TR 13201-1:2014) has been prepared by Technical Committee CEN/TC 169 “Light and lighting”, the secretariat of which is held by DIN.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes CEN/TR 13201-1:2004.

This revised publication includes a simplified system of guidelines for selection of the lighting classes. The most important parameters are listed for the different lighting situations - motorised traffic areas, conflict areas, and pedestrian/low speed areas. The parameters include the design speed, the traffic volume and traffic composition, the function of the overall layout of the road, and the environmental conditions.

Road lighting is dealt with by CEN as follows:

— CEN/TR 13201-1: *Road lighting – Part 1: Guidelines on selection of lighting classes.*

— EN 13201-2: *Road lighting – Part 2: Performance requirements*

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

— EN 13201-4: *Road lighting – Part 4: Methods of measuring lighting performance*

— prEN 13201-5: *Road lighting – Part 5: Energy performance indicators*

Introduction

This document offers guidance on the selection of lighting classes and related aspects. It is applicable to fixed lighting installations intended to provide good visibility to users of outdoor public traffic areas during the hours of darkness to support traffic safety, traffic flow and public security.

The document offers two alternative examples of selection of lighting classes, one based on simple lighting class and the other giving a more refined result within the lighting class. Both methods provide comparable lighting classes and are interchangeable. Any adaptation of either of these methods or any other method can be used instead, on the national level.

1 Scope

This Technical Report specifies the lighting classes set out in EN 13201-2 and gives guidelines on the selection of the most appropriate class for a given situation. To do this, it includes a system to define appropriate lighting classes for different outdoor public areas in terms of parameters relevant to guarantee the aims presented in introductions.

The decision on whether a road should be lit is defined in the national road lighting policy. This varies by country or municipality. Specific guidelines are usually available at national level for each country. This Technical Report does not give the criteria on which a decision to light an area can be made, nor on how a lighting installation should be used. Further guidance is given in CIE 115:2010 (Paragraph 1.2 and Annex A).

The methods presented in Clauses 5, 6 and 7 have to be considered as the starting points of a comprehensive approach for the normal road lighting. In that sense, the models cannot cover all the different road cases; they introduce general parameters and the impact on lighting requirements. Only the real situation and its unique characteristics (geometry of the road, marking, visual environment, difficulty of the navigation task, lack of visibility, risks of glares due to existing elements, local weather, specific users such as high rate of elderly or visually impaired people, etc.) can lead to a final determination of the appropriate lighting class applying risk evaluation techniques.

The visual needs of road users under reduced traffic volumes during certain periods of night or under varying weather conditions, and the positive benefits of reduced energy consumption and potential environmental improvements, are some of the considerations which justify the installation of adaptive road lighting. There are a variety of suitable instruments, devices and methods which can be used for the intelligent control of a road lighting installation. The control systems range from very simple to the most sophisticated applications. Annex B is of assistance in choosing the correct lighting level when adaptive lighting is used as it provides a more refined evaluation of the luminance or illuminance levels within the specific lighting class. Whilst the luminance or illuminance levels may be varied to suit reduced traffic volumes, weather conditions or other parameters the quality parameters of the applicable lighting class specified in EN 13201-2 should be maintained at all times.

Renewal or refurbishment of obsolete and uneconomic installations is important. It may be possible to obtain more adapted lighting levels with lower energy consumption using new designs and new technology. The upgrading of lighting and control systems will often give good cost-benefit ratios and short amortisation periods.

This document does not give guidelines on the selection of lighting classes for toll stations, tunnels or canals and locks.

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.

EN 13201-2, *Road lighting - Part 2: Performance requirements*

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