

Schedule – 2

Tubular Fluorescent Lamps

The test procedure, schedule of tests, rating plan and other parameters in respect of Tubular Fluorescent Lamps is as follows:

1. Scope

- 1.1 This standard specifies the requirements for participating in the energy labelling scheme for Tubular Fluorescent lamps for General lighting service.
- 1.2 The referred Indian Standard are IS 2418 (part I) and (part II) – 1977 including all the amendments.
- 1.3 The energy labelling scheme covers 4 feet tubular fluorescent lamps for wattages upto 40W.
- 1.4 The scheme shall cover 6500K colour temperature for halo-phosphates and 6500K, 4000K & 2700K for tri-phosphate category.

2. Schedule of Tests:

2.1 Method of Tests:

The testing code and procedure for Tubular Fluorescent lamps for General lighting service would be as per IS 2418 (part I) – 1977 with all amendments.

2.2 Parameters to be tested:

Parameter for initial, verification and challenge testing are the type test parameters (tests for electrical, luminous, colour characteristics, life test, etc.) listed under clause 6.1.1 of IS: 2418 (part I) – 1977 and including all amendments as of date. In addition the samples would be tested for lumen efficacy values at 3500 hours.

3. Tolerance limits:

The tolerance limits for lamp wattage, luminous flux, lumen maintenance and chromaticity co-ordinates shall be as defined in IS: 2418 (part I) & part II) – 1977 for the purpose of qualification requirements to be eligible for participation in the Scheme. However, no tolerances shall be applicable on declared performance values on the label.

4. Conditions of compliance:

The conditions of compliance shall be as specified in IS: 2418 (part I) – 1977.

5. Star rating plan:

STAR RATING	★	★★	★★★	★★★★	★★★★★
Lumens per Watt at 0100 hrs of use	<61	>=61 & <67	>=67 & <86	>=86 & <92	>=92
Lumens per Watt at 2000 hrs of use	<52	>=52 & <57	>=57 & <77	>=77 & <83	>=83
Lumens per Watt at 3500 hrs of use	<49	>=49 & <54	>=54 & <73	>=73 & <78	>=78

The measured values will be converted to star ratings for each point i.e. at 100 hours, 2000 hours, 3500 Hours and the average of the 3 ratings will be taken. This will be rounded of (<0.5 to lower level and =>0.5 to higher level) to the nearest integer which will be the star rating for the product.

6. Sampling:

Selection of lamps for test (sampling) would be carried out as per the sampling plan as per guidelines specified in clause 3 of IS: 2418 (Part I) – 1977.

7. Qualifications:

- a) The products should conform to minimum requirements of IS 2418 (part I) and (part II) – 1977 to participate in BEE S&L Programme.
- b) BIS product certification or at-least, Quality Certification such as ISO - 9000 should be required to participate in BEE S&L Programme.

8. Label design, colour scheme, content of the label, manner of display:

a) **Label design, content of the label:**



STAR RATING	BEE STAR RATING PLAN				
	*	**	***	****	*****
Lumens per Watt at 0100 hrs of use	<61	>=61 & <67	>=67 & <66	>=66 & <92	>=92
Lumens per Watt at 2000 hrs of use	<52	>=52 & <57	>=57 & <77	>=77 & <83	>=83
Lumens per Watt at 3500 hrs of use	<49	>=49 & <54	>=54 & <73	>=73 & <78	>=78

Under test conditions when tested in accordance to IS 2418. Actual efficiency will vary as per site conditions.



(For actual dimensions please refer 10)

b) **Colour scheme:**

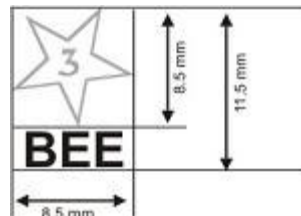
NAVY BLUE – H – 240° S 100% B 40% (R – 0, G – 0, B – 102)
 RED – H – 0° S 100% B 40% (R – 255, G – 0, B – 0)

c) **Manner of display of label:**

The above label design with colour scheme after photographic reduction to 16 mm height shall be printed on the sleeve. All the manufacturers would mark the colour Temperature on the sleeve.

d) **Star marking on the lamp**

The star marking as per the rating is required to be stamped on the lamp. The size of the stamp for the star marking is 14.5 mm height x 8.5 mm width. The same shall be stamped in a separate column. For example for a three star lamp the same need to be marked on the lamp as below:

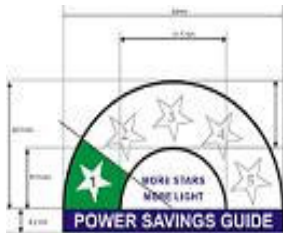


(For actual dimensions please refer 10)

9. Fees

- (i) Registration Fee is payable on application for assignment is Rs. 1000/
(rupees one thousand only)
- (ii) Registration Fee is payable on application for renewal of authority to
affix labels Rs. 500/ (rupees five hundred only)
- (iii) Labelling fee for affixation of label on each piece of Tubular
Fluorescent Lamp is Rs. 0.05 (5 paisa only)

10. Dimensional drawing of the label.



BEE STAR RATING PLAN					
STAR RATING	★	★★	★★★	★★★★	★★★★★
Lumens per Watt at 0100 hrs of use	<61	>=61 & <67	>=67 & <86	>=86 & <92	>=92
Lumens per Watt at 2000 hrs of use	<52	>=52 & <57	>=57 & <77	>=77 & <83	>=83
Lumens per Watt at 3500 hrs of use	<49	>=49 & <54	>=54 & <73	>=73 & <78	>=78

Dimensions: 58.5 mm (left), 22.2 mm (star), 29.2 mm (star), 29.2 mm (star), 29.2 mm (star), 29.2 mm (star), 60.4 mm (right). Total width: 158.5 mm.

Under test conditions when tested in accordance to IS 2418. Actual efficiency will vary as per site conditions.



BEE STAR RATING PLAN					
STAR RATING	★	★★	★★★	★★★★	★★★★★
Lumens per Watt at 0100 hrs of use	<61	>=61 & <67	>=67 & <86	>=86 & <92	>=92
Lumens per Watt at 2000 hrs of use	<52	>=52 & <57	>=57 & <77	>=77 & <83	>=83
Lumens per Watt at 3500 hrs of use	<49	>=49 & <54	>=54 & <73	>=73 & <78	>=78

Dimensions: 58.5 mm (left), 22.2 mm (star), 29.2 mm (star), 29.2 mm (star), 29.2 mm (star), 29.2 mm (star). Total width: 158.5 mm.



Sample Picture of manner of affixing of Label:

