Colasse

CASE STUDY

Horticulture · Vegeled

Plant biology research



Colasse offers an innovative LED solution for horticultural research

With an LED that mimics natural sunlight, for the BIAM phytotrons at CEA Cadarache.

Sunlike	1	UMR 7265
LED with a spectrum very close to natural sunlight	single type of LED, no need to combine several	joint research unit CEA-CNRS-AMU (BIAM)

Context

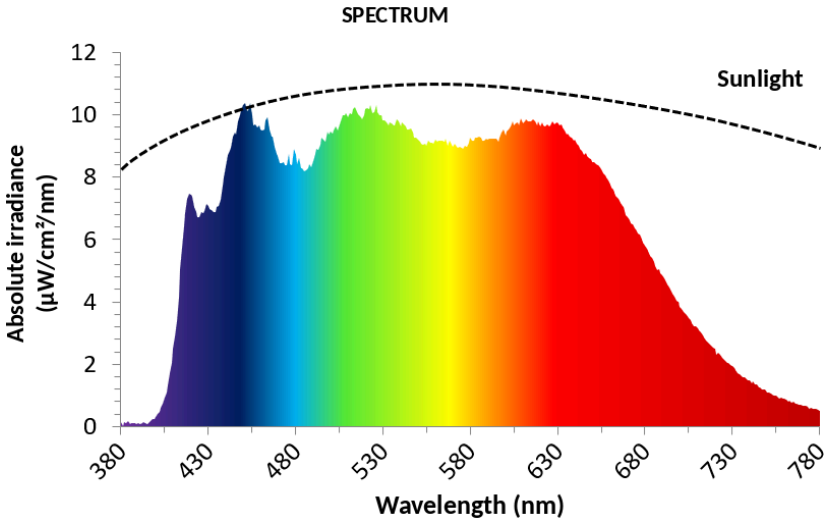
Higher plants and, more generally, photosynthetic organisms need light to live. When exposed to artificial light, whose intensity and spectrum differ from those of the sun, plants implement adaptation processes.

These adaptation strategies are studied in agronomic research and plant biology laboratories, notably at **CEA Cadarache**, within the **Institut de Biosciences et Biotechnologies d'Aix-Marseille (BIAM)**. A key question: how can natural light be reproduced in these controlled environments?

The proposed innovation

Colasse, which has been developing horticultural LED luminaires since 2008, integrated a new technology: the **"Sunlike"** LED, produced in Korea, whose spectrum is very similar to natural sunlight. It was tested during a prior collaboration between the teams of **Seoul Semiconductor** and BIAM.

This innovation allows Colasse to assemble a range of horticultural lighting fixtures dedicated to research, where getting as close as possible to natural lighting conditions is essential. The main advantage: **no need to combine several LEDs** to reproduce the natural light spectrum.





Spectrum of the Sunlike LED compared with sunlight

The BIAM project

At the end of the testing phase, BIAM commissioned Colasse to supply **Sunlike LED ceiling luminaires** for its new **phytotrons**, designed by **Froids et Mesures** (Beaucouzé, France).

Other projects

Colasse also works with **Aix-Marseille University** on projects using Sunlike lighting.

The product keeps evolving: together with its international partners, Colasse is co-developing an optimised surface treatment for the projector glass, to reduce reflection and therefore luminous flux losses.

About BIAM

- Institut de Biosciences et Biotechnologies d'Aix-Marseille.
- Joint research unit CEA-CNRS-Aix-Marseille University (UMR 7265).
- Located notably on the CEA Cadarache site.

Colasse

Understanding your challenges is already securing your project.
Let's talk.

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