

From the field: Christie Velvet LED tiles win product shootout

In early 2015, Christie®, along with one of our premium partners, were involved in a product shootout against four competing manufacturers to win the display technology contract for a large-scale LED tile display wall. The client required a high-resolution LED tile display that offered bright and clear visuals, excellent viewing and accurate color reproduction. The technology shootout took the form of a two-phase, side-by-side evaluation.

Phase 1:

Side-by-side evaluation of competing products

- The five competing manufacturers assembled 4 x 3 arrays, each comprising twelve 2.5mm LED tiles and turned them on.
- Each display was evaluated by 50 of the client's staff members from all aspects of the business including corporate, IT, operations and services.
- Each staff member was asked to select their preferred display. Based on these results, Christie Velvet™ LED and one other competitor were selected for the second phase of the evaluation.

Phase 2:

In-depth comparison

- The two finalist technologies were set up to simulate the environment where the display would be installed, taking into consideration viewing angles, height, viewing axis, ambient light and other critical parameters.
- Both arrays were cropped to be identical in size and 4K content was shown on both displays, side-by-side.
- A group of 15 staff members then viewed the two display walls to determine which one offered the best visual experience.
- The Christie Velvet LED display was unanimously selected as the most viewable on high axis, produced the best image and color quality and had superior coverage ratio.



The Christie Velvet LED advantage

High coverage ratio

The physical size of the pixels used in LED tiles directly affects the image quality. Tight pixel pitches combined with larger diodes create a high fill factor, resulting in clearer visuals. For example, Christie Velvet uses 2.1mm x 2.1mm pixels in our 2.5mm model. This means that there is only 0.4mm of space between each pixel, resulting in smoother visuals and a closer viewing distance. The 2.5mm models from competitors typically use 1.0mm x 1.0mm pixels, meaning you would need to choose a finer and typically more expensive pixel pitch to match a Christie Velvet display.

High coverage ratio	Provides extremely smooth movement, highly-saturated colors and incredibly detailed images
Lower installation cost	Larger cabinet size, lighter weight and less structural requirements result in low installation cost
Low total cost of ownership	Low power consumption and heat output result in high energy savings and reduced HVAC requirements
Certifications	UL60950 (system level certification); FCC; CE; CoC (EMC); RoHS; RCM; IC; CB
Easy shipping	Price includes shipping to regional Christie warehouse
Credit Terms	Available
Expert team	Christie Field Application Engineers are OSHA trained
High-quality components	Yes
LED ghosting eliminated	Yes
LED uniformity	Yes
LED color shift correction	Yes
LED DIM line correction	Yes
Processing	Christie offers a full range of processing and content management systems designed to work with any Christie Velvet display

Total cost of ownership

In addition to being the superior choice in terms of image quality, Christie Velvet LED also proved to be the most viable and affordable display technology based on total cost of ownership analysis. Contributing factors included:

- **Quickest and easiest to install:**
40% fewer tiles required than competition due to larger size and 1:1 aspect ratio.
- **Serviceability:** front and rear access for quick and easy service.
- **Lowest power consumption:**
30% lower consumption than competition during normal operation.
- **Reduced HVAC requirements:**
30% less costly than competition during normal operation.

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