

Human Centric Lighting (HCL)

(t) 01372 888455 (e) sales@flairlight.co.uk (w) www.Flairlight.co.uk



What is human centric lighting?

That can be complicated to answer, as there are many definitions of HCL out there. Some definitions only focus on circadian rhythm (your body's sleep/wake cycle), while others only focus on daylighting or the user experience.

It could be how it affects their ability to complete tasks, take ownership of their environment or their connection to the outdoors. Without considering all of that and lighting quality too, you're not considering all things the occupant is trying to do in the space.

Human-centric lighting then, is a holistic approach that should include all aspects of how lighting affects occupant wellbeing, productivity and comfort in the built environment.

So, what do we know about how HCL affects human health? Studies have shown that poor lighting can have negative health effects especially on our circadian rhythm. Also known as our sleep/wake cycle, circadian rhythm is a 24-hour internal clock that "is running in the background of your brain and cycles between sleepiness and alertness at regular intervals.

Circadian rhythm responds to lightness and darkness. Too much or too little exposure to certain types of light can then affect:

- Behaviour
- How well we sleep at night
- Overall personal health

What you tend to see in research is that you want that blue-white wavelength early in the morning, During the day, that's what's going to help support circadian rhythm. Natural light on its own does that better than any light source. During parts of the day you want to colour shift. Later in the day, daylight is no longer available. At that point, you don't want cool white light. You want to shift from cool to warm, so you don't suppress melatonin production.

Tuneable white lighting allows you to achieve this equilibrium – and its smart controls are a major part of that. As lighting controls become more sophisticated and automated, lighting systems have the power to become more human-centric.

That could mean something as simple as installing a wireless keypad that an end user can easily use to change the light level or shade position.

There's a misconception in the marketplace that if I just cut a hole in the roof and I bring light into the space, that's naturally good, uniform light. That's not the case, You're going to get daylight, but it's not going to be well controlled.

There's still much we don't know about human-centric lighting and how it affects our health. lighting engineers have always been lighting buildings and designing for the occupants.

The good thing we have today that we didn't have before is the technology is getting better and better. We're adding more capabilities, and that allows us continue to do human-centric lighting in ways we haven't been able to before.

But when it comes to light and wellbeing, "we're still learning."