

**LED (445.321)**  
**(closed book)**

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6/14/07, 1:00-2:15

1. (25 ) LED
  - A. LED 가 가 . trichromatic
  - B. dichromatic white LED
  - C. 가 .  
LED luminous efficiency가 ?
  - D. viewing angle 가  
가 .
  
2. (25 ) (mechanism)
  
3. (25 ) The 5<sup>th</sup> International Symposium on Blue Laser and Light Emitting Diode  
LumiLEDs Goetz 150 lm/W  
luminous efficiency가 LED 2008  
LED가 가 (70 lm/W)  
가 200 cm 가 ?  
LED 30W  
15W가 LED isotropic  
가 . 가 50 cm
  
4. (25 ) LED LED  
LED  
가 . C LED  
face GaN InGaN spontaneous polarization Ga-  
piezoelectric polarization ,  
A M LED  
가 Ga-face polarization, 가