

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Light Fitting

with type designation(s)

ARRAN H/O Industrial LED Floodlight, HDN106N LED Floodlight, NEXLED III LED Bulkhead

Issued to

**Hubbell Ltd Chalmit Lighting
Stockport,, United Kingdom**

is found to comply with

DNV rules for classification – Ships, offshore units, and high speed and light craft

Application :

Products approved by this certificate are accepted for installation on all vessels classed by DNV.

Type	Vibration class	Degree of protection	Temp. class	Voltage (V)	Suitable for Hazardous areas
ARRAN H/O Industrial LED Floodlight	A	IP 66	D	120-277 AC, 140-273 DC	No
HDN106N LED Floodlight	A	IP 66/67	D	H – 100-254V AC L – 18-54V AC/DC	No
NEXLED III LED Bulkhead	A	IP 66/67	D	120-277V AC, 127-300V DC	No

Issued at **Høvik** on **2024-04-25**

This Certificate is valid until **2029-04-24**.

for **DNV**

DNV local station: **UK & Ireland CMC & VMC**

Approval Engineer: **Ivar Bull**

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Frederik Tore Elter
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Product description

ARRAN H/O Industrial LED Floodlight intended for use in marine environment
 HDN106N LED Floodlight,
 NEXLED III LED Bulkhead

	ARRAN H/O (High Output) Industrial LED Floodlight,	HDN106N LED Floodlight,	NEXLED III LED Bulkhead
Variants:	ARHI/22L/LE ARHI/31L/LE ARHI/40L/LE	V0 – 24 LEDs V1 – 48 LEDs V2 – 96 LEDs V3 – 144 LEDs V4 – 192 LEDs	NL3I/01L/LE/24 NL3I/01L/LE NL3I/02L/LE NL3I/04L/LE NL3I/01L/LE/EM NL3I/02L/LE/EM NL3I/04L/LE/EM
Rated voltage:	120-277V AC; 50/60Hz 140V -273V DC	H: 100-254V AC; 50/60Hz L: 18-54V AC/DC	120-277V AC; 50Hz/60hz 127-300V DC 220-240 VAC; 50/60Hz (EM only)
Rated power:	ARHI/22L/LE: 171W ARHI/31L/LE: 255W ARHI/40L/LE: 389W	V0 – [27W] V1 – [53W] V2 – [103W] V3 – [155W] V4 – [206W]	NL3I/01L/LE/24 [5W] NL3I/01L/LE [10W] NL3I/02L/LE [19W] NL3I/04L/LE [31W] NL3I/01L/LE/EM [11W] NL3I/02L/LE/EM [20W] NL3I/04L/LE/EM [5W]
Ingress protection:	IP66	IP66/67	IP66/67
Impact protection	-	-	IK09
Suitable for open deck:	Yes	No (EMC class A)	No (EMC class A)
Ambient temperature:	-50°C up to +55°C	-20°C up to +50°C	-40°C...-15°C up to +50°C
Material:	Aluminium alloy with epoxy powder finish.	LM6 Aluminium with epoxy powder finish and Polycarbonate diffuser	Aluminium LM6 body, black epoxy polyester paint finish with toughened glass and silicone gasket
Luminous flux: (ref photometric reports)	ARHI/22L/LE: 23 243 lm ARHI/31L/LE: 34 420 lm ARHI/40L/LE: 45 963 lm	N – Narrow (6565lm) M – Medium (5882lm) W – Wide (5624lm) X – Extra Wide (5547lm)	NL3I/01L/LE/24 816 lm NL3I/01L/LE 1187 lm NL3I/02L/LE 2245 lm NL3I/04L/LE 3872 lm NL3I/01L/LE/EM 1187 lm NL3I/02L/LE/EM 2245 lm NL3I/04L/LE/EM 3872 lm
Light colour:	5000K (Cool White)	Cool White (5000K) or Warm White (3000K)	4000K (Neutral White)
Control gear:	Electronic driver	Electronic driver	Electronic driver
Surge Protection:	4kV line to line, 6kV line to earth	4kV line to line, 6kV line to earth	4KV (02L and 04L Version) 1 kV (01 version)
Emergency operation:	-	-	Up to 3 Hours (500lm min. output) from internal NiMH battery

Note: The listed products are similar in design to their Ex-equivalent.

Application/Limitation

Installation instruction of the manufacturer to be followed.

HDN106N and NEXLED III have EMC class A, and shall not be installed on bridge or on open deck.

DNV Location classes:	ARRAN H/O Industrial LED Floodlight,	HDN106N LED Floodlight,	NEXLED III LED Bulkhead
Temperature class:	D	D	D
Humidity class:	B	B	B
Vibration class:	A	A	A
EMC class:	B	A	A
Enclosure class:	C	C	C

Type Approval documentation

Tests carried out

Applicable tests according to Class Guideline DNV-CG-0339, August 2021.
Photometric tests.

Marking of product

The products to be marked with:

- Manufacturer name
- Model name
- Serial number
- Power supply ratings
- Degree of protection

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample test and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE