



When camping, caving, or night walking in the great outdoors, chances are you'll have a headlamp with you. They not only provide lightweight, hands-free illumination, but a beam that directs light wherever you look. No one wants to walk into the dunny hole, stroll off a cliff (yep, it's happened before), or get attacked by drop bears!

However, what sort of light is right at night? Do you have the right light for the right activity? Do you need a headlamp that is waterproof to handle fishing on the boat? Is weight a factor for you when considering how heavy your hiking pack is? Do you need a vast floodlight to assist you in catering for a tour group? These questions will help shape your decision-making process in finding the headlamp up to the task.

Headlamps can be quite a confusing product, with many applications, ratings, and functions. Having the right one can make all the difference at night. This blog assesses the suitability of headlamps for different activities, explains the meaning of the various settings, and suggests some features to look for when purchasing a new headlamp.



Headlamps not only provide lightweight, hands-free illumination, but a beam that directs light wherever you look. Image: Knog

Travelling at Night

It is important to look for a headlamp with a variety of features for moving around at night – not just a torch with a hugely powerful spotlight. A powerful spotlight will provide the illumination necessary for seeing your surroundings – be that controls, trail markers, or animals – though may interfere with your night vision.

You will need a lower power setting for reading maps, or when you reach a reflective surface. It is also useful to have a wider-angle flood setting, so you can see the area surrounding you (not just a small area ahead). Generally, look for something with a variety of focuses and power levels, or separate power settings.

Around the Campsite

For use around campsites, a basic headlamp is all that is required. A powerful spotlight is generally overkill, as it will either reflect off something at camp and blind you or be too bright for someone else in your eyeline.

Multiple power settings can still be useful, as you may need more light for detailed work such as lighting a fire, or fixing a car. Nonetheless, it won't be necessary for reading a book or drinking a hot beverage. Look for something with multiple power levels, but keep in mind that it doesn't need to be hugely powerful or have multiple focuses.

Caving

Caving calls for a similar to headlamp to that needed to travel at night, however a long battery life and durability are even more important.

While there is no natural light deep in a cave, it is still useful to have a headlamp with a lower power setting for when you are either around others or doing detailed work yourself. A powerful spotlight is great for looking around large cavities, and a wide-angle flood light is



vital for seeing where you are putting your feet, hands, and head. Generally, look for a torch with a powerful spot and flood light, and a long battery life.



There are different features to consider for night use.

So... what do all these numbers mean?

Headlamps are very technical pieces of equipment, with a variety of specifications such as brightness, range, and battery life. Weight will also help establish what you can gain from a headlamp.

Brightness

Brightness is generally measured in either lumen (metric) or candela (imperial). One Candela is the light output of an average candle, and is equivalent to 12.57 lumen. Headlamps generally vary in brightness from between roughly 12 to 200 lumens. Some specialist models output over 500 lumens – but you pay for it!

Naturally, the brighter the light the better you can see at night – but don't make the mistake of just buying the brightest lamp you can find if you don't need it. Firstly, you will spend a heck of a lot of money, and secondly, chances are it will be so bright that it will reflect back into your own eyes. This means that at close range, you won't be able to see anything anyway!

Range

The range of a headlamp relates to both the brightness and the quality of the lens. The brighter the light, the further it will penetrate and the more you will be able to see at that distance.

The lens stops the light from dispersing. An LED will radiate light equally in all directions, and the lens focuses this light into a narrow beam. The better it is focused, the further it will travel before dissipating. Be careful, because the range that the manufacturer quotes is often ambitious and could only be achieved using very good batteries and at full power in total darkness. Even then, the detail at that distance may not be very good.

Often, good lighting is achieved to about half the range the manufacturer recommends, but this varies over the course of the battery life.



For use around campsites, a basic headlamp is all that is required. Image: Knog

Battery Life

Naturally, the longer the battery life the less often you need to replace them. The problem is that LED lights become progressively more dim from the moment they are turned on. The battery life, quoted on a headlamp, is the headlamp's life until it reaches about 1 lumen of brightness.

The useable battery life is often significantly less than the advertised life. There is a feature called 'constant current' which will be discussed below. This helps to improve the useable battery life, but the best solution is to always have spare batteries.

Weight

The weight of the head torch factors in both the hardware and batteries used. Weight also adds to the comfort factor; if it's too heavy, it will hinder you in going about your activities. Try it on before you buy it, to check that it's not too hefty.





Sometimes, basic is all you need for reading in your tent at night.

Features

Headlamps come with a variety of features including different powered lights, coloured lights, lighting modes, and features to improve the battery life.

Most mid to high-end headlamps come with either a power-adjustable main light, or secondary light sources of lower power. These lower settings cannot only be invaluable for seeing objects that are closer to you, but also use far less battery power than the primary light. They're a better alternative for simply being seen, or when seeing great detail at a distance isn't required.

Coloured Lights

Many headlamps have different coloured lights, each with a specific purpose. The most common is a red light.

Red lights are used for low-powered lighting, which won't destroy your night vision. This has it great for use when sharing a tent with someone you don't wish disturb or wake, or for a little bit of light to do detailed work (such as tying your shoelace) without losing your night vision.

Green lights are wonderful for reading maps, as they highlight contours far beyond normal vision and improve the visibility of detail. Green light also has less of an impact on your night vision than white light. Blue and ultraviolet lights are used for tracking and highlighting blood. Blue lights specifically can make maps easier to read, and are the only coloured lights that will cut through fog.

Coloured lights are very useful for different purposes, especially when used for high-performance applications.



Lighting modes improve the versatility of the unit.

Lighting Modes

Some headlamps have a series of lighting modes such as flashing, flood, or spot. Flashing lights are useful for being seen when running or riding at night, but don't necessarily provide good vision for the user.

Flood or wide-angle lighting is good for seeing your immediate surroundings. This is beneficial for camping or walking at night, where having a detailed view of the area around you is more important than seeing objects or areas at a distance. The latter is what spotlights are primarily useful for, especially when riding or walking. They can also provide a lot of light across a small area, at close range.

A variety of different functions, especially flood and spot functions, can vastly improve the versatility of a headlamp.

Constant Current

A nifty feature, 'constant current' can significantly improve the performance of LED lights. This feature maintains a constant current throughout the battery life. This means the light will remain at a constant brightness for the entirety of the battery life. The current then drops off quickly when the battery is about to die.

The only disadvantage is that there isn't a way to know how much power is left in your batteries. Always carry spare batteries, as they could fall flat at the most inconvenient of



times!



Headlamps vary in brightness. Image: Knog

Cost

Lastly is the financial consideration; the amount of money you want to spend on a head torch. Basic head torches can be as cheap as \$15, while highly sophisticated models can reach past \$400. Headlamps are priced based on their functionality – so the brighter the light and the longer the battery life, the more expensive it will be.

The more you want to spend too, the greater the number of features will be available – such as flood and spot functions, recharging capability, weight, type of batteries required, waterproof casing, and additional coloured lights.

The challenge is to weigh up what you need and how regularly you will need it, then calculate whether or not the features justify the price.

Purchasing a Headlamp: Checklist

To see the light, ask yourself the following questions:

1. Will this headlamp suit my use?
2. Is this headlamp bright enough?
3. How heavy is this headlamp?
4. Is this headlamp in my price range?
5. Does this headlamp boast the additional features that I need?

If you weren't aware before, we hope you now understand that headlamps are more than just a beam of light! It may even be necessary at times to have multiple torches to suit different applications.

Remember too, headlamps can be quite personal. What works for others might not suit you at all. Do your research, read the reviews, and determine what ticks your boxes. Having the right light at night can make a world of difference, and vastly improve your trip. There are many options out there – so if you're armed with a clear idea of what you want, you're bound to find the perfect model for you.

Check out Snowys' range of headlamps to find one to suit your next adventure!