



Ledway Road. Street lighting has finally reached its destination



RUUDLED
• • • • • • • • Ruud Lighting



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RuudLED introduces Ledway Road, the very first LED street light

Ledway Road is the new LED street lighting system by RuudLED. Thanks to experience gained over the course of the last few years and to the excellent results obtained by the numerous applications carried out, we are now able to present the second generation of RuudLED lighting fixtures to the market. Ledway Road is a street light designed to obtain maximum energy savings, a high level of lighting, excellent uniformity and high colour rendition for a correct colour reading. The exclusive patented NanoOptic™ technology aims the light flow with extreme precision without dispersion or areas of shadow. The best system for heat dissipation, it guarantees even more efficient thermal management and a longer lasting product. Ledway Road requires no relamping or other maintenance for the entire life of the fixture. This means a clear reduction in waste released into the environment and installation management costs that are practically zero compared to traditional HID lighting systems which, by contrast, regularly require maintenance and lamp changes. The total absence of mercury or other heavy metals makes Ledway Road a completely eco-friendly product which does not harm the environment.

Ledway Road is an extraordinary conquest which is derived from RuudLED research.





b e t a
LED™





Ledway Road. Extraordinary performance

Ledway Road is the first LED street light that, thanks to its highly innovative technical characteristics, may be used in any street lighting project, with unprecedented performance.

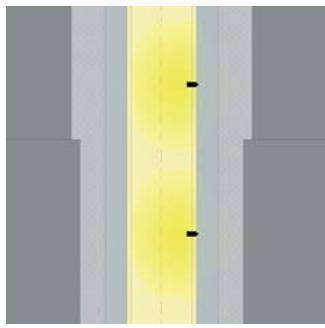
Street, motorway, roundabout and cycle lane lighting are just a few examples of the extreme versatility of Ledway Road.

White light - The white light and high colour rendition of the LEDs guarantees extraordinary visual comfort for clear and uniform vision in any environmental context. The absence of areas of shadow and the clear perception of the colours are advantages from which citizens benefit in terms of increased security, cleanliness and reliability.

Maximum protection - Patented NanoOptic™ technology controls the light flow emitted by each individual LED, directing the beam to obtain incredibly precise light distribution. The performance of every single LED is optimised and light dispersion is practically reduced to zero. Thanks to the NanoOptic™ system's incredible optical control, Ruud Lighting's LED products, like Ledway Road, are approved by IDA (International Dark-Sky Association).

Uniform lighting - The precision of the optical control provides excellent lighting performance: uniform, stable, well distributed light flow, high lighting levels and clear vision of the environment and any dangerous situations. These are advantages that lead to an immediate improvement of visibility on urban and suburban roads; better management of traffic flow, better illumination of potholes and obstacles, and overall increased safety.





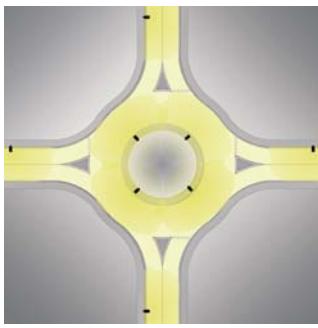
h	a	l	Lm	Uo	Ul
8 m	7 m	34 m	0.78 cd/mq	0.42	0.74

Ledway Road 60 LED

Urban and suburban roads

Lighting Class: **ME4a**

(per **EN 13201**)



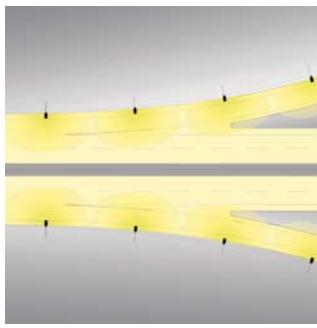
h	a	r	Em	Uo	Na
8 m	7 m	16,5 m	16 lux	0.73	4

Ledway Road 50 LED

Conflict areas: cross roads and roundabouts

Lighting Class: **CE3**

(per **EN 13201**)



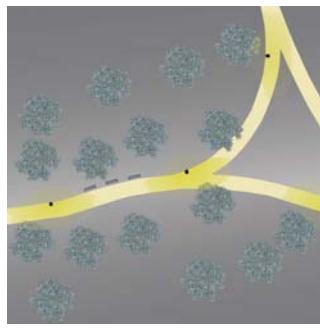
h	a	l	Lm	Uo	Ul
7 m	3,75 m	28 m	1,53 cd/mq	0.60	0.77

Ledway Road 80 LED

Motorway with interchanges areas, strategic and main roads

Lighting Class: **ME2**

(per **EN 13201**)



h	a	l	Em	Emin	Uo
5 m	2,5 m	30 m	7,5 lux	2,5 lux	0,33

Ledway Road 20 LED

Residential roads, footpaths and cycleways

Lighting Class: **S3**

(per **EN 13201**)

Legend: h= height
a= street width

l= interdistancy
r= radius

Na= number of fixtures
Lm= average luminance

Em= average illuminance
Emin= Minimum illuminance

Uo= general uniformity
Ul= longitudinal uniformity

Eco-friendly. A natural skill

Ledway Road satisfies sustainability and energy saving criteria, respect for which is becoming ever more urgent and important both for public administration and for citizens who wish to reduce the cost of public lighting and improve the quality of the environment in which they live.

Energy saving - For the same lighting performance, in comparison to traditional sources, Ledway Road provides greater energy savings (from 40% to 70%) thanks to the use of lower power and, in general, a reduction of the number of fixtures installed. Furthermore, the electronic power system for the LEDs allows energy savings to be increased thanks to the possibility of luminous flux regulation.

CO² Reduction - The reduction in energy consumption has positive repercussions on the quality of the air that we breathe in our cities. Ledway Road reduces CO² emissions into the atmosphere and contributes towards a reduction in pollution levels.

No waste released into the environment - Ledway Road reduces the quantity of waste released into the environment because its components are longer lasting. Furthermore, neither mercury nor other heavy metals are used in their production and therefore no special disposal procedures are required.



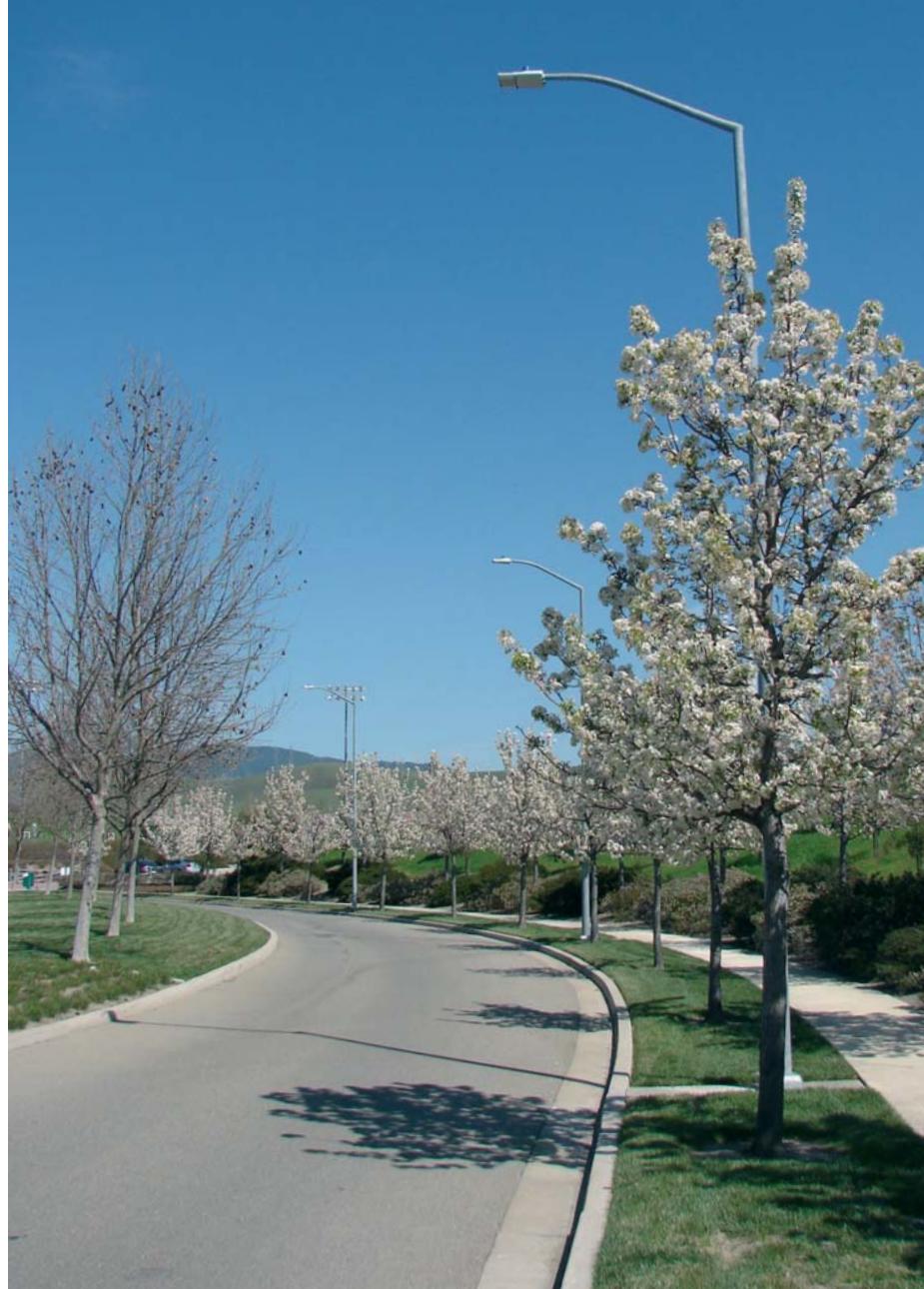
Road	2km lenght application				
	n° of fixtures	Rated power (VA)	Annual energy savings (%)	Annual Co ₂ emissions savings (Kg)	Annual trees savings
Ledway Road 60 LED	58	117	-58%	21.815	1.091
HPS 150 W	86	190			

Roundabout	2km lenght application				
	n° of fixtures	Rated power (VA)	Annual energy savings (%)	Annual Co ₂ emissions savings (Kg)	Annual trees savings
Ledway Road 50 LED	4	99	-48%	831	42
HPS 150 W	4	190			

Motorway junction	1km lenght application				
	n° of fixtures	Rated power (VA)	Annual energy savings (%)	Annual Co ₂ emissions savings (Kg)	Annual trees savings
Ledway Road 80 LED	36	156	-30%	5.398	270
HPS 150 W	42	190			

Cycle lane	2km lenght application				
	n° of fixtures	Rated power (VA)	Annual energy savings (%)	Annual Co ₂ emissions savings (Kg)	Annual trees savings
Ledway Road 20 LED	66	41	-57%	8.138	407
HPS 70 W	66	95			

The tables show the energy savings and the annual Co₂ emissions savings of typical application on 4300h working fixtures. Annual trees savings: number of tree needed for the absorption of the Co₂ additionally immitated by the HID fixtures Consider Cos φ = 0,9 in order to calculate the system power (W) for LED products



The secret is in the unprecedented thermal management

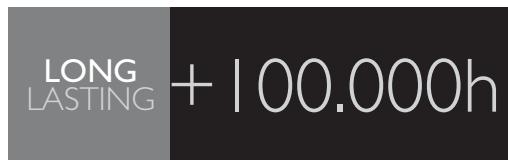
RuudLED have developed a heat dissipation system for Ledway Road that is even more efficient and able to guarantee an unparalleled fixture life expectancy. Correct thermal management allows the diodes to function with low junction temperatures.

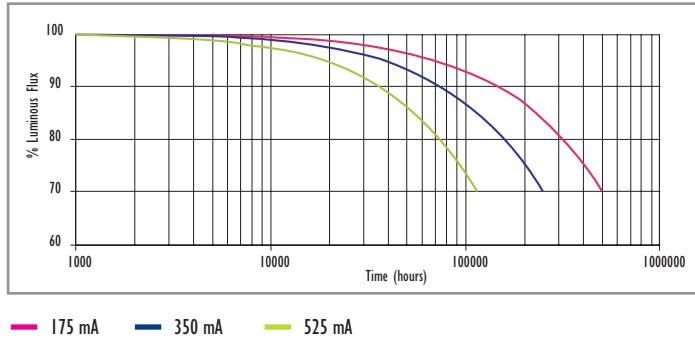
High level light emissions - Thanks to the exclusive thermal management system designed for Ledway Road, it is possible to power the diodes at 525 mA instead of 350 mA, without compromising the lifetime of the product.

The increase in the LED pilot current leads to an increase in light emissions from the product using the same diodes.

Less heat - With the new thermal dissipation system designed for Ledway Road, the heat produced by the diodes when in use is dispersed meaning that the LED is even more efficient and longer lasting. The increase in drive current may lead to a higher junction temperature on the diodes but the exclusive Ledway Road system guarantees optimal LED management.

Longer lasting - The new thermal management system allows the fixture to work with perfect efficiency, safe from the damaging effects that excessive heat can have on LEDs. Ledway Road can thus guarantee a lifetime of over 100.000 hours.





— 175 mA — 350 mA — 525 mA

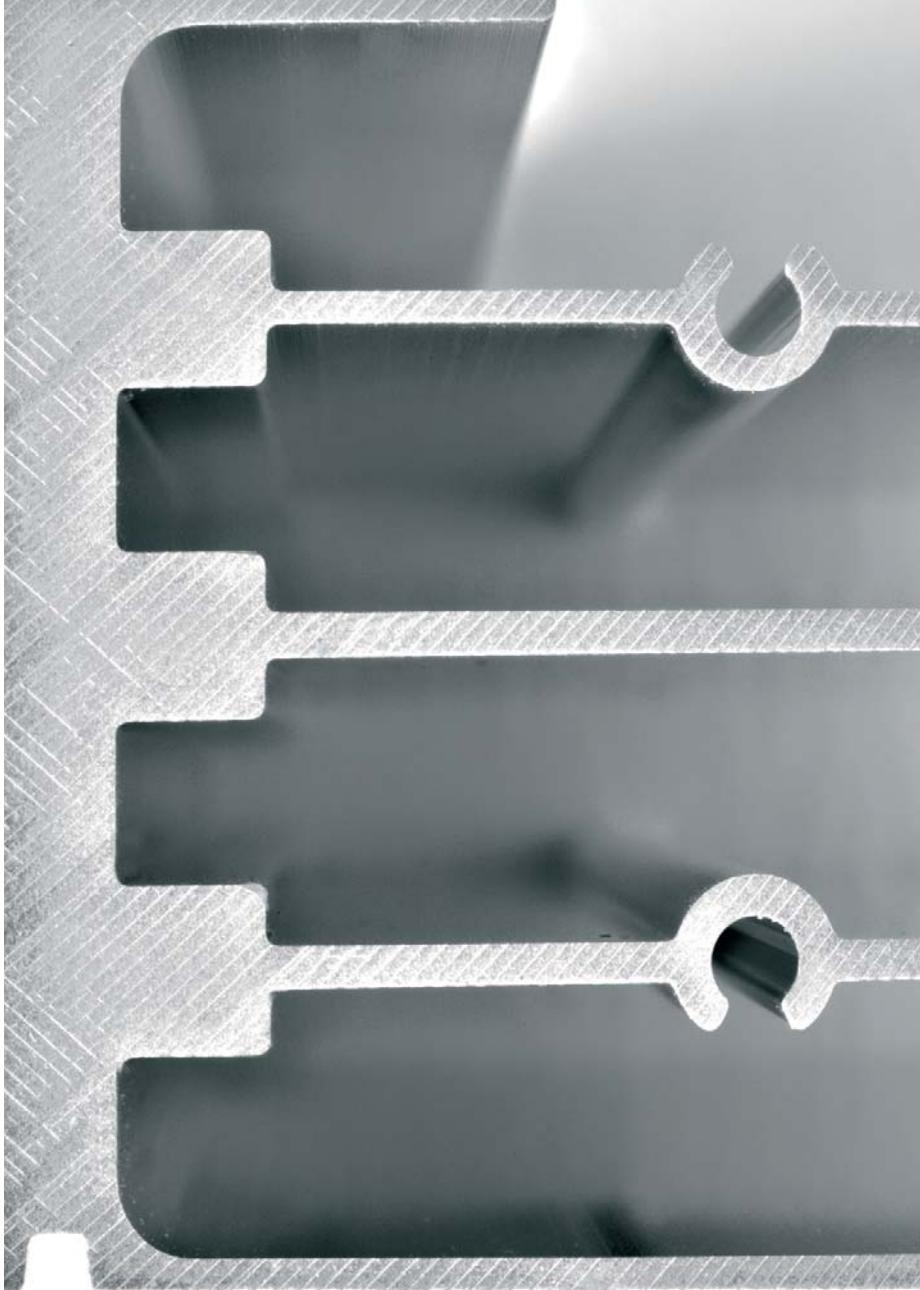
	Driver Current	L ₇₀ Life* (hours)	L ₈₀ Life* (hours)
Ledway Road	175 mA	> 150.000	> 150.000
Ledway Road	350 mA	> 150.000	> 150.000
Ledway Road	525 mA (standard)	> 110.000	> 75.000

* Based on fixture operating at 15° C.

The graph demonstrates the performance over time of Ledway Road's light emissions at the three different drive currents 525 mA (standard version), 350 mA and 175 mA at an average environmental temperature of 15°C.

L70= 30% luminous flux depreciation

L80= 20% luminous flux depreciation



Versatility is born of intelligence

Ledway Road is a versatile, modular fixture which is naturally flexible and therefore highly popular with designers. With Ledway Road there is no need to compromise: it is the product that adapts to the project, not the other way around.

Modular system - Ledway Road flexibly satisfies the most varied of design needs thanks to its modular structure which makes it easily adaptable to all types of applications. Every LED module is composed of 10 or 20 diodes. The product can therefore be assembled with a number of LEDs that ranges from a minimum of 20 to a maximum of 120.

The right LED - Designers can request made-to-measure solutions based on the specific technical requirements of each project. Thanks to the system's modular nature, it is possible to choose the power level that best suits the application's needs without excess or waste. And that is not all. Ledway Road is available with LEDs of three different colour temperatures: 6.000K, 4.300K and 3.500K, which allows the colour of the light that best suits the environmental context to be chosen. The multi-optical system also offers a multitude of light distributions.

Driver - The electronic management of the LED power supply represents a further opportunity to personalise the fixture. Thanks to remote and non-remote control systems, Ledway Road may be fitted with a system capable of luminous flux regulation. Through the use of timers, photocells and presence detectors, the light intensity of the fixture may be adjusted in order to adapt to various traffic, time and safety requirements.





Ledway Road comes in three different sizes according to the number of LEDs needed for the specific application



The facts confirm its superiority

Experienced professionals at Ruud Lighting provide public administrations interested in LED lighting and energy savings with experienced consulting services as well as products of certified quality guaranteed for all public lighting applications, even the most complex.

Thousands of fixtures installed - The installations carried out in Italy and throughout the world, in the past two years, have obtained unprecedented results: the performance of RuudLED products has kept the company's promises and gone beyond expectations.

Certified quality - Various tests and checks certify the consumption, lifetime and lighting performance of RuudLED products. The quality of the devices is tested during every stage of the production and assembly process. Even measurements carried out months after the installation of the lighting fixtures are reassuring and confirm RuudLED 's reliability.

RuudLED Guarantee - RuudLED products also have solid guarantees: a five year guarantee for the driver, a 5 year guarantee for the LEDs and a 10 year guarantee for the special Colorfast DeltaGuardTM finish.









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