



# Case study Blenheim Palace

Location  
Philips Lighting

Oxfordshire, UK  
Philips Dynalite Controls

**PHILIPS**

## Background

Blenheim Palace in Oxfordshire is the current home of the 11th Duke and Duchess of Marlborough and was the birthplace of one of Britain's most famous prime ministers, Sir Winston Churchill. Dating back to 1722 – and designated a UNESCO World Heritage Site in 1987, in recognition of its architectural importance. Blenheim Palace attracts more than half a million visitors each year to enjoy the stately home, formal gardens and 2,000 acres of Capability-Brown designed parkland.

With the number of annual visitors having increased by 200,000 since 2009 – following the introduction of a 'free Annual Pass' ticket – it became necessary to improve visitor facilities and services. The Duke of Marlborough conceived an extensive redevelopment project to convert a garden courtyard into an interior space to house a new visitor reception area, a purpose-built retail space, café and colonnade. The old laundry, used in recent years for storage, was also earmarked for renovation into modern toilet facilities.

A fundamental aspect of the design was for the new East Courtyard Visitor Centre to complement the grandeur of Blenheim Palace itself. It was conceptualized as a bright, airy space and designed accordingly with half its ceiling made of glass and the remaining half of plasterboard – reminiscent of conservatories and summer houses commonly found in stately homes dating from the eighteenth and nineteenth centuries.

## The challenge

The innovative design called for a uniform feel between those areas under glass and those with a more conventional roof. The lighting needed to be consistent throughout the building and the displays in the retail area needed to be well lit to maximize the appeal of the merchandise.

Lightmaster Direct was asked to assess the proposed lighting layout by the project consultant, CBG. Happy with the schematics they saw, the Lightmaster Direct staff did suggest one big amendment to the lighting design: the exchange of metal halide fittings for LEDs. As a result of this – and with its reputation for extensive knowledge of the latest LED technology and Philips Dynalite LED system control solutions – Lightmaster Direct was contracted by the client as lighting consultants for the retail project.

## The solution

The use of motion and light sensors can save up to a third of energy typically used for lighting. This was a key reason the Philips Dynalite control solution was chosen, as this is one of the most capable systems on the market for daylight harvesting and provides a platform that is both cost-effective and flexible enough to achieve a number of extremely sophisticated outcomes.

Four Philips Dynalite DBC905 ballast controllers were used to enable 0-10V dimming control of the LEDs in all areas.

The DBC905 also has the advantage that it can be utilized to provide both a permanent feed and a switch feed to a centralized 10-year battery to allow the LEDs to also double-up as emergency lighting.

Philips Dynalite DUS804 universal sensors are used for light level detection in the reception and retail area, with a single Philips Dynalite Revolution 2 double-column wall plate with 15 buttons providing the user interface for the new lighting system.

The Revolution panel enables manual override of the system, allowing four automated scenes to be selected. In automatic mode, the sensors detect light levels while the ballast controllers seamlessly adjust the LEDs' dimming to ensure the light intensity remains constant, regardless of how natural light levels vary throughout the day.



## Fast facts

### Customer

Blenheim Palace

### Location

Oxfordshire, UK

### Value Added Reseller

Lightmaster Direct

### Products

Philips Dynalite DBC905 ballast controllers, Philips Dynalite DUS804 universal sensors, Philips Dynalite Revolution 2 double-column wall plate, Philips Dynalite's serial bus communications protocol (DyNet), Philips Dynalite Envision software

### Lighting Solutions

Energy efficient architectural lighting design and lighting control systems for retail

# The completed East Courtyard Visitor Centre is extremely impressive and a real testament to the hard work by all the teams involved in the project.

The entire system comprises 36 lighting channels on a single network, connected through Philips Dynalite's serial bus communications protocol, DyNet. The system was commissioned using Philips Dynalite Envision software. The luminaires selected are all LEDs, comprising a combination of recessed downlights, spotlights and bespoke pendants. Recessed downlights are situated around the perimeter, with spotlights on tracks to boost the light where needed. Feature lighting is provided by LED-tape lighting circles and custom-made pendants, which were used in the shop, the café and the colonnade to infuse a timeless sense of elegance to the new buildings.

The lighting solution integrates with the central battery to meet emergency lighting regulations for public spaces. This reduced the ceiling clutter associated with dedicated emergency lighting. The finished solution maximizes the aesthetic appeal of the new visitor center.

Lightmaster Direct staff worked as part of an integrated team alongside retail specialists, architects and consultants in order to devise a lighting and lighting system control solution that complements the overall design vision for the new visitor center. Installation was completed and commissioned in time for the formal opening of the East Courtyard Visitor Centre by The Right Honourable David Cameron, MP for Witney, and UK Prime Minister.

## Benefits

The finished result has been warmly received and Lightmaster Direct is now involved in further follow-on projects at Blenheim Palace to provide LED lighting solutions for external lighting and within the main palace building.

The completed East Courtyard Visitor Centre is extremely impressive and a real testament to the hard work by all the teams involved in the project. The lighting systems installed are visually appealing, providing functional and flexible lighting exactly where it is required. The combination of the lighting design and its Philips Dynalite system control solution will deliver energy savings for many years to come as Blenheim Palace continues to mark its place in history.





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