

Feature Spotlight

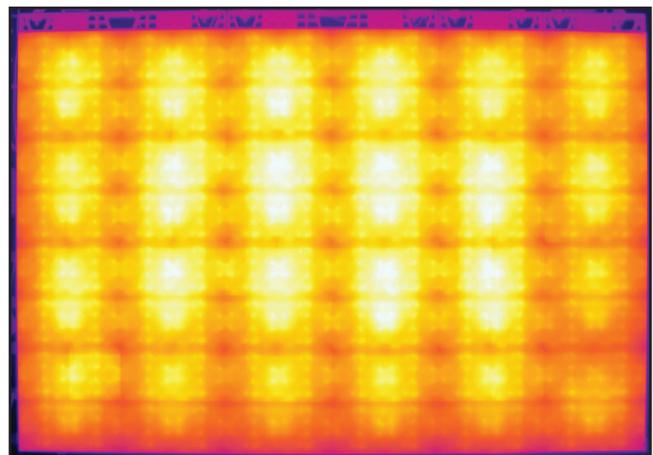
# THERMACAL

When it gets hot, stay smooth

Thermal patterning on hot LED panels is a thing of the past thanks to the new **Dynamic Calibration** feature **ThermaCal**.

LEDs are affected by temperature, and all tend to be a bit less bright as they get hotter. But the scale of this effect varies between colours, with red LEDs most strongly affected: heat a red LED by 10 degrees and its output typically drops by 10%.

Because of this difference in effect between LED colours, areas that are hotter or colder than the temperature the panel was calibrated at can show a colour shift. What's more, panels often heat up more in the centre than round their edges, which can lead to unsightly thermal patterns that mark out individual panels in the wall.



*Thermal image of a screen containing 24 LED panels (6 wide, 4 high)*

## EVEN PANELS AT ANY TEMPERATURE

**ThermaCal** compensates for these effects and gives the user control of how much compensation is required based on the panel temperature and environment.

It does this by both separating thermal effects from the optical calibration and by profiling each panel type to understand in detail its thermal characteristics for a smooth, panel-specific correction.

The amount of correction can be adjusted dynamically, even during a show, to account for changes in temperature over time.



*Uncorrected panels show a regular patterning of cyan colour shift, corresponding to the hotter parts of the screen.*

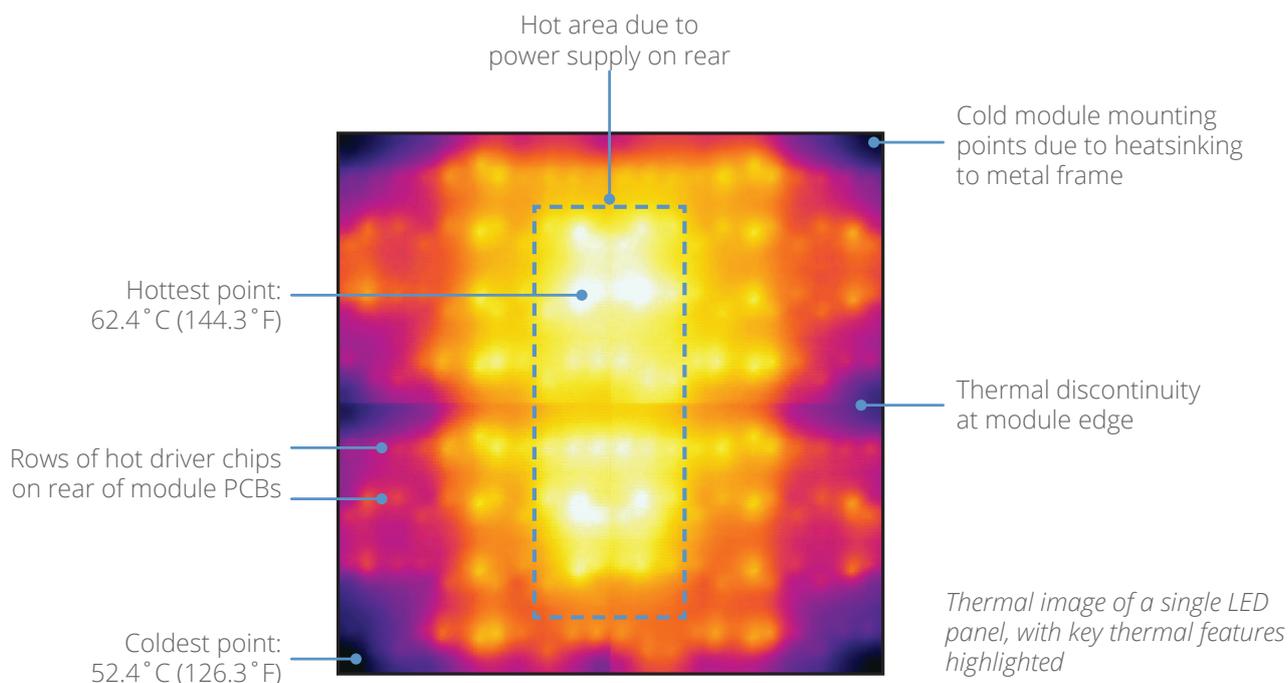
***ThermaCal is exclusive to Brompton R2-based panels that have been calibrated with Dynamic Calibration.***

## PANEL-SPECIFIC CALIBRATION

It is essential that corrections for optical colour and brightness differences are stored within each LED module, so that they travel with modules when they are swapped around.

However - the **ThermaCal** compensation is applied at the panel level, so modules can be swapped around freely without introducing visual artefacts due to the module being in a different position compared to when it was calibrated.

This is impossible with legacy calibration techniques that mix up optical and thermal characteristics in a single correction based on the temperature and module position at which they were calibrated.



## PROFILING SERVICE

Brompton Technology offers a profiling service for **R2-based** panels using **Dynamic Calibration**, with a technician going on site to calculate the panel's **ThermaCal** and **PureTone** profiles in a single visit. Once profiling is completed, the profile data will be incorporated into the fixture library supplied with the Tessera software.

*Established in 2012, Brompton Technology is part of the Carallon group of companies based in West London. It operates in the rapidly expanding LED Video display sector, and product designs come from years of industry and engineering experience, and an acute understanding of the current marketplace. This has resulted in it fast becoming a globally known and respected brand within this sector. More information can be found at [www.bromptontech.com](http://www.bromptontech.com).*