Unique & Better

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2015. 03. 27 Printed

GigaTera

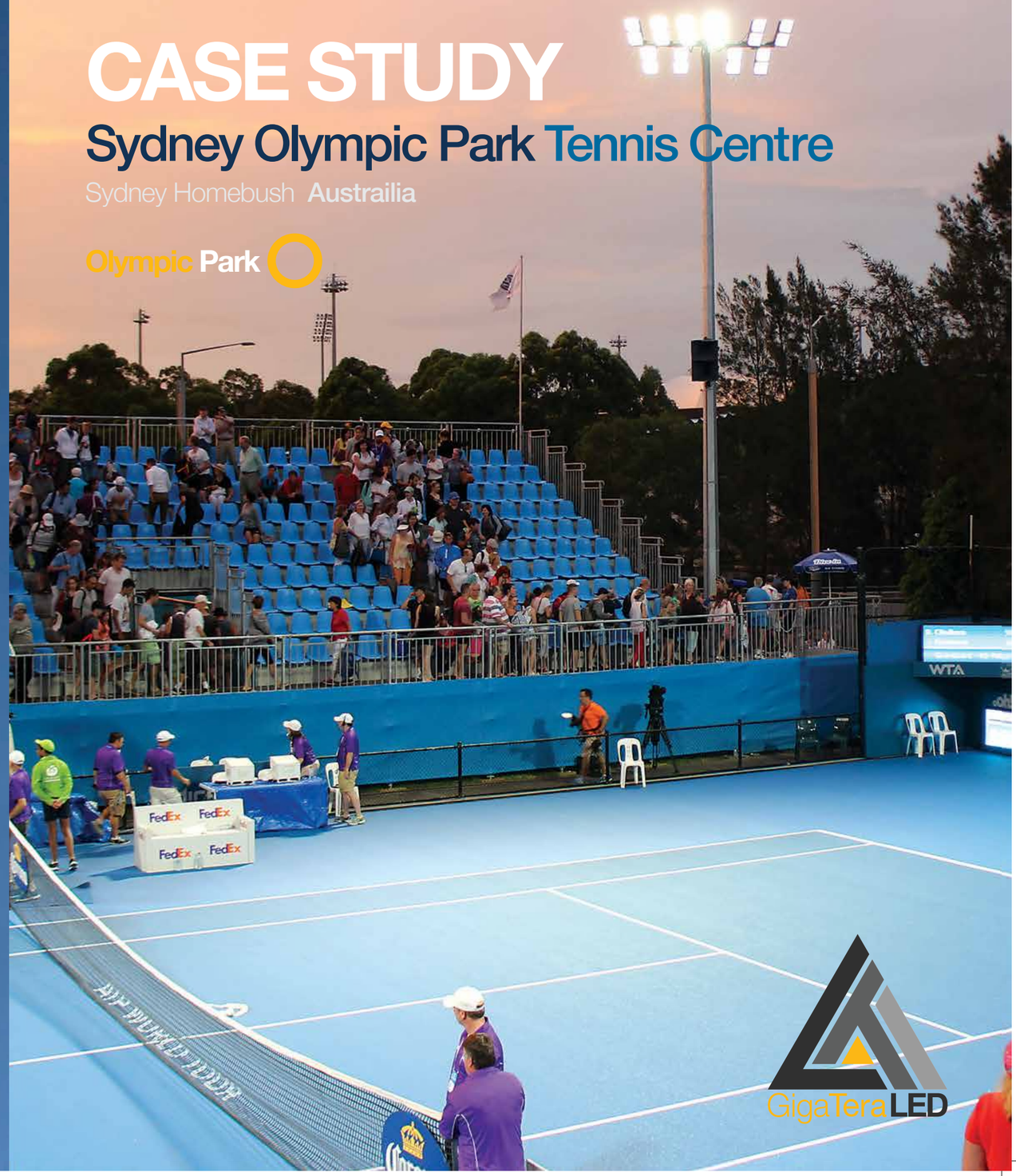
LED FLOOD LIGHTING **SPORTS LIGHTING**

CASE STUDY

Sydney Olympic Park Tennis Centre

Sydney Homebush **Austrailia**

Olympic Park



GigaTera LED

Installation Area : Tennis Court Lighting

Sydney Olympic Park Austrailia

" We worked with Lamptech, Tennis Australia and the Sydney Olympic Park Authority to install Gigatera LED's at the Sydney Olympic Park Tennis Centre. The lights were officially used for our International ATP and WTA events featuring some of the best players in the world. We have been thrilled with the lights and we look forward to talking with our 500 member clubs and affiliates about the opportunity of LED at local clubs in the future. "

Alistair McDonald
Tennis NSW CEO & Tournament Director of the Apia International Sydney

Energy Saving **60%**

CO2 Reduction **62%**

Enhance Illuminance Avr **90%**

Annual Electricity Saving AUD **$18,000**

Summary

In June 2014 Lamptech Pty Ltd worked with the Sydney Olympic Park Tennis Centre to upgrade the tennis court lighting system to LED. After much research and testing, GigaTera LED luminaires were selected for the specific requirements of sports lighting and HDTV broadcasting. The completed project consisted of 120 x 400w SUFA LED fixtures installed across 6 courts. Once complete, the upgrade significantly increased light levels, slashed energy consumption and practically eliminated ongoing maintenance costs.

Project

A total of 6 tennis courts required upgrading with big increases in light levels required for certain areas to comply with strict HDTV broadcast standards. Part of the project was to test soil conditions and it was determined 'light gauge' poles could be upgraded to 'medium gauge' at the same time. Once the project design was approved, GigaTera LED SUFA luminaires were manufactured and delivered to site 6 weeks later.

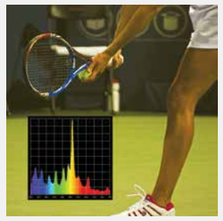
The new luminaires consume 400w each and two LED fixtures (800w) delivered the same quantity of light as an existing 2000w metal halide sports fixture (800w LED = 2000w MH). This represented an overall energy saving of 60% for Sydney Olympic Park, with significant maintenance savings on top. Due to increased light levels required on Court One, 40 x SUFA LEDs were installed. However the 5 outer courts required only 16 luminaires each to achieve Sydney Olympic Park tournament standards. With the precision beam control and tight manufacturing tolerances, utmost care was taken in the mounting and aiming process.

Benefits & Results

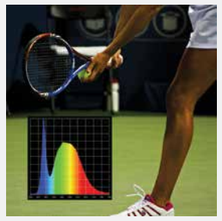
- First LED luminaires installed for ATP/WTA tournament in Australia
- 90% increase in light levels as measured pre/post installation of LEDs
- 60% energy savings with dramatically reduced maintenance costs
- 5 x longer effective life than the 2000W metal halide being replaced
- Improved uniformity in luminance levels on court (better for players)
- Lighting optimised for HDTV broadcast by eliminating flicker
- Big improvement in colour rendering and visual acuity on court
- Instant on-off capability compared to 15 min warm up time & restart required previously

CRI Difference

Immediate feedback from the worlds top players under the new LED lighting conditions confirmed a big improvement. The old lighting system was rated to '65Ra' and '3700K' while the new LED lighting system produced enhanced natural lighting conditions by achieving '81Ra' with a colour temperature of '5000K'. This improvement translates into better viewing experiences for fans at the stadium and people watching on TV at home.



Existing lighting (65Ra / 3700K)



SF400 (81Ra / 5000K)

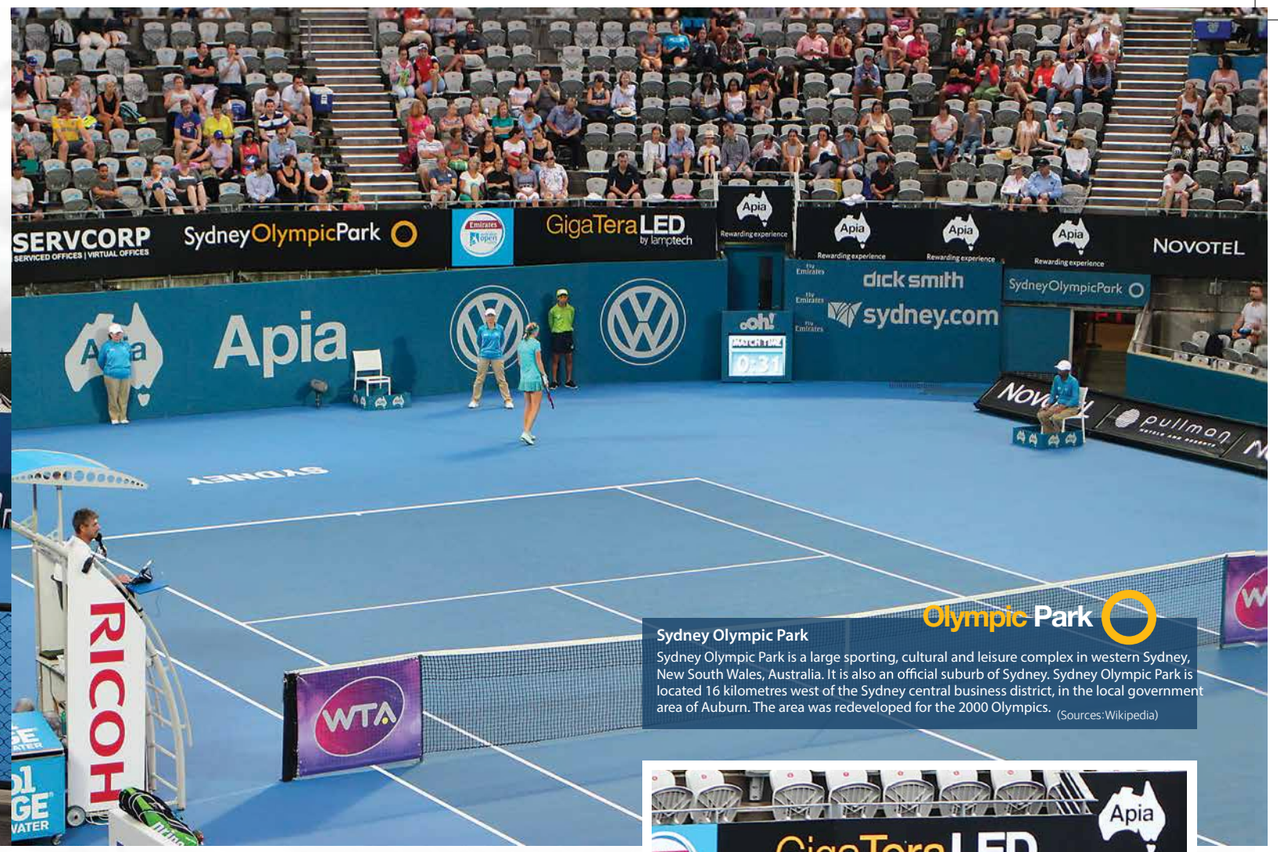
Non Flickering

Sports broadcasting has always been confronted with problems of 'flickering' with artificial light sources. HDTV cameras utilise 'ultra slow motion' to capture 960 frames per second. GigaTera SUFA LEDs completely eliminate the flickering problem and are the only LEDs tested to pass strict Channel 7 requirements for HDTV broadcasting.

UHD TV Ready

Existing lighting (flicker phenomenon occurs)

SF400 (Non Flicker)



Sydney Olympic Park

Sydney Olympic Park is a large sporting, cultural and leisure complex in western Sydney, New South Wales, Australia. It is also an official suburb of Sydney. Sydney Olympic Park is located 16 kilometres west of the Sydney central business district, in the local government area of Auburn. The area was redeveloped for the 2000 Olympics. (Sources:Wikipedia)

Site Information

Application	Sports Flood Lighting
Location	Sydney Olympic Park (Australia)
Light source	SUFA 400W
Lighting support	GigaTera Technical Team

Install Data

	Before	After
Model Name	Sylvania R2	SF400
Power Consume	2,130 W	400 W
Q'ty	56 ea	120 ea
Total Power	119 KW	48 KW
Energy Saving	60 %	

Illuminance Measurement Data

	Before	After
Average	700 lx	1,333.3 lx
Minimum	23 lx	52 lx
Maximum	1,800 lx	3,350 lx
Emin / Emax	0.013	0.016
Emin / Eav	0.033	0.039
Enhance Illuminance	90 %	