

Ceilometer Rotating Beacon. FAC: 1341

CATCODE: 149622

OPR: AFWA/A5/A8, MAJCOM/A3W

OCR: MAJCOM/A6

1.1. **Description.** The ceilometers/rotating beam set continually measures and displays cloud height. It consists of a projector, detector and indicator.

1.1.1. **Ceilometer**, device for measuring the height of cloud bases and overall cloud thickness. One important use of the ceilometer is to determine cloud ceilings at airports. The device works day or night by shining an intense beam of light (often produced by an infrared or ultraviolet transmitter or a laser), modulated at an audio frequency, at overhead clouds. Reflections of this light from the base of the clouds are detected by a photocell in the receiver of the ceilometer. There are two basic types of ceilometers: the scanning receiver and the rotating transmitter.

1.1.2. The scanning-receiver ceilometer has its separate light transmitter fixed to direct its beam vertically. The receiver is stationed a known distance away. The parabolic collector of the receiver continuously scans up and down the vertical beam, searching for the point where the light intersects a cloud base. When a reflection is detected, the ceilometer measures the vertical angle to the spot; a simple trigonometric calculation then yields the height of the cloud ceiling. Many modern scanning-receiver ceilometers use a laser pulse to identify the height of a cloud's base and top and various points in between to create a vertical profile of the cloud.

1.1.3. The **rotating-transmitter ceilometer** has its separate receiver fixed to direct reflections only from directly overhead while the transmitter sweeps the sky. When the modulated beam intersects a cloud base directly over the receiver, light is reflected downward and detected.

1.2. A defined facility standard is not currently available for this CATCODE. By default, all requirements are user justified until a standard is established or adopted.