INSTRUCTIONS
HALV Indoor Architectural-Grade LED Wall Sconce

RAB®

RAB Lighting is committed to creating high-quality, affordable, well-designed and energy-efficient LED lighting and controls that make it easy for electricians to install and end users to save energy. We'd love to hear your comments. Please call the Marketing Department at 888-RAB-1000 or email: marketing@rablighting.com

HALV

IMPORTANT

READ CAREFULLY BEFORE INSTALLING FIXTURE. RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE.
RAB fixtures must be wired in accordance with the National Electrical Code and all applicable local codes. Proper grounding is required for safety. THIS PRODUCT MUST BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE INSTALLATION CODE BY A PERSON FAMILIAR WITH THE CONSTRUCTION AND OPERATION OF THE PRODUCT AND THE HAZARDS INVOLVED.
WARNINGS:
- **Make certain power is OFF before installing or maintaining fixture. No user serviceable parts inside.**
- **To prevent wiring damage or abrasion, do not expose wiring to edges of sharp objects.**
 CAUTION:
- **This fixture supports the following protocols – Triac and ELV at 120V ONLY. For 0-10V dimming, connect purple wire to the V+ DIM lead and the grey wire to the V-DIM lead. This fixture is damp listed and suitable for indoor applications on walls. Driver is 120V – 277V and 50Hz or 60 Hz.**
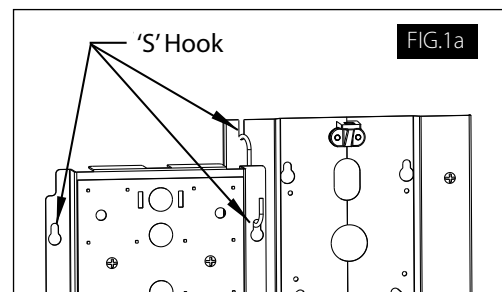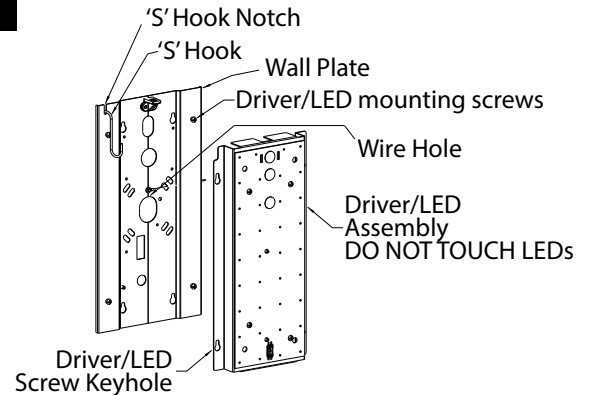
J-BOX WALL MOUNTING *(standard models)*

Mounting the fixture on a standard 4 x 4 J-BOX.
This fixture is damp listed and suitable for indoor applications on walls

1. Loosen the (4) **driver/LED mounting** phillips head screws and separate the **driver/LED assembly** from the wall plate. No need to remove the screws completely, use the keyhole. **DO NOT TOUCH THE LEDs**. See **Figure 1**.

2. Set **Driver/LED** assembly aside.

3. Pull wires from j-box through the **Wall Plate** opening and mount Wall Plate to junction box using screws provided with the junction box. Making sure the **'S' hook** notch is at the top.

4. Hang the **Driver/LED Assembly** on the **'S' hook** as shown in **Figure 1a**.

5. Make wiring connections. Push wire nuts through hole into J box.

6. Replace **Driver/LED Assembly** making sure not to pinch any wires.

7. Tighten Driver/LED mounting screws.

FIG.1

'S' Hook Notch
'S' Hook
Wall Plate
Driver/LED mounting screws
Wire Hole
Driver/LED Assembly DO NOT TOUCH LEDs
Driver/LED Screw Keyhole

'S' Hook   FIG.1a

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NEW CONSTRUCTION INSTALLATION
(models w/wall box)

Wall box is installed before sheetrock.

1. Remove **Driver/LED/Wall plate** assembly by loosening 4 phillips head screws as shown in **Figure 1**. No need to completely remove screws, keyhole slots provided. Retain **Hanger**. Unplug connectors (if E2, E2/MVS, E2, E2/BL, or E2/LC) and put Driver/LED/Wall plate aside.

2. Install **Nailer Bars** into wall box as shown in **Figure 2**.

3. Locate the wall box in the desired position between the studs and affix using **Nailer Bars**.

4. Tighten 1 phillips head locating screw shown in Figure 2 to hold wall box in position on the **Nailer Bars**.
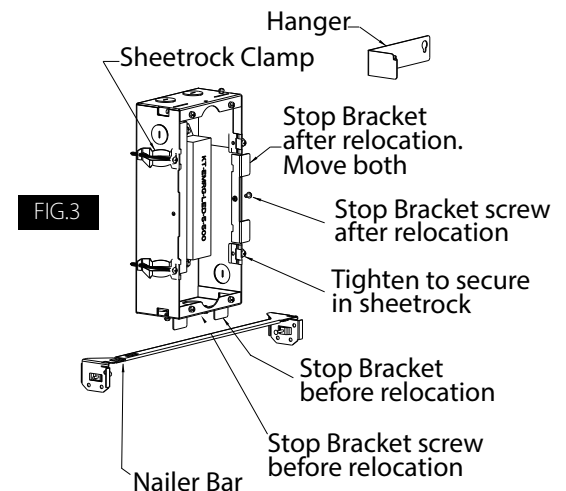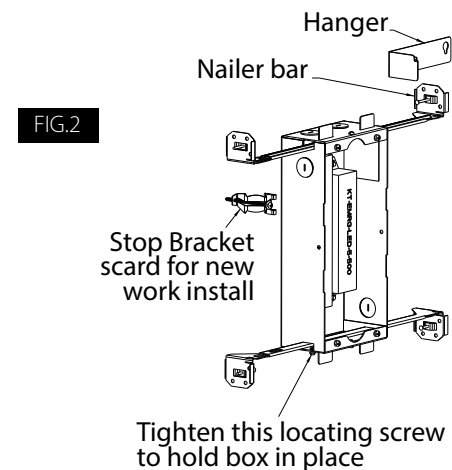
5. Run wire to box.
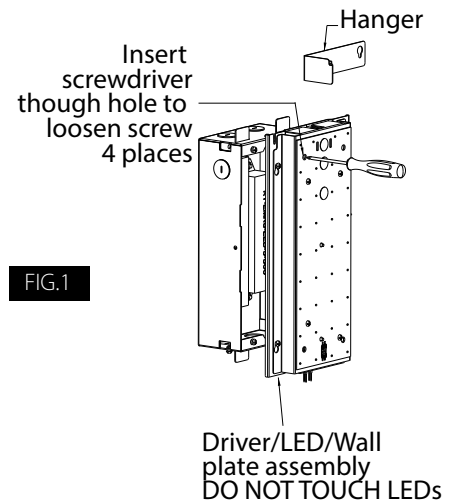
REMODELER INSTALLATION
(models w/wall box)

Wall box is installed after sheetrock.

1. Remove **Driver/LED/Wall plate** assembly by loosening 4 phillips head screws as shown in **Figure 1**. No need to completely remove screws, keyhole slots provided. Retain **Hanger**. Unplug connectors (if E2, E2/MVS, E2, E2/BL, or LC/E2) and put Driver/LED/Wall plate aside.

2. Discard **Nailer Bars**.

3. Move **Stop Brackets** from end to side and add **Sheetrock Clamps** as shown in **Figure 3** (on following page).

4. Using the template provided, cut opening in sheetrock. Leave at least ¾" between box and stud.

5. Run wire to box.

6. Place **Wall Box** in opening and tighten 4 phillips head screws to secure **Wall Box**.

Hanger

Insert screwdriver though hole to loosen screw 4 places

FIG.1

Driver/LED/Wall plate assembly DO NOT TOUCH LEDs

Hanger

Nailer bar

FIG.2

Stop Bracket scard for new work install

Tighten this locating screw to hold box in place

Hanger

Sheetrock Clamp

Stop Bracket after relocation. Move both

FIG.3

Stop Bracket screw after relocation

Tighten to secure in sheetrock

Stop Bracket before relocation

Stop Bracket screw before relocation

Nailer Bar

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DRIVER/LED/WALL PLATE/ASSEMBLY
(with E2, E2/MVS, E2/BL, or LC/E2 Options)

1. Hang **Driver/LED/Wall plate** assembly on **Hanger** as shown in **Figure 4** Energize fixture. Mate battery connection.

2. Mate connectors, except for battery connection. Make wiring connections.

3. Energize fixture. Mate battery connection.

4. Remove **Hanging Bracket** and place in bottom of box for future use.

5. Install Driver/LED/Wall plate and tighten 4 phillips head screws.

DRIVER/LED/WALL PLATE/ASSEMBLY
(with LC option)

1. Hang **Driver/LED/Wall plate** assembly on **Hanger Bracket** as shown in **Figure 4**.

2. Make wire connections.

3. Remove **Hanger Bracket** and place in bottom of box for future use.

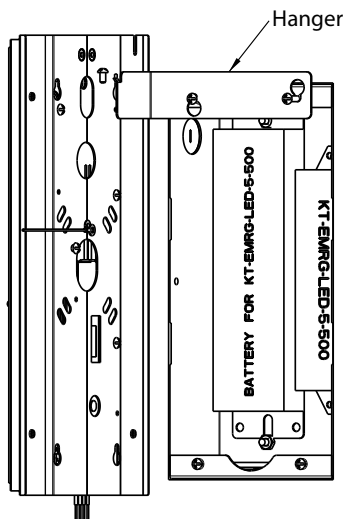4. Install Driver/LED/Wall plate and tighten 4 phillips head screws.

FIG.4

TROUBLESHOOTING

1. Check that the line voltage at the fixture is correct. Refer to wiring directions.

2. Be sure the fixture is grounded properly.

LENS FRAME INSTALLATION

1. Align **Lens Frame** over the **Driver/LED assembly** with the phillips head **mounting screw** at the top. See **Figure 5**.

2. Inset the lens frame from the bottom with the bottom flush against the wall. See **Figure 5**.

3. Tilt the top of the lens frame to the wall.

4. Make sure the frame is flush against the wall and tighten mounting screw at the top using a 5/64" hex key.
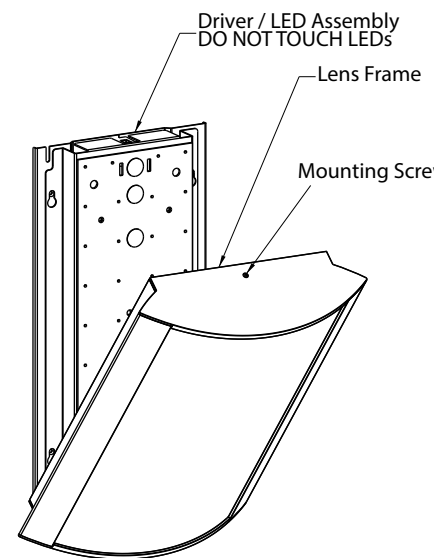

Driver / LED Assembly
DO NOT TOUCH LEDs

Lens Frame

Mounting Screw

FIG.5

CLEANING AND MAINTENANCE

1. Use warm water, mild soap and a soft sponge or cloth. Any acrylic cleaner may also be used. Do not use alcohol, glass cleaners, acetone, lacquer thinner, solvents or abrasive compounds. Do not use squeegees, scrapers or synthetic rags that may scratch the panels.

   a. Lumicor® lenses – Novus® cleaner and polish is an approved product for a clean shine that also protects from static build up. See the "General Polishing & Basic Scratch Repair" document at www.lumicor.com/ScratchRepair for more information.

2. **DO NOT OPEN THE FIXTURE TO CLEAN THE LEDs. DO NOT TOUCH THE LEDs**.

Note: These instructions do not cover all details or variations in equipment nor do they provide for every possible situation during installation, operation or maintenance.
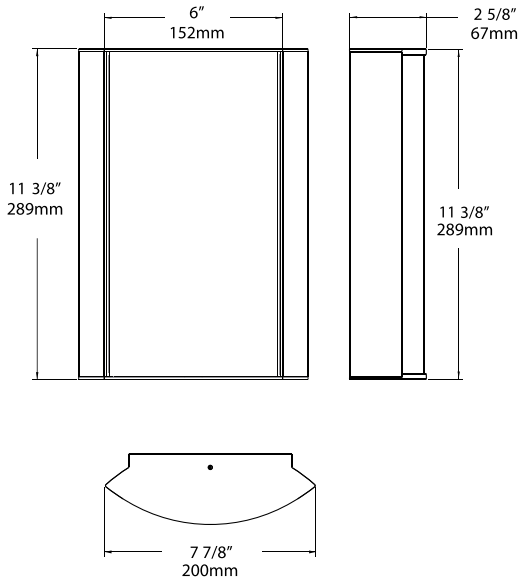
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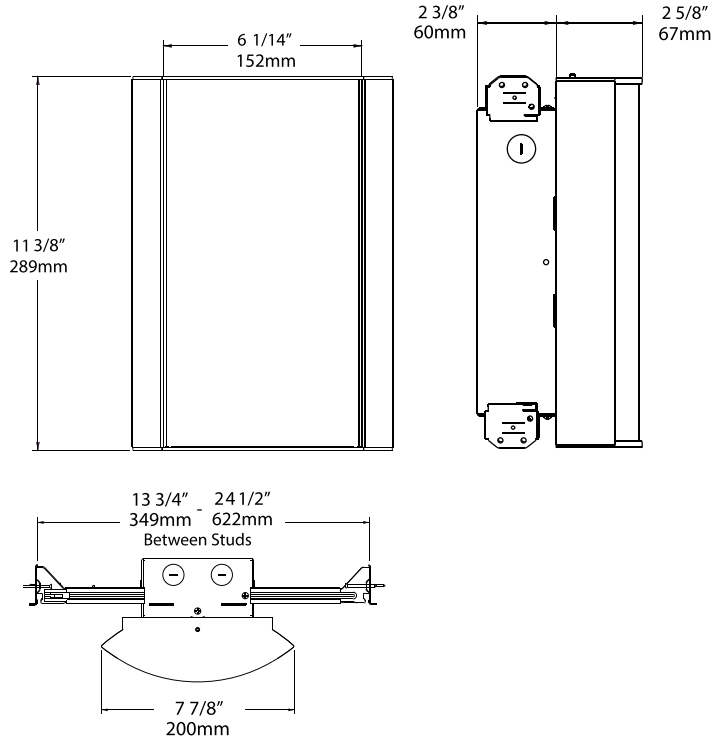## HALV Indoor Architectural-Grade LED Wall Sconce

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DIMENSIONAL DRAWINGS

LENS FRAME ASSEMBLY *(STANDARD MODELS)*

6"
152mm

2 5/8"
67mm

11 3/8"
289mm

11 3/8"
289mm

7 7/8"
200mm

LENS FRAME ASSEMBLY *(MODELS WITH BACK BOX)*

6 1/14"
152mm

2 3/8"
60mm

2 5/8"
67mm

11 3/8"
289mm

13 3/4"   24 1/2"
349mm ‾ 622mm
Between Studs

7 7/8"
200mm

4-5/8

1/2

1-13/16

PRINT FULL SCALE

4

9-9/16
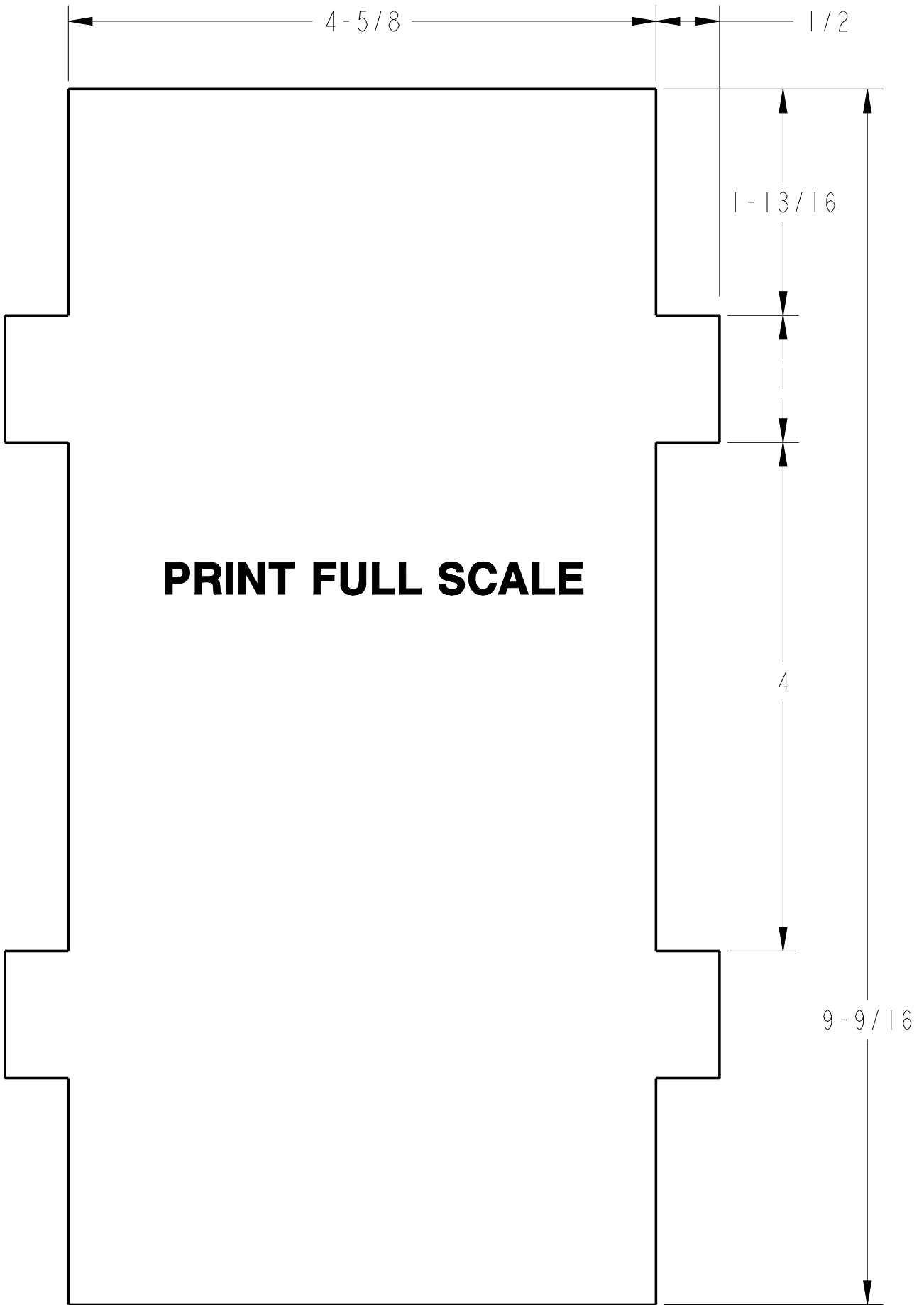
Old Work Cut Out Template

19724 MICROWAVE SENSOR FOR D10

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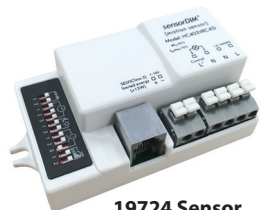
19724 Sensor

Antenna

IMPORTANT

READ CAREFULLY BEFORE INSTALLING FIXTURE. RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE.

19724 is used with a120-277VAC dimmable driver and comes with a sensor antenna. Sensor is shipped with Factory Settings outlined below under **DIP Switch Settings.** If settings other than factory pre-sets are desired, the consumer may change DIP Switch Settings. For more detailed control of the sensor, the consumer can purchase MVSREM wireless commissioning tool (remote) to re-program sensor settings.

DIP SWITCHES
Factory Settings shown below

SPECIFICATIONS
Sensor is not suitable for wet locations.

L R
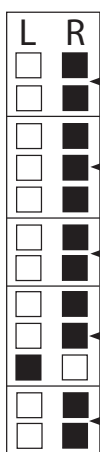
- Adjustable Detection Area
- Time Delay
- Daylight Sensor
- Cut Off Period
- Dim Level

Fig. 1

Fig. 2

DIP Switches

Sensor Antenna Interface

+ − 0-10V   L' N N L

L' = driver
L = power source
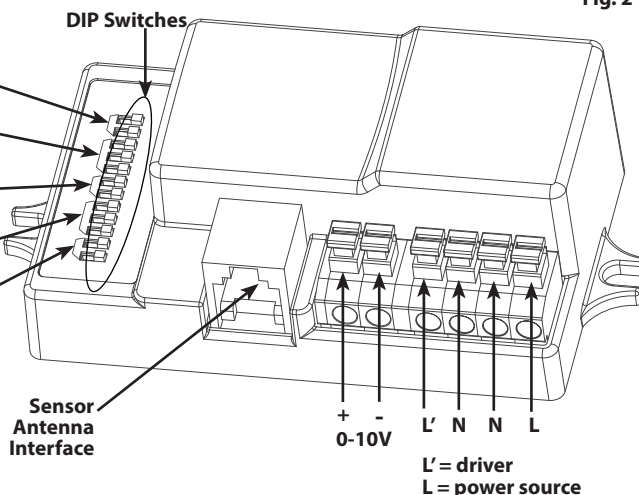
DIP Switch Settings

Switch positions referred to as R for right position and L for left position when looking at sensor in orientation shown in Fig. 2, in which all switches are R.

See Fig. 1 and 2 for each setting's corresponding switches. Setting options for each category are noted in (parenthesis) below.

Factory Settings: designated in **bold** for each category

Detection Area:
- **100% (RR)**
- 75% (RL)
- 50% (LR)
- 10% (LL)

Time Delay: how long lamp remains on at 100% after last recognized motion
- **5s (RRR)**
- 30s (RRL)
- 1min (RLR)
- 5min (RLL)
- 10min (LRR)
- 20min (LRL)
- 30min (LLL)

Daylight Sensor:
- **Disabled (RR)**
- 5 fc (Daylight) (RL)
- 1 fc (Twilight) (LR)
- .2 fc (Darkness) (LL)

Cut Off Period: how long reduced light output lasts after time delay period before fixture switching off
- 0s (RRR)
- **10s (RRL)**
- 1min (RLR)
- 5min (RLL)
- 10min (LRR)
- 30min (LRL)
- 1hr (LLR)
- Always (LLL)

Dim Level: light output level after time delay
- **10% (RR)**
- 20% (RL)
- 30% (LR)
- 50% (LL)

19724 MICROWAVE SENSOR FOR D10

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OPERATION

Multi-level Dimming:

- 100% light
- Dimmed to: 10, 20, 30, 50*%
  - **50% not on remote*
- Off

Cut Off Time Adjustment:

- Once room is vacated, light dims to selected % after chosen hold time elapses

Daylight Sensing:

- Surrounding natural light keeps fixture light off until room is occupied and natural light levels drop to selected level

8 Hour* Manual Mode:

- Turn fixture off-on 3 times within 3 seconds
- Green LED on antenna will flash and fixture will flash 3 times if done correctly
- Fixture will remain 100% for 8 hours, then sensor will come on automatically
- To cancel, turn the fixture off-on within 1 second

*Times out after one 8-hour cycle

Ambient Daylight Threshold*:

- Turn fixture off-on 2 times within 2 seconds
- Green LED on antenna will flash slowly for 5 seconds and fixture will blink twice if done correctly
- Surrounding fc will be measured and recorded for 1 second
- Green LED on antenna and fixture will light for 10 seconds to indicate successful fc recording
- Most recent fc measurement overwrites any prior

*DIP settings (pg 1) and ambient lux overwrite eachother depending on latest action

Scene Mode:

- 100% detection range and 10% cut off dimming
  - **Scene 1 (SC1):** 1 min hold-time, 10 min cut off period, .2 fc daylight sensor
  - **Scene 2 (SC2):** 5 min hold-time, 10 min cut off period, .2 fc daylight sensor
  - **Scene 3 (SC3):** 10 min hold-time, 30 min cut off period, 1 fc daylight sensor
  - **Scene 4 (SC4):** 10 min hold-time, always on bi-level cut off period, 5 fc daylight sensor

SENSOR COVERAGE DIAGRAM

Below diagrams represent best average coverage from lab testing. Actual coverage may vary as metal on the fixtures can interfere with microwaves from the sensor
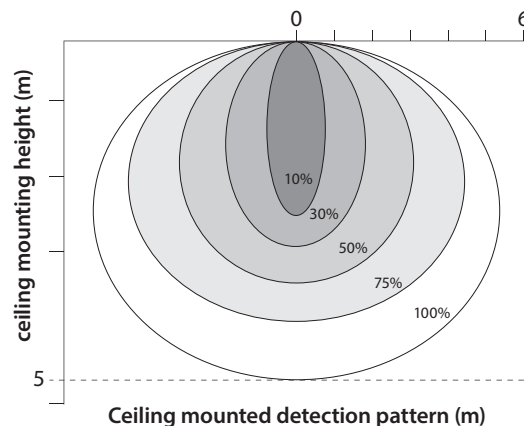

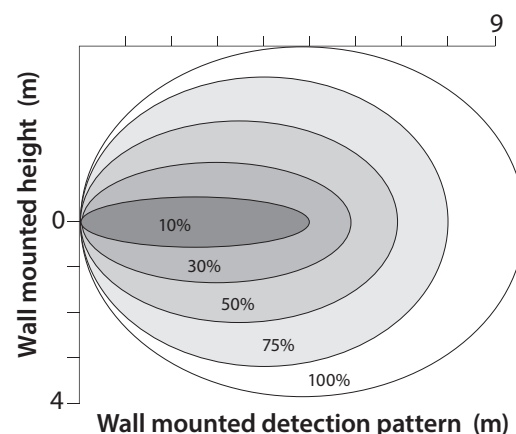**Ceiling mounted detection pattern (m)** — **Fig. 3**

Wall mounted detection pattern (m) — **Fig. 4**

SENSOR TECHNICAL DATA

Capacitance Load: 400W at 120V, 800W at 230V, 1000W at 277V

Operating Temperature: -20°C to +60°C (-4°F to +140°F)

Relay: Zero-cross relay

Maximum Mounting Height: 5m

Customizable Detection Area: 10, 50, 75 or 100%

Time Delay: 5s, 30s, 1min, 5min, 10min, 20min, 30min

Cut Off Period: 0s, 10s, 1min, 5min, 10min, 30min, 1hr, Bi-Level

Cut Off Dimming Level: 10, 20, 30, 50%

Cut Off Power: Less Than 1W

Daylight Threshold: About .2-5 fc or Disabled

Sensor Principle: High Frequency

Microwave Frequency: 5.8GHz +/- 75MHz

Microwave Power: <0.2mW

Detection Range Max: 16m across, 10m high

Detection Angle: About 30 to 150 degrees

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REMOTE

Sensor will beep one time to indicate remote recieved signal successfully

Remote settings will override DIP Switch settings

ON/OFF: disables sensor; light is permanently* on or off
*un-do permanent on/off by selecting either Auto-Mode, RESET, or any Scene mode button

Auto Mode: sensor activates and all previously selected settings remain programmed

RESET: overrides selected settings; reverts to DIP settings

Dim buttons: + dims up and - dims down, adjusting lamp brightness

Black Button: no function

Test 2s: automatic* test mode with 2 second time delay; disables cut off period and daylight sensor
*un-do automatic test mode by selecting either RESET, any Scene mode button, or hold time

Power 100% & Power 80%: adjusts power output; to save energy select Power 80%. Must return to full output after initial 10,000 hours of LEDs by pressing Power 100%.
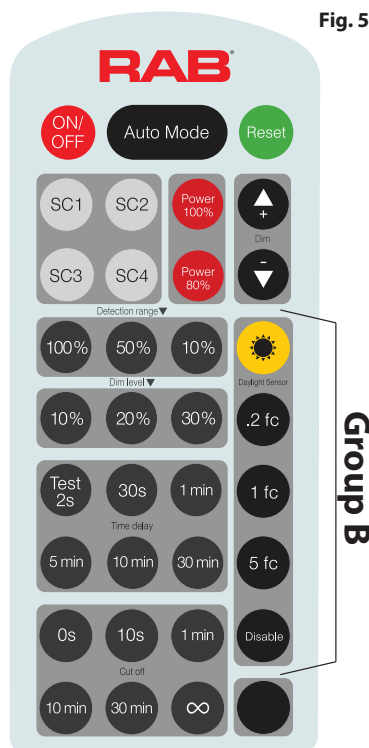
Group B:

   Yellow Sun Button: Ambient Daylight Threshold; records surrounding lux level and overwrites previously recorded value

   .2, 1 and 5 fc: sets daylight sensor at respective ambient light values

   Disable: disables daylight sensor; any motion registered by sensor activates fixture light

SC1, SC2, SC3, SC4: assigns one of 4 pre-set scenes; see "Operation" on pg 2 for scene descriptions

Fig. 5

RAB

ON/OFF | Auto Mode | Reset

SC1 | SC2 | Power 100% | ▲ + Dim
SC3 | SC4 | Power 80% | ▼
Detection range ▼
100% | 50% | 10% | ☀ Daylight Sensor
Dim level ▼
10% | 20% | 30% | .2 fc
Test 2s | 30s | 1 min | 1 fc
Time delay
5 min | 10 min | 30 min | 5 fc
0s | 10s | 1 min | Disable
Cut off
10 min | 30 min | ∞

Group B

REMOTE CONTINUED

Detection Range Button Group: assigns detection range of 10, 50 or 100%; use coverage diagrams on pg 2 for guidance. To limit area in which motion will set off sensor, use a smaller percent. The sensor will not detect motion outside of 100% and the fixture will not light.

Time Delay Button Group: assigns hold time of 30 seconds, 1 minute, 5 minutes, 10 minutes, or 30 minutes

Cut Off Button Group: assigns cut off period of 0 seconds, 10 seconds, 1 minute, 10 minutes, 30 minutes, or 1 hour. 0 seconds gives fixture on/off control rather than dimming. + ∞ keeps the light on always (if daylight sensor is disabled) with Bi-Level dimming control.

Dim Level: assigns level of 10, 20, or 30% for dimmed light output after time delay passes

TROUBLESHOOTING

If the sensor does not detect motion as expected:

* Check fixture mounting to compare fixture location and sensor coverage with the coverage diagrams on pg 2
* Adjust fixture location as necessary

Fixture will not light/sensor does not detect motion:

* Make sure ON/OFF button was not selected as this results in disabling the sensor
* Check all settings to be sure there is no conflicting selection with the ambient light level

Fixture and sensor are too active:

* Check detection area setting and reduce coverage as needed
* Increase time delay and/or adjust cut off period.

Basic Function Overview:

100%

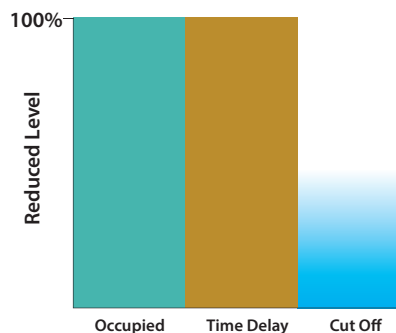Reduced Level

Occupied | Time Delay | Cut Off

Fig. 6

Note: These instructions do not cover all details or variations in equipment nor do they provide for every possible situation during installation operation or maintenance.

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