

# Reds flag up their green credentials

As the inaugural Carbon Reduction Commitment chart showed, Manchester United Football Club is top of the league when it comes to assessing its energy usage.

**Nick Martindale** looks at how Paul Nulty Lighting Design has persuaded the club to make a 75 per cent cut in general illuminance levels at its Nike Superstore



# MAN UTD

THE 2011/2012 COLLECTION  
MANCHESTER UNITED 24/7



## PROJECT DETAILS

CLIENT NIKE/MANCHESTER UNITED FOOTBALL CLUB

ARCHITECT CHILD GRADDON LEWIS

LIGHTING DESIGNER/CONSULTANT PAUL NULTY  
LIGHTING DESIGN

LIGHTING SUPPLY ATRIUM, PHILIP PAYNE, ACDC LIGHTING

CONTRACTOR CARDINAL

ELECTRICAL CONTRACTOR ALARD ELECTRICAL





**Nike vision** A central focus of the lighting design for United's store refurb was the desire by club sponsor Nike to create a more atmospheric environment, with most of the lighting directed towards the merchandise. Paul Nulty Lighting Design achieved this – and a 75 per cent cut in overall illuminance levels – by increasing contrast ratios in the store to 10:1

No stranger to topping the Premier League table over the past 20-odd years, Manchester United Football Club has again found itself at the top – of the inaugural Carbon Reduction Commitment chart.

Admittedly, in its current form the table (recently renamed the CRC Energy Efficiency Scheme) only ranks organisations according to the measures they have taken to assess energy consumption, rather than steps to reduce it but, as Sir Alex Ferguson knows only too well, you can only beat what's put in front of you.

A football club's energy consumption has many aspects, from floodlighting on match days to catering and hospitality. One area which tends to consume a disproportionately high amount, however, is the club shop, with lighting often the main offender.

Over the summer of 2011, the club – alongside its main sponsor, Nike – embarked on a store refurbishment programme, which included a complete overhaul of the lighting set-up. A central element of the move was the desire by Nike to create a more atmospheric environment, with most of the lighting directed towards the merchandise and overall illuminance levels

reduced by 75 per cent. "We didn't actually reduce light levels on the merchandise but we reduced the levels generally in the circulation zone and increased contrast levels to about 10:1," recalls Paul Nulty, practice head at Paul Nulty Lighting Design, which acted as the lighting consultant on the project.

"It's very moody and dramatic, but the merchandise is still very bright. There are over 1,000 lights on the merchandise but, rather than illuminating it homogeneously, which is often how it's done, we used very tight, narrow-beam spots. It's quite unusual for that environment to be lit in that way."

He adds: "Most sports stores typically are very bland affairs and it's all about very bright levels of functional light, even more so when you look at stores in sports stadia, because they have such a high throughput of traffic."

In its other stores, Nike tends to use 70W fittings, but in this case Nulty says he was able to persuade it to use 35W fittings, which helped to reduce energy consumption by 60 per cent, compared with the previous fittings.

"We halved energy consumption on the traditional spotlights and increasing the contrast ratios enabled us to do that," he says.

## THE BIGGER PICTURE



As with many retail environments, the client was concerned to keep capital expenditure to a minimum. There were two issues, though, where the lighting consultant successfully argued the case for the use of more expensive products that would either save money in the long run or produce a better visual effect.

Paul Nulty, practice head at Paul Nulty Lighting Design, recalls how the client initially wanted to use cheaper fittings for the track-mounted lighting. "We were able to demonstrate that the cheaper fitting had a lower light output ratio, which meant they would have required more of them," he says. "There would have been an increased maintenance bill, as well."

He was also able to persuade Nike and Manchester United not to re-use the existing ceiling-mounted fluorescent emergency lighting – which regulations insist must be permanently on – as it could have ruined the effect of directly lighting the merchandise. "In the end we got them to buy into it and we replaced the emergency lighting with LED directional light sources," says Nulty.



**Walking in a Fergie Wonderland** The use of spotlights in the store adds versatility, as the spots can easily be re-angled to adapt to the frequent changes of layout the client requires. Bottom image shows a rendering of the store

"If we'd had lower contrast ratios, we would have needed to use 70W fittings."

A further environmentally friendly measure came from the re-use of existing fittings, wherever possible. About a quarter were retained in some form. "We didn't want to waste perfectly good luminaires," says Nulty. "If we could have re-used all of the fittings, we would have done, but they ripped out all the ceilings in the main part of the store, so we couldn't re-use a lot of the track lighting or the lights in the plasterboard ceilings." The client's reasoning here was cost, he admits, as is often the way with retail refits.

### Shifting layout

Despite the use of spotlights to illuminate merchandise, a further requirement was to make it as easy as possible for the store layout to be altered.

"They pretty much re-merchandise the whole store for match days, because it enables a greater flow of pedestrian traffic," explains Nulty. "So, once every couple of weeks, they swap the store around. It's quite a big task to do that but, because there's lots of track lighting, they can re-angle spotlights very quickly."

There were other challenges, too. The store is essentially

U-shaped, says Nulty, which creates a natural flow around the space, with the entrance and checkouts at either glass-fronted end-point. "As you get to the checkouts you have daylight in front of you and we were worried that on a sunny summer's day the natural light would have made the inside seem gloomy and put everyone else into silhouette. We ended up putting film on the doors to reduce the amount of daylight, which meant we were able to maintain a lower level of illumination inside."

"Ultimately it's about balancing the artificial lighting with daylight and there are two ways of doing that: you either put more artificial lighting in to compensate for the daylight or less in and reduce the daylight, and that's what we ended up doing."

The design also included lighting a tunnel linking the store to the stadium stand, (see front cover) which is used by customers who have just undertaken a stadium tour. Here, there were both visual and practical aspects.

"We wanted to create something very dramatic to signify the end of the tour and the beginning of the store," says Nulty. "We needed something that was relatively bright in terms of light levels but also quite high in contrast so we could start to adapt the eye for going into the darker environment of the store."

A further consideration in this section was to ensure the





**Keep the red flag flying** Lighting for the store refurbishment cost £30,000 but year-on-year sales have increased 12 per cent since the revamp. The use of spotlighting to make merchandise stand out in an otherwise darker environment is something that could be applied to other retail environments, says lighting design consultant Paul Nulty

red LED lighting used in the tunnel was an exact match with the Manchester United red. It was an issue that also affected the choice of paint in the store. "The colour of white light will render paint in a certain way, so we had to do a lot of tests to make sure the red was exact," Nulty adds. "That was more a case of them choosing the paint that would suit the light source, but it was very much working with the client, the graphic designer and Nike, who were very heavily involved in the project."

#### Tight schedule

The entire project was turned around during the close season, meaning it had to be completed in just six weeks.

"We had to come in, design a concept and go through the development of that with the client, look at the mock-ups, provide drawing specifications, load schedules and client schedules, travel up and down to Manchester on a weekly basis and then find equipment that was available within the time and budget," recalls Nulty. "It took us three weeks to proceed from concept through to the point at which we were placing orders, so it was very tight."

The whole project cost £30,000 for the lighting element, says Nulty, and sales have increased by 12 per cent year-on-year since the store refurbishment was completed. "It's impossible to say

what impact the lighting had on that because you're separating the lighting from the overall refurbishment of the store," he admits. "But clearly the refurbishment of the store has affected sales in a positive way and it's nice to think that, as part of a team, we have been able to influence that."



**"If you can pick out merchandise by having higher-contrast light ratios, the merchandise really comes to the fore"**

**Paul Nulty, Paul Nulty Lighting Design**

The use of spotlighting to make merchandise stand out in an otherwise darker environment is something that could be applied to other types of retail environment, says Nulty.

"Because the contrast ratios are greater, the products actually stand out more and effectively pop out of the background," he says. "If you can pick out merchandise by having higher-contrast light ratios, the merchandise really comes to the fore." ■