ON TEST

Source Four LED Series 3

Rob Halliday reviews the third generation of ETC's popular colour-mixing LED stage workhorse . . .



ABOUT THE EXPERT
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It's around seven years since ETC's Source Four LED Series 2 spotlight range appeared and, particularly in its Lustr model, really changed the way those who care about light thought about LEDs. Suddenly, here was a light that was acceptable even for many of the situations where the subtlety and delicacy of tungsten would previously have been insisted upon - with the benefit of being able to go to just about any colour on demand. It has become in that time the new theatrical workhorse.

The surprise, in many ways, is that it's taken so long to get its successor - but now we have it with the Source Four LED Series 3 range, launched in an online presentation and now making its way out into the world.

So, what does seven years of R&D bring us? Let's take a look . . .

DEEP RED

The key feature of ETC's additive-mixing LED fixtures has always been the company's use of seven different colours of LED. Adding colours to the traditional red-green-blue mix fills the gaps where those three colours don't overlap properly, getting back towards the more continuous spectrum we know from tungsten and allowing you to create more nuanced mixes of colour. The Lustr2 brought the secret sauce of a lime emitter, enabling a good white output without the use of a specific white LED chip. But even within that mix, there are still gaps; there's never been any particular reason to assume seven was some magic, ultimate number.

Sure enough, the Series 3 Lustr adds an eighth colour. The choice of colour isn't entirely surprising to those who've been keeping an eye on ETC's fos/4 film lighting range. It came out of exploratory work by ETC's Advance Research Group, and it's worth tuning in to their explanation of how they arrived at it via the video linked at the end of the article. In short, it's red - not just any red, but a new deep red that sits alongside the seven colours familiar from Lustr2 (though in slightly different proportions here). The deep red isn't really intended to be used on its own. Rather, it's about what it does when combined with the other colours - which somehow manages to simultaneously be both incredibly subtle and yet not subtle at all.

Mix a tungsten kind of white, then point it at the skin on the back of your hand - that colour test card you know intimately and always have with you. The Lustr2 felt like a really, really good LED light, impressive for how close it got to tungsten. The new one? Your skin has that richness and life to it that we know from being out in the sun and adore from tungsten light. One suspects it's because there's a lot of red in us - our blood, sitting just a fraction below our translucent skin. You look alive - both to the eye and



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through a camera. It's magical - and, magically, remains true even of colours that at first glance owe nothing to red. Pick your favourite mid-blue or even green gel from the calibrated library in an Eos console and be surprised. If the Lustr2 felt like it was really close to the behaviour of tungsten plus gel, the Lustr3 sometimes feels - heretical as it may be to say it - better.

While the other colours are the same as in Lustr2, the array has been re-designed to pack things more closely together. This is most noticeable in no longer seeing the multi-coloured dots in the front of the lens, which also means no more need to drop a homogeniser filter into the gate to blend them together. For those who don't need the full colour range, there's a Daylight HDR version, with some colour mixing but really optimised for daylight white. However, the tungsten array from the previous generation is gone; ETC thinks the new Lustr X8 array gives you everything that version could achieve.

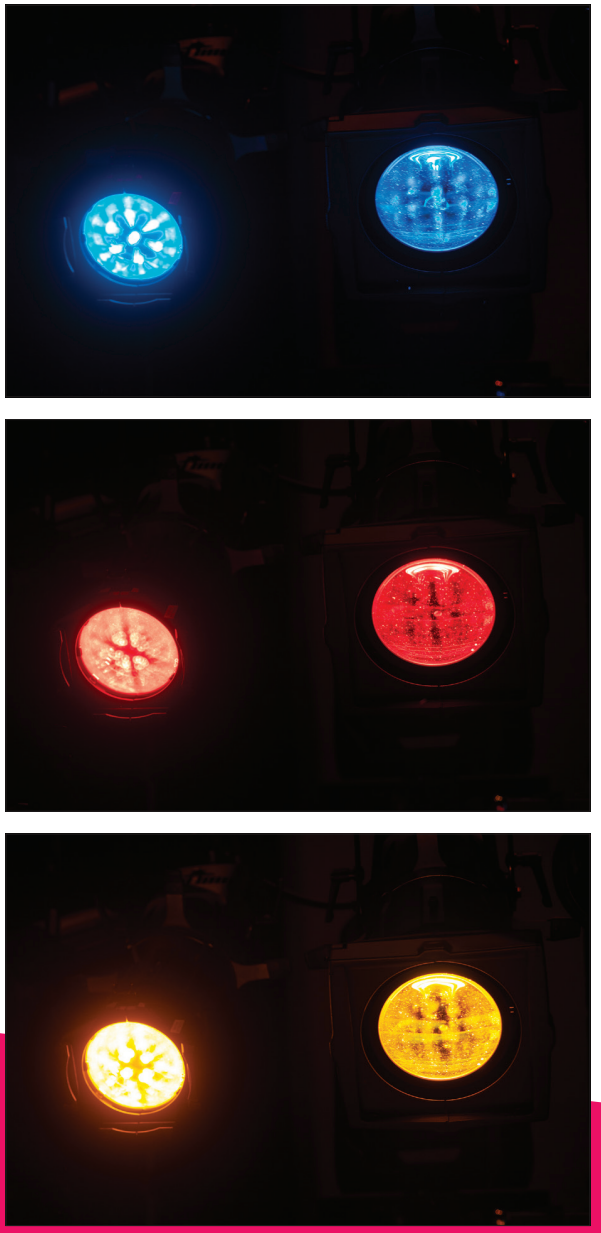
The result is beautiful light, full of the kind of subtlety and magic that those who really love light will adore. But how much of that light is there, and what about the physical device generating it?

THE LIGHT SOURCE

The Series 3 light source is a complete re-design from the Series 1/2, the most obvious difference being where the cables (still four - power in/out, now powerCon True1, and DMX in/out, still 5-pin XLR) go. On the earlier lights, they tucked into a recess at the rear, so the connectors didn't protrude from the body of the fixture. On the new one, they sprout from the top, which ETC argues keeps the cables from obstructing the rear-mounted display.

This onboard interface is a step up from the previous generation, a colour LED display flanked by four rotary-plus-push encoders with illuminated ends, as previously seen on ETC's Cobalt console, plus two other push-buttons. Colour coding between display and encoders makes set-up navigation quick; there's also a separate lock slider to prevent accidental changes.

Alternatively, use ETC's SetLight app on your phone to choose your settings, then tap phone to light (even without the light



Compared to Series 2, dots of individual colour on the lenses are much reduced on the standard S4 lenses (left) and all but disappear on the XDLT lenses (right); homogeniser filter no longer required



Series 3 in use from the kind of long throw position that will benefit from the additional light output

Series 3 can be configured using the onboard interface or ETC's SetLight app via NFC

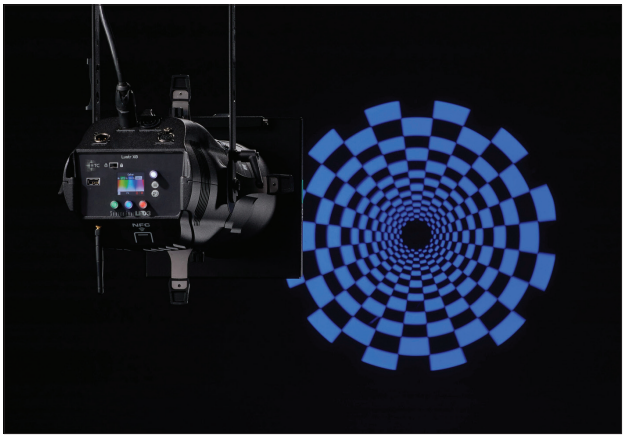
The XDLT lenses give excellent gobo projection

Facing page: The Series 3 user interface has a colour display with illuminated, coloured encoders making set-up or manual control easy

powered up) to transfer the settings across. It's very slick - though being able to click on an encoder to turn on the light during focus still makes their presence worthwhile.

Also present in every light: a radio receiver, using City Theatrical's Multiverse technology which supports both DMX and RDM. An antenna is clipped to the yoke when not in use (some might quibble it needs a secondary suspension), or attached to the back of the light when you need the functionality. That sounds extravagant, but ETC says it has the cost at a point where it's cheaper to have it in every light than to manage different versions. I think you'd be brave to run all of a big rig wirelessly,





but for smaller venues or awkward locations in big ones, just add a transmitter and off you go. Inevitably, one wonders if the next generation of ETC consoles will have that transmitter built in . . .

Power consumption tops out at 310W at full output, and so will be less than that in colour - the advantage of additive rather than subtractive colour mixing. When not outputting light, the fixture uses just 6W. In terms of being a safe investment, it has a five-year warranty on the fixture as a whole, 10 years on the LED array.

THE LENSES

ETC's first two generations of LED spotlight made great play of using the traditional Source Four barrel and lenses. There was a comfort to their familiarity, and a practical benefit that your existing inventory would work with your new lights. But those lenses were designed around a compact filament bulb and its reflector; the LED light source had to be designed to try to replicate that rather than giving its designers free-reign.

With Series 3, there is a definite sense that ETC would like to move us all to something better. If the company considered making a light incompatible with the old lenses, it wasn't quite brave enough to carry it through (this time), and it'll also work with the Cyc adapter and Fresnel lens, though the new Desire Fresnel, launched at the same time as Series 3, is a much better option if you want a good LED washlight. But the hint is pretty clear: the old lenses will work, but if you want to know what Series 3 can really do, buy into the new XDLT lenses and corresponding new shutter/barrel assembly.

Do that and physically the whole fixture becomes much 'tighter', with fewer gaps for light to leak out; it feels like a close relative of the one-piece ColorSource jr range. The colour runners are a solid box with locking, hinged lid. The shutters, since they no longer have to withstand the heat of a tungsten lamp, are thinner, so can sit closer together allowing cleaner definition of all four cuts at sharp focus. They also feel a little looser than in traditional Source Fours, but ETC says it is working on that, the pandemic having disrupted the company's usual process of sending units out into the field pre-launch to refine the details.

It also becomes a much noticeably brighter fixture, particularly in the narrower lenstubes - the 19° and down. ETC's website has the numbers, and it's worth checking as the difference varies from lens to lens. What I can tell you is, if you looked into the beam of a tungsten Source Four while focusing, it hurt your eyes. The Lustr2 didn't. The Lustr3, with these lenses attached, does again. And so, since Lustr2 often felt like it was bright enough, here there should be light to spare, or the ability to keep up with the very brightest shows or most demanding positions, especially those far-away FOH



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S4 LED SERIES 3
TECH SPEC

FEATURES

- Dimensions (WxHxL, mm): 194 x 298 x 700
- Weight: 8.71kg
- Housing: Die-cast
- Beam: 5°-90°
- Max lumens: 10,889 up to 14,214 with Daylight HDR
- Colour temperature: 1,900K–10,450K
- Dimming: 15-bit virtual dimming
- Operating temp: 0°-40°
- Control: DMX-512, RDM, City Theatrical Multiverse, NFC
- UI: Full-colour display
- Voltage: 100-240 VAC 50/60Hz
- Typical Wattage: Lustr X8: 307W (120V), 305W (230V) Standby Power: 6W
- Lustr X8 colours: Deep Red, Red, Amber, Lime, Green, Cyan, Blue, Indigo

positions. The new lenses also offer remarkable sharpness on shutters or gobos if you need it, and go soft without strange artefacts from all those LEDs.

You will find, though, that you end up with a fixture that feels a bit un-Source-Four like, including that lamphouse which you realise is no longer quite round! We're so used to the Source Four's strengths - compactness, grace, ease of handling - that we don't really consider them, until we meet something that doesn't have them.

These big, high-quality lenses are, unavoidably, heavy; the fixture as a whole becomes front heavy. All now have two tilt-locks; as you release them the light will try to nose-dive. The Source Four's design has always been so clever it didn't need the adjustable trunnion mounts and other workarounds older fixtures had to deal with this. Now it feels like it might. And just be a little wary of those new shutter blades: thinner also means sharper, if you get your fingers near their edges . . .

CONTROL

As well as re-working the hardware, ETC has revisited the software, aware of just how confusing the Lustr2's many, many control modes had become. The biggest change is that the old HSIC mode, where you had to use hue-saturation control at the console if you wanted the benefit of the fixtures being calibrated to exactly match each other, is gone. Instead direct mode, where you can directly address each colour, is now calibrated. Of course, mixing using eight colours by hand is still hard (both as a mental exercise and because few consoles offer eight encoders), so the expectation is that console users will still use the hue/sat encoders, colour picker or pick from the colour library. In effect, it is now the console, rather than the light, figuring out how to make the colour. If ETC's software experts have done their work well, the end result for Eos users should be exactly the same.

Beyond that, things behave as you'd expect. Colour fades are still beautifully smooth, intensity fades the same even at the very bottom end. The biggest difference from Lustr2 is that snaps on or off will snap immediately, without the fractional delay of the old light. It's also still very quiet in use, now with an ability to set a maximum fan level (and accept a reduced light output if it exceeds a heat limit) if using the lights in an acoustically-sensitive venue.

IN SUMMARY

This is the new standard-bearer in LED spotlights. With its re-designed lightsource and new XDLT lenstubes it's a muscular looking light, more pumped up than any earlier Source Four - but those also let it achieve or, when in a colour, exceed the output of the tungsten fixture. With its on-board NFC interface and radio receiver, it feels like an expensive, almost luxury light. It's a surprise - and relief - to discover that it's the same price as the Lustr2 was, that fixture moving down in price and the Series 1 fading away.

What we've really learned over the last six years is that while you can now achieve remarkable light quality from an LED source, slightly lower quality is sometimes acceptable. Series 3 sits at the top of ETC's now very wide-ranging LED offering, letting you choose where you want - or can afford - to land in the price to light quality ratio. Two questions result. First, where next for the top of the range? If Series 3 is bright enough for most needs, do future improvements target spectral quality or reduced fixture size rather than ever-increasing brightness? Though if Series 3 matches the life of Series 2, we're probably half a decade or more from knowing what ETC chooses.

The second: how much longer for the original tungsten Source Four? The official line is that it'll be around until people stop asking for it. It still wins on cost, but has long since lost the battle of convenience. Now Source Four LED Series 3 makes it harder to say even that it wins on light quality. That is the measure of how hard ETC has been working, and of just how far the best LED fixtures have come in the last six years.

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ETC's Advance Research Group:
//youtu.be/kKx545RPWNA