

Technology explained

The CosmoPolis Revolution

Described by lighting specialists as a 'paradigm shift' in street illumination, we offer the award-winning CosmoPolis lamps from Philips in all of our latest luminaires and most of our existing ranges. CosmoWhite lamps generate a warm white light, with good colour rendering, high energy efficacy and a three-year life, both lamp and gear technologies offer a number of distinct advantages over their competitors;

Miniaturisation: 65% smaller than SON lamps, CosmoPolis lamps offer improved optical control, due to their smaller size and PGZ12 base.

Dimmability: For energy-saving and flexibility of lighting use, CosmoWhite is dimmable down to 50%, ideal for new urban initiatives in integrated lighting control and off-peak dimming.

Highest Efficiency: 10% savings on energy consumption, compared with high pressure sodium lamps, 30% compared with ceramic metal halide and up to 150% compared with mercury sources.

Environmentally Friendly: Energy efficiency, long lamp life, low weight/size and reduced use of hazardous materials; a great contribution to environmental sustainability.

Going Electronic - Features and Benefits

We offer the option of electronic ballasts with 'soft' high frequency ignition, for most of our discharge luminaires. Digital electronic ballasts offer enormous advantages over conventional magnetic control gear in terms of energy use, lamp life and maintenance costs, the benefits of which include;

Energy Savings: Electronic ballasts offer a simple means of cutting the cost of power and reducing carbon footprint. They have lower internal losses than conventional gear and offer a much higher Power Factor (around 0.97 in our own models). This gives them an efficiency of up to 93%, compared with 81% for magnetic gear. Electronic ballasts offer the same light levels as magnetic ballasts, while using less power.

Lamp Life: Electronic ballasts with 'soft' high frequency ignition virtually eliminate wear on the electrodes; a major cause of reduced light output depreciation and lamp failure. Resulting in lamps that burn for much longer; some users report a 150-200% increase in life, leading to increased service intervals and reduced maintenance.

Constant Light Output: Lamps on electronic gear operate at a constant light output across their life, irrespective of supply voltage variation.

Dimming: Certain electronic ballasts offer the option of dimming discharge lamps; down to 50% for metal halide and 30% for SON. This can be achieved in a number of ways, including 1-10V analogue dimming or via wireless remote monitoring. In road and street lighting, this offers the option of lower light levels during off-peak periods, such as after midnight, resulting in lower energy use and carbon savings.

What Remote Monitoring & Control Can Do For You

In addition to energy saving, lamp-life and improved lumen maintenance, electronic ballasts also offer the potential for digital web-based communication; allowing you to control and monitor your luminaires from your PC/laptop, or even by phone. Through mains-bourne signalling or wireless technologies, which require no additional cabling (whilst utilising the most advanced wireless data service, GPRS), highly sophisticated remote diagnosis and monitoring can be carried out via radio frequency connections.

Using compatible software, the range of operations includes:

- Ability to change programming depending on site specific requirements
- Pre-programmed dimming and switching of single luminaires or groups control
- Dimming can be configured in timed stages for different groups of fittings, with the ability to ramp up light levels during peak periods or in the event of an emergency
- Lamp-life prediction and energy consumption monitoring
- Remote fault recognition and diagnosis, and the ability to send automated messages to your contractor when site attendance is required

In street light operations, this avoids the need for labour-intensive 'scouting' for lamp outages, and allows future problems to be spotted before they lead to failure. Remote monitoring also offers the ability to manage the street light inventory in a systematic manner and to programme re-lamping and maintenance when required. The overall effect of these new technologies will be to forge entirely new ways of working and to bring down the overall cost of urban lighting.

High-output LEDs - the 21st Century Light Source

The new generation of high-output white light emitting diodes (LEDs) are an innovative and potentially revolutionary light source for public lighting. Based on the principles of quantum mechanics, they can be precisely manufactured to convert a large proportion of their energy into visible wavelengths – rather than wasteful infra-red and ultra-violet, as with conventional light sources. Rapidly moving technology means they have already surpassed fluorescent lamps and some high intensity discharge lamps in efficacy.

However, energy efficiency is only part of the story. The light output of LEDs can be easily controlled using small lenses. All their light can be aimed precisely where it is wanted, in the quantities required, with little wasted light. This is good news in the battle to control light pollution and light trespass. With discharge lamps, the 360° distribution leads to a large amount of stray light, no matter how efficient the optical system. LEDs are a solid state technology, with no filaments or arc tubes, so they are very tough, durable and resistant to mechanical shock. LED manufacturers also claim a long life expectancy, some six times longer than the best conventional discharge sources, making them a virtual 'fit and forget' product, perfect for public lighting.

Another advantage of LEDs for public lighting is their ease of dimming, with no loss in life, which makes them ideal for the new urban initiatives in off-peak dimming. LEDs also present far fewer costly disposal issues for the local authority or private owner.

DW Windsor's latest LED product offering include an LED version of our popular Monaro luminaire (see pages 82-85) and a high-performance LED balustrade system (pages 236-237) – set to revolutionise the market.



Manhattan
City Park, Hove