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Responsible committee: GEL/210/11 EMC - Standards Committee

Interested committees:

Title: Draft BS EN IEC 55015 Amendment 1 - Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment

Please notify the secretary if you are aware of any keywords that might assist in classifying or identifying the standard or if the content of this standard

- i) has any issues related to 3rd party IPR, patent or copyright
- ii) affects other national standard(s)
- iii) requires additional national guidance or information

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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/Figure/ Table/Note	Type of comment	Commend (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



CIS/F/801/CD

COMMITTEE DRAFT (CD)

PROJECT NUMBER:
CISPR 15/AMD1 ED9

DATE OF CIRCULATION:
2021-03-19

CLOSING DATE FOR COMMENTS:
2021-06-11

SUPERSEDES DOCUMENTS:
CIS/F/800/RR

IEC CIS/F : INTERFERENCE RELATING TO HOUSEHOLD APPLIANCES TOOLS, LIGHTING EQUIPMENT AND SIMILAR APPARATUS	
SECRETARIAT: Australia	SECRETARY: Ms Suba Ananth
OF INTEREST TO THE FOLLOWING COMMITTEES: TC 34	PROPOSED HORIZONTAL STANDARD: ☐ Other TC/SCs are requested to indicate their interest, if any, in this CD to the secretary.
FUNCTIONS CONCERNED: ☒ EMC ☐ ENVIRONMENT ☐ QUALITY ASSURANCE ☐ SAFETY	

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

TITLE:

Amendment 1 - Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment

NOTE FROM TC/SC OFFICERS:

2 INTRODUCTION

3 This edition includes the following significant technical changes with respect to the previous
4 edition:

- 5 a) The removal of the voltage probe method for the conducted disturbance measurement of
6 local wired port other than the electrical power supply interface of ELV lamps;
- 7 b) The introduction of limits and measurement methods for radiated disturbance of the
8 enclosure port in the frequency range 1 – 6 GHz;
- 9 c) The test set-up for the conical metal housing for single capped lamps has been rotated;
- 10 d) The arrangement of cables connected to interfaces of wired network ports has been modified.
11 Cable length has been extended to 1,0 m;
- 12 e) Measuring arrangements for conducted disturbances for very large EUTs has been clarified.

13

1 Scope

Replace the first and second paragraph with the following text:

This document applies to the emission (radiated and conducted) of radiofrequency disturbances from:

- lighting equipment (3.3.16);
- the lighting part of multi-function equipment where this lighting part is a primary function;
NOTE 1 Examples are lighting equipment with visible-light communication, entertainment lighting.
- UV and IR radiation equipment for residential and non-industrial applications;
- simple advertising signs;
NOTE 2 Examples are neon tube advertising signs, emergency signs, inner-illuminated signs.
- decorative lighting;

Excluded from the scope of this document are:

- components or modules intended to be built into lighting equipment and which are not user-replaceable;
- lighting equipment for aircraft and airfield facilities (runways, service facilities, platforms);
- video signs and dynamic displays;
- installations;
- equipment for which the electromagnetic compatibility requirements in the radio-frequency range are explicitly formulated in other IEC standards, even if they incorporate a built-in lighting function.
NOTE 4 Examples of exclusions are:
 - equipment with built-in lighting devices for display back lighting, scale illumination and signaling;
 - SSL-displays;
 - range hoods, refrigerators, freezers;
 - photocopiers, projectors;
 - lighting equipment for road vehicles (in scope of CISPR 12);
 - maritime equipment (in scope of IEC TC 80).

Replace the sixth paragraph with the following text and additional note:

The emission requirements in this standard are not intended to be applicable to the intentional transmissions from a radio transmitter as defined by the ITU including their spurious emissions.

NOTE: This exclusion is limited to those intended transmitter emissions, which leave the EUT as radiated emissions and are coupled onto the wire line in the measurement setup. For conducted transmissions on frequencies intentionally produced by the radio part of an EUT this exclusion does not apply.”

2 Normative references

Update references to CISPR 16-1-1 and CISPR 16-1-4 to the 2019 version:

CISPR 16-1-1:2019, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-1: Radio disturbance and immunity measuring apparatus – Measuring apparatus*

CISPR 16-1-4:2019, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-4: Radio disturbance and immunity measuring apparatus – Antennas and test sites for radiated disturbance measurements*

Insert references to CISPR 16-2-3, CISPR 16-4-2 and CISPR TR 30-2:

CISPR 16-2-3:2016/AMD1:2019

CISPR 16-4-2:2011/AMD2:2018

CISPR TR 30-2:2012, *Test method on electromagnetic emissions – Part 2: Electronic control gear for discharge lamps excluding fluorescent lamps*

Modify definitions 3.2.6 and 3.2.7 to read:

3.2.6

primary function

function of an equipment as specified in the instructions for use

3.2.7

secondary function

any function of an equipment not being essential for fulfilling the primary function as specified in the instructions for use

Modify definitions 3.3.1 and 3.3.2 to the following:

3.3.1

simple advertising sign

unit which makes use of lighting for advertising, traffic signage, road signs or alike

3.3.2

ancillary equipment

transducers (e.g. current probe and artificial networks) and other equipment (e.g. cables, preamplifier, attenuators, filters, adapters) connected to a measuring receiver or to the EUT and used in the disturbance signal transfer between the EUT and the measuring receiver

Add a note to entry at the end of definition 3.3.4:

Note 2 to entry: The emission from the auxiliary equipment should not influence the emission of the EUT

Modify definition 3.3.20 to the following:

3.3.20

restricted ELV lamp

ELV lamp with specific restrictions on the type of power supply and/or the cable length that can be applied to it, as specified in the instructions for use

3.5 Abbreviated terms

Correct the term AAN to the following:

AAN asymmetric artificial network

Add the term FSOATS:

FSOATS free space open area test site

Remove the term ISN

4.3.1 Electric power supply interface

Add the following note below Table 1:

NOTE In the US, lighting devices are classified as either a non-consumer or consumer device. This classification is similar to the Class A and Class B equipment categories in the CISPR 32:2015+A1 2019 publication.

4.4 Limits and methods for the assessment of local wired ports

Remove Table 5.

Renumber following tables accordingly and correct table references throughout the document.

4.5.2 Frequency range 9 kHz to 30 MHz

Replace the fifth paragraph with the following text:

The limits in Table 7 and Table 8 provide different options. In any situation where it is necessary to verify the original compliance assessment result, the option originally chosen shall be used to avoid excessive uncertainties induced by applying different test methods (see Clause 10). The test report shall state which method was used and which limits were applied.

Replace Table 7 with the following:

**Table 1 – Maximum EUT dimension that can be used
for testing using LLAS with different diameters**

Maximum dimension of the EUT, D m	Loop antenna diameter m
$D \leq 1,6$	2
$D \leq 2,4$	3
$D \leq 3,2$	4
NOTE No minimum EUT dimensions are given for each of the three standardised loop antenna diameters. In case a relatively large size LLAS is applied for small EUT, this may lead to a higher noise floor. It is therefore recommended to apply always the smallest size of LLAS possible. If a small EUT is tested in a large LLAS (i.e. EUT smaller than 1,6 m tested in a 3 m or 4 m LLAS, or EUT smaller than 2,4 m tested in a 4 m LLAS), it shall be confirmed that the LLAS is able to detect EUT generated emissions with at least 10 dB of margin above the measuring instrument's noise floor.	

Correct the position of Table 9; Rename to Table 8 and place directly after Table 7 in clause 4.5.2.

4.5.3 Frequency range 30 MHz to 1 GHz

Replace the second paragraph with the following text:

Table 9 provides different options. In any situation where it is necessary to verify the original compliance assessment result, the option originally chosen shall be used to avoid excessive uncertainties induced by applying different test methods (see Clause 10). The test report shall state which method was used and which limits were applied.

Insert additional sentence to table note (b) of Table 10; Rename to Table 9:

^b The TEM-waveguide is limited to EUTs without cables attached and with a maximum size according to 6.2 of IEC 61000-4-20:2010 (the largest dimension of the enclosure at 1 GHz measuring frequency is one wavelength, 300 mm at 1 GHz). *The results taken in a TEM waveguide are converted to field strength for comparison with OATS-based limits at 10 m distance.*

Add note below Table 10:

NOTE In the US, lighting devices are classified as either a non-consumer or consumer device. This classification is similar to the Class A and Class B equipment categories in the CISPR 32:2015+A1 2019 publication.