Gavita® **CT** 2000e LED 208-480 V

1 Introduction

Thank you for purchasing the Gavita® CT 2000e LED. This manual describes mounting, installation and how to use the product. Mounting and installation of the LED fixture may only be executed by certified service personnel. Please read and understand this manual completely before using the product. Only use the product as specified in this manual.
NOTICE: Failure to follow directions related to installation, use and/or maintenance may result in serious injury, death, or property damage and will void the warranty, and the purchaser will be responsible for any and all repairs and/or damages incurred.

1.1 Used Symbols

Warning! A warning indicates severe damage to the user and/or product may occur when a procedure is not carried out as described.

Caution! A caution sign indicates problems may occur if a procedure is not carried out as described. It may also serve as a reminder to the user.

Note: A note gives additional information, e.g. for a procedure.

This symbol is an internationally recognized symbol used to designate recyclable materials.

This symbol is an authorized use mark employed on electronic products manufactured or sold in the United States, which indicates that the electromagnetic emissions from the device has been measured to be under the limits published by the Federal Communications Commission. The FCC logo is a mark that declares that the equipment is authorized to market and operate under the FCC's SDOC procedure.

CSA is an independent third party product testing company which performs a variety of testing, including recognized safety standards.

This symbol on material, accessories or packaging indicates that this product may not be discarded as household waste. By properly disposing the equipment, you will be helping to prevent possible risks to the environment and public health, which might otherwise be caused by improper handling of the discarded equipment. Recycling of materials contributes to the conservation of natural resources. Therefore, please do not dispose of old electronics and electrical appliances via household waste.



This symbol indicates the minimum distance (B) between the LED fixture (A) and the lit surface.

2 Product description

The Gavita® CT 2000e LED is an electronic horticultural LED fixture. The Gavita CT 2000e LED is intended to be used in greenhouses or in climate rooms. In this manual, the Gavita CT 2000e LED will be referred to as: "the LED fixture".

Photobiological Safety

Caution! Possibly hazardous optical radiation emitted from this product.
Do not stare at operating lamp. May be harmful to the eyes.
ATTENSION! RISQUE DE RAYONNEMENT OPTIQUE DANGEREUX ÉMIS PAR CE PRODUIT. NE PAS FIXER LA SOURCE LUMINEUSE QUAND ELLE EST ALLUMÉE. PEUT ÊTRE NOCIF POUR LES YEUX.

Photobiological safety assessment: Risk Group 1
Évaluation de la sécurité photobiologique: Groupe de risque 1

These photobiological safety markings are based on testing of the light output characteristic of a single horticultural luminaire. Increased exposure risk to facility personnel may be present depending upon the number of horticultural luminaires and their placement and/or positioning within the plant growth facility. It is the responsibility of the plant growth facility to address these risks at the facility level and to ensure that people entering the plant growth areas while the lights are on, are aware of these risks and that appropriate safeguards are in place.

3 Product information and specifications

3.1 General product information

Product name	Gavita® CT 2000e LED 208-480 V
Manufacturer	Hawthorne Gardening Company
Part number	HGC906415
UPC	849969001693
Plug type (sold separately)	NEMA 6-15P, NEMA L7-20P, Pigtail Leads / Open end cable

3.2 Technical specifications

Product name	Gavita® CT 2000e LED 208-480 V
Input voltage:	208-480 V
Input power:	650 W
Input current at 100%:	3.125 A @ 208 V, 2.35 A @ 277 V, 1.35 A @ 480 V
Heat load:	244.8 W*
Frequency:	50/60 Hz
Power factor	(cosø): >0.90
Ambient temp:	0-40°C
Environmental rating:	IP65 SUITABLE FOR WET LOCATIONS when using W-rated cords. SUITABLE FOR DAMP LOCATIONS when using non-W rated cords.**
Mounting:	Unistrut hangers included
Weight:	34.5 lbs / 15.6 kg
Dimensions:	24.6 x 12.1 x 5.3 in / 62.5 x 30.8 x 13.6 cm
Certification Standards:	Conforms to ANSI/CAN/UL STD 8800. Conforms to ANSI/UL STD 1598. Conforms to ANSI/UL STD 8750 Certified to CSA STD C22.2 No. 250.0 Certified to CSA STD C22.2 No. 250.13
Power inlet:	Power inlet: Wieland RST 20i3 connector
External dim:	Gavita Master Controller Analog Protocol (0-11.5V) or Digital RS485
External control signal:	RJ Connector (8P8C)
Warranty:	5 year

3.3 Technical specifications

Product	Product name	Gavita® part number
Controllers ***Unit will function with EL3, EL2***	Gavita EL3 Master Controller	HGC906174
	Gavita EL2 Master Controller	HGC906121
Power cords***	Gavita 5 Pin to 3 Pin Power Cord Adapter	HGC906403
	Gavita 8 ft 3 Pin Power Cord 208-240 V for LED	HGC906204
	Gavita 8 ft 3 Pin Power Cord 277-480 V for LED	HGC906234
	Gavita 8 ft 3 Pin Power Cord 277 V Twist Lock	HGC906272
	Gavita 20 ft 3 Pin Power Cord 277-480 V for LED	HGC906401
Interconnect cables:	Gavita Pro Interconnect Cable 10ft RJ45 (provided)	HGC906722
Power Accessories:	Gavita Daisy Chain T-Splitter	HGC906708

3.4 Environment

The product is intended to be used in greenhouses and climate rooms. The product is suitable for indoor wet environments. This product may not be used outdoors. This luminaire is suitable for operation in an ambient not exceeding 40°C. This should be the maximum sustained temperature of the installed environment (ambient temperature) that will ensure safe operation of the lighting equipment. To prevent sustained temperatures above a 40°C ambient a mechanical ventilation or cooling system is required to maintain the temperature within the growing space at or below 40°C when the luminaire is in operation.

*Please consult an HVAC expert to calculate total heat load in your grow space

** This luminaire itself is suitable for indoor wet locations and has an IP65 rating; however, the intended use condition surrounding the luminaire is also dependent on the power cordset used. If the power cordset is provided with a non-W (wet) rated cord then the intended use condition surrounding the luminaire is only suitable for damp locations.

*** CAUTION - PROPRIETARY WIRING SYSTEM. Use only Hawthorne power cord set models with matching Wieland 3-pin RST20i3 cord connector as shown for connection from the luminaire power inlet to a standard junction box for power connection.

3.5 Legal

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

⚠ **Caution!** Changes or modifications not expressly approved by the party responsible for FCC compliance could void the user's authority to operate the equipment. Conforms to ANSI/UL 1598 and Certified to CSA C22.2 No. 250.0 and ANSI/CAN/UL 8800.

4 Safety recommendations and warnings

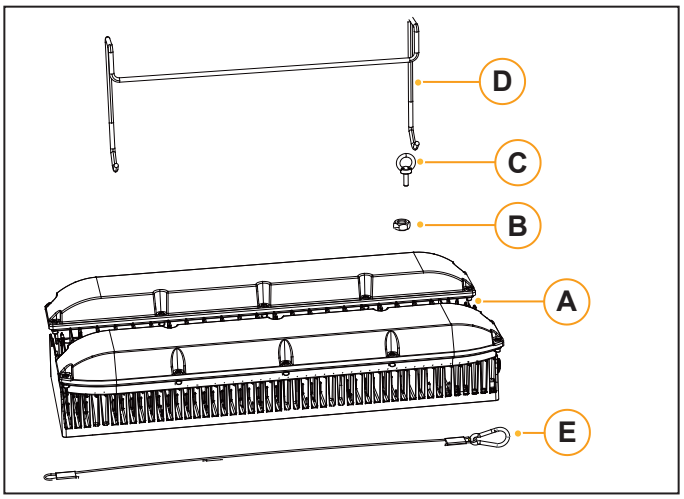
⚠ **Warning!** Carefully read the warnings below before using or working with the product!

- Always adhere to local rules and regulations when installing or using the LED fixture.
- Do not open or disassemble the LED fixture; there are no serviceable parts inside. Opening or modifying the LED fixture can be dangerous and will void the warranty.
- This product may cause interference to radio equipment and should not be installed near maritime safety communications equipment or other critical navigation or communication equipment operating between 0.45-30 MHz.
- Do not use the LED fixture when either the LED fixture or its power cord are damaged. Replace the power cord only with original, certified cords.
- Modifications to the cords can lead to unwanted electromagnetic effects, which makes the product not comply with legal requirements.
- Do not expose the LED fixture to:
  - (ambient) temperatures outside the specified range;
  - dust and contamination;
  - direct sunlight during use or HID light that could heat up the fixture.
- Always disconnect the LED fixture from mains before performing any maintenance.
- Always allow for a cool-down period of at least 30 minutes before touching the LED. Touching the LED when the fixture is lit or immediately afterward can result in severe burns!
- Do not use the LED fixture near flammable, explosive or reactive substances. Do not use sulfur vaporizers.
- The installation and use of the LED fixture is the responsibility of the end user. Incorrect use or installation can lead to failure and damage to the LED fixture. Damage to the LED fixture and electronic circuitry as a result of incorrect installation and use voids the warranty.
- The minimum distance between adjacent lighting equipment is 4 inches (10.16 cm). The minimum distance between lighting equipment and combustible materials is 4 inches (10.16 cm).
- ⚠ **Caution!** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

5 Contents (1)

A. Gavita CT 2000e LED
B. Nut
C. Eyelet
D. Unistrut Hanger
E. Safety Wire

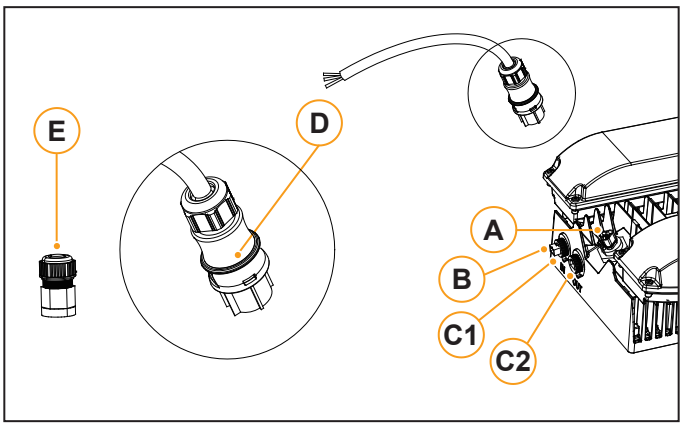
(*Power cord sold separately).*



1.

6 Controls, connections and indications (2)

A. Wieland RST 20i3 male connector
B. Dummy Plug
C. Gavita 2xRJ45 connector
   1. RJ IN
   2. RJ OUT
D. Wieland RST 20i3 female connector
E. Assembled cable glands



2.
3

7 Installation

⚠ **Warning!** Mounting and installation of the LED fixture may only be executed by certified service personnel, in accordance with applicable local laws and regulations.
⚠ **Warning!** The installer is responsible for correct and safe installation.
⚠ **Warning!** Ensure the local cabling can support the voltage and current requirements of the LED fixture.
⚠ **Warning!** Avoid coiled cords and keep mains leads separated. This prevents electromagnetic interference.
⚠ **Warning!** Do not connect or disconnect the LED fixture under load.

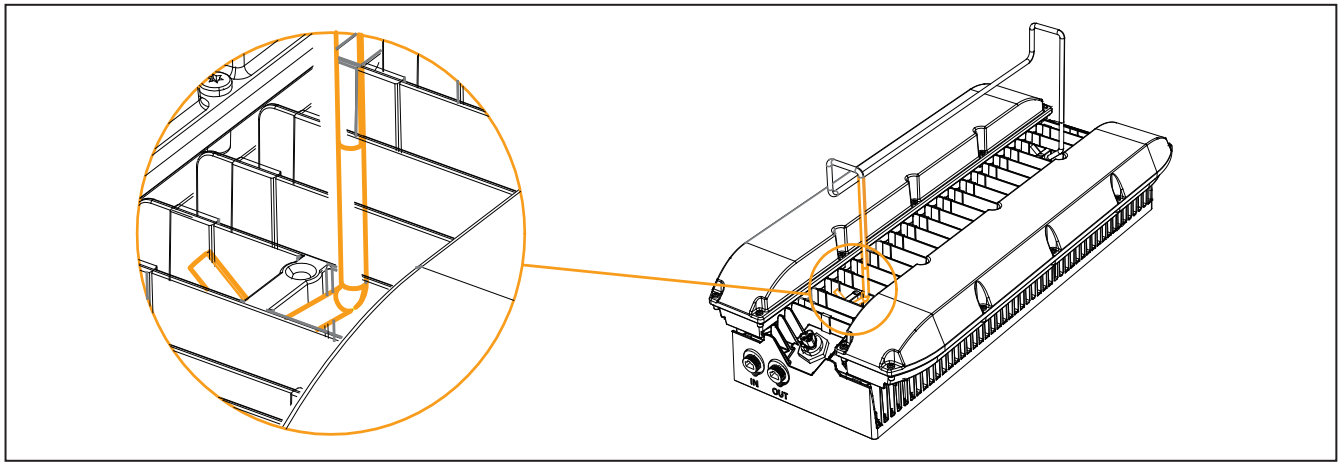
7.1 Installing the LED fixture

⚠ **Warning!** When mounting, attach the fixture to something that can support its entire weight.
⚠ **Warning!** To avoid shock hazard do not touch or move the luminaire while energized.
⚠ **Warning!** To avoid shock hazard ensure the luminaire is solidly grounded.

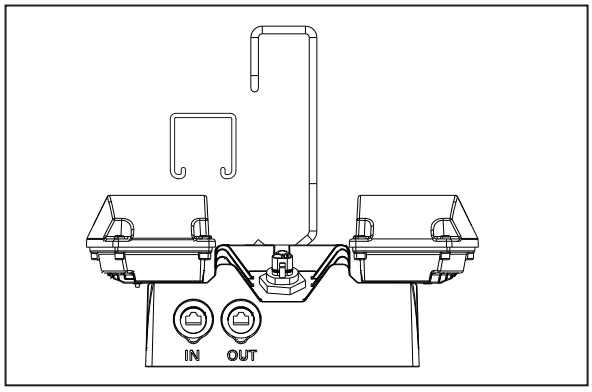
- Switch off main power.
- Hook the unistrut hanger onto the CT2000 (fig. 3).
- Holding the LED fixture by the unistrut hanger with 2 hands, lift the fixture and place the hanger onto the unistrut as shown in the picture (fig. 4).
- The center of the fixture is located 4-3/16" from the front (fig. 5).
- Install safety wire (B) as shown in picture (fig. 6).
- If a controller is not being used, make sure the dummy plug is inserted into the "IN" RJ45 communication port (fig. 7).
- Plug the female main power into the LED fixture's male power input (fig. 8). Press in until there is a "click" sound.

Make sure power cords:

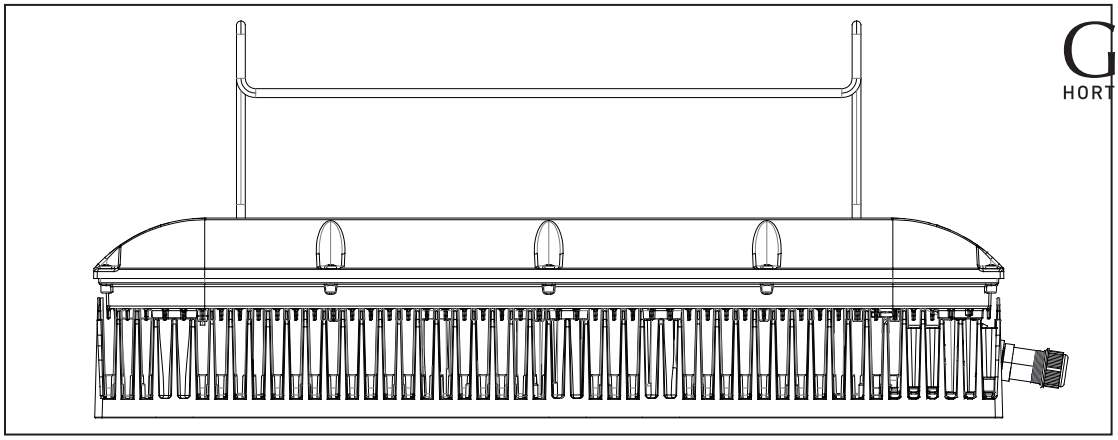
1. Are **not** concealed or extended through a wall, floor, ceiling, or other parts of the building structures.
2. Are **not** located above a suspended ceiling or dropped ceiling.
3. Are **not** permanently affixed to the building structure.
4. Are routed so they are not subject to strain and are protected from physical damage.
5. Are visible over their entire length.
6. Are used within their rated ampacity as determined for the maximum temperature of the installed environment specified in the instructions.



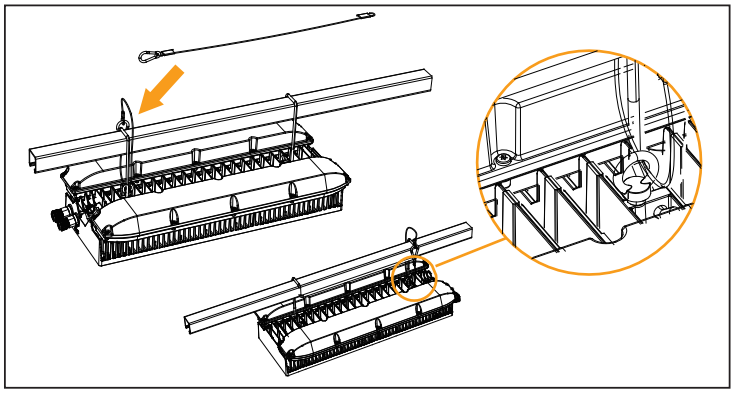
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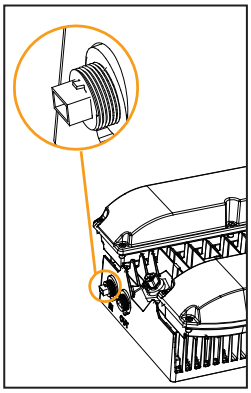
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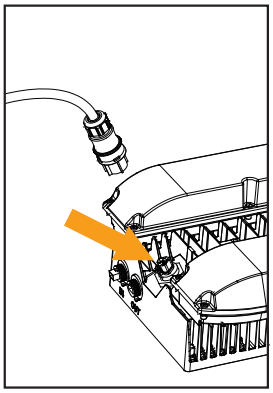
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6.



7.



8.

Using the Fixture:

1. Without a Controller

a. The included dummy plug on the input of the first fixture will ensure continuous operation at 100% output. The plug has a circuit board embedded which simulates 100% output (fig.9).

⚠ **Warning!** Please do not confuse this with a normal RJ45 terminal.

⚠ **Warning!** Only to be used on the "IN" port of the fixtures. Please do not insert this in any OUT port of a fixture (fig.10).

b. To turn fixtures off, you must rely on line voltage control at this point.

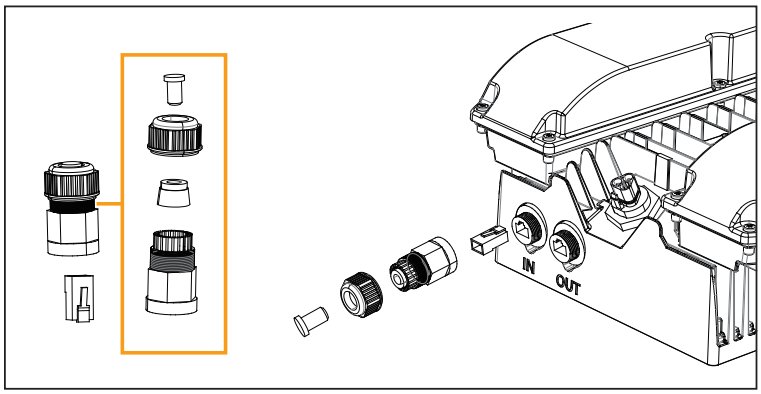
c. You have the option of daisy chaining explained in Section 7.4 or using a dummy plug in each individual fixture.

7.2 Connecting up to 512 LED fixtures

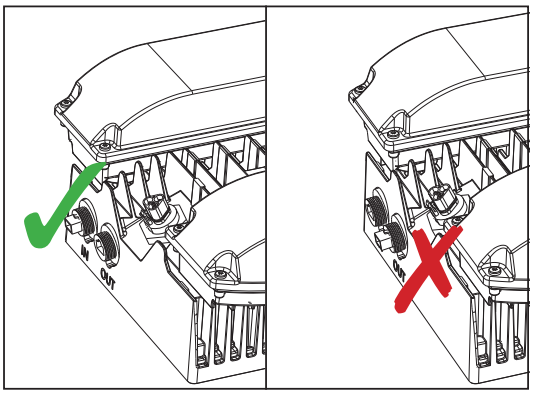
- Remove the dummy plug from the input port on the first LED.

Note: Keep the dummy in a safe place! The dummy is necessary to operate the LED fixture in standalone mode.

- Use the controller cable (RJ45 to RJ45) (fig. 6A) to connect the controller input port (fig. 6B) on the first LED.
- Remove the dummy from the input port on the second LED.
- Use interconnect cable (RJ45-RJ45) to connect the output port (fig. 6C) of the first LED fixture to the input port of the second LED fixture.
- Repeat these steps to connect up to 512 LED fixtures.



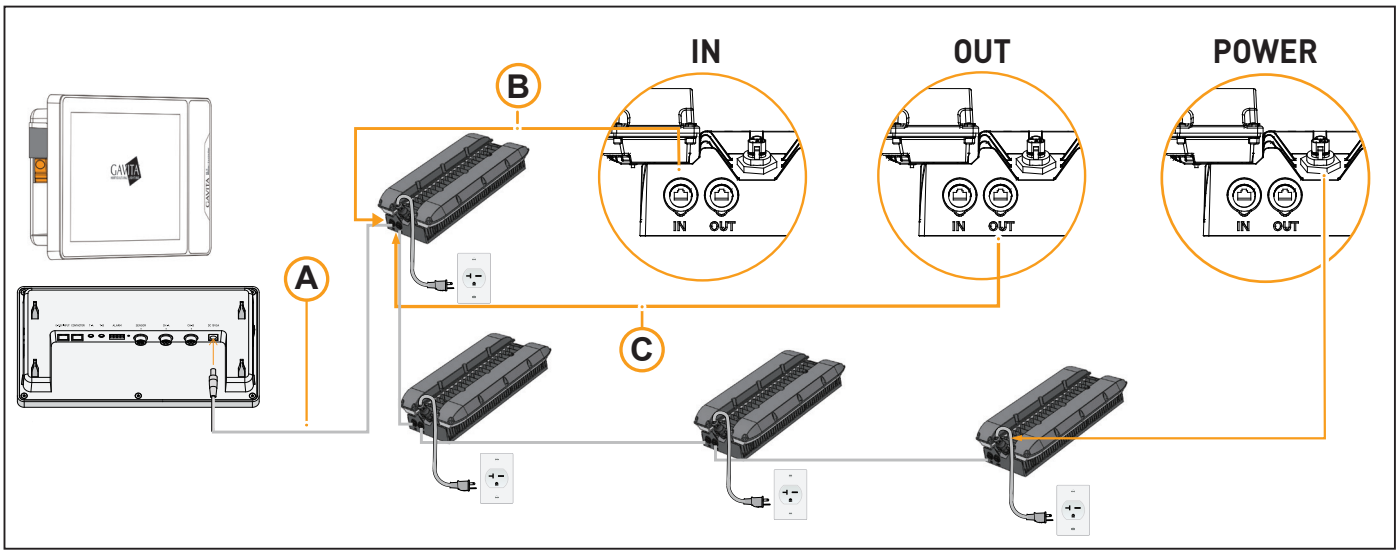
9.



10.

7.3 Connecting the LED fixture to the mains

⚠ **Warning!** Make sure mains power is switched off.
⚠ **Warning!** Ensure the cord is not coiled and does not touch any hot surfaces.
⚠ **Warning!** Connect the cables according to local rules, safety regulations and electrical code.
⚠ **Warning!** Ensure external switching gear can cope with the inrush current of the LED fixture (see section 3.2). Always use a double pole contactor suitable for switching a capacitive load. Never use household timers to switch the LED fixture!



11.

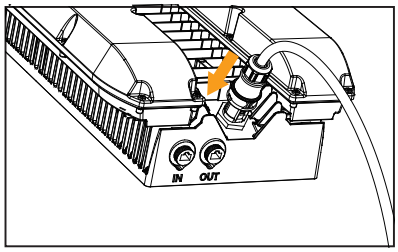
- Connect the Wieland RST20i3 female connector on the power cable to the Wieland RST20i3 male connector on the LED fixture (fig. 6).
- Connect the power cable to the mains (fig. 8). Ensure use of the appropriate power cord for the NEMA socket. Please reference section 3.3 for compatible power cords.

Cable description CT 2000e LED 208 V, 240 V, 277 V, 347 V, & 480 V:

Wire	277, 347 Vac.	208, 240, 480 Vac.
White	Neutral (N)	Line (L1)
Black	Phase (L)	Line (L2)
Green	Ground (⏚)	Ground (⏚)

- Switch on mains power.

⚠ **Warning!** Do not connect or disconnect the power cable to the LED fixture while under load.



12.

8 Inspection, maintenance and repair

⚠ **Warning!** Disconnect the LED fixture from mains before performing any maintenance or repairs.
⚠ **Warning!** Do not connect or disconnect the LED fixture under load.
⚠ **Warning!** Do not open or disassemble the LED fixture; there are no serviceable parts inside. Opening the LED fixture can be dangerous and will void the warranty.

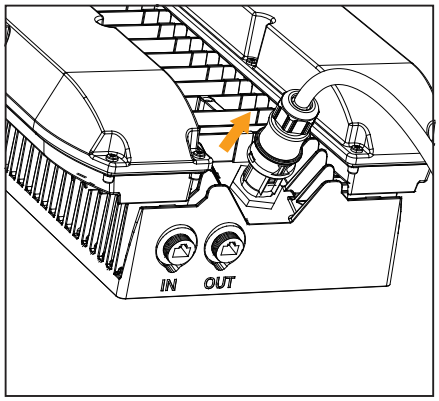
⚠ **Warning!** Always allow for a cool-down period of at least 30 minutes before touching the LED.
⚠ **Caution!** Do not clean the LED fixture with detergents, abrasives or other aggressive substances.

- Regularly check the LED fixture for dust or dirt buildup. Clean if necessary. Contamination may cause overheating and decreased performance. Clean the outside of the LED fixture using a dry or damp cloth.
- Regularly check the cables of the LED fixture to ensure it is undamaged.

8.1 How to disconnect the Wieland RST20i3 plug

⚠ **Warning!** Do not connect or disconnect the Wieland RST20i3 plug when under load.

- Switch off main power.
- Pull the Wieland RST20i3 female connection from the LED fixture (fig. 13).



13.

9 Storage and disposal

- Store the LED fixture in a dry and clean environment, with an ambient temperature of -4~185° F / -20~85° C.
- The product must not be discarded as unsorted municipal waste, but must be collected separately for the purpose of treatment, recovery and environmentally sound disposal.

10 WARRANTY SERVICE:

For LED Products, the Product shall be considered "defective" only if: (i) for indoor rack toplights, 15% or more of the individual light emitting diodes fail to illuminate, or the luminaire's output has less than 80% of its original photon output as published in the applicable Product Documentation, including tolerances; (ii) for the CT2000e, 5% or more of the individual light emitting
diodes fail to illuminate, or the luminaire's output has less than 80% of its original photon output as published in the applicable Product Documentation, including tolerances; and (iii) for the Agrolux WEGA, the luminaire's output has less than 90% of its photon output as published in the applicable Product Documentation, including tolerances; in each case, as measured by Hawthorne or by an unaffiliated third party nationally recognized laboratory, in Hawthorne's sole discretion.

11 LIMITED WARRANTY:

When purchased from an authorized Hawthorne dealer, this product is covered by a LIMITED WARRANTY, available at hawthornegc.com/warranties. You can also obtain the Terms of Sale and Limited Warranty by calling Hawthorne toll-free at: 1-888-478-6544 or writing Hawthorne at: Hawthorne Hydroponics LLC, 800 Port Washington Blvd.
Port Washington, NY 11050, Attn: Customer Service.

Please note that failure to follow directions related to installation, use and/or maintenance may result in serious injury, death, or property damage and will void the warranty, and the purchaser will be responsible for any and all repairs and/or damages incurred.

Manufactured for Hawthorne Hydroponics LLC,
a subsidiary of The Hawthorne Gardening Company,
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ART

Design Studio/Contact:	Hawthorne Production Project Number: 202508	Separator/Contact:
Sheri Deane		

Design, File Name:
HGC906415_Gavita_CT2000e_LED_208-480V_Manual_240327aSD.indd

PRODUCTION/PACKAGE **VERSION**

Job Description:
2024 HGC Gavita CT2000e Instruction Manual — **2**

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HGC906415	Manual/Instructions	
Component #:	Substrate:	Date Modified: 03/27/24
Hawthorne Project Number: 202508	Printer Die Line #:	Operator:
Hawthorne Project Lead: Maddie Hook	Translation Approval Code:	Final Artwork Size: 8.5 x 11

File Name: HGC906415_Gavita_CT2000e_LED_208-480V_Manual_240327aSD.indd

OBF Project #: Wave: UPC #:

OBF Job #: UPC SIZE: UPC BW:

PRINTER

Printer & Location:	Print Method: 4 color	Color Stations:
TCP	Additional Information:	

Colors:
- Cyan
- Magenta
- Yellow
- Black

REGULATORY SIZES

Minimum Font Size (All Panels) 9 Point

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