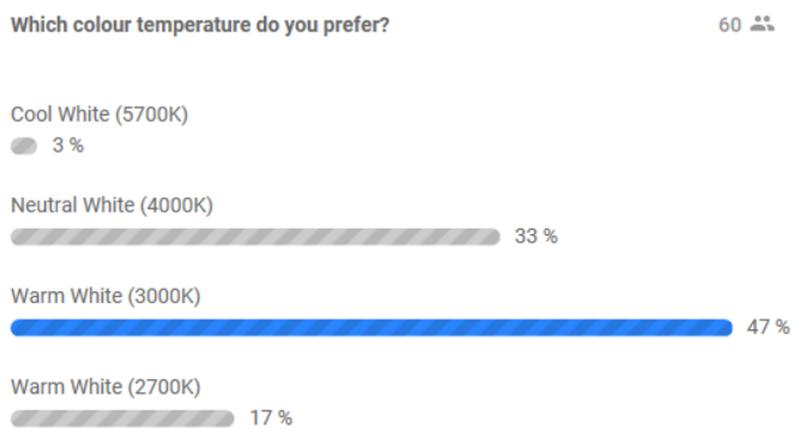




Designs for Lighting were invited to host our interactive colour temperature presentation for the London and South- East region ILP technical meeting. The event took place at the prestigious London Guildhall and was attended by a large enthusiastic group of industry professionals. Building on our successful workshop in June at the Professional Lighting Summit in Glasgow, the London and South-East region technical event was the perfect opportunity for us to expand upon the informative discussions that took place in Glasgow.

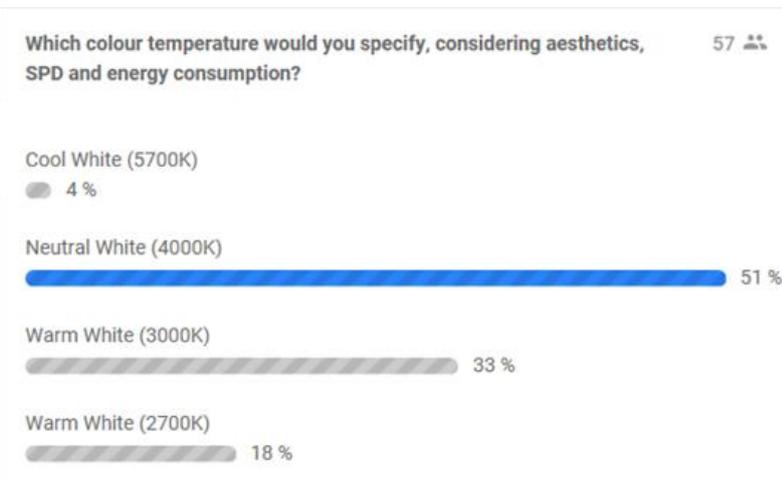
Colour Temperature and Spectral Power Distribution are currently the lighting industry’s hot topics for debate. The format of the workshop differed from a typical industry presentation, in that the audience could debate the topic through discussions and an interactive online poll, where they could tell us their thoughts on the issue. This invoked much greater audience participation than the usual approach where questions are left until the end.

We asked the audience three questions which drove the debate forward. The first question focussed on which colour temperature the professionals preferred, when looking at three light boxes which we presented. One was neutral white at 4000K, one was Warm White at 3000K



and the other was Warm White at 2700K. The aim of this was to understand the audience response based purely on the aesthetics of the options, before we began to discuss the topic in greater depth. As can be seen, the majority preferred the warm white option at 3000K. Whilst cool white was not presented, the option was given to see if anyone would opt for a cooler source than the neutral white. Notably, cool white options would be considered by less than 5% of the audience.

Our second question was aimed at understanding if our audience changed their preference following a



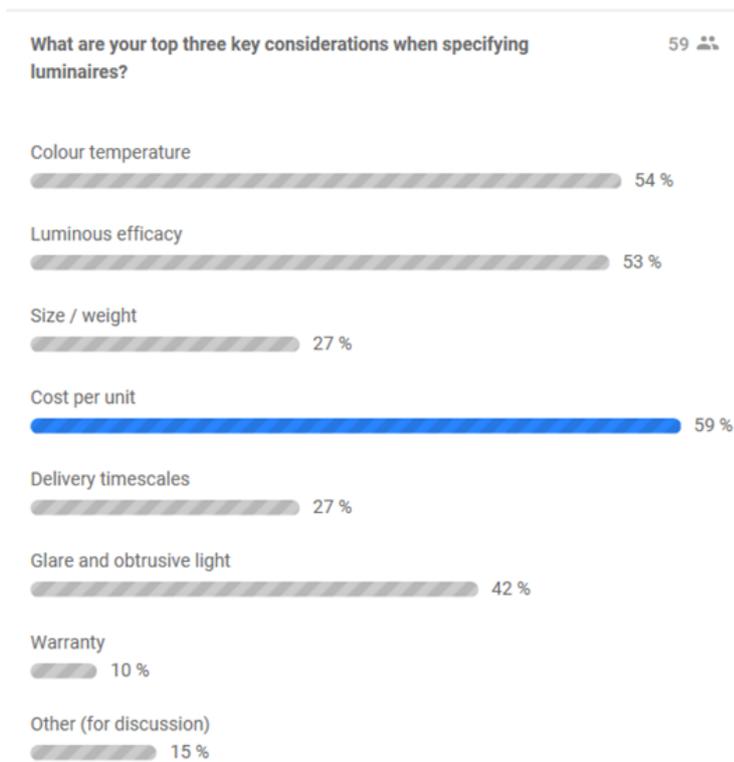
technical introduction to colour temperature, spectral power distribution (SPD) and the human visual response to light. Ryan showed spectral power distribution curves for a number of light sources, demonstrating there is not a direct correlation between colour temperature and spectral power distribution. Some light sources may appear warm in colour temperature but contain a high proportion of blue wavelengths within their SPD.

In environmental lighting, there is little evidence to suggest that the quantities of blue light emitted are likely to cause harm to the human vision, or disturb circadian rhythm, as the light levels on average are low when compared to interior lighting or

natural daylight. However, we should be cautious of blue light at night in environmental lighting, designers should have an understanding of the SPD of the particular light sources they are specifying as a minimum.

Before answering this poll, the audience were instructed to consider aesthetics, SPD and energy consumption when selecting which option they would specify. Interestingly, a small number of our audience members did change their preference, but to 4000K and not as expected towards the warmer 2700K. Discussion amongst the audience revealed that the reasons for choosing neutral white, were based on a variety of factors which all contribute to balanced decision making. It will be interesting to discover if this trend is due to the audience generally representing the urban metropolis, or whether it is the same across other regions.

Taking this further, we asked the audience their top three considerations when selecting and specifying luminaires. The results of this poll are as follows:



The results in this poll are revealing, as this shows that colour temperature is being considered amongst the top three considerations.

The audience discussed the subjective nature of lighting design, noting that we all have different preferences. In reality, it is not possible to ensure that all peoples preferences are met.

Audience members expressed their concern towards the lack of definitive evidence relating to light and health. They feel that a cautious approach is required when selecting colour temperature. However, they are consistently challenged to meet budget costs on purchasing and energy.

It is important to consider the additional lighting levels required due to lower

scotopic/photopic ratios in warm white luminaires, which inevitably leads to higher energy requirements, this could be as high as 15% when compared to luminaires with a neutral white colour temperature.

Although saving energy is important and one of the key areas for local authorities to save on costs, it is equally important to consider the area to be illuminated in context and consider the colour temperature selection as one of the key characteristics in improving the ambience, on a par with the luminous intensity.

Our interactive workshop was well attended by over sixty industry professionals; however, the live poll results and debate summary still only reflect a small demographic of the industry. Our aim is to continue the debate amongst the remaining regions within the ILP, and further.

Designs for Lighting will continue researching this area and intend to host the workshop at future events, to build up a wider representation of opinions within the industry and more importantly, the public. As we continue to develop our workshop and gather a larger database of responses, we will provide further updates on the hot topic of colour temperature selection in road lighting.



If you want to contribute to the debate please email Ryan on [ryan@designsforlighting.co.uk](mailto:ryan@designsforlighting.co.uk) or continue the conversation on our company LinkedIn page

<https://www.linkedin.com/company-beta/742737/>

ENDS. *Designs for Lighting are an award winning specialist lighting design consultancy based in Winchester, with extensive experience in exterior, architectural and interior lighting. For further details please contact Alistair Scott on [alistair@designsforlighting.co.uk](mailto:alistair@designsforlighting.co.uk) or Ryan Carroll on [ryan@designsforlighting.co.uk](mailto:ryan@designsforlighting.co.uk)*