

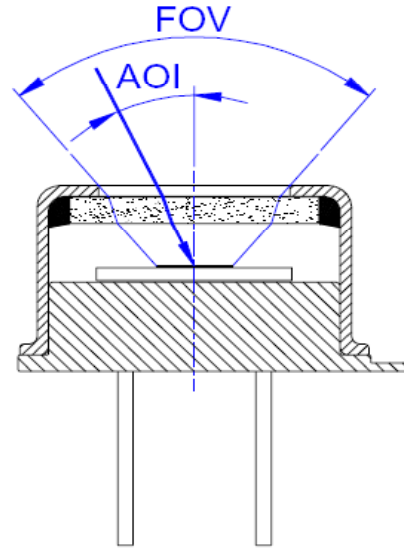
# Field of View (FOV)

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A detector's field of view (FOV) should be optimally chosen and specified in order to maximize useful incident radiation but also to minimize background or unwanted radiation. In other words, the FOV of a detector should be specified as large as necessary only to admit the maximum amount of useful radiation based on specific system characteristics and requirements.

Wide Angle of Incidence (AOI) should be avoided for applications utilizing narrow-band IR filters (typical for NDIR gas analysis). The large AOI could cause a shift of cut-on and cut-off of the narrow-band IR filter towards shorter wavelengths and will modify the desired spectral response of the detector. There are special IR filter types with extreme low angle shift of approximately -15nm at 15° AOI (NBP 4.24 $\mu$ m/90nm "CO<sub>2</sub> narrow," NBP 4.27 $\mu$ m/170nm "CO<sub>2</sub> high AOI," NBP 4.66 $\mu$ m/180nm "CO"). The trade-off is a higher temperature drift of the CWL (approx. +0.5nm/K).

Multi-channel detectors with FOV's larger than 30 degrees could cause interference problems between channels (crosstalk).



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