

Marine Navigation Lights

Technology Solution: Oxley has designed, developed and manufactured its most advanced LED lighting for marine platforms to meet the requirements of the NLSS (Navigation Lights Shapes and Sounds) for the new Royal Navy aircraft carriers.

“The units perform to the highest military and marine standards, including Def Stan 59-411 in addition to completing the wheel marking process approved by Lloyds Register.”

The system has been developed and supplied through Northrop Grumann – the global aerospace and defence Technology Company which is part of the Aircraft Carrier Alliance responsible for producing the new vessels.

A key feature of their use on the aircraft carrier is the lights’ ability to interface with Northrop Grumann’s Ethernet-based control system for NLSS marine lighting. Each light incorporates a microprocessor which facilitates dimming to meet operational requirements and a ‘health check’ function to intelligently monitor the light’s performance and deliver an alert when that performance is compromised or the unit fails, facilitating planned or critical maintenance.

The system includes masthead, stern, anchor, side-light and NUC/RAM/CBD signal lights and they have been designed and developed for use on any vessels over 50 metres. They meet the highest level of optical performance for high visibility.

A significant challenge overcome by Oxley in the design and manufacture of the lights was meeting the critical COLREG angular cut-off requirements for statutory Navigation Lights, particularly the side lights which must reduce from full intensity to zero within 3 degrees of angular rotation, to avoid overlapping signals. This was achieved within the housing of the side lights, without the need for sidescreens.

Each light housing is designed to be both robust and compact and is supplied with a mounting base allowing easy replacement of the LED and lens unit or the whole unit if required.

The lights are available in both AC and DC variants and are NVG Friendly for use in aided night time operations. Every light is sealed to IP67 and meets stringent EMC requirements.



Quality Assured: Oxley has the facilities and expertise to carry out testing to the highest standards in developing the new lights, and this was a particular factor in meeting the critical COLREG angular cut-off requirement using the company’s own optical testing and development facilities. All the precise optical testing required to complete the Lloyds wheel marking process was carried out in-house, and the Lloyds standard also underpins approval of every product batch before shipment.

