


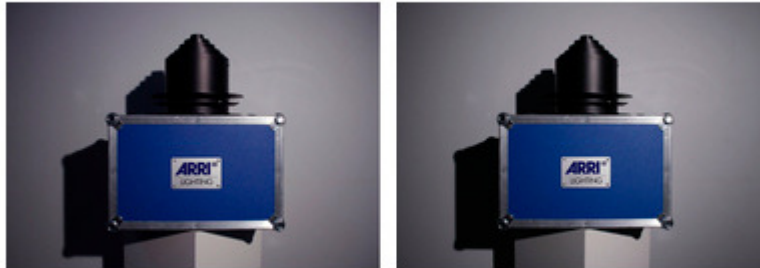
ARRI 



L SERIES

At NAB in 2011 Arri introduced the first of their L-Series LED Fresnels: the L7-D, L7-T and L7-C. All three models share the same basic housing and the same 7" Fresnel lens, and all have output comparable in intensity and quality to a conventional 1K Fresnel.

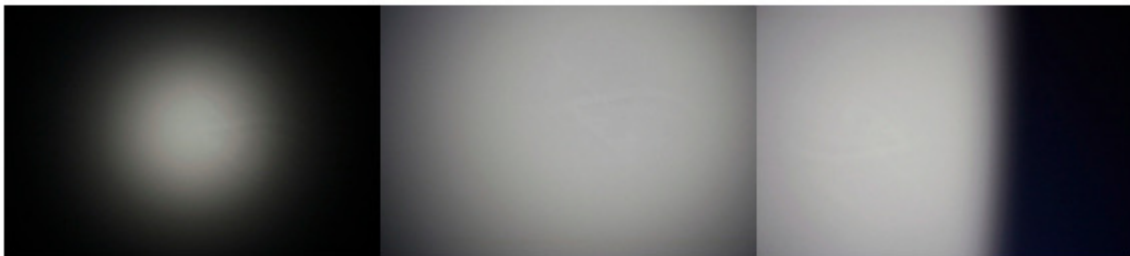
Shadow Rendering Comparison



ARRI L-Series Fresnel (left), ARRI ST1 Fresnel (right)

As you can see in the pictures above, that compare the output of the L7 Fresnel to an Arri ST-1 Quartz Fresnel, the L7 Fresnel has clear and defined shadow rendering capability like that of the ST-1 Quartz Fresnel. And, as the pictures below demonstrate, the L7 Fresnel has a spot to flood range similar to that of the ST-1 Quartz Fresnel and excellent field homogeneity in both flood and spot.

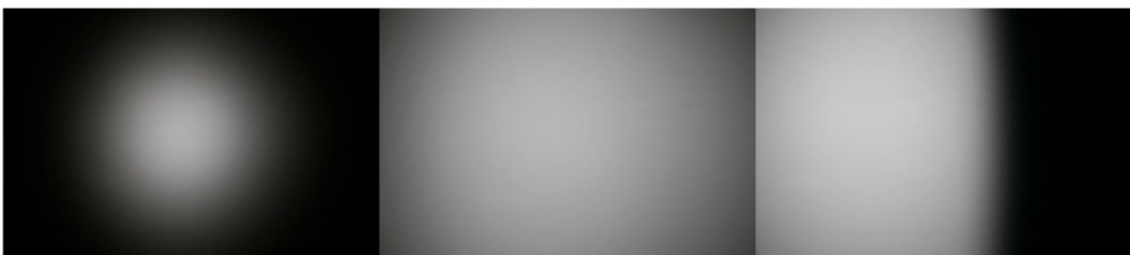
ARRI L-Series Fresnel



Light Field in Spot (left), Light Field in Flood (center), Barndoor Cut (right)

And, just like the ST-1 Quartz Fresnel (pictured below), the beam of the L7 Fresnel (pictured above) is easily controlled with barndoors - enabling the light to be precisely cut to set pieces and talent (see far right photos above & below.)

ARRI ST1 Fresnel



Light Field in Spot (left), Light Field in Flood (center), Barndoor Cut (right)

And, given the discernable amount of light the L-Series Fresnel prototypes threw in a show demonstration video from IBEC in the fall of 2010, on what appears to be a 6x6 Ultrabounce rigged 20' overhead, and under the high ambient light levels of the show hall, it seems the production model L7 Fresnel has more than enough output to waste some to diffusion and color gel if one so desires (a shortcoming to most LED panels is that they have barely enough output – and certainly none to waste.)

Where the L7 models differ is in terms of color temperature. The D model outputs a daylight-equivalent 5600 K, the T model a tungsten-equivalent 3200 K, and the top-of-the-range C model offers total color control. With the L7 series,

Arri finally delivers the same true-to-life color rendition, previously achievable only with full-spectrum tungsten sources. By blending color with a multi-emitter LED engine, the L7 series is able to overcome the generally poor color rendering capabilities of other LED fixtures.

Both the 3200 K and 5600 K color temperature models offer a CRI and CQS greater than 90 so skin tones, costumes and scenery will finally appear life-like under LED light. The L7-C's fully tuneable white light can be adjusted for different skin tones, camera sensors and mixed-light environments, while specific color shades can be matched through full gamut color mixing.

Unlike other LED fixtures, this level of color control does not involve compromising the quality of the light field: the L-Series is unique in combining uniform light and single shadow rendition with absolute control of color attributes.



Split Macbeth chart: each color patch shows the visible effects of studio tungsten light in the top half of the patch, and a representative multi-emitter LED lighting instrument in the bottom half.

Note: this is not the L7 but results typical of the multi-emitter LED approach

An added benefit to using a color blending multi-emitter LED engine is that the mix of different color emitters can be adjusted to compensate for the inevitable color shift and diminished output of the LEDs with age.

Using an internal optical sensor, the L7's firmware performs this calibration function at switch-on thereby assuring consistent realistic color rendition throughout the fixture's life and between fixtures - which means there won't be a variance in color between fixtures when talent walks out of one key and into another, or when using multiple L7s to create a wash up a cyc or backdrop.



There are two alternative cooling systems: one passive and the other active. The passive cooling system was designed for broadcast studios.

It incorporates no moving parts or fans and is therefore completely silent. The active cooling system was designed to provide a more compact and lightweight option for location work.

It uses an extremely quiet (<20 dB) fan and weighs 10lbs less than the studio version.



The location fixture carries an IP54 rating for weather resistance which means that it is protected from falling rain and splashing water, and that the internal electronics, optics and LEDs are protected from dust, dirt and humidity – making it a very robust fixture that will stand up to the rigors of location production.



All the L7s feature Power Factor Correction with a near unity Power Factor of .91. Which means that the 200W fixtures will draw no more than 1.98A at 120V (220W) and cause virtually no Harmonic Distortion.

Since it creates virtually no line noise, you will be able to power nine 200W L7s on the 20A circuit of a portable generator without a problem.

And since the L7-T has an output comparable to a 1k Quartz Fresnel, and the L7-D has an output comparable to a 575W HMI Fresnel, the L7 series takes what you can do with a portable generator to a new level.

For example, with the enhanced 7500W output of our modified Honda EU6500is, you will be able to operate a lighting package consisting of a 30 L7s. I think you would have to agree that is an incredible step-up in production capability.



To assure that they are not quickly rendered obsolete by the rapid advances being made in LED chip efficiency, the Arri L-Series LED Fresnels are designed to be an expansible platform that can incorporate future developments in LED technology.

Not only, do the heads allow for the incorporation of more efficient LED chips when they become available, but the light engine is also fully upgradeable, ensuring that the fixtures can take advantage of technology advances as they happen. To accommodate future control protocols (such as ANC), their firmware is also upgradeable through the USB port on the rear of each unit.

They will also be compatible with planned future optic accessories that will expand the L-Series versatility. Able to incorporate future developments in LED technology, the expansible platform of the L7s ensures that they will have a long useable life and so will assure a return on investment in them. Given the rapid pace of LED Chip development, I can't think of another LED fixture that won't be obsolete in a year or two.

Given the output, the clear and defined shadow rendering, the excellent field homogeneity and the color rendition demonstrated in the show video, it is evident that Arri has finally engineered the first true production LED Fresnel light.

And, since they will use 75% less power than a Quartz fixture with comparable output, the L-Series Fresnels is a real game changer. For one thing, they will take what can be done with a portable generator to a new level.

Imagine what you will be able to accomplish with energy-efficient LED Fresnels and the latest generation camera systems that have a sensitivity of ASA 1000 – you won't need anything more than can be operated on the enhanced 7500W output of our modified Honda EU6500is Gen-set (see the [2010 IBEC Show video](#) below or the [NAB 2011 Show Demo](#) for more details (the 2010 IBEC Show video below demonstrates the light quality better, I think.))