COMMISSION DIRECTIVE

of 7 June 1982

adapting to technical progress Council Directive 76/890/EEC on the approximation of the laws of the Member States relating to the suppression of radio interference with regard to fluorescent lighting luminaires fitted with starters

(82/500/EEC)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community,

Having regard to Council Directive 76/890/EEC of 4 November 1976 on the approximation of the laws of the Member States relating to the suppression of radio interference with regard to fluorescent lighting luminaires fitted with starters [1], and in particular Article 7 thereof,

Whereas, in view of experience gained and of the state of the art, it is now possible to match the requirements of the Annex to the abovementioned Directive more closely to actual test conditions;

Whereas the measures provided for in this Directive are in accordance with the opinion of the Committee on the Adaptation to Technical Progress of the Directives for the elimination of Technical Barriers to Trade in the Sector of Apparatus Producing Radio Interference,

HAS ADOPTED THIS DIRECTIVE:

Article 1

The Annex to Directive 76/890/EEC is replaced by the Annex to this Directive.

Article 2

The Member States shall by 1 December 1983 adopt and publish the provisions required to comply with this Directive and shall forthwith inform the Commission thereof.

They shall apply these provisions as from the same date as regards the freedom to market and use the equipment provided for in Article 4 of Directive 76/890/EEC, and as from 1 December 1984 as regards the ban on marketing referred to in Article 2 thereof.

Article 3

This Directive is addressed to the Member States.

Done at Brussels, 7 June 1982.

For the Commission

Karl-Heinz NARJES

Member of the Commission

(1) OJ No L 336, 4. 12. 1976, p. 22.

ANNEX

1. (1) SCOPE

These provisions relate to fluorescent lighting luminaires fitted with starters.

The provisions of Items 2.2 *et seq.* shall apply to luminaires for residential areas. Unsuppressed luminaires shall be subject only to the labelling requirements of Item 2.1.

2. GENERAL REQUIREMENTS

2.1. **Labelling of unsuppressed luminaires**

The words 'unsuppressed luminaire for use in non-residential areas' must be affixed to the luminaire. These words shall be used until the Committee on adaptation to technical progress has settled on an alternative.

Note:

The definition of non-residential areas is a matter for the competent national authority.

2.2. **Minimum values of insertion loss**

The minimum values of insertion loss shall be met by at least 80 % of series-produced luminaires with 80 % confidence.

Methods of application of the minimum values of insertion loss are shown in Item 7.

3. DEFINITIONS

For the purpose of this Annex, the definitions contained in IEC publication 50(902) — 1973 edition — International electrotechnical vocabulary (IEV), Chapter 902: Radio interference, apply.

4. LIMITS

4.1. **Insertion loss of switch-start fluorescent lamp luminaires**

For luminaires for tubular fluorescent lamps connected to electrical supplies feeding dwelling-houses in the voltage range 100 V/250 V between poles or to earth the minimum value of the insertion loss shall be 28 dB in the frequency range 150 to 160 kHz, 28 dB at 160 kHz decreasing linearly with the logarithm of the frequency to 20 dB at 1 400 kHz, and 20 dB in the frequency range 1 400 to 1 605 kHz.

The requirements do not apply to luminaires in which the lamps are powered at a frequency in excess of 100 Hz or to luminaires for which no method of measurement is defined in Item 5.

The limits apply throughout the frequency range and therefore the interference characteristics shall be assessed throughout.

(1) Point 1 of the Annex to Council Directive 76/890/EEC.

Note:

An initial survey or scanning of the complete range shall be made and the registered values shall be given at least at the following preferred frequencies and at all frequencies at which there is a minimum below the limits: 160, 240, 550, 1 000 and 1 400 kHz.

TABLE I

Frequency (kHz)	160	240	550	1 000	1 400
Minimum values of insertion loss (dB)	28	26	24	22	20

4.2. **Measurements of luminaires which cannot be measured with the methods defined in Item 5**

Luminaires which cannot be measured using the methods defined in Item 5 (for example, when it is impossible to replace the lamp by a dummy lamp, or when an electronic starter is incorporated) are subject to the requirements of Directive 76/889/EEC in the frequency band from 0·15 to 30 MHz.

5. METHODS OF MEASUREMENT OF THE INSERTION LOSS OF LUMINAIRES

5.1. **Circuits for the measurement of the insertion loss**

5.1.1. Luminaires used for linear lamps with a nominal diameter (1) of 25 or 38 mm.

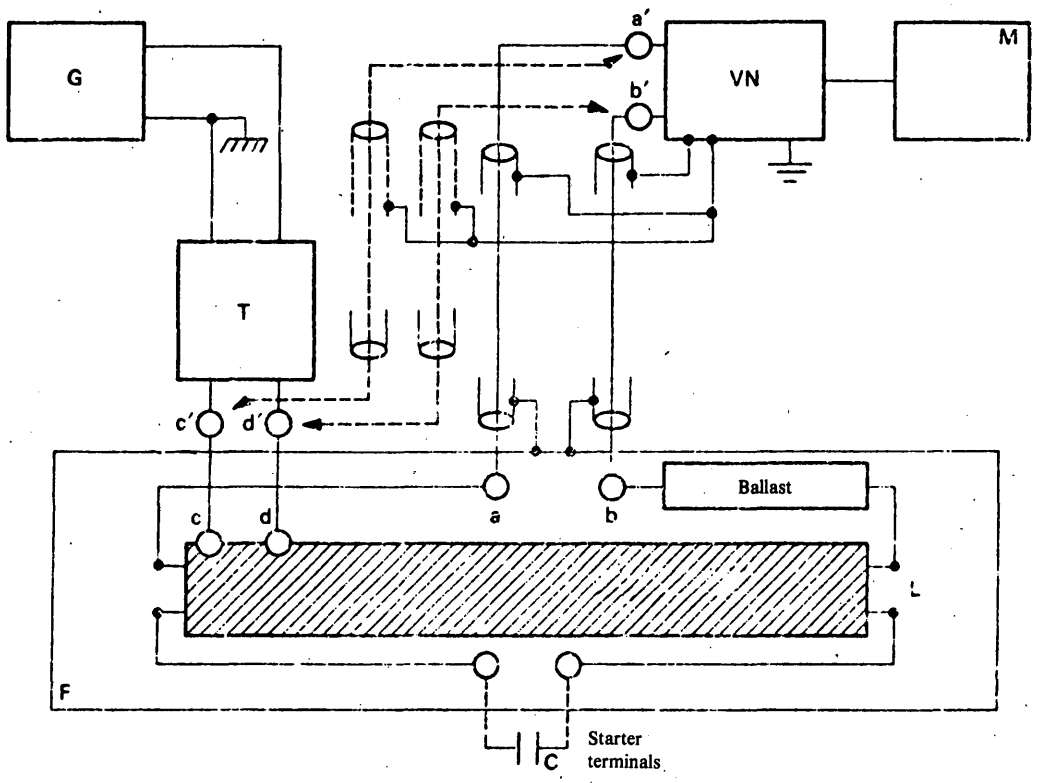
The insertion loss is measured in the circuit as shown in Figure 1 with dummy lamps as specified in Item 5.4 and Figure 4a.

In the case of lamps which have a nominal diameter of 25 mm, but which are interchangeable with lamps having a nominal diameter of 38 mm, the measurement of insertion loss shall be made with a dummy lamp with a nominal diameter of 38 mm, unless the manufacturer's instructions prescribe the exclusive use of a 25 mm diameter lamp.

For luminaires which can be operated only with lamps having a nominal diameter of 25 mm, insertion loss measurements are performed with a dummy lamp for the nominal diameter of 25 mm.

(1) According to the most recent version of IEC publication 81.

Figure 1



G	=	r.f. generator
T	=	unbalance/balance transformer (see Item 5.3)
VN	=	CISPR artificial mains V-network 150 Ω (in accordance with CISPR publication 16 — first edition, 1977)
M	=	measuring receiver (selective voltmeter)
L	=	dummy lamp (see Item 5.4)
F	=	luminaire
C	=	capacitor
a-b	=	mains terminals
a'-b'	=	input terminals of the V-network VN
c-d	=	terminals at dummy lamp L
c'-d'	=	output terminals of T
a-a' and b-b'	=	connections by coaxial cables (Z_o = 75 Ω) with the respective ends of the screens connected to the reference earth of VN and F
c-c' and d-d'	=	connections of the transformer to the dummy lamp made with unscreened leads not exceeding 10 cm in length

Note:

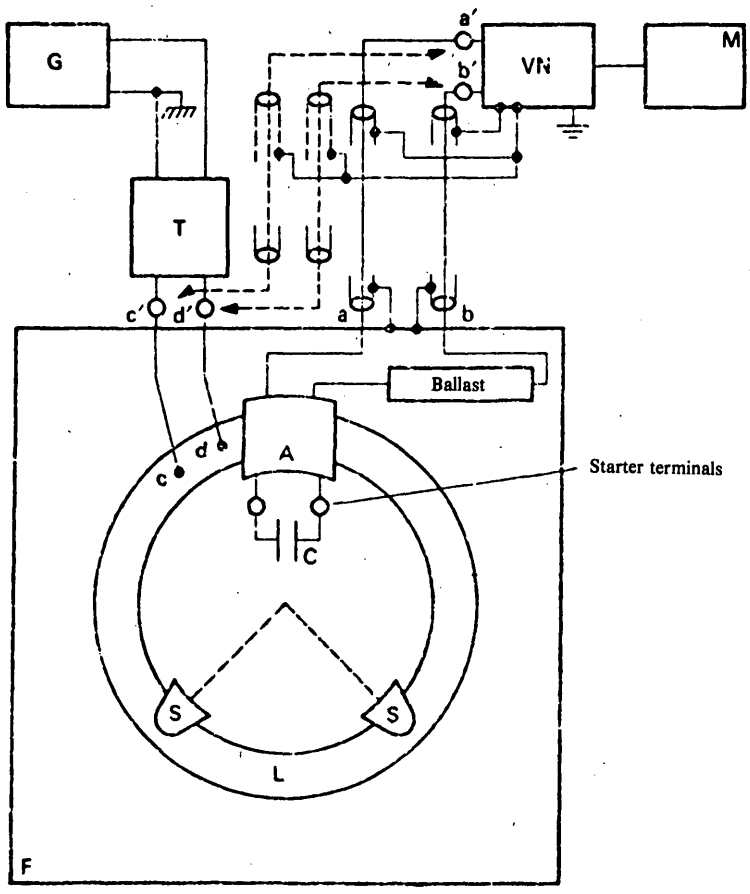
When measuring U-type fluorescent lamp luminaires the same circuit arrangement is to be used, but the linear dummy lamp shall be replaced by the U-type dummy lamp.

5.1.2. Luminaires used for circular lamps with a nominal diameter (1) of 28 or 32 mm.

The insertion loss is measured as shown in Figure 2.

(1) According to the most recent version of IEC publication 81.

Figure 2



S	=	supports of insulating material
G	=	r.f. generator
T	=	unbalance/balance transformer (see Item 5.3)
VN	=	CISPR artificial mains V-network 150 Ω (in accordance with CISPR publication 16 — first edition, 1977)
M	=	measuring receiver (selective voltmeter)
L	=	dummy lamp (see Item 5.4)
F	=	luminaire
A	=	connector
C	=	capacitor
a-b	=	mains terminals
a'-b'	=	input terminals of the V-network VN
c-d	=	terminals at dummy lamp L
c'-d'	=	output terminals of T
a-a' and b-b'	=	connections by coaxial cables (Z_o = 75 Ω) with the respective ends of the screens connected to the reference earth of VN and F
c-c' and d-d'	=	connections of the transformer to the dummy lamp made with unscreened leads not exceeding 10 cm in length

5.1.3. Luminaires used for lamps other than those mentioned in Items 5.1.1 and 5.1.2. The insertion loss is measured as shown in Figure 2a.