



UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT
Inspections and Compliance Directorate

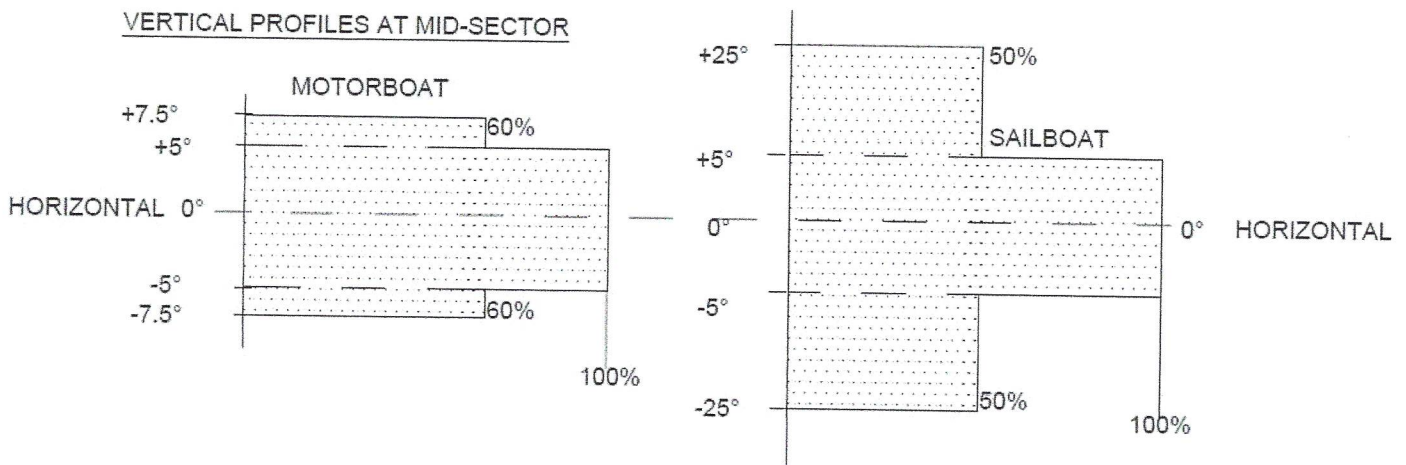
March 14, 2019
Washington, DC

Safety Alert 02-19

Not all navigation lights are created equal.

Navigation lights intended for use on power driven vessels may be different from navigation lights intended for use on sailing vessels. Although the horizontal arc of visibility is the same for all lights, the vertical divergence (i.e. vertical arc of visibility) requirements for lights on vessels under sail are larger to accommodate greater heeling. Manufacturer labeling may not discriminate between the different requirements. Navigation lights that claim compliance with the navigation rules¹ may meet the vertical visibility requirements for a power driven vessel, however, they may not comply with the vertical visibility standards for sailing vessels. Manufacturer labeling may not indicate that the lights are designed for use on power-driven vessels only.

Annex I (COLREGs section 10 and Inland 33 C.F.R. part 84.16 "Vertical sectors") prescribes the degrees and intensities that navigation lights must meet on the vertical plane. Many boat owners may not be aware of the +/- 25° vertical light divergence requirement for sailing vessels, a 17.5° increase from the power-driven vessel standard. Installing a navigation light, designed for use on a power driven vessel, on a sailing vessel may result in the light losing visibility when the vessel heels beyond the narrower +/- 7.5° vertical divergence angle established for power-driven vessels. A sailing vessel operator in this situation would likely not realize that the sailing vessel's lights were not visible when heeling beyond 7.5°.



What does this mean?

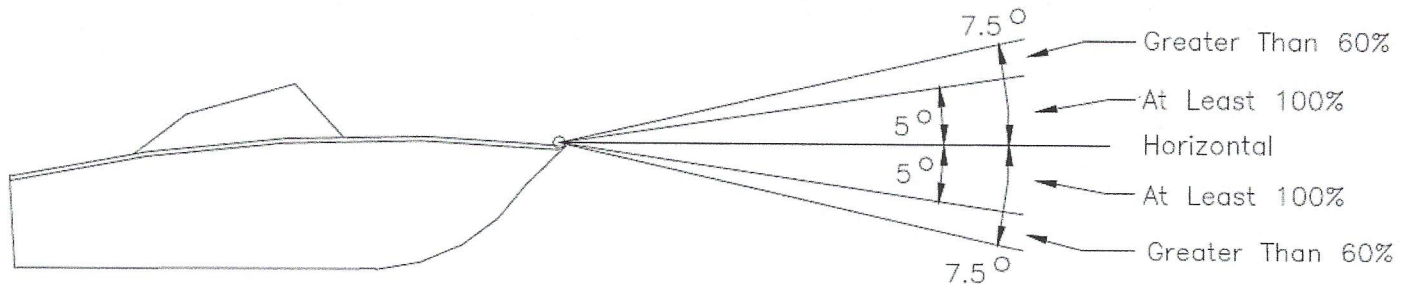
If your sailboat does not have the correct lights (sidelights, masthead lights, all-round lights, and/or combined lantern) and it heels past a certain degree, it may not be observable by other vessel operators.

¹ The International Maritime Organization Convention on the International Regulations for Preventing Collisions at Sea, 1972 (COLREG 72) and 33 Code of Federal Regulations part 83 through 88.

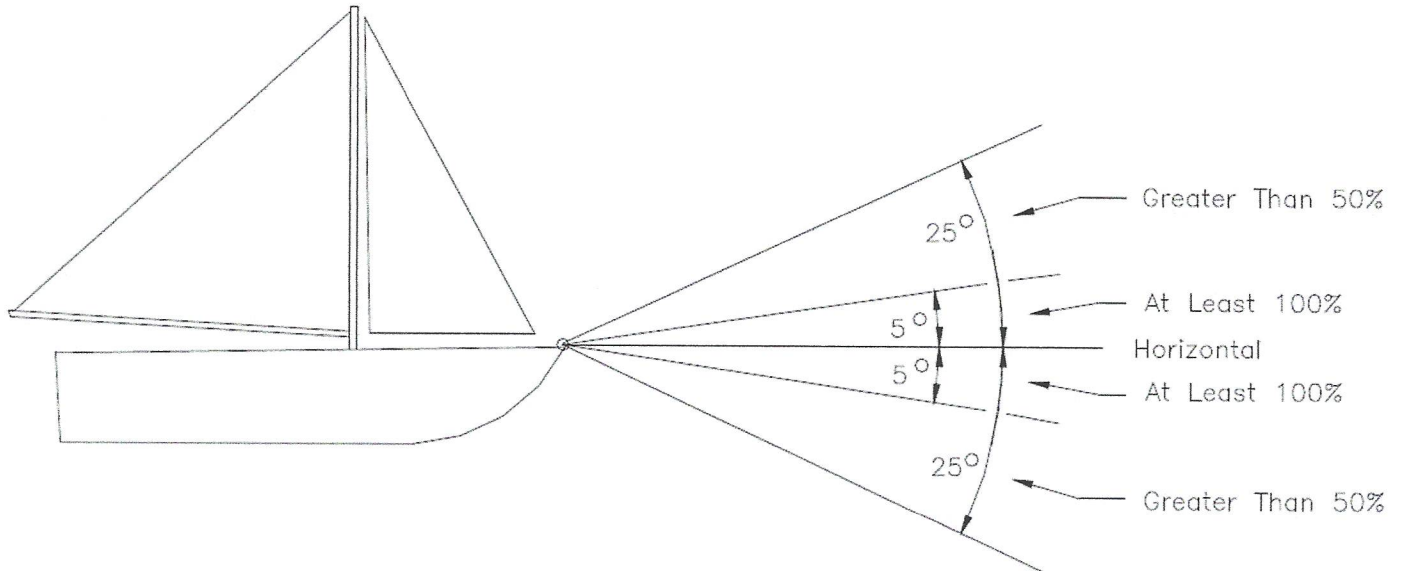
Why is that important?

You may not know that other vessels cannot see you due to the heel of your vessel. Failure to operate with the correct navigation lights may create a situation where you mistakenly believe another mariner is able to ascertain your vessel's aspect or operational condition, which increases risk of collision.

POWERBOAT ONLY



SAILBOAT UNDER SAIL ONLY



Although a navigation light designed for a sailing vessel will not meet the vertical visibility requirements for a power driven vessel, it does not pose a commensurate safety concern (see diagram above). Manufacturers should be aware of the larger vertical visibility requirement for lights installed on sailing vessels. Likewise, sailing vessel operators and vessel repair facilities should ensure the installed lights meet the applicable requirements in Annex I. Since not all navigation lights are designed similarly, ensure that when you install a navigation light it is USCG certified for the length and type of boat. Such information should be readily available from reputable sources such as the light or vessel manufacturer.

This Safety Alert is provided for informational purposes only and does not relieve any domestic or international safety, operational, or material requirement. Developed and distributed by the Office of Navigation Systems. Questions may be sent to cgnav@uscg.mil.