

ANSWER: THIN AND FAT FILAMENTS

The answer is: d. The brightest light is the one that consumes the most energy per second. The energy consumed depends on how much charge falls through how much potential difference or voltage difference. The voltage difference across each bulb is 110 volts since each is screwed into a 110-volt socket. So the only distinction between the bulbs is how much charge goes through them per second, that is, how much current goes through each. The thick filament offers less resistance than the thin filament so more current goes through the thick one. After all, the thick one can be thought of as several thin ones side by side. Therefore, the bulb with the thick filament uses the most energy per second (energy per second = power) and is the brightest.