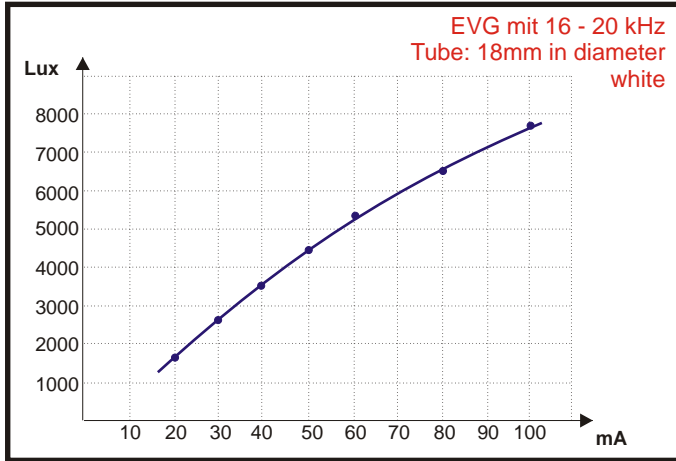


## Tube current



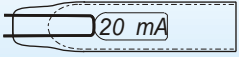

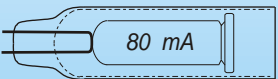
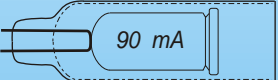
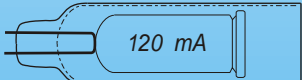
**Illuminance  
in relation to the tube current**

The brightness of a neon tube depends on several factors:

- the current through the tube
- the fluorescent material used
- the diameter of the tube

The current generated by the transformer or convertor which flows through the tube has the strongest effect on the brightness.

It does not matter whether the current is generated by a traditional coil & core transformer or an electronic convertor. The brightness always varies with the current. The relationship between current and illuminance (Lux) is shown in the diagram on the left.

Type of electrode	Tube diameter	Recommended tube current
 20 mA	10	max. 20 mA
 50 mA	12	20 - 30 mA
 80 mA	14-15	30 - 40 mA
 90 mA	15-20	40 - 50 mA
 120 mA	18-22	50 - 80 mA

**Recommended tube current  
for different electrodes and tube diameters**

Current, tube diameter and electrodes used must correspond to each other. A thin tube (10 mm) requires a low current (10-20 mA) in order to prevent excessive radiation whereas a thicker tube (22 mm) requires a higher current (40 - 80 mA) in order to ensure a good illumination.

When choosing the appropriate convertor or transformer it must by all means be taken into account that the current is not too high. A tube with a diameter of 10 mm requires a current of no more than 20 mA. With a higher current, the commonly used 20 or 50 mA electrodes would get too hot and an overload of the neon system would be the result. In addition, the radiation of the neon system would be excessive.

The figure on the left shows suitable combinations of possible tube diameters, currents and electrodes.