

Wimbledon Centre Court

London, UK



image courtesy of All England Lawn Tennis Club (AELTC)

"In designing the sports lighting for the retractable roof on Wimbledon's Centre Court we were presented with a unique challenge. The sliding roof was to be far lower than any other major professional venue in the world, creating a potential problem with glare to the players. Everything from the selection of a fabric roof membrane to the colour selection of the moving roof trusses played a major role in the symbiosis of the system integration."

Corey Berhost, associate director, M-E Engineers Ltd

Background:

Since the Wimbledon tennis tournament began more than 130 years ago, the game has always been subject to the volatility of English weather and fading light levels. However, thanks to companies such as Lutron, spectators and TV viewers alike are now able to watch the Championship safe in the knowledge that Centre Court's new retractable roof and lighting system make these threats a thing of the past.

The challenge:

As would be expected with the refurbishment of a 90 year old building, the lighting scheme installed in the project had to overcome a variety of challenges; these included lighting one of the lowest roof spaces in any professional sports venue worldwide and meeting the high illuminance levels required by the BBC for its high-definition coverage of the event. An additional requirement specified by The All England Lawn Tennis Club (AELTC) was to ensure an easy to use, fail-safe way of controlling the lighting for Championship and non-Championship games was installed, whether the roof was open or closed.

Lutron's GRAFIK™ 7000 Series:



image courtesy of All England Lawn Tennis Club (AELTC)



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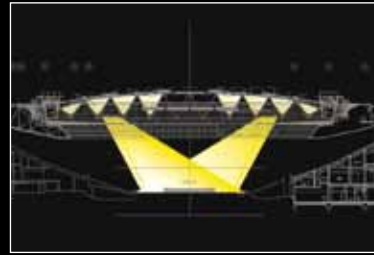


image courtesy of M-E Engineers Ltd

- capacity to offer control of multiple zones, separated into distinct areas
- offering users a simple graphical user interface
- interfaces easily with AV, security and building management systems

The solution:

Working with the architects, Populous, and the client, M-E Engineers introduced the technique of indirect sports lighting. What was discovered was that by reflecting some of the light off the roof itself, a layer of diffuse light could be added to blanket the court and reduce the number of direct luminaires required, therefore minimising glare for spectators and viewers. The indirect light also had another effect; by increasing the illuminance of the roof, it made the lights aimed directly at the court appear less glaring.

Not only did Berhost and his team have to consider the experience for visitors, viewers and players, but they also had to ensure that the lighting scheme could be controlled with ultimate precision. To achieve the levels of light control required, three of Lutron's GRAFIK™ 7000 processors have been used and 24 Lutron XP Softswitch™ power and switching panels, alongside a Graphical User Interface in the master control room, to ensure ultimate control of all the lighting circuits.

The results:

The GRAFIK™ 7000 system has been programmed to have two operating modes – Championship and non-Championship. When the system is in non-Championship mode, the lighting levels can be altered to suit specific requirements, however, once switched to Championship mode there is no room for user error, as everything is pre-programmed and fully automated.

Once installed, the lighting scheme still had to meet the requirements of the TV companies. On installation sports lighting testing was carried out on Centre Court with the BBC. The design passed with flying colours and the scheme was praised by the BBC team for its innovative use of materials to bring "elements of theatricality, drama and sophistication" to the overall design.

So, with Wimbledon Centre Court's capacity increased to 15,000, the installation of new, wider seats and the retractable roof and lighting system, the Wimbledon Championships look set to continue bigger and better than ever for many years to come.

Client	The All England Lawn Tennis Club (AELTC)
Architect	Populous
Lighting Architect	M-E Engineers Ltd
Equipment provider	Lutron Electronics Co., Inc.
Photography	The All England Lawn Tennis Club (AELTC)
Lutron products	GRAFIK™ 7000 control processor and Lutron XP Softswitch™

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