

# LED, for lighting with a human feel

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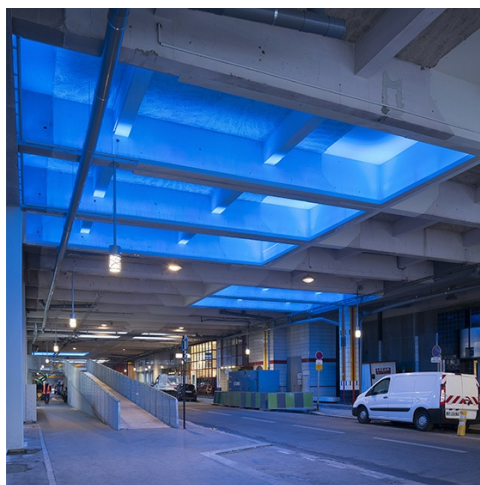


## Lighting to match circadian rhythms

To give this underground space a comfortable feel, Concepto and Evesa designed [chronobiological lighting](#). Over the course of the day, the lighting changes in intensity and colour, to match human needs. The light designers carried out extensive research into this subject.

he goal: to produce lighting to suit the different stages of the day.

In the morning, the concrete slab is illuminated a sky blue to mimic the stimulating light of dawn.



At midday, the lighting becomes turquoise and zen.



In the evening, it becomes a warm white for a soft and relaxing ambiance.

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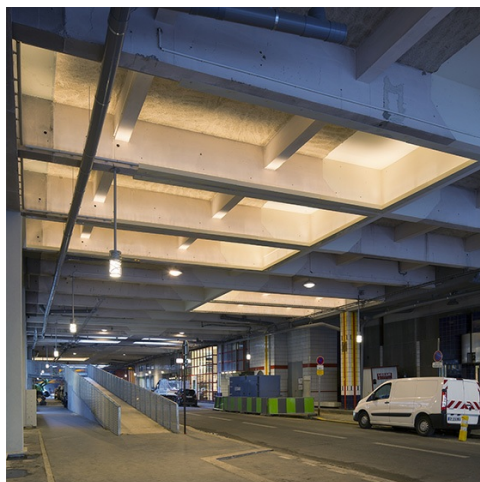
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In this way, the covered road has become a living space matching circadian rhythms.

### Colorimetry, dimensions and tailored specifications

For this ambitious lighting project, LEC supplied custom-made spotlights. Various in-situ tests were carried out to determine the exact colorimetry. To adapt to this chronobiological lighting, the LEC [Ligny-5635](#) projector does not use the traditional RGB, but is fitted with a tailored colorimetric profile: green, blue, and warm white.

The LED linears were manufactured in many different sizes to suit the layout of the concrete structure. To provide the most natural possible integration, the projectors had to be invisible to the naked eye. The equipment was all installed behind aluminium trim, on specially positioned supports, with a very wide beam to guarantee perfect uniformity.



### Variable lighting, to match biological rhythms

The colour transitions are imperceptible. They are programmed by a DMX controller from dawn to midnight. Only an LED spotlight can meet all these requirements. It can emit different ranges of colours from a single small device and its colorimetric rendering is precise. The project meets the energy performance criteria guaranteed by Evesa on all heritage lighting in the City of Paris.

#### Project participants:

CONCEPTO (Light design)  
 Roger Narboni  
 Florence Serre  
 Virginie Carreno



## References

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CITY OF PARIS Roads department (General contractor)

Karine Bonnefoy

EVESA (Assistant to the general contractor)

CITEOS (Installer)

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