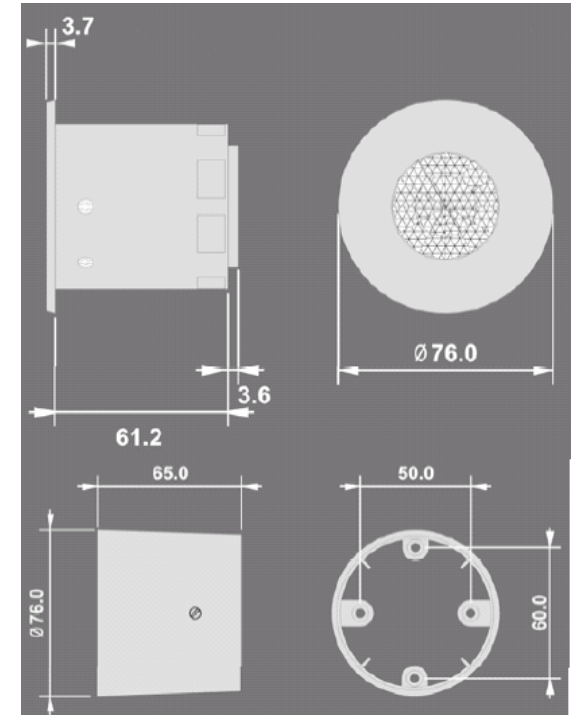


LuxMaster DLUX



Technical Data

| | |
|----------------------------|--|
| Catalogue Number: | CPD/D |
| Supply Voltage: | 220-240VAC 50Hz |
| Load: | <p>Channel 1 (switching) 10A of lighting and/or ventilation including incandescent, fluorescent, compact fluorescent, low voltage (switch primary of transformer)</p> <p>Channel 2 (dimming) 20 x dimming ballasts (DSI or DALI)</p> |
| Time Out Period: | Adjustable 10 seconds to 99 minutes |
| Light Level: | Light to dark |
| Terminal capacity: | 2.5mm ² |
| Material: | Flame Retardant ABS |
| Temperature: | -10°C to 35°C |
| Coverage: | 7m based on a 2.8m ceiling height |
| Control/Adjustment: | Manual controls to rear of sensor head Programming via master handset, CMD/REM4 Control of light levels via user handset, CMD/REM2 |
| Conformance: | EMC – 89/336/EEC LVD – 73/23/EEC |



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Installation

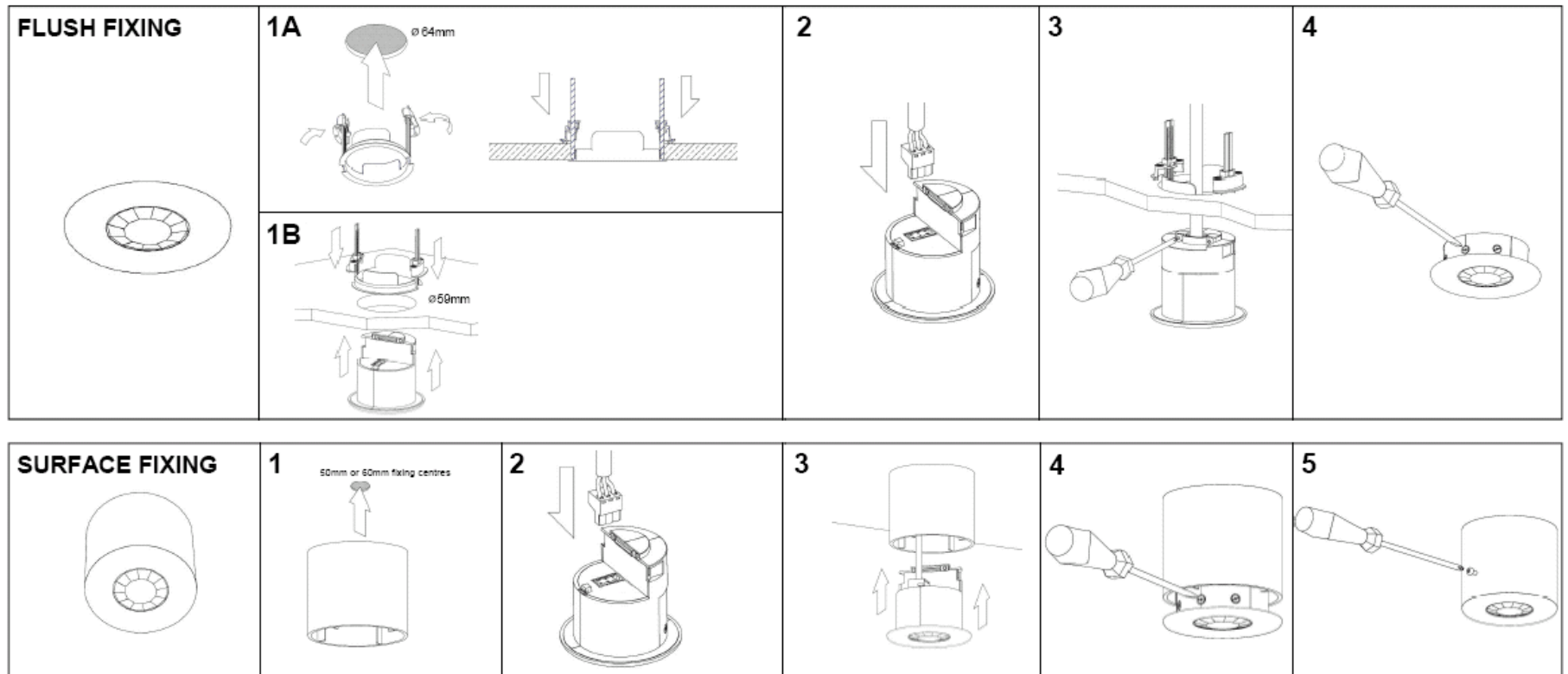
1. Wire the products using the diagrams shown on pages 4-7.
 2. To switch from more than one position simply wire two or more units in parallel using the Live, Neutral, Switched Live and manual switch wires only. The dimming connection must be wired to one unit only.
 3. The detector should be sited so that the occupants of the room fall inside the detection pattern shown on page 10, at a recommended ceiling height of 2.8m. Note that the lower the sensor is installed the smaller the detection range will be, subject to the parameters shown on the diagram.
 4. Avoid direct sunlight entering the sensor.
 5. Do not site within 1m of forced air heating or ventilation.
 6. Do not site within 1m of any lighting.
 7. Do not fix to a vibrating surface.
 8. Mount using one of the three options on page 3.
 9. Connect the sensor via the terminal blocks. Live supply to the **L** terminal; load to the **L/OUT** terminal; Neutral to the **N** terminal on the green terminal block. Dimming / external connections should be made as required according to the applicable wiring diagrams shown on pages 4-7.
 10. Use a small screwdriver to set the LUX level adjuster fully clockwise, the time to minimum (fully anticlockwise) and the sensitivity to maximum (fully clockwise).
 11. Power the unit up—the load should come on immediately.
 12. Vacate the room or remain very still and wait for the load to switch off (should take no more than 2 minutes).
 13. Check that the load switches on when movement is detected.
 14. For dimming applications, set the light output level by using the LUX adjustment thumbwheel or the handset. See pages 8 & 9 for handset operation.
 - During operation the output level varies very gradually. However when the LUX level is changed the unit automatically enters setup mode: in this mode the output level varies rapidly. After the setup time the unit reverts to normal.
 - When adjusting the output, allow the output level to settle by changing very gradually.
 - To disable the maintained illuminance function completely, set the LUX level to maximum.
 15. For non-dimming applications the LUX thumbwheel determines the ambient light level at which the lights turn on.
 16. Select the time using the adjuster, fully clockwise is the maximum.
 17. *Using the CMD/REM2 infra-red user handset: the override on button turns the unit on permanently; the override off button turns the unit off permanently; the cancel button cancels the overrides.*
When an override is selected an LED will flash inside the unit. The user handset can also be used to set the lux levels—see pages 8 & 9.
- Note:** the above adjustments can also be made using the CMD/REM4 Master handset instead of the manual adjusters. See pages 8 & 9.



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Fixing



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Wiring

Single channel dimming

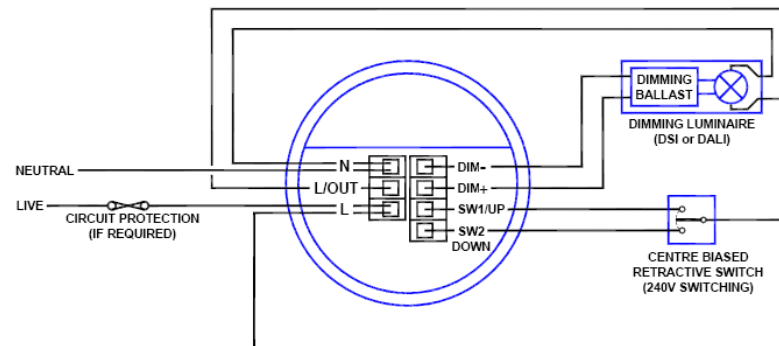
Functions: Switches the luminaire with occupancy and maintains illuminance. Dims and switches using optional centre biased retractive switch (MK K4900 or similar).

Configured to presence detection: Turns on automatically with occupancy. Maintains illuminance. Press and release down switch to turn off. Press and release up switch to turn back on. Press and hold up switch to dim up, press and hold down switch to dim down. Turns off after occupancy.

Configured to absence detection: Press and release up switch to turn on. Maintains illuminance. Press and release down switch to turn off. Press and hold up switch to dim up, press and hold down switch to dim down. Turns off after occupancy.

Channel mode: Set to “Switch and dim together”.

Switch mode: Set to “2 position switch together”.



NOTE - The center biased retractive switch is an optional feature. If the switch is not required, the controller is fully automatic based on occupancy.



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Wiring

Two channel, individual switches

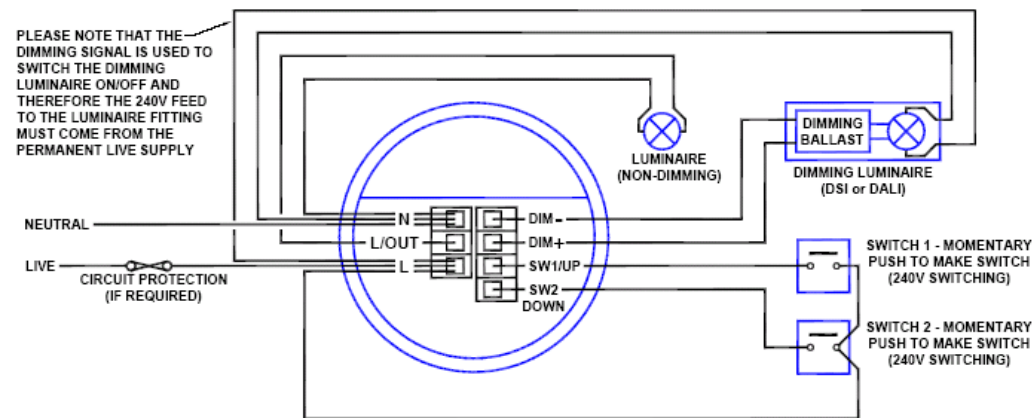
Functions: Switches both channels with occupancy. Maintains illuminance, dims and switches the dimming channel using optional single position retractive switch (switch 2). Switches the switching channel using the optional single position retractive switch (switch 1).

Configured to presence detection: Turns on automatically with occupancy. Maintains illuminance (dimming channel only). Press and release switch to toggle output. Press and hold switch to dim up and down (reverses direction with each press). Turns off after occupancy.

Configured to absence detection: Press and release switch to turn on. Maintains illuminance (dimming channel only). Press and release switch to turn off. Press and hold switch to dim up and down (reverses direction with each press). Turns off after occupancy.

Channel mode: Set to "Switch and dim separate"

Switch mode: Set to "1 position switch separate"



NOTE - The center biased retractive switch is an optional feature. If the switch is not required, the controller is fully automatic based on occupancy.



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Wiring

Two channel, single switch

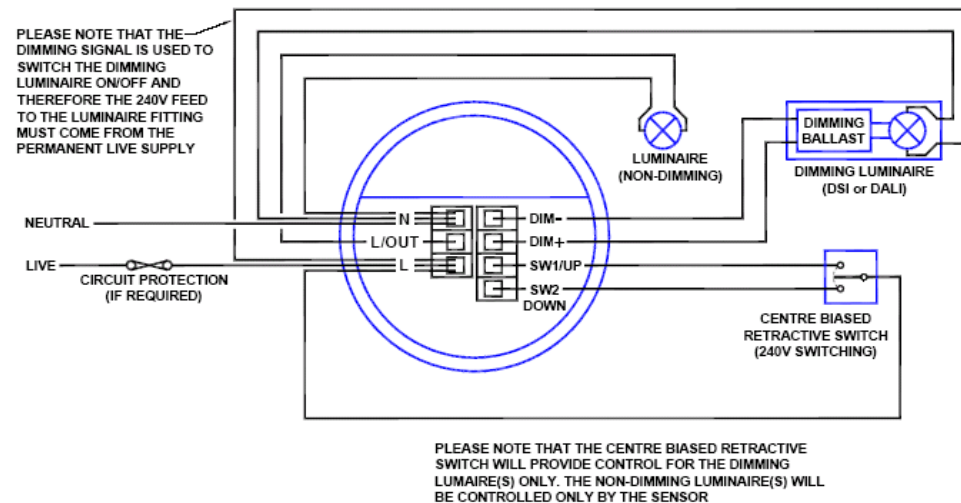
Functions: Switches both channels with occupancy. Maintains illuminance, dims and switches the dimming channel using optional centre biased retractive switch.

Configured to presence detection: Turns on automatically with occupancy. Maintains illuminance (dimming channel only). Press and release down switch to turn off. Press and release up switch to turn back on. Press and hold up switch to dim up, press and hold down switch to dim down. Turns off after occupancy. Channel 1 does not operate with switch.

Configured to absence detection: Press and release up switch to turn on. Maintains illuminance (dimming channel only). Press and release down switch to turn off. Press and hold up switch to dim up, press and hold down switch to dim down. Turns off after occupancy. Channel 1 does not operate with switch.

Channel mode: Set to "Switch and dim separate"

Switch mode: Set to "2 position switch separate"



NOTE - The center biased retractive switch is an optional feature. If the switch is not required, the controller is fully automatic based on occupancy.



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Wiring

Single channel switching

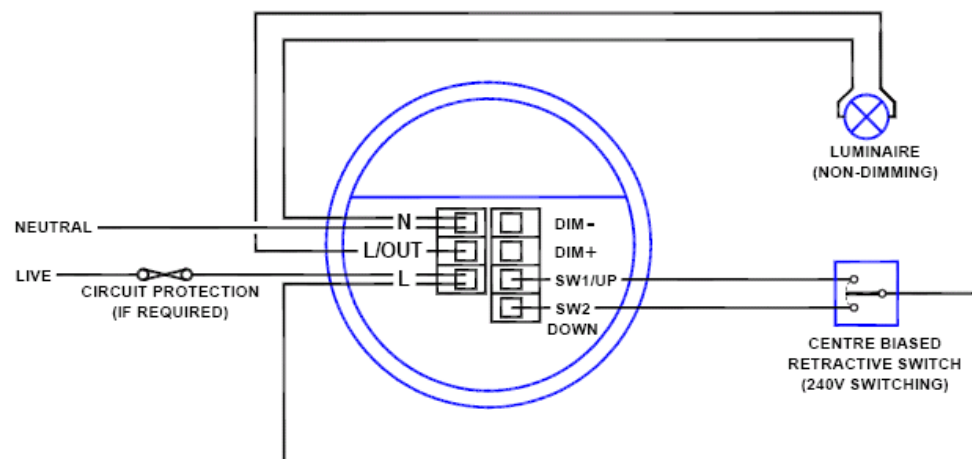
Functions: Switches channel 1 only with occupancy, optional override switch. No dimming output.

Configured to presence detection: Turns on automatically with occupancy. Press and release down switch to turn off. Press and release up switch to turn back on. Turns off after occupancy.

Configured to absence detection: Press and release up switch to turn on. Press and release down switch to turn off. Turns off after occupancy.

Channel mode: Set to "Switch only"

Switch mode: Set to "2 position switch together". Note: a single position switch can be used instead to toggle the output, set to "1 position switch separate".



NOTE - The center biased retractive switch is an optional feature. If the switch is not required, the controller is fully automatic based on occupancy.



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Programming

In most applications the CPD/D can be used with simple manual adjustment. Manual adjustment can be made to the sensitivity, lux and time settings using the controls on the rear of the sensor head. An internal infra-red sensor in the unit allows the unit to be programmed using the optional CMD/REM4 Master handset. This gives complete flexibility over many of the operating parameters. The CMD/REM2 User handset can be used to change output lux levels and override the lights on or off.

All the following functions can be programmed using the remote control CMD/REM4 Master handset:

1. Detector Parameters (factory default in brackets):

- | | |
|-------------------------------------|---|
| 1.1 Time adjustment (20 min) | 10 seconds to 99 minutes time delay (select 0 for 10 second delay – use for commissioning only). |
| 1.2 Sensitivity On (9) | Sensitivity level when the detector is already operational adjustable between 1 (min.) and 9 (max.) |
| 1.3 Sensitivity Off (9) | Sensitivity level for switching the detector on – adjustable between 1 (min.) and 9 (max.). |
| 1.4 Power Up On (Y) | Select No for a 30 second delay on start up. If Yes is selected, there will be no delay on start up and the detector will always power up detecting. |
| 1.5 Walk Test (N) | An LED behind the detector lens will flash to show movement has been detected (use for commissioning). |
| 1.6 Disable Detector (N) | Disables detection, leaving the relay output permanently off with the dimming output operational. This mode is used when the unit is for maintained illuminance only. |
| 1.7 Factory Default | Restores factory default settings. |

2. Modes (factory default in brackets):

2.1 Channel Modes

- | | |
|--|--|
| 2.1.1 Switch only | Usually used for absence detection - in this mode the dimming channel is not used. |
| 2.1.2 Switch & dim together (default) | The detector will switch and dim the lighting together. |
| 2.1.3 Switch & dim separate | Provides 2 channel operation – Channel 1 is switched via the relay output, and Channel 2 is dimmed / switched via the dimming output. This option would be used to control 2 sets of lighting, one set on a switching only basis, with the other on a dimming basis. |

2.2 Switch Modes (only apply if the optional retractive switch is installed)

- | | |
|---|--|
| 2.2.1 2 position switch together (default) | A single centre biased retractive switch will be used to control both channels together. |
| 2.2.2 2 position switch separate | A single centre biased retractive switch will be used to control only the dimming channel. |
| 2.2.3 1 position switch together | A single position retractive switch controls both channels together. |
| 2.2.4 1 position switch separate | Two single position retractive switches, controlling the channels separately. |

3. Switching Channel 1 functions (factory default in brackets):

- | | |
|---|--|
| 3.1 Presence detection (default) | Auto switch on with detection, auto off after movement ceases and time delay ends. |
| 3.2 Absence detection | Manual switch on, auto off after movement ceases and time delay ends. |
| 3.3 Switch level on (9) | Lux level setting to prevent the luminaires being switched on if the ambient light level is sufficient (adjustable between 1 and 9). The luminaires will always be switched on at level 9. |
| 3.4 Switch level off (9) | Lux level setting to switch the luminaires off during occupancy if the ambient light level goes above the setting (adjustable between 1 and 9). Level 9 will always keep the lights on. This setting can be used for “window row switching”. |



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Programming (continued)

4 Dimming Channel 2 functions (factory default in brackets):

- 4.1 Light level** Maintained illuminance level (adjustable between 1 and 999). At 999 the output will be always be at maximum.
- 4.2 Presence detection (default)** Auto switch on with detection, auto off after movement ceases and time delay ends.
- 4.3 Absence detection** Manual switch on, auto off after movement ceases and time delay ends.
- 4.4 Switch level on (9)** Lux level setting to prevent the luminaires being switched on if the ambient light level is sufficient (adjustable between 1 and 9). The luminaires will always be switched on at level 9.
- 4.5 Switch level off (9)** Lux level setting to switch the luminaires off during occupancy if the ambient light level goes above the setting (adjustable between 1 and 9). Level 9 will always keep the lights on. This setting can be used for "window row switching".
- 4.6 DSI (default)** Selects DSI dimming
- 4.7 DALI** Selects DALI dimming
- 4.8 Memorise (N)** If this is set to Yes, the last manual lux level set will be memorised and used as the new switch on level.
- 4.9 On value (99)** Dimming output level when switched on (0-99).
- 4.10 Off value (0)** Dimming output level when switched off (0-99). If set to anything other than 0 the light will not switch off but maintain a background lighting level.
- 4.11 Fade value (10)** After occupancy ceases, this dimming output level is held for the fade time (adjustable between 0 and 99).
- 4.12 Fade mins (0)** This is the time period (adjustable between 0 and 99 minutes) that the luminaire will be held at the fade value before turning off. A value of 0 disables the fade function.
- 4.13 Max value (99)** Maximum dimming output level (adjustable between 0 and 99).
- 4.14 Min value (1)** Minimum dimming output level (adjustable between 0 and 99).
- 4.15 Speed on (40)** Determines the dimming response speed after the setup time has finished. Measured in 0.1 sec intervals.
- 4.16 Speed set (5)** Determines the dimming response speed during the set up time. Measured in 0.1 sec intervals.
- 4.17 Set seconds (120)** Determines how long the dimming response set-up period lasts on powerup or on setting change (adjustable between 1 and 999 seconds). This enables the desired lux level to be achieved rapidly when the lights come on, or during setup.

5 User Menu

CMD/REM4 Master handset menu or CMD/REM2 User handset functions:

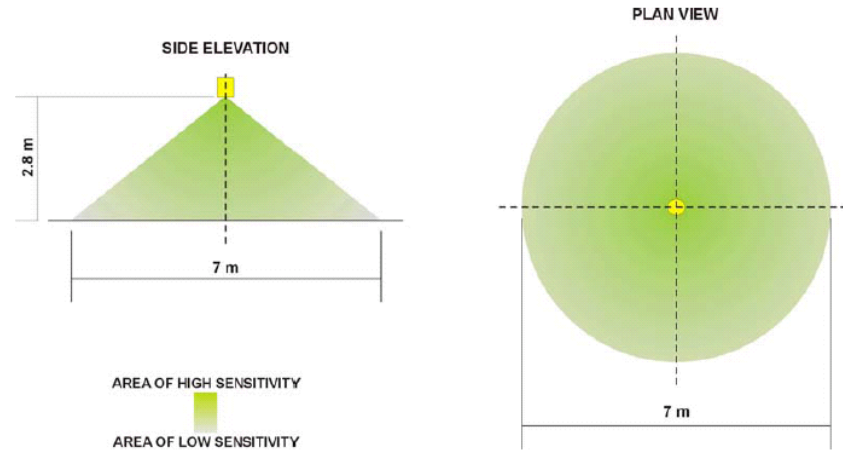
- 5.1 Lux up** Increase light level. Reverts when occupancy cycle complete.
- 5.2 Lux down** Decrease light level. Reverts when occupancy cycle complete.
- 5.3 Scene up** Steps up between 6 pre-defined scenes.
- 5.4 Scene down** Steps down between 6 pre-defined scenes.
- 5.5 Scene #** Select the individual scene, between 0 and 6. (1 = min. output; 2 = 10%; 3 = 25%; 4 = 50%; 5 = 75%; 6 = 100%)
- 5.6 Override on** Permanently overrides the luminaire output on.
- 5.7 Override off** Permanently overrides the luminaire output off.
- 5.8 Cancel** Cancels the on or off override, returning the detector to normal operation.
- 5.9 Set** If sent before using lux up or lux down, it will set the light level as in 4.1



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Detection Patterns



Fault Finding

LOAD DOES NOT COME ON

Check to see if the live supply to the circuit is good. Strap across the *L* and *LIVE OUT* terminal to turn the load on.

If the supply and wiring are good, check the LUX level setting. Increase the LUX level setting to allow the controller to turn on at higher ambient natural light level.

If the detection range is smaller than expected, check the diagram above. Rotating the sensor slightly may improve the range.

LIGHTS DO NOT GO OFF

Ensure that the area is left unoccupied for longer than the selected timer setting.

Make sure that the sensor is not adjacent to circulating air, heaters or lamps.



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