LIA LABORATORY DECISION SHEET

Standard(s) (incl. year)	Subclause(s)	Enquiry No.	Year
IEC/EN 60598-1 (all editions) IEC/EN 62031 (all editions);	0.5	EF-1 LIA_12_2020	2020
		Decision No.	
		DS-1 LIA_12_2020	

Subject	Keywords
Acceptance of the LED module by The LIA Laboratory	LED module; Evidence

Question

What is the procedure for acceptance of LED module as a critical component by The LIA Laboratory?

Decision

OPTION 1
LED module is fully tested against IEC/EN 62031, valid safety certificate or test report (or both) from accredited certification body or testing laboratory are provided by client

- Acceptable.

OPTION 2
No valid certificate or test report against IEC/EN 62031 is available. Manufacturer of the luminaire (or organization placing product on the market, Applicant from point of view of LIA Laboratory) is also a DESIGN OWNER (it owns all documentation of the LED module and have all rights to monitor any constructional changes; it doesn't have to be a manufacturer of the LED module).
To accept such component LIA Laboratory shall perform additional testing against IEC/EN 62031 (in most cases it's Fault condition testing, Owerpover condition, Photobiological safety).
In addition client has to provide all relevant documentation of LED module which shall contain at least:
1) Mark of origin (trade mark, manufacturer's name);
2) Model number or type reference number;
3) Nominal voltage or nominal current value (depends on if LED module requires stable voltage or current);
4) Nominal power;
5) Indication of position and purpose of connections;
6) Value of Tc (in °C). If Tc point is not marked directly on LED module, position of Tc point shall be specified(using drawings or diagram);
7) If the blue light hazard risk is group 2 (RG2), threshold illuminance value Ethr shall be specified(LIA Laboratory will carry out blue light hazard assessment at our laboratory and advice, on this value);
8) Working voltage at which the insulation is designed (it's a maximum withstand voltage of LED

module insulation);
In addition bill of materials shall be provided (manufacturer and model number of LED chip, PCB, connector, additional electronic components as resitors, capacitors, diodes, etc.).

- Acceptable

OPTION 3
No valid certificate or test report against IEC/EN 62031 is available. Manufacturer of the luminaire (or organization placing product on the market, Applicant from point of view of the LIA Laboratory) is NOT a design owner.

- Not Acceptable, such component shall be replaced to fulfill requirements as specified by Option 1 or Option 2.

- If client wants to keep existing LED module within the luminaire, it's possible only if LED module is fully assessed against IEC/EN 62031 by LIA Laboratory. Client has to prepare all necessary documentation as specified by Option 2 and provide LIA Laboratory additional samples of LED module for assessment

Explanatory Notes

It's very common that LED module is used as a light source and majority of products coming to The LIA Laboratory for safety (or photometric) assessment are equipped with LED module.

Based on requirements of IEC/EN 60598-1, clause 0.5:

''Components, other than integral components, shall comply with the requirements of the relevant IEC standards, if any.

Components which comply with the requirements of the relevant IEC standard and marked with individual ratings are checked to establish that they suit the conditions which may occur in use.

Aspects of use not covered by the respective standard shall require them to satisfy the additional relevant requirements of this standard.

Integral components shall comply as far as is reasonable with the IEC component standards, as part of the luminaire.''

As LED module is considered as a critical component it has to be approved against safety standard IEC/EN 62031.

If LED module is classified as non-replaceable or non-user replaceable light source (as defined by IEC/EN 62031), it has to fullfill safety assessment against IEC/EN 60598-1 (as part of the luminaire) and in addition clauses of IEC/EN 62031,. which are not covered by IEC/EN 60598-1 are applicable.

In general, requirements of acceptance of critical components are explained by LIA document IS-6 Acceptance of components as in table below:

1. Acceptance of Components within the IECEE (CB scheme)

Follow by IECEE OD-2039 (https://www.iecee.org/documents/refdocs/)

2. Recognition of components within the ECS (ETICS)

Follow by ECS 028 (https://www.etics.org/doc/third.php?groupid=135&nbmax=47&typ=p)

3. Acceptance of Components within the LIA scheme

i. Existing harmonised standard for the component (EN standards)

	Guidelines for Component Acceptance Situation for Component Conformity Evidence	Verdict
1	Component have a national mark / license and certificate (e.g. Kitemark, Keymark, ENEC, TUV, VDE, DEKRA, etc..)	Acceptable
2	No national mark/license (no mark on a product), certificate of conformity is available with full test report (but not older than 5 years)	Acceptable
3	No national mark/license, certificate of conformity is available with full test report but is older than 5 years	Not Acceptable
4	Full safety test report is available (but not older than 5 years)	Acceptable
5	No national mark/license, no certificate of conformity, no test report. Component is tested with the luminaire partially, without full test report according to the component standard (for commercial components)	Not Acceptable
6	No national mark/license, no certificate of conformity, no test report. Component shall be partially tested (by the LIA Laboratory) with the luminaire to selected clauses (for components made in-house only)	Acceptable
7	No national mark/license, no certificate of conformity, no test report, no future tests to be done.	Not Acceptable
8	Component full safety assessment to be done through the LIA Laboratory (in-house or subcontracted).	Acceptable

- National mark/license or certificate of conformity shall be issued by a certification body accredited to ISO/IEC 17065 and test report shall be issued by a testing laboratory accredited to ISO/IEC 17025.
- Standard for component shall be in the scope of the certification body / testing laboratory.
- If the certification body / testing laboratory does not have the component standard in their scope, additional analysis will need to be conducted for acceptance.
- See list of acceptable components standards below (pages 3-4)

Date	Name	Signature
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