

FOREWORD

(Formal clause will be added later)

This standard (part 1) specifies the general and safety requirements for LED luminaires for general lighting purposes with integral or built-in LED modules and LED devices as light sources for operation from supply voltages up to and including 250 V ac.

This standard (Part 1) is one among the series of Indian standards which deals with safety of LED luminaires. This series consists of the following parts and sections:

Part 1: Safety of LED Luminaires, General purpose luminaires

Part 2: Safety of LED Luminaires, Recessed luminaires

Part 3: Safety of LED Luminaires, Luminaires for road and street lighting

Part 4: Safety of LED Luminaires, Portable general purpose luminaires

This standard is to be read in conjunction with IS 10322 (Part 1): Luminaires Part 1 General requirements and tests. For the sake of convenience, the clauses of this standard correspond to those of IS 10322 (Part 1), instead of reproducing full text of each clause; reference to relevant clauses of IS 10322 (Part 1) has been given.

Performance requirements have been covered in part 2 of this standard.

This standard is based on IEC document 34D/950/NP 'LED luminaires with sensors issued by the International Electrotechnical Commission (IEC) with following modifications:

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated expressing the result of a test, shall be rounded off in accordance with IS 2: 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

LED LUMINAIRES FOR GENERAL LIGHTING PURPOSES

Part 1 SAFETY REQUIREMENTS

1 SCOPE

This standard specifies the general and safety requirements for LED luminaires for general lighting purposes with integral or built-in LED modules and LED devices as light sources for operation from supply voltages up to 250 V.

NOTE- Converters (or controlgear) used in LED luminaires shall conform to IS xxxx -2-xx and IS xxxxx.

BISDG NOTE: Indian standards on controlgears are under preparation.

The requirements for photobiological safety should conform to IS xxxx (under preparation).

2 REFERENCES

The following Indian standards are necessary adjunct to this standard:

<i>IS No.</i>	<i>Title</i>
10322(Part 1): 2010 (under print)	Luminaires: Part 1 General requirements and tests
xxxxx-2-13:2010 (under preparation)	Safety of lamp controlgear: Part 2 Particular requirements, section xx dc or ac supplied electronic controlgear for LED modules
xxxxx:2010 (under preparation)	dc or ac supplied electronic control gear for LED modules, Performance requirements
xxxxx : 2010 (under preparation)	Terms and definitions for LEDs and LED modules in general lighting

3 TERMINOLOGY

The definitions given in IS 10322 (Part 1) and IS xxxxx shall apply.

4 GENERAL TEST REQUIREMENTS

The provisions of section 0 of IS 10322 (Part 1) shall apply. The tests described in each appropriate section of Part 1 shall be carried out in the order listed in this section of Part 2.

5 CLASSIFICATION

The provision of section 2 of IS 10322 (Part 1) shall apply.

6 MARKING

The provisions of section 3 of IS 10322 (Part 1) shall apply.

6.1 BIS Certification Marking

The LED-luminaire may also be marked with the Standard Mark.

5.4.1 The use of Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act*, 1986 and the Rules and Regulations made there under. The details of conditions under which the licence for the use of Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

7 CONSTRUCTION

The provisions of section 4 of IS 10322 (Part 1) shall apply.

8 CREEPAGE DISTANCES AND CLEARANCES

The provisions of section 11 of IS 10322 (Part 1) shall apply.

9 PROVISION FOR EARTHING

The provisions of section 7 of IS 10322 (Part 1) shall apply.

10 TERMINALS

The provisions of sections 14 and 15 of IS 10322 (Part 1) shall apply.

11 EXTERNAL AND INTERNAL WIRING

The provisions of section 5 of IS 10322 (Part 1) shall apply IS 10322 (Part 1) shall apply.

12 PROTECTION AGAINST ELECTRIC SHOCK

The provisions of section 8 of IS 10322 (Part 1) shall apply.

13 ENDURANCE TESTS AND THERMAL TESTS

The provisions of Section 12 of IS 10322 (Part 1) shall apply together with the requirements of 13.101

Addition

13.101 Switching Test

The LED luminaire shall be switched on and off for 10 s at 1.1 times of rated voltage or 1.25 times of rated current. The cycling shall be repeated 200 times with no load and 800 times with maximum load conditions. The test facility for LED luminaires with sensors should refer to Annex A

14 RESISTANCE TO DUST AND MOISTURE

The provisions of section 9 of IS 10322 (Part 1) shall apply.

15 INSULATION RESISTANCE AND ELECTRIC STRENGTH

The provisions of section 10 of IS 10322 (Part 1) shall apply.

16 TOUCH CURRENT, PROTECTIVE CONDUCTOR CURRENT AND ELECTRIC BURN

The provisions of section 10 of IS 10322 (Part 1) shall apply.

17 RESISTANCE TO HEAT, FIRE AND TRACKING

The provisions of section 13 of IS 10322 (Part 1) shall apply.
