CAUTION!
Inappropriate installation may cause injury to persons and damage to the lamp.

VORSICHT!
Unsachgemässe Installation kann zu Personen- und Sachschäden führen.

LET OP!
Onjuiste installatie kan schade aan personen of de lamp veroorzaken.

ATENÇÃO!
A instalaçào inapropriada pode causar danos na luminária e ferimentos nas pessoas.

PELIGRO!
Una instalación inadecuada puede provocar lesiones o dañar la lámpara.

ATTENTION!
Une mauvaise installation peut êtres source de blessures corporelles et endommager les lampes.

AKTA!
Felaktig installation kan leda till skador på personer och lampan.

HUOMIO!
Valaisimen huolimaton asennus voi johtaa henkilön loukkaantumiseen ja valaisimen viiottumiseen.

OSTOROЖНО!
Ненадлежащий монтаж может привести к серьезным травмам и повреждению лампы.

注意！
不適當な取り付けは人の傷害、およびランプの損傷の原因となる場合があります。

LETZTE!
Verkeerde aansluiting kan schade veroorzaken aan de lamp of leiden tot lichamelijk letsel aan personen.

ATTENZIONE!
L’installazione non corretta può causare lesioni alle persone e danni alla lampada.
BEFORE YOU BEGIN

1. Please read this manual thoroughly before use, and retain it for future reference.
2. Due to our continuous program of product development, data is subject to change without notice.
3. Unauthorized product tampering invalidates warranty & is a safety risk.
4. All electrical work must be carried out by qualified persons.
5. Always follow appropriate electrical codes.
6. Disconnect mains power before product installation, connection, or disconnection.
7. Products are fixed luminaires for indoor use (i.e. Install out of reach / Only movable using tools).
8. LED-modules are non-replaceable light sources.
9. Do not use luminaires without LED Drivers (power units) connected (BX-, C-Series).
10. Connect LED drivers to electrical branch circuits (ensure suitable strain relief is fitted).
11. Products with an earth connection must be earthed for safety.
12. Installation of additional electrical circuit protection devices is strongly advised:
   • Type C MCB’s (Miniature Circuit Breakers).
   • RCD (Residual Current Device).
   • ICL (Inrush Current Limiter).
   • SPD (Surge Protection Device).
13. Do not high voltage test.
14. Install LED drivers against a flat surface to ensure optimal heat dissipation and lifetime (BX-, C-Series).
15. Do not connect products installed on different mains phases to the same dimming device (dimmable products only).
17. Product surface temperature may become hot to the touch during use.
18. Do not stare directly at any bright light source.
19. As a precaution, use suitable eye protection if working for long periods under high intensity lighting.
20. Dispose of all waste in accordance with local regulations.
21. The external flexible cable of the luminaire is only replaceable by Valoya.
22. For luminaries supplied with open-end supply cables:
   a. Cables should not be concealed or extended through parts of the building structure.
   b. Cables should not be located above a suspended/dropped ceiling, or permanently fixed to the building structure.
   c. Cables must be visible over their full length, not strained, and protected from physical damage.
   d. Cables must be used within their electrical ratings at the maximum temperature of the installed environment.

IMPORTANT
Installation must be carried out by qualified persons, and according to the electrical safety rules & regulations applicable in your country!
**DELIVERY CHECK**

- Please inspect the goods upon receipt to ensure that your delivery is complete.
- If you detect any damage to the packaging, please notify the carrier immediately and ask them to note that “the delivery was not delivered in good condition”.
- If the packaging shows no damage but the goods inside are either missing, defective, or show other signs of damage, please contact us.
- In all cases please take pictures as evidence and contact us as soon as possible by phone or e-mail.

![Check package](image1)

![Check content](image2)

![Check operation](image3)

In case of problems, call us
## PARTS IDENTIFICATION

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1x</td>
<td>Lightning luminaire 8</td>
</tr>
<tr>
<td>B</td>
<td>4x</td>
<td>Hangers</td>
</tr>
<tr>
<td>C</td>
<td>1x</td>
<td>LED Driver (Power unit)</td>
</tr>
<tr>
<td>D</td>
<td>2x</td>
<td>Chain (Included carabiners) - ordered separately</td>
</tr>
<tr>
<td>E</td>
<td></td>
<td>LightDNA µPC</td>
</tr>
<tr>
<td>F</td>
<td></td>
<td>Router/Switch</td>
</tr>
<tr>
<td>G</td>
<td></td>
<td>Ethernet Switch - Option 1 (8-way)</td>
</tr>
<tr>
<td>H</td>
<td></td>
<td>Ethernet Switch - Option 2 (16-way)</td>
</tr>
</tbody>
</table>

**QUANTITY OF ITEMS BELOW DEPENDS ON PROJECT REQUIREMENTS**

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PRODUCT DIMENSIONS

**LUMINAIRE**

<table>
<thead>
<tr>
<th>Dimension (mm/in)</th>
<th>340 / 13.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>340 / 13.4</td>
</tr>
<tr>
<td>Width</td>
<td>180 / 7</td>
</tr>
<tr>
<td>Height</td>
<td>175 / 6.9</td>
</tr>
<tr>
<td>DC cable</td>
<td>3000 / 118</td>
</tr>
</tbody>
</table>

**LED DRIVER (POWER UNIT)**

<table>
<thead>
<tr>
<th>Dimension (mm/in)</th>
<th>250 / 9.8</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Length</td>
<td>250 / 9.8</td>
</tr>
<tr>
<td>B Width</td>
<td>90 / 3.5</td>
</tr>
<tr>
<td>C Height</td>
<td>44 / 1.7</td>
</tr>
<tr>
<td>D AC cable</td>
<td>300 / 11.8</td>
</tr>
<tr>
<td>E DC cable</td>
<td>300 / 11.8</td>
</tr>
</tbody>
</table>

340 mm / 13.4 in

180 mm / 7 in

242 mm / 9.5 in

35 mm / 1.4 in

M5 thread

40 mm / 1.6 in

4.5 mm / 0.18 in (x4)

Chain length 500mm / 19.7 in
# Technical Specifications

### LightDNA-8

<table>
<thead>
<tr>
<th>Specifications</th>
<th>LightDNA-8</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Spectrum</strong></td>
<td></td>
</tr>
<tr>
<td>Dynamic outdoor 8 channel</td>
<td>X</td>
</tr>
<tr>
<td>Spectrum type</td>
<td>Wide band. Patents apply. Worldwide patents pending</td>
</tr>
<tr>
<td><strong>Electrical</strong></td>
<td></td>
</tr>
<tr>
<td>Input voltage, nominal (VAC)</td>
<td>100 - 240, 277</td>
</tr>
<tr>
<td>Total power (W)</td>
<td>300</td>
</tr>
<tr>
<td>Input current (A)</td>
<td>1.65 A @ 230V</td>
</tr>
<tr>
<td>Frequency (Hz)</td>
<td>50 / 60</td>
</tr>
<tr>
<td>Power Factor</td>
<td>&gt; 0.94</td>
</tr>
<tr>
<td>Luminaire Insulation Class</td>
<td>Class I: For Fixed Installations (protective earth required)*</td>
</tr>
<tr>
<td>16A Type-C MCB load (max.@ 230 VAC)</td>
<td>2</td>
</tr>
<tr>
<td>Dimmable</td>
<td>Yes (Via custom software)</td>
</tr>
<tr>
<td>AC mains plug fitted</td>
<td>No</td>
</tr>
<tr>
<td><strong>Physical</strong></td>
<td></td>
</tr>
<tr>
<td>Weight (kg/lb)</td>
<td>5.8 / 12.8</td>
</tr>
<tr>
<td>LED driver (kg/lb)</td>
<td>1.9 / 4.2</td>
</tr>
<tr>
<td><strong>Optical</strong></td>
<td></td>
</tr>
<tr>
<td>Efficiency, 380-820nm (PPF)</td>
<td>Up to 1.3 µmol/W</td>
</tr>
<tr>
<td>Light intensity decay, Q90 /L90 (hours)</td>
<td>36000</td>
</tr>
<tr>
<td>Typical use life, Q70 /L70 (hours)</td>
<td>50000</td>
</tr>
<tr>
<td><strong>Environmental</strong></td>
<td></td>
</tr>
<tr>
<td>Operational ambient temperature (°C/°F)</td>
<td>0...+30 / +32...+86</td>
</tr>
<tr>
<td>Maximum Relative Humidity (%)</td>
<td>90 (non-condensing)</td>
</tr>
<tr>
<td>Storage temperature (°C/°F)</td>
<td>-20...+40 / -4...+104</td>
</tr>
<tr>
<td>Ingress Protection (IP) rating</td>
<td>IP 20</td>
</tr>
<tr>
<td>Cooling method</td>
<td>Active (fan) cooled</td>
</tr>
<tr>
<td><strong>Regulations &amp; Approvals</strong></td>
<td></td>
</tr>
<tr>
<td>CE marked</td>
<td>X</td>
</tr>
<tr>
<td>RoHS compliant</td>
<td>X</td>
</tr>
<tr>
<td>EMC directive compliant</td>
<td>X</td>
</tr>
<tr>
<td>Low Voltage Directive compliant</td>
<td>X</td>
</tr>
<tr>
<td>Eco-design (EuP) directive compliant</td>
<td>X</td>
</tr>
<tr>
<td>Certified to UL &amp; CSA standards</td>
<td>No</td>
</tr>
<tr>
<td><strong>Warranty</strong></td>
<td>3-year limited warranty</td>
</tr>
<tr>
<td>(please refer to our terms &amp; conditions for more details)</td>
<td></td>
</tr>
</tbody>
</table>
LUMINAIRE ORIENTATION

Do not cover the cooling fans!

Only install with LEDs facing downwards

min. 10 cm

SUSPENDED INSTALLATION

GRID INSTALLATION EXAMPLES

A

B

C
LED DRIVER PLACEMENT EXAMPLES

Install LED drivers against a flat surface to ensure optimal heat dissipation and operational lifetime.

LED driver installed outside a growth chamber

LED driver installed next to the luminaire

ELECTRICAL CONNECTION PROCEDURE

1) Connect all ethernet cables to the system. Note that the incoming internet connection must connect to the router port “eth0”.
2) Connect the LED driver to the LightDNA-8 luminaire.
3) Connect the LED driver, Ethernet Router and LightDNA µPC to the mains supply.

Connect the incoming internet cable to port “eth0” of the used Router.

Earth required for safety!

Do not connect or disconnect the luminaire from the LED driver with the mains supply switched ON.
**SMALL SYSTEM**

- **Internet**
- **Switch**
- **LightD-NA µPC**
- **Ethernet Router**
- **LAN**
- **LED Drivers**

Connect the incoming internet cable to port “eth0” of the used Router.

**LARGE SINGLE SYSTEM**

- **Internet**
- **Switch (2)**
- **Switch (1)**
- **LightD-NA µPC**
- **Ethernet Router**
- **LAN**
- **LED Drivers**

Connect the incoming internet cable to port “eth0” of the used Router.

**Example using 22 luminaires**
MULTIPLE SYSTEM

Connect the incoming internet cable to port “eth0” of the used Router.

SOFTWARE

Please view the document
INRUSH CURRENT

This is the initial current surge drawn during product start-up. Total inrush current rises as the circuit load increases and is one factor that can contribute to nuisance tripping of circuit breakers (MCB’s). Practical performance will be affected by the MCB load, MCB tripping characteristics, site wiring impedance, and the angle of the AC mains cycle at the specific moment power is applied.

Nuisance tripping issues may be improved by:

• Reducing the quantity of LED drivers connected to a single MCB.
• Re-distributing the load over multiple mains phases.
• Using an MCB with Type C (EN 60898) tripping characteristics.
• Installing additional inrush current limiting devices.
• Installing a zero crossing relay for powering up the LED drivers.

MCBS (MINIATURE CIRCUIT BREAKERS)

Valoya only recommend using MCB’s with “Type C” trip characteristics according to EN 60898.

The maximum quantity of Valoya products recommended for a 16A Type C MCB is stated on the product’s technical specifications datasheet (e.g. installation guide). This quantity is used as the 100% reference in the table below. The table is provided as a tool to enable calculation of the approximate maximum load for different MCB types and ratings. Installation wiring rating, impedances and mains switch-on angle variations may also influence the actual practical limit.

20A branch circuit is the maximum allowed per UL certification according to LED Drivers UL Conditions of Acceptability.

<table>
<thead>
<tr>
<th>MCB TYPE</th>
<th>Rating (A)</th>
<th>Relative quantity (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>10</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>75</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MCB TYPE</th>
<th>Rating (A)</th>
<th>Relative quantity (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>10</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>100 (Ref.)</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>125</td>
</tr>
</tbody>
</table>

ICL (INRUSH CURRENT LIMITER)

An ICL can help avoid nuisance MCB tripping and can be installed between the MCB and the load. It also enables an increase the luminaire quantity up to the maximum RMS current limit of the Inrush Current Limiter.
RCDS (RESIDUAL CURRENT DEVICES)

An RCD is a protective safety device used to automatically disconnect the electrical supply when an imbalance is detected between live conductors. Requirements for use, and the needed RCD rating, will vary depending on the type of installation. Valoya luminaires are designed to be installed in fixed electrical installations where no plug is permitted for connecting the luminaire to the mains supply.

SURGE PROTECTORS

Valoya LED drivers have built-in surge protection. However, to protect against surge peaks above 4KV (e.g. due to a lightning strike) we recommend the installation of transient voltage surge suppression.

3-PHASE SUPPLIES

- Do not apply power without the Neutral connected.
- Ensure the supply is off before disconnecting the Neutral.
- To avoid erratic dimming or possible product damage, do not connect the same dimmer or controller to luminaires supplied by different mains phases.

INSULATION RESISTANCE/ ELECTRIC STRENGTH TESTING

- Valoya products have been fully tested during manufacture. There is no need to test again.
- If the electrical site wiring must be tested, test with the luminaires and LED drivers disconnected from the mains supply.
- If luminaires and LED drivers are connected to the mains supply during the test, all Live phases and Neutral must be connected together before the test is carried out (Remember to check correct reconnection before reapplying the mains supply).
**CLEANING**

<table>
<thead>
<tr>
<th>Switch the supply OFF</th>
<th>Allow to cool</th>
<th>Do not use detergent</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Switch Off" /></td>
<td><img src="image2" alt="Cool Down" /></td>
<td><img src="image3" alt="No Detergent" /></td>
</tr>
</tbody>
</table>

- Clean with a soft brush
- Wipe with soft clothes
WARRANTY

Products are covered by a limited warranty. Warranty starts from date of installation, but latest 3 months from the delivery date.

The warranty offered is “Return-to-Base”, meaning suspected faulty items shall be returned to Valoya for fault and warranty validation before any repair or replacement can be agreed.

Valoya warrants that each Product will be free from defects in material and workmanship for the duration of the warranty period as long as the products are installed and used in accordance with our published specifications and recommendations.

Warranty shall be void in the event any repairs or alterations not duly authorized by Valoya in writing are made to the Product by any person.

CLAIMS

Before returning a suspected faulty item, please contact Valoya to give details of the issue and obtain a Return Material Authorization (RMA) reference number. Please be prepared to provide the following information about the issue:

- Product model information (e.g. B200 NS1).
- Product serial number plus YF or XF code.
- Quantity showing problems.
- Detailed problem description.
- Photograph or video showing the issue (if possible).
- Installation / invoice date (if known).

After receiving an RMA number, Products should be suitably packed and the package or shipping paperwork clearly marked with the RMA number. Returns received without an RMA reference number may be rejected.

Valoya will inspect the returned items to validate fault and warranty validity. If Valoya determines to its satisfaction that warranty is valid, Valoya will repair or replace the Product with one of similar age. Where a warranty claim is justified, Valoya will pay for the return freight expenses for repaired or replaced items. Valoya reserve the right to invoice for returning Products that are not found to be defective, or do not comply with the terms of this warranty, together with associated freight, testing and handling costs.

* Above is a summary of our warranty and claim policy. For full details please see: www.valoya.com/warranty.
Standards applied (where applicable):

**EUROPE**

- **EN60598-1**: Luminaires. General requirements and tests.
- **EN60598-2-1**: Luminaires. Part 2: Particular requirements. Section one – Fixed general purpose luminaires.
- **EN62031**: LED modules for general lighting. Safety specifications.
- **EN 62493**: Assessment of lighting equipment related to human exposure to electromagnetic fields.
- **EN55015**: Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment.
- **EN61547**: Equipment for general lighting purposes. EMC immunity requirements.
- **EN60000-3-2**: Electromagnetic compatibility - Limits - Limits for harmonic current emissions.
- **EN60000-3-3**: Electromagnetic compatibility – Limits - Limits for Voltage Fluctuations and Flicker.
- **IEC 61000-4-2**: Electromagnetic compatibility (EMC)- Part 4-2: Testing and measurement techniques - electrostatic discharge immunity test.
- **IEC EN 61000-4-3**: Electromagnetic compatibility (EMC)- Part 4-3: Testing and measurement techniques - radiated, radio-frequency, electromagnetic field immunity test.
- **IEC EN 61000-4-4**: Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test.
- **IEC EN 61000-4-5**: Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test.
- **IEC EN 61000-4-6**: Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields.
- **IEC EN 61000-4-8**: Electromagnetic compatibility (EMC) - Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test.
- **IEC EN 61000-4-11**: Electromagnetic compatibility (EMC) - Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests.
- **IEC 61347-2-13**: Lamp controlgear. Particular requirements for d.c. or a.c. supplied electronic controlgear for LED modules.
- **IEC 61347-1**: Lamp controlgear - Part 1: General and safety requirements.
- **IEC 62384**: DC or AC supplied electronic control gear for LED modules. Performance requirements.
- **EN62471**: Photobiological safety of lamps and lamp systems.
- **EN62560**: Self-ballasted LED-lamps for general lighting services by voltage >50V - Safety specifications.
- **EN62776**: Double-capped LED lamps designed to retrofit linear fluorescent lamps - Safety specifications.

**NORTH AMERICA**

- **UL1598**: Luminare safety.
- **UL8750**: Light Emitting Diode (LED) equipment for use in lighting products.
- **UL2108**: Standard for Low Voltage Lighting Systems.
- **UL 8800**: Outline of Investigation for Horticultural Lighting Equipment.
- **CSA C22.2: #9.0**: General Requirements for Luminaires.
- **CSA C22.2: #250.0.8**: Safety for Light emitting diode (LED) equipment for lighting applications.
- **CSA C22.2 No. 250.13-14**: Light Emitting Diode (LED) equipment for use in lighting products.

Contact:

Melkonkatu 26,
00210 Helsinki,
Finland

### Distributor list can be found at:

www.valoya.com/contact

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Due to our continuous program of product development, data is subject to change without notice.