

EN 13201 A NORM FULL OF OPPORTUNITIES & CHALLENGES

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GENERAL

Do we need light at night?

Who needs light at night?

People's backgrounds play a significant role in the everyday life of each individual.

From birth onwards, a person's habits are conditioned by his environment

Any change in his pattern of habits leads to irritation and subjective distraction, which can have very dangerous consequences in road traffic.

In this way a reorganization of the street lighting can cause a change in the pattern of habits, which can lead to negative initial reactions and unease among the inhabitants of a city.

Interestingly, the criticism becomes weaker and weaker, the more time passes.

The people have become accustomed to their surroundings.

Basically, street lighting means public lighting.

This means it is for everyone.

Street lighting has no restrictions on race, age, religion, political and social tendencies, privileges and hierarchies.

In Europe, it has been recognized that the real need for street lighting serves to protect the most vulnerable in our society.

The children, the elderly and disabled people in the European Community.

They are served by the harmonization of EN 13 201 within the EU 27 nations.

Street Lighting in Europe 2020

There are three main issues which together should illuminate future European cities during the night;

1. Climate Change 2. Energy efficiency and optimization 3. public safety

EUROPE SUPPORTS STREET LIGHTING THAT

1. CHARACTERIZES A CITY 2. TAKES ON RESPONSIBILITY 3. GUIDES 4. PROMOTES SECURITY 5. IMPROVES RECOGNITION 6. IS ENERGY EFFICIENT 7. SUSTAINABLE 8. RELIABLE 9. SMART 10. & AFFORDABLE

The publication of the new European Standard EN 13201 for Road Lighting in 2005 introduced significant changes to road lighting design criteria.

Aim of the EN 13201 standard:

To provide guidelines for designers of road lighting installations by describing visibility requirements for the safe use of roads.

This standard also aims to reduce or prevent obtrusive light in places where it isn't needed (glare; 'light pollution', etc).

EN 13201 the key points:

• To achieve the minimum required lighting for safe road use.

• The norm gives lighting situations and converts these into performance requirements.

• For road lighting the luminance (cd/m²), the overall and lengthwise uniformity, the threshold increment (indication of the loss of visual performance due to perceived glare from the lighting element) and the surround ratio are relevant.

• Especially in cities the vertical illuminance at buildings should not be too high to prevent complaints from inhabitants. Limits are set.

Compliance to the norm:

• Compliance with the norm means that lighting meets the minimum values for good lighting with respect to the amount of light related to the road classification, glare and uniformity.

What does it mean for lighting?

The EU 27 nations want to establish an obligatory status after updating the standard to integrate energy efficiency criteria for street lighting installations.

European standard EN 13201 consists of four separate sections as follows:

EN 13201-1 Road lighting – selection of lighting classes

EN 13201-2 Road lighting – performance requirements

EN 13201-3 Road lighting – calculation of performance,

and EN 13201-4 Road lighting – methods of measuring lighting

performance.

In the above standards, the requirements define specific values with respect to luminance, illuminance, uniformity and further requirements in categories including measurement and calculation methods as well as the appearance of the lighting installations.

The European standard does not specify the values for road width, pole height, or pole to pole distance!

Reduced light levels during night time:

In many European municipalities it is usual to lower the level of illumination of streets and squares for a certain period during the night, either because there is significantly less traffic or the complexity of the driving task is less or certain road users are no longer on the streets.

With the introduction of modern control devices, it is possible nowadays to dim (to reduce light intensity) almost all types of lamps in certain areas, so that even single element lamps can be used in the dimming mode, without changing the uniformity of the lighting system. With „LED luminaires“ it is even possible to dim to any level within a very large brightness range.

Through night dimming it is not only possible to save energy, but also to avoid unwanted light pollution and unnecessary brightening of the night sky.

Each European nation is asked to consider it's own standard for „reduced light levels during night time“, e.g. in Austria O 1053, linked to EN 13201.

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