

ONCE® Products Designed for Layers, Breeders and Pullets

AgriShift® TLL for Layers

The AgriShift® TLL in-system tube light provides producers with lighting that meets the needs of today's modern poultry houses. Made with Dim-to-Red® technology, it provides a more uniform and continuous light pattern, leaving birds noticeably less stressed and calmer. Available in 24" 1 or 2 tube assemblies, with various cord lengths.

AgriShift® JLL for Layers and Breeders

The AgriShift® JLL 8W LED makes improving the production of your bird easy by providing natural daylight simulation with its species-specific technology. There are two formats—the Tall version is best suited for enrichable and traditional houses, while JLL Short is best suited for aviary and cage-free applications.

AgriShift® MLM-R for Layers and Breeders

The AgriShift® MLM-R makes it easy to improve production and animal welfare by providing species-specific daylight simulation. The red spectrum used has been shown to decrease time to peak production by stimulating the release of two reproduction regulating hormones essential for sexual maturation and daily egg laying.

AgriShift® EL for Layers

The AgriShift® EL is an easy-to-install low-profile LED designed with species-specific technology to benefit the vision of your animal. The deep red saturated output provides natural daylight simulation throughout inspection aisles on standard, enriched or aviary systems.

AgriShift® MLM-G for Pullets

The AgriShift® MLM-G provides the most advanced agricultural lighting solution on the market today. Designed to replicate a bird's natural habitat, the AgriShift® MLM-G illuminates a natural jungle green light spectrum that meets bird developmental needs at all stages of growth, while improving animal welfare.

AgriShift® MLM-B for Pullets

The AgriShift® MLM-B 10W fixture with Dim-to-Blue® technology is an animal welfare-friendly poultry lighting solution made with an optimized color spectrum with full dimming capability, meeting the birds' developmental needs at every stage of growth.

AgriShift® TLP for Pullets

The AgriShift® TLP in-system tube light is designed specifically for today's deeper and more spacious pullet systems. Designed with Junglite Green™ technology and a Built For Your Barn® structure, the AgriShift® TLP enhances animal welfare and improves bird uniformity. Available in various cord lengths.

AgriShift® JLP for Pullets

The AgriShift® JLP provides an optimized color spectrum with full dimming capability, essential for healthy bird development during early growth stages. Designed with Dim-to-Blue® technology, it enhances animal welfare and provides uniform coverage throughout any facility.

Additional Essentials and Accessories

AgriShift® G Controller

The AgriShift® G Controller is a slave dimmer that provides full potential to any ONCE® AC lighting fixture. It offers smooth dimming solutions that can easily be controlled by two separate 0-10 VDC control signals and several advanced features, adding flexibility while addressing the complex modern agriculture facilities.

AgriShift® Master Controller and Slave Dimmer (not pictured)

The integrated AgriShift® Master Controller and Slave Dimmer provide full control to both intensity and spectral output to any ONCE® lighting fixture. They offer smooth dimming solutions that can easily be controlled manually with the front panel controls or remotely.

BioShift® Pass-Through UV-C Chamber - Small and Large

The BioShift® Pass-Through UV-C Chamber is an Eco-Friendly tool to use alongside established biosecurity protocols. It is designed to fix key vulnerabilities within agriculture facilities, while enhancing protocols by killing viruses and other pathogens in a recommended time of 5 minutes.

Junction Box (not pictured individually)

This Junction Box is designed to withstand routine cleanings and resist corrosion in wet, damp and dry locations. It is made with a gray PVC and comes with four (4) sealed threaded hubs (3/4" NPT) and 1 open hub (3/4" NPT).



once®



Animal-Centric Lighting Systems for Layers, Breeders and Pullets

- Optimizes production
- Improves animal welfare
- Uses light as a management tool
- Promotes calmer birds

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The Science

Light, a key environmental factor and essential to sustain life, is why raising animals in indoor facilities requires specialized lighting programs to achieve optimal results. ONCE® animal-centric lighting systems go beyond traditional LED technologies by offering a lighting solution designed to influence desirable physiological and biological processes in animals. With AgriShift® technology and a production dimmer program, light intensity, photoperiod and color spectrum can be adjusted for better performance, naturally resulting in increased production and enhanced animal welfare. However, artificial lighting programs must be applied with a thorough understanding of the animal's response to light and the significance of the different characteristics of light.

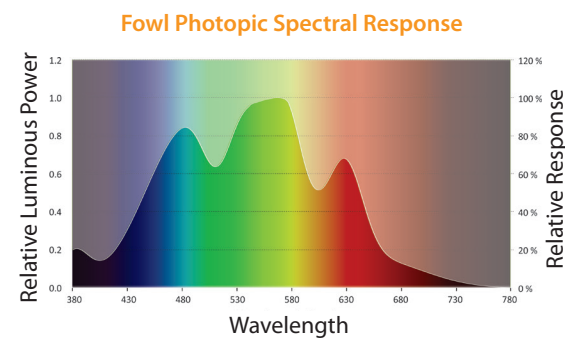
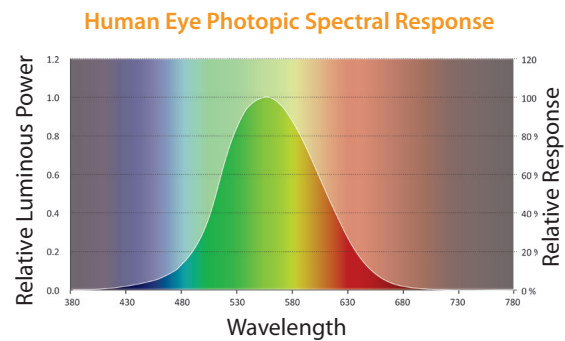
The Importance of Light Color in Poultry Vision

ONCE® layer and breeder specific lighting systems are designed with a deep red saturated light with added blue and green spectrum (for poultry vision). The red spectrum used has been shown to stimulate a bird's hypothalamic and pineal oscillators, helping to maintain circadian rhythms and promoting sexual maturity. It also stimulates the release of two reproduction regulating hormones, essential for sexual maturation and daily egg production.

ONCE® pullet-specific lighting solutions use an enhanced blue/green spectrum with added red content for healthy bird development. The spectrums used stimulate a birds' highest color sensitivity, encouraging growth during the early stages by enhancing proliferation of skeletal muscle satellite cells, while repairing and building muscle. Green light can be helpful in the growth and sexual development of poultry during the early growth stages, while blue light has been shown to elevate plasma androgens, allowing the bird to put on more muscle mass at later stages of development. Studies have also shown that blue light can calm birds and positively affect glucose and triglyceride levels.

How Poultry Sees

The graphs below show the typical color sensitivity of a human eye compared to the sensitivity of a typical chicken eye. In the Human Eye Photopic Spectrum (left), the smooth white line and large hill in the center of the curve shows that humans see green and yellow colors better than they see blue and red. In the Fowl Photopic Spectrum you can see there are 4 (four) distinct color peaks. The highest sensitivities are to green, blue and red light but you can see another one in the UV spectrum (far left bump on the curve).



The Technology



Dim-to-Red® technology for layers and breeders provides natural dawn and dusk simulation, reducing stress on your animals.



Junglite Green™ technology for pullets offers an enhanced jungle green spectrum, replicating a birds' natural habitat and promoting growth.



Dim-to-Blue® technology for pullets encourages uniform growth by offering healthy bird development during every growth stage.



AgriShift® lighting systems "shift" spectrum and intensity, meeting the individual needs of your animals¹.



A Built For Your Barn® design uses techniques and materials that withstand harsh barn environment for years to come.

Benefits of ONCE® Lighting Systems

Animal Welfare

Reducing stress improves animal livability and performance. Sunrise and sunset simulation eliminates the stress inputs of switching lights on and off abruptly, lowering mortality and supporting a bird's immune response. Research and on-farm testing using AgriShift® lighting has shown immediate changes in bird behavior, increased performance and lower overall stress indicators.

ONCE® lighting programs and systems are directed toward minimizing extreme changes in lighting. Abrupt changes are shown to excite flight responses, increasing cortisol levels and inhibit melatonin secretion—both of which have a negative effect on the well-being of the bird. By offering LED fixtures that present uniform coverage and a consistent light, as well as the ability to provide sunset and sunrise functionality, corticosterone levels and other stress markers are minimized.

For more information, download *The Science of Poultry Lighting white paper* on our website, www.once.group.

Productivity Enhancement

With Dim-to-Red® AgriShift® technology, it is easy to provide natural daylight simulation for improved productivity. The red spectrum used has been shown to decrease time to peak production by stimulating the release of two reproduction regulating hormones essential for sexual maturation and daily egg laying. It is also the only spectrum which stimulates a bird's hypothalamic and pineal oscillators, helping maintain circadian rhythms and promoting sexual maturity.

Energy Savings

AgriShift® LED fixtures are more energy efficient than fluorescent and incandescent lighting. Switching from incandescent lighting to a LED with dimming can save from 75 to 85% of your lighting electricity costs. Switching from compact fluorescent lamps (CFLs) to ONCE® LED lighting products saves from 45 to 50%.

Newly Released Products and Accessories

AgriShift® TL3

The AgriShift® TL3 in-system tube light provides poultry producers with a lighting solution designed to move birds horizontally throughout the system.

AgriShift® STC/STA

The AgriShift® STC/STA is a stringer connector made to fit any ONCE® ML lighting fixture. The various drop cord lengths allow for easy and cost efficient installation.

AgriShift® TLUS

The AgriShift® TLUS under-system tube light, runs perpendicular in-system, provides layer producers a lighting solution that is designed to brighten underneath cages, which significantly reduces floor eggs. *Available in stringer format.*

AgriShift® TLIS

The AgriShift® TLIS tube light runs perpendicular in-system, providing poultry producers with a lighting solution that has a more uniform and continuous light pattern free of dark spots and shadows. *Available in stringer format.*

