University of Southern California	**Prof. Schiler**
School of Architecture	**Spring 2005**
Arch 315: Design of the Luminous and Sonic Environment	**Homework Assignment #1**

1.) If a bare bulb gives off 1700 lumens, and you are given that only 30% of the light from that bulb gets to the floor of the room, then what is the resultant illumination (illuminance) on the floor of a 10' x 10' room?

2.) Will that bulb be a source of glare? Discuss your answer. (Imagine looking directly at the bulb. Would the *contrast* be greater or smaller if the walls were painted black?)

3.) There are three 2400 lumen fluorescent tubes in a 4' x 4' fixture. Assume that because of the reflectors, 80% of that light gets to the diffuser. The actual plastic diffuser surface is 4' x 4' and the transmissivity is 75%. What is the brightness (or luminance) of the diffuser surface?

4.) Which would cause more *glare*, one such fixture on a black ceiling, or a complete grid of them, 8' on center, on a white ceiling? Which would provide more *illumination*? Explain. (Is glare related to illuminance?)

5.) Which would be a better light for viewing a painting, direct sunlight coming in from the South, or indirect light, coming in from the North? Which would be more dramatic for a sculpture? Why?