



BUNDESAMT FÜR  
SCHIFFFAHRT  
UND  
HYDROGRAPHIE  
Notified Body authorised by  
BSH 0800-S23/4822:013

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Certificate No: LR23398440MB  
Issue Date: 20/11/2023  
Expiry Date: 19/11/2028

# EC Type Examination (Module B) Certificate

This is to certify that:

LLOYD'S REGISTER Marine Deutschland GmbH (LRMD), designated as a "notified body" based on the notification of the Federal Maritime and Hydrographic Agency of Germany, did undertake the relevant type approval procedures for the type of equipment identified below which was found to be in compliance with the requirements of Marine Equipment Directive (MED) 2014/90/EU and the valid Commission Implementing Regulation (EU) in force indicating design, construction and performance requirements and testing standards for marine equipment, subject to the conditions below and the attached Schedule which also forms part of this Certificate.

<b>Manufacturer</b>	<b>Lalizas Hellas S.A.</b>
<b>Address</b>	3 Gounari Str, Piraeus, 185 31, Greece
<b>Reference</b>	Marine Equipment Directive (MED) 2014/90/EU, Regulation (EU) 2023/1667
<b>Regulation Item (No. &amp; Item Designation)</b>	MED/3.40 Low-Location Lighting Systems (Components Only)
<b>Product Type</b>	Low-Location Lighting Systems (Components Only)
<b>Product Description</b>	Photoluminescent Low Location Lighting strips, 59 mm wide, 1.2 mm thickness
<b>Specified Standard</b>	IMO Res. A.752(18) ISO 15370:2021
<b>Trade Name</b>	81991-RGB-L Rigid Sheet

The attached Design Appraisal Document (schedule) forms part of this certificate. This certificate remains valid unless suspended, expired or withdrawn, provided the conditions in the attached schedule are complied with and the equipment remains satisfactory in service.

This certificate will not be valid if the manufacturer makes any changes or modifications to the approved type of equipment, which have not been notified to and agreed with the notified body named on this certificate. The manufacturer should notify LRMD of any modification or changes to the equipment in order to obtain a valid Certificate.

Should the specified regulations or standards be amended during the period of validity of this certificate, the product is to be re-approved prior being placed on the market and on board vessels to which the amended regulations or standards apply.

The Mark of Conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-control phase module (D,E, or F) of ANNEX II of the Directive is fully complied with and controlled by a written inspection agreement with a notified body.

Lloyd's Register Marine Deutschland  
GmbH, Überseeallee 10, D-20457  
Hamburg, Germany.  
A member of the Lloyd's Register group

**Lijo Thomas**

Fire & Safety - Senior Surveyor  
For and on behalf of Lloyd's Register Marine  
Deutschland GmbH (2923)

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### ATTACHMENT TO EC TYPE EXAMINATION (MODULE B) CERTIFICATE No. LR23398440MB

The undernoted documents have been appraised for compliance with the relevant requirements of International Conventions and European Union legislation for the EC Type Examination of Marine Equipment for use on Merchant Ships Registered in the European Economic Area.

This Design Appraisal Document (schedule) forms part of the Certificate.

This Certificate Supersedes and is a Renewal of Certificate Number 0525-MED-DE-MED 1850142

#### **Test Reports**

BTTG Test Report no 27/04514/02/18, dated 16/May/2018; for surface flammability according to IMO 2010 FTP code Part 5.

Certificate of Calibration, Laboratory of Photometry and Radiometry, Technical report No. L6-L62.4180.57.2018.617.1 dated 21/03/2018; for measurement of afterglowing characteristics according to ISO 15370:2010 Annex A

Certificate of Calibration, Laboratory of Photometry and Radiometry, Technical report No. L6-L63.4180.6.2018.665.1 dated 20/02/2018; for determination of chromaticity coordinates according to ISO 3864-1 2002.

#### **Conditions of Certification**

1. Photoluminescent rigid strips 1,2 mm thick and 59mm wide.
2. The LLL system shall provide a luminance of at least 15 mcd/m<sup>2</sup> measured 10 min after the removal of all external illuminating sources and shall continue to provide luminance values greater than 2 mcd/m<sup>2</sup> for 60 min. All photoluminescent materials are to be provided with no less than the minimum level of incident/ambient excitation light necessary to charge the material to provide luminance greater than 2 mcd/m<sup>2</sup> after 60 min depending on the widths. PL strips having a width less than 75 mm shall only be used where the excitation illuminance (lx) is increased to achieve the minimum luminance (mcd/m<sup>2</sup>) to compensate for the reduced width in accordance with the table.

Width (mm)	Minimum Luminance (mcd/m <sup>2</sup> ) after 10 minutes	Minimum Luminance (mcd/m <sup>2</sup> ) after 60 minutes	Minimum required excitation illuminance (lx) for lamp of standard F2 cool white with a colour temperature of 4100 °K
59	24.23	3.23	8.50

3. The minimum excitation illuminance for the tested light source is to be marked on the product.
4. The arrangement of LLL systems on vessels shall be approved by the competent authority. For this purpose, the manufacturer or the installer shall submit the installation plan and description, including certificates which state that the materials and components of PL to the competent authority. On board arrangements in each case to be approved by competent authority at the design stage in accordance with IMO Resolution A.752(18)
5. After the installation, photoluminescent systems shall be tested at the place of use in accordance with annex B of ISO 15370:2021 at least twice on each deck and the measurements shall be recorded in accordance with annex C of ISO 15370:2021. This measurement shall be repeated and recorded whenever the lighting system, walls, floor or ceiling decorations in the area are substantially changed.
6. It is recommended that, at least once a year, LLL systems be tested on one deck in each main vertical zone. The complete installations should have their luminance tested at least once every five years.

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7. Production items are to be manufactured in accordance with a quality control system which shall be maintained to ensure that items are of the same standard as the approved prototype.
8. Production items of the subject equipment are to be manufactured in accordance with either an approved Production Quality Assurance system (Module D), a Product-Quality assurance system (Module E) or a Product Verification Process (Module F). The wheelmark cannot be affixed to the product until a conformity assessment module is in place.
9. Each item, batch or lot of the equipment is to be issued with a "Declaration of Conformity" and have the "Mark of Conformity" affixed after a conformity assessment module is in place.
10. The manufacturer shall keep a copy of the EC type-examination certificate, its annexes, and additions together with the technical documentation at the disposal of the national authorities for at least 10 years after the wheel mark has been affixed on the last product manufactured and in no case for a period shorter than the expected life of the marine equipment concerned.

#### **Place of Production**

Lalizas Hellas S.A.  
3 Gounari Street  
185 31, Piraeus  
Greece

Lijo Thomas  
Senior Specialist  
Fire & Safety, Statutory Discipline Team  
UK&I Technical Support Office, Marine & Offshore  
**For and on behalf of Lloyd's Register Marine Deutschland**  
**LRMD EC Distinguishing No. 2923**

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