

Light Curtain

A *light curtain* is a specialized reflex sensor head. It has four transmitters and four detectors side by side behind a cylindrical lens. The light curtain emits a fan-shaped beam, which provides a wide viewing area.

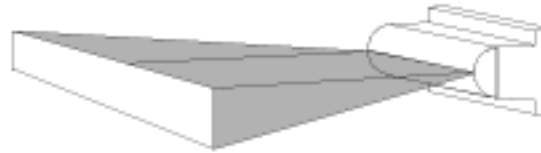
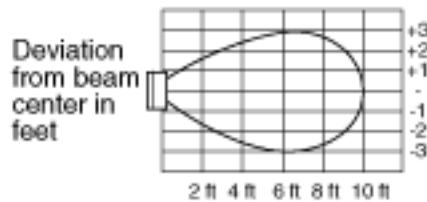


FIGURE 95: EFFECTIVE LIGHT CURTAIN SENSOR BEAM



Curtain of light beam profile

The distance from the lens to the reflector strip, together with the length of the reflector, serve to define the effective detection area.

Corner Cube Retroreflector and Reflex

FIGURE 96: EFFECTIVE DETECTION AREA GRAPH
In the case of the corner cube reflector, range and excess gain depend upon on reflector quality.

Corner cube reflectors provide the highest signal return to the sensor. Cube style reflectors have 2000-3000 times the reflectivity of white paper.

Corner cube reflectors consist of three adjoining sides arranged at right angles to one another.

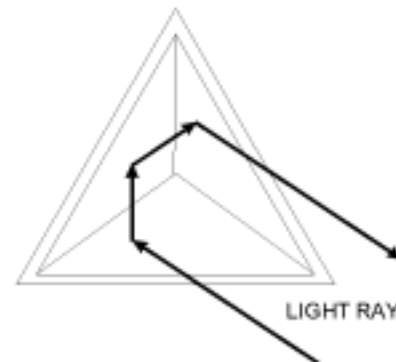


FIGURE 97: A CORNER CUBE REFLECTOR

When a ray of light strikes one of the three adjoining sides, the ray is reflected to the second side, then to the third, and then back to its source in a direction parallel to its original course. Thousands of these cube shapes are molded into a rugged plastic reflector or vinyl material.

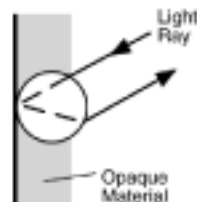


FIGURE 98: GLASS BEAD

Glass bead retroreflectors are available in tape form for use in dispensers for package coding on conveyors. They are also available in sheet form that can be cut to size. The bead surface is typically rated at 200 to 900 times the reflectivity of white paper.

Only corner cube reflectors can be used with polarized reflex sensors. The light returned from the cube's surface is depolarized with respect to the light it received. Glass bead reflectors cannot be used with polarized retro-reflective sensors.