

luminous



The art of presentation

Hospitality is a luxury

Marinella Patetta and Claudio Valént

A human story

Rijksmuseum, Amsterdam, The Netherlands



POINT OF VIEW

What is at stake when one turns around a large design project? Imagine you are a designer... To what extent will you allow yourself to discover solutions you haven't seen before? How strong is your curiosity?

Design relies on the application of curiosity and exploration. It goes beyond the boundaries of the known to present new and unexpected ways to solve the problems around us. One proven way to do this is to be open to the thoughts and visions of others - to shift your point of view.

In this issue of Luminous, we offer you a tremendous opportunity: to shift your point of view. Get to know experts and their views on light, and be amazed.

We are very proud to have realised the gallery lighting of the the Rijksmuseum in Amsterdam, home to some of the world's most famous paintings, and now also the world's most significant indoor LED lighting project. And in this special issue of Luminous we show the point of view of the architect, the client, the lighting designer, and many others. They have all contributed to the museum's 'Art of Presentation'. Read their stories, and see how they could not have done without each other. Enjoy, satisfy your curiosity, get a new idea or two, and let us know your point of view!

And there is more. We talk extensively about education, with reports on Parsons in New York City, where artist and designer Derek Porter has developed a lighting design curriculum that is unique in the world and that crosses the boundaries of different disciplines and professions, deliberately and profoundly. It is an extraordinary training that delivers well-rounded lighting designers and that is able to change and adapt itself all the time.

Our very own Christian Ferouelle was at the Hochschule Wismar, with the lighting masters students who did a hands-on course in lighting design. The results are stunning. This is all about the humanity of light, the intense interaction between people and their environment, a constant provoking of new ideas and new images. I am excited to see these results, which are a testimony to my statement that light is more than art and science, it is a craft as well. Talk about shifting your point of view!

Still want to explore more? Check out the webinars at http://www.lighting.philips.com/main/connect/Lighting_University/. Many of these courses are presented by industry leaders, scientists and designers. They shift your point of view! The webinars cover the fields of technology, science and design. To give you an appetizer, researcher Russell Foster explains the biochemistry of light in this issue of Luminous.

I encourage you to continue the conversation. We are very keen to hear from you!

Let's connect via LinkedIn, where our group Innovations in Light has more than 50,000 members. Or use Facebook, Twitter or email. See the details below. The entire team here at Philips would love you to join the conversation. I am sure you can shift our point of view as well.

Rogier van der Heide



PHILIPS

colophon

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ISSN nr | 1876-2972 12 NC 322263567645 **cover** | Rijksmuseum, Amsterdam, The Netherlands. *Dating from about 1000 AD 'The Antlers' is the oldest piece in the Rijksmuseum's collection and once graced the tomb of King Louis the Pious, son of Charles the Great.* **photo** | © Corné Clemens & John Geven Studio's **more info** | luminous@philips.com

THE ART OF PRESENTATION

DIALOGUE

BETWEEN MATERIALITY AND IMMATERIALITY

Alice Roux, Mattia Listowski and Éric Michel, France

HOSPITALITY IS A LUXURY

Marinella Patetta and Claudio Valént, Italy

EXPLORING THE THIRD PHOTORECEPTOR

The research of Dr. Russell Foster, UK

DOSSIER

Rijksmuseum, Amsterdam, The Netherlands

A human story

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Muriel Huisman and Wim Pijbes

ART AND HISTORY TOGETHER

Tim Zeedijk, Marleen Homan and Siegrid Siderius

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MAKING IT WORK

Luke Mevissen

FEEDBACK

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Derek Porter interview, USA

LED LIGHT PATTERNS

Play with light, shadow and effects

SOUNDLIGHT COMFORT CEILING

Acoustic ceiling solution with embedded LED lighting

WISMAR LIGHTING 2013

Faculty of Design, Germany

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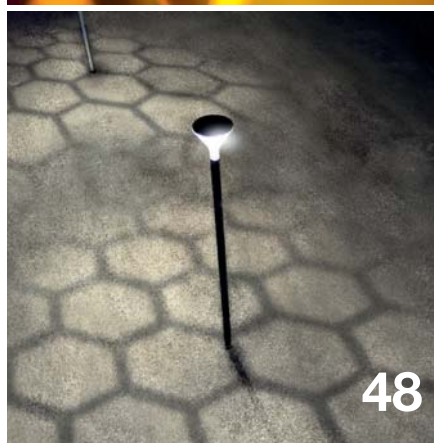
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LIGHT ART EXHIBITION, PARIS, FRANCE

Between materiality and **immateriality**

By Isabelle Arnaud

In the 14th arrondissement of Paris, three artists display landscapes made of light and a "cosmic dance of photons and pigments".





Éric Michel



Mattia Listowski and Alice Roux

In an exhibition entitled “Can your eyes see what is missing in the landscape?”⁽¹⁾, three artists – Alice Roux, Mattia Listowski and Éric Michel – presented works in which light and raw materials give rise to a landscape, a language. Instead of simply producing an exhibition of light art, the three creators have engaged in both a philosophical and an artistic exchange.

The exhibition took place at 19, rue Paul Fort in Paris where Hélène Aziza opens her home to artists for concerts readings and events. She provides an environment in which musicians, painters and sculptors can display their works. When she asked Alice Roux and Mattia Listowski to create an exhibition of light art, they in turn invited Éric Michel to join them, since they had been exchanging ideas with him about art, light and philosophy.

They explained the exhibition in the following way: “Our proposal is the result of

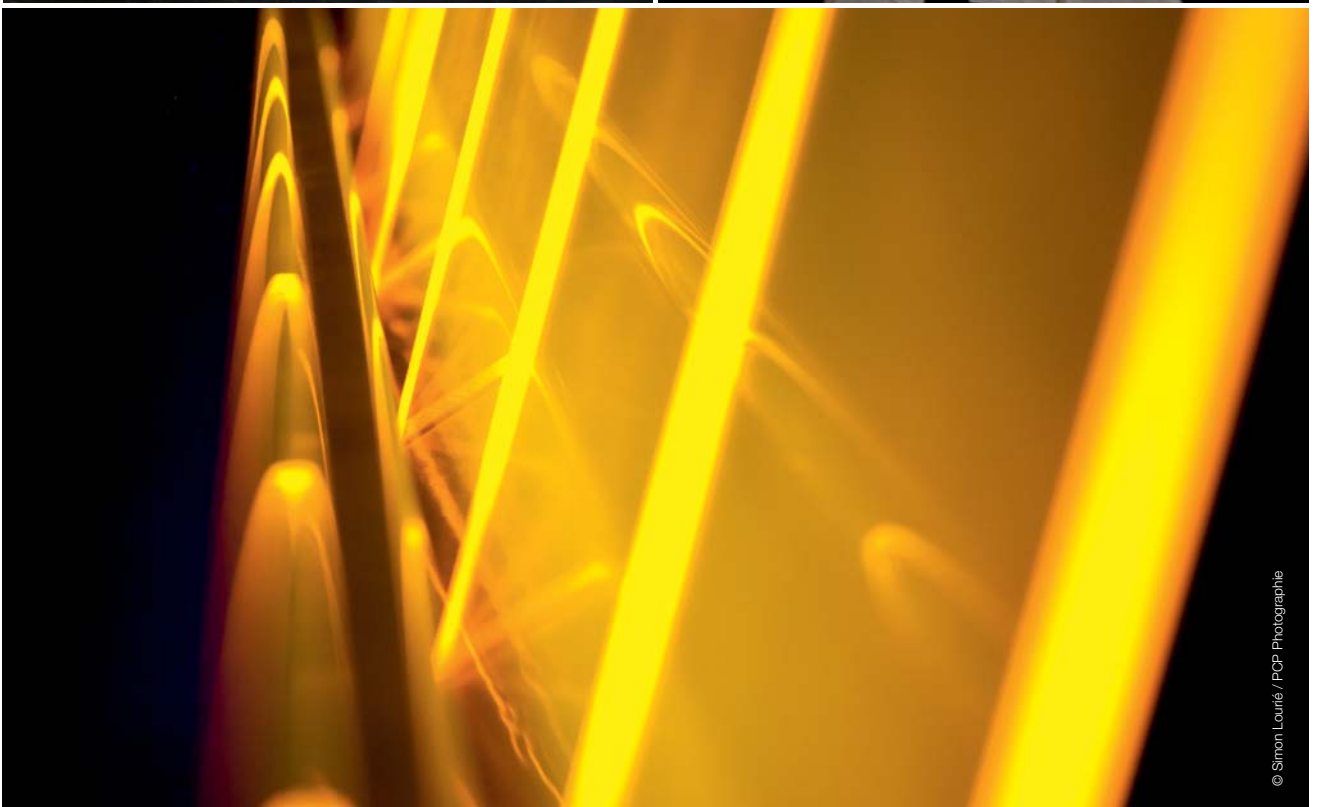
an encounter which made us discover the links between our approaches over time. Our universes intersect. Our experiences and reflections nourish a discourse whose meaning is based on contemplation, the boundary that does or does not exist between materiality and immateriality, the questioning of our spaces and the boundaries that enclose them, skyline, fact and fantasy. We invite you to join the cosmic dance of photons and pigments.” Light is used as a medium, as a language, and as with poetry, we do not know how others will perceive it. Our perception depends on our own sensitivity, on artworks and on natural light in which they are presented. Starting from the ground floor, where daylight bathes the entire space, the photography “Les Moulins de lumière” caught different forms of light in bright colors, leaving the visitor free to interpret the images as he likes.

The idea was not just to show their individual artworks but also to create something together for this special space. When asked how they chose each other's existing artworks, Éric Michel explains that they either were related or had a link to the theme of the exhibit. “As for the creations

we did together, we took our inspiration from the space provided by Hélène Aziza, addressing the visitor through his own perception. It was not important to know who the artist was: me, Alice and Mattia or the three of us. We wanted the visitor to walk through the exhibition as if reading a story, guided by the light. Light is the privileged vehicle for my sensitivity, for my work. Light has something unique: it is simultaneously material and immaterial.”

“We work with all kinds of different materials,” said Roux and Listowski, “with wood, concrete, earth pigments and... light. Whether it is natural or artificial, light is everywhere, light can be in art, or is art. Our duo, inspired by meetings of places and people, gives each of us the opportunity to bring his or her own sensitivity to a common project. The creation of our pieces and the development of our universe are based on a constant emotion when facing our environments, landscapes, the spaces that surround us, the volumes that inhabit them, the lights that carve them”. An excellent example is the sculpture ‘Souffle de lumière’ [Breath of light] where wooden blades make the light of candles flicker as if dancing around a fluorescent tube.

(1) French exhibition title “Avez-vous dans les yeux ce qui manque aux paysages”, from Nicolas Sauvage, “Fenêtres”, Anthology of poems, Librairie-Galerie Racine, 2004.



Top: Alice Roux and Mattia Listowski, 'Souffle de lumière', 2013.

Bottom: Éric Michel, 'Seven Keys - Monogold', 2013.

Pages 4-5: Éric Michel, Alice Roux and Mattia Listowski, 'Elements, in situ installation', 2013.



Beyond first perception

© Simon Lauré / PCP Photographie

Éric Michel, Fluo Blue, in situ installation, 2013.

As one travels down through the space, effects of darkness and light become more intense, surprising the visitor with the colourful 'Seven keys – Monogold' that seem to vibrate like the keys of a piano, or with the very striking 'Pink Tree' which floats in the air with its roots tinged with pink.

A great example of the interplay between the three artists, light and the visitors is the blue fluorescent tube that was directly inspired by Michel's work and which Roux and Liskowski installed under a black console at the top of the stairs. Once you have gone down a few steps, you can feel the blue light enveloping you and the space but you cannot see the light source. The physical effect gives way to emotion; the experience of the artists meets the

perception of the visitor: is he attracted by the light source itself or touched by its impact on his emotions?

The lowest floor opens on a earthy scene on which the three artists collaborated to create a powerful artwork, the apogee of the exhibition.

Here, light, water and sound contribute to the art at the end of this journey and lead to the final question: "Can your eyes see what is missing in the landscape?"

Websites

www.aliceetmattia.com
www.ericmichel.net



© Simon Louré / PCP Photographie

Top: Éric Michel, Alice Roux and Mattia Listowski, 'Elements, in situ installation', 2013.

Bottom: Alice Roux et Mattia Listowski, Isoshore 24, 2013. Éric Michel, 'Fluo Magenta', 2013.



METIS LIGHTING, MILAN, ITALY

Hospitality is a luxury

By Luigi Prestinenza

Milan-based Metis is a lighting design firm founded by Marinella Patetta and Claudio Valént. We caught up with them to talk about their experiences designing for the hospitality sector, a field in which the office boasts significant experience at the highest level. In particular, we were interested in their collaboration with Antonio Citterio Patricia Viel and Partners (ACPVP) on Bulgari Hotels.

What are your backgrounds? How did you become lighting designers?

Marinella Patetta: I graduated with a degree in architecture from the Politecnico di Milano in 1986. While I was a student, I worked initially with a lighting company that specialised in fashion shows, and later in the office of Piero Castiglioni. I collaborated with Alberto Seassaro on the realisation of the first masters' degree in lighting design at the Politecnico. Claudio was one of the other students.

Claudio Valént: I also have a degree in architecture. We met during the masters course and Marinella involved me in her collaborations with Piero Castiglioni, whom we worked with until 1989. We then decided to move on and create Metis Lighting.

What is Metis? Is it an acronym?

MP: No, *metis* is a Greek word that relates to practical, non-theoretical know-how, linked to astuteness and ingenuity. For us, light brings knowledge.



Claudio Valént and Marinella Patetta

Can you explain a little more?

MP: Light determines how we perceive space. Our way of designing light is to use it to celebrate architecture. It emphasises and gives value without dominating, exactly like a good film soundtrack.

CV: That is true; light cannot become the protagonist. We are not artists; we merely seek to interpret the buildings we are asked to work with. Our work focuses on the details. Our first client is the designer or architect. This is as true for interiors as it is for exteriors. Bad lighting can ruin a project....

How do you use light in the hospitality sector?

MP: We are very responsive to the way that space is used, above all to the typology of space. We try to distinguish between public areas, which are accessible to anyone, and private spaces, in this case the hotel rooms.

Mercury Hotel, Barvikha Luxury Village, Moscow, Russia
Architect: ACP - Antonio Citterio and Partners
Lighting design: Metis Lighting

Diffuse light can be used to balance the absence of natural light

CV: Clients must be offered the opportunity to create their own lighting in the hotel rooms. Some love soft, diffuse light, while others want more brilliant light. Everyone has a different sensitivity, and it would be incorrect to decide for someone else. There is also the aspect of function. It is necessary to consider the most minute details: for example, lighting in wardrobes or the correct illumination of the bathroom. The controls have to be simple: the rules of the game must be simple and intuitive.

MP: Public space is related more to the exterior, because it is actively used throughout the day. What influence does external light have? This is anything but an irrelevant problem. One need only recall that in the Bulgari Hotel in London the majority of the public spaces are located below ground level. Only the lobby, the bar and the reception area are at ground level. In this case, for example, the diffuse light provided, for example, by perforations in the ceiling, can be used to balance the absence of natural light.

CV: Yes, indirect light can be very helpful. In the case of the ballroom, for example, which is three levels below ground, the light from the cupola also allows for a variation in the temperature of colour, from cold to warm light based on the time of day and the use of the space.

MP: In the ballroom it is the cupola that provides the background lighting. There are also silver chandeliers that recall the brilliance and shimmer of jewellery.

What makes the spaces of the Bulgari Hotel in London so desirable? If I am not mistaken the restaurant is particularly successful...

CV: We sought to modulate light in a different way in each space. In the restaurant we played with the balustrade of the stair, realised in polished steel. The balusters terminate in glowing crystals that transform the entire stair into a gigantic light fixture.

MP: Next to the stair there is a large metal mesh which references Bulgari's classic pieces of jewellery. We lit the mesh both internally and externally, in order to create a three-dimensional effect. It may be a coincidence (smiling), but in this case we used a lot of equipment manufactured by Philips.

What about the lighting in the hotel rooms?

CV: In London most of the rooms run perpendicular to the facade, and so natural light only reaches a certain distance into the interior. Our lighting concept is inspired by the fact that in Antonio Citterio

and Patricia Viel's design the walls are given a special treatment and a darker colour up to a certain height, after which they become white, like the ceiling. At the point of the colour change we inserted a 6 x 2 cm linear lighting fixture that aims light upward using an asymmetric lens. This diffuse light is highly suggestive and helps to correct the problems created by the geometry of the rooms.

MP: The lighting is completed by a fixture that washes the drapery with light, emphasising it and picking out its pattern and quality. For the beds, next to the decorative side table lamps, we placed a pair of adjustable concealed lights for reading.

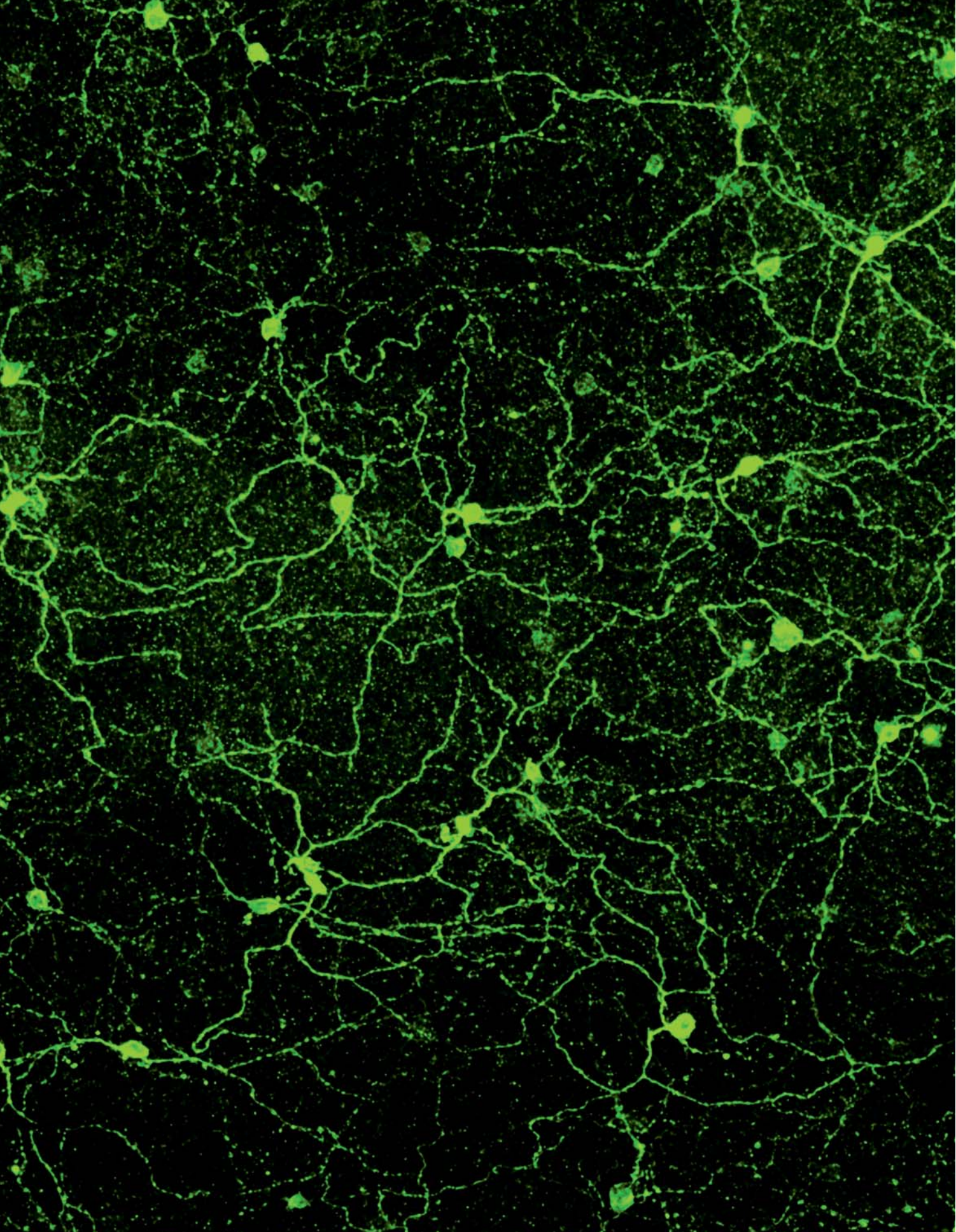
Finally, a word on LED lighting.

MP: It is undoubtedly the technology of the future, above all due to its energy saving properties. It is continually evolving and we are using it more and more often in our projects. However, we continue to focus a great deal of attention on the quality of light and on colour rendering.



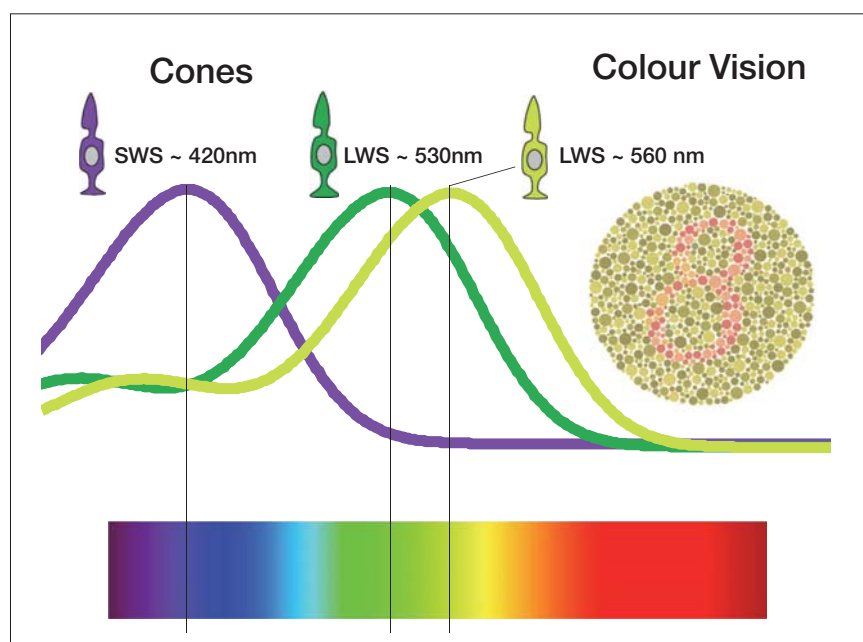
Bvlgari Hotel & Resorts, London, UK
 Client: Prime Development CTD
 Architects: Antonio Citterio Patricia Viel and Partners
 Lighting design: Metis Lighting





NUFFIELD DEPARTMENT OF CLINICAL NEUROSCIENCES, OXFORD, UNITED KINGDOM

From the third photoreceptor



By Ruth Slavid

Russell Foster, chair of circadian neuroscience at the University of Oxford, recently presented a webinar for Philips, talking about his research into the presence and effects of a 'third receptor' in our eyes.

Russell Foster is the scientist who has shown that our eyes do so much more than we ever thought they did. He is the discoverer of the 'third receptor', the element in our eyes that is responsible not for vision, like our rods and cones, but for responding to light in a way that regulates

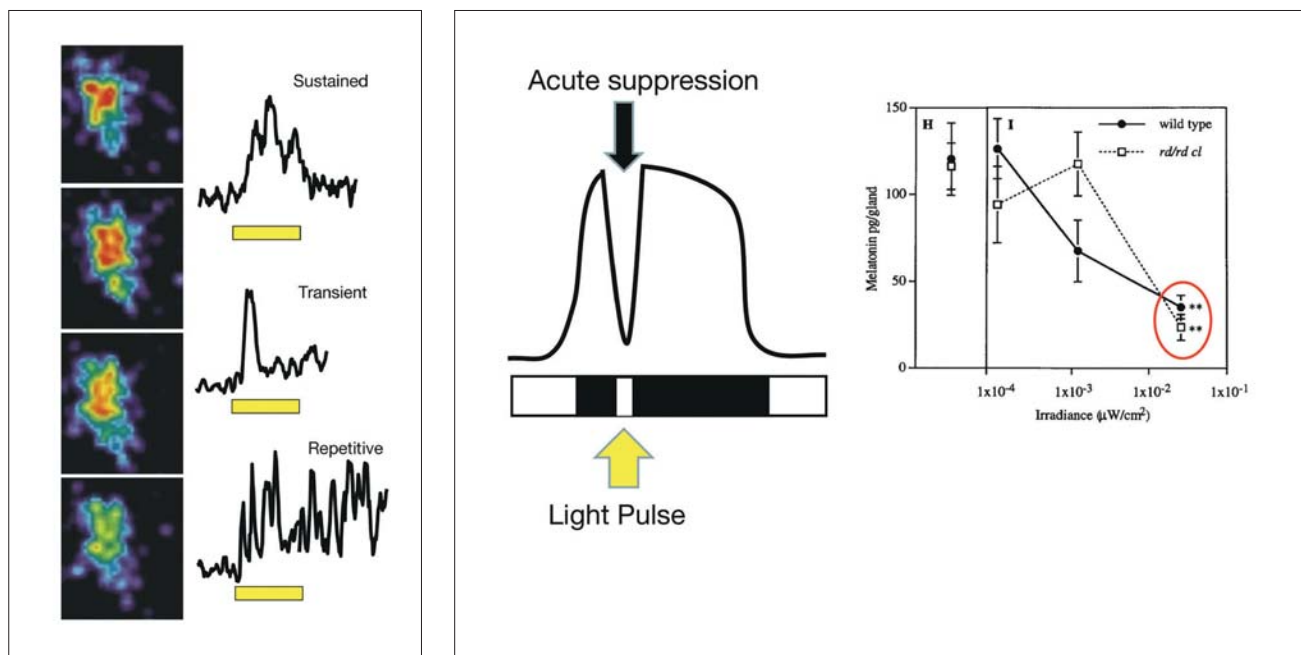
our body clock and sleep-waking cycles. The reason that it took until the 1990s to discover that our eyes play this role is because, unlike with vision, it is not something we are aware of - although Foster's experiments have shown that, at some level, we do know about it, even though we do not know that we know.

His research has now moved on. While there is still a lot to learn in terms of fundamental science, Foster is also looking at the impact that knowledge about the third receptor could have in a range of

Top left: Cones and colour vision for image detection.

Top right: Russell G Foster

Left: Multiple net of nerves from melatonin in the eyes. Russell G Foster (2013) Light and Time Webinar, Lighting University.



Left: Photosensitive retinal ganglion cells pRGCs from the mouse. Sekaran, S., Foster, R.G., Lucas, R.J. & Hankins, M.W. (2003) Calcium imaging reveals a network of intrinsically light sensitive inner retinal neurons. *Current Biology*, 13, 1290-1298.

Right: Regulation of the mammalian pineal by non-rod, non-cone, ocular photoreceptors. Lucas, R. J., Freedman, M. S., Munoz, M., Garcia-Fernandez, J. M. and Foster, R. G. (1999). *Science* 284, 505-507.

situations, from the design of old people's homes to the treatment of mental disease. For somebody whose work could have such immense and beneficial effects on the human race, it is ironic that it derives from an interest that he developed as an undergraduate, not in people, but in lampreys.

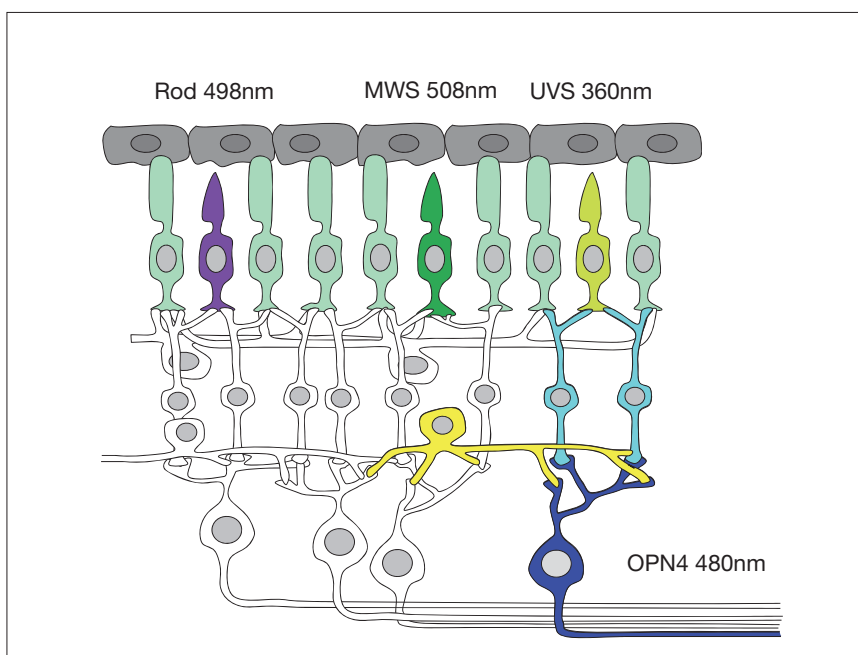
These primitive, fish-like creatures – England's King Henry I infamously died in 1136 from 'a surfeit of lampreys', that is eating too many of them – have two lateral eyes and also a third eye which is used not for vision but for the regulation of a variety of systems. In his third year, Foster studied the pineal receptors of embryo frogs. This, he said, "got me into the whole area of non-eye photoreceptors", and was the trigger for his PhD work, where he studied how

birds regulate their annual reproductive cycles by detecting the seasonal changes in day length. "Remarkably, birds use photoreceptors deep within the brain to detect day length," Foster said. "Loads of light can penetrate into the brain, and so it makes sense to have light sensors near those neurons in the hypothalamus that regulate reproduction".

Foster's research then moved on to mammals, and it seemed as if he had left this early interest behind. Because mammals have evolved from nocturnal creatures, we have lost much of our light sensitivity. We certainly don't have a third eye, like the lamprey, or deep brain photoreceptors like birds. Yet there was a puzzle. We regulate our body clocks by measuring the amount of light at dawn and

dusk. But just how do we do it? Foster knew that the receptor had to be in the eye, but he also knew that the rods and cones would be poorly adapted for the detection of the slow changes in light intensity at dawn and dusk. He wondered if there could be another receptor in the eye?

To follow this hunch, Foster studied a strain of mice that had a hereditary disease that destroyed almost all their rods and cones. He found, however, they could regulate their body clocks without impairment. This pointed to the existence of a third receptor. "I could make that jump," Foster said, "because of my early studies. The idea that there might be another photoreceptor in the eye was not so strange to me because I was used to thinking about weird photoreceptors".



Mouse Opn4, rod and cone photoreceptors. Russell G Foster (2013) Light and Time Webinar, Lighting University.

The response to this proposal in the 1990s was, Foster said, “pretty ferocious”. It was such a radical rethinking of the way that our eyes work, that many scientists refused to accept it. One of the arguments these opponents put forward was that the diseased mice still had some, albeit relatively few, rods and cones, and these were all that was needed to regulate the body clock. Foster therefore bred some mice in which all the rods and cones were completely “ablated” (switched off), and showed that they could still regulate their body clocks.

Foster was confident that this proved his argument, but there was still a lot to learn. “What was the light-sensitive molecule?” he asked. An action spectrum showed that the sensitivity peaked in the blue

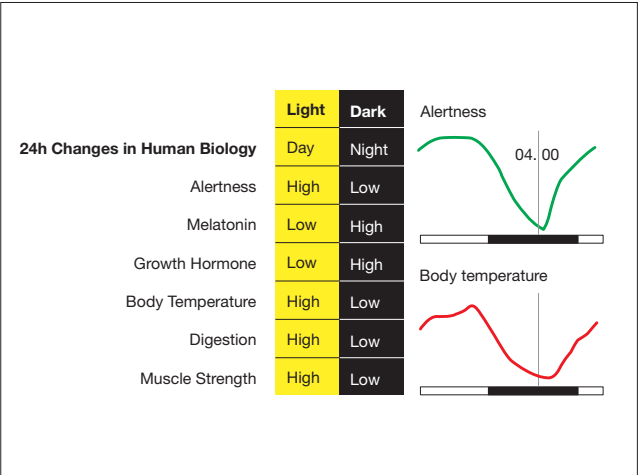
light range at 480nm, and as a result was completely different from the rods or cones in the mouse eye. This peak, and the shape of the sensitivity curve, predicted that the photopigment was based upon an opsin/vitamin A biochemistry.

At the time, lots of candidates were being proposed for the photosensitive molecule, including cryptochrome – which Foster says “irritated me a great deal as the action spectrum told us we were dealing with a vitamin A-based pigment and not a flavin molecule”. Finally a new opsin/vitamin A photopigment was identified within the eye and was named melanopsin, also referred to as Opn4.

Melanopsin was then shown to be localised within the retina in about 1% of the ganglion cells of the eye. The ganglion cells are the

cells whose projections leave the eye and form the optic nerve. These “photosensitive retinal ganglion cells” or pRGCs were found in mice by Foster’s group, in rats by David Berson and in monkeys by Dennis Dacey. The third photoreceptor of the eye had been identified.

The pRGCs play a critical role in regulating our daily cycles, including sleep. Without such cells, the body clock begins to drift out of synchronization with the dawn/dusk cycle, so that we get up later and later each day, which makes the body clock useless. Foster has also shown that these amazing cells in the eye also regulate lots of other functions, including the constriction of the pupil, our levels of alertness and the regulation of different hormones. “So in addition to the rods and cones, the eye



Left: 24-hour changes in human biology.
Right: Impact of environmental light on circadian response.
Russell G Foster (2013), Light and Time Webinar, Lighting University.

Typical Range Lux	Situation
100,000	Bright sunny day
10,000	Cloudy
~1,000 for several (2-6) hours	Saturates circadian responses to light
100-500	Typical office setting
1-10	Residential street lightning
0.25	Cloudy moonlight

contains a separate brightness detecting system that provides a measure of the overall amount of light in the environment,” Foster says.

The reason that Foster is now working with ophthalmologists is that few are aware of the importance of the eyes for regulating the body clock. Some eye diseases, such as macular degeneration, will have little impact on the third receptor, yet doctors still need to recommend to their patients that they seek out sufficient daytime light to ensure the body clock is appropriately adjusted. With other diseases, such as glaucoma, the pRGCs may be destroyed, and sleep cycles will be disrupted. This can be treated with appropriately timed melatonin before bedtime.

In comparison to the rods and cones, the third receptor is not very sensitive to light. It needs quite a bit of light and for a fairly long time to regulate the body clock, and this can be a problem for the elderly. The body clock is less responsive to light in older people, and frequently they don’t encounter much natural light, particularly if they are in a nursing home or remain indoors due to illness. Foster recommends that, where possible, the elderly should experience as much natural light as possible – particularly in the morning as it is morning light that is the most effective at setting the body clock. When light levels are increased in a nursing home during the day, it has been shown to stabilize sleep and even increase levels of cognition in those who are diagnosed with mild dementia.

Reestablishing the body clock using light in a range of conditions, such as in mental illness where sleep is very badly disrupted, “could be an exciting new treatment for many different illnesses,” Foster said.

Watch the webinar
www.lighting.philips.com/main/connect/Lighting_University/webinar-light-and-time.wpd

Website
www.ndcn.ox.ac.uk/team/researchers/russell-foster



Amsterdam, The Netherlands

Rijksmuseum

Back to the future

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Art and history together

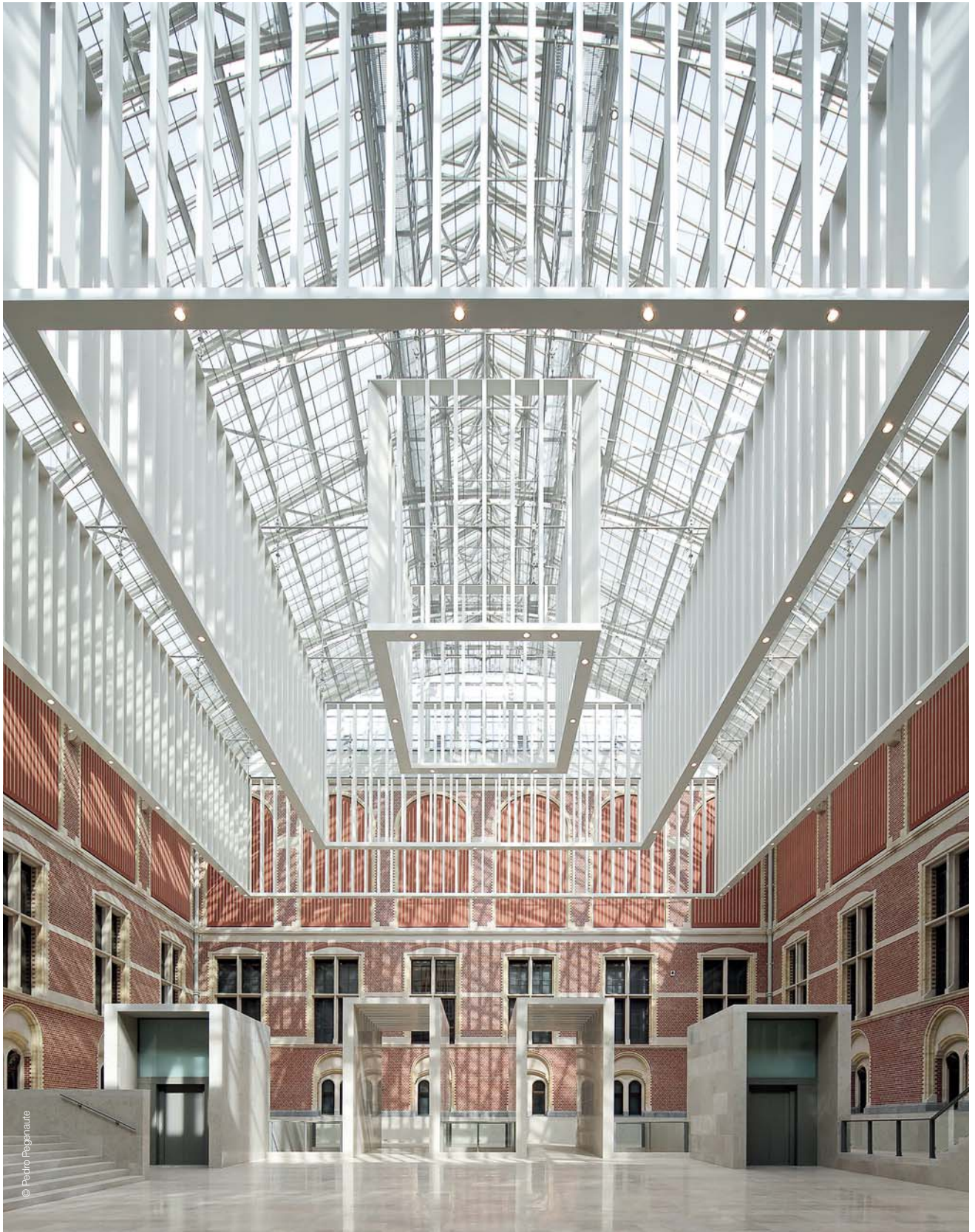
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Committing to LED

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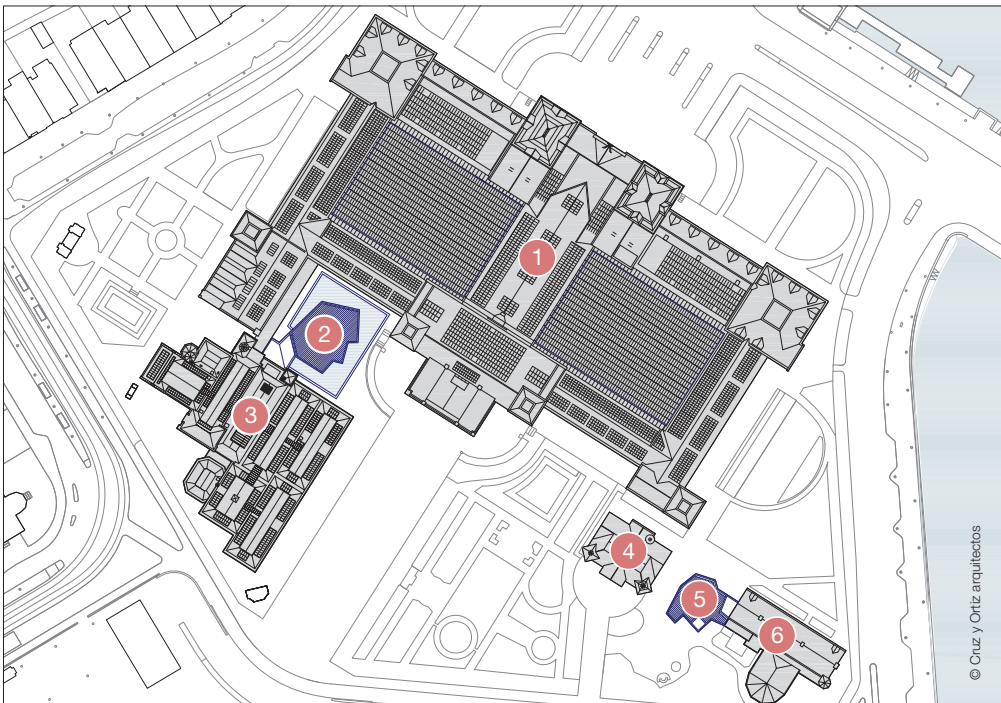
The revamped museum yard is completely outstanding with its white hanging structures.

RIJKSMUSEUM, AMSTERDAM, THE NETHERLANDS

Back to the future

By Ruth Slavid

The remodeling of the Rijksmuseum in Amsterdam both gives the museum an entirely new heart and restores much of the work of its original architect Pierre Cuypers. It is no surprise that visitors are flocking to it.



**Situation plan, new
Rijksmuseum, Amsterdam**
1. Main building
2. Asian pavilion
3. Philips wing
4. Villa
5. Service entrance building
6. Drawing school

Amsterdam's Rijksmuseum, which reopened to the public this spring, is, from the outside, a magnificent work of restoration. Its strong and highly decorated form looms over the Museumplein, a square on the edge of the city centre that is surrounded by three of Amsterdam's most important cultural institutions.

The first clue that one is going to have an utterly different experience from that offered before the museum closed to the public 13 years ago, comes as one enters the bicycle road that bisects the building. What was once a dingy and dull space is now bright and welcoming? And the crowds queuing to go in are waiting at an entrance that did not formerly exist.

This is the first indication that, within the shell, an entirely new museum has been created, one that is closer in some ways to the intentions of the original architect, Pierre Cuypers, when the museum opened in 1885 than to anything that has been seen since. Spanish architectural firm Cruz y Ortiz, chosen via a competition by the city of Amsterdam to carry out the rethink,

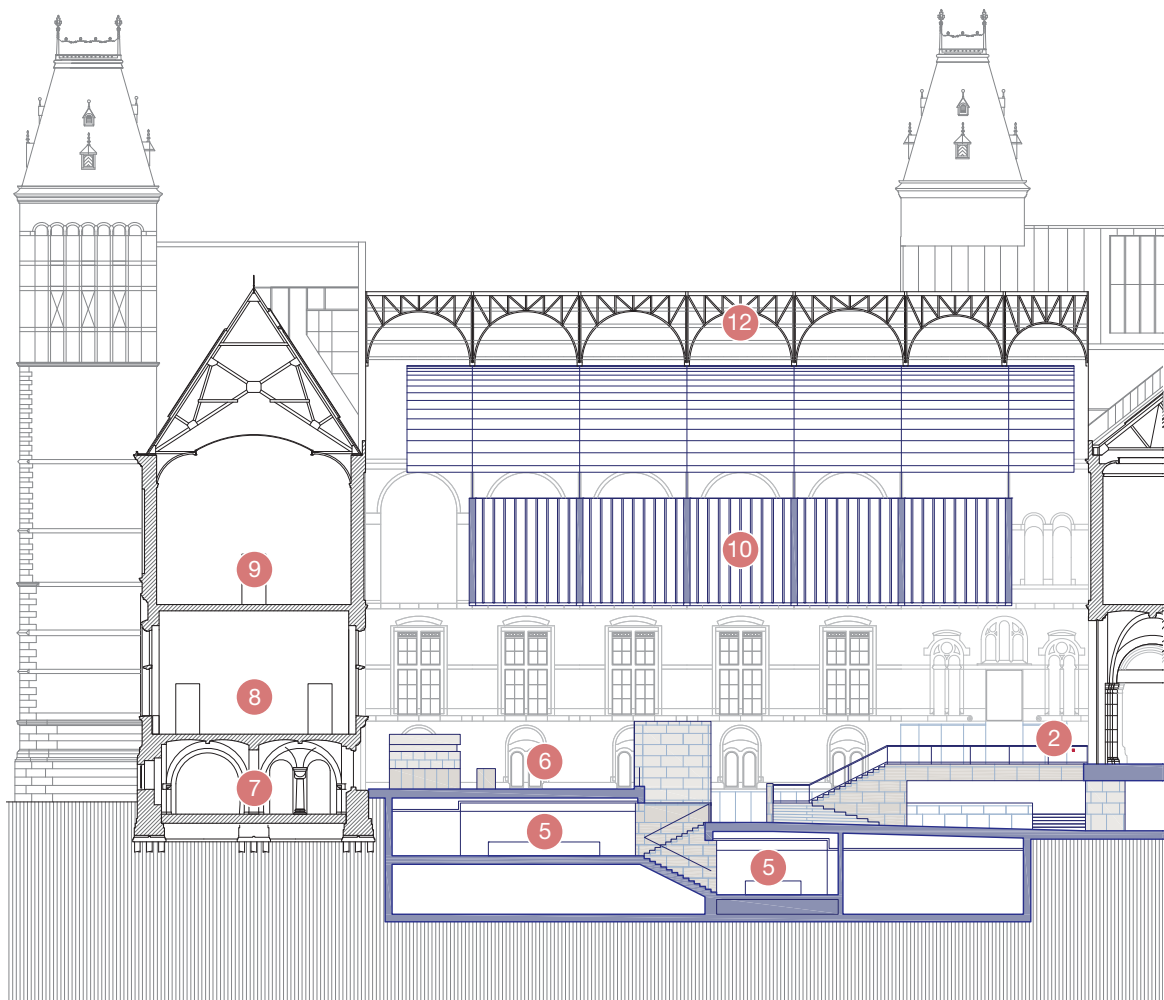
has given the museum a new heart, clearing out the accretions of decades from the two central courtyards, and linking them beneath the cycle way in a daring piece of engineering. It has provided a new setting in which one can view the superb art collection, of which the pinnacle is Rembrandt's Night Watch.

"Nobody knew what was here," said Muriel Huisman, director of Cruz y Ortiz in Amsterdam and the project architect. The project suffered delays but these were, Huisman said, to the design's advantage. "Once everything was demolished, we had time to look and decide what we wanted to do next," she said.

What the team has done is to create a social heart to the museum, with gathering space, ticket facilities, cloakroom, shop and the all-important café – even if the last of these is too small for the enormous popularity that the museum is currently enjoying. One of the hold-ups was caused by a proposal from the museum to eliminate the cycle way but – not surprisingly, in one of the world's most cycle-friendly cities – this led to massive protests.

East-West section, new Rijksmuseum, Amsterdam

1. Museum passageway
2. Entrance to Rijksmuseum
3. Entrance to galleries
4. Auditorium
5. Museum shop
6. Café
7. Vault galleries
8. Windowed galleries
9. Laylight galleries
10. Hanging structures
11. Gallery of honour
12. Courtyard glazed roof



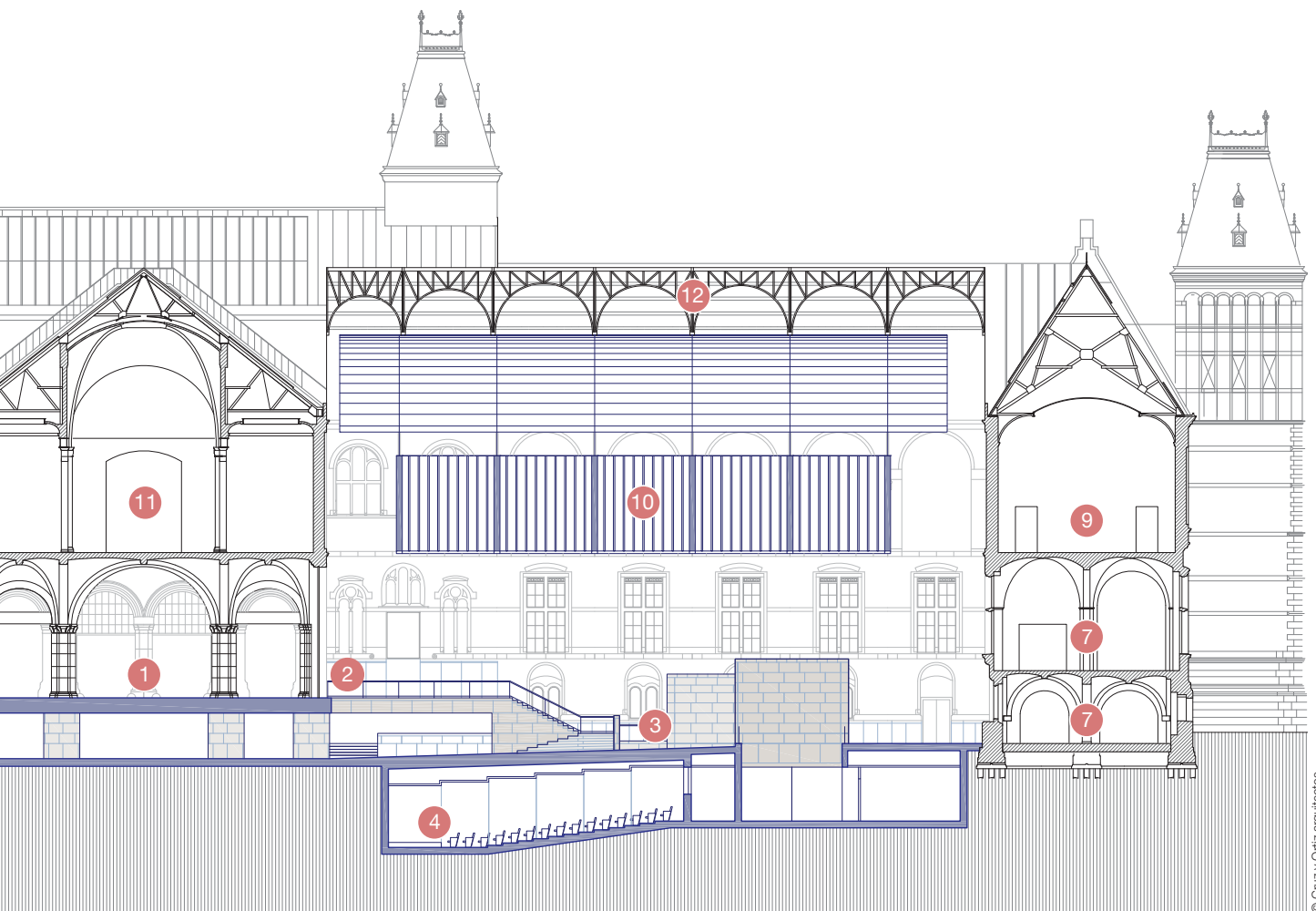
In fact, the building is more exciting with this unique feature running through it.

The entrance, previously buried on one face of the building, is now through a doorway that opens off the cycle path. From there, visitors go down into one of the courtyards. The materials are simple but deliberately massive. "Cuypers' architecture is very solid," said Huisman. "We wanted to give the same feelings with the materials that we used". So there is a simple solidity, for example, to the Portuguese limestone elements that the architect has employed. Unlike some architects, they have not sought to create a deliberate contrast with the old, but to blend with it in a contemporary way.

The one exception is the new Asian gallery, a single-storey stone-clad pavilion surrounded by water, which contrasts with Cuypers' ornate creation.

The courtyards have glazed roofs and complex white hanging structures like abstracted chandeliers, introduced initially to provide

The team has created
a social heart to the
museum



acoustic absorption. These now include uplighters, to add some evening drama, and downlights to illuminate the space in an uncluttered manner.

Within the galleries themselves, the architect's input is relatively restricted to, for example, the simple timber flooring and technical elements such as the air inputs, the cabling and fire safety. "The effort there is big, but it isn't visible," Huisman said. But the architect most definitely is responsible for the first impression that visitors receive.

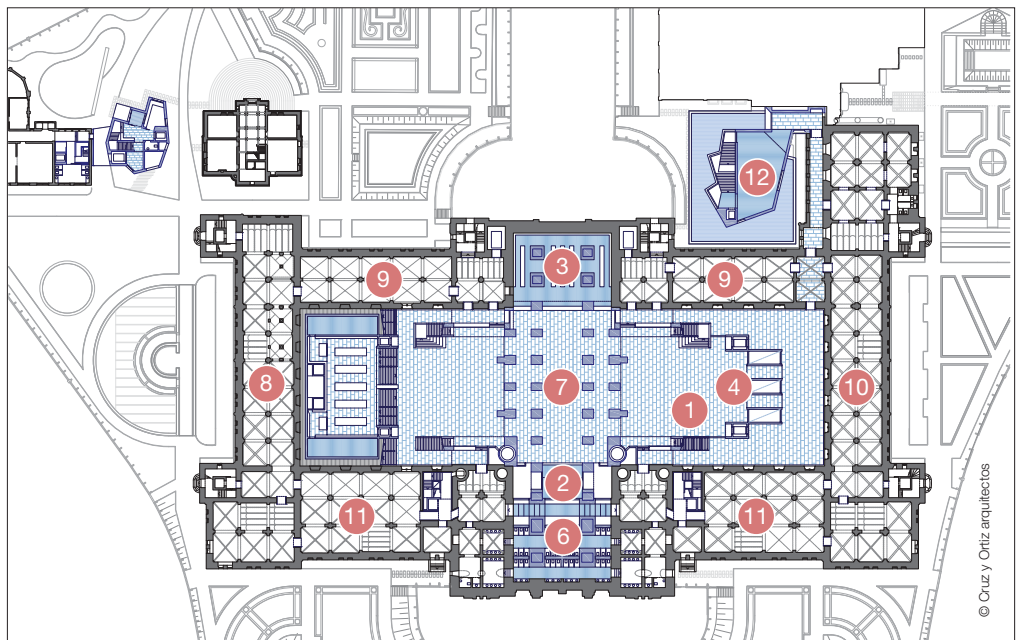
As Wim Pijbes, general director of the Rijksmuseum, said, "a first impression is often the most telling one. You start every journey with a first step, and you never forget your first kiss. Each year, the Rijksmuseum creates first impressions for hundreds of thousands of people: they get a first impression of the museum as they stare a real Rembrandt 'in the eye' and get a taste of history."

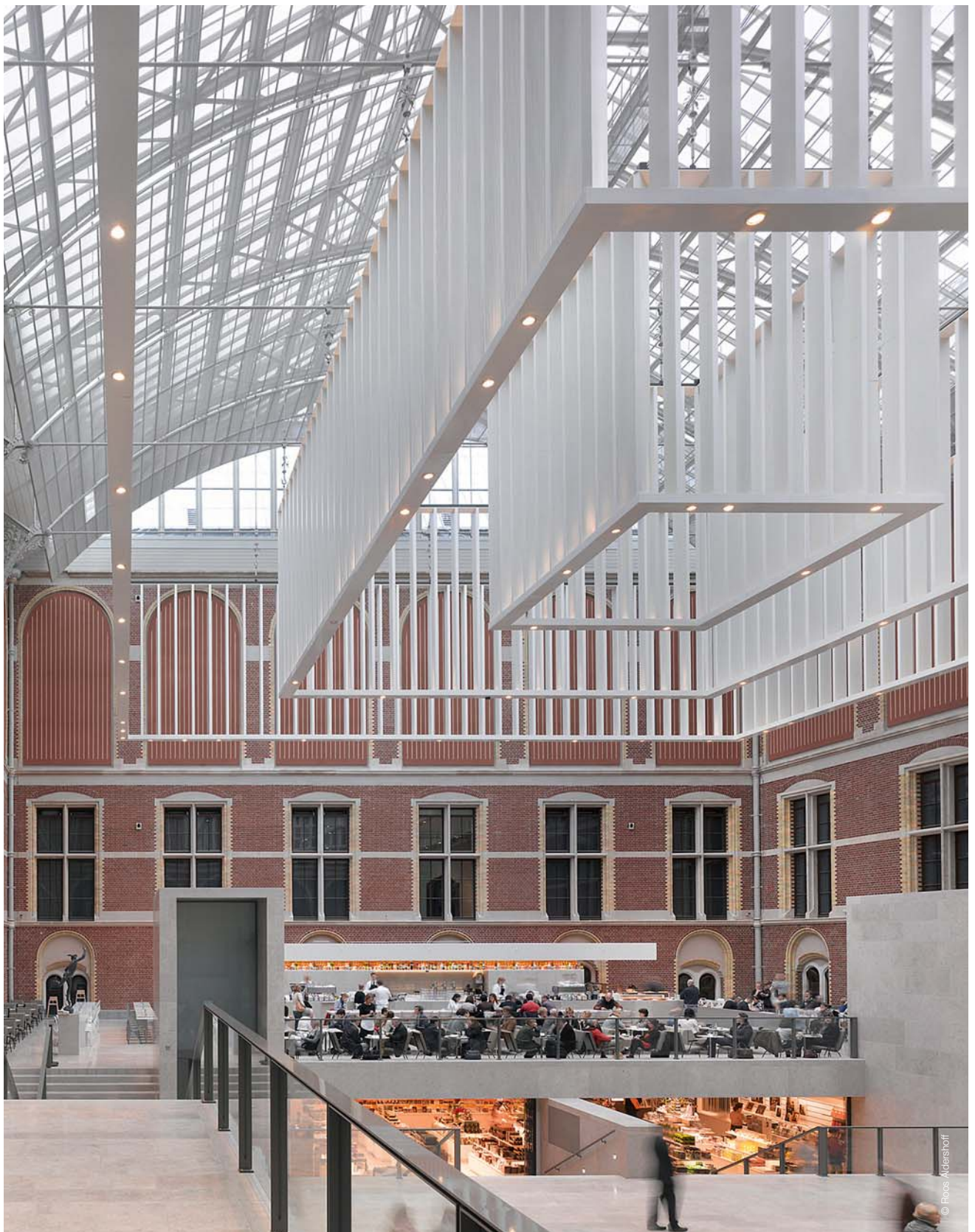
He continued, "but it does not end there. In this day and age, in our quickly changing society, that is quite an important task. As the museum is renovated, it is, so to speak, also being reinvented. The revamped museum will be completely in step with the 21st century. The Rijksmuseum will continue to dazzle art and history lovers, develop educational programmes and play a role in society. In addition to displaying the collection superbly, the Rijksmuseum will continue to undergo changes. Art and history are not merely a thing of the past, and the Rijksmuseum is a modern museum – a museum where unique events take place, non-stop."

New elements blend with the old in a contemporary way

Ground floor plan, new Rijksmuseum, Amsterdam

1. Information desk
2. Ticket desk
3. Cloakroom
4. Entrance to galleries
5. Museum shop
6. Toilets
7. Museum passageway
8. Southeast galleries
9. Southwest galleries
10. Northwest galleries
11. Northeast galleries
12. Asian pavilion



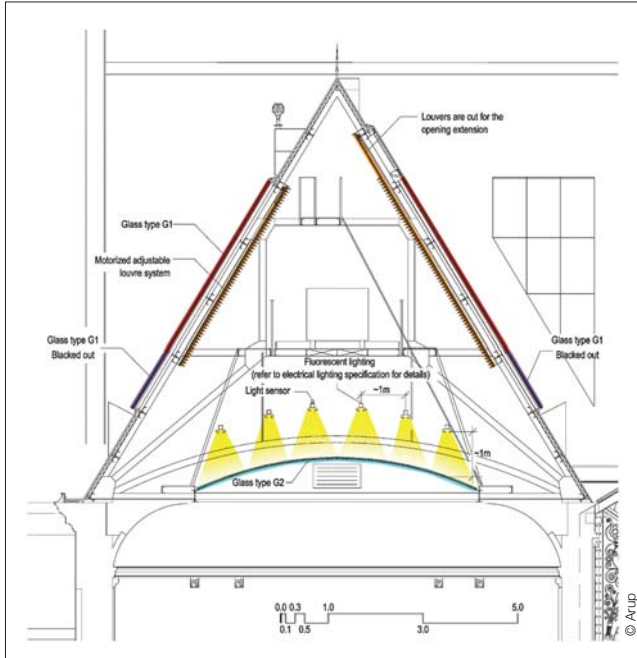


The revamped museum yard is completely outstanding with its white hanging structures.



RIJKSMUSEUM, AMSTERDAM, THE NETHERLANDS

Art and history together



By Ruth Slavid

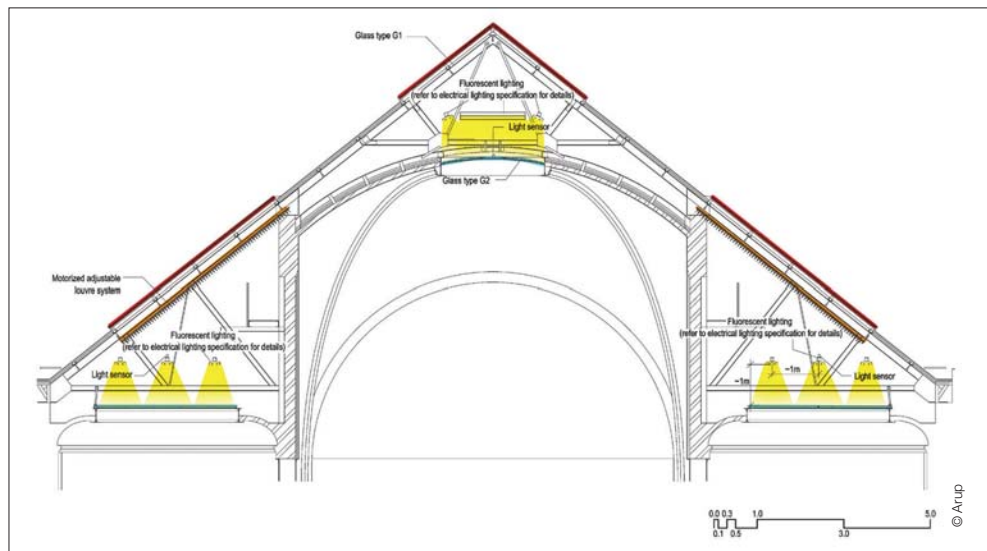
The Rijksmuseum now displays its fine collection of objects alongside the paintings and sculpture in chronological order. This imaginative and instructive approach posed challenges for the design – not least of which for the lighting.

The way that the art is displayed in the Rijksmuseum is unique. The paintings follow a chronological progression, which is scarcely original, but the museum's rich collection of objects appears alongside the paintings rather than, as previously, in separate special collections. A small area of special collections, containing objects ranging from costumes to model ships, gives a flavour of the approach in previous incarnations. In the rest of the museum, it is enlightening to see fine objects alongside the paintings with which they may have been displayed.

Tim Zeedijk, head of presentation at the museum, explained the approach. "We go for the real thing," he said. "There are no extra computers, no thick layers of interpretation." The museum wanted the objects and the paintings to look as natural and possible, and to minimise clutter. The result, designed by Wilmotte & Associés, the architect of the museographic design chosen via a competition

Left: Designed by Wilmotte & Associés, the museographic design draws attention to the paintings and the objects.

Top: Rijksmuseum lateral galleries. Lighting design cross-section with laylight.



Gallery of honour.
Lighting design cross
section.



The laylights themselves
are gently domed
and above them are
fluorescent lights, as well
as a lot of vital technical
equipment.

There is enough natural light for visitors to be aware of changing weather



in 2004, is as simple as possible, drawing attention to the paintings and the objects, and itself receding into the background.

The design uses the architecture of the original building, plus a subtle colour palette, to vary visitors' experience, while allowing the artworks to take centre stage. This reflects the different periods of the art, and also the way that the building changes as one rises through it, with ceilings becoming higher as one travels upwards. All floors except the top one have vaulted ceilings – two additional single floors on the roof. At the top there are laylights, set into a flat ceiling, that bring in natural light. The lowest floor, which houses the medieval collections and has the lowest ceilings, is painted the darkest grey to give the feeling of a treasure chest.

The walls are painted in grey tones, with the exceptions, of the 20th Century galleries and the Asian gallery, where white has been used. Project director Marleen Homan explained: "As a rule, we think that dark greys work very well as a back-drop for art: the eye is attracted to the lighter surfaces of the artwork all the more so when the wall it is displayed against is dark. We often use the example of how the dark lining of a jewellery case enhances the jewels it encloses."

"Our use of colour in this museum was quite radical in the sense that, in a given space, we covered all surfaces with the same colour. This helps play down the effect of the elaborate neo-gothic and Renaissance architecture."

The cases are beautifully detailed minimalist glass enclosures, made from the best non-reflective glass available. This was essential, since a decision was taken to light the cases from the outside. Visitors are unaware of barriers between them and the glass, to the extent that, with some of the larger cases, they occasionally attempt to walk through them.

The concept lighting design by Arup was developed relatively early in the project, long before the decision was taken to go with LED. "We were asked to develop the daylighting and the electric lighting," explained Siegrid Siderius, associate director with Arup in Amsterdam. "Then they developed the electric light further. But a lot of the approaches are very similar."

With laylight, the conflict, as in so many galleries, is that while seeing daylight feels "real" it actually brings many problems. It changes fast, it often does not provide the optimal conditions for seeing art, and it has to be controlled to ensure that too high an intensity does not reach and damage the paintings or, even more sensitive, textiles and

The geometry of the vaults obliged the designer to use circular light racks in the medieval galleries

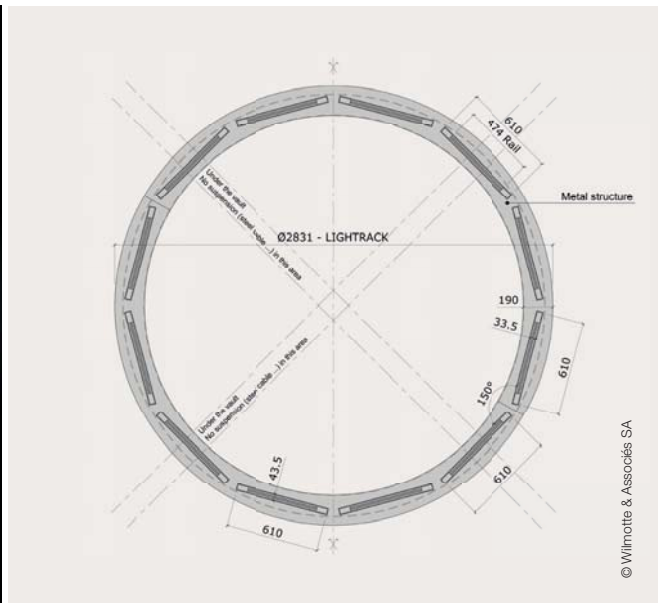
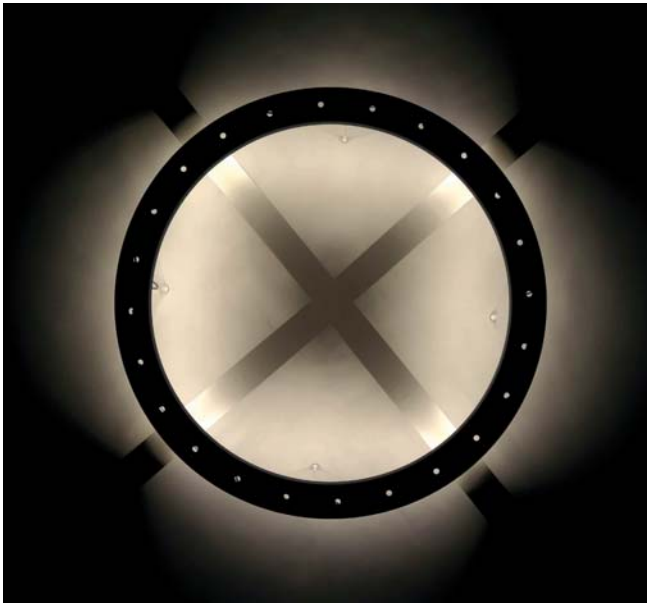
works on paper. The approach at the Rijksmuseum has been first to restore the external windows to exactly their original appearance. Behind these are shutters which are adjusted manually four times a year, between three positions – one for summer, one for winter and the third for spring and autumn.

The daylighters themselves are gently domed and above them are fluorescent lights, as well as a lot of vital technical equipment. The impression is of daylighting, and there is enough natural light in the mix for visitors to be aware of changing weather, without those changes influencing their viewing experience too much. There are also a number of windows that offer views either outside or into the courtyard, albeit with screening over them to limit the amount of daylight that enters. And because the courtyards themselves are bright, says Siderius, “it feels like a daylight museum”. On the top floor, the lighting is suspended from tracks that run along either side of the daylighters. But elsewhere, the lights are attached to specially designed slender black “racks” suspended from the ceilings. These are circular on the lowest floor, and rectangular above.

Homan explained, “We developed the concept for the light racks because of the vaulted ceiling: we were not allowed to alter the existing architecture in any way, it was out of the question to use light fixtures recessed into the vaulted ceilings. The only option for us was to design a system that would be detached and suspended from the ceiling.”

“We designed round light racks for the special collections and medieval galleries for geometrical reasons. In order to achieve the required lighting angle with regards to the art work, we had to respect an equation between the height and the distance from the art. This meant that the lightracks had to be at least 240 x 240 cm and installed at 300 cm from the finished floor. The geometry of the top part of the vaults obliged us to design a round lightrack since a square one of the right size at the right height would not have fit. Visually the circular racks work well, they are in harmony with the round shape of the vaults.”

“We were able to use square racks for the vaulted ceilings on the top floors because the ceilings are twice as high. The square shape finds an echo in the square plan of the architectural grid as well as some of the square ornaments used on the capitals of pillars. It works very good, it doesn’t feel disruptive or intrusive.”



Top: Circular light rack from below, lighting effect on the left, technical Fortimo LED strip position on the right.
Bottom: The lights are attached to specially designed slender black “racks” suspended from the ceilings.





Committing to LED

By Ruth Slavid

The Rijksmuseum made the decision to light its galleries with LEDs just as the best technology became available. Implementing it required a combination of bold planning and detailed adjustment.



© Corne Clemens & John Geven Studio's

Lighting Rembrandt's 'Night Watch' with LED was the decisive lighting trial that resulted in the decision to use LED throughout the museum.

To fulfill the museum's technical requirements, the LEDs needed four key properties

The most important decision about the lighting of the Rijksmuseum, to design it all in LED, was made, deliberately, at a very late point in the project.

The initial intention was to light the galleries with halogen lighting. Even this, for the Rijksmuseum, was relatively new. It was first used on an exhibition in 2000, Glories of the Golden Age. "We deliberately postponed the decision on lighting because we knew it would be LED in the long run," said Zeedijk. During the course of the project, the technology advanced until Zeedijk felt confident to do what he calls the "Pepsi test" – lighting one painting with halogen and the other with LED, and asking curatorial staff which they preferred without letting them know which technology was which. The LEDs used in the test were far less advanced than the solution eventually adopted, yet the curators found both equally appealing. The next step was a trial lighting of the Night Watch, one of several of the most special paintings that found a temporary home in the Philips wing while the refurbishment was taking place. Again, the reaction,

both from curators and the public, was favourable, and the decision was taken to go ahead with LED. The final decision was only taken in September 2011, just 18 months before the gallery reopened.

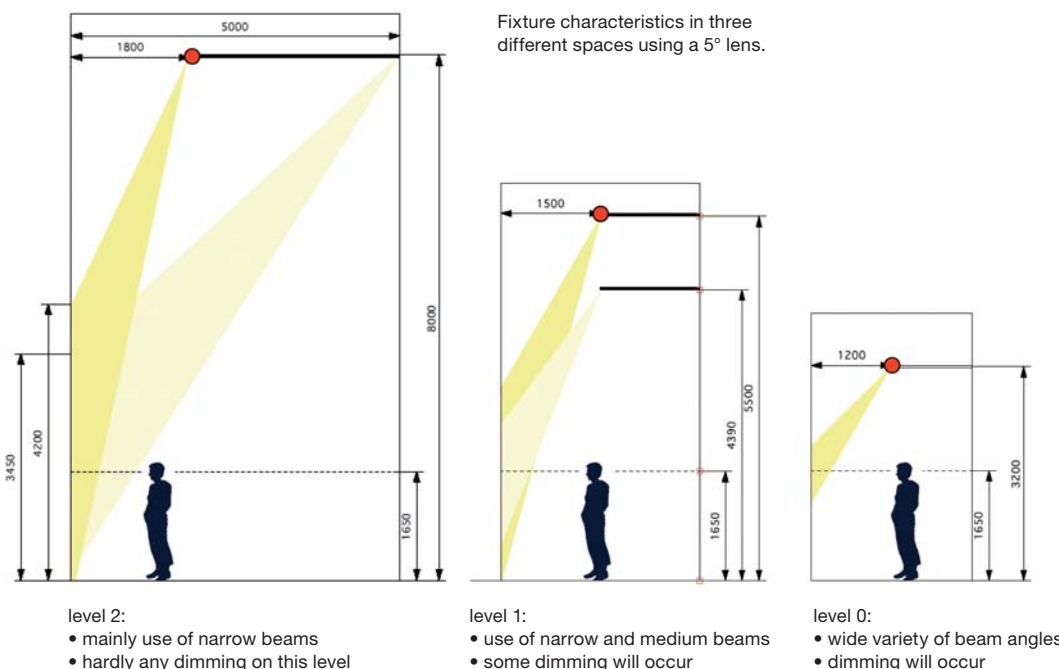
Brad Koerner, lighting project manager for Philips, explained that the quality of LEDs needed only became available in spring 2012.

In order to fulfil the museum's technical requirements, the LEDs needed four key properties. These were:

- a neutral white light, in this case at a chosen colour temperature of 3000K,
- good spectral colour balance so that blues and greens appear as rich as reds and yellows,
- crispness of light so that it casts perfect shadows, which requires a very compact source,
- consistency of light quality – from one lamp to the next, over time and with dimming.

Before that point in time, it would have been possible to fulfil some of these criteria, but not all.

What made the project even more challenging was that the



The diffusers can be changed to give a different beam angle when an artwork is moved

museum wanted to use a single LED lamp throughout the entire project, for ease of maintenance. The company came up with a museum-grade version of its StyliD retail product, and put it into a Fortimo module which is Zhaga rated, an international standard for interchangeability.

“What we learned from the Night Watch prototype,” Koerner explained, “was that we needed to have a very narrow beam”. This was because the ceilings were as much as 10m high, and it would be necessary to throw the beams up to 12 m.”

Obviously, not all the lamps need the same beam angle, but this has been dealt with by the addition of high-quality diffusers from Luminitt that can be fitted to the front of the lamps. Because they are interchangeable, the diffusers can be changed to give a different beam angle when an artwork is moved.

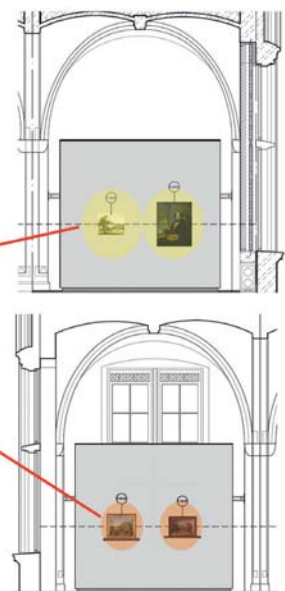
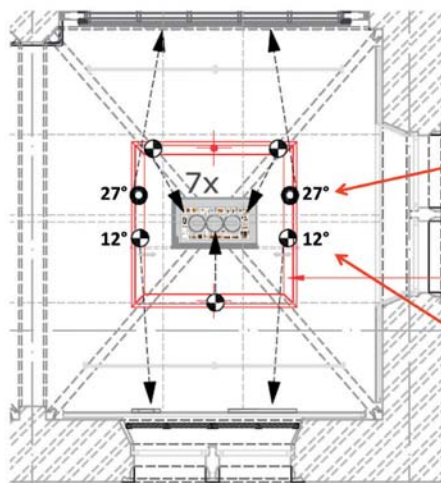
Once the concept had been developed, the lighting for every single artwork had to be thought through. Juliette Nielsen and Sjoerd van

Beers of lighting design practice Beersnielsen were appointed to do this. “For us, the fixing and the LED was very nice,” said Nielsen. “We were able to light everything in a constant way with the same colour temperature. And it was very easy to change the lenses.” Once the lights were in their chosen positions on the light racks, Nielsen and van Beers focused and directed them, making any final adjustments to their plan – and also compensating for the fact that not all the artworks went into the planned positions. “Because the control system is a DALI system,” Nielsen said, “each light can be dimmed from the floor.” There was a control system on an iPad. This was particularly valuable, Nielsen said, when talking to curators about adjusting the lighting on individual works of art, since she and van Beers could show them immediately what the effect would be, and a decision could be taken on the spot. In addition, Nielsen and van Beers designed the lighting for a number of special circumstances – objects that couldn’t be lit in the standard manner.



Left: Customized StyliD 7° with Fortimo LED SLM Tight Beam for the spotlights.

Right: Lighting plan and elevation to determine the beam angles.



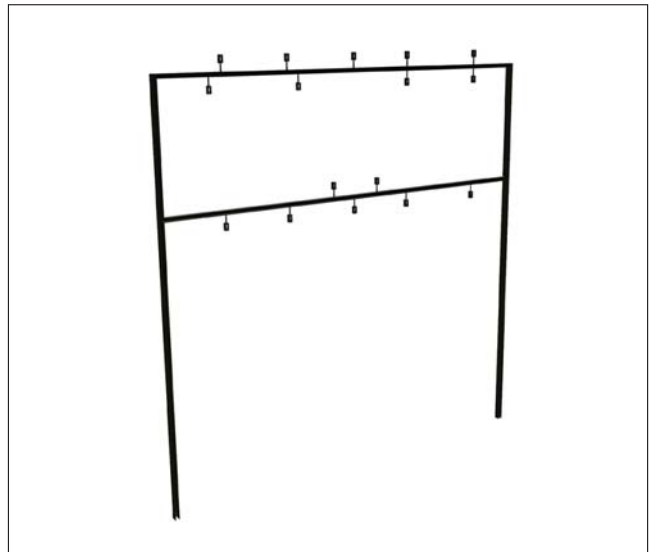


Johannes Vermeer, 'The Milkmaid', oil-on-canvas painting, 45.4 x 41 cm, 1667-1668, Rijksmuseum, Amsterdam, The Netherlands.

The interventions on the doll's houses somehow become invisible in plain view

Most demanding were the two doll's houses – extraordinarily complex and rich reproduction houses which cost almost as much to build as real houses, and which are a draw for all the children visiting the museum, and many of their parents. The houses could not be lit from outside the glass case because of their depth. Nor was it possible to put any lighting inside them since they were precious objects that could not be touched in any way. The solution that Beersnielsen came up with, working with Philips, was a slender metal frame standing in front of each house, within the case. Mounted on this are tiny LEDs, carefully positioned and angled to light the rooms in the optimal manner. It is extraordinary how unaware the viewer can be of these interventions, which somehow become invisible in plain view. Another area where the team had to do something different was in an area of the special collections, where a number of illustrated glass panels are displayed. These needed to be backlit, so the team developed a system that sits behind the frame in which the panels are held. Also in the special collection are some magnificent costumes. Here Beersnielsen added some additional lights within the cases at floor level, to illuminate the bases of the dresses and make them more lively.

There are also two period rooms that have been recreated from the 18th Century. One has been designed to be seen by 'daylight' and light streams in through the artificial windows that have been created. A combination of LEDs and a single spot light from the site not only gives a realistic impression but also shows off the mouldings on the ceiling, one of the glories of the room. For the candle-lit room, Beersnielsen's role was simpler – the duo went shopping. The chandelier that lit the room had initially used candles. The designers replaced the candles with far safer electric lights, and simply searched for and appraised the most life-like and least kitsch artificial candles. On all these projects, the team worked closely with the museum – a collaboration that was so successful that Nielsen and van Beers have been retained to accommodate any changes as they come along.



Top: A slender metal frame stands in front of each doll's house.

Bottom: The metal frames became nearly invisible in plain view.

Right: Tiny LEDs are carefully positioned and angled to light the rooms.





Some of the stages in developing the customized contemporary chandelier with LED for the Grand Hall.

Making it work

By Ruth Slavid

In a project with so many special elements, collaboration with manufacturers is essential if great ideas are to be realized effectively and elegantly. The result is the opposite of 'look at me' design – it is design that is so good it can be ignored.

The transformation of the Rijksmuseum couldn't have happened without collaboration at every stage, but the pinnacle of this collaboration was the design of the chandeliers that occupy the Grand Hall. This hall is an elaborately decorated space at the top of an equally grand staircase. It leads into the gallery of honor, in which visitors can admire paintings by Vermeer and Rembrandt including, at the end of the gallery, his 'Night Watch'. This is not only the most famous painting in the entire museum, it is also the only one to occupy the same space that it did prior to the renovation.

The Grand Hall therefore plays an important part in this processional route. But it is also important in another way. With its large windows looking over the city, it is the ideal space for entertaining and it houses numerous receptions, which play an important role in both the prestige and the financial standing of the museum. Lighting this space was always going to

be difficult. There were hanging points for chandeliers, but Wilmotte did not want to recreate the old light sources. After a lot of thought, the architect came up with a concept for a simple suspended ring solution. In fact there are two rings, a smaller one above made of metal, which houses uplighters, and a lower ring of a translucent glowing material. Originally the intention was that this would be of glass, but that would have been too heavy – the support structure had a weight restriction. Instead, the team settled on a translucent white acrylic.

Luke Mevissen of specialist fabricator Bronnenberg said, "These chandeliers were real one-offs. They were very difficult to get right the first time. Wilmotte gave us the computer sketches, but they didn't have to think about how it is made."

The main challenges were creating an even pattern of lighting in the acrylic disc, without seeing the individual lamps, and supporting and fixing the structure, without seeing the fixings. This latter challenge should not be

underestimated, since the largest of the chandeliers in the great hall has a diameter of almost 3m. "The acrylic is not as strong and stiff as steel," Mevissen said. Eventually, the company found some acrylic fixings that were strong enough to afford the necessary support, but did not cast a shadow. Getting the lighting array right was a matter of trial and error. Eventually the company settled on a close-packed pattern of small LEDs which, said Mevissen, "gave a very nice homogenous illumination of the acrylic disc." Having come up with a satisfactory solution in the workshop, where people were perhaps 10 cm away, Mevissen was confident that the effect would be fine when several meters above visitors' heads.

Bronnenberg also made the light racks. Here the challenge was to create something minimal and slender, yet fit in all the essential elements and also achieve the quality that Wilmotte wanted. Here as everywhere in the building, the architect sought the highest quality and the most careful detailing.

The light racks are only 140mm wide and 50mm deep

So, for example, although the light racks on the upper floors are for the most part rectangular, there are some rooms that have walls at odd angles. The shapes of the light racks echo these irregularities. The racks are only 140mm wide and 50 mm deep. As well as housing uplights and spots, they have to contain a significant amount of cabling. "It was difficult to get it all into such a small space," Mevissen said.

Philips was also involved in this process, miniaturizing elements wherever possible. There are numerous fixing points for the spots on the racks and, to make this fixing as small and elegant as possible, the company came up with a magnetic fixing. The result is that this element will be nearly invisible – as is the case with most of Wilmotte's designs. Visitors will admire the art and not the design of the space. They will look at the gold serving dishes, at the Delft China and the fine frocks rather than at the display cases. They will admire the reds and blues in the paintings, the rendering

of white lace and the modeling of marble sculptures rather than thinking about the sophisticated LED lighting that made it all possible. In rooms that are toplit, they may even think that they are viewing the paintings entirely by daylight. And that is exactly as it should be. Flickering lights, poor colour rendering and sloppy detailing may all impinge on visitors' consciousness. Design as good as that at the Rijksmuseum disappears and allows the art to take centre stage.

Right: With its large windows, the Grand Hall looking over the city is the ideal space for entertaining and it hosts numerous hospitality events.

Client

Rijksmuseum, Amsterdam

Principal architect

Antonio Cruz, Antonio Ortiz, Seville
Muriel Huisman, Amsterdam
Cruz y Ortiz Arquitectos

Restoration architect

Gijsbert van Hoogevest, Amersfoort
Van Hoogevest Architecten

Interior architect

Jean-Michel Wilmotte, Paris
Marleen Homan, Amsterdam
Wilmotte & Associés SA

Lighting design

Rogier van der Heide

Daylight design

Florence Lam, London
Siegrid Siderius, Amsterdam
Arup Lighting

Detailed lighting design

Juliette Nielsen
Sjoerd van Beers, Rotterdam
Beersnielsen

Light rack engineering

Loek Mevissen, Heerlen
Bronnenberg

Lighting project realisation

Brad Koerner, Amsterdam
Philips Lighting

Light sources

Philips Lumileds LUXEON S LED,
3000K, CRI 95, 1100 lm,
Philips Fortimo LED SLM Tight Beam
for the spotlights,
Fortimo LED strip for the lightracks

Luminaires

Philips customized StyleID 7°, 89mm
diameter, 106mm long
Luminit high-quality diffusers 5°, 10°,
20°, 30°, 40°

Lighting controls

Philips Dynalite DALI
Philips Xitanium 25W drivers
Apple iPad connected to WIFI for
touch-screen controls
Toverli for addressing luminaires to
the DALI system

Websites

www.rijksmuseum.nl
www.cruzyortiz.com
www.wilmotte.fr
www.arup.com
www.beersnielsen.nl







Lighting

across disciplines

By Lian Chang

Derek Porter discusses his trajectory and trans-disciplinary practice as a lighting designer, artist, and educator



Derek Porter is director of the MFA (master of fine arts) in lighting design at Parsons The New School of Design. He talked to *Luminous* about the cross-disciplinary nature of lighting design education and Parsons' collaboration with Philips on the Luminous Talks, which bring researchers, innovators and practitioners together in a public educational forum.

How did you become a lighting designer?

It was a circuitous route, but that's not uncommon for my generation of lighting designers. I started out in product and spatial design, and from very early on I was attracted to perceptual relationships and the subtle nuances of space. On the other hand, I tended towards formalism in the design of furniture, interior space and landscape. For my senior thesis project I decided, in a naïve student way, that designing a light fixture would encompass these interests. Through that process I met a lighting designer, Bruce Yarnell, who

offered me a job after I finished school. I was twenty-two years old, and my ambition was to work there for six months before moving on to an architecture firm. But I soon discovered the depth of lighting design, and ended up staying for seven years before finally opening my own firm.

Could you describe your practice?

It's difficult to describe what I do, but when asked, I say that I'm a lighting designer. Through my practice I've also explored photography, sculpture, furniture design and exhibition design, all of which I view through the lens of human perception and the phenomenon of light.

How do you combine these more artistic endeavors and your professional practice with your work at Parsons?

It's a seamless and easy series of relationships. My art practice is a more poetic exploration, in which I can draw on my own bodily experiences to better understand how people see, feel and respond to different conditions. These ideas are further explored in my teaching and through my directorship of the program, where I encourage various sensorial investigations into light. In

Top and bottom left: Project presentations in lighting design at Parsons The New School of Design.

Bottom right: Derek Porter

my professional practice, of course, I engage with the full range of scientific, practical and management realities. But I always start by asking about the essence of a place, how people engage with the space, and what kinds of compositions of light will help to clarify its architectural diagram.

Could you describe Parsons' approach towards lighting design education?

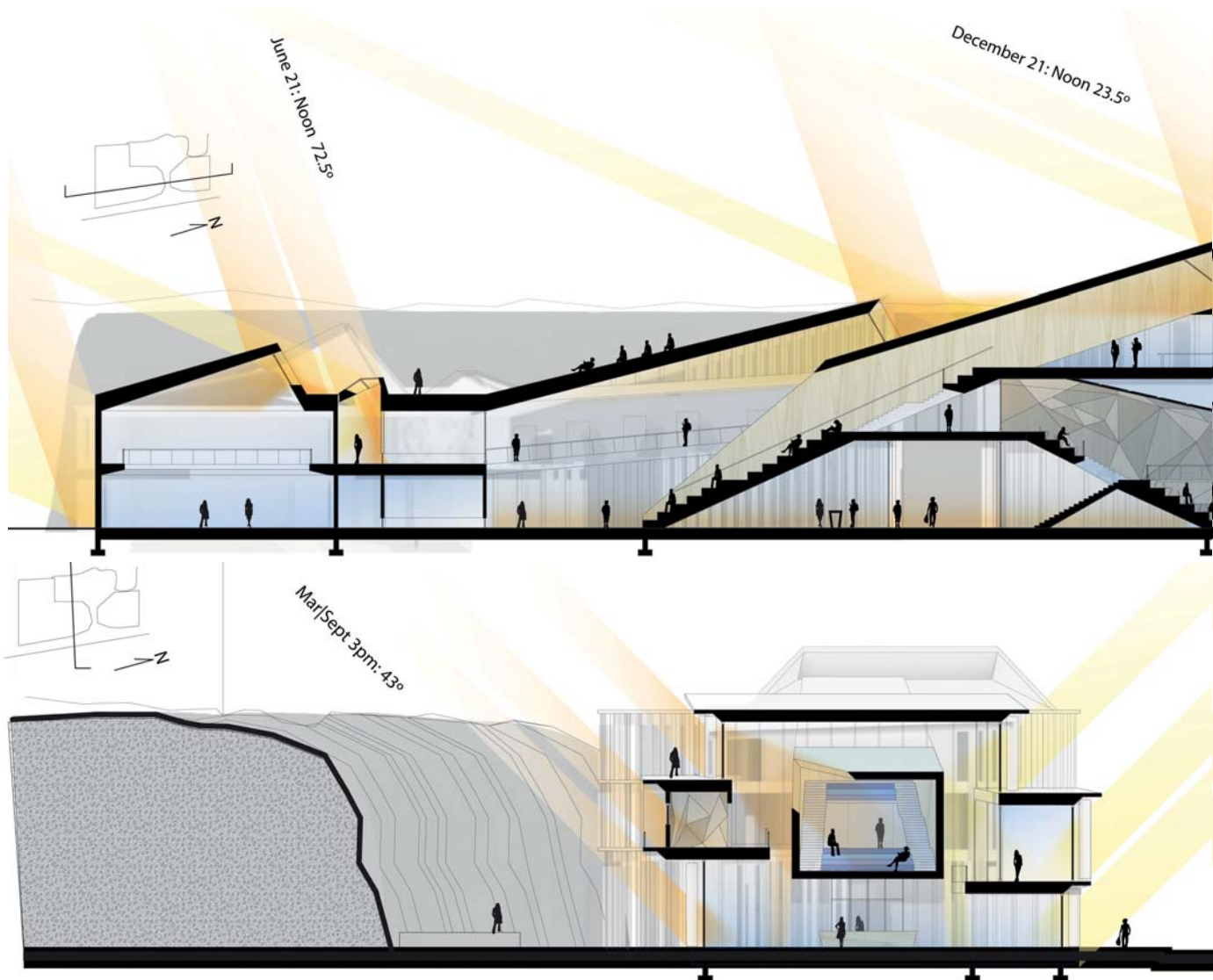
What's unique about the lighting design industry is that it draws from a large number of disciplines. I always say that light as an experienced phenomenon

always exists in partnership with other relationships – with materials, surfaces, interiors, public spaces and so on. You cannot see light in isolation, it is catalytic to our life experiences and understanding of the world. So we talk about interior design as a separate discipline but you can't experience interior spaces without light. Our approach at Parsons reflects these relationships. We have a stand-alone, two-year lighting design graduate program. But we also have hybrid programs combining lighting design with interior design or architecture, and a new program starting this fall combining lighting with trans-disciplinary design practices. This type of

cross-disciplinary, collaborative teaching is currently unique to our institution but I believe it will be a growing trend.

What kinds of backgrounds do your students have?

Fifty percent of our students in lighting design have architecture or interior design backgrounds; and another forty percent have other aesthetic backgrounds, including theater, fine arts or industrial design. There's a small minority from other fields such as English, philosophy, economics, mathematics or anthropology. Parsons is also heavily international, and the lighting program is the most



international program within the school. Of the programme's 60 students there might be fifteen to twenty countries represented. We like this because someone from Iceland has a very different understanding of light – based on their geography, their experience of nature and their cultural and religious understandings – from someone from Greece.

What kinds of jobs do your students find after graduation?

We're educating our students to become design thinkers. Most are employed by independent lighting consultant firms or by engineering, architecture or interior design

firms with lighting sub-groups. A minority chooses manufacturing, sales or further education.

What can you say about the Luminous Talks?

The Luminous Talks are exceptional events, currently in the second year, that include formal presentations in a small symposium format, as well as webinars and publications that document the events. It's a pivotal programme that brings together experts around a single topic in an academic setting, separate from direct applications or practice. There are not enough events like this in lighting design, allowing professionals

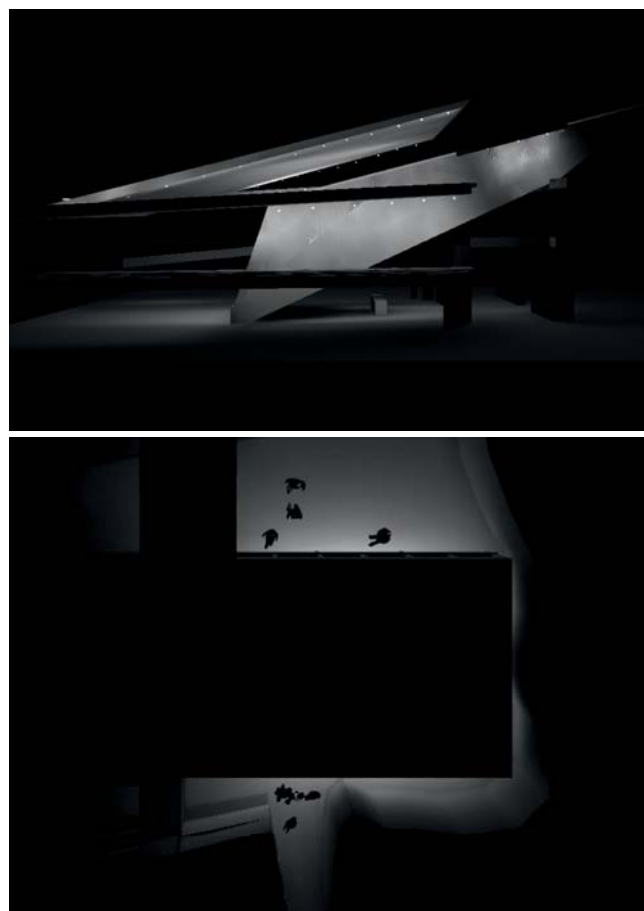
to come together to discuss and debate critical questions impacting our industry rather than simply conforming to standards or givens. I couldn't be more thrilled that we have two significant global players – Philips from manufacturing and Parsons from academia – embracing each other and developing a public programme that helps advance the industry in this way.

Website

www.newschool.edu/parsons-lighting-design
www.lighting.philips.com/main/connect/Lighting_University



Sun study sections and plans at night, Jacinda Ross, Zachary Barr, Veronica Acosta, lighting design masters students at Parsons.



LED light patterns

By Joost Vastert

Offering the unique possibility to play with light, shadow and effects with innovative ground lighting effects to personalise your projects.

Metronomis LED is an urban lighting solution that, in contrast to standard installations, offers designers a great deal of creative freedom. It has a large range of bowls, lighting effects and masts, enabling creative planners to design differentiated, versatile and convincing lighting that blends into its surroundings while reflecting the spirit and essence of the place in a discreet way.

Another feature of Metronomis LED is the ability to personalise urban lighting installations with a variety of ambient lighting effects. Creative planners can add a touch of personalisation to lighting projects, both in terms of looks and context. Depending on the type of application, for example a pedestrian or shopping area, square or business park, the luminaires can emit plays of light and shadow onto the ground to achieve attractive ambient patterns with warm diffuse light.

The range of Metronomis LED luminaires derived from a pure, serene and transparent concept that is reflected in a choice of fluid and conical bowls: Fluid, Sharp, Torch and Torch with Hat. Further diversity is provided by selecting from a variety of dedicated masts and material finishes. The wide range of masts includes steel, aluminium and wood with either conical, cylindrical or profiled shapes.

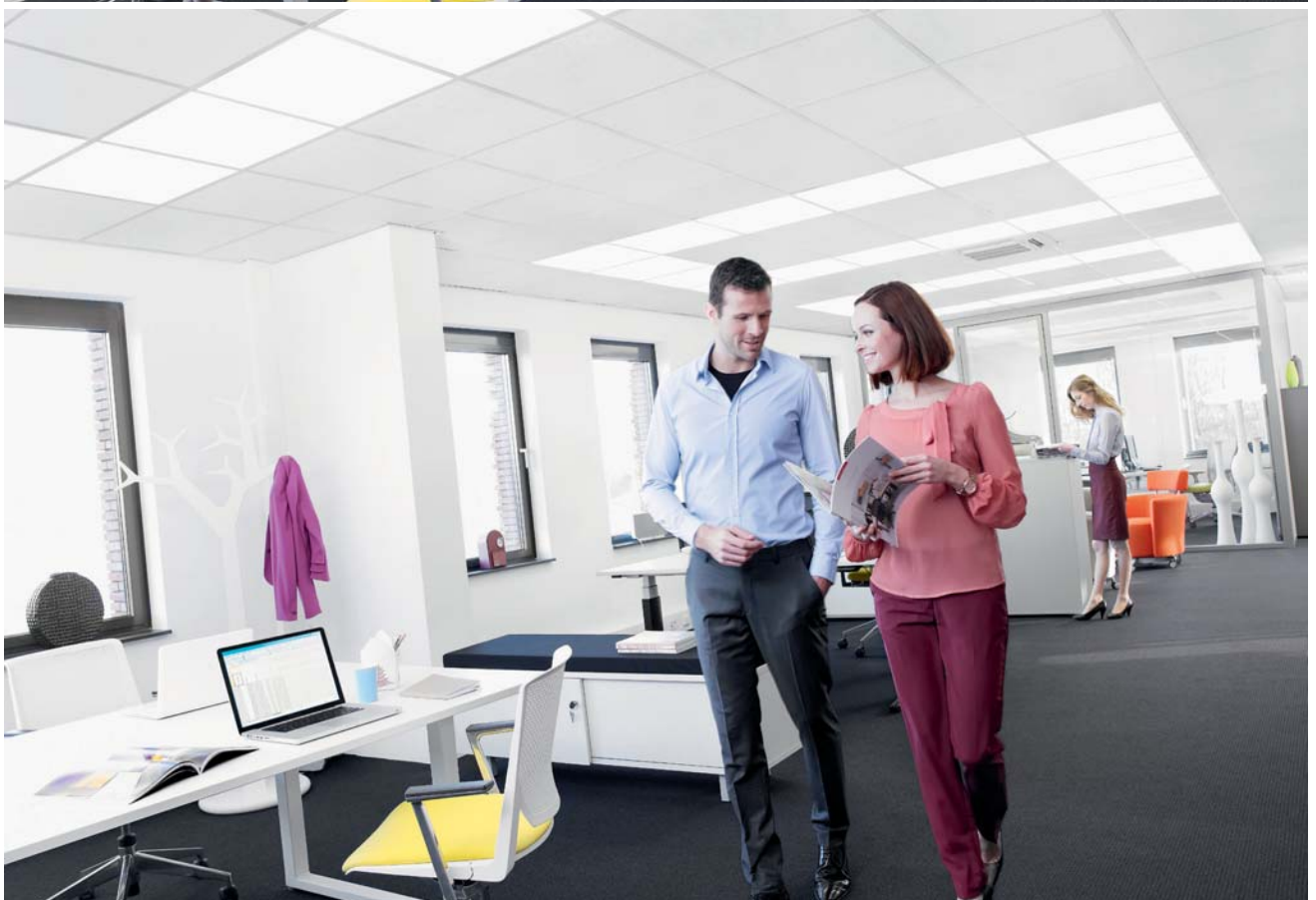
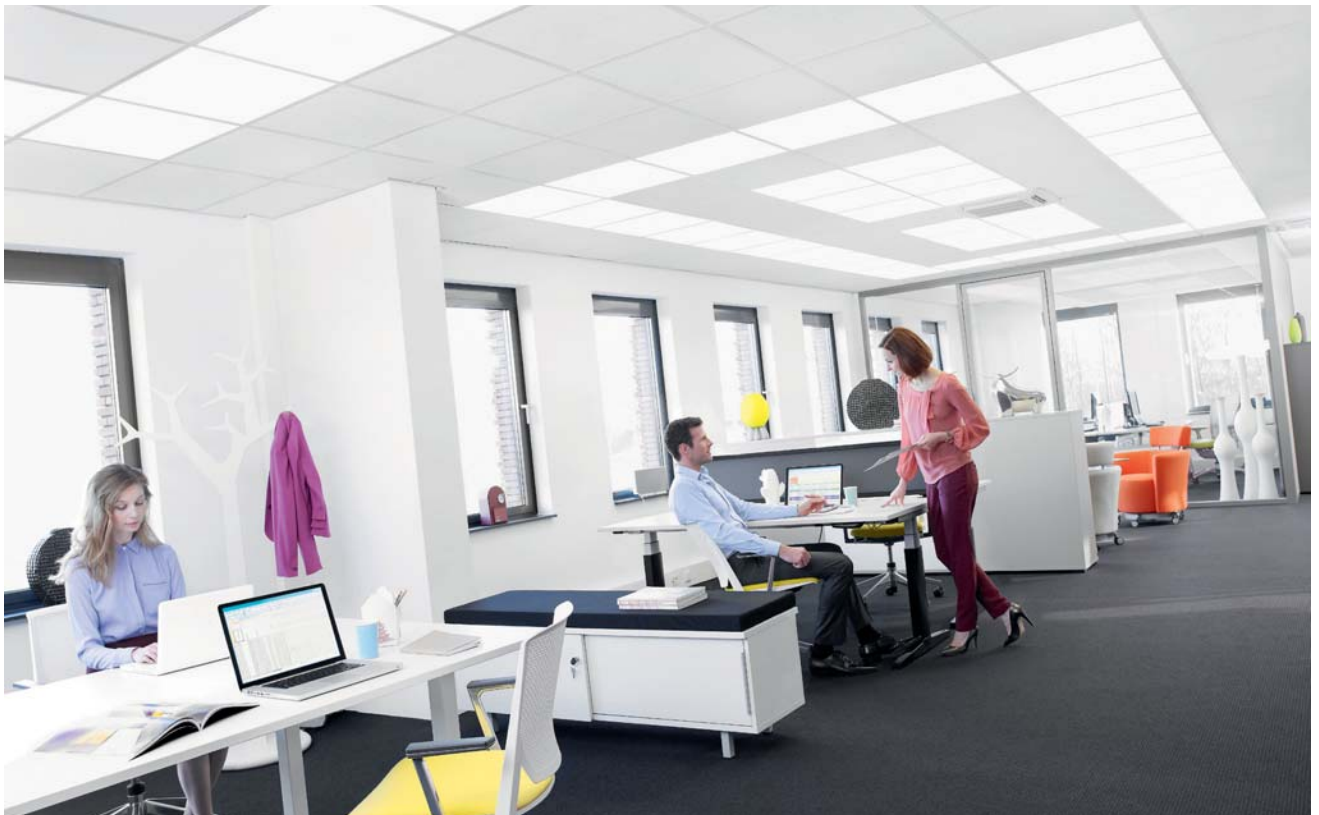
LED is not only characterised by its diverse design possibilities, but also by the wide range of applications that can be addressed. Suitable for contemporary, modern and heritage environments, the luminaires can be confidently installed in city centres and residential areas, providing further convincing proof of the adaptability of the range. The Metronomis LED range is fully compatible with all Philips network control systems.

Website

[www.lighting.philips.com/main/
application_areas/outdoor/
metronomis-LED.wpd](http://www.lighting.philips.com/main/application_areas/outdoor/metronomis-LED.wpd)



Clockwise from top left: Honeycomb lighting effect, concentric lighting effect, star lighting effect, foam lighting effect.



Soundlight comfort ceiling

By Corne Voermans

An innovative acoustic ceiling solution with embedded LED lighting keeps noise and lighting levels at an optimum level in open-plan offices, offering the best in employee comfort.

In Spring 2013, Philips and Ecophon Saint Gobain introduced the Soundlight Comfort Ceiling solution for offices. This innovation is the result of a partnership established between Philips Lighting and Ecophon and is dedicated to creating healthy indoor environments through acoustic and lighting comfort.

The Soundlight Comfort Ceiling creates the sound absorption needed to ensure speech clarity over short distances, while reducing the total distance over which the sound travels. This is an important benefit, given that over 50% of office work still relates to tasks that require individual focus and concentration.

When switched on, the Soundlight Comfort Ceiling appears as a uniformly lit surface of light, creating the image of a larger space, removing ceiling clutter and providing a tranquil atmosphere. The controllability and quality of the LED lighting in the Soundlight Comfort Ceiling creates a comfortable visual ambiance with reduced glare, which reduces fatigue at the end of the working day.

This solution is also very flexible. It contains sensors and controls, all of which are adjustable and can alter the lighting levels depending on the daylight available and the occupancy of the office. This not only ensures that you have the right level of light where you need it – since it's only on when and where needed – it can also reduce energy consumption and lower energy costs.

Acoustic and lighting comfort, flexibility and energy savings are all made possible through the new Soundlight Comfort Ceiling solution from Philips and Ecophon.

website

www.soundlightcomfort.com



FACULTY OF DESIGN, HOCHSCHULE,
WISMAR, GERMANY

Wismar

lighting 2013

By Christian Ferouelle

A light collaboration between Philips and students from the architectural lighting design masters course at Wismar Hochschule.

Since 2007, Professor Michael F. Rohde has offered an optional hands-on module to students in the architectural lighting design masters course at Wismar Hochschule, in northern Germany. They work together to create a dynamic installation in an area between two of the school's buildings. This space provides the opportunity to play with a translucent glass façade on two floors, a terrace, a footbridge and a glass façade on the ground floor.

This year's ten students designed an installation entitled 'Light Beats'. It is an exploration of the relationship between light and different cultures via several types of music. The lighting concept was implemented with innovative LED technology and with the support of Philips Lighting, Color Kinetics and Alexander Weckmer – Licht und Mediensysteme, providing technical expertise and equipment.

A line of ColorGrazee Powercore gave life to the translucent façade by grazing each glass panel from behind with its own intensity and color. The terrace on top of the corridor was illuminated with ColorReach Powercore to create the 'beating heart' of the installation. Mounted vertically like a barcode on wooden beams, iColor Accent MX Powercore created various media-façade effects on the footbridge.



On the next building, dynamic shadows were created by using Japanese paper on windows with ColorBurst Powercore backlighting the dancing students. Luminous textile panels installed in between showed recorded videos that had also been made by the team.

The final result looked like a four-minute video clip with six short extracts of music. The three façades created a sense of total immersion for the audience who could discover different effects each time simply by looking at a different part of the architecture. The positive energy and physical engagement of the students in producing 'Light Beats' made this workshop a lively and valuable experience.

Students: Luciana Alanis, Scott Bailey, Lisa Berchtold, Pilar Cendales, Yeliz Dilaver, Pamela Hahn, Christina Hebert, Oliver Huang, Kirin Tanglerpanya, Lina Vasquez



Gary Thornton wins an iPad 2



Early this year Luminous organised a reader survey. British product designer Gary Thornton was the lucky winner of an iPad 2 in the draw. Congratulations!

Gary Thornton graduated with honours from Brunel University in 2008 with a degree in product design, building on a previous course in engineering. He now specialises in lighting design with Neolight in the United Kingdom.

Drawing on his previous design experience, and combining it with pushing the boundaries of new technology, he seeks to provide innovative lighting solutions realised within both time scales and budgets. Thornton is experienced in lighting design for high-end hotels, leisure areas, landscapes and façades. A recent project he worked on, the St Regis Hotel on Saadiyat Island, Abu Dhabi, was shortlisted for Best International Project at the Lighting Design Awards UK 2013.



Website

www.neolightdesign.com

St Regis Hotel, Saadiyat Island, Abu Dhabi, UAE

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