

IN GOOD SHAPE

SIMON FISHER, DIRECTOR OF PRODUCT DESIGNERS LAPD, EXPLAINS THE DESIGN PROCESS BEHIND TRILUX'S NEW LG7 COMPLIANT (AS MUCH AS IT CAN BE!) LUMINAIRE, LIVITY



Now a well established design guide, LG7 was devised to address contemporary office lighting by factoring in advances in working practices, computer screen, and material technology. As a reaction to this standard, a new breed of luminaires that claim to be LG7 compliant has been created.

A common misconception, and one that lighting manufacturers will either love or hate me mentioning, is that there can actually be an LG7 luminaire – there is no such thing!

Luminaires must be selected with consideration to the specific space in question. Lighting manufacturers cannot cater for this variable. It is the job of the lighting designer, in association with the architect or interior designer, to consider, for example, the architecture, surface finishes and occupants of the building and design a compliant scheme to suit.

Well designed luminaires can help the designer to create an environment that complies with LG7, so when Trilux approached LAPD (Lighting and Product Design) to design a range of luminaires for office spaces we were delighted to undertake the project.

THE DEVELOPMENT OF THE PRODUCT

Market research

Market research was, of course, necessary to discover what customers wanted and to find out further information concerning the marketplace. For example questionnaires were used to obtain feedback from potential clients and we spoke directly to customers, specifiers, architects and M&E consultants in order to find a direction in which to develop the product. What was interesting was that the differences in each discipline's requirements were precisely what you would predict. For M&E consultants performance was the key driver, for architects it was visual aesthetic, for the contractor it was ease of installation and for the end user it was visual comfort – so no surprises there!

Concept design

We found that competitor products tended to offer a rectilinear solution

and the result was a narrow product offer. Armed with our research, we developed an approach to this product's design. This was to be as free thinking with the design of the fitting as the eventual client would be with the interior. Unrestrained by straight lines and inspired by natural shapes and forms we aimed to create a fresh product. The range would contain product variants and include louvres, providing a link back to traditional methods of lighting offices.

LAPD generated a number of concept designs in two dimensions for evaluation with Trilux Germany and Trilux UK. A product design was selected and detailed design on the Livity range commenced.

Detailed design

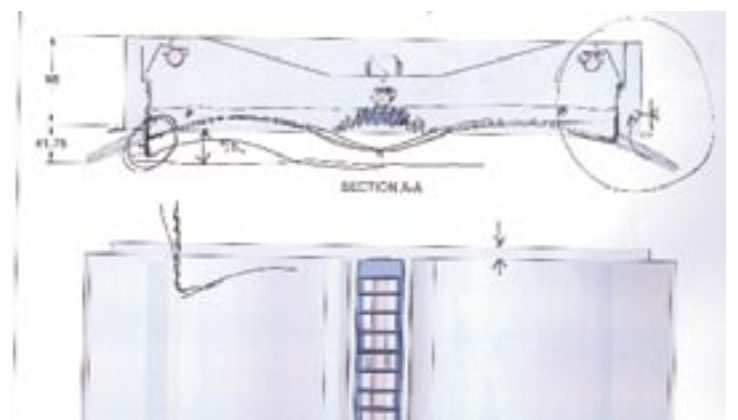
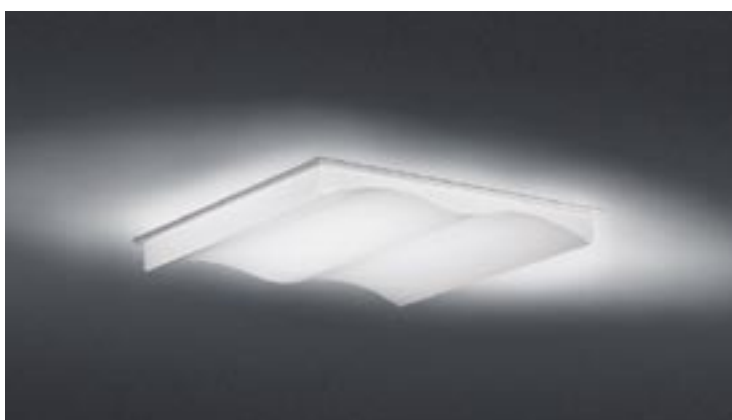
2D quickly became 3D views. These were rendered and manipulated in virtual space to confirm the aesthetic. Aesthetic, however is one thing - delivering the performance to match is another. We felt that there were a number of key performance criteria, outside the guidelines set out in LG7, to which the product should also comply. These included maximising light output ratio (we achieved up to 85%). This increases the likelihood of compliance to UK Building Regulations and current Enhanced Capital Allowance schemes. Ease of installation and maintenance throughout the product's life were also carefully considered.

LAPD called upon its extensive materials library and its association with the Institute of Materials, Minerals and Mining to help in the specification of the high transmittance material that forms the diffuser panels. The result is a product with very good diffusion properties – with excellent flashing and glare control.

Working with Trilux

The product brief was driven by the requirements of the UK market, but the Livity was adopted, post concept, for the European market. Working with Trilux's engineering team in Germany we ensured the transition to production was smooth and that the design maintained the original values of the UK brief.

The shape of the Livity was inspired by the form of a flying seagull resulting in a design unrestrained by straight lines



LAPD had to understand the mindset and manufacturing techniques of Trilux. To facilitate this we had a series of visits to the Arnsberg production facility to meet Trilux's engineering and manufacturing teams. This gave us a clear understanding of the impressive manufacturing facilities, which include vacuum forming, injection moulding and sheet metal manipulation all under one roof.

LAPD's cornerstone design techniques: Design for Manufacture and Design for Assembly ensure that we question every design decision we make. This helps us to develop products with as few components as possible and makes assembly quick and efficient. We were therefore able to maximise Trilux's in-house production facility to create a product that is economic to build and distribute.

AND THE RESULT?

The lighting industry is becoming increasingly conscious of energy efficiency, sustainability and the environment. We have designed Livity to take into account the whole life of the product from manufacture to disposal. The design is simple and maintenance of the product is easy. Materials have been selected to ensure all parts can be recycled, and at the end of its life, components can be easily separated.

The result is a product range of modular 600mm square luminaires that are innovative and efficient in their manufacture.

The range includes several organic shaped diffuser types whose soft lines add an "ebb and flow" to the office space. Available with or without louvres, each diffuser fits into a common body chassis. The variety within the Livity range challenges client preconceptions, with totally diffuse product offers and also products that pay homage to historic lighting practices with integrated louvre solutions.

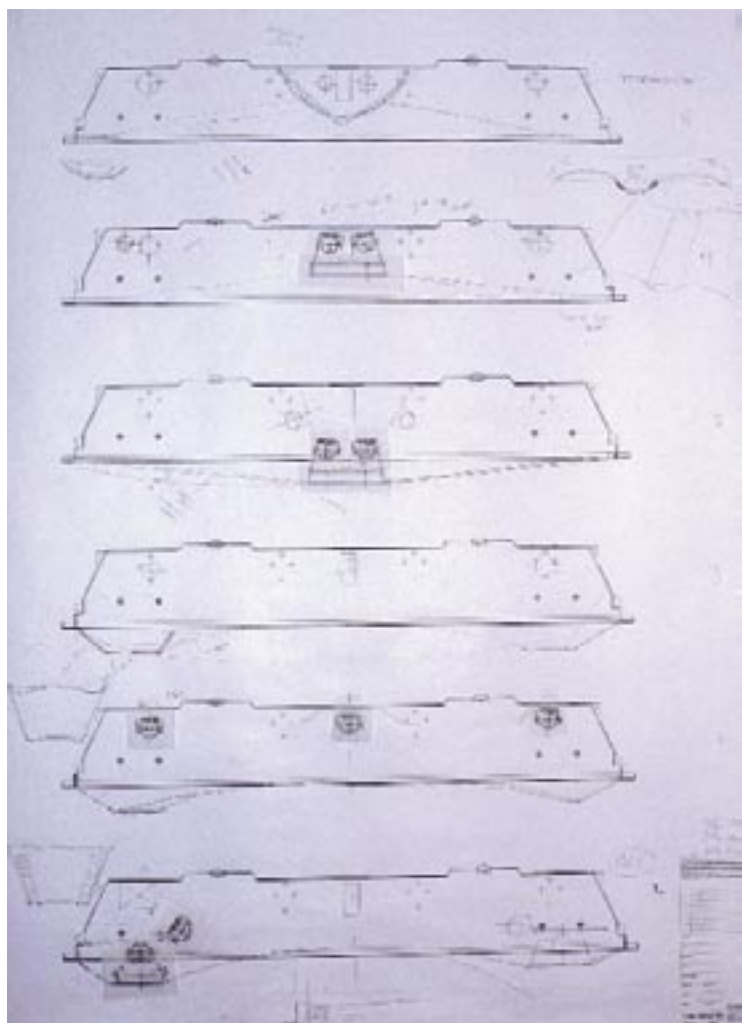
Livity also challenges the common belief that 500 lux is necessary in an office environment. In task areas 500 lux may sometimes be needed but this lighting level is not often required throughout a space. Livity offers a range of products to deliver different lux levels but with product continuity. For example the louvred version can deliver 500 lux, while other products in the range, can deliver different levels, and of course there is also the option of using a dimmable version.

Livity looks great and offers excellent performance, ease of installation and visual comfort – it is therefore a winner across the range of potential clients. It gives the lighting designer the opportunity to create a successful solution that will enhance the interior of the working environment in question, and the well-being of its occupants.

LAPD is proud to have collaborated with Trilux and we are delighted with the results. We don't claim that the Livity will deliver an LG7 compliant space – a luminaire alone cannot do this – but it is certainly designed with LG7 in mind and will help the designer to create a lighting solution that complies with it.

www.lapd.co.uk

www.trilux.com



**Above: early sketches of the Livity
Below: the louvred version delivers 500 lux**

