

First impressions

Iain Carlile singles out papers on the perception of light

Now printed eight times a year, *Lighting Research and Technology* publishes a substantial number of papers. Since I last looked at it for the Newsletter, two issues have been printed, comprising 17 papers plus editorials, opinion pieces, book reviews and correspondence. Topics have included new lighting technologies, human factors, road lighting, daylight and sunlight, and measurement. I have provided a short summary on just a small selection of papers here (SLL members can access them free through the SLL Lighting Publications pages on the CIBSE website).

Denk et al's paper examines the impact of light sources (LED and HID) and CCT (warm-white 3000K and neutral white 4200K) on the wellbeing, mental state and concentration of shop assistants. In a controlled experiment working with a number of shop assistants, they found that warm white lighting positively affects the feeling of wellbeing and mental state, but negatively affects the powers of concentration. The results of the experiment showed no effects due to light source.

Also considering perception, Alber et al studied whether the use of coloured light in a passenger aircraft cabin can be used to influence passengers' temperature sensations, making the climate be perceived as cooler (using a cool ambient colour) or warmer (using a warm ambient colour), a phenomenon known as the hue-heat hypothesis. Experiments were conducted in a single-aisle aircraft cabin with nearly 200 participants. They found that lighting colour does impact on climate perception and evaluation as hypothesised.

Of interest to many who work in the design of lighting installations will be the papers by Schanda, Csuti et al on the illumination of picture galleries. Considering the colour fidelity of presented artworks, showing the colours of the pictures as seen by the painter in the light which was used to create the picture, the authors note that most artworks up until the 20th century would have been produced under daylight. Therefore daylight would be the optimum illuminant.

For art conservation and energy saving reasons this is not feasible and the authors note that many galleries use a

correlated colour temperature (CCT) of 3500K. The authors therefore present a method to determine the spectral power distribution with the least colour distortion when moving from a daylight illuminant of 6500K to 3500K at a lower illuminance, allowing the artworks to be displayed with the best possible colour fidelity. The authors note that the presented method could be used for any CCT and adaptation levels. The second part of the paper puts this into practice with a number of test samples of Renaissance paintings.

Iain Carlile, MSL, is an associate of DPA Lighting Design ■

Lighting Research and Technology Vol 47, No 4, June 2015

Editorial: The problem with light *Peter Boyce*

Opinion: Climate-based daylighting metrics in LEEDv4 –

A fragile progress *Christoph Reinhart*

Smart modular lighting control system with dual-beam

luminaires *D Caicedo, A Pandharipande and MCJM Vissenberg*

Psychovisual evaluations of many luminous environments on the Internet *C Villa and R Labayrade*

■ The impact of light source technology and colour temperature on the wellbeing, mental state and concentration of shop assistants *E Denk, P Jimenez and B Schulz*

Dominant contrast as a metric for the lighting of pedestrians

R Saraji and M Saju Oommen

Road lighting and pedestrian reassurance after dark: A review

S Fotios, J Unwin and S Farrall

Near-field and far-field goniophotometry of narrow-beam LED

arrays *V Jacobs, S Forment, P Rombauts and P Hanselaer*

■ In search of evidence for the hue-heat hypothesis in the

aircraft cabin *F Albers, J Maier and C Marggraf-Micheel*

A light-emitting diode headlamp for motorcycles based on freeform

micro-lenses *XF Li, Y Li, JY Dong, GD Chen, C Liang and P Ge*

Book review: Human Factors in Lighting, 3rd ed *Steve Fotios*

Lighting Research and Technology Vol 47, No 5, August 2015

Editorial: The end of an era *Peter Boyce*

Opinion: Climate-based daylighting modelling in practice

Paul Littlefair

■ Colour fidelity for picture gallery illumination, Part 1:

Determining the optimum light-emitting diode spectrum

J Schanda, P Csuti and F Szabó

■ Colour fidelity for picture gallery illumination, Part 2: Test

sample selection – museum tests *P Csuti, A Fáy, J Schanda,*

F Szabó and V Tátrai

Conceptual design and assessment of a profiled Fresnel lens

daylight collector *MG Nair, AR Ganesan and K Ramamurthy*

Observing other pedestrians: Investigating the typical distance

and duration of fixation *S Fotios, B Yang and J Uttley*

The simultaneous occurrence and relationship of sunlight and

skylight under ISO/CIE standard sky types *R Kittler and S Darula*

A study of atmosphere perceptions in a living room *XY Liu, MR*

Luo and H Li

Lamp spectrum and spatial brightness at photopic levels:

Investigating prediction using S/P ratio and gamut area

S Fotios, D Atli, C Cheal and N Hara

A new way to measure the luminous intensity distribution of

LEDs based on Luneburg lens *A Ge, J Wang, P Qiu and J Cai*

Measurement of junction temperature of light-emitting diodes in

a luminaire *KR Shailesh, CP Kurian and SG Kini*

Correspondence: Do we look at other people's faces more than we need? *N Davoodian and P Raynham*

Reply to Davoodian and Raynham *S Fotios, B Yang and J Uttley*



Luminance measurement points in the examination room (Light sources and the performance of shop assistants)