



## Flashlight Technology

Gone are the days when buying a flashlight meant one would automatically seek out a conventional C or D cell. LED, HID (High Intensity Discharge) and Xenon technology along with ultra strong casing materials means that the flashlight has evolved to a state where the more powerful the beam does not necessarily mean the larger the flashlight.

When seeking out high performance, reasonably priced lighting tools it is easy to become swamped by the amount of brands on the market. Flashlight technology at the beginning of the 21st century offers a baffling variation of bulb type, body material, body size, power source and price range. This guide is a brief overview of the salient points worth consideration when buying any quality flashlight.

In the same way that feet measure length so lumens measure brightness. The higher the Lumen count the brighter and further the beam will show. Occasionally you may find brightness levels measured in Candlepower or Candelas, this describes a unit of light at source. One Candlepower/Candela is equal to 12.57 Lumens.

Perhaps the most significant breakthrough in lighting technology was the L.E.D. (Light Emitting Diode). The L.E.D. produces light on a molecular level as distinct from a normal bulb, which heats a filament therefore using more energy to produce less light. As a result an L.E.D. will last a lifetime and dramatically lengthen the life of a battery. They do, however, vary in purity. Like diamonds, at the point of production some produce clean white light whereas others have a very slight blue, violet or green tint.

Xenon Lights produce a broad spectrum of light (including infrared) and can be made to have a high maximum lumen output by the inclusion of Xenon gas in the bulb thus enabling light to be produced at a higher pressure, but they are comparatively less efficient users of power. H.I.D technology (High Intensity Discharge) uses a Xenon bulb slightly differently with the addition of a tubular outer bulb and an inner arc tube with a cerium-doped quartz partition in the bulb to block out most ultraviolet. HID torches can have lumen output of around 3400. Lighting technology could be described as a battle between light and heat, as the energy to produce the heat detracts from that which produces the light. The undoubted master is the LED. It makes light without the need to heat a filament, thus lengthening bulb and battery life. However the power from a Xenon bulb can be astoundingly bright yet harder on the batteries.

Casing material has progressed so far as to be almost indestructible if dropped and virtually water resistant in very wet conditions. A good, quality flashlight will invariably have an Aerospace grade aluminium body and a rugged construction and design.

Manufacturers vary in quality and specialism. Surefire have a quality range of Xenon and LEDs with a comprehensive range of accessories. Nextorch can boast the extraordinary Saint, capable of producing 450 lumens, plus a range of ingeniously, versatile LED, Xenon and rechargeable torches. Wolf Eyes have the awesomely powerful Crocodile at 3400 lumens, whilst Fenix are the undoubted masters of the LED producing the smallest and most powerful flashlights to date.

Navigating the labyrinth of flashlight production is tricky and ultimately dependant on what job will be asked of it. Lumen output to size ratio, tough hardwearing casing material and bulb / battery life are essential elements to take into consideration when choosing a lighting tool to last and perform over time

**For additional information about our products call HEINNIE HAYNES on: 0870 740 7070 or email: [info@heinnie.com](mailto:info@heinnie.com)**

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