



**Robert Webber** gives the lowdown on the units used to measure colour temperature and brightness, and how to use them to achieve your desired effect

February is upon us and the days of hiding in the van and watching the rain are nearly over. When we were kids, wet days were spent colouring in and a particular favourite of mine was colouring by numbers. Pictures were divided into sections, each of which had a number printed on it, with each number representing a different colour.

Garden lighting design is full of numbers too. Watts, lumens, lux, colour temperature, voltage, and angle of beam are all part of a designer's calculations when it comes to choosing the correct light fitting and lamp.

The light fitting itself is just a canister for the lamp. It holds the light source and sometimes houses reflectors to direct the light.

It's the lamp that does all the work, but it's often the part that gets neglected when the fitting is chosen. Choosing the lamp needn't be a headache. Colour temperature and lumens are the two best places to start.

Colour temperature is measured in kelvins. The K measurement represents the wavelength temperature of the light. For example, a lit candle has a colour temperature of approximately 1500-1800 K and a partly cloudy summers day has a colour temperature of around 9000-10,000 K.



# A GUIDE TO THE NUMEROLOGY OF GARDEN LIGHTING

We have found that when using LED lamps the best K rating is around 2,700, which is classified as warm white. If you want daylight white then you'll be looking at a lamp of approximately 4500 K. It just depends on the warmth that you want to create.

Aesthetic lighting that adds mood and atmosphere to a garden would tend to be fitted with warmer colour lamps whereas functional lighting for safety and general use would have a higher K rating.

Lumens are normally measured as a per watt rating. They shouldn't be confused with watts, however. Lumens measure the amount of light emitted per second whereas watts measure the rate at which power is used.

So you can have two lamps with the same power rating (watts) giving off very different amounts of light (lumens).

Most of our standard LED lamps are rated at around 450 lumens. It's a good amount of light for a spike spot lighting general planting. Sometimes though, we will fit a lamp with higher or lower lumen levels to get the effect we want.

A couple of years ago we were asked to light some grasses in a raised planter. The client wanted a sunset feel and this was easy to achieve with reference to colour temperature and lumens. We chose lamps with a temperature of 1500 K and lowered the temperature even more by using a lens fitted over the lamp. We used a lumen rating of 100 as we didn't want it to be too bright. The finished effect can be seen on the left. It was featured in numerous lighting publications as a classic sunset effect. We are very proud of that.

So, don't be scared of numbers when specifying. The best way is to practice. You can buy a simple GU10 240 spike spotlight, fit a plug top to it and then experiment with different types of GU10 lamps, keeping in mind the lumen output and K rating each time. It's by far the best way to get to grips with colour by numbers.

## ABOUT ROBERT WEBBER

Robert Webber is the founder of Scenic Lighting, a specialist exterior lighting company based in Berkshire. He designs and installs garden lighting throughout the UK and internationally. Robert can be contacted on [rob@sceniclighting.com](mailto:rob@sceniclighting.com) or via his mobile on 07766 051 000.

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