Does correlated color temperature affect the ability of humans to identify veins? - DTU Orbit (17/01/2019)

Does correlated color temperature affect the ability of humans to identify veins?
In the present study we provide empirical evidence and demonstrate statistically that white illumination settings can affect the human ability to identify veins in the inner hand vasculature. A special light-emitting diode lamp with high color rendering index (CRI 84–95) was developed and the effect of correlated color temperature was evaluated, in the range between 2600 and 5700 K at an illuminance of 40 9 lx on the ability of adult humans to identify veins. It is shown that the ability to identify veins can, on average, be increased up to 24% when white illumination settings that do not resemble incandescent light are applied. The illuminance reported together with the effect of white illumination settings on direct visual perception of biosamples are relevant for clinical investigations during the night. © 2015 Optical Society of America

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