

Shine LED Lamp Kit Guideline Supplement: Vianord EVO E Frames

Product

Shine LED Lamp Kit

Introduction

This supplement provides further guidelines for installing the **Shine LED lamp kit** on the Vianord EVO E style of bank exposure system. Miraclon can only provide guidelines for installing the appropriate Shine LED Lamp Kit to your device. The actual installation must be determined by the installing electrician.

WARNING: The brackets included in the Shine LED Lamp kit must be used for the LED lamps to achieve optimal exposure times.

Electrical connections must comply with local and national safety codes and must only be performed by competent and qualified electricians aware of the safety hazards present. If overrides of safety circuits or features are performed during installation or commissioning for any reason, these must all be restored and checked for correct operation before normal operation is permitted. It is strongly recommended that during electrical connection, troubleshooting or servicing that the main power supply to the machine is disconnected and the isolator “locked out” using a physical padlock to prevent it being inadvertent operated.

The installation leverages the existing wiring used for the device’s Fluorescent Bulbs, and redeploys it to support the new LED lamps by utilizing pre-wired lamp brackets that bypass the fluorescent bulb electronics to supply power directly to the LED lamps. The LED lamps replace the fluorescent bulb locations by utilizing the tombstone bulb holder locations.

Due to the age of the equipment, additional attention may be required to repair cabling that may have become inflexible or brittle over time.

Equipment Required

- Conversion Brackets Assembly:
 - EVO 5E requires the 0480A011 UV69 Shine LED Top Kit
 - EVO 4E requires the 0480A013 UV54 Shine LED Kit
- Standard Electrical Tool set
- Cable Ties
- Insulating wire covers

Equipment Explanation

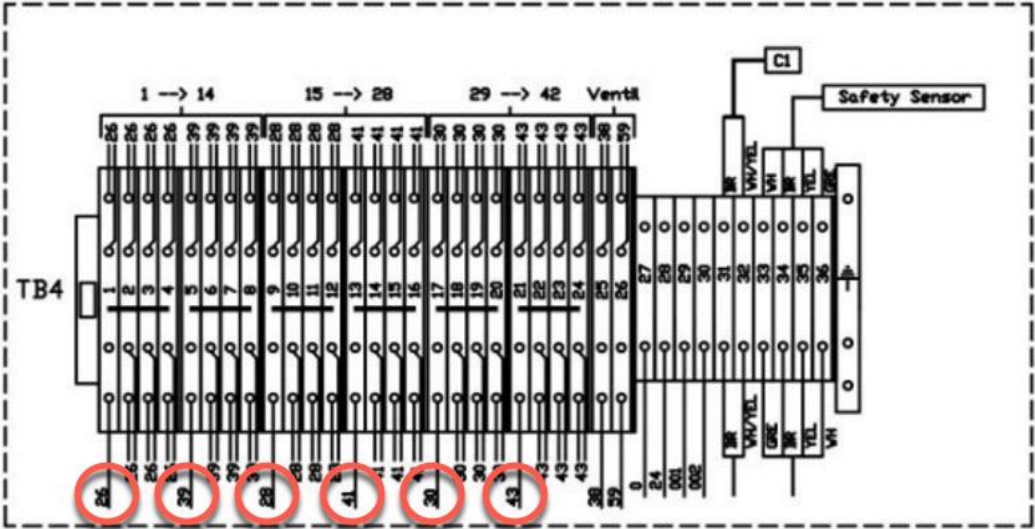
All of the Ballasts and heaters connect to common connection rails supplied from the main power box:

- Main Exposure Area Under top covers. The example below displays the Evo 4E.



Review the electrical schematic for your specific model. Depending on the age of the device, the ballast connections will be connected directly to the connection rail or be grouped before connection.

EVO 4E (2018)



EVO 5E (2018)

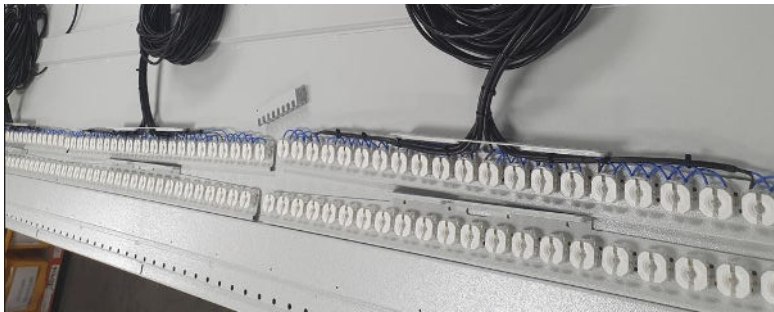


NOTE: the actual wire numbers may differ.

The indicated supply lines from the main panel must be retained to connect the LED's.

The upgrade brackets have a powered side (x3) and an unpowered side (x3) that connect to the phases in a similar as the florescent bulbs:

- For the EVO 5E, the brackets are prewired and of the 23 lamps per phase, only 6 wires need to be run and connected to the connection rail.
- For the EVO 4E, the brackets are prewired. Of the 18 lamps per phase, only 5 wires need to be run and connected to the connection rail.



These brackets will take the place of the tombstones that currently hold the bulbs.

Retrofit Steps

Prior to installing the Lamp Kit, make sure that the device has been disconnected.

Installing the Main Exposure Lamps

WARNING: The brackets included in the Shine LED Lamp kit must be used for the LED lamps to achieve optimal exposure times.

Begin by removing the existing fluorescent tubes, and storing them in boxes as is recommended.

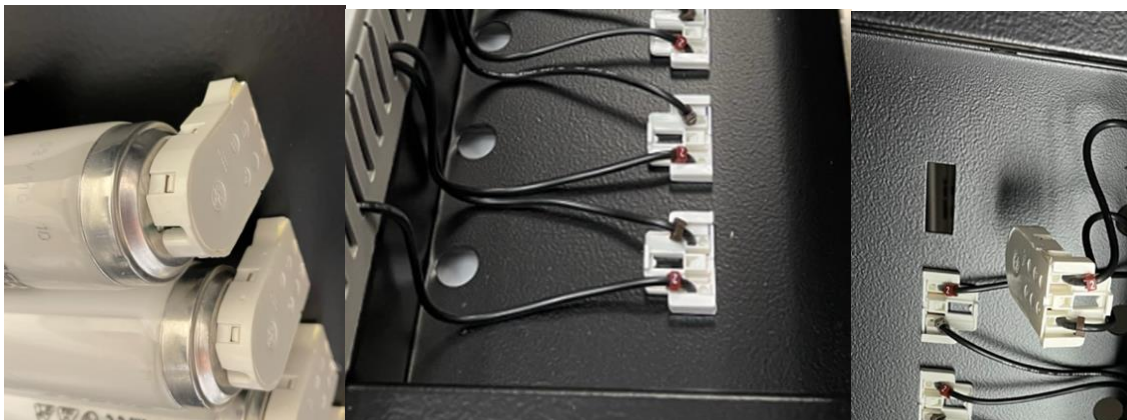
Remove the protective covers for the light pipes by using a wrench to loosen the plastic grommets.



Replace the plastic grommets by hand.



Squeeze spring tabs on either side, and push the tombstones up through the mounting holes into the upper side of the frame.

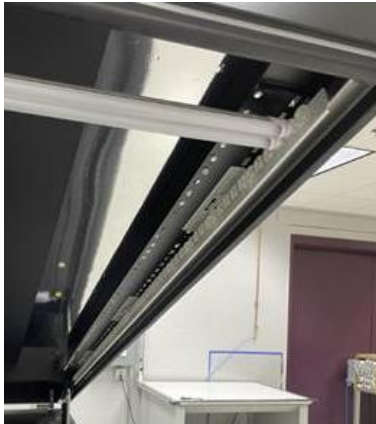


On the top side, tuck the tombstones to the cable track, secure with straps as required to keep them out of the way.

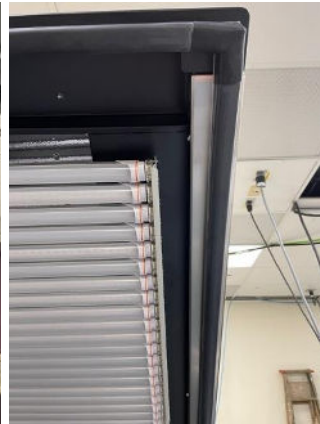
Install the upgrade brackets into the tombstone holes. Begin by counting the total number of tombstone holes on one side and locate the middle two holes. Mount the middle bracket in the middle of the machine first, and then install the other brackets.

The wired brackets are installed at the rear of the machine (non-operator side), and the non-wired at the front(operator side).

Note: The wired brackets can be switched to the front (operator side) if installation is easier by doing so.



Evo 5



Evo 4

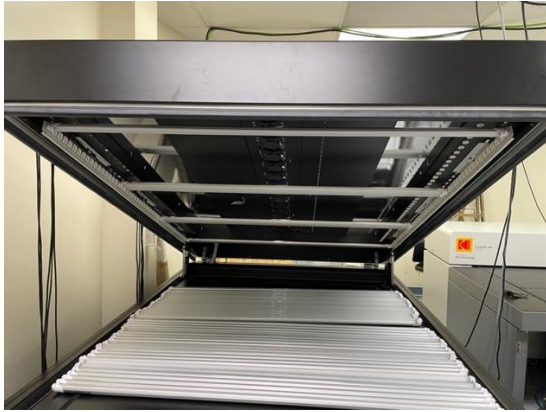
The gap between the bracket and the edge of the exposure area depends on the unit.

Secure the brackets through the tombstone holes with the supplied hardware. Make sure to thread the cables through vacant tombstone holes.



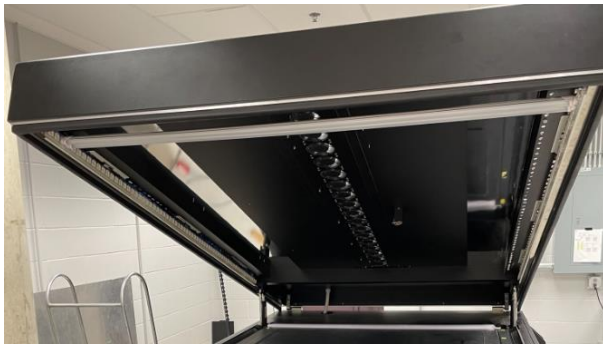
Before fully tightening the brackets, place a lamp between the brackets of each bracket pair to make sure that you have proper spacing.

Some adjustment may be necessary. There should be sufficient space for the lamp to fit. Spacing should not be tight for the lamp.



Once alignment is complete, secure the brackets into place.

When the brackets are in place, secure the brackets to each other with provided screw.



Electrical connections can be made at the terminal blocks identified earlier.

Disconnect the ballast supplies (26,43) and replace them with six (6) wires from one bracket.

EVO 5E Before



EVO 5E After



Starting Up the Device

WARNING: when inspecting the lamps, be sure to wear sunglasses with UV protection.

1. Power up the device. Inspect all wiring and make sure there are no issues.
2. Install the LED lamps into the fittings on the brackets.
 - a. Only the end of the lamp labeled L and N can be powered. That end of the lamp should be connected to the brackets that are wired with power.
 - b. Make sure that you align the Line “L” and Neutral “N” indicators.
The lamp will not function if it is not properly aligned.
 - c. On power up, check the first lamp to ensure this alignment
 - d. If LED lamp does not power up, check the following:
 - i. Examine the lamp arrangement, the red stripe end should be on the wired bracket side.
 - ii. Examine the electrical connections for the lamps at the connection rail. Make sure they have the required operating voltage
 - e. Install the remaining lamps.
 - f. Turn the lamps on and make sure that they are all lit.



NOTE: some LEDs will look brighter than others. This is normal. The difference in brightness is due to a color shift in the visual range that does not affect UV performance.

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- g. Once you have confirmed that the lamps are all working, remove the protective film from all the lamps.



3. Adjust the temperature control settings:

- a. Unlike the Fluorescent Bulbs that work best at 40°C, the LED lamps prefer to operate at a lower temperature. The air supplied to the Back Exposure Area needs to be adjusted to ensure cooling of only the required area.

NOTE: operating the LED lamps at elevated temperatures can result in permanent impairment to the light output efficiency of the LEDs in the lamps.

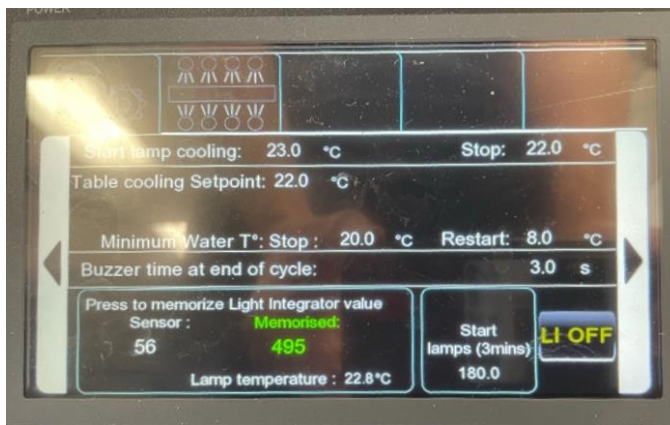
On the main device screen, press the Lock icon.



On the screen, enter 1973.



Adjust **Start lamp cooling** to 23.0. Press the current temperature and make the adjustment.



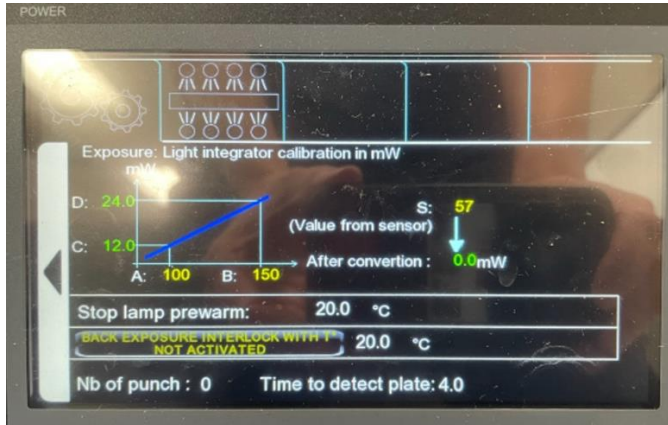
Adjust the **Stop** temperature to 22.0. Press the current temperature and make the adjustment.

Recalibrate the light integrator according to instructions simply turn off the Light Integrator by pressing **LI ON** button. The setting should display **LI OFF**.

Press the side arrow button.

Change the **Stop lamp prewarm** temperature to 20.0. Press the current temperature and make the adjustment. This setting will prevent the prewarm button from operating on the main screen.

WARNING: since the lamps do not get to a higher temperature, failing to change this setting will cause the prewarm function to lock the machine.



4. Conduct a back exposure to ensure there have been no unexpected changes:
 - a. Perform a back exposure series to ensure the correct exposure time is established for plate making.
 - b. Produce a back exposure plate.
 - c. Process the plate such that the full plate area is at the targeted relief/floor height normally used.
 - d. This plate will be measured for floor height uniformity.
5. Conduct a main exposure series to establish the times in the machine.
 - a. Perform a main exposure series to ensure the correct exposure time is established for plate making.
 - b. Ensure you are using the modified LED Main exposure procedure including information on how to read the exposure targets.
 - c. Simply produce a plate with the supplied artwork and retain for future reference.
6. After the rework, make some baseline plates from the unit using the LED lamps.

The unit is now ready for ongoing plate making. Operation should be the same as before subject to changes to temperature and other settings.

See also	Basic Guideline for Installing the Shine LED Lamp Kit
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