



## Expert commentary

### **BS 5489-1:2020** — *Design of road lighting – Part 1: Lighting of roads and public amenity areas – Code of practice*

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## 1 Overview

BS 5489-1:2020 is the code of practice providing guidance and recommendations that are intended to support the BS EN 13201 series of standards and assist designers in using that series of standards for the design of road lighting.

The primary aim of BS 5489-1:2020 is to promote wider understanding of the principles and practice related to road lighting design.

The scope of the standard is to provide recommendations on the general design principles of road lighting including technical and aesthetic considerations. It also makes recommendations on minimizing energy consumption and impact on the environment.

All types of highway are covered, including public thoroughfares specifically for pedestrians and/or cyclists and for pedestrian subways and bridges. The scope extends to town centres and public amenity areas.

Specific recommendations are provided for special areas such as lighting in the vicinity of aerodromes, railways, navigable waterways, coastal areas and harbours.

It is also to provide designers of road lighting guidance on the design decisions that need to be made. Road lighting design is a complex process with many factors to be considered, and this standard provides signposting to enable designers to produce sustainable and safe designs. The standard is intended to support the European Standard EN 13201:2015 series.

This full revision of the road lighting code of practice is primarily amended to align it with the BS EN 13201 series of road lighting standards which were updated in 2015. The revision also updates the document in relation to current best practice and brings this important guidance document up to date with current regulations such as the CDM 2015 regulations.

New guidance is provided for lighting design when located within a smart city environment or when co-located with electric vehicle (EV) charging points.

There have been some changes to the standard which are worth noting, and should have a relatively minor impact upon the design practice for road lighting: the Annex A tables for selecting a lighting class have been consolidated and the advice for mesopic vision has been simplified such that S/P ratios are not included in the calculations unless a light source with low colour rendering and an S/P ratio < 1.0 is chosen.

The changes will undoubtedly become the foundation for best practice in the UK. It is recommended that you review your own arrangements in the light of BS 5489-1:2020.

### 1.1 Reasons for change

The main reason for the update is to align the code of practice with the European Standard EN 13201:2015.

Other changes include aligning the code of practice to the CDM 2015 regulations which have introduced some new requirements (particularly the principal designer).

In many parts of the document, the opportunity has been taken to consolidate areas of repetition, to move areas of text into more appropriate chapters and to consolidate tables.

The document has been predicated on the ubiquitous use of white light in road lighting now compared to previous editions where sodium-based discharge light sources were the predominant light source. Annex A has been simplified and the tables consolidated. The use of S/P ratios has been discontinued if using a white light source.

The method for determining the maintenance factor has been updated to align with the recent CIE/ISO standard.

The emergence of the "smart city" has prompted this standard to acknowledge the role of street lighting infrastructure in a smart city context.

The increasing importance of minimizing energy consumption and protecting the environment in the wider context is a recurring theme throughout the document.

### 1.2 Summary

- Alignment with European Standard for road lighting BS EN 13201:2015
- Recognition of the importance of road lighting infrastructure in smart cities
- Amended selection of lighting classes including the use of S/P ratios.