

DARAY[®]

Medical



SP150

Focusable LED Examination Light

Operating & Installation Manual

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1. Introduction

Thank you for choosing a **DARAY SP150 Examination Light**.

The SP150 Light is specifically designed to meet the demanding needs of today's medical department whilst providing the finest quality design with superior performance, reliability and value.

This User & Installation Guide has been provided to give detailed descriptions covering the performance, operation and safety information of the device. It is recommended that users read through this manual before using the device or before attempting the assembly procedure, so that they are aware of how to operate the device and all of its features appropriately.

This guide also contains all the information you need for operation, installation and maintenance of the light.

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	
SP150LM	SP150 LED Mobile Mounted Examination Light

1.2 Lighting Specification

Light Specifications	
Light intensity (Lux) @ 1m	20,000 - 50,000 Lux \pm 5%
Light Intensity Adjustment Range	0 - 100%
Colour Temperature (Kelvin)	5,000K \pm 500
Light Field Diameter (Unfocused) @ 1m	320mm
Light Field Diameter (Focused) @ 1m	25mm
Power Consumption	9W 0.095A
Average Working Life	>40,000 hours
Input Voltage	100-240V AC 50/60Hz
Output Voltage	30-36V AC
Warranty Period	3 Years

1.3 Pre-Assembly Responsibilities

This document is a guide to the steps that need to be performed to correctly assemble/install the SP150 LED Examination Light. However, the work required to be performed is the responsibility of the owner or designated contractor/s.

1.4 Pre-Installation Responsibilities and component packing list

This document is a guide to the steps that need to be performed to correctly install the SP150 Focusable 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.

SP150LM - Packing List
Gooseneck with light-head and control panel x 1
Upstand tube sections x 2
5-castor wheel base x 1
Base counterweight x 1
Base collar x 1
Grub screw x 1
Allen key x 1
User manual x 1

1.5 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.

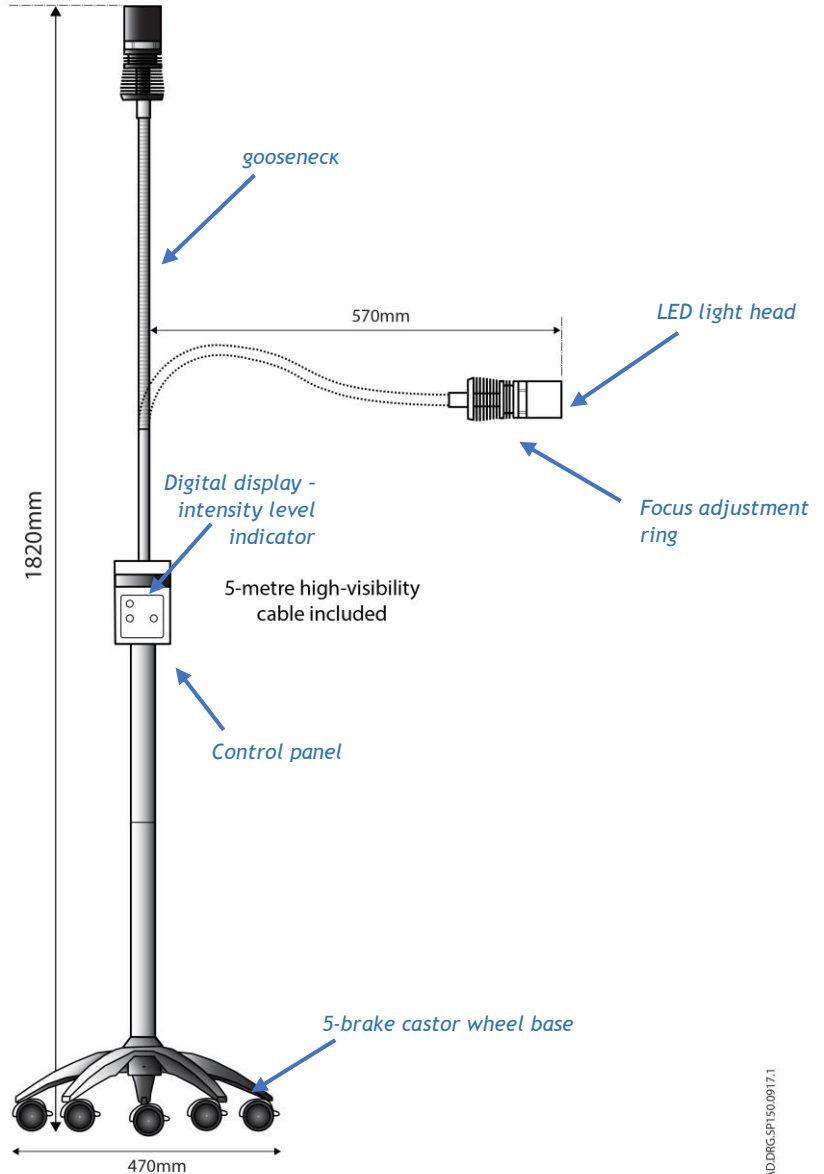


Please check that the head and all parts of the base are without visible damage.

2. Operation

2.1 Range of Motion

This dimensional image depicts the full range of movement on the standard mobile mounted unit.



2.2 Powering On, Variable Intensity and Focus Control

The SP150 uses a single button (located on the control panel) to power the light on and off. A single, orange LED will illuminate on the face of the control panel once mains power is connected.

Within the control panel is situated two further buttons, indicating PLUS and MINUS. These buttons are for the adjustment of the variable intensity feature. The digital display will show a number between 1-100 to indicate the current intensity level, use the PLUS and MINUS buttons to adjust this level to your requirements.



As this model is designed primarily for ENT use, the light when powered will automatically have the intensity level set at **60**. This is to protect the patient from eye injury should the light be pointed directly at the patients face when powered. Users should not look directly into the light, particularly at a high intensity level.



To focus the light beam, rotate the focus adjustment ring located on the light head itself.



To position the light head to where it is needed, using both hands bend the gooseneck to the desired angle. Use the mobile base to position the light closer or further away as required.

When manoeuvring the mobile base, ensure all brakes on each castor are **OFF** (set to the 'up' position). Pushing the base with the brakes on could cause the equipment to topple over which could cause injury or damage the equipment.



The design of the gooseneck allows for total versatility of movement and should be used to put a curve in the neck for angling purposes only. Attempting to force the movement past these natural curves may cause severe damage to the neck and to the cabling running within.

3. Installation Guide

3.1 Mobile Base Assembly



Before commencing the assembly procedure, locate all of the required parts as per the Packing List on page 6 of this manual.

The procedures below are detailed to a high level however *If in doubt please consult DARAY Technical Support on 0800 878 9864.*

Environmental Responsibility

Once our products are installed all packaging should be disposed of appropriately and recycled in accordance with local governing regulations. The normal life span of the SP150 is up to ten years. We recommend the equipment should be discarded and recycled when reaching the end of its life.

Step 1

Take the castor wheel base, and place upright on the floor. Note the screw hole in the base in between two of the spokes.



Step 2

Insert the collar into the base, topside up. Rotate until the hole in the side of the collar matches up with the hole in between the two spokes.



Step 3

Within your kit, you will find two identical sections of the upstand. Take one of these, and insert **thread-side down** through the middle of the base.



Step 4

Using the supplied grub screw and Allen key, insert the screw into the hole in between the two spokes, ensuring that the hole on the collar is still matching up with the hole on the base, and tightly secure the screw.

Step 5

Holding the base and the upstand securely, rotate the assembly and rest the upstand on the floor, taking care not to cause damage. Locate the base counterweight within the kit, and screw this weight onto the thread protruding from the underneath of the base, as tight as possible.



Step 6

Put the base back to an upright position on the floor, and, whilst gripping the upstand, screw the second piece of the upstand into the first. Ensure a tight join.



Step 7

Your last step is to take the gooseneck section and screw this into the top of the complete upstand. Again, ensure a tight join.



DO NOT use the control panel as leverage when screwing the gooseneck to the upstand, as this may cause irreparable damage to the equipment.



Take care to ensure the power cable remains coiled whilst attempting to screw the gooseneck to the upstand, to avoid having the cable wrap itself around the base.

3.2 Testing

Supply power to the mains connection and power the light on using the buttons located on the control panel (see section 2.4, page 7). Check that the light illuminates and that you can adjust the intensity and the beam focus.

Your new DARAY light is now ready for use.

To gain full support of our warranty please fill in the warranty details online at <http://www.daray.co.uk/docs/warranty.php>

NOTE: The mains power supply should meet IEC60245-1 requirements.

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.

4. 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**

4.1 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 that the counterweight on the underside of the base is still secure.
Six monthly checks to include:-	Check all electrical connections are sound and that there is no visible cable wear.
	Check that all joints are still secure.
	Check the stability of the castors on the base.

4.2 Safety Precautions

- For all cleaning work, power off the equipment and where possible completely power off any mains connection, 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 you do not attempt to cover over any damage as this will impact upon the effectiveness of any cleaning you do. Simply use an alcohol based cleaning spray when cleaning and pay special attention to any damaged areas.



(When applicable) If there is damage to the power cable or if exposed wire is visible DO NOT USE. Contact DARAY immediately to arrange repair.



The SP150 is to be disassembled and maintained only by a qualified technician.

4.3 Product cleaning & care guidelines

The SP150 Focusable LED Examination Light has 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.

4.4 Replacing the LED Bulb

The LED module within the SP150 is of a very high quality and should not need to be replaced in the lifetime of the light, however if any bulb does need to be replaced, please consult a qualified electrician or contact a DARAY Authorised service centre.

4.5 Disassembling the Light

De-construction of the light should be performed following a reverse order of the instructions in section 3 of this manual.



The SP150 has a completely enclosed light-head and as such, the head should not be opened and is only serviceable by a DARAY Authorised service centre.

For any issues requiring internal service work on the SP150 please contact DARAY, as unauthorised work will invalidate the warranty.

5. Troubleshooting Guide

Problem	Possible Cause	Corrective Actions
No light output	On/Off button	Press the button on the control panel to check if the light will power on (if not refer to power supply actions).
	Power supply	Mobile Version - Check that the power cable is plugged in and switched on at the power socket.
	Fuses	Check the 3A fuse located within the plug
	Cable	Check the visible wiring to ensure there are no signs of wear.
Poor Light output	Control panel	Please check the variable intensity is not set to its minimum.
	Focus adjustment	Adjust the focus ring to its maximum setting.
Base instability	Base counterweight not secured	Thread the weight back onto the base, as per Step 5 of the assembly procedure within section 3 of this manual.
	Loosened grub screw	If the grub screw has worked loose please repeat Step 4 of the assembly procedure within section 3 of this manual.



6. Warranty Information

6.1 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 3 years* free of charge by completing and submitting the warranty registration. For the specific warranty period for this product, please refer to the warranty symbol in the upper right of this page.

Year 1:	Warranty includes parts and labour (Return to Base)	*UK only
Year 2-3:	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.

6.2 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:

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