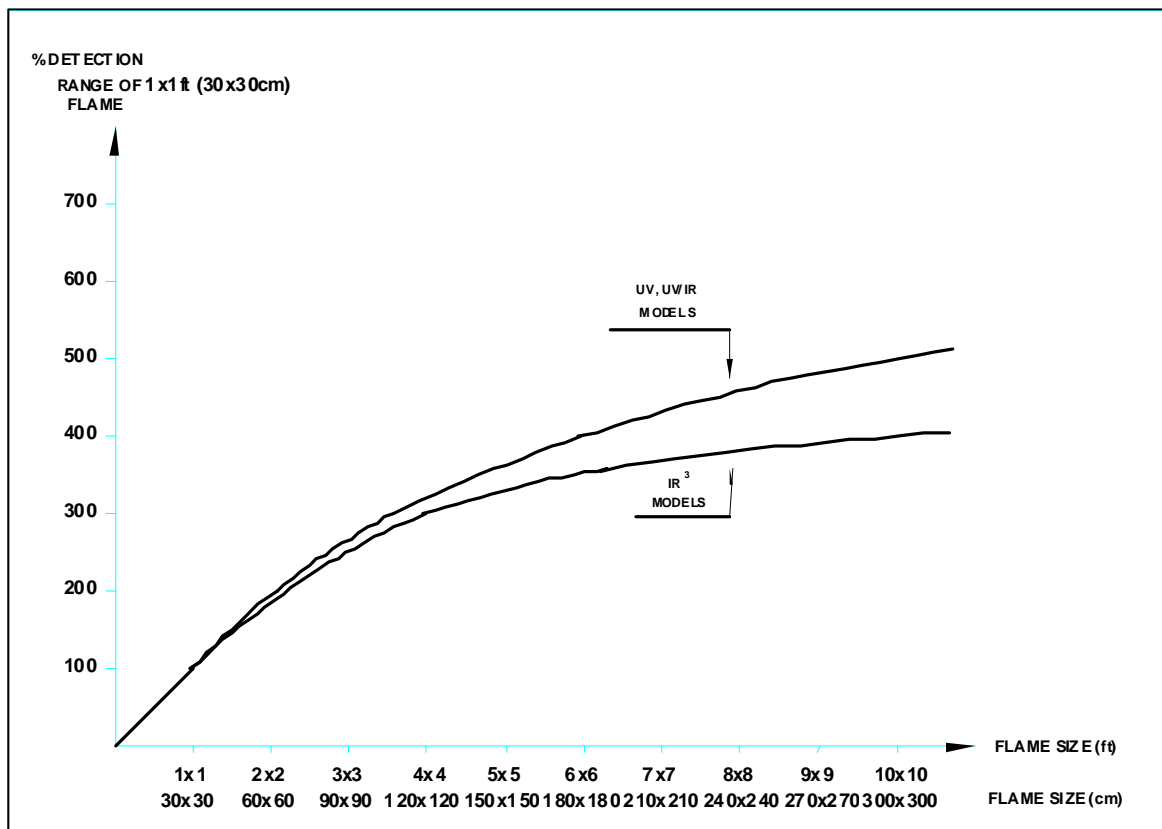


DETECTION RANGE VERSES FLAME SIZE FOR SHARPEYE DETECTORS

The SharpEye line of detectors have been tested and approved by FM to determine the detection range for a 1x1ft. (30x30cm) fire of gasoline, JP4 and other fuel type flames. The logic of using 1 sq.ft.(0,1m²) as the standard flame is that this size of flame can be detected from a long enough distance (45-50ft./14-15mtr.) by detectors and is still small enough to be extinguishable. In some applications however, for example, hanger under wing protection, the detection distance is by far greater than 50ft. (15mtr.) In those cases, the engineers are forced to design the detection system for a larger flame so that the common flame detectors can detect them. **(Spectrex has solved the problem differently by developing an IR³ detector that can detect a 1x1ft. (30x30cm) flame from 200ft. (60mtr.).** The result is that although in most applications the standard flame is a 1x1ft. (30x30cm) of the relevant fuel, in some cases the standard flame size is increased to 2x2ft.(60x60cm), 4x4ft. (120x120cm), or even 10x10ft. (300x300cm)

To enable our customers to easily bid for jobs where the flame size is different than the regular 1x1ft.(30x30cm) - we have made a series of flame tests, the results of which are shown in a graph. Using this graph, it is possible to find the detection range for every SharpEye detector for any relevant flame size; **providing that detection range of a 1x1ft. (30x30cm) flame of the fuel by the SharpEye model is known.**

Detection Range (in % of 1x1 ft.(30x30cm) Flame Range) Vs. Flame Size



To illustrate the use of the graph here are two examples:

Example 1:

What is the detection range of IR³ for a 2x2ft. (60x60cm) JP4 flame at highest sensitivity?

Answer: In page 3, of the manual , the detection range for JP4 is 75% of the sensitivity of gasoline, which means the detection range for 1x1ft.(30x30cm) equals $(75/100) \times 200\text{ft.}(60\text{mtr}) = 150\text{ft.}(46\text{mtr})$ Using the graph for IR³, the detection range for 2x2ft.(60x60cm) is 172% of the 1x1ft.(30x30cm) range, which means that the detection range for 2x2ft.(60x60cm) JP4 flame = $(172/100) \times 150 (46 \text{ mtr}) = 258\text{ft.} (79 \text{ mtr})$

Example 2: What is the detection range of LB for a 4x4ft. (120x120cm) diesel fuel?

Answer: In page 7 of the manual, detection range for diesel is 50% of the detection range for gasoline, which means the detection range for a 1x1 ft. (30x30cm) diesel fuel is 50% of 50ft.(15 mtr) = 25ft. (8 mtr) Using the graph for UV/IR, the detection range for 4x4ft. (120x120cm) is 320% of the 1x1ft.(30x30cm) detection range, so that the 4x4ft.(120x120cm) range = $(320/100) \times 25 (8 \text{ mtr}) = 80\text{ft.} (24 \text{ mtr})$

Note: Metric dimensions are rounded to the nearest whole number. Therefore small deviations may exist.