Vayyar Home™
Ceiling Mounting Best Practices

vayyar™

There are two ways to mount the device on a ceiling

RECOMMENDED:
45-degree rotation

y-min

x-min

x-max

45°

y-max
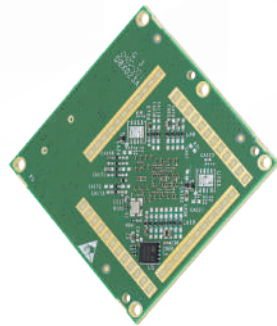

or straight

y-min

Straight

x-min

x-max

y-max
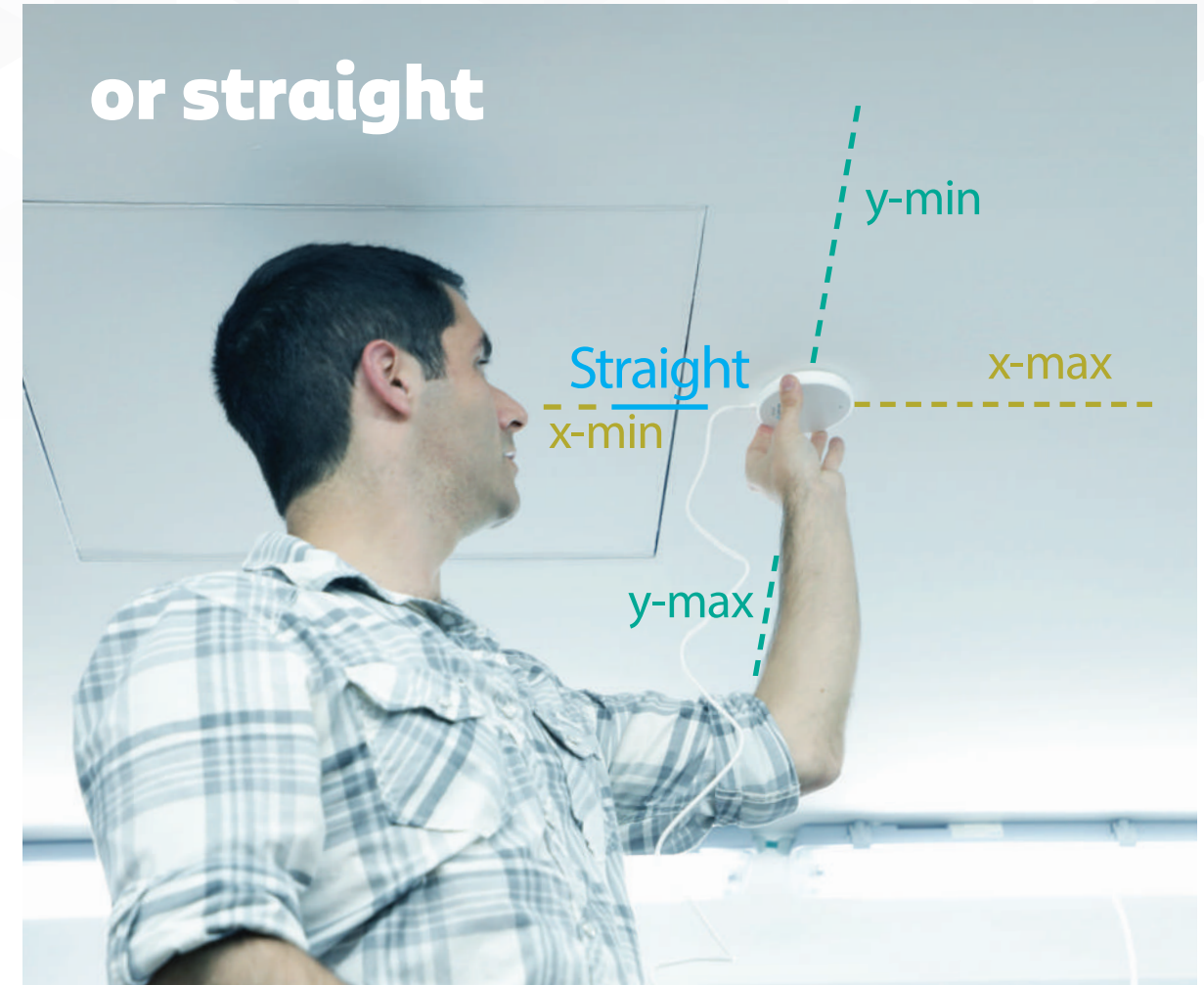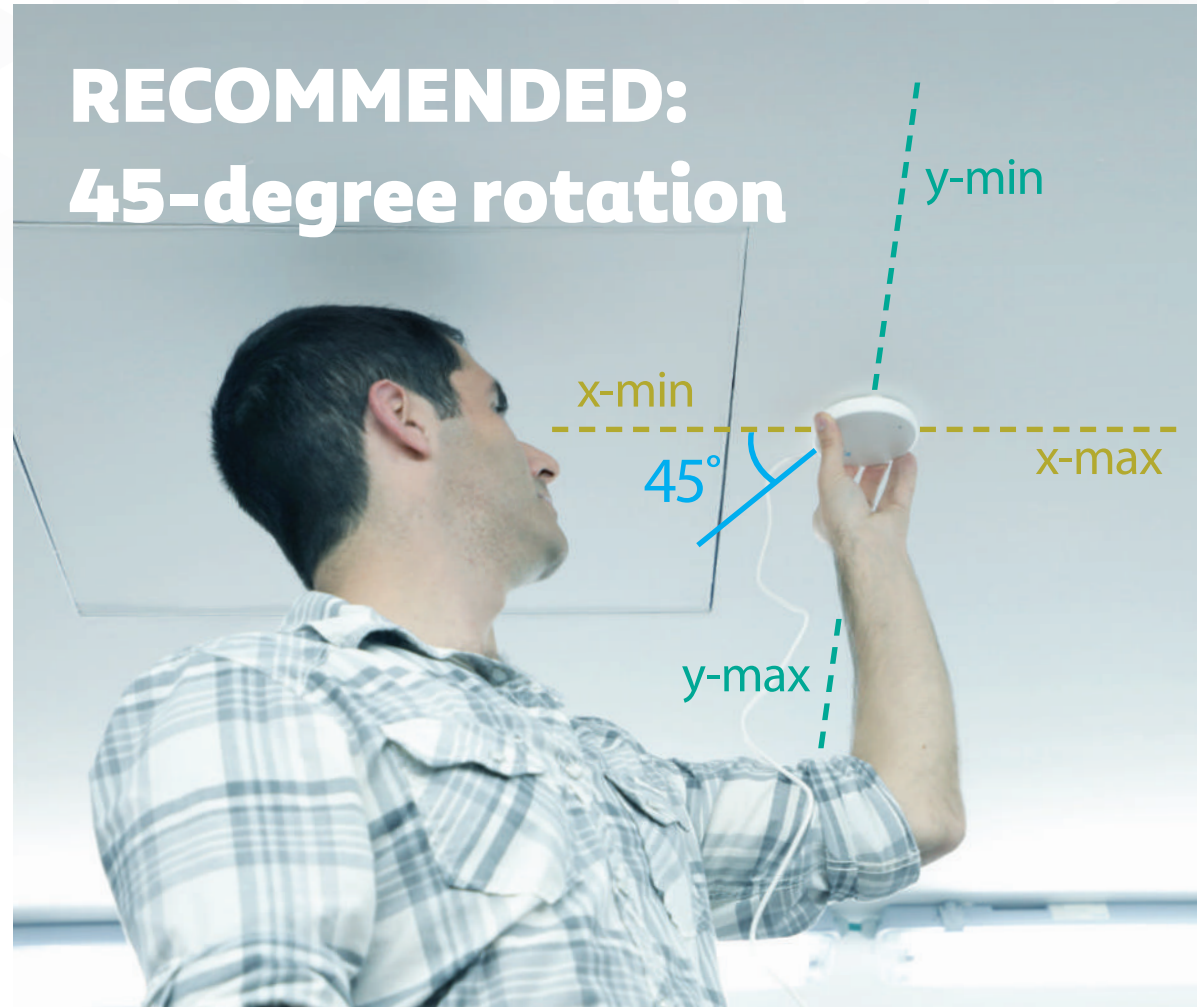
Why mount the device at a 45-degree rotation?

The RF board and chip (vBlu) inside the Vayyar Home device are set at a 45-degree angle.

Mechanics/Front
plastic casing

RF module that
contains a full 40
printed antennae array
and supply circuit

Vayyar RF/DSP
fully integrated
chip

Digital board
that contains the
communication module
and host (ESP32)

Mechanics/Back
plastic casing

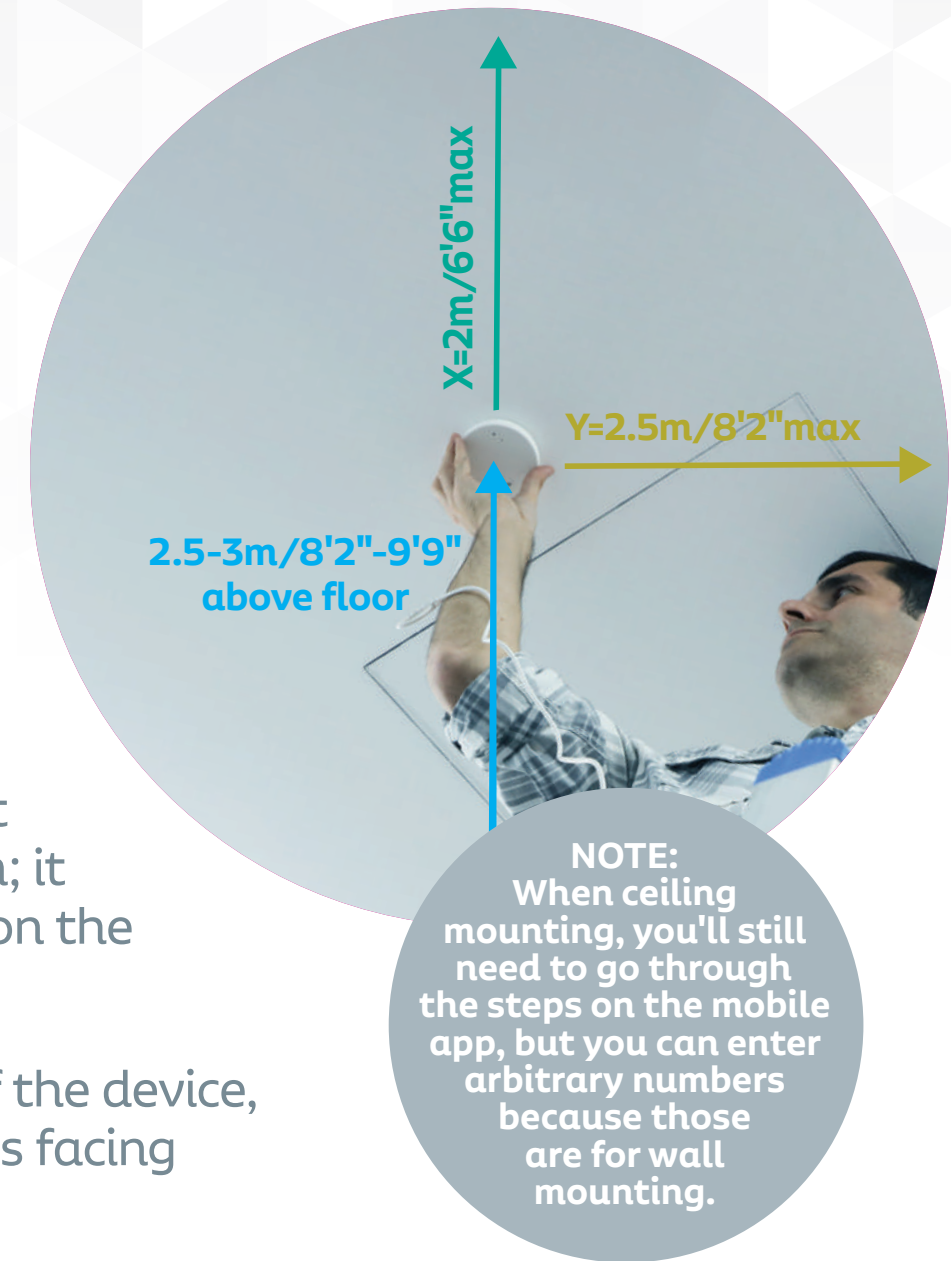# Mounting at a 45-degree rotation provides better coverage at a distance

Top View of the Room with the Device Installed on the Ceiling

y-max

x-min 45° x-max

y-min

y-max

x-min Straight x-max

y-min Limit

Detection coverage
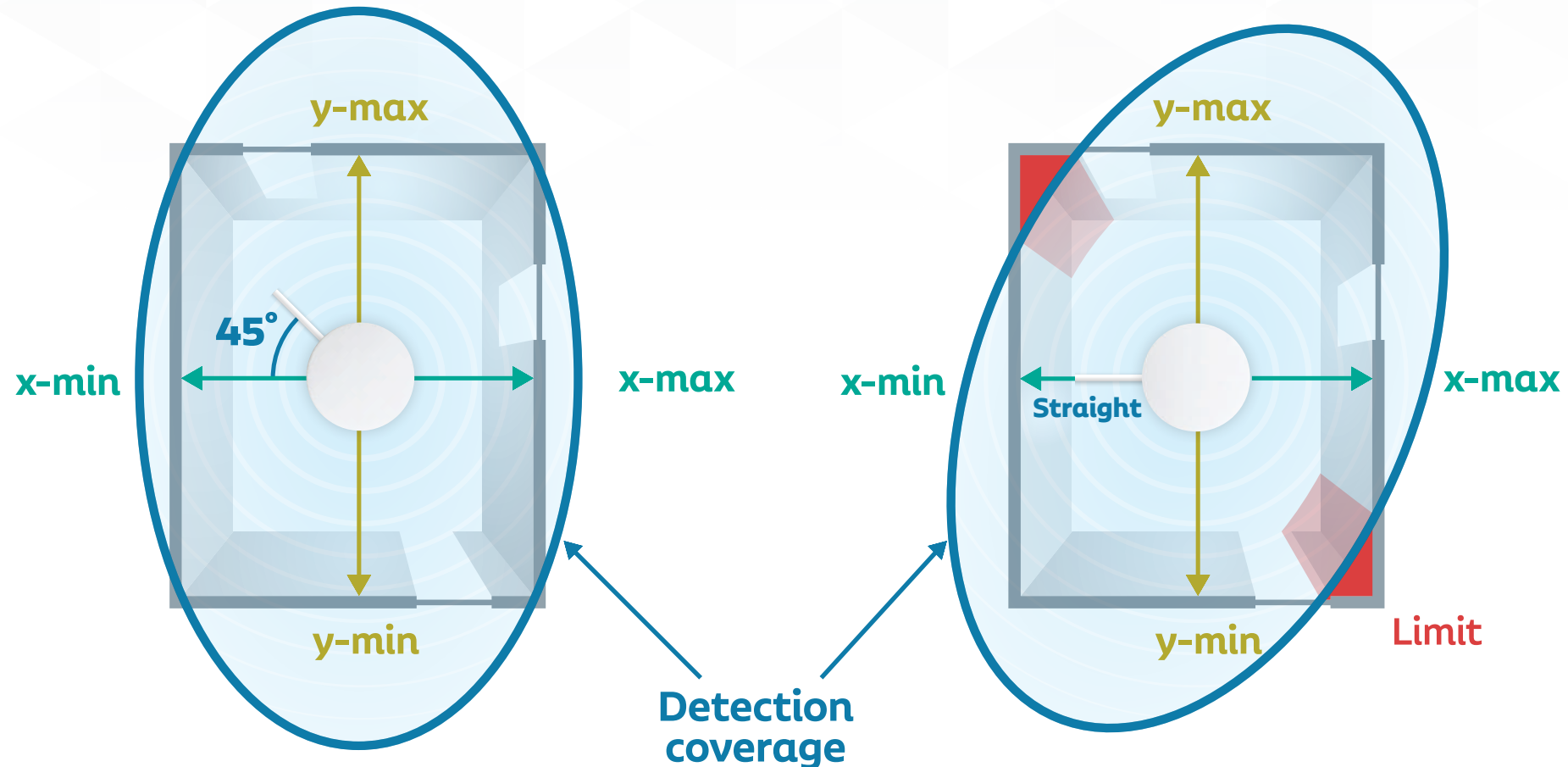
When mounting the device on the ceiling:

✅ **Make sure** the room is no larger than 4mx5m/13'x16'4", with a maximum of 2m/6'6" in each direction across the width (x-axis) and 2.5m/8'2" in each direction down the length (y-axis).

✅ **Make sure** the ceiling height is between 2.3m/7'6" and 3m/9'9" from the floor.

✅ **Make sure** the device is mounted flat and directly on the ceiling.

✅ **Make sure** there's a power outlet within reach of the device.

❌ **Don't** mount near a ceiling fan or hanging light.

❌ **Don't** mount on a light fixture or smoke alarm; it needs to be mounted on the ceiling itself.

✅ **Make sure** the front of the device, with the Vayyar logo, is facing the floor.

X=2m/6'6"max

Y=2.5m/8'2"max

2.5-3m/8'2"-9'9" above floor

NOTE: When ceiling mounting, you'll still need to go through the steps on the mobile app, but you can enter arbitrary numbers because those are for wall mounting.

Installing with the mounting bracket

When using the mounting bracket to install on the ceiling, note the indications on the back plate and the middle plate to indicate how to install at a 45-degree rotation or a straight orientation.

y-min
x-max
x-min
y-max

0°

Straight

y-min
x-max
x-min
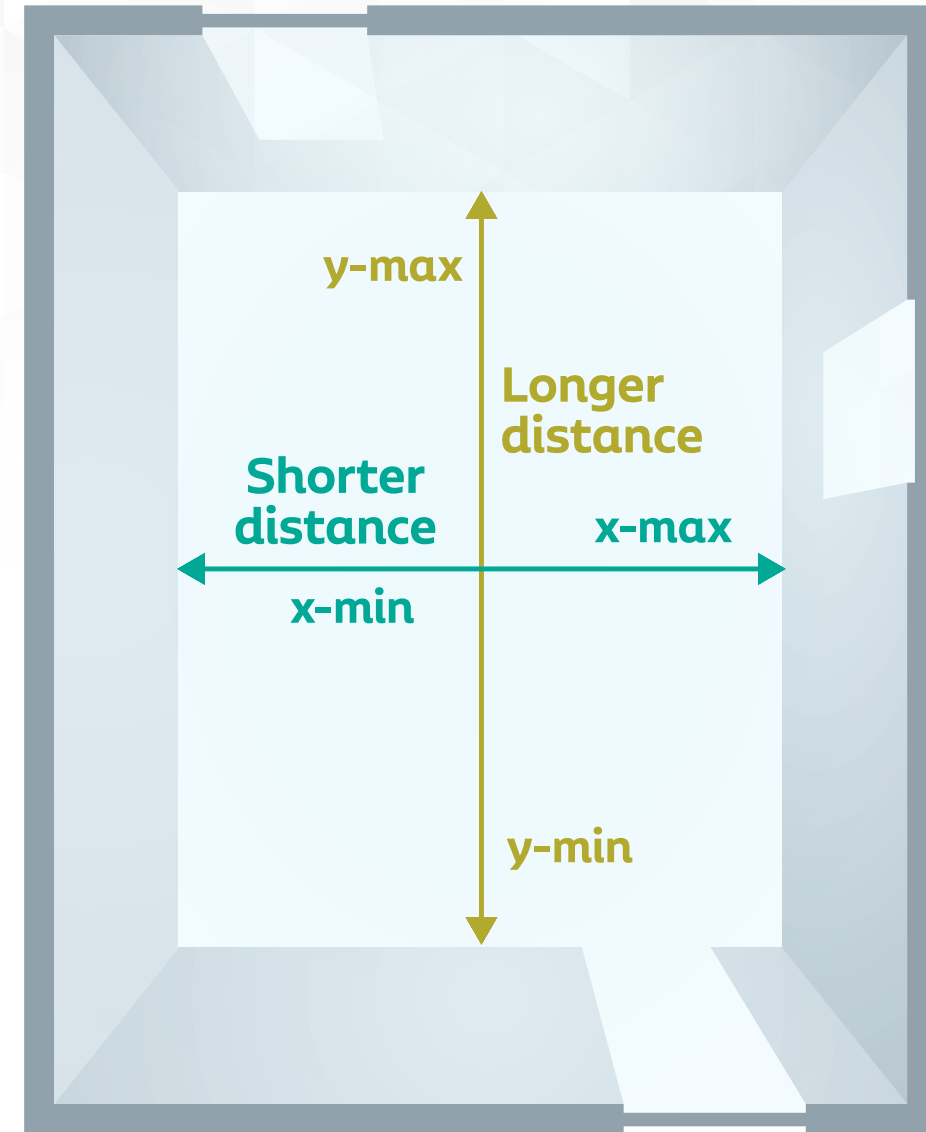y-max

45°
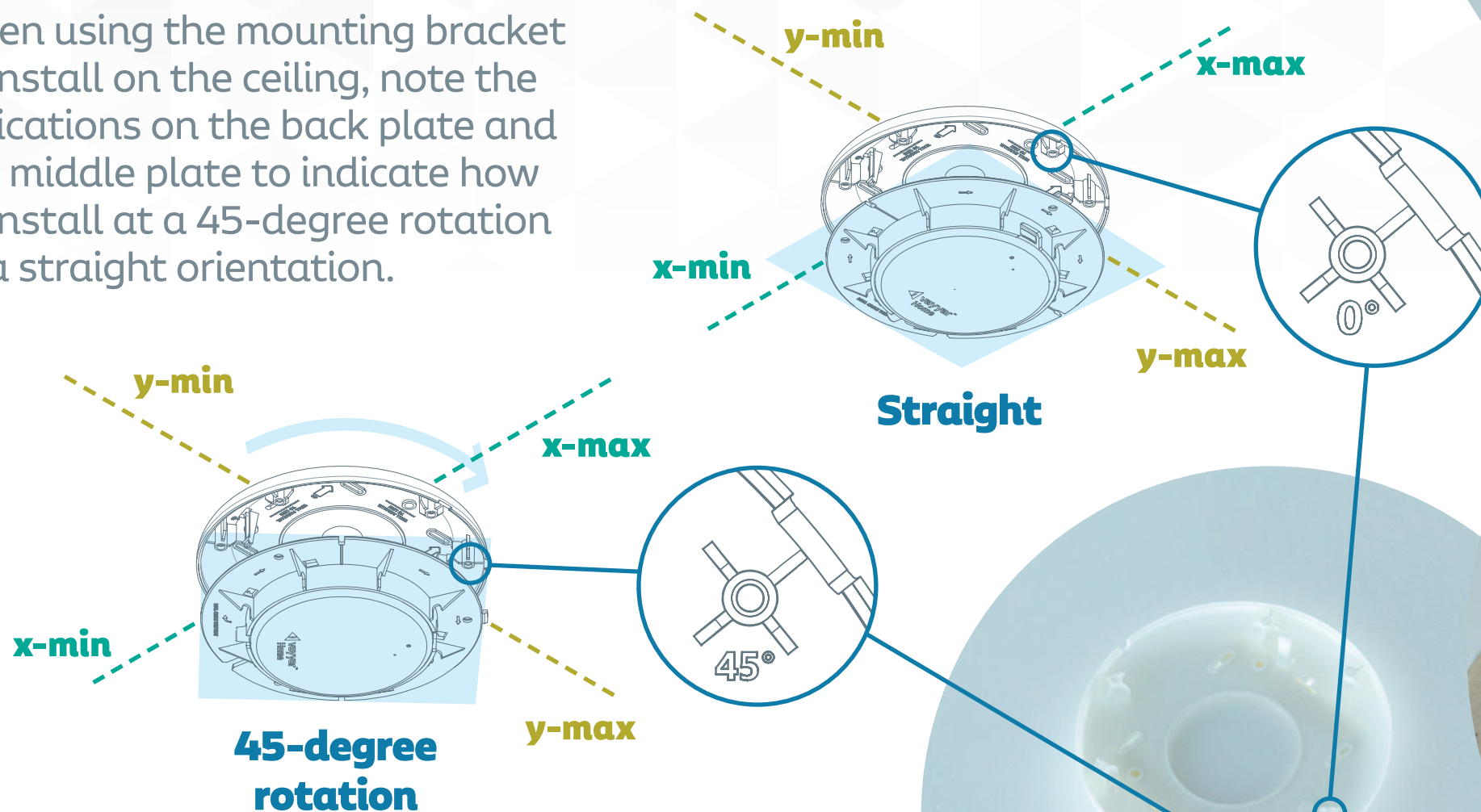
45-degree rotation

The mounting grid

When mounting on the ceiling, think about the room as a grid.

The y-axis is parallel to the longer wall and the x-axis is parallel to the shorter wall.

If you're installing at a 45-degree rotation refer to pages 8 to 9 or for a straight orientation to pages 10 to 11.

y-max

Longer distance

Shorter distance

x-max

x-min

y-min

45-degree rotation ceiling installation

Basic room configuration

Mount the device in the center of the room so that the device cable is between the y-max and x-min axes.

This orientation will mean that the device is on a 45-degree rotation and the cable is pointing toward the top-left corner of the room.

It's important to note that even though the device has rotated, the defined monitoring grid will not change. This means that the x and y values are the same as for straight device orientation.

Arena Size

X min = -2	Y min = -2.5
X max = 2	Y max = 2.5

Top View of the Room with the Device Installed on the Ceiling
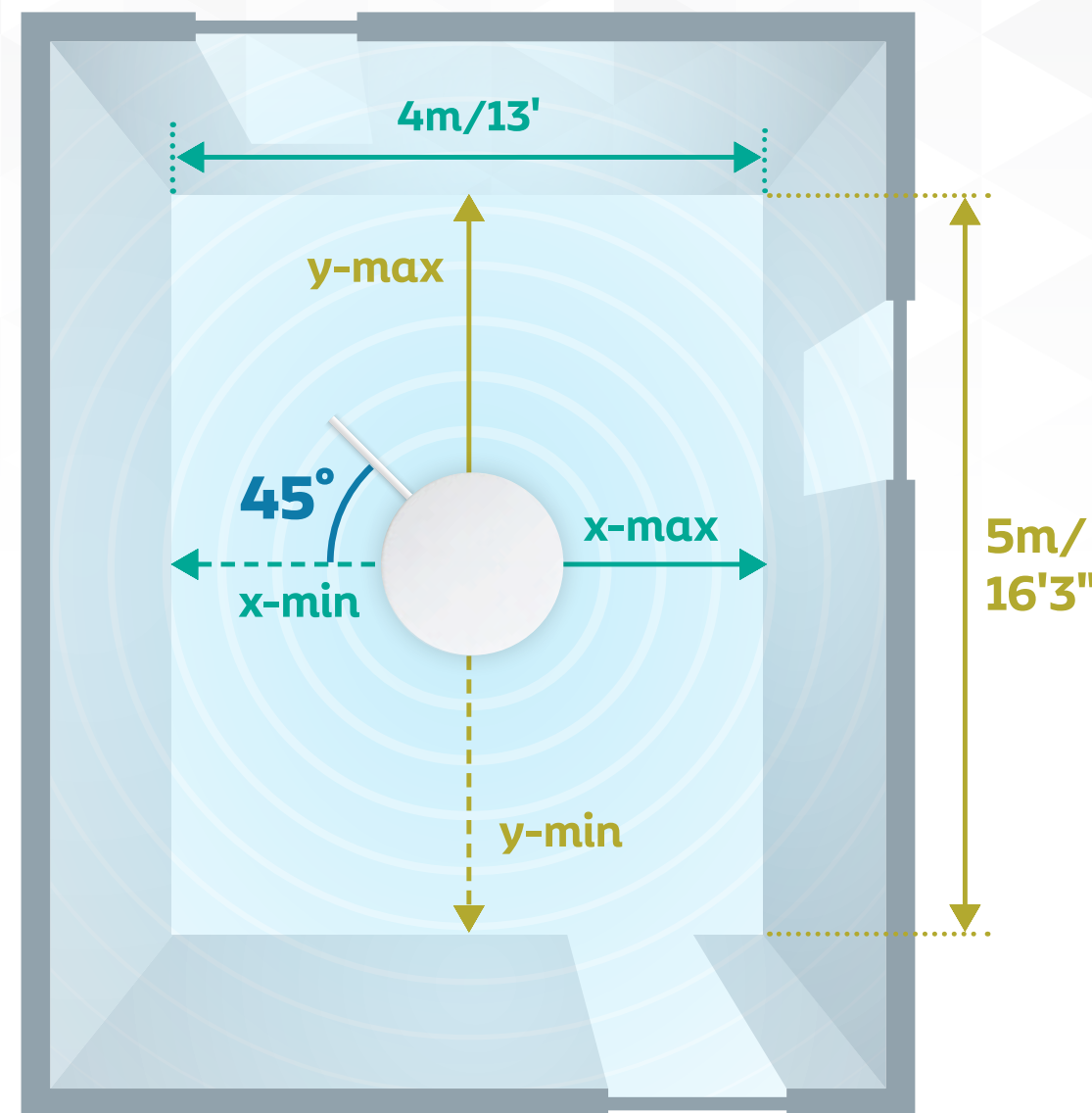
4m/13'

y-max

45°

x-min

x-max

y-min

5m/ 16'3"

45-degree rotation ceiling installation

Subregion configuration

To configure a subregion, the x-max and y-max values must be the largest numerical values, while the x-min and y-min values must be the smallest numerical values.

In this example, the x-max value for the bed region is 2m and the y-max value for the bed is 2.5m. The x-min value for the bed region is 0 and the y-min value for the bed is 1.5m.

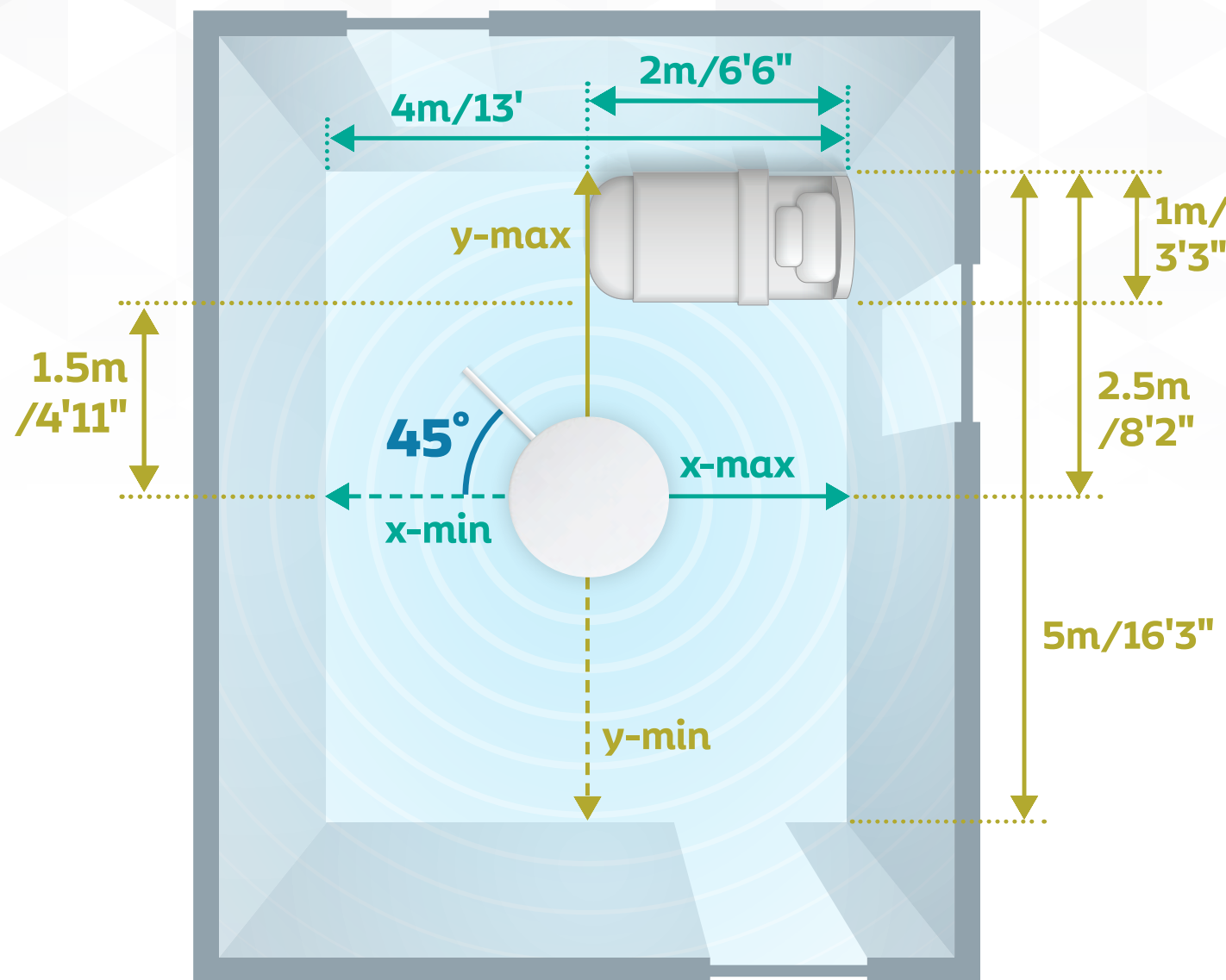| Arena size		Subregion – bed	
x-min	= -2	x-min	= 0
x-max	= 2	x-max	= 2
y-min	= -2.5	y-min	= 1.5
y-max	= 2.5	y-max	= 2.5

Top View of the Room with the Device Installed on the Ceiling

Straight Ceiling Installation

Basic Room Configuration

Mount the device in the center of the room so that the cable is aligned with the x-min axis with the y-min to the right of the cable and the y-max axis to the left.
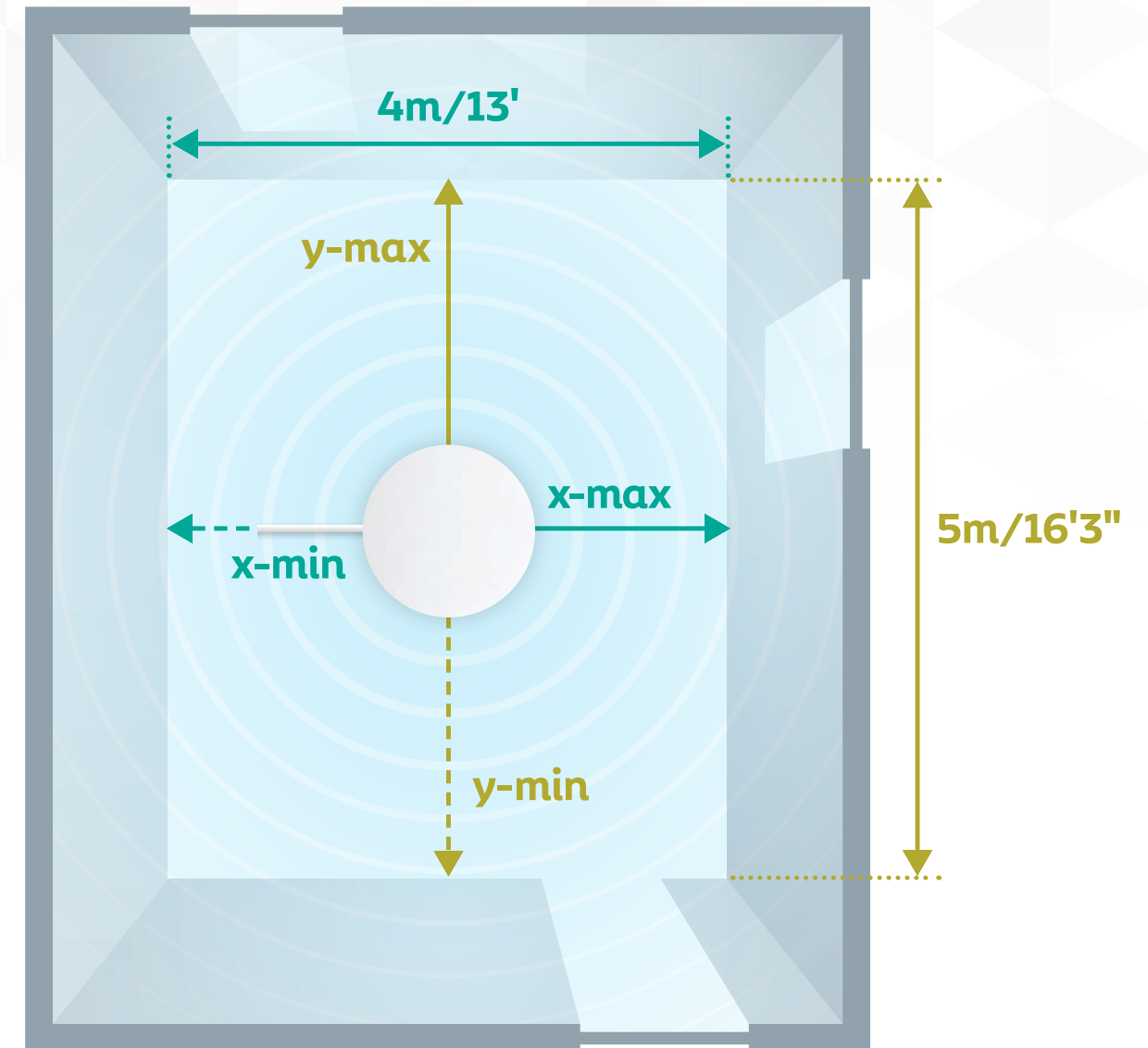
Arena size

$x\text{-min} = -2$ $y\text{-min} = -2.5$

$x\text{-max} = 2$ $y\text{-max} = 2.5$

4m/13'

y-max

x-min

x-max

y-min

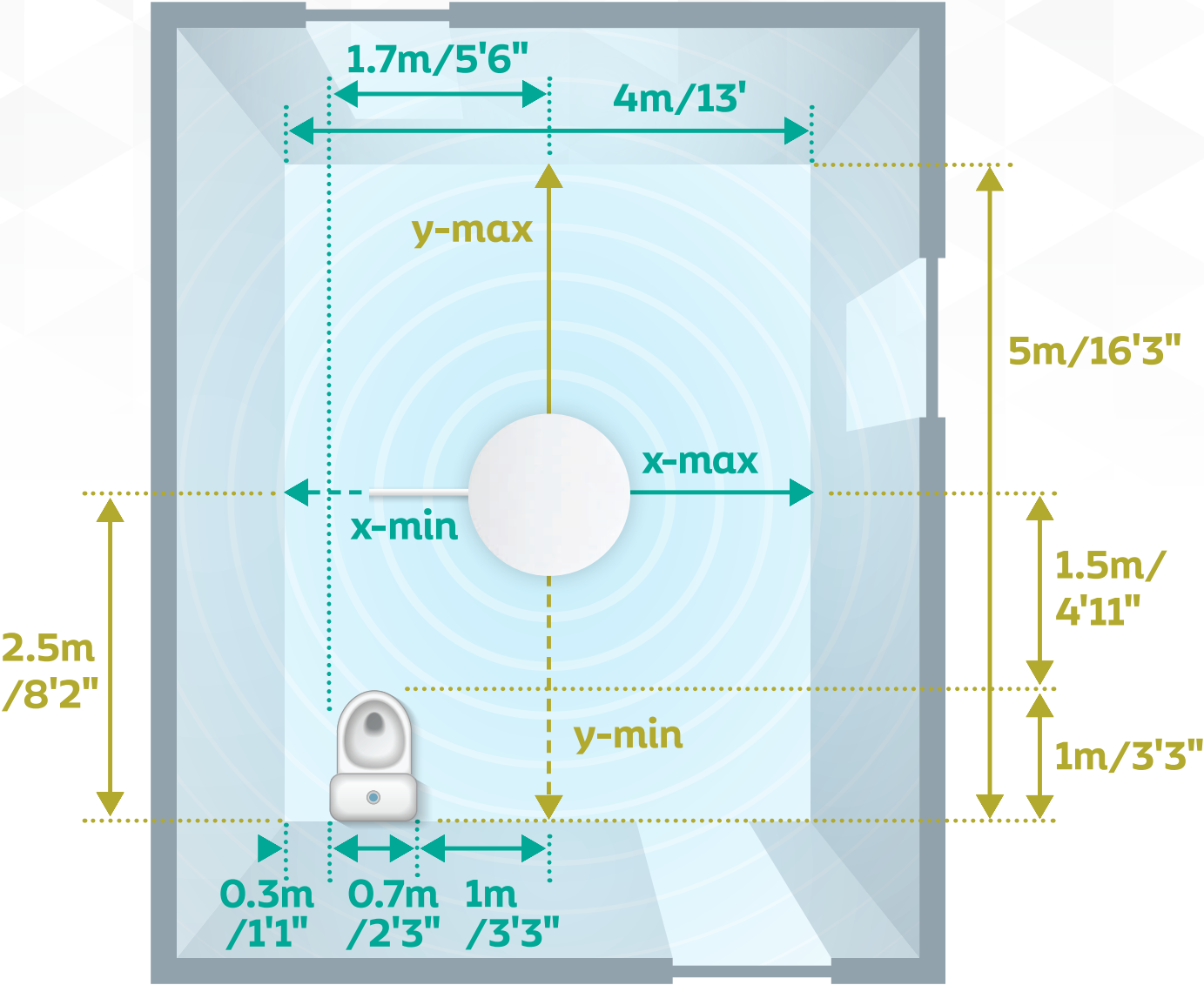5m/16'3"

Straight Ceiling Installation

Subregion Configuration

To configure a subregion, the x-max and y-max values must be the largest numerical values, while the x-min and y-min values must be the smallest numerical values.

In this example, the x-max value for the toilet region is -1m and the y-max value is -1.5m. The x-min value for the toilet region is -1.7m and the y-min value is -2.5m.

Arena size		Subregion – toilet	
x-min	= -2	x-min	= -1.7
x-max	= 2	x-max	= -1
y-min	= -2.5	y-min	= -2.5
y-max	= 2.5	y-max	= -1.5

Top View of the Room with the Device Installed on the Ceiling

1.7m/5'6"

4m/13'

y-max

x-max

x-min

5m/16'3"

1.5m/4'11"

y-min

1m/3'3"

2.5m/8'2"

0.3m/1'1" 0.7m/2'3" 1m/3'3"

Dashboard Use

To configure the room for the ceiling:

▶ Go to your Dashboard > Configuration > Room > Device.

▶ Once you've found your device, go to the General Details tab.

▶ Then choose either "Ceiling" or "Ceiling45Deg" and click "Save."

▶ Now, when you go to the Room Size tab, you will see tabs to enter the room dimensions.

▶ Enter the appropriate room dimensions for your device.

▶ The sensor height is the height of the ceiling and must be within the range of 2.3m/7'6" to 3m/9'9" from the floor.
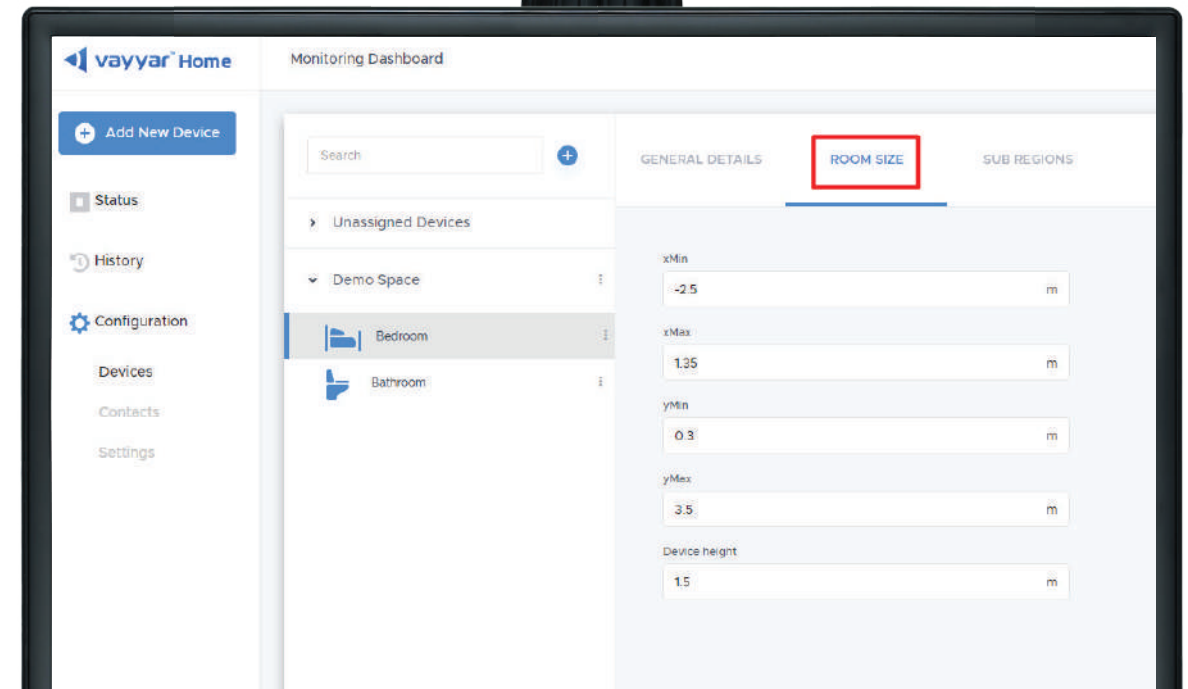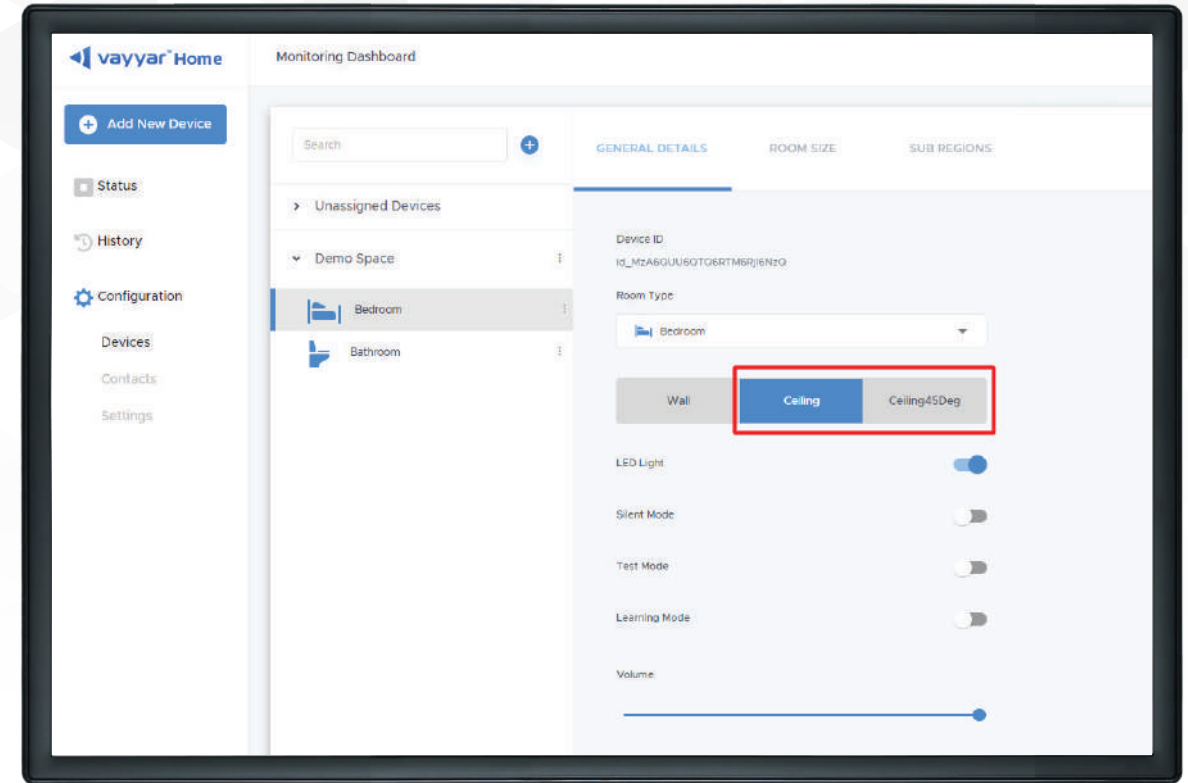
For questions about Vayyar Home™

Email: homesupport@vayyar.com

Vayyar Home   Ceiling Mounting Best Practices   **Vayyar.com**

vayyar™