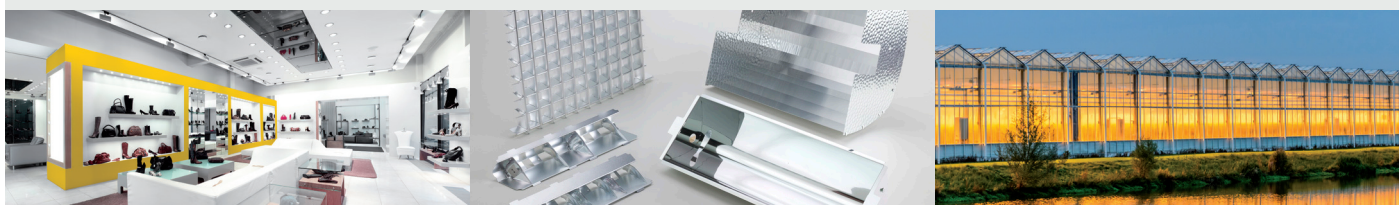


## LIGHTING REFLECTORS



## LIGHTING REFLECTORS

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# The ALMECO service

## Across-the-board partner of the lighting industry

*A truly unique company whose expertise ranges from aluminium manufacturing to reflector design and production.*

The wealth of skills developed in over more than 50 years of experience in aluminium production, the knowledge of the treatments and mechanical, chemical and optical properties of the raw material, the completeness and diversification of production processes and the strong customer orientation has attributed to the ALMECO GROUP's capacity to produce reflectors designed for each client's specific design and light output needs. These characteristics make the Group a unique entity in the lighting industry because it is able to integrate the various phases of

aluminium production with the technologies and know-how to design, engineer and manufacture reflectors.

As a partner of the most important global luminaire brands, the ALMECO GROUP as a single entity can offer a wide range of services depending on the client's needs including a global step-by-step support from the idea to the construction of the reflector, or to intervene with its specialised skills during a certain stage of the development process: design, engineering, prototyping and production.

A UNIQUE PARTNER for your lighting requirements

PERFORMING MATERIAL

vega98®

LIGHT DESIGN

MANUFACTURING

ENGINEERING

PROTOTYPING

ALL IN ONE

# reflect+A<sup>TM</sup>

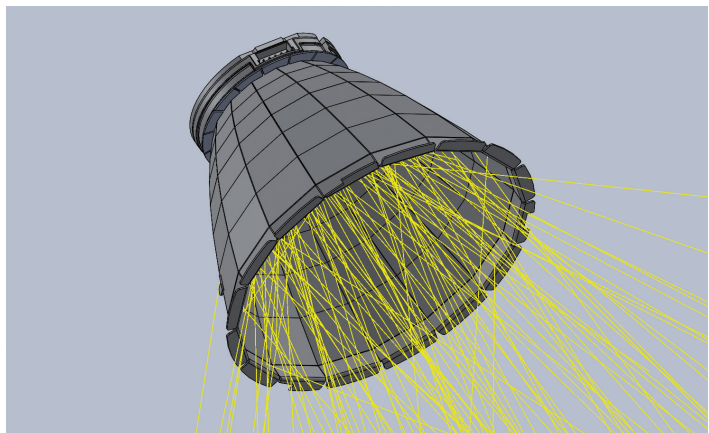
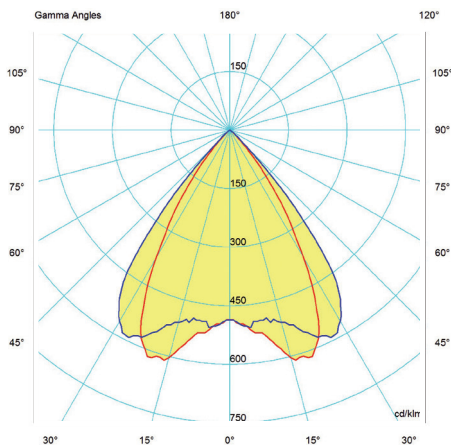
## From the idea to the reflectance: an integrated modular process.

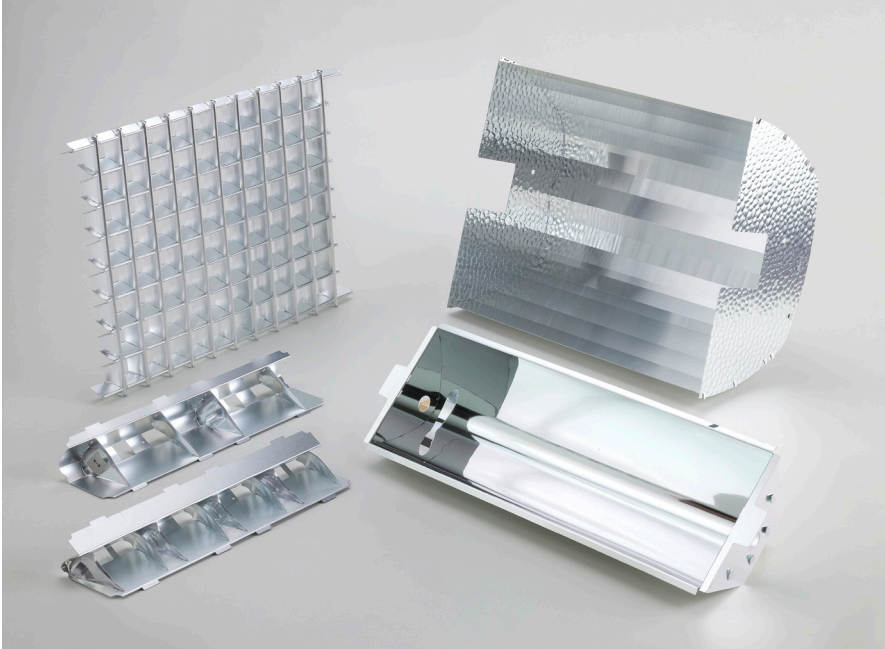
**reflect+A** is the “concept” by which the ALMECO GROUP expresses its ability to design, engineer and create the widest range of reflectors for its clients.

From reflectors for industrial or commercial use to those for offices, urban decor, sports facilities and street lighting. From floodlights and spotlights to retrofit lighting systems, from reflective blinds to daylighting systems and light pipes.

The ALMECO GROUP is the ideal partner for lighting companies, thanks to its ability to follow the customer at every stage, from design to product construction.

Starting from the analysis of customer requests ALMECO GROUP's technical-commercial team defines the reflector's geometric characteristics and selects the most powerful type of reflective surface depending on the type of light source and lighting that it intends on obtaining. A virtual model has been developed that takes project data into account and analyses the photometric behaviour with a high degree of reliability and accuracy.





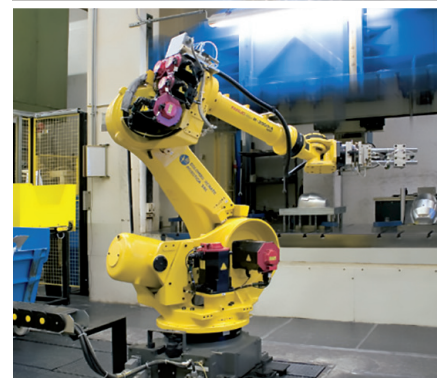
The feasibility project also includes the analysis and the choice of the technology process to be used, depending on the production cost and time, volumes and possible investments.

It then goes on to build a prototype aluminium reflector to carry out the necessary photometric, thermal, structural and obstruction findings before starting the production of the product series.

To meet the requirements of high

efficiency and a market in constant and rapid evolution, the ALMECO GROUP has developed the patented **reflect+A**.

**reflect+A** is a concept for segmented reflectors that are compatible with the LED sources and the holders that are present on the market, available in small batches, very easy to put together and, above all, able to ensure the maximum efficiency and the highest level of customisation.



# reflect+A<sup>TM</sup> evo

## Ready to fit, easy to use

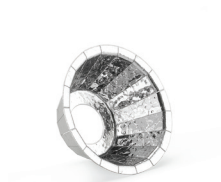
*Different beams,  
1 geometry  
reflectors range*

**reflect+A family** has been extended across a new range of optics for LED modules: reflect+A evo.

The reflectors are all made in high reflective PVD aluminium vegealed98. Each family of evo optics offers to the designers the more requested beams on the market (narrow, medium and wide).

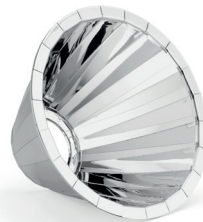
The evolution is in the equation: different beams = 1 geometry

EVO42 SERIES



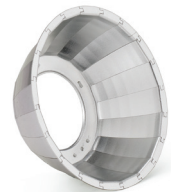
Ø = 45 mm h = 20 mm

EVO106 SERIES

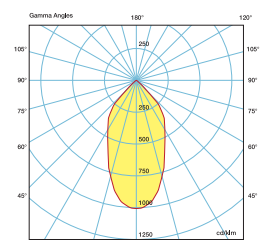
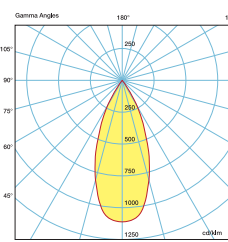
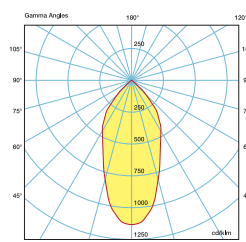
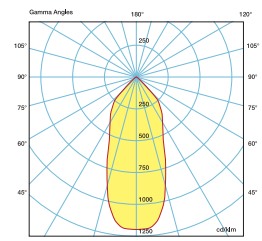
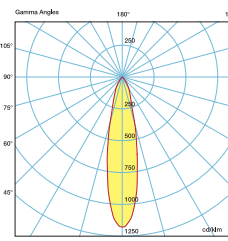
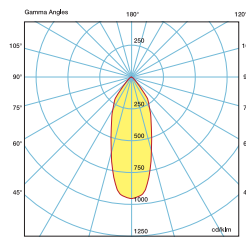
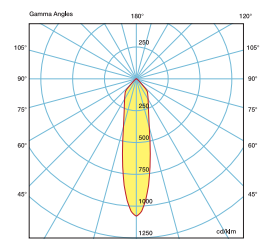
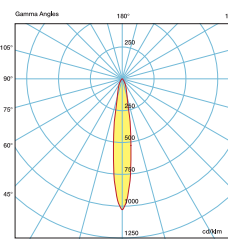
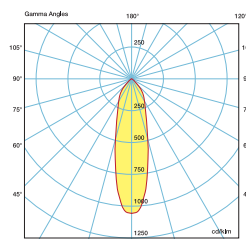


Ø = 120 mm h = 74.5 mm

EVO74 SERIES

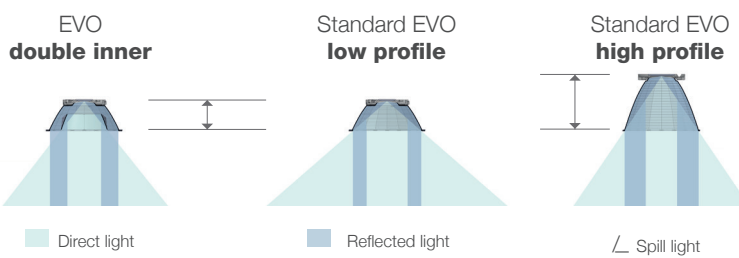


Ø = 82 mm h = 31 mm



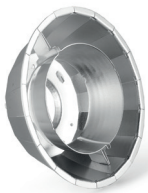


# Get the beam in half space

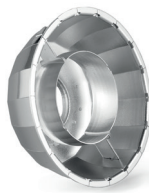


Keep the same outer diameter and spill light in half space (50% height)

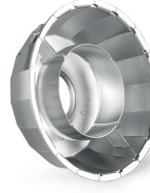
EVO1237-01



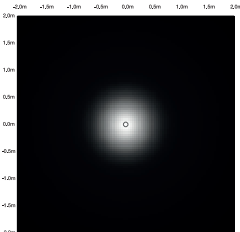
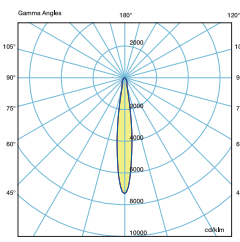
EVO1238-01



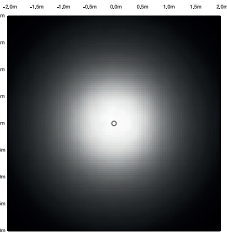
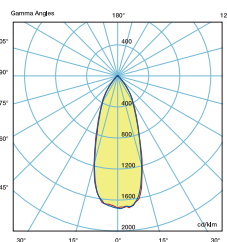
EVO1239-01



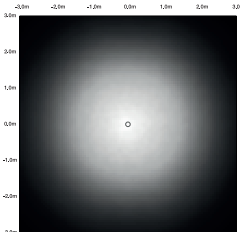
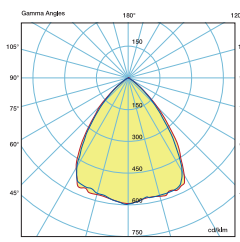
Family dimensions Ø86x29.6 mm



LES 13  
3300 lm  
FWHM = 15°  
FW10 = 29°



LES 13  
3300 lm  
FWHM = 39°  
FW10 = 77°



LES 13  
3300 lm  
FWHM = 80°  
FW10 = 107°





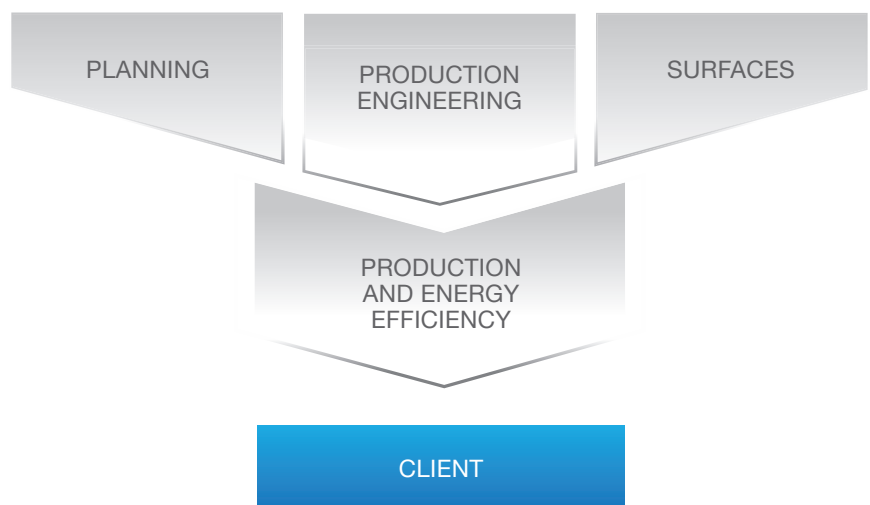
# reflect+A<sup>TM</sup> team

## A revolutionary idea for LED reflectors.

***reflect+A team** is an infinite range of reflectors for LED sources that are “ready to fit, easy to use.”*

The gradual spread of LED sources and their rapid evolutionary development have pushed the ALMECO GROUP to make a catalog of customisable segmented reflectors available to the market, made with **vegaLED98** high reflectance aluminium at

the service of highest energy efficiency. Additionally, the client can choose the ideal set of components from a wide range of defined combinations for a reflector that is tailored made to their specific needs.



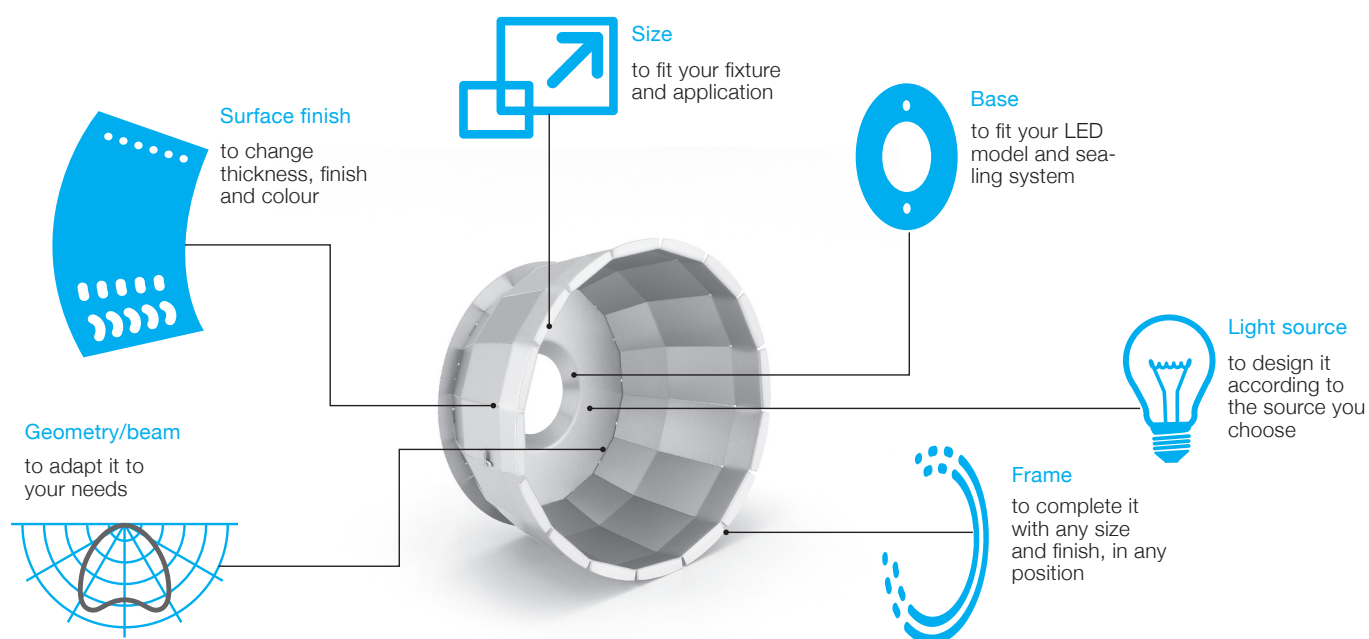
# reflect+A<sup>TM</sup>



Starting from the selected light source, one proceeds to choose the surface base. Then, the finish and the surface colour is selected, along with the type of ring and

the size of the reflector to be obtained. Finally the shape and geometry of the light beam is chosen. Ready-made solutions for different environments, and for the

most popular LED and holders on the market can be found in the catalog of in stock products. Furthermore, customisation is always possible, even in limited batches.



# The Surfaces

## Dedicated materials for each application



### vega95®

#### Optimised for outdoor

The PVD vacuum deposition guarantees a minimum reflection of 95% to this range in aluminum, whose finish varies from glossy to diffusing. To meet the different light distribution requirements, isotropic and anisotropic surfaces are also available.



### vega98®

#### No compromise in aesthetic and reflection

For projects in which energy saving and efficiency come first we recommend the **vega98**, which, thanks to a variety of patterns and finishes from gloss to diffuse, guarantees a lighting reflection of at least 98% with isotropic or anisotropic distribution.



### Pre-anodised aluminium

Pre-anodised aluminium offers an excellent combination of high reflectance and durability in a vast choice of finishes ranging from highly specular surfaces to the most diffuse ones.

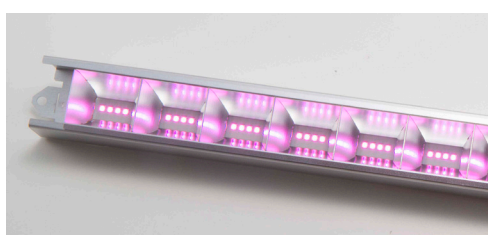
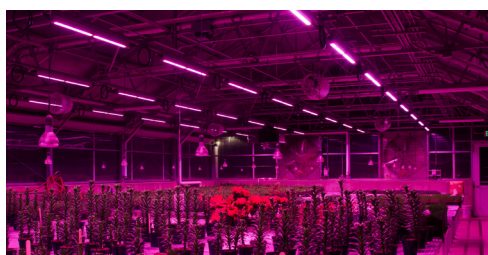
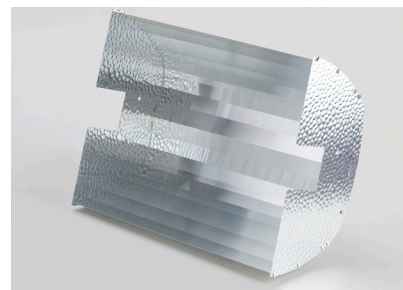
The total reflectance varies from 80% to 87%, depending on the alloy, processing and finishing.

Its application ranges from reflectors for fluorescent sources to louvers and projectors.

## vega<sub>greenN</sub>

### Enhanced efficacy for horticulture

**vega<sub>greenN</sub>** is the improved material for horticultural applications, specifically for HPS (high pressure sodium) lamps. Since the plant absorption is focused in the red range of the visible spectrum and the sodium lamps has the maximum emission in the same range, we increased the total reflection of the **vega95** from orange to red and far red range of the spectrum to enhance the efficiency. The new **vega<sub>greenN</sub>** gives up to more 4% of efficacy if compared to standard 95% TR materials.



## vega<sub>greenLED</sub>

### Optimised solution for LEDs in green houses and horticultural applications

**vega<sub>greenLED</sub>** improves the efficiency of LED reflectors for green-house applications by introducing the high performance of an improved silver-based coating, if compared to the **vega98** standard, which increases the reflectors' resistance in hot-humid environments.

Thanks to the maximum uniformity of reflectance in the entire visible spectrum (380-780 nm), **vega<sub>greenLED</sub>** is designed for all LED sources and for crops requiring different light wavelengths.

## vega<sup>UV</sup>

### Surfaces for curing, medical and sanitisation application

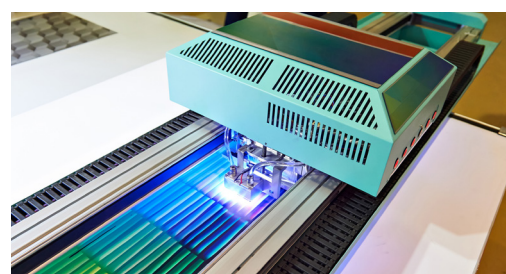
Three different types of **vega<sup>UV</sup>** surfaces, have been developed. These surfaces offer an improved performance compared to anodised materials or other typical reflective surfaces.

**vega<sup>UV</sup>** is widely used in curing processes, where the energetic UV radiation is used to initiate photochemical reactions.

**vega<sup>UV-A</sup>** is used for tanning lamps and forensic applications. Insect traps also use these wavelengths.

**vega<sup>UV-B</sup>** is used in the medical field.

**vega<sup>UV-C</sup>** is used in the field of sterilization.





## vegaLED

### The highest reflection for LED sources

**vegaLED** represents a real contribution to improving the performance of the LED luminaires. Thanks to its extremely high total reflectance values (> 98%), it creates a more controlled distribution of light and improves the reflectors' efficiency. In particular, **vegaLED98** guarantees 15% more light for each reflection than metallised plastic and ensures a uniform reflectance of the entire visible spectrum.

The PVD aluminium **vegaLED** is available in a wide range of surface finishes and therefore offers infinite combinations depending on the design of the reflector and the type of lighting.



## vega form Evolution

### Combine high reflection and formability

Made with pre-anodised aluminium coated with PVD process and subjected to a particular process which gives the material its specific ductility, **vega form Evolution** retains high values of total reflectance even after drawing.

These values are far superior to those of the aluminium subjected to static anodization, providing for particularly performing reflectors.

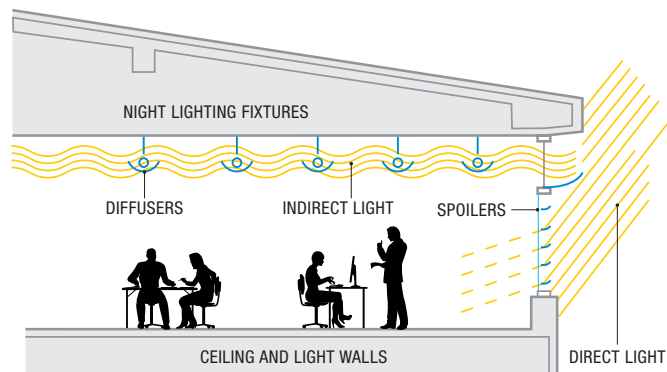
PVD aluminium vegaform evolution is particularly suitable for street lighting applications and reflectors for specific indoor environments.



## vega daylighting

### Your daylighting surfaces

**vega<sub>sp</sub>** is a special high reflectance PVD aluminium used for systems that control natural light in closed environments to improve visual and thermal comfort. These shiny surfaces are characterized above all by a very high total reflectance, equal to 98.5% of the visible spectrum, which increases the efficiency of the system. They also have very low losses due to multiple reflections, an aspect that can be particularly appreciated in light pipes. Moreover, they are characterized by a high uniformity of the visible spectrum and an excellent colour rendering, which gives better visual comfort.





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