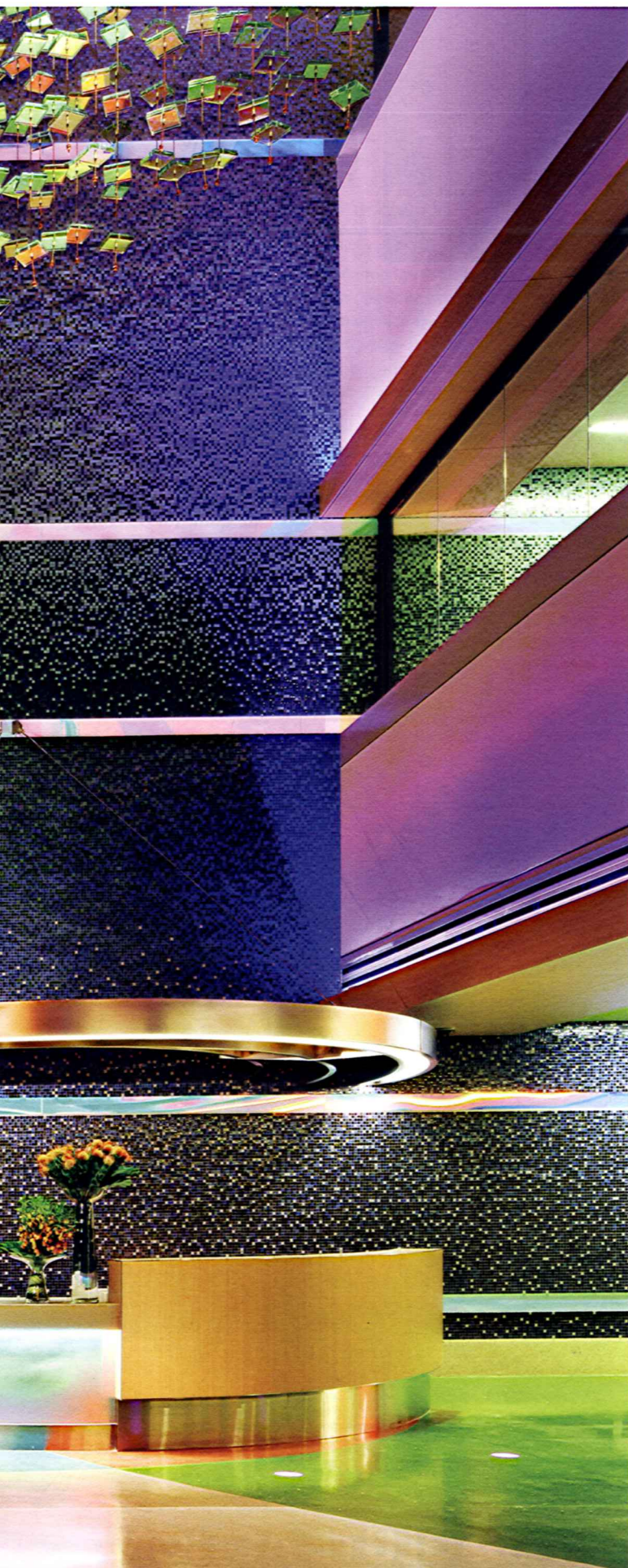


THE
CHILL
PILL



If we could flick a switch and make people feel better, we'd do it in a heartbeat - wouldn't we?

Wellbeing isn't only about our physical state; it covers the mental and emotional aspects of our lives too, and our wellbeing is directly affected by our surroundings – not least the lighting that surrounds us.

David Jackson of MGC Lighting agrees: 'Lighting has a perceptible effect on peoples' emotional wellbeing. For years, lighting has been used by designers and architects to enhance peoples' experiences, or provoke certain emotional responses within commercial environments, such as shops, offices, theatres and restaurants.

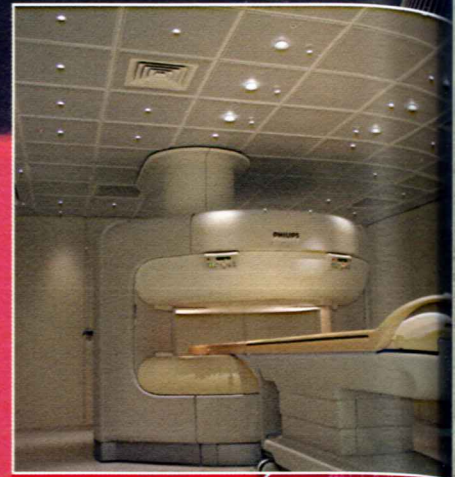
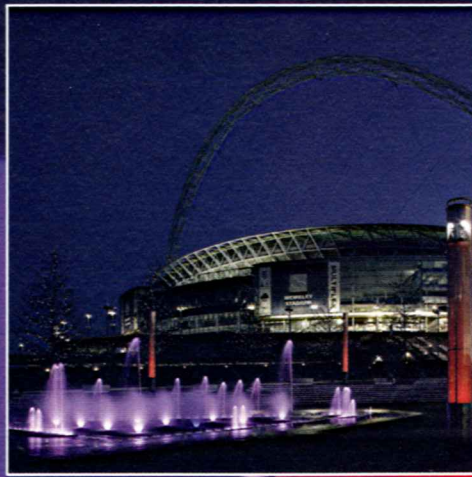
'Over recent years, the positive effect of lighting on mood has been applied with great success to the healthcare sector. Trials at a variety of hospitals have found that, when used effectively in healthcare settings alongside functional lighting, well-designed ambient lighting can help aid the healing process by lifting patients' moods, in turn enhancing both patient and staff experience.'

And it's not just patient moods that can be affected – their recovery is paramount. According to Lyco's Glen Harper: 'Installing LED into a healthcare environment will have a drastic effect on energy consumption and your carbon footprint, but it can also be useful in preventing the spread of bacteria and germs. Because lighting maintenance is virtually eliminated, there'll be no regular changing of bulbs to unsettle dead bugs, bacteria, and dust. For the same reason - because LED units don't need to be accessed - their housing can be comprehensively sealed and thus protected against bacteria.'

IN THEATRE

Fibre optics for the medical sector are most commonly associated with endoscopes: the light that is transmitted through a single optical fibre can illuminate an object inside the body sufficient to allow a surgeon to detect any anomalies, photograph and correct them with an intense beam of light, resulting in little or no bleeding. It would therefore be safe to say that fibre optic technology has transformed surgical procedures in the last forty years.

But what other uses could fibre optic lighting offer the medical sector, other than helping to save lives? Louise How of Absolute Action explains: 'Fibre optics can provide true colour, shadow free, precise, directional lighting in the operating room. One light source can be used to light a multitude of flexible, multi-directional light heads equipped with multi-faceted reflectors, to provide pure white light without any variation in intensity. 'If operating room lights can be made multi-positional, it follows that they are inherently more useful for the surgical team, who can position them according to circumstances. Furthermore, given that operating theatres contain hazardous materials, such as flammable oxygen and anaesthetics as well as highly sensitive electro-magnetic equipment, the cold light provided by fibre optics ticks all the safety boxes. Additionally, it reduces the need for air-conditioning since the light source can be housed in a separate room.' ...



Specialists in bespoke fibre optic lighting solutions.

ABSOLUTE ACTION
DESIGNERS OF FINE FIBRE OPTIC LIGHTING



...AND RELAX

What about clinics and outpatient areas? Surely, good lighting to see and be seen by could be combined with something to soothe patients' fears? In central Denmark, Silkeborg Hospital's management commissioned lighting designer, Rune Tønnes to help effect just such a system, starting in its radiology department.

'One of the challenges was, being south facing the X-ray and MRI rooms were flooded with daylight.

Clinicians had to close the blinds in order to work, but were then left with poor artificial lighting,' explained Tønnes. In the control rooms, certain light levels and temperatures were necessary to ensure monitors could be seen easily. Tønnes specified a mixture of primary reds and blues for viewing the scanner monitors and cool blues for ambient lighting, with a bright spotlight for reading notes.

In the X-ray suite, staff had struggled to see the targetting light on the photographic plates.

Tønnes continued: 'Now, when the X-ray aiming light is activated, the lighting changes automatically to primary blue, enabling easy viewing of the machine's warm white lamp. Turning the lamp off restores the normal lighting.'

'In the CT rooms, lighting serves a dual purpose - to assist staff and help relax patients. If someone's heart were being scanned, they would understandably be anxious. So rather than clinical white walls, the lighting provides warm, comforting, soft colours for the patient.'

Lighting control is provided by an ETC Unison Paradigm system, which, Tønnes explained, 'is the only system capable of doing exactly what I wanted. The clinicians are all trained in how to use the lighting, and because each has their individual preference, they can select the colours which suit them best.'

Interestingly, the lighting is still T5 fluorescent tubes, but Tønnes specified a mixture of warm and cool blue tubes, which can be set as required for the specific task and programmed in a 24-hour sequence.

'Children can get a colour change sequence,' explained Tønnes, 'because the staff thought that changing colours would make it a more pleasant experience for them - and, of course, distract them.'

“ Little as we know about the way in which we are affected by form and colour and light, we do know this: that they have an actual and physical effect.

Florence Nightingale

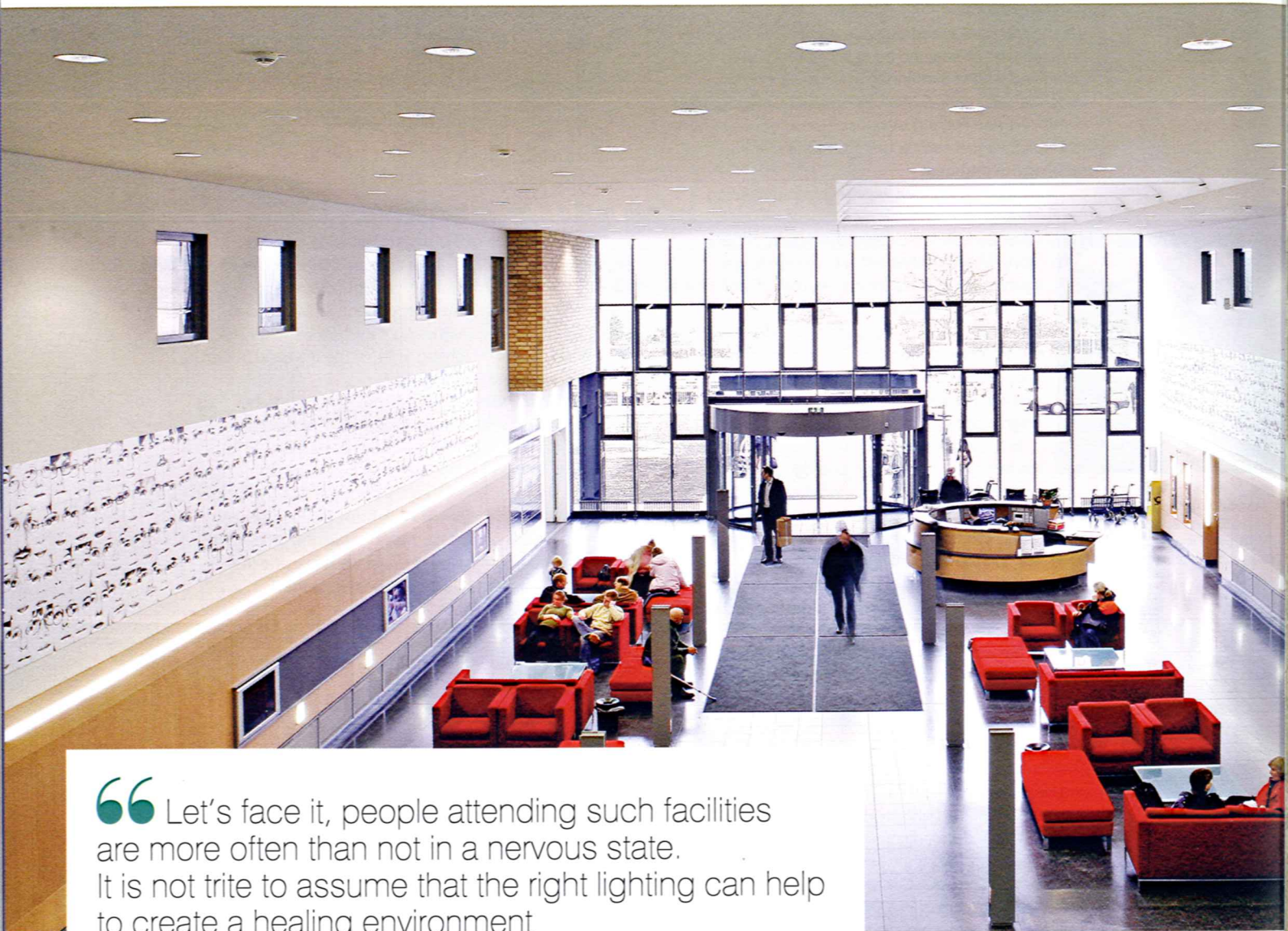
The next phase of the project includes improved lighting for the waiting room and medical secretaries' areas, with the same functionality of colour temperature control, task-dependent lighting and daylight harvesting. A Paradigm system with lighting designed by Rune Lighting will then be installed in the hospital's new A&E department.

'This is the first of what we hope will be a number of regional hospitals across Scandinavia to be fitted with modern, contemporary lighting powered by ETC Paradigm,' explained Søren Jørgensen, project manager for Bico, the equipment supplier for the Silkeborg project. 'Hospital users traditionally have had cold, unpleasant lighting, in addition to the stress of whatever procedure they are undergoing. Now, at least we can make the whole experience a little more pleasing to the eye.' ...



Above: Phillips mood lighting used to aid recovery.
Below: Fibre optics from Absolute Action.





“Let’s face it, people attending such facilities are more often than not in a nervous state. It is not trite to assume that the right lighting can help to create a healing environment”

JUST VISITING

Glen Harper of Lyco suggests conversion to an LED scheme as quickly as possible to save money. ‘Though LED lighting is expected to eventually fall in price through cheaper industrialised processes, the money that institutions burn through inefficient lighting schemes makes the waiting game an expensive one!’ he warned. ‘An LED conversion requires a significant up-front investment, but without exception, all investors see a payback on that investment within a short space of time. Healthcare businesses of all types, including trusts, private hospitals, hospices, and care homes, can vastly decrease energy use and carbon emissions with a switch to LED.’ Harper continued: ‘LED ceiling panels and downlights provide high quality, balanced lighting in waiting rooms.

A warm light in these areas helps patients to relax, though it should be used in conjunction with natural daylight wherever possible, which helps to connect visitors to the outside world and makes them feel less isolated.

‘Dimmable solutions can work well, because then ambient light can be controlled in accordance with the intensity of incoming daylight. Ceiling panels, however, produce a wonderfully diffuse and evenly spread light that looks very natural. Depending on the type of waiting



Top: An inviting entrance at Asklepios Klinik Hamburg
Above: Absolute action’s adjustable bedhead fitting

room, lighting in these areas can be more decorative, and designed to make people relax. Wall, table, or floor lamps are not uncommon adornments, and in many cases will be served well by LED lamps. The Bologna 160 LED wall light is a dedicated fitting from Astro requiring an up-front investment, but once installed, it will yield many years of unmaintained service, thanks top-quality Cree LEDs.’

Louise How believes clinic patients could benefit from mood lighting too. ‘The importance of careful lighting of clinics and waiting rooms is twofold: patient need to be able to navigate from A to B without risking injury, and they also need lighting that is soothing and restful. Let’s face it, people attending such facilities are more often than not in a nervous state. It is not trite to assume that the right lighting can help to create a healing environment. Light impacts how a person feels, a person’s sense of wellbeing and emotional health. Consequently, modern, forward-thinking health practitioners consider the ambience of a clinic to be extremely important to both the patients undergoing treatment, and the staff who work there on a daily (and nightly) basis. Coloured lighting can be used to create a peaceful effect that makes a hospital seem less intimidating.’ ...

“Stimulating, fun lighting can help children relax and feel safe

It is with this in mind that Absolute Action worked with architect, Frederick Gibberd and Partners to create a welcoming ambience for the reception area at BUPA's headquarters in central London, by highlighting the curved reception desk and specially commissioned works of art with decorative fibre optic lights. The frosted glass within each barrel-shaped output fitting softens and broadens the beam to deliver an attractive pool of light to the underside of the top glass panel - and glare is eliminated. A warm 3000K colour temperature lamp was used, which blends with the rich tones of the reception desk.

WELCOMING WARDS

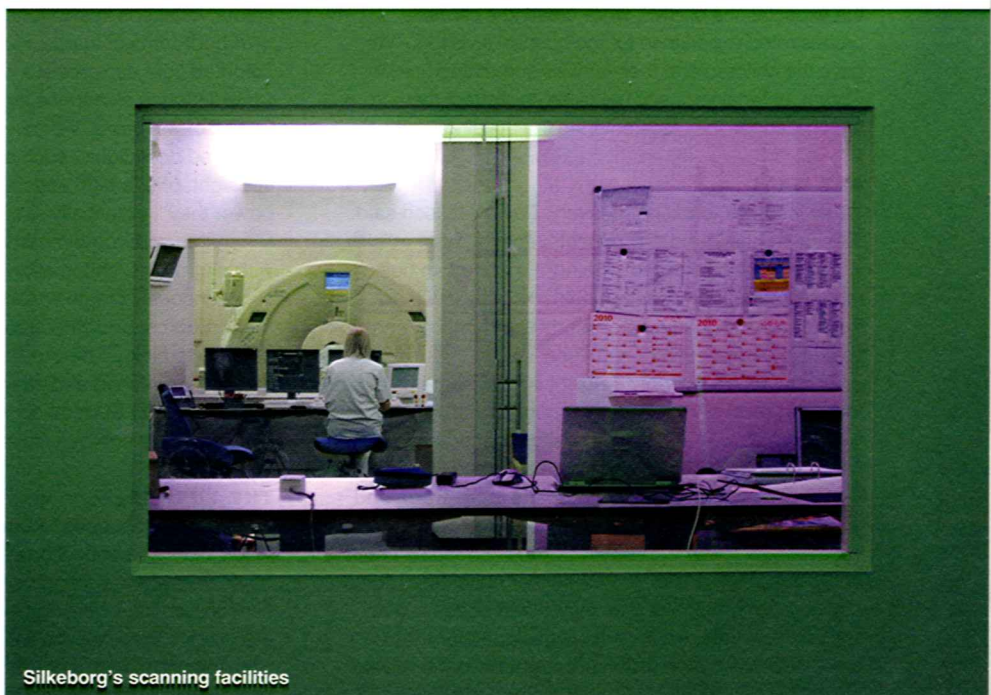
'Lighting can have a positive impact on people at an emotionally stressful time,' asserts How. 'Stimulating, fun lighting can help children relax and feel safe. Similarly, neutral and serene lighting can have much the same effect on older patients. The benefits people derive from the ambience of spas and health clubs has not been lost on the new generation of holistic-thinking health practitioner: large open airy spaces, with gentle light can help patients recover more quickly.'

When it comes to colourful surroundings, nothing beats Arizona's Phoenix Children's Hospital. When Dallas-based architectural firm, HKS performed a \$538m expansion of the hospital, the renovation design was based on the theme of a desert flower blooming at night. Scott Oldner, principal of Scott Oldner Lighting Design, helped HKS form a real oasis in the desert with innovative interior and exterior lighting that reflected the project's theme.

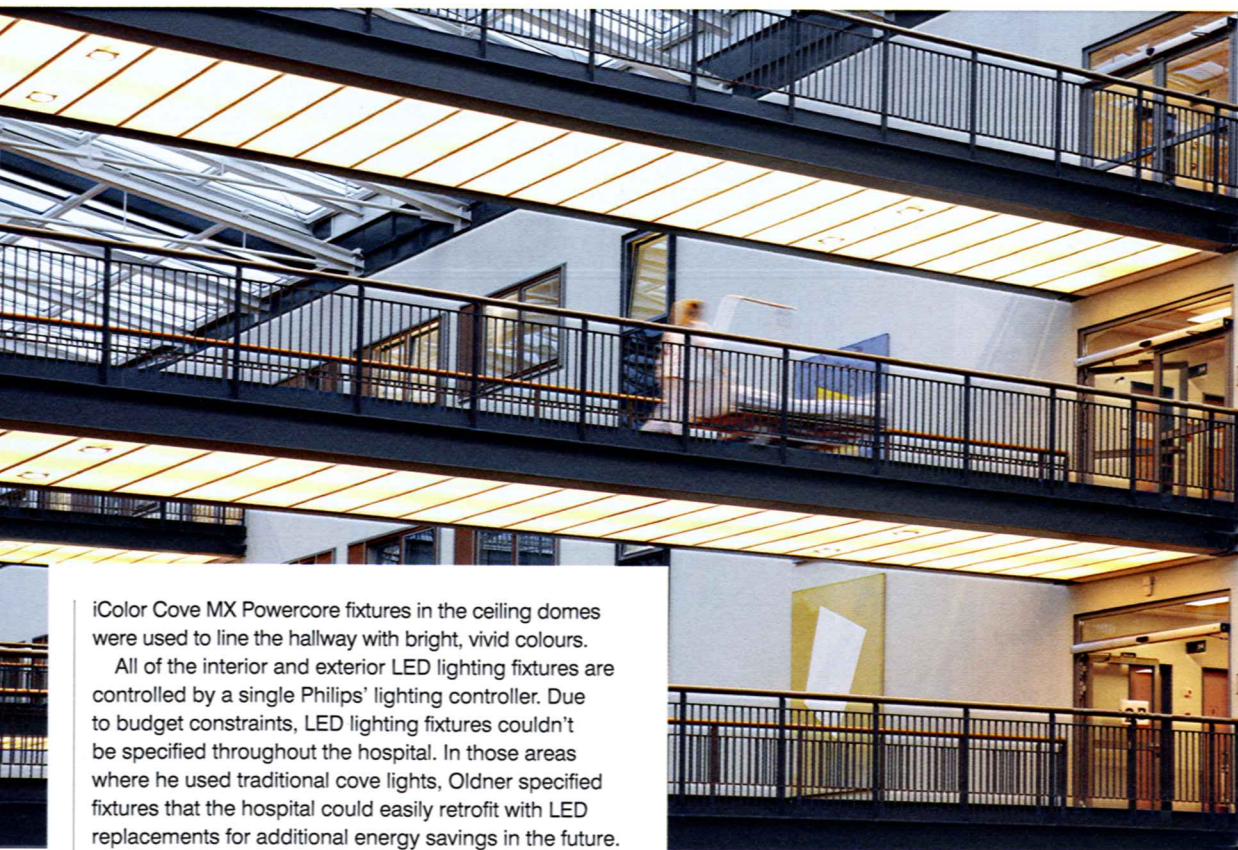
Oldner specified Philips Color Kinetics LED lighting fixtures to create an immersive escape for patients and their families, a distraction from the medical problems surrounding them. For the exterior design, Oldner had to comply with a number of up-lighting and building lighting restrictions. He wanted to illuminate exterior architectural elements, to turn the building into a beacon that could be easily seen from all directions, while adhering to the local Dark Sky ordinance and the project's sustainability and budget requirements. LED lighting fixtures were the perfect choice. Oldner used iColor Accent Powercore (now specified with iColor Accent MX Powercore) to outline the building's distinctive architectural fins, and to serve as a canvas for artistic, animated coloured displays. Long ribbons of iColor Accent Powercore fixtures descend the front of the building, and merge into runs of iColor Cove MX Powercore fixtures in the lobby area, visually connecting outside and in.

Entering the building, patients and visitors find themselves in a cheerful, colourful lobby up-lit with rows of concealed, colour-changing fixtures. The main corridor features a water wall that comes as a bit of a surprise to first time visitors. The initial design called for an indoor water wall fountain, but due to costs another alternative needed to be found.

'Why not do it with light?' Oldner suggested. HKS lined the wall from floor to ceiling with textured, wave-patterned acrylic, then Oldner used iColor Cove MX Powercore fixtures to up-light each section of the acrylic with a water-like effect, incorporating varying shades of blue and aqua. To add more life to the wall, he used theatrical gobos in various shapes to project coloured patterns. Finally, embedded ...



Silkeborg's scanning facilities



iColor Cove MX Powercore fixtures in the ceiling domes were used to line the hallway with bright, vivid colours.

All of the interior and exterior LED lighting fixtures are controlled by a single Philips' lighting controller. Due to budget constraints, LED lighting fixtures couldn't be specified throughout the hospital. In those areas where he used traditional cove lights, Oldner specified fixtures that the hospital could easily retrofit with LED replacements for additional energy savings in the future.

Interior designer, Sandra Miller suggested embedding iColor Tile MX fixtures in the walls for way-finding and interactive fun down at toddler level. iColor Cove MX Powercore fixtures also illuminate the back walls of the retail store display boxes, while halogen spotlights, properly dimmed, set off the merchandise in white against the full colour backdrop.

'From the start of the design process, beautiful, magical colour was required for the desert blooms concept, the brainchild of HKS,' said Oldner. 'Only Philips Color Kinetics had the quality, specialised product offerings, and customer service needed to realise our vision.' By turning his lighting vision into a reality, Oldner satisfied the expectations of HKS, while creating a carefully orchestrated experience for the hospital's visitors. 'We gave the children and their families something unique, vibrant, entertaining, and full of life, to distract them from the challenges they face entering the building.'

GET WELL

When it comes to aiding recovery, David Jackson said: 'Research has found that patients recover more quickly if they are not depressed. The right lighting can help regulate natural processes within the body, such as the sleep cycle, leading to better sleep duration – an essential component for recovery.'

Of course, it's not only ambient lighting that has a part to play in recovery; good task lighting is vital for patient wellbeing, as well as staff and visitor comfort and safety, as How explains: 'Being able to sit and read in bed with a light on that does not disturb others in the ward, and which can be precisely and safely directed toward a distracting book or even a pair of knitting needles could be just what the doctor (and the other patients) ordered.'

'The gooseneck touch-activated bed head reading light, for example, was originally designed for the most exclusive hotels, but has caught on in the private hospital sector as an ideal, safe method of allowing



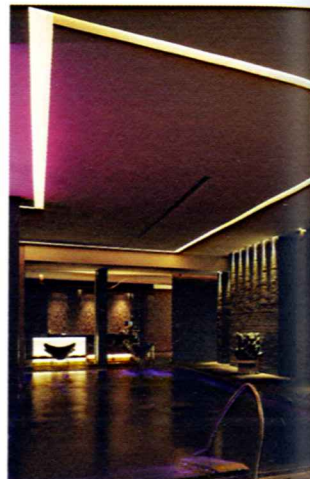
patients to read at night with minimal disruption to others, and with no risk of harm to themselves as there is no heat or electricity at output. A slim-line, low voltage projector is tucked neatly behind the bedhead and the light is conveyed along fibre optics to the flex-and-stay gooseneck output.

'The light is easy to manipulate to almost any angle and can be dimmed or brightened by touch, is energy efficient, and easy to maintain. Medical practitioners can find the directional quality of the fibre optic light handy when examining patients, not least because it provides a very white light that is perfect for distinguishing true colour variations in skin tone, wounds, etc.'

In bedrooms or wards, Harper believes: 'a warm-coloured light can create a welcoming, soothing effect, while flattering skin tones and providing a general feeling of wellbeing. 'For overall bedroom lighting, recessed downlights, such as JCC's Fireguard LED7 spotlight, offer a high specification, and using just 7W of power they'll potentially save heavily on energy costs. Dimmable and non-dimmable lights feature in this range, with dimmable lighting allowing further opportunity to simultaneously create ambience and save energy. 'Also for bedrooms, dedicated reading lights will encourage patients to pick up a book, especially since they're invariably switched and easy to turn on and off. Wall-mounted LED reading lights are space-conscious, and extremely energy-efficient.'

THE FUTURE

The final thought goes to David Jackson, who adds a whole new area of healthcare lighting to explore: 'The other area where lighting can be used to great effect is in sensory rooms, where lighting, textures and fragrances are used to stimulate the senses of children and adults with special needs,' he said. 'In this particular application, lighting is an incredibly powerful visual aid.' ■



Top left and above: Well lit corridors at the Asklepiosklinik, Hamburg. Top right: Patient bedrooms at the Asklepiosklinik. Above: Absolute Action creates drama for BUPA.

Contact

MGC Lighting www.mgc-lighting.com
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