STEALTH
STL200-LED/277 Installation Manual

STL200-LED/277

Specifications:

Switching Capacity:	8 amps
Voltage:	277 volts
	300W on LED fixture
Detection Pattern:	50' x 200º
Time Adjustment:	5 seconds to 12 minutes
Power Consumption:	1 watt
Surge Protection:	I.E.C. specs
UL Listing:	Raintight Photoelectric Switch

c (UL) US LISTED
SUITABLE FOR WET LOCATIONS

RAB
LIGHTING

CAUTIONS:

TURN OFF ALL POWER AT CIRCUIT BREAKER/FUSE PANEL.

- Read entire Installation Manual before proceeding.

- All wiring should comply with local electrical codes and requires a qualified electrician

- The total lighting load connected to a STEALTH must not exceed 8 amps (300W on LED fixture). To switch more wattage an electrician can install a relay.

- Line Carrier Remote Control Systems such as X-10, Levitron or Radio Shack are incompatible with sensors and cause false activations.

- Do not install sensors on a circuit that feeds motor loads like kitchen appliances, HVAC equiptment, washer/dryer, or garagedoor openers.

- Sensor must be below and as far as possible away from lights.

- Sensor functions best when the direction of expected movement is across its detection pattern, not towards the sensor.

- Mount 6-12 feet high for optimum range and detection.

How does the STEALTH work?

STEALTH's infrared sensor "sees" small temperature changes caused by the motion of people or cars within its protection zone and turns on lights automatically. It welcomes visitors and may deter intruders.

How long do the lights stay on?
Lights remain on as long as there is movement within the protection zone. Once the zone is vacated, lights can be adjusted to remain on from approximately 5 seconds-12 minutes. STEALTH keeps lights on only when needed and uses just 1 watt to operate, making it extremely energy efficient.

Can outdoor lights still be turned on with the light switch?
Yes, STEALTH can be controlled by a conventional indoor switch or circuit breaker. Lights can be turned on or off manually at night only.

Manual Override Mode:
To keep lights on, slowly flip the switch twice (off-on-off-on) within 2-3 seconds.
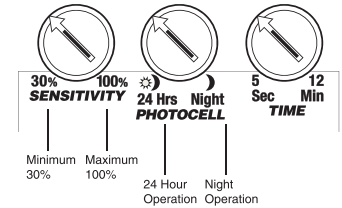
To Resume Automatic Mode:
Flip the switch once (off-on) within 2 seconds. Sensor will reset to Automatic Mode.

Will STEALTH detect animals?
STEALTH may detect large animals. Having animal trigger the sensor can give properties a "lived-in" look. However, you can limit animal detection by turning down the sensitivity knob.

Time, *Sensitivity*, and *Photocell* **adjustments**

Control Panel:

30% — 100% SENSITIVITY | ☀ 24 Hrs — Night ☽ PHOTOCELL | 5 Sec — 12 Min TIME

Minimum 30% Maximum 100%

24 Hour Operation Night Operation

Sensitivity:
Increases or decreases the responsiveness and range of the sensor. Adjusts from 30% to 100%. Factory Setting=100%.

Photocell:
Located behind the lens. For night-only operation, turn the knob all the way clockwise towards the moon symbol. For 24-hour operation, turn the knob all the way counterclockwise towards the sun and moon symbols. Adjust between both symbols accordingly for other operations, such as towards (but not on) the moon for dusk.

Time: Sets the time that lights will remain on after the detection zone is vacated. Can be set from approximately 5 seconds to 12 minutes.

Factory Setting=5-8 minutes.

RAB LIGHTING

Choosing a Location

- Choose a location so that the sensor can "see" all paths of movement.
- The sensor may be wall or ceiling mounted.
- As distance from the sensor increases, it takes more movement to be detected. For example: a half-step will register at ten feet, but not at 40 feet. 40 feet will need several steps for detection.

How does the LED Detection Indicator work?

The red LED above the lens shows the logic state of the sensor. If the sensor is set for night-only operation, the LED will go on for daytime detections without turning on the lights. Except during detections, which trigger the controlled lights, at night the LED remains on and serves as a deterrent, indicating a security device in operation.

Red LED Detection Indicator
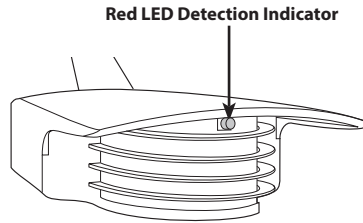
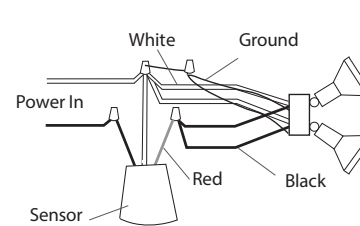### How large of an area does STEALTH detect?

The standard lens detection pattern extends out 50' and is 200° wide. The sensor may be swiveled in any direction to cover the area desired. Always keep the sensor level to ensure full coverage. To reduce coverage tilt the sensor down.
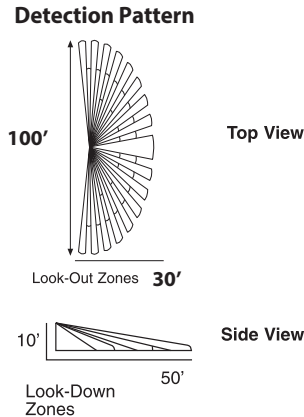
STEALTH STL200 comes with a standard "Double Look Down" Lens. This lens has one "Look Out" zone and two "Look Down" zones for excellent detection at both long and short range.
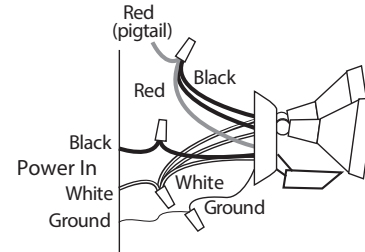
Detection Pattern

100'

Look-Out Zones 30'

Top View

10'   50'

Side View

Look-Down Zones

Wiring Diagrams

Basic Wiring Diagram

White   Ground

Power In

Sensor

Red   Black

Basic Kit Wiring Diagram

Note: Pigtail is only used to switch remote or additional light fixtures.

Red (pigtail)

Red   Black

Black
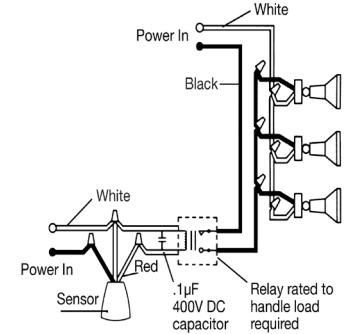Power In
White
Ground

White
Ground

Red pigtail only used to switch remote or additional fixtures

Power Quality

It is not recommended to install sensors on a circuit that also feeds motor loads such as HVAC equiptment, kitchen appliances, or garage door openers. The STEALTH circuit is surge and transient protected to IEC specifications. However, if voltage varies significantly from 277 volts, sensor may malfunction.

Multiple Fixtures

White
Power In
Black

White
Power In
Red
Sensor
.1µF 400V DC capacitor
Relay rated to handle load required

- Multiple fixtures may be wired to a single sensor
- To handle loads greater than 300 watts, a qualified electrician should install a relay.

Switchplate Label

Switchplate label has self-adhesive backing.

RAB STEALTH

To Keep Lights On:
Switch off-on-off-on within 2 seconds. Resets to Auto Mode at dawn.

To Resume Auto Mode:
Switch off for 10 seconds, then back on.

Apply this label to your indoor light switch for easy reference

Attach STEALTH operating instruction label to switchplate for quick and easy reference.

RAB LIGHTING

Aiming and Walk Testing

Walk Test:

The purpose of the Walk Test is to check and adjust the coverage pattern. STEALTH has a 5 minute Test Period which allows the sensor to be aimed and walk-tested day or night. If you require 5 more minutes of Test Time, turn the power off for at least 10 seconds and back on again. During the Test Period, the sensor will keep lights on for 5 seconds each time it detects movement in its Detection Zone. The sensor will change to Automatic Mode after 5 minutes of testing.

To enter test mode:
Turn power off for at least 10 seconds and back on again.

1. Aim the sensor across the traffic pattern you want to detect. Start by aiming the sensor downward and then raise it slowly until the desired range is obtained.
2. Start outside the pattern and walk across pattern until lights go on. As distance from the sensor increases, it will take more movement to be detected.


Start   Finish
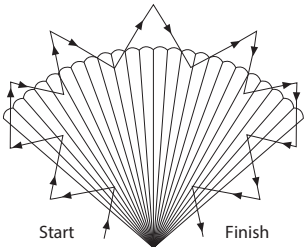
3. Adjust the sensor aiming as needed to improve coverage.
4. To adjust sensitivity, turn knob gently. Less sensitivity (counter-clockwise) may be desired if you wish to detect a limited area or if the sensor is being activated by wind, foliage, or animals. More sensitivity (clockwise) will help cover a larger area.

30% 100% ☼ ☾ 5 12
SENSITIVITY 24 Hrs Night Sec Min
PHOTOCELL TIME

Minimum Maximum
30% 100%
24 Hour Night
Operation Operation
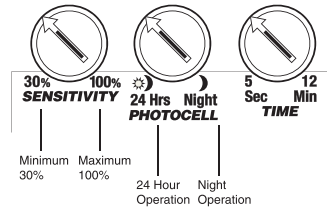
5. Repeat steps 2-4 until you are satisfied with coverage.
6. "Time" is factory set at 5-8 minutes. This period starts after the movement in the detection pattern ceases. Turn the time control counterclockwise for less time and clockwise for more time.
7. STEALTH is factory set for night-only operation. To obtain 24-hour operation, turn the photocell control full counter-clockwise. Intermediate settings will adjust operation during dawn and dusk.
8. Your sensor is ready for operation. See "Technical Tips" on pages 7-11 for additional help.

Technical Tips:
Lights Turn On for Unknown Reasons

1. Lights may turn on occasionally during rain, snow and windstorms because the sensor detects changes in temperature. **Solution:** mount sensor in protected area.
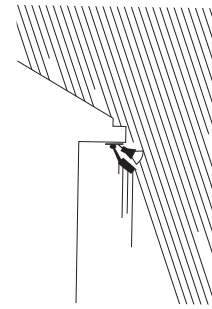
• If false detections constantly occur, reduce sensitivity (turn counterclockwise) until the problem stops.

2. Tilt the sensor lower; it may register movement from distant objects.

3. You may not be aware of animals triggering the sensor. Create an "Animal Alley" by aiming sensor or masking the lower portion of the lens with opaque weather-proof tape to reduce triggering.


10′

"Animal Alley"   50′
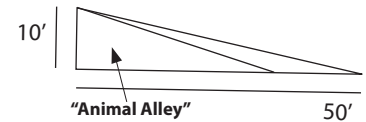
4. Although it is surge and transient protected, the sensor may occasionally turn on during extreme voltage surges.

5. A possible source of "mysterious" sensor activations are strong local radio signals. Check for nearby CB, Ham, VHF radio transmitters or cellular telephones. These signals may activate the sensor, but will not do permanent damage.

6. Check all the solutions mentioned under "Lights Turn On and Off."

7. Check items #2, 4, 5, 6, and 7 under "Lights Do Not Turn Off."

RAB LIGHTING

Technical Tips:
Lights Do Not Turn Off

1. Make sure the sensor is not in Manual Override Mode. Turn power OFF for 10 seconds and then ON again. Sensor will be in Test Mode for approximately 5 minutes, then it will switch to Auto Mode with lights off, ready to detect movement.

2. Make sure sensor is not aimed at or mounted over something that would move or change temperature, such as waving branches, water, air conditioners, windows or heating vents, even on neighboring property. You can test for infrared sources in the area by placing a box or bag over the sensor and putting the sensor into test mode. This should keep the lights off. Wave your hand inside bag in front of sensor, and lights should go on, time out, and go off. If sensor operates properly with bag covering, check item #4-7.

**Problem:** Sensor is triggered by unwanted movement or heat source.

WRONG!   **RIGHT!**
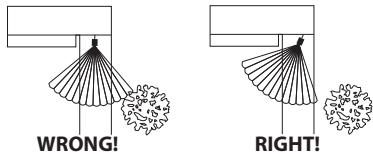
Solution:
• Aim sensor away from movement
• Mask lens in the direction of source
• Lower sensitivity control setting

7

3. Make sure sensor and lights are mounted firmly and do not move, even slightly, when touched. If they move, tighten all screws.

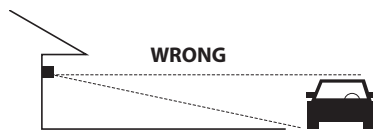4. Make sure sensor is not mounted on an unstable source, such as a tree or pole that will move in the wind.

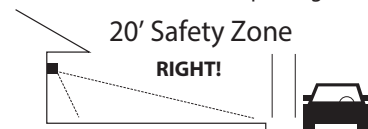**Problem:** Movement of tree triggers sensor.
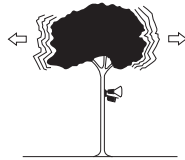
Solution: Mount on stable surface.

5. Was sensor wired hot? If so, circuitry may have been damaged.

6. Make sure sensor is not aimed within 20ft of a road.

Problem: Passing cars activate sensor.

WRONG

Solution: A 20ft safety zone and lower sensitivity are recommended to avoid activation from passing cars.

20' Safety Zone

RIGHT!

7. Make sure heat from lights is not triggering sensor. Make sure sensor is *below* and as far as possible from lights.

RAB LIGHTING

Technical Tips:
Lights Turn On and Off Incorrectly

1. Make sure the sensor is installed on its own dedicated circuit, free of motor loads such as HVAC equipptment, kitchen appliances, or garage door openers.

2. It is not recommended to wire sensors in parallel. More than one sensor wired together makes them difficult to troubleshoot. Disconnect multiple sensors and test separately.

3. Keep all people completely out of the detection pattern to make sure the sensor is not detecting them.

4. Make sure sensor is located below and as far as possible from its lights. Heat from the lights may trigger the sensor.
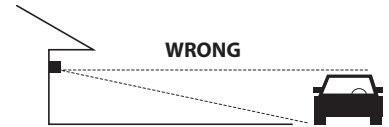

WRONG

Solution: Move sensor below and away from the lights. *Do not use with open par holders.*
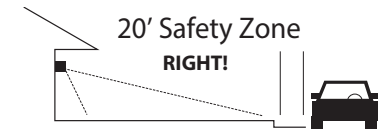

RIGHT!
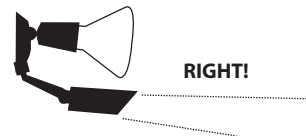
5. Moths can be attracted to the lights and fly close to the sensor causing triggering. Reducing the sensitivity may help.

8

6. Make sure sensor is not aimed within 20 ft of a road or sidewalk. Passing cars will activate sensor.

WRONG

Solution: A 20ft safety zone and reduced sensitivity are recommended to avoid activation from passing cars.

20' Safety Zone

RIGHT!

7. Heavy rain, snow, or high winds may activate the sensor occaisionally. Reduce sensitivity control slightly until problem stops.

8. Make sure lights are not reflecting back into sensor. Check for white or reflective surfaces close to the sensor.
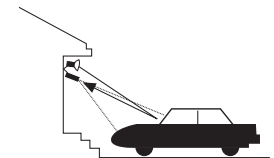
Solution: Aim sensor away from reflective objects or move the objects lower and reduce sensitivity.

9. Self-ballasted PL lamps may cause cycling (on-off).

10. Check item #2, 4, 5, 6 and 7 under "If Lights Do Not Turn Off."

Technical Tips:
## Lights Do Not Turn On

1. Check that lamps and fixtures work. Compare wiring to the **Wiring Diagram** in this manual. Check that the power is on.

2. If installing during daylight, remember that after power is turned on, the sensor will provide 5 minutes of Test Time. After 5 minutes, the sensor will switch to Automatic Mode and will not work during daylight if the photocell control is turned to night-only (moon) position.

If you require more than 5 minutes of Test Time, turn power off for at least 10 seconds and then turn power back on.

3. If you require the sensor to operate both day and night, turn the center control knob counterclockwise to the sun and moon symbol.

4. Check that lights from other sources, such as adjacent porch, garden, or streetlights, or lights from inside the house, are not in the sensor's view. The sensor's photocell may detect the light and deactivate. For operation at higher ambient light levels, turn the photocell control (center knob) toward the sun symbol.

5. Was sensor wired hot? If so, circuitry may have been damaged.

Lights Turn Off Too Quickly

1. Check if the sensor is being "tricked" by reflected light. If lights controlled by the sensor shine or reflect into the photocell (located behind the lens), the unit will go on briefly, but then turn off, "thinking" it is daytime.
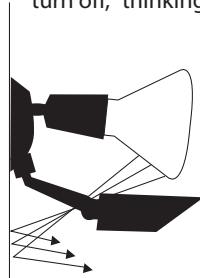
**Problem:** Light shining or reflecting directly into photocell

Solutions:

• Adjust the photocell control (center knob) slightly counterclockwise to allow operation at higher ambient light levels

• Move the lights or reflectors

• Mask lens in the direction of the lights and/or reflections

2. Check if "R" lamps, non-reflector "A" lamps, or self-ballasted PL lamps are being used in a non-enclosed lampholder. If so, switch to reflector PAR floodlight lamps or Quartz floods so the sensor is not affected by stray light. If using PAR floodlights, consider using lower-wattage energy-saving lamps.

## Technical Tips:
Range Appears Limited

1. Check that the sensor is level from side to side and pointed at desired area. If unit is tilted, part of the Detection Zone may be high in the air over people's heads.
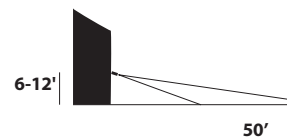
WRONG!
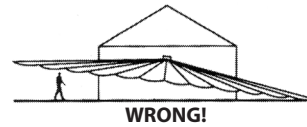
Solution: Position sensor exactly level from side to side.
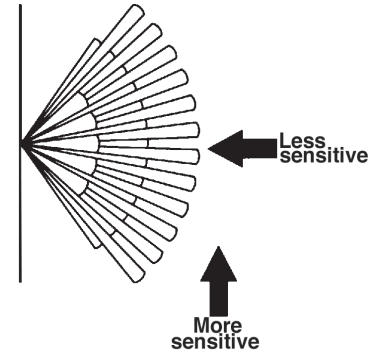
RIGHT!
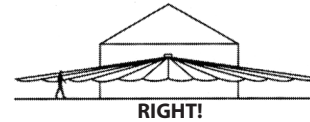
2. Check that the sensor is not mounted too high. If mounted above 20 feet, much of the usable range will be lost.

20'

40'
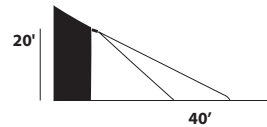
Solution: Mounting 6-12ft allows maximum range

6-12'

50'

3. Check that movement is not directly towards sensor. Sensor will see movement across its pattern more quickly. To fix, move sensor.

Less sensitive

More sensitive

4. Check that movement far away and directly towards sensor is not entirely within one zone.

Problem: Sensor will not detect until movement crosses zones.

No detection until here

PATHWAY
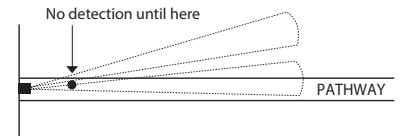
Solution: "Micro Adjust" sensor by moving sideways 1/4". This may move the zones to allow earlier detection.

Detection much sooner

PATHWAY

RAB LIGHTING
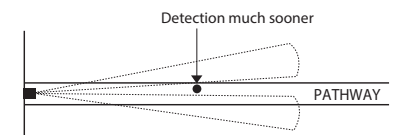
Limited Warranty

Your STEALTH will be replaced or repaired, at our option, if it proves to be defective in worksmanship or materials within ten years from the date of original purchase.

For repair or replacement, return the product, freight prepaid and insured, to:

RAB Lighting
170 Ludlow Avenue
Northvale, NJ 07647

The STEALTH should be packed carefully. Please include your sales receipt and a description of the problem.

If your unit is out of warranty or the damage is unrelated to the original manufacture, return your unit directly to us with a check for $30.00 (made out to RAB Lighting). We will repair or replace your unit.

Under no circumstances shall we be liable for any incidental or consequential damages arising out of or in connection with the use or performance of this product or other indirect damages with respect to loss of property or revenue or cost of installation, removal or re-installation. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

Contents:

STL200-LED/277

RAB STEALTH

To Keep Lights On:
Switch off-on-off-on within 2 seconds. Resets to Auto Mode at dawn.

To Resume Auto Mode:
Switch off for 10 seconds, then back on.

Apply this label to your indoor light switch for easy reference

- Indoor Switchplate Label
- Wire Nuts (3)