



## 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 Colreg72 equipment requirements of Marine Equipment Directive (MED) 2014/90/EU and Commission Implementing Regulation (EU) 2017/306 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>	Lopolight ApS
<b>Address</b>	Bakkegaardsvej 513 Humblebaek DK-3050 Denmark
<b>Reference</b>	<b>Regulation 2017/306</b>
<b>Regulation Item (No &amp; Item designation)</b>	<b>MED/6.1 NAVIGATION LIGHTS</b>
<b>Product Type</b>	<b>Navigation Lights</b>
<b>Product Description</b>	Single and Double LED Navigation Lights, Lopolight Part Numbers: 100-001, 100-002, 100-003, 100-004, 100-005, 100-009 200-003, 200-004, 200-005, 200-007, 200-010, 200-011, 200-012, 200-013, 200-014, 200-015, 200-016, 200-018, 200-020, 200-021, 200-024, 200-030 300-001, 300-002, 300-005, 300-006, 300-008, 300-009, 300-101, 300-102, 300-105ST, 300-106, 300-108ST, 300-109ST, 300-112, 300-114 and 300-115
<b>Specified Standard</b>	EN60945 (2002) including IEC 60945 Corrigendum 1 (2008) and EN14744 (2005) including AC (2006)

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      16 January 2018      Expiry date      9 June 2021

Certificate No.      MED 1600011/M1      Signed




Matthew Higgins  
Southampton Office  
Lloyd's Register EMEA  
LR031.1.2016.06

Sheet No.      1 of 5      Name      M. J. Higgins  
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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Issue number 1

**DESIGN APPRAISAL DOCUMENT**

Date 16 January 2018	Quote this reference on all future communications SOUTSO/ETS/TA/MH/WP31406916
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**ATTACHMENT TO EC TYPE EXAMINATION (MODULE B) CERTIFICATE No. MED 1600011/M1**

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.

**EXAMINED DOCUMENTATION**

Maintenance, Operation and Service Manuals:

<u>Part Number</u>	<u>Document Title</u>	<u>Date</u>	<u>Document Number</u>
100-001, 100-002, 100-004 200-004, 200-010, 200-011, 300-001, 300-002, 300-006	Installation instructions for Lopolight vertical mount navigation lights	10 December 2013	600-321, Rev 1.19
100-003, 100-005, 100-009, 200-003, 200-005, 200-012, 200-013, 200-014, 200-015, 200-020, 200-021, 300-005, 300-008, 300-009	Installation instructions for Lopolight horizontal mount navigation lights.	06 May 2016	600-322, Rev 1.15
200-007	Installation instructions for Lopolight 200-007/200- 007S	16 January 2012	Rev 1.2
200-016, 200-018, 200-024	Installation instructions for Lopolight 2nm 180 degree lights	31 May 2012	Rev 1.01
200-030	Installation instructions for Lopolight P/N 200-030	06 May 2016	Rev 1.03
300-101, 300-102, 300-106, 300-112, 300-114, 300-115, 300-105-ST, 300-108-ST, 300- 109-ST	Installation instructions for Lopolight navigation lights for vessels over 50 meters.	29 September 2010	Rev 1.01

Software Functional Description:

Lopolight Degradation Compensating LED Driver for Navigation lights (DCLD) dated 05 November 2008,  
Software version: 1.50

Product Compliance Schedule revision dated 06 May 2016

Lopolight E mail message dated 06 June 2016 addressing compliance of product 300-112

CB Svendsen statement dated 16 May 2016

CB Svendsen ISO 9001:2008 certificate number DIC402QMS dated 10 May 2014



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#### DRAWINGS

<u>Part Number</u>	<u>Product</u>	<u>Drawing No.</u>
100-001	1nm green starboard sidelight	100-001
100-002	1nm red port sidelight	100-002
100-003	1nm combined green and red sidelights	100-003
100-004	1nm combined green and red sidelights	100-004
100-005	1&2nm combined sidelights and stern light green/red/white Tricolour for vessels under 12M	100-005
100-009	1&2nm combined sidelights, stern light and all round anchor light green/red/white Tricolour for vessels under 12M	100-009
200-003	2nm combined green and red sidelights	200-003
200-004	2nm combined green and red sidelights	200-004
200-005	2nm combined sidelights and stern light green/red/white Tricolour for vessels under 20M	200-005
200-007	2nm combined sidelights, stern light, all round anchor and flashing Tricolour for vessels under 20M	200-007
200-010	2nm 225° white, masthead	200-010
200-011	3nm 225° white, masthead	200-011
200-012	2nm 360° all-round white	200-012
200-013	2nm 135° yellow towing light	200-013
200-014	2nm 360° all-round red	200-014
200-015	2nm 360° all-round green	200-015
200-016	2nm 180° red	200-016
200-018	2nm 180° green	200-018
200-020	2nm combined white masthead and all-round anchor	200-020
200-021	3nm double function white, masthead, stern and all-round anchor	200-021
200-024	2nm 180° white	200-024
200-030	2nm double function white, masthead, stern and all-round anchor	200-030
300-001	2nm green starboard sidelight	300-001
300-002	2nm red port sidelight	300-002
300-005	2nm white stern light	300-005
300-006	2nm white stern light	300-006
300-008	2nm green starboard sidelight	300-008
300-009	2nm red port sidelight	300-009
300-101	3nm double green starboard sidelight	300-101
300-102	3nm double red port sidelight	700-021
300-105-ST	3nm double white stern light	300-105
300-106	3nm white stern light	700-022
300-108-ST	3nm double, green starboard sidelight	300-108
300-109-ST	3nm double, red port sidelight	300-109
300-112	3nm single, white, all-round	300-112
300-114	3nm single, red, all-round	300-114
300-115	3nm single, green all-round	300-115



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##### TEST REPORTS

- QINETIQ Farnborough, Marine Approval and Testing Services report number QINETIQ/D&TS/SS/CR0600363, Issue 1.0, dated December 2005.
- QinetiQ/MS/EES/TSTR0801218/1, Issue 1 dated 08 July 2008.
- Federal Maritime and Hydrographic Agency Hamburg, report number BSH/4615/6010723/07, Issue XX dated 09 November 2007.
- CB Svendsen A/S report Revision 1, dated 4<sup>th</sup> June 2013 for the bespoke software in accordance with EN60945.

##### LIGHT DETAILS:

Power Supply between 10 and 32 volts DC  
Software version: 1.50

##### CONDITIONS OF CERTIFICATION

1. **Installation on board:** The arrangements and installation of the light on board the vessel are not part of this design appraisal or certificate. All such arrangements are to be to the satisfaction of the Surveyors attending on board; the fitting of the light is to be in accordance with the manufacturer's instructions and the requirements of COLREGs 72, as amended, and any additional requirement of the State whose flag the vessel is entitled to fly
2. The LED navigation light shall be marked externally accordingly to the requirements of Resolution A.694 (17) and Resolution MSC.253 (83)
3. The LED navigation light shall be delivered complete with their technical documentation and User's manual accordingly to the requirements of Resolution A.694 (17) and Resolution MSC.253 (83)
4. The navigational light controller does not form a part of this design appraisal document. The lights certified herein are to be used in conjunction with an appropriate navigation light controller approved in accordance with MSC.253 (83)
5. Instructions for installation, use and maintenance of the product are to be supplied to each purchaser. These documents are to include details of the installed software versions
6. If the specified standards are amended during the validity of this certificate, this product type is to be re-approved prior to it being supplied to vessels to which the amended standards apply
7. Production items are to be manufactured in accordance with either an approved Production Quality Assurance system (Module D) or product Quality Assurance (Module E) or Product Verification (Module F) of the Marine Equipment Directive
8. Production tests are to be conducted in accordance with the applicable requirements of IMO Resolution MSC.81 (70), Part 2 and be recorded by the manufacturer in accordance with either the approved Production Quality Assurance system (Module D) or Product Quality Assurance (Module E) or witnessed by the Notified Body as required by the Product Verification (Module F) of the Marine Equipment Directive. This does not preclude any further testing to additional requirements of the Marine Administration of the country where the ship is registered (i.e. the flag state) or those acting on behalf of that Administration
9. Each item, batch or lot of the equipment is to have the "Mark of Conformity" affixed and be issued with a "Declaration of Conformity"
10. Should a change of Place of Production from that stated below be required, i.e. where the final stages of manufacture/assembly/testing of this product take place, the new Place of Production is to be advised to us prior to the change taking place. This Certificate will require to be updated for Approval to be maintained



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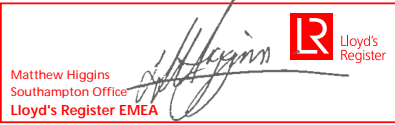
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**PLACE OF PRODUCTION**

Lopolight Aps  
Bakkegaardsvej 513  
Humblebaek  
DK-3050  
Denmark



M.J Higgins  
Electrical Specialist  
Southampton Technical Support Office, Marine & Offshore  
For and on behalf of Lloyd's Register Verification  
LRV EC Distinguishing No. 0038

