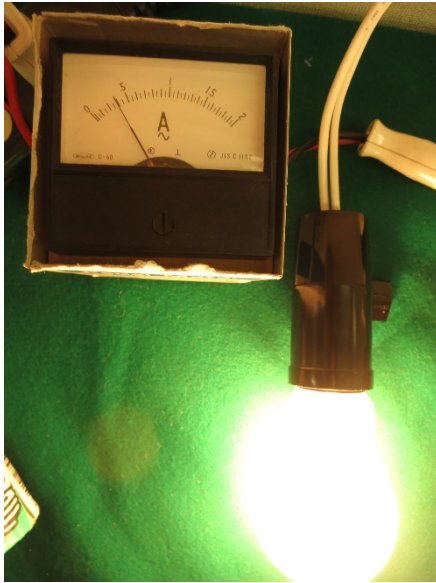


19 Illumination and lighter



40W incandescent lamp



40W equivalent fluorescent lamp(8W)



40W equivalent LED(4W)

Current measurement



Air defense incandescent lamp during 2nd world war [1]

At the end stage of the world 2nd war Japan was bombed by US airplane. Dark lamp which illuminate only under the lamp was used for eating and study in order to prevent the light leakage during night. The lamp was made in Matsuda (Toshiba at present). It is 5W for 6–10m².



Ignition of lighter and fuel [1]

Lighter initiates from a flint and moxa. The moxa was used as an inflammable. The flint and a cord, the flint and petroleum, platinum black and ethyl alcohol (dangerous), flint and gas. spark by a battery and gas and recently piezoelectric device and gas have been used historically.

The left lighter in the photo was made by Tanita in 1970s. This used the battery and the gas in an expensive Ti case.

The right one in the photo is the flint and the cord. Case and chain are made of silver and this was produced before 1965.

[1] Donation by Emeritus Prof. Yakichi Higo of Tokyo Institute of Technology