

Case Study

Palais des Sports Robert-Oubron, Créteil, France



Areaflood LED slashes energy consumption while improving light levels and comfort at sports arena

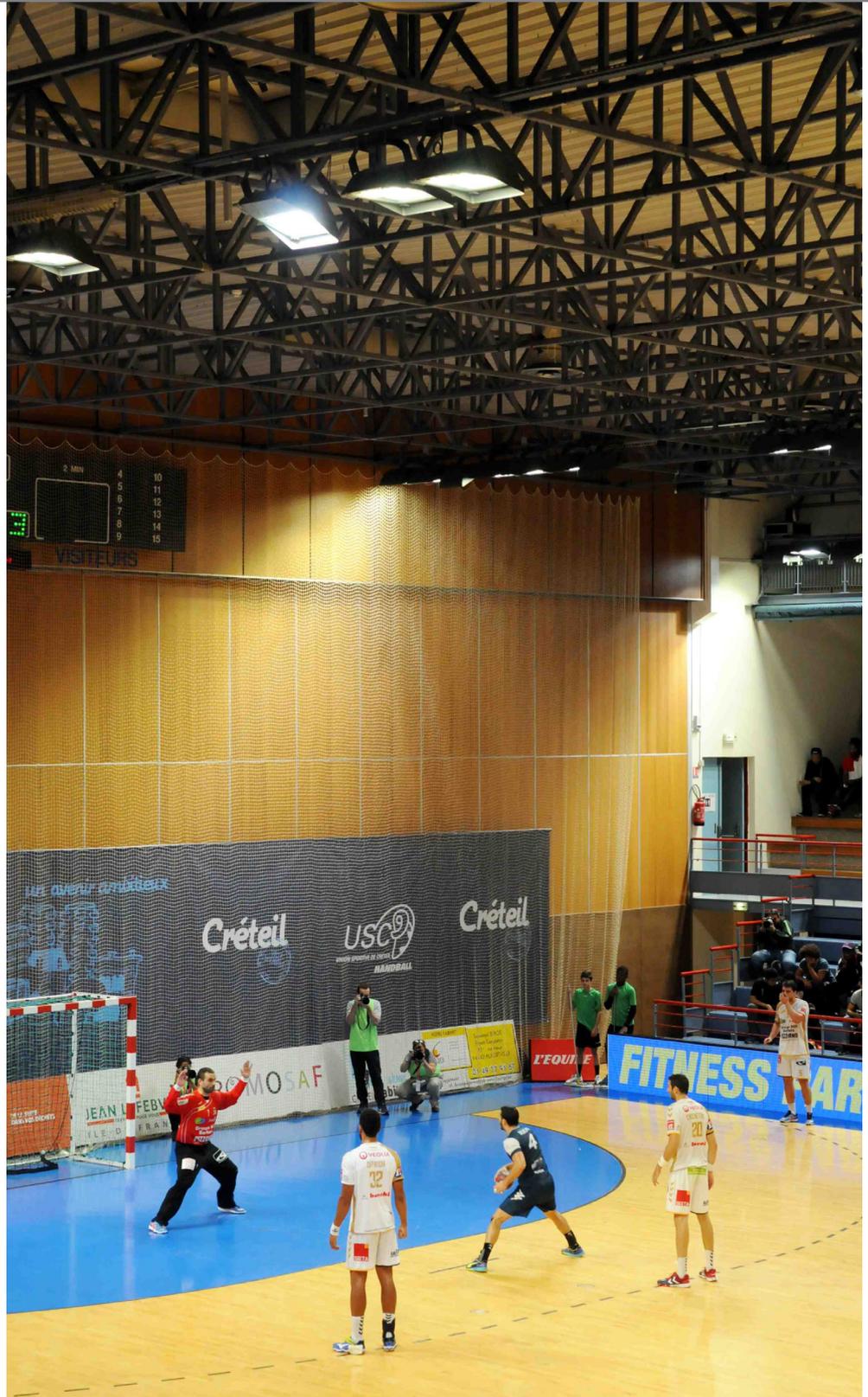
Products used



Areaflood LED
www.thornlighting.com/AFL

Opened in 1988, Palais des Sports Robert-Oubron is an indoor sports arena in Créteil, France. Home to the Division 1 French handball team, US Créteil Handball, it can accommodate up to 2 500 spectators. The arena has a 44x22m playing surface of with a clear height of 9m and a very reflective parquet coating.

The existing lighting solution comprised 140 DGA25 400W metal halide and high pressure sodium floodlights. The average illuminance was 870 lux using 70,3W/lux. The total installed power was 61,18kW.





Lighting objectives

The main objective was to raise illuminance levels to the requirements of the French Handball Federation, including $E_h = 1\ 500$ lux for televised events. Other objectives were to reduce energy consumption and to have the flexibility to change the lighting levels for players' presentations.

Lighting solution

Asymmetric lighting was required due to the need to use the existing structure of four mounting rails, two of which are above the pitch. The solution therefore comprises 90 Thorn Areaflood LED floodlights as well as 36 metal halide Areaflood floodlights with asymmetric optics to offer the optimum performance vs budget balance.

Results and benefits

The Areaflood LED floodlights provide instant 800 lux lighting. When combined with the metal halide Areaflood floodlights, 1 500 lux is achieved. A total of five illumination levels are provided to accommodate all the arena's uses, including 150 lux, 300 lux, 500 lux, 800 lux and 1 500 lux. Compared to the previous installation, this new solution uses 46,4% less energy. Comfort is also improved with excellent uniformity (0,74) and reduced direct and indirect glare as a result of reduced brightness and the elimination of reflections from the polished surface.

Palais des Sports Robert-Oubron is now fully compliant with the French Handball Federation lighting requirements.

Description	Before	After
Floodlights	140 x DGA25	90 x Areaflood LED 36 x Areaflood HID
Individual wattage	400W	189W 437W
Installed power	61,18kW	32,74kW
Average illuminance	870 lux	1500 lux
Wattage/lux	70,3 W/lux	21,8 W/lux

eControl From Thorn's 15 ways to save energy, the following are key to minimising energy consumption at Palais des Sports Robert-Oubron:



System Efficacy

Precise optical control and LED modules within a body designed to dissipate the heat leads to industry leading efficacy of over 106 l_m/W



Task/Scene Setting

The instant switch on and dimming of Areaflood LED allows simple scene setting for the players to five competitive levels



Zoning of Lighting

Lighting is zoned between the playing and spectator areas to ensure it is only used where required





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