

Ridder Light Restriction (RLR) Screens: Keeping your light, energy and optimal climate inside your greenhouse

Supplemental lighting allows growers to have full control over light to their crops. However, it can create additional challenges for growers – both in maintaining an optimal climate for their crops, and also in not allowing their supplemental illuminating light to exit the greenhouse as light pollution. Ridder's light restriction screens are a key tool for growers to maintain control over these concerns.

99,5% light reduction

Single layer Ridder light restriction (RLR) screens block 99.5% of light – not from reaching the crop, but from leaving the greenhouse. As growers increasingly turn to supplement lighting (LED, HPS, HID) in greenhouse production of both vegetable and ornamental crops, the need arises to prevent the artificial light from leaving the greenhouse at night. This keeps the neighbors happy, avoids negatively impacting crops in nearby greenhouses, and prevents any environmental damage. Also growers stay in compliance with any local regulations limiting greenhouse light emissions. In addition, RLR screens have high energy saving and high humidity transport capabilities, making it an essential tool to help growers manage their greenhouses' climate.

Knitted Structure for humidity control

The innovative structure of RLR screens allows for humidity transport through them. The screen is

made of foil strips knitted together with yarn that moves moisture through it. This allows the crop to remain active with the lights on and the screen deployed, without the humidity in the greenhouse going too high.

Durability by design

Ridder's RLR screen fabrics are a unique combination of PE (polyethylene) foil strips and polyester yarn. PE is thicker than polyester. This provides an advantage in higher energy savings for the screen and also thicker strips that are less prone to damage. This robust construction allows the screen to be easier to handle during installation with less risk of twisting of the foil strips. This in turn increases the longevity of the screen.



Ridder Light Restriction (RLR) Screens

Energy savings is Vital

One specific RLR screen - RLR 99 FR W - doubles as a highly efficient energy saving screen. This is vitally important for growers who are cultivating crops year-round. Overall, it provides 51% energy savings from its construction with PE. This makes this screen eligible for applicable energy efficiency subsidies or rebates in certain US states and Canadian provinces. Connect with your Ridder advisor to learn more.

High reflection and fire safety

RLR 99 FR W is a Ridder light restriction screen that is white on both sides and highly reflective. If deployed during daylight hours, it will reflect sunlight and help lessen heat buildup underneath it. More importantly, the underside will reflect the light from the supplemental lamps back towards the crop, intensifying their brightness. This screen is also made of flame retardant materials, vital for greenhouse safety, especially when supplemental lamps are in use.

Façade Blackout for Complete Light Restriction

For complete light restriction, it is also essential to darken the greenhouse facades and sides. For this, Ridder offers the RBO 100 R FR W roll-up screen. It is easy to install thanks to its flexible structure and lightblocking properties. It is white in color and will also reflect light from the lamps back towards the crop.

In Conclusion: Light Restriction and Balanced Climate

Ridder's light restriction screens allow growers to prevent light emissions from using their supplemental lamps for light. In addition, these screens helps growers to effectively manage their climate in the greenhouse and provide needed energy savings. Altogether, the growers are able

to maintain a stable and sustainable growing climate throughout the year.

Bonus: Use in Ridder Variable Screening Systems

The RLR screens can also be installed, in a double screen installation, paired with light diffusion screen that provides high hortiscatter. The two are then used for variable screening, in which the screens are incrementally deployed to vary the shade level to the crop below. The effect is similar to a dimmer switch on your household lighting. This allows growers to have full control over the amount of light reaching their greenhouse crops. More information on this topic can be found in Ridder's Variable Screening Knowledge Paper, or can be obtained by reaching out a Ridder advisor.

Looking to the Future

The future is looking bright - especially in the greenhouse under a RLR screen. In greenhouse trials now is the aluminum topped RLR 99 FR AW. This highly advanced screen offers potentially much higher energy savings (up to 70%) over the RLR 99 FR W. Further, in a double screen trial with RES 10+ FR, early results show that even further energy savings is possible from this combination.