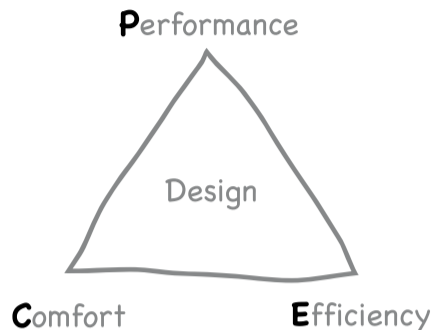


Insight

PEC - Thorn's brand DNA



Major Projects



Super lights for Superstores
The lights that help keep prices down. We make light work of the shopping (Pages 2-3)



A force in finance
Read how Thorn is bringing light and efficiency to thousands of office workers around the world (Pages 4-5)



Lighting the city
Ratepayers benefit from new road lanterns and lighting controls (Pages 6-7)



LEDs to light and colour
New colourful LED products cut energy consumption (Pages 8-9)



That's entertainment!
Make the most of your sports and entertainment facilities with lighting. Lighting can produce attractive and dramatic results economically. (Pages 10-11)

New Product Launches



Orus
Leads the way in low level road lighting (Page 12)



Sonpak
The lighter, brighter Sonpak boosts LumExpress (Page 12)

Our customers' needs don't stand still. Neither do our lighting propositions. We're constantly evaluating how we can adapt our products and improve our schemes to meet changing customer requirements and human reactions. That's why we pioneered the idea of PEC.

This programme forms the basis of our business and is proving to be very important with those who value the importance of providing the right light for people and places.

PEC has the flexibility to cater for any lighting theme, period and solution of indoor or outdoor lighting. It is based on the principle that three distinct attributes influence 'quality' in a lighting installation: Performance, Efficiency and Comfort (PEC). Performance is concerned with providing the best visual effectiveness. Efficiency relates to minimising the use of energy, CO₂ emissions, obtrusive light and waste. Comfort is a more subconscious factor relating to the ability to give people satisfaction and stimulation in all walks of life – from the workplace to the town centre. PEC also covers the need for the luminaires to have a perfect appearance and architectural integration. The relative importance of these attributes varies from one application to another.

The PEC spirit can equally be applied to products, but knowledge is required to turn the attributes into a successful lighting tool. For instance, two products may have similar PEC characteristics, but only one is correct for the intended task. A glance at the applications and products featured within these pages shows best how Thorn is delivering PEC.

Paris-Orly cuts down on obtrusive light and energy

Not many car parks are as big as this car parking area at Paris-Orly, France. And not so many have such stringent demands - in this case at an international airport handling over 200,000 aircraft movements per annum. Which is why Thorn were asked to suggest an energy saving but effective scheme that controls obtrusive light and provides safe and secure illumination for the parking spaces and adjacent roads.

Applying PEC to the scheme clearly shows how light can affect the quality of life and our natural environment.

Performance – thanks to 270 Champion floodlights the required lighting levels are met and a soft wash of uniform light provided.

Efficiency – most important here. Both travellers and air traffic controllers are not troubled by glare, stray light or direct light. The use of 600W HPT lamps delivers energy efficient illuminance. Energy costs are 40% less than an alternative metal halide scheme.

Comfort – Friendly safe and secure lighting is provided

Design – The floods are installed on 18 masts, 33m tall, to avoid multiple columns.

Photo: Studio 1+1



Super lights for Superstores

The secret of successful merchandising is good quality at keen prices - and that means keeping costs to a minimum wherever possible. We look on these pages at three recent retail lighting installations completed by Thorn - and the role of PEC.

Sequence and attraction from new amenity lighting

The famous French shopping complex, Le Centre, in the new town of Villeneuve d'Ascq, has recently installed a Thorn lighting scheme to create a friendly, inviting appearance. Located between Lille and Roubaix at the crossroads of the principal motorways towards Paris, Ghent, Antwerp and Brussels the shopping centre is thriving. The new exterior scheme uses 98 Qba floodlights, 244 Mica and E/Fact LED ground uplights and 45 unique linear Alumet light columns. The latter two products are specially coloured fuchsia. Covered car park areas are lit by Concavia S 70W luminaires. The lighting attracts attention, beckons visitors and makes the area safer and brighter.

Scheme Associates:
Architect - Design Architectural,
Contractors - Enterprise ELEC,
Forclum Metrople Nord and
SCE Tertiaire.

Below - Le Centre, Photo: Light Motiv

IGA Supermarket gets full marks for variety

Bland interiors do not sell products for themselves. Increasing variety and stimulation is the way forward. The Morgan Family's new IGA supermarket in the Melbourne, Australia suburb of Delahey provides an excellent example.

IGA's store designer, Peter Shaw, was looking for an overall concept that humanised the shopping experience, giving greater delineation between sales areas, as well as one that showed the supermarket to its best advantage - as a clean, well-lit store. Having consulted Thorn the lighting matches the locations and types of merchandise, making shopping a pleasure rather than a chore. The lighting in the grocery aisles, according to Peter Shaw "is particularly deceptive as we were able to achieve the desired illumination levels without the glare normally associated with typical supermarket fluorescent luminaires". Single lamp fluorescents with louvres give both horizontal and high vertical illuminances for 18% of the target electrical load.

Electrical contractors -
KLN Electrical

Selling in a better light

A marvellous example of retail lighting at its best - and using some of the most up-to-date luminaires - was completed recently at Birmingham airport. Renovation of Dixon's tax-free electronics store - with its strong focus on digital technology - sets new standards of energy efficiency.

Powerful Concavia S pendants (which house 150W metal halide lamps) provide the primary light source. They keep ambient lighting relatively low so that alternative light sources providing supplementary lighting can be used to greatest effect. For example, Primata pre-wired trunking has been used to light the aisles and draw attention to the store's merchandise.

Just as a verbal language is used to build sentences and paragraphs, we experience lit environments as a sequence of visual impressions. Dixon's have visualised space in three dimensions, and orchestrated the lighting in a planned sequence: the linear fluorescents speak of direction, leading the eye and the footstep.

The overall effect is very impressive with an extremely pleasant environment in which to shop and work.



Above, below and right - Dixons, Photos: Mike Ellis



Below - IGA Supermarket, Photo: Rick Attman





Attract - Initiate - Complete

There are three primary objectives for the lighting of supermarkets and shopping centres: to attract the attention of potential customers to the store and its products; to initiate the purchase and to complete the sale. Use the following PEC checklist to get a clearer picture.

Performance - Lighting helps attract attention to the supermarket and to the goods on display. It makes the shop inviting from the outside so that people will want to enter. Once inside, it can make the merchandise attractive, direct attention to the items the retailer wishes to promote and stimulate 'impulse' buying.

Efficiency - It can reduce electricity bills by being more effective

Comfort - Good lighting can alter our attitudes and preferences. It can make a space seem spacious or intimate or cramped, friendly or hostile or formal, exciting or boring or calm, warm or cool and so on. It can subconsciously direct people within the shop, improving the utilisation of the space and the time that people spent there. It can improve working conditions for the shopkeeper, so that, at the end of a hard day, visual fatigue is reduced.

Design - One sometimes sees an ugly fitting illuminating a significant task. The luminaire says 'go away'; the illumination says 'look here'. So think aesthetics.



Primata II

Thorn is introducing a new version of its Primata pre-wired trunking system - and making improvements so that it's easier to handle, easier to wire, easier to save money with, and easier to look at.

First, the range is available with up to 9 poles for mains power supply, dimming and emergency operation. Then there's a new IP60 industrial optic to protect against dust, plus angle connectors and modules that come with a presence detector or 3-circuit track for spotlights. Primata II is ideal for commercial, retail and light industrial interiors and specific reflectors/louvres are also available for low or high bay warehouses, manufacturing areas

and storage rooms, retail buildings and exhibition halls.

A greater choice of lamp types (T16 or T26) and wattages gives maximum lighting performance and the pre-wired trunking is available in more modular lengths, from 1.2m to 4.6m, for surface mounting or suspended by rods, wires or chains.

With its simple and consistent tool-free mounting and electrical connection Primata II can reduce installation time by 40 per cent compared with conventional products.

Graffiti

The new Graffiti spotlights use flexible optics to deliver stepless beam angle adjustments of between 10° and 35° or 25° and 55°

All that's needed is a quick turn of the rear assembly and – hey presto – a spot or flood beam results! Using the latest halogen, metal halide and white SON lamps, with a remarkable choice of wattages from 50W to 150W, they are equally adapt at being focused tightly on individual displays, or adjusted to wash large spaces with light.

Within the collection there are mains or low-voltage fittings, a choice of surface or track mounting and the option of spotlights with individual dimmers. And there is a wide range of performance-enhancing barn doors, colour filters and louvre attachments.



World class working environments



Above - Crédit Agricole, Installation by Laudren Naval

Why...Crédit Agricole chose Cinqueline,
Why...RBS Gogarburn is UK office building of the year, Why...Australia Post always delivers,
Why...Danish students study more...

High savings from Cinqueline

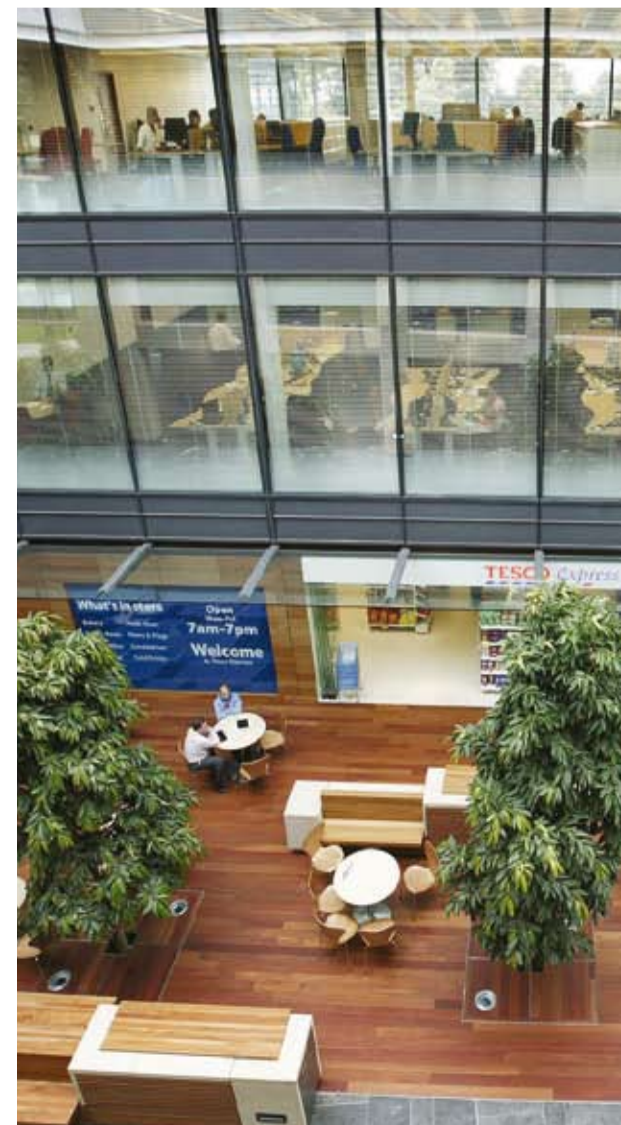
Crédit Agricole is the largest high-street banking group in France, serving 21million customers via 41 regional banks all strongly anchored in their respective geographical areas. An installation of Cinqueline luminaires in the Vannes branch (located in Brittany in the north west of the country) of Atlantica, Crédit Agricole Group has been most successful. The 560 recessed Cinqueline luminaires incorporate low brightness louvres offering quality and performance. The use of 3 x 14W T16 lamps and a lighting control system enables Crédit Agricole to put its energy conservation principles into practice.

Simply the best

The Royal Bank of Scotland's (RBS) new Gogarburn campus, outside Edinburgh, Scotland has won the prestigious Building Services Awards 2006 for the Office Building of the Year. The building has attained a BREEAM Excellent rating and ISO 140012:2004 for environmental management.

The project managed to achieve overall energy figures substantially less than ECON 19 benchmarks through one of Europe's largest chilled beam lighting installations. The Thorn recessed luminaires are integrated along both sides of the Trox chilled beams. They employ 1 x 35W T16 fluorescents with louvres, linked to a lighting control system. The lighting is pleasantly subdued with no glare and is engineered to provide a uniform light spread across the bespoke barrel ceiling, which provides the scheme with its most striking interior motif. Scotland's biggest office development was designed by Michael Laird Associates and engineering design was undertaken by WSP working in partnership with project and construction manager MACE Ltd.

Below - RBS Gogarburn campus



A grand entrance

Senior interior designer, Rupal Parikh of Spowers Architects, knew she had a fantastic office design for Australia Post's head office in Melbourne, but required the technical expertise from Thorn to help bring her design to light. "Lighting is a very important part of my design work, and when working to enhance special material, we require a different approach to lighting." Rupal realised her design brief, which called for discreet lighting and a receptive atmosphere, through the use of dimmable fluorescents in the pelmets and low voltage in the ceiling and recessed boxes. Dimming controls were also used for the former, while Multilights provided clean, square, minimalist appearances with adjustable I.v beams. "The result looks fantastic", Parikh remarked. Electrical work was carried out by Meinhardts Consulting and Elecraft Pty Ltd.

Danish University converts Custom House

A complete installation of decorative Glacier pendants has been carried out in the recently renovated Ålborg University. With the number of students and employees increasing to over 15,000 the third largest university in Denmark acquired and refurbished the Danish city's old Custom House to house its Architecture and Design Faculty. Some 400 Glaciers were installed, including part of the building occupied by a branch of the Jyske Bank. Using frosted glass reflectors the lighting creates a spacious and relaxed studying environment. Low energy 42W TC-TEL lamps are used throughout.



MenloSoft SR

Thorn's new MenloSoft SR luminaire now enables lighting schemes for display screen areas to be designed with good ceiling and wall illuminance ratio recommendations, using just one fitting type.

MenloSoft SR is a semi-recessed modular fluorescent with a suspended optic (only 82mm below the ceiling), designed to deliver an efficient light output (>60%) with excellent glare control. Light is directed onto the walls and ceiling, thus lifting the office appearance.

Energy efficiency is good too. The luminaire is supplied with 14 or 24W T16 lamps. Digital dimming and standard 3 hour SelfTest emergency options are available.

MenloSoft SR is fast to install thanks to a GST socket.

Lighting the city

Here we recognise the unique role which lighting can play in transforming towns and cities and the contribution it can make to economic and social development

Many towns and cities contain a wide variety of lighting equipment and lighting styles. Much of the lighting stock is historical, and the limited financial resources allocated in the past has meant that many places have old, ineffective and inefficient lighting. With the regenerative plans now under way in our towns and cities, it is important to realise the contribution that well-designed lighting can have in bringing the planner's dream to reality.

To enable after-dark operation of the city, we need light. Light supports life and adds greatly to our surroundings. It humanises concrete and other basic materials and, used well, can transform even the grimmest surroundings. It also influences our behaviour. It guides, attracts, warms, and invites. It can emphasise the conceptual character of a location, to charm, embellish, or be a moving part of events. Light can be developed and used to achieve far more than providing just the basic ability to see.

Lighting equipment has a basic function: to generate and direct light so that we can see adequately when natural light is insufficient. But such a utilitarian approach misses the opportunity of adding to the area by increasing the visual attractiveness. Lighting equipment can be used as a designed part of the visual landscape to enhance the overall vision of a city. For much of the time, this equipment will be seen in daylight, and that gives both need and opportunity to transform a basic item into something which is pleasing in itself, and which contributes harmoniously to the scene.

Much is also happening with regard to energy savings and lighting control in the urban environment and high efficiency lighting schemes with the maximum saving in terms of money and energy are seen in many of the bold realizations which take place. Lighting design and equipment can play a major part in turning a vision into reality.



Above - Sky City, Norwest Business Park, Sydney



To identify the needs for lighting, the town or city can be divided into three main parts. Each will have different lighting needs and solutions. These parts will not be individually contained; there will be areas of overlap, and the areas will be inter-dependant. There will be a wide range of needs, from traffic and industry, to leisure and residential.

1. Functional - traffic routes

When approaching a town, the traveller needs to orientate himself, and in moving traffic will need to make rapid, safe decisions. Vision is vital and it is light which makes this possible. Effective lighting for traffic routes is closely defined in appropriate codes of practise. But clear differentiation of the traffic route from adjacent areas will add to the visual ability, and give reassurance to the driver who is seeking the proper route. By daytime, distinctive lighting columns can give the same strong guidance in defining a route.

2. Individual and stylish - suburbs

Once within the boundary of a city, the local needs will be diversified. Architectural periods and styles will mingle, and the local facilities will vary from shopping centers to university campuses. In these areas, while lighting must still perform its basic function, there is scope to introduce stronger aesthetic forms both in the luminaires and in the supporting columns and brackets. Adopting a particular style of equipment can give a clear identity to an area.

3. Architecturally harmonised - city centre

The heart of a city is complex and crowded, and serves many different needs. There we will find banks, offices, shops, restaurants, churches, pedestrianised areas, monuments, and perhaps a city square. Many cities operate 24/7. It is where road traffic and pedestrians must exist together. Lighting equipment must fit into the architectural style of the centre, and besides meeting basic visual needs at night, can also be used to define places at all hours. For instance, a pedestrianised area could have distinctive lanterns and brackets to define the boundaries by day, and use light with different colour values to differentiate it from adjacent traffic bearing roads at night.

We must not forget the contribution that 'non-road' lighting can make to the attraction and style of a city centre. Particular features or landmarks, when lit well, can add immeasurably to the 'feel' of the place.

So whatever your needs in the city, lighting can guide and reassure you, and make the place your own; distinctive, more pleasant, and easier to live in.



Oracle

Few aluminium road lanterns combine such a high degree of advanced performance and modern styling as Oracle. And its all down to precision optics. There is a choice of 'Access', 'Wide' or 'Comfort' light distributions, the latter being dedicated for CEN / EN13201, while both 'Wide' and 'Comfort' versions feature a double IP66 protected Optibloc system for

extended maintenance cycles. With a post-top or side entry, a body able to incorporate future innovations, 25 lamp options from 50W to 600W, hinged canopy and an aerodynamic shape in two sizes, Oracle certainly moves road lighting up a gear.

Telea

The Telea system highlights a particular area seen as offering enormous potential for energy conservation: exterior lighting such as the Oracle in mind, Telea provides flexible monitoring of existing or new lighting installations. Utilising either power line or radio frequency data transmission, it's modular design allows lighting

control of individual light points to be performed from a centralised or decentralised point without installing complex software or the need for extensive training. The result is increased safety and cost savings at unrivalled costs of ownership.



LED by light and colour

Spectacular colour show spotlights Stoke



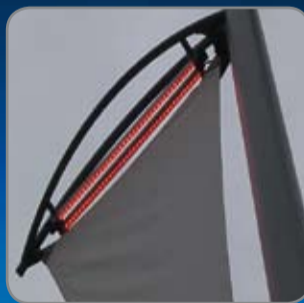
Stoke's Civic Centre, located in the heart of the UK, has become a nightly attraction thanks to a splash of colour under a EUR 700,000 Living Lights project funded by the government. The colorful designs – created by city students of all ages, some as young as five – will change daily and can include stripes, cascades of colour, fades and many other variations. There are more than 150 luminaires in the scheme including 1m long RGB LED Bands (at balcony and low level) and Contrast Spectra C2 250W colour changing floodlights 'washing' the façade. The 16 surrounding street lanterns also feature banners lit by custom LED strips.

Schools, colleges and universities that are chosen to take part can access special software via the internet to design their light displays on-line and send them direct to the lights via a combination of web GUI and wireless (W-DMX) transmission.

Why choose LED Technology?

Several points to bear in mind when using light emitting diodes:

- Their extremely long life and zero maintenance makes them the light source of the future
- Their small size makes them incredibly versatile. LEDs can be used as a design element, for accent lighting or for helping people find their way.
- What's more, they are vibration-proof, contain no mercury and emit neither UV nor IR radiation
- Because LEDs are point light sources they offer high levels of efficiency and beam control in luminaires
- Low voltage supply means easy installation
- Low power consumption equals low energy costs
- A wide choice of colours is available, plus dimming enables dynamic colour changing.



We take a brief review of the new LED products unveiled by Thorn at this year's Light + Building show in Frankfurt

Promenade LED lights the way

Unlike many LED luminaires the Promenade LED bollard has good optics. Its cylindrical optic is designed to redirect light from 15 high powered white LEDs towards the ground, while a removable accessory allows either the optic or just the top cone to be lit in colour from 3 LEDs. It is these features that help the bollard bring lighting down to a human level, creating intimate pools of white light with colour possibilities for visual guidance or effect. Versions fitted with RGB dynamic colour change operation are also available.

The solid aluminium casting and tough polycarbonate diffuser, complete with anti-glare band, offers excellent vandal resistance yet creates a strong design element by day - ideal for providing waymarks - and friendly lighting by night. It is IP54 rated.



Milo LED projects an image

Milo is an IP65 aluminium LED spotlight with a flexible optical system. Its slim (50mm diameter) cylindrical lens-type aperture permits the shaping of the beam from 10 to 24 degrees using Allen key controls on the front of the fitting. A gobo holder accessory allows projection of images, logos, breakups and textures.

The 2.4W LED can be white (5500K), red, blue, green or yellow and the spotlight can project up to 10 metres. It can be rotated 350° or inclined 130° and its compact size (162mm high) makes it unobtrusive during daylight hours.

Three models are available, one with integral gear, one with remote gear and one sealed to IP68 for submersible applications – intended for the illumination of pools and fountains. Milo is ideal for signs, statues, monuments, gardens and building façades.



E/Fact Slims down

The E/Fact Slim buried uplight is a mere 115mm in depth, a full 85mm slimmer than its predecessor. This enables the luminaire to be used for locations where mounting space is at a premium, for instance under a canopy, lighting a building façade or pedestrian areas.

Two body shapes are offered - square and circular, in three diameter sizes - 210mm, 280mm and 370mm. There are other plus points – a selection of five different lamp types, including LEDs, the option of ceiling versions and a choice of frosted or part-frosted front glasses – all low temperature 'touch' (except the 70W model).



Cesar - design by day, light by night

Cool, ultra-modern with minimalist, clean lines, the new Cesar range is a highly versatile collection of wall-mounted floodlights. Two types are available, one with dual light emission (up/down), which can be independently switched, and the other up or down only. This flexibility enables the projector to 'wash' the front of a building or direct the light down onto the pavement creating pools of light without glare.

There are four sizes covering seven different lamp types, from 3W LEDs to 150W metal halide – the combination of adjustable lampholder and intensive or semi-intensive reflector adding a further dimension to the optical versatility of the luminaire. Cesar is sealed to IP65.



That's entertainment!

Because of the wide variety of entertainment and sporting activities it is necessary to analyse the visual requirements of each and choose the luminaires carefully in order to produce the best results. Here are some recent examples...



Floods for desert casino So many worlds in one

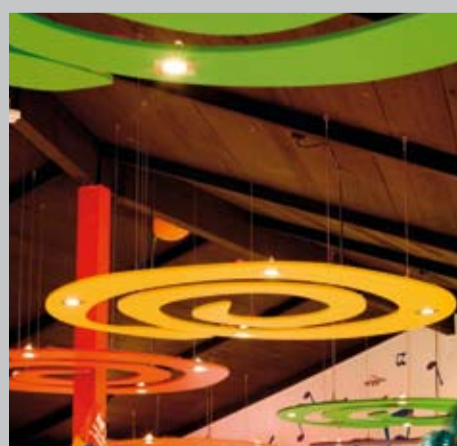
The \$250m Morongo Casino Resort and Spa near Palm Springs in California has an exterior lighting scheme inspired by the mountain setting and the quality of desert light. Architects Jerde Partnership International and Thalden Boyd collaborated with lighting designers Visual Terrain Inc to illuminate the structure at night with ambers, magentas and blues swirling and swaying like trees in a desert breeze.

Thorn OQ floodlights, supplied via the company's US agent, North Star Lighting, with their narrow accurate beams (and hence less stray light) and interchangeable coloured dichroic lenses, were essential to the effect. The colours chosen mimic those found in the natural light of the desert during sunrise, midday, and sunset.

Attractions ranging from thrill rides to educational encounters with wildlife, from meeting cartoon characters to viewing IMAX movies, were already guaranteed to tempt thousands of holidaymakers off the beaches of Australia's Gold Coast into Dreamworld, but just to make sure their family theme park and entertainment venue really stands out, Macquarie Leisure Operations put it up in lights – Thorn lights.

At dusk the 30 hectare park becomes a kaleidoscope of colour and safety as the lighting injects a new atmosphere and feeling for the ever popular events, the latest being Wiggles World, shown below – where younger children are entertained with song and dance. Thorn has created its magic by using a wide selection of product, from floodlights and amenity lanterns to batters and downlights.

The Queensland office of Thorn was responsible for the lighting together with Dreamworld's General Manager Engineering & Technical, Bob Seow Tan, and Senior Technical Manager, Chris Kelly.





Light in the fast lane

With increased leisure creating greater demand for existing sports facilities, participating hours may be easily extended with floodlighting. The Wildkogel ski arena in Austria has done just that by floodlighting its 14km toboggan run. The world's longest run takes about 30 - 50 min to traverse, depending upon skill and chosen transport – its open to toboggans, sleds or bobs.

The lighting design called for Thorn's expertise because the track's surface switchbacks as it drops some 1,300m down to the valley below. This meant whichever floodlights were chosen, they had to uniformly illuminate the 'ribbon' shaped surface without creating glare to skiers, spectators and local residents. Additionally in this energy conscious age the choice of light source was vital.

The solution involved a combination of Contrast R and Sonpak floods using low energy high pressure sodium lamps and mounted at low levels. Installation was by Electro Dankl of Bramberg and simple switching turns the floodlights off at 9pm.

Ricoh rocks

The £113m Ricoh Arena complex is home to Coventry City Football Club and also host for recent concerts by Bon Jovi and U2. The stadium's distinctive roofscape provides all round visibility for 32,000 seated spectators and incorporates a lighting scheme to match the mood, whether its sport or entertainment that's on offer.

One hundred and twenty Mundial floodlights, housing 2kW linear metal halide lamps have been installed along the roof line to provide an average horizontal illuminance of 1200 lux. Uniformity is 0.8 with virtually no shadows, nor light spill. The floodlighting is fully switched, including hot-restrike versions for power interruptions. To cater for a variety of sporting and musical events action is brilliantly visible, from one end to another. 1,000 emergency luminaires are fitted on the underside of the roof, under stand concourses and stairways; escape routes and walkways.

Low energy interior luminaires are used throughout to build a succession of lit spaces. Architects were The Miller Partnership – Glasgow.





Orus

The low-down on Orus

As shown, Thorn has a fine record of producing dramatic new road lighting. The new Orus luminaire is unquestionably a technical breakthrough. It's a new concept which, for the first time, puts a compact low wattage metal halide lamp in a special bi-directional 'FlatBeam®' optic. The result is phenomenal: a unique asymmetric light distribution; excellent uniformity with no glare; low energy; and - above all - a mounting height of 0.9m, which is under the horizontal

line of sight of most passenger vehicles. Although intended primarily for use on bridges, around airports and locations facing extreme weather conditions Orus can also be used where obtrusive light or maintenance difficulties are a concern.

Sonpak LX

We salute a design classic - the lighter, brighter Sonpak LX

The Sonpak has been making lighting history ever since it was first launched 25 years ago. It was the first discharge flood supplied with a 70W tubular high-pressure sodium lamp, itself invented by Thorn. Almost overnight it did away with the power hungry tungsten halogen 'shovel' floodlights, producing more light than a 300W flood for 70 per cent less power! Bearing in mind the huge market for these floods that's a major contribution to energy consumption.

Of course, the original fitting of 25 years ago was a different animal from the one known to the trade nowadays. At first it was only a 70W unit made in black GRP. Obviously it struck the right note with contractors faced with the problem of recommending low energy, reliable and maintenance free floodlighting at affordable prices and has done ever since. Now - 25 years and many modifications later - it takes another step forward.

The new lighter, brighter Sonpak is the envy of the industry offering - more than ever before - better lighting, easier installation, simplified stocking and greater

eye-appeal! There are two units - 70W and 150/250/400W rather than the previous three. Apart from improved light distribution - the reflector allows greater downward beam control - Sonpak LX fittings are very light in weight (the higher rating is about two thirds the weight of its predecessor) and they're more compact and easier to install and handle on site. The precision instrument look of the new floods is also an improvement. What's more, it's the latest addition to the company's LumExpress range, which means excellent availability from wholesalers, and the fittings are no more expensive than the previous Thorn range.

All the Sonpak LX floods are similar in design, finished in black, sealed to IP65 and supplied complete with either metal halide or high pressure sodium lamp.

No wonder more and more installers and users throughout the world favour Thorn Sonpaks...



LumExpress

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