FLC200 PROJECTORS

High performance illumination
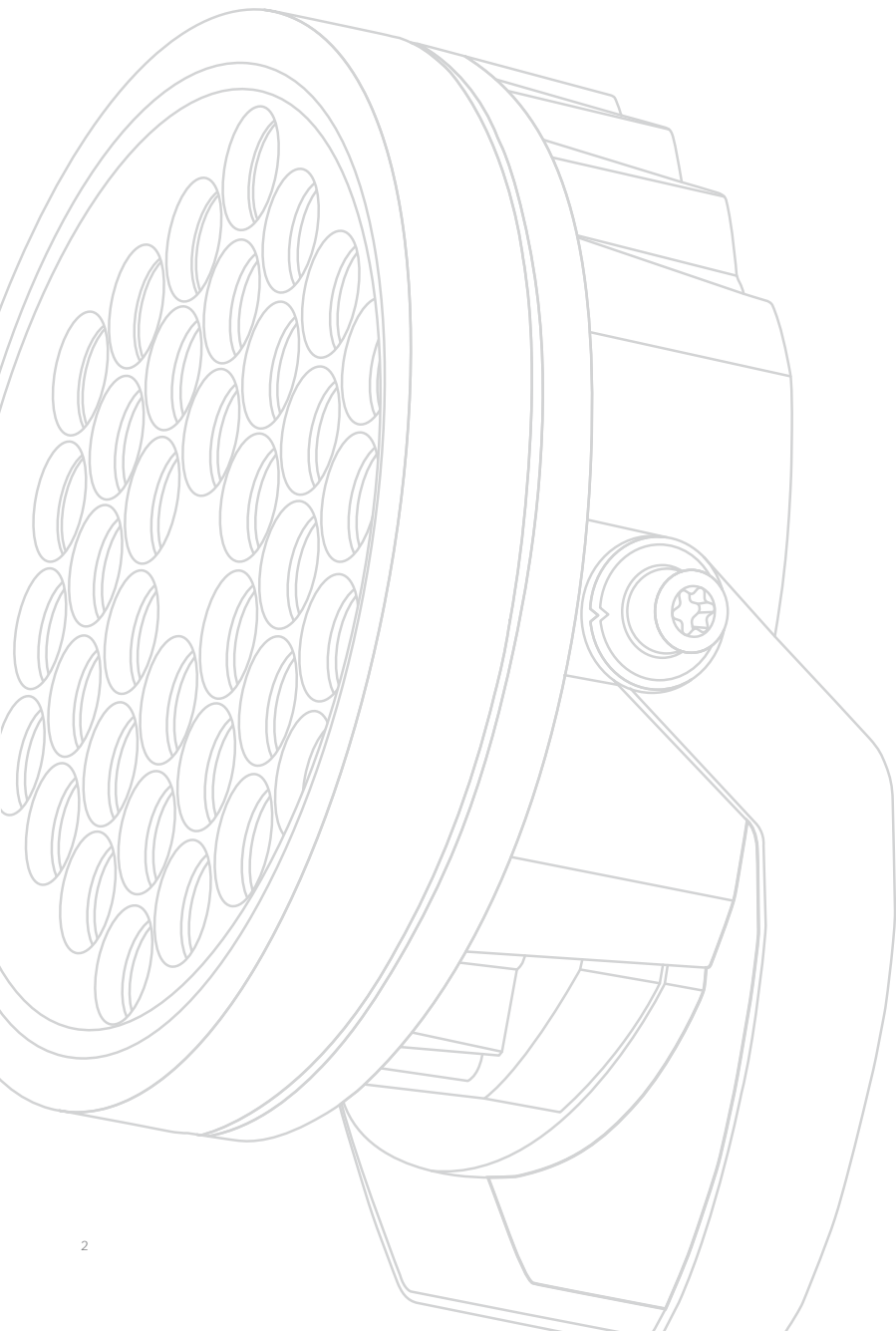
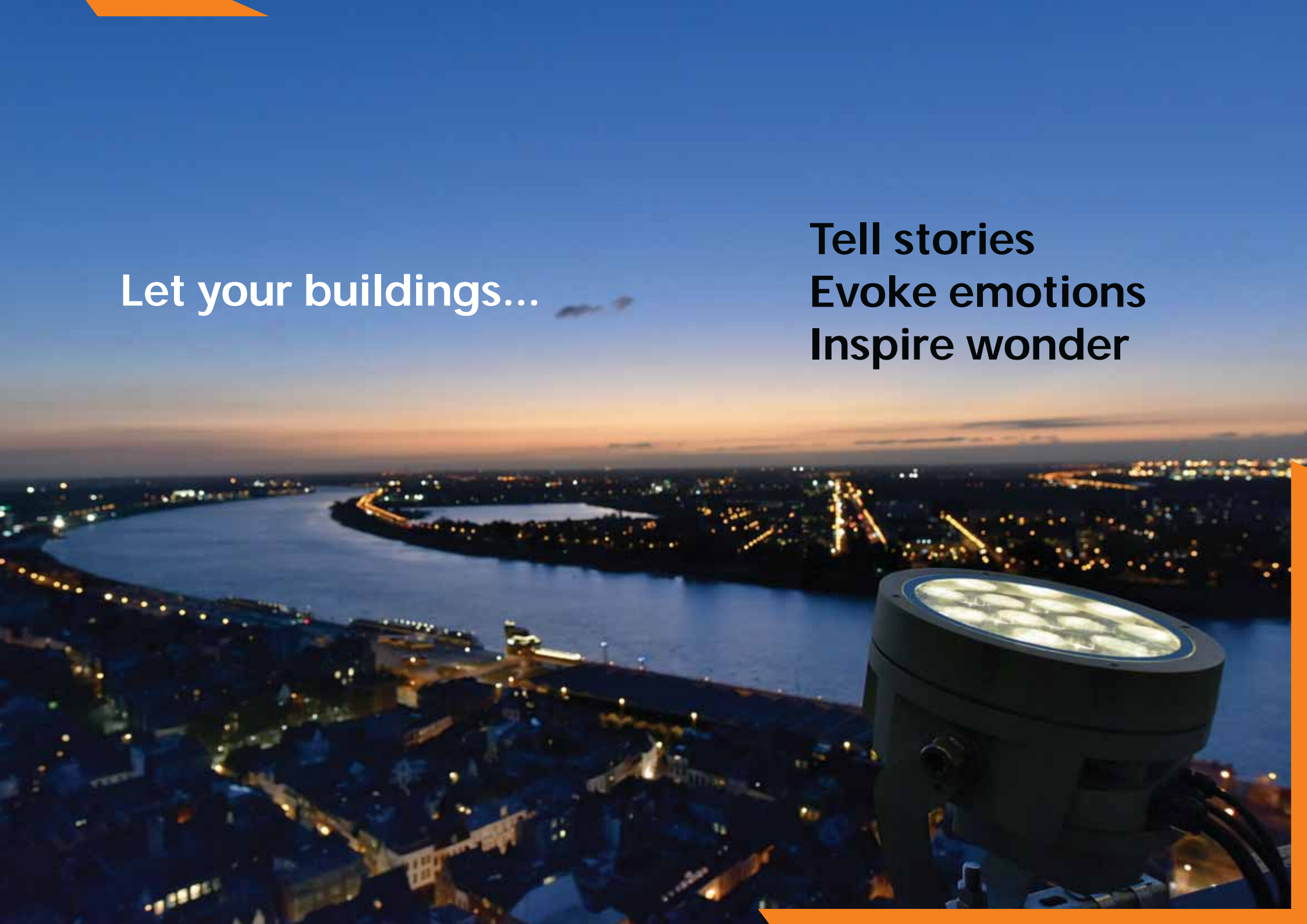# TABLE OF CONTENTS

Let your buildings…

**Tell stories
Evoke emotions
Inspire wonder**

PRODUCT OVERVIEW

FLC200 options

FLC200

[Factory-sealed] **Standard White**

2700 K 3000 K 4000 K (2200 K on request)

FLC200-TW

[Factory-sealed] **2200-6000 K Tunable White projector**

2200 K 2700-6000 K for [EES] only 6000 K

FLC200-CC [RGBW]

[Factory-sealed] **RGBW Colour Changing projector**

FLC200-CC [RGBA]

[Factory-sealed] **RGBA Colour Changing projector**

Colour Boost Technology
- All colour changing projectors are equipped with colour boost technology.
- Depending on the colours used, this increases the luminous efficacy by up to 40%

Tunable White Technology
- Combine white LEDs of different colour temperatures which can be controlled separately

FLC200 projectors	FLC200-TW projectors	FLC200-CC projectors
Family: FLC201, FLC210, FLC220, FLC230, FLC240, FLC260	**Family:** FLC201-TW, FLC210-TW, FLC220-TW, FLC230-TW, FLC240-TW, FLC260-TW	**Family:** FLC210-CC, FLC220-CC, FLC230-CC, FLC240-CC, FLC260-CC
Light source: LED 6 -155 W	**Light source:** LED 4 –132 W	**Light source:** LED 12 -144 W
Nominal lumen: 615 –20,702 lm	**Nominal lumen:** 420 –15,120 lm	**Nominal lumen:** 825 –12,240 lm
Colour temperatures: 2700 K, 3000 K, 4000 K (2200 K on request)	**Colour temperatures:** 2200-6000 K (2700-6000 K for [EES] only)	**Colour temperatures:** RGBW | RGBA
CRI: ≥80	**CRI:** ≥80	**CRI:** ≥80
Available distributions: [B] [M] [E] [EE] [EES]	**Available distributions:** [B] [M] [E] [EES] [EES] not available for FLC201/210/220-TW	**Available distributions:** [B] [M] [E] [EES] FLC210-CC available [B] [M] only [EES] not available for FLC210/220-CC
Optical accessories: Wallwash lens*, linear spread lens, flood lens*, honeycomb louvre, glare shield, snoot *Wallwash and flood lens not available for FLC201/FLC210	**Optical accessories:** Wallwash lens*, linear spread lens, flood lens*, honeycomb louvre, glare shield, snoot *Wallwash and flood lens not available for FLC201/FLC210-TW	**Optical accessories:** Wallwash lens*, linear spread lens, flood lens*, honeycomb louvre, glare shield, snoot *Wallwash and flood lens not available for FLC210-CC
Dimming: 1-10 V analogue dimming and DALI interface	**Dimming:** DALI interface	**Dimming:** DMX interface

FLC200 family

Standard White

FLC201	FLC210	FLC220	FLC230	FLC240	FLC260
1 LED	3 LED	6 LED	12 LED	24 LED	36 LED

Families	Diameter	Wattage	Lumens	Light distributions
FLC201	75 mm	6 W	615 - 720 lm	[B] [M] [E] [EE] [EES]
FLC210	150 mm	6 - 12 W	720 - 1590 lm	[B] [M] [E] [EE] [EES] linear spread lens
FLC220	190 mm	12 - 26 W	1295 - 3450 lm	[B] [M] [E] [EE] [EES] linear spread lens, wallwash lens
FLC230	260 mm	24 - 52 W	2756 - 6900 lm	[B] [M] [E] [EE] [EES] linear spread lens, wallwash lens
FLC240	340 mm	48 - 104 W	5178 - 13800 lm	[B] [M] [E] [EE] [EES] linear spread lens, wallwash lens
FLC260	385 mm	72 - 155 W	7767 - 20720 lm	[B] [M] [E] [EE] [EES] linear spread lens, wallwash lens

FLC200-TW family
Tunable White

FLC200-CC family
Colour Changing

FLC201-TW

FLC210-TW
FLC210-CC

FLC220-TW
FLC220-CC

FLC230-TW
FLC230-CC
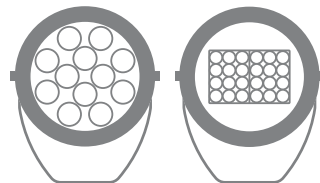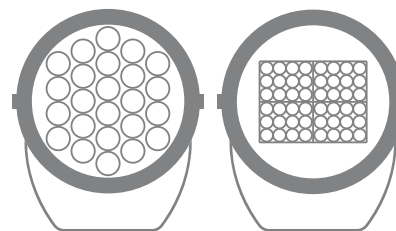
FLC240-TW
FLC240-CC

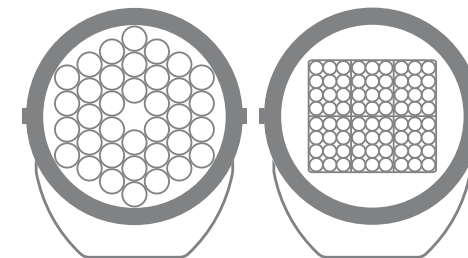FLC260-TW
FLC260-CC

1 LED	3 LED	6 LED	12 LED	24 LED [EES]

24 LED	48 LED [EES]	36 LED	72 LED [EES]

Families	Diameter	Wattage	Lumens	Light distributions
FLC201-TW	75 mm	4 W	420 lm	[B] [M] [E]
FLC210-TW	150 mm	11 W	1260 lm	[B] [M] [E]
FLC220-TW	190 mm	22 W	2520 lm	[B] [M] [E] linear spread lens
FLC230-TW	260 mm	24 - 44 W	2280 - 5040 lm	[B] [M] [E] [EES] linear spread lens, wallwash lens
FLC240-TW	340 mm	48 - 88 W	4560 - 10080 lm	[B] [M] [E] [EES] linear spread lens, wallwash lens
FLC260-TW	385 mm	72 - 132 W	6840 - 15120 lm	[B] [M] [E] [EES] linear spread lens, wallwash lens

Families	Diameter	Wattage	Lumens	Light distributions
FLC210-CC	150 mm	12 W	825 - 1020 lm	[B] [M]
FLC220-CC	190 mm	24 W	1650 - 2040 lm	[B] [M] [E] linear spread lens, wallwash lens
FLC230-CC	260 mm	42 - 48 W	2550 - 4080 lm	[B] [M] [E] [EES] linear spread lens, wallwash lens
FLC240-CC	340 mm	84 - 96 W	4500 - 8160 lm	[B] [M] [E] [EES] linear spread lens, wallwash lens
FLC260-CC	385 mm	126 - 144 W	6750 - 12240 lm	[B] [M] [E] [EES] linear spread lens, wallwash lens

FEATURES AND CONTRUCTIONS

IP66 | Class I | IK07

1 Safety glass main lens

2 CCG® Controlled Compression Gasket

- Weatherproof, non-ageing, high temperature rated rubber
- Provides long-term, maintained, high IP rating

4 Factory installed LED circuit board

5 Body
Marine-grade, die-cast aluminium alloy

6 Integral driver with integrated surge protection 6/6 kV (optional SP10)

3 Two cable glands* for improved wiring flexibility
*To be specified at the time of order

7 Fasteners
Poly Coated Stainless Steel Hardware protect against galvanic corrosion and ensures longevity

PCS

Corrosion protection

5CE
quality checks on finish part up to 3,000 hours salt spray exposure test

5CE

5CE + Primer
is suitable for coastal and aggressive environments

5CE +PRIMER

Standard colours options

RAL9004 Signal Black
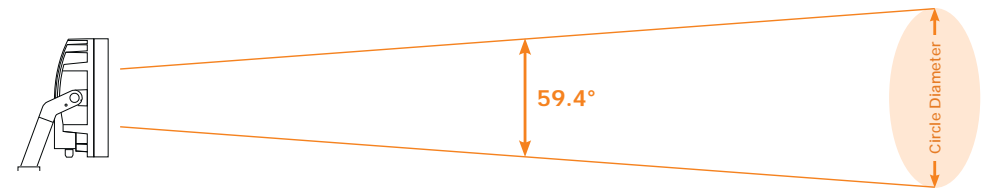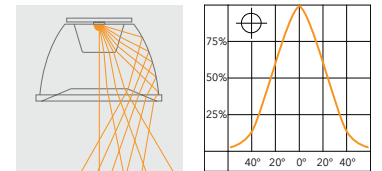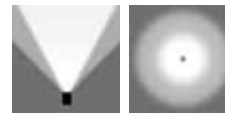RAL9007 Grey aluminum
RAL7016 Anthracite grey
RAL9016 Traffic white

LIGHTING DISTRIBUTION

Phoenix Bridge, Germany
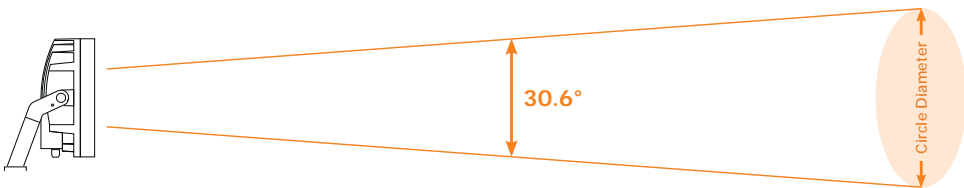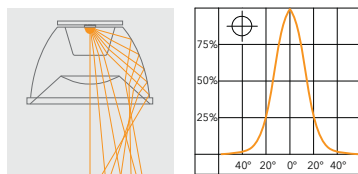
[B] Wide beam

59.4°

Circle Diameter

Purpose/Usage
Very large areas 6 - 30 m
Figures based on 3000 K

'The Sprinter' Sculpture at Olympic Park, Australia

Old Parliament House, Australia

[M] Medium beam

30.6°

Circle Diameter
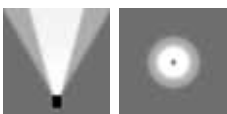
Purpose/Usage
Very large areas 9 - 30 m
Figures based on 3000 K

[E] Narrow beam

14.6°

Circle Diameter
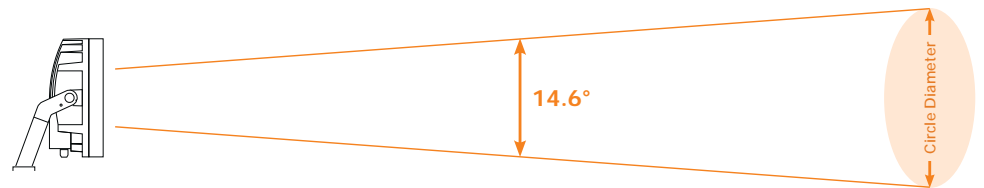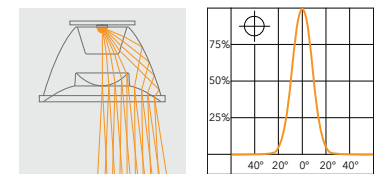
Purpose/Usage
Very large areas 15 - 60 m
Figures based on 3000 K

Neuschwanstein Castle, Germany

Kurilpa bridge, Australia

[EE] Very narrow beam

8.2°

Circle Diameter
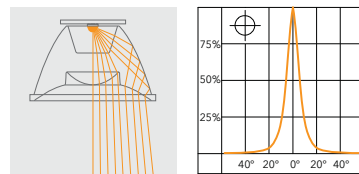
Purpose/Usage
Very large areas 30 - 90 m
Figures based on 3000 K

[EES] Very narrow beam, sharp cut-off

5.8°

Circle Diameter
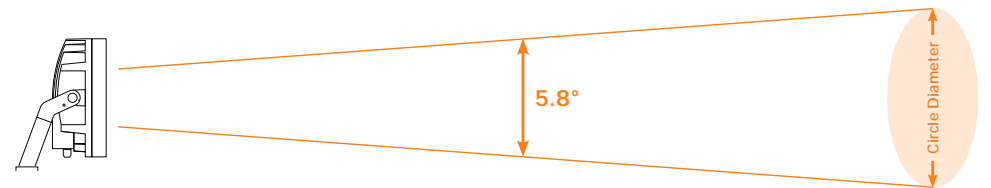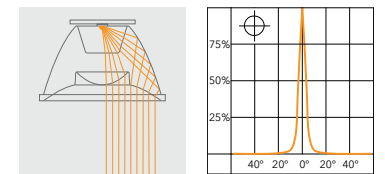
Purpose/Usage
Very large areas 30 - 150 m
Figures based on 3000 K

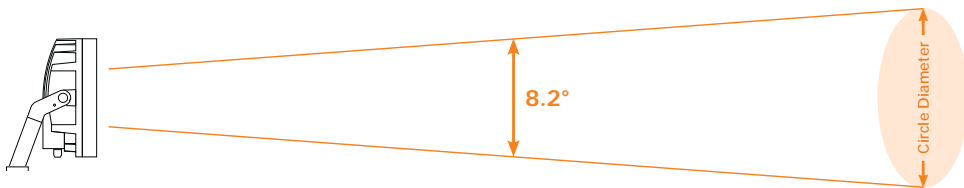# SUPERIOR GLARE CONTROL

Lenses

- In-house CAD design
- Highly efficient LEDs, lenses made of PMMA developed by WE-EF
- Glare-free light distributed uniformly with great visual comfort
- Individual shielded lenses
- Single piece lens holder for easy maintenance and upgrade

Lenses are designed so that any stray light
from the DIODE bounces back into the luminaire

25°
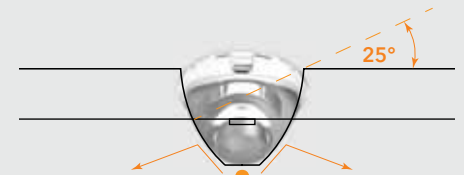
WE-EF's OLC®
One LED Concept

OLC® prevents shadowing from
any obstruction on the main lens

Uniform illumination through
luminaires lifetime

WE-EF's OLC®

- Multi-technique layer where individual LED illuminated the same
  area creating lighting layer - uniformity illumination
- Uniformity retains when an LED fails and the light level drops
- A sustainable energy saving lighting solution

OPTICAL OPTIONS
AND ACCESSORIES

FLC200 Standard White | FLC200-TW | FLC200-CC

Internal optical accessories are factory-installed means the products are factory-sealed, qualities and the advantages of the luminaire are fully maintained.

A maximum of one internal optical accessory

OR   OR   OR

Wallwash lens   Linear spread lens   Honeycomb louvre   Flood lens

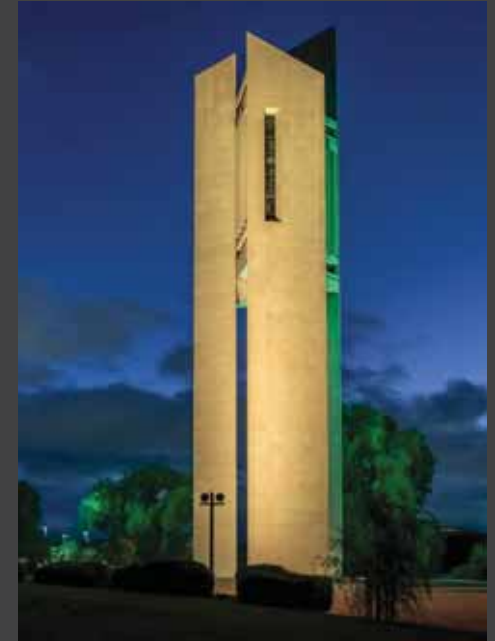

External accessories must be specified at the time of ordering

OR

Glare shield   Snoot
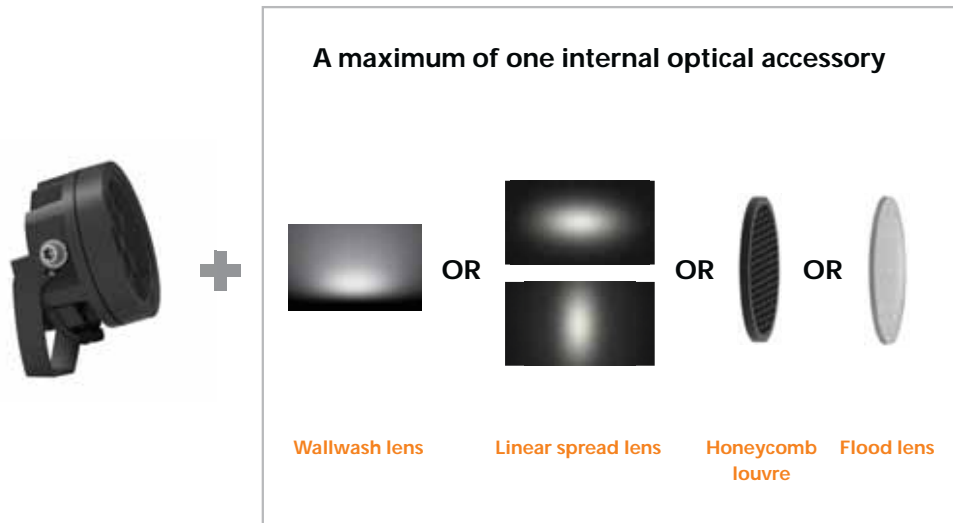
IO-20 Wallwash lens:
Great uniformity and broad corner-to-corner coverage.
Suitable for luminaires with [M] distribution (20°/ 20°)

IO-180 linear spread lens:
Can accommodate both vertical and horizontal orientation
Suitable for luminaires with [M] [E] [EE] [EES] distribution

IW Honeycomb louvre
Suitable for luminaires with [E] [EE] [EES] distribution

Flood lens
Suitable for luminaires with [M] [E] [EE] [EES] distribution

Shields and snoots are incorporated into **separate frame designs.**

MOUNTING OPTIONS
AND ACCESSORIES

FLC200 Standard White | FLC200-TW | FLC200-CC

Pole clamp PC
For mounting **one
or two projectors**

Pole clamp SP
For mounting **one
or two projectors**
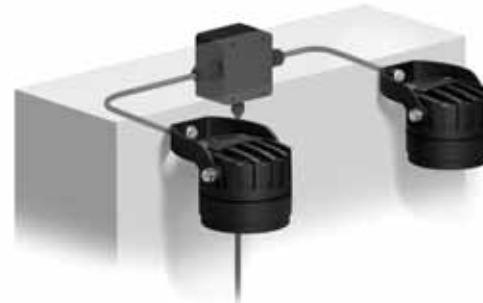
Junction box
Available only
for FLC201

Junction box
Available for
FLC210/220/230/240/260

Spigot cap
For mounting
one projector

Short post EM
For mounting
one projector

Planted root

COLOUR AND
CONTROL OPTIONS

Control options

FLC200 Standard White

DALI interface
Equipped with a DT6 Dali driver (Dali 2.0)

Benefits
- Improved interoperability
- Easier installation/maintenance
- Less wiring
- Cost-effective
- Increase comfort and flexibility

Eco Step Dim® Basic
Factory-programmed-one-step dimming only

Eco Step Dim® Advanced
- Factory-programmed
- Operated in a standalone mode
- Up to five different dimming levels (D1-D5)
- Up to five time periods (T1-T5)
- Possible to reprogram on site

Control dynamic

DALI interface

Standard White scenarios and **Tunable White scenarios** can be individually controlled via DALI addresses for each projector or a defined group of projectors.

They can be synchronised over a set period of hours or selected days in the week.

Standard White offers dimming light output
Tunable White offers dimming and change of colour temperature

Use application:
For static light or occasional changes

DALI offers flexibility for the wiring topology.
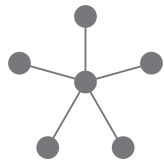
| Bus network | Star network | Tree network | Daisy chain |
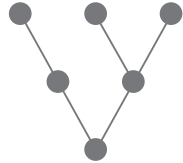
Avoid mesh, ring, mixed, or fully connected networks.

**Maximum of 64 DALI devices
Limit cable length up to 300 m.**

DATA

120-240V 50/60 Hz
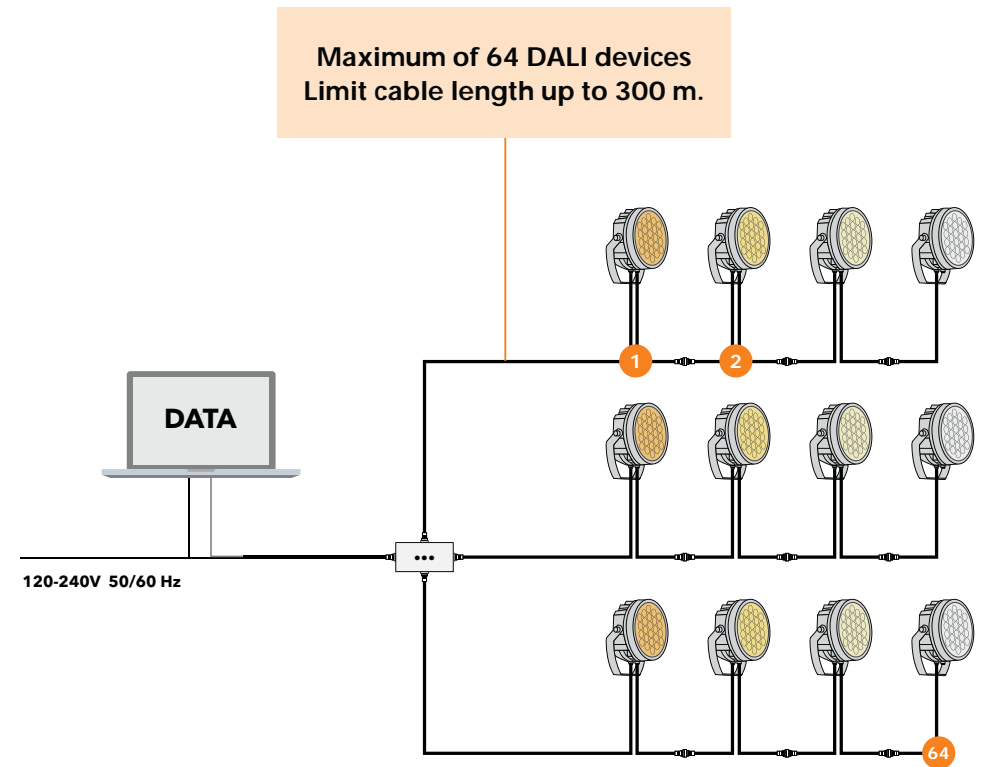
Control dynamic

Application scenarios

Colour-changing scenarios can be individually controlled via DMX addresses for each projector or a defined group of projectors.

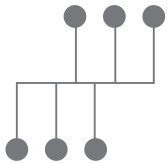They can be synchronised over a set period of hours or selected days in the week.

	1-10V	DALI	DMX	Wireless DMX
FLC200	✓	✓	–	–
FLC200-TW	–	✓	–	–
FLC200-CC	–	–	✓	✓

Scenario 1

- All projectors are uniformly addressed
- Synchronised colour changing over a set period of hours

Example 1
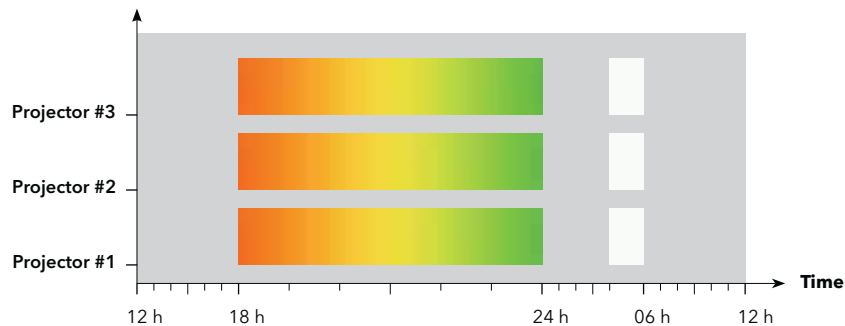
Scenario 2

- Separate groups of projectors are defined and differently addressed
- Each group performs a specific scenario over a set period of hours

Example 2
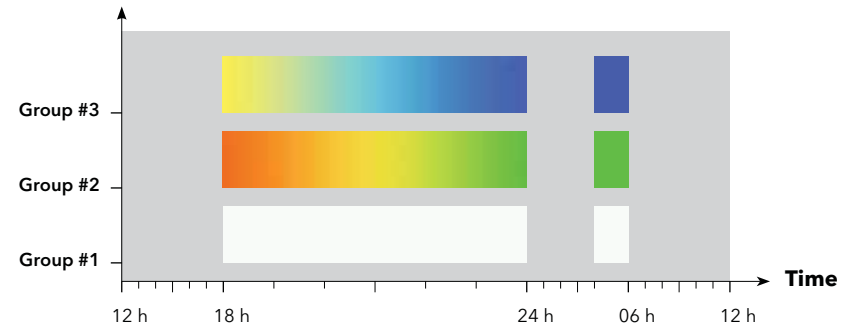
Scenario 3

- Specific projectors are differently addressed
- Each projector performs a specific scenario over a set number of days

Example 3
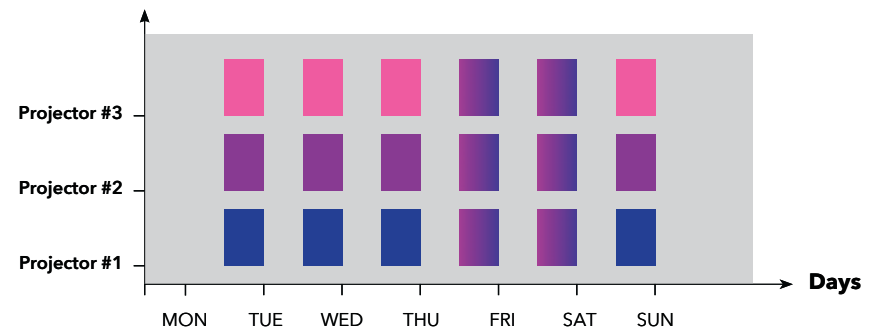
Wiring schematic

Single layout –FLC200-CC

When using the DMX combination cable in soil, water, or concrete, it should be protected by a conduit.

To prevent signal issues, the last projector must have a termination resistor connected.

DATA

DMX CONTROLLER

MAINS POWER SUPPLY

120-240V 50/60Hz

DMX Cable

DMX Combination Cable

DMX Plug and Socket

DMX Termination Plug

DMX TERMINATION PLUG
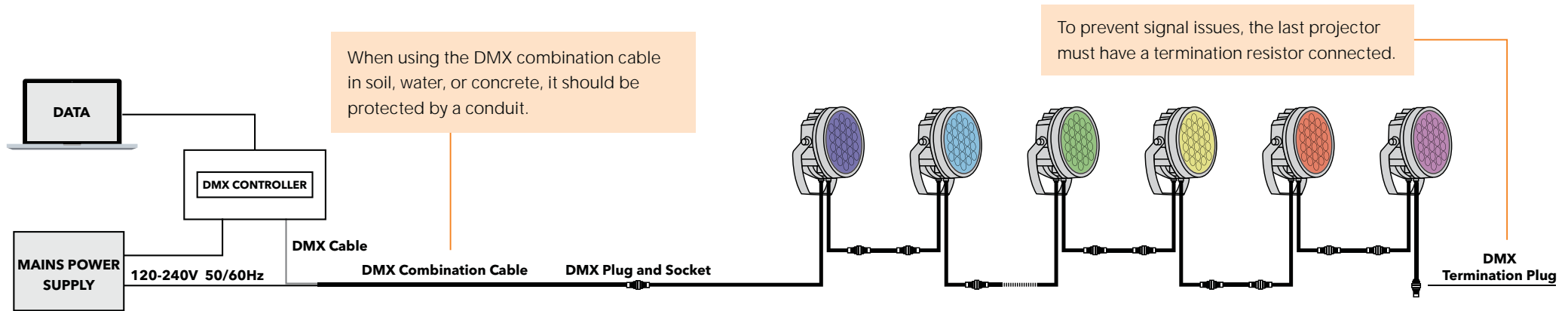
A DMX network consists of a DMX controller (the master) and one or more projectors in a DMX universe. **If the projectors come with a combination cable, there's no need to open them for an electrical connection.**

If the projectors are delivered without a combination cable, the termination chamber must be opened on-site, and a suitable crimping tool is needed for assembly.

The cable contains three power cords and one twisted pair for the DMX signal, along with shielding. If optional sensors or switching devices are used, follow the manufacturer's instructions for the cable size. Any external sources must be connected to the DMX controller via a relay.
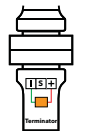
Equipment list

Single layout –FLC200-CC

Standard DMX is unidirectional, flowing only from the controller to the projectors.
With RDM (Remote Device Management), the DMX system becomes bi-directional,
allowing data to flow both to the projectors and back. This simplifies installation and
address allocation.

Distance	No. of Luminaires	Option	Equipment List

SINGLE LAYOUT

d

CONTROLLER — 1 — 2 — · · · · · · · n

d ≤ 100 m

24 FLC230
n ≤ 12 FLC240
8 FLC260

1 — DMX — DMX Controller / DMX Termination Plug

2 — DMX-RDM — DMX Controller / DMX Termination Plug / DMX Motion Sensor

d > 100 m

24 FLC230
n > 12 FLC240
8 FLC260

3 — DMX — DMX Controller / DMX Termination Plug

4 — DMX-RDM — DMX Controller / DMX Termination Plug / DMX Motion Sensor

Wiring schematic

Multiple layout –FLC200-CC

DATA

DMX CONTROLLER

MAINS POWER SUPPLY

120-240V 50/60Hz

DMX SPLITTER

DMX Cable

DMX Combination Cable

DMX Combination Cable

DMX Combination Cable

DMX Termination Plug

DMX Termination Plug

DMX Termination Plug

This splitter also serves as protection for the DMX controller with RDM, as it electrically separates the signal. Additionally, make sure to use a DMX termination plug for each final projector.

I S +

Terminator

DMX TERMINATION PLUG

In a multiple layout, use a splitter as a multiplexer for the DMX signal.

Equipment list

Multiple layout –FLC200-CC

For applications with 50 or more projectors, we recommend using the bi-directional DMX controller*.

* Necessary when installing external sensors

Distance	No. of Luminaires	Option	Equipment List

MULTIPLE LAYOUT

d

CONTROLLER
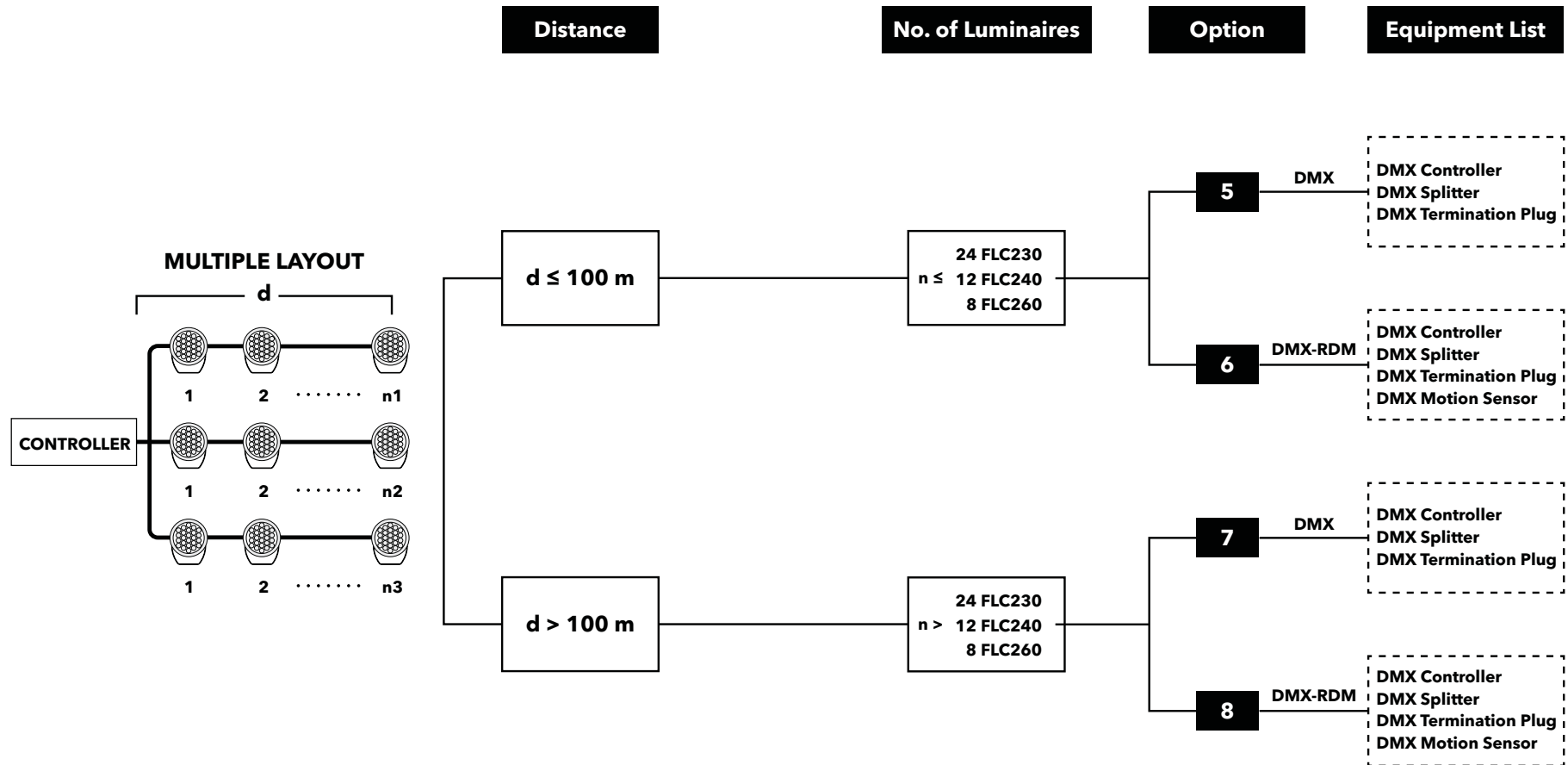
1   2   · · · · · · · n1
1   2   · · · · · · · n2
1   2   · · · · · · · n3

d ≤ 100 m

n ≤ 24 FLC230
      12 FLC240
      8 FLC260

5 — DMX
> DMX Controller
> DMX Splitter
> DMX Termination Plug

6 — DMX-RDM
> DMX Controller
> DMX Splitter
> DMX Termination Plug
> DMX Motion Sensor

d > 100 m

n > 24 FLC230
     12 FLC240
     8 FLC260

7 — DMX
> DMX Controller
> DMX Splitter
> DMX Termination Plug

8 — DMX-RDM
> DMX Controller
> DMX Splitter
> DMX Termination Plug
> DMX Motion Sensor

Wiring schematic
for wireless system

FLC200-CC
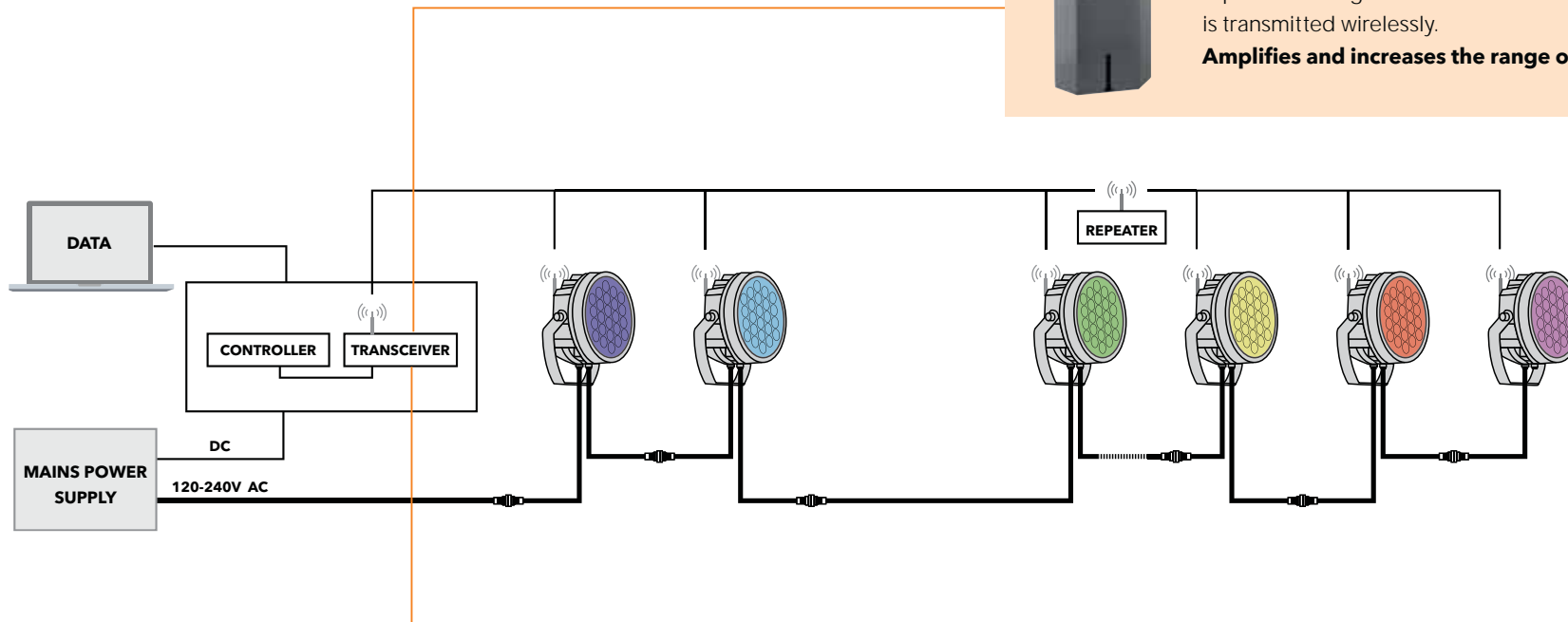
In the wireless system, **transceivers** and **repeaters** replace DMX signal cables. Colour control information is transmitted wirelessly.
Amplifies and increases the range of the DMX signal

DATA

CONTROLLER | TRANSCEIVER

REPEATER

DC

MAINS POWER SUPPLY

120-240V AC

The transceiver, which functions as a receiver too, sends the encrypted DMX signal wirelessly to all network subscribers.
Transmission of signal up to 300 m.

💡 **This is advantageous for large outdoor applications as no extra wiring is required.**

FLC200-CC colour changer equipped with a **DMX-RF wireless antenna** and a transceiver. DMX-RF **transmits radio frequency at 2.4 GHz band** (harmonised worldwide), this enables **direct communication between luminaire and transceiver.**
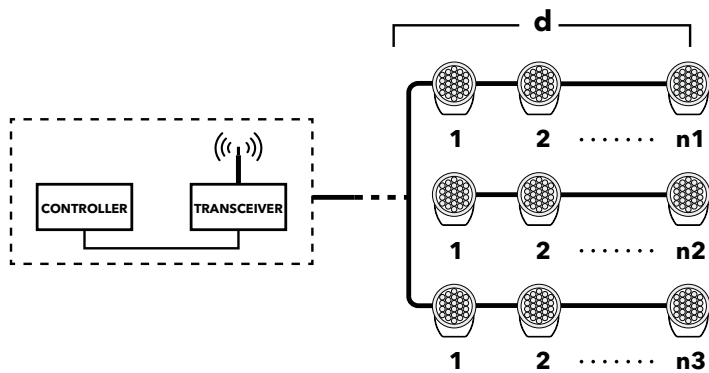
Each projector has a built-in transmitter and receiver that converts the wireless signal back to a classic DMX signal, enabling bi-directional communication (RDM).

Equipment list
for wireless system

FLC200-CC

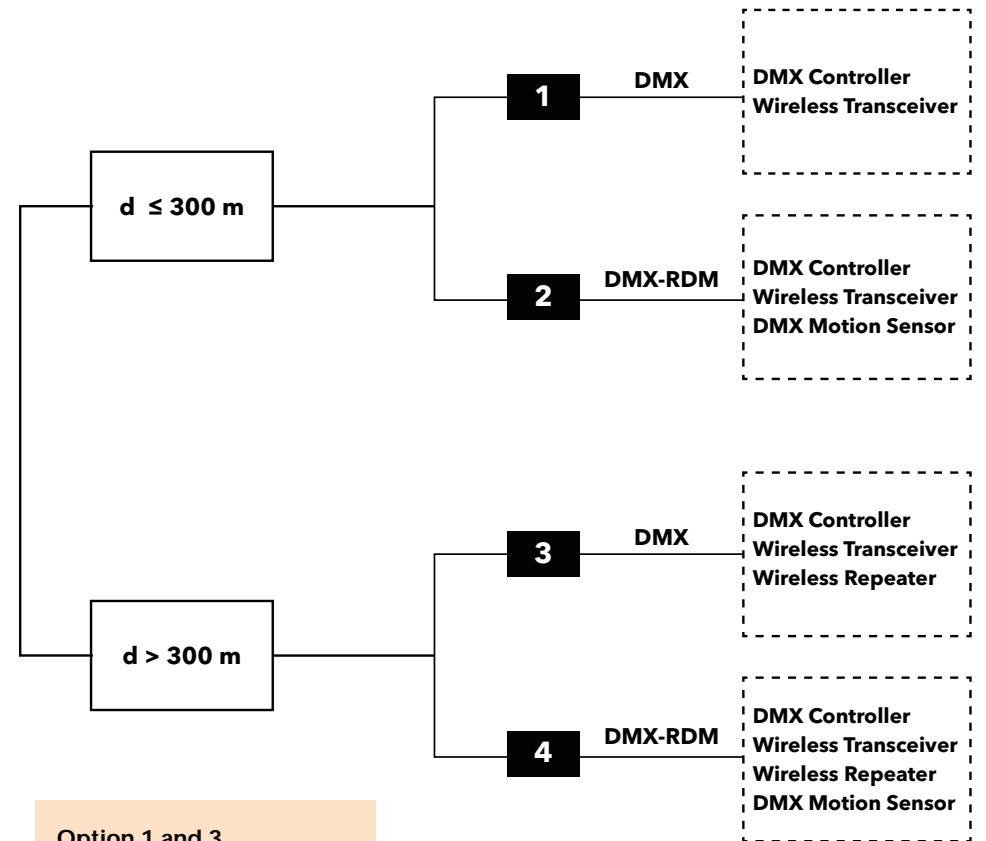**The maximum distance between the transceiver and the final projector is 300*** m (line-of-sight)**

*Trees, buildings may reduce the maximum distance

For projects that demand longer distancing, an optional DMX wirelessrepeater can be used to **amplify and increases the range of the DMX signal**

With a wireless transmitted DMX signal – no mirroring can occur and no termination plug is needed.

Distance	Option	Equipment List

	1 DMX	DMX Controller Wireless Transceiver
d ≤ 300 m	2 DMX-RDM	DMX Controller Wireless Transceiver DMX Motion Sensor
	3 DMX	DMX Controller Wireless Transceiver Wireless Repeater
d > 300 m	4 DMX-RDM	DMX Controller Wireless Transceiver Wireless Repeater DMX Motion Sensor

Option 1 and 3
Use a unidirectional DMX controller

Option 2 and 4
Use a bi-directional DMX controller (RDM ready)

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