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Miraclon Shine LED - Frequently Asked Questions and Configuration Guidelines

Background

There may be questions that may arise when considering or installing a Miraclon Shine LED Lamp upgrade to your existing exposure frame. This document is intended to address the majority of concerns prior to your decision to choose a Shine LED upgrade, or to address concerns during your Shine LED installation.

Configuration Guidelines - What do I need to Order?

Format Size	Required Shine LED Mounting Kits	LED Bulb Kits	Additional Comments
5080 with Lower Back Exposure Bed	0480A011 0480A012	8 x S365072-A 5 x S365072-A (total 117)	Top lift unit with lower back exposure through glass surface (extra bulbs)
5080	0480A011	8 x S365072-A (total 72)	EVO 5 needs 0480A015* (Low Profile Bulb Holder Upgrade Kit)
4260 with 5' bulbs	0480A013	6 x S365060-A (total 54)	
4260 with 6' bulbs	0480A011	5 x S365072-A (total 45)	
3548 with 5' bulbs	0480A013	4 x S365060-A (total 36)	
3548 with 4' bulbs	0480A021	5 x S365048-A (total 42)	

* A Low Profile Bulb Holder Upgrade Kit is also needed on any exposure frame found with less than 5mm and more than 3mm backspacing behind the existing tombstone bulb holders for the current lamps. See Appendix for backspacing measurement.

Frequently Asked Questions

- **My exposure frame uses 4 foot bulbs, can I upgrade to Shine LED?**
 - Yes. Shine LED 4 foot lamp kits will be available for ordering Oct 1st, 2024.
- **Will I need a certified electrician to install my Shine LED Upgrade kit?**
 - Yes. A certified & qualified electrician must be utilized to install the Shine LED Upgrade.
- **Will I need to recalibrate my exposure times?**
 - Yes. You will need to recalibrate your back and main exposure times after the Shine LED upgrade is installed.
 - Calibrate just as you always would do to set the new times.
- **Can I order singular LED replacement bulbs if needed?**
 - Shine LED lamps are also available in single quantities of one using the following part numbers:
 - S365072-A-SGL (6ft LED lamp)
 - S365060-A-SGL (5ft LED lamp)
 - S365048-A-SGL (4ft LED lamp)
- **Does my Exposure Frame have a light integrator and what to do if it does?**
 - If your exposure frame has a light integrator, this will need to be turned off or disabled after the Shine LED kit is installed.
 - Make sure this feature can be turned off or disabled. The integrator is designed for the degradation of standard lamps and is not needed for the LEDs.
- **Do the prewired brackets come color-coded and will they match my regional electrical code?**
 - Yes. The prewired Shine LED brackets are color-coded. The colors provided are not intended to match any specific regional codes but are intended to ensure the electrician can differentiate between the two lines.
 - The Shine LED kits are sold in different regions around the world and thus they will not always match your regional wiring color codes.
- **Will my bulb spacing be the same?**
 - No. The bulb spacing of a Shine LED kit increases the number of bulbs in the unit and optimizes spacing between the bulbs.
The pitch of bulbs is set by the new brackets with fixed spacing.

- **Can I just install the new LED bulbs into my existing sockets?**
 - **No. First - the LEDs cannot run on the existing wired ballasts.**
 - Secondary, installing the bulbs into the existing sockets will have the wrong spacing for the new LEDs.
 - The Shine LED kit has brackets with optimized LED spacing.
The brackets + bulbs adds the necessary pitch to optimize the installation and exposure times.
- **I have less than 5mm backspacing behind the current tombstones - if I order the Low-Profile Upgrade Kit, how much space do I gain?**
 - The Low-Profile Upgrade Kit reduces the overall length of the lamp & brackets length by about 4mm. This enables the 5mm tombstone backspace to work with the Shine LED Upgrade Kit brackets. (such as on an EVO5 frame)
 - If your frame has 4mm or less tombstone backspacing, the Shine LED Upgrade Kits may not mount as intended even with the Low-Profile Kit being purchased and utilized*.

* Some customers have chosen to fit the Shine LED lamps with custom mounting by utilizing the Low-Profile kit as a drill template, reworking, and transferring the lamp fittings directly to the device. Each device is different and it is the customer's discretion and responsibility to determine their comfort with this option.

IMPORTANT NOTE: Miraclon does not provide any additional instructions or support on custom reworking options.

- **My exposure frame does not allow the lamp cooling settings to be set down to 21C (standard room temperature). What do I do?**
 - LEDs like to be cooled. Our preference is for the fans to stay on all the time for Shine LED applications.
 - Exposure units that cannot be set to keep the cooling fans running at all times must consider:
 - the lamps will get to the lowest setpoint on your frame settings **before** the cooling fan system runs.
 - Once the fans turn on, the cooling is expected to be equivalent.
 - Running a bit hotter means that the LEDs won't be as efficient for some of the cycle – exposure times are then expected to be a bit longer than stated.
 - Customers are encouraged to find a way to run the fans at all times – lamp longevity may be affected otherwise.

- I noticed a very small amount of variability in the temperature and light output - is that expected?
 - The light output does vary by temperature, but not by that much and it does uniformly across the LEDs. What we have seen is the transition time from “cold” to “at temperature” is in the 1-2 minutes range, and the heat up is consistent.
 - Cooling down is also pretty quick because we have the fans running and the aluminum part of the lamps are good at dumping heat.
 - What that means is during a short back exposure, the lamps thermal lag keeps the temp fairly consistent during the less than 60 sec back exposure times (usually around 30s).
 - For a main exposure, although the light level drops a couple of mW/cm², it gets consistent about 2-3 minutes in and then stays at that level for the 15-18 minutes for a main exposure.
- Why does it appear that there are some brighter or slightly different colored LEDs in my bulbs?
 - First, make sure you have removed the clear protective film on the LED used to prevent scratching during shipping.
 - Additionally, you may see slight variations in the visible spectrum of light emitted from the LED tubes - **this is normal and expected.**
 - The color/brightness differences with LED bulbs occurs during the manufacturing process of the individual LED's.
 - These are purely visual differences and do not affect the uniformity of the light in the UV spectrum, and can either appear different from tube to tube, or between individual LEDs within a tube.
 - Visual light differences between LED's do not indicate a difference in energy output.



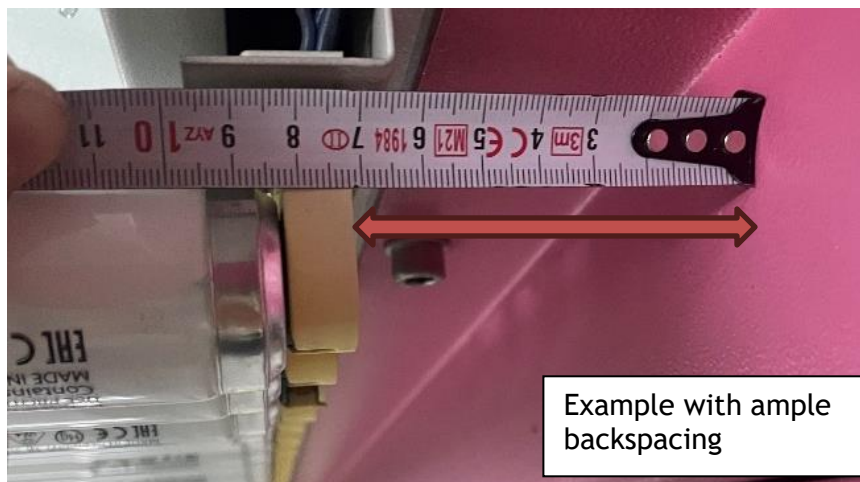
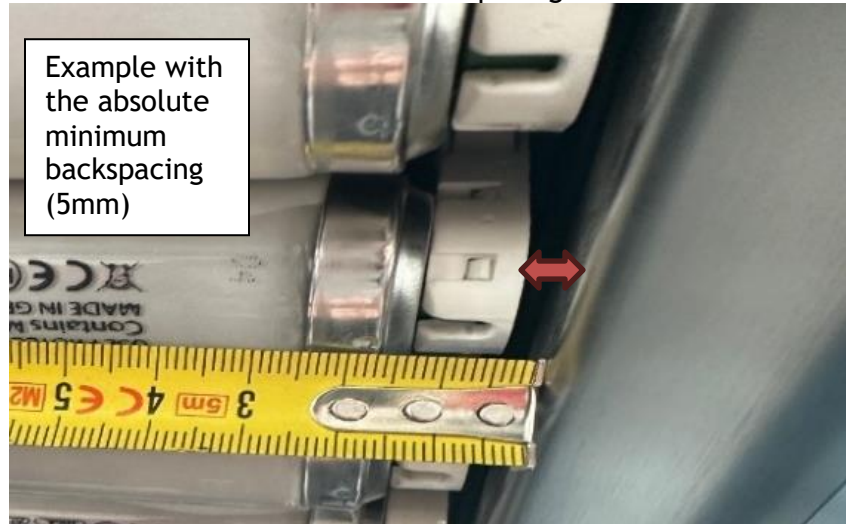
Appendix

Backspacing Measurement for Selecting the Low Profile Bulb Holder Upgrade Kit

QUESTION: Does your perimeter frame for the bulbs measure too tight to fit the new 1762 mm (6 foot) or 1498 mm (5 foot) LED bulbs?

- **FACT:** The current tombstone mounting area of your exposure unit needs a minimum of 5mm backspace clearance for the Shine LED brackets.

Here is how to measure the tombstone backspacing tolerance:



Examples of Devices with Spacing Challenges

- 1) Here are two examples of devices with clearances that simply do NOT work with brackets “as-is”.



- 2) Here is an example of a device that first appeared during inspection to look too tight.



However, upon deeper inspection, the flange was removable and allowed the necessary space for the brackets.

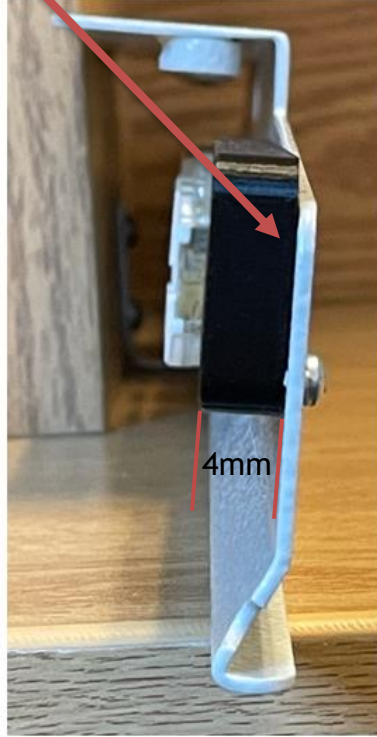


screws on fixing the flange

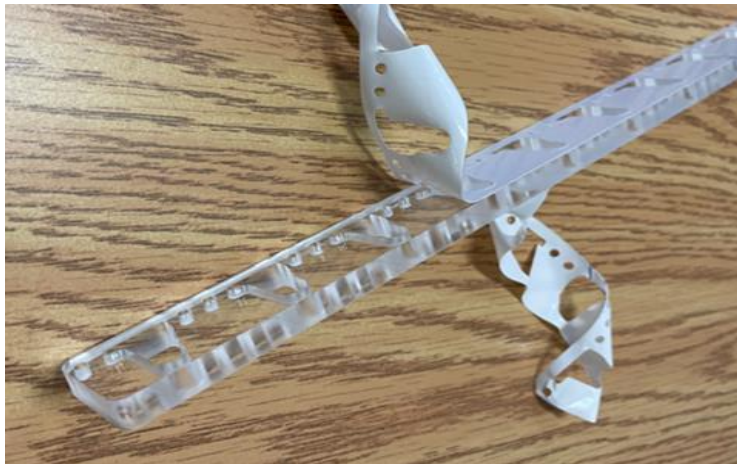


Low Profile Bulb Holder Upgrade Kit Explained

NOTE: the low profile strip in the two left-side photos are BLACK instead of clear - this is for DEMONSTRATION purposes only.



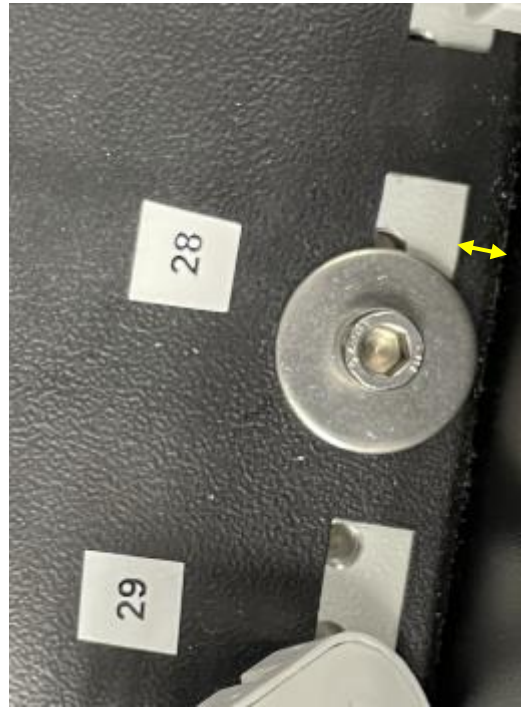
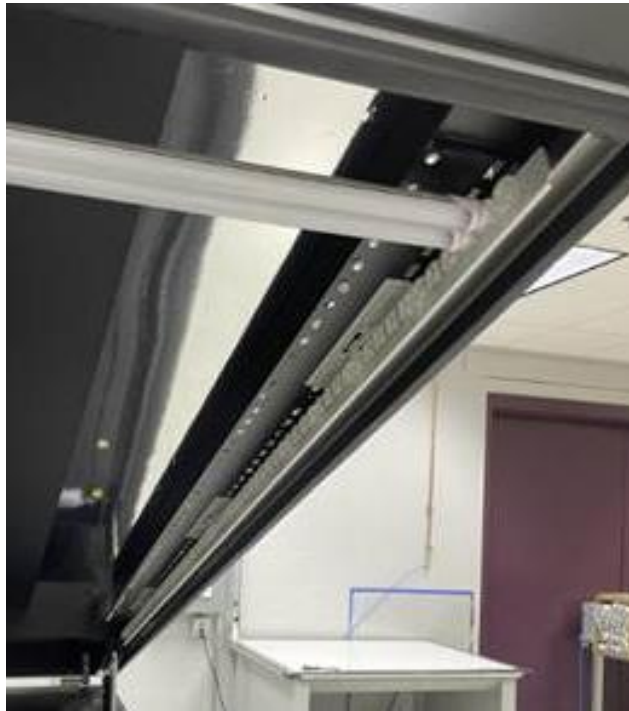
Achieves ~4mm space reduction



Photos of the shipped Low-Profile bracket Upgrade strips. The furthest to the right shows the protective film being removed and exposing the clear plastic strip.



EXAMPLE: Vianord EVO5 with the Low Profile Bulb Holder Upgrade Kit Installed



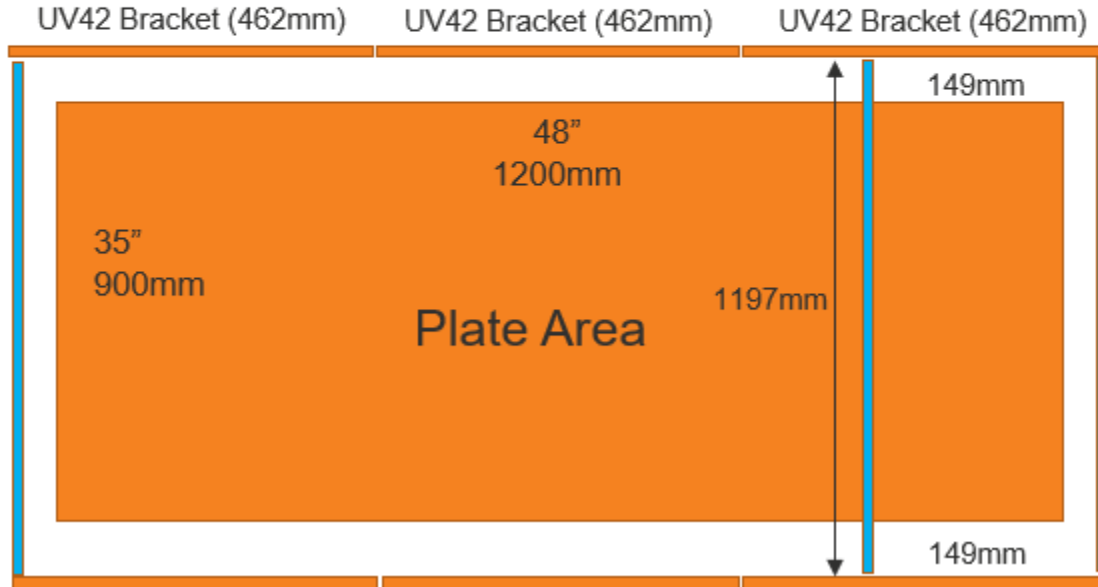
*Slightly less than 5mm shown on EVO5 with the yellow arrow (rightside photo) - the Vianord EVO5 devices are the ideal candidate for a low profile kits.



For further and specific information on the Shine LED Low Profile Bracket Upgrade kit, see our document **Shine LED Lamp Kit Guideline Supplement: Low Profile Bracket Installation**.

4 Foot Lamp Support Information (Oct 2024 release)

- Vianord EVO 3EDLF: 30 x 46mm = 1,380mm
- Vianord EVO 3EDLF: 31 x 42mm = 1,302mm
- Shine LED: 42 x 33mm = 1,386mm



4 Foot Shine LED Bracket Kits

Part Number	480A021
Description	UV42 Shine LED Bracket Kit
Includes	3 prewired brackets 462 mm (18.2 in) length each
Function	Main Exposure

4 Foot Shine LED Lamps

Part Number	S365048-A
Description	Shine LED Lamp Kit 48, Box Of 9
UV Band	360~370 nm
Power Consumption	46W
Weight/Lamp	0.36 kg (0.8 lbs)
Length (+- 2 mm)	1197 mm

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