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## Flying high

Heathrow Terminal 5

## On the outside

Garden lighting

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# Flying high

We bring you the stunning London Heathrow Terminal 5 and its lighting.

At 400m long, 160m wide and 43m high, London Heathrow Terminal 5 is enormous – as big as 50 football pitches across its five floors, and it has the largest span roof in the UK. Daylight was key in the design of T5, and there's lots of glass to reflect light. Speirs and Major Associates was awarded the lighting contract for T5 in July 2000.

The scheme for the public lighting begins at the roundabout at the end of the entry spur road, with white metal halide lighting that helps improve recognition and colour rendering. The hard landscape of the rooftop forecourt and Interchange are carefully illuminated to pick out features like trees, benches, water features, etc, creating colour and texture.

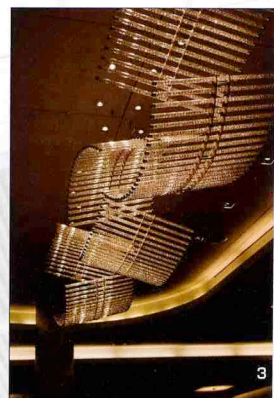
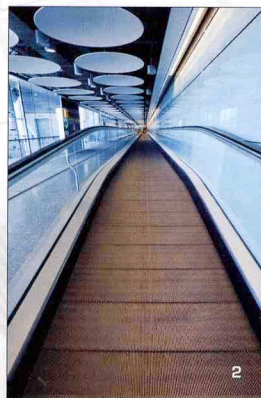
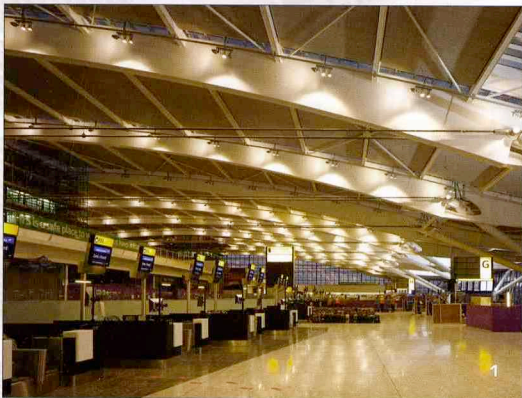
A lot of thought was put into the lighting of both the bus station and car park; lighting is used not only to improve general vision and safety, but to also help with way finding. The general lighting of the terminal is also used across the bridges in the decked car park to provide a welcoming entrance. The car park mesh and huge ventilation towers have also been lit.

The lighting scheme for the main terminal and satellite is simple and direct to all areas. Lighting gradients were established across the floor plates to ensure that the edges of the buildings were less brightly illuminated than the deep plan areas to conserve energy, limit light spill and provide greater

transparency. The amount of clutter on the floor plates has been minimised to all areas by lighting from high level wherever possible, with fittings being concealed when practical. The internal lighting scheme has been designed to be an extension to the exterior, creating a relatively seamless transition between outside and in. The level of lighting can be switched down in the evening to create a warmer ambience, whilst also conserving energy. Only white light has been used within the main buildings, with media, CIP areas, retail frontages, signage etc, providing colour at night. Lift shafts, escalators and staircases have been clearly defined to help travellers find their way safely and easily. In areas without daylight penetration – which includes key areas such as the immigration hall and baggage reclaim to the main terminal – a hint of blue light is used.

In the rail area, the lighting scheme helps to create the transition to the outside, with higher levels of light used on the platforms provided by specially designed fittings that also integrate other service requirements within them. The rail box features a more subtle lighting scheme.

The general lighting needed to utilise low energy lamps in optically efficient fittings throughout all areas. Fittings are then switched in relation to available daylight and the requirement to create



1. Thorn 35W HIT-CE spotlights highlight the girders of the vaulted roof.

2 & 4. The baggage hall is lit by low energy suspended cylindrical downlights, mounted within a ceiling made of large white disks.

3. Cameron Peters commissioned Windfall to produce Swarovski crystal lighting features for the South Club Silver Bar.

the terminal staircases. The corridor luminaires are 1 x 28W T5 integrated into a Trox chilled beam, and a special 1 x 28W T5 recessed asymmetric is aimed into the corridor to avoid glare from the glass clad walls.

The double-height baggage hall is lit by low energy suspended cylindrical downlights, mounted within a ceiling made of large white disks. One of the challenges of this alternative to conventional tiles was integrating Menlo Circular fluorescents (55W T5-C lamp) within specific saucers near the passport control areas. The disks hinge for access to the luminaires.

Blue and white fluorescent 35W T5 tubes set in 198 modified Thorn Titus luminaires illuminate the station track areas beneath the main terminal building. Set under the platforms, the reflector has an excellent cut-off with a blue wash on the track, and white light illuminates the signage on the opposite wall. The multi-storey car park is looked after by 4,000 'proof' fittings, supplemented by a continuous row of extruded aluminium luminaires. The control tower employs 200 fittings and the energy centre another 500.

### CU Phosco Lighting

CU Phosco Lighting started working on T5 with Thorn in 2001. The company contributed significantly into the concept and design development of the Integrated Service Unit columns at T5 over a five-year period. These 4m-high ISU columns and brackets provide housing and trunking for the direct and indirect lighting, emergency lighting, public address system speakers mounted both horizontally and vertically, mobile phone antenna, closed circuit television cameras, people counting cameras and noise sensors. The design provided for DALI control of the lighting, as well as being designed to be installed with minimum effort through the 'plug and play' wiring design. The columns had two different foundation types so they could be easily installed using either cast in Halfen channels or anchor plates bolted top and bottom of the suspended precast

atmosphere after dark through a central control system that helps with the monitoring of the lighting systems and their maintenance and the control of energy consumption.

### Thorn Lighting

The Richard Rogers design required more than 75,000 luminaires, many of which were specially made. Bespoke solutions range from modifications of standard products to the creation of something completely new. For example, the spacious terminal buildings employ special triple-headed roof lighting modules. Thorn provided a 35W HIT-CE spotlight, with half cowl visor, to highlight the girders of the vaulted roof. A 250W HIT-CE spotlight, with concentric baffle, gives directional downlight to the passenger areas below. A single 42W CFL housing provides emergency lighting.

Thorn provided special balustrade units with clear diffusers and 24W T5 lamps, mounted to the side of



From left: Sill 467 Plane Projectors uplight the roof area; Cameron Peters asked Windfall to produce chandeliers for the Gold Bar; Windfall also produced four Balance chandeliers for the VIP areas.

floor slabs. All cabling was designed and supplied with the columns.

CU Phosco Lighting was asked to manufacture similar columns in the Track Transit System lift corridors. A further 10 TTS columns of 4m and 6m high were made, providing mains and emergency lighting with provision for DALI control systems. Several other products were produced, including fixed and raise-lower lantern brackets mounting in the high ceilings of the building. Outside the terminal, the company provided high masts and floodlights for the apron lighting around the perimeter, as well as parallel-sided and tapered tubular lighting columns for the approach roads, car parks, and multi-storey car park ramps and top floors.

#### Sill Lighting

In the main building, each of the 33 'torsos' supporting the roof has three Sill 467 Plane Projectors uplighting the roof area. Sixty-six were installed, utilising 1,000W HGI lamps, rear mounted control gear and special brackets for mounting in the restricted space on top of the torsos.

For the drop-off canopies, Sill 454 projectors were used in groups of four on special brackets, to uplight the underside of the stretched fabric canopies (supplied by Base Structures). There are 125 sets of four projectors making 500 in total. Each one incorporates a 35W metal halide lamp.

In the bus station, Sill 453 projectors are mounted in pairs on special brackets by Thorn. One of the pairs is for uplighting the ceiling and is an asymmetric fitting with a 70W HGI lamp; the other is for direct lighting with a batwing reflector to avoid glare to bus drivers, and has a 150W HGI lamp. There are 250 pairs, making 500 in total.

#### Cameron Peters

Cameron Peters Fine Lighting supplied nine chandeliers and other feature lighting for the five VIP

lounges, known as British Airways Galleries. Three Maryland chandeliers, in a vibrant Liquid Citron colour; were specially made from mouth-blown glass by Barovier & Toso in Murano, Venice. Cameron Peters also asked B&T to make a clear glass and gold Virginia chandelier for the VIP lounges. Next, acting as their UK agents, Cameron Peters introduced the international chandelier designers Windfall to the project. Windfall made four Balances chandeliers, each with six lights. A contemporary take on traditional chandeliers, the Balances have no internal support structure or skeleton, so the arms of the chandelier are suspended in space.

Windfall also made Skyline Scarlett and Little Scarlett pendants, using Swarovski crystal and organza, for the Concorde Room, the 465-seat club lounge Satellite Bar, and the South FIRST Gold Bar. Windfall also created a large Hellbob chandelier for the new Champagne Bar for first class and Gold Executive Club members. In the South Club Silver Bar, dramatic 'Leaves' features made of large faceted Swarovski crystals encased in glass rods assembled in the shape of sparkling, oversized floating leaves, were commissioned from Windfall.

#### Contact

##### Lighting designers

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