

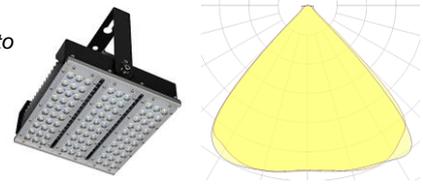
Lighting upgrade to allow compliance with competition rules

Ebbw Vale Cricket Club, Ebbw Vale, Wales



We demonstrated our own-brand LED industrial-and-sports lights. The sample featured a 90x90 degree beam with a defined cut-off. The client agreed that this gave wide and uniform illumination without creating glare when viewed from the side (ie from the batting positions).

We created a 3d simulation of the hall to create a layout which would give the very uniform light-levels required by the ECB.

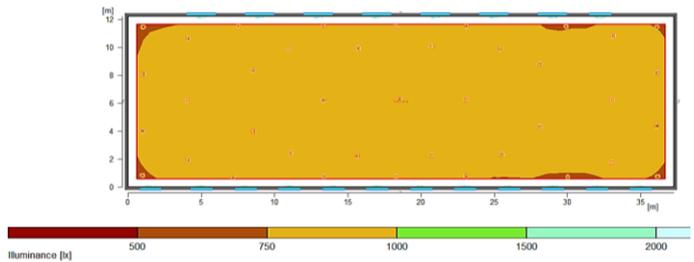


In design we cooperated closely with the England and Wales Cricket Board (ECB). They wanted the hall to be able to offer lighting to the following standard for high-level team events:

Design illumination: 750 lux average

Design uniformity: min/ave = 0.8

They also told us that some competitions require 1000 lux but then removed this requirement here. Nevertheless we felt it was sensible to aim for near-1000 lux capability to give the client flexibility, and predicting degradation of reflectiveness of wall-surfaces, and gradually of LED light-output. Only 45% of this light-level was necessary for standard/junior practice so dimming was needed.



General
 Calculation algorithm used
 Height of evaluation surface
 Maintenance factor
 Average indirect fraction
 0.25 m
 0.88
 Total luminous flux of all lamps
 Total power
 Total power per area (457.30 m²)
 531921 lm
 5850 W
 12.79 W/m² (1.44 W/m²/100lx)



We felt that the best choice would be our lights with Philips LEDs which provide luminaire efficiency of 130lm/watt. We did not want to go to very cool daylight as we felt this would be too shocking a transformation but milder 5500k did refresh the hall compared to the former T8 halophosphate tubes. We also agreed the walls needed painting to improve reflectance.

We installed the lights using a contractor we have used many times before. Stephen Begg commissioned the DALI controls.

A health and safety manual and method statement were created, contracting Atega Ltd, consultants we often work with.

A twisted-pair DALI cable was run between the drivers, and controlled from new-design wall-mounted DALI dimming and 45m aisle-pattern microwave presence-detection units.



This is the first installation in N Europe using this new DALI microwave control unit. We have fitted this supplier's microwave sensors and dimming controllers before and found them to be reliable, accurate and well-priced with 5yr UK-based warranty.

"We have had really favourable comments about them... ..everyone seems to be very impressed."

Nick Pepper, Club Secretary

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- Energy-Savings p/a:** £1,725.24
- Cost of project:** £19,035.51 (includes installation by qualified electricians and DALI commissioning by Stephen Begg)
- Payback:** 132.4 months estimate based on annual usage
- Relamping cost saving annually : £74.15 (estimated based on operating hours, not included in payback)