

DARAY[®]

Medical



X340

LED Examination Light

Operating & Installation Manual

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1. Introduction

DARAY's X340 is a state-of-the-art, cost-effective examination light for use during medical or veterinary consultation and diagnosis. The light uses the latest LED technology to give an intense light at the ideal colour temperature for accurate medical diagnosis (without the need for secondary filtering) with virtually no heat. Multiple mounting options are available.

The X340 features a high-output intensity controlled by a button on the rear of the light head. The light operates from a safe low voltage produced by a mains transformer, and has a swivelling, spring-balanced arm system and a rotating head to allow accurate and stable positioning of the light-patch.

The light comprises 3 parts: light-head and articulated arm system, power-supply module, and the mount of choice. The rigid spring-balanced arm allows the light-patch to be placed accurately and stably where it is needed.

All versions are delivered in special-to-type packaging which identifies on the ends of the box the model type and serial number of the light within.

This user & installation guide contains all the information you need for installation, operation and maintenance.

Restrictions and Liabilities

Information in this document is subject to change and does not represent a commitment by DARAY. Changes made to the information in this document will be incorporated in new editions of the publication. No responsibility is assumed by DARAY for the use or reliability of software or equipment that is not supplied by DARAY.

For further information on our product range and find out more about our Company please visit www.daray.co.uk or call 0333 321 0971.

This product was designed & manufactured in Great Britain by:

**Daray Ltd.
Edison House
Robian Way
Swadlincote
Derbyshire
DE11 9DH**

1.1 Supported Lights

The Following Models are supported in this Manual	
X340LC	X340 LED Ceiling Mounted Light
X340LW	X340 LED Wall Mounted Light
X340LR	X340 LED Rail Mounted Light
X340LD	X340 LED Desk Mounted Light
X340LDS	X340 LED Weighted Desk Stand Light
X340LDFM	X340 LED Fixed Desk Mount Light
X340LM	X340 LED Mobile Weighted Base Light
X340LE1	X340 LED Hardwired W3 BESA Wall Mounted Light
X340LE2	X340 LED Hardwired W4 Spreader Plate Wall Mounted Light
X340LE3	X340 LED Hardwired W5 Panel Mounted Light
X340LE4	X340 LED Hardwired W6 Wall Mounted w/ Integral PSU

2. Technical Specifications

Light Source	LED
Light Intensity (Lux) @ 0.5m	64,000 Lux \pm 5%
Light Intensity (Lux) @ 0.75m	30,000 Lux \pm 5%
Light Intensity (Lux) @ 1.0m	17,000 Lux \pm 5%
Light Intensity Adjustment Range	10% - 100%
Colour Temperature (Kelvin)	4,300K \pm 500
Colour Rendering Index (CRI)	95
Colour Rendering (R9)	88
Light Field Diameter (D50)	@ 0.5m: 90mm
	@ 0.75m: 125mm
	@ 1.0m: 175mm
Light Field Diameter (D10)	@ 0.5m: 220mm
	@ 0.75m: 255mm
	@ 1.0m: 340mm
Number of LED's	6
Power Consumption	14W 0.2A
Average Working Life	>50,000 Hours
Input Voltage	100 - 240V AC 50/60 Hz
Output Voltage	30V DC 1A (X340LC + X340LE4) 24V DC 0.75A (X340LM) 24V DC 1.9A (X340LD/FDM/S + X340LW + X340LR + X340LE1 + X340LE2 + X340LE3)
Temperature Rise on Patient/User	\leq 2 °C
Warranty Period	5 Years
NHS E-Class Code	FBU, FKR
Commodity Code	9018 908400
GMDN Code	12276

2.1 Pre-Installation Responsibilities and component packing list

This document is a guide to the steps that need to be performed to correctly install the X340 Examination light. However, the work required to be performed is the responsibility of the owner or designated contractor/s.

All fixings between DARAY lights and the building super-structure must be approved by either the chief project engineer or an appropriate and competent structural assessor.

The components supplied by DARAY for fitting / installation should be the following items in the specified quantities.

X340LD/FDM/S	Qty.	X340LW	Qty.
24V Plug top transformer	1	24V Plug top transformer	1
Desk Clamp/Fixed Desk Mount/Desk Stand	1	Wall bracket + fixings	1
Light head and rigid arm system	1	Thumb Screw for Wall Mount	1
Microfibre cloth	1	Light head and rigid arm system	1
User Manual	1	Microfibre cloth	1
		User Manual	1

X340LR	Qty.	X340LM	Qty.
12V Plug top transformer	1	IEC Cable (3m)	1
Rail Clamp	1	24V PSU + bracket kit	
Thumb Screw for Rail Clamp	1	Mobile base (3 pieces)	1
Light head and rigid arm system	1	Light head and rigid arm system	1
Microfibre cloth	1	Microfibre cloth	1
User Manual	1	User Manual	1

X340LE1	Qty.	X340LE2	Qty.
24V Transformer	1	24V Transformer	1
BESA Wall Bracket (W3)	1	Spreader Plate Wall Bracket (W4)	1
Light head and rigid arm system	1	Light head and rigid arm system	1
Microfibre cloth	1	Microfibre cloth	1
User Manual	1	User Manual	1

X340LE3	Qty.	X340LE4
24V Plug top transformer	1	Light head and spring rigid arm system incl. base box (transformer integrated)
Panel Mount Bracket (W5)	1	Microfibre cloth
Light head and rigid arm system	1	User Manual
Microfibre cloth	1	
User Manual	1	

2.2 Pre-Start Checks



Please check that the power cable is without visible damage, harsh folds, knots or cuts in the rubberised coating.



When applicable, please check that the cable is fully inserted into the power socket, before switching the power on.



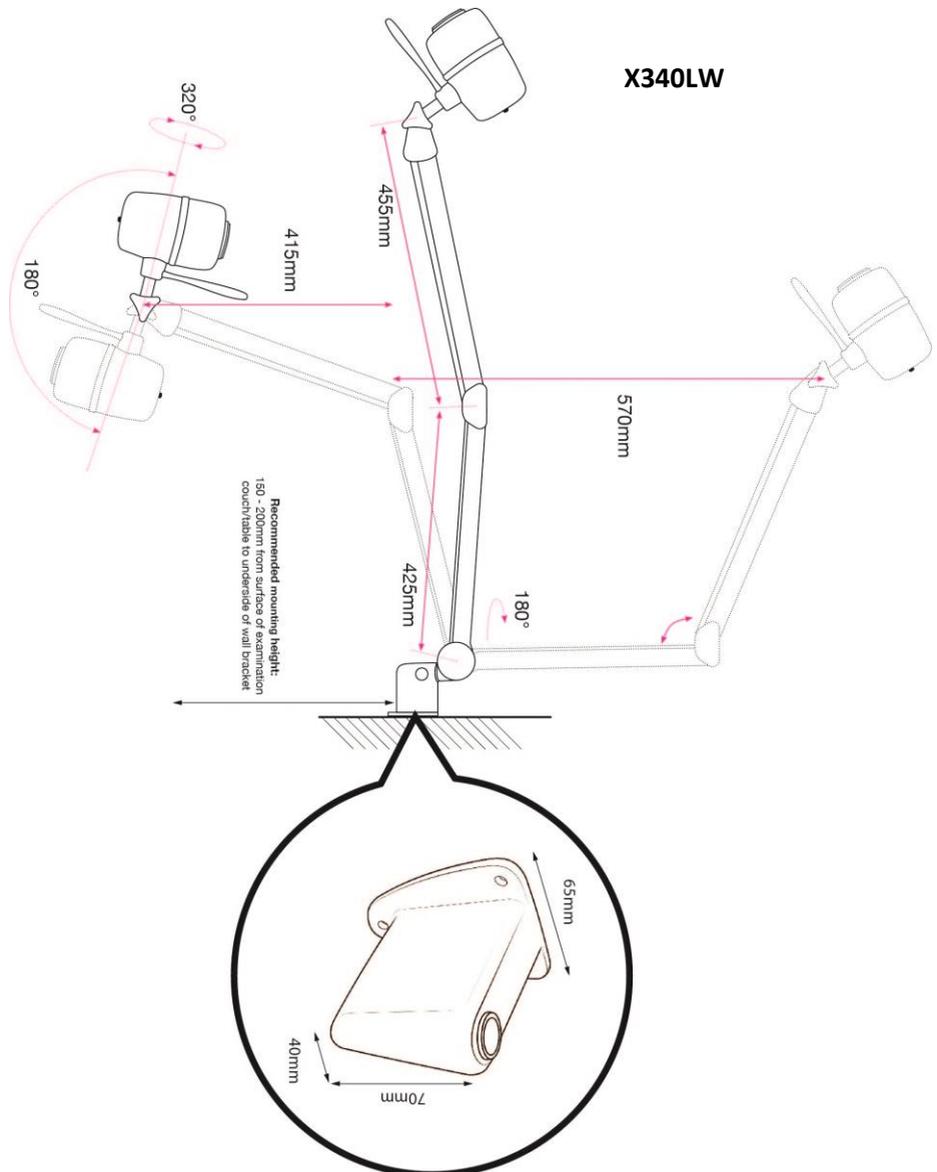
Please check that the head and all parts of the base are without visible damage.

3. Operation

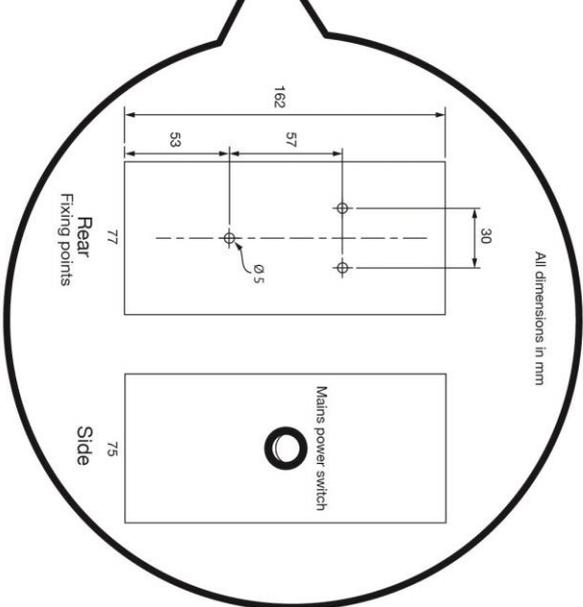
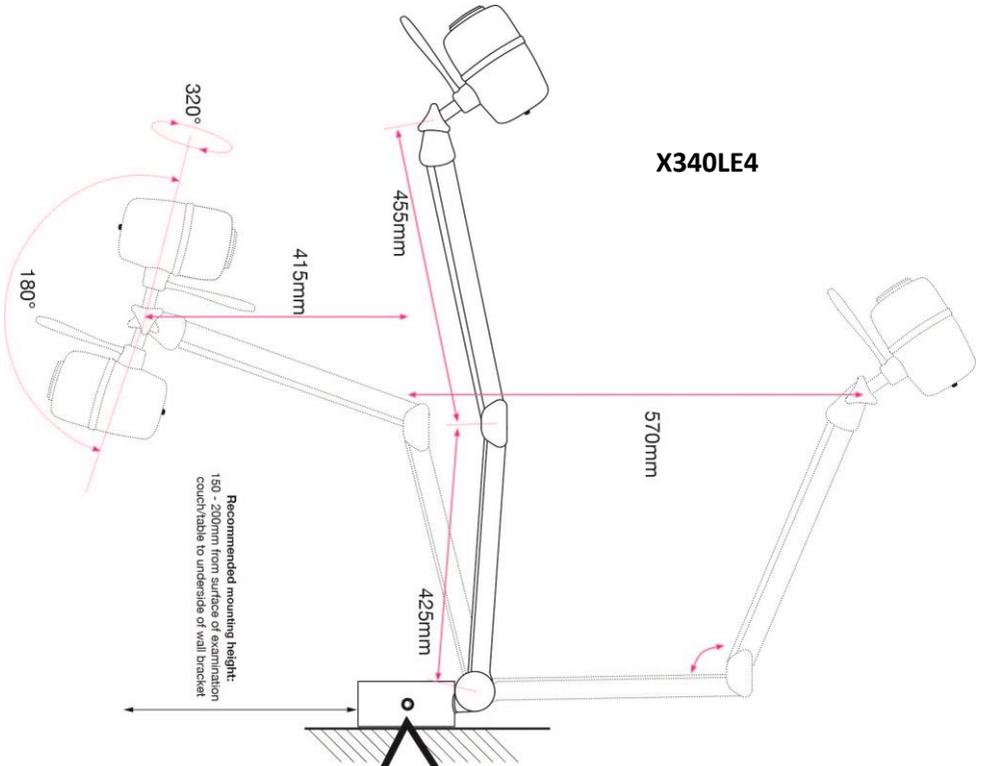
3.1 Range of Motion

The full range of motion between the X340 Range varies.

This is an image depicting the range of motion on a standard wall mount fitting.

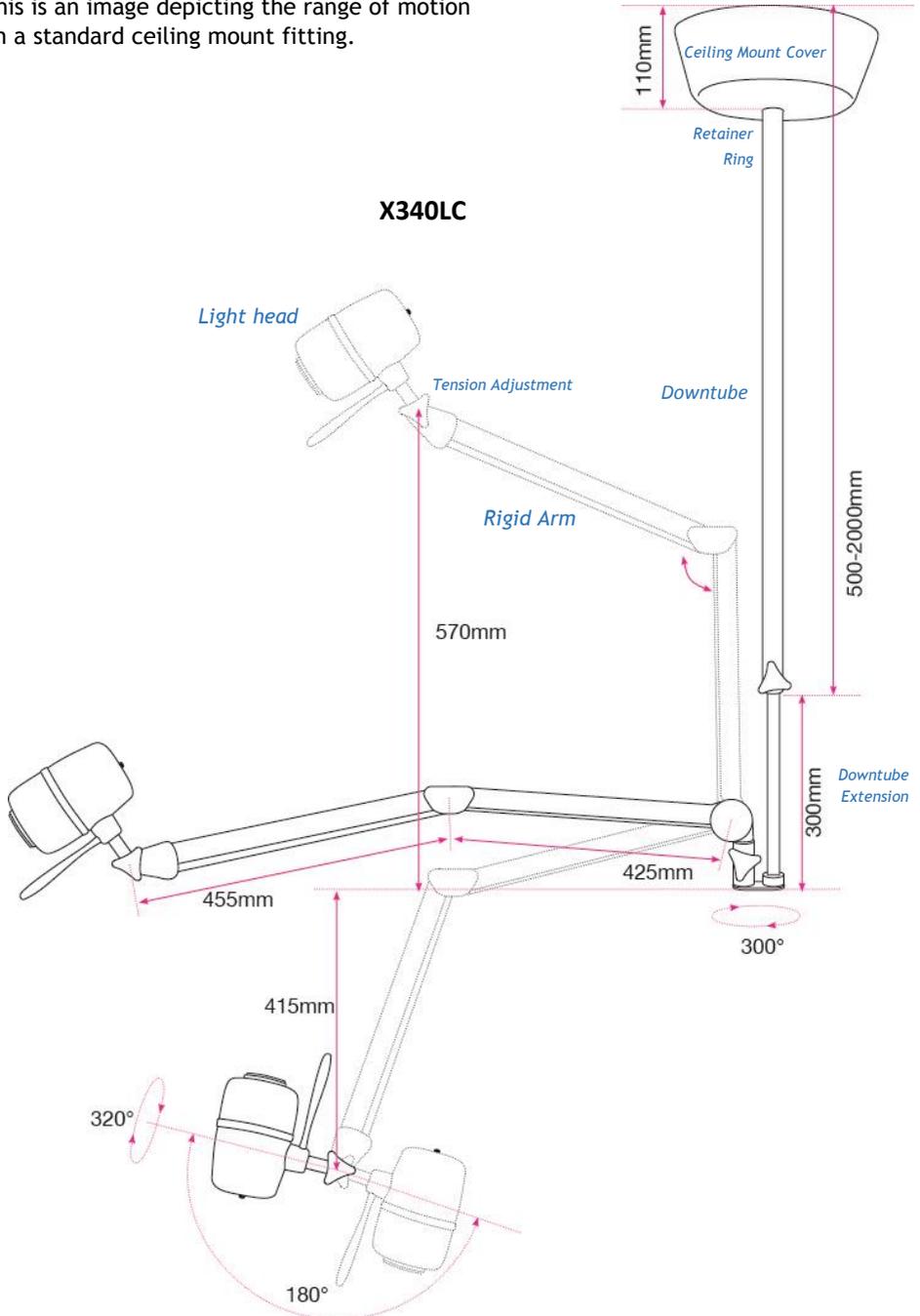


X340LE4



All dimensions in mm

This is an image depicting the range of motion on a standard ceiling mount fitting.



3.2 Powering On & Variable Intensity

The X340 uses a single button on the back of the head to power the light on and off. This switch also controls the lights variable intensity

- Press the power button to power ON or OFF.
- Press and hold the power button to adjust the intensity. It takes approximately 5 seconds to switch between the highest and lowest settings. Release the button when at a comfortable setting for the user.

Note: The variable intensity control has a memory function; whereby, if the light is turned off at a dimmed level, it will remember that level the next time it is turned on.



3.3 Adjusting the Light Head

The X340 head is secured using a pivot adjustment knob on the right hand side of the arm, near the head. This also controls the forward and backward motion of the head itself.

DO NOT confuse this with the tension adjustment knob on the left side - see *section 5.6 (Page 35)*.



Loosening this thumb screw will allow you to pivot the light-head up or down.

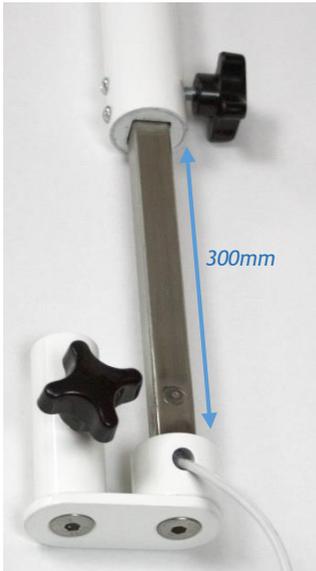
The head has a total turning capability of 320 degrees, attempting to push further may cause damage to the movement and internal wiring of the light.

NOTE: Care should be taken not to over tighten the screw.

3.4 Operating the Downtube

On the ceiling mounted version (X340LC), the inner extension arm in the downtube extends to a maximum of 300mm - *see below image*.

This extension is controlled by a thumb screw located around the back of the primary downtube.



Loosening the thumb screw will allow you to reposition the light to the required height. **Please ensure you use your free-hand to control the speed that the light lowers at, to make sure it doesn't freely drop.**

4. Installation

4.1 Wall mounted versions

Compatible versions: X340LW / X340LE1 / X340LE2 / X340LE3 / X340LE4



The wall bracket needs to be true on the vertical plane.



PIVOTW2: supplied with X340LW



PIVOTW3: supplied with X340LE1



PIVOTW4: supplied with X340LE2



PIVOTW5: supplied with X340LE3



PIVOTW6: supplied with X340LE4

4.1.1 Considerations

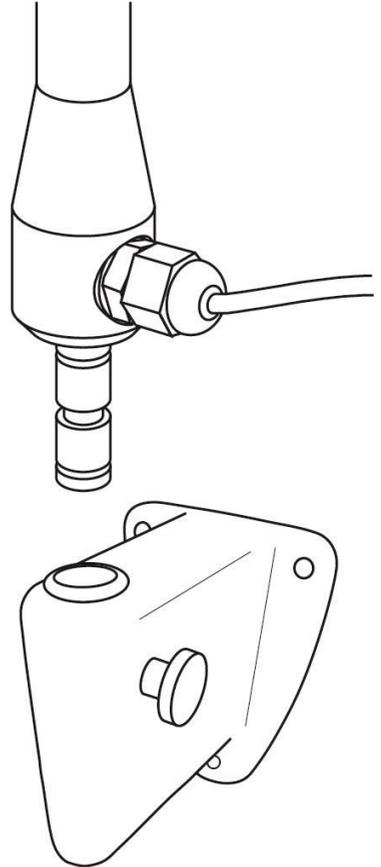
<p>Wall Construction</p>	<p>Before fixing it is important to consider the strength of the wall and the depth of the fixings used.</p> <p>Use of a building engineer or structural drawings may be required to decide on suitability.</p>
<p>Examinations to be undertaken</p>	<p>We recommend the bracket be installed approximately 850-1100mm from the floor to the underside of the bracket - dependent on couch height.</p> <p>It may be necessary to adjust this height, if there are specific medical procedures the light will be used for. If in doubt consult the end user or DARAY. When installing the bracket take consideration of where you want the light head to sit when in its lowest position.</p>
<p>Locations of nearest mains sockets</p>	<p>The X340 wall mounted light uses a plug-top transformer with a DC jack connection. Only the supplied certified power adapter should be used with the light.</p> <p>The length of this cable is approximately 1.8m so the wall mounted light should be within 1.5m of a mains power point.</p> <p>NOTE: The following versions are not supplied with a plug-top transformer (X340LE1 / X340LE2 / X340LE3 / X340LE4). A separate transformer is supplied to make a hardwired connection.</p>

4.1.2 X340LW - Placement and Installation

- Remove the light from its packaging.
- Mark on the wall the selected location for the wall-mounting bracket, bearing in mind the final position of the light head required to project its light-patch where it will be needed.

We recommend 850-1100mm from the floor to the underside of the bracket - dependent on couch height. Ideally, the underside of the bracket should be 150-200mm above the couch.

- Taking note of the considerations in section 4.1.1, mount the PIVOTW2 wall bracket directly to the wall. Use a spirit level to ensure the bracket is on a true vertical plane.
- Once the bracket is installed, turn the thumbscrew anti-clockwise to allow a clear path through the hole, and then slide the light spigot directly into the hole in the bracket. Make sure the light is fully pushed in.
- Tighten the thumbscrew to secure the light in position.

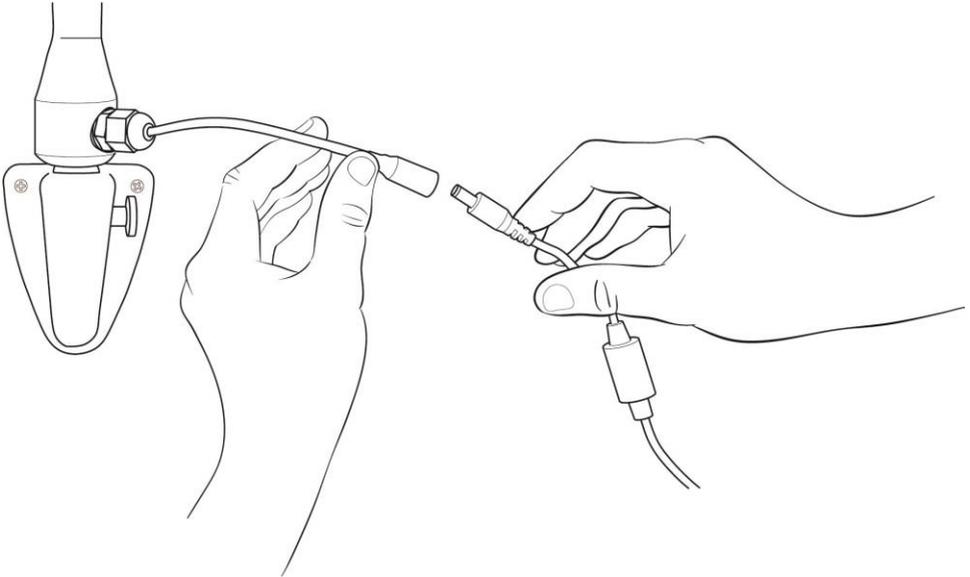


The power supply for the X340LW is a plug top transformer with a DC jack connection, these can be inserted into any standard UK wall socket.



Please note, under no circumstances should this product be connected directly to the Mains electrical supply, this product requires a Low Voltage Connection only and must only be used with a Daray Certified Power Adapter.

The light can now be tested by connecting the DC jacks and applying power. Press the switch on the head to power your light on. *See page 12*



Check arm and head for smooth and correct movement. Your new DARAY light is now ready for use.

To gain full support of our warranty please fill in our warranty web form or contact DARAY by phone or email.



We also provide service plans to help you maintain your light. Contact DARAY on **0800 878 9864** for more details.

4.1.3 X340LE1 – Placement and Installation

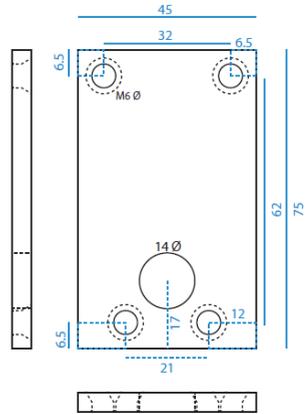
- Remove the light from its packaging.
- This version includes our PIVOTW3 BESA mounting bracket, for mounting to a BESA box.
Ensure the BESA back-box is mounted between recommended 850-1100mm from the floor to the underside of the bracket - dependent on couch height. Ideally, the underside of the bracket should be 150-200mm above the couch.
- A separate transformer is supplied.
- Run low voltage cable (not supplied) between the BESA, through trunking, to the transformer location.
- Fit light into PIVOTW3 and make electrical connection, observing polarity.
- Fix the PIVOTW3 bracket to the BESA box (screws not supplied). Ensure a secure fit.
- Power the transformer and test the light.

4.1.4 X340LE2 – Placement and Installation

- Remove the light from its packaging.
- This version includes our PIVOTW4 spreader plate wall mounting bracket. Suitable for fixing to all wall types, including brickwork. A separate power supply is included.
- Mark on the wall the selected location for the wall mounting bracket, bearing in mind the final position of the light head required to project its light patch where it will be needed.
We recommend 850-1100mm from the floor to the underside of the bracket - dependent on couch height. Ideally, the underside of the bracket should be 150-200mm above the couch.
- Taking note of the considerations in section 4.1.1, mount the PIVOTW4 wall bracket directly to the wall. Use a spirit level to ensure the bracket is on a true vertical plane.
- Once the bracket is installed, turn the thumbscrew anti-clockwise to allow a clear path through the hole.
- Slide the light spigot directly into the hole in the bracket. First, make sure to thread the cable through the Make sure the light is fully pushed in.
- Tighten the thumbscrew to secure the light in position.

4.1.5 X340LE3 – Placement and Installation

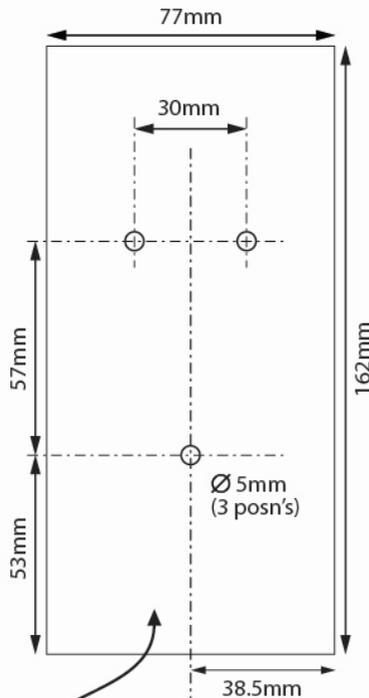
- Remove the light from its packaging.
- This version includes our PIVOTW5 panel mounting bracket.
- Fit front bracket and rear plate to pre-drilled panel.
- Fit light spigot into bracket and pass cable through to the rear of panel.
- Make electrical connection to transformer.
- Fit pre-drilled panel to panel mount.
- Apply power and test light.



Backing plate dimensions and fixing points

4.1.6 X340LE4 - Placement and Installation

Wall mounting box dimensions:



Rear of box showing wall fixing points.

CAUTION: This product must be earthed.

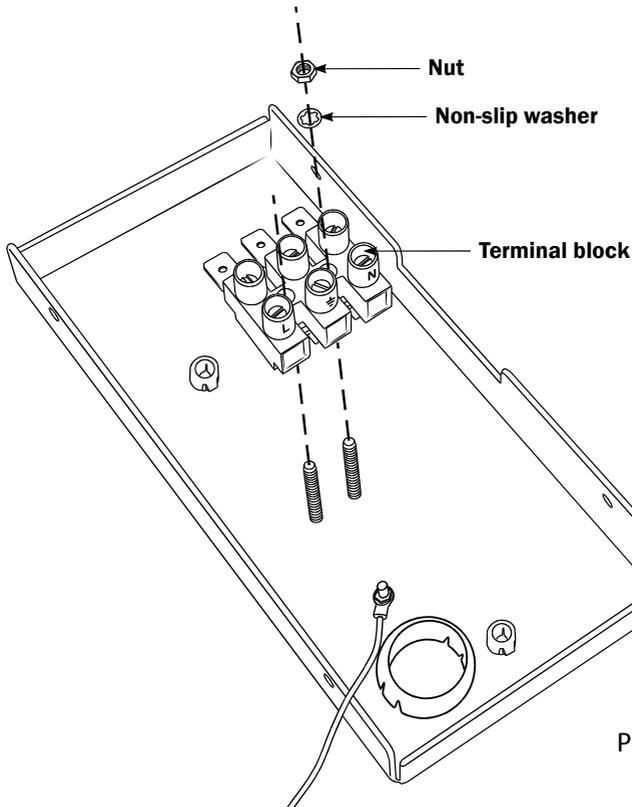


Check you have all of the items included in the checklist on Page 7

Note the mounting position advice and warnings offered in Section 4.1.1 Considerations on page 10

Flush-fitting the wall box (chased-in cables):

- Remove the 4 cover screws from the wall mounting box with the hex wrench provided
- Feed the mains supply via the cable entry hole on the back plate
- Connect the mains supply to the fused terminal block found on the back plate
- Using the back-plate as a template, mark its position on the wall, bearing in mind the final position of the light-head. *Fixing point dimensions on page 16 of this manual*
- Fix the bracket to the wall
- Fit the power supply module to the wall bracket with the 4 cover screws
- Switch the power on and check for correct operation



4.2 Rail mounted version (X340LR)

- Remove the light from its packaging.
- *If you have also purchased our XRAIL accessory*, hold the rail against the selected location on the wall, bearing in mind the final position and range of travel of the light-head required to project its light patch where it will be needed.
- Ensuring the rail is horizontal; mark the positions for the 2 screw holes.
- Fix the rail to the wall, using appropriate plugs as necessary and the 2 screws provided.

NOTE: Slide the screw-head cap retainers the correct way up onto the screws before fitting the screws!

- Fit the screw-head caps.
- Ensure the rail end caps are properly fitted.
- Slacken sufficiently the light clamp to allow the clamp to pass over the rail and fit the light to the rail.
- The light can be moved along the rail by slackening the clamp slightly and not sufficiently to allow the light to become detached from the rail.

4.3 Desk mounted versions (X340LD / X340LDS / X340LFDM)

X340LD (includes PIVOTD2 desk clamp)

- Remove the light from its packaging.
- Slacken the desk clamp so that its jaws just clear the desk edge.
- Tighten the clamp sufficiently to provide a rigid mounting for the light.
- Fit the spigot on the end of the light arm into the top of the clamp, make sure it is fully secured in place.
- Apply the power cable, and power the light on. *See page 9.*

X340LDS (includes PIVOTS weighted base)

- Remove the light from its packaging.
- Fit the spigot on the end of the light arm into the top of the weighed base, make sure it is fully secured in place.
- Apply the power cable, and power the light on. *See page 9.*

X340LFDM (includes PIVOTFDM fixed desk mount)

- Remove the light from its packaging.

- Mark the position on the desk for mounting. Use screws to fix the bracket securely.
- Fit the spigot on the end of the light arm into the top of the clamp, make sure it is fully secured in place.
- Apply the power cable, and power the light on. *See page 9.*

4.4 Mobile version (X340LM)

See instructional sheet for mobile base.

- Remove the light from its packaging.
- Place the castor base on firm ground and insert the upstand into the hold located in the centre.
- Placing hands on the top of the upstand, push down with a firm pressure until the upstand is fully inserted.

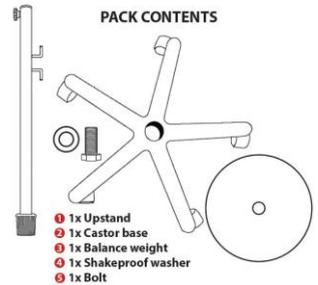
NOTE: Insertion of upstand may be very tight, and may require the use of a wooden or rubber mallet to tap the upstand downward.

- Rest the mobile base on its side. Push the bolt through the washer and weight plate. Align the bolt with the threaded hole in the bottom of the upstand, insert bolt and turn in a clockwise direction until tight.

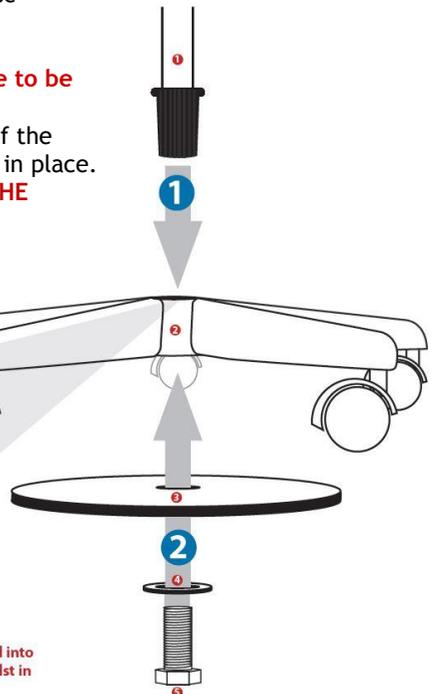
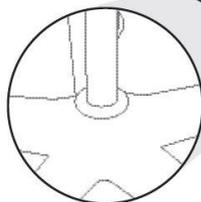
WARNING: Do NOT over tighten the bolt. Once fitted, the upstand will not be able to be removed from the castor base.

- Insert the light-arm's spigot into the top of the upstand and tighten the knob to secure it in place.

WARNING: DO NOT LIFT THE LIGHT BY THE ARM AS THIS CAN CAUSE DAMAGE



Assembly requires a 22 mm spanner and may require use of a mallet

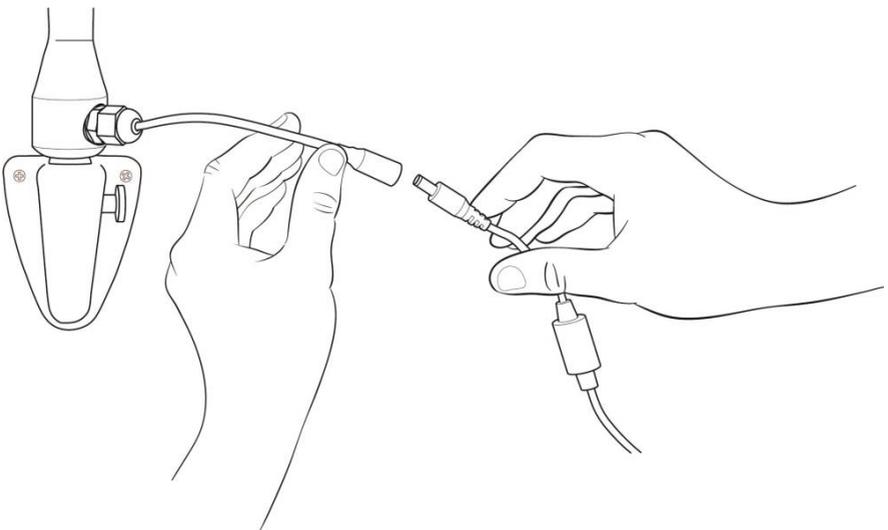


WARNING: If the upstand is not fully inserted into the castor base, it may become unstable whilst in operation

- Insert the orange IEC cable into the black power supply attached to the base upstand.



- The light can now be tested by connecting the DC jacks between the power supply and the light, and applying power. Press the switch on the head to power your light on. See section 3.2.



4.5 Optional battery back-up

- Connect the supply cable from the 5525 OUT socket of battery back-up unit, insert the yellow end into the upstand terminal.
- Connect the plug top transformer to the 5521 IN/OUT connector on the battery backup unit.
- Insert the Plug-top transformer into a 13amp wall socket
- Turn the battery back-up unit on with the switch located on the top of the unit.
- Turn the light on at the light-head in the usual way.
- Your new light and battery back-up unit are ready to use.



4.6 Ceiling Mounted version (X340LC)

4.6.1 Considerations



The procedures below are detailed to a high level however ***If in doubt please consult a qualified electrician.***

Minimum Room Requirements	The X340 ceiling mounted light has an internal extension that protrudes out from the main downtube, considerations for this and the amount of downtube required to fixing into the ceiling plate means that the minimum length of downtube is 500mm. Therefore the minimum allowed room height is 2.4m
Maximum Room Requirements	Please note, if the fixing point of the light is above 3.9m then a uni-strut platform and a 2m downtube will need to be constructed to bring the ceiling plate down to the required height.
Live Electric Circuitry	All personnel working around live circuitry should be qualified and following proper procedures
Heavy or Difficult fittings	Fitting the ceiling plate can be difficult and aspects of the fitting may require more than one person; this work should only be attempted by appropriate and competent personnel.
Existing Environmental Factors	When fitting, considerations have to be taken for existing services such as; fire alarms, vents, lights, etc. along with interior ceiling construction and any surrounding hazard.
Environmental Responsibility	Once our products are installed all packaging should be disposed of appropriately and recycled where appropriate and in accordance with local governing regulations.

These instructions are based on the assumption of a fresh fit into a room with no previous lighting structures. With installations onto sites with equipment already in place, we recommend that the previous lights' mounting plate be removed and the new one fitted as if into a fresh fitting.

After concluding the structural stability of the ceiling structure it will be necessary to assess the construct and decide on the best course of action for installing the ceiling plate. There are various different methods for loading the plate onto the ceiling, below are various example methods that can be used.

4.6.2 Attachment methods and void suspension

Please note, the minimum room height allowed for fixing requires the bottom of the ceiling plate to be no lower than 2.4m.

- **Bolted Directly into the structure and secured with chemical bonding**

This is our primary choice for mounting our lights to the ceiling structure, appropriate rawl bolts and chemical bonding should be used to secure the fitting.

- **Bolted to a Uni-strut Construct**

When using a uni-strut construct for mounting the ceiling plate, you should ensure that the uni-strut is cross braced to ensure it is secure and does not move.

- **Weight dispersed over several timber frames**

This can be used when fixing the light to a timber frame structure in a room with a suspended ceiling. We recommend sandwiching or affixing uni-strut to the timber with a span of at least 4 rafters / joists with the uni-strut and then fixing the ceiling plate to the strutting to disperse the weight.

4.6.3 Lighting configuration

Dependant on the choice of attachment method, and whether the light is being attached in a void or directly onto an open surface ceiling; custom mounting aspects may be required.

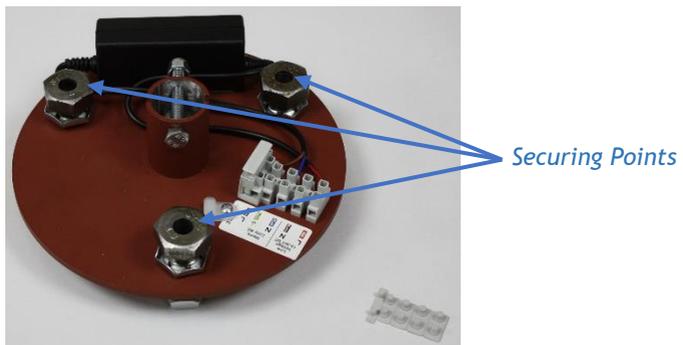
DARAY's standard mounting recommendation is to have the ceiling plate directly bolted into the structure when possible. This would also be suitable for non-voided areas with use of a DARAY standard ceiling mount cover.

Ultimately the mounting method used is the responsibility of the project engineer or fitter. This includes the specification of attachment hardware, lateral bracing and the suitability of the surface to be fixed to.

4.6.4 Affixing the Ceiling plate

The location of the light should be decided by the end user / project manager or through schematical drawings.

Once the location has been decided it will be necessary to first mark the location of the securing points. This is done by placing the ceiling plate on the roof and using the holes in the plate as a template, mark the locations of the securing points on the fixing structure.



Remove the plate, now drill holes relevant to the structure and securing bolts used. Please use appropriate fixings when securing the plate to the ceiling.

Once the plate has been fitted, it will be necessary to ensure that it is balanced on the horizontal plane. This can be achieved by adjusting the three large bolts. After any adjustment it will be necessary to check that all fixings are still sound and that locking nuts are tight.

4.6.5 Wiring and transformer layout



Before working on electrical connections please make sure that the power to the light is switched off at the source and secured so that it will not be turned on during your work.

Ideally the cable used to power the light should be of a 1.5mm twin and earth type. DARAY recommends that the power supplied uses an earthed switched fused spur, protected with a 3amp fuse.

The wiring should be as follows:

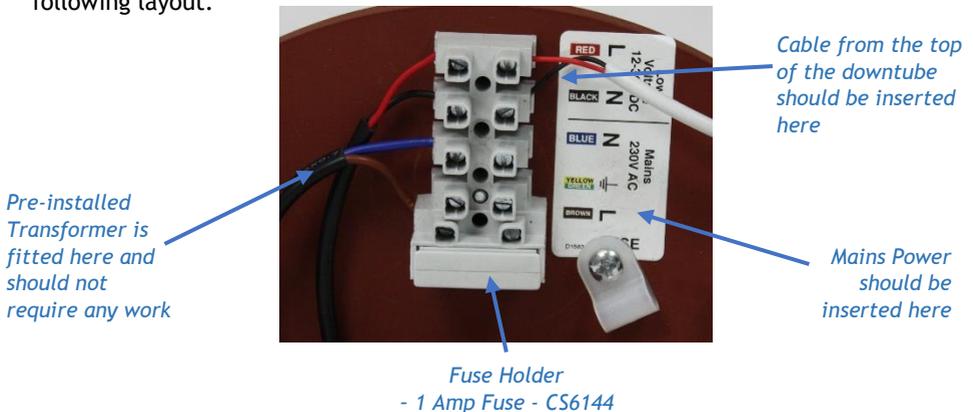
Live terminal → **brown wire.**

Neutral terminal → **blue wire.**

Earth terminal → **green/yellow wire.**

The above wiring is for modern wiring applications (post 2000). On completion of the wiring, the next process is to determine the length of the downtube.

Take the cable from the downtube and attach the wires to the choc block in the following layout.



The cabling leading to the transformer is black and should already be attached. To connect the cabling from the transformer into the main power we recommend you use an earthed switched fused spur.

4.6.6 Downtube adjustment and installation

The downtube provided will be either 1m as standard or 2m (optional) maximum. It is DARAY's recommendation that the bottom of the downtube is approximately 1900mm from the floor, therefore **the minimum room height suitable for the ceiling mounted light is 2.4m.**

Below is a quick table showing situational examples of what length downtube would be required

Height of Ceiling Plate from Floor	Length of Downtube Required
2.4m	500
2.65m	750
2.9m	1000
3.4m	1500
3.9m	2000

The minimum length the downtube can be cut to is 500mm; this is due to the space required for the internal second arm and the space required to attach the downtube to the ceiling plate.

When cutting the downtube to length it is highly recommended that you pull the wire back through the downtube so that you don't cut through it. This can be achieved by extending the secondary internal arm and pulling the wire down through the hole in the bottom.





Once the downtube has been cut to length it will be necessary to de-burr the end of the pipe, we also recommend doing this to the inner and outer edges of the safety bolt's drill hole as this will prevent damage to the cable.

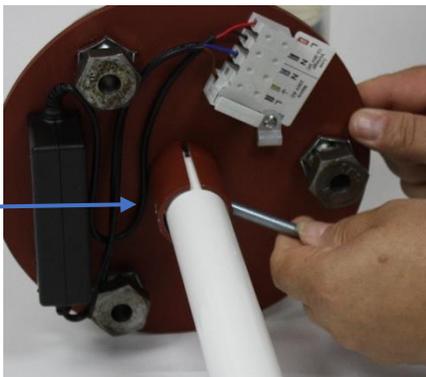
Before drilling the safety bolts hole, please direct spigot on the bottom the downtube toward the centre of the examination area to allow the best range of motion over the examination area.

Direct this part of the downtube toward the centre of the examination area



With the downtube directed it should be loosely fitted between the two metal clasps and then holes should be marked on the tube for where the safety bolt will go through; then remove the downtube and secure for drilling. A 7mm hole should be drilled through the downtube on both sides to allow the bolt to pass through.

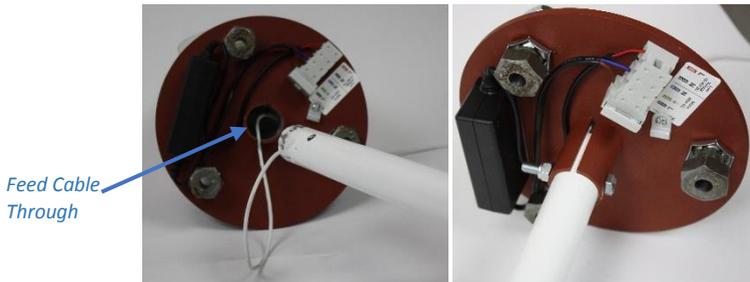
Mark the location of this hole and drill



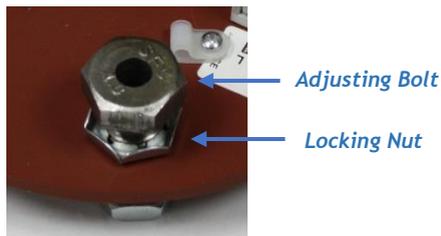
Now you should put the rubber retainer ring onto the downtube followed by either the ceiling trim or ceiling mount cover. This is to allow the covers to be fixed into position after you have attached the downtube to the ceiling plate.



Thread the wire back through the downtube and the hole in the middle of the ceiling plate; then place the downtube between the clasps on the ceiling plate. Slide the safety bolt through the clasps and the downtube (being careful not to catch the wire). Be sure to tighten the safety bolt and the nylon locknut.



It will be necessary to ensure that the downtube is absolutely vertical. To prevent arm drift. This can be achieved by adjusting the three bolts on the plate, then use the locking nut on the bolts to lock the adjustment. After any adjustment it will be necessary to check that all fixings are still sound and that locking nuts are tight.



Now push the ceiling cover up onto the mounting bracket and roll up the rubber retaining ring to stop the cover from dropping back down.

4.6.7 Light head and arm fixing

Lubricate the Spigot and insert arm into downtube and tighten the thumb screw.



Care should be taken not to over tighten the screw.

Now simply attach the cables using the DC jacks coming out of the arm and the downtube together.



The light can now be tested by applying power and pressing the power button on the back of the head.

Check the arm and head for smooth and correct movement. Your new DARAY light is now ready for use.

To gain full support of our warranty please fill in our warranty web form or contact DARAY by phone or email.



DARAY also provide service plans to help you maintain your light.
Contact DARAY on **0800 878 9864** for more details.

5. Maintenance

The proposed maintenance is only a suggestion. Depending on the use of the product and the operating environment, this may need to be revised more often.

DO NOT ATTEMPT ANY FIXES BEFORE CONSULTING DARAY.

If you cannot resolve a problem then please contact our helpline on **0800 878 9864** or email **support@daray.co.uk**

5.1 Maintenance schedule

Weekly checks should include:-	Range of movement testing, it should be light and easy to move throughout the range
	No visible signs of excessive wear.
Monthly checks to include:-	Check the joints and thumb screws for wear and report as necessary
Six monthly checks to include:-	Remove head and clean the interior of the hinge
	Remove arm, clean spigot and re-grease as necessary.
	Check all electrical connections are sound and that there is no visible cable wear.
	All fixings to be checked and be of sound construction.

5.2 Safety Precautions

- For all cleaning work, power off the equipment and where possible unplug the mains socket, only minimal cleaning fluids should be used.
- Please do not look directly into the light source when illuminated.
- If the equipment is dented or scratched this should not impact the usability of our lights however we advise that if the BioProtect® coating is damaged and the metal casing underneath is visible, please do not attempt to ‘paint’ over it as this will impact upon the effectiveness of the coating, simply use an alcohol based cleaning spray when cleaning and pay special attention to the cut.



If there is damage to the power cable or if exposed wire is visible
DO NOT USE

5.3 Product Cleaning & Care Guidelines

The X340 Range features BioProtect® antimicrobial coating on all painted surfaces and has a fully-enclosed head with an Ingress Protection (IP) rating of 54.

These guidelines are provided to help you maintain your equipment properly and prevent any damage. Use of incompatible cleaning chemicals can adversely affect the finish and physically damage the metal and plastic parts of the DARAY product, invalidating its warranty.

Please ensure these instructions are passed to the persons responsible for cleaning and they are followed before each use.

Manufacturers recommended cleaning method:

1. Turn off the power to the light, and where possible, unplug the mains socket.
2. Remove noticeable contamination. Pay special attention to the light head and handle.
3. Ensure the equipment is surface-cleaned and disinfected using an appropriate, non-abrasive cleaning agent (see recommended list below).
4. Dry all surfaces thoroughly with a clean cloth and check for damaged surfaces, discolouration and/or contamination.

NOTE: Some DARAY products feature our BioProtect® antimicrobial coating on painted finishes. This is designed to assist with infection control and is not a replacement for cleaning.

CAUTION: Our products are NOT waterproof. The equipment and accessories (included chargers and battery packs) MUST NOT at any point be saturated, to prevent water ingress. Use a damp cloth or saturated wipe if necessary. All electrical safety guidelines should be followed.

Any damage caused as a result of not following these guidelines will void any product warranty.

Below is a partial list of recommended surface agents:

- 
- Cavicide™ products
 - Isopropyl alcohol-based cleaners (<40% alcohol)
 - Ethyl alcohol-based cleaners (<40% alcohol)
 - Lysol® disinfectant
 - Other non-bleach and non-abrasive disinfectants or cleaners

DO NOT USE agents containing the following:

- 
- Organic, mineral and oxidizing acids (min. pH value 8.5)
 - Bases (max. acceptable pH value 8.5)
 - Oxidation agents (e.g. Hydrogen Peroxide)
 - Halogens (chlorine, iodine, bromide)
 - Aromatic/halogenized hydrocarbons
 - Bleach-based cleaners (e.g. Clorox™, Sterilox™)
 - Abrasive cleaners (e.g. Comet Cleaner™)
 - Acetone-based cleaners (e.g. nail polish remover, Goo-off™)
 - MEK (Methyl Ethyl Ketone)

If you are unsure whether you are using the correct cleaning fluids on your DARAY equipment, please feel free to get in touch with us for advice.

5.4 Detaching Parts

De-construction of the lights should be done following a reverse order of the instructions in section 4.



The X340 is a completely enclosed light and arm it should not be opened and is not serviceable outside of a DARAY Authorised service centre.

For any issues requiring service work on the X340 please contact DARAY, as unauthorised work will **invalidate the warranty**.

5.5 Fuses and their replacement

For the ceiling mounted light the fuse is located on the ceiling plate on the terminal block connector (*as shown in section 4.6.5 - page 28*). The fuse tray can easily be removed by hand and the fuse replaced.

The fuse supplied is 1 amp and this can be ordered from DARAY using the code CS6144.

Replace the fuse and check that light is fully functional. If fuse blows again then it may need investigating further by an engineer.

5.6 Rigid Arm Adjustments

The X340 light is mounted on spring-tensioned rigid arms which are balanced specifically to be able to be moved using a single finger touch. Your light will have been balanced during manufacture, so there should be no need for you to make any adjustments out of the box.

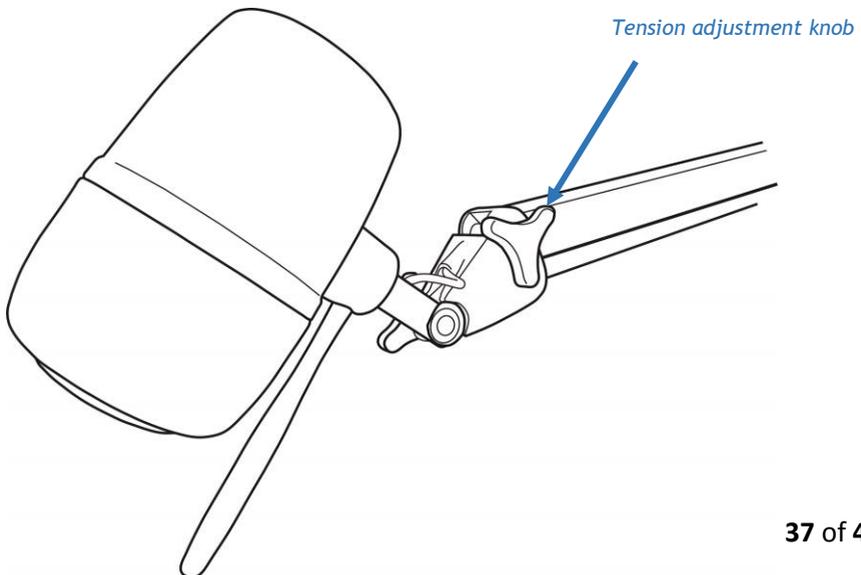
Over time, you may experience a small amount of drift. This is where the arm appears to move by itself and does not settle in the required position. This can be rectified by adjusting the spring tension on the arm.

Next to the light head, on the left side of the arm systems, you will find an adjustment knob. Turn the knob clockwise in small increments until the arm achieves balance.



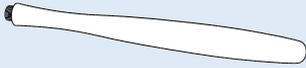
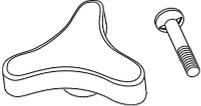
Warning! These arms are under spring tension, as such do not try and adjust the internal mechanics of the arms.

If you experience any other issues that cannot be solved with the above steps, please contact DARAY Service Delivery Team on 0800 804 8384.



6. Troubleshooting Guide & Spare Parts

Problem	Possible Cause	Corrective Actions
No light output	Power Supply	Wall Version - Check the plug top adapter is plugged in and switched on at the power socket.
	On/Off/Intensity Button	Press the button on the back of the light head to check if the light will power on (if dimmed refer to poor light output actions).
	Fuses	Visually check fuses then check continuity with meter
	Cables	Check the visible wiring and make sure the DC connectors between the light and the extension cable are fully connected. For the mobile version, ensure that the IEC is firmly pushed into the PSU.
Poor Light output	Power Button	Please check the variable intensity is not just set to its minimum. To do this use the intensity controls on the rear of the light head.
	Voltage in	Verify that the correct mains voltage and correct transformer is being used
	Voltage out	Verify correct secondary voltage
Arm drift sideways	Wall mount	On installation the arm has most likely not been vertically aligned and levelled. Please contact the original fitter or a qualified electrician
Head movement or drift	Light head	Please check the tightness of the thumb screw adjuster just below the head of the light

Picture	Description	Order Code
	Light head handle	CS6142
	Head thumb Screw	CS6143
	Wall bracket thumb screw	D16247
	24V Plug-top transformer + extension cable kit (non-mobile)	DRK4149
	24V PSU and 3m IEC Cable Kit (mobile)	DRK4177
	1 Amp ceiling plate fuse	CS6144

For any SPARE PARTS or TECHNICAL ISSUES phone DARAY'S Service Delivery Team on:
+44 (0) 800 878 9864

Opening times 9am-5pm Monday to Thursday (excluding bank holidays)
9am-2:30pm on Friday

Or email:
support@daray.co.uk

IF THE LIGHT WAS ORIGINALLY PURCHASED THROUGH A DISTRIBUTOR CONTACT THEM IN THE FIRST INSTANCE FOR A RESOLUTION

Please contact DARAY for help with any problems that the distributor cannot solve.



7. Warranty Information

7.1 Returns Policy

IMPORTANT!
Please fill out your warranty registration online at
www.daray.co.uk/warranty or contact Daray by phone (0800 878 9864)
or email support@daray.co.uk

DARAY's standard warranty is 12 months. However, this period may be extended to 5 years* free of charge by completing and submitting the warranty registration.

Year 1:	Warranty includes parts and labour (Return to Base)	*UK only
Year 2-5:	Parts only	

We want you to be completely satisfied with your purchase. If you need to return goods purchased from DARAY Ltd, please read the following information carefully. The DARAY Ltd returns policy provides guidance on when you can return goods we have supplied, and what you can expect from us once you do. To see our detailed returns policy and procedure visit www.daray.co.uk/returns

TYPE OF RETURN	REMEDY
DAMAGED GOODS Goods which are physically damaged on delivery	We must be notified within 24 hours of receipt.
Dead On Arrival (DOA) Goods which do not work	Goods which do not work on arrival or develop a fault within 28 days, we will advance replace the item.
GOODS DEVELOPING A FAULT Goods which have developed a fault within the warranty period.	If the fault develops after 28 days, but within the warranty period, we will initiate the returns procedure.
NON WARRANTY Goods which have developed a fault outside the warranty period.	If a fault develops outside the warranty period, we will initiate the returns procedure charges may be applicable.
OTHER Any situation which is not covered by any of the above.	We will always try to help, but we cannot normally offer a refund.

For additional clarification, please refer to our terms and conditions at www.daray.co.uk/terms. In a small number of cases, we may determine that a replacement would not work any better than the original product we supplied. In such cases we will only offer a refund rather than a replacement for qualifying returns.

Replacement bulbs and spare parts ordered on our website or from supplied part codes are not eligible for credit. We will accept returns and exchange for the correct item.

If your purchase an item incorrectly you can return it within 14 days and it can be exchanged for another product of equal or higher value, excluding transportation charges incurred. Goods and packaging must be returned in their original condition. Under no circumstances will goods be accepted for return if they are damaged, have been subjected to improper handling or abuse or have been used.

If you send us goods that do not qualify for return, you will invalidate your claim to any refund, and you will be obliged to compensate DARAY Ltd for the cost of return postage and any other reasonable costs incurred processing the goods. Your statutory rights are not affected.

7.2 Warranty Details

TERMS AND CONDITIONS OF WARRANTY

1. To qualify for this warranty you must register on www.daray.co.uk or return to Daray Ltd (Daray) the duly completed warranty-registration form accompanying the product.
2. Daray warrants this product (excluding lamp) against faulty material and workmanship during the period of the warranty. The period of warranty is the period stated on your warranty card and commences on the date of purchase of the product. In the event that the product is not in good working order Daray will provide, during the warranty period, a free repair service within the United Kingdom. The warranty is subject to proof of purchase being provided; therefore, you should retain your original receipt.
 - 2.1 The repair service consists of the provision of spare parts and/or replacement products (at Daray's discretion) which will be provided on an exchange basis and will either be new, equivalent to new or reconditioned. All replaced spare parts and products shall become the property of Daray.
 - 2.2 Daray's only obligation under this warranty is the provision of the service as set out above.
 - 2.3 All products are returned to Daray at the customer's cost and risk. Products to be returned should be adequately packed. For the address to send returns to please visit www.daray.co.uk
3. Daray's arrangements for providing service provided under this warranty may include the use of sub-contractors.
4. This warranty does not cover damage or defects in the Product caused by or resulting from:
 - Wilful neglect or negligence by anyone other than Daray;
 - Improper use, storage or handling of the product;
 - Use of non-Daray approved parts (such as replacement lamps) not compatible with the Product;
 - Fire, accident or disaster;
 - Use of non-Daray modifications other than in accordance with Daray's instructions;Attachment of fittings and accessories not approved by Daray;
Repairs, modifications carried out by service personnel not approved by Daray;
 - Damage caused by chemical corrosion from cleaning agents not approved by Daray.
 - Failure to use or install the product in accordance with the manufacturer's instructions.
5. Nothing in this warranty shall have the effect of restricting or excluding the liability of Daray in respect of:
 - a) Death and personal injury caused by the negligence of Daray, or for fraud;
 - b) Under the *Consumer Protection Act 1987* to a person who has suffered damage caused by a defective product or to a dependant or relative of such a person;
 - c) Direct damage to your property caused by the proven negligence of Daray.
6. This agreement does not give any rights other than those expressly set out above and in particular, Daray will not be responsible for any loss of income, profits or contracts or any direct or indirect consequential loss, damage caused to or suffered by the purchaser as a direct result of this agreement.
7. This warranty is offered (subject to these terms and conditions) in addition to, and does not affect your statutory rights.
8. Daray may disclose your details and other personal information to companies within the Daray group including any subsidiary company or sub-contractor of Daray for the purposes of performing our obligations hereunder.
9. You must not resell outside the UK any products supplied by Daray and covered by the *Export of Goods (Control) Order 1992* (or any law that replaces it) without obtaining all necessary licences. You also agree not to sell the product in the UK if you know or think that the person buying the product intends to export it without getting the necessary licences. You agree to impose similar conditions to these on anyone you sell the product to.
10. These conditions shall in all respect be governed and construed in accordance with English law and the exclusive jurisdiction of the English courts.

Product:

Serial No:

DARAY[®]
Medical

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