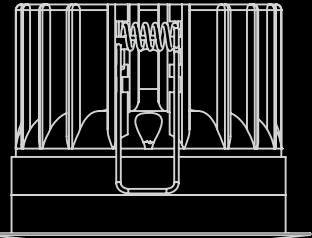


Case Study

Southsea Library



PhotonStar™



Designed & Produced in the UK

tel/fax: 02381 230 381

email: info@photonstarlighting.com

Project

Southsea Library

PhotonStar™ Products

CeilingStar TTs
Laser Micro Adjustable
Track Spot Aero

Benefits of Installation

The space has been revamped and restored, with the use of bright lighting and interior design to create a vibrant communal area

Invites a younger, modern generation to use a local social meeting space, with a subtle educational twist

Lighting design enhances 'wayfinding' through the building

Energy and Maintenance Saving luminaires reducing energy costs by 80%

Payback = 24 months when compared to Halogen equivalent

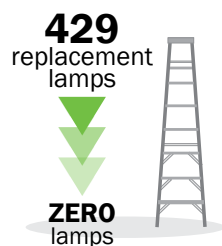


application

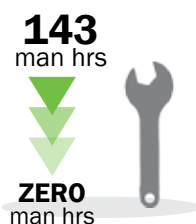
PhotonStar were invited to supply a low energy lighting solution for the new library located in Southsea, Portsmouth. The availability of the old Woolworths site offered a unique opportunity for the library service to re-locate its south of the city library into the heart of Southsea within the retail centre. The new library, contact centre and café, aims to attract almost 80,000 visitors a year as well as widening the appeal of the town centre, supporting local retailers and the economy. The library will be open to the public 8 hours a day, 7 days a week, but with special events such as evening workgroups, storytimes, computer classes and creative writing groups scheduled, then the lighting will be in use around 16 hours a day. Due to the nature of the project the lighting needed to create a relaxing mood for the public to enjoy the library's facilities, in addition to a high quality ambience and design to improve performance i.e. in the computer access area.

The decision to use LEDs was taken by the M+E consulting engineers, RHB Partnership LLP, who stated:

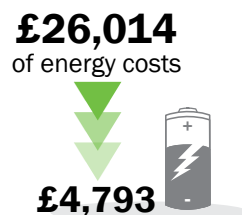
"We opted for LED lighting as the advancement in LED technology has had a big jump in recent years, (lumen output comparable to 50W dichroic) and that LED's added low maintenance compared to dichroic (longevity in a public building was also crucial). We did look at compact fluorescents which has better lumen outputs but they had a warm up period, not as efficient in longevity and aesthetically were not small enough."



maintenancecost*



maintenancecost*



energycost*



CO₂emitted*

before Old Woolworths site



after New Southsea Library



Due to the nature of the project, the lighting design team focused on providing appropriate lux levels in specific areas to allow for the function of the building i.e. suitable reading light to enhance performance, in addition to creating a relaxed atmosphere in which to study. The area has been restored and revamped from a drab, dull and unused space into a bright and vibrant social area, inviting all generations of the local community to enjoy.

A wide range of PhotonStar fittings were utilised including the CeilingStar TTs with both Mercury 810 and 630 light engines. The Laser Micro Adjustable with the Pluto 300 light engine and the Track Spot Aero with the Mercury 810 light engine.

The combination of these light fittings in different areas of the library not only provided a cost saving performance lighting solution but also enhanced key features of the new area's facilities.

For example, the Laser micro fittings with a narrow beam angle focus the light pools, allow for higher lux levels in individual study areas and draw attention to key informative features within the library.

The CeilingStar TTs fittings are strategically placed giving aesthetically pleasing light areas designed to help entice customers in. Appropriate zoning of luminaires create focal points throughout the building. With two entrances at either end of the library, this lighting design has helped to enhance 'wayfinding', and develop a pathway through the building.

The Track Spot Aero fittings add a classy, modern and fashionable look to the lighting aesthetics, in addition to highlighting the books and bookshelves themselves, which are clearly a key part of the library's function.

PhotonStar were invited to supply the LED lighting solution following research carried out by the M+E consulting engineers:

"We still maintain that they [PhotonStar] are ahead of other manufacturers. A contractor recently installed an equivalent that was comparable on paper to the Photonstar Ecostar, but was not as good after we had reviewed the completed installation. The output from the Photonstar products appears to be far superior to other products on the market that we have reviewed in the last year" Harvey Goddard, RHB Partnerships

solution

"We still maintain that they [PhotonStar] are ahead of other manufacturers. A contractor recently installed an equivalent that was comparable on paper to the Photonstar Ecostar, but was not as good after we had reviewed the completed installation. The output from the Photonstar products appears to be far superior to other products on the market that we have reviewed in the last year."

Harvey Goddard, RHB Partnerships

total cost of ownership

In comparing the PhotonStar fittings installed at Southsea library, and their equivalent halogen fitting (20W, 35W and 50W MR16's) we have calculated that the total cost of ownership period is 24 months. One of the main advantages of choosing LED's over their halogen equivalent is the extended lamp life and thus the reduction in maintenance. The reduction in labour costs becomes even more beneficial with anticipated annual labour costs set to increase by 4% due to a number of factors including rising fuel and insurance prices, and additional requirements for training and registrations (BCIS, the RCIS Building Cost Information Service).

A year ago we based our payback calculations on 10p/kWh - a typical figure provided by the industrial energy prices in the EU, Eurostat Statistics in Focus and DECC. Analysts have warned of a 50% rise in energy bills over the next five years. We can justify the use of an 8.5% annual increase in our calculations starting at 10p/kWh by looking at the price rises announced

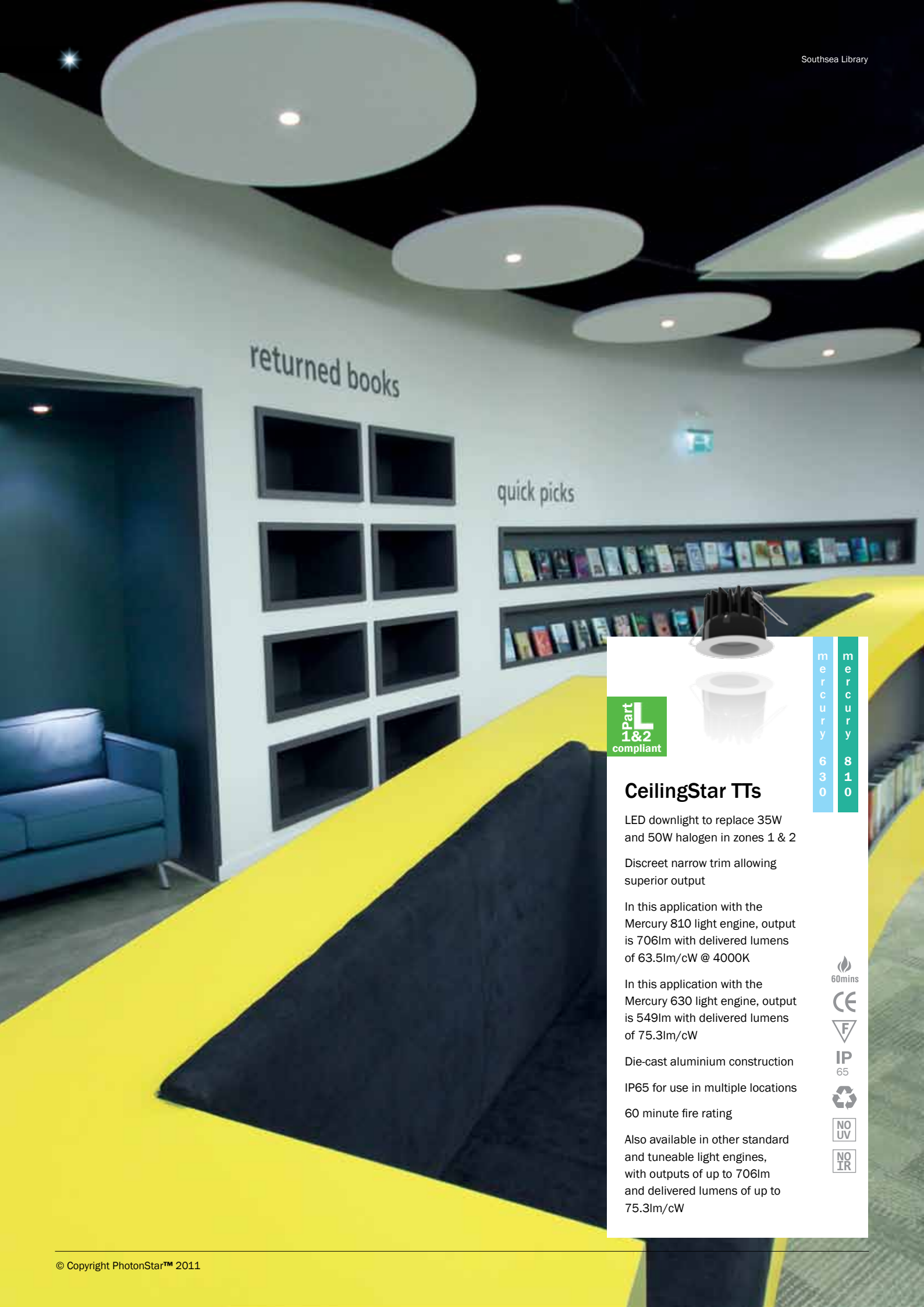
by major energy suppliers in the last year and subsequently meeting the analyst projection of a 50% rise over the next 5 years. For example, E.ON added 9% to electricity prices and 3% to its gas prices. British Gas and npower raised both by 7% and 5.1% respectively. Scottish power raised their price of electricity by 10% and gas by 19%.

Over a 5 year period, calculations show an energy cost saving of £21,221 - an 80% reduction. CO₂ emissions have also reduced by 80% and maintenance costs have virtually been eliminated.



Assumptions over a 5 year period:

0.544 CO₂ per kWh, 16 hours use per day, 10p/kWh, lamp replacement cost £1, anticipated annual lamp replacement cost increase 0%, anticipated annual labour cost increase 4%, anticipated annual energy cost 8.5%, Assumed MR16 fitting costs (with drivers) on average: £12.77



returned books

quick picks

Part
1&2
compliant



mercury
630
mercury
810

CeilingStar TTs

LED downlight to replace 35W and 50W halogen in zones 1 & 2

Discreet narrow trim allowing superior output

In this application with the Mercury 810 light engine, output is 706lm with delivered lumens of 63.5lm/cW @ 4000K

In this application with the Mercury 630 light engine, output is 549lm with delivered lumens of 75.3lm/cW

Die-cast aluminium construction

IP65 for use in multiple locations

60 minute fire rating

Also available in other standard and tuneable light engines, with outputs of up to 706lm and delivered lumens of up to 75.3lm/cW





mercury 810

Track Mount Spot Aero

Adjustable track spot for halogen replacement

Suitable for accent and retail applications

3 circuit track adaptor

In this application with a trailing edge dimmable driver

In this application with the Mercury 810 light engine, outputs of 741lm and delivered lumens of 66.6lm/cW @ 4000K

Also available in other light engines with outputs of up to 741lm and delivered lumens of up to 78.9lm/cW



meet



Part
1&2
compliant

pluto
300

Laser Micro Adjustable

Small adjustable darklight

Equivalent in size and output to MR11

Low glare darklight baffle

15° tilt adjustment in 12mm ceiling

In this application with the Pluto 300 light engine, outputs of 295lm and delivered lumens of 57.0lm/cW

Also available in other standard and tuneable light engines, with outputs of up to 384lm and delivered lumens of up to 57.0lm/cW





PhotonStar™

tel/fax: 02381 230 381

email: info@photonstarlighting.com

