

# Tripping the light fantastic

PROGRESS IN TECHNOLOGY AND INCREASED BUDGETS HAVE TRANSFORMED THE LIGHTING IN TOWNS AND CITIES. LIGHTING DESIGNER AND JOURNALIST **CARL GARDNER** LOOKS AT THE LATEST TRENDS

NOT TOO LONG ago, most public spaces in towns and cities were conventionally lit according to street lighting practice – this meant: eight to 12m columns; orange-tinted sodium light sources; a high level of uniformity on the ground; poor lighting of vertical surfaces; little or no variety or visual interest – and lots of glare. No matter how good the surrounding architecture was, or how sensitive and interesting the landscape design, the results looked largely the same – and it wasn't pretty.

Thankfully, things have moved on

enormously in the last decade, driven by a number of factors – most notably a growing recognition by local authorities and developers that attractive lighting can act as a marketing tool and boost security, visitor numbers and the evening economy. New, emerging lighting technologies and the increased status and credibility of lighting designers in the urban design team are also important factors. Urban space schemes are also winning prizes. For example, the lighting for the Coventry Phoenix regeneration

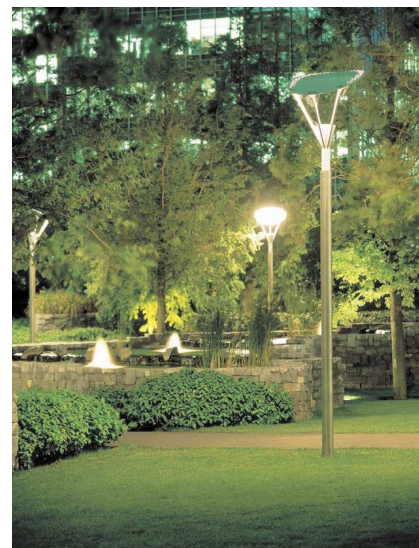
initiative (see GP 03, 'Artistic ambitions', pp22-24) by lighting designers Speirs & Major, recently won a Lighting Design Award 2005.

## Higher budgets

Budgets for lighting have also increased commensurately – for example, on a £1.8m landscape and lighting scheme for an urban square in the northeast of England I am currently working on, the lighting component represents some eight to nine per cent of the total budget. Ten years ago, if such a major refurbishment had even been considered (which is unlikely) it would have been a case of renewing the existing street lighting at minimal cost. Even more remarkable is the recent prize-winning lighting scheme for Finsbury Avenue Square in Broadgate, London, which involves a matrix of inground colour-change light-emitting diode (LED) strips and cost in the region of £750,000!

Right: Coloured light box installation at Birmingham's Bull Ring

Far right: Jubilee Gardens, Canary Wharf, London with indirect light fittings, a lit water feature and tree uplighting



Woodhouse Lighting

### FINSBURY AVENUE SQUARE, BROADGATE

Maurice Brill Lighting Design



This is one of the most spectacular public space lighting schemes in the UK and one of the largest LED lighting installations. Designed by Maurice Brill Lighting Design and installed at a cost of £750,000 by British Land, it comprises 650 controllable colour-change LED units, with a total of 100,000 individual LEDs, recessed under 32mm laminated glass and laid out in a grid across the square in London. There are ten different programmed scenes, run in five-day blocks, so the strips can change colour in sequence, 'chase' around the square, fade or switch rapidly. The LEDs also reflect through the Perspex bench details around the space. Not a run-of-the-mill scheme but a good illustration of the huge potential of the new generation of LEDs.

One of the most important developments in lighting technology for public space has been high-quality 'white light' sources, to replace sodium lighting – most notably the ceramic metal halide lamp (often referred to as CMH or CDM, in the case of the Philips version). These offer high efficiency, excellent optical control due to the small size of the lamp and good colour rendering of faces, plants and building materials,

the main visual field for people on foot – not the ground beneath their feet. This has led to a boom in the use of direct burial fittings, offering discrete, integrated sources to wash walls or trees, with little visual impact by day. However, burials are probably the most

problematic piece of kit in the lighting designer's portfolio, with their tendency to poor contractor installation, moisture ingress, vandalism in sensitive sites – and high temperature top glasses.

When specifying burials, the following features are essential: reflectors which ▶

“Specification of LEDs should only be done with specialist help – there are a lot of companies rushing into the market with cheap, unreliable products”

to create a more comfortable, 'natural' lit scene.

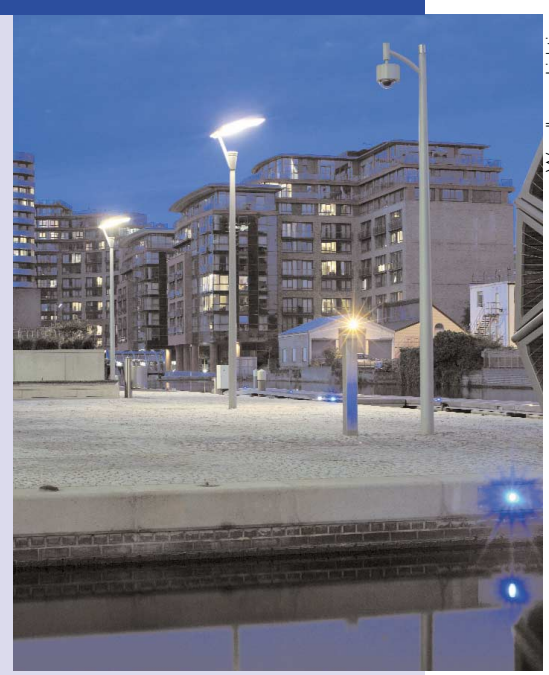
For public spaces with high pedestrian use, CMH lamps are most often used in indirect lighting systems, on four to five-metre columns, with a hidden lamp projecting light on to an upper reflector. This offers a much softer, more visually appealing lighting effect, with no glare. But there is trade-off in lighting efficiency, so columns need to be closer together. Several schemes featured here use this technique, including Paddington Basin and the Campbell Street project in Liverpool.

#### Lighting the vertical

There has also been a new-found emphasis on lighting vertical surfaces, rather than the horizontal, in recognition of the fact that walls, planting and site boundaries constitute

### PADDINGTON BASIN

The new, extensive Paddington Basin development in London, whose lighting was master-planned by Speirs & Major Associates, features many current lighting techniques and technologies in an integrated ensemble. These include 'white light' indirect lighting columns and low-level wash bollards by Woodhouse and LED markers along the edge of the canal side, for both decorative and safety purposes – blue light faces out towards the water, while white light washes back over the walkway. On the other side of the Basin, a row of trees delineates the water's edge, while the popular 'blue' motif is repeated in a series of blue filtered fluorescent battens, which play both a graphic and functional role, integrated into the boundary fence of St Mary's Hospital. A series of granite benches is underlit by white fluorescent lamps integrated into their structure.



Woodhouse Lighting



Speirs & Major



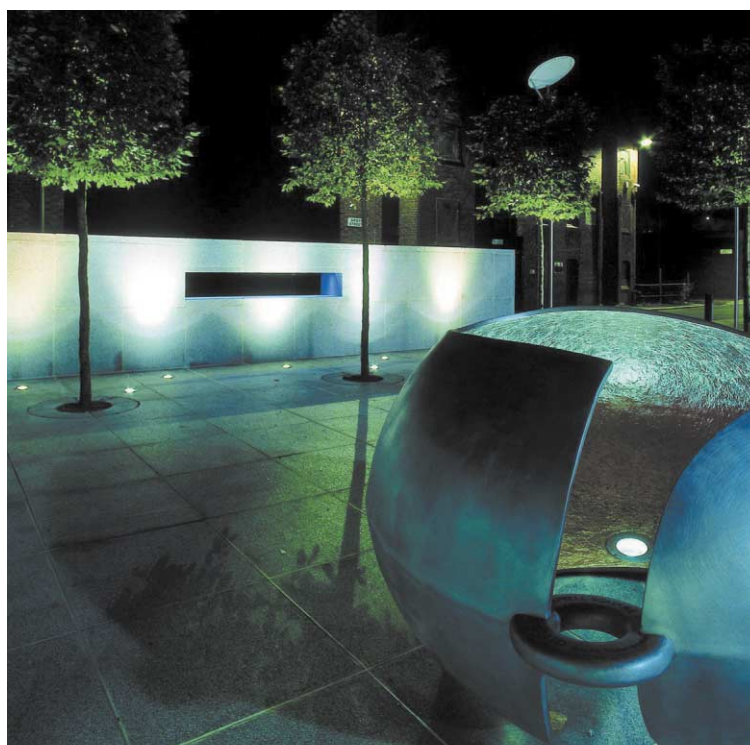
Woodhouse Lighting

can be adjusted on site, a minimum IP68 ingress rating, which makes them potentially submersible in water, high impact rating top glasses – and a ‘cool touch’ mechanism to reduce the top glass temperature. In sensitive locations, a flat (not humped) rock guard accessory is also advisable.

However, architects, developers and even local authorities are becoming ever more demanding – and dynamic, changing lighting effects for different times of the day or week, usually involving colour, are now firmly on the agenda. In larger spaces, with tall surrounding building structures, this has often been achieved rather indiscriminately, using high-powered, colour-change projectors – for example in some of the schemes resulting from the 1997 lighting plan for Croydon town centre. But their applications are limited and controversial. Other techniques include internally lit colour lighting features, such as the large cubes used in the Birmingham Bull Ring development.

### Small-scale effects

While static colour filters and colour lamps have been with us for years, far more versatile, small-scale colour effects can now be achieved with the new generation of LED fittings integrated into floors, walls, steps or other landscape features, as way-markers or to play a purely decorative function. These illuminated low level (in both senses of the term) ‘textural’ details can often be as important as large-scale illumination for enhancing the lit scene. Larger LED fittings can now be even



BCA Landscape

## CAMPBELL SQUARE, LIVERPOOL

This small, 25m<sup>2</sup> public square in Liverpool was recently lit by BCA Landscape and the lighting design treats it as an ‘outdoor room’. Indirect Woodhouse fittings wash in from the adjoining pavement, but the feature lighting focuses on the small trees and an internally lit sculpture and feature wall. The tree canopies are lit with narrow-beam burial fittings, and the feature wall, forming a lit backdrop, is scalloped with a row of wide-beam versions. The sculpture, taking the form of an opening seed-pod, is enigmatically lit from within by a single, wide-beam CDM fixture.

used as small spotlights or uplights for walls.

The main advantage of LEDs is their small size, safe, low voltage operation, high durability, ability to offer infinite colour choices, increasing energy efficiency and extremely long life – a claimed 50,000 hours, which makes them a virtual ‘fit and forget’ product. If you want to avoid having to cable them in, there are even solar-powered versions, such as the Tsola LED tile from

Light Projects. However, specification of LEDs should only be done with specialist help – there are a lot of companies rushing into the market with cheap, unreliable products. Once again, as with direct burials, an IP68 (submersible) ingress rating is essential.

In addition, linked to a digital programmer, RGB (red-green-blue) LEDs can be programmed to offer various dynamic, moving colour scenes. In my current project in the northeast, for example, we are installing around £50,000 of LEDs, single colour and RGB, within the new landscape features, as well as to uplight trees and a water feature. In the near future, LEDs will take over from low voltage tungsten and fibre optics (which are high maintenance) for all water feature applications.

The truth is that urban space lighting is on the move – lighting technologies and design techniques are developing at an ever-faster pace. At long last, both the lighting industry and its clients and users have come to grips with the enormous potential of dynamic, visually interesting lighting to enhance all our lives. ■

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## CUMBERLAND STREET HOME ZONE, PORTSMOUTH



Philips

Lighting plays an important role in the design of home zones, with white light, light-fittings integrated on to buildings and the use of lit landscape features to give the area a distinctive feel, compared with surrounding roads, and make the area feel safe and usable at night by local people. Philips Lighting played a major role in the development of the Cumberland Area home zone in north Portsea, Portsmouth (see GP 11, page 14 and GP 19, page 21), lighting the adjacent street with white light from the company Iridium

lanterns. The square itself, which is constructed as a raised ‘table’ with beds and trees around the outside, has secondary lighting provided by Philips decorative Triangel fittings on low columns. Finally, the designated play area is lit with well controlled asymmetric floodlights, while white CDM fittings were specially installed to service the CCTV cameras.