

PIOTR JAKUBOWSKI

*E-mail: piotr.7akubowski@gmail.com*

## THE INFLUENCE OF THE SPECTRAL POWER DISTRIBUTION OF THE STREET LIGHTING LED LIGHT SOURCES ON BLUE LIGHT POLLUTION IN THE AREA

### Summary

The paper presents analysis of spectral flux distribution by LED street lamps. Depends on applied technology, LEDs can generate white light in wide verity of correlated color temperature (CCT), and different content of blue light in their spectrum. As blue light might have negative influence on human being and natural environment – the article presents methods which help to reduce this kind of light pollution. The paper shows that blue light pollution might be limited by using LEDs with low CCT and optimized LED clusters with relative spectral power distribution (SPD) similar to high pressure sodium lamps. This goal can be also achieved by decreasing lamp power, while high luminance level is not required (i.e. dimming). Nowadays, luminous efficiency is a key parameter which influences users on lamp choice, thus analysis of this parameter is presented for proposed solutions.