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Ships and marine technology — Searchlights for high-speed craft

*Navires et technologie maritime — Feux de recherche pour navires à
grande vitesse*



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Contents

Page

Foreword.....	iv
1 Scope.....	1
2 Normative references	1
3 Terms and definitions.....	2
4 Requirements	2
4.1 Required functions and their availability.....	2
4.2 Permanent operation and life duration	2
4.3 Luminous intensity	2
4.4 Chromaticity of the emitted light.....	3
4.5 Switch-on time.....	3
4.6 Pan and tilt ranges	3
4.7 Pan and tilt speeds	3
4.8 Malfunctions, warnings, alarms and indications	3
4.9 Ergonomic and operational controls	4
4.10 Durability and resistance to environmental conditions	4
4.11 Steadiness and ultimate behaviour of pane (light emitting areas)	5
4.12 Electromagnetic compatibility (EMC)	5
4.13 Power supply	5
4.14 Installation	5
4.15 Maintenance	5
4.16 Back-up and fall-back arrangements	6
4.17 Safety precautions	6
5 Type approval tests	6
5.1 Testing of the luminous intensity.....	6
5.1.1 General	6
5.1.2 Adjustment.....	6
5.1.3 Goniometry	6
5.1.4 Photometer	6
5.1.5 Geometry.....	7
5.1.6 Procedure.....	7
5.1.7 Angles	7
5.1.8 Measurement of luminous intensity.....	8
5.2 Testing of the chromaticity	8
5.2.1 Adjustment.....	8
5.2.2 Goniometry	8
5.2.3 Colorimeter	8
5.2.4 Geometry.....	8
5.2.5 Procedure.....	8
5.2.6 Measurement of chromaticity	9
5.3 Test of life duration (see 4.2)	9
5.4 Vibration.....	9
5.4.1 General	9
5.4.2 Pre-conditioning and initial measurements	9
5.4.3 Required result.....	9
5.5 Shock.....	10
5.5.1 General	10
5.5.2 Pre-conditioning and initial measurements	10
5.5.3 Required result.....	10
6 Test report.....	10
7 Documentation	10
8 Marking.....	11

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 17884 was prepared by Technical Committee ISO/TC 8, *Ships and marine technology*, Subcommittee SC 6, *Navigation*.

Ships and marine technology — Searchlights for high-speed craft

1 Scope

This International Standard applies to searchlights fitted to high-speed craft in accordance with the International Code of Safety for High-Speed Craft [HSC Code, IMO-Resolution MSC.36 (63) Chapter 13].

Searchlights on board high-speed craft (HSC) facilitate the detection of other vessels, offshore structures, obstructions to shipping, floating objects and living things, shorelines, as well as fixed and floating sea marks and other aids to navigation, thus providing essential information to the navigator for safe navigation, collision avoidance and search and rescue of shipwrecked persons at sea.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 719, *Glass — Hydrolytic resistance of glass grains at 98 °C — Method of test and classification*

ISO 10012, *Measurement management systems — Requirements for measurement processes and measuring equipment*

ISO/CIE 10527, *CIE standard colorimetric observers*

CIE Publication No. 15.2, *Colorimetry*

CIE Publication No. 70, *The measurement of absolute luminous intensity distributions*

IEC 60068-2-27, *Environmental testing — Part 2: Tests — Test Ea and guidance: Shock*

IEC 60092-101, *Electrical installations in ships — Part 101: Definitions and general requirements*

IEC 60092-201, *Electrical installations in ships — Part 201: System design — General*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

IEC 60598-1, *Luminaires — Part 1: General requirements and tests*

IEC 60598-2-5, *Luminaires — Part 2: Particular requirements — Section 5: Floodlights*

IEC 60945, *Maritime navigation and radiocommunication equipment and systems — General requirements — Methods of testing and required test results*

IMO Resolution A.694 (17), *General Requirements for Shipborne Radio Equipment forming Part of the Global Maritime Distress and Safety System (GMDSS) and for Electronic Navigational Aids*

IMO Resolution A.813 (19), *General Requirements for Electromagnetic Compatibility (EMC) for all Electrical and Electronic Ship's Equipment*

IMO Resolution MSC.36 (63), *International Code of Safety for High-Speed Craft*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

searchlights

locally fixed lights suitable for controlled transmission of defined light by focused light beams

3.2

high-speed craft

HSC

any craft to which the definition in Chapter 1 of the HSC Code applies

3.3

zero position of the optical light axis

position of the optical light axis of the searchlight parallel to the water surface pointing in the direction right ahead

3.4

switch-on time

period of time required for reaching 95 % of the required luminous intensity after the searchlights have been switched on

3.5

half-peak divergence

α_h

angular extent of all the radius vectors of the polar curve of luminous intensity in the specified plane having lengths greater than 50 % of the maximum

3.6

tenth-peak divergence

α_t

angular extent of all the radius vectors of the polar curve of luminous intensity in the specified plane having lengths greater than 10 % of the maximum

4 Requirements

4.1 Required functions and their availability

At night, searchlights shall be capable of locating objects within a sufficient distance from one's own craft. The searchlights shall be provided with an electrical, hydraulic or pneumatic remote control for pan and tilt movement.

4.2 Permanent operation and life duration

Searchlights shall be suitable for permanent operation. When tested in accordance with 5.3, a life duration of the illuminant of at least 100 h shall be reached.

4.3 Luminous intensity

The luminous intensity in the focused position of searchlights shall be minimally 2×10^6 cd. This equals an illumination of 5,6 lx at a distance of 600 m with an atmospheric transmission of 0,8.

The luminous intensity of searchlights shall have its maximum in the centre of the luminous intensity distribution. With focus in any position, a homogenous luminous intensity distribution shall be ensured, i.e. the central spot area with at least 80 % of the maximum luminous intensity shall show no position with less than 80 % of the maximum luminous intensity.