

Changes to legislation: There are outstanding changes not yet made to Commission Regulation (EC) No 245/2009. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details) View outstanding changes

ANNEX V

Indicative benchmarks for fluorescent and high intensity discharge products
(for information)

At the time of adoption of this Regulation, the best available technology on the market for the products concerned was identified as follows.

1. Lamp efficacy and lamp life

For single and double capped fluorescent lamps, the benchmark values are the best values included in the tables in Annex III Parts 1.1 and 1.2.

For high-intensity discharge lamps

Metal Halide Lamps (clear and frosted):

TABLE 20

Indicative rated efficacy and performance values for metal halide lamps (benchmark level)

| | Ra ≥ 80 | 80 > Ra ≥ 60 |
|---------------------------------|--------------------------------------|-----------------------------------|
| Nominal Lamp Wattage [W] | Rated Lamp Efficacy [lm/W] | Rated Lamp Efficacy [lm/W] |
| W ≤ 55 | ≥ 80 | ≥ 95 |
| 55 < W ≤ 75 | ≥ 90 | ≥ 113 |
| 75 < W ≤ 105 | ≥ 90 | ≥ 116 |
| 105 < W ≤ 155 | ≥ 98 | ≥ 117 |
| 155 < W ≤ 255 | ≥ 105 | |
| 255 < W ≤ 405 | ≥ 105 | |
| Burning Hours | Lamp Lumen Maintenance Factor | Lamp Survival Factor |
| 12 000 | > 0,8 | > 0,8 |

High-pressure sodium lamps (clear and frosted):

TABLE 21

Indicative rated efficacy and performance values for high pressure sodium lamps (benchmark level)

| Nominal Lamp Wattage [W] | Rated Lamp Efficacy [lm/W] |
|---------------------------------|-----------------------------------|
| W ≤ 55 | ≥ 88 |
| 55 < W ≤ 75 | ≥ 91 |
| 75 < W ≤ 105 | ≥ 107 |
| 105 < W ≤ 155 | ≥ 110 |
| 155 < W ≤ 255 | ≥ 128 |
| 255 < W ≤ 405 | ≥ 138 |

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| Burning Hours | Lamp Lumen Maintenance Factor | Lamp Survival Factor |
|----------------------|--------------------------------------|-----------------------------|
| 16 000 | > 0,94 | > 0,92 |

2. Lamp mercury content

The energy efficient fluorescent lamps with the lowest mercury content include not more than 1,4 mg mercury and the energy efficient high-intensity discharge lamps with the lowest mercury content include not more than 12 mg of mercury.

3. Ballast performance

For applications where dimming is beneficial, the benchmarks are as follows:

Fluorescent lamp ballasts with energy efficiency index A1 BAT that are continuously dimmable down to 10 % light output.

Ballasts for dimmable high intensity discharge lamps which can be dimmed down to 40 % light output having ballast efficiency of 0,9 (best known result, actual dimming possibilities may depend on the HID lamp type used with the ballast).

4. Luminaire product information

The following product information is provided on free-access websites and in other forms the manufacturers deem appropriate for benchmark luminaires in addition to the provisions in Annex III.3.2:

CEN flux code of the luminaire or the complete photometric file.

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Changes and effects yet to be applied to :

- Regulation revoked by [S.I. 2021/1095 reg. 19\(b\)](#)

Changes and effects yet to be applied to the whole legislation item and associated provisions

- Annex 1 para. 2(b) substituted by [S.I. 2019/539 Sch. 2 para. 4\(6\)\(b\)](#)
- Annex 1 para. 2(c) substituted by [S.I. 2019/539 Sch. 2 para. 4\(6\)\(c\)](#)
- Annex 1 para. 2(e)(f) substituted for Annex 1 para. 2(e) by [S.I. 2019/539 Sch. 2 para. 4\(6\)\(d\)](#)
- Annex 1 para. 1 words substituted by [S.I. 2019/539 Sch. 2 para. 4\(6\)\(a\)](#)
- Annex 1 para. 2(b) words substituted in earlier amending provision [S.I. 2019/539, Sch. 2 para. 4\(6\)\(b\)](#) by [S.I. 2020/1528 reg. 4](#)
- Annex 1 para. 2(c) words substituted in earlier amending provision [S.I. 2019/539, Sch. 2 para. 4\(6\)\(c\)](#) by [S.I. 2020/1528 reg. 4](#)
- Annex 1 para. 2(e) words substituted in earlier amending provision [S.I. 2019/539, Sch. 2 para. 4\(6\)\(d\)](#) by [S.I. 2020/1528 reg. 4](#)
- Annex 1 para. 2(f) words substituted in earlier amending provision [S.I. 2019/539, Sch. 2 para. 4\(6\)\(d\)](#) by [S.I. 2020/1528 reg. 4](#)
- Annex 3 para. 1.3 words substituted by [S.I. 2019/539 Sch. 2 para. 4\(7\)\(a\)](#)
- Annex 3 para. 2.2 words substituted by [S.I. 2019/539 Sch. 2 para. 4\(7\)\(b\)](#)
- Annex 3 para. 3.2 words substituted by [S.I. 2019/539 Sch. 2 para. 4\(7\)\(c\)](#)