



Dutch LightingTM
Innovations

INFORMATION DOCUMENT

Redefine
Grow Light

Designed and made in The Netherlands

WWW.DLI.NL



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General Terms and Conditions

1 DEFINITIONS

The following definitions apply in these General Terms and Conditions of Sale:

Agreement:	All agreements between DLI and the Customer relating to the purchase of goods and/or services by the Customer from DLI, and all other orders placed by the Customer with DLI.
Affiliated Companies:	Those companies which are part of the same group pursuant to Section 2: 24b of the Dutch Civil Code or an affiliated company by virtue of Section 2: 24c of this Civil Code;
Customer:	Every Customer or other party who enters into or wishes to enter into an agreement with DLI, or to whom the latter makes an offer, delivers a product or performs a service, and additionally any of these parties' legal successors, and every party who has given DLI any other order;
DLI:	Dutch Lighting Innovations Holding B.V. and/or its affiliated companies;
Supplier:	A person or business enterprise that directly or indirectly provides services to facilitate the performance of an Agreement between the Customer and DLI, as well as a manufacturer of products (or parts thereof) that supplies goods to DLI on behalf of the performance of an Agreement between the Customer and DLI.

2 SCOPE OF APPLICABILITY

- 2.1 These General Terms and Conditions apply to all quotations, offers, legal acts and agreements of or between DLI and the Customer, In the event of a conflict between with these General Terms and Conditions and any Agreement, the Agreement shall prevail.
- 2.2 Deviations from these General Terms and Conditions are only permissible subject to prior acceptance in writing by DLI.
- 2.3 If any provision of these Terms and Conditions is invalid or inapplicable for any reason, the remaining provisions of these Terms and Conditions shall continue to apply and the invalid provision shall be construed so as to preserve its purpose and intent as far as possible. If such an interpretation does not provide a solution, DLI and the Customer will consult each other to agree on new provisions to replace the invalid provisions in order to ensure that the purpose and intent of the original provisions are retained. If a situation arises between the parties for which no provisions have been made in these General Terms and Conditions or the Agreement, the situation must be assessed "in the spirit" of these General Terms and Conditions.
- 2.4 DLI is entitled at all times to amend these General Terms and Conditions and the client agrees to any changes.
- 2.5 The applicability of any General Terms and Conditions of the Customer is explicitly excluded.
- 2.6 If DLI acts in derogation of these General Terms and Conditions and/or does not demand strict compliance at all times, this does not mean that the provisions are not applicable, and the Customer cannot derive any rights from them in similar or other situations.
- 2.7 The Dutch version of these General Terms and Conditions shall be considered as the only authentic version. In the event of any discrepancy between the Dutch version and a translation into whatever foreign language, the Dutch version shall prevail.



3 Quotations

- 3.1 All Quotations are provided without obligation and may be withdrawn or amended at any time.
- 3.2 Although the documents that are a part of a Quotation by DLI (technical specifications, drawings, calculations, etc.) have been prepared as accurately as possible, they are not binding. If the Customer is shown a model, demo or image, this has been provided by way of indication only and no rights may be derived from it, unless expressly agreed otherwise. All models, illustrations, numbers, measurements, messages or descriptions contained in catalogues, websites or price lists, for example, been provided by way of indication only.
- 3.3 All prices stated in a Quotation are based on "FCA" (Free Carrier Agreement) delivery from the DLI warehouses in the Netherlands in accordance with the 2020 Incoterms. All prices stated exclude VAT and packaging.
- 3.4 If the Customer does not accept a Quotation provided by DLI, the latter will be entitled to charge the Customer for all costs incurred in drawing up the Quotation, and the Customer will be obliged to pay these costs within fourteen (14) days from the date of invoice.
- 3.5 A Quotation will be valid for fourteen (14) days, unless indicated otherwise by DLI.
- 3.6 An Agreement between DLI and the Customer is considered concluded if DLI has expressly accepted an order or engagement from the Customer in writing or when DLI has started the execution of that order or engagement.

4 INFORMATION PROVISION

- 4.1 The Customer has a duty to cooperate with DLI and to ensure the timely delivery of all information that is or may be necessary for the execution of the Agreement. If all information is not provided in due time, DLI is entitled to suspend or terminate the Agreement or to charge the Customer for any additional costs arising from the delay.
- 4.2 The Customer is responsible for ensuring that the information provided is accurate, complete and reliable (even if the information is provided by or via another party). DLI may at all times rely on the information provided by the Customer and may assume that it is complete and correct for the purposes of issuing its Quotation and the execution of the Agreement. The Customer shall bear all risks and be held liable for any damage arising from an error or omission in relation to the information it has provided.
- 4.3 If the Customer supplies media for the storage of data, electronic files or software, the Customer shall guarantee that such media, files or software are free from viruses and defects.
- 4.4 The Customer cannot derive any rights from advice or information received from DLI if this does not bear any relation to the relevant Agreement. The final choice with regard to the type of fixture and/or light spectrum is at all times the responsibility of the Customer.
- 4.5 The Customer indemnifies DLI against all claims from third parties relating to recommendations and/or the use of drawings, calculations, designs, materials, samples, models and similar provided by or on behalf of the Customer.

5 CHANGE REQUESTS

- 5.1 Change requests in regard of the work may lead to additional or cancelled work if:
 - (a) a change has been made to the design or the specifications;
 - (b) the information provided by the relevant Customer does not correspond to the actual situation;
 - (c) there is a deviation from the estimated or contractual agreed quantities.
- 5.2 Additional work shall be calculated on the basis of the cost-determining factors applicable when such additional work is performed. Cancelled work shall be calculated on the basis of the cost-determining factors applicable at the time when the relevant Agreement was concluded.



- 5.3 The Customer must pay the costs of additional work referred to in Clause (1) of this article at one of the following times, to be determined by DLI:
- (a) when the additional work is performed;
 - (b) simultaneously with the payment of the principal sum;
 - (c) together with the next partial payment.
- 5.4 If the sum of the cancelled work exceeds that of the additional work, DLI may charge the Customer ten per cent (10%) of the difference as part of the final invoice, unless the cancelled work is due to a request issued by DLI.

6 PRICES

- 6.1 DLI may pass on an increase due to changes in cost price determining factors that occur after the relevant Agreement with the relevant Customer has been concluded.
- 6.2 The Customer shall be obliged to pay any price increase referred to in Clause (1) of this article at one of the following times, as determined by DLI:
- (a) when that price increase is imposed;
 - (b) simultaneously with the payment of the principal amount;
 - (c) together with the next partial payment.

7 PAYMENT

- 7.1 Payment must be made to a bank account designated by DLI.
- 7.2 The Customer is not permitted to set off or suspend its claims against DLI, unless DLI has been declared bankrupt or has applied for a payment moratorium.
- 7.3 Regardless of whether DLI has performed the agreed service in full or not, all obligations of the Customer arising from the Agreement will become immediately due and payable if:
- (a) a payment deadline has not been met;
 - (b) a petition for bankruptcy or suspension of payments is filed against the Customer;
 - (c) the Customer's assets or claims have been seized;
 - (d) the Customer's business enterprise is dissolved or liquidated;
 - (e) the Customer (being a natural person) applies for the application of a debt rescheduling procedure, is placed under receivership, or dies.
- 7.4 In the event of overdue payment, the Customer shall be in default by operation of law and shall owe statutory commercial interest (within the meaning of Section 6:119a of the Dutch Civil Code) which shall be due as from the invoice date. The interest amount is determined by the Dutch government.
- 7.5 DLI is entitled to set off claims against the Customer against any claim that DLI or its Affiliated Companies have against that Customer. Furthermore, DLI is entitled to set off its claims against the Customer against any claim that DLI or its Affiliated Companies may have against the Customer. DLI is entitled to set off its claims to the Customer against any claim or against any other company affiliated with the relevant Customer.
- 7.6 The Customer shall pay all judicial and extrajudicial costs incurred, at present or in the future, to DLI as a result of the Customer's failure to fulfil its obligations properly and in due time. If the court rules in favour of DLI in legal proceedings, the Customer concerned will be liable for all costs incurred by DLI in relation to these proceedings.
- 7.7 Regardless of the payment conditions agreed upon, the Customer is obliged, at DLI's immediate request, to provide a payment guarantee and/or security as deemed appropriate by DLI for payment to DLI. If the Customer fails to do so within ten (10) days after the immediate request has been issued, the Customer shall be in default. In that case, DLI is entitled to dissolve the relevant Agreement, in whole or in part, and to recover any loss from the Customer concerned.



- 8 DELIVERY OF GOODS AND DELIVERY TIMES; PERFORMANCE OF SERVICES AND WINDOW OF EXECUTION**
- 8.1 DLI undertakes to execute the Agreement and/or additional (warranty) obligations to its best ability, taking into account the legitimate interests of the Customer, but does not guarantee the achievement of any intended result.
- 8.2 DLI will set its delivery times and/or implementation periods on the basis of the circumstances and information known to it at that time. Delivery times and/or implementation periods are always indicative; a specified delivery time is never a deadline.
- 8.3 A delivery period and/or implementation period shall only commence after an agreement has been reached with regard to all commercial and technical details, and all the necessary information, the final and approved drawings and similar are in possession of DLI, the agreed payment or partial payment has been received and the conditions necessary for the execution of the relevant Agreement or obligations arising from this Agreement have been met.
- 8.4 DLI may make partial deliveries and send partial invoices in connection with this delivery, which must be paid in accordance with the provisions of Article 7 of these General Terms and Conditions.
- 8.5 If there are circumstances where DLI was not aware of when indicating a delivery time and/or period of execution, it may extend this delivery time and/or period of execution by the time required to execute the relevant Agreement under those circumstances. If it is impossible to fit any work into DLI's planning, it will be carried out as soon as the planning permits, without DLI being held liable for any delay and damage. If these circumstances are caused by the Customer, the Customer is obliged to compensate DLI for any damage caused by these other circumstances.
- 8.6 In the event of additional work, the delivery time and/or period of execution will be extended by the time DLI needs to deliver (or have delivered) the relevant materials and parts. If it is impossible to fit additional work into the DLI planning, it will be executed as soon as the planning permits, without DLI being held liable for any delay and damage.
- 8.7 If there is reason to suspend DLI's obligations, the delivery time and/or implementation period will be extended by the duration of that suspension. If it is impossible for DLI to fit any work into its schedule, the work will be performed as soon as DLI's schedule permits, without DLI being held liable for any delays and/or loss or damage.
- 8.8 If delivery by a Supplier is delayed, the delivery time and/or implementation period will be extended by the resulting delay and, if the work does not, in this case, fit into DLI's schedule, the work will be performed as soon as DLI's schedule permits, without DLI being held liable for any delays and/or loss or damage.
- 8.9 Under no circumstances shall non-compliance with a delivery time and/or implementation period entitle the Customer concerned to compensation or to cancellation and/or termination of the Agreement.
- 8.10 Upon expiry of the delivery period and/or the period within which the goods must be delivered, the Customer is obliged to collect the item or items that are the subject of the Agreement at a location agreed upon by the parties.
- 8.11 The Customer is obliged to provide all cooperation that may reasonably be expected from it to enable DLI to deliver the goods and/or services.
- 8.12 If, for whatever reason, the Customer does not accept the delivery or timely delivery of the goods in accordance with the Agreement, the Customer shall bear, all additional costs incurred in vain by DLI in connection with the Quotation, as well as any additional costs for transport, safekeeping and storage. The risk shall pass to the Customer at the moment that DLI offers the goods for delivery pursuant to the Agreement and the Customer does not accept the delivery, for whatever reason. Uncollected goods shall be stored at the expense and risk of the Customer.



- 8.13 In the event of a breach of the provisions of Clause(s) 10 and/or 11 of this article, the Customer shall be liable to pay DLI a penalty of two hundred and fifty euros (EUR 250.00) per day, to which a maximum of twenty-five thousand euros (EUR 25,000.00) applies or the total value of the Agreement. This penalty may be claimed in addition to the compensation that can be claimed by operation of law and constitutes a deviation from Section 6:92(2) of the Dutch Civil Code.

9 TRANSFER OF RISK

- 9.1 Unless otherwise agreed in the Quotation or Agreement, Delivery takes place on the basis of the FCA (Free Carrier Agreement) from one of the DLI warehouses pursuant to the 2020 Incoterms. Any risks associated with materials shall pass to the Customer at the time of delivery.
- 9.2 Regardless of the provisions of Clause (1) of this article, the Customer and DLI may agree that DLI shall be responsible for organising transport. The Customer shall, in that case, bear the risks of storage, loading, transport and unloading. The Customer will insure itself against risks such as these.
- 9.3 If an exchange takes place and the Customer holds the product to be exchanged in possession pending delivery of the new product, the Customer bears all risks relating to the product to be exchanged until it has been placed in possession of DLI. If the Customer is unable to return the product in the condition in which it was when the relevant Agreement was concluded, DLI shall be entitled to cancel that Agreement.

10 RETENTION OF TITLE

- 10.1 DLI shall retain ownership to all goods delivered, until the Customer has paid all amounts owed to DLI under the Agreement and/or other agreements in full, including costs and interest.
- 10.2 Notwithstanding the provisions of Clause 10.1, the Customer may resell and supply goods supplied subject to retention of title as part of its normal business operations.
- 10.3 The Customer shall, in the case referred to in Clause 10.2, inform third parties of DLI's retention of title.
- 10.4 In the event of overdue payment by the Customer, DLI is entitled to repossess the goods subject to retention of title on its own authority at the Customer's expense, irrespective of where they are located. The Customer is obliged to cooperate fully in this respect. By entering into the Agreement, the customer gives its unconditional and irrevocable consent to DLI or third parties appointed by DLI to enter whatever location is necessary in order to repossess the goods.
- 10.5 In the event that DLI terminates or dissolves an Agreement, whether in whole or partly, it is entitled to reclaim that part of the relevant shipment that has not been paid for. Termination or dissolution does not affect DLI's right to payment and/or compensation for loss or damage.
- 10.6 After DLI has delivered goods to the Customer pursuant to the Agreement and the Customer has fulfilled its obligations, the retention of title in respect of those goods will be revived in the event that the Customer fails to fulfil its obligations under a subsequently concluded Agreement.
- 10.7 The Customer is obliged to insure all goods delivered under retention of title against fire, explosion, water damage and theft, and to keep them insured on the basis of their new value, and to present the relevant insurance policy for inspection at DLI's immediate request. Any compensation for damages paid by the insurer shall take the place of these goods and accrue to DLI.



11 LIABILITY

- 11.1 DLI cannot be held liable for any damage incurred by the Customer, whether directly or indirectly, as a result of defective goods, services or work provided or performed by DLI, the Customer and/or any other party whether or not engaged by DLI, or the failure of any goods and/or services, whether provided or to be provided by DLI, the Customer and/or any other party, to function properly or in good time, except in the case of deliberate intent or gross negligence on the part of DLI.
- 11.2 In the event that DLI is not entitled to invoke Clause (1) of this article, its obligation to provide compensation on any legal grounds whatsoever is limited to the amount and damage for which it is insured, but in no case will DLI's liability exceed the amount paid out under that insurance policy in the case in question.
- 11.3 If DLI is not entitled to invoke the limitation provided for in Clauses (1) and (2) of this article, its liability for compensation for loss or damage will be limited to a maximum amount of thirty per cent (30%) of the total value of the Agreement (excluding VAT), up to a maximum of one million euros (EUR 1,000,000).
- 11.4 The following shall never qualify for compensation:
- (a) Consequential damage resulting from whatever cause. "Consequential damage" shall include, but not limited to, a delay in the delivery of goods and services, any loss or damage due to an interruption of business operations or lost productivity, loss of earnings, shipping costs and/or travel and accommodation expenses, whether or not in connection with defects in the products supplied;
 - (b) Damage to items held in custody. "Damage to goods held in custody" shall include any damage caused to goods on which work is being carried out or which are located in the vicinity of the place where the work is being carried out as a result of or during the performance of that work;
 - (c) Damage resulting from intentional acts or omissions, or wilful recklessness by subordinates or third parties engaged by DLI or the Customer;
 - (d) Damage as a result of an interruption of business operations (i.e. an interruption in production, loss of income and similar).
- 11.5 DLI cannot be held liable for any damage caused to materials delivered by or on behalf of the Customer due to the fact that they have not been properly handled by the Customer or on the Customer's behalf.
- 11.6 The Customer indemnifies DLI against any claim by a third party based on product liability arising from a defect in a product that the Customer has supplied to that third party and that consists, whether in whole or in part, of products and/or materials supplied by DLI. The Customer is obliged to compensate DLI for any loss or damage suffered in this respect, including all costs related to legal defence, if applicable.
- 11.7 DLI cannot be held liable for any harmonic current emissions, power surges, inrush peaks or other forms of dirty power in the Customer's electrical systems and/or any loss or damage resulting from this.
- 11.8 DLI cannot be held liable for any loss or damage caused by exceeding the contractual capacity that the Customer has agreed upon with its energy supplier and/or network operator.
- 11.9 DLI cannot be held liable for any loss or damage caused to the Customer by its staff and/or any third party it has engaged or the Supplier, on any grounds whatsoever or for any reason whatsoever, except in the case of a deliberate act or gross negligence on the part of DLI. The liability shall in no case extend beyond the cover provided by the relevant insurance policy taken out by DLI.
- 11.10 DLI cannot be held liable for loss or damage of any kind that occurs as a result of the improper, careless or incompetent use of goods supplied by DLI or their use for any purpose other than their intended purpose.



12 WARRANTIES AND OTHER RIGHTS (GENERAL)

- 12.1 Unless otherwise agreed in writing, whether in these General Terms and Conditions or otherwise, and confirmed in writing by DLI, DLI guarantees proper performance as agreed for a period of one (1) year from the date of delivery. If other guarantees or terms have been agreed upon and confirmed in writing by DLI, the other provisions of this article and these General Terms and Conditions shall continue to apply.
- 12.2 If the goods delivered are not reliable, DLI may choose to deliver reliable goods or credit the Customer for a proportionate part of the relevant invoice, without being obliged to provide compensation for any loss or damage suffered by the Customer. In the event that DLI chooses to fulfil its obligations properly after all, it will determine, at its own discretion, how and when this will take place. If the performance agreed upon consists (in whole or in part) of the processing of materials provided by the Customer, the Customer is obliged to provide new materials at its own risk and expense within the term requested for this by DLI.
- 12.3 The Customer must, after establishing contact with DLI in regard of this, send DLI all parts or materials that need to be repaired or replaced.
- 12.4 The Customer shall bear all costs related to:
- (a) transport or shipping;
 - (b) assembly and disassembly;
 - (c) travel and accommodations.
- 12.5 In all cases, the Customer is obliged to give DLI the opportunity (whether or not at the Customer's premises at the request of DLI) to repair a defect or to perform the work in question again or to have it performed again by a third party within a reasonable period. The Customer is obliged to provide DLI with all information that is or might be necessary for the repairs or performance of the work performed in regard of the warranty.
- 12.6 The Customer may only invoke warranty after it has fulfilled all its obligations to DLI and if the requirements set out in these General Terms and Conditions have been met, including but not limited to the requirements set out in Article 19.
- 12.7 No warranty will be provided in the event that a defect is the result of:
- (a) normal wear and tear;
 - (b) mechanical damage;
 - (c) improper, careless, negligent or incompetent use;
 - (d) a failure to perform maintenance or perform improper maintenance;
 - (e) installation, assembly, modifications or repairs carried out by the Customer or any other party, which also (though not exclusively) includes modifying the items in order to allow other items to pass through, between or directly alongside the items supplied by DLI;
 - (f) any defective or unsuitable item originating from or specified by Customer;
 - (g) defective or unsuitable auxiliary or other materials used by the Customer;
 - (h) use for purposes other than normal intended use; The normal intended use is the grow of flowers and plants in the broadest sense of the word.
 - (i) harmonic current emissions, over- or undervoltage, power surges, inrush peaks or other forms of dirty power in the Customer's electrical systems;
 - (j) a failure to comply with the instructions and guidelines provided by DLI;
 - (k) the use of chemical agents other than those provided in the list of safe agents or the use of water or moisture, unless this is permitted within the IP classifications;
 - (l) information provided by the Customer;
 - (m) accidents, including but not limited to fire and natural disasters;
 - (n) exposure to temperatures or humidity ranges that are either too high or too low.



- (o) the use of the lighting installation in the occasion that there is an energy surplus in the electricity grid (regulating emergency power), without taking into account the, by the manufacturer prescribed, maximum permissible operating temperature and humidity level.

If it is plausible that the defect is a consequence of one or more of the aforementioned exclusions, no warranty will apply, unless the Customer can prove that one of the aforementioned exclusions does not apply.

12.8 No warranty is provided for:

- (a) all delivered items that were not new at the time of delivery;
- (b) the inspection and repair of an item belonging to the Customer;
- (c) parts for which a manufacturer's warranty has been issued by the Supplier;
- (d) defects that do not impair the functioning of the product (scratches, dents, etc.).

12.9 Only the Customer with whom the Agreement has been entered into may claim any form of warranty as set out in these General Terms and Conditions.

12.10 If DLI chooses to credit the Customer as set forth in Clause 2 of this article, only an amount minus a proportionate percentage of the period of use of the product in relation to the total warranty period will be credited as compensation for the use of the product supplied by DLI.

12.11 In the event that DLI chooses to replace or renew the product, there may be deviations in terms of design and/or product specifications and/or light output and/or colour spectrum due to the ageing of the item originally delivered and renewal and technical progress of the item. DLI is not liable for any consequences associated with this.

12.12 The provisions of Clauses (2) to (11) of this article apply *mutatis mutandis* pursuant to the Customer's rights based on defective performance, non-conformity or any other reason.

13 CONDITIONS RELATING TO THE APPLICABILITY OF WARRANTY (GENERAL)

13.1 Warranty shall only apply:

- I. provided that the supplied equipment is properly wired and installed and operates in accordance with the relevant electrical parameters, operating range and environmental requirements as defined in the specifications, instructions, or any other document accompanying the shipment or in IEC standards;
- II. if the installation has been carried out by the relevant Customer and the electrical system has been inspected by a certified Low Voltage Wiring and Lighting System Inspector and the findings have been recorded in an inspection report;
- III. provided that a shipment has not been used incorrect, misused or used abnormally or improperly in violation of applicable standards, codes or instructions, including but not limited to any standards contained in the most recent electrical and/or safety and industry standards for the relevant region(s); and
- IV. provided that the installation of the Customer is equipped with an operating hours registration that DLI deems sound. In the event that a complaint is made, the Customer must, at DLI's first request, provide convincing evidence of the number of operating hours of the lighting installation and switches per day.
- V. provided that the delivered goods have been supplied by DLI. If goods are in any way (under general or special title) wholly or partly transferred to a third party (second-hand), guarantees and any responsibilities of DLI lapse, unless stated otherwise in the Agreement. The Customer indemnifies DLI against any claims that third parties attempt to enforce against DLI.

13.2 The warranty period on products, including but not limited to fixtures, as stipulated in articles 14,15 and 16 of these general terms and conditions starts at the time it is put into use or at the latest one (1) month after the fixtures have been shipped from one of the DLI warehouses, whichever occurs first.



13.3 The warranty period for parts that are not complete fixtures as referred to in clause (2) starts at the moment that DLI ships them from one of the DLI warehouses or in case of direct shipment from the warehouse of one of DLI's Suppliers.

13.4 The remaining duration of the originally agreed warranty applies in the event of replacement of defective/defective products, including but not limited to fixtures and components. In the event of replacement, the parties may agree that the warranty period will be provided in full against payment of a proportional percentage of the new price of the new product based on the duration of the product used in relation to the total warranty period, as compensation for the use of the product supplied by DLI.

14 WARRANTY ON DEFECTIVE ELECTRONIC BALLASTS AND LAMPS

14.1 The warranty period for each type of electronic ballast supplied by DLI is one (1) year, unless stated otherwise in the Agreement. Breakage, contamination, water- and mechanical damage are not covered by the warranty.

14.2 The warranty period for each type of lamp supplied by DLI is one (1) year, unless stated otherwise in the Agreement. The warranty does not cover breakage, pollution or water- and mechanical damage.

14.3 The aforementioned warranty conditions for electronic ballasts and lamps apply only on condition that they are included in a light fixture as a single system produced by the same manufacturer. If they are not assembled as a single system produced by the same manufacturer, the warranty is invalidated unless DLI has provided prior written consent to this effect.

15 WARRANTY ON HIGH-PRESSURE SODIUM (HPS), METAL HALYDE (MH), CERAMIC METAL HALIDE (CMH), ULTRA-VIOLET (UV) OR ANY OTHER TYPE OF LIGHT FIXTURE WITH ELECTRONIC BALLASTS

15.1 The warranty mentioned in this article applies to electronically controlled light fixtures with an electronic ballast.

15.2 The warranty period for HPS, MH, CHM, UV or any other type of light fixture fitted with an electronic ballast is one (1) year, unless stated otherwise in the Agreement.

15.3 UV light fixtures are supplied with instructions for use and a warning sheet. The light fixtures also feature warning stickers or safety devices on the fixture itself. It is not permitted to remove the stickers/safety devices without adequate knowledge of the information and/or to act in contravention of the information on these stickers/safety devices. If removal is nevertheless carried out without knowledge or in non-compliance with the information on the stickers/safety devices, any warranty will lapse and any damage will be entirely at the expense and risk of the Customer. By removing the warning stickers/safety devices, the customer accepts the risks of using these light fixtures.

15.4 If a UV light fixture is in any way (under general or special title) wholly or partly transferred to a third party (second-hand), guarantees and any responsibilities of DLI lapse. The Customer guarantees that it will inform this third party sufficiently properly about the stickers and safety devices known to it and their contents. The Customer indemnifies DLI against any claims that third parties attempt to enforce against DLI and all possible consequences of the transfer of the UV light fixture.



16 WARRANTY FOR LIGHT FIXTURES WITH AN LED LIGHT SOURCE

- 16.1 The guarantee stated in this article applies to light fixtures fitted with an LED light source.
- 16.2 Lighting calculations are non-binding and are provided on an approximate basis. The spectrums and type of light fixture specified by DLI in the lighting calculations are indications based on the information and the request of the Customer. The Customer remains at all times responsible for the final type of light fixture, spectrum and result thereof chosen by the Customer. The Customer must take into account both possible plus and minus tolerances due to unknown factors, e.g. diode and reflection tolerances. For the assessment of compliance with the issued tolerances, the entire light output within the products supplied by DLI in a project will be considered. No guarantee will be given of the intended light output.
- 16.3 The warranty period on light fixtures fitted with an LED light source is, unless otherwise stated in the Agreement or an Offer, a period of five (5) years, 5,000 lighting hours per year or 1,000 switchings per year, whichever occurs first, commencing from the time when the light fixture is put into service or no later than one (1) month after the light fixture has been shipped from one of DLI's warehouses, whichever occurs first.
- 16.4 A warranty will be granted if the total light output of 90% of all LED light fixtures supplied by DLI in a project, within the warranty period, has decreased by more than 10% compared to the specified light output in the lighting plan, unless stated otherwise in the Agreement. This will be determined on the basis of tests, carried out by the manufacturer, of at least 10 randomly selected light fixtures from the project concerned.
- 16.5 If it has been contractually agreed that a first measurement must take place immediate after installation at first use of the LED luminaires, this measurement will be carried out on location by an independent measurement institute in accordance with the manufacturer's guidelines.
- 16.6 Any practical on-site measurements, including the measurement mentioned in 16.5, will be carried out in accordance with the manufacturer's guidelines and at an ambient temperature not exceeding 25°C.
- 16.7 The starting point of each measurement is the parameters as specified in the lighting plan. The light values (uniformity and light quantity) are calculated values, without taking into account light interception by, for example, the greenhouse construction, cultivation or crop wires, hooks, heating pipes, fans, sensors, catch tapes (insect trap) and all other equipment or items in the greenhouse or parts of the greenhouse that are necessary for cultivation of flowers and plants in the broadest sense of the word.
- 16.8 Measurements with regard to spectrum and power consumption of the supplied LED fixtures, will be carried out by the manufacturer, or a third party appointed by the manufacture with appropriate and calibrated equipment.
- 16.9 Deviations in light colour/luminescence due to difference in degeneration of the diodes used are excluded.
- 16.10 In the event that DLI chooses to replace defective light fixtures with LED light sources, there may be deviations in light colour/luminescence in comparison with the originally supplied products, caused by technical progress and by ageing of the original product. Tolerances as specified by DLI's Supplier are authoritative and must be complied with. In the event of replacement, technical progress may necessitate a change in the composition of the previously selected colour/light spectrum. Before replacement is carried out this will be discussed and assessed with the Customer.
- 16.11 The Customer must be and acknowledges being informed that the degree of soiling of the fixture should be monitored on a weekly basis and upon detection of any soiling to the lens and light fixture the Customer must clean the lens and fixture with a cleaning agent approved by DLI. Any damage to the light fixture caused by overdue maintenance of the fixtures is excluded from warranty at all times.



17 LIGHT OUTPUT GUARANTEE

- 17.1 The warranty provisions in this article apply to all lamps intended for electronic and electromagnetic light fixtures, with the exception of LED light sources.
- 17.2 Light calculations are approximate and provided without any obligation. The Customer must take into account both a possible plus and minus tolerance due to unknown factors, such as lamp and reflection tolerances. For the assessment of compliance with the issued tolerances, the entire light output of the products delivered by DLI in a project is considered.
- 17.3 Guarantees concerning the light output of a lamp only apply in the case of a project (new or after batch replacement) with a minimum of five hundred (500) pieces.
- 17.4 If the Customer claims and substantiates a lack of light output, DLI shall be entitled to verify this, based on a random sample of no less than fifteen (15) lamps selected by DLI and taken from the Customer's relevant site, in a suitable test configuration.
- 17.5 If DLI is of the opinion that the average light output is lower than that guaranteed by the relevant Supplier, DLI will pass on the claim to the Supplier of the relevant lamp(s).
- 17.6 If a Supplier considers a claim to be well-founded, it shall be requested to provide a proposal for compensation on a *pro rata* basis (i.e. in proportion to consumption). DLI will submit such a compensation proposal to the Customer. DLI is never obliged to make an offer of compensation.
- 17.7 The conclusion of a Supplier with respect to whether or not a claim is well-founded shall be binding. Under no circumstances will a lamp sent to a Supplier be returned to the Customer.
- 17.8 On the basis of the compensation proposal referred to in Clause 6 of this article, the relevant batch from the project in question will be replaced by lamps produced by the Supplier of the lamps in question.
- 17.9 The validity of a fee offered by a Supplier is limited to one (1) month after the date on which DLI communicates the fee proposal to the relevant Customer.
- 17.10 The light output guaranteed by a Supplier may differ per Supplier, type of lamp and year of manufacture.

18 WARRANTIES, RIGHTS AND APPLICABILITY OF DIMMING SYSTEMS AND SENSORS

- 18.1 In the event that DLI light fixtures, including but not limited to light fixtures with an LED light source, are equipped with a (wireless) dimming system, DLI is not responsible for any breach and/or malfunction of the communication with the light fixtures on the (wireless) signal, over which DLI has no control. Such breaches and failures beyond DLI's control will be at the Customer's expense and risk.
- 18.2 The Customer acknowledges having been informed of the operation of the DLI wireless dimming system and has taken note of any risks related to power management in the broadest sense of the term. If the Customer is in doubt as to whether it has sufficient knowledge, the Customer should request further information from DLI. Any lack of knowledge regarding use and operation is at the Customer's expense and risk. DLI is not responsible for any damage and consequences, such as increased costs, resulting from a sudden change in power management and/or damage caused by the Customer's inability to fulfil contractual agreements with the power company regarding the supply or purchase of power and/or other disputes with utility companies.
- 18.3 DLI is not responsible for the interpretation and use of data resulting from the sensors or other measurement systems provided by DLI. The interpretation and use of data are at the Customer's expense and risk at all times.
- 18.4 Any software needed to control light fixtures or interpret data will be purchased by the Customer from a third party at the Customer's own expense and risk. DLI is not responsible for delayed implementation and/or any defects in this software. Damage caused by delays during implementation, faulty software, misinterpreted data, faulty or incorrectly installed hardware are not the responsibility of DLI.



19 INTELLECTUAL PROPERTY RIGHTS AND CONFIDENTIALITY

- 19.1 All intellectual property rights relating to the goods and services, including but not limited to sketches, drawings and lighting designs, are vested in DLI and remain the property of DLI, regardless of whether the Customer has been charged for them. The Customer may not reproduce, publish or imitate the goods in whole or in part without the prior written consent of DLI.
- 19.2 The Customer may only trade goods originating from DLI under the brand, logo, trade name and specifications under which the goods were supplied to the Customer. The Customer may not alter the quality of the goods purchased from DLI, including their labelling, imprints and instructions.
- 19.3 The Agreement does not include any transfer of any intellectual property rights as part of the delivery of the goods to the Customer or the services provided to the Customer and the related documents.
- 19.4 The Customer must return all data referred to in Clause (1) of this article and provided to it within a period determined by DLI upon DLI's immediate request. In the event of a breach of this clause, the Customer shall owe DLI an immediately payable penalty of one thousand euros (EUR 1,000.00) per day. This penalty may be claimed supplementary to and in addition to any other compensation that can be claimed by operation of law.
- 19.5 The Customer indemnifies DLI against all third-party claims relating to intellectual property rights pertaining to materials or data provided by the Customer that are used by DLI for the performance of the relevant Agreement.
- 19.6 All information originating from DLI in relation to the Agreement which the Customer may reasonably assume to be confidential may not be disclosed. The Customer shall impose the same obligation on its employees or third parties which it has engaged for the performance of the Agreement.
- 19.7 The duty of confidentiality referred to in Clause 6 of this article shall not apply to information which must be disclosed by the Customer by operation of law or pursuant to any provision or regulation issued by a government-approved body, or a binding and final decision of a court or other government authority.
- 19.8 If a party fails to comply with any of its obligations (other than those referred to in Clause 5 of this article) under this article, it shall forfeit an immediately payable penalty of one hundred thousand euro (EUR 100,000.00) per violation and thousand euro (EUR 1,000.00) for each day that the violation continues, without prejudice to the other party's right to demand compliance and/or claim compensation for loss or damages and without prejudice to the other party's rights by operation of law or pursuant to the Agreement. This penalty may be claimed in addition to the compensation that can be claimed by operation of law and constitutes a deviation from Section 6:92(2) of the Dutch Civil Code.

20 COMPLAINT PROCEDURE

- 20.1 Immediately following delivery the Customer shall inspect and ascertain proper delivery of the goods and/or services.
- 20.2 The Customer shall take reasonable measures to prevent any damage or claims or to restrict these to a minimum. Claims for damages can be made up to fourteen (14) days after delivery of the product. The right to compensation for damage will lapse following the expiration of this period.
- 20.3 In order to invoke the right to compensation or warranty, the Customer must notify DLI in writing immediately after the damage and/or defect is discovered, stating the date and manner in which the damage and/or defect was discovered, the nature of the damage and/or defect, a detailed description of the damage and/or defect and the presumed cause of the damage and/or defect.



- 20.4. The written notification referred to under Clause (3) of this article shall also include, insofar as relevant: the date of purchase, proof of purchase and/or invoice, name and/or type number of the product, the total number of operational hours per year and the number of switching operations per day/year.
- 20.5 Any complaint by the Customer relating to incorrect or incomplete performance of an Agreement must be made in writing to DLI within fourteen (14) days from the date on which the goods were or should have been received or the services provided. If the complaint is not submitted to DLI within this period, the Customer is no longer entitled to issue a claim against DLI for incorrect or incomplete performance of an Agreement.
- 20.6 A claim concerning manufacturer's or other warranty must be submitted to DLI in writing by registered letter within fourteen (14) days, on the understanding that DLI will reasonably be able to forward the claim to the Supplier within the warranty period set by the Supplier.
- 20.7 Submitting a complaint does not release the Customer from its payment or other obligations and does not entitle the Customer to suspend, cancel or dissolve the Agreement.
- 20.8 If DLI considers a complaint to be well-founded, it will, at its own discretion and in accordance with these General Terms and Conditions, repair or replace the goods or services supplied, or credit the Customer's purchase price in connection with the goods or services supplied. DLI will, in that case, take back the goods delivered, without being obliged to compensate the Customer for any loss or damage suffered.

21 CANCELLATION OR TERMINATION OF THIS AGREEMENT

- 21.1 The Customer shall be deemed to be in default by operation of law and any claim against the Customer shall be immediately due and payable if:
- (a) the Customer fails to fulfil any obligation under the relevant Agreement, in particular with regard to effecting payment or overdue payment;
 - (b) DLI has well-founded reasons to fear that the Customer will be in default and the Customer does not respond to a written reminder - setting out these reasons - to declare that it will comply with its obligations within a reasonable time as stipulated in this reminder;
 - (c) the Customer files for bankruptcy, is declared bankrupt, enters into an arrangement with creditors with a view to disposing of its assets, applies for a suspension of payments, its assets are seized, and the seizure is not lifted within ten (10) days after such seizure;
 - (d) the Customer closes or decides to close down its business or a significant part thereof, transfers it in any way, or liquidates ;
 - (e) the Customer dies as a natural person;
 - (f) the Customer is requested to provide a guarantee and/or security at the time of entering into the Agreement to ensure the fulfilment of its obligations under the relevant contract and such a guarantee is not available or is insufficient.
- 21.2 In the cases referred to in Clause (1), DLI is entitled, without being obliged to pay any damages and retaining any rights it may have, such as rights relating to costs or interest already due and rights to compensation, and without any notice of default or judicial intervention being required:
- (a) to rescind or terminate all or part of the relevant Agreement by means of a written notification addressed to the relevant Customer; and/or
 - (b) to suspend its obligations under the Agreement in whole or in part; and/or
 - (c) to demand immediate and full payment of any amount owed by the Customer to DLI and/or to exercise the established right of ownership.



- 21.3 DLI is entitled to dissolve the Agreement in whole or in part, without being obliged to pay any damages, if circumstances arise of such a nature that performance of the Agreement is impossible or can no longer be demanded of DLI according to all standards of reasonableness and fairness, or that the unaltered continuation of the Agreement can no longer be reasonably expected.
- 21.4 In the event that the Agreement is terminated or cancelled in any way, the provisions relating to intellectual property, confidentiality, cancellation, termination, applicable law and disputes shall in any case, but possibly not exclusively, continue to apply in full. Furthermore, DLI remains entitled to claim compensation for all loss or damage it has suffered.

22 ORDER OUTSOURCING

- 22.1 The Customer may not assign its rights and obligations under the Agreement, subcontract the performance thereof to third parties or encumber any of its rights and obligations under the Agreement without the prior written consent of DLI.
- 22.2 DLI is entitled to engage persons and/or companies not affiliated with it in the performance of the Agreement. DLI is not liable for damage or loss caused by any acts or omissions on the part of the persons and/or companies it has engaged.

23 FORCE MAJEURE

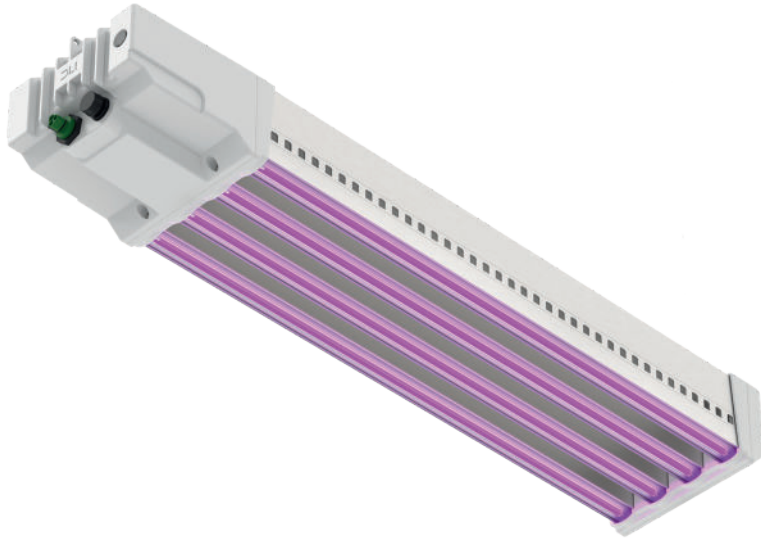
- 23.1 If DLI is prevented by force majeure from performing an Agreement or other obligations, it is entitled to rescind the relevant Agreement (with immediate effect) in whole or in part, or to suspend performance of that Agreement (or its further performance) by giving written notice of the force majeure situation. DLI may do so without any judicial intervention being required and without any obligation to pay compensation, while retaining DLI's right to payment from the Customer for all services that DLI had already provided prior to the situation of force majeure appearing. If DLI opts for suspension, DLI still retains the right to subsequently dissolve the relevant Agreement in whole or in part.
- 23.2 DLI is furthermore entitled to invoke force majeure if the circumstances that prevent the fulfilment (or continued fulfilment) of its obligations were to arise after DLI should have fulfilled its obligations.
- 23.3 Force majeure is understood to mean all circumstances as a result of which DLI cannot reasonably fulfil its obligations (or cannot fulfil these any longer), including but not limited to weather conditions, earthquakes, pandemics, health risks, power failures, losses, theft or loss of equipment or materials, import or trade restrictions, road blocks, strikes or work stoppages and any inability caused by Suppliers, contractors working for DLI or carriers engaged by DLI to fulfil their obligations in a timely manner.

24 APPLICABLE LAW AND JURISDICTION

- 24.1 The legal relationship between DLI and the Customer is governed exclusively by Dutch law, to the exclusion of the Vienna Sales Convention.
- 24.2 Any dispute between DLI and the Customer will be settled exclusively by the competent court in Amsterdam, the Netherlands.

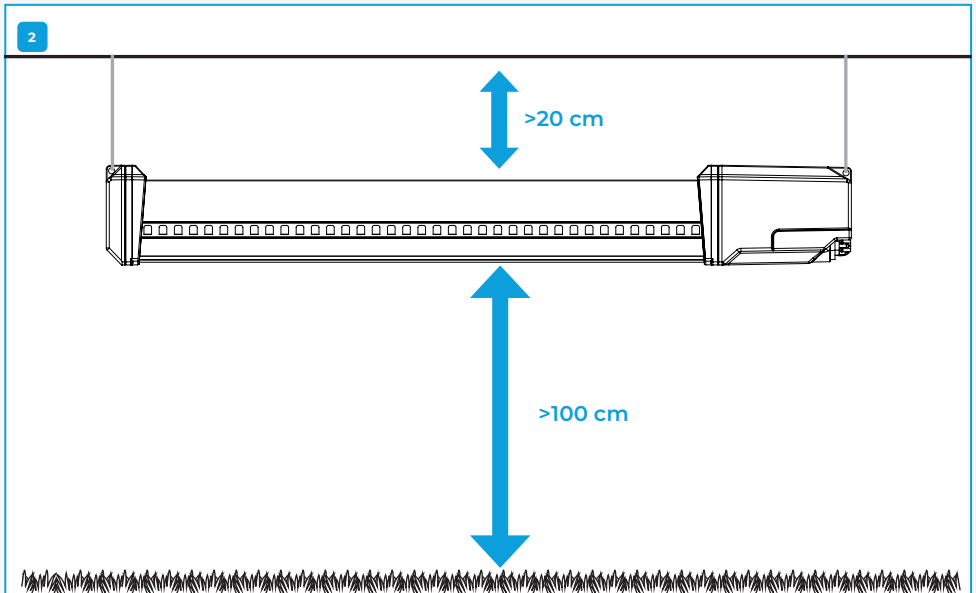
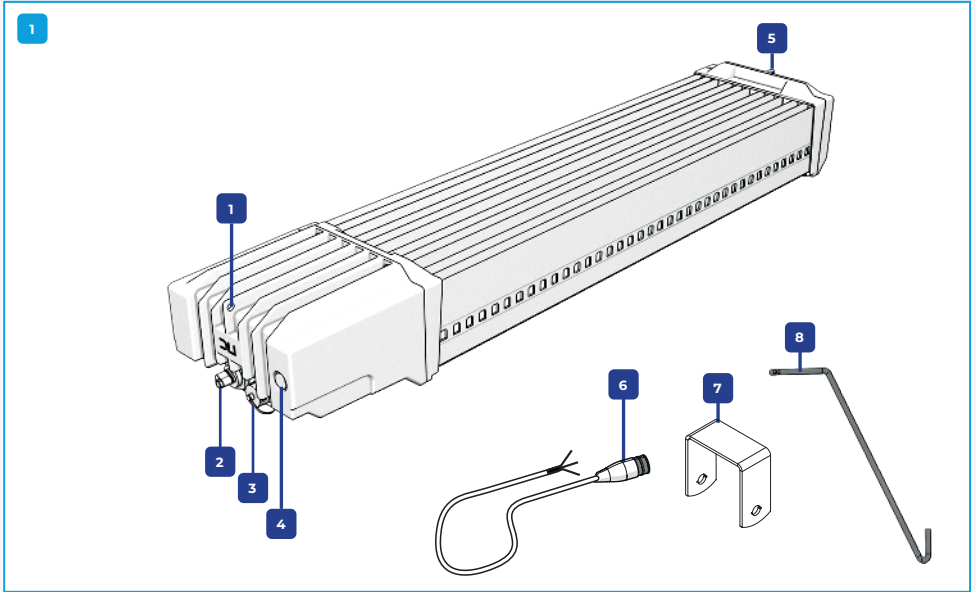


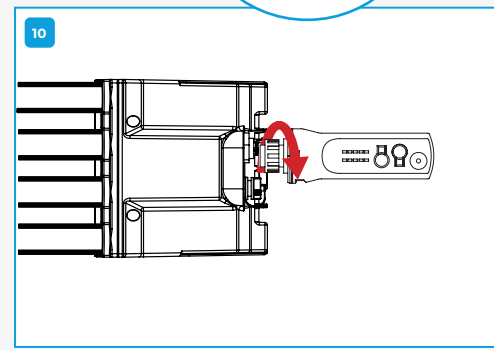
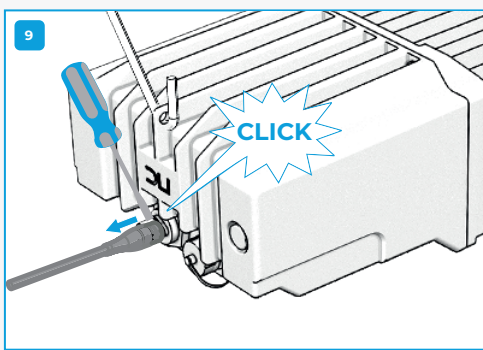
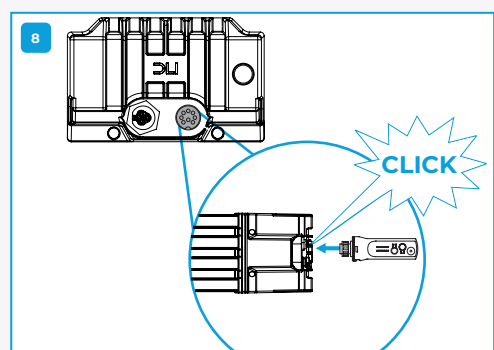
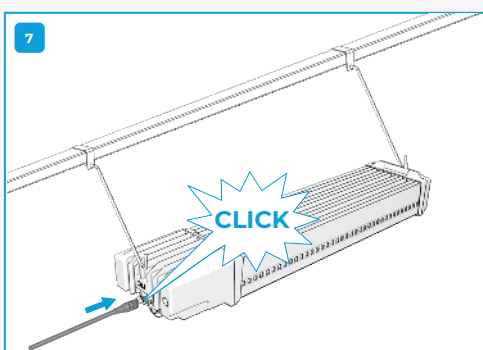
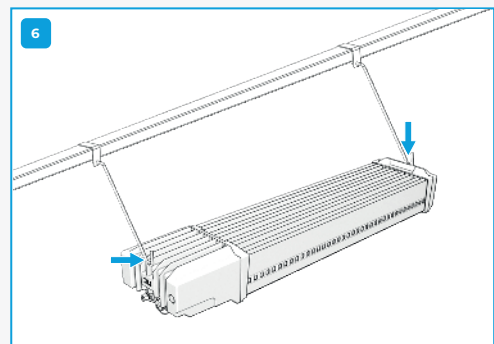
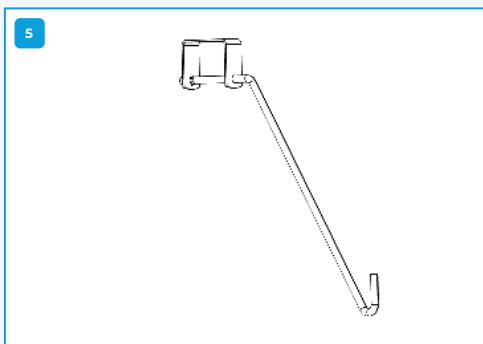
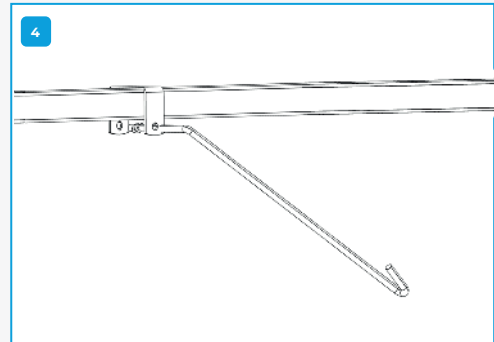
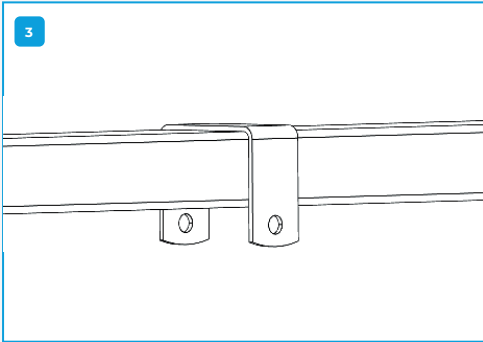
Dutch Lighting™
Innovations



DLI ZENITH-Series LED TopLight

Installation Manual - EN





Preface

Thank you for buying the DLI ZENITH-Series LED TopLighting Fixture. The DLI ZENITH-Series LED TopLighting Fixture is made with high quality components only to assure a high reliability, a long service life and safe operation.

For a correct installation, it is important to read the installation manual carefully before you start with the installation of the fixture(s).

In this manual, the DLI ZENITH-Series LED TopLighting Fixture will be referred to as “the fixture”.

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Introduction








Intended use

The fixture is intended to be used as grow lighting for horticultural purposes.

This installation manual explains how to install and use the fixture. Read and understand this manual completely before installing and using the fixture.

Using the fixture otherwise than specified in this manual, is considered as unintended use and will void all warranty.

Symbols used in this manual

	Warning! This symbol indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
	Caution! This symbol indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.
	Note: This symbol indicates additional information.
	This symbol indicates a hot surface. The fixture can reach high temperatures. Contact may cause burns. Do not touch.
	DLI declares with this symbol that the products comply with the European requirements.
	This symbol indicates that the product was tested and has met the certification requirements for electrical and/or mechanical products. Applies to USA and CA only.
	This symbol indicates that the electromagnetic radiation from the device is below the limits specified by the Federal Communications Commission and the manufacturer has followed the requirements of the Supplier's Declaration of Conformity authorization procedures. Applies to USA and CA only.
	This symbol indicates the photobiological safety of lamps and lamp systems Risk group 2: Do not stare at the operating light source. The philosophical basis for this classification is that the lamp does not pose a hazard due to the aversion response to very bright light sources or due to the thermal discomfort.
	This symbol indicates that this product should not be thrown away with other household waste. To prevent possible harm to the environment or human health by uncontrolled waste disposal, you are responsible for recycling it so that it can promote the sustainable reuse of raw materials. To return your used product, you can use the regular return and collection systems applicable in your country.

Conformity

The fixture confirms to the following directives and standards:

CSA / UL	CSA C22.2 No. 250.0-18 UL Std. No. 1598 Ed.4 (2018-08-28) UL 8800
EMC	FCC Part 15 ICES-005
CE / CB	IEC 60598-1:2014/AMD1:2017 IEC 60598-2-1(ed.1);am1
Photobiological hazard	IEC 62471:2006 IEC TR 62778 <div style="border: 2px solid black; padding: 5px; text-align: center;"> <p>Risk group 2</p> <p>CAUTION Possible hazardous optical radiation emitted from this product.</p> <p><small>Do not stare at the operating lamp. May be harmful to the eye.</small></p> </div>

Risk Groups

Refer to the risk groups defined by the IEC 62471 standard.

These groups categorize the potential hazards based on photobiological effects:

This product falls into Risk Group 2 according to IEC 62471.

Risk Group 2 products are considered safe for normal use.

Warranty

Refer to the general terms and conditions of Dutch Lighting Innovations for information about the warranty conditions.

Liability

Any changes and/or modifications of the fixture will void the warranty. We accept no liability for damage caused by improper use of the fixture.

Product description

Description

The fixture is intended to be used as grow lighting for horticultural purposes in greenhouses

Main parts

See image **1** for an overview of the main parts of the fixture.

1. Mounting point driverbox
2. Wieland connector
3. Dongle connector
4. Ventilation plug
5. Mounting point fixture
6. Wieland powercable¹
7. U-Bracket¹
8. Mounting bracket¹

¹Optional delivery, appearance may vary

Specification

Type	DLI ZENITH
Market introduction	2023
Input voltage	See product label
Rated power	See product label
Input voltage range	±10%
Ambient temperature	0 – 25 °C / 32 – 77 °F
Relative humidity	<70% (non condensing)
Dimensions	98 x 21 x 13 cm
Weight	12.0 kg
IP Rating	IP65

Safety

Warning!

- Read and understand this manual completely before installing and using the fixture.
- Always observe the local rules for installing and using the fixture.
- Always switch off the mains before installing or maintaining the fixture. Danger of short-circuiting which may pose a fire hazard.
- Never touch the fixture when in operation or within 10 minutes after switch off as this will cause major burn injuries.
- Always keep away from children and pets.
- Never open the fixture with electronic ballast. Danger of short-circuiting which pose a fire hazard.
- Never rewire, repair or reconfigure any component of the fixture. Danger of short-circuiting which may pose a fire hazard.
- Never use the fixture in a wet environment or outdoors. Danger of short-circuiting which may pose a fire hazard.
- Never use the fixture in the proximity of dangerous or combustible materials. Danger of combustion which may pose a fire hazard.
- Never let the Wieland power cable touch any hot parts of the fixture. Danger of exposed electrical wiring which may pose short-circuit and a fire hazard.
- Never plug the power cable into a power supply with a different supply voltage than instructed on the product label on the fixture with electronic ballast. Danger of electric shock which may lead to injuries.
- Never stare or look directly into the LED fixture when in use. This may be harmful to the eyes.
- Always connect the power cable according to local rules, safety regulations and electrical code.

Caution!

- Always keep a minimum of 100 centimeter between the fixture and the plants. Danger of burned plants which may pose a fire hazard. See image **2**.
- Always keep a minimum of 20 centimeter between the fixture and the ceiling / screen. Danger of overheating which may pose a fire hazard. See image **2**.
- Never open the fixture with electronic ballast. Opening the fixture will void all warranty.
- Always connect the Wieland power cable properly.
- Never plug or unplug the Wieland power cable while the fixture is in use.
- Always use DLI approved parts as replacement parts. The use of other parts may damage the fixture and will void the warranty.
- Always use screws and fittings that are suited for your ceiling and that they have sufficient holding power. Contact your local specialised retailer if needed.

Installation

Warning!

- Always switch off the mains before installing or maintaining the fixture. Danger of short-circuiting which may pose a fire hazard.
- Never use a damaged fixture.
- Never use a damaged Wieland power cable.

Preparations before installing

1. Check if all contents are delivered and undamaged.
2. Check the provided lighting plan.

Installing the fixture

Caution!

- Always keep a minimum of 20 centimeter between the fixture and the ceiling / screen. Danger of overheating which may pose a fire hazard. See image **2**.
- Mount the U-bracket to the truss or C-profile. See image **3**.
- Hook the mounting bracket with bruising on a beveled angle into the opening of the U-bracket. See image **4**.
- Rotate the mounting bracket with bruising in the C-profile to ensure it's locked in place. See image **5**.
- Connect the mounting bracket to the connecting point on the fixture. See image **6**.

Connecting the Wieland power cable

Warning!

- Never let the Wieland power cable touch any hot parts of the fixture. Danger of exposed electrical wiring which may pose short-circuit and a fire hazard.
- Never plug the power cable into a power supply with a different supply voltage than instructed on the fixture. Danger of electric shock which may lead to injuries.
- Always connect the Wieland power cable according to local rules, safety regulations and electrical code.
- Plug the connector of the Wieland power cable onto the connector on the fixture. See image **6**.
- Switch on the mains.

Connecting the dongle

Warning!

- Always disconnect the mains before installation. Risk of open wiring which can lead to short circuits which can pose a fire hazard.
- Press the bajonet closure, in such a way that the 8 pins fit exactly in the connector. As soon as the connector is fitted correctly a click is audibly observed. This confirms a waterproof connection has been made. See image **8**.

Use

Warning!

- Never touch the fixture when in operation or within 10 minutes after switch off as this will cause major burn injuries.

Inspection, maintenance and repair

Warning!

- Always switch off the mains before installing or maintaining the fixture. Danger of short-circuiting which may pose a fire hazard.
- Never touch the fixture when in operation or within 10 minutes after switch off as this will cause major burn injuries.
- Never open the fixture. Danger of short-circuiting which pose a fire hazard.
- Never rewire, repair or reconfigure any component of the fixture. Danger of shortcircuiting which may pose a fire hazard.

Cleaning the fixture

- To ensure reliable and safe operation of your fixtures, maintenance needs to be performed regularly. When the lens is contaminated it cannot transmit light (=heat) as efficiently and damage can occur to the LED board and lens, irregardless of the type or brand of LED fixture. Periodic maintenance of your fixture reduces unnecessary light losses, increases reliability and extends lifespan. Extreme contamination of the fixture can result in a voided warranty.
- The maintenance interval depends on the level of contamination due to the daily activities in your greenhouse. The level of contamination is easily determined by using the specially designed cleaning wipes. The amount of dirt remaining on the wipe is a clear indication of the level of contamination.
- Always disconnect the mains before cleaning the fixture.
- Regularly check if the fixtures are clean and dust free.
- Only use microfiber cloths, demineralized water and cleaning wipes. When using (aggressive) cleaning products and detergents the fixture and lens could be damaged and this could result in a voided warranty.

Disconnecting the Wieland power cable

Caution!

1. Switch off the mains
1. Unplug the wieland power cable from the connector on the fixture using a screwdriver. See image **9**.

Disconnecting the dongle

Caution!

- Always switch off the mains before disconnecting the dongle
1. Rotate the ring by 90 degrees and remove the dongle from the connector. See image **10**.

Storage and disposal

Store the fixture in a dry, dust-free and clean environment.

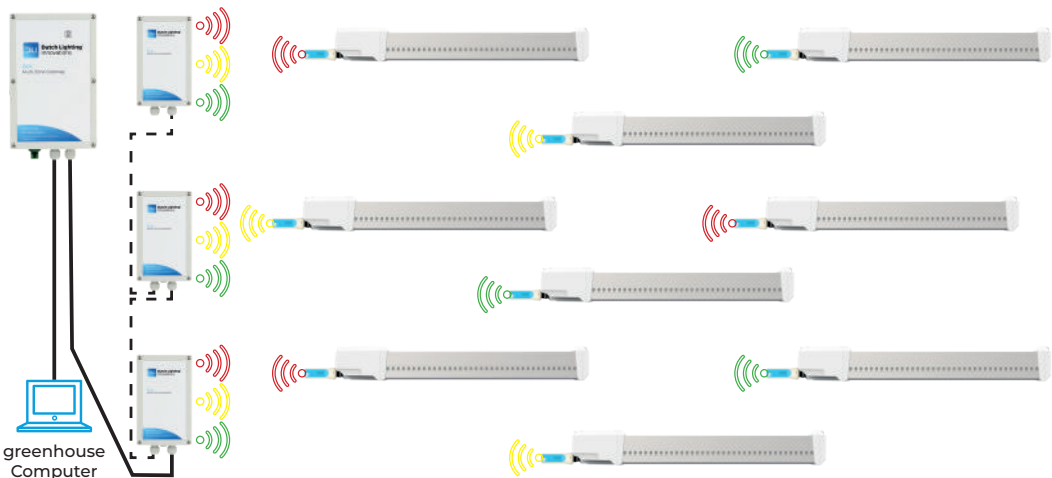
Store in a room with an ambient temperature between 0 – 35 °C and a relative humidity between 5% and 85%, non condensation.

This product should not be thrown away with other household waste. To prevent possible harm to the environment or human health by uncontrolled waste disposal, you are responsible for recycling it so that it can promote the sustainable reuse of raw materials. To return your used product, you can use the regular return and collection systems applicable in your country.



Dimmable Fixture

1. The fixture is provided with a dimmable driver.
2. Every fixture is provided with a separate dimming module (dongle).
3. The dongle is a radio emitter capable of sending and receiving signals.
4. The dongles propagate the signal to other dongles, in doing so, creating a mesh network. This way, every fixture is always connected to at least one other fixture. As long as the fixtures receive power the dongles will operate together.
5. The dongle is programmable into light groups. This can be achieved through NFC or on the dongle itself, using the two push buttons.
6. The fixtures are linearly dimmable from 20-100%
7. The fixtures start at the requested light level.
8. The dimming protocol on the driver is DALI.

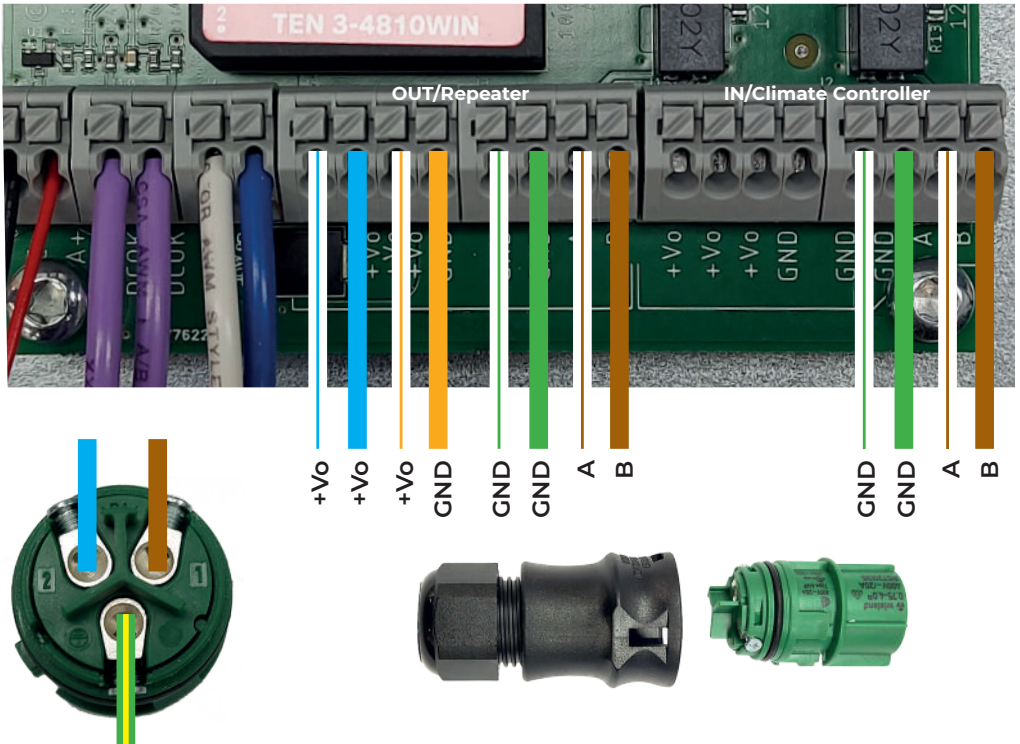




Dutch Lighting[™] Innovations

Gateway

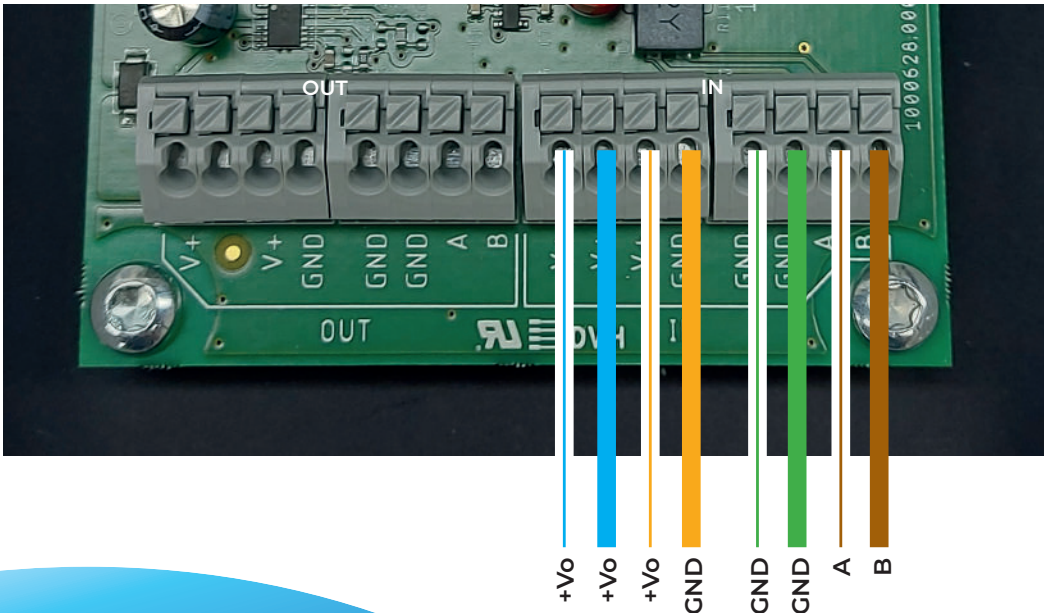
1. The gateway is a device that converts the ModBus signal (ModBus RTU-RS485) from the greenhouse computer into wireless commands and transmits these to the dongles on the fixtures. The command consists of numerical combinations received and further propagated by the dongles.
2. The gateway must be connected to the greenhouse computer with a shielded CAT6 UTP cable (or similar).
3. The gateway requires a 230V connection (separate circuit). The green LED indicator shows if the gateway is active.





Repeater

1. Depending on the number of departments to be controlled, repeaters will be installed. Together with the gateway, the repeater ensures full coverage of the wireless network in the greenhouse.
2. The repeater relays the signal 1 to 1 to the fixtures.
3. The repeater is connected using a shielded CAT6 UTP cable (or similar) and is fed by the gateway through Power over Ethernet (PoE).





Control

1. First command from the greenhouse computer with the light request for the specific department: lighting panels start in preprogrammed order.
2. LED fixtures receive power, and dongles receive power from the driver.
3. Within 450ms the dongle provides a signal to the driver to prevent it from starting up.
4. Second command from the greenhouse computer to start the LED fixtures at the requested light level.
5. The second command must be repeated until all lighting panels have started and all fixtures receive power.
6. A period of minimum 2 seconds is required between every signal from the greenhouse computer (the control of every individual group) to convert the ModBus signal in the gateway into a wireless fixture for the fixtures.

General

1. The contactors are always leading!

2. With a CHP malfunction or other calamities: hard signal to the lighting panels, lights off.
3. CAUTION: If a malfunction occurs in the wireless signal between the gateway and fixtures, the fixtures turn on at 100% output after 5 minutes.
4. CAUTION: If a malfunction occurs in the wireless signal between the gateway and fixtures when the lighting system is in operation, the lighting system will remain in operation at the last known setting until the lighting panels are switched off. When the lighting system is restarted without resolving the malfunction, the response will be according to point 3.
5. Installation of the gateway and/or repeaters must be within 10 meters from the first fixture in the concerned department. Installation between 2 or 4 fixtures is preferable.
6. Additional software and hardware are required in the greenhouse computer to control the gateway and dim fixtures. It's the responsibility of the customer to provide this.

Dongle

Installation guide to connect the dongle to the DLI fixture.

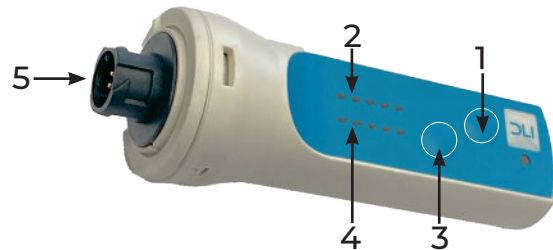
Every DLI fixture is equipped with a separate dimming module (dongle). Every dongle is a radio emitter capable of sending and receiving signals. Dongles in fixtures propagate the signal between the individual dongles, resulting in a mesh network.

Every fixture is always connected with at least one other fixture. When fixtures are connected to mains power the dongles will be connected and operate as one system.

Below are the three different dongle types available:

V1.1 and V1.2 multichannel (white)

1. Button for group selection
2. LED indicators for group selection
3. Button for subgroup selection
4. LED indicators for subgroup selection
5. Bayonet connection



V2.1 multichannel (blue)

1. Button for group selection (◀)
2. LED indicators for group selection
3. Button for subgroup selection (●)
4. LED indicators for subgroup selection
5. Bayonet connection



Connecting the dongles

Press the dongle into the connector on the fixture, indexing the 8 pins into the correct orientation. When the dongle is fitted correctly, the connection will produce an audible click, confirming the waterproof connection.

Disconnecting the dongles.

Rotate the ring a quarter turn and remove the dongle from the fixture.

The dongle is programmable in groups; this can be done through the dongle itself.

Initially, dongles will be pre-programmed by DLI with the right group, subgroup, and connection to the correct gateway. (Each gateway can have a maximum of 35 groups allocated)

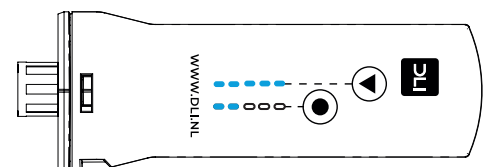
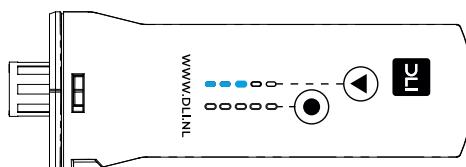
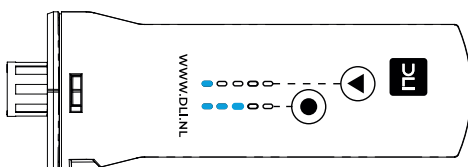
The group allocation, as well as installation details of the gateways and repeaters, has been agreed upon with you, and an overview has been provided.

Examples of groups and subgroups:

Group 1, subgroup 3

Group 3, subgroup 0

Group 5, subgroup 2



Assigning dongles to a group.

1. Insert the dongle into a DLI fixture.
2. Apply mains voltage to the fixture (without mains voltage, the fixture and the dongles are not controllable)
3. Push one of the two buttons once*; the dongle will now light the LED indicators for 5 seconds. It is now possible to see to which group and subgroup the dongle has been assigned.
4. By pressing the buttons multiple times, it is possible to select the preferred group and subgroup.
5. When the buttons are no longer pressed, the current group and subgroup will be saved by the dongle.
6. The dongle will now wait for the signal from the gateway and start controlling the fixture. This takes a maximum of 5 minutes.

The dongle is assigned to a unique gateway and cannot be used with a different gateway. It is possible, however to manually assign a dongle to a different group or subgroup, **but not to a different gateway.**

*** As soon the buttons are pressed multiple times, the group and or subgroup settings will change.**

Frequently asked questions:

Q1 What is the course of action when the fixture turns on at 100% when mains power is applied and does not react to the dimming signal from the greenhouse computer?

- Check if the dongle is inserted into the fixture
- Check if the dongle is correctly connected to the fixture
- Check if the LED indicators on the dongle light up when pressing one of the two buttons **once***

If the LED indicators light up:

Check if this is the correct group. If it's not the right group, follow: **"Assigning dongle to group."**

If the LED indicators do not light up:

- Replace the dongle
- After replacing the dongle, the fixture needs to be reset
- Resetting the fixture works as follows:
 - Disconnect the mains cable and wait 10 seconds
 - Replace the dongle in the fixture
 - Reconnect the mains power cable and follow: **"Assigning dongles to group."**

If the fixture does not respond after replacing the dongle, the entire fixture needs to be reported as RMA to DLI.

Q2 What is the course of action when a fixture remains off when the greenhouse computer sends a dimming command?

- Disconnect the fixture from mains power
- Remove the dongle from the fixture
- Check if the correct mains voltage is available on the power cable
- Reconnect the power cable on the fixture.

If the fixture does not turn on?

The entire fixture needs to be reported as RMA to DLI

If the fixture does turn on?

- Connect the dongle to the fixture.
- The fixture now turns off.
- Check if the LED indicators on the dongle light up when pressing one of the two buttons **once***

If the LED indicators light up?

Check if the LED indicators show the correct group. If this is not the case: **"Assigning dongles to group."**

If the LED indicators do not light up?

- Replace the dongle
 - After replacing the dongle, the fixture needs to be reset
 - Resetting the fixture works as follows:
 - Disconnect the mains cable and wait 10 seconds
 - Replace the dongle in the fixture
 - Reconnect the mains power cable and follow: **"Assigning dongles to group."**
-

Q3 What is the course of action when all fixtures turn on at 100% after 5 minutes?

- No signal was detected from the gateway. Check if the gateway is active. The green LED indicator on the gateway must be lit continuously.
 - If the green LED indicator is blinking, contact DLI.
-

Q4 What is the course of action if the fixtures do not respond to the dimming signal from the greenhouse computer and remain in the last communicated setting?

- No signal was detected from the gateway. Check if the gateway is active. The green LED indicator on the gateway must be lit continuously.
- If the green LED indicator is blinking, contact DLI.

*** When the buttons on the dongle are pressed multiple times the group or subgroup configuration is changed accordingly.**

Maintain optimal results through maintenance DLI LED fixtures

For proper and safe operation of your DLI LED fixtures, regular maintenance must be performed on your LED fixtures. Severe fixture contamination can have consequences for the warranty of your LED fixtures.

With a dirty lens, the LED cannot dissipate its light (=heat) and, regardless of the brand or type of LED fixture, damage can occur to the LED board and lens.

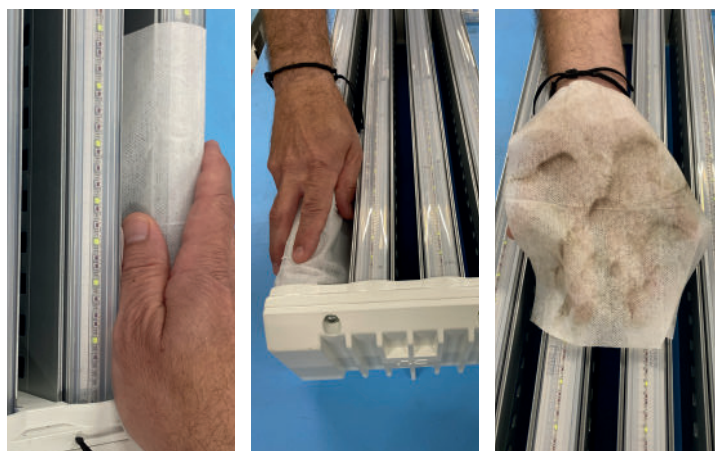
Also, regular maintenance prevents unnecessary light loss, increases reliability and extends the lifetime of your LED fixtures. You can easily

determine the degree of soiling by passing a cloth designed specifically for maintaining your fixture over the lens and fixture. The necessary frequency of maintenance depends on the degree of soiling of the fixture due to daily operations in your greenhouse.

It is also important to blow the cooling fins on top of the fixture clean with a compressor.

How to use cleaning wipes

1. Turn off your fixture and disconnect the fixture from power.
2. Wrap the wipe around the LED bar by hand.
3. With one swipe, move the wipe from one side to the other. Turn the wipe over or use a new wipe if necessary.
4. After this, go to the next LED bar and repeat the previous steps.
5. Your LED fixtures are ready to use again.



Redefine
Grow Light

Designed and made in The Netherlands

More information or want to order wipes:

Lakenblekerstraat 41
1431 GE Aalsmeer
Nederland

www.dli.nl/onderhoud
info@dli.nl
0297 - 760 500



APEX-Series LED TopLight and ZENITH-Series LED TopLight

The following cleaning and sanitizing agents have been tested and may be used*

Cleaning agents
Abamectine
Abamectine HF-G
Abir
Acarstin
Acramite 50WS
Acrobat Plus WG
Actara
Actara 25WG
Actara insecticide
Actinovate SP
Addit
Admiral
Admire 240
Admire WG
Agral Gold
Agrimec
Agriphage CMM
AGRITRAP
Agrotek Vaporized Sulphur
Agrozone
Alar 64 SP
Alar 85 SG
Alias 240SC
Aliette WG
Allure PT4
Altacor
Altacor Insecticide
AmberClean
Ambionet
Ambush 50 EC
Ambush 500EC



Cleaning agents
Amewash
Amistar
Amistar top
Ammoniumbifluo ide
Apollo SC
Aprovia
Apuron
ARMICARB
Arubarin water dispersible granules
Asepta Carex
Asepta Neemazal
Avid 1.9% EC
Bachisuta wettable powder
Bactipal ELV
BACTURA DF
Beleaf 50SG
Benkoze Flowable
Benleate
Berelex 40 SG
BioCeres G WP
Bioprotec 3P DF
Bioprotec CAF
Biosentry 904
Biosoap
Biosolve
Biotracius Ca
Biotracius K
Bittersalt
B-Nine SG
Bonzi
Borneo
Botanigado ES



Cleaning agents
BotaniGard 22 WP
BotaniGard WP
Bravo ZN
Break-Thru
Buzz Ultra DF
Cabrio EG
Calcium Carbonate
Calcium chloride
Calypso 480 SC
Cantack
Cantus WDG
Captan 50WP
Captan 80 WG
Captan 80WDP
Captan 83 WP
Captan fl w
Captosan 500 SC
Captosan 500 SC (5%)
Caramba
Carex 100SC
Carex 10SC
Cease
Champ DP Dry Prill
Champion++
Chess WG
ciro clean 55
Cleanbest 1120
Cleanbest 1220
Clear Saar fl wable
Codacide
Codacide 2%
Collis



Cleaning agents
Colt
Concept
Confidor 0 WG
Confim 240 F
Conserve SC
Contans WG
Copper 53W
Copper oxychloride
Copper skin (Kasumin Bordeaux)
Copper spray
Coppercide WP
Coragen
COSAVET DF
COSAVET Garden
Cueva
Cuprokylt
Cuprozin progress
Cyclone
Daconil 1000
Daconil 500
Danitron fl wable
DDVP 20% EC
Decis 2,5 EC
Decis 5 EC
Decis EC
Decree 50 WDG
Delegate
Delegate WG
Desbest 400
Desogerme Bactibio
Desogerme Microchoc plus
Desogerme Microserre



Cleaning agents
Desogerme SP vegetaux
Diana SC
Dimanin
Dinoterfuran 20SG
DiPel 2X DF
Dipel DF
Distance
Dithane DG New Tec
Dithane M45
Dithane Neotec
Dithane Rainshield
Double Nickel 55
Double Nickel LC
Dynamec
Dynasty 100 FS
Dyno-mite WP
Echo 90DF
Eko-mist
Elasto G5
Electrolysed water
Emblem
Endeavor 50 WG
En-strip
Entrust
Entrust 80 WG
Entrust SC
Envidor
Envidor 2 SC
Envidor 240 SC
Eradicoat
ERII
Ethanol



Cleaning agents
ethanolamine
Ethephon classic
Ethoxylated alcohols 0.5%
Ethoxylated alcohols 1.0%
Ethrel A
Exalt 60 SC
Explicit
fado
Fairy Liquid
Fame
Fantasista water dispersible granules
Farbanet plus
Fenomenal
Flint 50 WG
Flipper
Flonicamid
Floramite 240 SC
Floramite SC
Flordimex 420
Flusol Forte
Folicur 430 SC
Folicur SC
Folio Gold
Folpan 80 WDG
FONGIL FL
Foray 48BA
Forbid 240 SC
Formaline
Fortafol-S
Forum
Freebac
Fromalin



Cleaning agents
Frupica SC
Frupika fl wable
Full Pika fl wable
Fungaflas
fungaflor 100 C
Fungei Bordeaux
Gazelle SG
Germany Bordeaux A
Getter
Gibberellin Kyowa solutions
Greenhouse Glassclean
Grapple2
Greenstim
Grisu
GS4
Hachi Hachi Emulsion
Headlandcopper
Heritage Fungicide
Hermosan 80 WG
Huwa San TR-50
Huwa San TR-50 (0.3%)
Huwa San TR-50 (theory)
Hydrochloric acid
Hydrogen peroxide
Hydrogen peroxide 1%
Hydrosan Sing
Insegar 25 WG
Intra Hydrocare
Intrepid
Intruder
Iprodione 4L AG
Ishihara tomato tone



Cleaning agents
ISK
Isopropanol
Jet 5
Kanemite SC
Kara Green
KARATE ZEON
Karma
Kasumin 2L
KleenGrow
Kelpak bioactivator
Kenbyo FL
Kentan DF
Kickstart
Kenocid 210
Kocide 2000
Kocide 3000 DF
Kopa insecticidal soap
Koromaito emulsion
Kumar (via Karma)
Kumulus S/DF
Lan Man fl wable
Lazulie
Lepinox plus
Limocide
Luna Privilege
Luna Sensation
Luna tranquility
Maestro 80DF
MAGISTER SC
Magnesium Nitrate
Magnesiumsulphate
Majestik SL



Cleaning agents
Manfil 5 WG
Manfil 80 G
Manzate 200 WP
Manzate DF
Manzate Pro Stick
Manzate Pro-Stick
Matador 120EC
Match
Meltatox
Menno Clean
Menno Florades
Menno ter forte
Microthiol special
Milbeknock
Milbemectin
MilStop
Mimic 2LV
Minecto duo 40WG
Mirage plus 570 SC
Mospilan SG
Motto
Mushirappu
Mycostop
MYCOTAL
Naphtha light aromatic
Naturalis L
Neemazal TS
Nemathorin 10G
Nenchaku-kun
Nimezal
Nimrod
Nissorun



Cleaning agents
Nocturn
Nomolt
Nu-Cop 50 DF
Nu-Cop HB
Oberon
Oleate
Olie-H
Omega 500F
Ordoval
Ortiva
Ortiva 0.2%
Ortiva 0.3%
Ortiva 0.4%
Ortiva 0.5%
Ortiva 1.0%
Ortiva 2.0%
Ortiva 5.0%
Oxydate 2
Palladium WG
Paraat WP
Parasol WG
Penncozeb 75 DF
Pirimor G
Pirimor spuitkorrel
Plenum 50 wg
Pleo fl wable
Pomarsol WG
Potassium bicarbonate
Potassium hydroxide
Potassiumhydrogencarbonate
PREFERAL WG
Prestop



Cleaning agents
Prestop mix
Prev Magnum
Prev-AM
PREV-B2
PREV-B2 12%
previcur energy
Previcur N
Pristine WG
PRM 12 RP
Procure 480 SC
ProFortum
prolectus
Proplant
Protect DF
Pyrethrum 5EC
Quadris
ranman Top
Refle t
Reglone
Revus
Revus 250 s.k.
Rhapsody
Ridomil Gold 480 EC
Ridomil gold MZ 68 WG
Rimon10EC
Rizolex Vloeibaar
Rocket EC
Rovral Aquaf
Rovral WG
Rudis
Runner 240 SC
Sanidate 5.0



Cleaning agents
San Might fl wable
Sankei gardening Bordeaux
Sankei kumurasu
SanMite WP
Sanprox-P
Savior Flowable 20
Savologic 1%
Savona
Savona 20%
SB Plant Invigorator
SBInstant
Scala SC
SCHWEFAL® Schwefel-Linsen
Score 250 EC
Scurea Flowable
Serenade ASO
Serenade Opti
Serenade SC
Serenade soil
Serifel
Shirlan fl w
Shuttle 15 SC
Signum
silwet gold
Silwett L77
Sodium hypochlorite 0.3%
Sodium hypochlorite 5.0%
Sonoma 40WSP
Spintor 480 SC
Spirato 480 FS
Sporgon 50 WP
Sportak EW



Cleaning agents
Spruzit
Spuitzwavel granulaat
Spuitzwavel poeder
Squad
Squash
Steward
StorOx
Strip-it (homemade mix)
Stuifzwavel
Success
Success 4
Sulphur
Sumicidin super
Sumicidin super (1%)
sunmite Flowable
Suporoxid 15
Supra Captan 80 WDG
Supra Captan 80WDP
Switch
Switch 62.5 WG
Systhane 20 EW
Systhane 24 EC
Systhane max
Taegro WP
Takumi SC
Talius
Teldor
Teppeki WG
Terraguard
Tetrasan 5 WDG
Thiram granufl
Thuricide



Cleaning agents
Tianwangwei
Tilt 250 EC
Tivano
Tomatotone
Topas
Topaz 100 EC
Topcleaner
Topcleaner 10%
Topsin M ultra
Torrent 400SC
Tracer 480 SC
Transfer fl wable
Transform WG
Trend 90
Trigard 100 sl
TRIGARD 75 WP
Triggered solutions
Turex wp
ultiflo a
Unifect-G
Urara DF
Vectine Plus
Vectobac 600L
Veni Biosulfur
Vertimec 018 EC
Vertimec Gold
Viragri plus VT49
virkon S
Virocid
Vivando SC
Voliam Xpress
Water



Cleaning agents
Wetcit
White Spirit
XENTARI WG
Z Bordeaux
Page 12 of 12
ZAL PERAX II
ZAL PERAX II (1%)
ZAL PERAX II (2%)
ZAL PERAX II (3%)
ZAL PERAX II (40%)
Zipper

*Please note that Dutch Lighting Innovations has tested these agents in accordance with the relevant instructions for use and other recommendations made by the manufacturers and distributors. Using the agents in accordance to their instruction for use is required under this advice. If you do not follow their instruction for use when applying the agent, the warranty on our Products is no longer valid.

This is a general list of products tested by Dutch Lighting Innovations. Always check if the agent is applicable and allowed in your situation and country.

Please always follow the instructions for use of the modules as stated in the Installation Guide. Should you need to use any agents which are not mentioned on the list above, please contact Dutch Lighting Innovations. We will check your products with our database and test the products for you if necessary.



If there is a defect or an issue with a fixture, please contact us.

Contact:

Rody Springintveld
Rody@dli.nl
0297 - 76 05 02

Pick-up date:

Contact information customer

Company: _____ City: _____

Contact person: _____ Sub-location: _____

Address: _____ Phone number: _____

Zip code: _____ Email: _____

Type fixtures:

Number:

DLI ZENITH-Series LED TopLight _____

DLI APEX-Series LED TopLight _____

DLI HORTI-Series _____

DLI ZENITH-Series FR Module _____

Avalon LED Series _____

Total numbers to be returned: _____

Signature end-user:

Signature Dutch Lighting Innovations:

Redefine
Grow Light

Designed and made in The Netherlands

WWW.DLI.NL