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**Light and lighting -
Sports lighting;
English version EN 12193:2018,
English translation of DIN EN 12193:2019-07**

Licht und Beleuchtung -
Sportstättenbeleuchtung;
Englische Fassung EN 12193:2018,
Englische Übersetzung von DIN EN 12193:2019-07

Lumière et éclairage -
Éclairage des installations sportives;
Version anglaise EN 12193:2018,
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In case of doubt, the German-language original shall be considered authoritative.

A comma is used as the decimal marker.

National foreword

This document (EN 12193:2018) has been prepared by Technical Committee CEN/TC 169 "Light and lighting" (Secretariat: DIN, Germany).

The responsible German body involved in its preparation was *DIN-Normenausschuss Lichttechnik* (DIN Standards Committee Lighting Technology), Working Committee NA 058-00-13 AA "Sports lighting".

Amendments

This standard differs from DIN EN 12193:2008-04 as follows:

- a) the minimum value for the general colour rendering index has been increased from $R_a > 20$ to $R_a > 60$;
- b) different sports have been added to the tables of requirements;
- c) recommendations on the use of glare rating for indoor sports areas have been included;
- d) requirements for television and film recordings have been revised;
- e) the general colour rendering index has been replaced by the Television Lighting Contrast Index (TLCI) for cameras;
- f) normative references and the Bibliography have been revised;
- g) the standard has been editorially revised.

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English Version

Light and lighting — Sports lighting

Lumière et éclairage —
Éclairage des installations sportives

Licht und Beleuchtung —
Sportstättenbeleuchtung

This European Standard was approved by CEN on 1 July 2018.

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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 CEN-CENELEC Management Centre has the same status as the official versions.

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European foreword

This document (EN 12193:2018) 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 June 2019, and conflicting national standards shall be withdrawn at the latest by June 2019.

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

This document supersedes EN 12193:2007.

In this revision the main technical changes can be divided between the needs of the players and that of the camera. For the players the minimum colour rendering index has been increased from $R_a > 20$ to $R_a > 60$. The tables of requirements have been updated to take into account sports that have become popular since the last edition. Recommendations on the use of Glare Rating for indoor sports areas are now included.

The requirements for television and film recording have been revised to reflect changes in broadcast technology since the last edition. Lighting levels have been reviewed in line with the requirements for HD and 4K transmission as well as production techniques. For cameras colour rendering index has been replaced by Television Lighting Consistency Index (TLCI) which has been developed specifically for broadcast cameras. Requirements for eliminating flicker from slow motion cameras are included as well as lighting of spectators.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This European Standard deals with sports lighting to ensure good visual conditions for players, athletes, referees, spectators and CTV transmission. The objective of this document is to provide recommendations and specify requirements for good quality sports lighting by:

- optimizing the perception of visual information used during sports events;
- maintaining the level of visual performance;
- providing acceptable visual comfort;
- restricting obtrusive light.