

AgriShift® PL

12 Watt



“The birds in my first brooder test barn with AgriShift® Lamps found their feed and water faster. As a result, starve outs were lower.”

Chris Holliday, Missouri Farmer

AC LED POULTRY LIGHTING

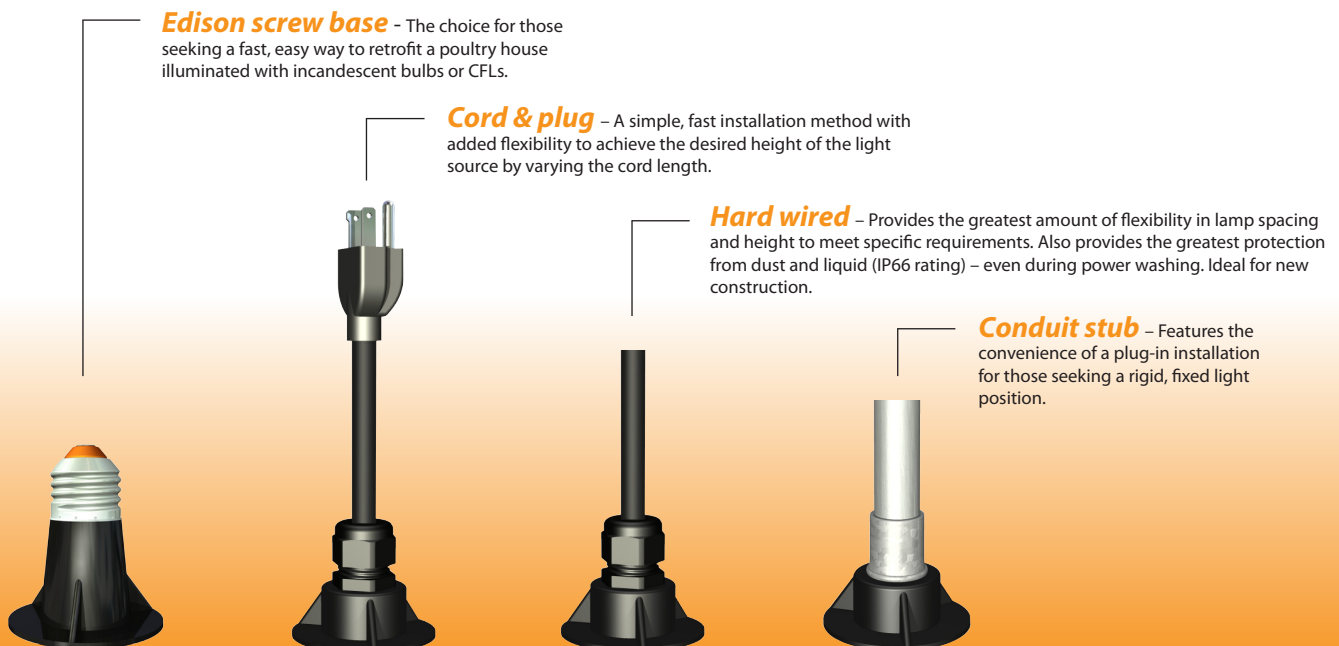
Lighting designed specifically for poultry applications

AgriShift® PL poultry lights were created to help poultry operators significantly reduce electricity costs, decrease labor demands from frequent replacement of traditional lights, and increase flock performance. These lights have no need for ballasts or transformers and boast a power factor greater than 0.98, total harmonic distortion below 20%, a reduction in power lost as heat by 30%, and the virtual elimination of electromagnetic interference (EMI). AgriShift poultry lights are more energy efficient than fluorescent, incandescent, and HID counterparts – an important factor considering electricity accounts for such a large percentage of producers' operating costs. The savings are significant enough to provide a return on investment, especially when considering the availability of energy efficiency rebates.

How lighting can enhance flock performance

This is the first line of poultry lights with proprietary ONCE™ AC LED conditioning and color temperature shift control technologies to take advantage of the spectral response of domestic fowl to light. The combination of these technologies, along with innovative lamp designs and customized LED packages make it possible to achieve smooth dimming and color modulation in the same step. Each model produces light output tailored for a specific poultry application.

Electrical connection choices



AgriShift® PL lighting advantages

- Illumination comparable to a 100 W incandescent
- Power input 0-12 watts (dimnable)
- Installation choices: screw base, cord & plug, hard wired, conduit stub
- Heavy duty design; liquid & dust resistant
- Energy efficiency rebates available
- Rated for 50,000 hours: 4 x longer than CFLs and 30 x longer than incandescent
- No negative effects of on/off cycles
- No audible buzz, negligible EMI
- Contains no hazardous, hard-to-dispose of, mercury

Understanding light

It is important to understand that white light is a wave made up of a combination of multiple wavelengths on the electromagnetic spectrum. Different wavelengths indicate colors in the visible spectrum. There is actually no white, or natural light wavelength. Natural white light is merely a combination of different color wavelengths. Think of how light traveling through a prism turns into visible monochromatic colors of light. Now mentally reverse the process where the colors combine and turn into visible light where we don't discern the individual colors – even though they exist and play a role in what we see and how we feel or act.

Differences between spectral sensitivity of poultry and humans

The first graph shows the photopic (day vision) relative spectral sensitivity of the human eye compared to that of domestic fowl. Both show a similar sensitivity peak in the green spectrum. Poultry, however, are considerably more sensitive to red and blue light – and can see UV light humans do not. This reveals that perceived light intensity is considerably higher for poultry.

A look at the light from AgriShift® PL lamps

The second graph shows how the AgriShift PLWB5000 closely mimics the color sensitivity of poultry (fluorescent, incandescent, and HID lamps do not). AgriShift PL lights are predominately within poultry's peak spectral sensitivity range. The luminous efficacy (lumens per watt) is poultry optimized and results in maximum perceived light at minimum power. For that reason, blue can be dimmed low to save energy and will provide adequate light for broilers. As important as energy savings, light color affects biological function. Bluish light, for example, increases weight in broilers by stimulating testosterone secretion and myofiber growth. AgriShift lamps are made for poultry, not human, vision. That's why their light output looks atypical, even unusual, compared to what we are accustomed to seeing from traditional lamps.

Application color options

Broiler & Turkey

- Full spectrum natural white dimmed to bluish hue

Breeder & Layer

- AgriShift® PLE recommended

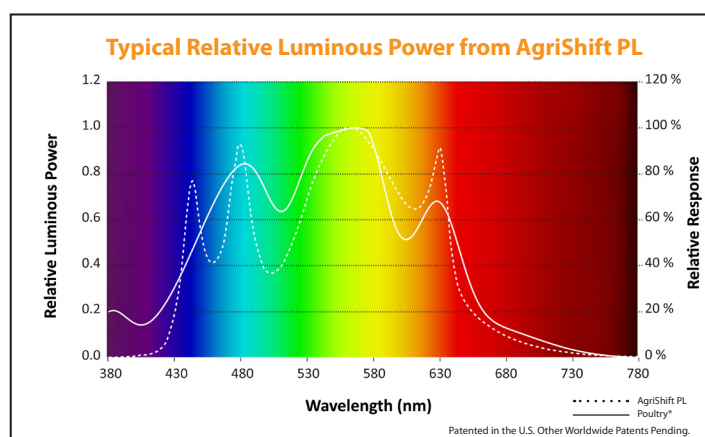
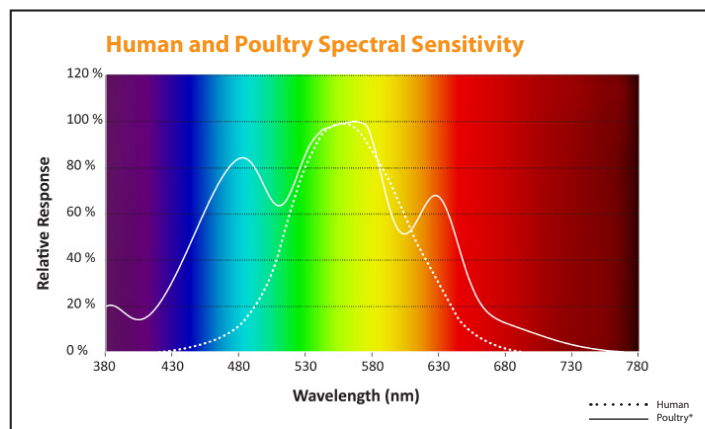
Customized Applications

- Other colors and color dimming combinations may be available on request

For more information, download **The Science of Poultry Lighting** document at www.onceinnovations.com



Gasket-sealed lens and corrosion-resistant recyclable aluminum shade ensures superior illumination and lasting performance in harsh poultry barn conditions.



* Data source: "Spectral sensitivity of the domestic fowl (*Gallus g. domesticus*)" N. B. PRESCOTT AND C. M. (1999)

Shade Options

Narrow: 90-degree beam angle for install height above 14 feet



Medium: 120-degree beam angle for install height of 12 to 14 feet



Wide: 160-degree beam angle for install height of 8 to 12 feet

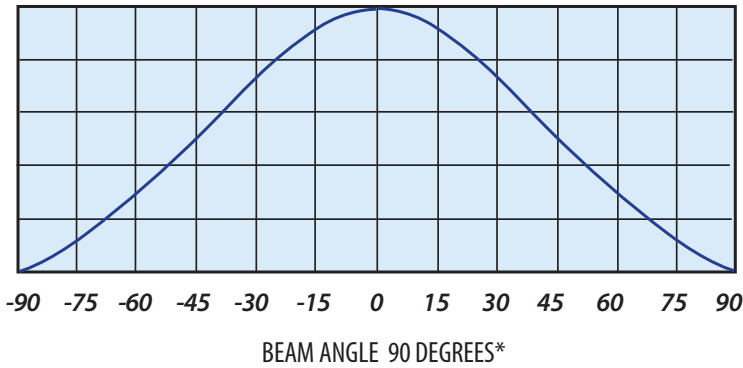


(Shade option recommendations assume spacing of lights between 10 and 14 feet, but may also vary depending on width between rows. Your ONCE representative will assist in making the best choice for your barn.)

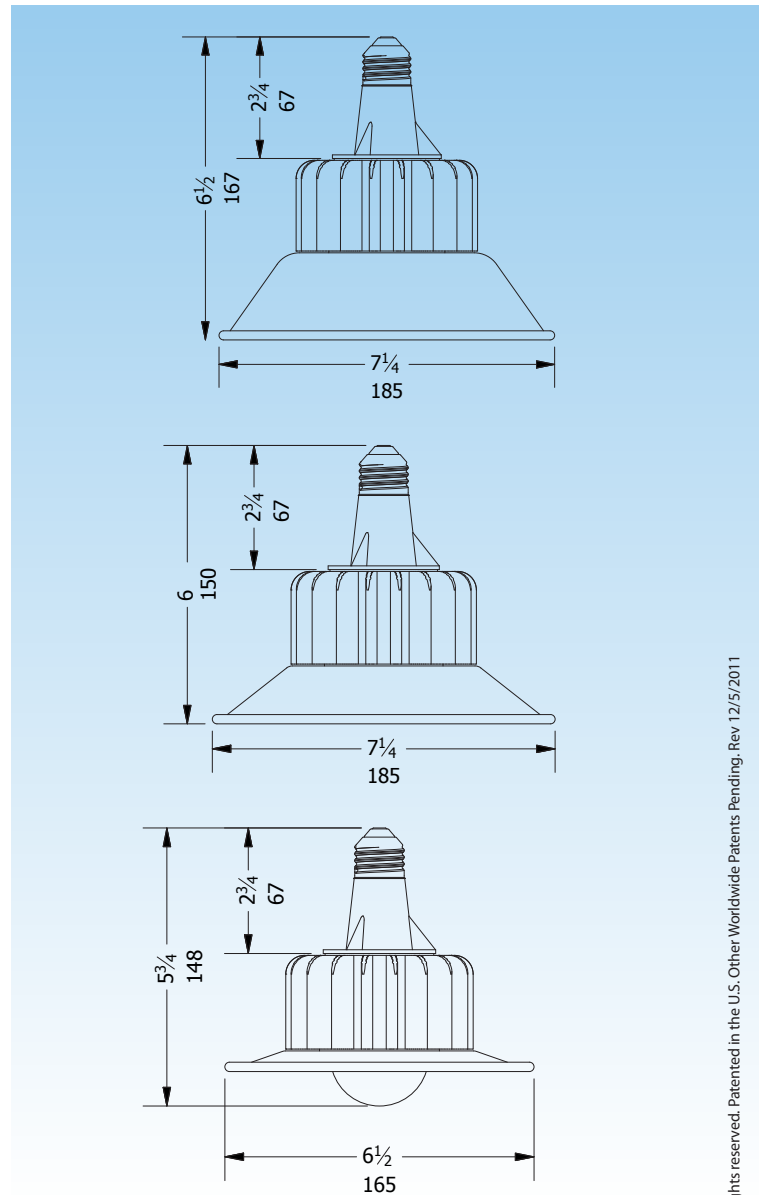
Technical and Ordering Specifications

Light Output Equivalence	100 W Incandescent (output)
Voltage	120 VAC or 230 VAC
Frequency	60 Hz/50Hz
Nominal Power	12W (at full intensity)
Spectral Output (Broiler & Turkey)	Full spectrum white dimmable to bluish hue
Power Factor	>.97
Total Harmonic Distortion	<20%
Beam Angle	90° / 120° / 160°
Luminous Flux	840 lm adjusted to poultry spectral sensitivity (530 lm human photopic)
Operating Temperature	-20°C to 45°C
Dimmability Range	100% to 2%
Dimmer Type	Phase Modulation or Amplitude Control
Ratings	IP 66 (hard wired electrical connection) RoHS Fully Compliant
Safety	ETL Listed/Conforms to UL/ANSI STD/Cert. to CSA STD
Rated Life	50,000 Hours

PRELIMINARY SPECIFICATIONS



*A 90° beam angle is achieved with the Narrow Shade. 120° and 160° beam angles can be achieved with the Medium and Wide Shades respectively.



Specify details of your order based on the following: **AGRISHIFT PL - AAAA - BB - CCC - 012 - EEE**

Color (AAAA)

Broiler & Turkey
FSWB Full Spectrum dimmed to bluish hue
Customized Applications may be available
CSTM Customer Specified

Body Type (BB)

ES Edison Screw Base
CP Cord & Plug
HW Hard Wired
CS Conduit Stub

Shade Beam Angle (CCC)

160 Wide Shade
120 Medium Shade
090 Narrow Shade

Input Voltage (EEE)

120 120 VAC at 60 Hz
230 230 VAC at 50 Hz

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