85.39 - Electric filament or discharge lamps, including sealed beam lamp units and ultra-violet or infra-red lamps; arc-lamps; light-emitting diode (LED) lamps.

8539.10 - Sealed beam lamp units

- Other filament lamps, excluding ultra-violet or infra-red lamps :

8539.21 - - Tungsten halogen

8539.22 - - Other, of a power not exceeding 200 W and for a voltage exceeding 100 V

8539.29 - - Other

- Discharge lamps, other than ultra-violet lamps :

8539.31 - - Fluorescent, hot cathode

8539.32 - - Mercury or sodium vapour lamps; metal halide lamps

8539.39 - - Other

- Ultra-violet or infra-red lamps; arc-lamps :

8539.41 - - Arc-lamps

8539.49 - - Other

8539.50 - Light-emitting diode (LED) lamps

8539.90 - Parts

Electric light lamps consist of glass or quartz containers, of various shapes, containing the necessary elements for converting electrical energy into light rays (including infra-red or ultra-violet rays).

The heading covers all electric light lamps, whether or not specially designed for particular uses (including flashlight discharge lamps).

The heading covers filament lamps, gas or vapour discharge lamps, arc-lamps and light-emitting diode (LED) lamps.

(A) SEALED BEAM LAMP UNITS

Sealed beam lamp units are sometimes designed for incorporation in the bodywork of cars; they consist of a lens and reflector and a filament sealed within a gas-filled or vacuum-type lamp.

(B) OTHER FILAMENT LAMPS, EXCLUDING ULTRA-VIOLET OR INFRA-RED LAMPS (see Part (D))

The light is produced by a filament (metal or carbon) which is heated to incandescence by the passage of an electric current, the glass envelope (sometimes coloured) being either evacuated or filled with an inert gas under low pressure; in the base, which may be of the screw or bayonet type for fixing in the lamp-holder, are the necessary electrical contacts.

These lamps are of various shapes, e.g., spherical (with or without a neck); pear or onion shaped; flame shaped; tubular (straight or curved); special fancy shapes for illuminations, decorations, Christmas trees, etc.

This group also covers halogen lamps.

(C) DISCHARGE LAMPS, OTHER THAN ULTRA-VIOLET LAMPS (see Part (D))

These consist of a glass envelope (usually tubular) or a quartz envelope (usually in an outer envelope of glass), furnished with electrodes and containing, under low pressure, either a gas which becomes luminous under the influence of an electric discharge or a substance which gives off a vapour having similar properties; certain lamps may contain both a gas and a vapour producing substance. Some lamps have valves for the removal of compounds resulting from the action of the gas on the electrodes; others may be vacuum jacketed or water cooled. In some cases the internal wall of the lamps is coated with special substances which transform the ultra-violet rays into visible light thus increasing the efficiency of the lamp (fluorescent lamps). Some lamps operate on high voltages, others on low.

The principal lamps of this kind include :

(1) **Gas discharge tubes** containing gases such as neon, helium, argon, nitrogen or carbon dioxide, including flashing discharge lamps used for photography or stroboscopic examination.

(2) **Sodium vapour lamps.**

(3) **Mercury vapour lamps.**

(4) **Gas filled dual lamps**, in which the light is produced both by an incandescent filament and a gas discharge.

(5) **Metal halide lamps.**

(6) **Xenon and alphanumeric tubes.**

(7) **Spectral discharge and glow discharge lamps.**

These lamps are used for many purposes, e.g., domestic lighting; street lighting; office, factory, shop, etc., lighting; lighting of machines; and lighting for decorative or publicity purposes. The heading includes simple straight or curved tubes, and tubes in various complex forms (e.g., scrolls, letters, figures and stars).

(D) ULTRA-VIOLET AND INFRA-RED LAMPS

Ultra-violet lamps are used for medical, laboratory, germicidal or other purposes. They usually consist of a fused quartz tube containing mercury; they are sometimes enclosed in an outer envelope of glass. Some are known as black light lamps (e.g., those used for theatrical purposes).

Infra-red lamps are filament lamps specially designed to produce infra-red rays. In many cases the interior of the lamp is coppered or silvered to form a reflector. They are used, for example, for medical purposes or as a source of heat in industry.

(E) ARC-LAMPS

In lamps of this kind the light is emitted by an arc, or by an arc and by the incandescence of one or both of the electrodes between which the arc is maintained. These electrodes are generally of carbon or tungsten. Some lamps have an automatic device to bring the electrodes close together in order to strike the arc, and subsequently to maintain them at the correct distance apart in spite of the progressive using up of electrodes. Lamps designed for AC working have supplementary electrodes for starting purposes. In open arc-lamps the arc burns in free air; in others it is in a glass envelope with suitable baffles communicating with the free air.

It should be noted that arc-lamps are complex apparatus, and are not merely simple lighting elements as is the case of the other goods of this heading.

(F) LIGHT-EMITTING DIODE (LED) LAMPS

The light from these lamps is produced by one or more light-emitting diodes (LED). These lamps consist of a glass or plastic envelope, one or more light-emitting diodes (LED), circuitry to rectify AC power and to convert voltage to a level useable by the LEDs, and a base (e.g., screw, bayonet or bi-pin type) for fixing in the lamp-holder. Certain lamps may also contain a heat sink.

These lamps are of various shapes, e.g., spherical (with or without a neck); pear or onion shaped; flame shaped; tubular (straight or curved); special fancy shapes for illuminations, decorations, Christmas trees, etc.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the goods of this heading are also classified here. They include :

(1) Bases for incandescent and discharge electric lamps and bulbs.

(2) Metal electrodes for discharge lamps and tubes.

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The heading **excludes** :

(a) Glass envelopes, and glass parts having the essential character thereof (e.g., spotlight bulb reflectors) for lamps (**heading 70.11**).

(b) Resistance lamps with carbon filaments and variable lamps with iron filaments in hydrogen (**heading 85.33**).

(c) Automatic thermo-electric switches (starters) for starting fluorescent lamps (**heading 85.36**).

(d) Thermionic valves and tubes (**heading 85.40**).

(e) Light-emitting diodes (LED) of **heading 85.41**.

(f) Electro-luminescent devices, generally in strips, plates or panels, and based on electro-luminescent substances (e.g., zinc sulphide) placed between two layers of conductive material (**heading 85.43**).

(g) Arc-lamp carbons and carbon filaments (**heading 85.45**).