

XX 0.9 GI 6 TX

The lens arrays of Fresnel Technologies' XX 0.9 GI 6 TX series are intended to be used in passive infrared motion detector devices. They are optimized for dual-element pyroelectric detectors. They are normally used with the grooved side facing the pyroelectric detector, and curved at a 0.9 inch (22.9 mm) radius about the sensitive area of the detector (see Figure 1). In this case, the detector and the lens array should be inclined downward at an angle of 6 degrees, for most of the types. The detector position should be 0.492" (12.5 mm) below the upper edge, and centered left-right (see Figure 2).

The overall dimensions of the arrays are 1.400" \pm 0.010" (35.6 mm \pm 0.3 mm) high by 1.965" \pm 0.010" (49.9 mm \pm 0.3 mm) wide by 0.015" \pm 0.004" (0.38 mm \pm 0.1 mm) thick. Border width is approximately 1/8" (3 mm). Centering is held to 0.015" (0.38 mm) in both directions.

Fresnel Technologies, Inc. is the premier manufacturer of Fresnel lens arrays. We have led the industry in the development of new lenses and materials to advance the state of the art of passive infrared motion detection. Our lenses and lens arrays have been incorporated into most passive infrared devices using refractive optics since 1976. Our quality standards are the highest in the industry. Surface finish and inclusions are such that no defect is visible at a distance of 3 feet (1 meter) under ordinary light. There are no functional flaws in our products whatsoever. Our POLY IR® infrared-transmitting materials are the best available in stiffness and in transmittance in the 8 to 14 μ m region. Active lens segments are made from our acclaimed and proprietary LODIFF® lens patterns.

The members of the series are as follows:

WIDE ANGLE ARRAY
WA 0.9 GI 6 T1

LONG RANGE ARRAY
LR 0.9 GI 6 T1

EXTRA WIDE ANGLE ARRAY
EWA 0.9 GI 6 T1

ANIMAL ALLEY ARRAY
AA 0.9 GI T1

VERTICAL BARRIER TYPE
VB 0.9 GI T1

PET IMMUNE ARRAY
WP 0.9 GI 6 T1

Figures 3-8 illustrate the zone patterns for the arrays. The figures postulate a dual-element detector with 110° coverage both up-down and left-right, amplifier gain of about 5,000, and a mounting height of 3.3 feet (1 meter) for the animal alley lens array and 6.8 feet (2.1 meters) for the others, and the 6° tilt for all arrays except the AA 0.9 GI T1 and the VB 0.9 GI T1.

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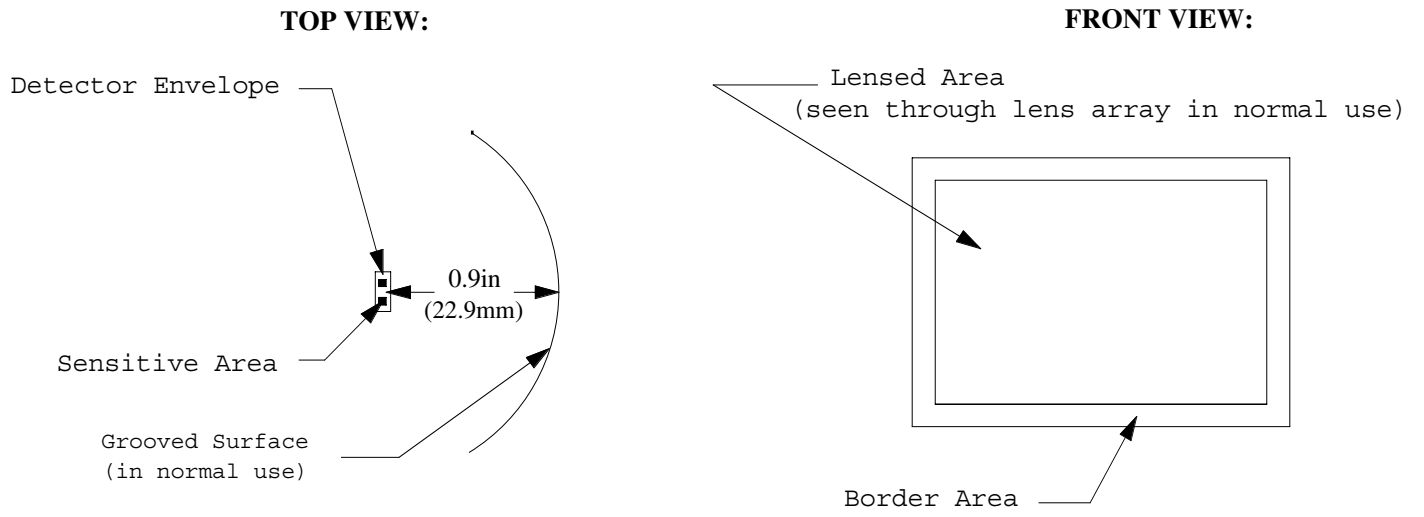


FIGURE 1

SIDE VIEW:

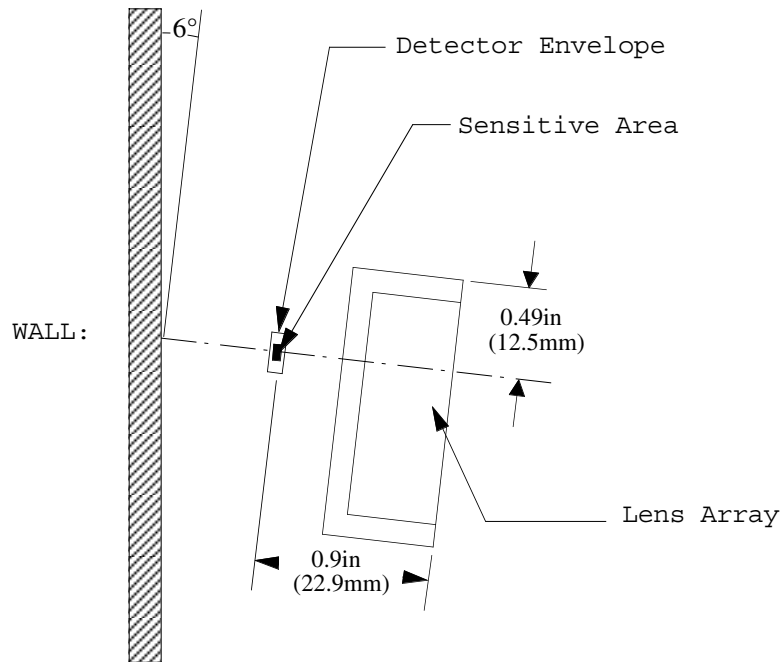
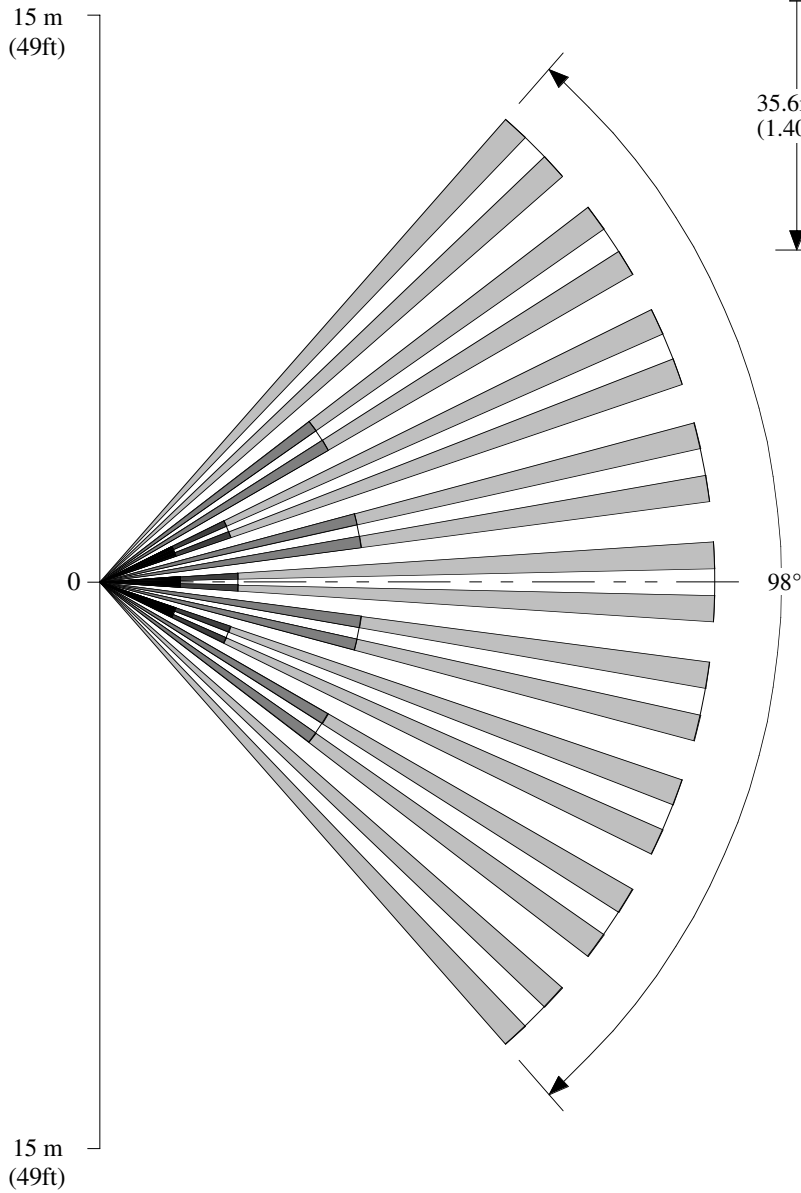


FIGURE 2

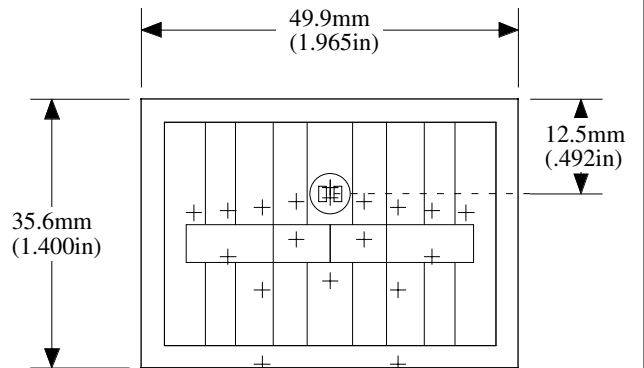
WIDE ANGLE ARRAY

WA 0.9 GI 6 T1

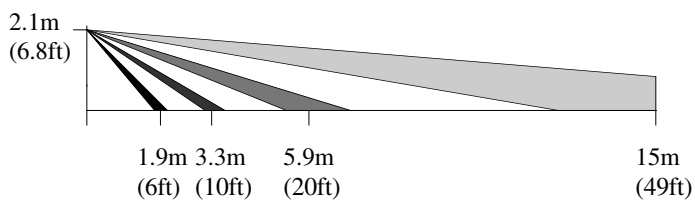
TOP VIEW:



FRONT VIEW:



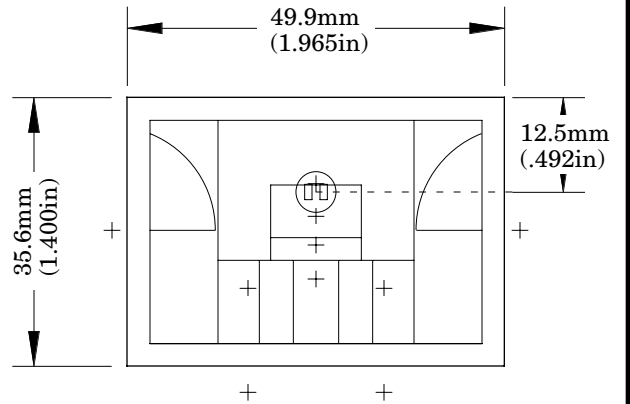
SIDE VIEW:



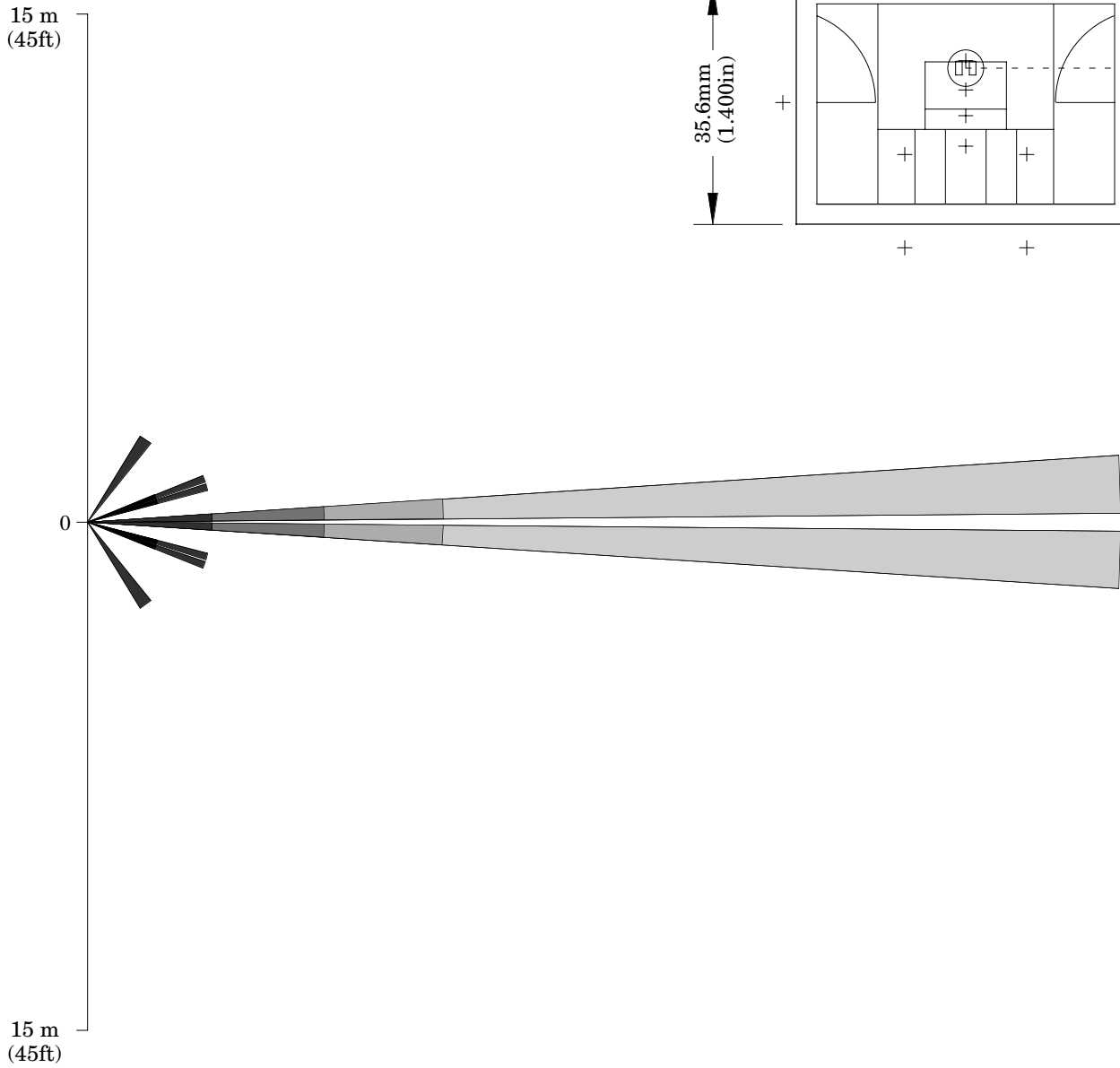
LONG RANGE ARRAY

LR 0.9 GI 6 T1

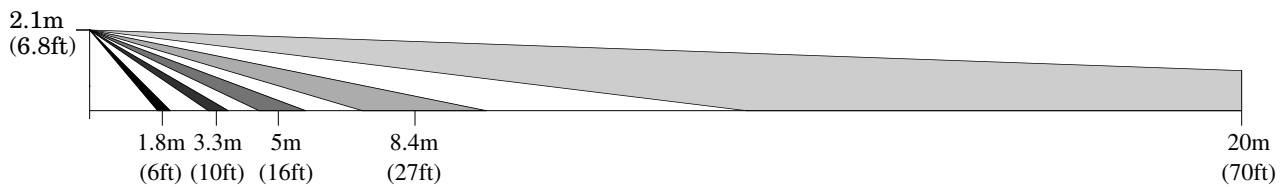
FRONT VIEW:



TOP VIEW:



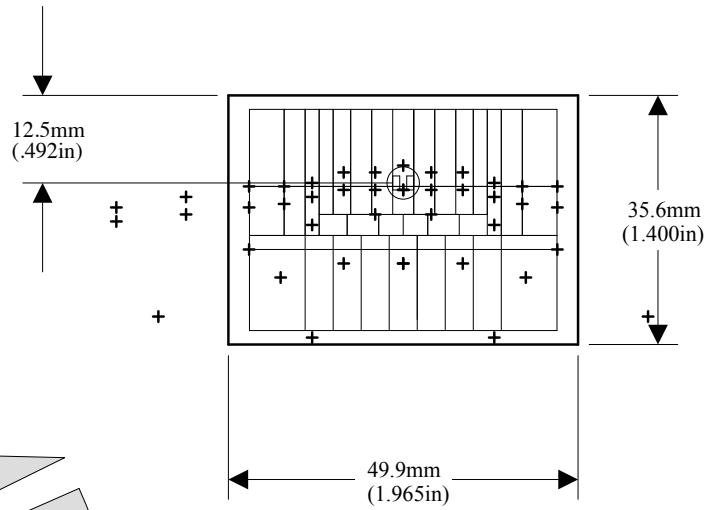
SIDE VIEW:



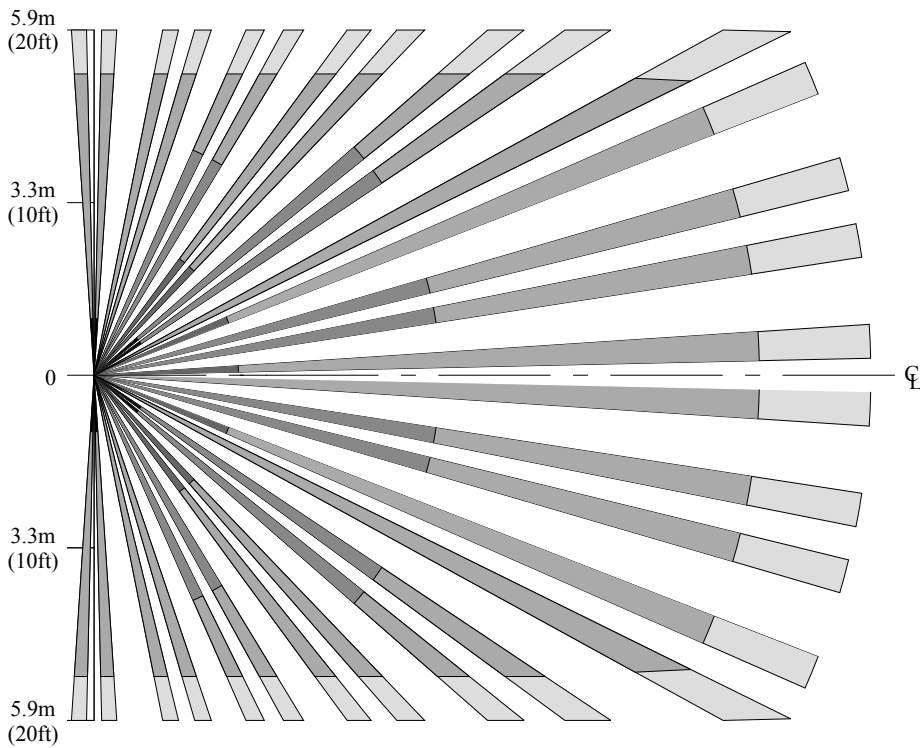
EXTRA WIDE ANGLE ARRAY

EWA 0.9 GI 6 T1

FRONT VIEW:

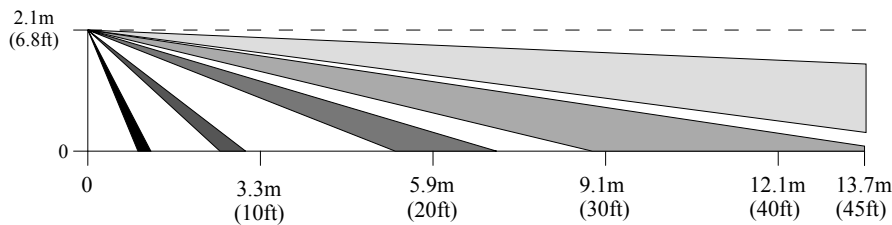


TOP VIEW:



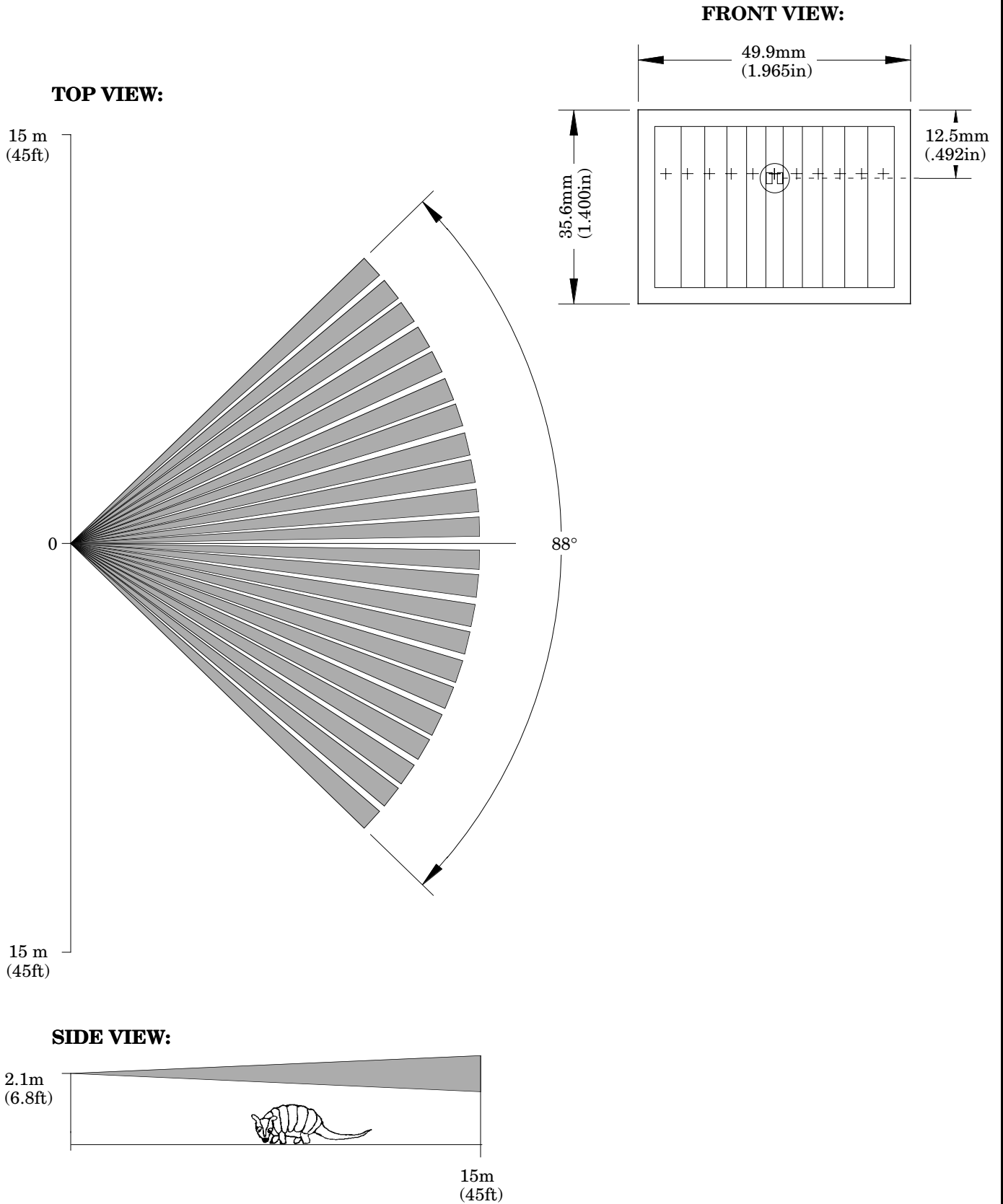
Note: The "beam" pattern obtained depends strongly on the detector used with this array. The pattern shown is intended solely as a general guide.

SIDE VIEW:



ANIMAL ALLEY ARRAY

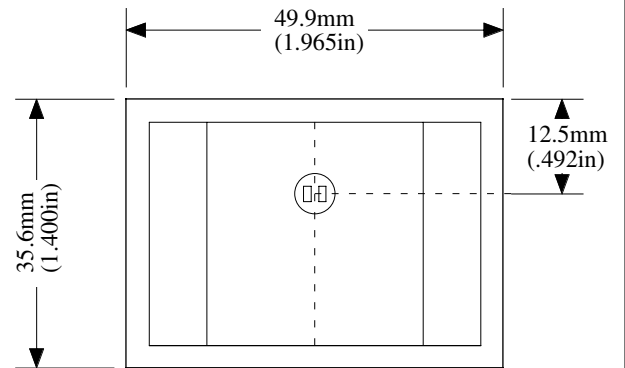
AA 0.9 GI T1



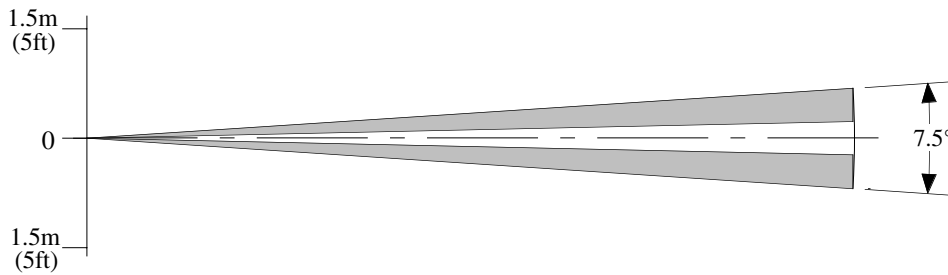
VERTICAL BARRIER ARRAY

VB 0.9 GI T1

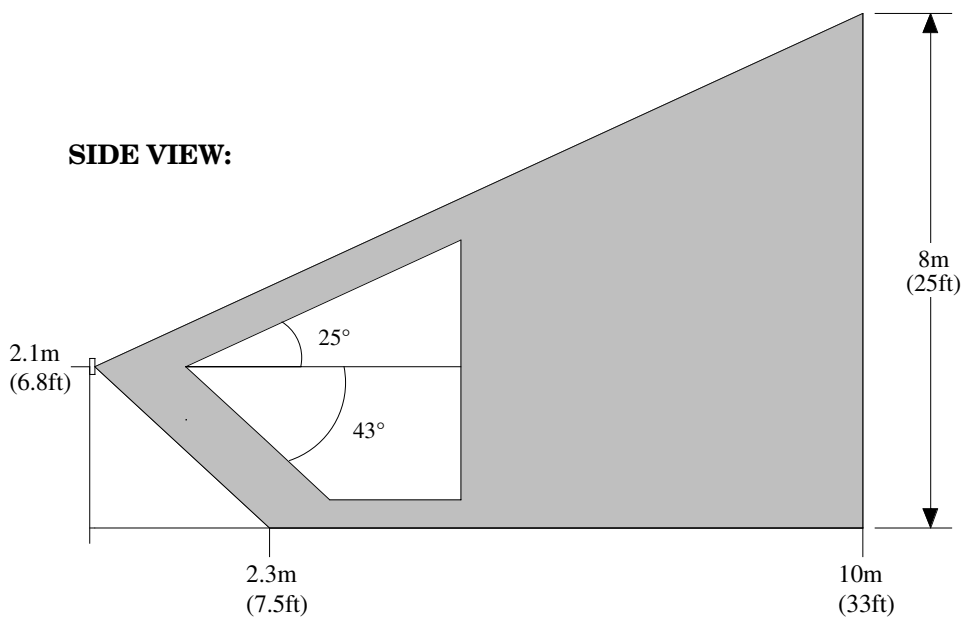
FRONT VIEW:



TOP VIEW:



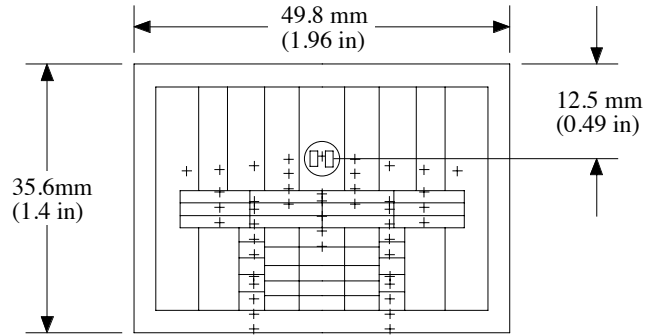
SIDE VIEW:



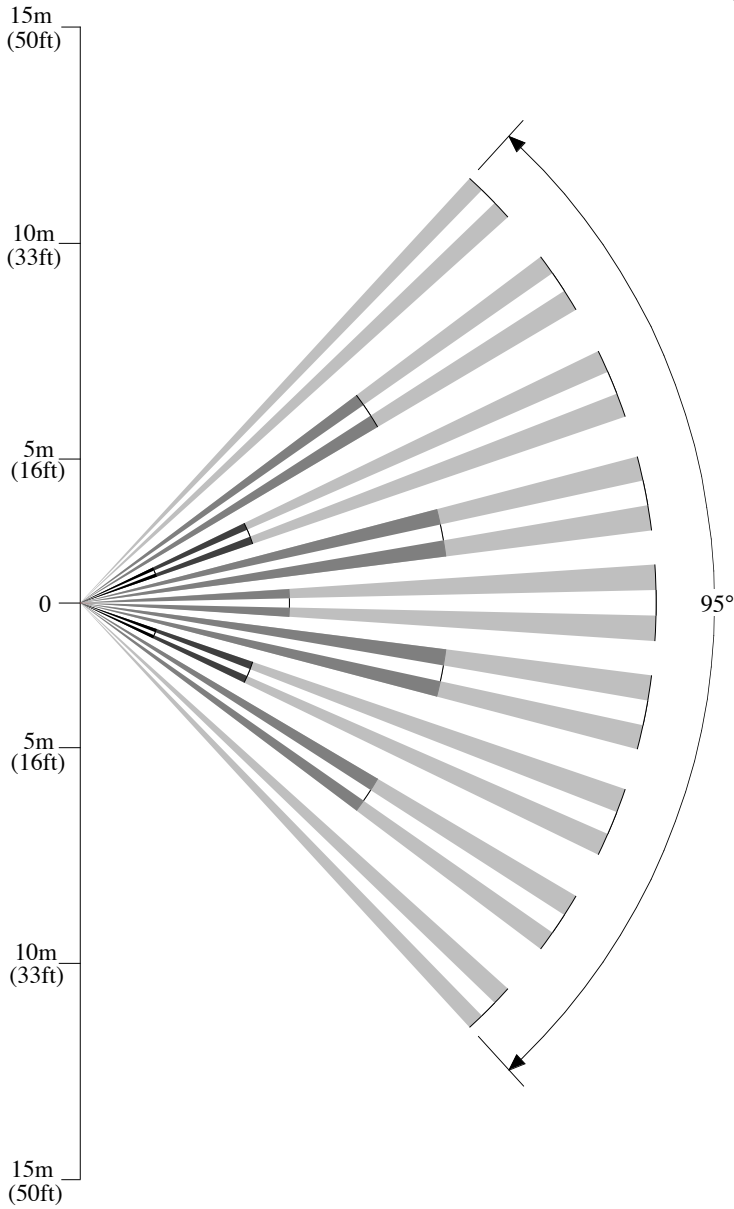
PET IMMUNE ARRAY

WP 0.9 GI 6 T1

FRONT VIEW:



TOP VIEW:



SIDE VIEW:

