



## EC TYPE EXAMINATION (MODULE B) CERTIFICATE


This is to certify that:

LLOYD'S REGISTER VERIFICATION LIMITED (LRV), designated as a "notified body" under the terms of the Merchant Shipping (Marine Equipment) Regulations 2016 (S.I. 2016 No.1025), did undertake the relevant type approval procedures for the equipment identified below which was found to be in compliance with the essential Fire protection equipment requirements of Marine Equipment Directive (MED) 2014/90/EU and Commission Implementing Regulation (EU) 2018/773 indicating design, construction and performance requirements and testing standards for marine equipment, subject to any conditions in the Design Appraisal Document attached hereto.

<b>Manufacturer (Applicant)</b>	Lalizas Hellas S.A.
<b>Address</b>	3 Gounari Street 185 31, Piraeus Greece
<b>Reference Regulation Item (No &amp; Item designation)</b>	<b>Regulation 2018/773</b> MED/3.40 Low-location lighting system (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 – Type: "81991-RGB-L Rigid Sheet"
<b>Specified Standard</b>	IMO Res.A.752(18) ISO 15370 : 2010 Annex A – Testing of photoluminescent materials

The attached Design Appraisal Document (schedule) forms part of this certificate.

This certificate remains valid unless cancelled or revoked, provided the conditions in the attached schedule are complied with and the equipment remains satisfactory in service.

Date of issue	2 July 2018	Expiry date	1 July 2023
Certificate No.	MED 1850142	Signed	 Lloyd's Register Verification Ltd
Sheet No.	1 of 3	Name	L. Thomas For and on behalf of Lloyd's Register Verification LRV EC Distinguishing No. 0038

**Note:**

This certificate is issued under the authority of the MCA.

This certificate is not valid for equipment; the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify the notified body named on this certificate of any modification or changes to the equipment in order to obtain a valid Certificate.

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DESIGN APPRAISAL DOCUMENT

Date 2 July 2018	Quote this reference on all future communications SOUTSO/SFS/TA/LT/WP30798996
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**ATTACHMENT TO EC TYPE EXAMINATION (MODULE B) CERTIFICATE No. MED 1850142**

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.

**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.

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 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

3.

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

4. The minimum excitation illuminance for the tested light source is to be marked on the product
5. 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)
6. After the installation, photoluminescent systems shall be tested at the place of use in accordance with annex B of ISO 15370:2010 at least twice on each deck and the measurements shall be recorded in accordance with annex C of ISO 15370:2010. This measurement shall be repeated and recorded whenever the lighting system, walls, floor or ceiling decorations in the area are substantially changed



Lloyd's  
Register

**Lloyd's Register Verification Limited**

71 Fenchurch Street, London, EC3M 4BS  
Telephone 020 7423 2416 Fax 020 7423 2053  
Email med@lr.org

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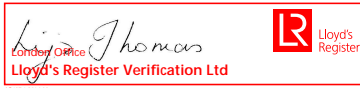
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7. It is recommended that, at least once a year, LLL systems be tested on one deck in each main vertical zone. The complete installations should have their luminance tested at least once every five years
8. Production items are to be manufactured in accordance with a quality control system which shall be maintained to ensure that items are of the same standard as the approved prototype
9. 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**
10. 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

**PLACE OF PRODUCTION**

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



Lijo Thomas  
Senior Specialist  
Statutory Fire & Safety  
Southampton Technical Support Office, Marine & Offshore  
For and on behalf of Lloyd's Register Verification  
**LRV EC Distinguishing No. 0038**