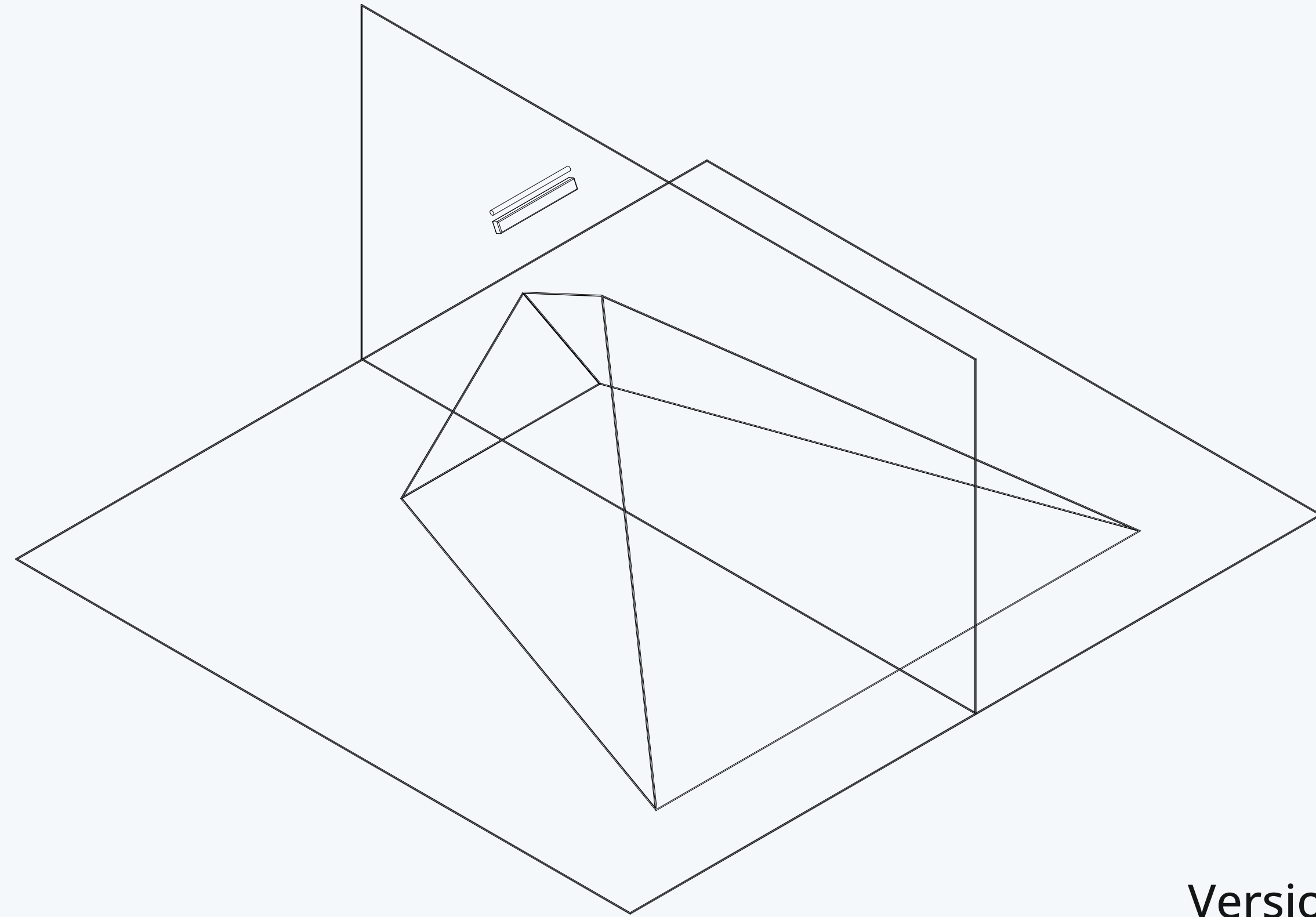


KAPTA 640

Installation charts



Version 1.1 - EN

 naostage®

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www.naostage.com

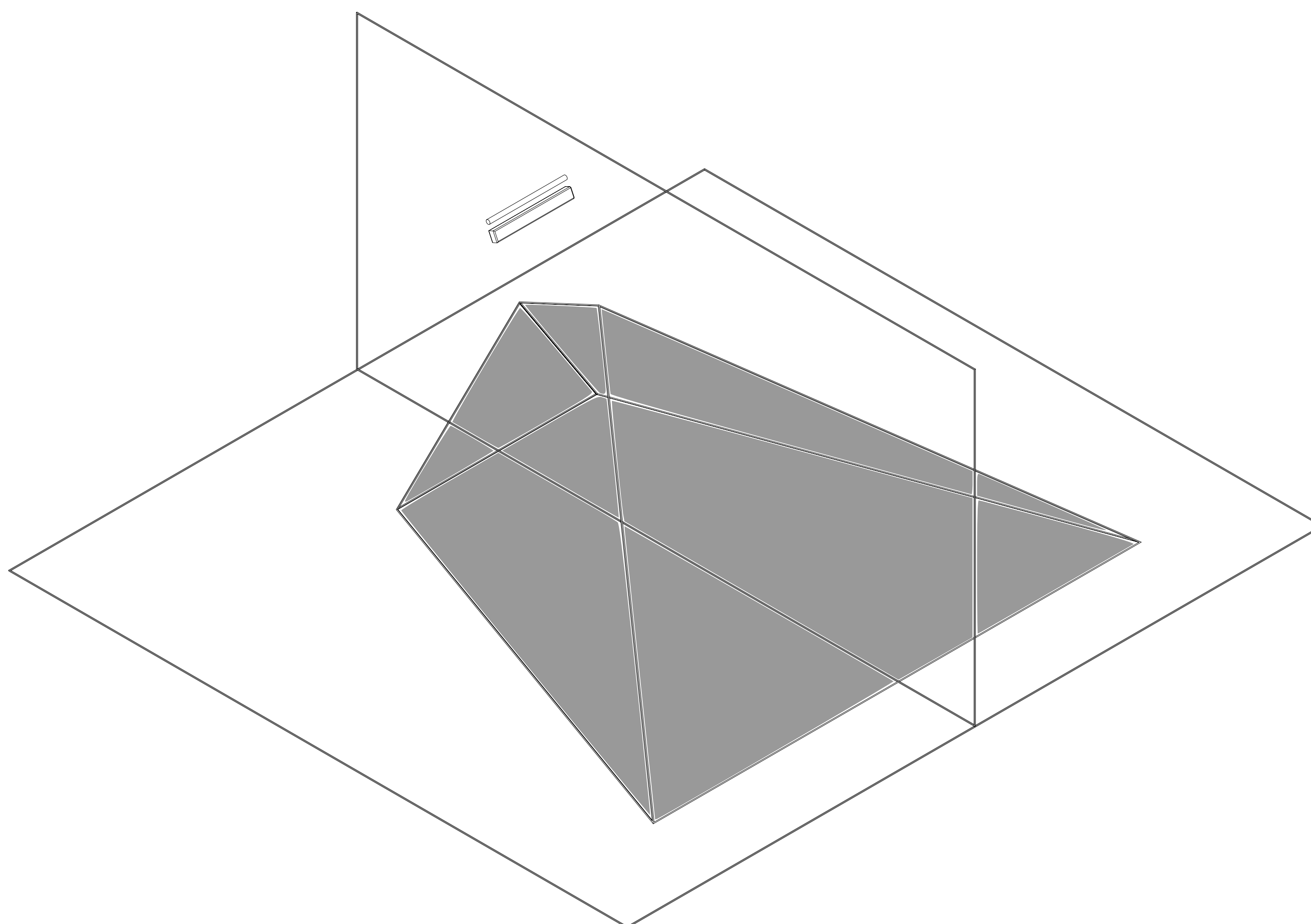
The installation of the Kapta is an important factor in the proper functioning of the tracking system. The sensor must be installed so that its five cameras have a clear view of the entire desired tracking area.

Two factors are taken into account to determine the size of the tracking area that can be achieved in each situation: the installation height and the inclination of the Kapta. To ensure optimal tracking performance, these two factors should be between :

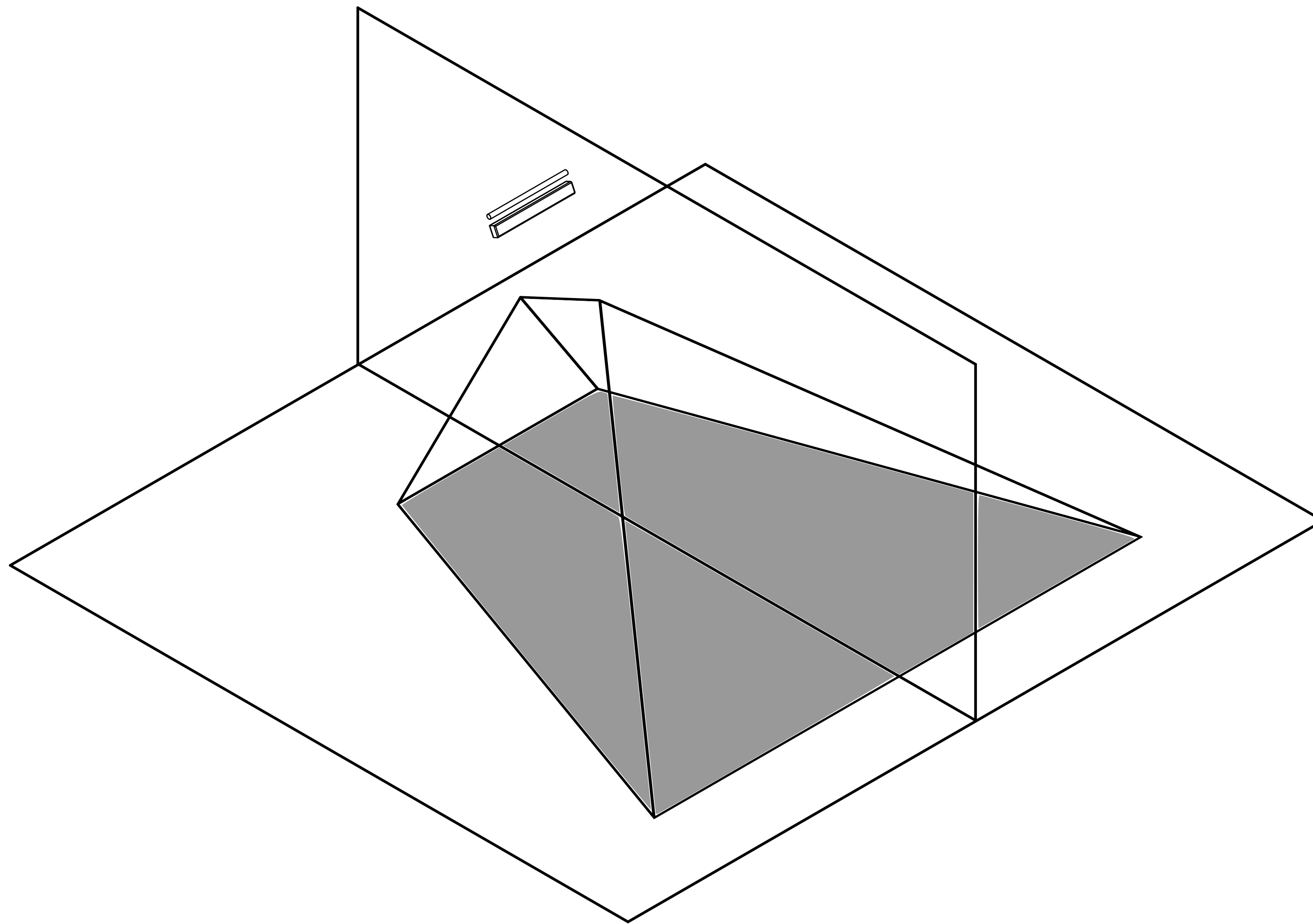
- 5 and 15 meters for the installation height in relation to the ground of the tracking area
- 40 and 70 degrees for the inclination in relation to the horizontal

The charts in this document show the limits of the feasible tracking zone for each case of height and inclination. They allow to calculate the size of the feasible tracking area according to the installation position of the Kapta or conversely to determine the position of the Kapta necessary to cover a desired tracking area.

The field of view of the Kapta is the result of the union of the five fields of view of the component cameras. The field of view of the thermal cameras being slightly smaller than the field of view of the infrared and visible cameras, the field of view of the Kapta is conditioned by the field of view of these cameras. For the Kapta 640, the horizontal field of view is 95° and the vertical field of view is 76° .



The Kapta tracking area is the intersection of this field of view with the ground. This area has a trapezoidal shape, with the short side of the trapezoid on the side of the Kapta. For this reason, it is often worthwhile to move the Kapta back from the front of the desired tracking area to increase the possible opening, even if this decreases the total depth of the tracking area.



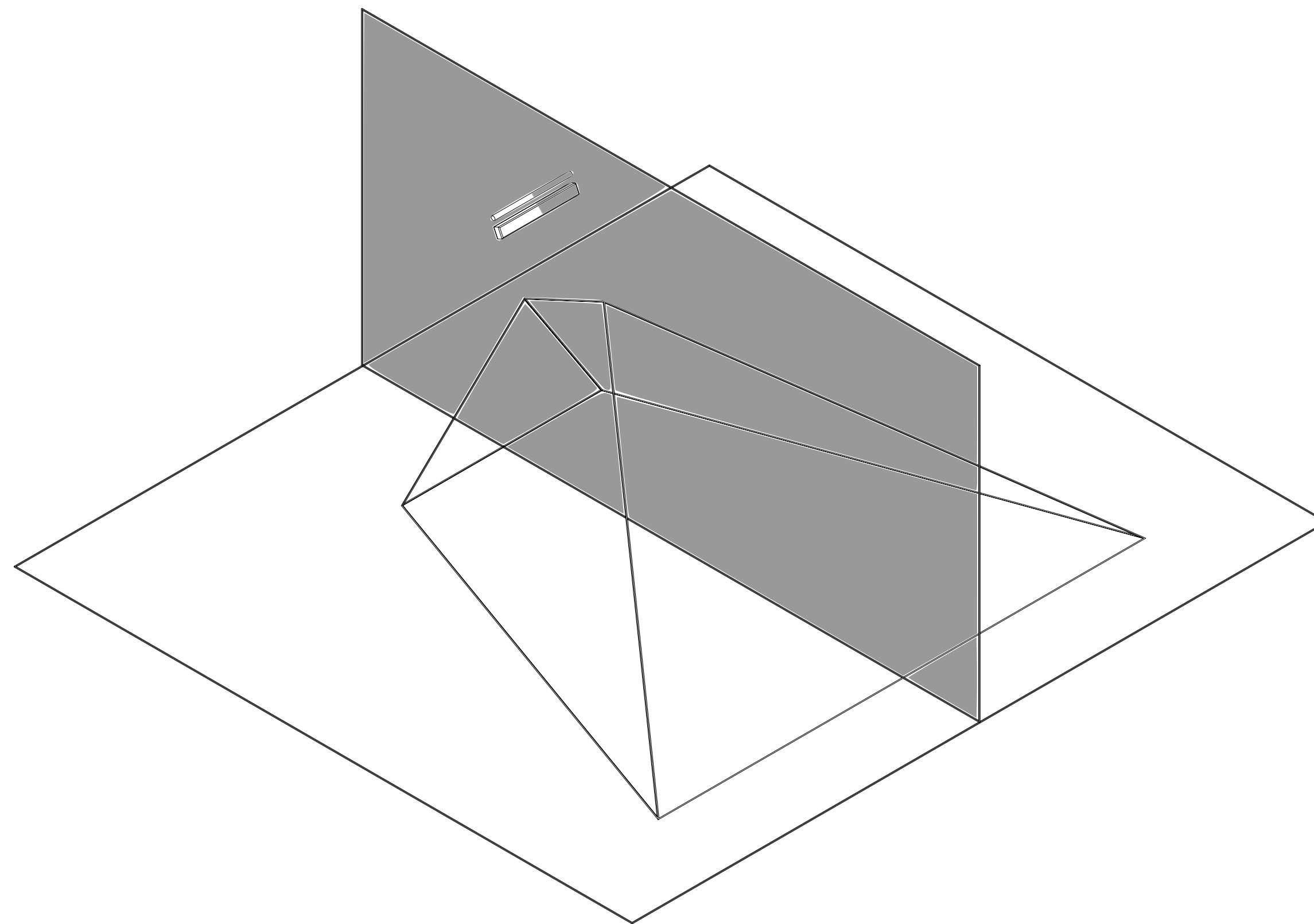
The edges of the field of view being inclined, the effective tracking area is slightly smaller than the tracking area on the ground. Indeed, it is important to take into account a margin on the edges of the tracking area allowing the humans to be visible in their entirety for the tracking to work properly.

For complex configurations, please contact **Naostage** directly for a customized study of feasible installations.

– The charts are separated into two sets

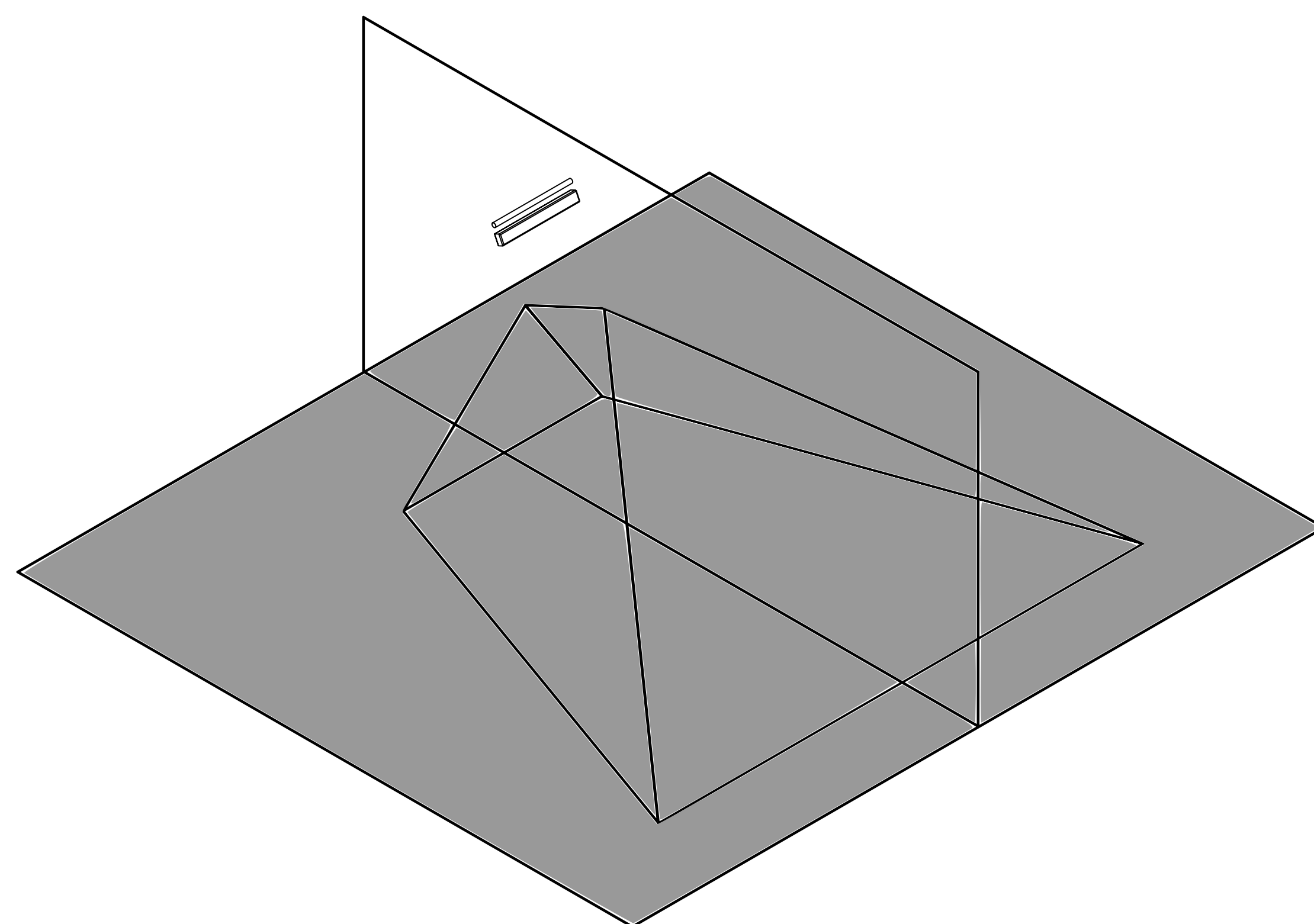
- Profile charts

The profile charts represent the field of view of the Kapta in the median plane of the sensor as a function of the sensor's inclination. These charts allow to determine the position of the front and rear limits in which the tracking area can be located.



- Floor chart

The floor charts represent the field of view of the Kapta projected on the ground as a function of the inclination and height of the Kapta. These charts allow to determine the limits within which the tracking area is feasible.

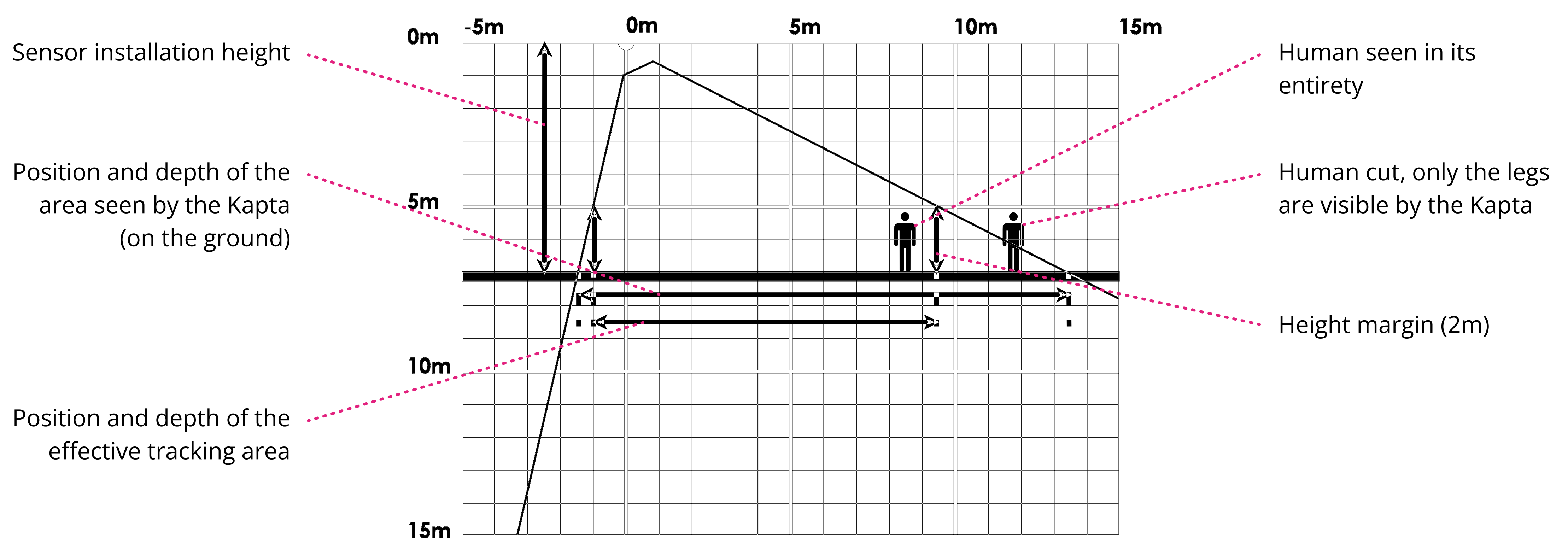


– Example

In this example, the Kapta is oriented at 65°, located at a height of 7 meters.

On the corresponding profile chart (I65), it can be determined that the area on the ground seen by the Kapta ranges from -1.5 meters to 13.5 meters relative to the Kapta position. This gives a maximum possible depth of the tracking area of 15 meters.

Taking a height margin of 2 meters (humans move on the ground; no podium, floor, stairs are installed at the back of the stage), the rear limit of the effective tracking zone is about 9.3 meters from the Kapta, for a total depth of 10.3 meters.



To determine the maximum achievable tracking area, we must now refer to the floor charts.

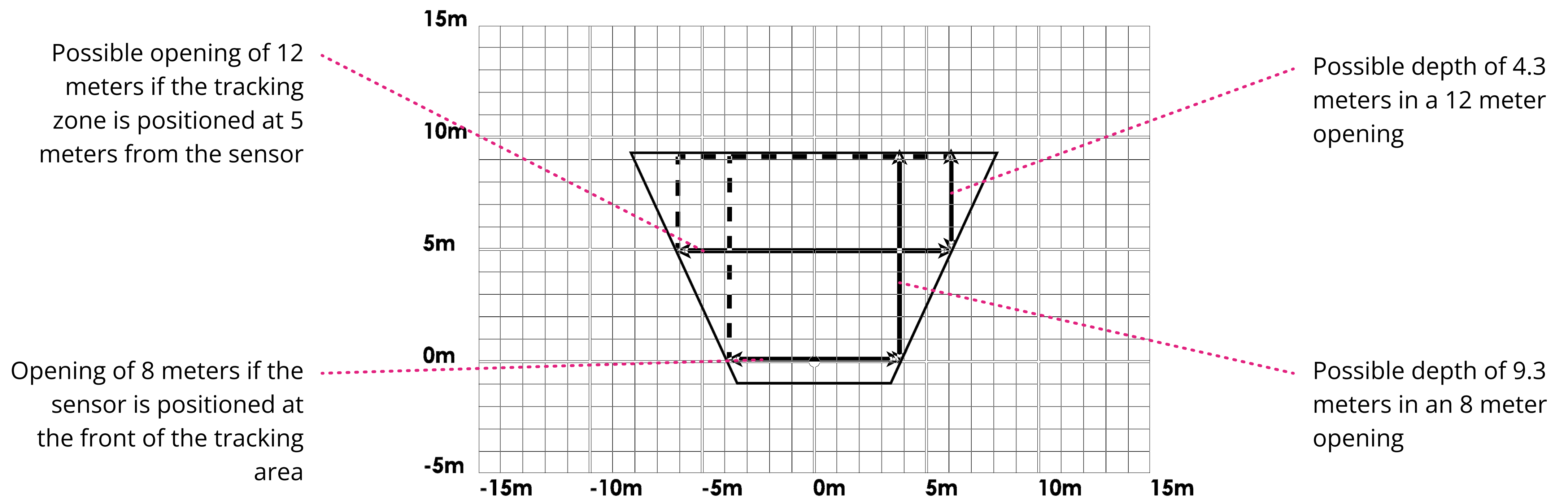
In the same way as with the bottom of the tracking area, it is important to take a margin on the height in order to determine the limits of the feasible tracking area. To know these limits in this case, it is necessary to take the floor chart showing an inclination of 65° at a height of 5 meters (I65H5) (2 meters of margin removed from the 7 meters of installation height). In this way, it is ensured that any human will be detected correctly on the edges of the tracking area.

On this chart, we can see that the maximum depth of 9.3 meters calculated earlier is correct.

We can now determine the possible opening of the tracking zone according to its distance from the Kapta.

If the front of the tracking zone is below the sensor, its opening can only be about 8 meters. If the tracking zone is set back from the sensor, its maximum possible depth decreases but its opening increases.

A tracking zone of 12 meters of opening by 4.3 meters of depth is possible in this configuration if the sensor is located at 5 meters from the front of the tracking zone.

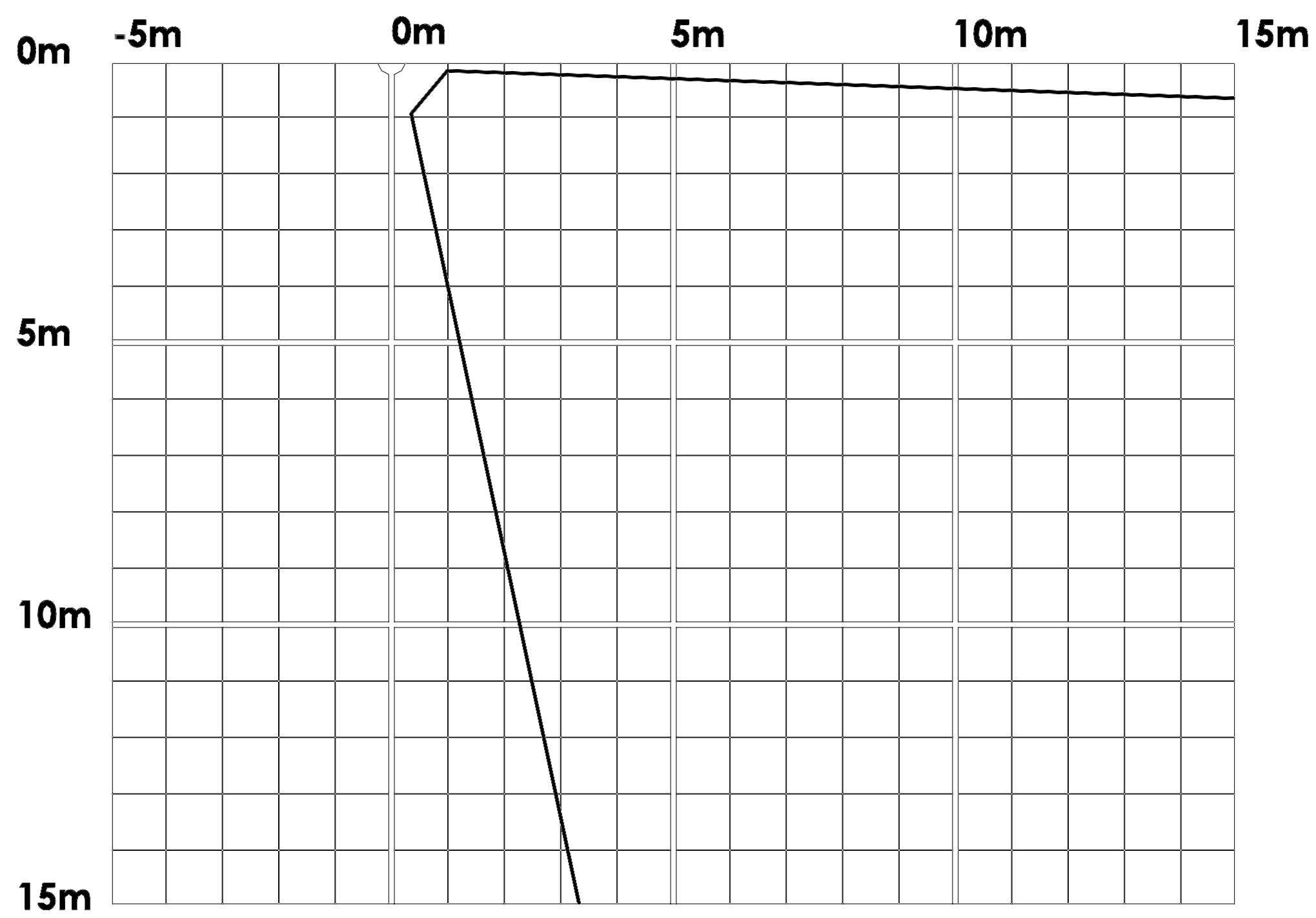


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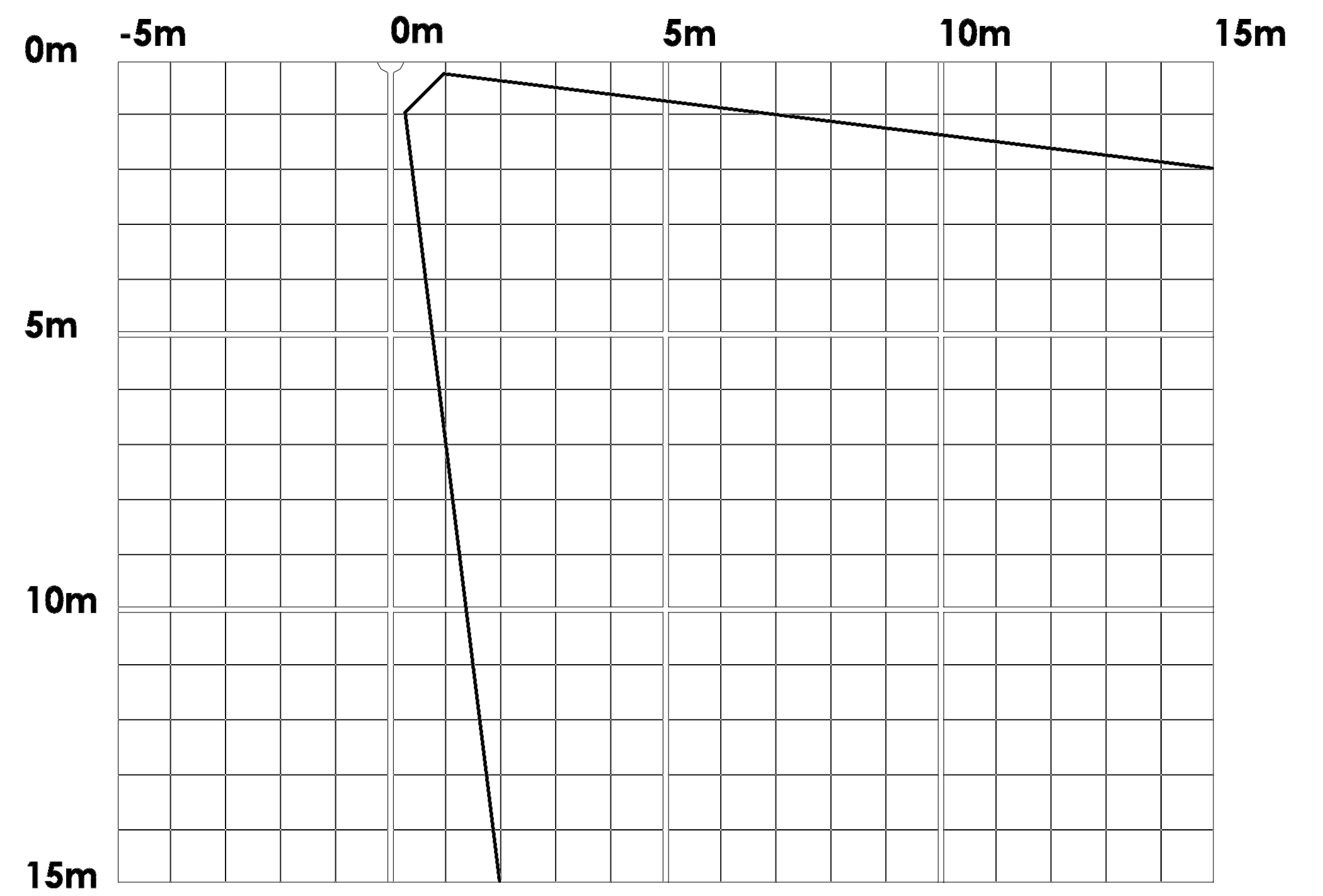
Profile charts	7 - 8
Floor charts sorted by installation height	9 - 30
Height 3m	9 - 10
Height 4m	11 - 12
Height 5m	13 - 14
Height 6m	15 - 16
Height 7m	17 - 18
Height 8m	19 - 20
Height 9m	21 - 22
Height 10m	23 - 24
Height 11m	25 - 26
Height 12m	27 - 28
Height 13m	29 - 30
Height 14m	31 - 32
Height 15m	33 - 34

Profile charts - Inclination 40° - 65°

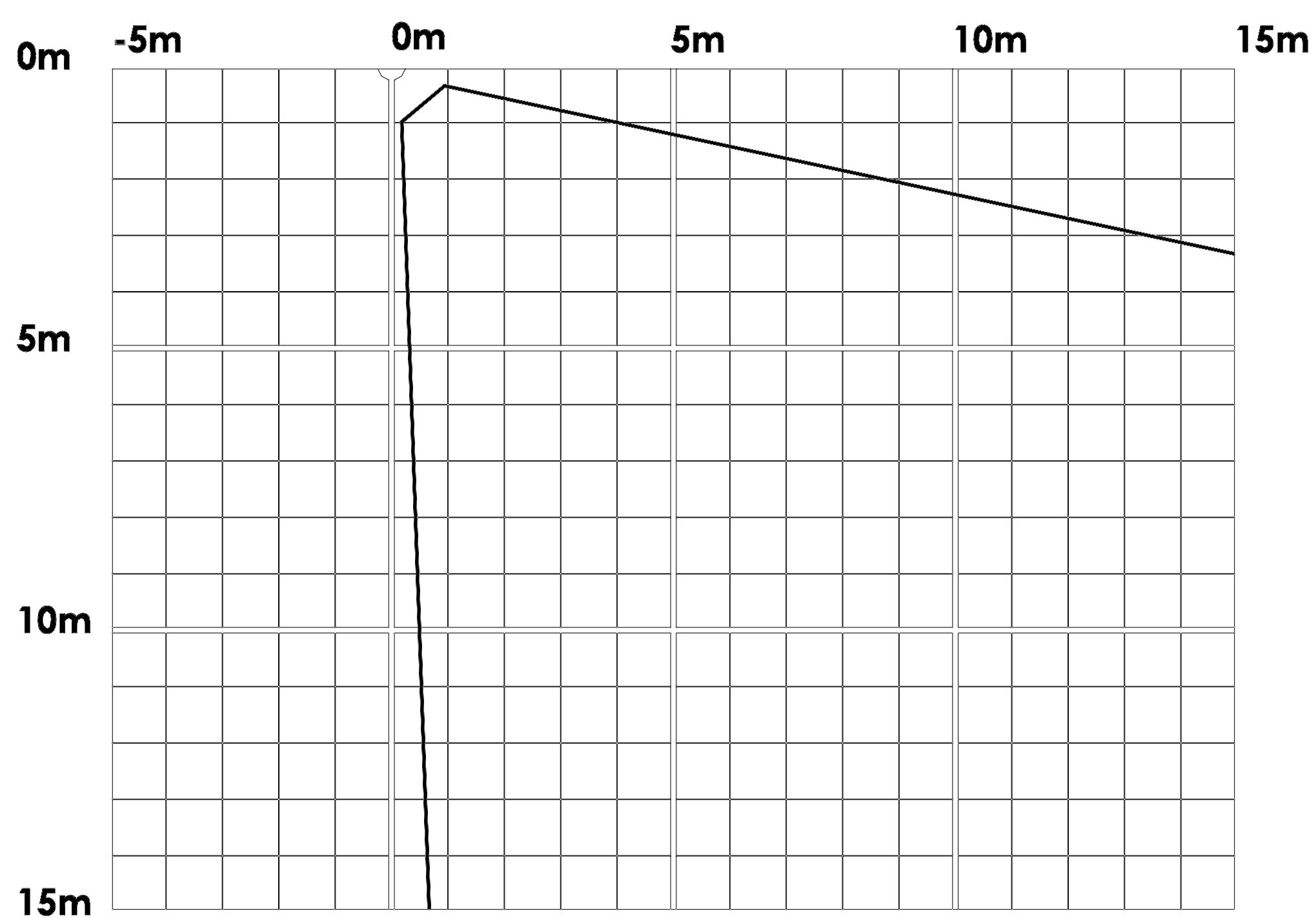
(I40) - Inclination : 40°



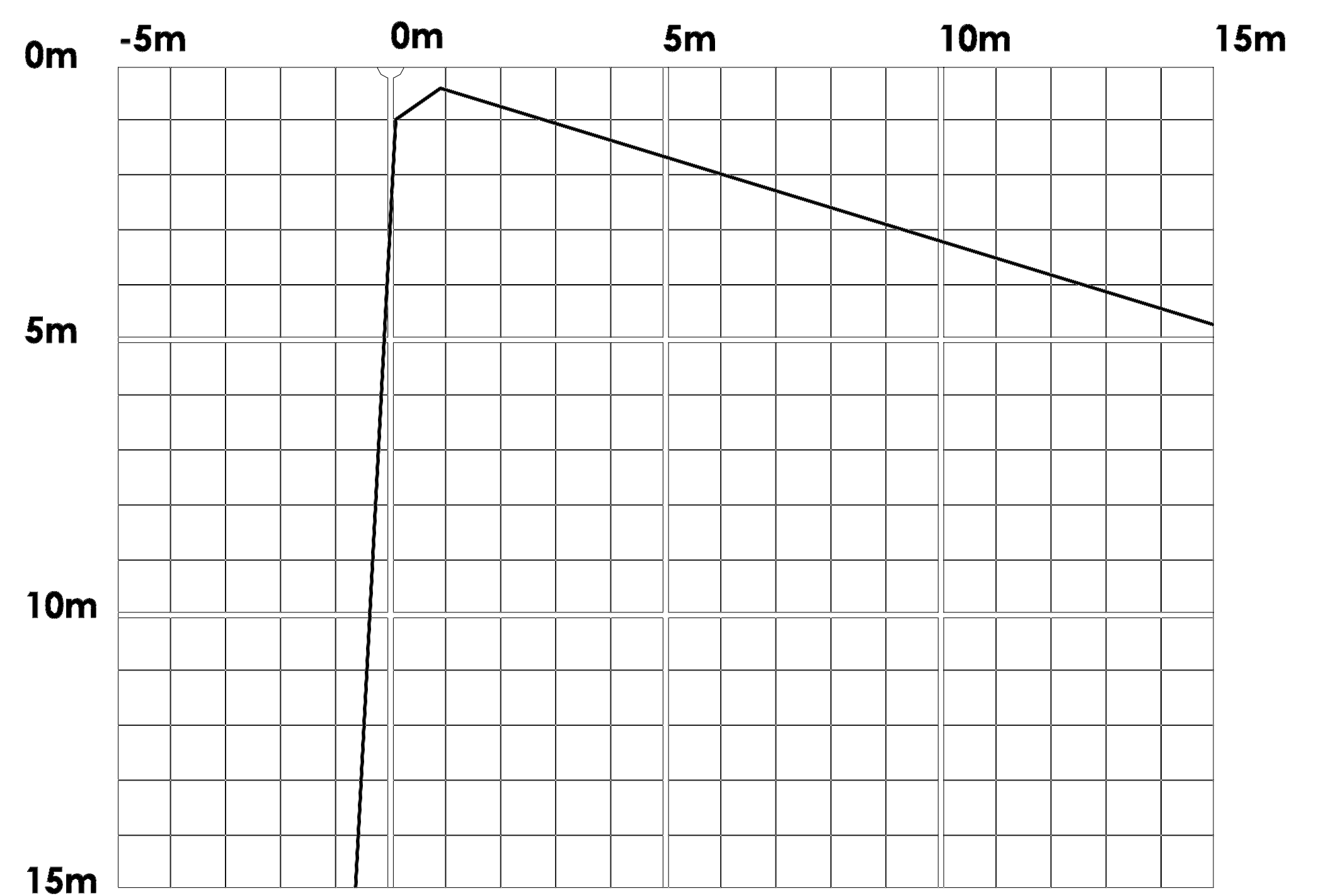
(I45) - Inclination : 45°



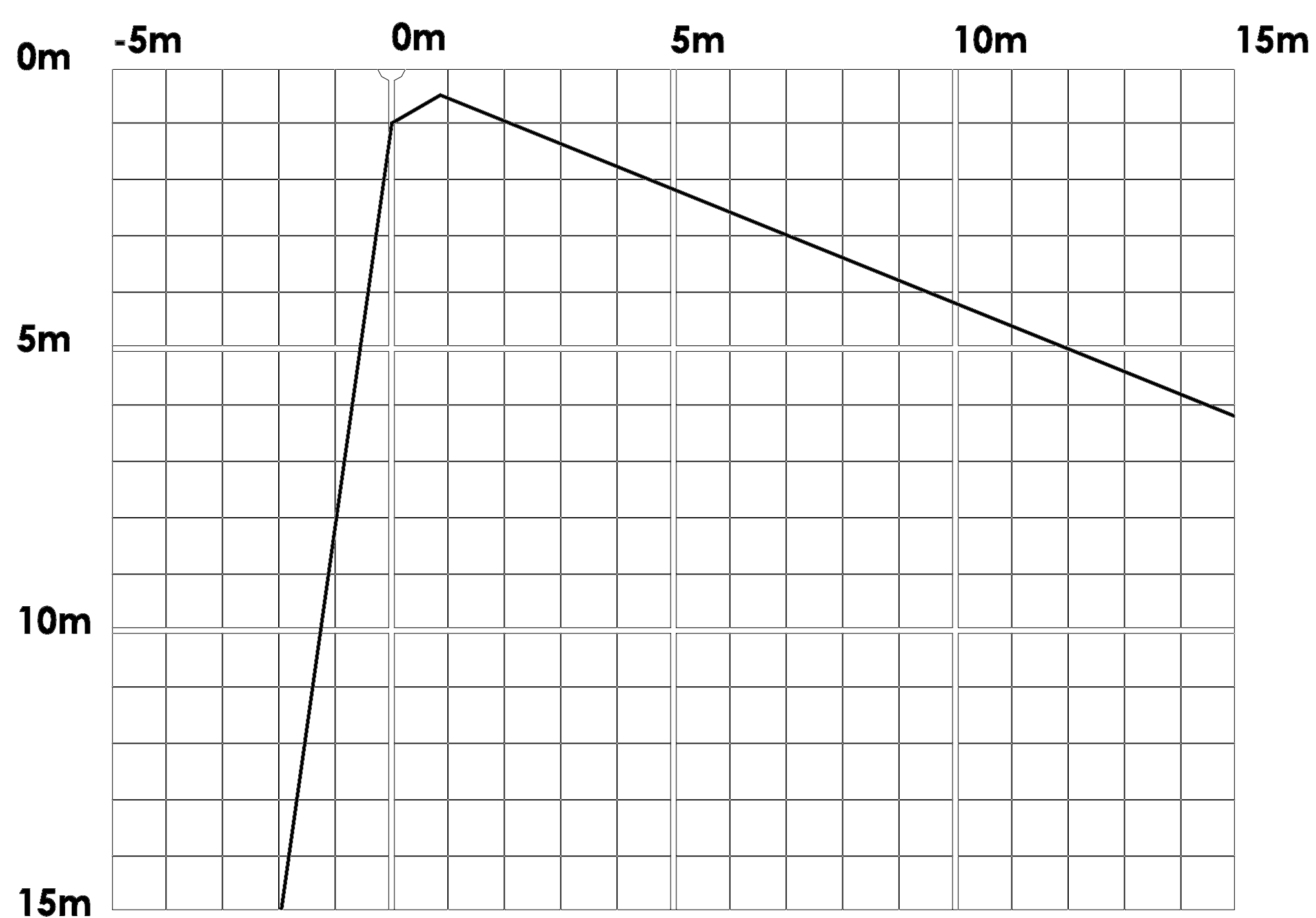
(I50) - Inclination : 50°



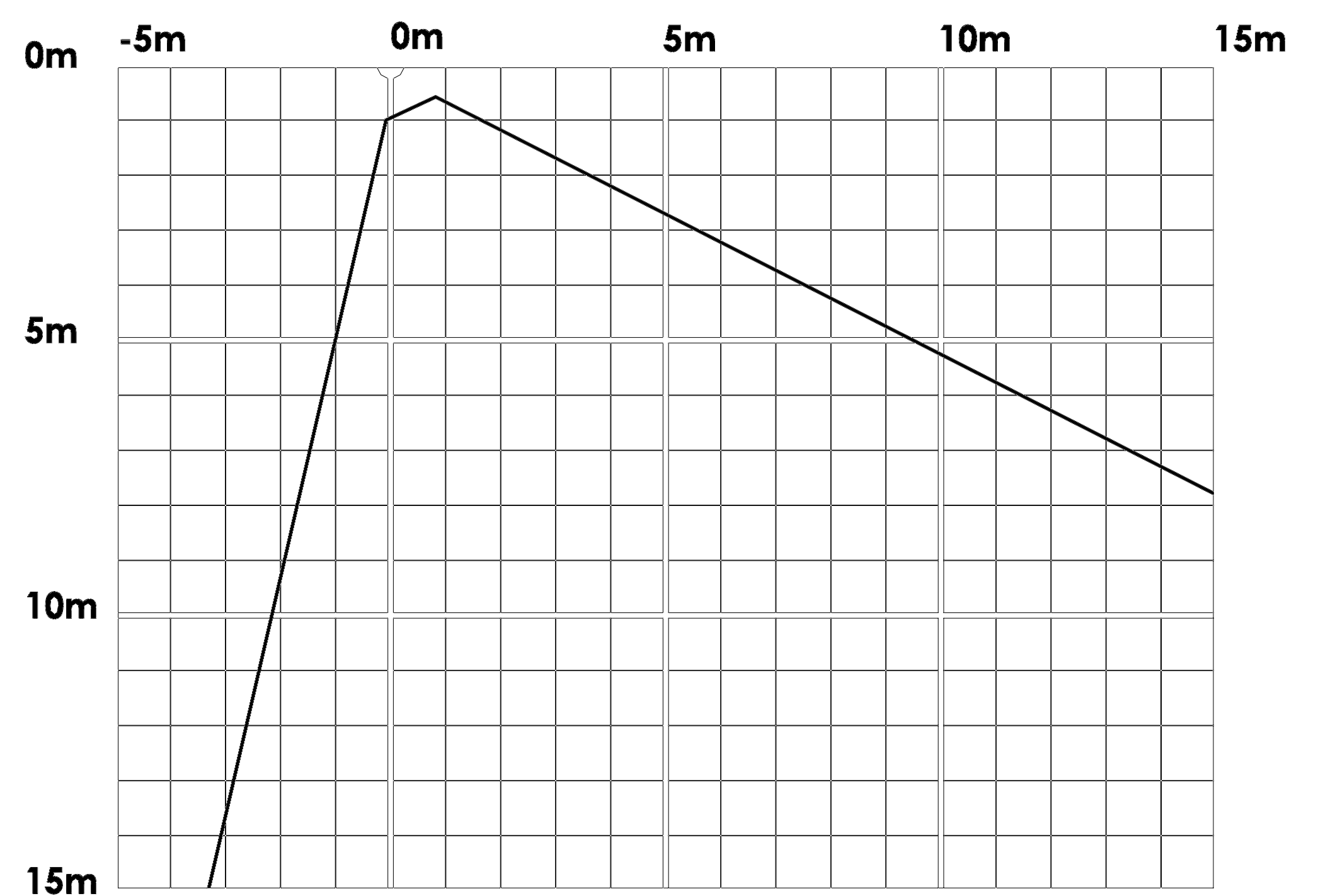
(I55) - Inclination : 55°



(I60) - Inclination : 60°

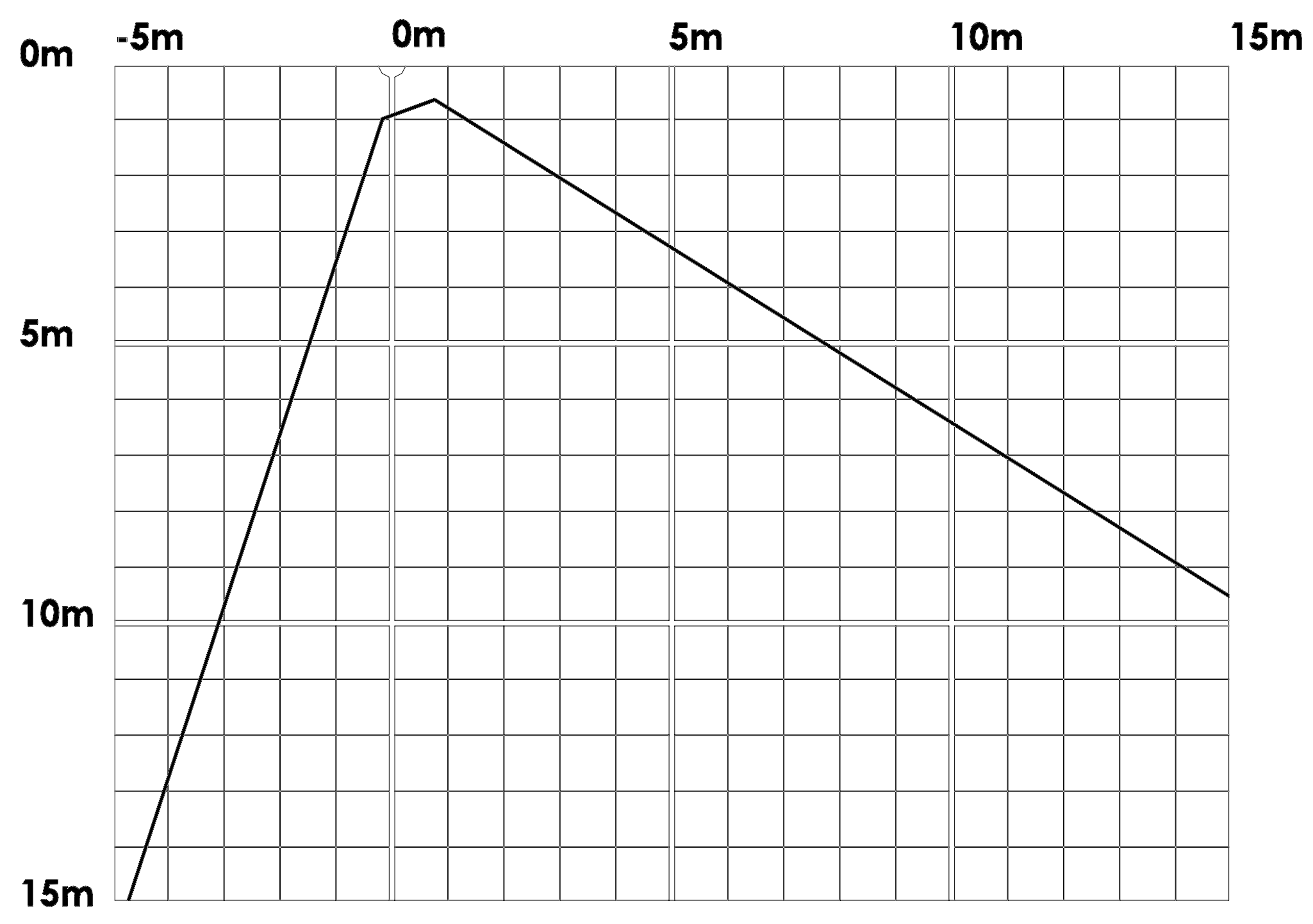


(I65) - Inclination : 65°



Profile charts - Inclination 70°

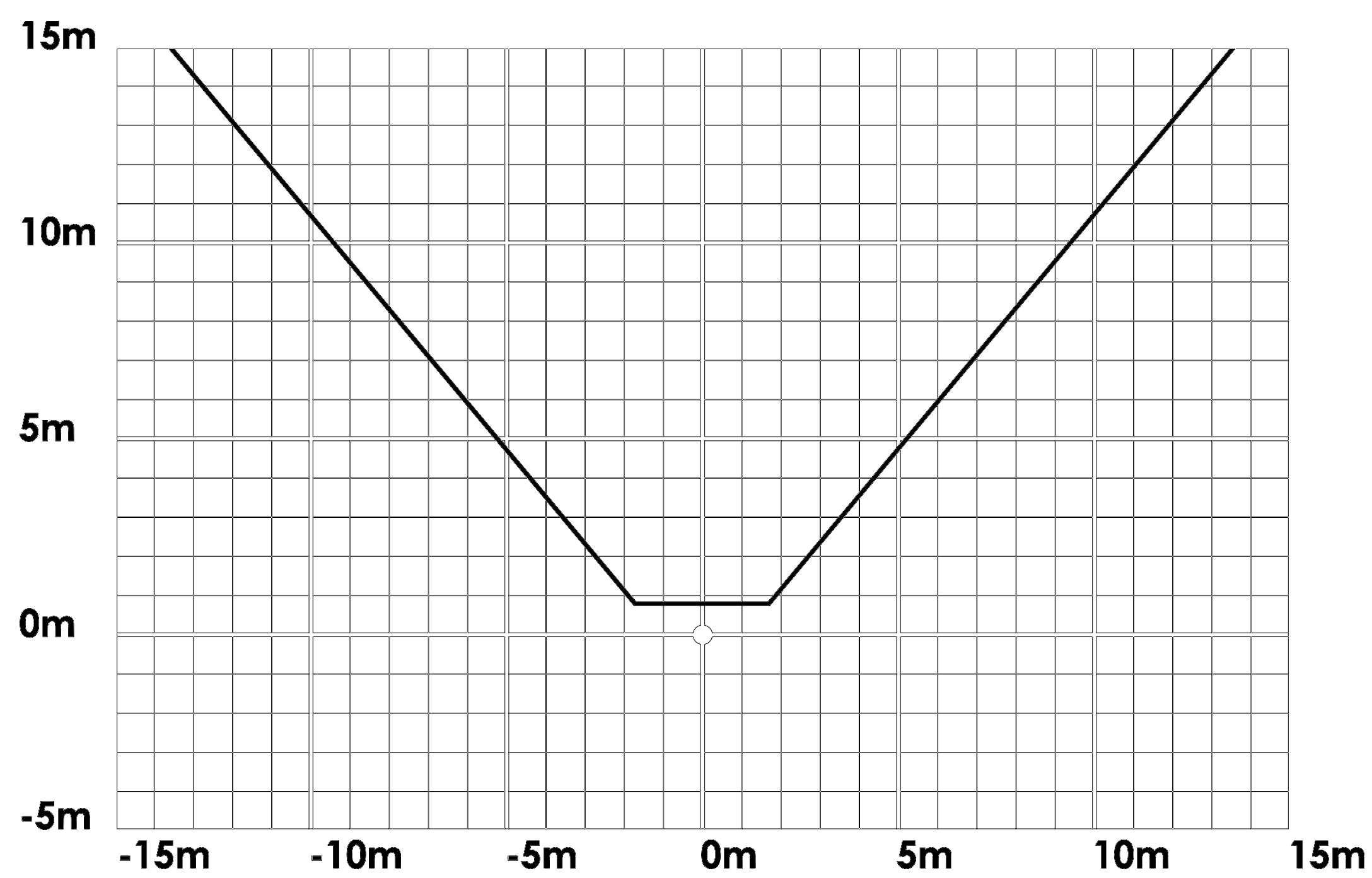
(I70) - Inclination : 70°



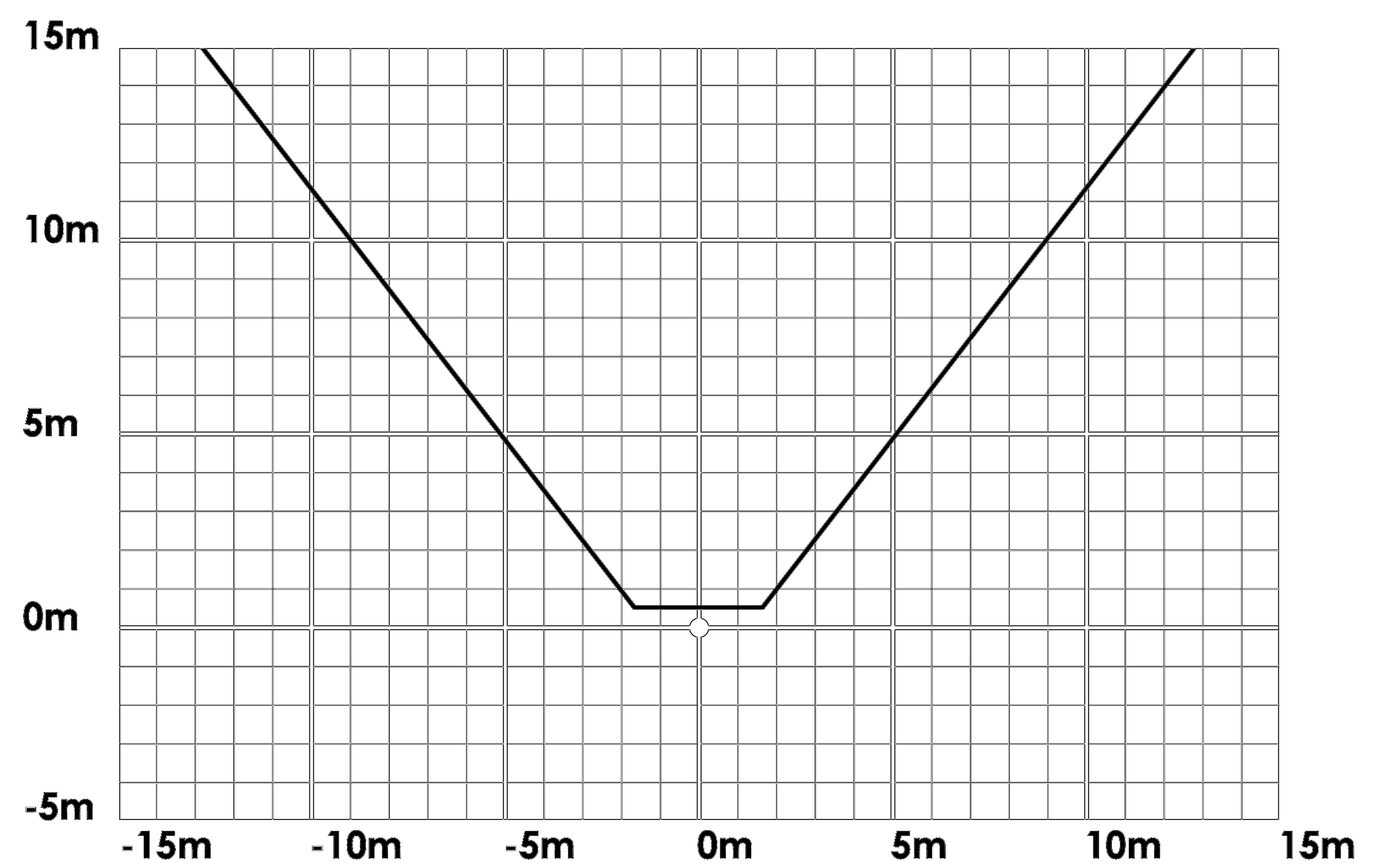
Floor charts - Height 3m, inclination 40° - 65°

Charts given only for verification of a 2-meters margin at an installation height of 5 meters.

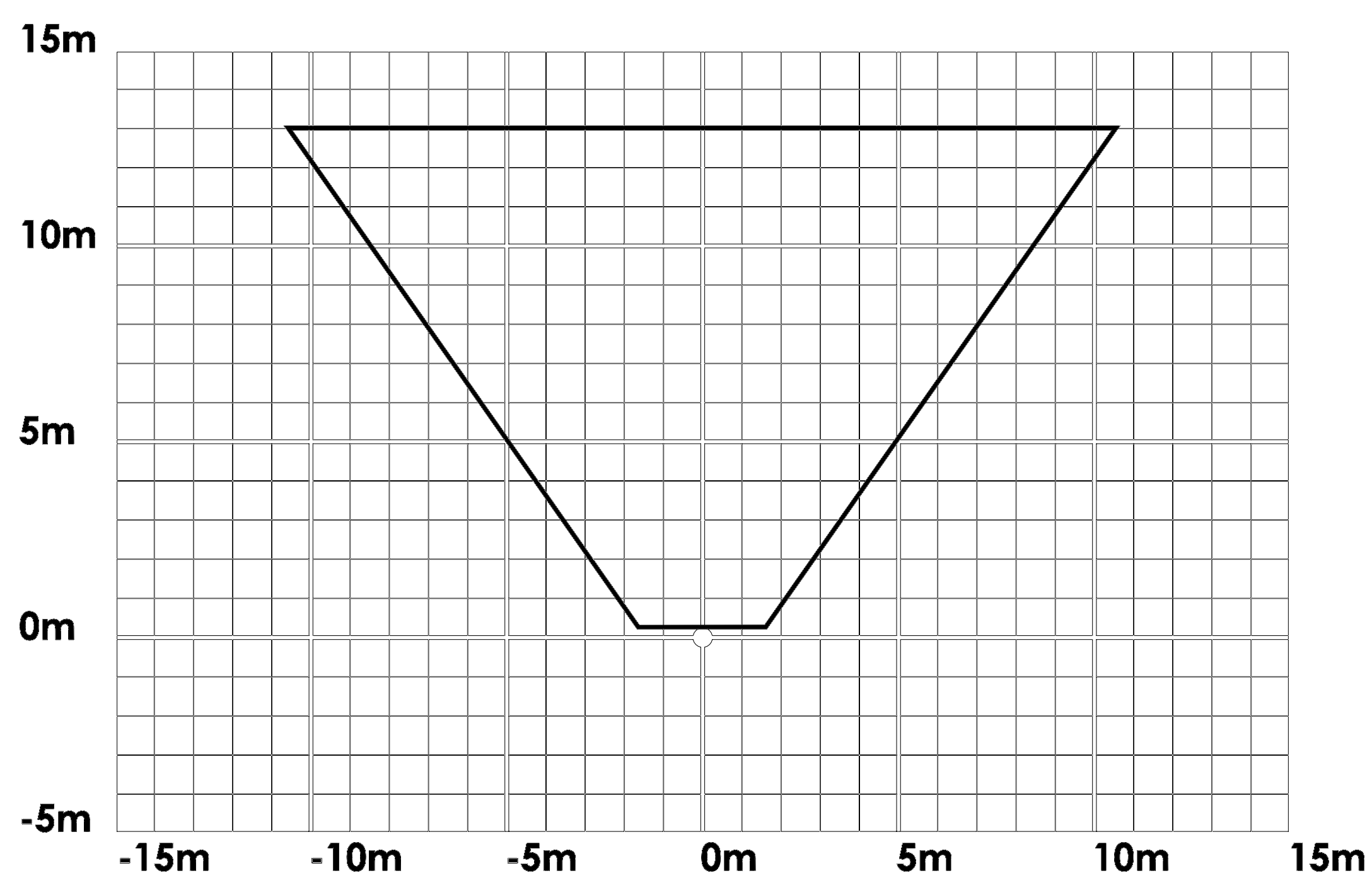
(I40H03) - Height 3m, inclination : 40°



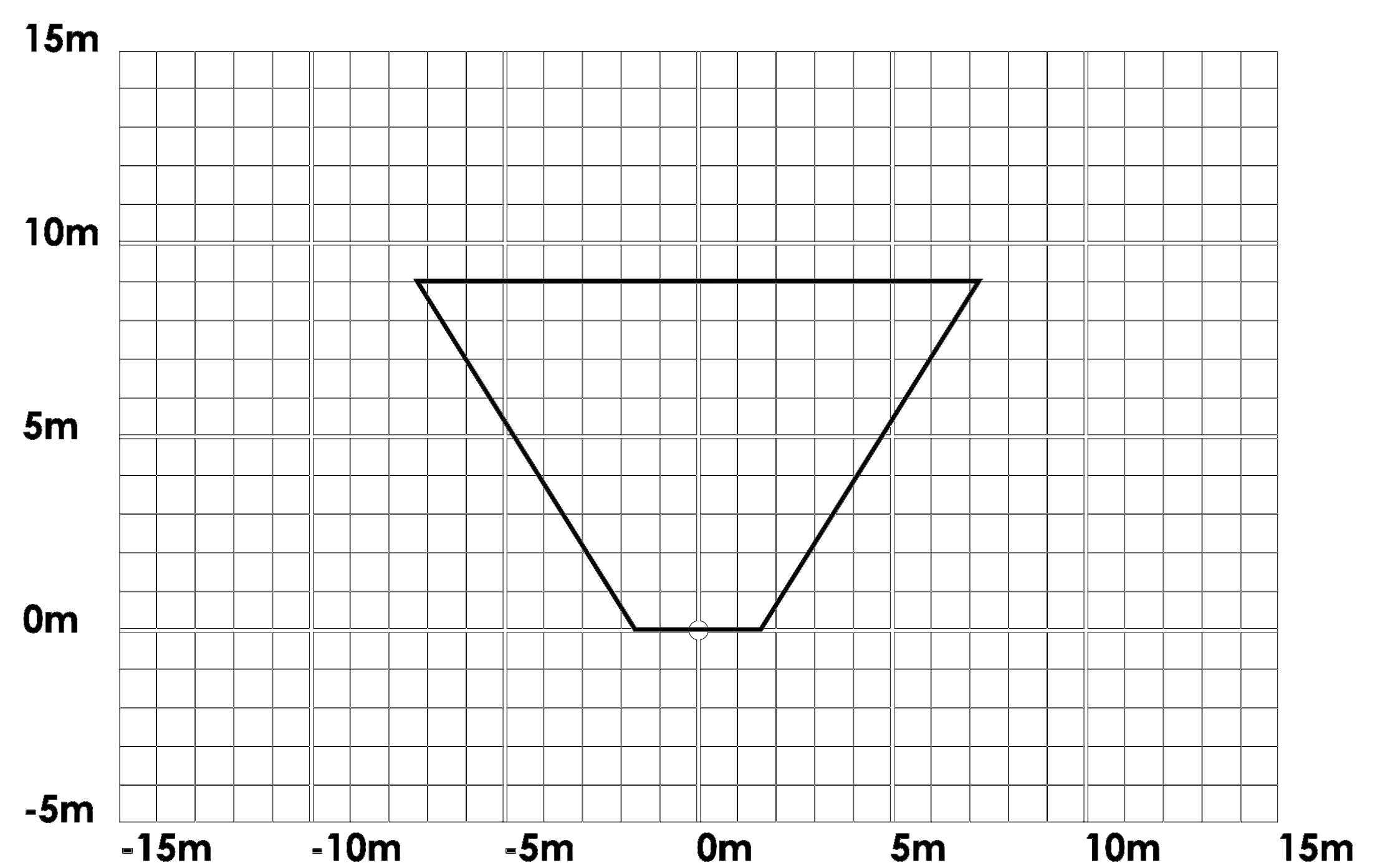
(I45H03) - Height 3m, inclination : 45°



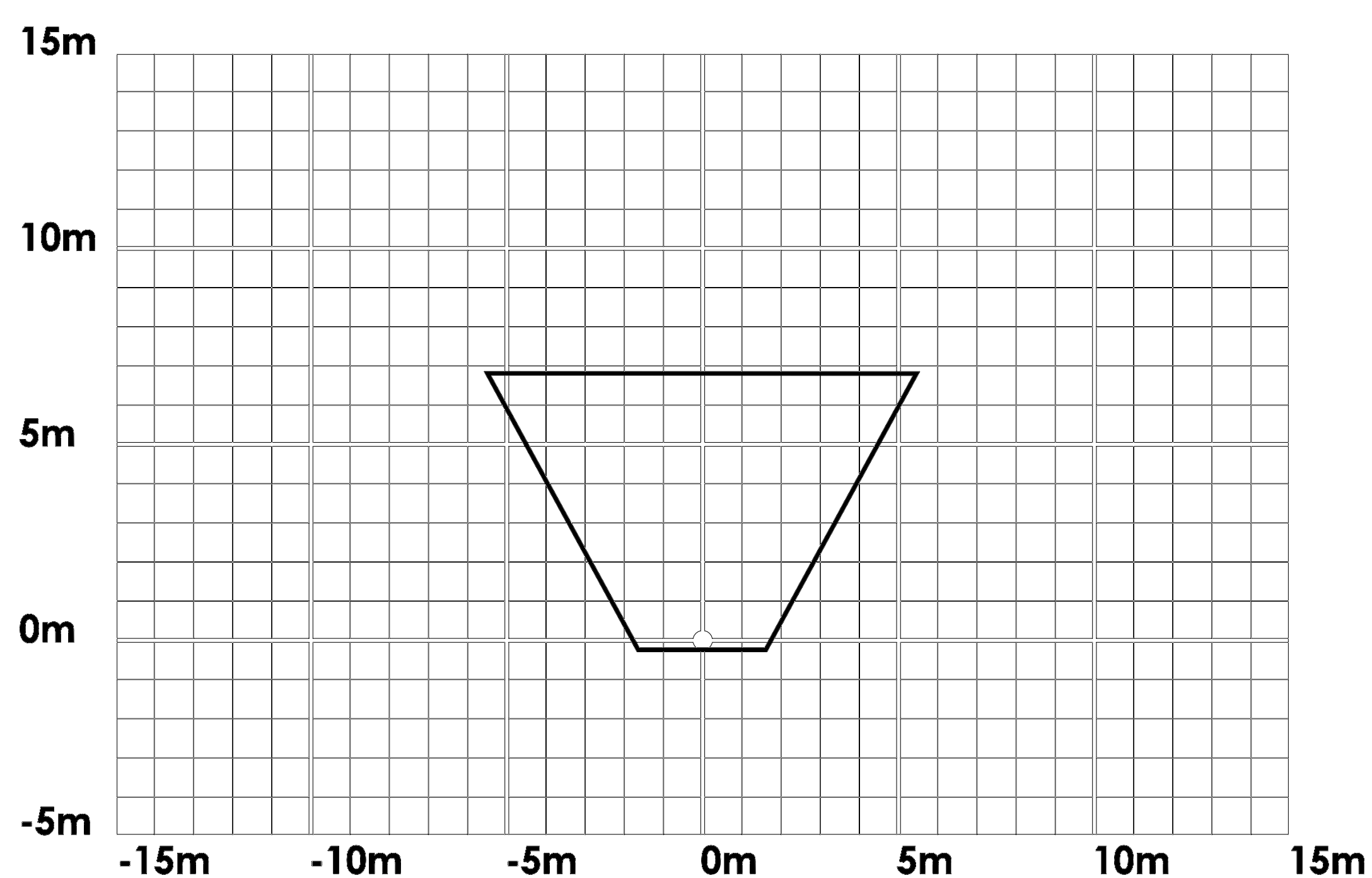
(I50H03) - Height 3m, inclination : 50°



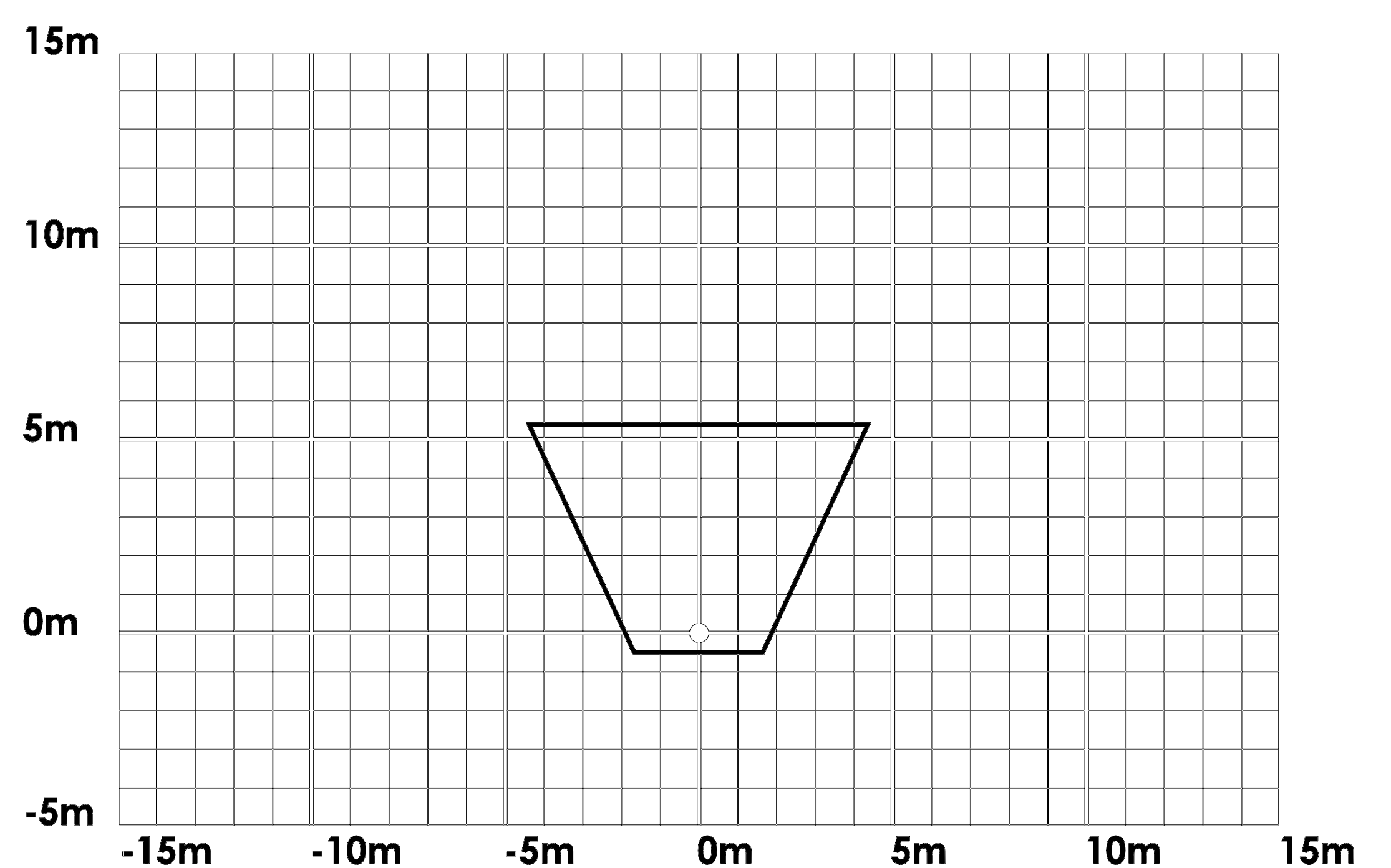
(I55H03) - Height 3m, inclination : 55°



(I60H03) - Height 3m, inclination : 60°



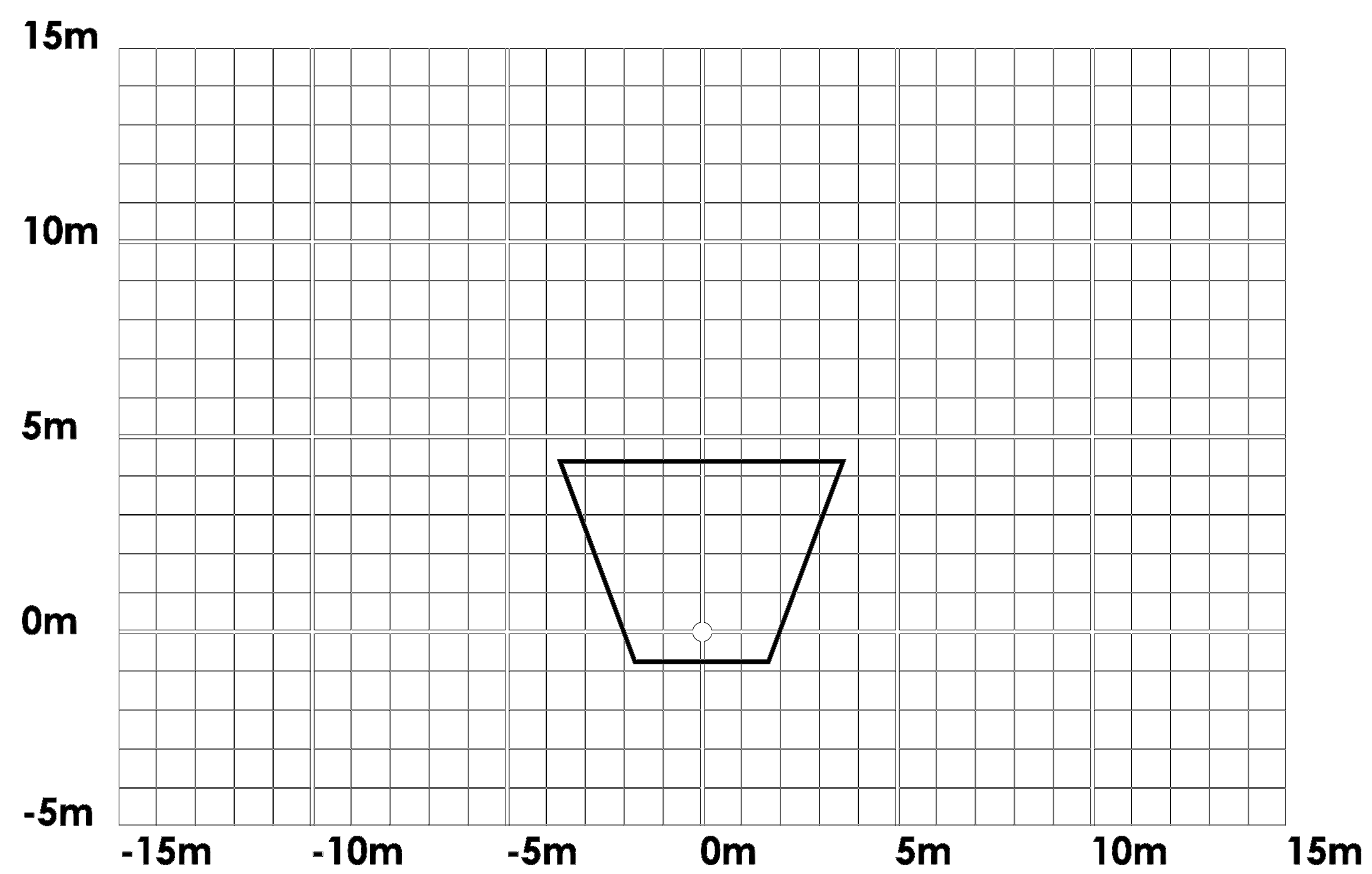
(I65H03) - Height 3m, inclination : 65°



Floor charts - Height 3m, inclination 70°

Charts given only for verification of a 2-meters margin at an installation height of 5 meters.

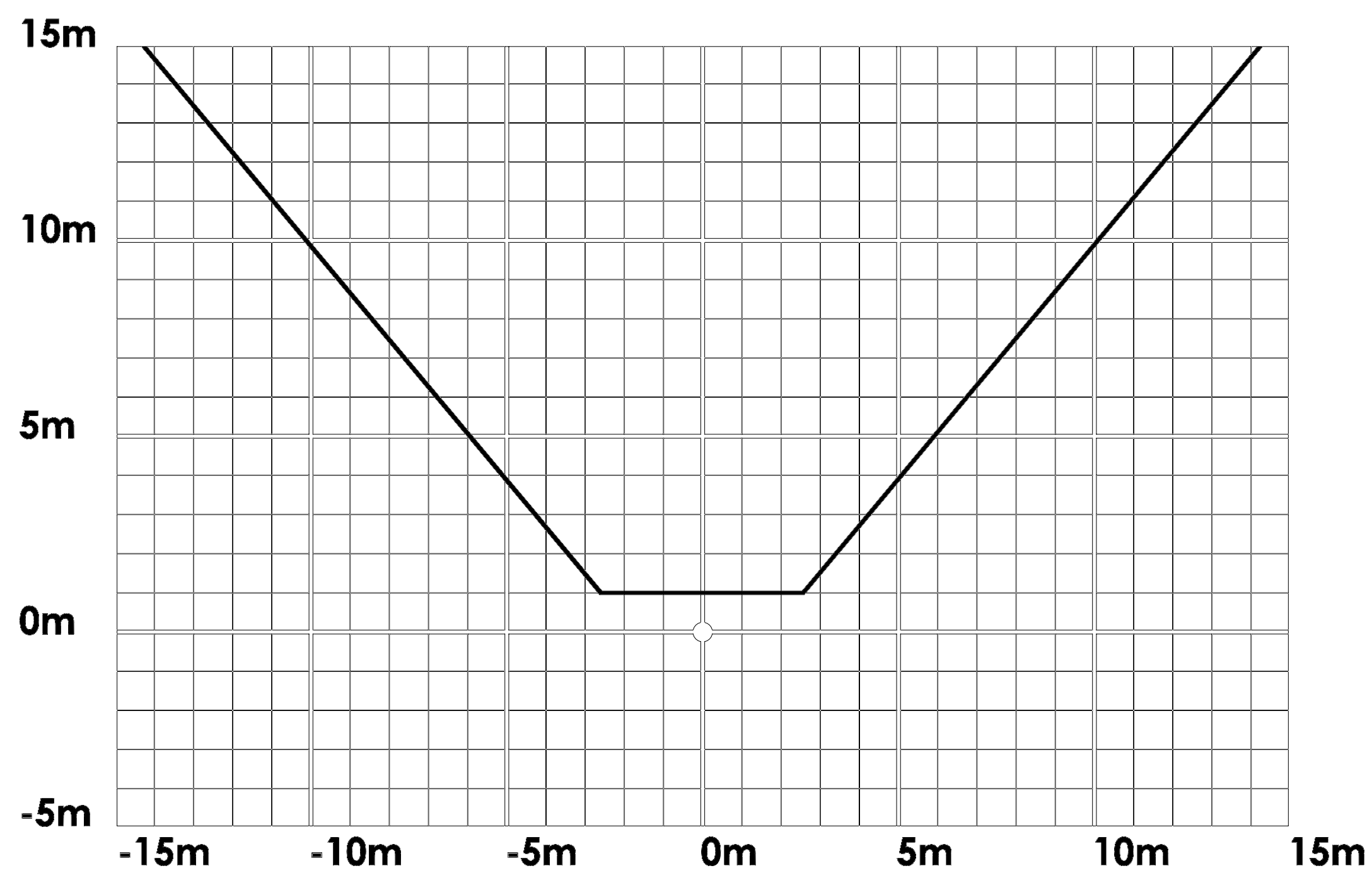
(I70H03) - Height 3m, inclination : 70°



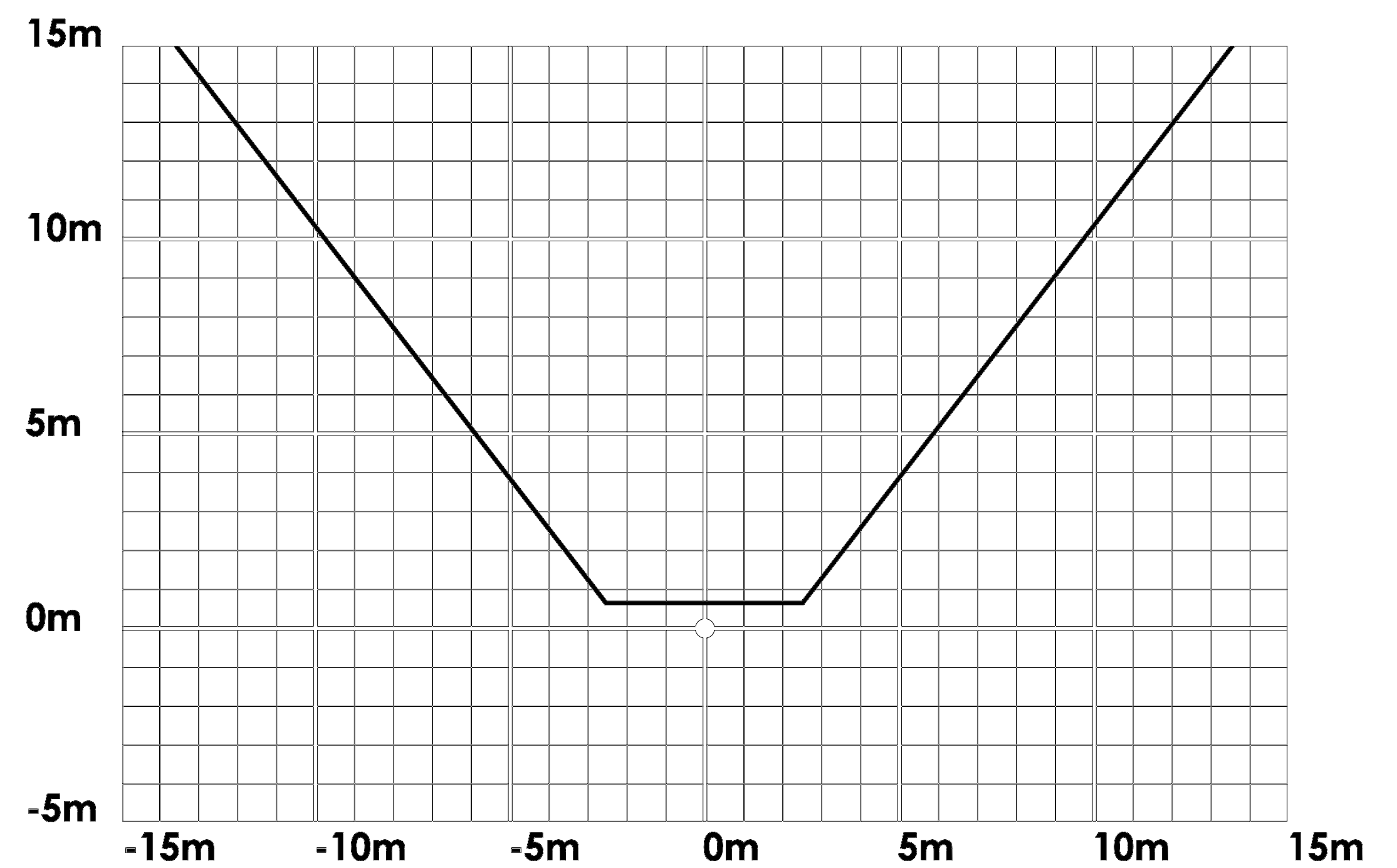
Floor charts - Height 4m, inclination 40° - 65°

Charts given only for verification of a 1-meter margin at an installation height of 5 meters (or a 2-meter margin at an installation height of 6 meters).

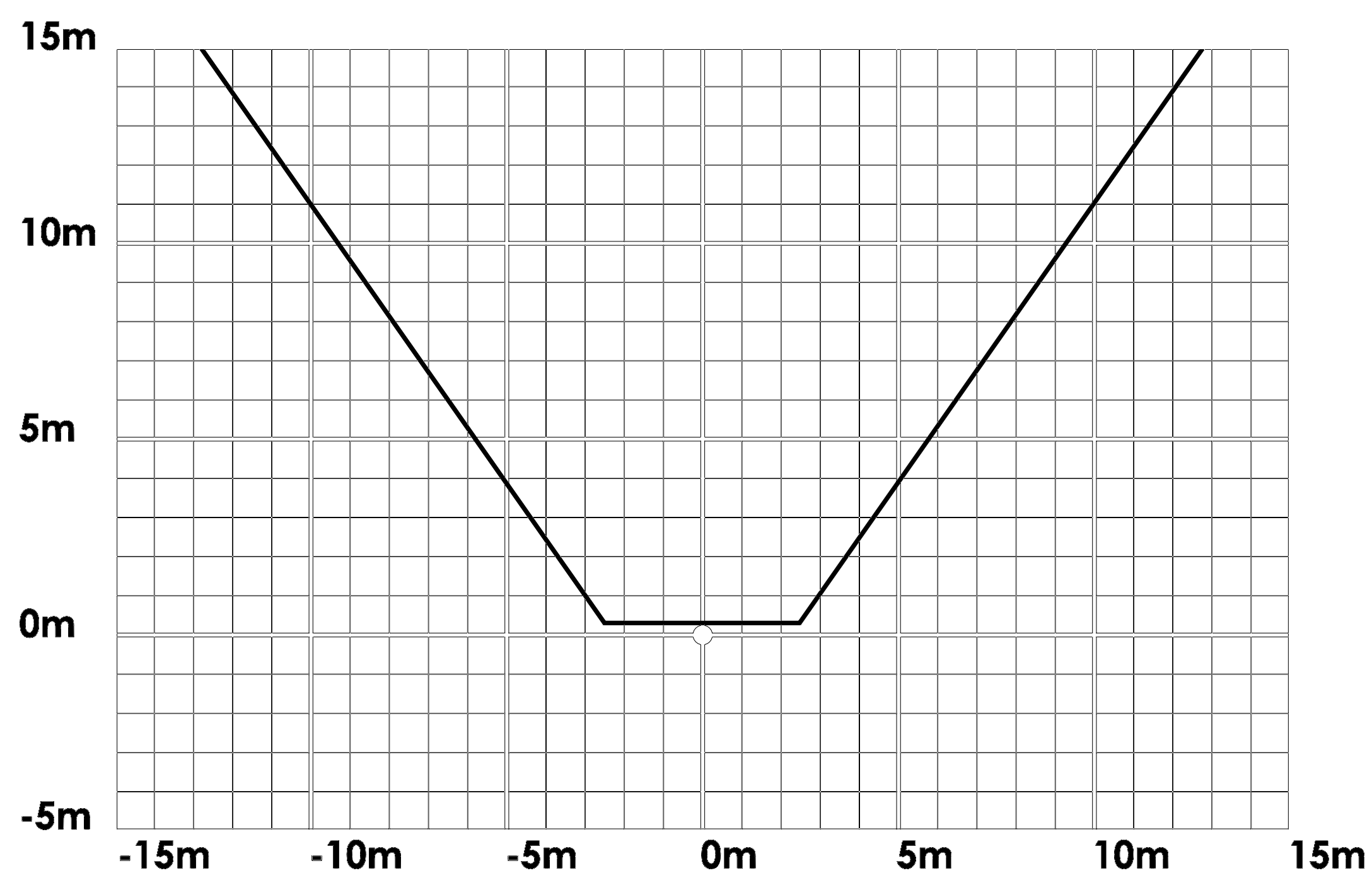
(I40H04) - Height 4m, inclination : 40°



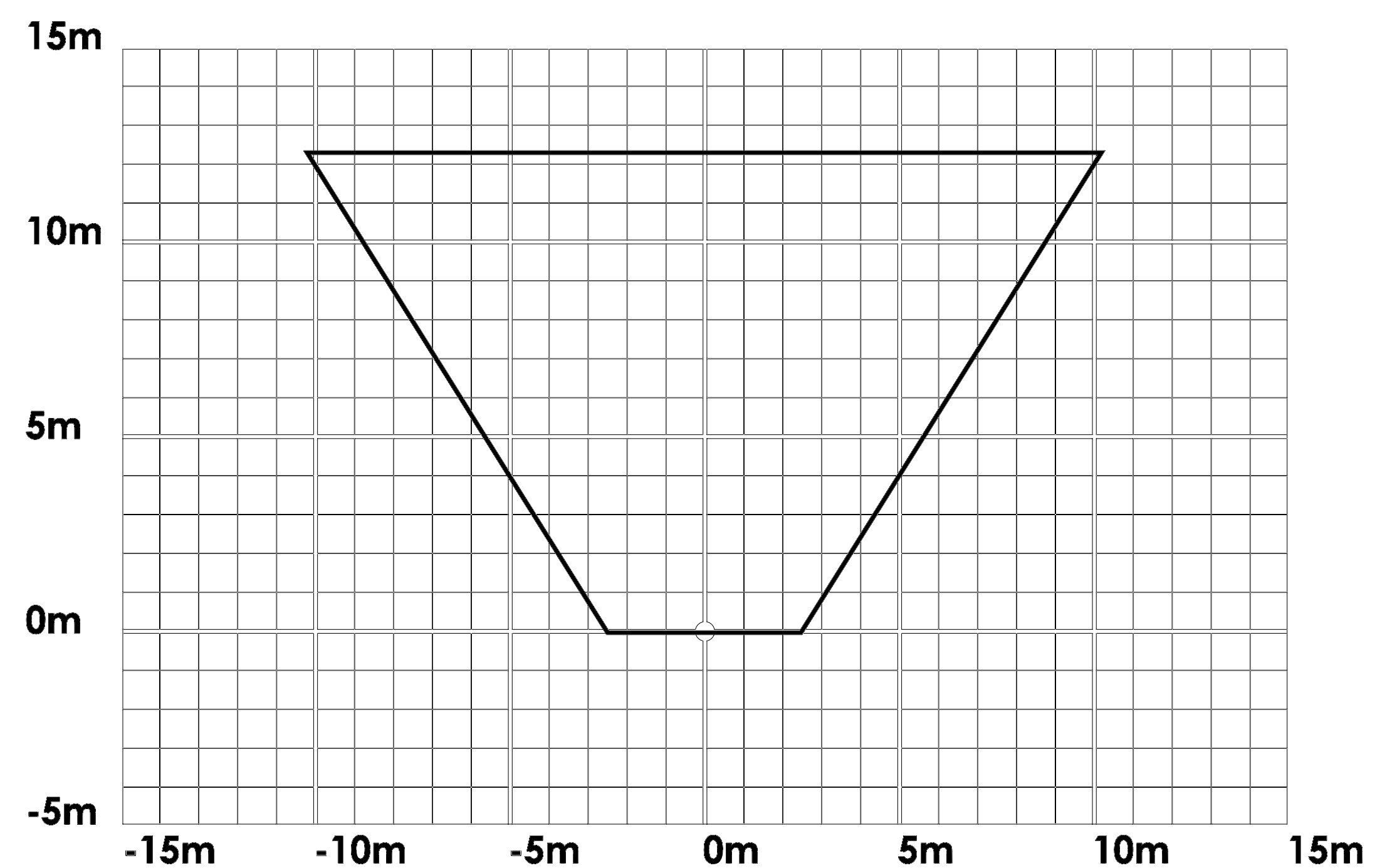
(I45H04) - Height 4m, inclination : 45°



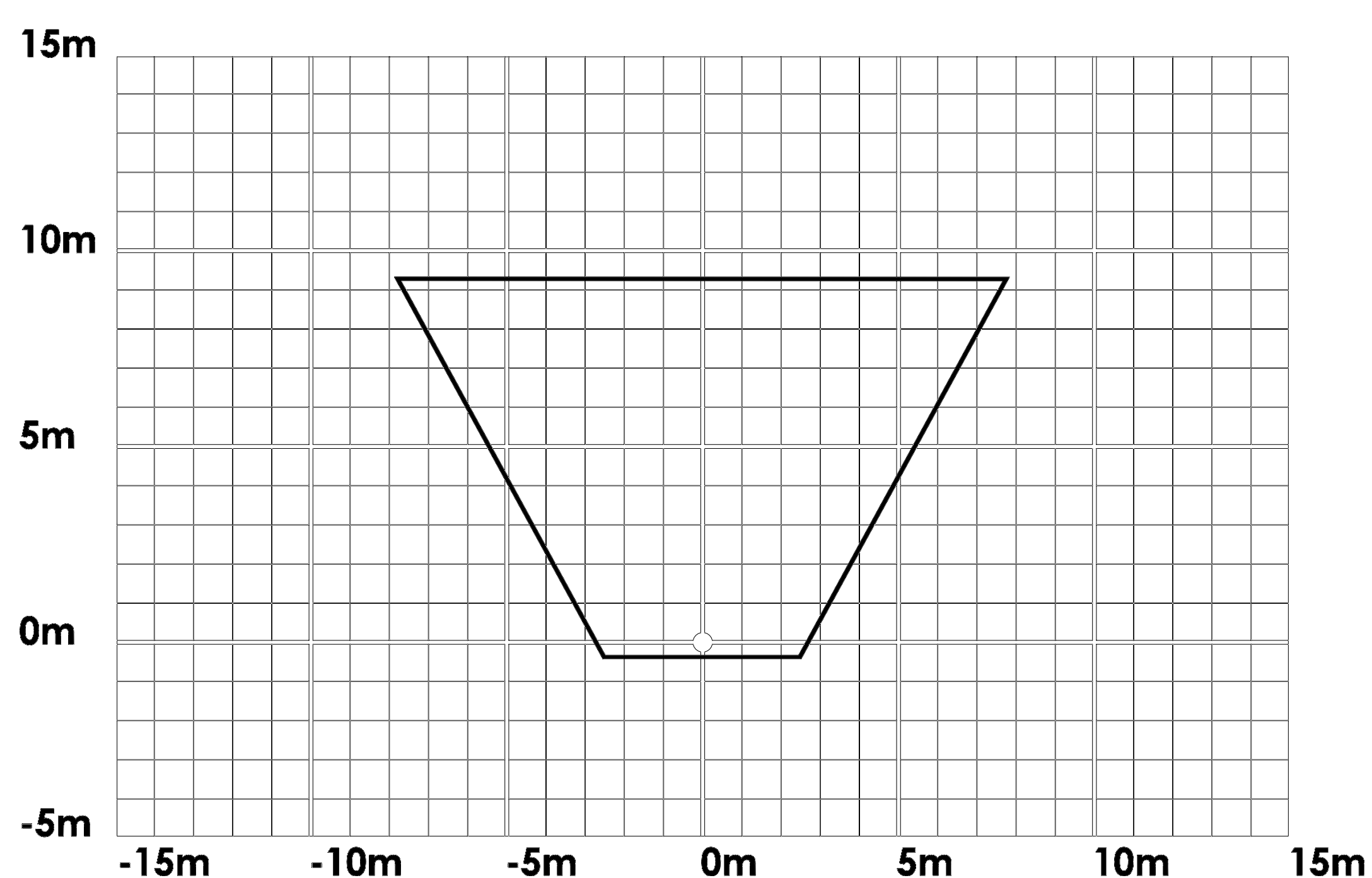
(I50H04) - Height 4m, inclination : 50°



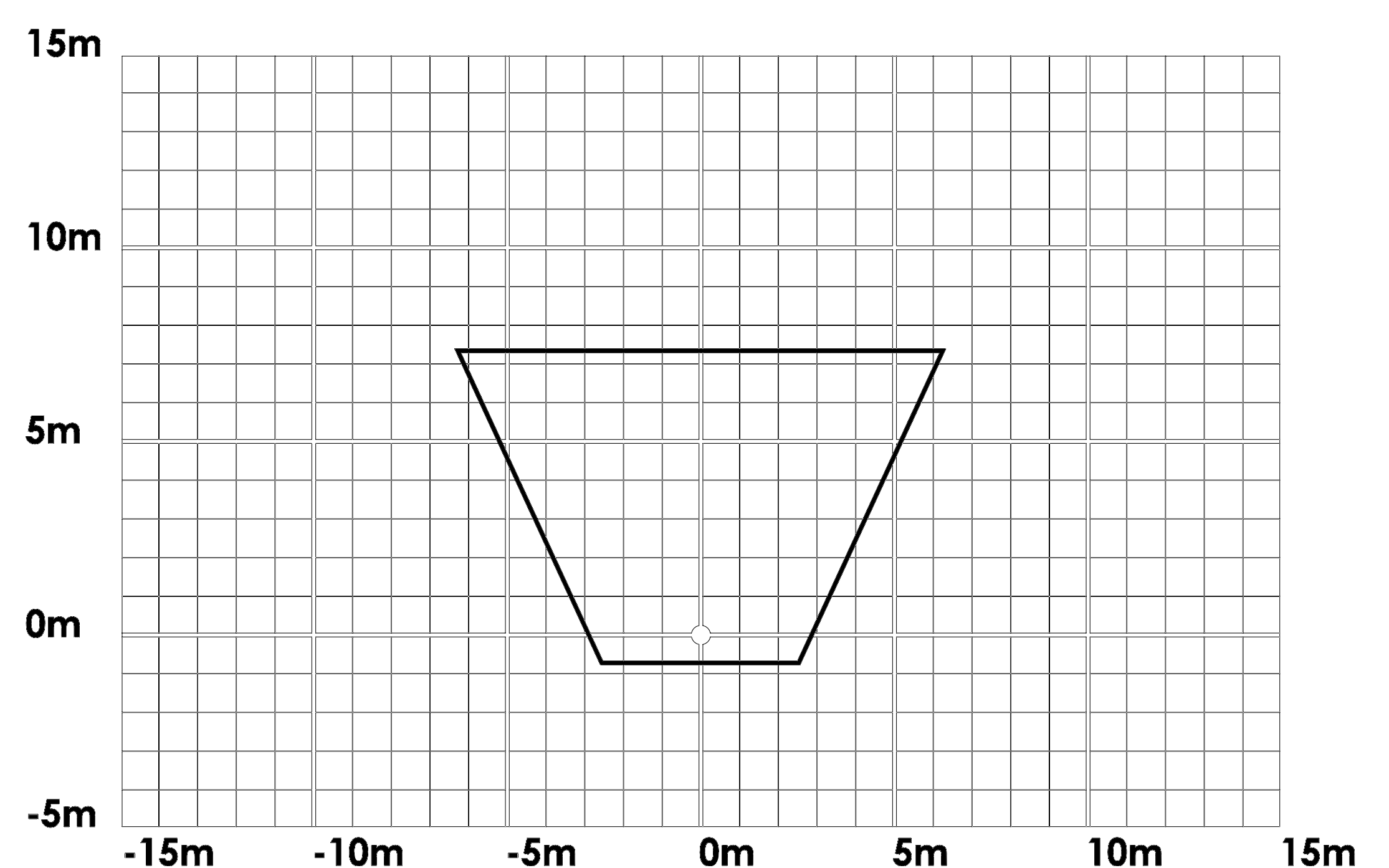
(I55H04) - Height 4m, inclination : 55°



(I60H04) - Height 4m, inclination : 60°



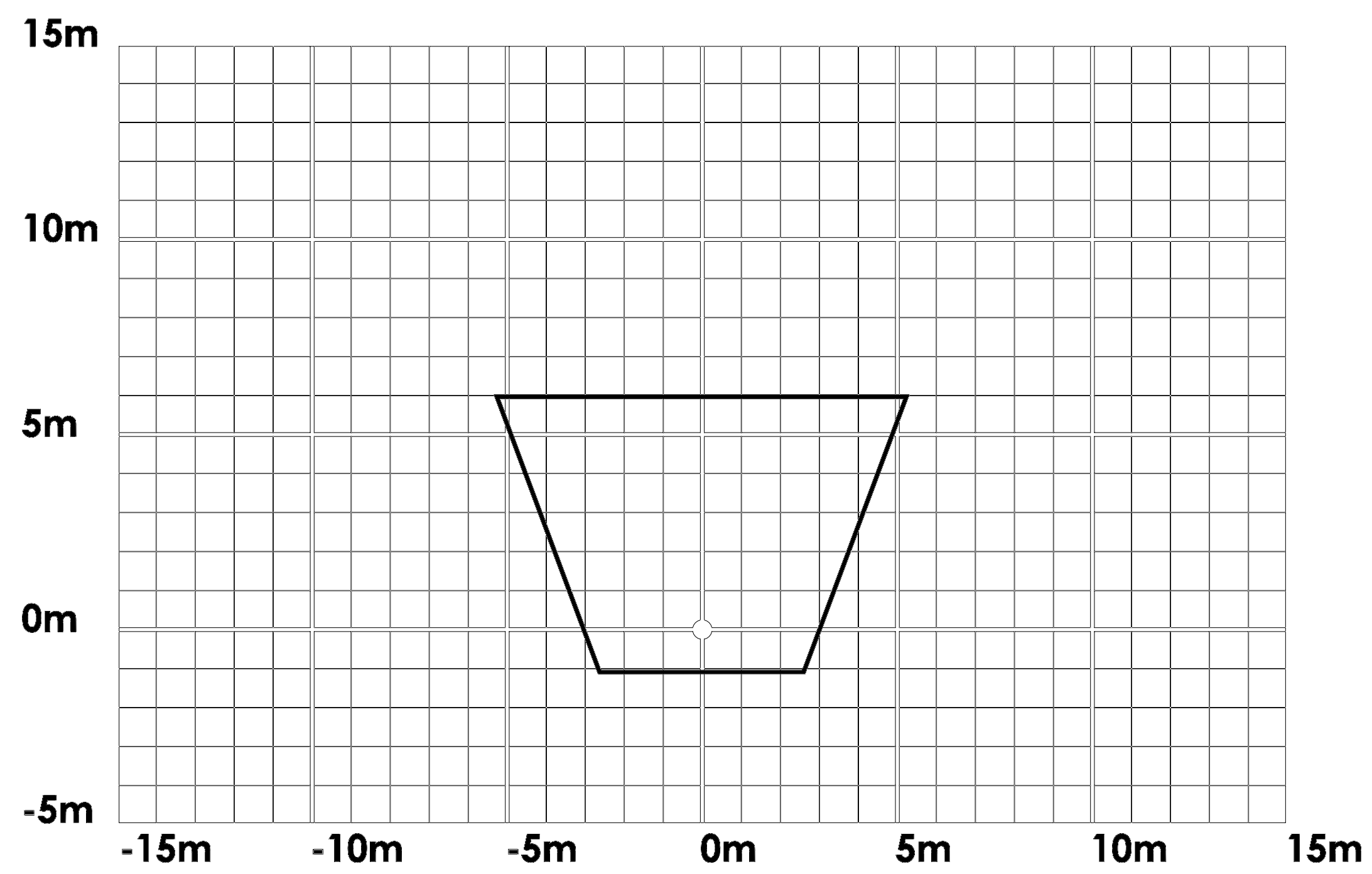
(I65H04) - Height 4m, inclination : 65°



Floor charts - Height 4m, inclination 70°

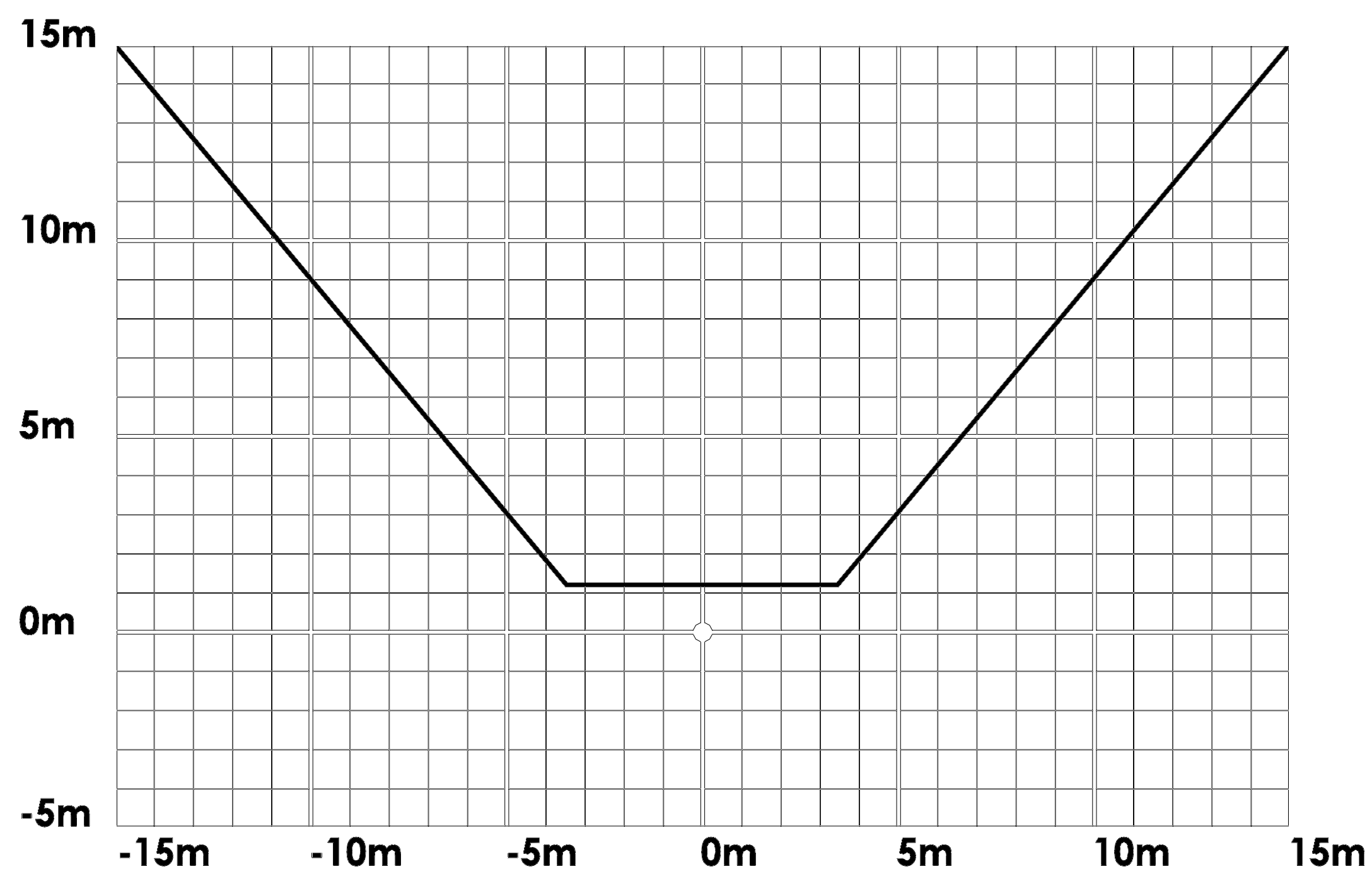
Charts given only for verification of a 1-meter margin at an installation height of 5 meters (or a 2-meter margin at an installation height of 6 meters).

(I70H04) - Height 4m, inclination : 70°

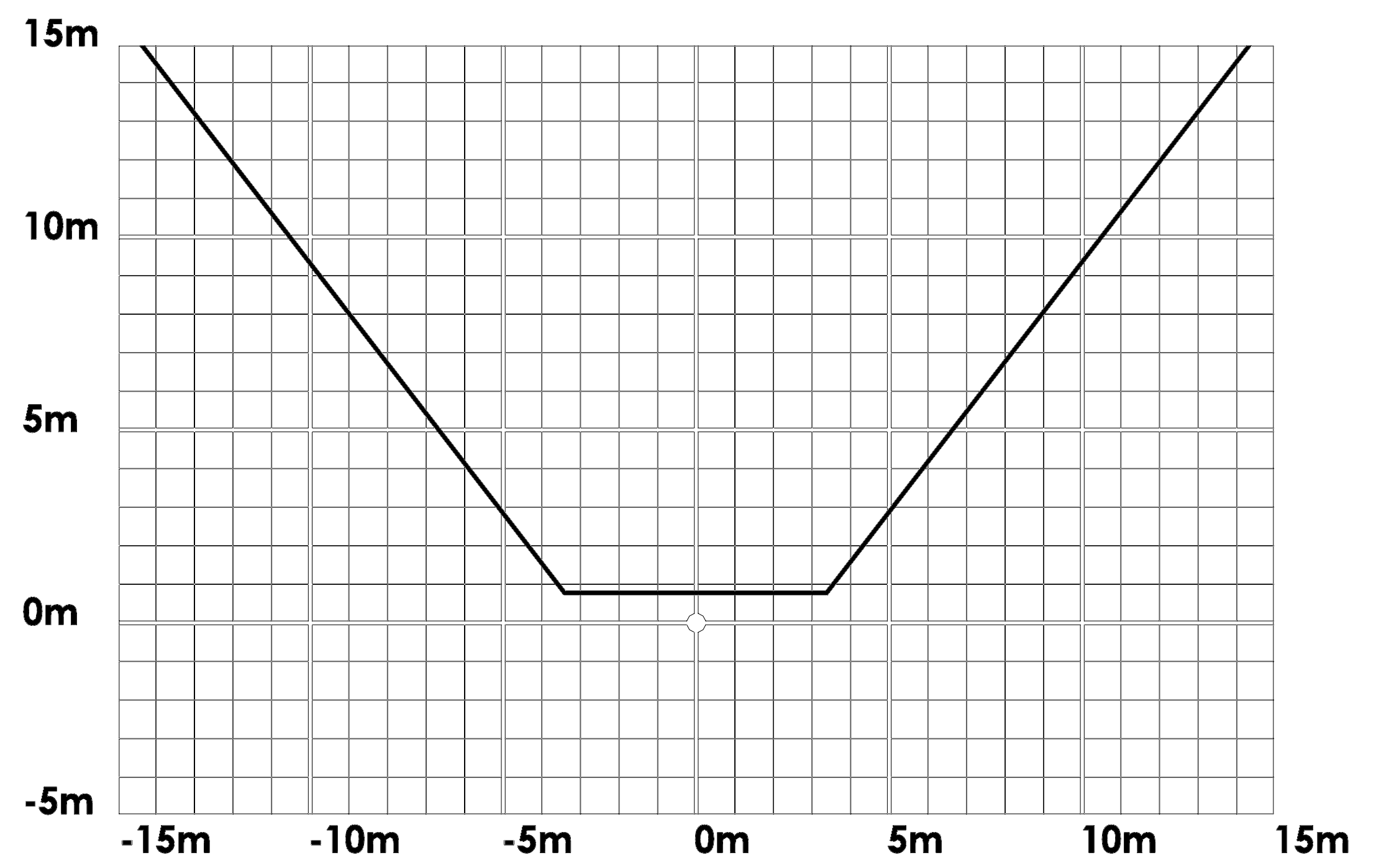


Floor charts - Height 5m, inclination 40° - 65°

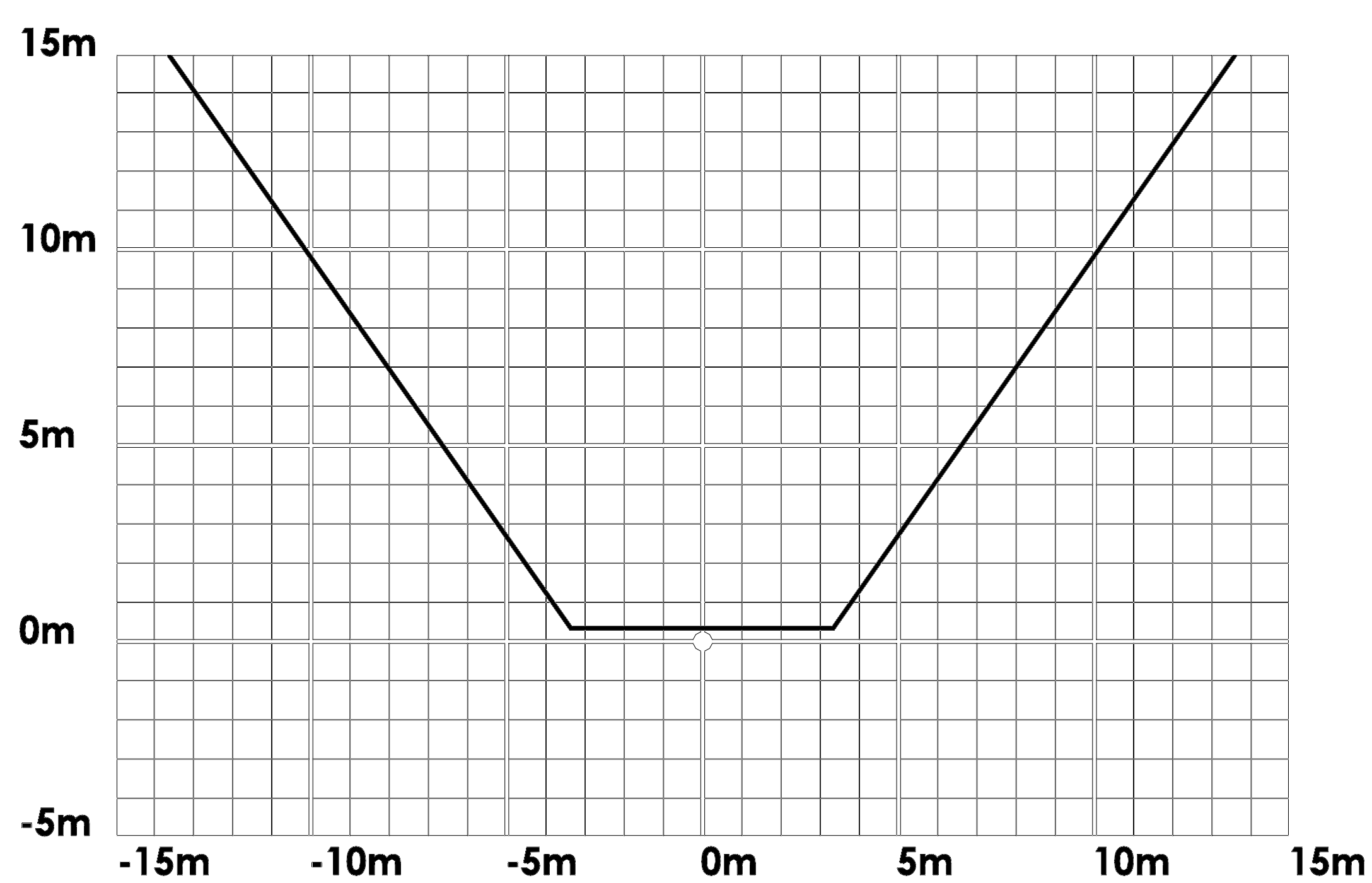
(I40H05) - Height 5m, inclination : 40°



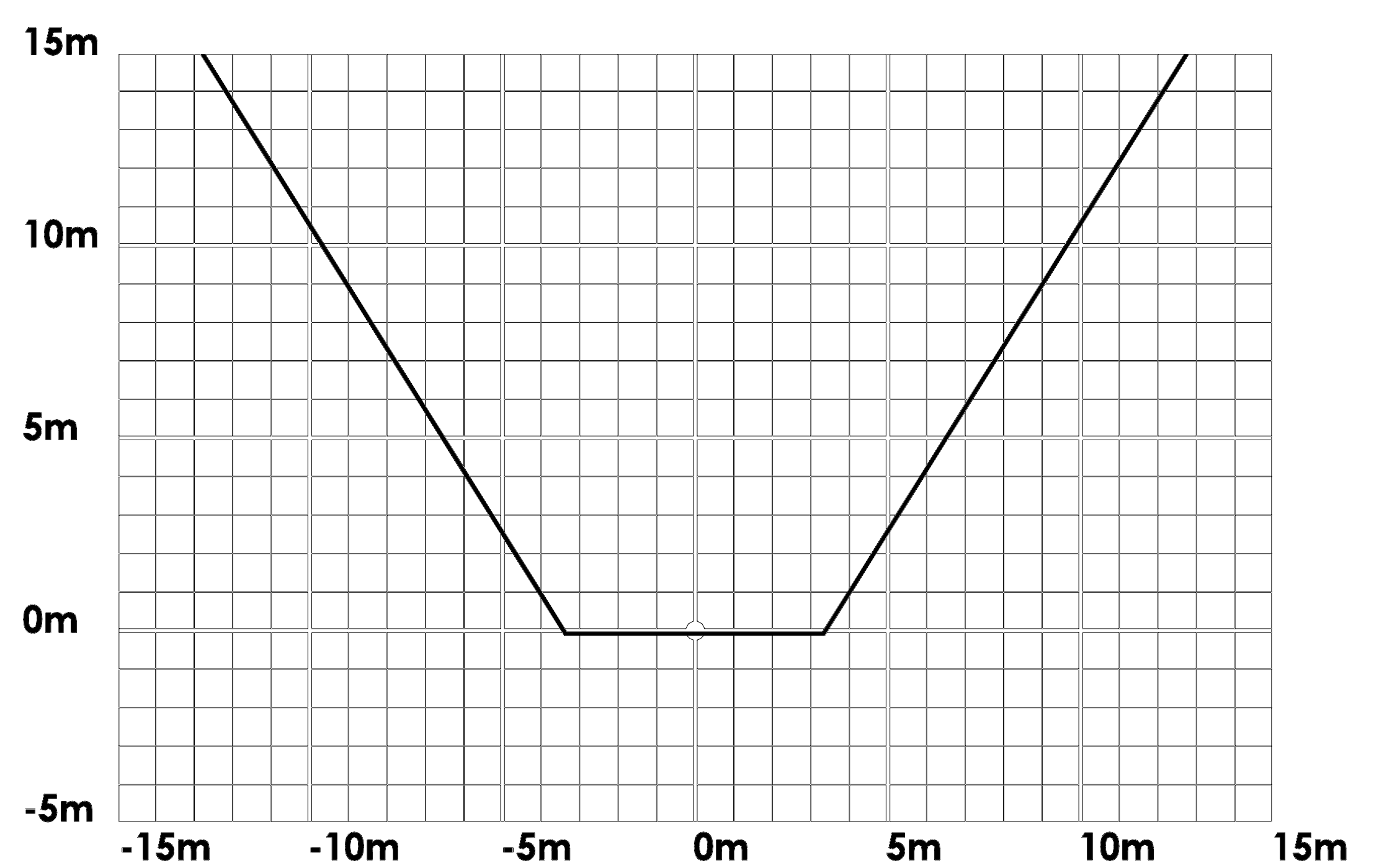
(I45H05) - Height 5m, inclination : 45°



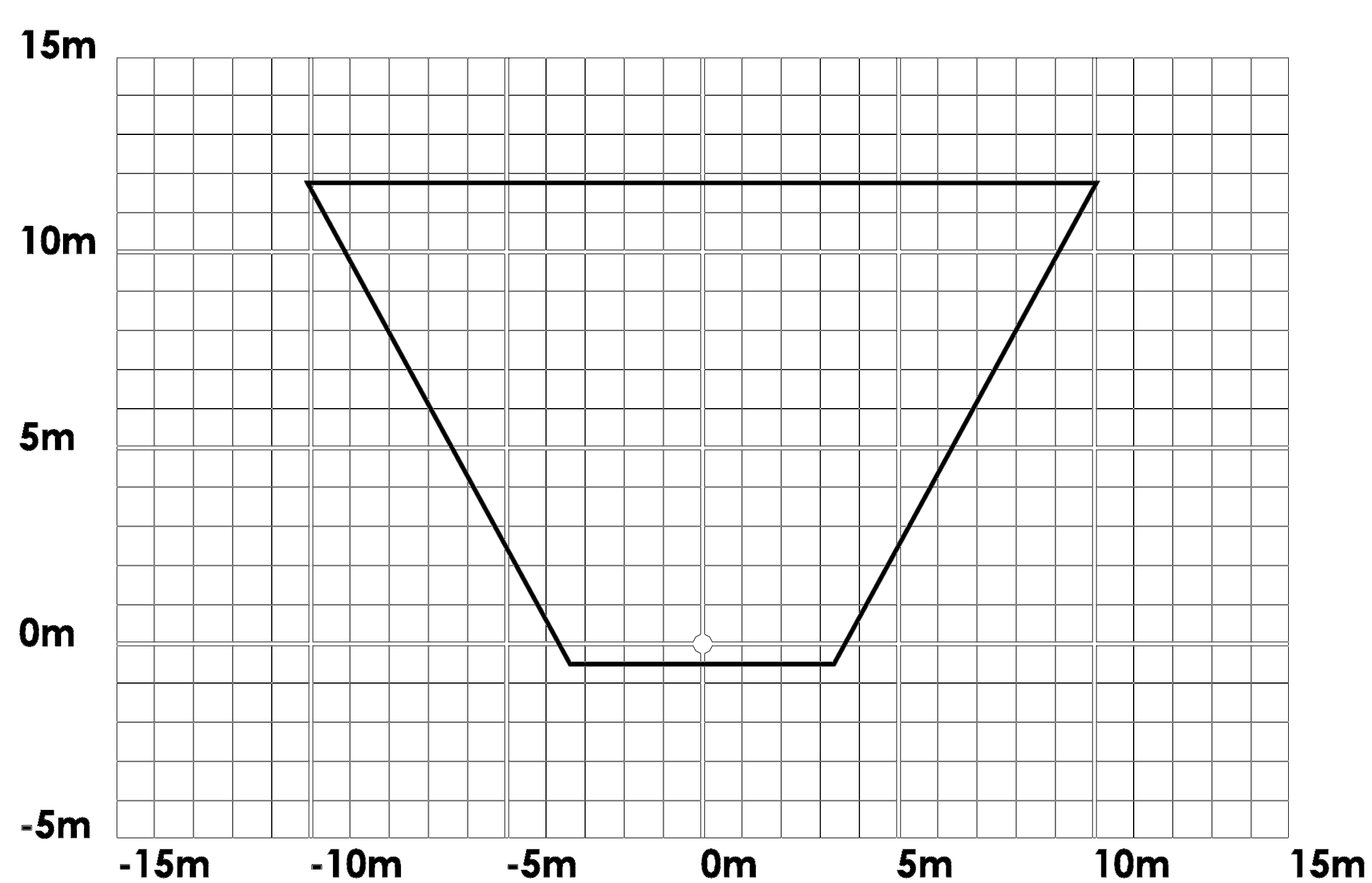
(I50H05) - Height 5m, inclination : 50°



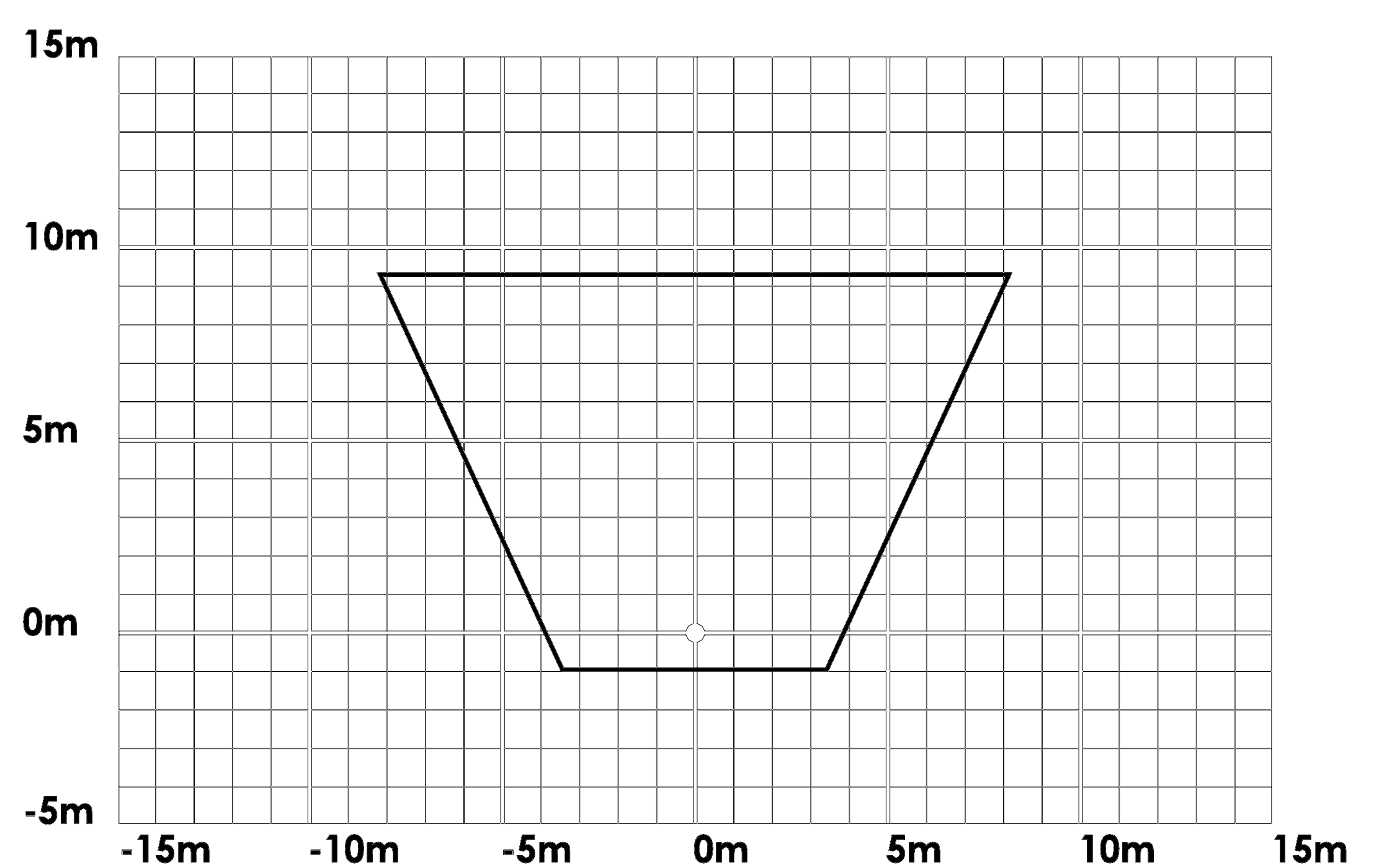
(I55H05) - Height 5m, inclination : 55°



(I60H05) - Height 5m, inclination : 60°

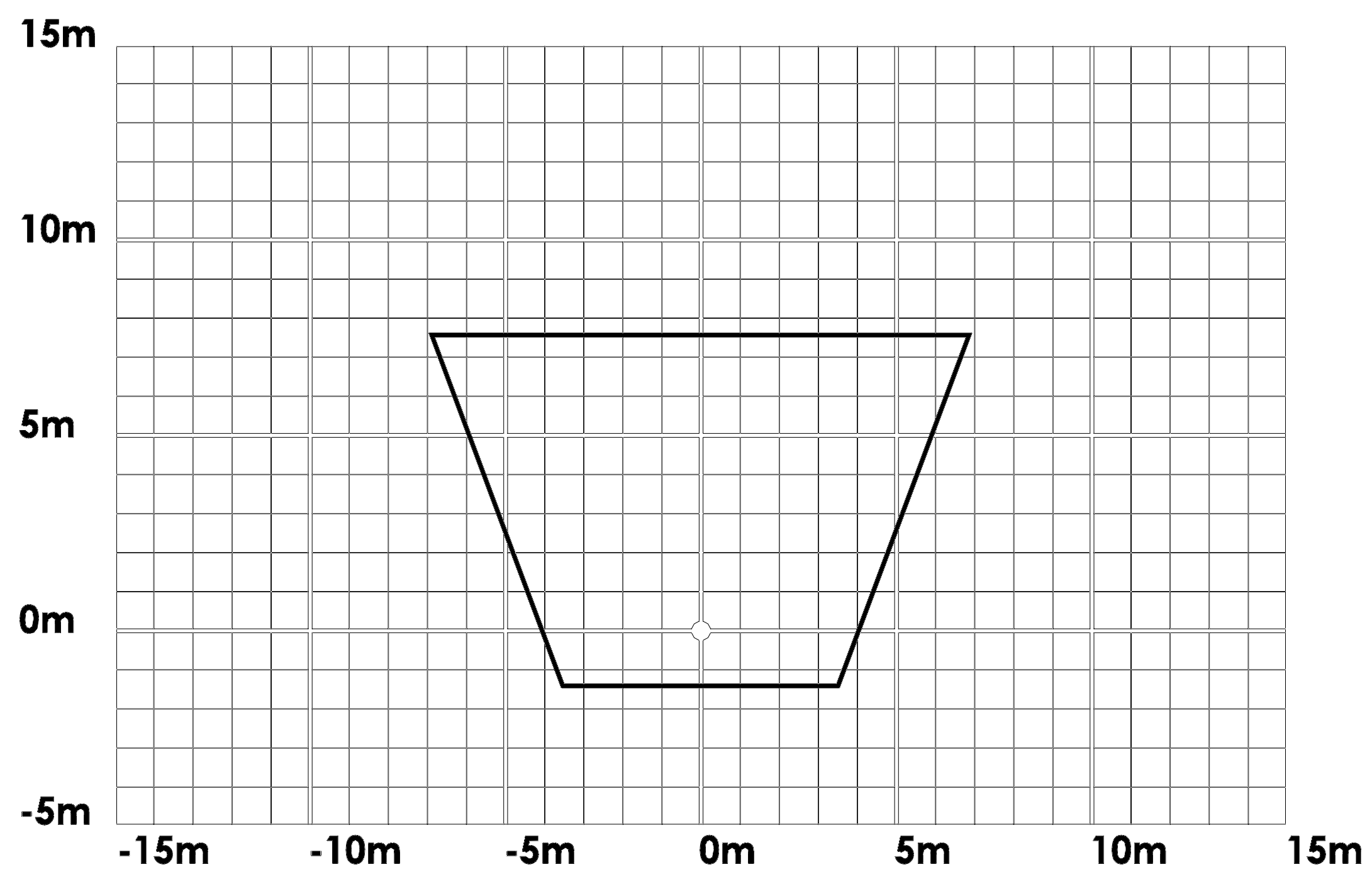


(I65H05) - Height 5m, inclination : 65°



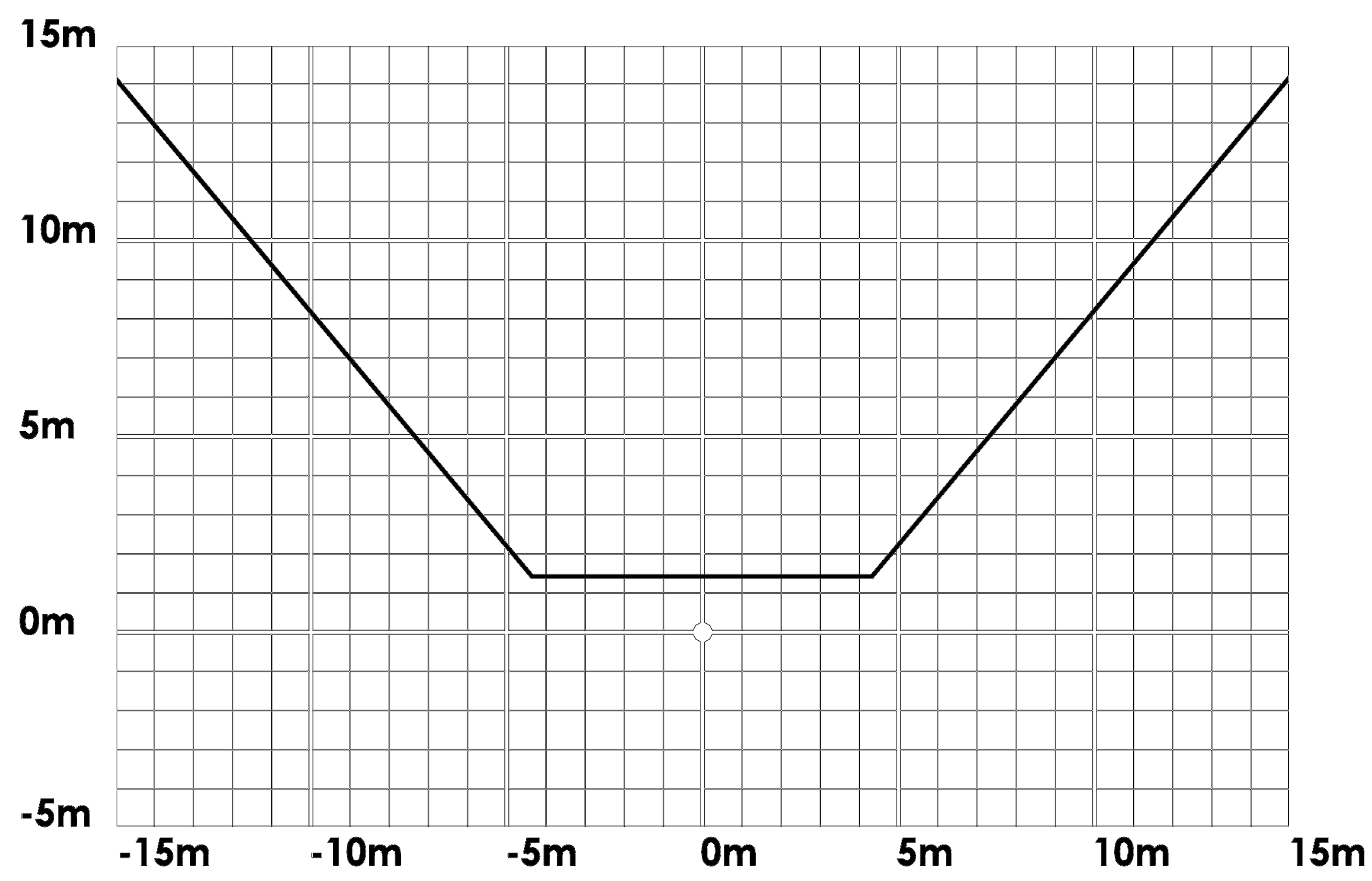
Floor charts - Height 5m, inclination 70°

(I70H05) - Height 5m, inclination : 70°

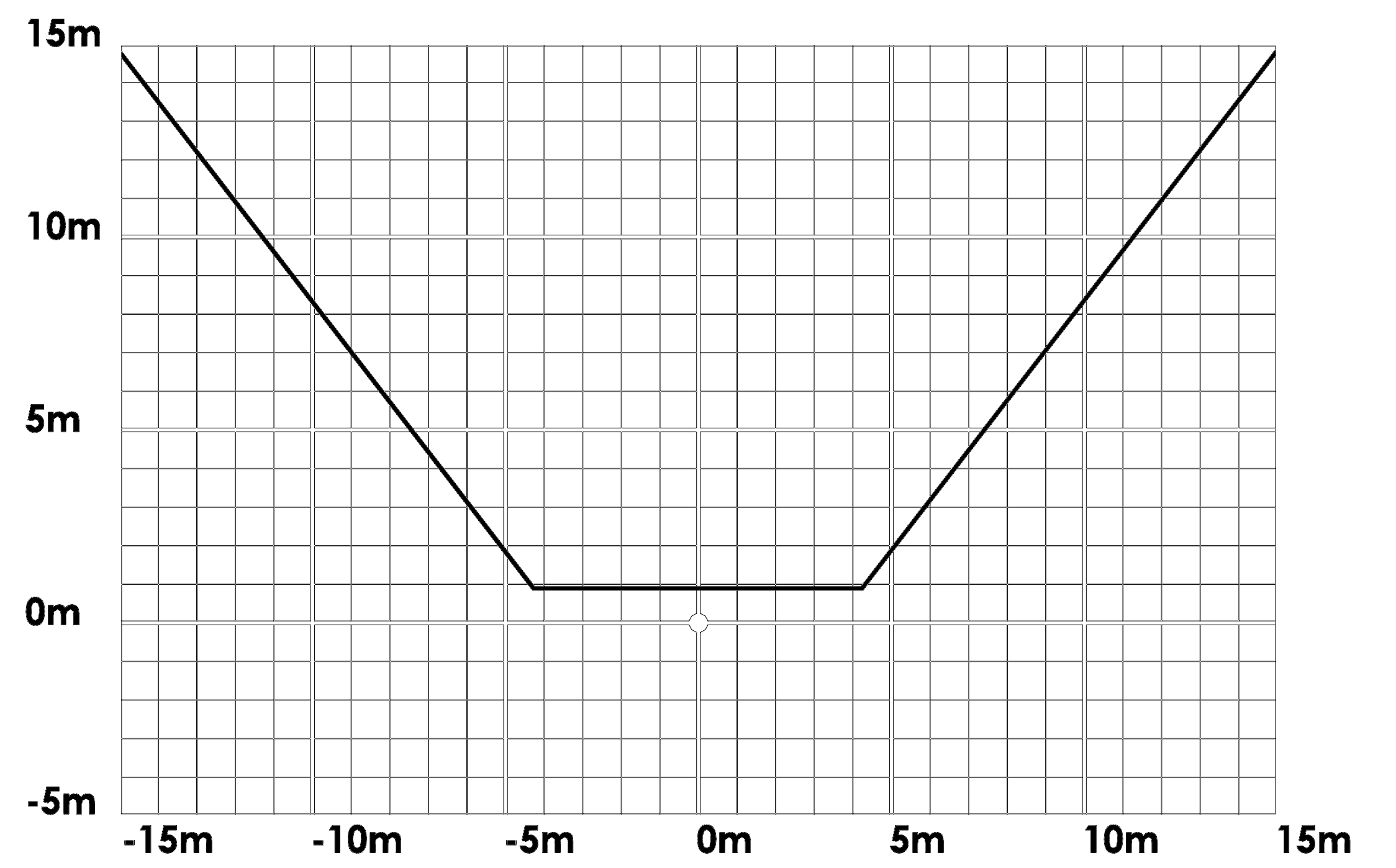


Floor charts - Height 6m, inclination 40° - 65°

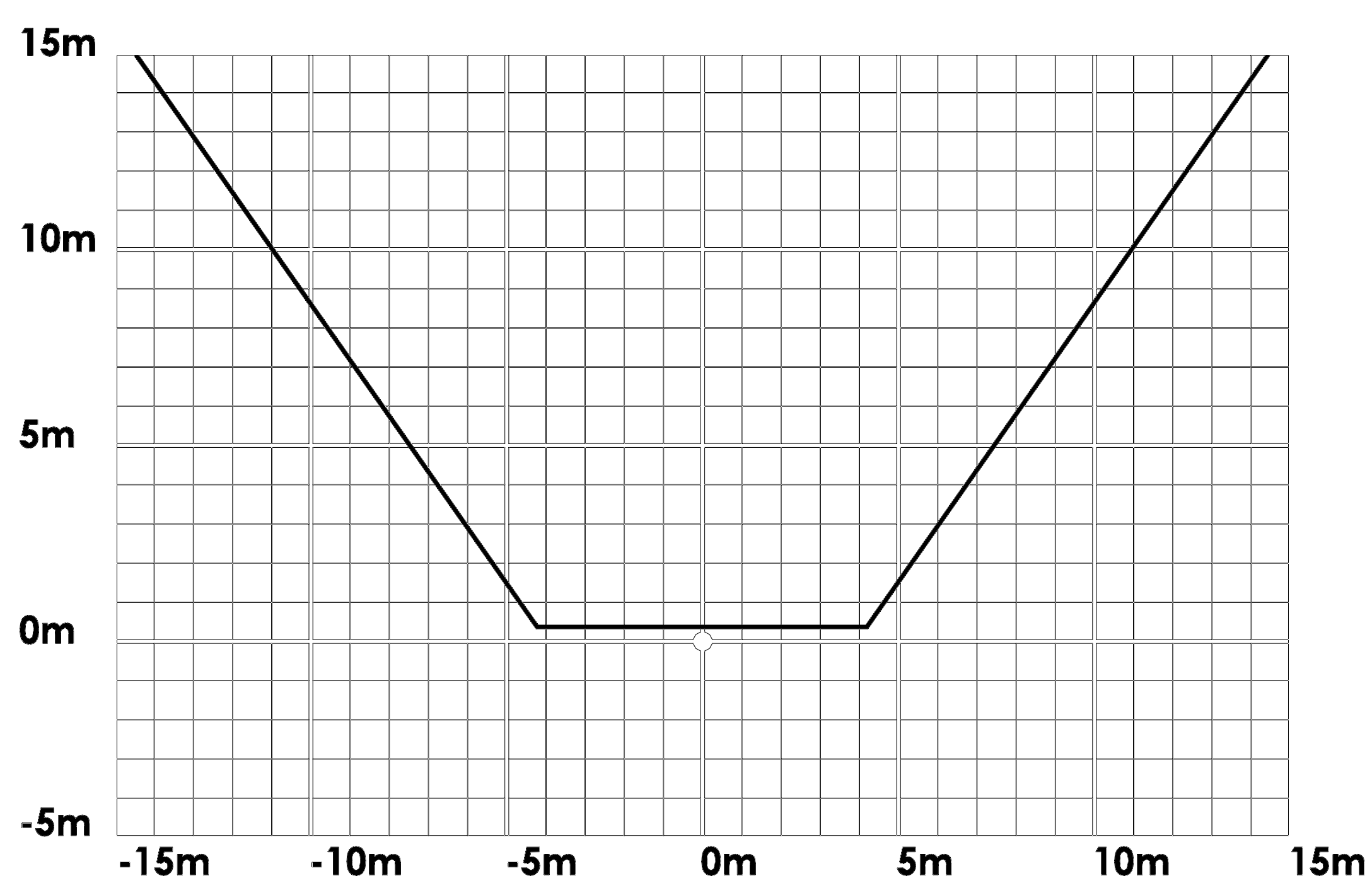
(I40H06) - Height 6m, inclination : 40°



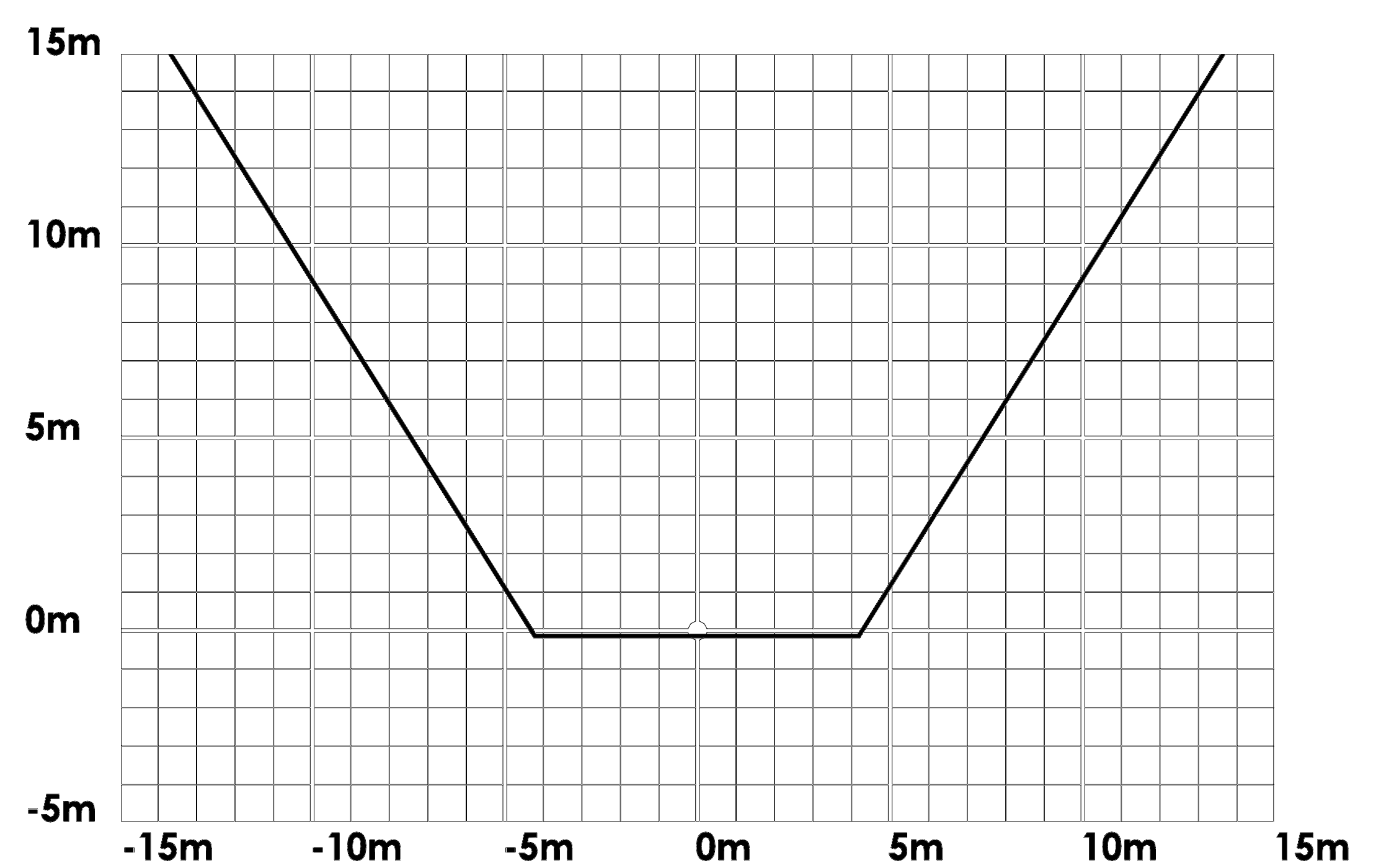
(I45H06) - Height 6m, inclination : 45°



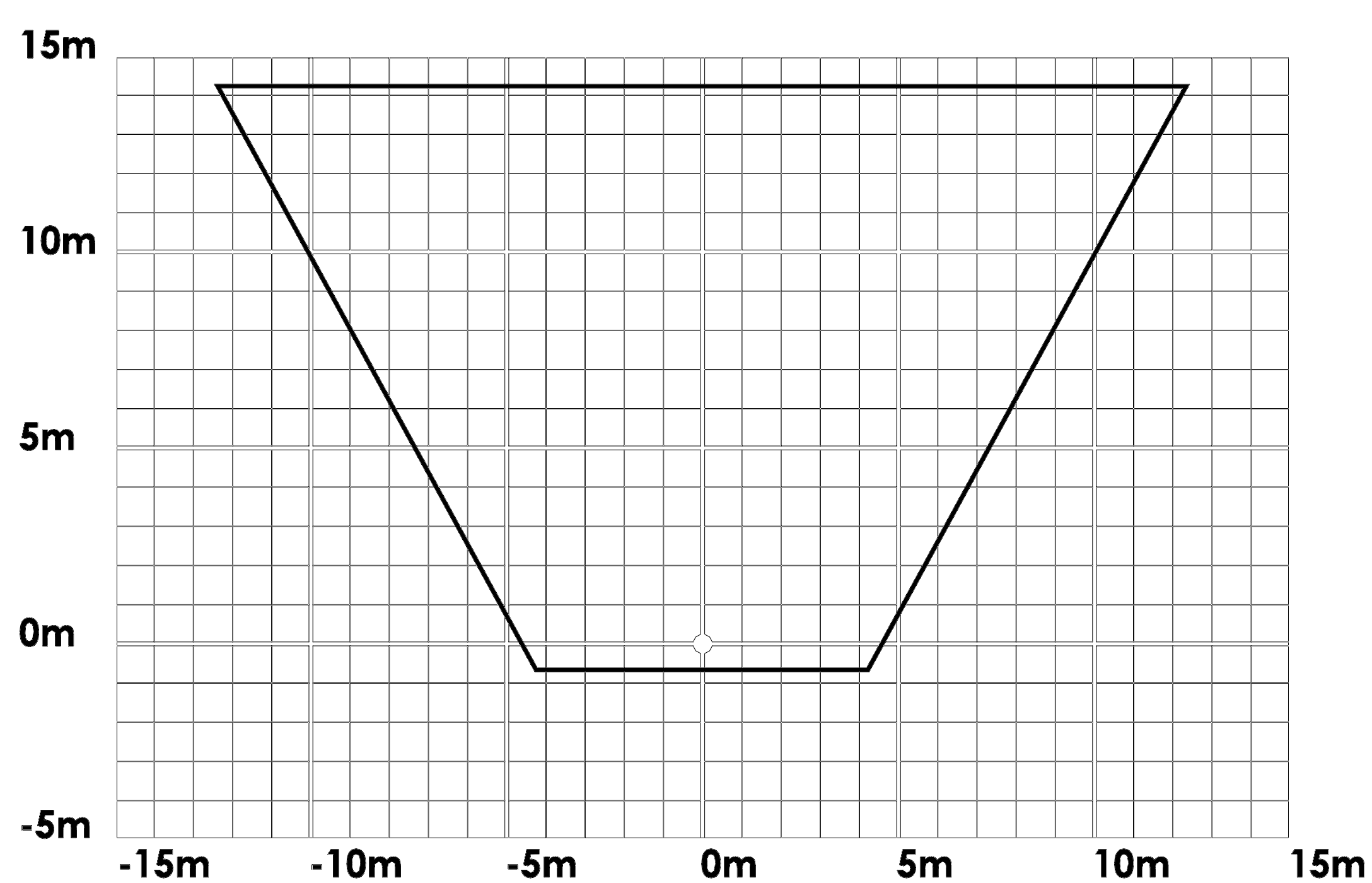
(I50H06) - Height 6m, inclination : 50°



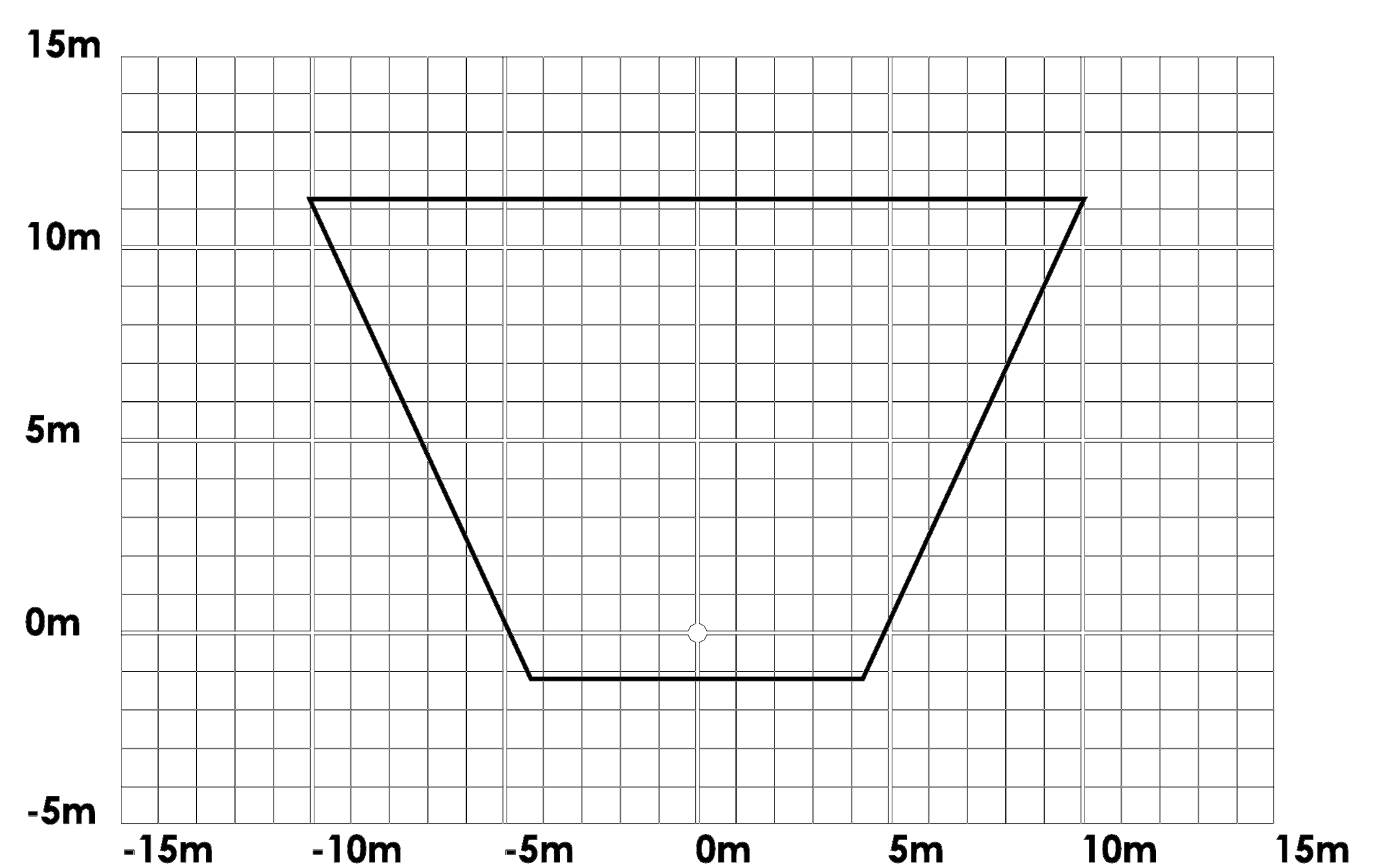
(I55H06) - Height 6m, inclination : 55°



(I60H06) - Height 6m, inclination : 60°

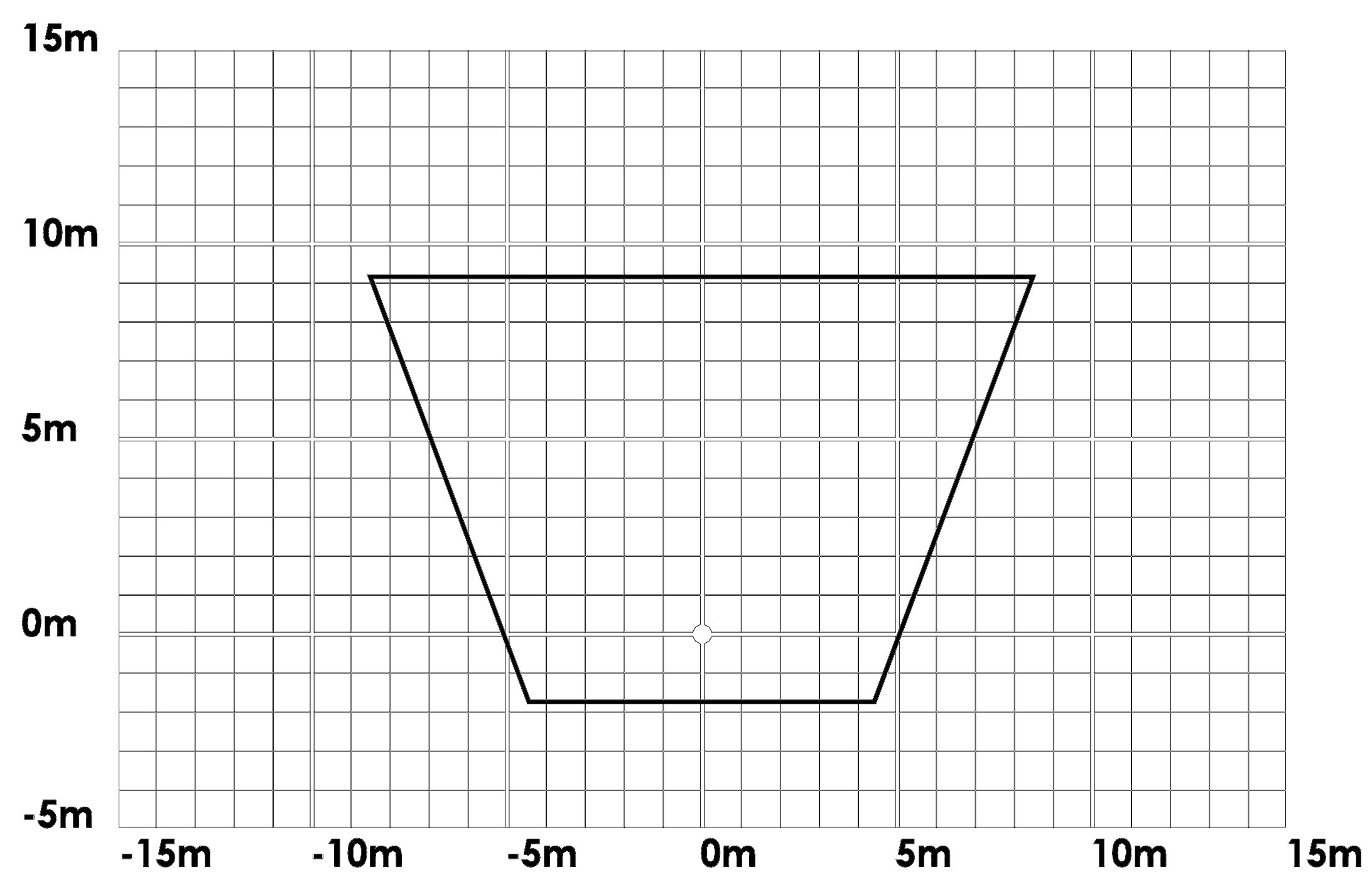


(I65H06) - Height 6m, inclination : 65°



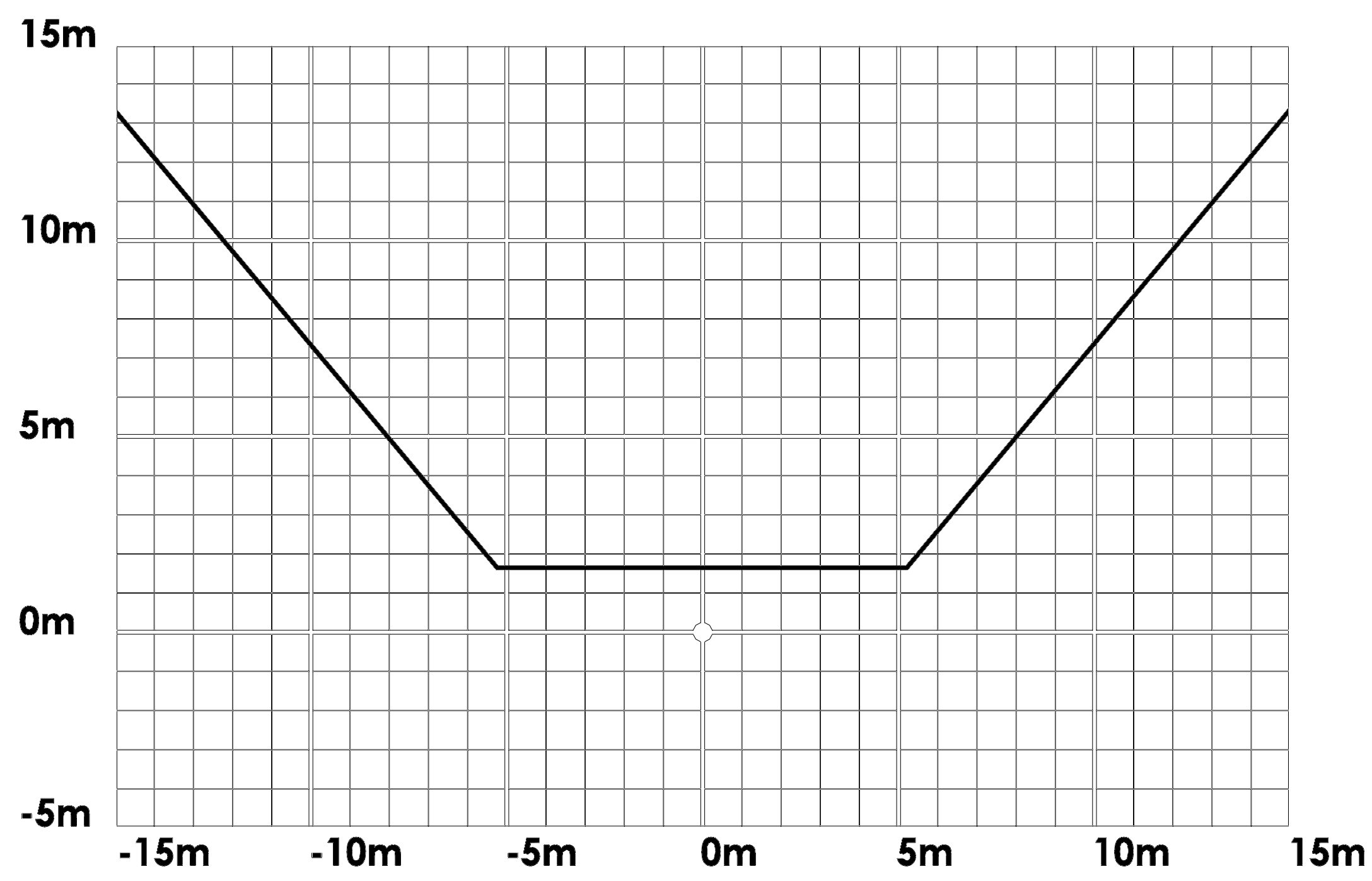
Floor charts - Height 6m, inclination 70°

(I70H06) - Height 6m, inclination : 70°

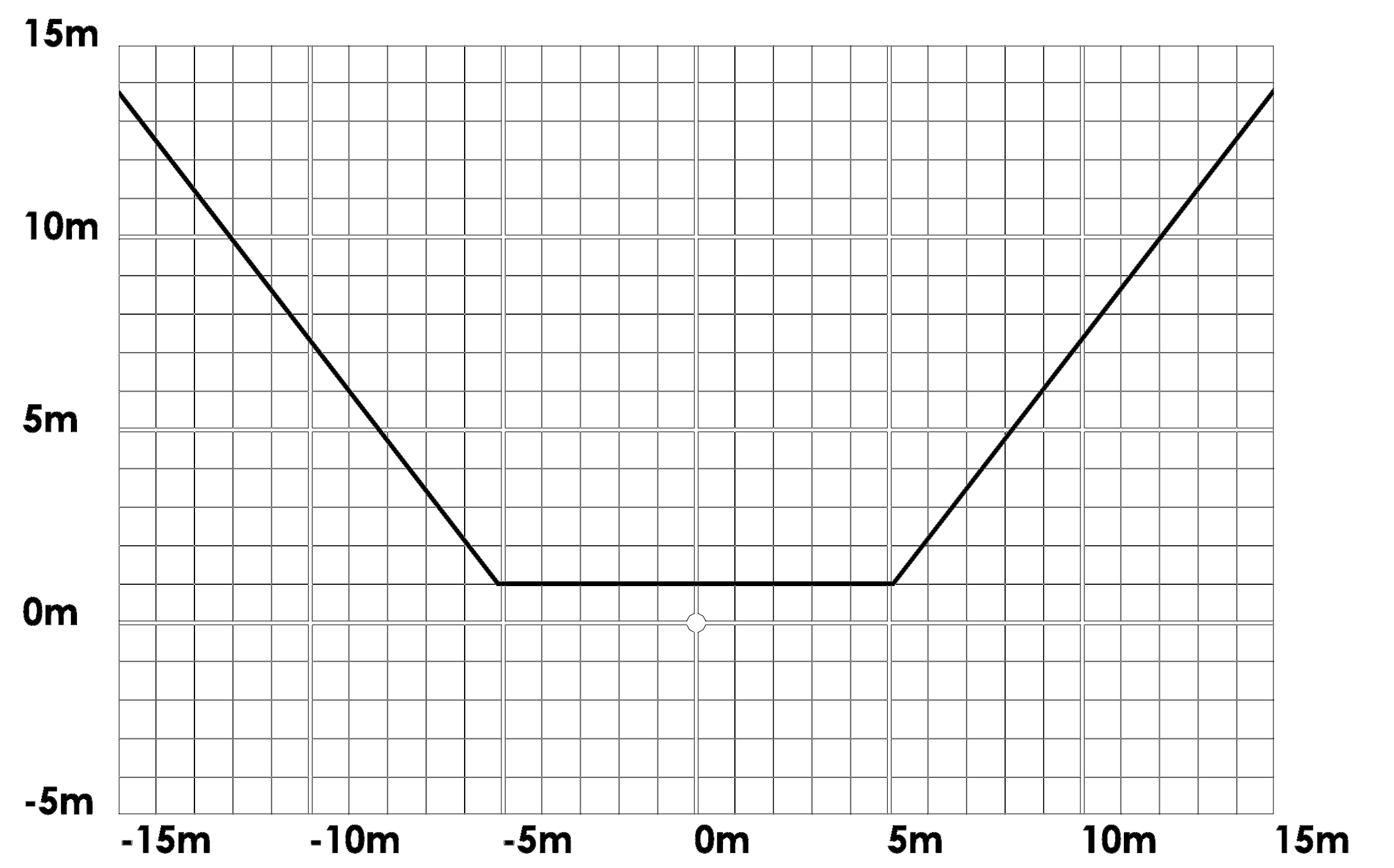


Floor charts - Height 7m, inclination 40° - 65°

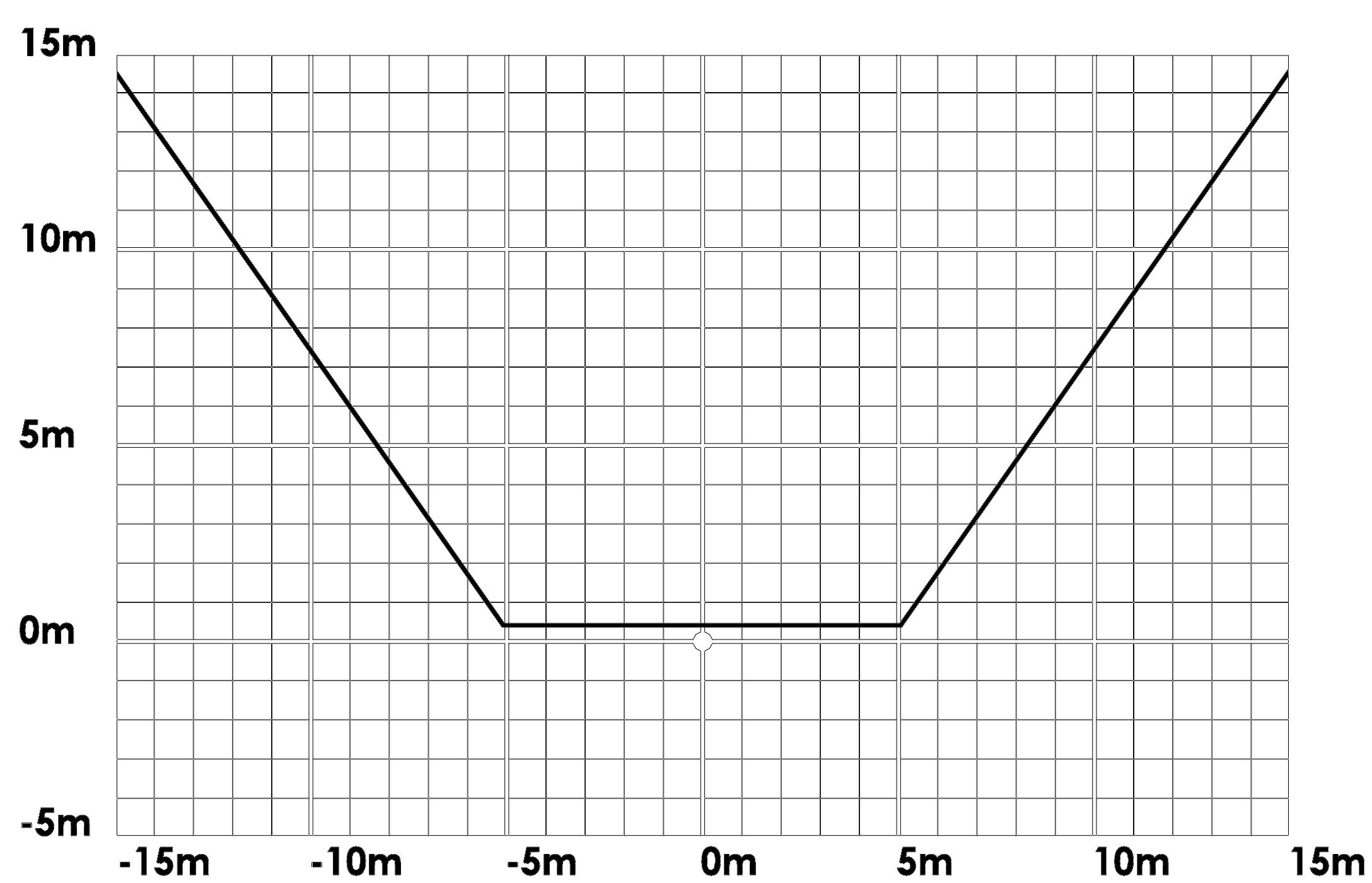
(I40H07) - Height 7m, inclination : 40°



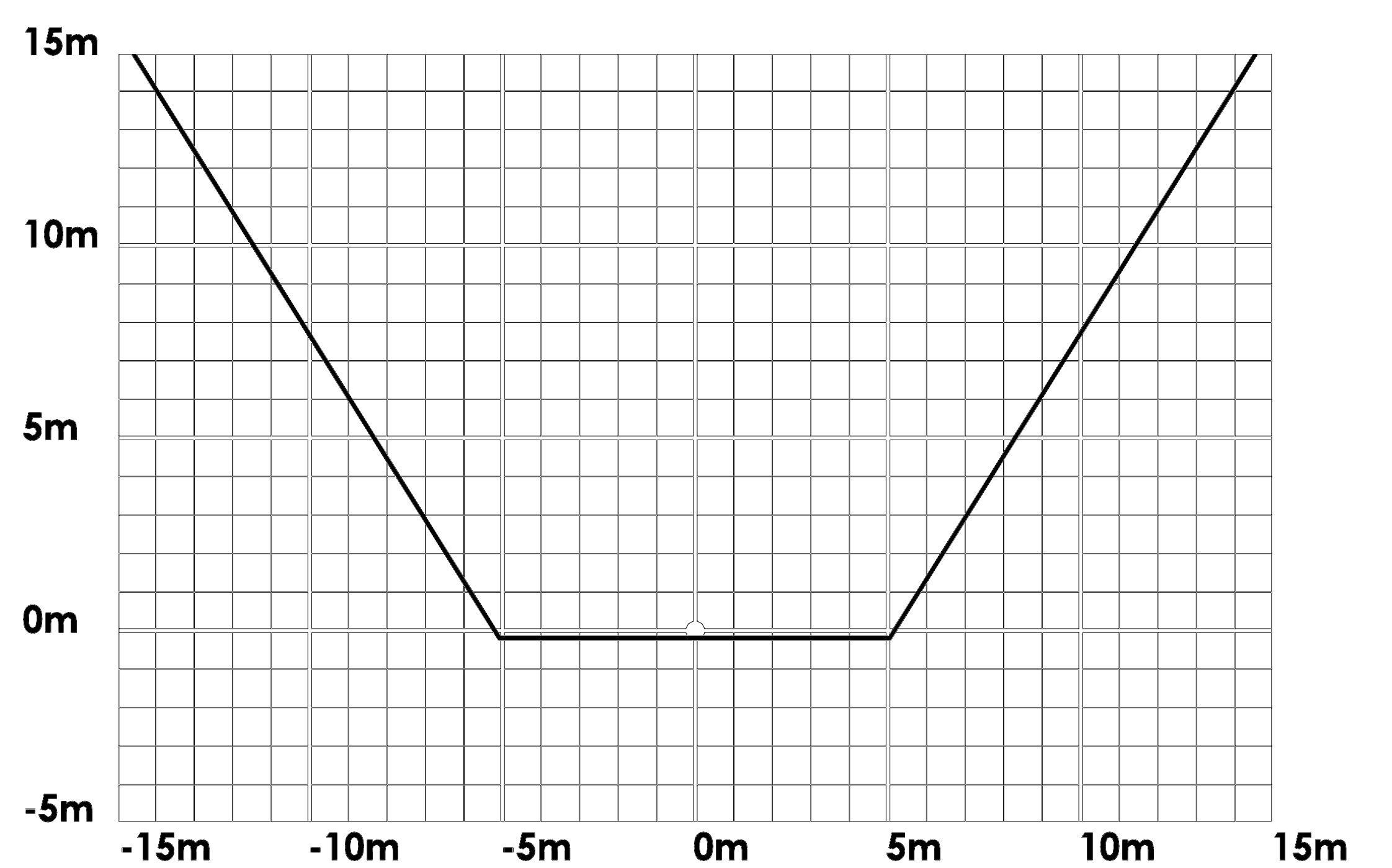
(I45H07) - Height 7m, inclination : 45°



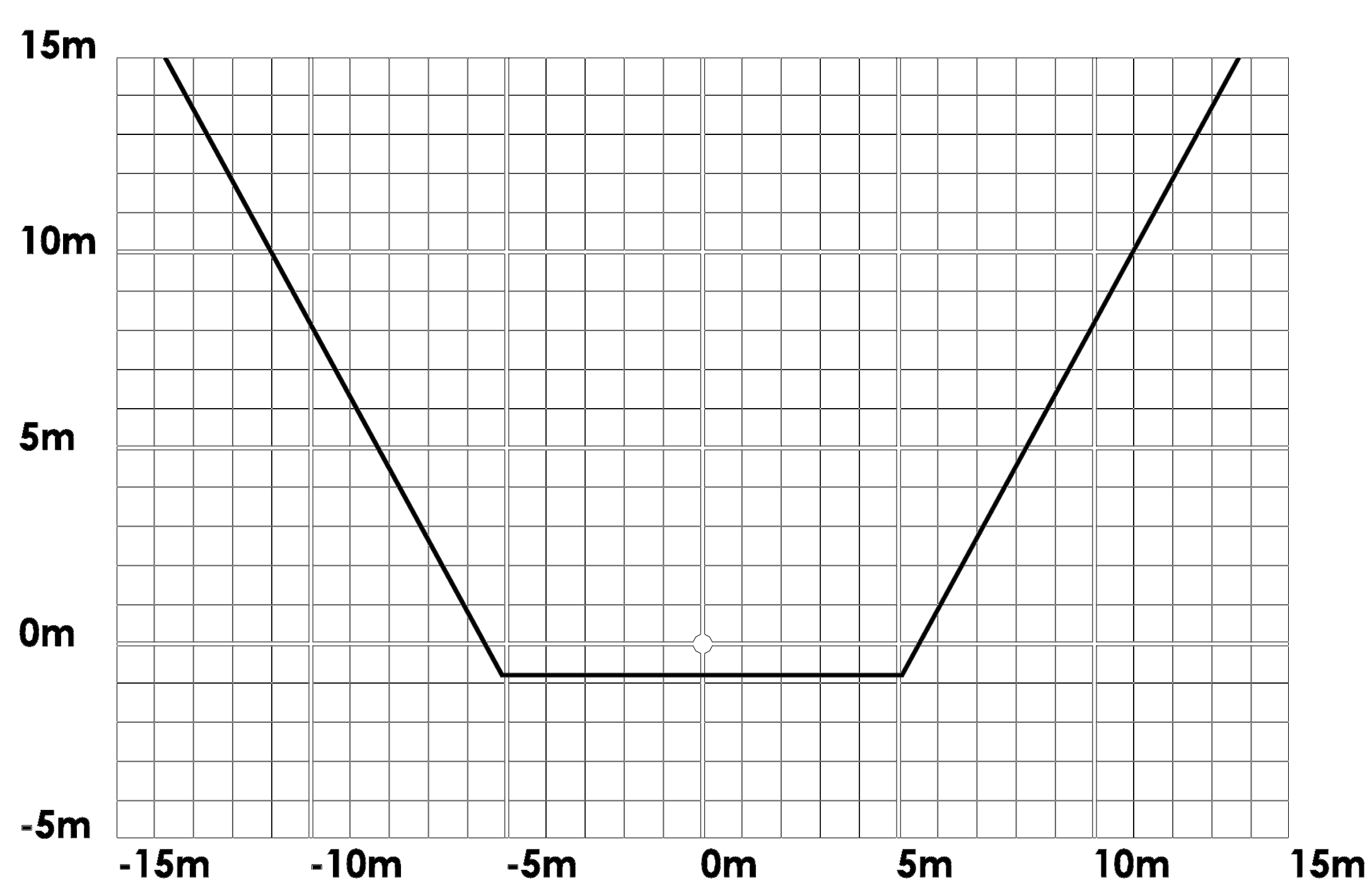
(I50H07) - Height 7m, inclination : 50°



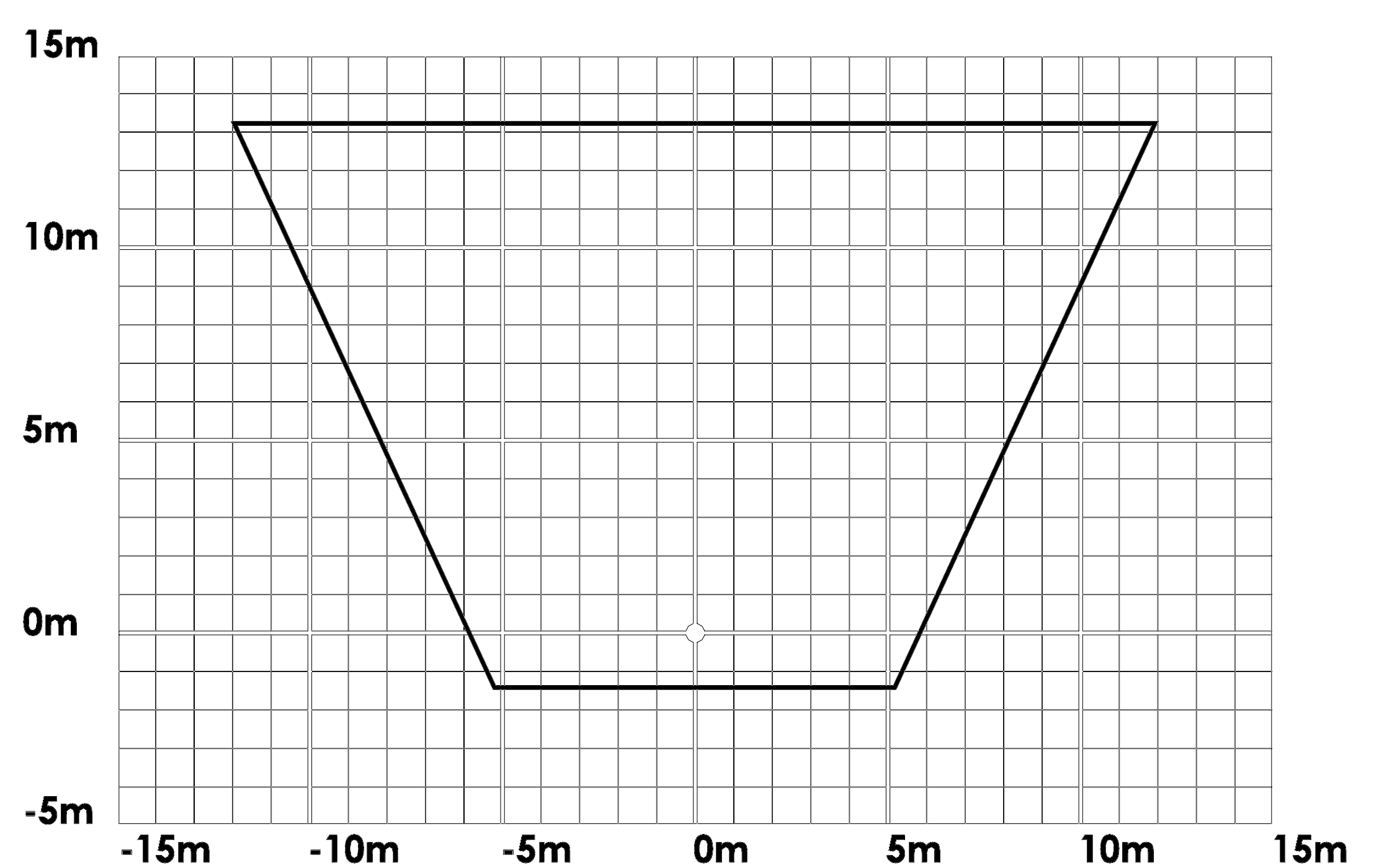
(I55H07) - Height 7m, inclination : 55°



(I60H07) - Height 7m, inclination : 60°

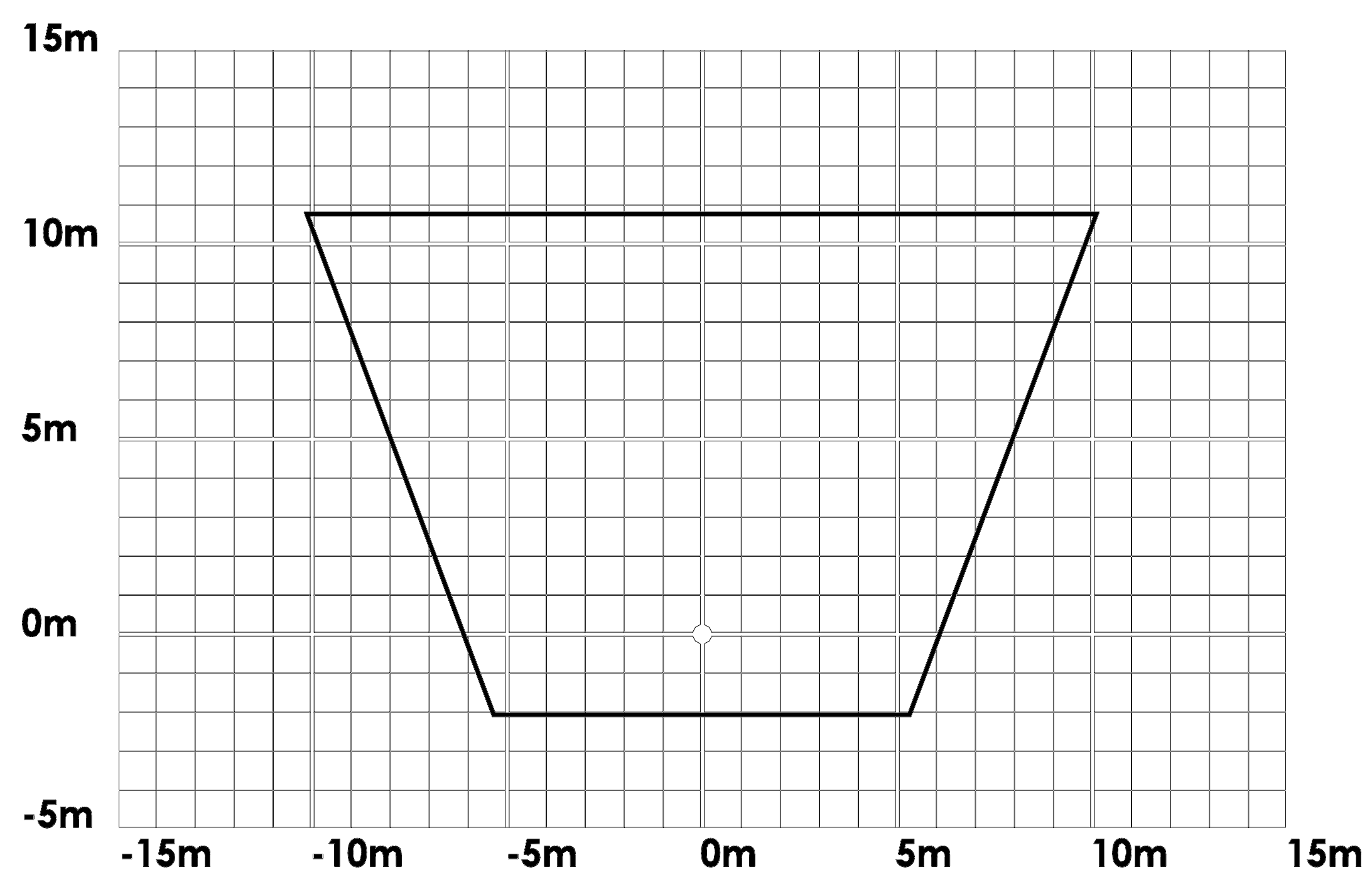


(I65H07) - Height 7m, inclination : 65°



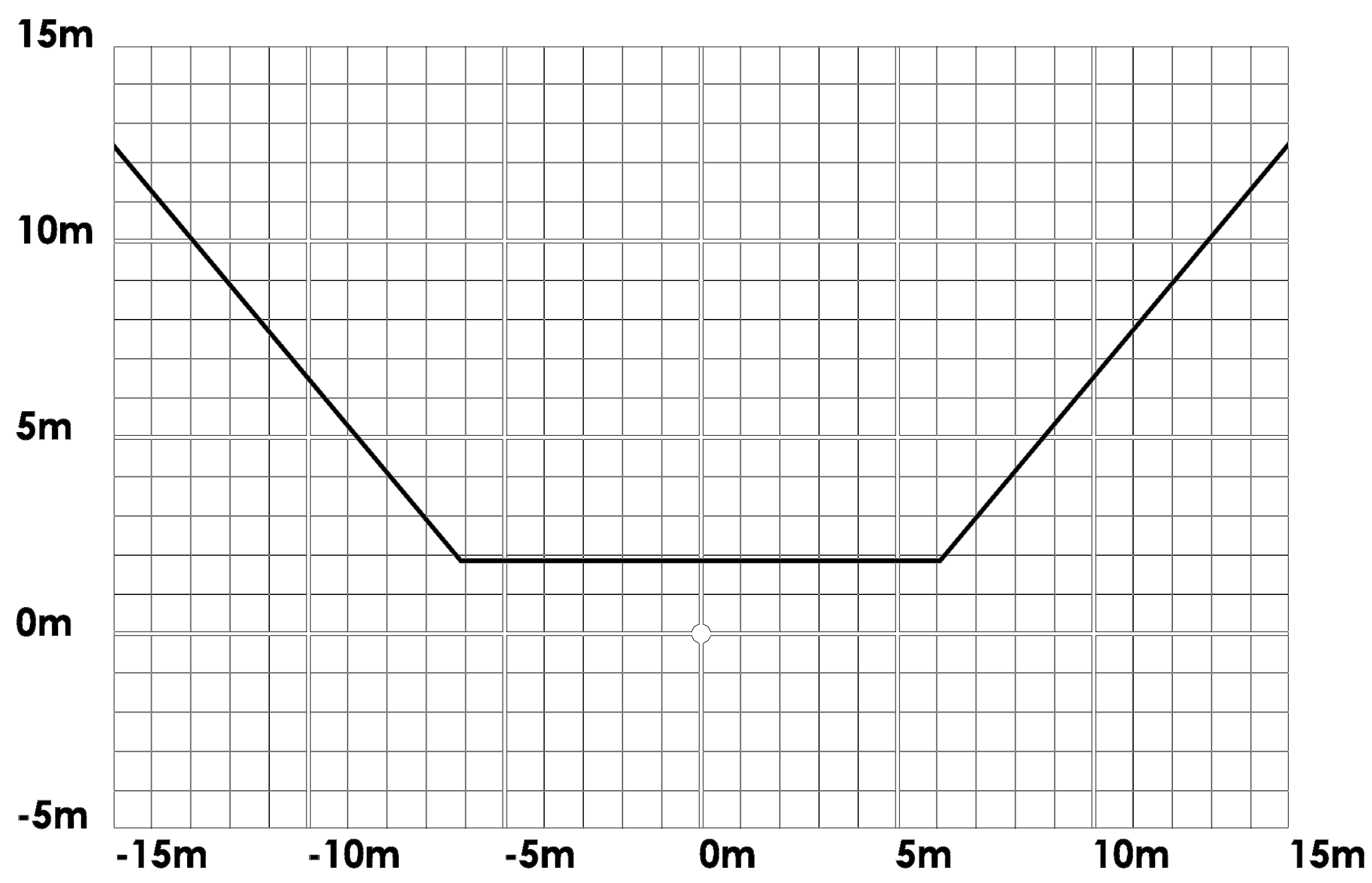
Floor charts - Height 7m, inclination 70°

(I70H07) - Height 7m, inclination : 70°

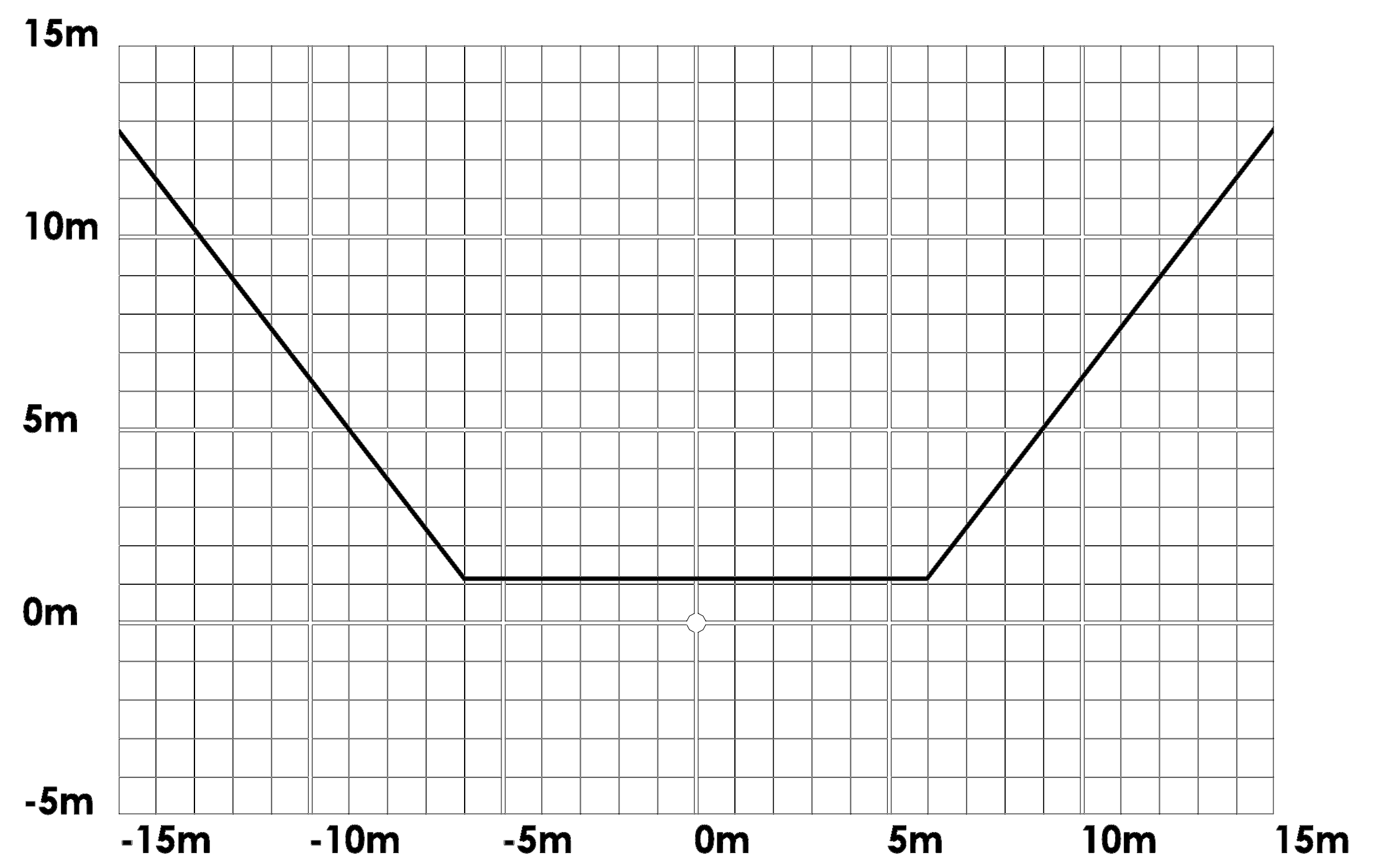


Floor charts - Height 8m, inclination 40° - 65°

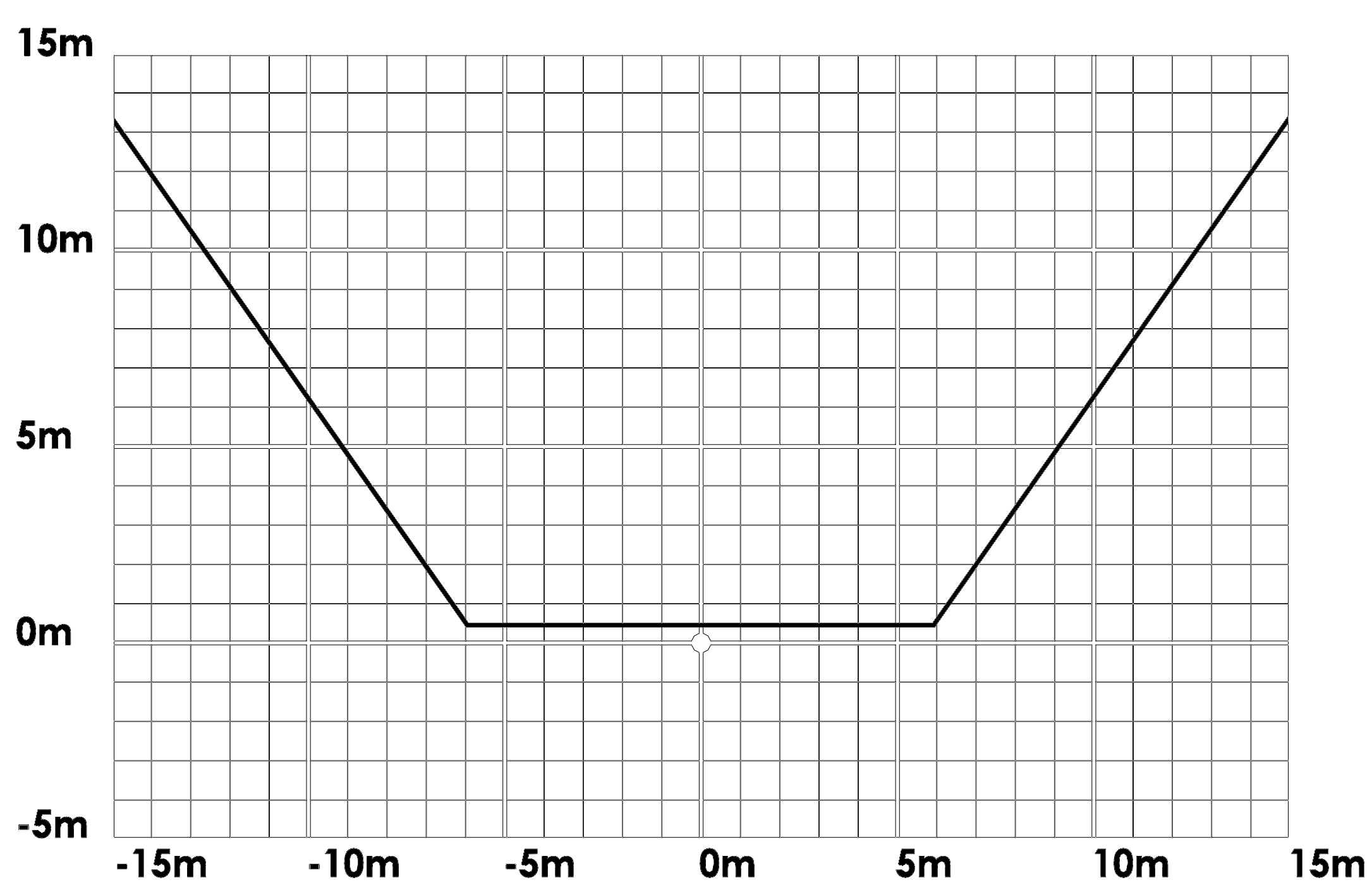
(I40H08) - Height 8m, inclination : 40°



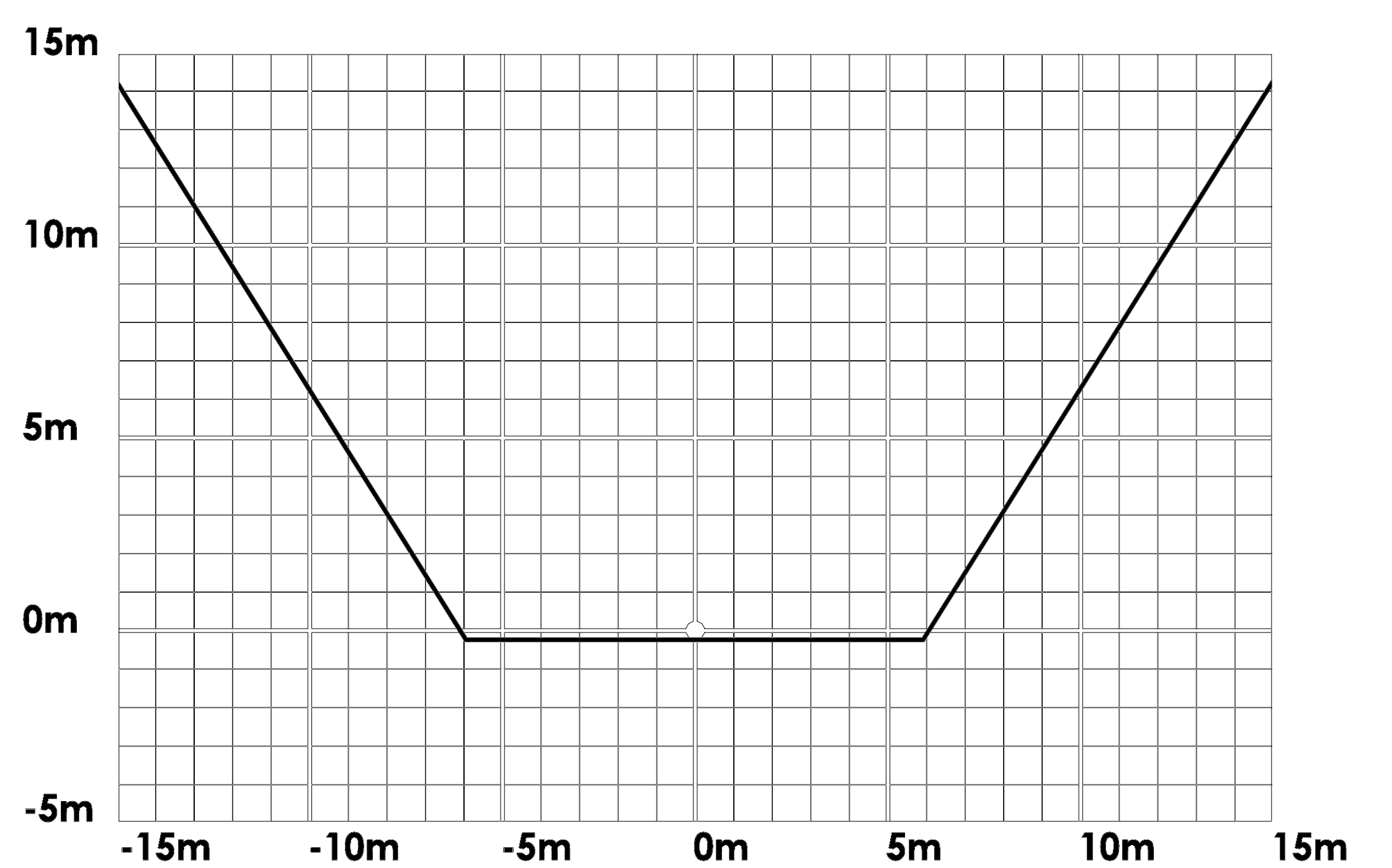
(I45H08) - Height 8m, inclination : 45°



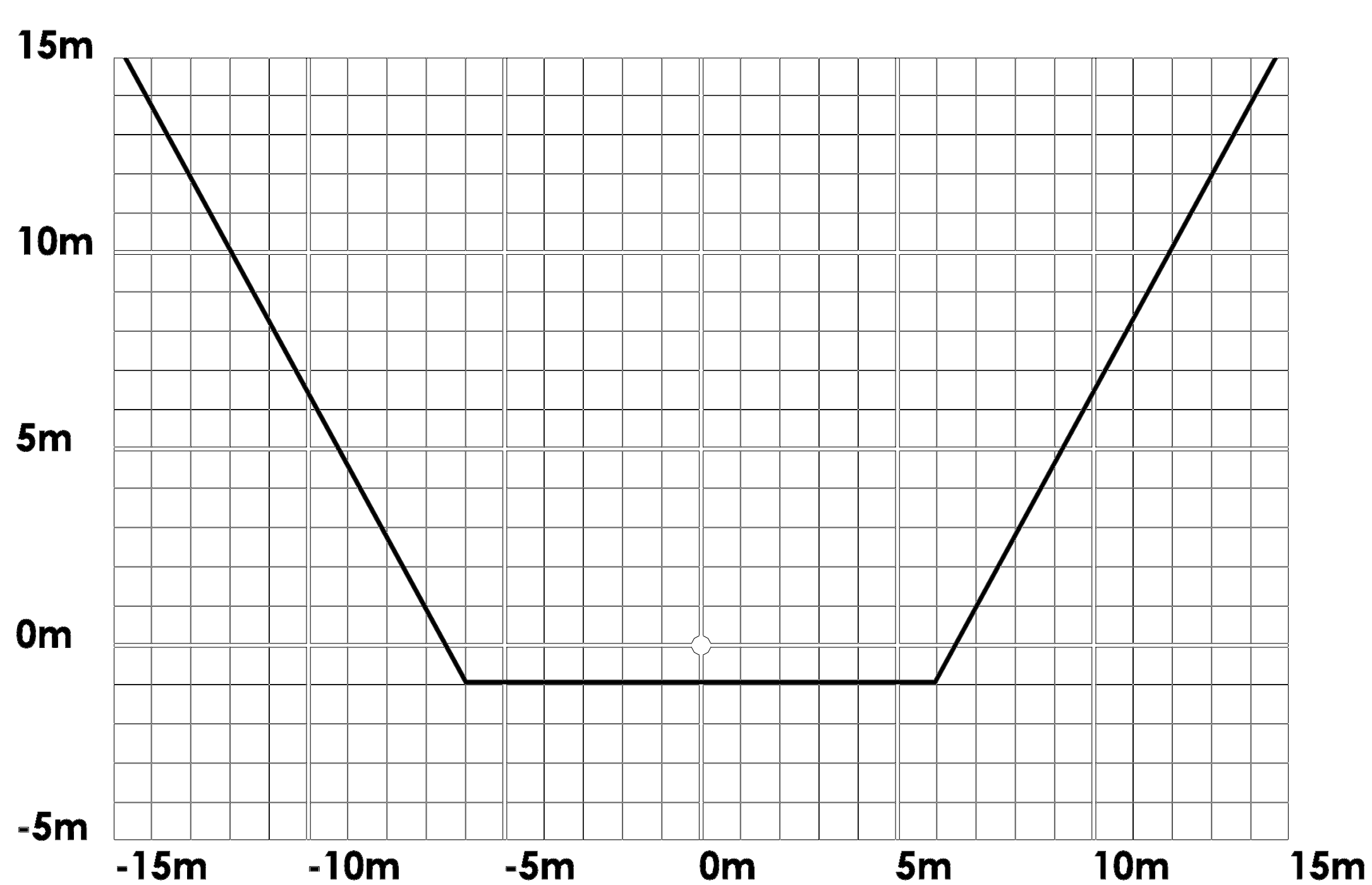
(I50H08) - Height 8m, inclination : 50°



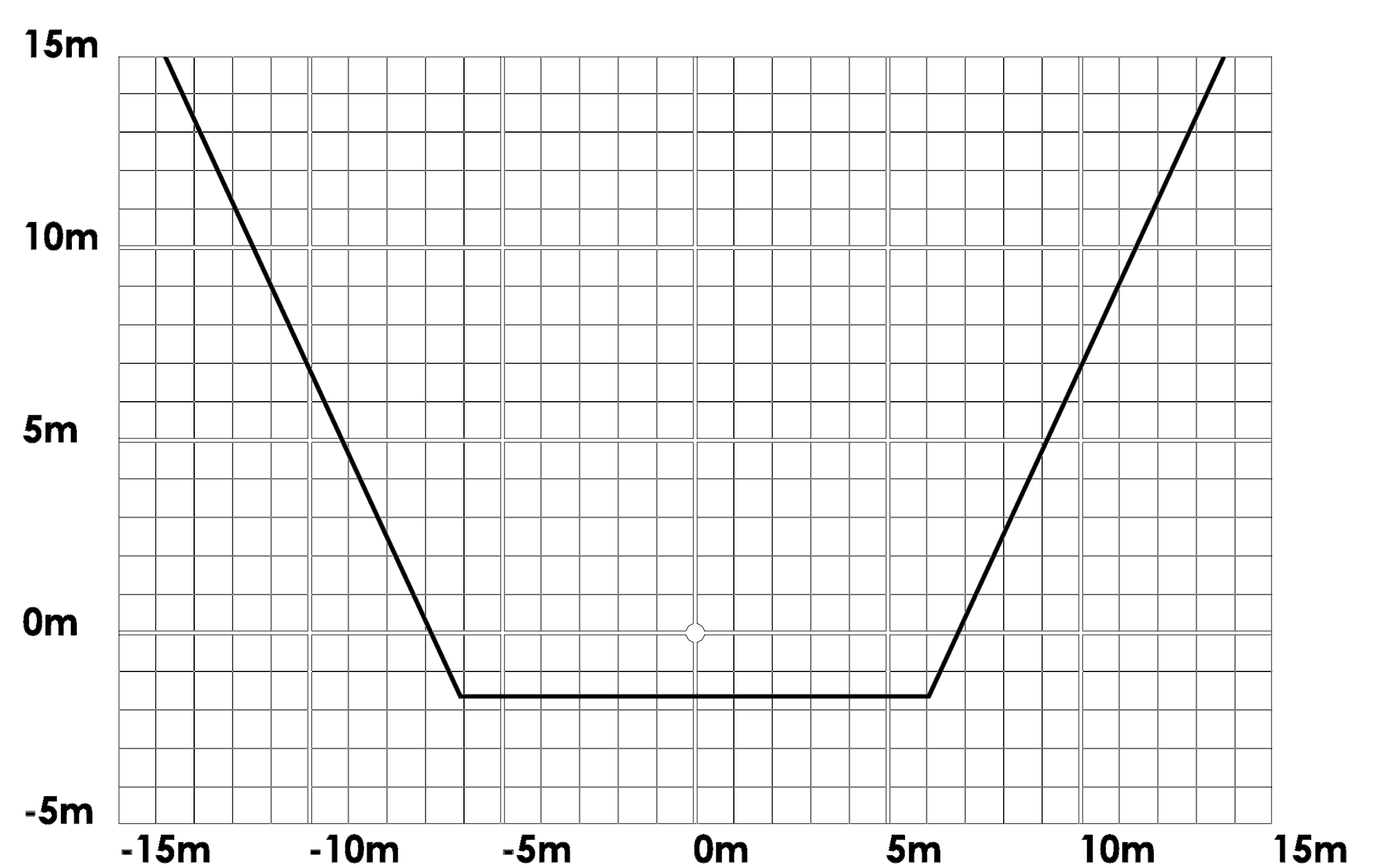
(I55H08) - Height 8m, inclination : 55°



(I60H08) - Height 8m, inclination : 60°

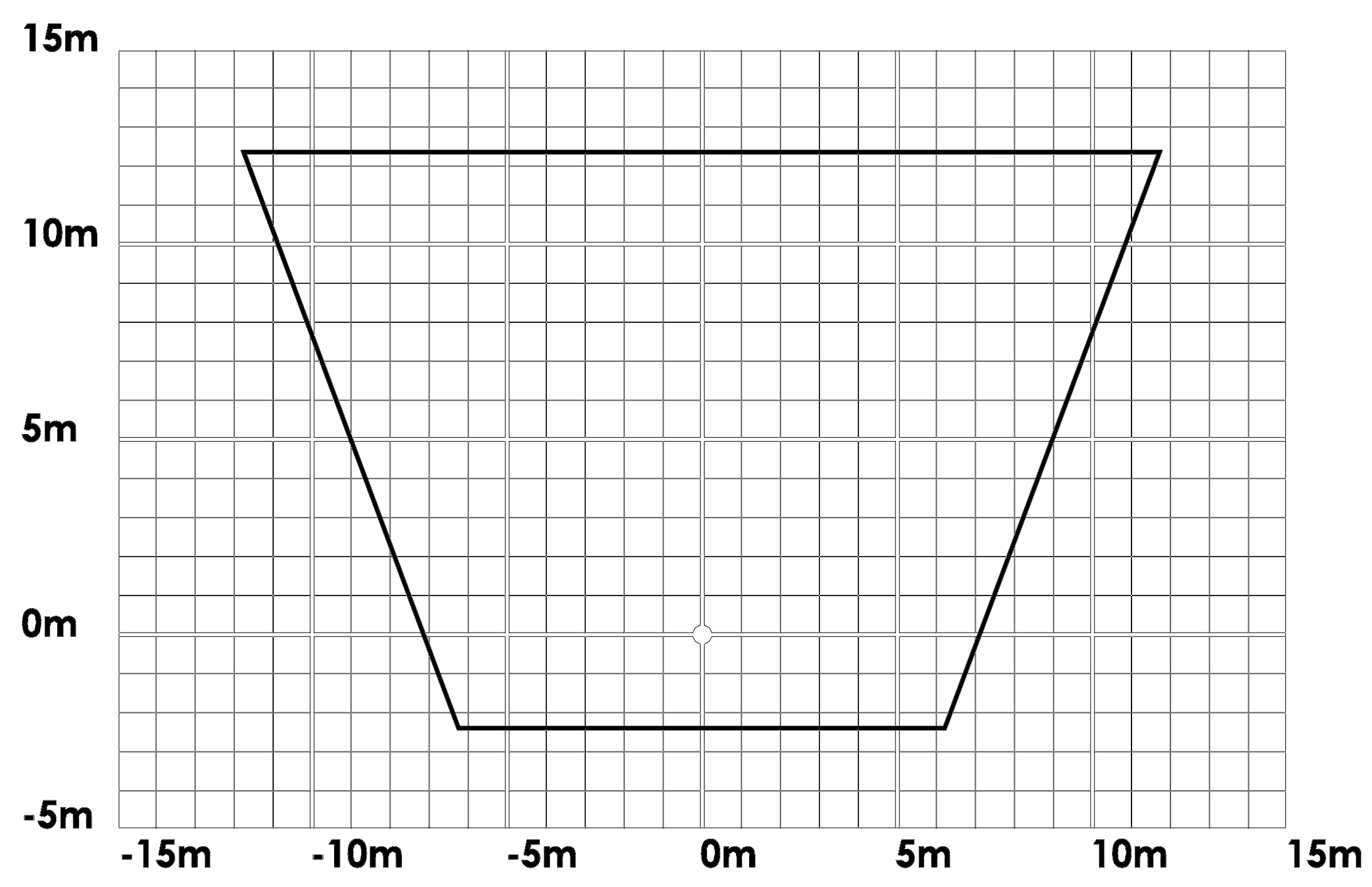


(I65H08) - Height 8m, inclination : 65°



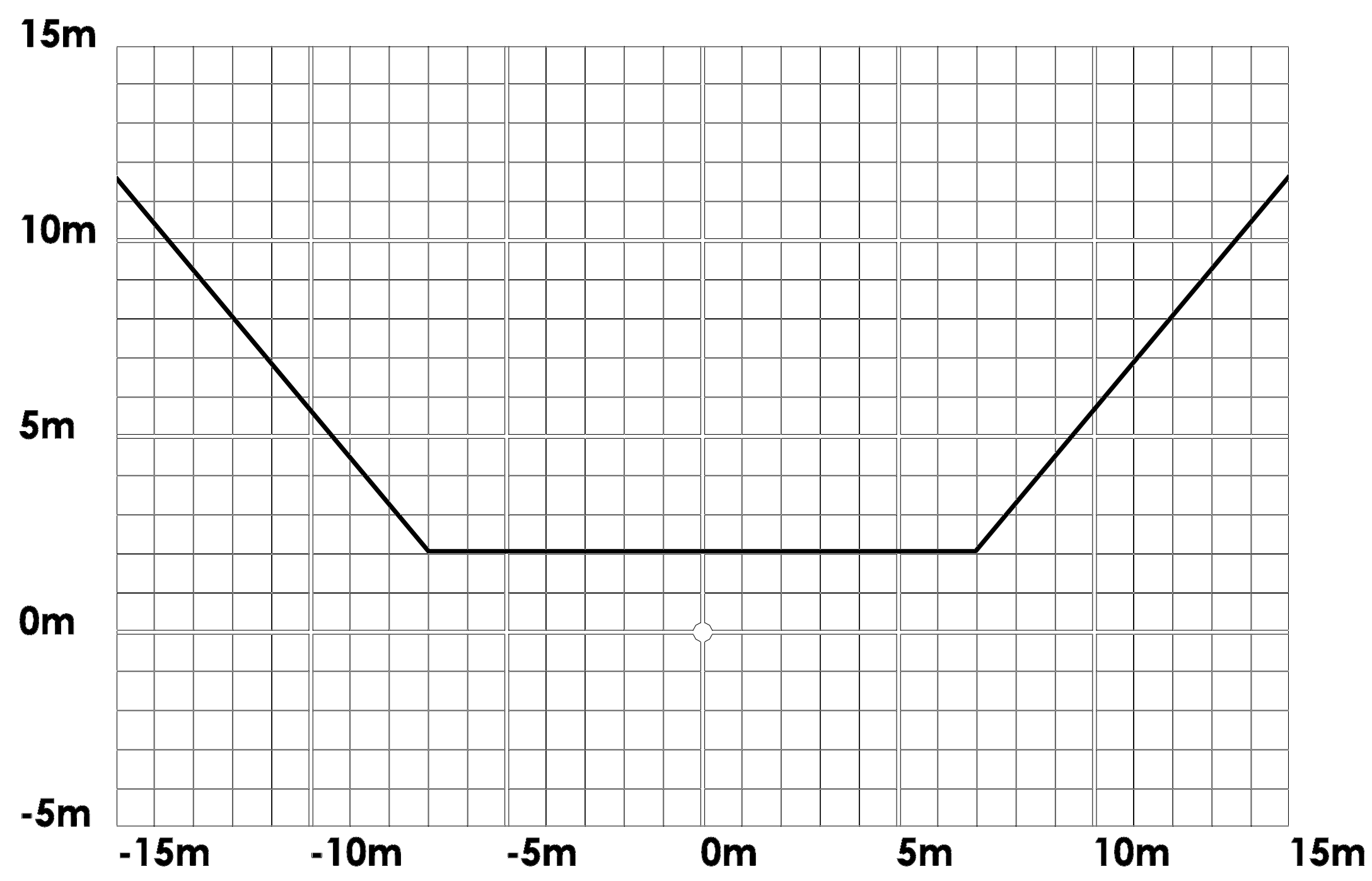
Floor charts - Height 8m, inclination 70°

(I70H08) - Height 8m, inclination : 70°

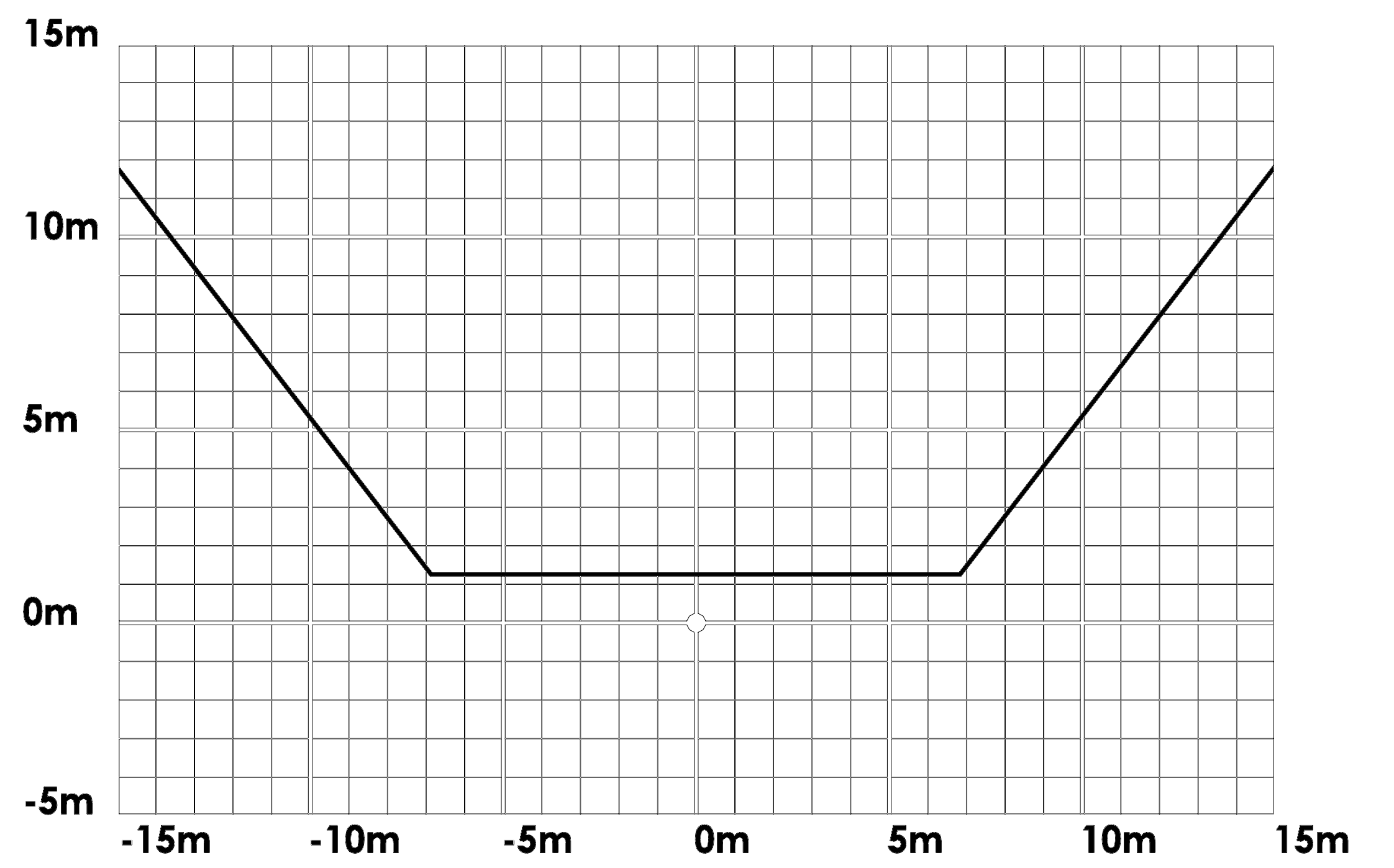


Floor charts - Height 9m, inclination 40° - 65°

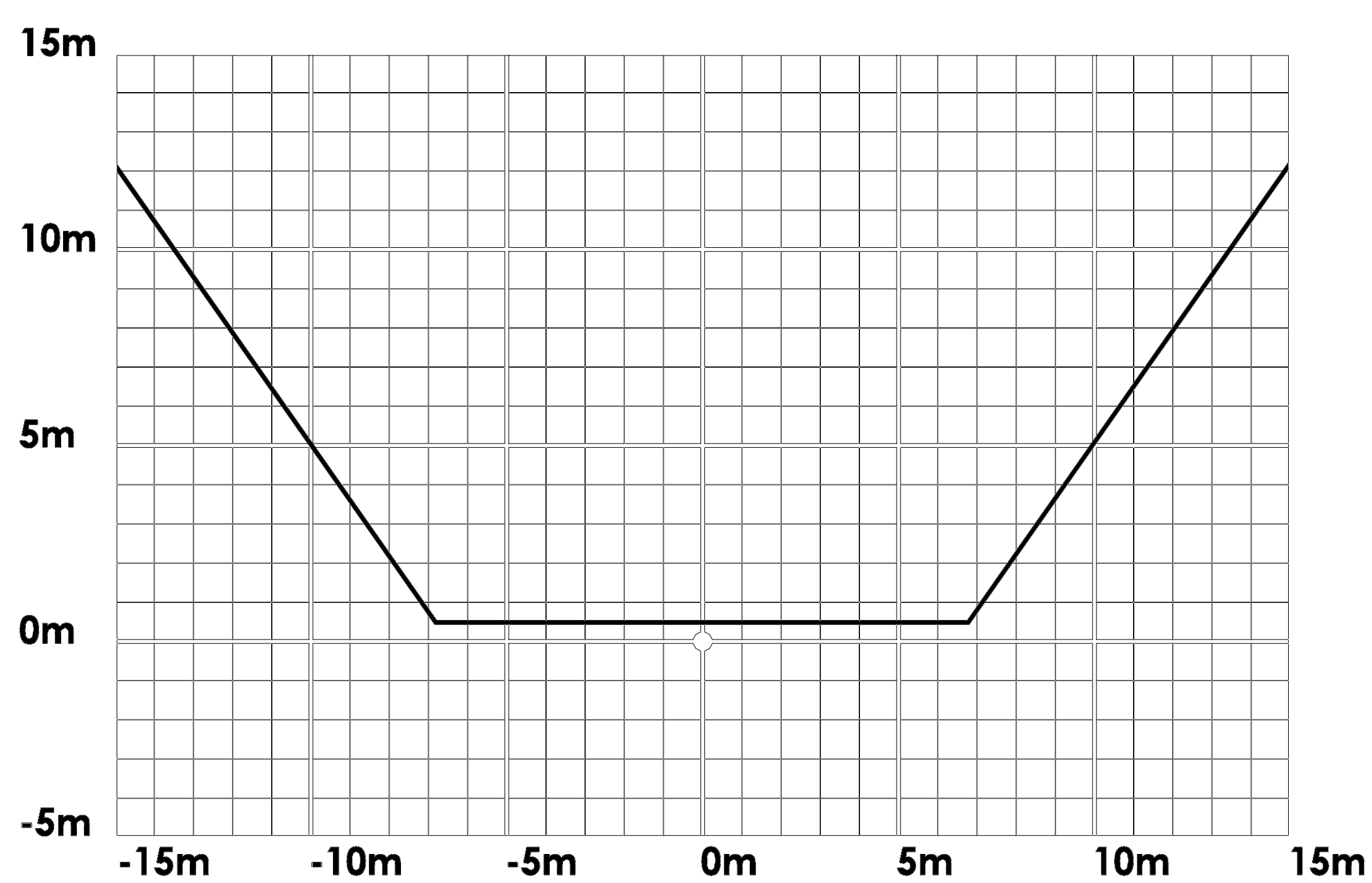
(I40H09) - Height 9m, inclination : 40°



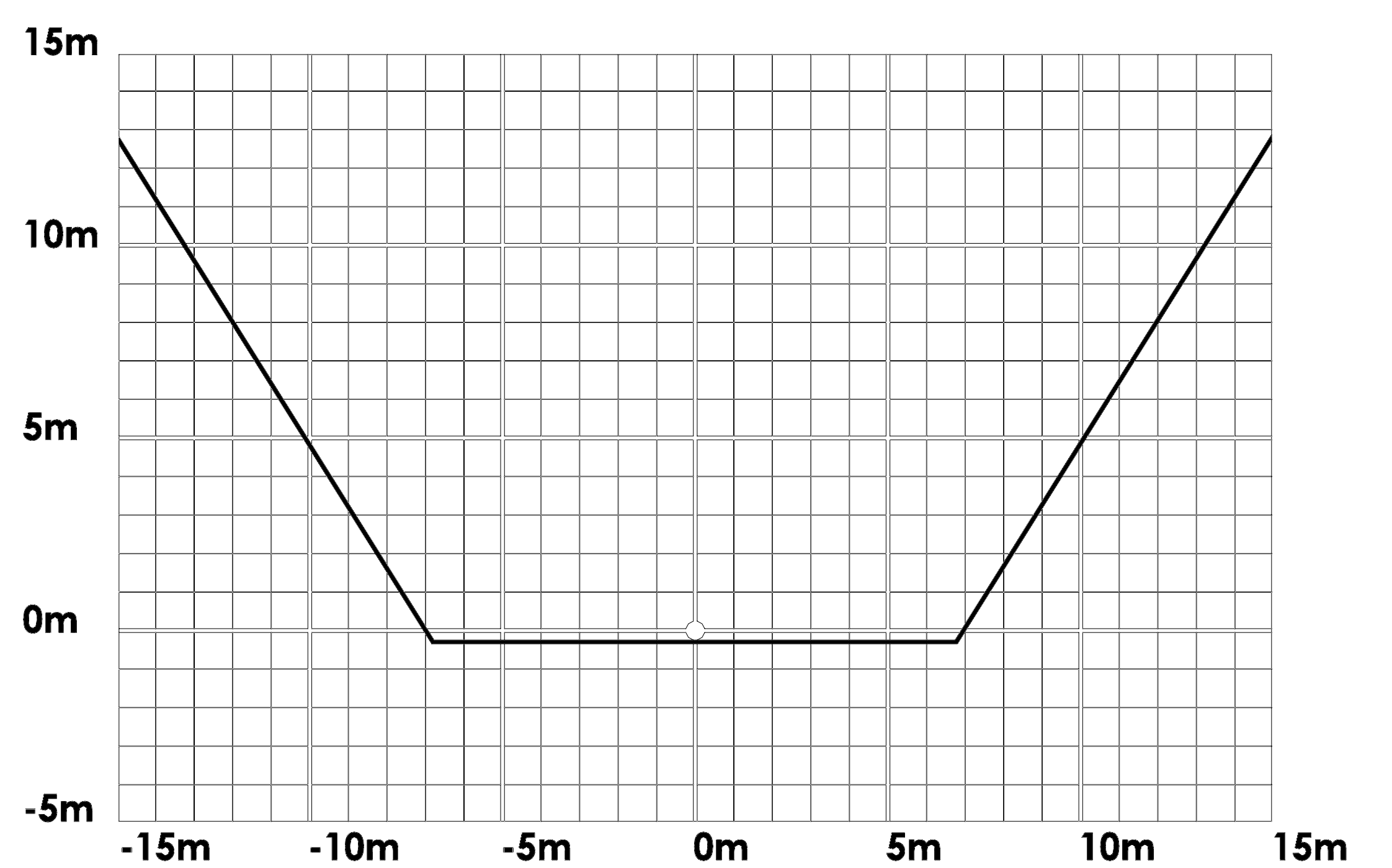
(I45H09) - Height 9m, inclination : 45°



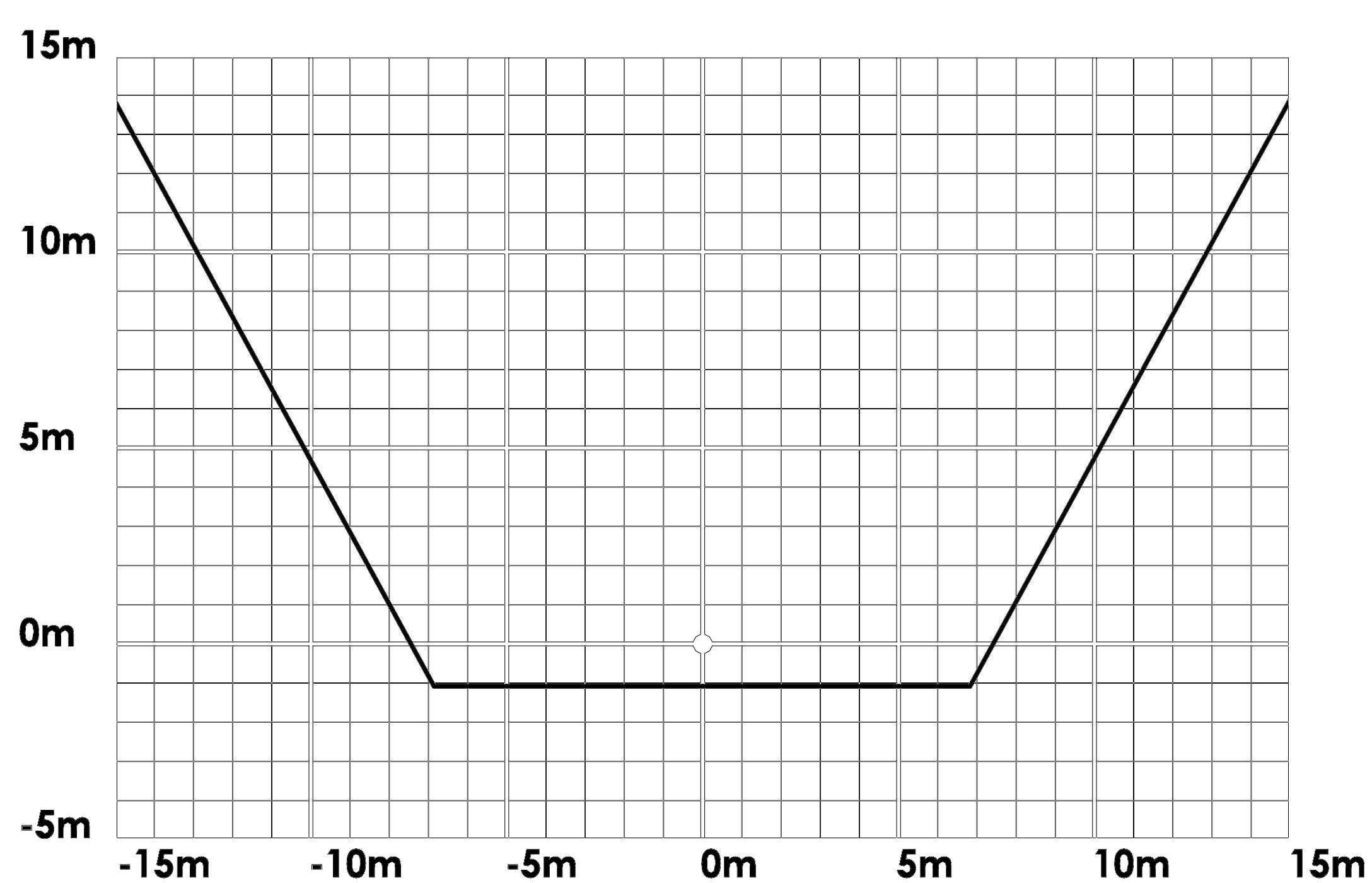
(I50H09) - Height 9m, inclination : 50°



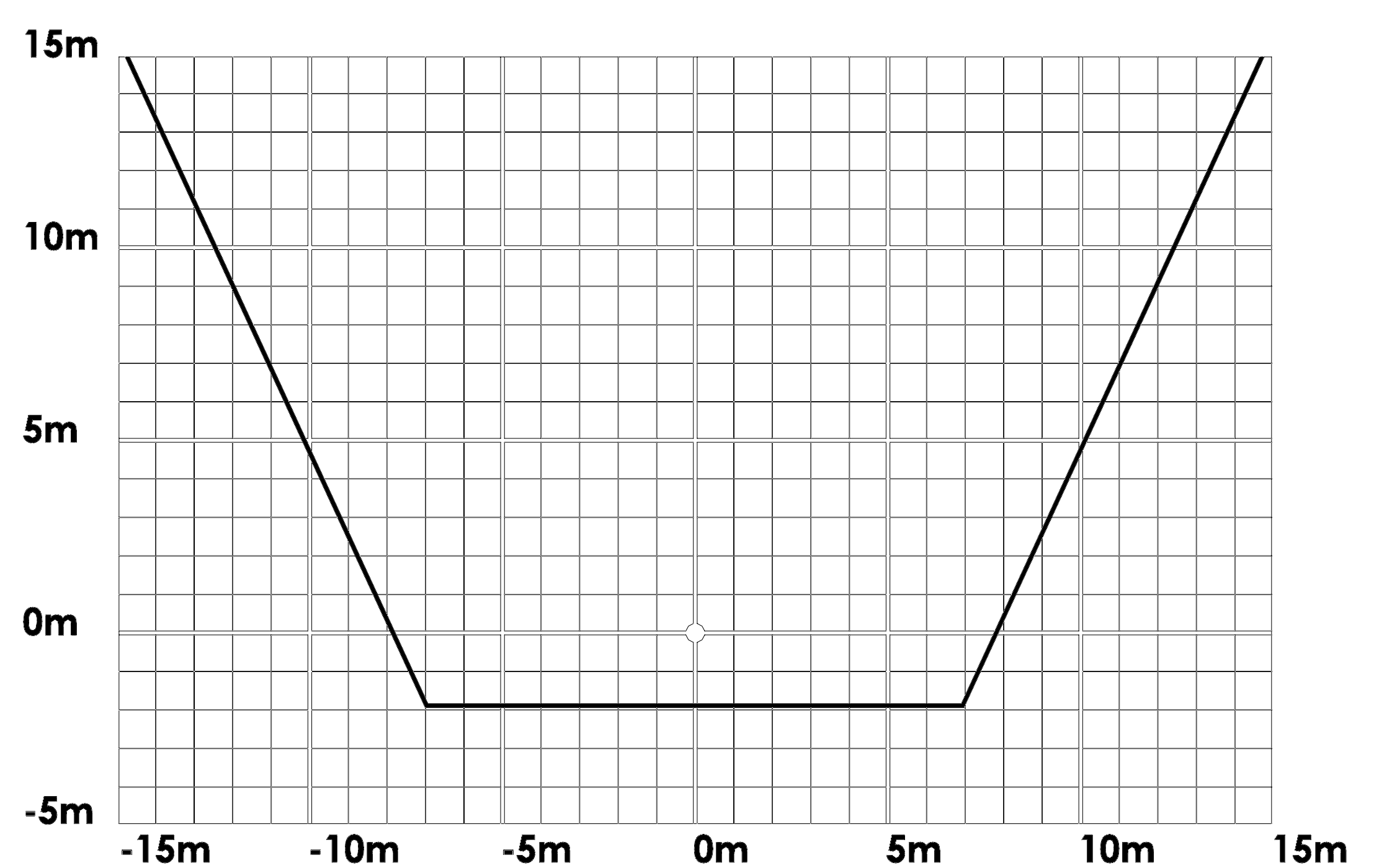
(I55H09) - Height 9m, inclination : 55°



(I60H09) - Height 9m, inclination : 60°

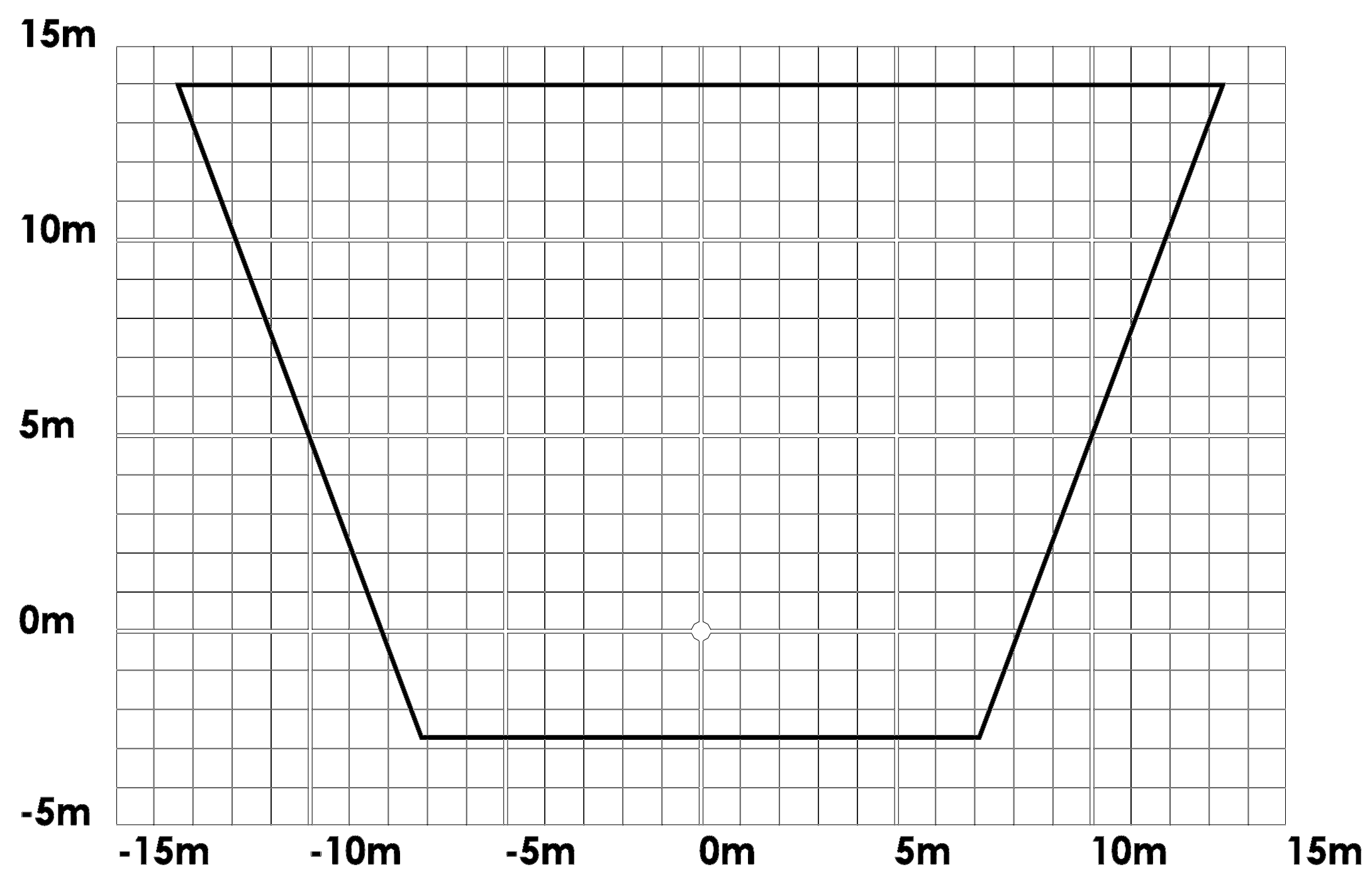


(I65H09) - Height 9m, inclination : 65°



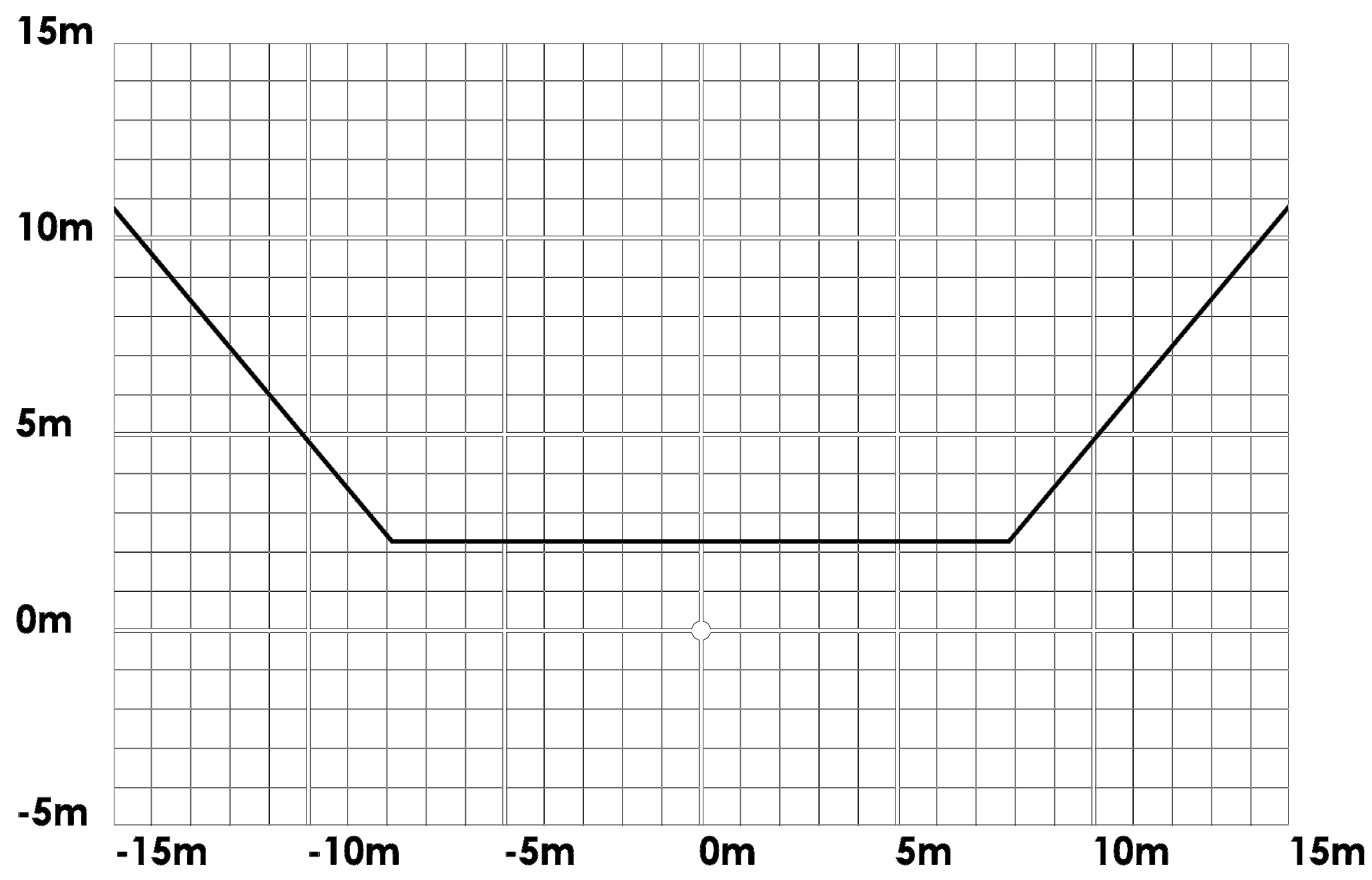
Floor charts - Height 9m, inclination 70°

(I70H09) - Height 9m, inclination : 70°

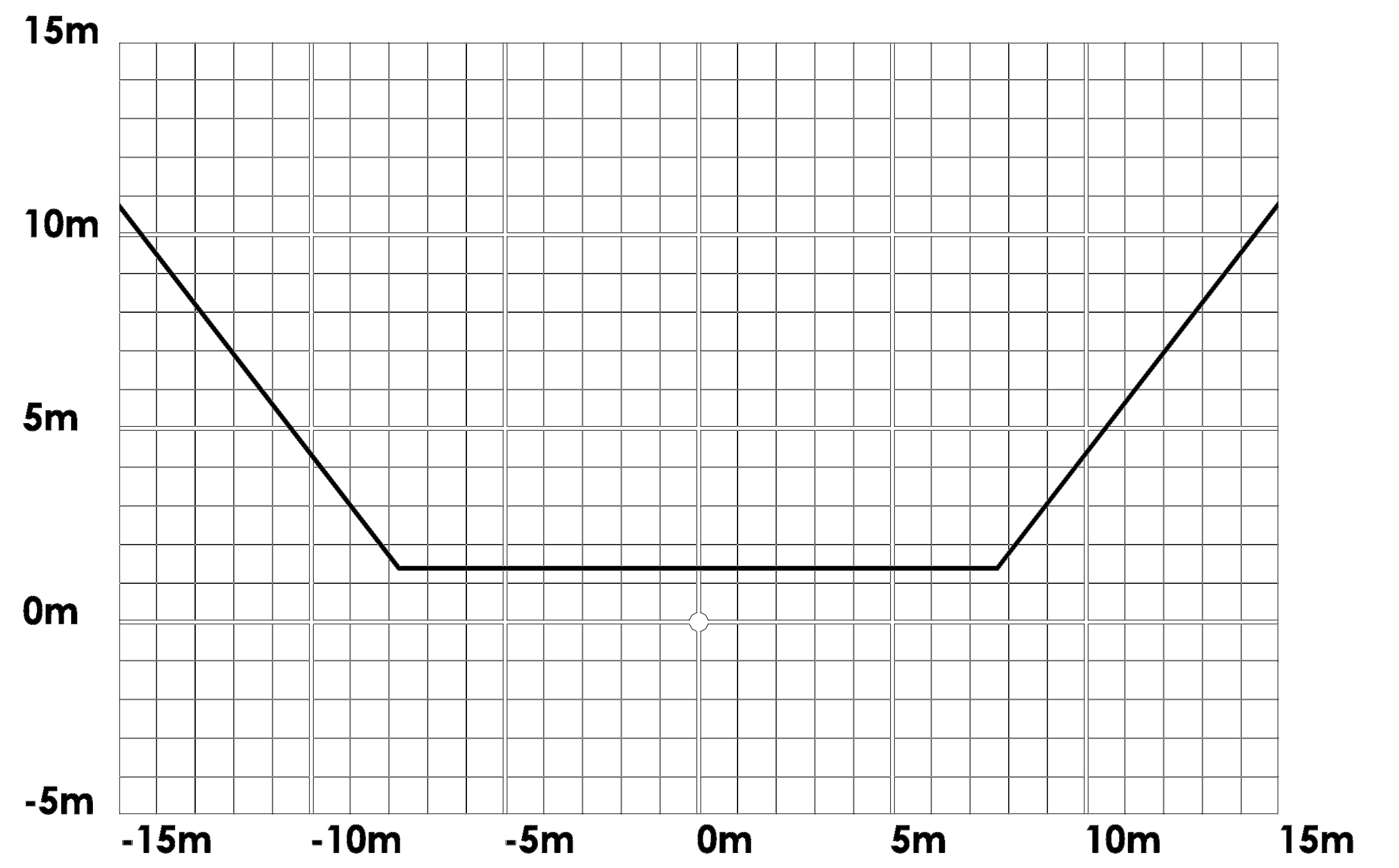


Floor charts - Height 10m, inclination 40° - 65°

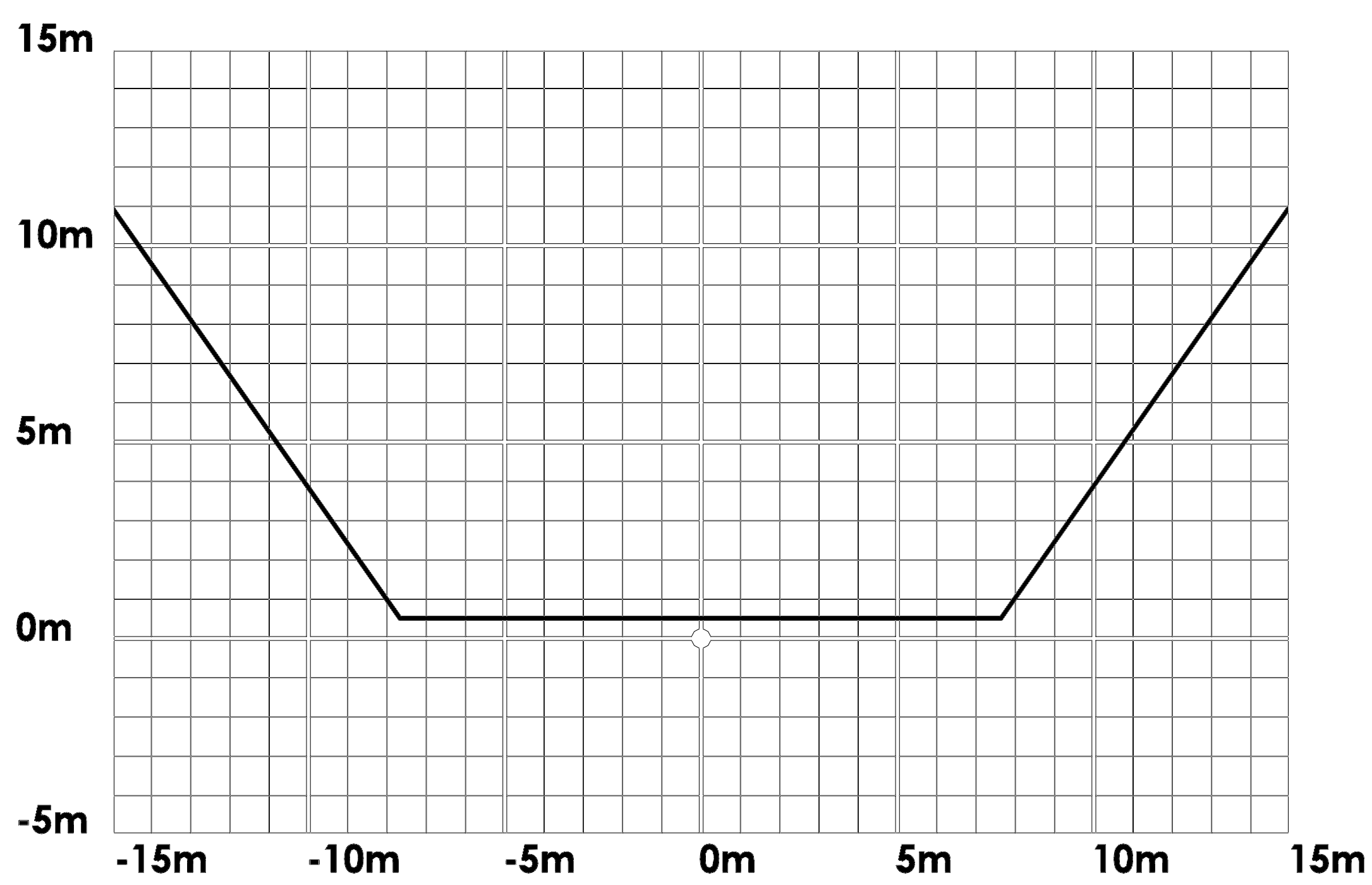
(I40H10) - Height 10m, inclination : 40°



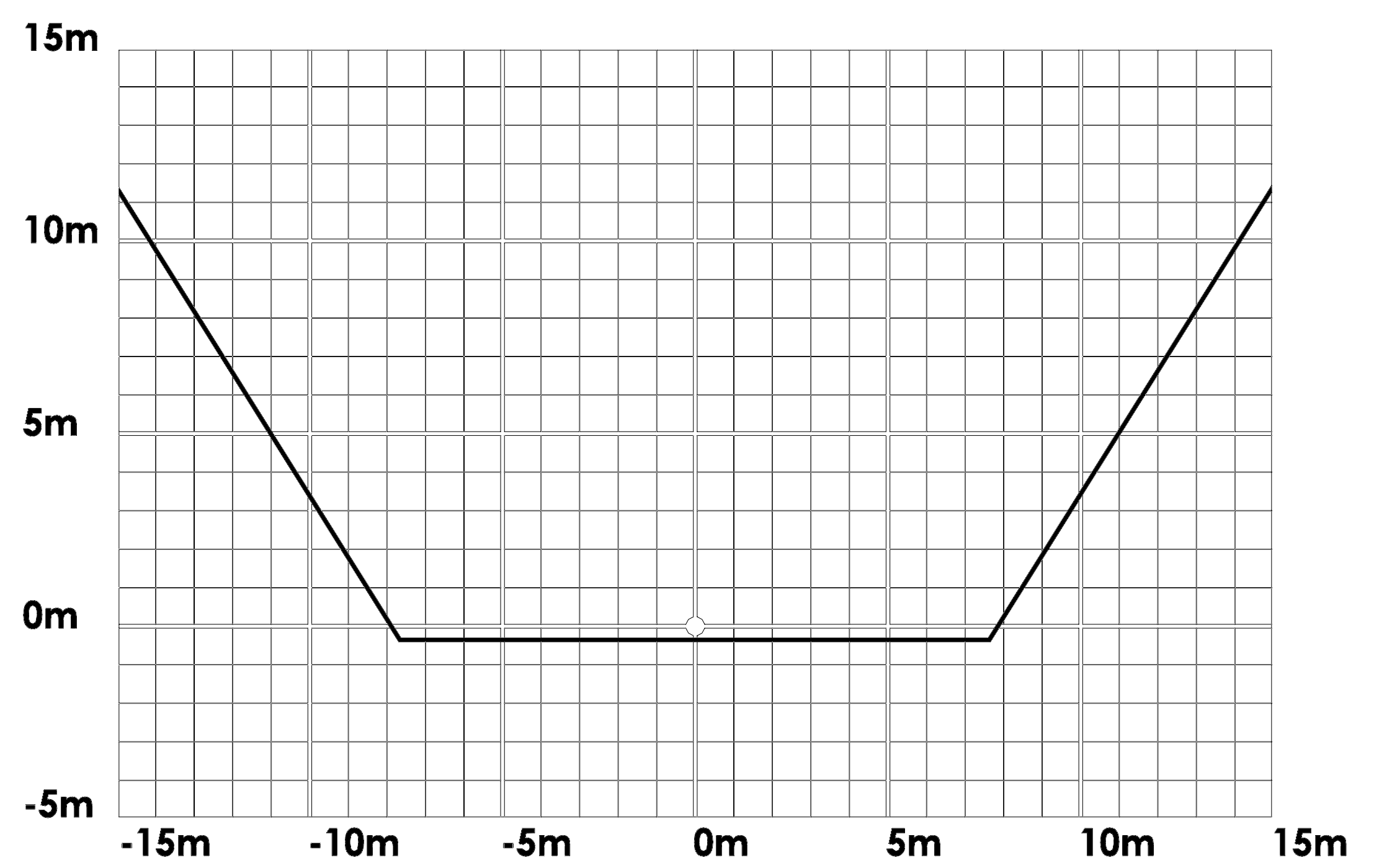
(I45H10) - Height 10m, inclination : 45°



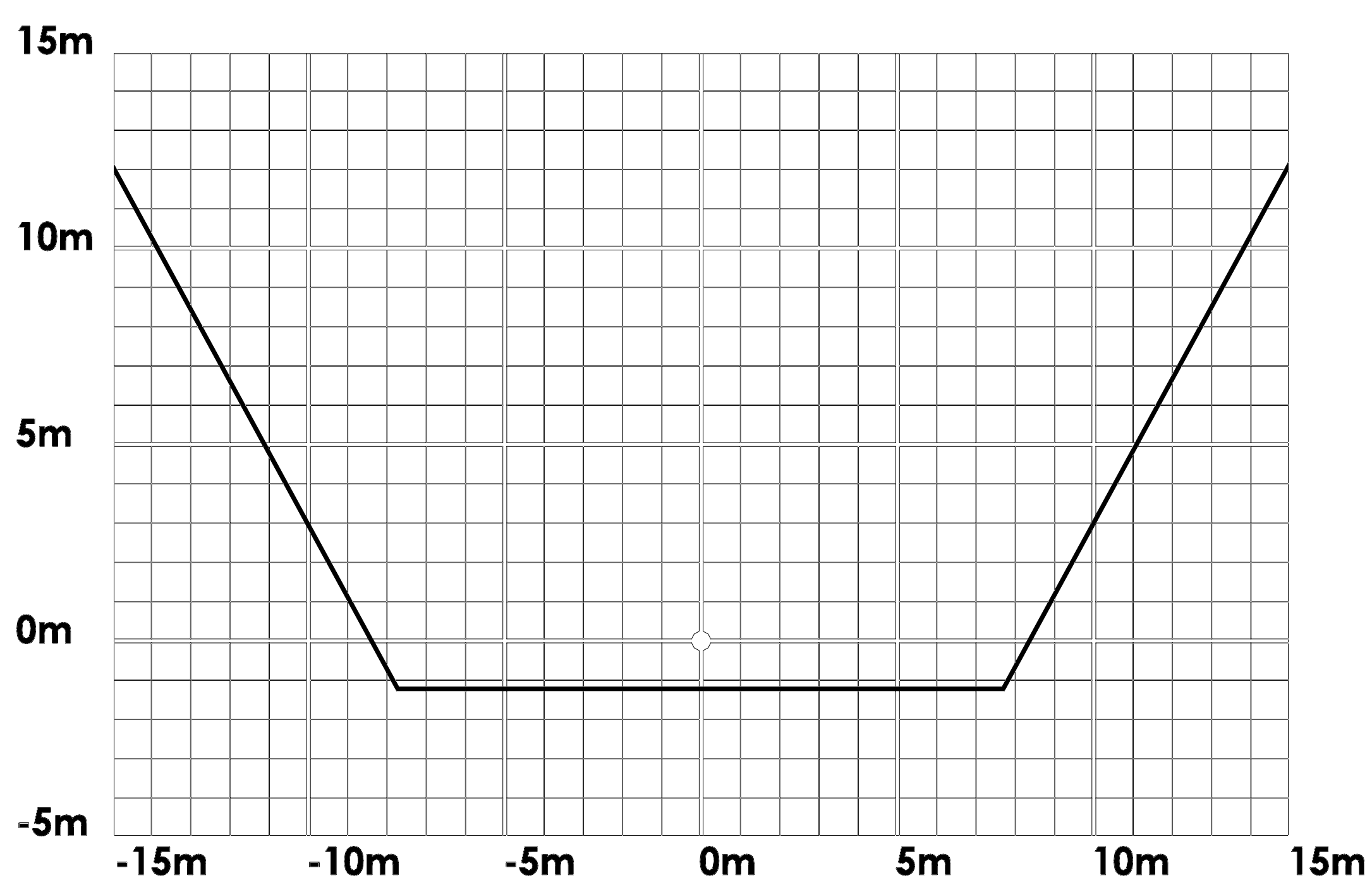
(I50H10) - Height 10m, inclination : 50°



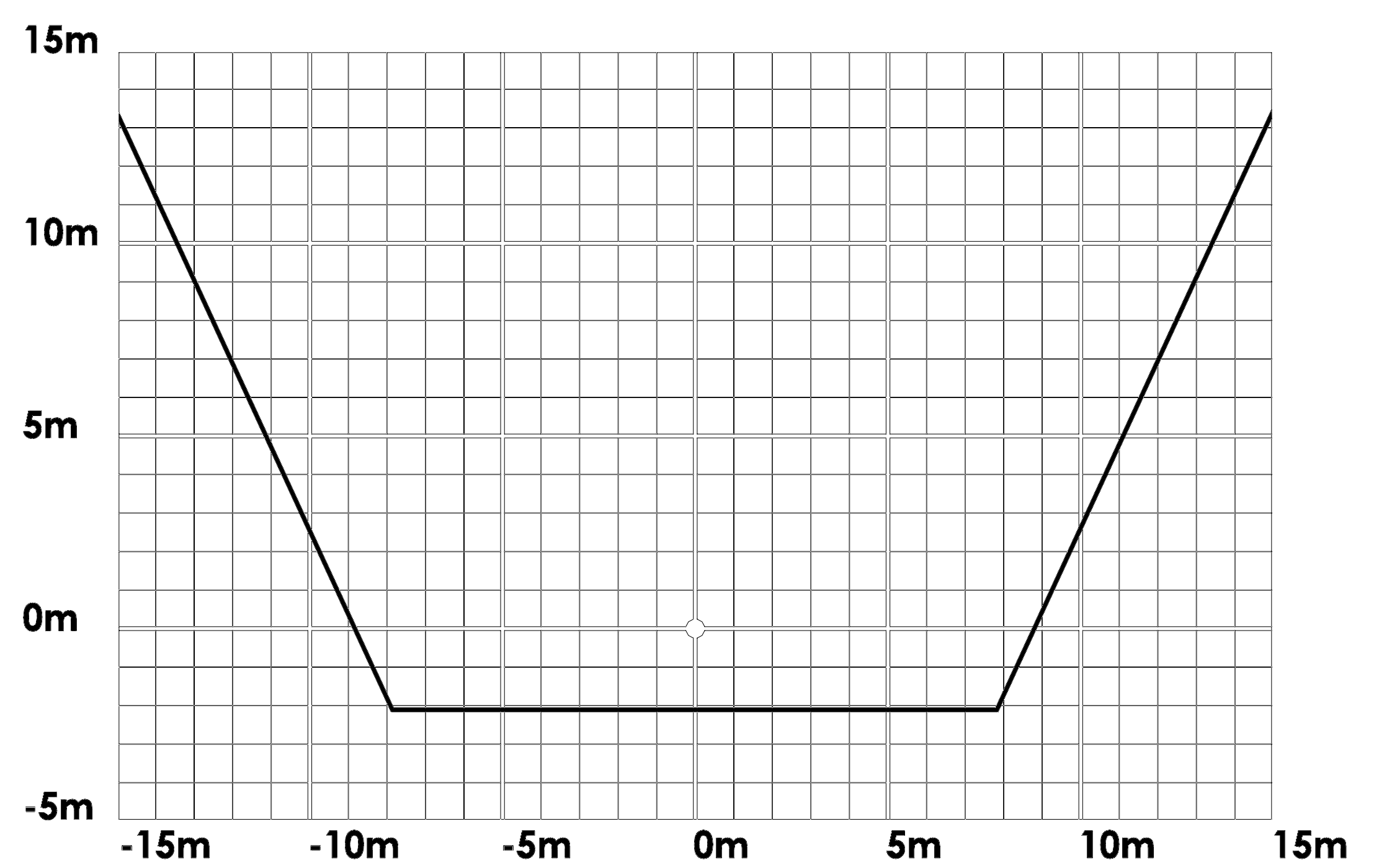
(I55H10) - Height 10m, inclination : 55°



(I60H10) - Height 10m, inclination : 60°

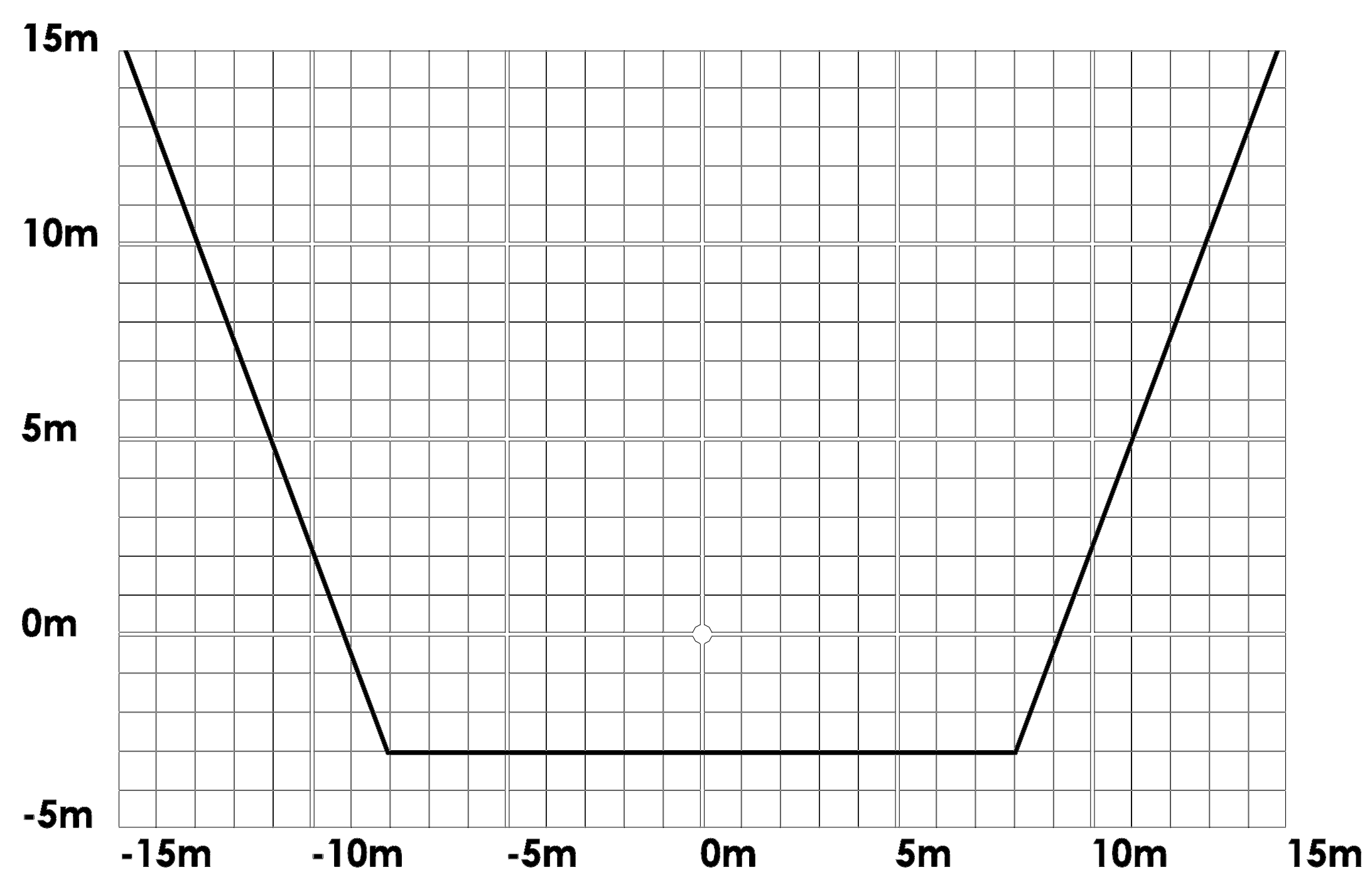


(I65H10) - Height 10m, inclination : 65°



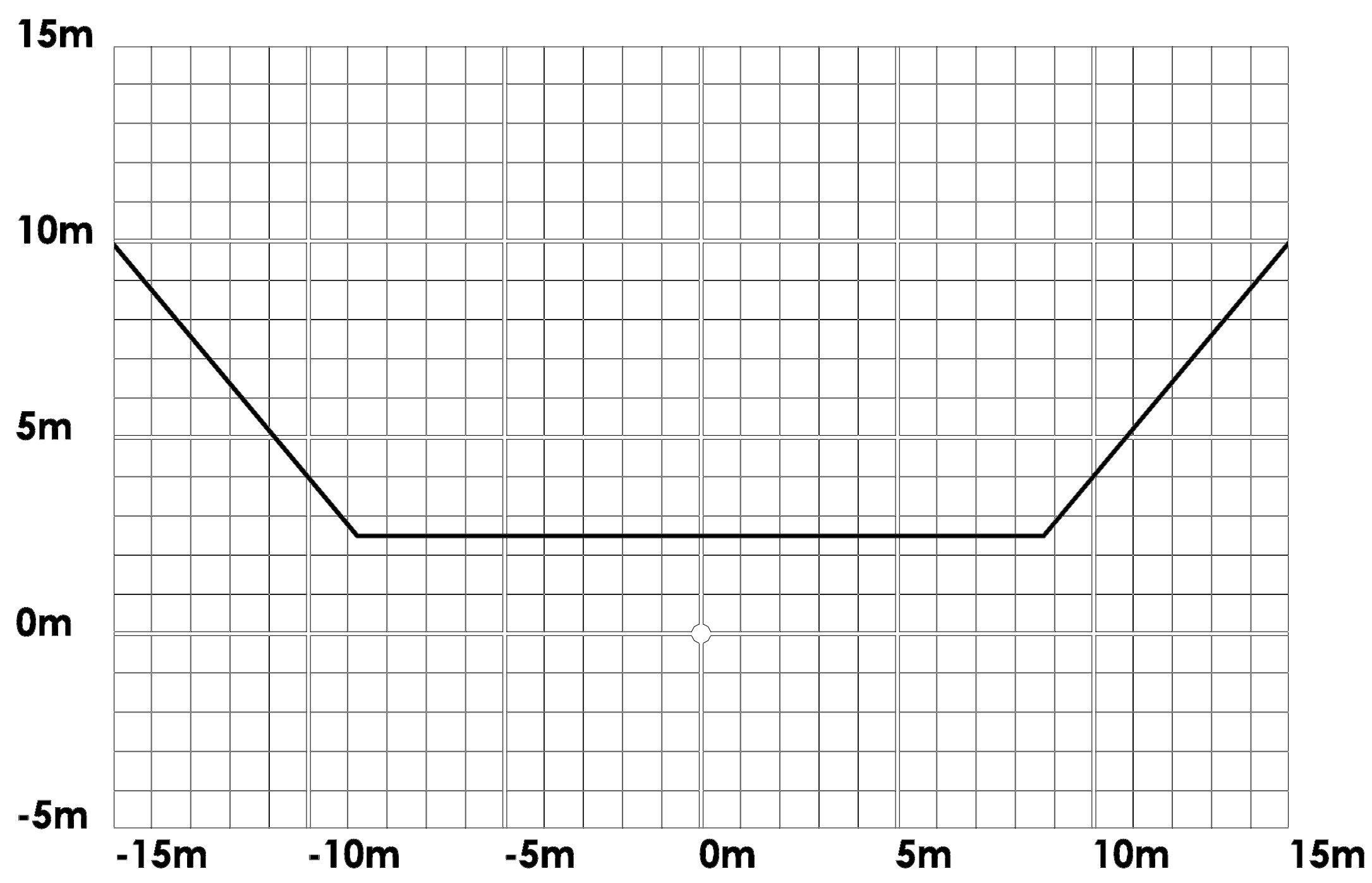
Floor charts - Height 10m, inclination 70°

(I70H10) - Height 10m, inclination : 70°

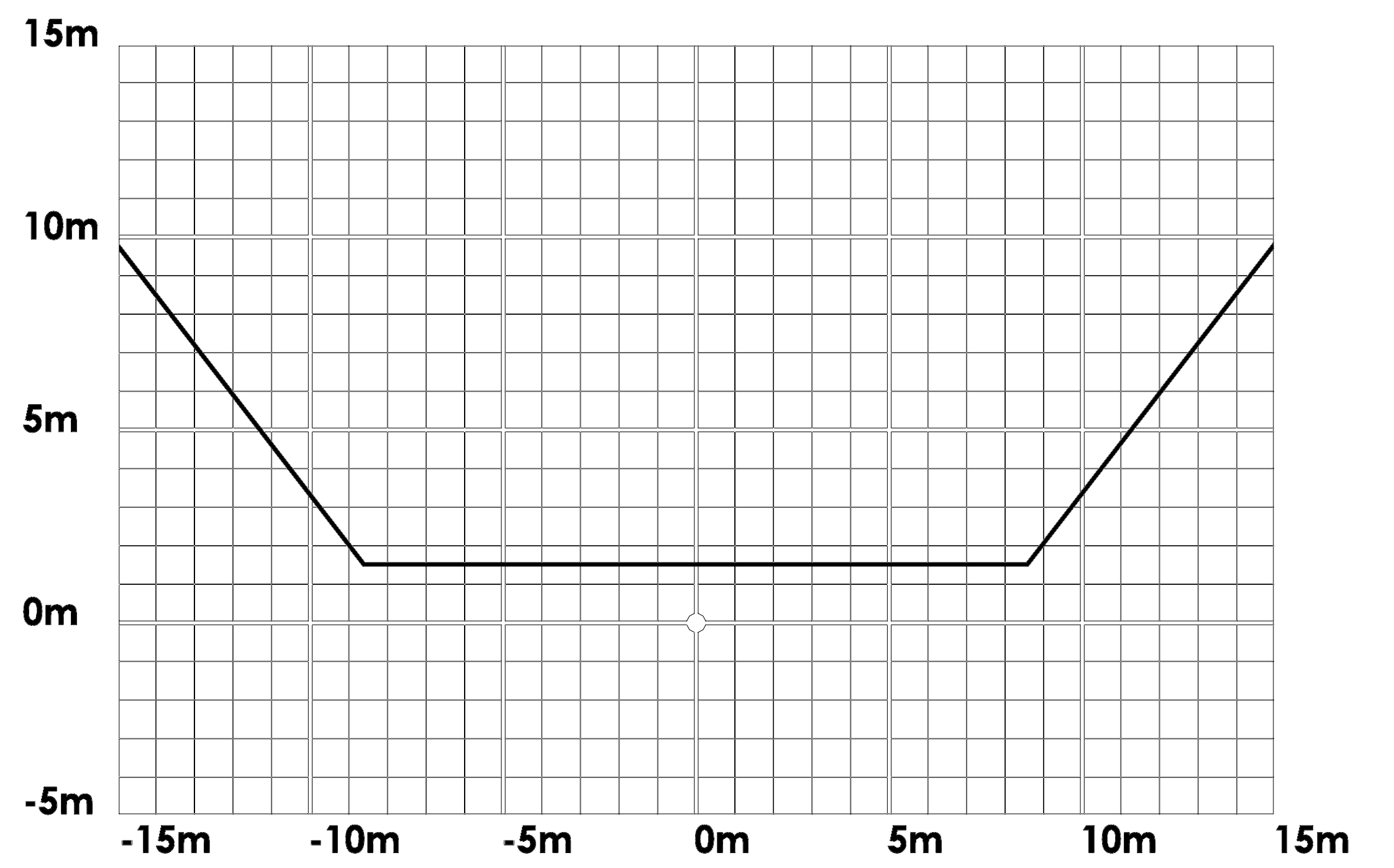


Floor charts - Height 11m, inclination 40° - 65°

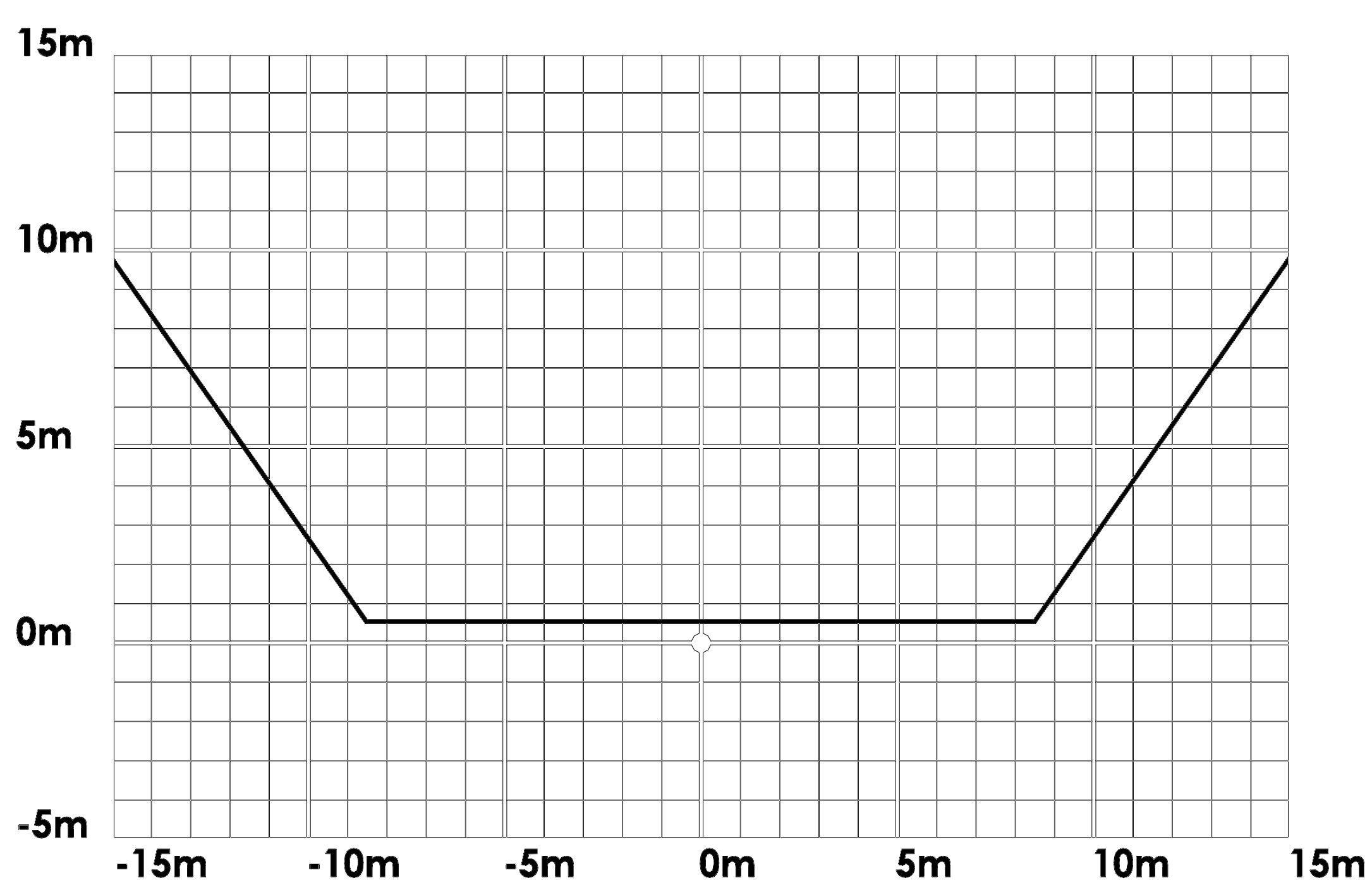
(I40H11) - Height 11m, inclination : 40°



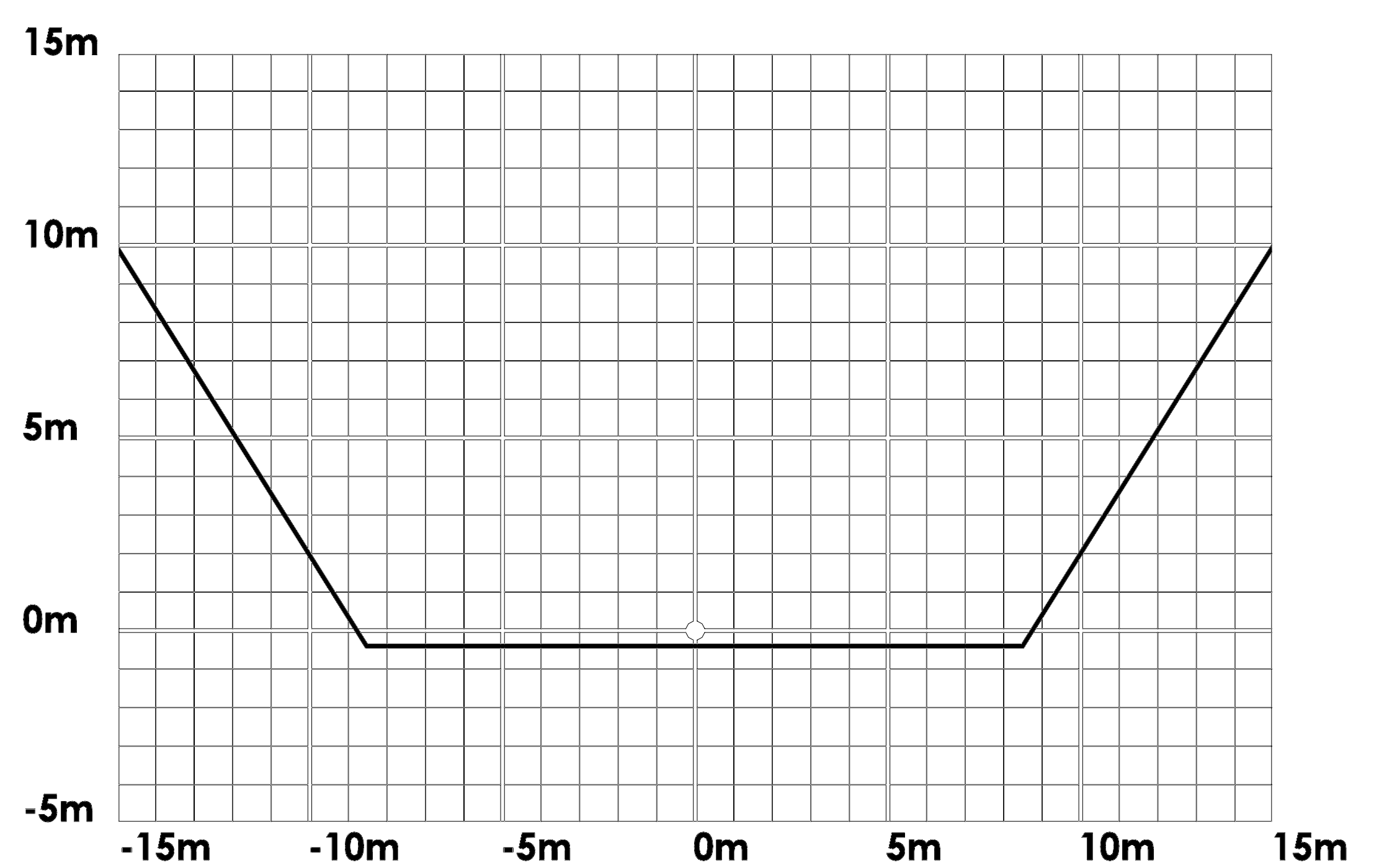
(I45H11) - Height 11m, inclination : 45°



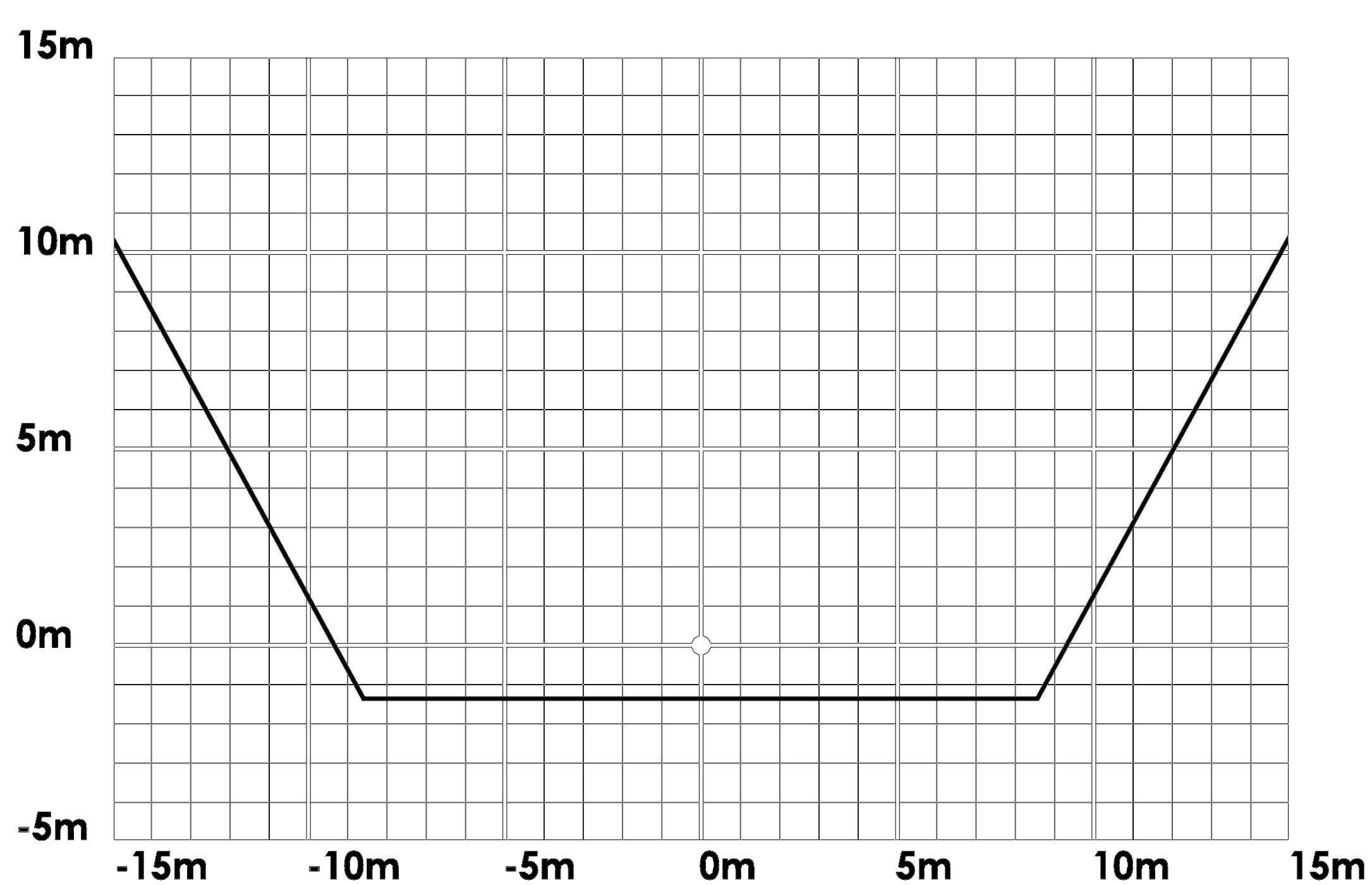
(I50H11) - Height 11m, inclination : 50°



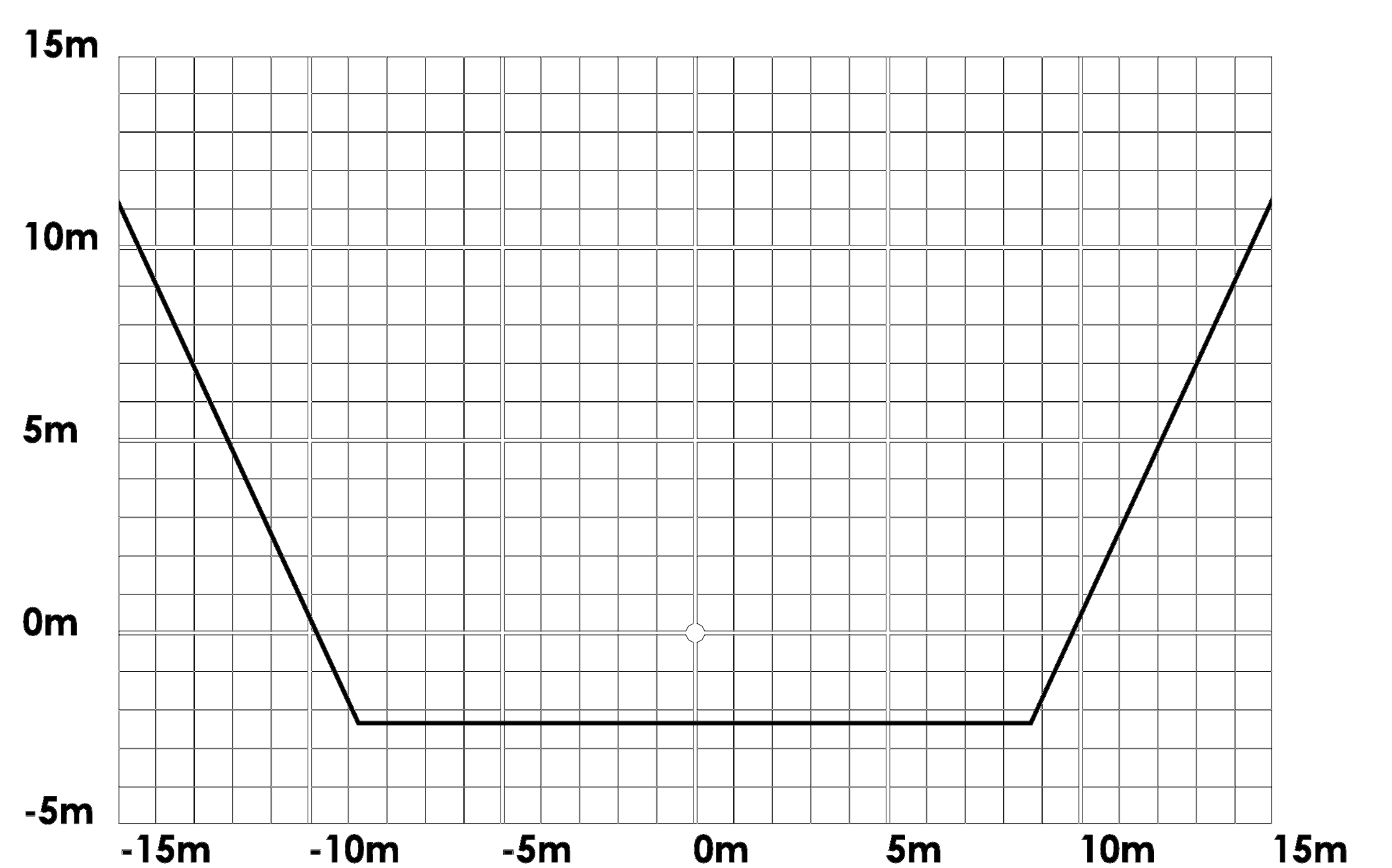
(I55H11) - Height 11m, inclination : 55°



(I60H11) - Height 11m, inclination : 60°

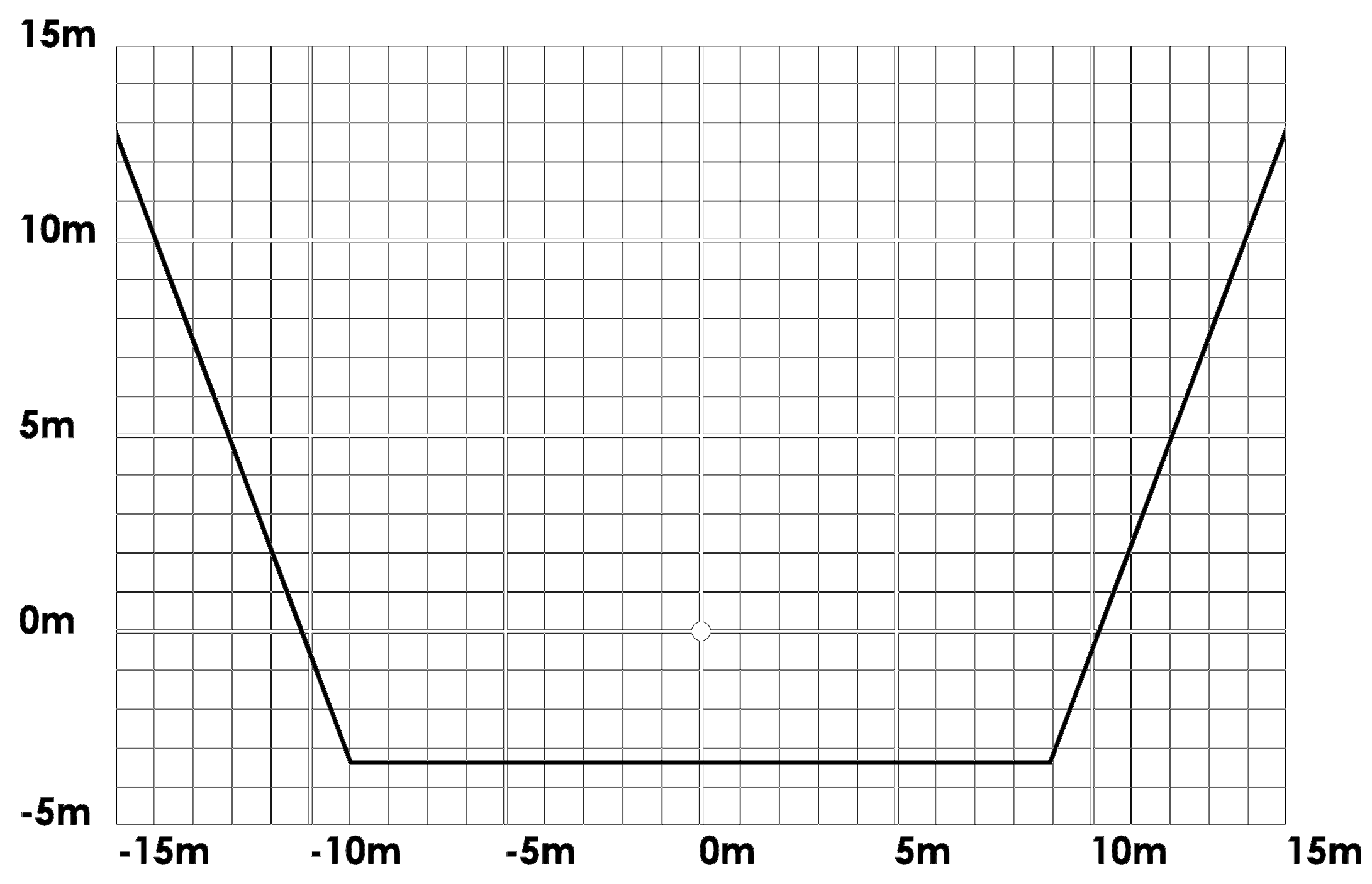


(I65H11) - Height 11m, inclination : 65°



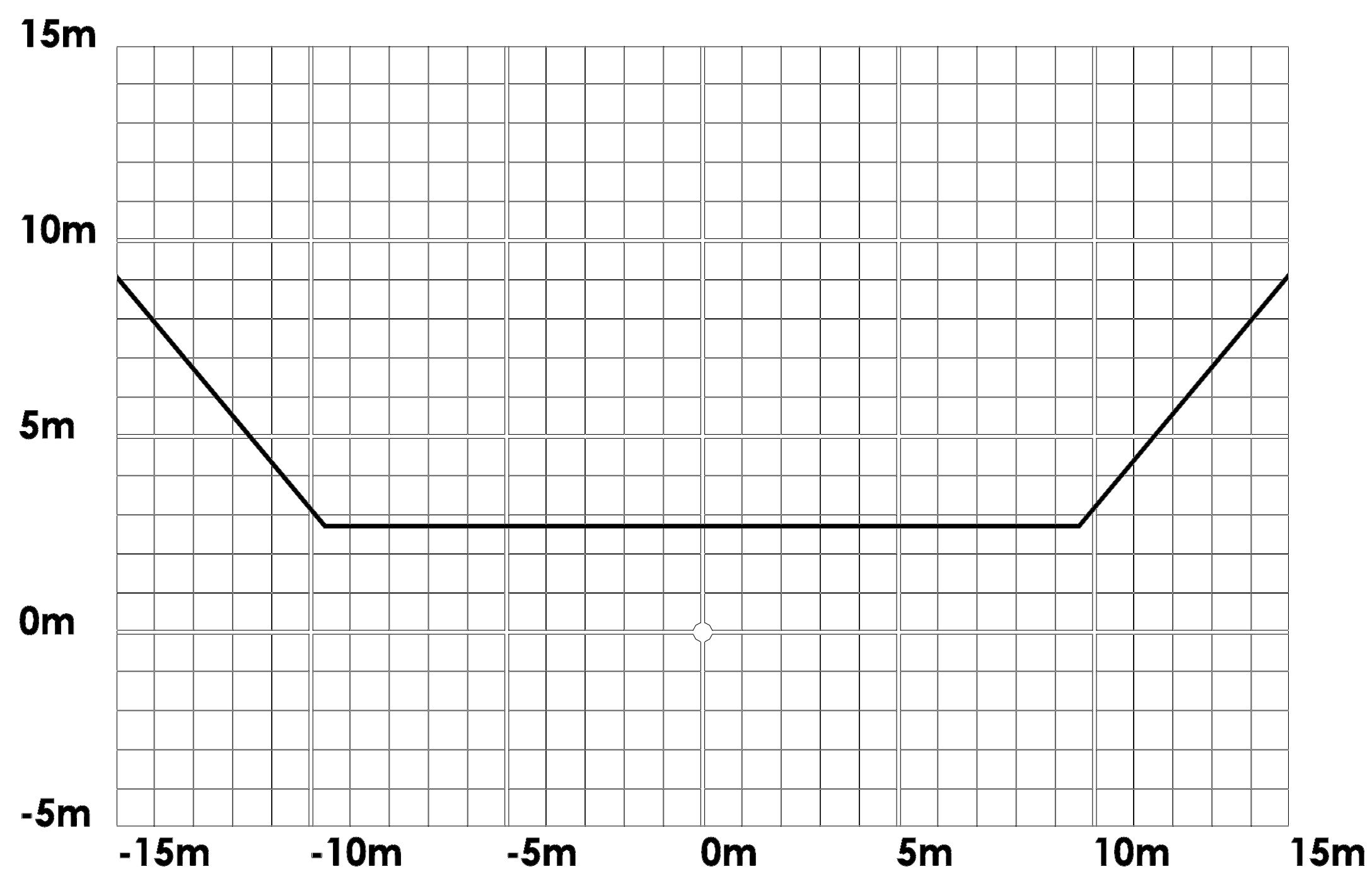
Floor charts - Height 11m, inclination 70°

(I70H11) - Height 11m, inclination : 70°

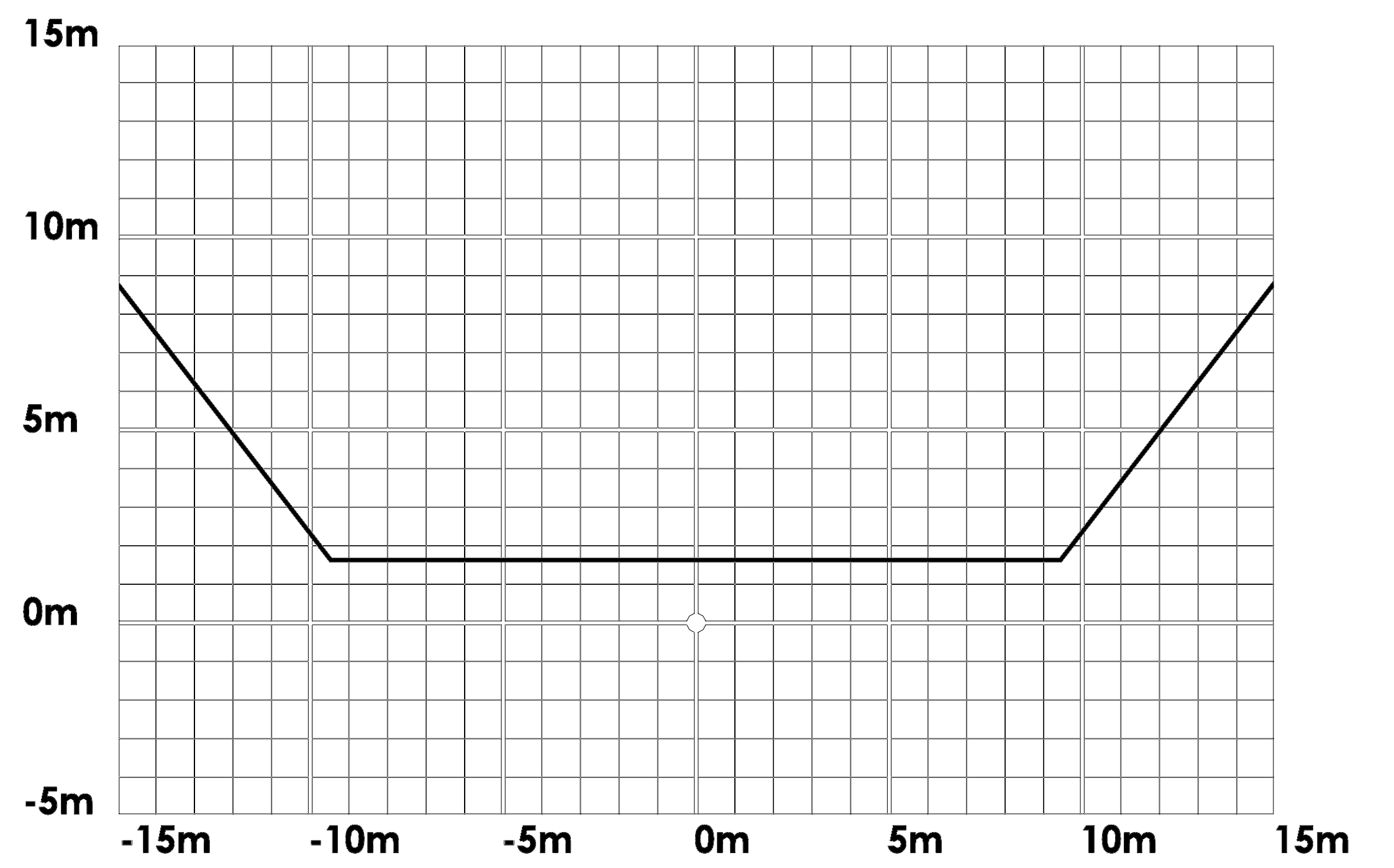


Floor charts - Height 12m, inclination 40° - 65°

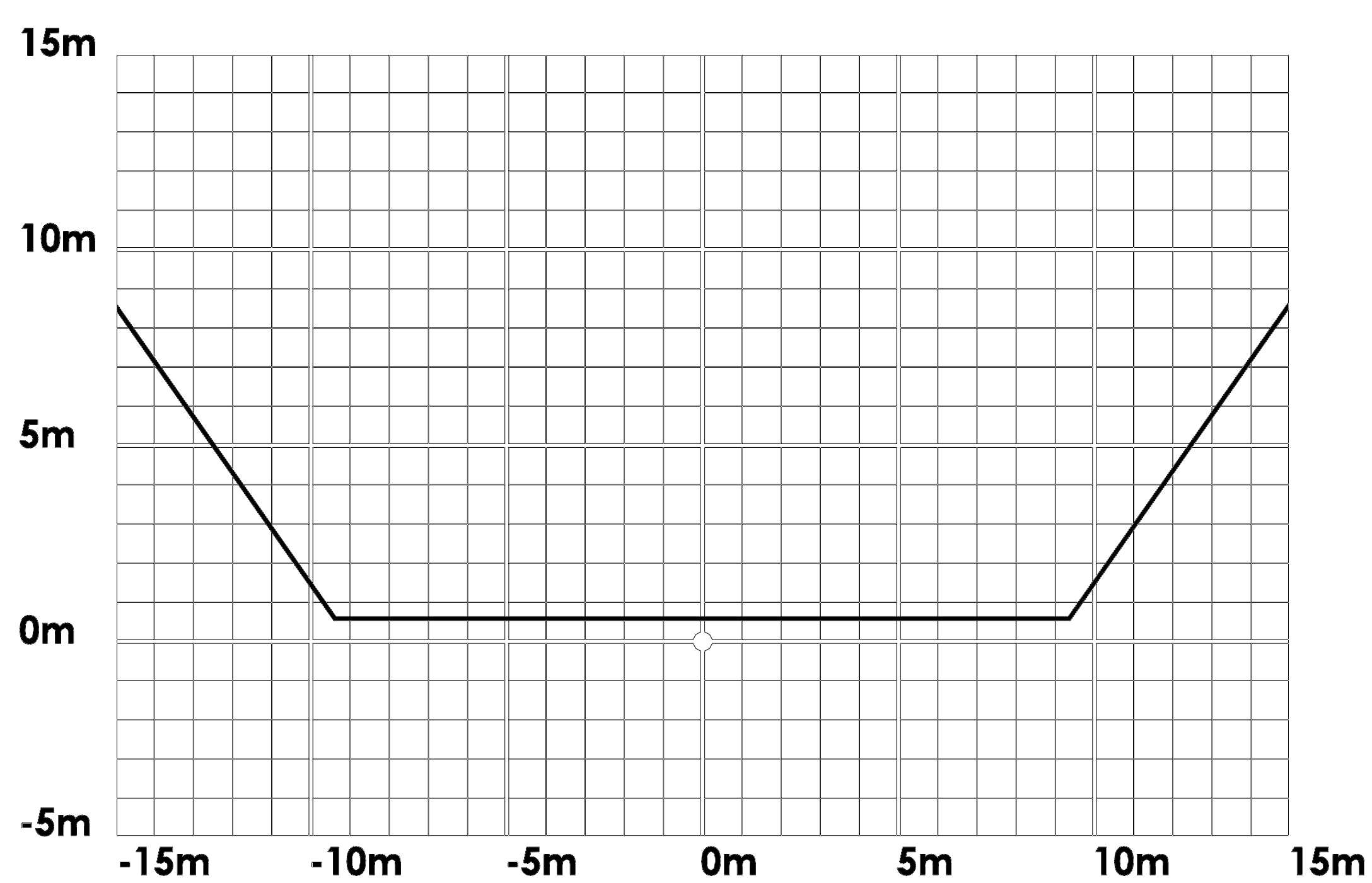
(I40H12) - Height 12m, inclination : 40°



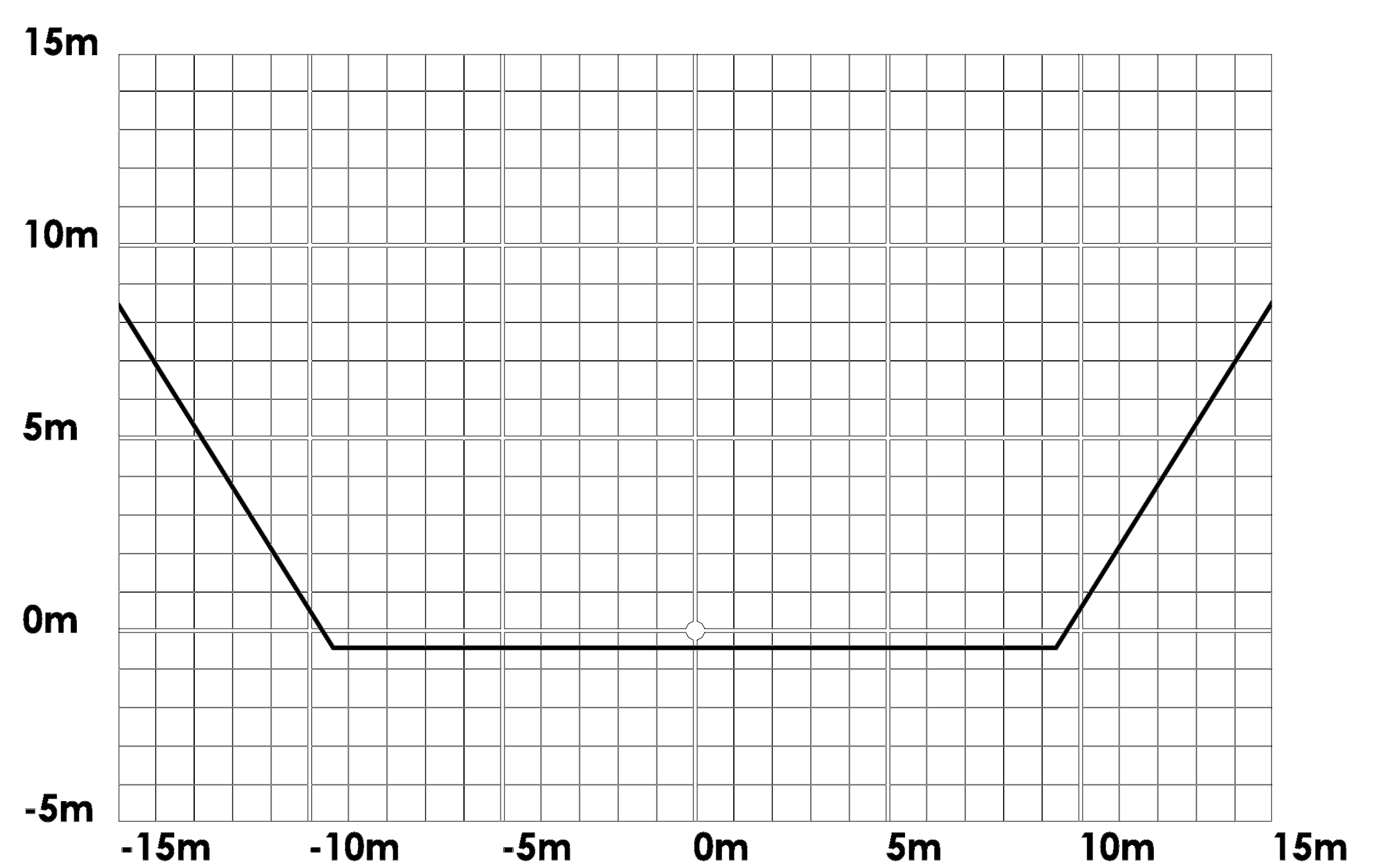
(I45H12) - Height 12m, inclination : 45°



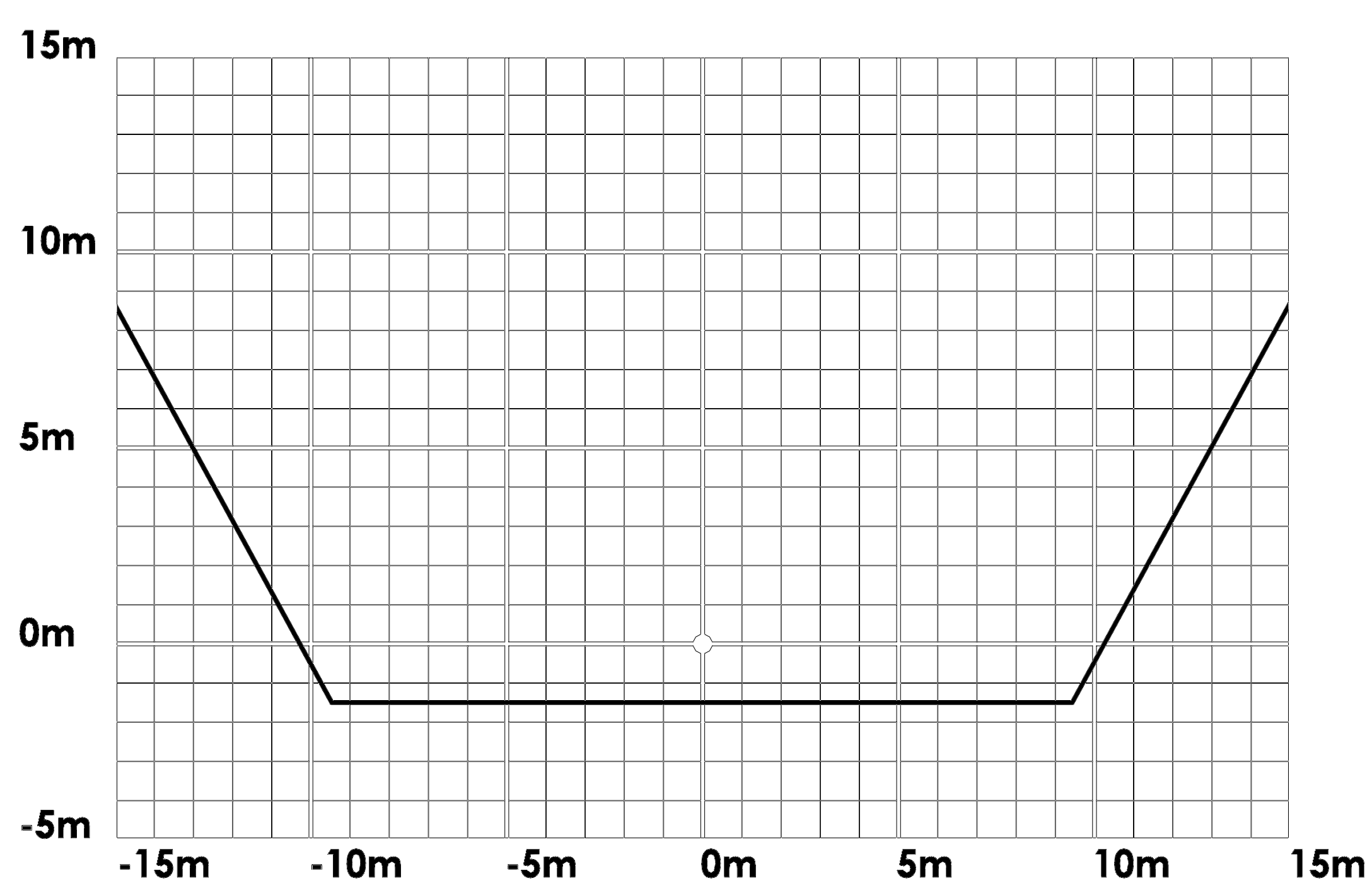
(I50H12) - Height 12m, inclination : 50°



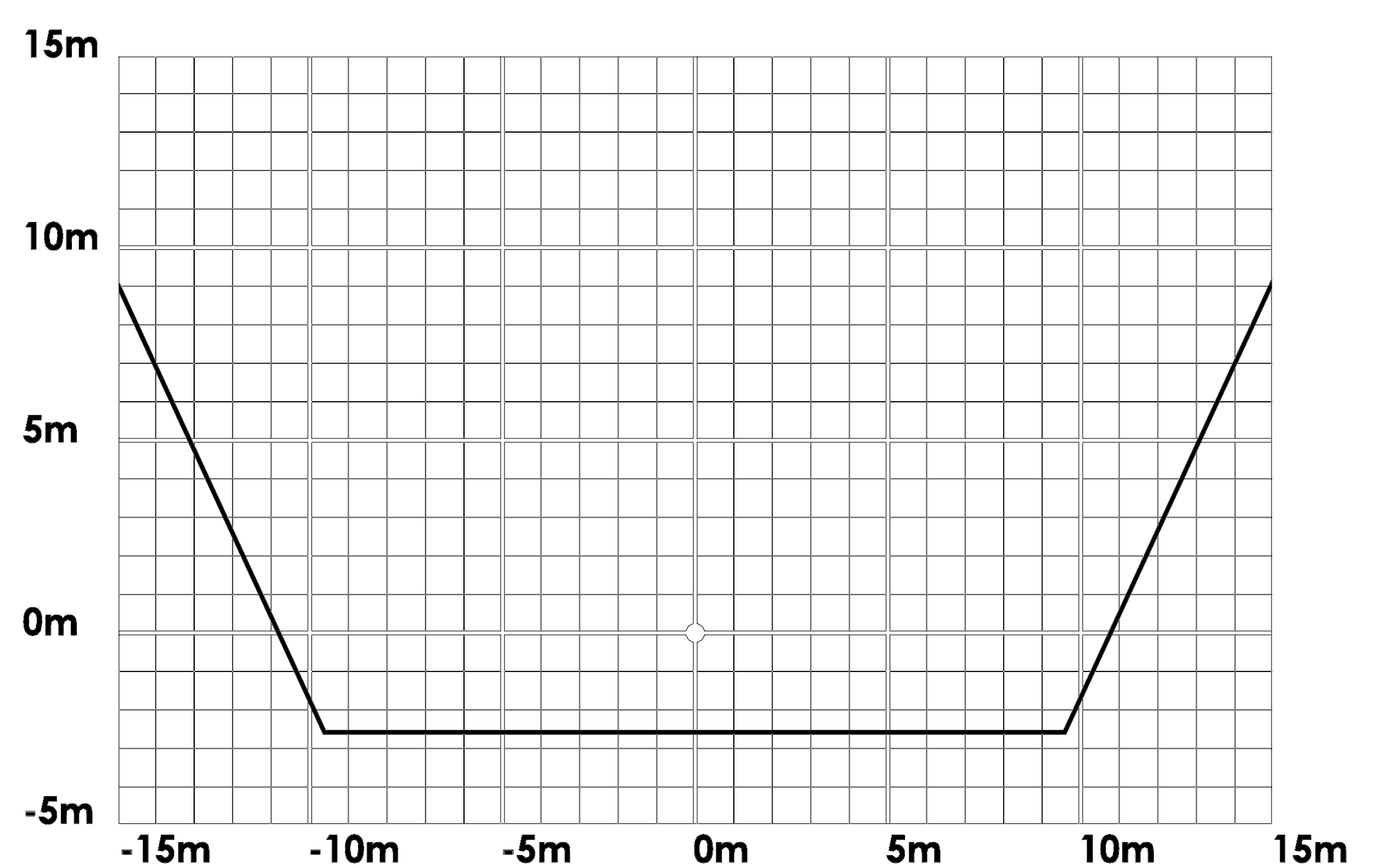
(I55H12) - Height 12m, inclination : 55°



(I60H12) - Height 12m, inclination : 60°

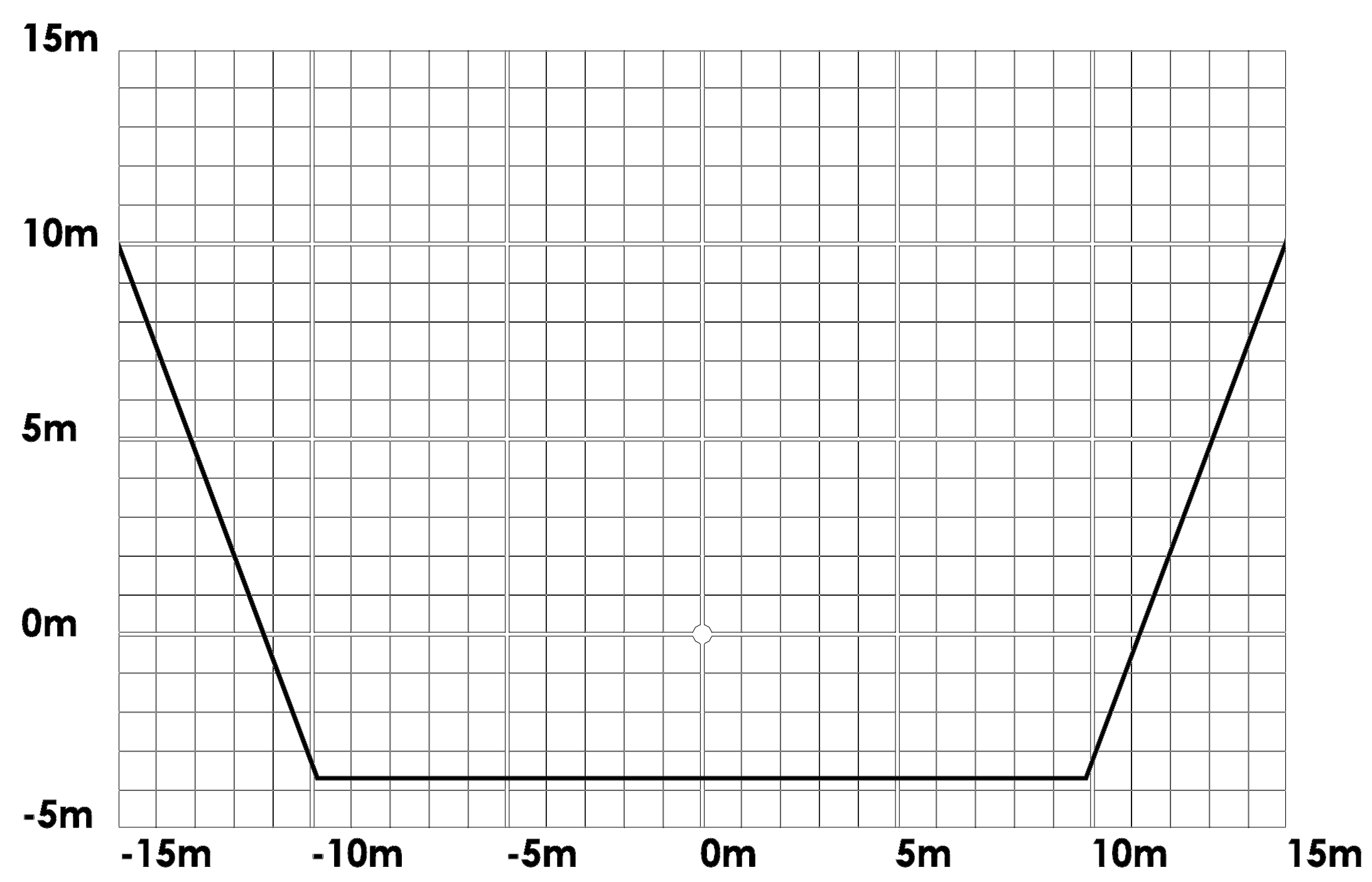


(I65H12) - Height 12m, inclination : 65°



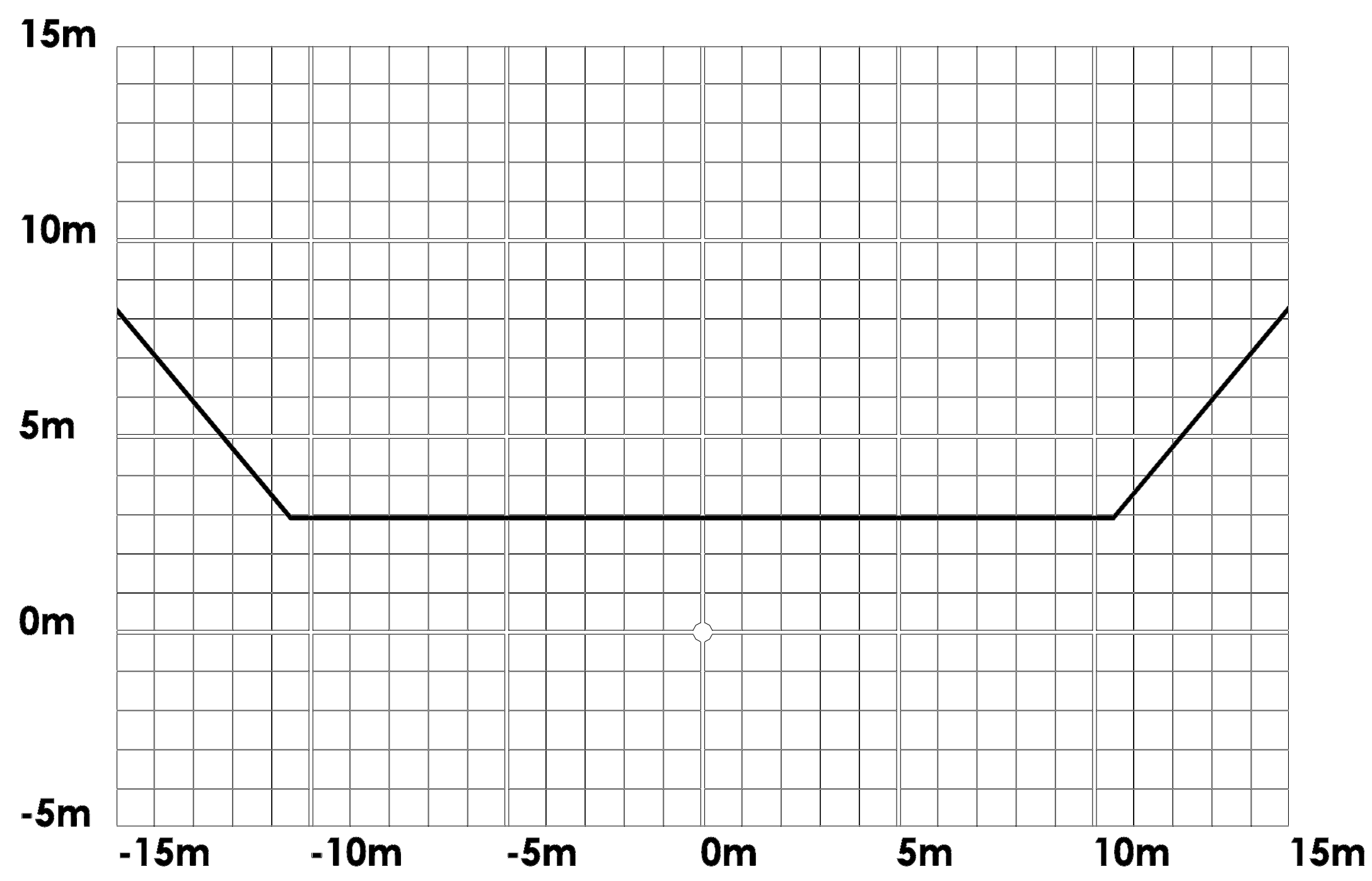
Floor charts - Height 12m, inclination 70°

(I70H12) - Height 12m, inclination : 70°

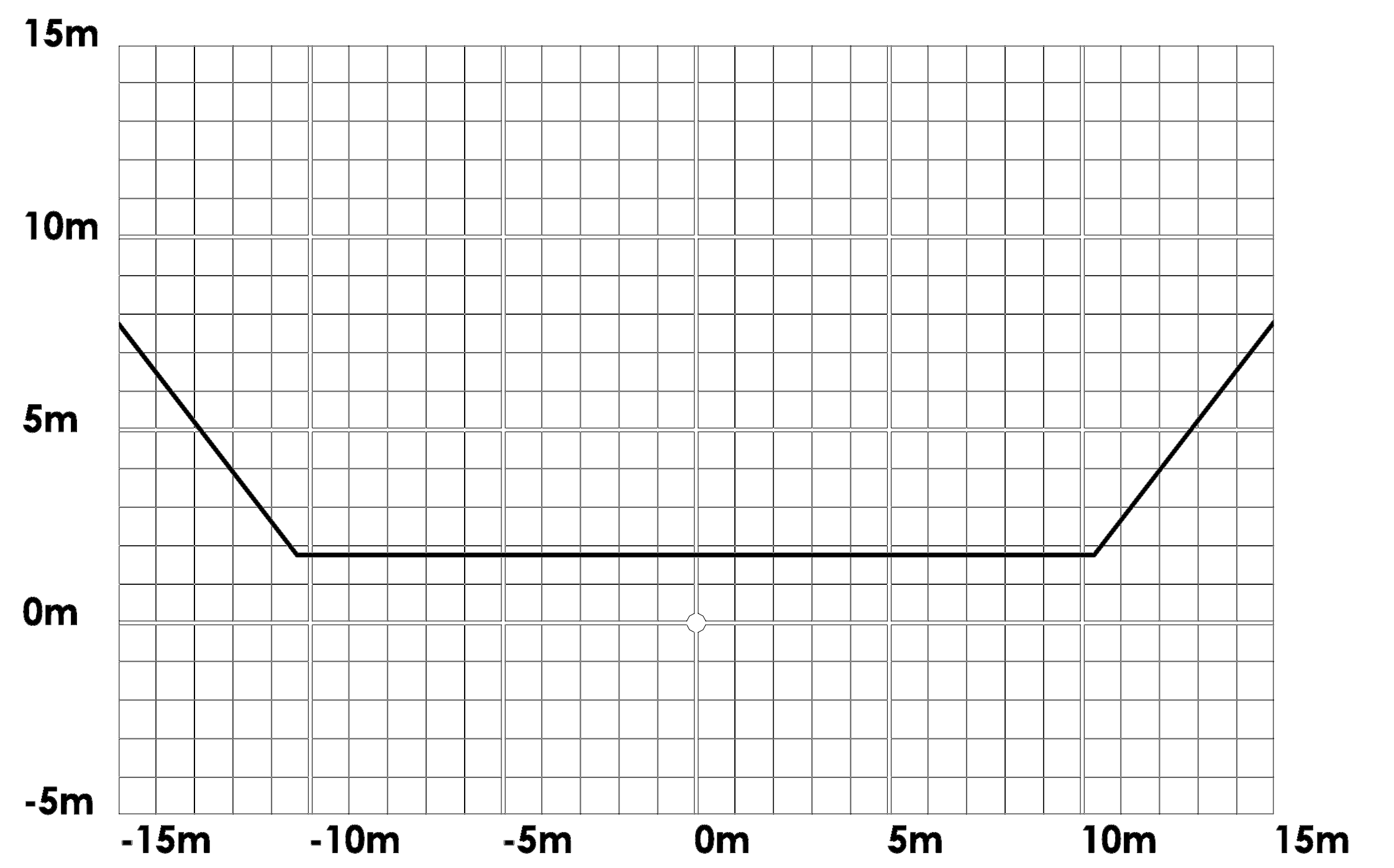


Floor charts - Height 13m, inclination 40° - 65°

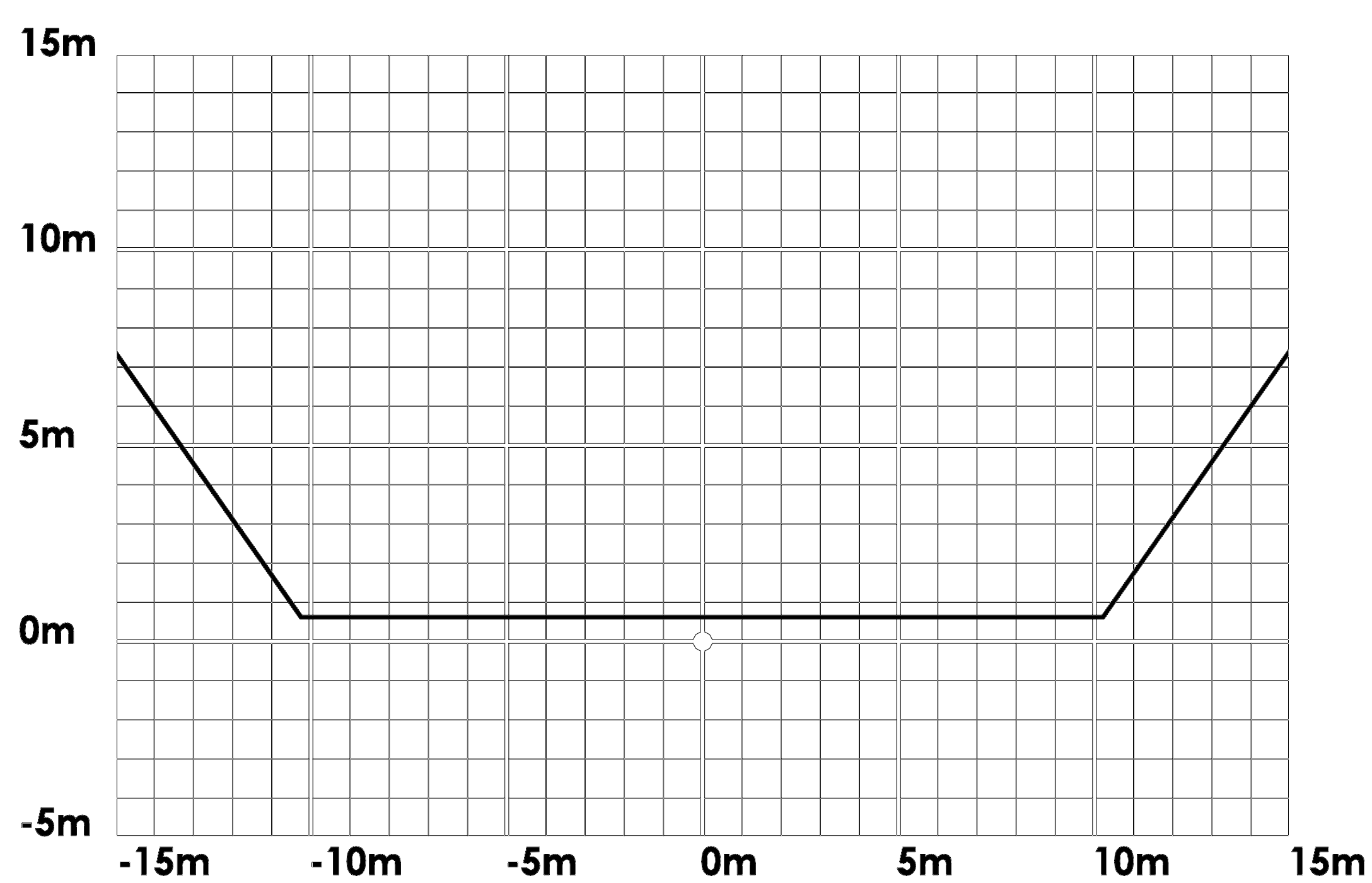
(I40H13) - Height 13m, inclination : 40°



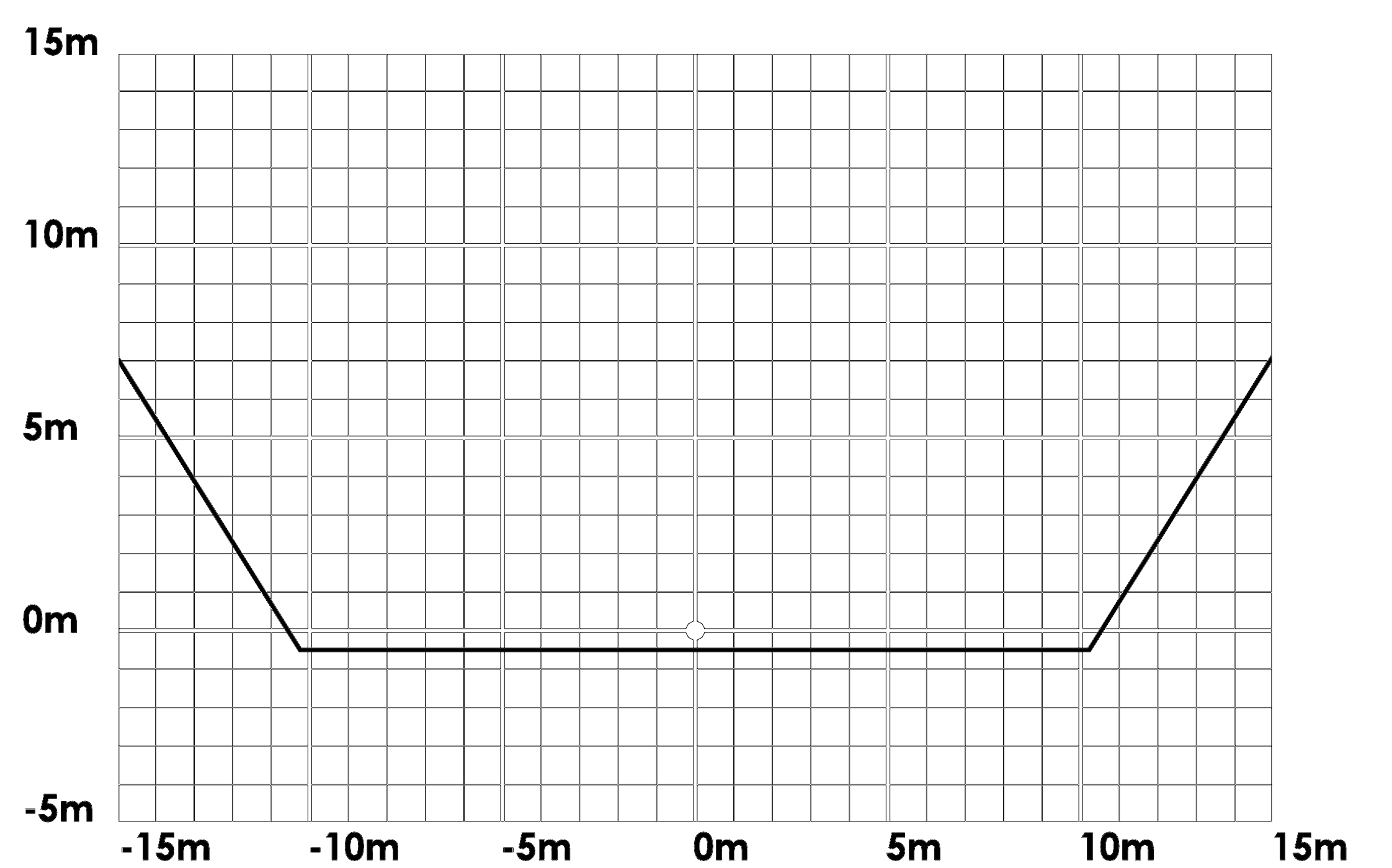
(I45H13) - Height 13m, inclination : 45°



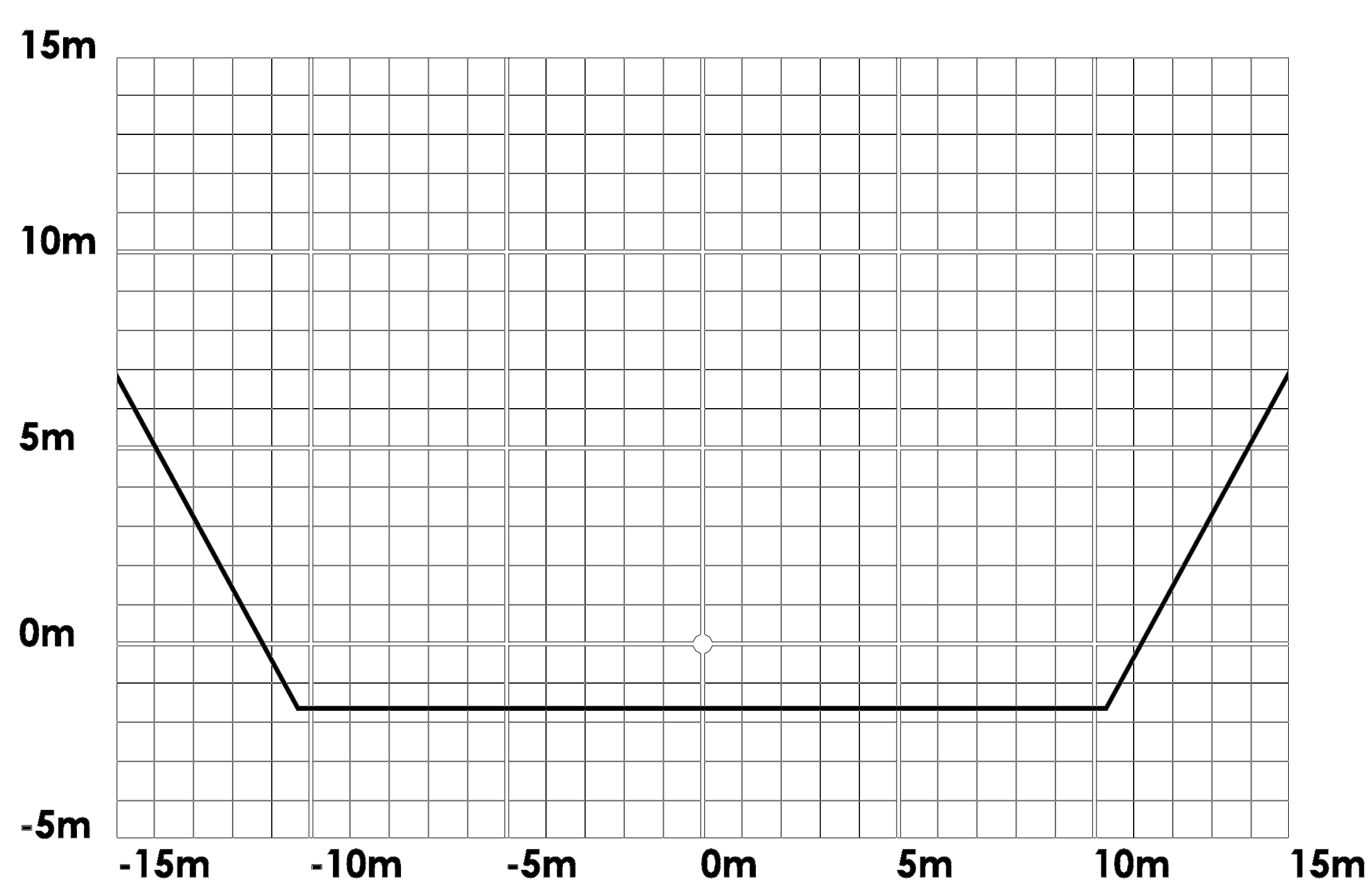
(I50H13) - Height 13m, inclination : 50°



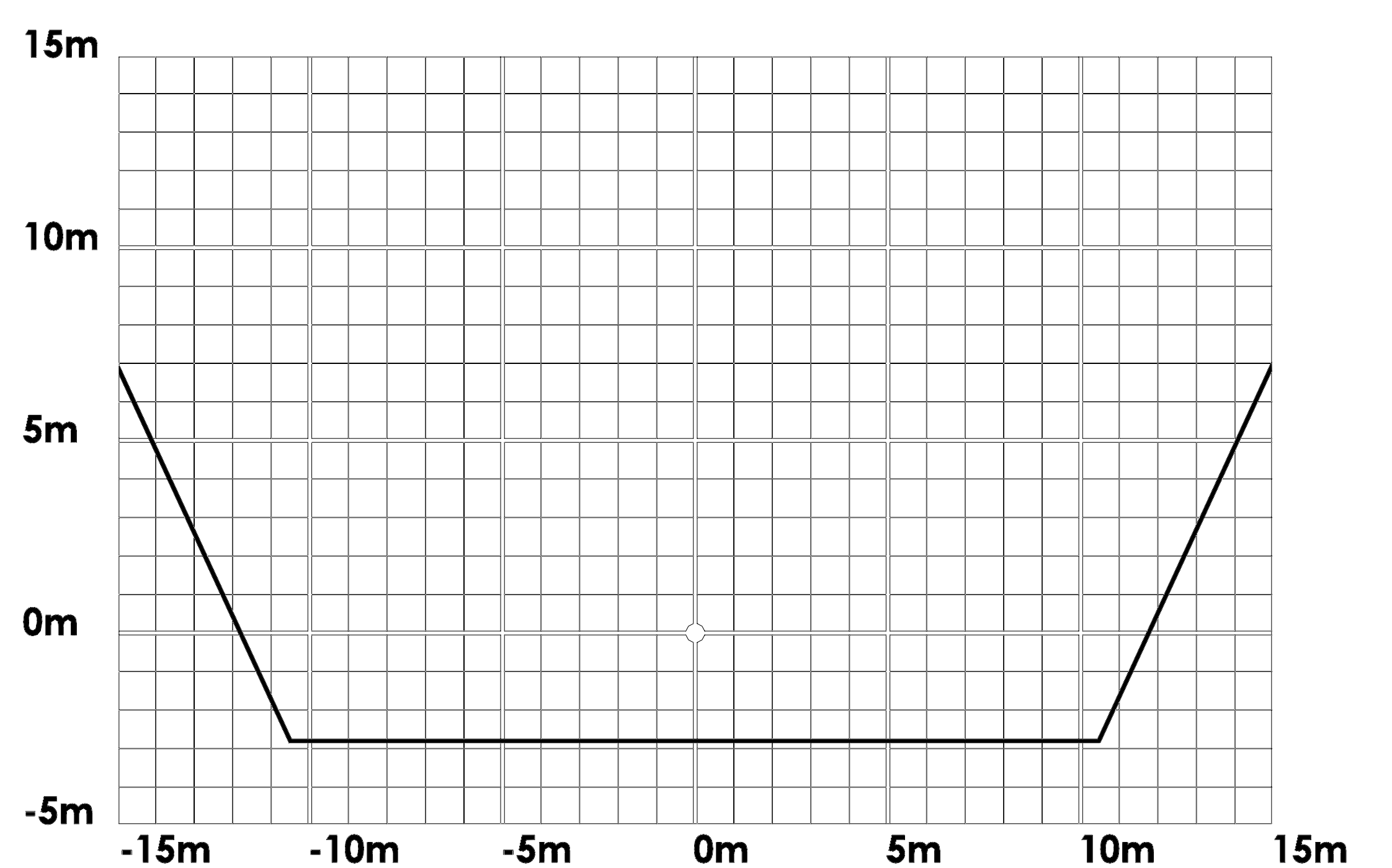
(I55H13) - Height 13m, inclination : 55°



(I60H13) - Height 13m, inclination : 60°

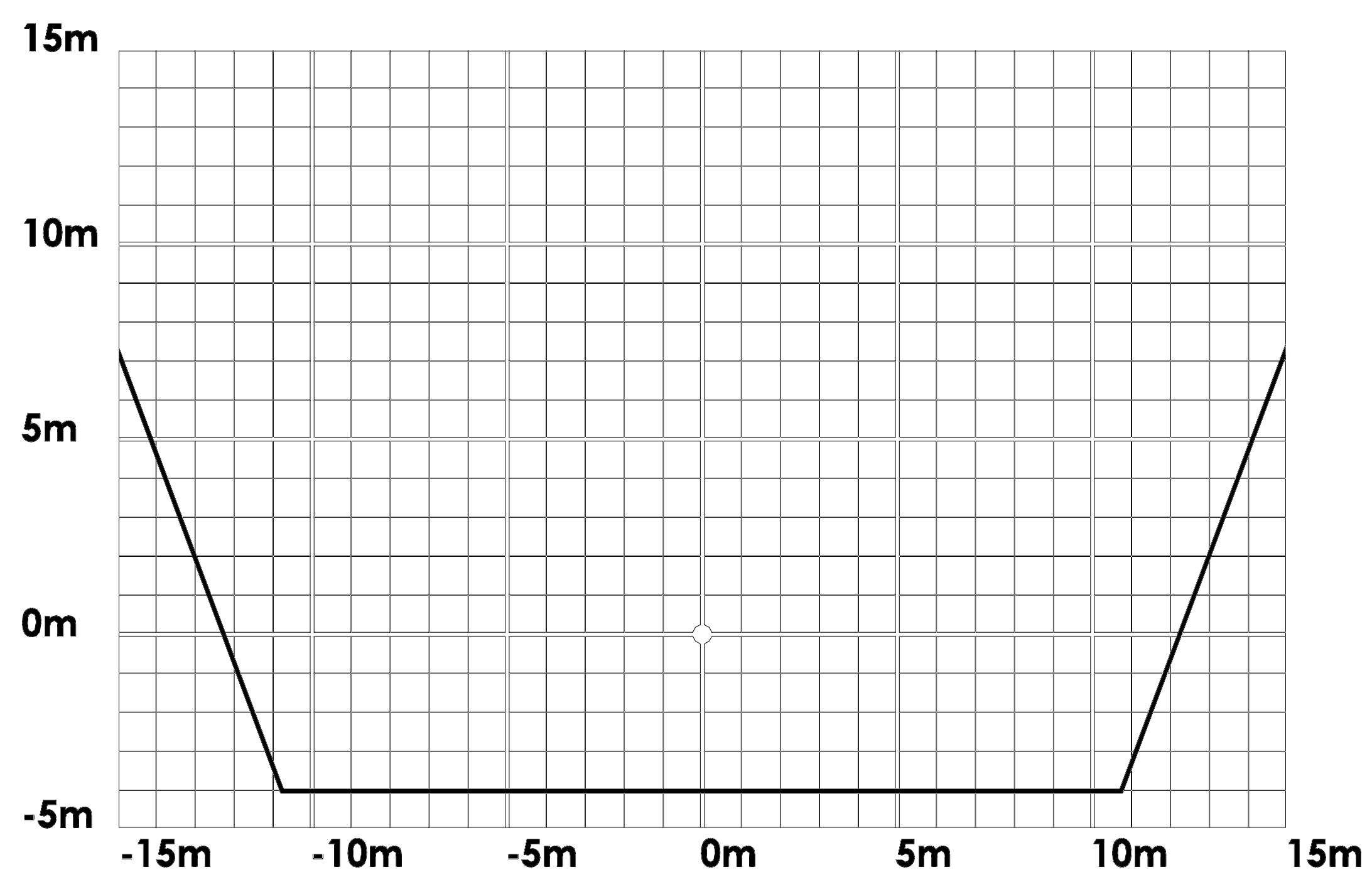


(I65H13) - Height 13m, inclination : 65°



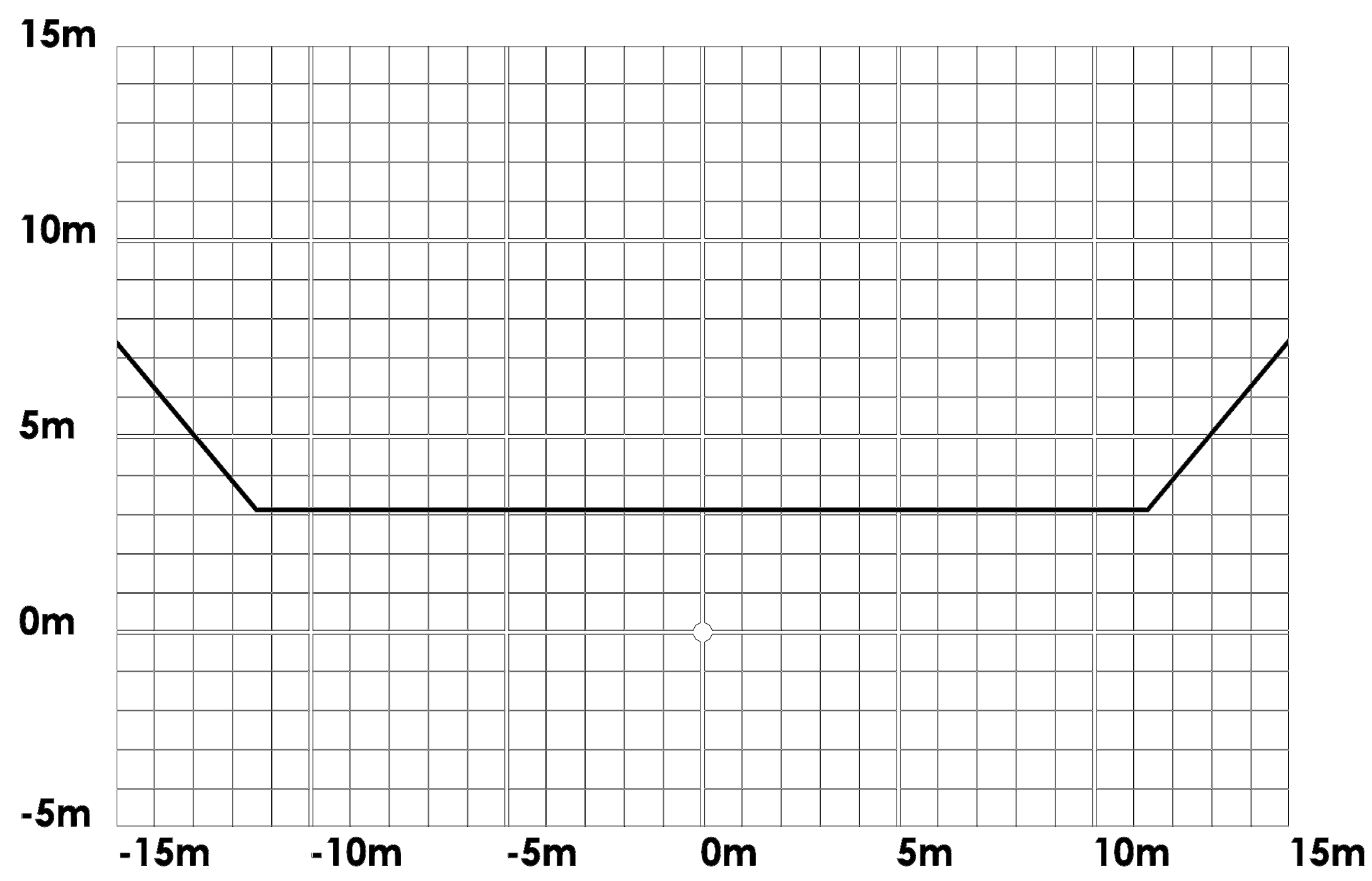
Floor charts - Height 13m, inclination 70°

(I70H13) - Height 13m, inclination : 70°

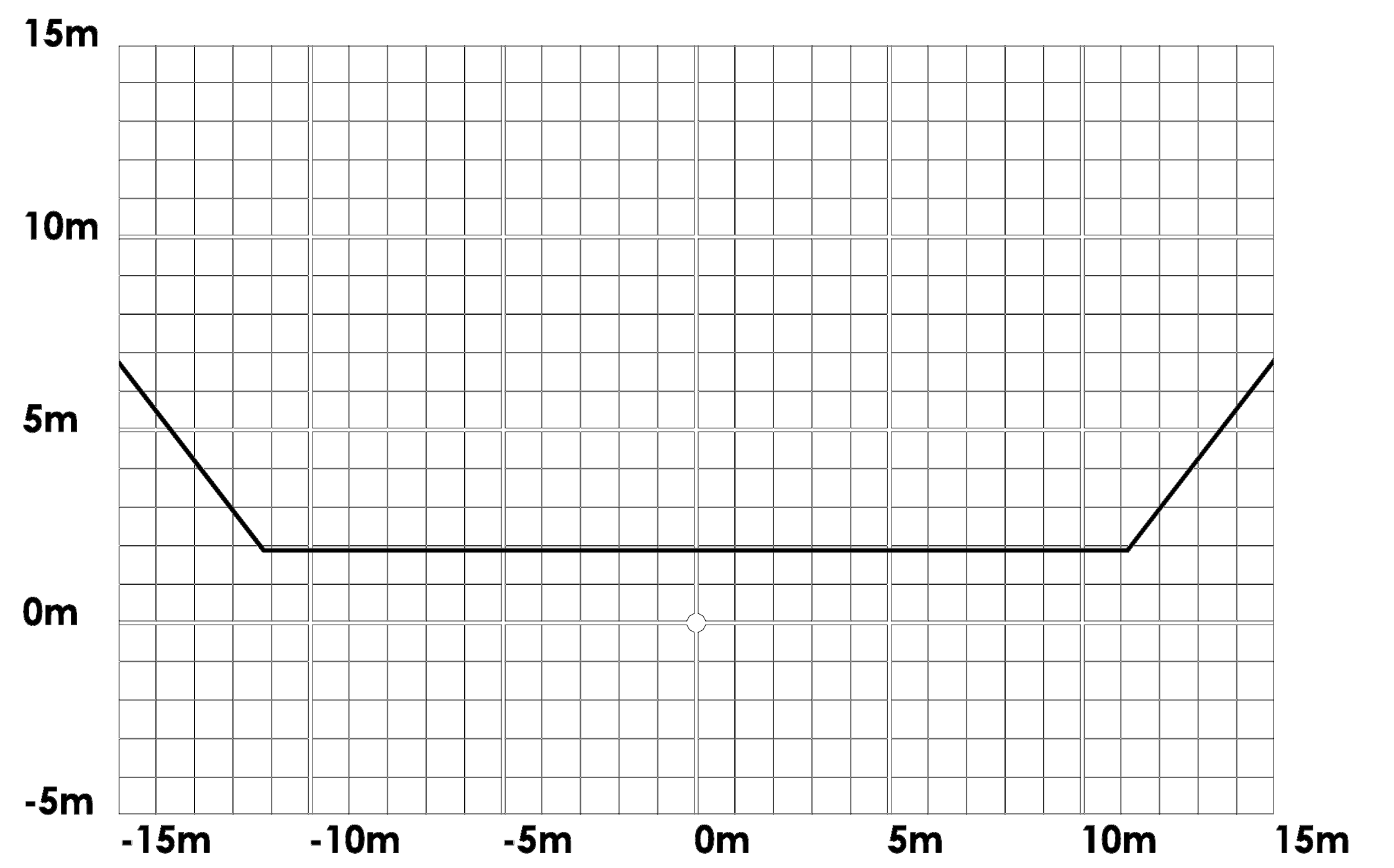


Floor charts - Height 14m, inclination 40° - 65°

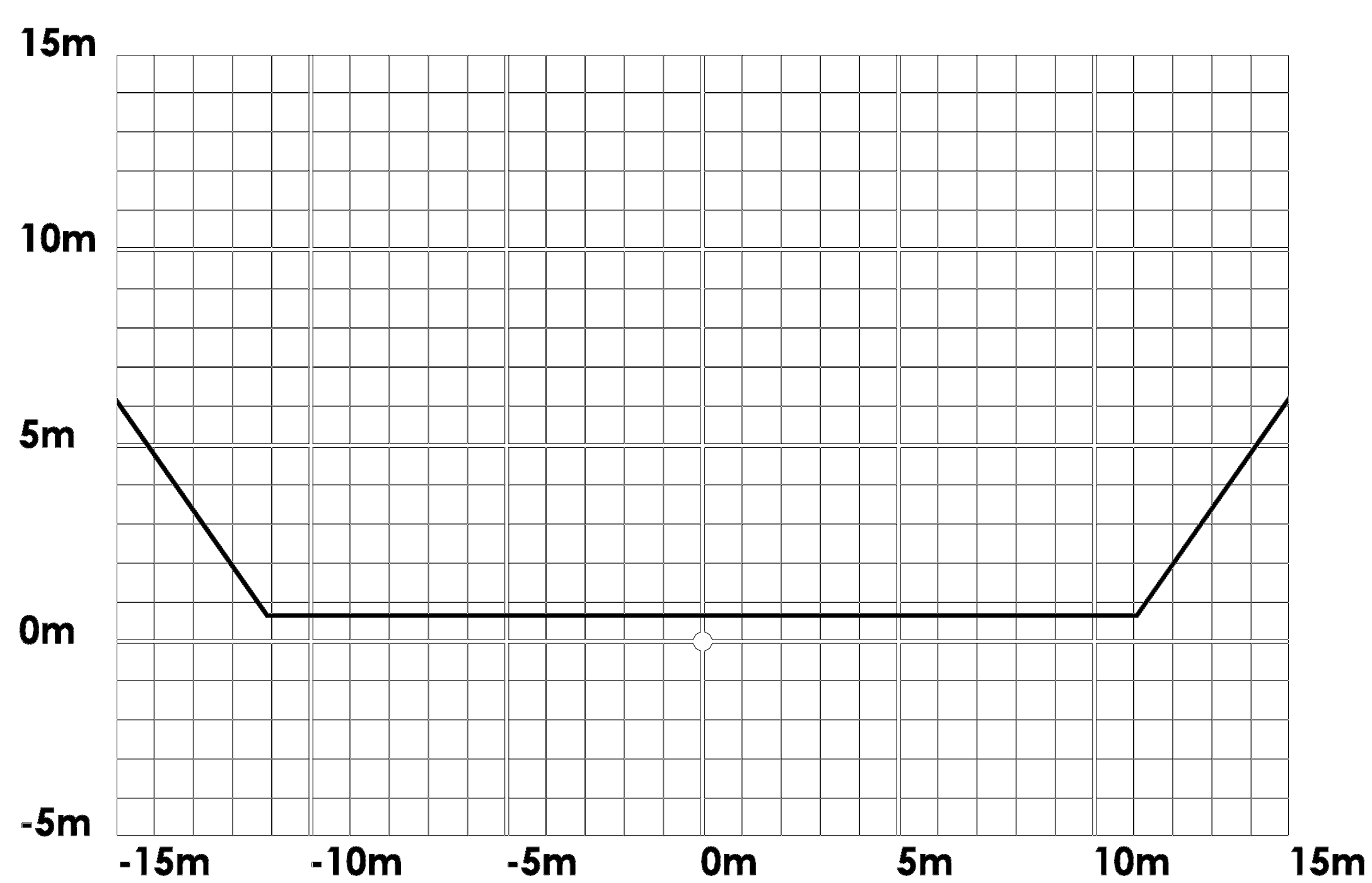
(I40H14) - Height 14m, inclination : 40°



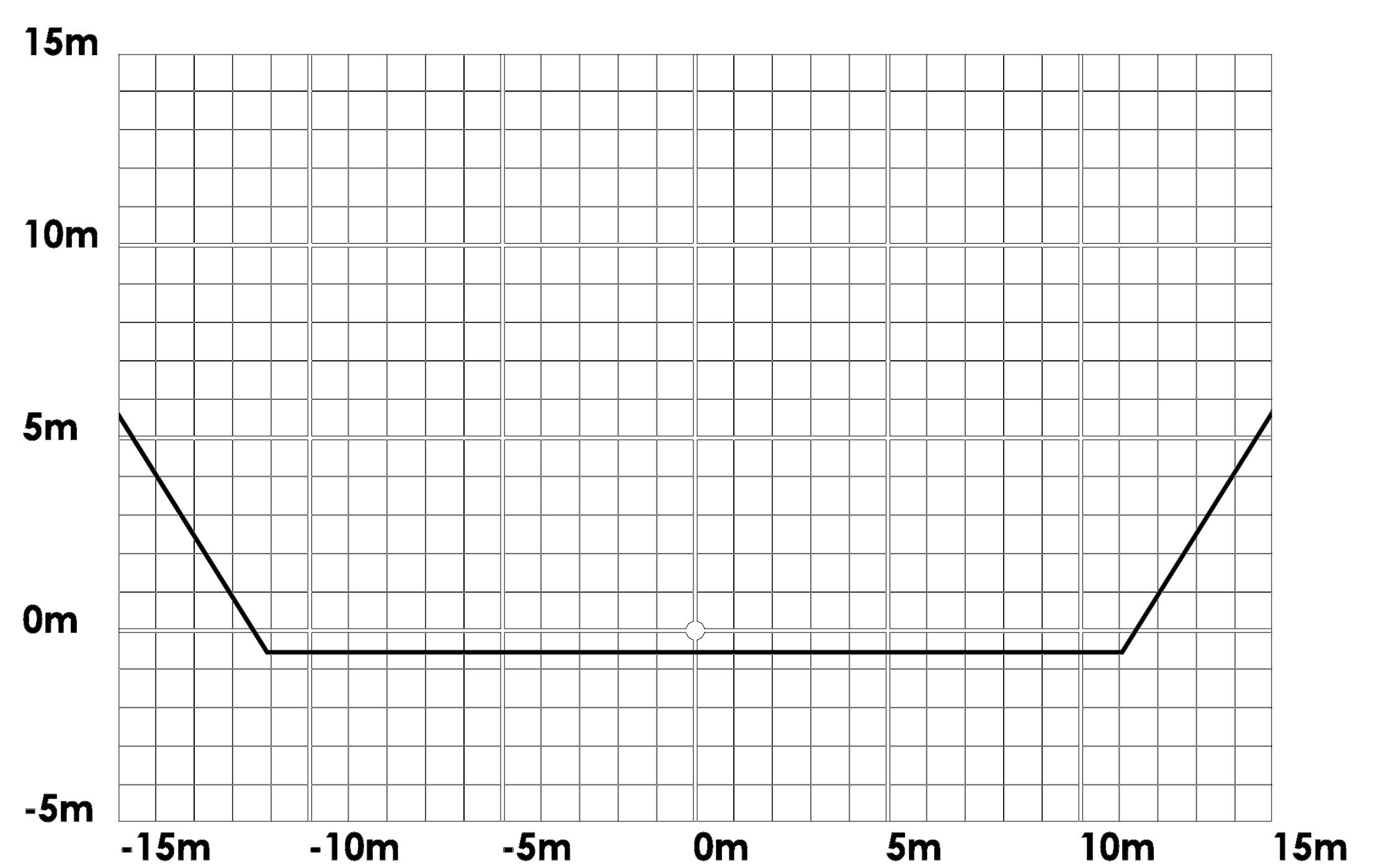
(I45H14) - Height 14m, inclination : 45°



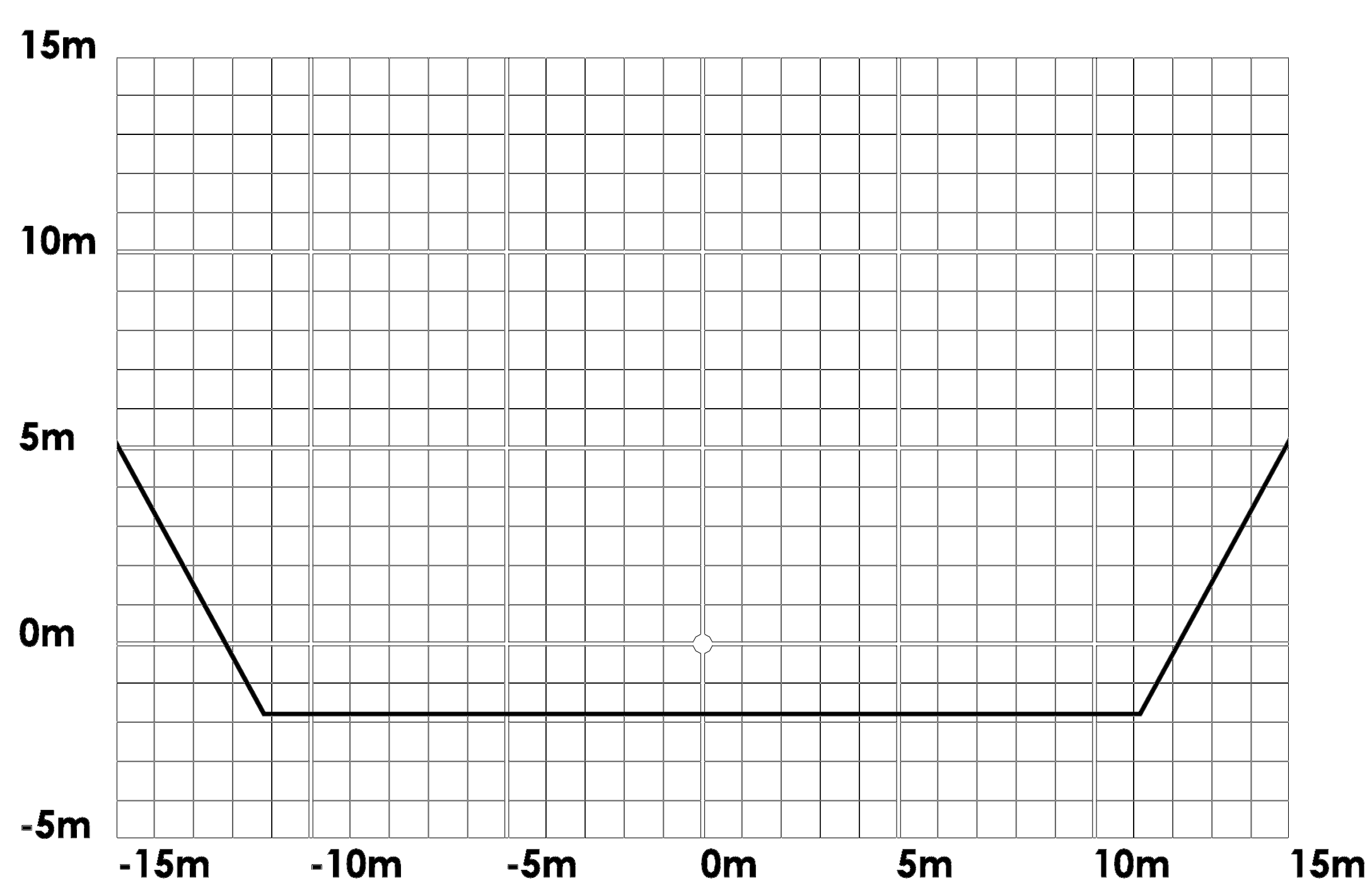
(I50H14) - Height 14m, inclination : 50°



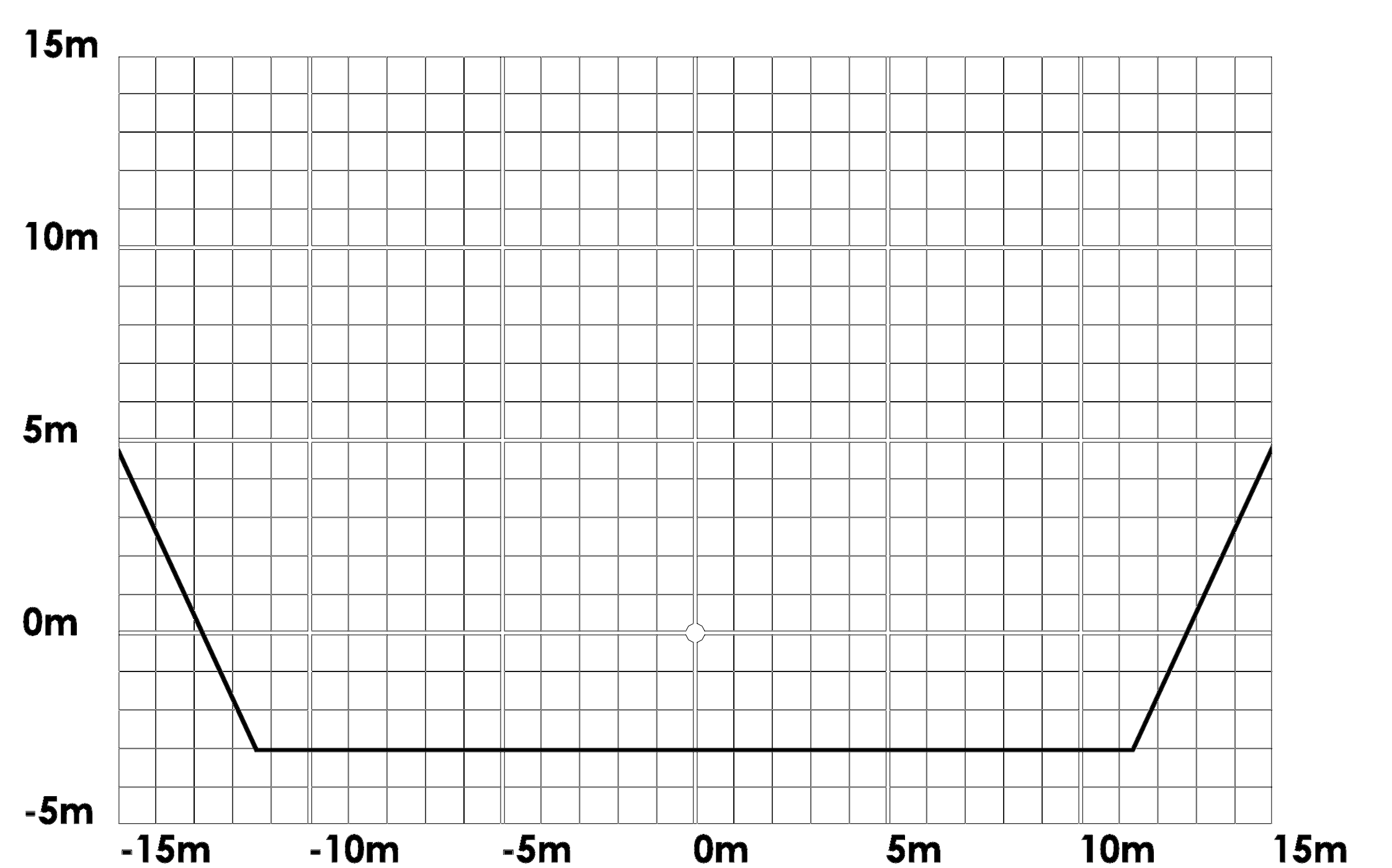
(I55H14) - Height 14m, inclination : 55°



(I60H14) - Height 14m, inclination : 60°

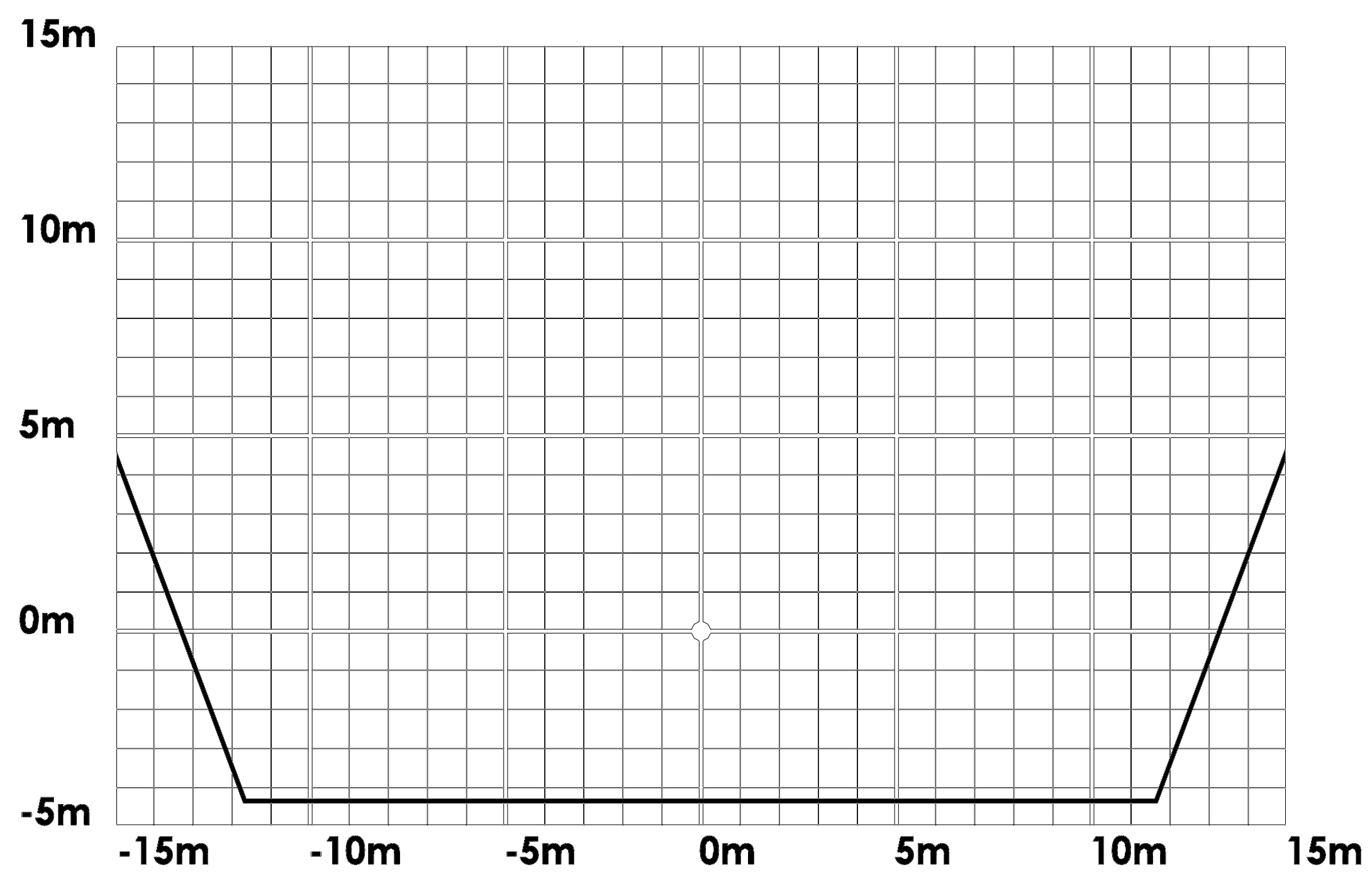


(I65H14) - Height 14m, inclination : 65°



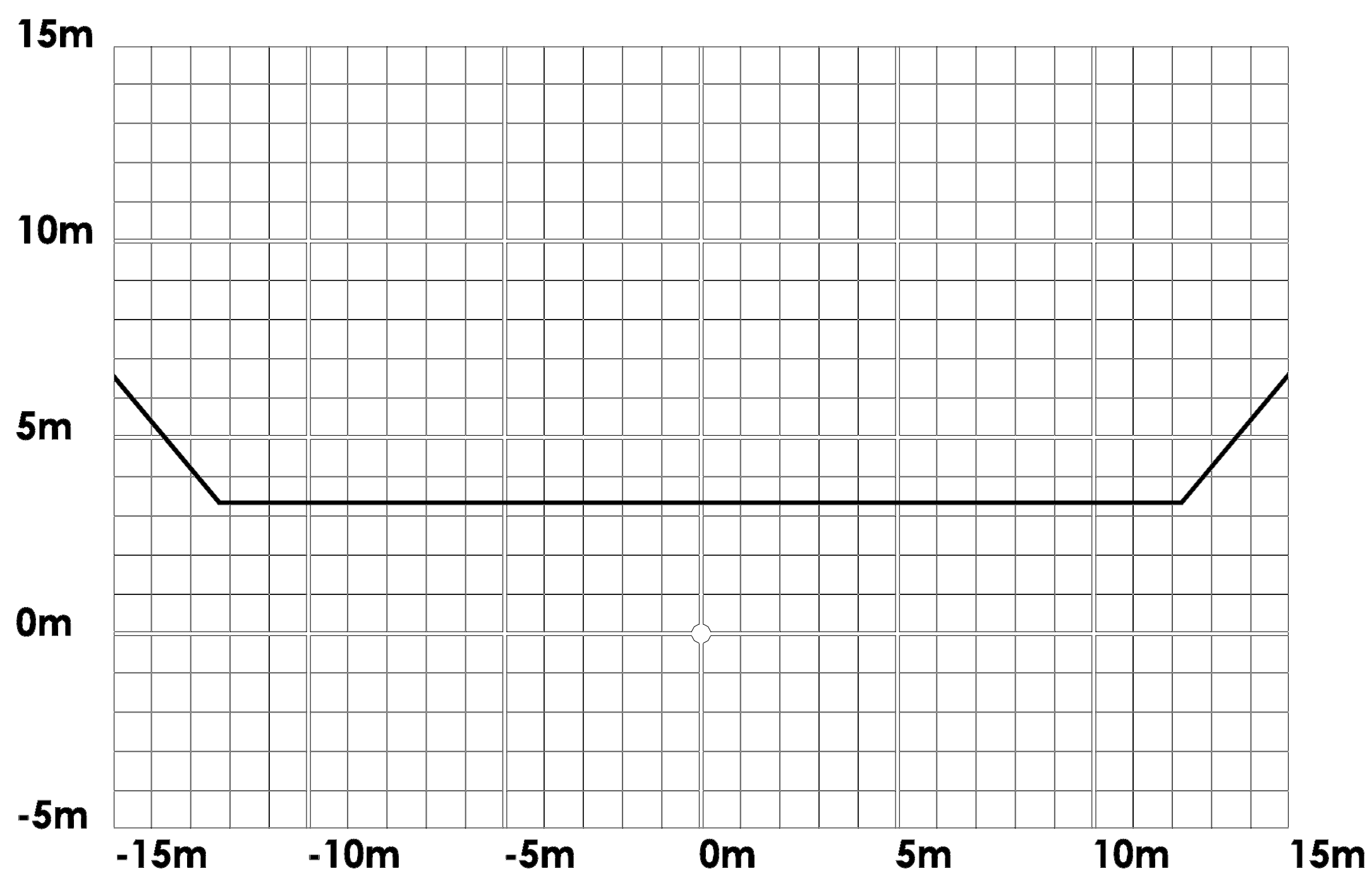
Floor charts - Height 14m, inclination 70°

(I70H14) - Height 14m, inclination : 70°

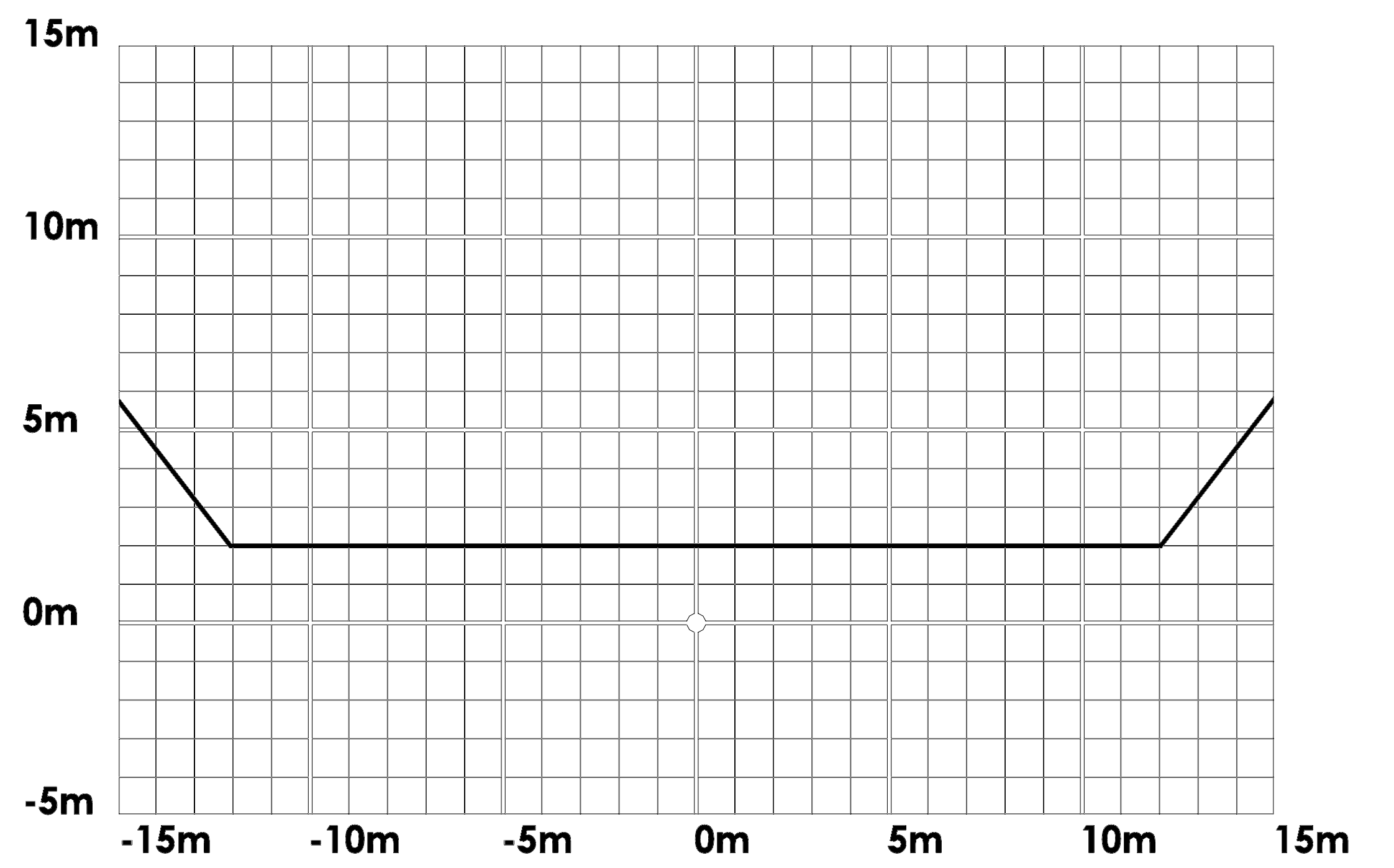


Floor charts - Height 15m, inclination 40° - 65°

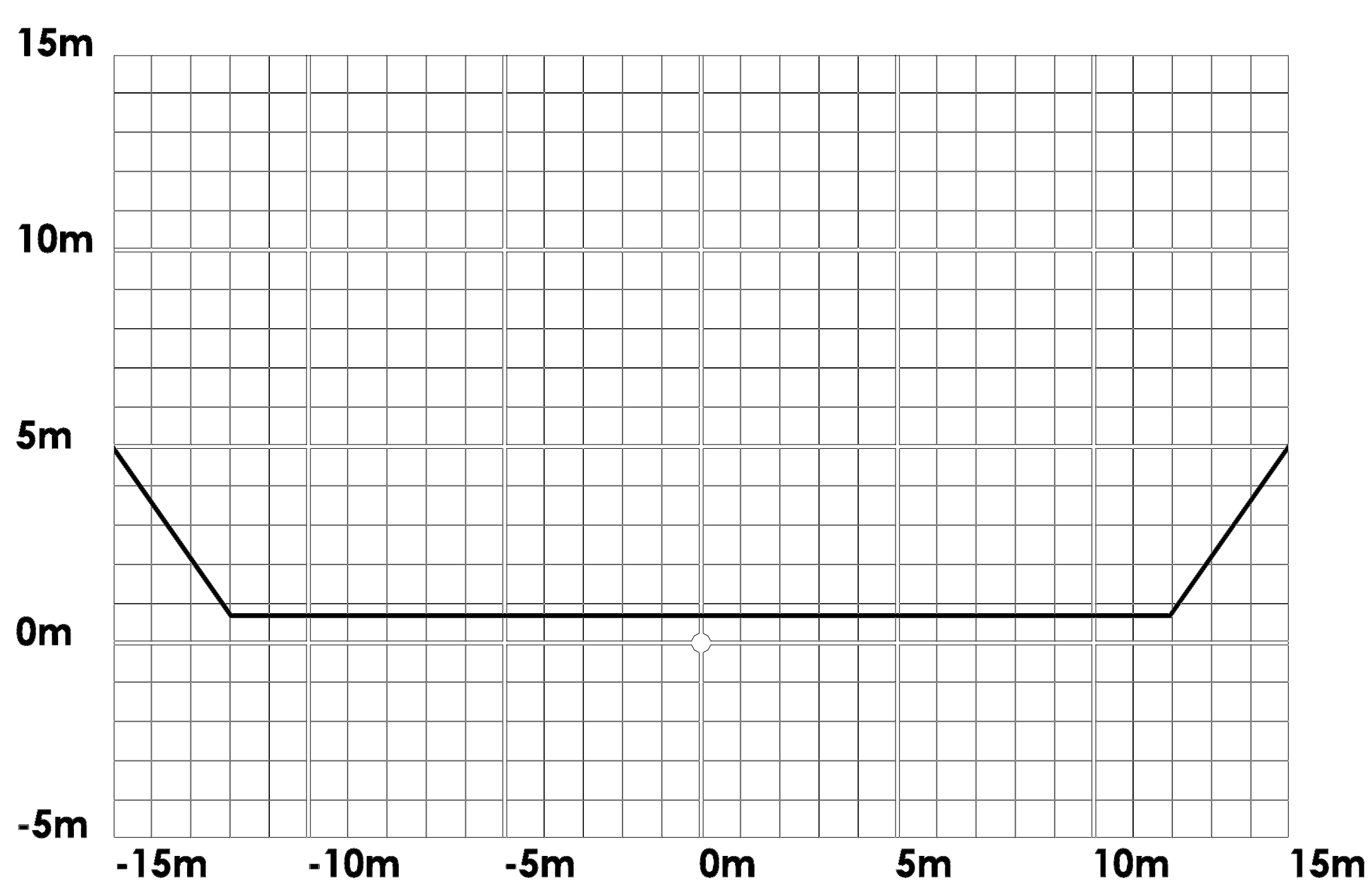
(I40H15) - Height 15m, inclination : 40°



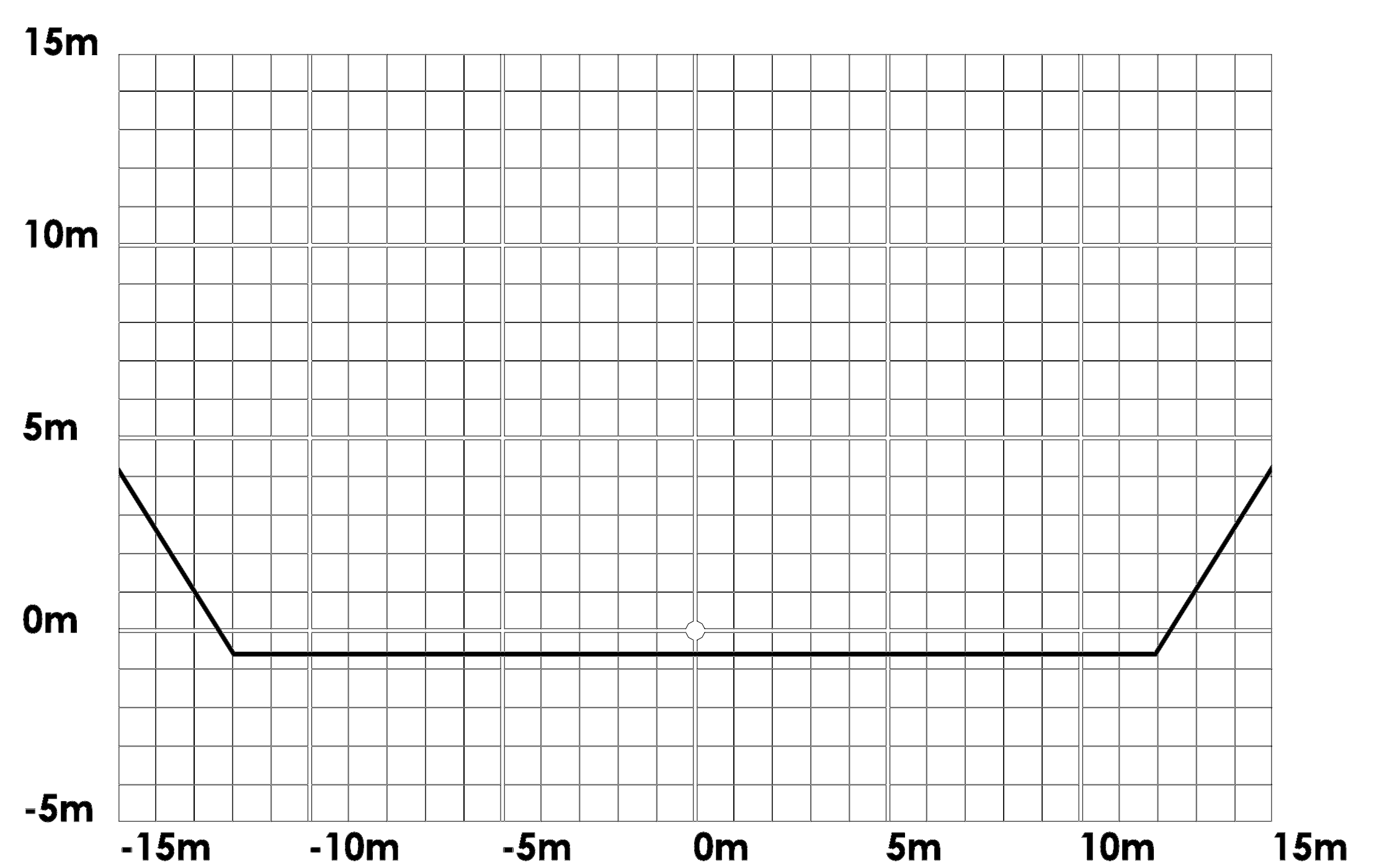
(I45H15) - Height 15m, inclination : 45°



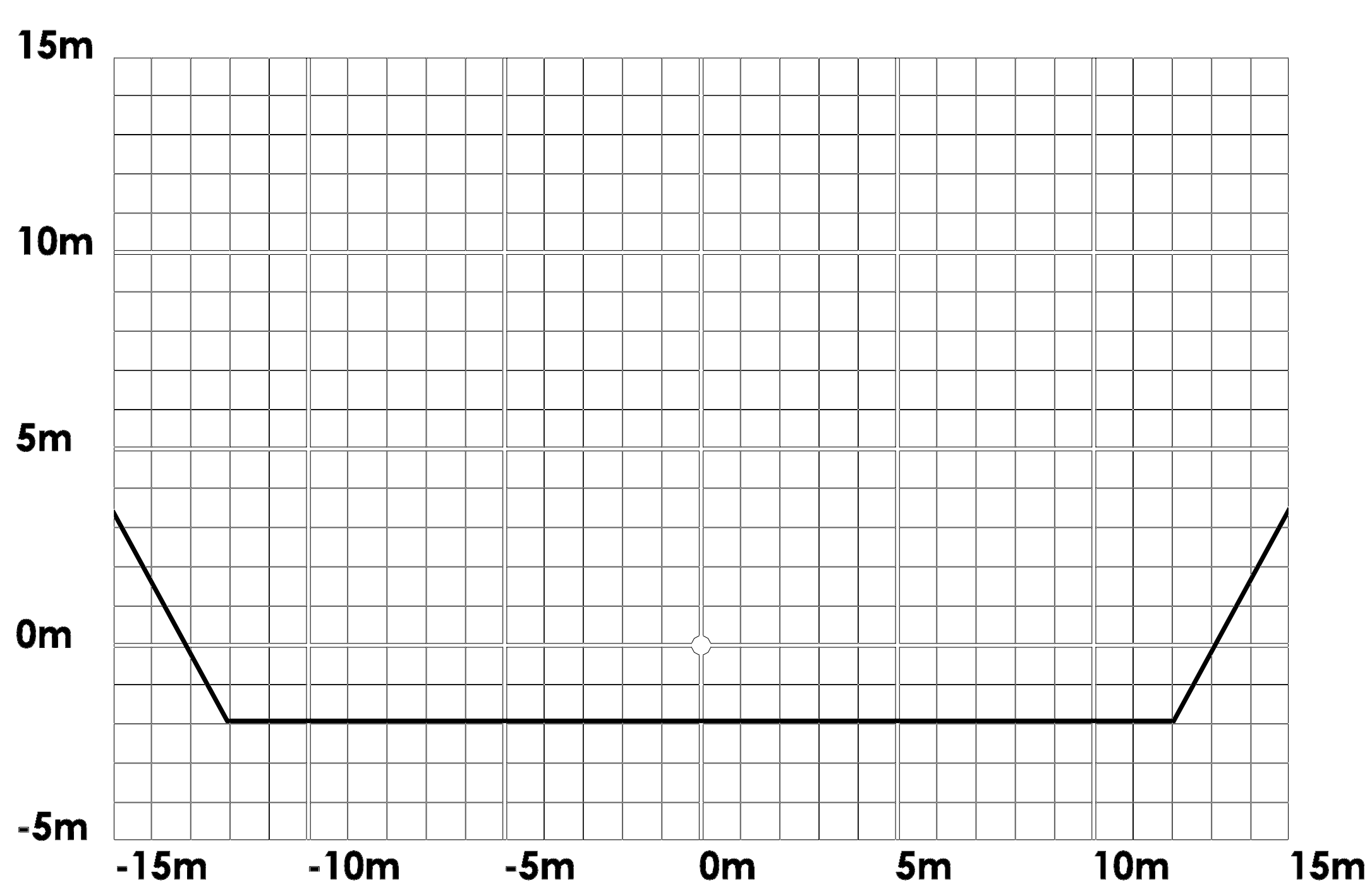
(I50H15) - Height 15m, inclination : 50°



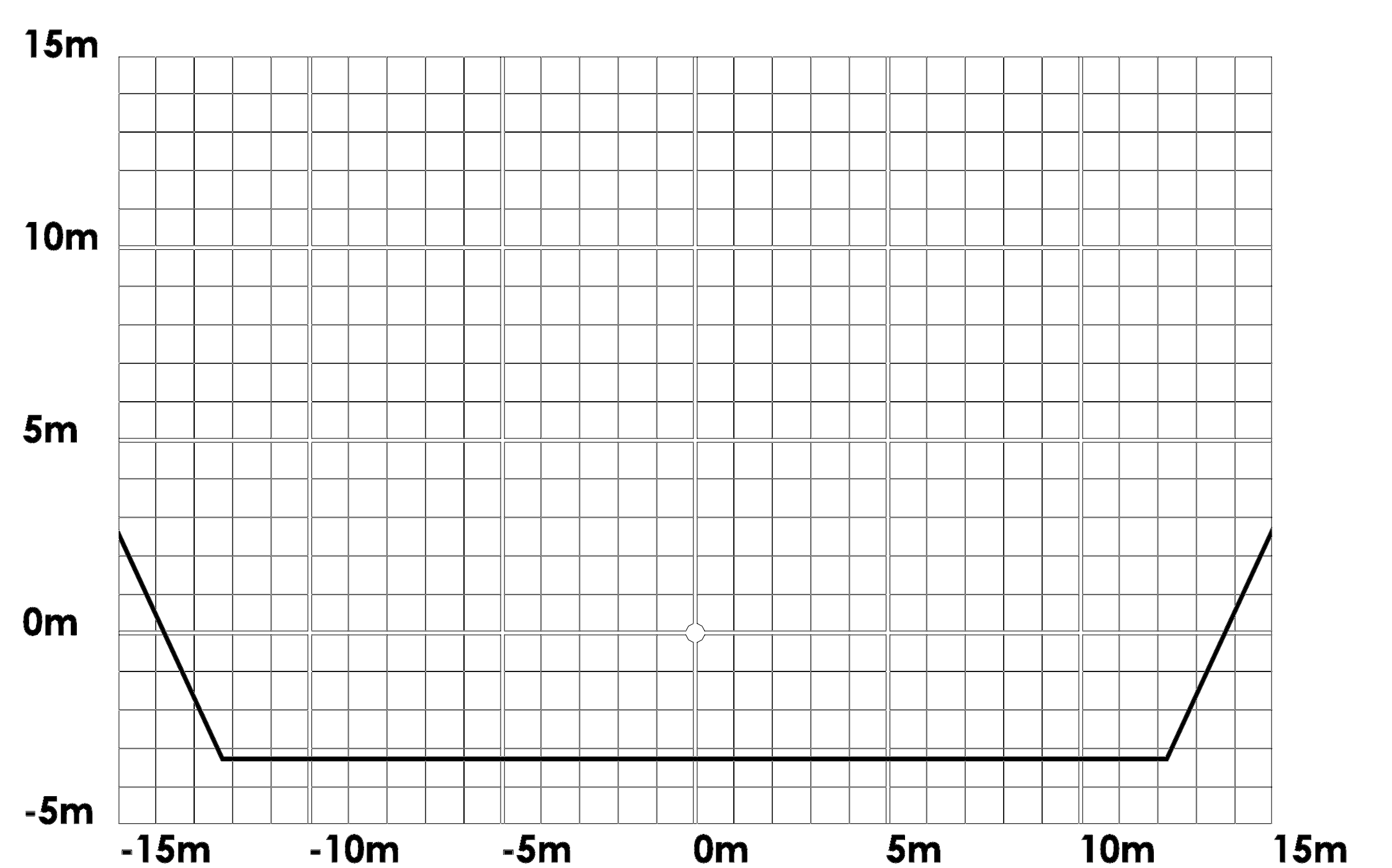
(I55H15) - Height 15m, inclination : 55°



(I60H15) - Height 15m, inclination : 60°

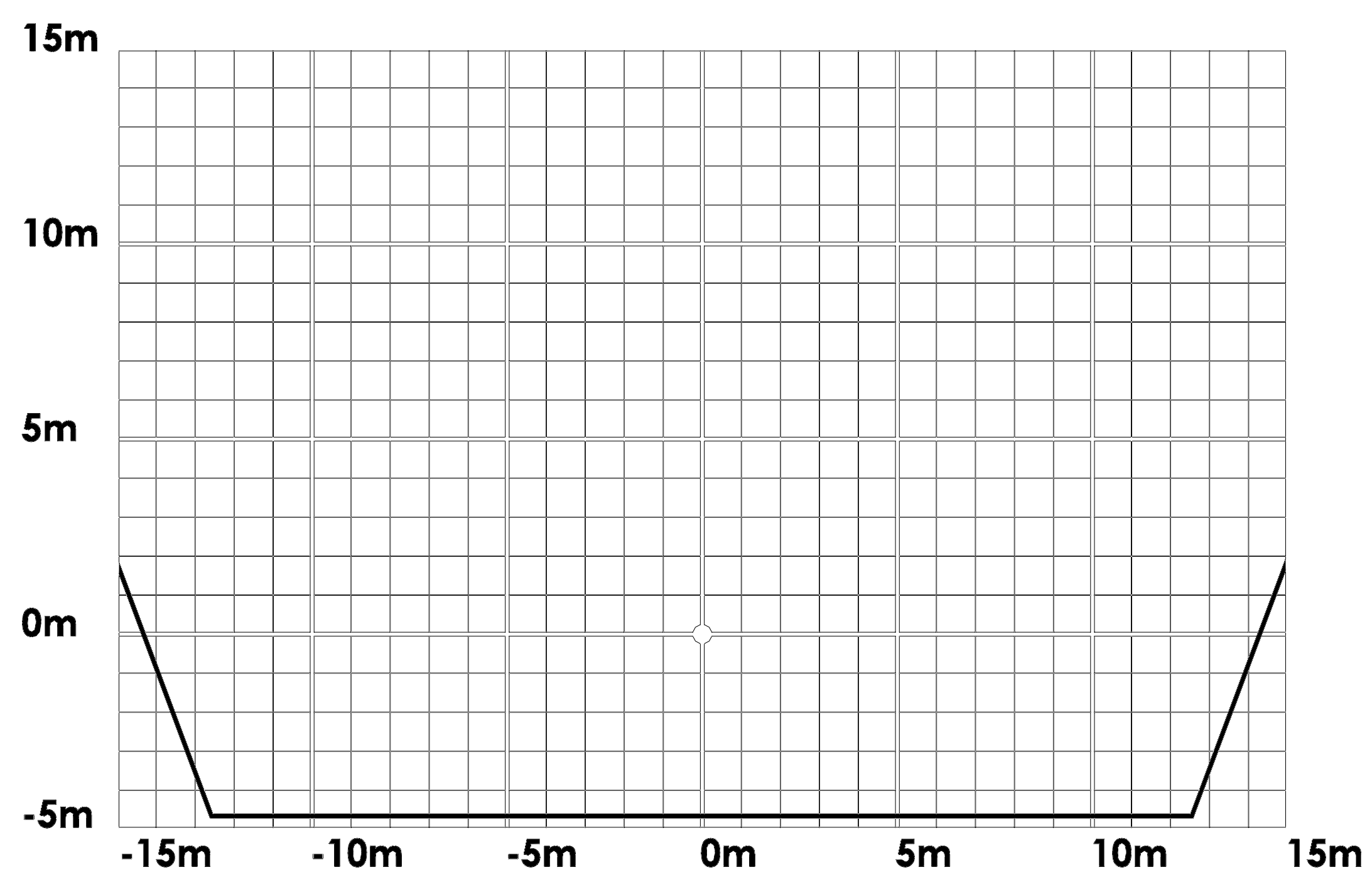


(I65H15) - Height 15m, inclination : 65°



Floor charts - Height 15m, inclination 70°

(I70H15) - Height 15m, inclination : 70°





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