

LuxaLight Modular LED Fixtures Infosheet

Date:
23-01-2024

Page 1 of 11

Table of Contents

Components of an Industrial LED Fixture	3
Specifications for engineering an Custom Industrial LED Fixture.....	4
- Wavelength(s)	4
- Radiance / Irradiance / PPFD.....	4
- LED Controlling	5
- Driving Method.....	6
- Mechanical Dimensions.....	8
- Mounting options / methods.....	10
- Moulding options.....	11
- Polarizer options.....	11

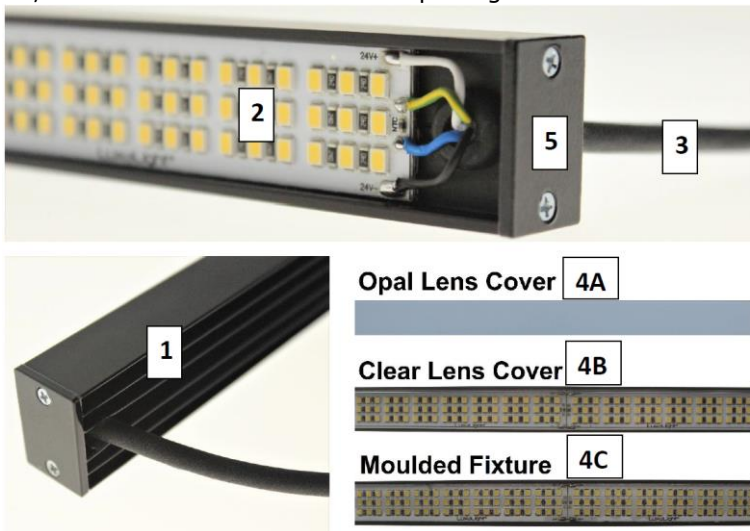
This infosheet is made to clarify the possibilities of custom made Industrial LED fixtures.

Components of an Industrial LED Fixture

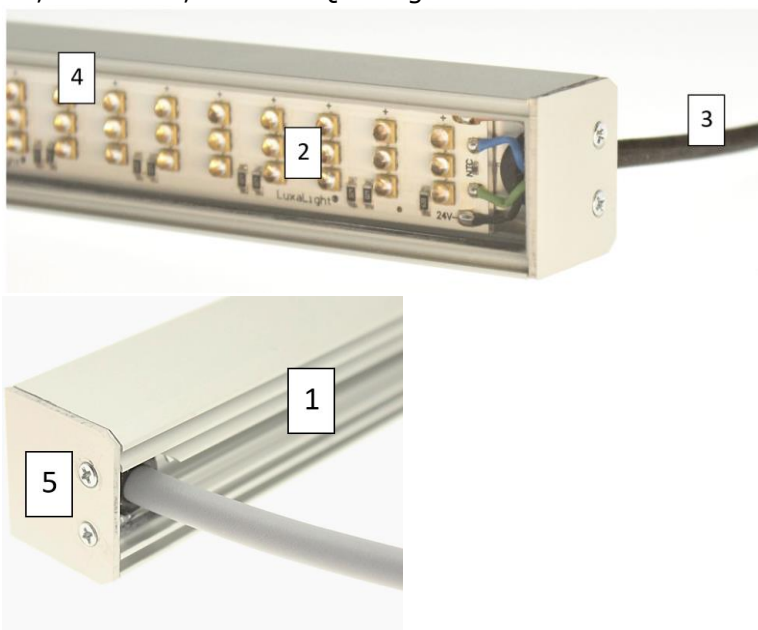
Industrial LED Fixtures are assemblies that are assembled (custom) specifically for each application. An LED fixture is an assembly of individual parts consisting of:

1. Heatsink / LED Profile
2. LED Module(s)
3. Cable(s)
4. Moulding or lenscover (Quartzglass for <365nm wavelength)
5. Endcaps

24,2mm x 16mm Fixture for non-quartzglass LED Fixtures



26,6mm x 23,5mm for Quartzglass LED Fixtures



Specifications for engineering an Custom Industrial LED Fixture

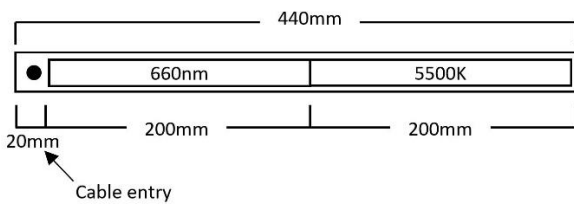
An application has technical specifications that the LED Fixture must fulfil. These specifications can be:

- Wavelength(s)

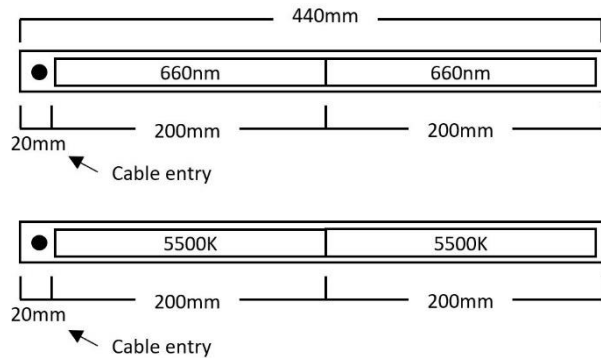
- LuxaLight offers a large assortment of LED Modules of different wavelengths. All LED modules can be assembled into Industrial LED Fixtures.
- When multiple wavelengths are required, there are two possible solutions:

Examples:

Multiple wavelengths in one fixture:



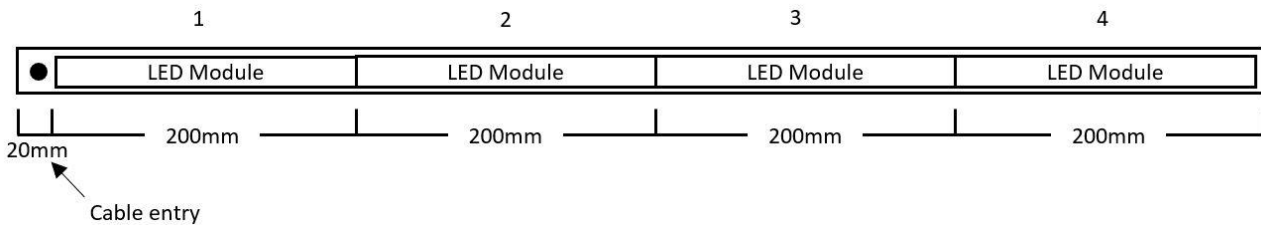
Multiple wavelengths in multiple fixtures:



- Radiance / Irradiance / PPF

- LuxaLight LED modules are used in Industrial LED Fixtures. When one LED module is not enough for the application, more modules can be added to the fixture, making it longer. This can go up to 14 modules per fixture.

Example:

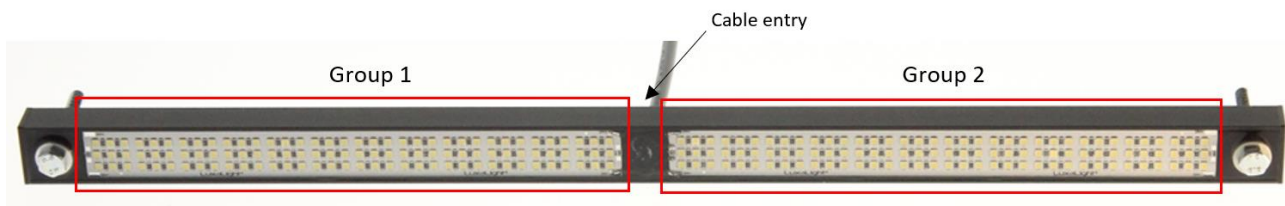


- LED Controlling

- We advise using the MaNima Pollux Industry in combination with the Industrial LED Fixtures, for example the following reasons:
 - LED monitoring with embedded temperature sensors on the LuxaLight LED modules
 - Pulse Control
 - System Integration (I.E. PLC, Camera, custom API, UDP commands, INP Protocols, etc..)
- An LED Engine has multiple wires connected to it. These are:
 - VDC+
 - GND
 - NTC
 - NTC_GND

The wire connections of the LED Fixture can vary, depending on the design.

- For more information about the MaNima Pollux Industry visit:
[MaNima Pollux Industry pulse control 10µs \(luxalight.eu\)](http://luxalight.eu/Manima-Pollux-Industry-pulse-control-10µs)
- Controlling individual groups in one fixture is also possible, by using multiple LED modules in one fixture that are individually connected to a MaNima Pollux Industry. For example:



- This is just one example of the possibilities. More groups, of different wavelengths are also possible.

- Driving Method

Continuous method

- When the LED Fixture stays on continuously, we consider it in continuous method. Use the NTC in the LED Fixture to keep the temperature within working temperature.

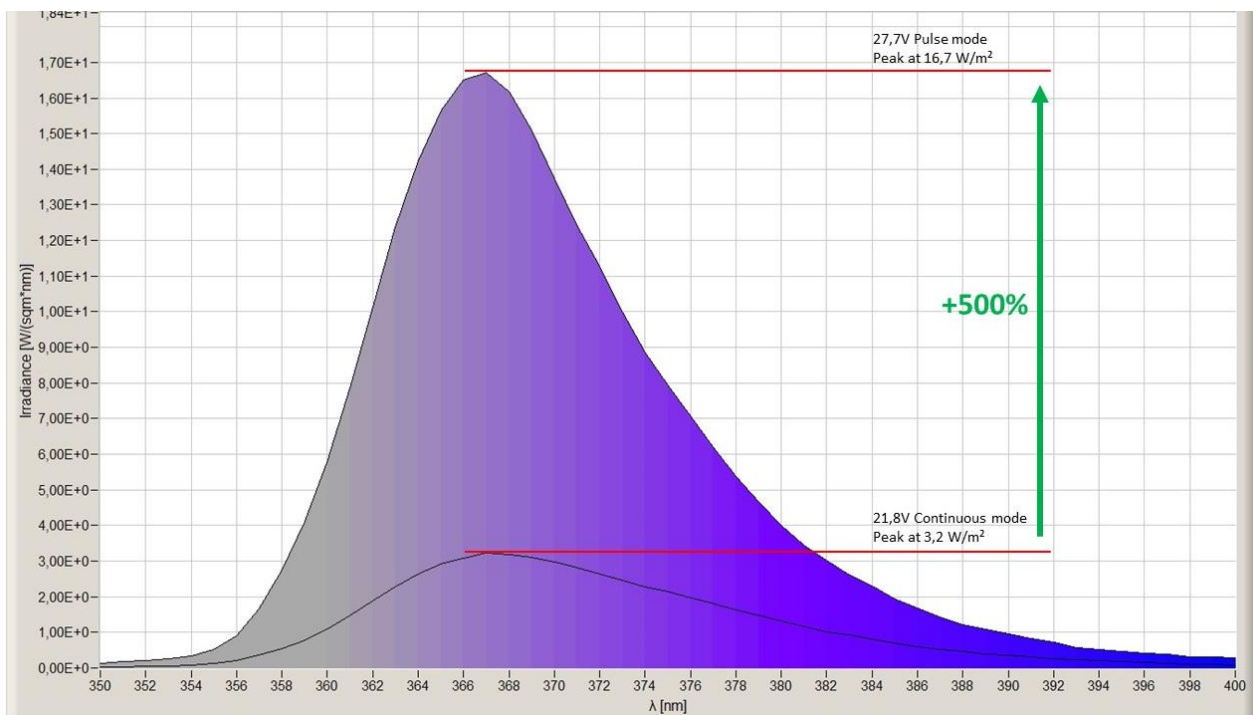
Auto-pulse method

- With auto-pulse mode of the MaNima Pollux Industry, it is possible to autonomously pulse the LED Fixture, keeping it within working temperature while enabling higher irradiance (as seen in the graph below).

Industrial Pulse method

- With pulse mode, an external trigger can be connected to the MaNima Pollux Industry (from a PLC, camera, etc..) to trigger pulses. This allows for higher irradiance while keeping the working temperature within specifications.

Example of Pulse method vs continuous method (LF-24-365-24.2X16-QS):



To make sure that the working temperature does not exceed specifications, always connect the NTC to the MaNima Pollux Industry and set the NTC parameters.

Connecting the NTC to the MaNima Pollux it is possible to use the NTC Function. This function will make sure that the LED Fixture will not exceed the max. temperature.

NTC Dim:

This is the current level of dimming ranging from 0.0 (off) to 1.0 (on).

NTC1Temp:

This is the current temperature of the NTC.

NTC 1 Disconnected dimming:

Enable to turn off paired PWM outputs when NTC 1 is disconnected or has loose/unreliable wiring.

NTC1Outmax, NTC1Outmed and NTC1Outmin:

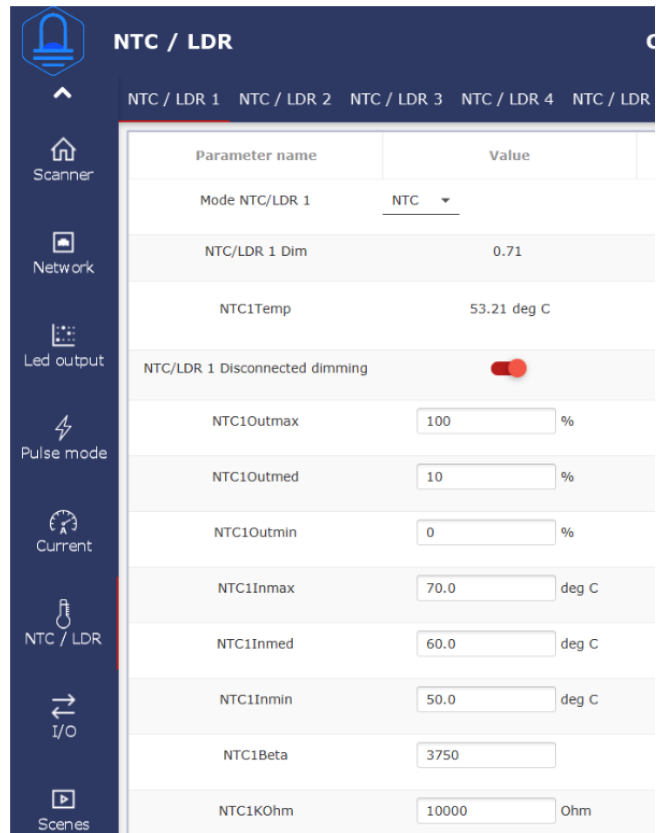
Explanations is shown in the graph below.

NTC1Inmax, NTC1Inmed, NTC1Inmin:

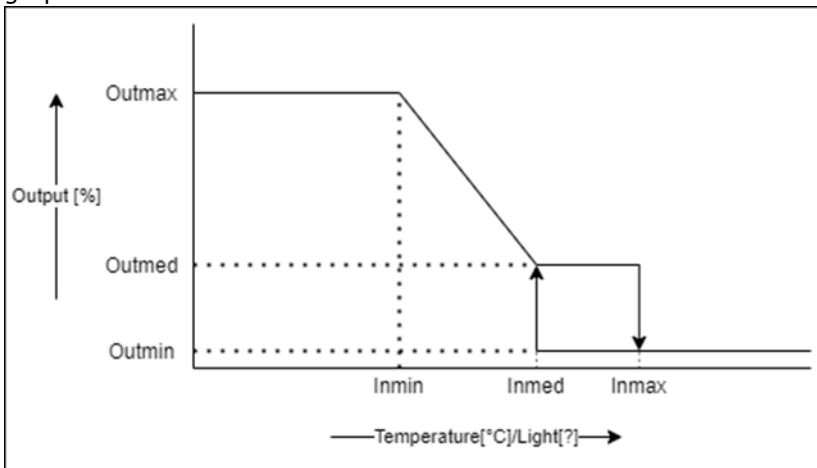
Explanations is shown in the graph below.

NTC1Beta, NTC1KOhm (password protected):

These values are the specifications of the connected NTC.

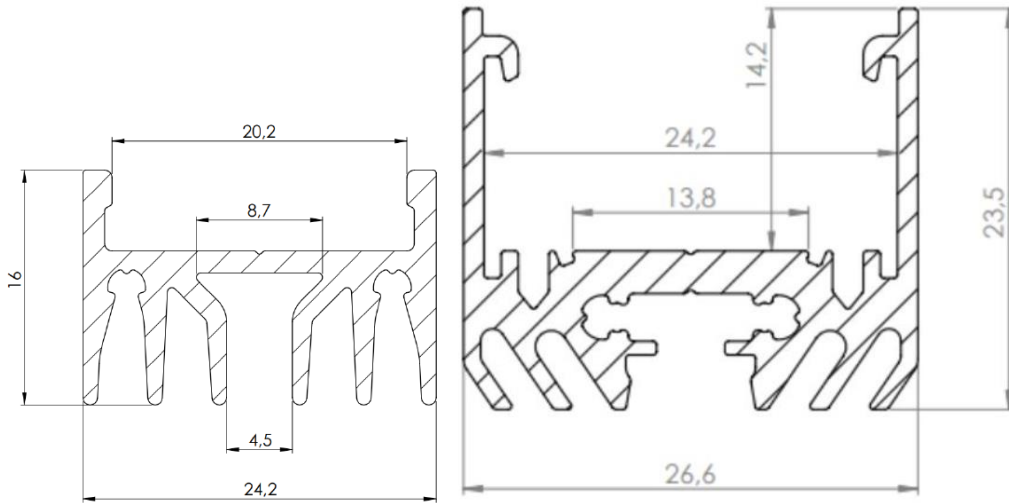


The Parameters can be configured using this graph:



- Mechanical Dimensions

- Length of the fixture is determined by the technical specification required for the application. Height can change depending on using a lens cap (17mm) or a moulded fixture (16mm). Width stays 24,2mm.
- There are 2 different fixtures used for our industrial LED fixtures. The 24.2mm and 26.6mm versions. the 26.6mm is only used for wavelengths that require quartz glass as cover (<365nm).



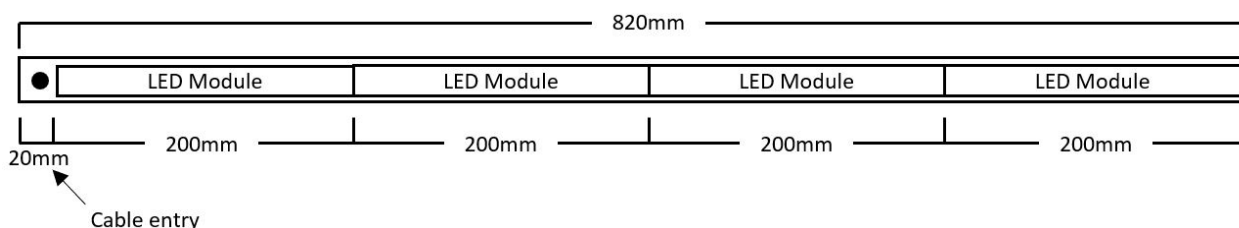
The length of the custom fixtures can vary between 220mm to 3000mm, depending on the number of modules required for the specific application it will be designed for. Every LED module has a length of 20cm, the cable entry requires 2cm of space. So adding this up, means that the total fixture length will be 220cm. Every other module adds 20cm to the fixture. So a fixture of 4 modules will be 820mm long (4 modules = 80cm + 1 cable entry = 2cm = 82cm). This can go up to 300cm.

The cable entries will always depend on the amount of power and configuration of the LED Fixture

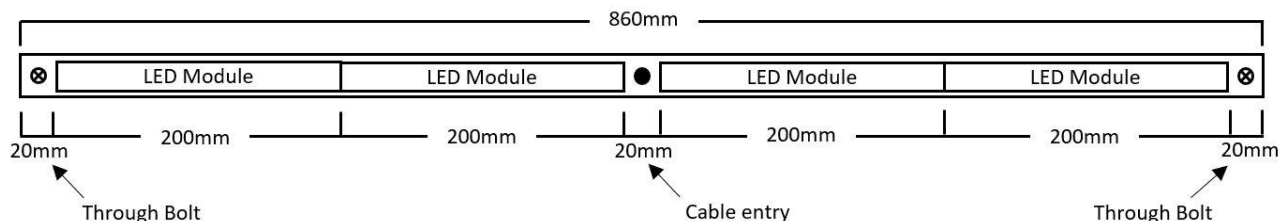
More variations are possible with this. Such as fixtures with through holes for mounting more options or mounting endcaps, which will also extend the length of the fixture (as seen in the images below).

Some **examples**:

A custom made 820mm LED Fixture with 1 cable entry and 4 LED modules.



Custom made 860mm LED Fixture with 2 through holes for mounting, 1 cable entry and 4 modules split in 2 sides.



- Mounting options / methods

o 1. Mounting endcap

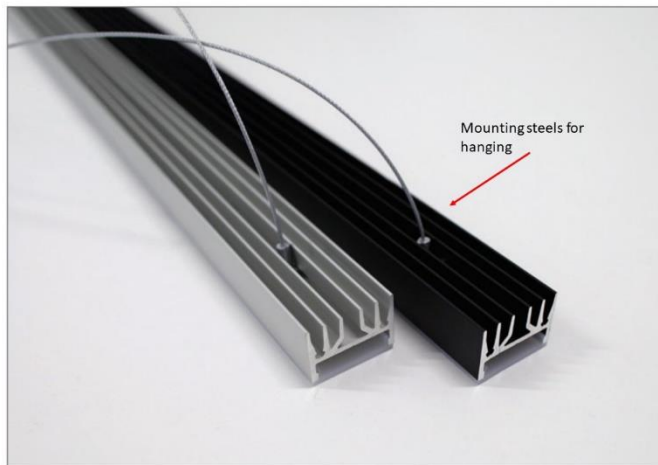
Product can be covered with:

- Transparent PMMA cover
- Opaline PMMA cover
- Polarized PMMA cover
- Polyurethane moulding

Endcaps for mounting



2. Mounting steels



o 3. Through hole (>M3 to M6)

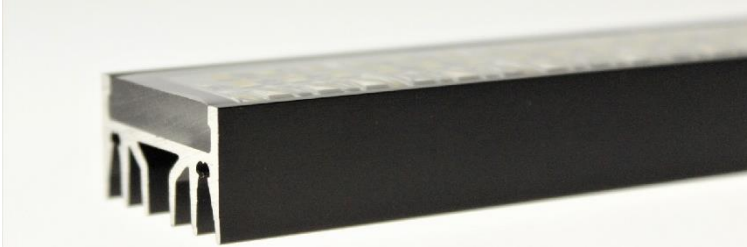


4. M3 Bolt on backside



For questions, advice or custom solutions, don't hesitate to contact us.

- Moulding options
 - o Moulding is used to create an UV-resisting transparent layer to protect the LED modules.



- Polarizer options
 - o Polarizer films are only available for transparent lenscaps in various degrees, such as: 30°, 60°, 90° and 120°. Polarizer films are available in horizontal and vertical variations.

While LuxaLight has made every reasonable effort to ensure the accuracy of the information in this brochure, LuxaLight does not guarantee that it is error-free, nor does LuxaLight make any other representation, warranty or guarantee that the information is accurate, correct, reliable or current. LuxaLight reserves the right to make any adjustments to the information contained herein at any time without notice. LuxaLight expressly disclaims all implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. The dimensions in this catalogue are for reference purposes only and are subject to change without notice. Specifications are subject to change without notice. Consult LuxaLight for the latest dimensions and design specifications.