

GROUPTEST

CYCLING JOURNALIST **MIKE DAVIS** REVIEWS FRONT LIGHTS

Rechargeable front lights

High-power rechargeable lights are longer lasting and more portable than ever. Cycling journalist **Mike Davis** checks out front lights for unlit roads

1 Controls

Nearly all current lights use a single-button control method. Typically a double-click or long push will turn the light on, single clicks cycle through the power modes, and a long push turns it off again. Most lights will detect falling battery voltage and switch down to a 'get you home' mode before going totally flat.

2 Bar mount

It's vital that the light is securely held on the bars and can't twist or sag. Some lights are quick-release and leave the mount on the bars. Smaller, lighter lights sometimes come with helmet mounts – useful for a secondary light off-road.

LED EMITTERS now dominate the bike light landscape, with everything from compact commuter lights to high-power units using them. The small size of LEDs combined with lightweight Li-Ion batteries has meant that those two ends of the market are somewhat converging, with properly powerful lights available in small packages. All the lights tested here are up to the job of riding at decent speeds (15-20mph) on unlit roads, despite their varying claimed output.

It's difficult to measure accurately the actual output of a light in lumens. Total output isn't necessarily that useful an indicator of light performance anyway – what's important is how the light is focussed by the optics. This is where a lot of lights fall down for road use. Many have been designed with mountain biking in mind, where lower speeds and unpredictable surfaces make a broad pool of light useful.

On the road, a tighter beam is necessary to see sufficiently far ahead. Some degree of cut-off at the top will help to avoid dazzling drivers.

3 Emitters

Not so long ago LEDs were only found on small secondary 'be seen' lights. Today the technology has advanced considerably and essentially killed off halogen and metal halide bulbs. LEDs are small and efficient, but need carefully-designed optics and heat management to get the best from them.

4 Battery

Li-Ion batteries, as used in mobile phones and laptops, are all but ubiquitous in bicycle lights now. They're light and compact for their capacity. While they're less picky about charging than older NiCad or lead-acid batteries, it's still a good idea to top them up every so often if they're not being used for a while.

Many self-contained lights are now charged using standard Mini or Micro USB sockets, allowing you to charge them by plugging them into a PC or with generic phone chargers. Bear in mind that PC USB connections will only supply 0.5A and may take a long time to fully charge a battery.



LAMP LEGALITY

Although three of these lamps are made in Britain, none of them conforms with BS6102/3 (or any equivalent standard).

That means that they are legal only as additional lamps. CTC is working to remove this and other unreasonable details of Britain's cycle lighting regulations. For more details about existing lighting regulations, visit the website: beta.ctc.org.uk/cyclists-library/regulations



LIGHT & MOTION TAZ 800 £199.99

The Taz is a self-contained unit that produces a claimed 800 lumen output from three emitters, two with reflectors designed to project a narrow beam and one to throw a wide pool of light. The resulting beam pattern is flat and wide, with the upper two emitters offering good range without dazzling oncoming traffic. Run time at full power is two hours, although the Medium setting is entirely adequate for most conditions and doubles the run time. The main switch cycles through High, Medium, Low, Pulse and Flashing modes. Having flashing modes in the cycle can be annoying, so there's also a Race mode that switches only between High and Medium. With commuters in mind, the Taz has an additional orange lights for visibility from the side. These have their own separate switch although they use so little power that there's little point turning them off. The bar mount is a simple rubber strap that's easy to move between bikes. madison.co.uk
Well-made, practical light with useful side visibility



LUMICYCLE LED3SI £200

While self-contained lights are very much the in-thing, Lumicycle is sticking with separate batteries. The standard battery is a 2.6Ah unit that's small enough to strap under your stem, and there's the option of a 5.2Ah bottle battery. The standard battery gives three hours of the (claimed) 850 lumen Boost mode, although you won't need to make much use of that – on unlit roads even the Medium mode is ample until you're getting up to speeds in the high teens. The beam is a useful compromise between flood and spot, while a translucent bezel puts some light to the sides for visibility at junctions. An 'eyebrow' on top means you don't dazzle yourself when out of the saddle. The LED 3Si scores for its intuitive control system – flick the switch up for higher power, down for lower. The bar clamp is a hinged design with a cam-action locking lever, with an extra link to accommodate oversized bars. lumicycle.com
Versatile, well thought out, and with plenty of power



EXPOSURE STRADA MK3 £244.99

Exposure pioneered the idea of self-contained high-power lights. The Strada is a road-specific light, with two emitters throwing a flat beam pattern that has good reach without dazzling oncoming cars. The unit clicks securely into an aluminium bar mount that accommodates different bar sizes with simple shims. The single switch is on the back of the light – it's quite small and not the easiest to find, although it's illuminated, doubling as a battery status indicator. The Strada includes a remote switch to go on the bars, which does add a bit of wiring but means you can switch between high and 'dip' with minimum hand movement. The remote switch plugs into the Strada's 'Smart Port', which doubles as the charge socket. The new Strada Mk4 wasn't quite available in time for this test, but on paper offers more light output (800 lumens) and a bigger battery (8.7Ah), although claimed run times are the same. exposurelights.com
Compact, powerful and a good beam pattern for the road



HOPE VISION ONE £90

While the Vision One is significantly less powerful than the other lights here – a claimed 240 lumens from its single emitter – it's still useful on unlit roads thanks to a tightly-focussed beam that carries a long way. The pattern is round, with no cut-off at the top, but it's a small enough beam that it's easy to keep it out of other peoples' eyes while still having enough light to be comfortable at 20mph. The downside is a lack of peripheral lighting close to the bike. The CNC-machined aluminium housing contains a holder for four AA batteries. Batteries aren't included (hence the lower price of the light) but Hope claims just under three hours on full power from 2.8Ah rechargeables and our testing bears this out. There are three modes (plus a flashing one), although you're likely to want to be in High most of the time. hopetech.com
Simple and effective, but a little pricey for what it is