EUROPEAN LAMP COMPANIES FEDERATION

Eco Profile 061106 HID

High Intensity Discharge Lamps for General Lighting Applications

1. Definitions

High Intensity Discharge (HID) lamps

HID lamps are high energy-efficient discharge lamps, which produce light by striking an electrical arc across tungsten electrode housed inside a specially designed tube made from quartz or ceramic. The tube is filled with gas and metals. There are three main families of HID lamps based on the substances of the filling composition of the burner:

- Mercury Vapour and Blended Mercury.
- High Pressure Sodium and Low Pressure Sodium.
- Metal Halide.

General Lighting

General Lighting Lamps are lamps for general use in private, commercial & industrial and public application areas with the following characteristics:

- General Lighting sources provide a level of visible light in the range 400 to 800 nm.
- They are universally available.
- They are highly standardised and interchangeable.

For general lighting applications it is only possible to use lamps based on the performance standard:

- ⇨ Mercury Vapour and Blended Mercury: IEC/EN 60188
- ⇨ High Pressure Sodium: IEC/EN 60662
- ⇨ Metal Halide: IEC/EN 61167

Exceptions to this rule (lamps used for special applications) are listed in *Annex 2*.

2. Minimum Efficacy Standard

Efficacy (lm/W) is the amount of light emitted measured in lumen (lm) by a lamp for each Watt (W) of power consumed. The efficacy is the key indicator for efficient power consumption. The minimum lumen per wattage values for a HID Lamp is outlined in *Annex 1.*

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4. Performance Standards for CE Mark

The HID lamps have to comply with the safety standard IEC/EN 62035.

5. Control Gear

All applied ballasts shall comply with the standard IEC/EN 60923 and all applied igniters shall comply with the standard IEC/EN 60927.

6. WEEE

All HID lamps have to fulfil the demands of WEEE (Waste of Electrical and Electronic Equipments / EU Directive 2002/96/EC) and have to be treated at end-of-life in consensus with National Laws in the European Union and to be marked accordingly.

7. Minimum Hazardous Substances Content (RoHS)

All HID lamps have to fulfill the targets set by the EU Directive RoHS (2002/95/EC).

Addendum: This document is Best Available Technology (BAT) as of present day, 2006. Should new technologies introduced on the market, not be covered by *Annex I*; this Eco-Profile should be updated.

ANNEX 1 - *High Intensity Discharge Lamps*

Wattage	20	35	50	55	70	80	85	100	110	125	150	165	220	250	330	400	600	700	1000	1800	2000
Efficacy			60		65	65		65	65	70	70		70	70	70	80	80	80	85	85	90

Annex 2: *Lamps not used for general lighting but for special applications and thus excluded from performance criteria specified in Annex 1:*

- Special purpose horticultural lamps.
- Metal halide lamps for sport & stadium lighting.
- Quartz metal halide 250W 6,000K and 400W 6,000K.
- High pressure sodium with colour rendering index ≥ 80; - special purposes red saturated to emphasis natural colours.
- Coloured quartz metal halide lamps special purposes, when colours are needed.

Special purposes Horticultural lamps
Metal halide lamps for Sport & Stadium Lighting
Quartz metal halide 250W 6000K and 400W 6000K
HP Sodium with colour rendering index >= 80 - special purposes red saturated to emphasis natural colours
Coloured quartz metal halide lamps special purposes, when colours are needed