

Into the night

Dark winter days are no excuse to sit indoors if you have the right light. We test nine of the best

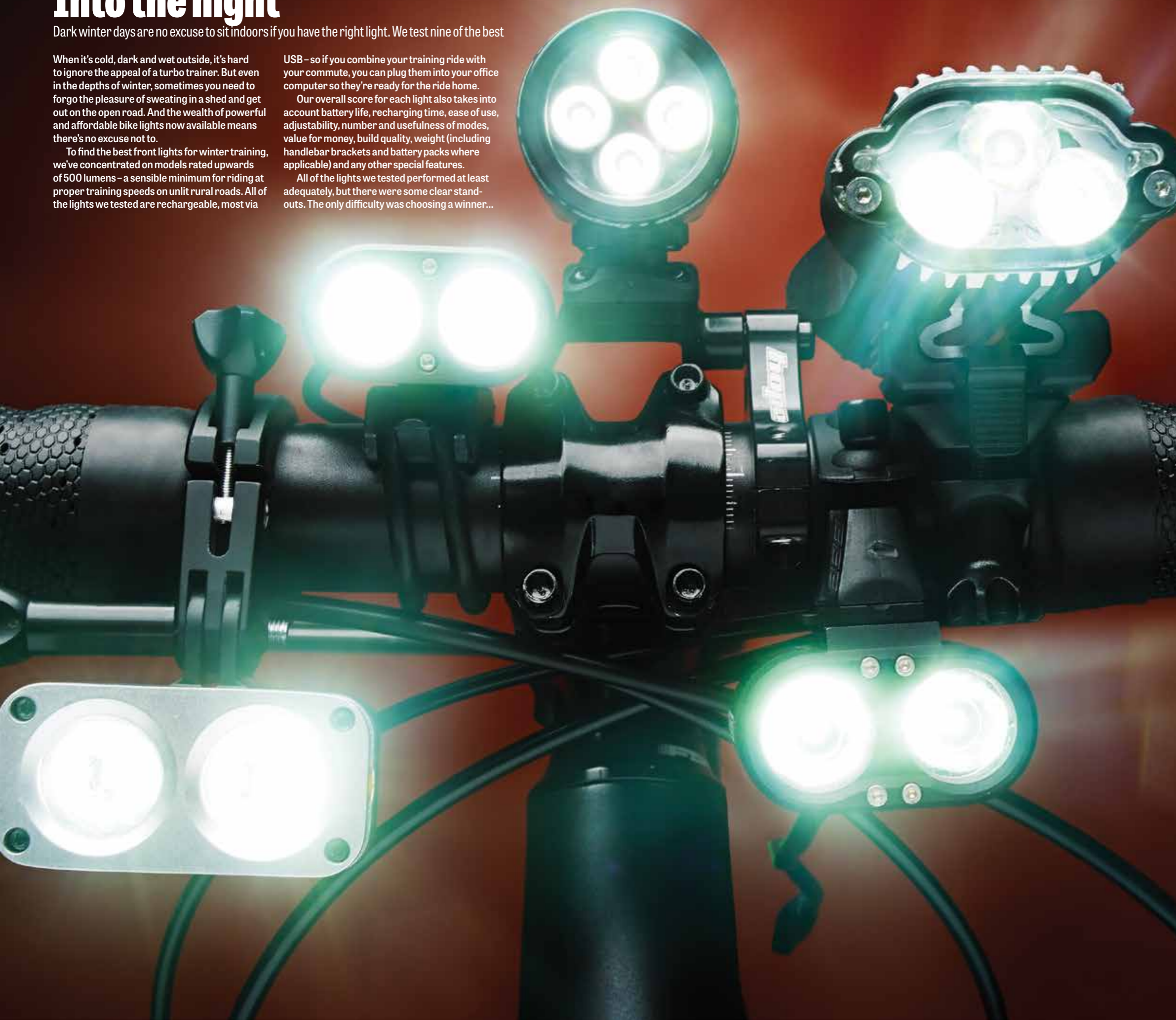
When it's cold, dark and wet outside, it's hard to ignore the appeal of a turbo trainer. But even in the depths of winter, sometimes you need to forgo the pleasure of sweating in a shed and get out on the open road. And the wealth of powerful and affordable bike lights now available means there's no excuse not to.

To find the best front lights for winter training, we've concentrated on models rated upwards of 500 lumens – a sensible minimum for riding at proper training speeds on unlit rural roads. All of the lights we tested are rechargeable, most via

USB – so if you combine your training ride with your commute, you can plug them into your office computer so they're ready for the ride home.

Our overall score for each light also takes into account battery life, recharging time, ease of use, adjustability, number and usefulness of modes, value for money, build quality, weight (including handlebar brackets and battery packs where applicable) and any other special features.

All of the lights we tested performed at least adequately, but there were some clear stand-outs. The only difficulty was choosing a winner...



Cateye Volt 700

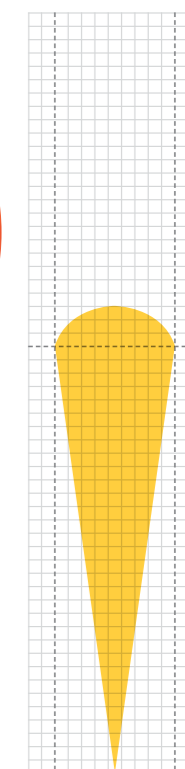
£99.99

Of the three single-LED lights in our test, this was by far the most impressive in terms of illumination. Cateye's 'OptiCube' lens technology makes highly efficient use of its 700 lumens, although the beam pattern could be smoother, with less of a noticeable transition from the central hotspot. The standard Cateye Flextight bracket isn't the sturdiest but does allow some horizontal adjustment, and the cartridge battery is replaceable without tools. This is about as good a light as you'll get for under £100.

zyro.co.uk

Rating	
BRIGHTNESS	★★★★★
BEAM PATTERN	★★★★
BATTERY LIFE	★★★★

OVERALL
8/10



BBB Scope 800

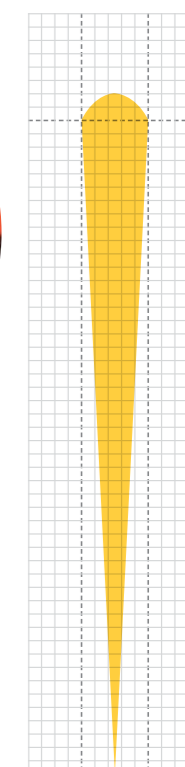
£159.95

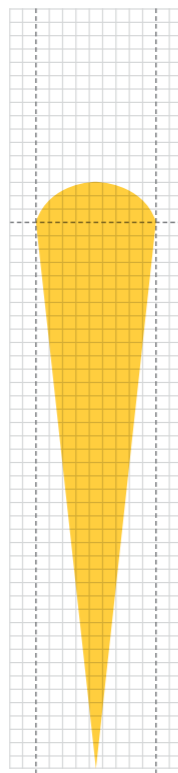
The Scope's compact twin-LED head unit is powered by a separate two-cell battery pack. Most of its 800 lumens output is packed into a tightly focused beam, with an impressive punch directly ahead but narrower than any of the other lights in our test, which makes it feel like an underperformer at its price point. The handlebar bracket is secure but the quick-release catch is small, awkwardly placed and fiddly to use. A 1,300-lumen version of the Scope with a four-cell battery pack is available for an extra £40.

windwave.co.uk

Rating	
BRIGHTNESS	★★★
BEAM PATTERN	★★★
BATTERY LIFE	★★★

OVERALL
5/10





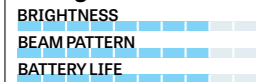
Cateye Volt 1200

£149.99

Like the Volt 700, this twin-LED, 1,200-lumen version has an impressively focused beam that's also wider than most in our test. The instructions warn that it's unsuitable for road use (perhaps Cateye sees it more as an offroad light, or maybe it's just excessive caution), but the Flextight bracket allows some horizontal adjustment so it's easy to deflect it away from oncoming traffic. The battery (replaceable with tools) offers impressive life for an all-in-one light – on test, it exceeded its claimed two hours at full power.

zyro.co.uk

Rating



OVERALL 8/10



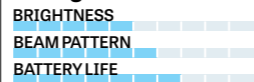
Electron F-650

£69.99

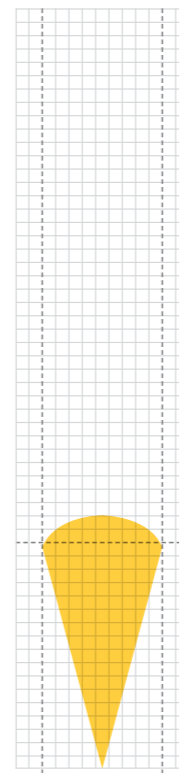
Uniquely among these lights, the F-650 has different lenses for its twin LEDs – one 'focus', the other 'diffuse' – but even with both running, illumination is merely respectable. It can be mounted without tools but we found it difficult to tighten the bracket enough by hand to prevent the light tipping and, with no quick-release, it's a pain to remove. Although it's the cheapest on test, the battery isn't replaceable, denting its score for value, but we liked the amber sidelights for added visibility and the battery status light in the switch.

madison.co.uk

Rating



OVERALL 5/10



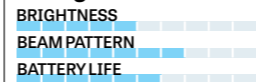
Knog Blinder Arc 5.5

£91.99

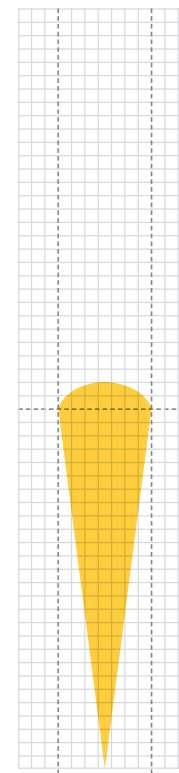
Knog is usually associated with urban commuter lights but the Blinder Arc 5.5 is a genuine contender for use on unlit lanes, its smooth beam giving better peripheral vision than some of its more powerful rivals. It plugs directly into a standard USB port for charging, or via the (very short) cable supplied, and battery life is good for its size – although the battery isn't replaceable, limiting longevity. A captive rubber band with magnetic clasp makes it a doddle to fit, but it has a slight tendency to tip downwards in use.

moorelarge.co.uk

Rating



OVERALL 6/10



Light & Motion Urban 800 RC

£139.99

The Urban 800 matches decent illumination with light weight (just 123g) and impressive features. A switch lock ensures the light won't accidentally come on in your bag, and amber side lights increase visibility. Also, this is the only light on test that claims to be fully waterproof. A simple rubber band mounting system makes it easy to fit and remove and allows a wide range of horizontal adjustment. On the downside, the integrated battery isn't replaceable.

madison.co.uk

Rating



OVERALL 7/10

LUMENS VS LUX

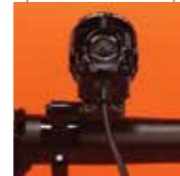
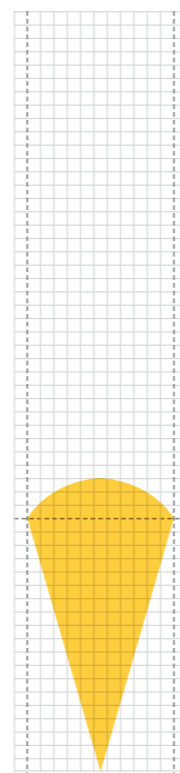
When buying a bike light, it stands to reason that you want to choose the most powerful one you can afford, right? Not necessarily. Don't be misled by those big numbers on the side of the box – our tests showed that more powerful doesn't always mean brighter or better...

Using around a tenth of the power of traditional incandescent bulbs, the latest highly efficient LEDs are astonishingly bright. Rated in lumens, a measure of the total amount of visible light emitted by a source, the lights in our test offer some impressive numbers.

However, lumen count alone doesn't indicate how well the light illuminates the road ahead – or how much is wasted on lighting up the tree canopy or dazzling other road users. This is as much down to the design of the optics as total lumen count. To give an accurate, objective illumination rating, we used a light meter to measure lux (lumens per square metre) at fixed

points in the centre of the beam. Of course, you don't want the beam to be too narrowly focused either – some peripheral visibility is important to highlight potential hazards at the side of the road, so we also measured illumination at a 15-degree angle.

As our illustrations show, there are significant differences even between lights of similar lumen ratings. We found the Lezyne Mega Drive to have the best-shaped beam, being closest to the ideal 'letterbox' shape (wide and not too tall), and with no noticeable step from the centre to the edges. We also road-tested the lights to see how the numbers translate into 'real life' performance.



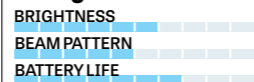
Hope R4 LED Vision

£250

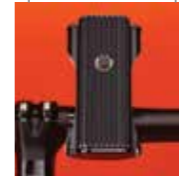
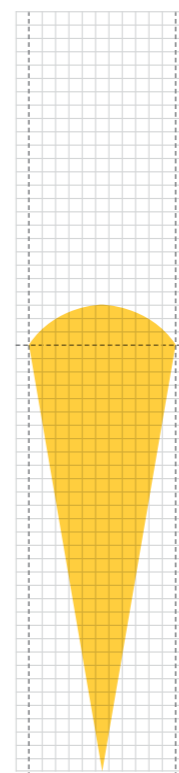
With four LEDs pumping out up to 1,500 lumens, the Hope R4 surprisingly registered one of the lowest lux readings in the centre of its beam. Where it excels is in the breadth of illumination – in all directions – the flood of light making it possible to navigate lanes at speed, albeit at risk of blinding other road users. The quick-release mount is reassuringly solid but has no horizontal adjustment and including the four-cell battery, it weighs 463g – over 150g heavier than any other light here (a lighter two-cell version is available).

hopetech.com

Rating



OVERALL 6/10



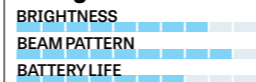
Lezyne Mega Drive

£169.99

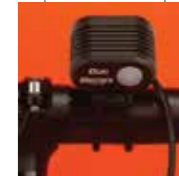
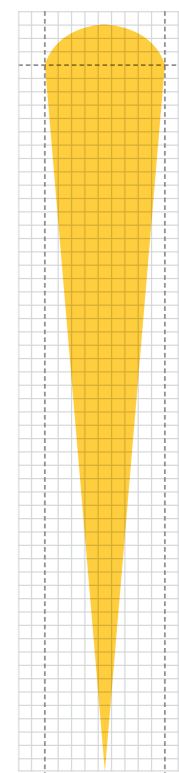
The Mega Drive's CNC-machined shell is both handsome and functional – the fins and heavy-gauge aluminium help dissipate heat from the three LEDs, boosting performance and longevity, albeit at a weight cost. It provides even illumination with excellent peripheral vision, and six settings include 'Overdrive race mode', which allows you to toggle between the full 1400 lumens and low-power mode – useful on the road to 'dip' the beam. The sturdy bracket is easy to fit without tools and the battery can be swapped on the move.

upgradebikes.co.uk

Rating



OVERALL 8/10



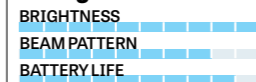
Gemini Duo

£174.99

Tiny but powerful, the twin-LED Gemini Duo registered the brightest beam in our test, if not the widest. With a simple rubber band mount, it takes moments to fit or remove, and its three power settings are user-programmable in 10% increments. The four-cell power pack provides the full 1,500 lumens for over three hours, but there's a twin-cell version that trades longer life for a 100g saving. Criticisms? The backlit switch (and battery status indicator) is bright enough to be mildly irritating while riding, but that's about it.

i-ride.co.uk

Rating



OVERALL 9/10