LA MONTÉE DU BOULEVARD, LYON, FRANCE

Floating silkworm **cocoons**

By Isabelle Arnaud

The renovation of the ‘Montée du Boulevard’ lighting in Lyon provides an ergonomic solution that combines highly efficient technology with sustainability. The objective of the lighting designers at Côté Lumière was to guide pedestrians along the winding stairway without blocking their views, as well as to highlight the historical ramparts of the city.

An intimate lighting project that puts people first.

Day and night lighting design sketches with lighting beams and directions.

The Montée du Boulevard is the name of the stairway that links the first and the fourth districts of Lyon, beginning in Place Bellevue and going all the way down the steep hill to the Montée Bonafous. To understand better the topology of the place, let's go back to the etymology of the word 'boulevard', which comes from the Dutch *bolwerc*, meaning 'wall of a fortification'. In fact, the staircase descends between the beautiful arrangement of golden stone on the side of Fort Saint-Laurent, one of the city's numerous forts, and two apartment buildings designed for the Canuts (Lyon's famous silk weavers). It drops down through charming areas, eventually becoming a rough, steep path that winds around at the foot of Lyon's fortifications.

Above all, the City of Lyon wanted a project that would meet people's needs. The previous lighting used old luminaires equipped with Sodium High Pressure – SHP – lamps. They were difficult to access, making maintenance operations complicated and expensive. The light quality was poor, and the lamps were inefficient, and energy-hungry. It was obviously time to replace the old installation with sustainable, high-efficiency lighting that could meet pedestrians' requirements.

In order to design the solution, it was necessary to know who used the staircase and what their needs were. It turned out that the staircase was used as a shortcut whatever the weather by people going to work, by children and students going to school and by joggers. Therefore, the lighting concept had to:

- allow pedestrians to see the stairs without any effort at night
- eliminate any risk of dazzle
- offer continuity both in fixtures and effects from top to bottom
- create a global, coherent and soft image that could be seen from a distance.

Aurélien de Fursac and Patrice Echassériaux of lighting designer Côté Lumière, suggested using LED technology and a pole-less luminaire.

Thinking about the best way to deliver good lighting without disturbing the look and feel of a public space, and about how to adjust the lighting to suit the users' needs De Fursac chose FreeStreet, presented by Philips at Light+Building in Frankfurt. With no visible support, the fittings float like the cocoons of the silkworms that formed the basis of so much of Lyon's traditional prosperity.

"Apart from the poetic aspect of such a product, we chose FreeStreet for its pragmatic characteristics that enabled us to do away with the need for poles, which would have been difficult to install in the stairway. For us, both the people's well-being and a friendly lighting environment were equally essential," explained the lighting designer. The system, by eliminating the need for traditional

The lighting resembles silkworm cocoons floating above the stairs.

FreeStreet fittings float like cocoons of silkworms.

streetlight poles, removes visible and physical obstructions at eye level. Instead, a narrow cable strings together a line of slim-line LEDs, which are virtually invisible during the day and at night and appear to float in mid-air.

"The innovative new system consists of 26 LED lamps of 20 W each (against 6 x SHP 250 W before), integrated on a cable that runs the entire length of the passageway," said Aurélien de Fursac. "One of the city's requirements was to have a colour temperature of 3.500 K, which the FreeStreet did not offer, so we asked Philips to adapt the fixture."

Jean Philippe Advinin, business engineer for outdoor lighting at Philips Lighting, explained: "This change was achieved by mixing 3,000 K and 4,000 K LEDs. More difficult was defining the metallic support for the cable while preserving the ramparts, so we worked together with the installer to make all the necessary calculations and tests. The system offers enormous flexibility in terms of how it is installed, so it can be structured in response to the way people move and behave in a public space, rather than people having to adapt to where the lighting is located."

Client
City of Lyon

Lighting design
Aurélien de Fursac,
Patrice Echassériaux,
Côté Lumière

Installer
Eiffage Energie

Luminaires
Philips FreeStreet

Website
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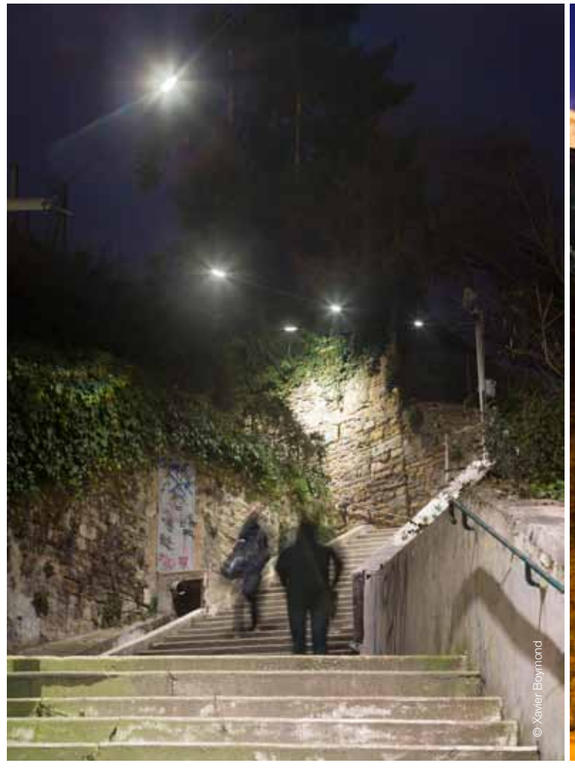

Top: Lighting design concept plan showing the zig-zag positioning of the cable.
Bottom left: One of the city's requirements was to have a colour temperature of 3.500 K.
Bottom right: Good and uniform lighting level is provided on the staircases.