

I. IDENTIFICATION DATA

Thesis name:	Possibilities of LED quality improvement
Author's name:	Ulvi Yusifli
Type of thesis:	bachelor
Faculty/Institute:	Faculty of Electrical Engineering (FEE)
Department:	Electrical Power Engineering
Thesis reviewer:	Ing. Michal Kozlok
Reviewer's department:	Electrical Power Engineering

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	ordinarily challenging
<i>Evaluation of thesis difficulty of assignment.</i>	
Diploma thesis deals with the problematics of LED light quality. The author examining two types of white LED sources and their characteristics. Part of the thesis is a measurement of the led sources photometric properties within the laboratory.	

Satisfaction of assignment	fulfilled with minor objections
<i>Assess that handed thesis meets assignment. Present points of assignment that fell short or were extended. Try to assess importance, impact or cause of each shortcoming.</i>	
Common technologies as PC LED and RGB for color mixing were described, but there is no mention of tunable white luminaires in the comparison.	

Method of conception	correct
<i>Assess that student has chosen correct approach or solution methods.</i>	
The correct approach was chosen, the declared values were verified by own measurement in the laboratory.	

Technical level	B - very good.
<i>Assess level of thesis specialty, use of knowledge gained by study and by expert literature, use of sources and data gained by experience.</i>	
At the beginning of the thesis, there is a theoretical introduction, which briefly describes the variables used. In the Colorimetry chapter, the student uses sufficient explanations of CRI and CFI, and I appreciate the mention of Duv. In Chapter 3.1, there is RGB WLED, which can be mistaken for quite a different thing RGBW LED (chip with separate red, green, blue and white die).	

Formal and language level, scope of thesis	C - good.
<i>Assess correctness of usage of formal notation. Assess typographical and language arrangement of thesis.</i>	
In many cases, missing punctuation occurs in the text. There is a red dot after the sentence multiple times, which does not match the style of the other thesis text (p. 13, 14, 33).	

Selection of sources, citation correctness	B - very good.
<i>Present your opinion to student's activity when obtaining and using study materials for thesis creation. Characterize selection of sources. Assess that student used all relevant sources. Verify that all used elements are correctly distinguished from own results and thoughts. Assess that citation ethics has not been breached and that all bibliographic citations are complete and in accordance with citation convention and standards.</i>	
There are 44 citations used in the thesis, which I consider to be above standard. However, the text does not always refer to an image that is part of the meaning of the paragraph in the chapter.	

Additional commentary and evaluation

Present your opinion to achieved primary goals of thesis, e.g. level of theoretical results, level and functionality of technical or software conception, publication performance, experimental dexterity etc.

Most of the goals of the work have been fulfilled, but it is not entirely clear from the conclusion on how to use the results of the thesis in practice or how to extend them in the future. Overall impression from the thesis is very good.

III. OVERALL EVALUATION, QUESTIONS FOR DEFENSE, CLASSIFICATION SUGGESTION

Summarize thesis aspects that swayed your final evaluation. Please present apt questions which student should answer during defense.

I evaluate handed thesis with classification grade **B - very good**.

Questions:

- On page 10 above you describe that the human eye's spectral sensitivity is defined in the range of 380 - 760 nm, but in the formula (5) p.13 you specify the range 380 - 780 nm. Which of the ranges is correct?
- What do you think is the main factor that is affecting led lifetime?

Date: **3.6.2019**

Signature: