



osnova



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## LIGHT HOUSE

A lighthouse is a tower, building, or other type of structure designed to emit light from a system of lamps and lenses and used as an aid to navigation for maritime pilots at sea or on inland waterways.

Lighthouses mark dangerous coastlines, hazardous shoals, reefs, safe entries to harbors, and can also assist in aerial navigation. Once widely used, the number of operational lighthouses has declined due to the expense of maintenance and replacement by modern electronic navigational systems.

In a lighthouse, the source of light is called the "lamp" (whether electric or fueled by oil) and the concentration of the light is by the "lens" or "optic". Originally lit by open fires and later candles, the Argand hollow wick lamp and parabolic reflector were developed around 1781 in Europe and deployed on the Cordouan lighthouse in France in 1782, with a rotating element being added in 1790. In the U.S., whale oil was used with wicks as the source of light until the Argand parabolic reflector system was introduced around 1810 by Winslow Lewis. Colza oil replaced whale oil in the early 1850s, but U.S. farmers' lack of interest in growing this caused the service to

Before modern strobe lights, lenses were used to concentrate the light from a continuous source. Vertical light rays of the lamp are redirected into a horizontal plane, and horizontally the light is focused into one or a few directions at a time, with the light beam swept around. As a result, in addition to seeing the side of the light beam, the light is directly visible from greater distances, and with an identifying light characteristic.

This concentration of light is accomplished with a rotating lens assembly. In early lighthouses, the light source was a kerosene lamp or, earlier, an animal or vegetable oil Argand lamp, and the lenses rotated by a weight driven clockwork assembly wound by lighthouse keepers, sometimes as often as every two hours. The lens assembly sometimes floated in liquid mercury to reduce friction. In more modern lighthouses, electric lights and motor drives were used, generally powered by diesel electric generators. These also supplied electricity for the lighthouse keepers.[1]

Efficiently concentrating the light from a large omnidirectional light