

# ADVANTAGES

## Compact LED fixture

To avoid shade in the greenhouse the LED fixture is as compact as possible. Even though it produces a high photon flux, it's smaller compared to a HPS lamp or other LED fixtures and natural daylight is optimally used. The custom designed lenses with a wide or narrow beam angle enables you to **mount the LED fixtures on the trusses**. No need to install C-profiles that also blocks sunlight.

## Glass cover

Glass has by far proven to be the best solution to protect the LEDs. The LED fixture uses special glass with **extremely high transmission**. An **antireflection coating** is applied to both sides of the glass to eliminate any light loss due to reflection and absorption. Glass is **very durable** and will hardly age compared to PVC. It is not sensitive to chemicals and can easily be rinsed with water.

## Ingress Protection

The LED fixture is suitable for wet locations, and the LED module and all electronics have an **IP67 rating**.

## High efficiency LEDs

Oreon is continuously improving the LED package and lenses specifically for the customers needs. Thanks to the cooperation with world-class LED producers, we are able to always provide **the best LEDs with the highest efficiency**.

## Robust design

The LED fixture is very robust and specially designed for use in greenhouses. Aluminium injection molded parts, **thick-walled anodized extruded** parts and powder coated corrosion protection ensures the housing will last as long as the LEDs.

## Water-cooling

LEDs need to be cooled. Therefore heat management is very important. The water-cooling efficiently transports heat away from the LED junction. The warm water **can be re-used in several ways**.

## Stable climate

Due to the active water-cooling, the heat from the LED fixtures is taken out of the greenhouse. They do not produce excessive heat, so there is no need to ventilate during lighting. This **keeps the CO<sub>2</sub> inside**, which improves growth, reduces cooling costs and contributes to a **stable greenhouse climate**.

## Easy to clean

Because the LED fixtures are cooled with water **no cooling fans** are needed and dirt has no chance to accumulate.

## Longer lifespan

A water cooled LED fixture keeps more than 90% of its light output in at least 95% of the fixtures after 50,000 hours: **L90 B05 - 50,000h**.

## Warranty

Because of the design, water-cooling and Ingress Protection the LED fixture is very robust and well protected. When used within its limits, Oreon LED fixtures have a full warranty of **5 years** or **25,000 hours**.

## Perfect spectrum

The LED fixture makes exactly the required (most effective) spectrum based on the customers need. This leads to **higher yields** and **better control over crop quality**. Based on our experience and extensive testing we can recommend an optimal light regime.

## Light uniformity

Specially designed optics promote light uniformity. Therefore the trusses are used to hang the LED fixtures. Also a **hybrid** combination (HPS/LED) will result in a perfect distribution of light.

## Energy efficiency

The LED fixture is ~75% more efficient than traditional HPS lighting. This gives a grower the opportunity to either **save energy** or to significantly **increase the light output**.

