

What is the R9 value and why is it important for retail?

You have probably heard of the R9 value in lighting, specifically related to LED. This is because LED has traditionally been measured using the CRI (Colour Rendition Index) which takes the first 8 pigment colours that are used to measure colour rendition. These are R1-R8. R9 is obviously the next colour.



What specifically is R9?

The first 8 pigment colours are pastels as shown by the above image. Then there are four saturated solids (R9-R12) followed by two earth tones (R13-R14). R9 is the solid red colour and a light source with a strong R9 value will produce strong vibrant reds. Measuring CRI alone is simply not relevant, especially in the retail sector.

Why is the R9 value important?

Reds are prevalent in merchandise, skin tones and meats (if a food store) and will bring a scene to life. They will make you look healthier in front of a mirror. They will make your store warm and inviting. A luminaire with a high CRI will not necessarily product a high R9 value and therefore will make your environment seem dull and boring. Too many retailers have been caught out by what seems an excellent luminaire with a CRI of 80+ but for some reason, the final scheme just doesn't seem to be as exciting as hoped. This is simply a low R9 value striking again.

So what value should I be looking for?

Traditionally, LED products have been muted as giving a good light quality when they have a CRI of 80 or more and an R9 value of greater than 0. In some applications, this is valid. Clearly, most industrial environments (except print) and some commercial environments you don't necessarily need a high R9 value although you couldn't go wrong if you did. However, if we're talking retail, print, medical or art to name a few, a high R9 value is of paramount importance and you should be looking for a CRI of at least 90 and an R9 value of at least 60.

For example, a standard chip with a CRI of 80+ might have an R9 value of 5.9. Lift the CRI to 90+ and the R9 value is 68.9. If you're operating in the retail sector, it's simply a no-brainer if you want a successful LED scheme.