الهيئة السعودية للمواصفات والمقاييس والجودة
Saudi Standards, Metrology and Quality Org (SASO)

SASO 2870:2018/AMD1:2021

متطلبات كفاءة الطاقة ومتطلبات التشغيل ووضع البطاقات لمنتجات الانارة ـ الجزء الاول

Energy efficiency, functionality and labelling requirements for lighting products Part 1

ICS: 91.160.01

مقدمة

قامت الهيئة السعودية للمواصفات والمقاييس والجودة باعتماد تعديل المواصفة القياسية رقم SASO2870:2018/AMD1:2021 " متطلبات كفاءة الطاقة ومتطلبات التشغيل ووضع البطاقات لمنتجات الانارة – الجزء الاول " بعد استعراض المواصفات القياسية الدولية والأجنبية والمؤلفات المرجعية. وقد اعتمد هذا التعديل مكملا للمواصفة القياسية رقمSASO2870:2018 " متطلبات كفاءة الطاقة ومتطلبات التشغيل ووضع البطاقات لمنتجات الانارة – الجزء الاول "

Foreword

Saudi Standards, Metrology and Quality Organization (SASO) has approved the Amendment of Saudi Standard No. “SASO 2870:2017/AMD1:2021" " ENERGY EFFICIENCY, FUNCTIONALITY AND LABELLING, REQUIREMENTS FOR LIGHTING PRODUCTS PART 1" based on relevant International and National Foreign Standards and references. This amendment has been approved as a complementary part of the Saudi Standard No. “SASO 2870:2018" “ENERGY EFFICIENCY, FUNCTIONALITY AND LABELLING, REQUIREMENTS FOR LIGHTING PRODUCTS PART 1”.

3. Reference Standards

Delete:

- SASO GSO IEC 60432-1 Tungsten Safety Standard
- SASO 1983 (IEC 60432-2) T-H Safety Standard.
- SASO 2570 (IEC 60432-3) T-H Safety Standard
- SASO GSO IEC 60968 CFLi Safety Standard
- SASO 2720 (IEC 61199) Single-capped fluorescent lamps Safety Standard
- SASO IEC 62471 Photo biological Safety of Lamps and Lamp Systems
- SASO IEC 62560 Self ballasted LED lamps > 50V Safety Standard
- SASO standard to be adopted based on (Project IEC 62663-1) Non-ballasted LED
- lamps - Safety requirements
- SASO standard to be adopted based on (Project IEC/PAS 62838) Safety of LED lamps with supply voltages smaller equal 50V
- SASO IEC/PAS 62868 Safety of OLED

4.1 Energy efficiency requirements

Add:

- It is allowable to use same test report for models in SLS system that are different in color temperature only and have same technical specifications of the product.

4.3 Marking requirements

Replace:

"Special purpose" lamps (Annex B-3) do not need to comply with the marking requirements specified in Annex E and Annex H. Instead, the following information shall be clearly and prominently indicated on their packaging and in all forms of product information accompanying the lamp when it is placed on the market:

- Their intended purpose.
- That they are not suitable for household room illumination

By:

"Special purpose" lamps (Annex B-3) do not need to comply with the marking requirements specified in Annex E and Annex H. Instead, the following information shall be clearly and prominently indicated on their packaging and in all forms of product information accompanying the lamp when it is placed on the market:

- Brand Name
- Model number
- Rated power(Watt)
- Rated Voltage (Voltage)
- Rated Lumen(lumen)
- Rated color temperature (Kelvin)

- Country of origin
- Their intended purpose

ANNEX E - Marking requirements for indirect lamps

Replace:

Nominal power

By:

Rated power (Watt)

Replace:

The information does not need to be specified using the exact wording of the list below. It may be displayed using graphs, figures or symbols rather than text:

- Brand name
- Model number
- Input voltage
- Lamp type (Indirect)
- Country of origin
- Lamp technology (Incandescent/Halogen/CFLi/LED)
- Cap type
- Nominal lamp power (in watt)
- Nominal luminous flux (in lumens)
- Nominal efficacy (in lumens per watt)
- Nominal life time (in hours)
- Number of switching cycles before up to B50 lifetime
- Color temperature
- Lamp mercury content as ***X.X mg*** (applicable only to lamps that contains mercury)
- Indication on which website to consult in case of accidental lamp breakage, in order to find instructions on how to clean up the lamp debris

BY:

The information does not need to be specified using the exact wording of the list below. It may be displayed using graphs, figures or symbols rather than text:

a. Brand name
b. Model number
c. Rated Input voltage(Volt)
d. Lamp type (Indirect)
e. Country of origin
f. Lamp technology (Incandescent/Halogen/CFLi/LED)

g. Cap type
h. Rated lamp power (Watt)
i. Rated luminous flux (Lumens)
j. Rated efficacy (Lumens/Watt)
k. Rated life time (hours)
l. Rated Number of switching cycles before up to B50 lifetime
m. Rated Color temperature (Kelvin)
n. Rated power factor
o. Rated color rendering (percentage)
p. Lamp mercury content as ***X.X mg*** (applicable only to lamps that contains mercury) (milligrams).
q. Following information shall be displayed on free-access websites or in any other form the manufacturer deems appropriate:
    - how to clean lamp debris in case of accidental lamp breakage and disposal of lamp at the end of life, when relevant;
    - About actual values of the hazardous content, when relevant

ANNEX H - Marking requirements for direct lamps

1) Replace:

Nominal power

By:

Rated power

2) Replace:

The information does not need to be specified using the exact wording of the list below. It may be displayed using graphs, figures or symbols rather than text:

- Brand name
- Model number
- Input voltage
- Lamp type (Direct)
- Country of origin
- Lamp technology (Incandescent/Halogen/CFLi/LED)
- Cap type
- Nominal useful luminous flux displayed in a font at least twice as large as any display of the nominal lamp power.
- Nominal life time of the lamp in hours (should not longer than the rated life time).
- Color temperature, as a value in Kelvins and also expressed graphically or in words.
- Number of switching cycles before premature failure.

- Warm-up time up to 60 % of the full light output (may be indicated as 'instant full light' if less than 1 second).
- A warning if the lamp cannot be dimmed or can be dimmed only on specific dimmers; in the latter case, a list of compatible dimmers shall be also provided on the manufacturer's website.
- If designed for optimum use in non-standard conditions (such as ambient temperature Ta ≠ 25 °C or specific thermal management is necessary), provide information on those conditions.
- Lamp dimensions in millimeters (length and largest diameter).
- Nominal beam angle in degrees.
- If the lamp's beam angle is ≥ 90° and its useful luminous flux as defined in Annex F is to be measured in a 120° cone, a warning that the lamp is not suitable for accent lighting.
- If the lamp cap is a standardized type also used with filament lamps, but the lamp's dimensions are different from the dimensions of the filament lamp(s) that the lamp is meant to replace, provide a drawing comparing the lamp's dimensions to the dimensions of the filament lamp(s) it replaces.
- An indication that the lamp is of a type listed in the first column of Table 13 may be displayed only if the luminous flux of the lamp in a 90° cone ($\Phi 90^{\circ}$) is not lower than the reference luminous flux indicated in Table 13 for the smallest wattage among the lamps of the type concerned. The reference luminous flux shall be multiplied by the correction factor in Table 14. For LED lamps, it shall be in addition multiplied by the correction factor in Table 15.
- An equivalence claim involving the power of a replaced lamp type may be displayed if the lamp type is listed in Table 13 and if the luminous flux of the lamp in a 90° cone ($\Phi 90^{\circ}$) is not lower than the corresponding reference luminous flux in Table 13. The reference luminous flux shall be multiplied by the correction factor in Table 14. For LED lamps, it shall be in addition multiplied by the correction factor in Table 15. The intermediate values of both the luminous flux and the claimed equivalent lamp power (rounded to the nearest 1 W) shall be calculated by linear interpolation between the two adjacent values.

By:

The information does not need to be specified using the exact wording of the list below. It may be displayed using graphs, figures or symbols rather than text:

a. Brand name
b. Model number
c. Rated Input voltage (Volt)
d. Rated lamp power (Watt)
e. Lamp type (Direct)
f. Country of origin
g. Lamp technology (Incandescent/Halogen/CFLi/LED)
h. Cap type
i. Rated luminous flux (Lumens)

j. Rated efficacy (lumens/watt)
k. Rated life time (hours)
l. Rated Color temperature(Kelvins)
m. Rated Number of switching cycles before premature failure.
n. Warm-up time up to 60 % of the full light output
o. Rated color rendering (percentage)
p. Lamp mercury content as ***X.X mg*** (applicable only to lamps that contains mercury) (milligrams

q. Place the information to refer to in the event of an accidental breakage of the lamp to find instructions on how to clean lamp debris provided on the manufacturer's website or any other form the manufacturer deems appropriate.
r. A warning if the lamp cannot be dimmed or can be dimmed only on specific dimmers; in the latter case, a list of compatible dimmers shall be also provided on the manufacturer's website or any other form the manufacturer deems appropriate.
s. Following information are optional:

- If designed for optimum use in non-standard conditions (such as ambient temperature Ta ≠ 25 °C or specific thermal management is necessary), provide information on those conditions.
- If the lamp's beam angle is ≥ 90° and its useful luminous flux as defined in Annex F is to be measured in a 120° cone, a warning that the lamp is not suitable for accent lighting.
- If the lamp cap is a standardized type also used with filament lamps, but the lamp's dimensions are different from the dimensions of the filament lamp(s) that the lamp is meant to replace, provide a drawing comparing the lamp's dimensions to the dimensions of the filament lamp(s) it replaces.
- An indication that the lamp is of a type listed in the first column of Table 13 may be displayed only if the luminous flux of the lamp in a 90° cone ($\Phi 90^{\circ}$) is not lower than the reference luminous flux indicated in Table 13 for the smallest wattage among the lamps of the type concerned. The reference luminous flux shall be multiplied by the correction factor in Table 14. For LED lamps, it shall be in addition multiplied by the correction factor in Table 15.
- An equivalence claim involving the power of a replaced lamp type may be displayed if the lamp type is listed in Table 13 and if the luminous flux of the lamp in a 90° cone ($\Phi 90^{\circ}$) is not lower than the corresponding reference luminous flux in Table 13. The reference luminous flux shall be multiplied by the correction factor in Table 14. For LED lamps, it shall be in addition multiplied by the correction factor in Table 15. The intermediate values of both the luminous flux and the claimed equivalent lamp power (rounded to the nearest 1 W) shall be calculated by linear interpolation between the two adjacent values.

t. Following information shall be displayed on free-access websites or in any other form the manufacturer deems appropriate:
   - how to clean lamp debris in case of accidental lamp breakage and disposal of lamp at the end of life, when relevant;
   - About actual values of the hazardous content, when relevant

ANNEX H - Marking requirements for direct lamps

After table 15

Delete:

If the lamp contains mercury:

(a) Lamp mercury content as X.X mg.
(o) Indication of which website to consult in case of accidental lamp breakage to find instructions on how to clean up the lamp debris.

J-2 - Design and placement of the label

Replace:

The label shall be printed directly on one side of the individual packaging of the product.

The label shall be (43 mm wide and 75 mm high) as in Figure 1 without alteration. If the label would cover more than 70 % of the surface area of the largest side, then the label presented in Figure 2 (43 mm wide and 45 mm high) shall be used.

The label shall be printed on the most prominent part of the individual product packaging to be easily visible to the end-user.

By:

The label shall be (43 mm wide and 75 mm high) as in Figure 1 without alteration. If the label would cover more than 70 % of the surface area of the largest side, then the label presented in Figure 2 (43 mm wide and 45 mm high) shall be used.

Individual packaging with dimensions less than (43 mm wide and 45 mm high) shall have a printed label with the design in Figure 3 (resized to fit the individual packaging) on one side. Additionally, a separate QR code will be generated by SASO registration system and shall be printed separately on the individual packaging without alteration.

J-3 - Information and values contained on the label

1) Field (c):

Delete:

- Equivalent power

2) Add:

Figure 3 – Alternative label for small packaging