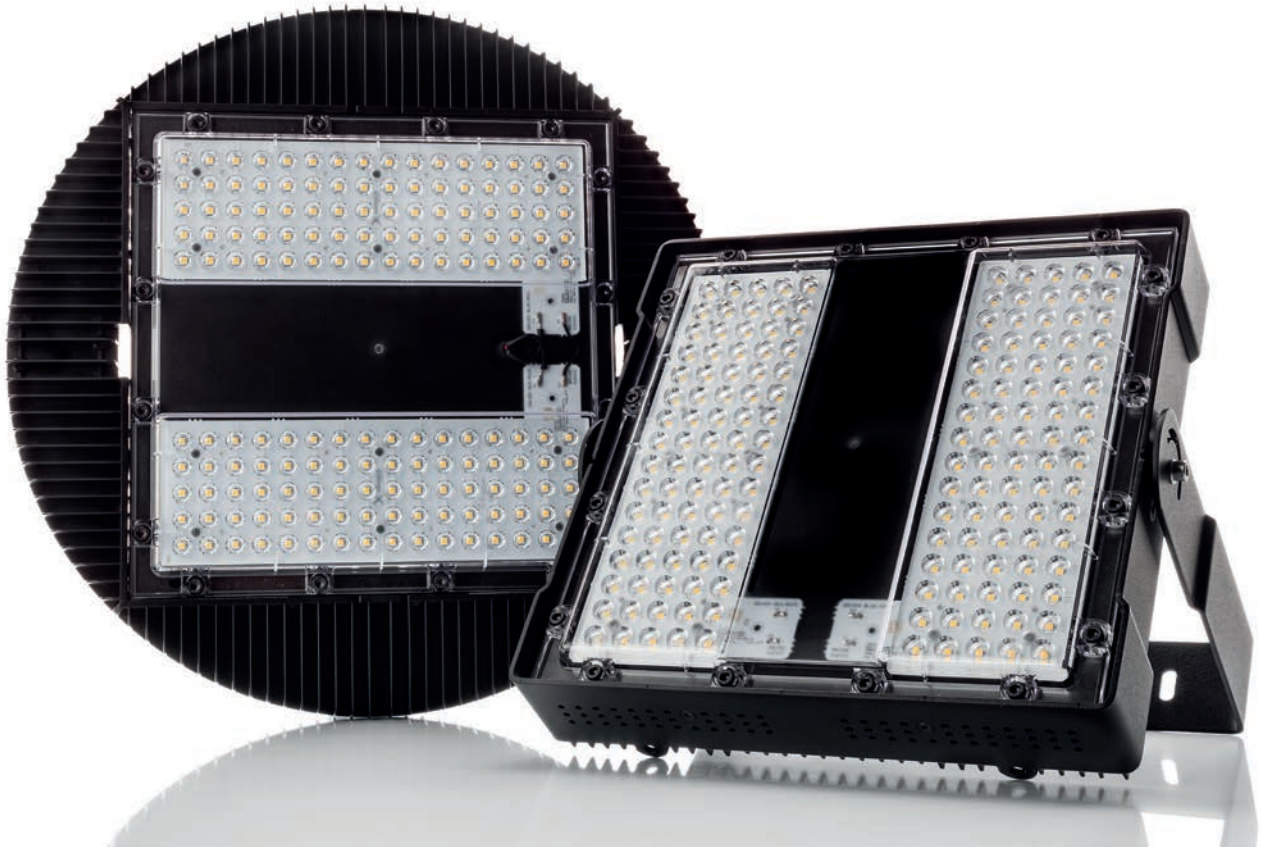

NORMALIT

Blok

BLOK is an industrial luminaire for use in high open spaces. Its different optics optimize the savings in the number of luminaires and the total consumption in the installation.

There are two different shapes available: square (Blok) and round (Blok R).

There are three different optics available:
- Intensive (30º)
- Medium (60º)
- Extensive (90º)

LED CE DALI

Versions

Blok

Blok R

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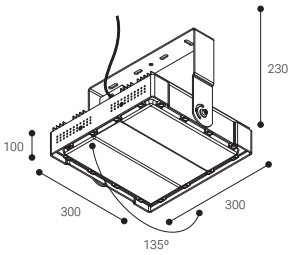
Blok

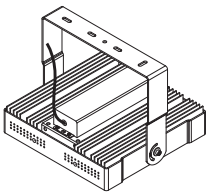
Industrial

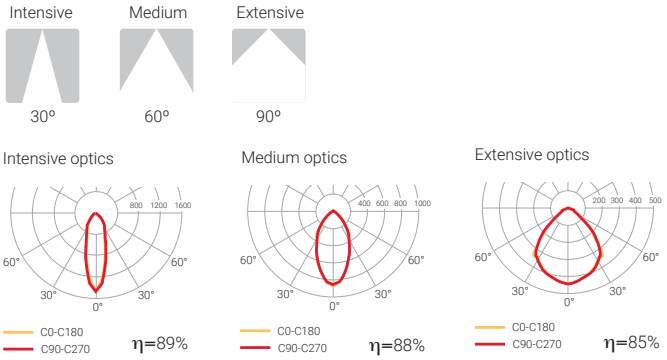
	Blok	Blok R
Installation	Ceiling surface mounted Ceiling suspended mounted	Ceiling suspended mounted
Diffuser	⣿	⣿
Light source	LED	LED
Photobiological safety	1	1
UGR	22	22
CRI	>80	>80
MacAdam ellipse	3	3
Beam angle range	30-90	30-90
Power range (W)	154	154
Consumption range (W)	166	166
Colour temperature (ºK)	5000	5000
Light range	21000	21000
Power factor	0,95	0,95
Efficiency (%)	85-89,4	85-89,4
Expectancy	60000 h L70B10	60000 h L70B10
DALI Option	✓	✓
Continuous function 24h	✓	✓
IP	67	67
Class	I	I

⣿ PMMA lens

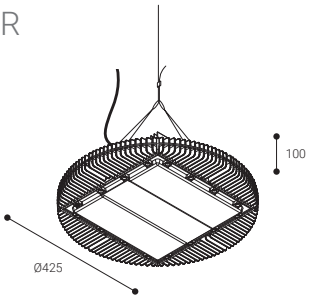
Blok

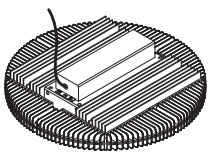


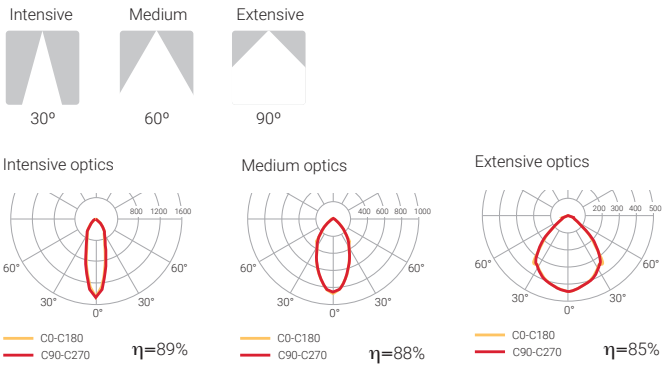




Blok R







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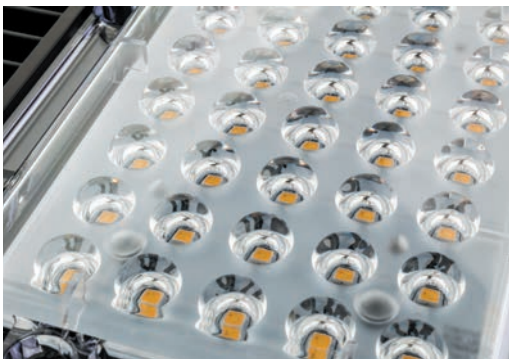
Blok

Industrial



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Photobiological security

The European Norm for photobiological security (EN 62471) establishes a number of criteria to determine if a luminaire entails any risk of eye or skin damages.

This regulation determines four photobiological risk groups:

GROUP OF RISK	
RG0	Risk free
RG1*	Low risk
RG2	Moderate risk
RG3	High risk

* Time under 3 h.

Flickering

Also known as **periodical blinking or the light source of a luminaire** (stroboscopic effect), it is present in alomost all the artificial light sources and is caused by the looping ouf the output current in the LED driver.

This rate below makes it possible to measure the significance of the problem:

- A flickering under 15% prevents dizziness, nausea and headaches.
- Under 8% this flickering is not considered to be harmful (according to IEEESA-1789-2015).

Led expectation

The expectation of useful life of the LED has been defined by an indicator such as the one shown at the right of this page. In the mentioned example, at 60,000h, 90% of the luminaires will have an output equal to or greater than 70% of the nominal value.

60.000 h · L70 B10

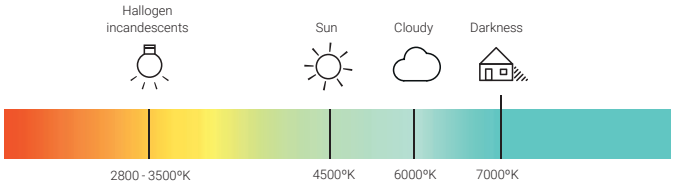
Hours

% of incidences

% of light against the initial value

Colour temperature

The colour emitted by a light source in comparison with the light that a black body heated at a specific temperature would emit. For this reason, this colur temperature is expressed in kelvin, in spite of not reflecting specifically a temperature. There are basically three groups:



Warm light
3500ºK or lower temperature colour.
It is equivalent to the light produced by incandescent and hallogen lamps in the past. It is recommendable for retail stores, fruit shops, bakeries, groceries and butcheries (in these two latests it is even more common a light in a pink tone). For domestic lighting it is recommended to use this type of light in rooms such as the living room or the bedrooms, places for **rest and relax**.

Neutral light
Temperature ranges from 3800ºK and 4500ºK.
According to the experts this is the most natural light. It can be installed in any environment not requiring any special tone that the other two categories could provide.

Cold light
Colour temperatures above 5000ºK.
It is equivalent to the light in a very sunny or cloudy day. One of the advantages of the cold light is the higher lumen output, which creates a perception of higher luminosity. This type of light is recommended for fish markets and jeweleries. For homes, it is very common to find it in kitchens and toilets. However the experts in make up always recommend cold lights as they offer an advantage, which is that they provide a better chromatic range.

Light performance η

It indicates the real flux. Defines the luminic efficiency of a luminaire.

Lower lumen output, better efficiency