Supit Boonrat 2010: The Effect of Harmonics Noise of Power Supplies on Down-Light Lamp with LED. Master of Engineering (Electrical Engineering), Major Field: Electrical Engineering, Department of Electrical Engineering. Thesis Advisor: Associate Professer Kiatiyuth Kveeyarn, Ph.D. 191 pages.

This study researches have the objective for studies the lead LED to design and apply in the illuminates system inside the building , which designing and builds by used 4.8 mm straw-hat shape LED kinds and used total 56 of LED. The arrangement lays LED on down-light lanterns (FBS 110/118) in 3 circle character , from that time , brightness test , spread heat test , and the effect of harmonics noise from power supplies of down-light lanterns with LED. The power supplies to used consist 2 kind , the readymade power supplies and rebuild power supplies. The readymade power supplies compose such as battery , linear power supply , switching mode power supply and bridge diode rectifier circuit. The rebuild power supplies part that design to rebuild for example , bridge diode rectifier with regulator circuit compose such as, the small set for 1 lanterns (5 set) and a big set for 5 lanterns (1 set) .

The experiment result is the down-light lanterns with LED will be consume power equals to 2.58W , at the 1 meter distance will give the brightness equals to 105.8 lx , effective illuminating equals to 148.41 lx/W , when turn on for 1 hour will born topmost heat that tube skin equals to 55.1 the degree Celsius. The effect of harmonics noise from the readymade power supplies that switching mode power supply will be topmost total harmonics current. The bridge diode rectifier with regulator circuit part that when bring accompany with many lantern will make have the total harmonics current up to enhance , by a big set for 5 lanterns has will the merit is consume the little power more than   the small set for 1 lanterns (at 5 lantern amounts are equal) , which there are the total harmonics current are similar to.

_____   _____   ___ / ___ / ___
     Student's signature   Thesis Advisor's signature