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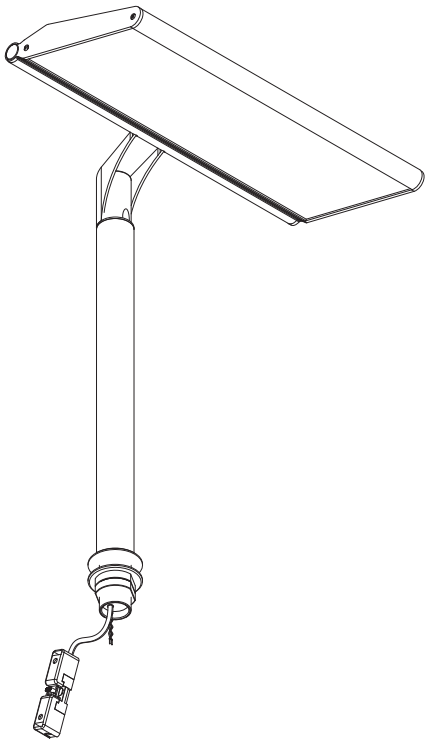
STOANE LIGHTING

EQUIPMENT DESIGN + MANUFACTURE

Certified B Corporation

# The Workplace Light (Through Desk)

## Installation and Maintenance Instructions



**These instructions are for reference only. For product-specific instructions, which may vary, please refer to the documentation supplied with your order.**

**IMPORTANT: All wiring connections must be made before applying power.**

- Refer to instructions/product supplied
- Do not stare at the operating light source
- This product should not be disposed of in your general waste
- Please retain these instructions for future reference
- Class I - Fitting must be Earthed
- **IP20** Indoor Use Only
- $t_a$ 35°C Rated maximum ambient temperature
- CE European Conformity
- UKCA (UK Conformity Assessed)

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**Electrical Supply**

Installation must be carried out by a suitably qualified electrician following current building and wiring regulations of the region of installation. 230/240V AC 50/60Hz mains supply to a suitable SELV LED Driver.

Site conditions: LED equipment is more susceptible to static damage and over voltage than previous technology. Before handling or connecting to the mains supply ensure that all Stoane Lighting products are protected from static discharge and that the mains supply is to regulation. (230V +10 -6%)

Refer to the fitting label for the module version and total wattage.

Module information;
For module information, including supply current/voltage please refer to the product label or the instructions supplied with your product.

The energy efficiency class of the LED is available in the instructions supplied with your fitting.

Mains cables must be double insulated, strain relieved and separated from E.L.V output cables.

**All connections must be made before applying power.** If the supply is energised prior to making the connections to the fitting then the resulting surge will damage the LED.

The supplied driver has been specifically programmed for the tunable light source supplied, if/when the driver needs replaced, please contact Stoane Lighting for more information.

The entire dimming control circuit source must be of SELV insulation class.

Stoane Lighting can provide assistance on dimming compatibility or control systems by request. For advice on specific dimming systems we recommend seeking assistance from the commissioning engineer or the control systems provider in the first instance.

**Maintenance:**

All lighting equipment is delicate and easily damaged through misuse or inappropriate installation (mechanical or electrical). Repairs and replacements may cause delays and will be chargeable. Contact Stoane Lighting for support if required.

All Stoane Lighting products are covered by a five year Warranty and a 25 year Duty of Care. Products are designed to be upgraded, adapted and refreshed using our comprehensive ReNew service. For more information on our ReNew service and for full Warranty terms and conditions visit stoanelighting.com or contact us at the address shown.

When supplying digital equipment with the potential to be connected to networks, physically or wirelessly (i.e. Bluetooth, WiFi, DMX radio etc.), Stoane Lighting does not take responsibility for the digital security of the equipment or associated networks. It is the customer's responsibility to select a protocol suitably robust for their requirements and to ensure responsible utilisation of passwords.

The light source contained in this luminaire shall only be replaced by the manufacturer, their service agent, or a similar qualified person.

If the external flexible cable or cord of this luminaire is damaged, it shall be exclusively replaced by the manufacturer or his service agent or a similar qualified person in order to avoid a hazard.

Disassembly Information is available on the technical section of our website and is accessed by entering your product serial number. Serial numbers are typically located in an area that is not visible when the fitting is installed.

**Cleaning:**

Fully isolate the fitting and allow to cool.

Clean the fitting with a slightly damp lint free cloth from a mild solution of soap and water. The fitting must be completely dry before reconnecting power.

Incompatible or abrasive chemicals can damage the fitting, contact Stoane Lighting for advice if required.

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**Installation**

Check that the mounting surface is suitable for the installation of this fitting. **Fitting Weight : 3.1kg.**

Installation must be performed by a qualified person.

Fully isolate and allow fitting to cool sufficiently before handling

A 36mm diameter hole is required for mounting through desk version.

Step 1 Insert the fitting into the cut-out and tighten the washer-nut from below the mounting surface. Fully secure the light in place by fastening the second nut.

Make connections to DALI and Mains via the supplied Weiland connectors.

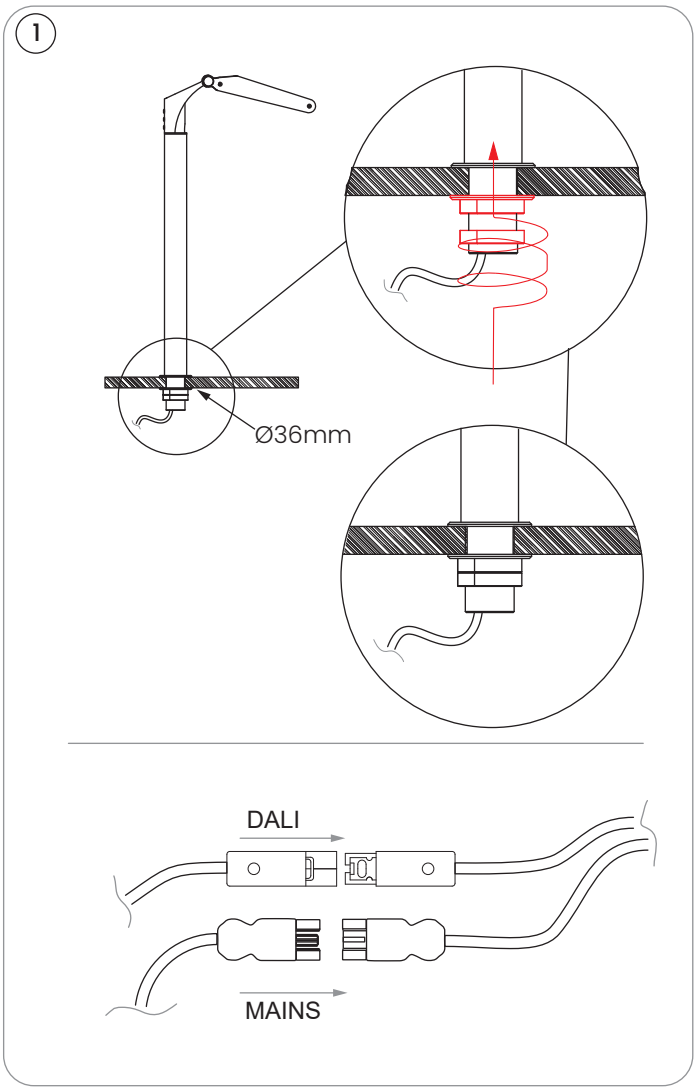
Step 2 The angle of the WPL head can be adjusted by hand, take care not to apply excessive force when adjusting.

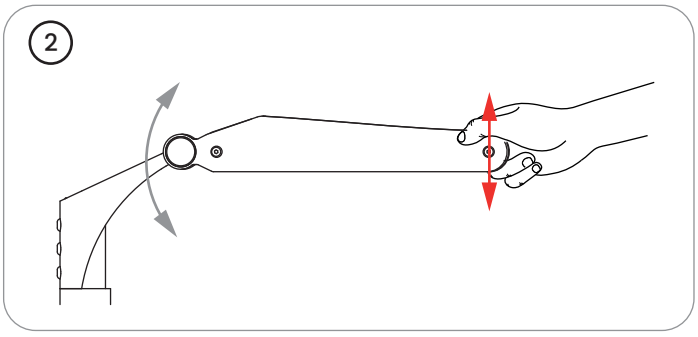
Flexible wiring connected to this luminaire shall be effectively routed or secured to avoid a hazard.

This product is for industrial/professional use only and not intended for use by consumers.

**WARNING: Do not look at exposed LED lamps in operation. Eye injury can result.**

Additional items should not be hung or suspended from this fitting. Stoane Lighting takes no responsibility for additional items added by others or the consequences of those items.



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# Lighting in the Workplace

## Introduction

Light has a conscious effect on our vision but also several unconscious effects on our health.

1. The direct activating effect in the brain, stimulating alertness, suppressing sleepiness, suppressing melatonin at night, increasing performance, etc.

2. The synchronising effects of the biological clock strengthening our sleep / wake cycle.

3. Improving sleep quality in the night after the day in question.

4. Helping to alleviate depression.

We evolved in daylight, but now often spend 90% of our time indoors where daytime light levels are much lower than outdoors, and electric light of a different spectral composition to daylight. Under such conditions the light effects listed above are often reduced. The Workplace Light has been designed to give you correct light levels and composition at your workplace.

## Good Lighting in the Workplace

During the day higher light levels are needed for health aspects than vision aspects, and often light levels are too low. (The opposite is true in the evenings when the main external trigger for the release of hormones connected to sleep is darkness and lower evening light levels in our homes should be embraced. There is link with this discussion and light pollution externally. External light levels and spectral content not only cause sky glow and prevent us seeing the Milky Way but have a direct physiological effect on animals: disrupted metabolism, circadian clocks, feeding rhythms etc - Stoane Lighting has a range of products and expertise which can support your project with the above.).

There are two considerations to be aware of when checking that light levels in workspaces are optimum for health aspects:

1. Light levels should be measured vertically at the eye, as opposed to horizontally on your desk as is the norm for measuring light for vision (See Figure 1).

2. Light consists of outputs at different wavelengths which combine to make shades of white light. The combination can be 'cool' white like the appearance of daylight at noon or 'warm' white like the appearance of cozy home lighting. The dominant wavelengths that trigger photoreceptors for health aspects are cooler than the dominant wavelengths that trigger photoreceptors for vision. Therefore, different units are used. Light for vision is measured in Photopic lux and light for health is measured in m-EDI lux, which stands for melanopic Equivalent Daylight Illumination. (Melanopsin is the relevant photosensitive pigment in the eye and as you would expect the units are linked to Daylight: as commented on above it was in daylight that mankind evolved.)

Recommended vertical light levels at the eye in m-EDI lux are tabulated below (Table 1).

**Table 1,** taken from The Good Light Group's heathy lighting guide in which far more information on this topic can be found. (www.goodlightgroup.org).

| Age | <30 years | ~50 years | >75 years |
|---|---|---|---|
| Daytime (eg. 7am-7pm) | MEDI ≥ 250 lux | MEDI ≥ 300 lux | MEDI ≥ 425 lux |

**How to measure good light at your workspace?**

This is not something that can be taken from luminaire manufacturers' literature though this can provide a starting point. The issue is that probably light will enter the eye from several light sources (daylight and different electric light sources). Almost all light meters measure photopic lux but there are others which also measure m-EDI lux (one of which is the UPRtek MK350s).

If direct measurement of m-EDI lux is not possible it is suggested to take a photopic measurement and convert to m-EDI lux using the coefficients in table 2 below. Of course, there is some guess work that has gone into these coefficients as complete accuracy is not possible without knowing the wavelengths of the light (its "spectral composition"). But they are conservative so safe to use.

In the case where your meter measures the light's appearance in terms of CCT (Correlated Colour Temperature) this should be a starting point. Basically, CCT is a marker for the warmth or coolness of a light's appearance as discussed above. 3000K is warm white as in your home; 5000K is cool light as daylight at noon and 4000K in-between; the norm for electric office lighting.

Table 2 Coefficient to convert photopic lux to m-EDI following CCT

| CCT | 3000K | 4000K | 5000K |
|---|---|---|---|
| Coefficient to convert photopic lux to m-EDI lux | 0.50 | 0.65 | 0.85 |
| m-DER values | 0.55 | 0.72 | 0.83 |

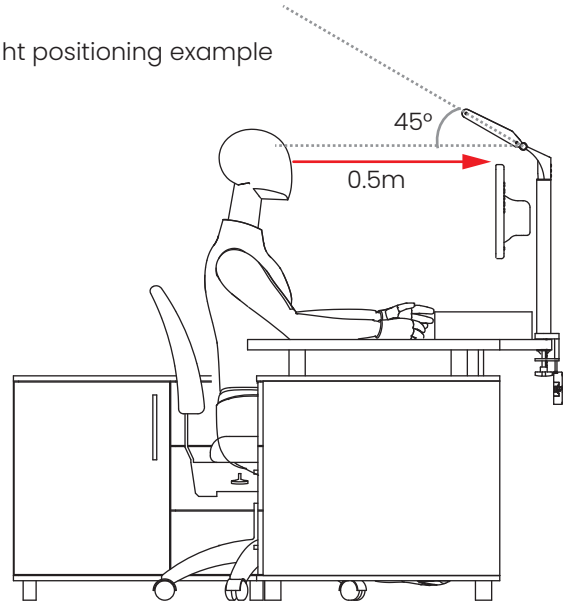
The m-DER figures, are related to the source's Melanopic Daylight Efficacy ratio (melanopic-DER), a relative quantity that describes the melanopic effectiveness of the spectrum of a light source. It expresses the melanopic activation of a source as compared to daylight (D65)

## Usage of The Workplace Light

Once mounting is finalised the The Workplace Light's output should be adjusted to give a target illuminance in such a way that no glare results for the user or co-workers in the vicinity.
An illumination level of 250m-EDI lux vertical on the user's eye is recommended for daytime working (see next section for more information), with adjustments for age, see Table 1 which is taken from The Good Light Group's heathy lighting guide (which we recommend for background reading https://www.goodlightgroup.org/downloads).
Note that 250m-EDI lux can be achieved at any Correlated Colour Temperature (CCT) via dimming up or down, so an optimum setting for a user's CCT preference is always obtainable.

An example is to have it 0.5m in front of you and just above your head, at angle of 45º (see Figure 1 below).

**Figure 1** The Workplace Light positioning example



## Measurement of healthy light

Using a device such as a UPRtek's MK350S meter allows a direct measurement of a user's received m-EDI lux level.

If no m-EDI lux meter is available, the coefficients from Table 2 can be used to calculate m-EDI lux levels from photopic lux readings as follows:

Placing a light meter at head height pointing straight at the Workplace light (as shown in Figure 1), take the measured reading and either get:

1. Direct m-EDI-lux reading

2. Estimated conversion of photopic lux to m-EDI lux (using Table 2).

a) For example - if 500 photopic lux is measured.

Multiply by 0.50 (take 3000K CCT) = 250m-EDI lux so suitable lighting for a user aged <30 years old.

coefficient × illuminance (lux) = illuminance (m-EDI)

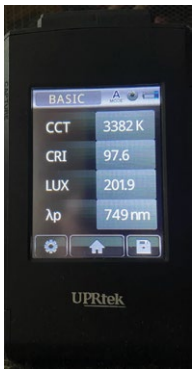
500 × 0.5 = 250 m-EDI lux, which would be suitable for a user under the age of 30.

b) In terms of the light quality an indicator is given by the CRI (Colour Rendering Index) reading.
This should be as close as possible to 100, ie. natural light.

All meter measurements should be taken with the sensor held vertically facing The Workplace Light, at the user's eye level. Include all light sources including daylight, ie not just The Workplace Light.

**UPRtek MK350S m-EDI lux reading**

A Light meter with photopic lux and CCT readings




*A light meter that measures CCT is useful but is not essential for the setup as the Casambi app provides an indication.*

## Note

These science-based guidelines should be used as a starting point and optimised to users considering individual chronotypes, ages, tasks and colour preferences. In all likelihood preferred settings balancing task needs, physiological needs and comfort levels will change over time, maybe within a day. Use these recommendations as starting points and then over time users should hone their preferred settings to suit themselves, balancing comfort preference with benefit.

Use these as starting points and then over time users should hone their preferred settings to suit themselves. Balancing comfort preference with benefit.

Stoane Lighting always recommend consultation with a professional lighting designer in matters of perfecting workplace lighting to ensure the right light at the right place and at the right time.

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Stoane Lighting firmly believe that we have a responsibility as environmental custodians, we believe that lighting equipment should be built to last, to be repaired and to be reused. As a BCorp we have pledged to operate a business not aiming to just be best in the world but a business best for the world. Stoane Lighting believe that the circular economy is a fundamental aspect of how we approach the challenges we face. If you read this at the end of the product life we encourage you to consider how you can ensure this product sees an extended life. If removal is unavoidable, please see the disassembly note below.

All Stoane Lighting products are supplied with a 5 year warranty and a 25 year duty of care.

5 Year Warranty
25 Year Duty of Care

Stoane Lighting operate a ReNew division, which can take your existing fittings and refurbish or upgrade without the need for replacing what you already have.

ReNew

Through the ReNew service, Stoane Lighting provides general repair, deep cleans and electrical safety checks on luminaires, as well as possible repainting if needed. We will replace components that are nearing end of life, such as drivers, LEDs, and optics. If the fittings are to be used in a new area, or the existing space is undergoing a change in use, ReNew can offer a different mounting method or light technical performance (such as colour tuning), if needed, alongside the addition of on-board wireless control. ReNew as a service, depending on location, can be done on site or by returning equipment to Stoane Lighting.

Once fittings have been repaired or upgraded through ReNew, they will start a new five-year warranty period, and any unwanted parts will be recycled.

*Product Disassembly and Component Recycling - While every effort has been made to ensure that our products are built to last and are ReNewable, there may come a point when, as a very last resort, the fittings need to be recycled. The Stoane Lighting website will provide information on how the fitting can easily be disassembled into its component parts for more effective recycling. Information on recycling services in your local region can also be supplied on request.*

For more information on the above please visit ***stoanelighting.com***
or contact us at the address shown.