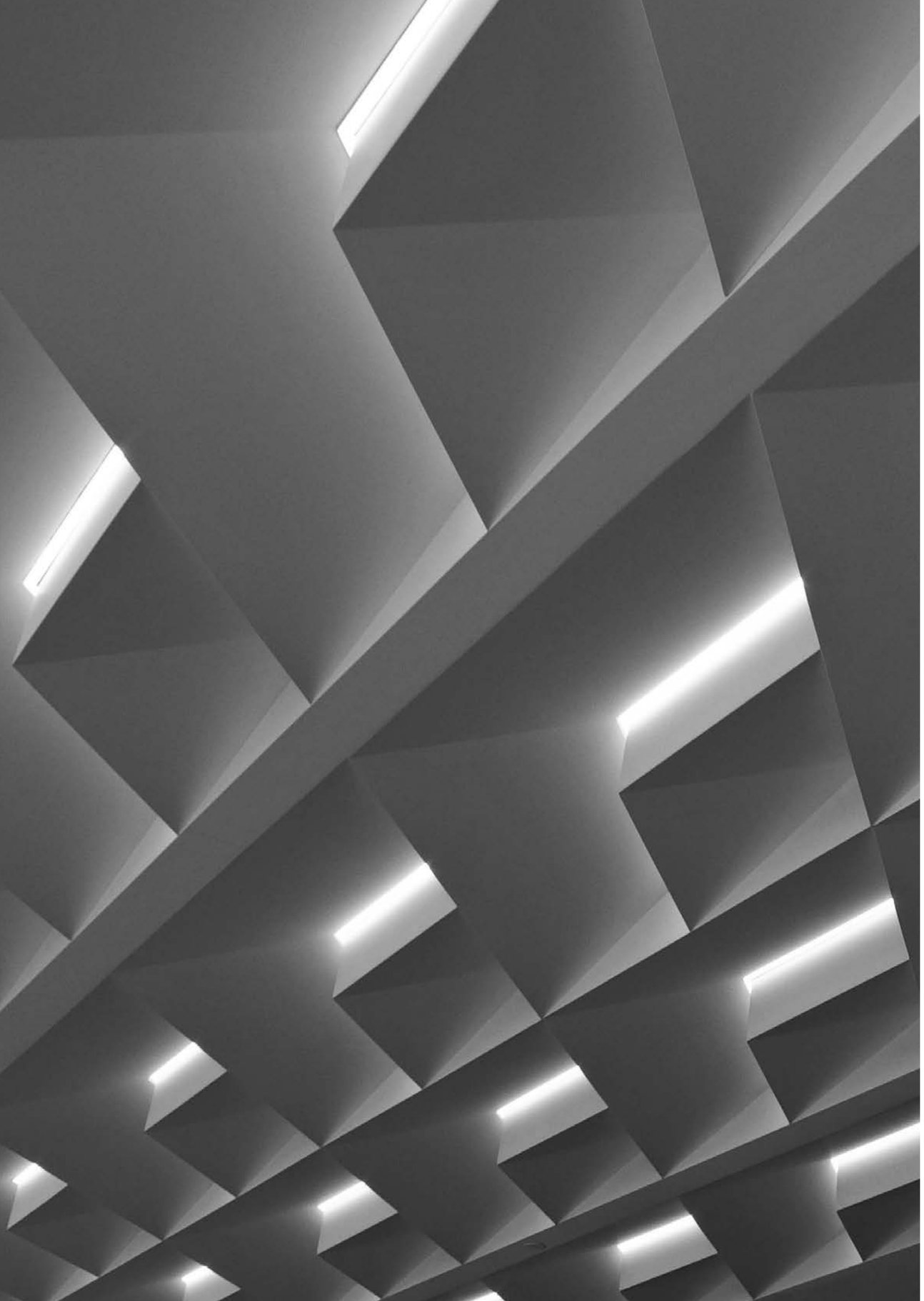
Catalogue 2.0



Contents

Introduction

About KKDC

KKDC is an established manufacturer, designing and producing a wide range of specialist LED lighting solutions for high end architectural markets worldwide.

Research, development and manufacture take place in our expanding facility outside Seoul, with product design and marketing from KKDC Design House in London.

Product sales and support services continue to expand worldwide with KKDC offices now in Shanghai, Singapore, New York, Tokyo, Kyoto and Melbourne joining alongside our established branches in Sydney, Auckland, Beijing, London and Paris.

KKDC continues to grow a local supply and customer service network in the Middle East, Asia and beyond.

From the start, the success of KKDC has always been grounded in our research and implementation of complete electronic and engineering solutions in the application of LED's produced from the best performing patented materials.

Comprehensive Control

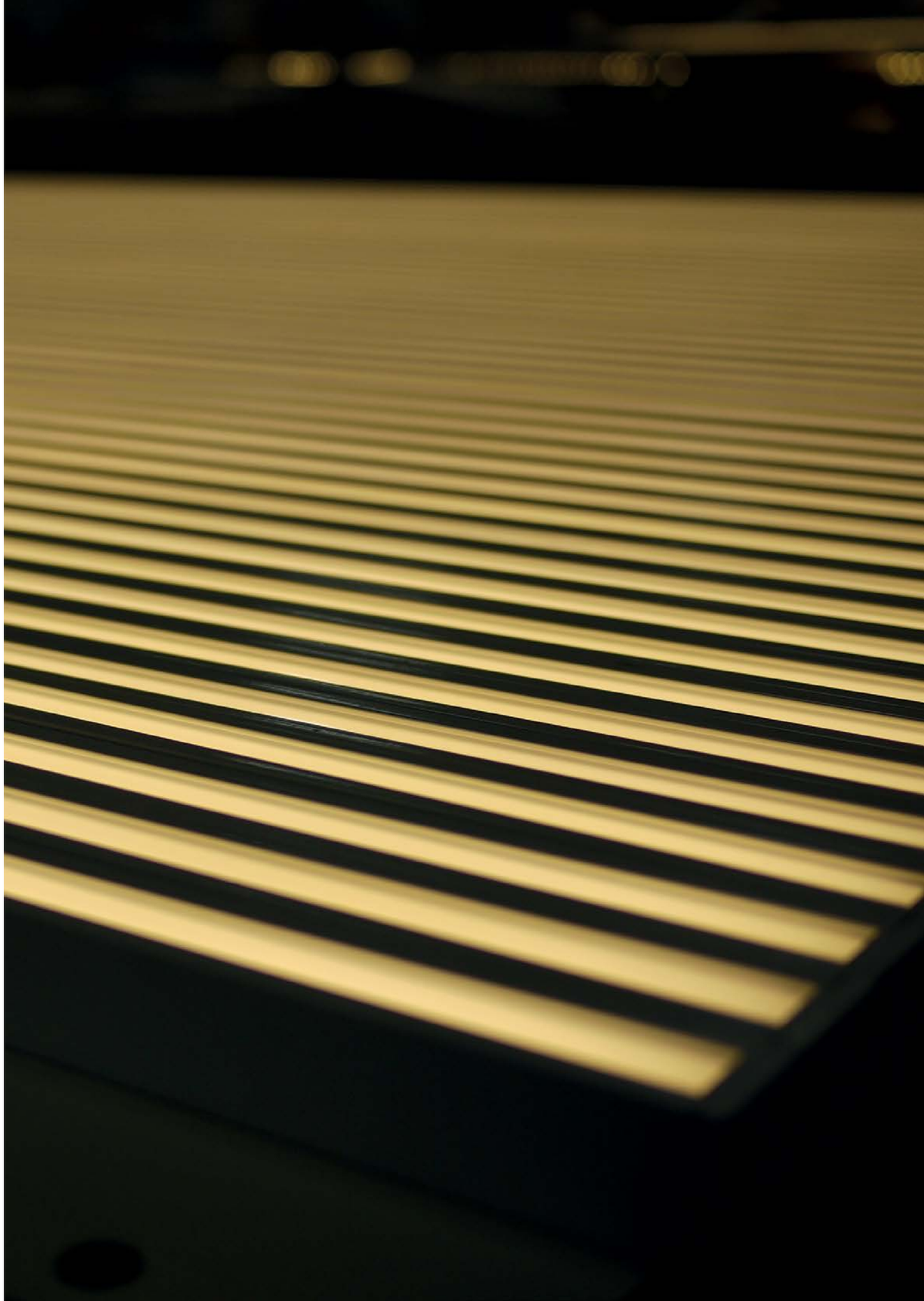
From raw LED source to finished luminaire, we have the multidisciplinary engineering capability, the research base and production infrastructure to control every aspect of product design and manufacture – LED die procurement, phosphors and packaging, thermal and electronic design, luminaire design and all points in between.

Optical, electronic, thermal and mechanical aspects of LED product design are significantly interdependent. To maximise the capability of current technology requires careful balance throughout the whole design process. With comprehensive control of source components and the expertise and facility to adjust and optimise all design and manufacturing parameters, KKDC engineers have a rare freedom of choice in how best to achieve this. Producing a flexible, coherent and durable product range requires nothing less.

As a direct result, KKDC delivers complete linear LED products customised on order for length, IP rating, luminous output, colour temperature and colour consistency providing bespoke solutions to specific project requirements.

Features of our comprehensive approach:

- Integrated engineering design for the complete luminaire. The sum of all the parts – not some of the parts.
- Comprehensive control of all output and colour characteristics by design.
- Research, development, manufacture and testing on one site under the control of a single multidisciplinary engineering team.
- Customised, configurable ordering options for all KKDC linear products.



KKDC Colour

Our principal product ranges all feature white LED packages exclusively produced to KKDC designs.

The best patented Toyoda Gosei dice and patent phosphors procured directly from their makers are packaged to our specification for each chosen colour temperature and luminous output rating.

We control the chromaticity and binning of our LED production and through our use of the premium, patented Mitsubishi phosphor, a high Colour Rendering Index (>90), with significantly superior R9 values, is now a standard product feature.*

Unified LED source design delivers distinctively consistent and stable colour performance across all KKDC SMD LED product ranges. Designers can achieve colour matching across whole projects and consistency between projects with excellent results, both in 'stand-alone' LED locations and in mixed technology lighting schemes.

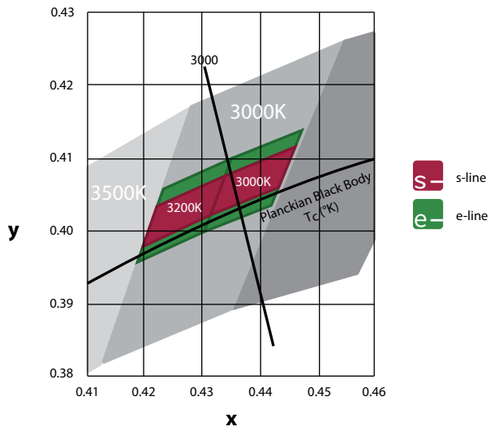
Every length of KKDC linear LED product manufactured is etched with a unique project code and the LED's within are traceable. If a project is duplicated or extended, or if products are damaged in use – even years after installation – we ensure an accurate colour match by manufacturing LED packages to the same colour specification. For some custom applications our control of package design even allows our products to be matched with specific project colour requirements.

s-line & e-line

Because not all projects and installation locations benefit from the highest degree of consistency in colour temperature and hue, we introduced s-line and e-line – a two tier product offering across almost all of our SMD LED products.

s-line and e-line products feature LED packages binned to 2 SDCM or 3 SDCM respectively with their price point weighted accordingly.

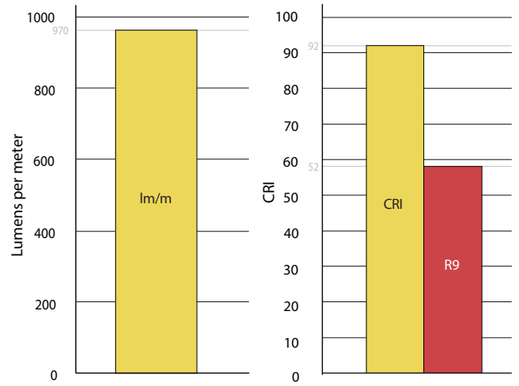
Identical in chip type and phosphors, all s-line and e-line products share the same high quality electrical and mechanical components providing specifiers with a simple choice to suit project requirements and budgets.



KKDC KK504/KK352 LED (CIE 1931)

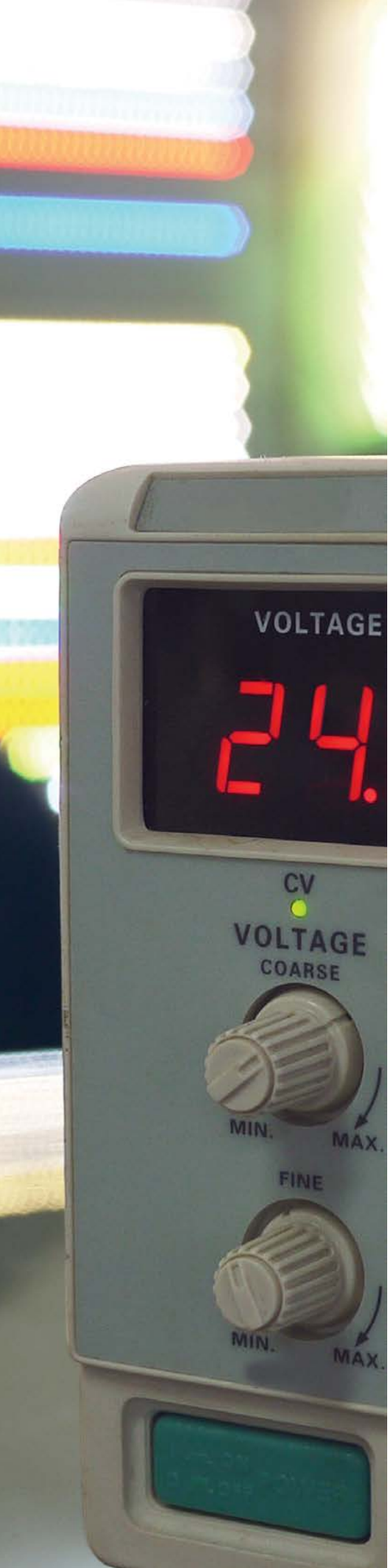
Key points:

- Visible and measured colour consistency – within linear products, between product ranges and across multiple projects over time.
- KKDC colour temperatures and hue characteristics – our specification through design.
- Flexible or rigid PCB; the colour characteristics remain the same in all KKDC SMD LED products.
- Toyoda Gosei dice and proprietary blending of patented phosphors for a unique KKDC LED package.
- High CRI with premium, patented Mitsubishi phosphor for superior R9 values.
- s-line and e-line – Colour consistency choice to match project requirements.
- KKDC colour characteristics are developed, tested and tuned in collaboration with leading lighting designers.



LM79-08 accredited KK504 (3200K) output properties (testing by LUX-TSI Ltd)

* Only applies to s-line and e-line product ranges.



KKDC Testing and Standards

With the on-going education in the marketplace and the gradual introduction and adoption of standards and associated testing, more designers and specifiers have a good understanding of the hidden factors involved in producing colour consistent, stable and durable LED products.

As a global company, selling a quality product in the most discerning markets, all our products undergo external testing by independent accredited authorities to quantify and substantiate their performance.

KKDC products are tested to the IES LM79-08 photometric standard by the UK's only UKAS (ILAC) accredited, independent commercial laboratory currently doing so (LUX-TSI Ltd).

Certification and provision of data from LM79-08 testing by an internationally accredited laboratory is currently considered best practice worldwide for the testing of complete LED luminaires.

Through the European CE scheme, ETL and UL certification, all KKDC products maintain the most internationally recognised safety standards.

Our research and manufacturing processes also incorporate many electrical and photometric testing procedures for individual components and finished luminaires.

Thermal shock and harsh environment evaluation are a part of product development and ongoing production testing.

Automated SMD PCB production also incorporates chromaticity testing as part of our five point quality control procedure.

Extended duration testing of complete luminaires ensures products will perform as designed throughout their lifetime and all components remain within acceptable temperature tolerances.

We look to provide our own test data wherever it can add useful understanding for specifiers beyond that provided by independent testing.

Key points:

- **Accredited** independent photometric testing to IES LM79-08.
- Global safety certification through CE, ETL and UL.
- Comprehensive in-house testing by KKDC engineers through all stages of research, design and manufacture.
- Rigorous five point quality control testing procedure integrated with automated SMD PCB production.
- Extended duration and exhaustive thermal testing of finished products to verify stated product lifetimes and ambient temperature ranges in service.

More than the LED

Though an excellent family of KKDC LED light sources is the basis of all our product designs, successful electronic, electrical, thermal and optical integration within a finished luminaire is crucial if products are to perform as required over a long lifetime.

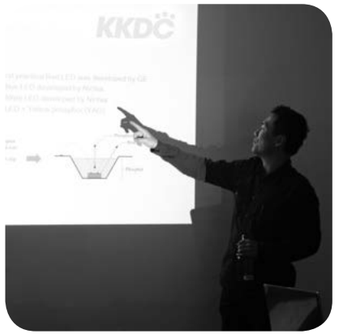
Mounting, housing, and powering our light sources to maintain a consistent quality of light within a durable luminaire is where product design experience and our broad competence and attention to detail in many engineering fields comes to the fore.

Ongoing research in electronic, electrical and chemical engineering techniques alongside investment in manufacturing process technology and our quality control testing regime continue to be KKDC priorities.

KKDC electronic engineers and software programmers have also developed control technology, to match the rising demands of projects using our SMD LED products.

Some examples of KKDC research in action:

- Best quality drive components are evaluated against electrical operating stresses to minimise failure rates.
- Analysis and optimisation of drive currents, power distribution efficiency and heat dissipation within our circuit board designs for thermal resilience and colour maintenance in all operating environments.
- Investigation of LED package distribution and geometry to achieve even illumination within and across adjoining products.
- In-house chemical engineering research producing developments in optically efficient polyurethane resins, silicone formulations and their application techniques. Employed alongside our vacuum deposition coating process to ensure thorough protection for many of our high IP rated products.
- Innovative electronic design produces 'visDIM' with high frequency PWM control for smooth dimming and drastic reduction of flickering and strobing effects previously associated with LED dimming.



TiMi series

TiMi

- Discrete low profile housing for concealed illumination of architectural details.
- Output options from 409 to 1400 lumens per metre with high colour rendering index (≥90).
- Wide choice of colour temperatures; single colours, RGB, and variable XEN versions.

s-line

- 2 step package binning.
- Optimum colour consistency for high quality/close proximity lighting.
- White: 2300K/2500K/2700K/3000K/3200K/3800K/5000K.
  Single colours: Red/Green/Blue/Orange/Amber.

e-line

- 3 step package binning.
- Good colour consistency providing an economic choice when mounted over 300mm from the illuminated surface.
- White: 2300K/2500K/2700K/3000K/3200K/3800K/5000K.

Note: To avoid any visible colour differences we advise that s-line and e-line products should not share the same location.

LED strip options


KK352/KKe352


KK504/KKe504

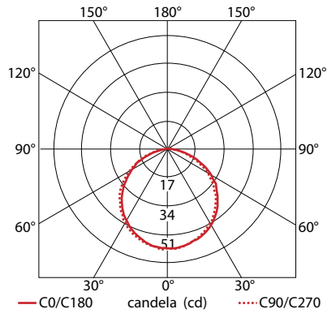

KK508/KKe508


KKRGB


KKXEN

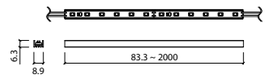
TiMi 352s-/e352e-

24V DC | 5.52 W/m | 74.1 lm/W | IP20 | cULus LISTED E356145 | CE



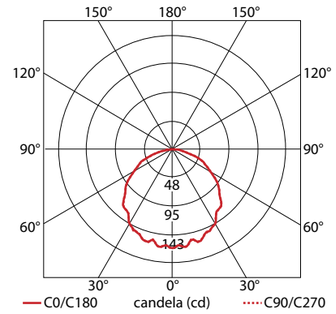
409lm/m

Luminous flux:	409lm/m nominal (@ 3200K)
Size:	H6.3/W8.9/L83.3-2000mm
Chip:	Toyoda Gosei
Beam angle:	115°
CRI:	≥90
Lifetime:	50,000 hours @ 25°C
Operating temp:	T_a = -25 to 60°C (T_c max = 75°C)
IP rating:	IP20
Finish:	Silver anodised
Cover/Lens:	N/A
Mounting:	Surface mounting via clips
Connection:	Hardwire tails or male/female connectors
Control:	1-10V/DMX (See visDIM range)



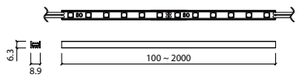
TiMi 504s-/e504e-

24V DC | 12.24 W/m | 79.3 lm/W | IP20 | cULus LISTED E356145 | CE



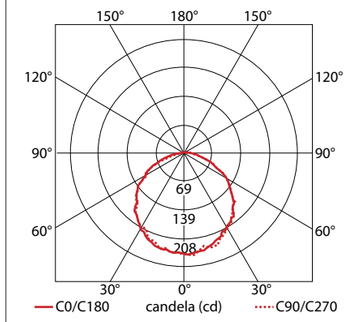
971lm/m

Luminous flux:	970.6lm/m nominal (@ 3200K)
Size:	H6.3/W8.9/L100-2000mm
Chip:	Toyoda Gosei
Beam angle:	100°
CRI:	≥90
Lifetime:	50,000 hours @ 25°C
Operating temp:	T_a = -25 to 50°C (T_c max = 70°C)
IP rating:	IP20
Finish:	Silver anodised
Cover/Lens:	N/A
Mounting:	Surface mounting via clips
Connection:	Hardwire tails or male/female connectors
Control:	1-10V/DMX (See visDIM range)



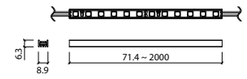
TiMi 508s-/e508e-

24V DC | 17.28 W/m | 81 lm/W | IP20 | cULus LISTED E356145 | CE



1400lm/m

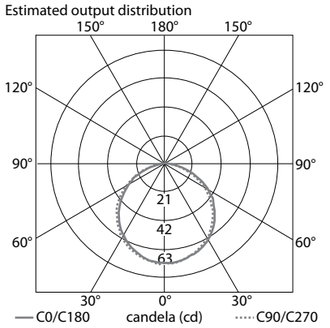
Luminous flux:	1399.7lm/m nominal (@ 3200K)
Size:	H6.3/W8.9/L71.4-2000mm
Chip:	Toyoda Gosei
Beam angle:	115°
CRI:	≥90
Lifetime:	50,000 hours @ 25°C
Operating temp:	T_a = -25 to 40°C (T_c max = 70°C)
IP rating:	IP20
Finish:	Silver anodised
Cover/Lens:	N/A
Mounting:	Surface mounting via clips
Connection:	Hardwire tails or male/female connectors
Control:	1-10V/DMX (See visDIM range)



TiMi RGB

RGB | 24V DC | 15.6 W/m | IP20 | ETL Intertek | CE

Estimated output distribution



15.6W/m

Luminous flux: Red: 106.6lm/m
Green: 289.8lm/m
Blue: 38.3lm/m
White: 418.4lm/m

Size: H6.3/W8.9/L83.3-2000mm

Chip: Red Epistar/Green Samsung/Blue Samsung

Beam angle: 115°

Colours: Red 620-628nm/Blue 459-464nm/Green 521-527nm

CRI: N/A

Lifetime: 50,000 hours @ 25°C

Operating temp: T_a = -25 to 50°C (T_c max = 80°C)

IP rating: IP20

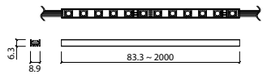
Finish: Silver anodised

Cover/Lens: N/A

Mounting: Surface mounting via clips

Connection: Hardwire tails or male/female connectors

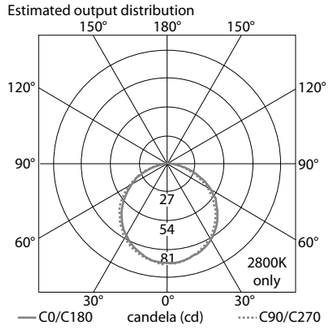
Control: DMX (See visDIM range)



TiMi XEN

Variable | 24V DC | 12.24 W/m | 43.5 lm/w | IP20 | ETL Intertek | CE

Estimated output distribution



532lm/m

Luminous flux: 532.4lm/m (White 2800K)

Size: H6.3/W8.9/L100-2000mm

Chip: Citizen

Beam angle: 115°

Colour: White: 2800K continuously variable to amber

CRI: ≥80 (White 2800K)

Lifetime: 50,000 hours @ 25°C

Operating temp: T_a = -25 to 50°C (T_c max = 75°C)

IP rating: IP20

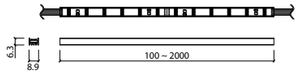
Finish: Silver anodised

Cover/Lens: N/A

Mounting: Surface mounting via clips

Connection: Hardwire tails or male/female connectors

Control: 1-10V/DMX (See visDIM range)



TiMi Product Details

1. TiMi optimum heatsink design
2. Innovative PCB design
3. Compact TiMi male/female connectors
4. Laser etched batch numbering
5. TiMi 504 with fixing clips

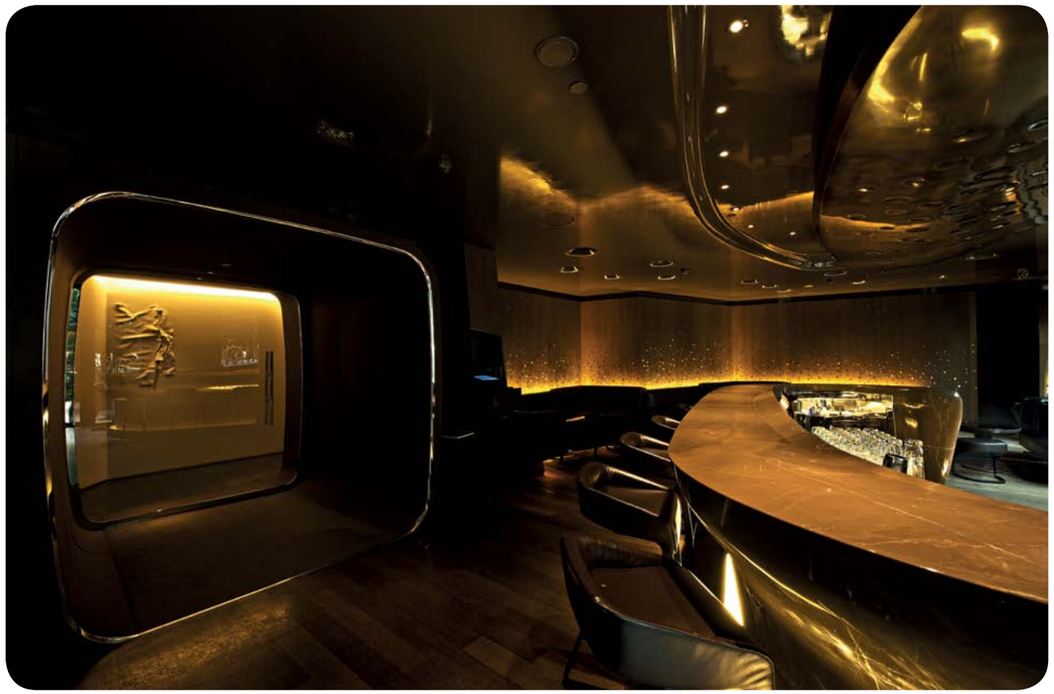

1

2


5


3

4



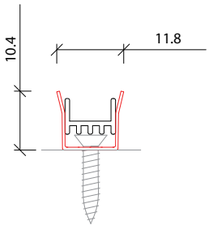
Above:
Mandarin Oriental, Bar 8, Paris
Architect: Patrick Jouin
Lighting Design: DPA Lighting Consultants (London)
Photography: Jean Garcin

Left:
52 Martin Place, Sydney
Lighting Design: Point Of View

Opposite page:
Jimmy Choo, Selfridges, London
Lighting Design: DPA Lighting Consultants (London)

TiMi Accessories

Mounting Options



KKCP-01 (1no.)
KKCP-51 (500no.)
Clip (Allow 3 per metre)
S/Steel finish

Connectors

KKCN-01 50mm pair
KKCN-03 300mm pair
2 PIN male + female connector set

KKCN-07 50mm pair
KKCN-09 300mm pair
4 PIN RGB male + female connector set

KKCN-18 50mm pair
KKCN-19 300mm pair
4 PIN XEN male + female connector set

KKCN-06
2 PIN 300mm extension lead

Connectors (Continued)

KKCN-11
4 PIN RGB 300mm extension lead

KKCN-24
4 PIN XEN 300mm extension lead

visDIM Control Gear Options

IP67
100W 24V
Aluminium housing
L248/W73/H48mm

KKPS-01 1-10V PSU
visDIM dimmable power supply
(See Control Gear)

IP20
Black plastic housing
L164/W64/H34mm

KKDM-04 1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)

TiMi Code Table

s-line

			TiMi 352 TIS352	TiMi 504 TIS504	TiMi 508 TIS508	TiMi RGB TIS501	TiMi XEN TIS006
LED Colour	2300K	N	•	•	•	n/a	n/a
	2500K	S	•	•	•	n/a	n/a
	2700K	A	•	•	•	n/a	n/a
	3000K	P	•	•	•	n/a	n/a
	3200K	B	•	•	•	n/a	n/a
	3800K	C	•	•	•	n/a	n/a
	5000K	D	•	•	•	n/a	n/a
	Red	F	•	•	n/a	n/a	n/a
	Green	G	•	•	n/a	n/a	n/a
	Blue	H	•	•	n/a	n/a	n/a
	Orange	I	•	•	n/a	n/a	n/a
	Amber	J	•	•	n/a	n/a	n/a
	RGB	L	n/a	n/a	n/a	•	n/a
	Variable	M	n/a	n/a	n/a	n/a	•
IP	IP20	0	•	•	•	•	•
Connection	50mm male + female connectors	01	•	•	•	•	•
	300mm male + female connectors	02	•	•	•	•	•
	300mm single tail	03	•	•	•	•	•
	300mm double tail	04	•	•	•	•	•
	Custom	00	•	•	•	•	•
Volt	24V	W	•	•	•	•	•
Length Availability			83.3-2000mm 83.3mm increments	100-2000mm 100mm increments	71.4-2000mm 71.4mm increments	83.3-2000mm 83.3mm increments	100-2000mm 100mm increments

Code Example:

TIS504 A 0 01 W 1000

TIS504: TiMi 504 | A: 2700K | 0: IP20 | 01: 50mm male + female connectors | W: 24V | 1000: 1000mm

e-line

			TiMi e352 TIE352	TiMi e504 TIE504	TiMi e508 TIE508
LED Colour	2300K	N	•	•	•
	2500K	S	•	•	•
	2700K	A	•	•	•
	3000K	P	•	•	•
	3200K	B	•	•	•
	3800K	C	•	•	•
	5000K	D	•	•	•
IP	IP20	0	•	•	•
Connection	50mm male + female connectors	01	•	•	•
	300mm male + female connectors	02	•	•	•
	300mm single tail	03	•	•	•
	300mm double tail	04	•	•	•
	Custom	00	•	•	•
Volt	24V	W	•	•	•
Length Availability			83.3-2000mm 83.3mm increments	100-2000mm 100mm increments	71.4-2000mm 71.4mm increments

Code Example:

TIE504 A 0 01 W 1000

TIE504: TiMi e504 | A: 2700K | 0: IP20 | 01: 50mm male + female connectors | W: 24V | 1000: 1000mm

TiMi Click

- A versatile light source for concealed linear illumination.
- Dust covers, rotational fixing clips, push feed connectors and locking inline joints for easy installation and maintenance.
- Up to 5m continuous run from a single power feed.

s-line

- 2 step package binning.
- Optimum colour consistency for high quality/close proximity lighting.
- White: 2300K/2500K/2700K/3000K/3200K/3800K/5000K.
  Single colours: Red/Green/Blue/Orange/Amber.

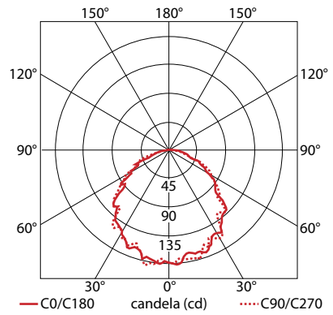
e-line

- 3 step package binning.
- Good colour consistency providing an economic choice when mounted over 300mm from the illuminated surface.
- White: 2300K/2500K/2700K/3000K/3200K/3800K/5000K.

Note: To avoid any visible colour differences we advise that s-line and e-line products should not share the same location.

TiMi Click 506s/e506e

24V DC | 10.8 W/m | 81.4 lm/W | IP20 | cULus LISTED E356145 | CE



879lm/m

Luminous flux: 879.1lm/m nominal (@ 3200K + Clear cover)

Size: H12.1/W14.8/L125 or 500mm

Chip: Toyoda Gosei

Beam angle: 105° (Clear cover)

CRI: ≥90

Lifetime: 50,000 hours @ 25°C

Operating temp: T_a = -25 to 50°C (T_c max = 73°C)

IP rating: IP20

Finish: Silver anodised

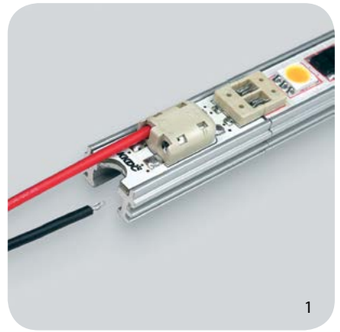
Cover/Lens: Diffused/Clear

Mounting: Surface mounting via clips or magnets

Connection: Hardwire tail or push feed connector accessories

Control: 1-10V/DMX (see visDIM range)

TiMi Click Product Details


1


2


3a

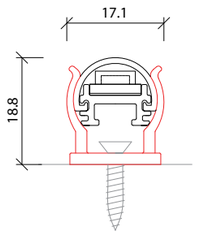

3b

1. Push feed connector
2. TiMi Click 506 with clear cover
3. Inline connectors with joint bar for rigid electrical connection

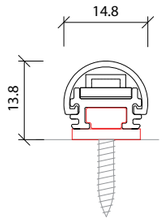
Above & Opposite page:
Retail store, Edinburgh
Lighting Design: DPA Lighting Consultants (London)

TiMi Click Accessories

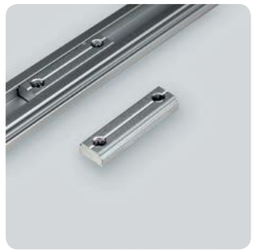
Mounting Options



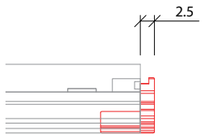
TCFC-01
Clip (Allow 2 per 500mm)
Clear plastic finish



TCMS-01
Magnet fixing set
(Allow 2 per 500mm)
Aluminium/Steel finish

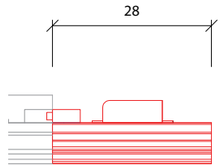


TCJT-01
Joint bar (Allow 1 per join)
Anodised aluminium finish

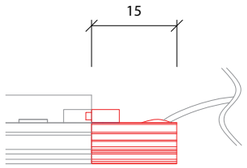


TCEC-01
End cap
White plastic finish

Connectors



TCPF-01
Push feed connector



TCTC-01
1000mm tail connector

visDIM Control Gear Options

IP67
100W 24V
Aluminium housing
L248/W73/H48mm

KKPS-01 1-10V PSU
visDIM dimmable power supply
(See Control Gear)

IP20
Black plastic housing
L164/W64/H34mm

KKDM-04 1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)

TiMi Click Code Table

s-line

			TiMi Click 506 TCS506
LED Colour	2300K	N	•
	2500K	S	•
	2700K	A	•
	3000K	P	•
	3200K	B	•
	3800K	C	•
	5000K	D	•
	Red	F	•
	Green	G	•
	Blue	H	•
	Orange	I	•
	Amber	J	•
IP	IP20	0	•
Volt	24V	W	•
Length Availability			125mm & 500mm Modules only
Finishes	Silver anodised Diffused cover	A	•
	Silver anodised Clear cover	B	•

Code Example:

TCS506	A	0	W	500	A
TiMi Click 506	2700K	IP20	24V	500mm	Silver anodised Diffused cover

e-line

			TiMi Click e506 TCE506
LED Colour	2300K	N	•
	2500K	S	•
	2700K	A	•
	3000K	P	•
	3200K	B	•
	3800K	C	•
	5000K	D	•
IP	IP20	0	•
Volt	24V	W	•
Length Availability			125mm & 500mm Modules only
Finishes	Silver anodised Diffused cover	A	•
	Silver anodised Clear cover	B	•

Code Example:

TCE506	A	0	W	500	A
TiMi Click e506	2700K	IP20	24V	500mm	Silver anodised Diffused cover

LiNi series

LiNi-S

- A compact surface mounted linear profile for our full range of linear LED sources
- Output options from 336 to 1217 lumens per metre with ≥90 CRI.
- Concealed clip mounting for clean lines, with a range of cover options.

s-line

- 2 step package binning.
- Optimum colour consistency for high quality/close proximity lighting.
- White: 2300K/2500K/2700K/3000K/ 3200K/3800K/5000K.
  Single colours: Red/Green/Blue/ Orange/Amber.

e-line

- 3 step package binning.
- Good colour consistency providing an economic choice when mounted over 300mm from the illuminated surface.
- White: 2300K/2500K/2700K/3000K/ 3200K/3800K/5000K.

Note: To avoid any visible colour differences we advise that s-line and e-line products should not share the same location.

LED strip options


KK352/KKe352


KK007/KKe007

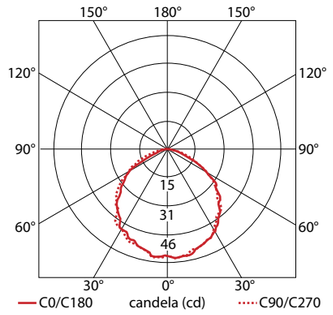

KK504/KKe504


KK508/KKe508


KKRGB

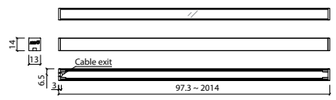
LiNi-S 352s/e352e

24V DC | 5.52 W/m | ≤60.9 lm/W | IP40 | cULus LISTED E356145 | CE



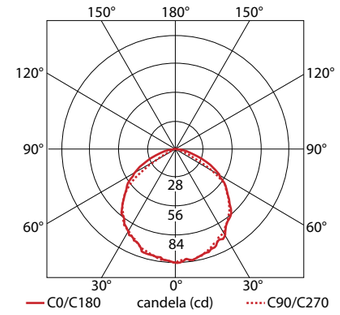
336lm/m

Luminous flux: 336.2lm/m nominal (@ 3200K + Clear cover)
Size: H14/W13/L97.3-2014mm
Chip: Toyoda Gosei
Beam angle: 110° (Clear cover)
CRI: ≥90
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 60°C (T_c max = 72°C)
IP rating: IP40
Finish: Silver anodised
Cover/Lens: Diffused/Clear/Prismatic
Mounting: Surface mounting via concealed clips
Connection: Hardwire tails or male/female connectors
Control: 1-10V/DMX (see visDIM range)



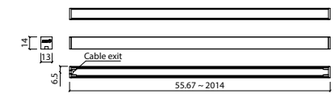
LiNi-S 007s/e007e

24V DC | 10.83 W/m | ≤51.1 lm/W | IP40 | cULus LISTED E356145 | CE



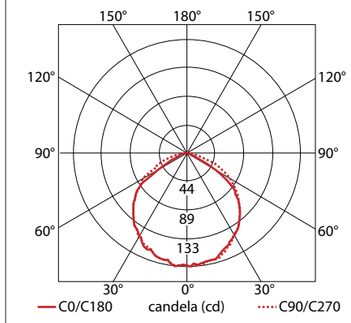
553lm/m

Luminous flux: 553.4lm/m nominal (@ 3200K + Clear cover)
Size: H14/W13/L55.67-2014mm
Chip: Toyoda Gosei
Beam angle: 105° (Clear cover)
CRI: ≥90
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 50°C (T_c max = 69°C)
IP rating: IP40
Finish: Silver anodised
Cover/Lens: Diffused/Clear/Prismatic
Mounting: Surface mounting via concealed clips
Connection: Hardwire tails or male/female connectors
Control: 1-10V/DMX (see visDIM range)



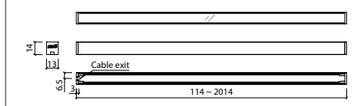
LiNi-S 504s/e504e

24V DC | 12.24 W/m | ≤69.4 lm/W | IP40 | cULus LISTED E356145 | CE



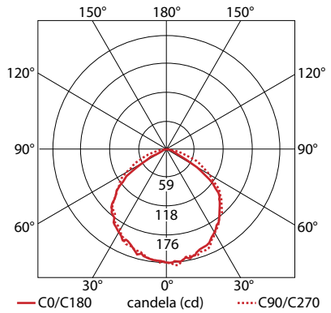
850lm/m

Luminous flux: 849.5lm/m nominal (@ 3200K + Clear cover)
Size: H14/W13/L114-2014mm
Chip: Toyoda Gosei
Beam angle: 105° (Clear cover)
CRI: ≥90
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 50°C (T_c max = 65°C)
IP rating: IP40
Finish: Silver anodised
Cover/Lens: Diffused/Clear/Prismatic
Mounting: Surface mounting via concealed clips
Connection: Hardwire tails or male/female connectors
Control: 1-10V/DMX (see visDIM range)



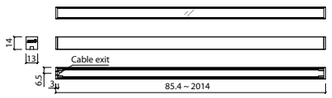
LiNi-S 508s/e508e

24V DC | 17.28 W/m | ≤70.4 lm/W | IP40 | cULus LISTED E356145 | CE



1217lm/m

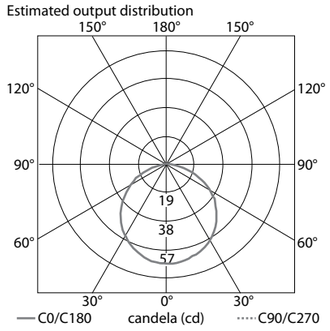
Luminous flux: 1216.5lm/m nominal (@ 3200K + Clear cover)
Size: H14/W13/L85.4-2014mm
Chip: Toyoda Gosei
Beam angle: 105° (Clear cover)
CRI: ≥90
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 45°C (T_c max = 78°C)
IP rating: IP40
Finish: Silver anodised
Cover/Lens: Diffused/Clear/Prismatic
Mounting: Surface mounting via concealed clips
Connection: Hardwire tails or male/female connectors
Control: 1-10V/DMX (see visDIM range)



LiNi-S RGB

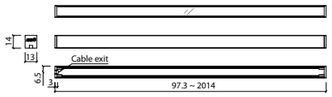
RGB | 24V DC | 15.6 W/m | IP40 | CE

Estimated output distribution



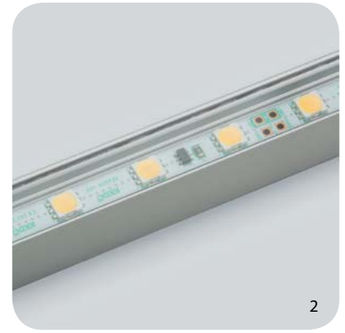
15.6W/m

Luminous flux: Red: 93.9lm/m
Green: 252.2lm/m
Blue: 31.9lm/m
White: 366.8lm/m
Size: H14/W13/L97.3-2014mm
Chip: Red Epistar/Green Samsung/Blue Samsung
Beam angle: 110° (Clear cover)
Colours: Red 620-628nm/Blue 459-464nm/Green 521-527nm (5nm tolerance)
CRI: N/A
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 50°C (T_c max = 76°C)
IP rating: IP40
Finish: Silver anodised
Cover/Lens: Diffused/Clear/Prismatic
Mounting: Surface mounting via concealed clips
Connection: Hardwire tails or male/female connectors
Control: DMX (see visDIM range)



LiNi-S Product Details

1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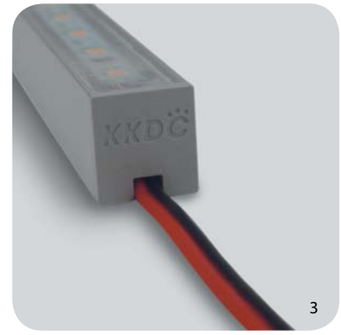


3

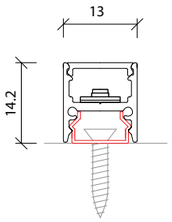
1. Concealed fixing clip
2. LiNi-S e504 with clear cover
3. Optional cable exit end cap

Above:
Beach Pavilions, Waiheke Island
Architect: Young+Richards
KKDC New Zealand
Photography: Simon Devitt

Opposite page:
The Darling Hotel Lobby, Sydney
Lighting Design: Point Of View

LiNi-S Accessories

Mounting Options



KKCP-10
Concealed Clip
(Allow 3 per metre)
S/Steel finish

Connectors

KKCN-01 50mm pair
KKCN-03 300mm pair
2 PIN male + female connector set

KKCN-07 50mm pair
KKCN-09 300mm pair
4 PIN RGB male + female connector set

KKCN-06
2 PIN 300mm extension lead

KKCN-11
4 PIN RGB 300mm extension lead

visDIM Control Gear Options

IP67
100W 24V
Aluminium housing
L248/W73/H48mm

KKPS-01 1-10V PSU
visDIM dimmable power supply
(See Control Gear)

IP20
Black plastic housing
L164/W64/H34mm

KKDM-04 1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)

LiNi-S Code Table

s-line

			LiNi-S 352 LSS352	LiNi-S 007 LSS007	LiNi-S 504 LSS504	LiNi-S 508 LSS508	LiNi-S RGB LSS501
LED Colour	2300K	N	•	•	•	•	n/a
	2500K	S	•	•	•	•	n/a
	2700K	A	•	•	•	•	n/a
	3000K	P	•	•	•	•	n/a
	3200K	B	•	•	•	•	n/a
	3800K	C	•	•	•	•	n/a
	5000K	D	•	•	•	•	n/a
	Red	F	•	•	•	n/a	n/a
	Green	G	•	•	•	n/a	n/a
	Blue	H	•	•	•	n/a	n/a
	Orange	I	•	•	•	n/a	n/a
	Amber	J	•	•	•	n/a	n/a
	RGB	L	n/a	n/a	n/a	n/a	•
IP	IP40	1	•	•	•	•	•
Connection	50mm male + female connectors	01	•	•	•	•	•
	300mm male + female connectors	02	•	•	•	•	•
	300mm single tail	03	•	•	•	•	•
	300mm double tail	04	•	•	•	•	•
	1000mm single tail	12	•	•	•	•	•
	Custom	00	•	•	•	•	•
Volt	24V	W	•	•	•	•	•
Length Availability			97.3-2014mm 83.3mm increments	55.67-2014mm 41.67mm increments	114-2014mm 100mm increments	85.4-2014mm 71.4mm increments	97.3-2014mm 83.3mm increments
Finishes	Silver anodised Diffused cover	A	•	•	•	•	•
	Silver anodised Clear cover	B	•	•	•	•	•
	Silver anodised Prismatic cover	K	•	•	•	•	•

Code Example:

LSS504 A 1 02 W 2014 A

- LSS504: LiNi-S 504
- A: 2700K
- 1: IP40
- 02: 300mm male + female connectors
- W: 24V
- 2014: 2014mm
- A: Silver anodised Diffused cover

e-line

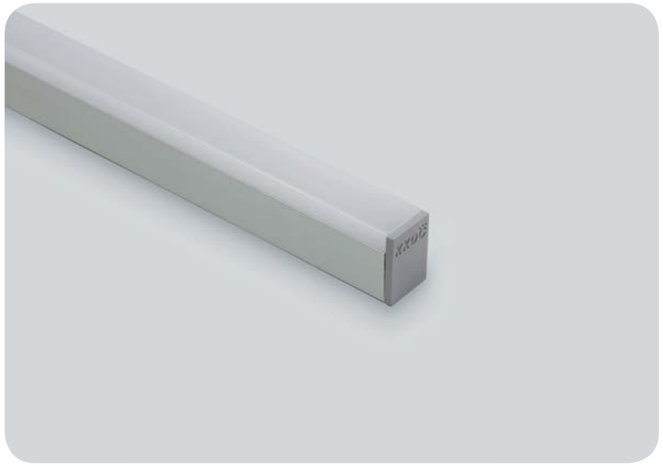
			LiNi-S e352 LSE352	LiNi-S e007 LSE007	LiNi-S e504 LSE504	LiNi-S e508 LSE508
LED Colour	2300K	N	•	•	•	•
	2500K	S	•	•	•	•
	2700K	A	•	•	•	•
	3000K	P	•	•	•	•
	3200K	B	•	•	•	•
	3800K	C	•	•	•	•
	5000K	D	•	•	•	•
IP	IP40	1	•	•	•	•
Connection	50mm male + female connectors	01	•	•	•	•
	300mm male + female connectors	02	•	•	•	•
	300mm single tail	03	•	•	•	•
	300mm double tail	04	•	•	•	•
	1000mm single tail	12	•	•	•	•
	Custom	00	•	•	•	•
Volt	24V	W	•	•	•	•
Length Availability			97.3-2014mm 83.3mm increments	55.67-2014mm 41.67mm increments	114-2014mm 100mm increments	85.4-2014mm 71.4mm increments
Finishes	Silver anodised Diffused cover	A	•	•	•	•
	Silver anodised Clear cover	B	•	•	•	•
	Silver anodised Prismatic cover	K	•	•	•	•

Code Example:

LSE504 A 1 02 W 2014 A

- LSE504: LiNi-S e504
- A: 2700K
- 1: IP40
- 02: 300mm male + female connectors
- W: 24V
- 2014: 2014mm
- A: Silver anodised Diffused cover

LiNi Glow



- Compact surface mounted linear profile with even diffusion, viewed from 180 degrees.
- 469 or 1023 lumens per metre output with (≥90 CRI).
- Homogenous face to suit recessed, concealed clip mounting.

s-line

- 2 step package binning.
- Optimum colour consistency for high quality/close proximity lighting.
- White: 2300K/2500K/2700K/3000K/ 3200K/3800K/5000K.
  Single colours: Red/Green/Blue/ Orange/Amber.

e-line

- 3 step package binning.
- Good colour consistency providing an economic choice when mounted over 300mm from the illuminated surface.
- White: 2300K/2500K/2700K/3000K/ 3200K/3800K/5000K.

Note: To avoid any visible colour differences we advise that s-line and e-line products should not share the same location.

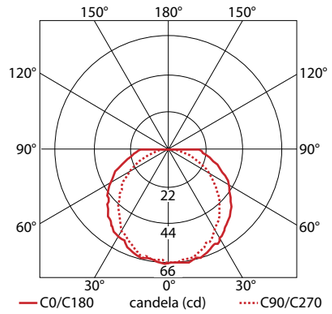
LED strip options


KK007/KKe007


KK508/KKe508

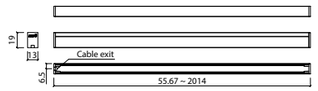
LiNi Glow 007s/e007

24V DC | 10.83 W/m | 43.3 lm/W | IP40 | cULus LISTED E356145 | CE



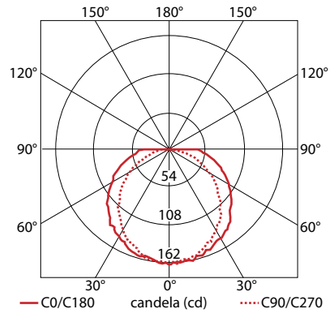
469lm/m

Luminous flux: 468.9lm/m nominal (@ 3200K)
Size: H19/W13/L55.67-2014mm
Chip: Toyoda Gosei
Beam angle: Diffused
CRI: ≥90
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 55°C (T_c max = 73°C)
IP rating: IP40
Finish: Silver anodised
Cover/Lens: Diffused
Mounting: Surface mounting via concealed clips
Connection: Hardwire tails or male/female connectors
Control: 1-10V/DMX (see visDIM range)



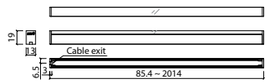
LiNi Glow 508s/e508

24V DC | 17.28 W/m | 59.2 lm/W | IP40 | cULus LISTED E356145 | CE



1023lm/m

Luminous flux: 1023lm/m nominal (@ 3200K)
Size: H19/W13/L85.4-2014mm
Chip: Toyoda Gosei
Beam angle: Diffused
CRI: ≥90
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 45°C (T_c max = 78°C)
IP rating: IP40
Finish: Silver anodised
Cover/Lens: Diffused
Mounting: Surface mounting via concealed clips
Connection: Hardwire tails or male/female connectors
Control: 1-10V/DMX (see visDIM range)



LiNi Glow Product Details


1

2

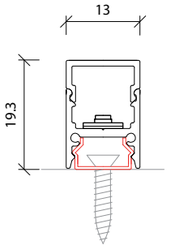
3

1. Concealed fixing clip
2. Optional cable exit end cap
3. LiNi Glow 007 for homogenous lighting

FC 200, London
Architect: John Robertson Architects
Lighting Design: Cundall Light4

LiNi Glow Accessories

Mounting Options



KKCP-10
Concealed Clip
(Allow 3 per metre)
S/Steel finish

Connectors

KKCN-01 50mm pair
KKCN-03 300mm pair
2 PIN male + female connector set

KKCN-07 50mm pair
KKCN-09 300mm pair
4 PIN RGB male + female connector set

KKCN-06
2 PIN 300mm extension lead

KKCN-11
4 PIN RGB 300mm extension lead

visDIM Control Gear Options

IP67
100W 24V
Aluminium housing
L248/W73/H48mm

KKPS-01 1-10V PSU
visDIM dimmable power supply
(See Control Gear)

IP20
Black plastic housing
L164/W64/H34mm

KKDM-04 1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)

LiNi Glow Code Table

s-line

			LiNi Glow 007 LGS007	LiNi Glow 508 LGS508
LED Colour	2300K	N	•	•
	2500K	S	•	•
	2700K	A	•	•
	3000K	P	•	•
	3200K	B	•	•
	3800K	C	•	•
	5000K	D	•	•
	Red	F	•	n/a
	Green	G	•	n/a
	Blue	H	•	n/a
	Orange	I	•	n/a
	Amber	J	•	n/a
IP	IP40	1	•	•
Connection	50mm male + female connectors	01	•	•
	300mm male + female connectors	02	•	•
	300mm single tail	03	•	•
	300mm double tail	04	•	•
	1000mm single tail	12	•	•
	Custom	00	•	•
Volt	24V	W	•	•
Length Availability			55.67-2014mm 41.67mm increments	85.4-2014mm 71.4mm increments
Finish	Silver anodised Diffused U cover	U	•	•

Code Example:

LGS508 | A | 1 | 02 | W | 2014 | U

- LGS508: LiNi Glow 508
- A: 2700K
- 1: IP40
- 02: 300mm male + female connectors
- W: 24V
- 2014: 2014mm
- U: Silver anodised Diffused U cover

e-line

			LiNi Glow e007 LGE007	LiNi Glow e508 LGE508
LED Colour	2300K	N	•	•
	2500K	S	•	•
	2700K	A	•	•
	3000K	P	•	•
	3200K	B	•	•
	3800K	C	•	•
	5000K	D	•	•
IP	IP40	1	•	•
Connection	50mm male + female connectors	01	•	•
	300mm male + female connectors	02	•	•
	300mm single tail	03	•	•
	300mm double tail	04	•	•
	1000mm single tail	12	•	•
	Custom	00	•	•
Volt	24V	W	•	•
Length Availability			55.67-2014mm 41.67mm increments	85.4-2014mm 71.4mm increments
Finish	Silver anodised Diffused U cover	U	•	•

Code Example:

LGE508 | A | 1 | 02 | W | 2014 | U

- LGE508: LiNi Glow e508
- A: 2700K
- 1: IP40
- 02: 300mm male + female connectors
- W: 24V
- 2014: 2014mm
- U: Silver anodised Diffused U cover

LiNi-R

- Recessed, slim aperture, linear profile with spring clip retainers.
- Output options from 132 to 448 lumens per metre with ≥90 CRI.
- Available with a full range of high CRI white, single colour, and RGB LED sources.

s-line

- 2 step package binning.
- Optimum colour consistency for high quality/close proximity lighting.
- White: 2300K/2500K/2700K/3000K/3200K/3800K/5000K.
  Single colours: Red/Green/Blue/Orange/Amber.

e-line

- 3 step package binning.
- Good colour consistency providing an economic choice when mounted over 300mm from the illuminated surface.
- White: 2300K/2500K/2700K/3000K/3200K/3800K/5000K.

Note: To avoid any visible colour differences we advise that s-line and e-line products should not share the same location.

LED strip options


KK352/KKe352

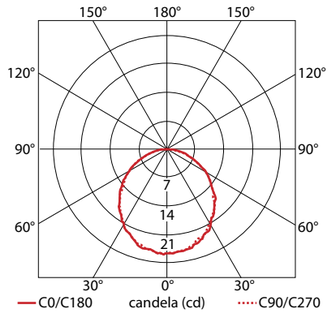

KK504/KKe504


KK508/KKe508


KKRGB

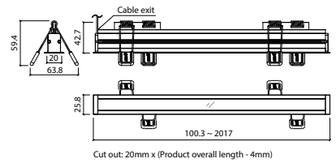
LiNi-R 352s/e352e

24V DC | 5.52 W/m | 23.9 lm/W | IP40 | CE



132lm/m

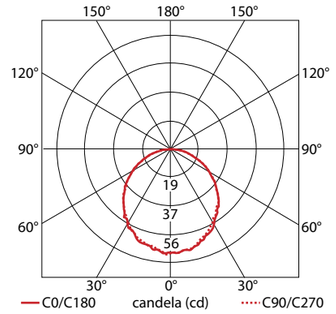
Luminous flux: 131.9lm/m nominal (@ 3200K)
Size: H42.7/W25.8/L100.3-2017mm (Excludes spring clips)
Chip: Toyoda Gosei
Beam angle: Diffused
CRI: ≥90
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 60°C (T_c max = 70°C)
IP rating: IP40
Finish: Silver anodised
Cover/Lens: Diffused
Mounting: Recessed mounting via spring clips
Connection: Hardwire tails or male/female connectors
Control: 1-10V/DMX (see visDIM range)



Cut out: 20mm x (Product overall length - 4mm)

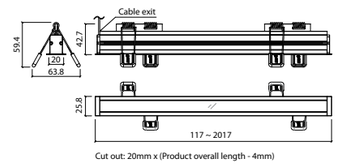
LiNi-R 504s/e504e

24V DC | 12.24 W/m | 28.5 lm/W | IP40 | CE



349lm/m

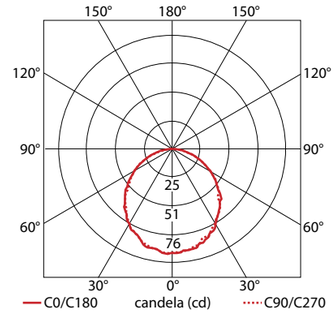
Luminous flux: 348.8lm/m nominal (@ 3200K)
Size: H42.7/W25.8/L117-2017mm (Excludes spring clips)
Chip: Toyoda Gosei
Beam angle: Diffused
CRI: ≥90
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 55°C (T_c max = 70°C)
IP rating: IP40
Finish: Silver anodised
Cover/Lens: Diffused
Mounting: Recessed mounting via spring clips
Connection: Hardwire tails or male/female connectors
Control: 1-10V/DMX (see visDIM range)



Cut out: 20mm x (Product overall length - 4mm)

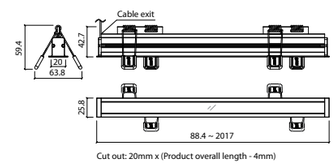
LiNi-R 508s/e508e

24V DC | 17.28 W/m | 25.9 lm/W | IP40 | CE



448lm/m

Luminous flux: 447.6lm/m nominal (@ 3200K)
Size: H42.7/W25.8/L88.4-2017mm (Excludes spring clips)
Chip: Toyoda Gosei
Beam angle: Diffused
CRI: ≥90
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 45°C (T_c max = 60°C)
IP rating: IP40
Finish: Silver anodised
Cover/Lens: Diffused
Mounting: Recessed mounting via spring clips
Connection: Hardwire tails or male/female connectors
Control: 1-10V/DMX (see visDIM range)

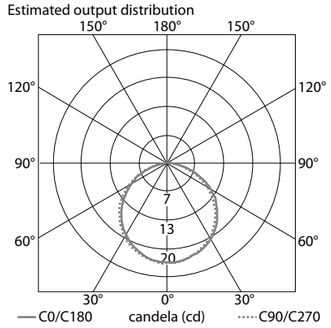


Cut out: 20mm x (Product overall length - 4mm)

LiNi-R RGB

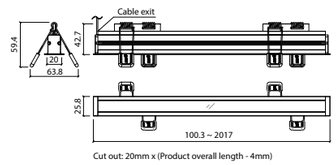
RGB | 24V DC | 15.6 W/m | IP40 | CE

Estimated output distribution



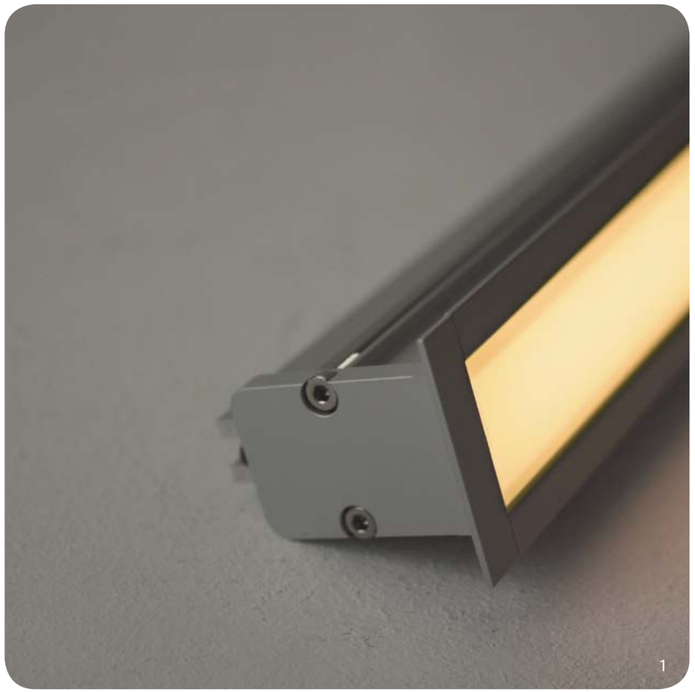
15.6W/m

Luminous flux: Red: 26.3lm/m
Green: 81.7lm/m
Blue: 10.5lm/m
White: 125lm/m
Size: H42.7/W25.8/L100.3-2017mm (Excludes spring clips)
Chip: Red Epistar/Green Samsung/Blue Samsung
Beam angle: Diffused
Colours: Red 620-628nm/Blue 459-464nm/Green 521-527nm (5nm tolerance)
CRI: N/A
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 55°C (T_c max = 74°C)
IP rating: IP40
Finish: Silver anodised
Cover/Lens: Diffused
Mounting: Recessed mounting via spring clips
Connection: Hardwire tails or male/female connectors
Control: DMX (see visDIM range)



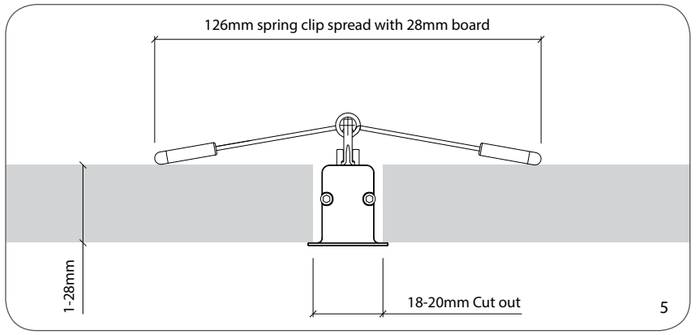
Cut out: 20mm x (Product overall length - 4mm)

LiNi-R Product Details

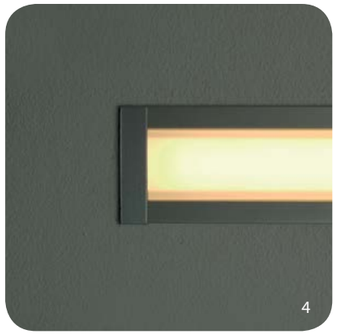

1


2


3



5


4

1. LiNi-R with diffused cover for homogenous lighting
2. Slide on spring fixings
3. Cable exit from end cap
4. Recessed LiNi-R profile
5. Typical recessed installation

LiNi-R Accessories

Connectors

KKCN-01 50mm pair
KKCN-03 300mm pair
2 PIN male + female connector set

KKCN-07 50mm pair
KKCN-09 300mm pair
4 PIN RGB male + female connector set

KKCN-06
2 PIN 300mm extension lead

KKCN-11
4 PIN RGB 300mm extension lead

visDIM Control Gear Options

IP67
100W 24V
Aluminium housing
L248/W73/H48mm

KKPS-01 1-10V PSU
visDIM dimmable power supply
(See Control Gear)

IP20
Black plastic housing
L164/W64/H34mm

KKDM-04 1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)

LiNi-R Code Table

s-line

			LiNi-R 352 LRS352	LiNi-R 504 LRS504	LiNi-R 508 LRS508	LiNi-R RGB LRS501
LED Colour	2300K	N	•	•	•	n/a
	2500K	S	•	•	•	n/a
	2700K	A	•	•	•	n/a
	3000K	P	•	•	•	n/a
	3200K	B	•	•	•	n/a
	3800K	C	•	•	•	n/a
	5000K	D	•	•	•	n/a
	Red	F	•	•	n/a	n/a
	Green	G	•	•	n/a	n/a
	Blue	H	•	•	n/a	n/a
	Orange	I	•	•	n/a	n/a
	Amber	J	•	•	n/a	n/a
	RGB	L	n/a	n/a	n/a	•
IP	IP40	1	•	•	•	•
Connection	50mm male + female connectors	01	•	•	•	•
	300mm male + female connectors	02	•	•	•	•
	300mm single tail	03	•	•	•	•
	300mm double tail	04	•	•	•	•
	1000mm single tail	12	•	•	•	•
	Custom	00	•	•	•	•
Volt	24V	W	•	•	•	•
Length Availability			100.3-2017mm 83.3mm increments	117-2017mm 100mm increments	88.4-2017mm 71.4mm increments	100.3-2017mm 83.3mm increments
Finish	Silver anodised Diffused cover	A	•	•	•	•

Code Example:

LRS504 A 1 02 W 2017 A

LiNi-R 504 | 2700K | IP40 | 300mm male + female connectors | 24V | 2017mm | Silver anodised Diffused cover

e-line

			LiNi-R e352 LRE352	LiNi-R e504 LRE504	LiNi-R e508 LRE508
LED Colour	2300K	N	•	•	•
	2500K	S	•	•	•
	2700K	A	•	•	•
	3000K	P	•	•	•
	3200K	B	•	•	•
	3800K	C	•	•	•
	5000K	D	•	•	•
IP	IP40	1	•	•	•
Connection	50mm male + female connectors	01	•	•	•
	300mm male + female connectors	02	•	•	•
	300mm single tail	03	•	•	•
	300mm double tail	04	•	•	•
	1000mm single tail	12	•	•	•
	Custom	00	•	•	•
Volt	24V	W	•	•	•
Length Availability			100.3-2017mm 83.3mm increments	117-2017mm 100mm increments	88.4-2017mm 71.4mm increments
Finish	Silver anodised Diffused cover	A	•	•	•

Code Example:

LRE504 A 1 02 W 2017 A

LiNi-R e504 | 2700K | IP40 | 300mm male + female connectors | 24V | 2017mm | Silver anodised Diffused cover

LiNi XL series

LiNi-S XL

- A compact, extensible, interior profile with homogenous diffusion for all our SMD linear LED sources
- Output options from 232 to 812 lumens per metre with ≥90 CRI.
- Surface mounted via concealed clips or optional snap on cable channel.

s-line

- 2 step package binning.
- Optimum colour consistency for high quality/close proximity lighting.
- White: 2300K/2500K/2700K/3000K/3200K/3800K/5000K.
  Single colours: Red/Green/Blue/Orange/Amber.

e-line

- 3 step package binning.
- Good colour consistency providing an economic choice when mounted over 300mm from the illuminated surface.
- White: 2300K/2500K/2700K/3000K/3200K/3800K/5000K.

Note: To avoid any visible colour differences we advise that s-line and e-line products should not share the same location.

LED strip options


KK352/KKe352

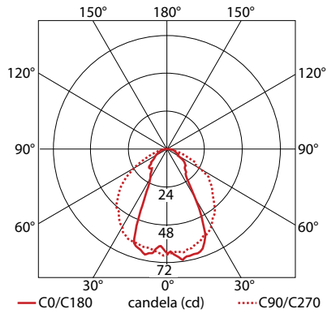

KK504/KKe504


KK508/KKe508


KKRGB

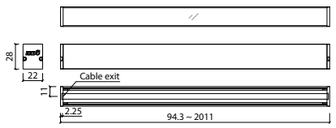
LiNi-S XL 352s/e352e

24V DC | 5.52 W/m | ≤42.1 lm/W | IP40 | cULus LISTED E356145 | CE



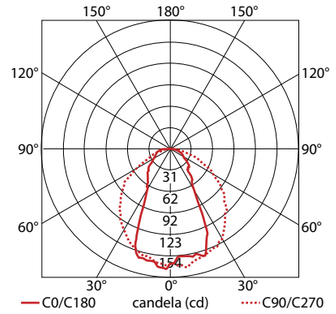
232lm/m

Luminous flux: 232.4lm/m nominal (@ 3200K + Clear cover)
Size: H28/W22/L94.3-2011mm
Chip: Toyoda Gosei
Beam angle: 50° (Clear cover)
CRI: ≥90
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 60°C (T_c max = 66°C)
IP rating: IP40
Finish: Silver anodised
Cover/Lens: Diffused/Clear
Mounting: Surface mounting via concealed clips or cable raceway
Connection: Hardwire tails or male/female connectors
Control: 1-10V/DMX (see visDIM range)



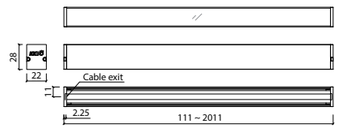
LiNi-S XL 504s/e504e

24V DC | 12.24 W/m | ≤46.1 lm/W | IP40 | cULus LISTED E356145 | CE



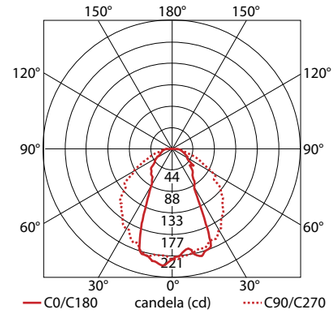
564lm/m

Luminous flux: 564.3lm/m nominal (@ 3200K + Clear cover)
Size: H28/W22/L111-2011mm
Chip: Toyoda Gosei
Beam angle: 50° (Clear cover)
CRI: ≥90
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 50°C (T_c max = 62.8°C)
IP rating: IP40
Finish: Silver anodised
Cover/Lens: Diffused/Clear
Mounting: Surface mounting via concealed clips or cable raceway
Connection: Hardwire tails or male/female connectors
Control: 1-10V/DMX (see visDIM range)



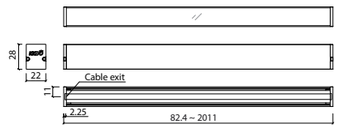
LiNi-S XL 508s/e508e

24V DC | 17.28 W/m | ≤47 lm/W | IP40 | cULus LISTED E356145 | CE



812lm/m

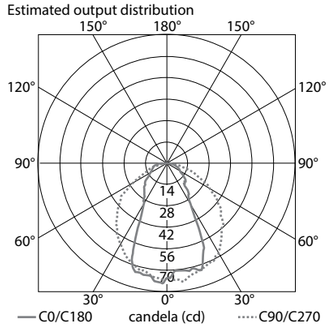
Luminous flux: 812.2lm/m nominal (@ 3200K + Clear cover)
Size: H28/W22/L82.4-2011mm
Chip: Toyoda Gosei
Beam angle: 50° (Clear cover)
CRI: ≥90
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 45°C (T_c max = 61.5°C)
IP rating: IP40
Finish: Silver anodised
Cover/Lens: Diffused/Clear
Mounting: Surface mounting via concealed clips or cable raceway
Connection: Hardwire tails or male/female connectors
Control: 1-10V/DMX (see visDIM range)



LiNi-S XL RGB

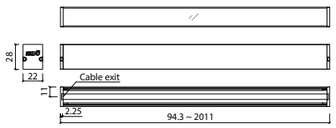
RGB | 24V DC | 15.6 W/m | IP40 | CE

Estimated output distribution



15.6W/m

Luminous flux: Red: 63.4lm/m
Green: 169.3lm/m
Blue: 19.4lm/m
White: 254lm/m
Size: H28/W22/L94.3-2011mm
Chip: Red Epistar/Green Samsung/Blue Samsung
Beam angle: 50° (Clear cover)
Colours: Red 620-628nm/Blue 459-464nm/Green 521-527nm
CRI: N/A
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 60°C (T_c max = 72.5°C)
IP rating: IP40
Finish: Silver anodised
Cover/Lens: Diffused/Clear
Mounting: Surface mounting via concealed clips or cable raceway
Connection: Hardwire tails or male/female connectors
Control: DMX (see visDIM range)



House of Stone, Milan
John Pawson/Salvatori

LiNi-S XL Product Details

1

2

1. Screw-on plastic end cap
2. Snap-in cable raceway channel
3. Diffused cover for homogenous lighting with all LED strip options
4. LiNi-S XL 504 with clear cover

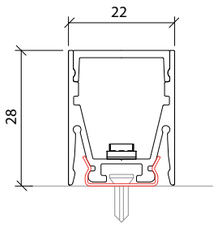

4

3

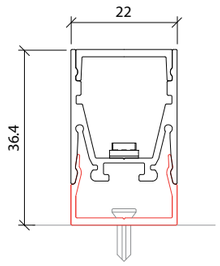
LiNi-S XL Accessories

Mounting Options

KKCP-11
Concealed Clip
(Allow 3 per metre)
S/Steel finish



KKCR-01-1000 1000mm
KKCR-01-2000 2000mm
KKCR-01-3000 3000mm
Cable Raceway*
Anodised aluminium finish
* Cut & drilled to fit on site



KKJT-02
Joining Bar (Allow 1 per join)
Anodised aluminium finish

Connectors

KKCN-01 50mm pair
KKCN-03 300mm pair
2 PIN male + female connector set

KKCN-07 50mm pair
KKCN-09 300mm pair
4 PIN RGB male + female connector set

Connectors (continued)

KKCN-06
2 PIN 300mm extension lead

KKCN-11
4 PIN RGB 300mm extension lead

visDIM Control Gear Options

IP67
100W 24V
Aluminium housing
L248/W73/H48mm

KKPS-01 1-10V PSU
visDIM dimmable power supply
(See Control Gear)

IP20
Black plastic housing
L164/W64/H34mm

KKDM-04 1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)

LiNi-S XL Code Table

s-line

			LiNi-S XL 352 SXS352	LiNi-S XL 504 SXS504	LiNi-S XL 508 SXS508	LiNi-S XL RGB SXS501
LED Colour	2300K	N	•	•	•	n/a
	2500K	S	•	•	•	n/a
	2700K	A	•	•	•	n/a
	3000K	P	•	•	•	n/a
	3200K	B	•	•	•	n/a
	3800K	C	•	•	•	n/a
	5000K	D	•	•	•	n/a
	Red	F	•	•	n/a	n/a
	Green	G	•	•	n/a	n/a
	Blue	H	•	•	n/a	n/a
	Orange	I	•	•	n/a	n/a
	Amber	J	•	•	n/a	n/a
	RGB	L	n/a	n/a	n/a	•
IP	IP40	1	•	•	•	•
Connection	300mm male + female connectors	02	•	•	•	•
	300mm single tail	03	•	•	•	•
	300mm double tail	04	•	•	•	•
	1000mm single tail	12	•	•	•	•
	Custom	00	•	•	•	•
Volt	24V	W	•	•	•	•
Length Availability			94.3-2011mm 83.3mm increments	111-2011mm 100mm increments	82.4-2011mm 71.4mm increments	94.3-2011mm 83.3mm increments
Finishes	Silver anodised Diffused cover	A	•	•	•	•
	Silver anodised Clear cover	B	•	•	•	•

Code Example:

SXS504 A 1 02 W 2011 A

SXS504	A	1	02	W	2011	A
LiNi-S XL 504	2700K	IP40	300mm male + female connectors	24V	2011mm	Silver anodised Diffused cover

e-line

			LiNi-S XL e352 SXE352	LiNi-S XL e504 SXE504	LiNi-S XL e508 SXE508
LED Colour	2300K	N	•	•	•
	2500K	S	•	•	•
	2700K	A	•	•	•
	3000K	P	•	•	•
	3200K	B	•	•	•
	3800K	C	•	•	•
	5000K	D	•	•	•
IP	IP40	1	•	•	•
Connection	300mm male + female connectors	02	•	•	•
	300mm single tail	03	•	•	•
	300mm double tail	04	•	•	•
	1000mm single tail	12	•	•	•
	Custom	00	•	•	•
Volt	24V	W	•	•	•
Length Availability			94.3-2011mm 83.3mm increments	111-2011mm 100mm increments	82.4-2011mm 71.4mm increments
Finishes	Silver anodised Diffused cover	A	•	•	•
	Silver anodised Clear cover	B	•	•	•

Code Example:

SXE504 A 1 02 W 2011 A

SXE504	A	1	02	W	2011	A
LiNi-S XL e504	2700K	IP40	300mm male + female connectors	24V	2011mm	Silver anodised Diffused cover

LiNi Glow XL

- A compact, extensible, linear profile with homogenous diffusion, viewed from 180 degrees.
- 256 or 849 lumens per metre output with (≥90 CRI).
- Surface mounted via concealed clips or optional snap on cable channel.

s-line

- 2 step package binning.
- Optimum colour consistency for high quality/close proximity lighting.
- White: 2300K/2500K/2700K/3000K/3200K/3800K/5000K.
  Single colours: Red/Green/Blue/Orange/Amber.

e-line

- 3 step package binning.
- Good colour consistency providing an economic choice when mounted over 300mm from the illuminated surface.
- White: 2300K/2500K/2700K/3000K/3200K/3800K/5000K.

Note: To avoid any visible colour differences we advise that s-line and e-line products should not share the same location.

LED strip options


KK352/KKe352

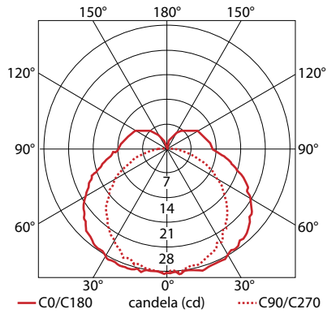

KK504/KKe504


KK508/KKe508


KKRGB

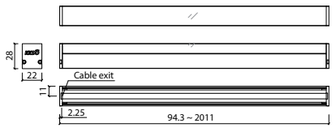
LiNi Glow XL 352s/e352

24V DC | 5.52 W/m | 46.3 lm/W | IP40 | cULus LISTED E356145 | CE



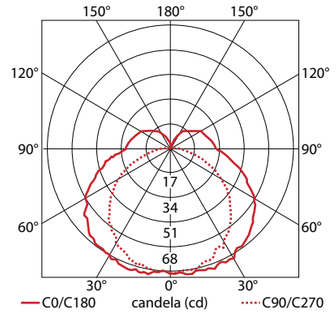
256lm/m

Luminous flux:	255.6lm/m nominal (@ 3200K)
Size:	H28/W22/L94.3-2011mm
Chip:	Toyoda Gosei
Beam angle:	Diffused
CRI:	≥90
Lifetime:	50,000 hours @ 25°C
Operating temp:	T_a = -25 to 60°C (T_c max = 67°C)
IP rating:	IP40
Finish:	Silver anodised
Cover/Lens:	Diffused
Mounting:	Surface mounting via concealed clips or cable raceway
Connection:	Hardwire tails or male/female connectors
Control:	1-10V/DMX (see visDIM range)



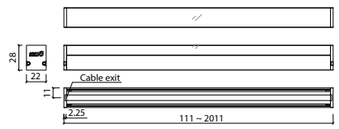
LiNi Glow XL 504s/e504

24V DC | 12.24 W/m | 50 lm/W | IP40 | cULus LISTED E356145 | CE



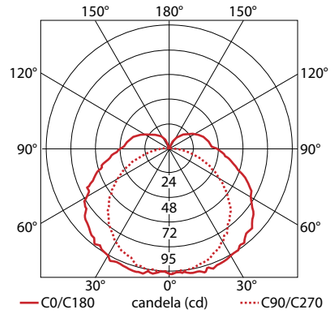
612lm/m

Luminous flux:	612lm/m nominal (@ 3200K)
Size:	H28/W22/L111-2011mm
Chip:	Toyoda Gosei
Beam angle:	Diffused
CRI:	≥90
Lifetime:	50,000 hours @ 25°C
Operating temp:	T_a = -25 to 60°C (T_c max = 72°C)
IP rating:	IP40
Finish:	Silver anodised
Cover/Lens:	Diffused
Mounting:	Surface mounting via concealed clips or cable raceway
Connection:	Hardwire tails or male/female connectors
Control:	1-10V/DMX (see visDIM range)



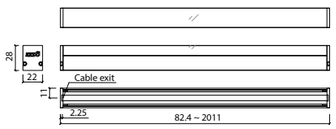
LiNi Glow XL 508s/e508

24V DC | 17.28 W/m | 49.1 lm/W | IP40 | cULus LISTED E356145 | CE



849lm/m

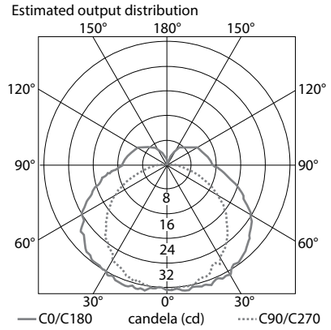
Luminous flux:	848.5lm/m nominal (@ 3200K)
Size:	H28/W22/L82.4-2011mm
Chip:	Toyoda Gosei
Beam angle:	Diffused
CRI:	≥90
Lifetime:	50,000 hours @ 25°C
Operating temp:	T_a = -25 to 50°C (T_c max = 63°C)
IP rating:	IP40
Finish:	Silver anodised
Cover/Lens:	Diffused
Mounting:	Surface mounting via concealed clips or cable raceway
Connection:	Hardwire tails or male/female connectors
Control:	1-10V/DMX (see visDIM range)



LiNi Glow XL RGB

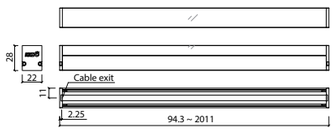
RGB | 24V DC | 15.6 W/m | IP40 | CE

Estimated output distribution

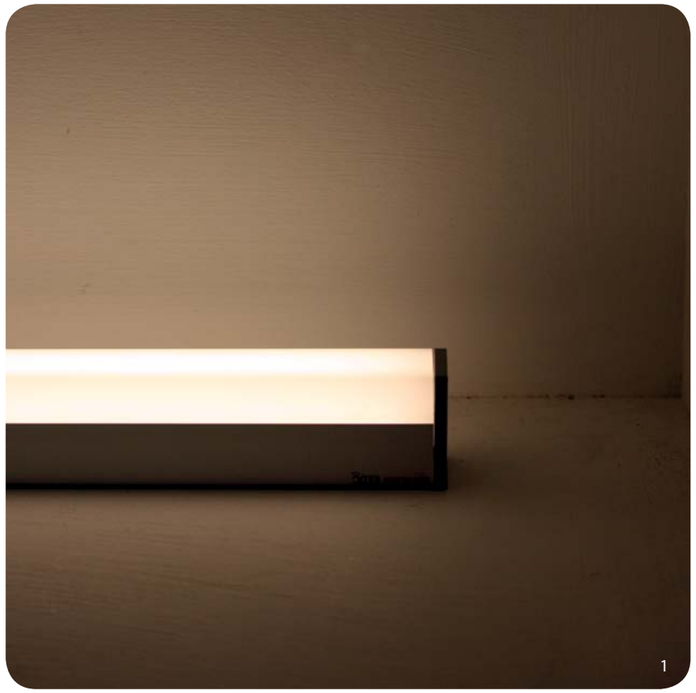


15.6W/m

Luminous flux:	Red: 71.8lm/m Green: 191.7lm/m Blue: 24.8lm/m White: 284.4lm/m
Size:	H28/W22/L94.3-2011mm
Chip:	Red Epistar/Green Samsung/Blue Samsung
Beam angle:	Diffused
Colours:	Red 620-628nm/Blue 459-464nm/Green 521-527nm
CRI:	N/A
Lifetime:	50,000 hours @ 25°C
Operating temp:	T_a = -25 to 55°C (T_c max = 70°C)
IP rating:	IP40
Finish:	Silver anodised
Cover/Lens:	Diffused
Mounting:	Surface mounting via concealed clips or cable raceway
Connection:	Hardwire tails or male/female connectors
Control:	DMX (see visDIM range)



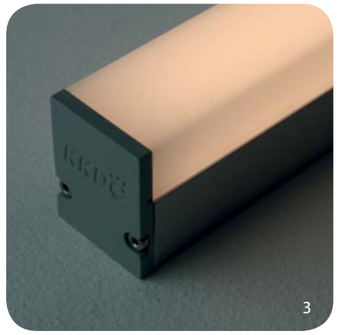
LiNi Glow XL Product Details


1


2


6a


6b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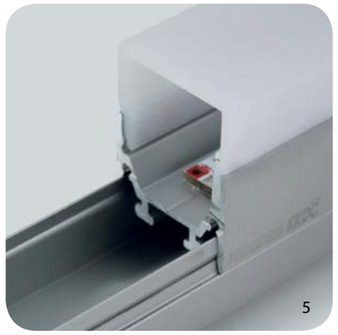

5

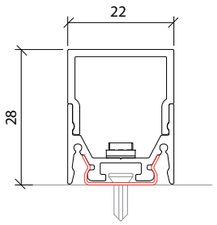

4

1. Surface mounted LiNi Glow XL
2. Homogenous lighting with 155° distribution
3. Screw-fit plastic end caps
4. Optional joining bar accessory
5. Snap-in cable raceway channel
6. Easy snap-fit flush mounting clips

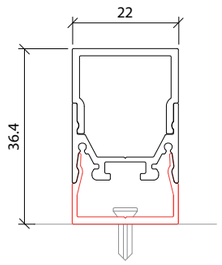
Soho Square, London
Design: Dealerward Ltd

LiNi Glow XL Accessories

Mounting Options



KKCP-11
Concealed Clip
(Allow 3 per metre)
S/Steel finish



KKCR-01-1000 1000mm
KKCR-01-2000 2000mm
KKCR-01-3000 3000mm
Cable Raceway*
Anodised aluminium finish
* Cut & drilled to fit on site

KKJT-02
Joining Bar (Allow 1 per join)
Anodised aluminium finish

Connectors

KKCN-01 50mm pair
KKCN-03 300mm pair
2 PIN male + female connector set

KKCN-07 50mm pair
KKCN-09 300mm pair
4 PIN RGB male + female connector set

Connectors (continued)

KKCN-06
2 PIN 300mm extension lead

KKCN-11
4 PIN RGB 300mm extension lead

visDIM Control Gear Options

IP67
100W 24V
Aluminium housing
L248/W73/H48mm

KKPS-01 1-10V PSU
visDIM dimmable power supply
(See Control Gear)

IP20
Black plastic housing
L164/W64/H34mm

KKDM-04 1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)

LiNi Glow XL Code Table

s-line

			LiNi Glow XL 352 GXS352	LiNi Glow XL 504 GXS504	LiNi Glow XL 508 GXS508	LiNi Glow XL RGB GXS501
LED Colour	2300K	N	•	•	•	n/a
	2500K	S	•	•	•	n/a
	2700K	A	•	•	•	n/a
	3000K	P	•	•	•	n/a
	3200K	B	•	•	•	n/a
	3800K	C	•	•	•	n/a
	5000K	D	•	•	•	n/a
	Red	F	•	•	n/a	n/a
	Green	G	•	•	n/a	n/a
	Blue	H	•	•	n/a	n/a
	Orange	I	•	•	n/a	n/a
	Amber	J	•	•	n/a	n/a
	RGB	L	n/a	n/a	n/a	•
IP	IP40	1	•	•	•	•
Connection	300mm male + female connectors	02	•	•	•	•
	300mm single tail	03	•	•	•	•
	300mm double tail	04	•	•	•	•
	1000mm single tail	12	•	•	•	•
	Custom	00	•	•	•	•
Volt	24V	W	•	•	•	•
Length Availability			94.3-2011mm 83.3mm increments	111-2011mm 100mm increments	82.4-2011mm 71.4mm increments	94.3-2011mm 83.3mm increments
Finish	Silver anodised Diffused U cover	U	•	•	•	•

Code Example:

GXS504 A 1 02 W 2011 U

LiNi Glow XL 504 | 2700K | IP40 | 300mm male + female connectors | 24V | 2011mm | Silver anodised Diffused U cover

e-line

			LiNi Glow XL e352 GXE352	LiNi Glow XL e504 GXE504	LiNi Glow XL e508 GXE508
LED Colour	2300K	N	•	•	•
	2500K	S	•	•	•
	2700K	A	•	•	•
	3000K	P	•	•	•
	3200K	B	•	•	•
	3800K	C	•	•	•
	5000K	D	•	•	•
IP	IP40	1	•	•	•
Connection	300mm male + female connectors	02	•	•	•
	300mm single tail	03	•	•	•
	300mm double tail	04	•	•	•
	1000mm single tail	12	•	•	•
	Custom	00	•	•	•
Volt	24V	W	•	•	•
Length Availability			94.3-2011mm 83.3mm increments	111-2011mm 100mm increments	82.4-2011mm 71.4mm increments
Finish	Silver anodised Diffused U cover	U	•	•	•

Code Example:

GXE504 A 1 02 W 2011 U

LiNi Glow XL e504 | 2700K | IP40 | 300mm male + female connectors | 24V | 2011mm | Silver anodised Diffused U cover

LiNi-R XL

- Recessed, extensible, linear profile with spring clip retainers.
- Available with a full range of white, single colour, and RGB LED sources.
- Output options from 149 to 530 lumens per metre with ≥90 CRI.

s-line

- 2 step package binning.
- Optimum colour consistency for high quality/close proximity lighting.
- White: 2300K/2500K/2700K/3000K/3200K/3800K/5000K.
  Single colours: Red/Green/Blue/Orange/Amber.

e-line

- 3 step package binning.
- Good colour consistency providing an economic choice when mounted over 300mm from the illuminated surface.
- White: 2300K/2500K/2700K/3000K/3200K/3800K/5000K.

Note: To avoid any visible colour differences we advise that s-line and e-line products should not share the same location.

LED strip options


KK352/KKe352

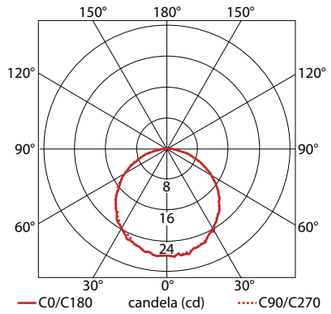

KK504/KKe504


KK508/KKe508


KKRGB

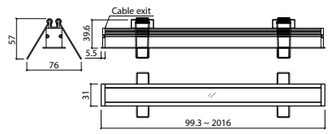
LiNi-R XL 352s/e352e

24V DC | 5.52 W/m | 27 lm/W | IP40 | CE



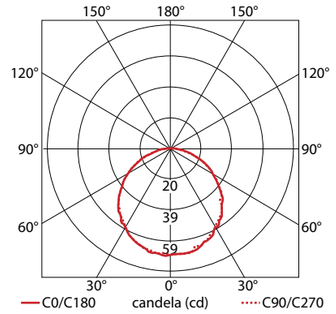
149lm/m

Luminous flux: 149lm/m nominal (@ 3200K)
Size: H42.1/W31/L99.3-2016mm (Excludes spring clips)
Chip: Toyoda Gosei
Beam angle: Diffused
CRI: ≥90
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 60°C (T_c max = 65°C)
IP rating: IP40
Finish: Silver anodised
Cover/Lens: Diffused
Mounting: Recessed mounting via spring clip
Connection: Hardwire tails or male/female connectors
Control: 1-10V/DMX (see visDIM range)



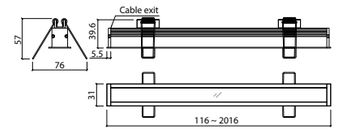
LiNi-R XL 504s/e504e

24V DC | 12.24 W/m | 29.9 lm/W | IP40 | CE



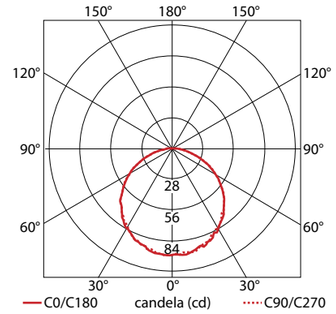
366lm/m

Luminous flux: 366lm/m nominal (@ 3200K)
Size: H42.1/W31/L116-2016mm (Excludes spring clips)
Chip: Toyoda Gosei
Beam angle: Diffused
CRI: ≥90
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 60°C (T_c max = 66°C)
IP rating: IP40
Finish: Silver anodised
Cover/Lens: Diffused
Mounting: Recessed mounting via spring clip
Connection: Hardwire tails or male/female connectors
Control: 1-10V/DMX (see visDIM range)



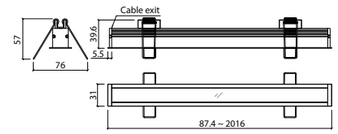
LiNi-R XL 508s/e508e

24V DC | 17.28 W/m | 30.7 lm/W | IP40 | CE



530lm/m

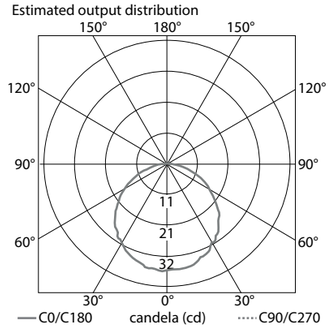
Luminous flux: 530.5lm/m nominal (@ 3200K)
Size: H42.1/W31/L87.4-2016mm (Excludes spring clips)
Chip: Toyoda Gosei
Beam angle: Diffused
CRI: ≥90
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 55°C (T_c max = 64°C)
IP rating: IP40
Finish: Silver anodised
Cover/Lens: Diffused
Mounting: Recessed mounting via spring clip
Connection: Hardwire tails or male/female connectors
Control: 1-10V/DMX (see visDIM range)



LiNi-R XL RGB

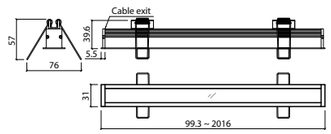
RGB | 24V DC | 15.6 W/m | IP40 | CE

Estimated output distribution



15.6W/m

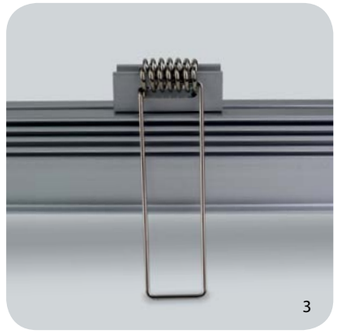
Luminous flux: Red: 47.6lm/m
Green: 129.9lm/m
Blue: 14lm/m
White: 196.2lm/m
Size: H42.1/W31/L99.3-2016mm (Excludes spring clips)
Chip: Red Epistar/Green Samsung/Blue Samsung
Beam angle: Diffused
Colours: Red 620-628nm/Blue 459-464nm/Green 521-527nm
CRI: N/A
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 55°C (T_c max = 66°C)
IP rating: IP40
Finish: Silver anodised
Cover/Lens: Diffused
Mounting: Recessed mounting via spring clip
Connection: Hardwire tails or male/female connectors
Control: DMX (see visDIM range)



LiNi-R XL Product Details


1


2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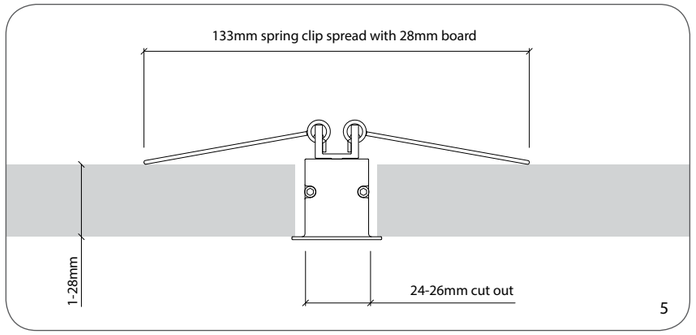


5


4

1. Homogenous lighting with all LED strips
2. Machined aluminium end caps
3. Movable spring clips with lock screw
4. Snap-fit diffused cover
5. Typical recessed installation

LiNi-R XL Accessories

Connectors

KKCN-01 50mm pair
KKCN-03 300mm pair
2 PIN male + female connector set

KKCN-07 50mm pair
KKCN-09 300mm pair
4 PIN RGB male + female connector set

KKCN-06
2 PIN 300mm extension lead

KKCN-11
4 PIN RGB 300mm extension lead

visDIM Control Gear Options

IP67
100W 24V
Aluminium housing
L248/W73/H48mm

KKPS-01 1-10V PSU
visDIM dimmable power supply
(See Control Gear)

IP20
Black plastic housing
L164/W64/H34mm

KKDM-04 1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)

LiNi-R XL Code Table

s-line

			LiNi-R XL 352 RXS352	LiNi-R XL 504 RXS504	LiNi-R XL 508 RXS508	LiNi-R XL RGB RXS501
LED Colour	2300K	N	•	•	•	n/a
	2500K	S	•	•	•	n/a
	2700K	A	•	•	•	n/a
	3000K	P	•	•	•	n/a
	3200K	B	•	•	•	n/a
	3800K	C	•	•	•	n/a
	5000K	D	•	•	•	n/a
	Red	F	•	•	n/a	n/a
	Green	G	•	•	n/a	n/a
	Blue	H	•	•	n/a	n/a
	Orange	I	•	•	n/a	n/a
	Amber	J	•	•	n/a	n/a
	RGB	L	n/a	n/a	n/a	•
IP	IP40	1	•	•	•	•
Connection	300mm male + female connectors	02	•	•	•	•
	300mm single tail	03	•	•	•	•
	300mm double tail	04	•	•	•	•
	1000mm single tail	12	•	•	•	•
	Custom	00	•	•	•	•
Volt	24V	W	•	•	•	•
Length Availability			99.3-2016mm 83.3mm increments	116-2016mm 100mm increments	87.4-2016mm 71.4mm increments	99.3-2016mm 83.3mm increments
Finish	Silver anodised Diffused cover	A	•	•	•	•

Code Example:

RXS504 | A | 1 | 02 | W | 2016 | A

- RXS504 — LiNi-R XL 504
- A — 2700K
- 1 — IP40
- 02 — 300mm male + female connectors
- W — 24V
- 2016 — 2016mm
- A — Silver anodised Diffused cover

e-line

			LiNi-R XL e352 RXE352	LiNi-R XL e504 RXE504	LiNi-R XL e508 RXE508
LED Colour	2300K	N	•	•	•
	2500K	S	•	•	•
	2700K	A	•	•	•
	3000K	P	•	•	•
	3200K	B	•	•	•
	3800K	C	•	•	•
	5000K	D	•	•	•
IP	IP40	1	•	•	•
Connection	300mm male + female connectors	02	•	•	•
	300mm single tail	03	•	•	•
	300mm double tail	04	•	•	•
	1000mm single tail	12	•	•	•
	Custom	00	•	•	•
Volt	24V	W	•	•	•
Length Availability			99.3-2016mm 83.3mm increments	116-2016mm 100mm increments	87.4-2016mm 71.4mm increments
Finish	Silver anodised Diffused cover	A	•	•	•

Code Example:

RXE504 | A | 1 | 02 | W | 2016 | A

- RXE504 — LiNi-R XL e504
- A — 2700K
- 1 — IP40
- 02 — 300mm male + female connectors
- W — 24V
- 2016 — 2016mm
- A — Silver anodised Diffused cover

TANA series

TANA

- Versatile, glare free, linear shelf light made to custom sizes with centred LED.
- Output options from 298 to 1075 lumens per metre with ≥90 CRI.
- A choice of covers and mounting options.

s-line

- 2 step package binning.
- Optimum colour consistency for high quality/close proximity lighting.
- White: 2300K/2500K/2700K/3000K/3200K/3800K/5000K.
  Single colours: Red/Green/Blue/Orange/Amber.

e-line

- 3 step package binning.
- Good colour consistency providing an economic choice when mounted over 300mm from the illuminated surface.
- White: 2300K/2500K/2700K/3000K/3200K/3800K/5000K.

Note: To avoid any visible colour differences we advise that s-line and e-line products should not share the same location.

LED strip options


KK352/KKe352

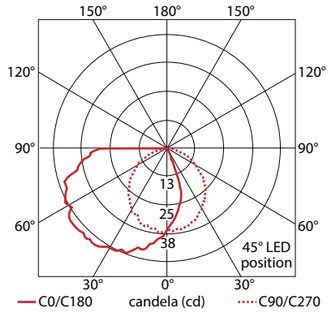

KK504/KKe504


KK508/KKe508


KKRGB

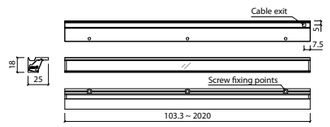
TANA 352s/e352

24V DC | 5.52 W/m | ≤54 lm/W | IP40 | cULus LISTED E356145 | CE



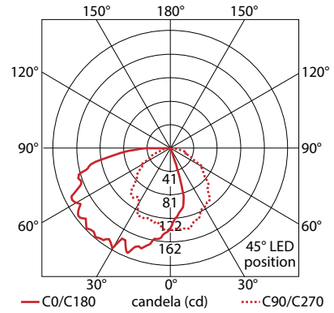
298lm/m

Luminous flux:	298.1lm/m nominal (@ 3200K + Clear cover)
Size:	H18/W25/L103.3-2020mm
Chip:	Toyoda Gosei
Beam angle:	50° (@ 45° LED position) (Clear cover)
CRI:	≥90
Lifetime:	50,000 hours @ 25°C
Operating temp:	T_a = -25 to 60°C (T_c max = 69°C)
IP rating:	IP40
Finish:	Silver anodised
Cover/Lens:	Diffused/Clear
Mounting:	Surface mounting via screw fixing, 3M tape or magnets
Connection:	Hardwire tails
Control:	1-10V/DMX (see visDIM range)



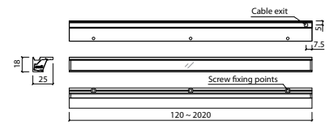
TANA 504s/e504

24V DC | 12.24 W/m | ≤64.4 lm/W | IP40 | cULus LISTED E356145 | CE



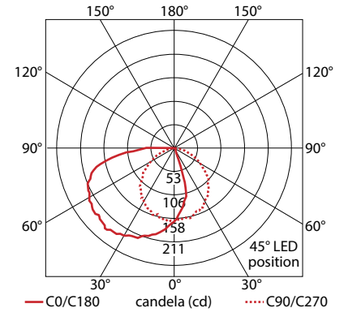
788lm/m

Luminous flux:	788.3lm/m nominal (@ 3200K + Clear cover)
Size:	H18/W25/L120-2020mm
Chip:	Toyoda Gosei
Beam angle:	95° (@ 45° LED position) (Clear cover)
CRI:	≥90
Lifetime:	50,000 hours @ 25°C
Operating temp:	T_a = -25 to 60°C (T_c max = 77°C)
IP rating:	IP40
Finish:	Silver anodised
Cover/Lens:	Diffused/Clear
Mounting:	Surface mounting via screw fixing, 3M tape or magnets
Connection:	Hardwire tails
Control:	1-10V/DMX (see visDIM range)



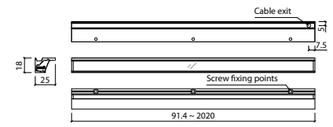
TANA 508s/e508

24V DC | 17.28 W/m | ≤62.2 lm/W | IP40 | cULus LISTED E356145 | CE



1075lm/m

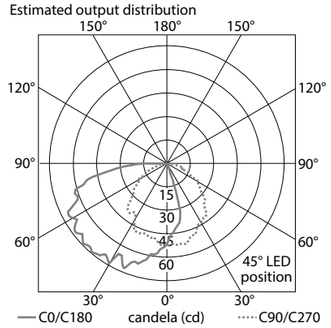
Luminous flux:	1074.8lm/m nominal (@ 3200K + Clear cover)
Size:	H18/W25/L91.4-2020mm
Chip:	Toyoda Gosei
Beam angle:	95° (@ 45° LED position) (Clear cover)
CRI:	≥90
Lifetime:	50,000 hours @ 25°C
Operating temp:	T_a = -25 to 50°C (T_c max = 68°C)
IP rating:	IP40
Finish:	Silver anodised
Cover/Lens:	Diffused/Clear
Mounting:	Surface mounting via screw fixing, 3M tape or magnets
Connection:	Hardwire tails
Control:	1-10V/DMX (see visDIM range)



TANA RGB

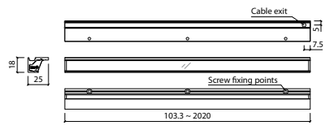
RGB | 24V DC | 15.6 W/m | IP40 | CE

Estimated output distribution



15.6W/m

Luminous flux:	Red: 62.7lm/m Green: 192.8lm/m Blue: 34.6lm/m White: 287.7lm/m
Size:	H18/W25/L103.3-2020mm
Chip:	Red Epistar/Green Samsung/Blue Samsung
Beam angle:	110° (@ 45° LED position) (Clear cover)
Colours:	Red 620-628nm/Blue 459-464nm/Green 521-527nm
CRI:	N/A
Lifetime:	50,000 hours @ 25°C
Operating temp:	T_a = -25 to 50°C (T_c max = 83°C)
IP rating:	IP40
Finish:	Silver anodised
Cover/Lens:	Diffused/Clear
Mounting:	Surface mounting via screw fixing, 3M tape or magnets
Connection:	Hardwire tails
Control:	DMX (see visDIM range)

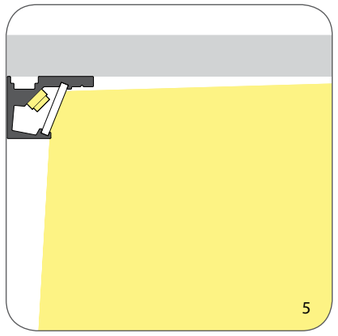


TANA Product Details

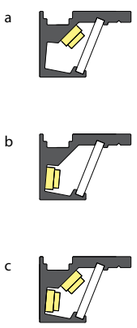
1

2


3


5

1. Screw fixed TANA with diffused cover
2. Push-fit flush end caps
3. Custom colour finishes available
4. LED strip positions
   a. 45°
   b. 5°
   c. 45° & 5°
5. Wide beam distribution for uniform shelf lighting



4

Hôtel Le Bristol, Paris
Architect: Pierre-Yves Rochon
Photography: Jean Garcin

TANA Accessories

visDIM Control Gear Options

IP67
100W 24V
Aluminium housing
L248/W73/H48mm

KKPS-01 1-10V PSU
visDIM dimmable power supply
(See Control Gear)

IP20
Black plastic housing
L164/W64/H34mm

KKDM-04 1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)

TANA Code Table

s-line

			TANA 352 TNS352	TANA 504 TNS504	TANA 508 TNS508	TANA RGB TNS501
LED Colour	2300K	N	•	•	•	n/a
	2500K	S	•	•	•	n/a
	2700K	A	•	•	•	n/a
	3000K	P	•	•	•	n/a
	3200K	B	•	•	•	n/a
	3800K	C	•	•	•	n/a
	5000K	D	•	•	•	n/a
	Red	F	•	•	n/a	n/a
	Green	G	•	•	n/a	n/a
	Blue	H	•	•	n/a	n/a
	Orange	I	•	•	n/a	n/a
	Amber	J	•	•	n/a	n/a
	RGB	L	n/a	n/a	n/a	•
IP	IP40	1	•	•	•	•
Connection	1000mm single tail	12	•	•	•	•
	1000mm double tail	13	•	•	•	•
	3000mm single tail	11	•	•	•	•
	3000mm double tail	17	•	•	•	•
	Custom	00	•	•	•	•
Volt	24V	W	•	•	•	•
Length Availability			103.3-2020mm	120-2020mm	91.4-2020mm	103.3-2020mm
Finishes	Silver anodised Diffused cover	A	•	•	•	•
	Silver anodised Clear cover	B	•	•	•	•
	Custom colour Diffused cover	I	•	•	•	•
	Custom colour Clear cover	J	•	•	•	•
LED Positions	45°	A	•	•	•	•
	5°	B	•	•	•	n/a
	45° & 5°	C	n/a	•	n/a	n/a
Fixing	Screw fixed	F	•	•	•	•
	3M tape	M	•	•	•	•
	Magnet	P	•	•	•	•

Code Example:

TNS504 A 1 12 W 2020 A A M

TANA 504 | 2700K | IP40 | 1000mm single tail | 24V | 2020mm | Silver anodised Diffused cover | 45° | 3M tape

e-line

			TANA e352 TNE352	TANA e504 TNE504	TANA e508 TNE508
LED Colour	2300K	N	•	•	•
	2500K	S	•	•	•
	2700K	A	•	•	•
	3000K	P	•	•	•
	3200K	B	•	•	•
	3800K	C	•	•	•
	5000K	D	•	•	•
IP	IP40	1	•	•	•
Connection	1000mm single tail	12	•	•	•
	1000mm double tail	13	•	•	•
	3000mm single tail	11	•	•	•
	3000mm double tail	17	•	•	•
	Custom	00	•	•	•
Volt	24V	W	•	•	•
Length Availability			103.3-2020mm	120-2020mm	91.4-2020mm
Finishes	Silver anodised Diffused cover	A	•	•	•
	Silver anodised Clear cover	B	•	•	•
	Custom colour Diffused cover	I	•	•	•
	Custom colour Clear cover	J	•	•	•
LED Positions	45°	A	•	•	•
	5°	B	•	•	•
	45° & 5°	C	n/a	•	n/a
Fixing	Screw fixed	F	•	•	•
	3M tape	M	•	•	•
	Magnet	P	•	•	•

Code Example:

TNE504 A 1 12 W 2020 A A M

TANA e504 | 2700K | IP40 | 1000mm single tail | 24V | 2020mm | Silver anodised Diffused cover | 45° | 3M tape

TANA Micro

- Slim profile linear shelf light made to custom sizes with centred LED.
- Choice of output: from 359 to 1329 lumens per metre with ≥90 CRI.

s-line

- 2 step package binning.
- Optimum colour consistency for high quality/close proximity lighting.
- White: 2300K/2500K/2700K/3000K/ 3200K/3800K/5000K.
  Single colours: Red/Green/Blue/ Orange/Amber.

e-line

- 3 step package binning.
- Good colour consistency providing an economic choice when mounted over 300mm from the illuminated surface.
- White: 2300K/2500K/2700K/3000K/ 3200K/3800K/5000K.

Note: To avoid any visible colour differences we advise that s-line and e-line products should not share the same location.

LED strip options

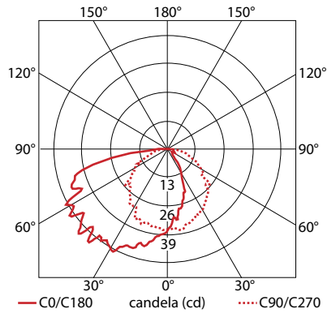

KK352/KKe352


KK504/KKe504


KK508/KKe508

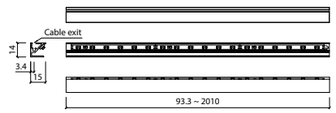
TANA Micro 352s/e352

24V DC | 5.52 W/m | 65 lm/W | IP20 | cULus LISTED E356145 | CE



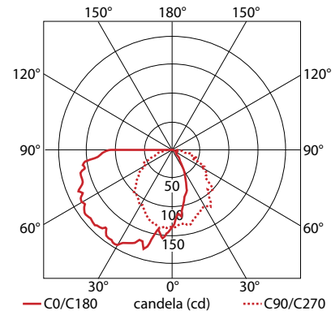
359lm/m

Luminous flux:	358.8lm/m nominal (@ 3200K)
Size:	H14/W15/L93.3-2010mm
Chip:	Toyoda Gosei
Beam angle:	90°
CRI:	≥90
Lifetime:	50,000 hours @ 25°C
Operating temp:	T_a = -25 to 55°C (T_c max = 65°C)
IP rating:	IP20
Finish:	Silver anodised
Cover/Lens:	N/A
Mounting:	Surface mounting via 3M tape or screw mount end caps
Connection:	Hardwire tails
Control:	1-10V/DMX (see visDIM range)



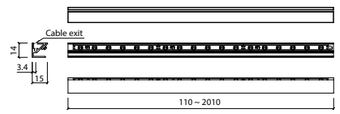
TANA Micro 504s/e504

24V DC | 12.24 W/m | 78.6 lm/W | IP20 | cULus E356145 | CE



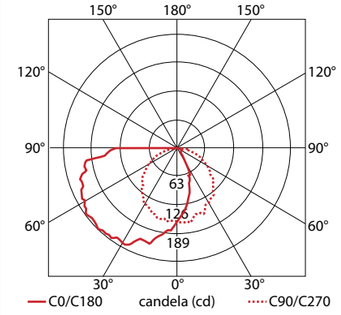
962lm/m

Luminous flux:	962.1lm/m nominal (@ 3200K)
Size:	H14/W15/L110-2010mm
Chip:	Toyoda Gosei
Beam angle:	45°
CRI:	≥90
Lifetime:	50,000 hours @ 25°C
Operating temp:	T_a = -25 to 55°C (T_c max = 70°C)
IP rating:	IP20
Finish:	Silver anodised
Cover/Lens:	N/A
Mounting:	Surface mounting via 3M tape or screw mount end caps
Connection:	Hardwire tails
Control:	1-10V/DMX (see visDIM range)



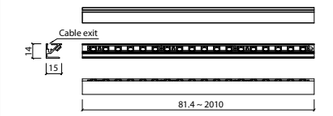
TANA Micro 508s/e508

24V DC | 17.28 W/m | 76.9 lm/W | IP20 | cULus LISTED E356145 | CE



1329lm/m

Luminous flux:	1328.8lm/m nominal (@ 3200K)
Size:	H14/W15/L81.4-2010mm
Chip:	Toyoda Gosei
Beam angle:	65°
CRI:	≥90
Lifetime:	50,000 hours @ 25°C
Operating temp:	T_a = -25 to 45°C (T_c max = 69°C)
IP rating:	IP20
Finish:	Silver anodised
Cover/Lens:	N/A
Mounting:	Surface mounting via 3M tape or screw mount end caps
Connection:	Hardwire tails
Control:	1-10V/DMX (see visDIM range)



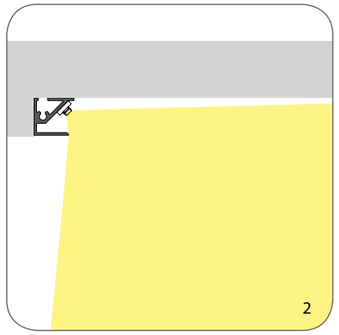
TANA Micro Product Details


1a


1b

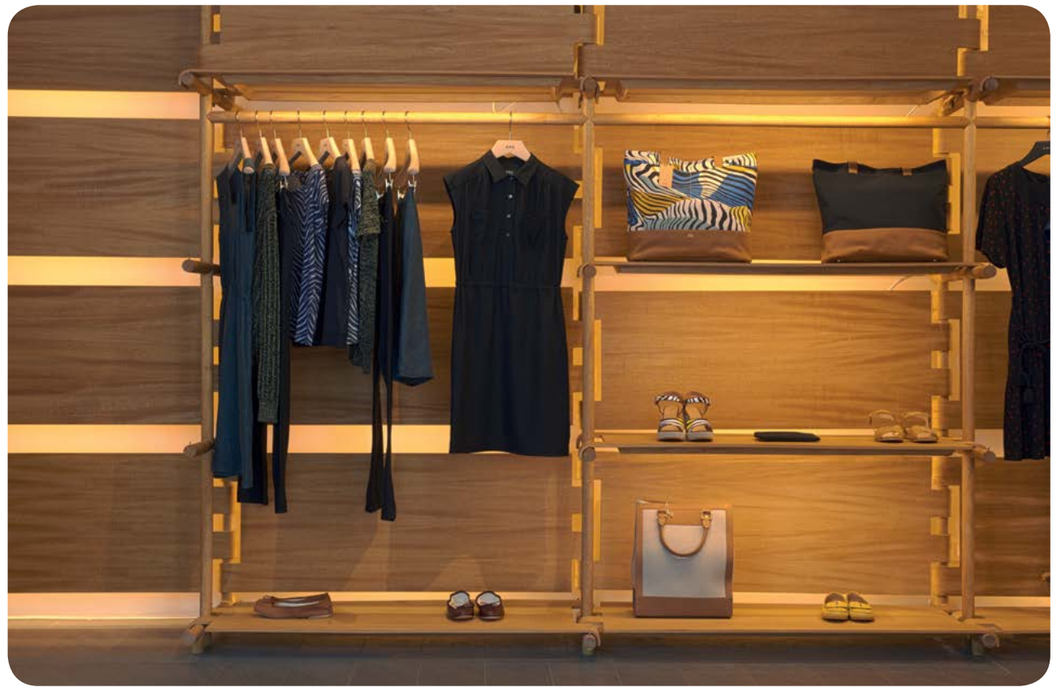

4


3


2

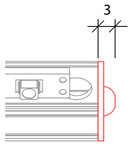
1. Surface mounted TANA Micro 504
2. Wide beam distribution for uniform shelf lighting
3. High strength self adhesive 3M tape
4. Optional end cap bracket accessory (sold separately)

Opposite page:
APC Filles du Calvaire, Paris
Architect: Laurent Deroo
Lighting Design: Franck Franjou
Photography: Jean Garcin

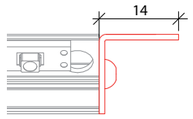


TANA Micro Accessories

End caps



TMEC-01
End cap pair (Includes screws)
S/Steel finish



TMEC-02*
End cap bracket pair (Includes screws)
S/Steel finish
* Not recommended for use on lengths over 1000mm

visDIM Control Gear Options

IP67
100W 24V
Aluminium housing
L248/W73/H48mm

KKPS-01 1-10V PSU
visDIM dimmable power supply
(See Control Gear)

IP20
Black plastic housing
L164/W64/H34mm

KKDM-04 1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)

TANA Micro Code Table

s-line

			TANA Micro 352 TMS352	TANA Micro 504 TMS504	TANA Micro 508 TMS508
LED Colour	2300K	N	•	•	•
	2500K	S	•	•	•
	2700K	A	•	•	•
	3000K	P	•	•	•
	3200K	B	•	•	•
	3800K	C	•	•	•
	5000K	D	•	•	•
	Red	F	•	•	n/a
	Green	G	•	•	n/a
	Blue	H	•	•	n/a
	Orange	I	•	•	n/a
	Amber	J	•	•	n/a
IP	IP20	0	•	•	•
Connection	1000mm single tail	12	•	•	•
	1000mm double tail	13	•	•	•
	3000mm single tail	11	•	•	•
	3000mm double tail	17	•	•	•
	Custom	00	•	•	•
Volt	24V	W	•	•	•
Length Availability			93.3-2010mm	110-2010mm	81.4-2010mm

Code Example:

TMS504	A	0	12	W	2010
TANA Micro 504	2700K	IP20	1000mm single tail	24V	2010mm

e-line

			TANA Micro e352 TME352	TANA Micro e504 TME504	TANA Micro e508 TME508
LED Colour	2300K	N	•	•	•
	2500K	S	•	•	•
	2700K	A	•	•	•
	3000K	P	•	•	•
	3200K	B	•	•	•
	3800K	C	•	•	•
	5000K	D	•	•	•
IP	IP20	0	•	•	•
Connection	1000mm single tail	12	•	•	•
	1000mm double tail	13	•	•	•
	3000mm single tail	11	•	•	•
	3000mm double tail	17	•	•	•
	Custom	00	•	•	•
Volt	24V	W	•	•	•
Length Availability			93.3-2010mm	110-2010mm	81.4-2010mm

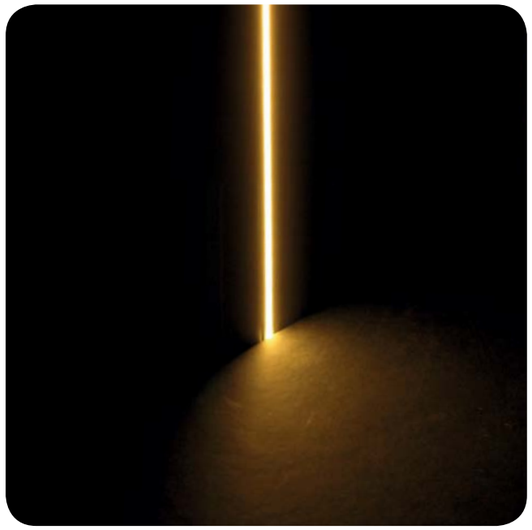
Code Example:

TME504	A	0	12	W	2010
TANA Micro e504	2700K	IP20	1000mm single tail	24V	2010mm

Groove series

Groove Light

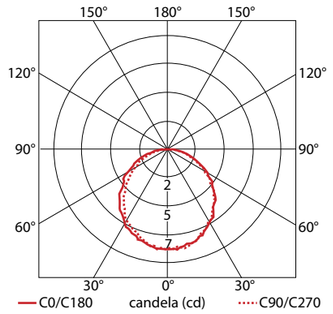
- Ultra-slim (6mm) linear accent marker for continuous, sharp light lines.
- Designed for insetting into shopfittings, shelves, joinery and architectural features.
- End to end diffusion for seamless extension.
- Low glare output in a choice of colour temperatures or RGB.



Groove Light recessed into joinery

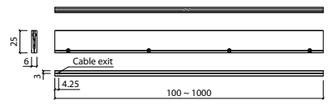
Groove Light

24V DC | 7.68 W/m | 4 lm/W | IP40/65



31lm/m

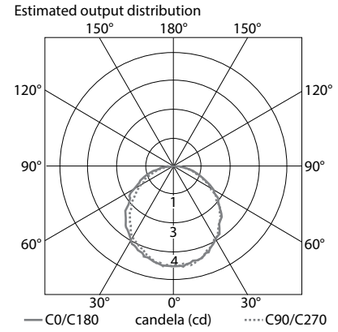
Luminous flux:	30.7lm/m nominal (@ 3800K)
Size:	H25/W6/L100-1000mm
Chip:	Cree
Beam angle:	Diffused
Colour:	2800K/3800K/6500K
Bin/Step:	3~3.5 step MacAdam ellipse
CRI:	≥65
Lifetime:	50,000 hours @ 25°C
Operating temp:	T_a = -25 to 50°C (T_c max = 60°C)
IP rating:	IP40/IP65
Finish:	Silver anodised
Cover/Lens:	Diffused
Mounting:	Recessed (no flange)
Connection:	Hardwire tails
Control:	1-10V/DMX (see visDIM range)



Groove Light RGB

RGB | 24V DC | 21.6 W/m | IP40/65

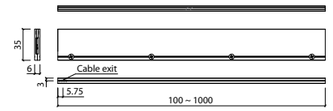
Estimated output distribution

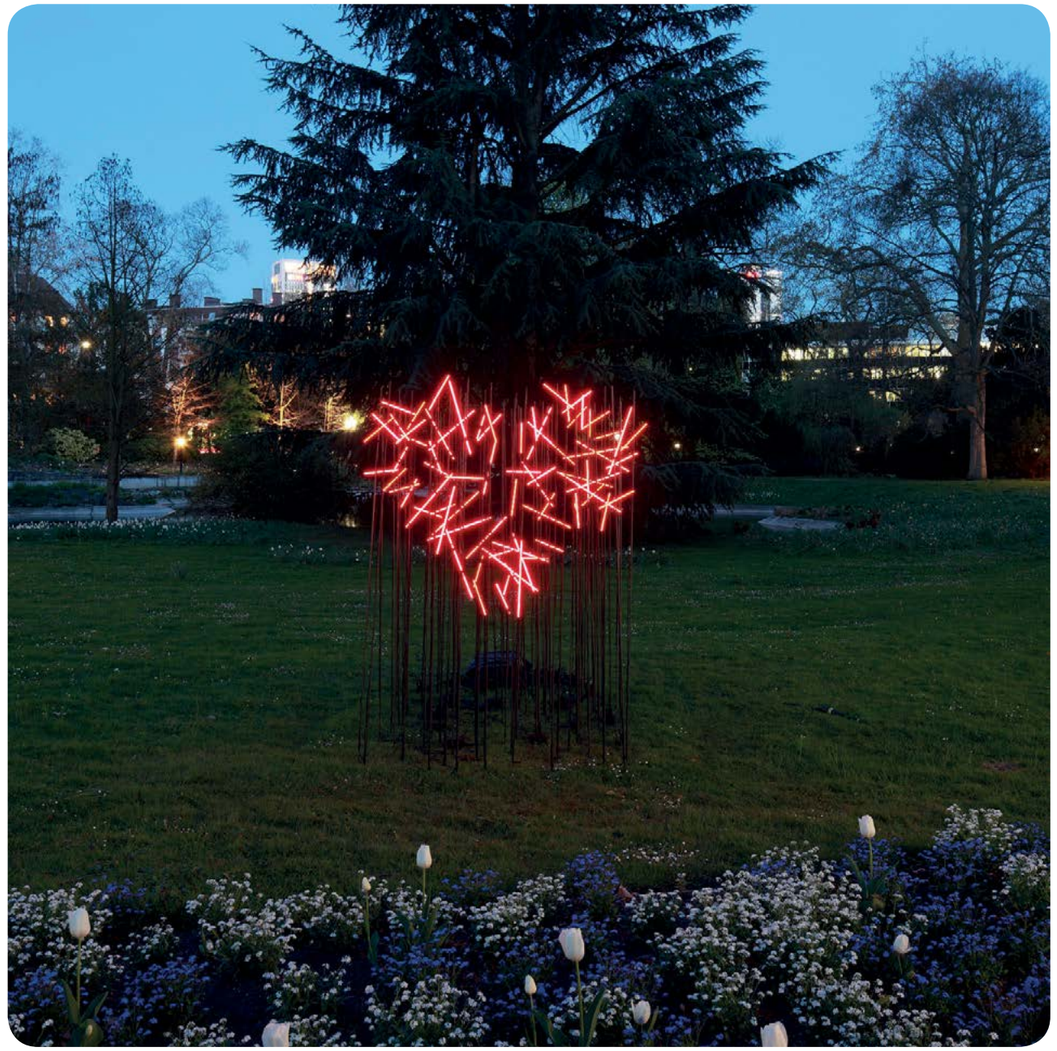


Groove Light RGB cable exit

21.6W/m

Luminous flux:	Red: 1.77lm/m Green: 10.36lm/m Blue: 3.23lm/m White: 14.8lm/m
Size:	H35/W6/L100-1000mm
Chip:	Everlight
Beam angle:	Diffused
Colours:	RGB colour mixing
CRI:	N/A
Lifetime:	20,000 hours @ 25°C
Operating temp:	T_a = -25 to 35°C (T_c max = 66°C)
IP rating:	IP40/IP65
Finish:	Silver anodised
Cover/Lens:	Diffused
Mounting:	Recessed (no flange)
Connection:	Hardwire tails
Control:	DMX (see visDIM range)

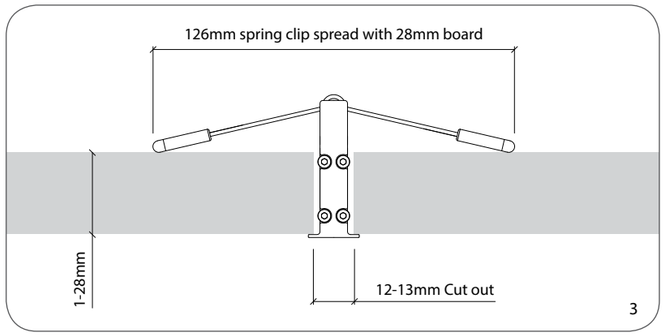




Above & Opposite page:
'Broken Heart', Luminale, Light & Building 2012, Frankfurt
Design: GNI Projects

Groove IN

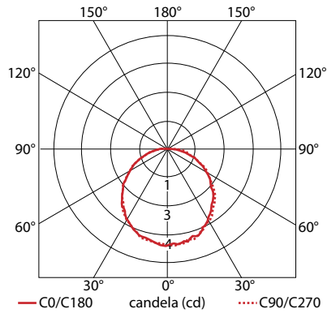
- Recessed, ultra-slim, linear accent marker for sharp light lines.
- Low glare output in a choice of colour temperatures or RGB.
- Spring clip retention for hollow walls/ceilings.



1. Groove IN end cap and cable exit
2. Butterfly spring clips
3. Typical recessed installation

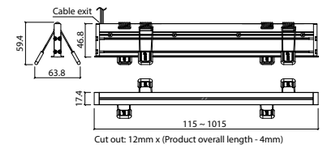
Groove IN

24V DC | 7.68 W/m | 5.1 lm/W | IP40/65



39lm/m

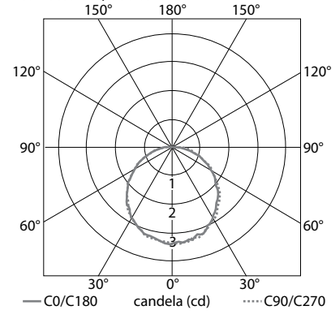
Luminous flux: 39.2lm/m nominal (@ 3800K)
Size: H46.8/W17.4/L115-1015mm (Excludes spring clips)
Chip: Cree
Beam angle: Diffused
Colour: 2800K/3800K/6500K
Bin/Step: 3~3.5 step MacAdam ellipse
CRI: ≥65
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 50°C (T_c max = 65°C)
IP rating: IP40/IP65
Finish: Silver anodised
Cover/Lens: Diffused
Mounting: Recessed mounting via spring clips
Connection: Hardwire tails
Control: 1-10V/DMX (see visDIM range)



Groove IN RGB

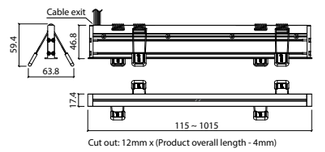
RGB | 24V DC | 21.6 W/m | IP40/65

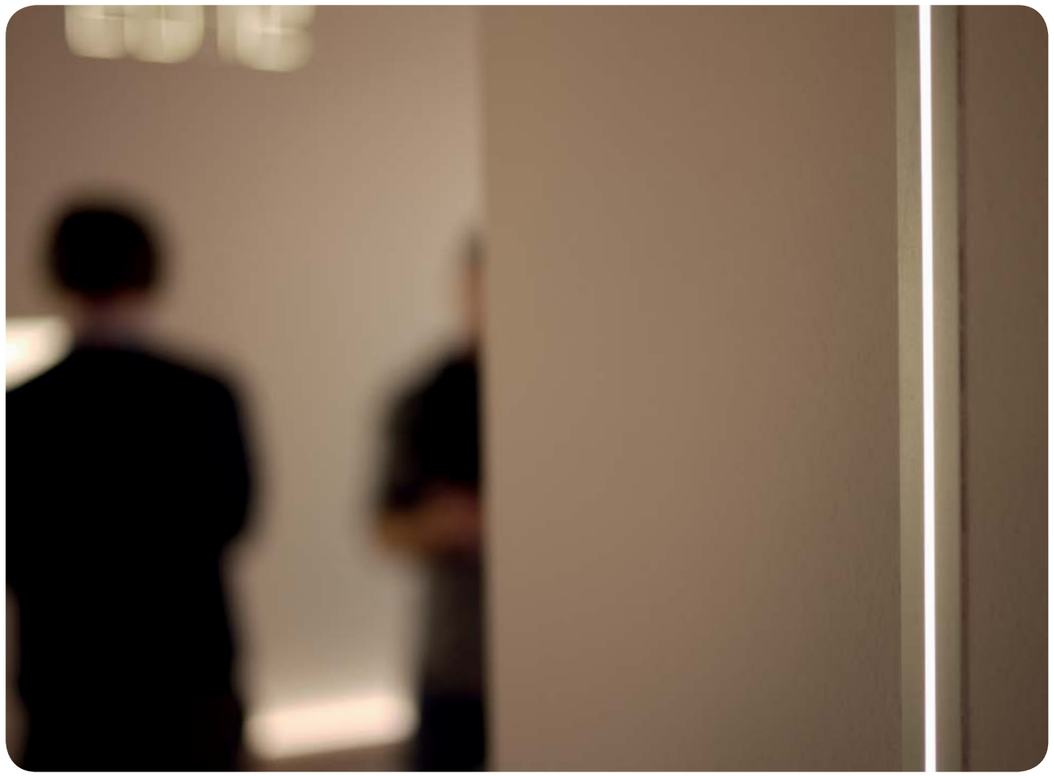
Estimated output distribution



21.6W/m

Luminous flux: Red: 1.77lm/m
Green: 10.36lm/m
Blue: 3.23lm/m
White: 14.8lm/m
Size: H46.8/W17.4/L115-1015mm (Excludes spring clips)
Chip: Everlight
Beam angle: Diffused
Colours: RGB colour mixing
CRI: N/A
Lifetime: 20,000 hours @ 25°C
Operating temp: T_a = -25 to 40°C (T_c max = 57°C)
IP rating: IP40/IP65
Finish: Silver anodised
Cover/Lens: Diffused
Mounting: Recessed mounting via spring clips
Connection: Hardwire tails
Control: DMX (see visDIM range)





Opposite page:
The Darling Hotel Lobby, Sydney
Lighting Design: Point Of View

Groove Accessories

visDIM Power/Control Options

IP67
100W 24V
Aluminium housing
L248/W73/H48mm

KKPS-01 1-10V PSU
visDIM dimmable power supply
(See Control Gear)

IP20
Black plastic housing
L164/W64/H34mm

KKDM-04 1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)

Groove Code Table

			Groove Light GRS102	Groove Light RGB GRS101	Groove IN GNS102	Groove IN RGB GNS101
LED Colour	2800K	K	•	n/a	•	n/a
	3800K	C	•	n/a	•	n/a
	6500K	E	•	n/a	•	n/a
	RGB	L	n/a	•	n/a	•
IP	IP40	1	•	•	•	•
	IP65	5	•	•	•	•
Connection	300mm single tail	03	•	•	•	•
	300mm double tail	04	•	•	•	•
	Custom	00	•	•	•	•
Volt	24V	W	•	•	•	•
Length Availability			100-1000mm 100mm increments	100-1000mm 100mm increments	115-1015mm 100mm increments	115-1015mm 100mm increments

Code Example:

GRS102	K	1	03	W	1000
Groove Light	2800K	IP40	300mm single tail	24V	1000mm

MiMi series

MiMi

- A compact, covered, profile for architectural detail and low level ambient lighting.
- Output options from 299 to 992 lumens per metre with ≥90 CRI.
- Available with a full range of white, single colour, and RGB LED sources.
- Interior and exterior versions with many mounting options.

s-line

- 2 step package binning.
- Optimum colour consistency for high quality/close proximity lighting.
- White: 2300K/2500K/2700K/3000K/3200K/3800K/5000K.
  Single colours: Red/Green/Blue/Orange/Amber.

e-line

- 3 step package binning.
- Good colour consistency providing an economic choice when mounted over 300mm from the illuminated surface.
- White: 2300K/2500K/2700K/3000K/3200K/3800K/5000K.

Note: To avoid any visible colour differences we advise that s-line and e-line products should not share the same location.

LED strip options


KK352/KKe352


KK007/KKe007


KK504/KKe504

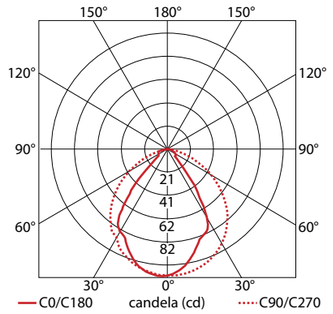

KK508/KKe508


KKRGB


KKXEN

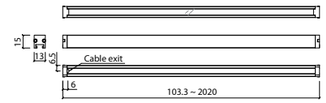
MiMi 352s-/e352e-

24V DC | 5.52 W/m | ≤54.1 lm/W | IP54/67 | c UL us LISTED E356145 | CE



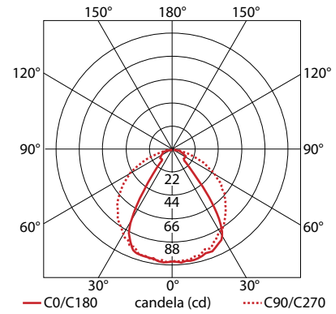
299lm/m

Luminous flux: 298.6lm/m nominal (@ 3200K + Clear cover)
Size: H15/W13/L103.3-2020mm
Chip: Toyoda Gosei
Beam angle: 70° (Clear cover)
CRI: ≥90
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 60°C (T_c max = 65°C)
IP rating: IP54/67
Finish: Silver anodised
Cover/Lens: Diffused/Clear
Mounting: Surface mounting via clips or brackets
Connection: Hardwire tails or male/female connectors
Control: 1-10V/DMX (see visDIM range)



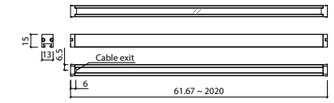
MiMi 007s-/e007e-

24V DC | 10.83 W/m | ≤41 lm/W | IP54/67 | c UL us LISTED E356145 | CE



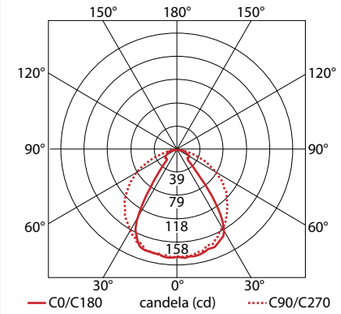
444lm/m

Luminous flux: 444lm/m nominal (@ 3200K + Clear cover)
Size: H15/W13/L61.67-2020mm
Chip: Toyoda Gosei
Beam angle: 70° (Clear cover)
CRI: ≥90
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 45°C (T_c max = 60°C)
IP rating: IP54/67
Finish: Silver anodised
Cover/Lens: Diffused/Clear
Mounting: Surface mounting via clips or brackets
Connection: Hardwire tails or male/female connectors
Control: 1-10V/DMX (see visDIM range)



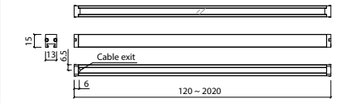
MiMi 504s-/e504e-

24V DC | 12.24 W/m | ≤61.3 lm/W | IP54/67 | c UL us LISTED E356145 | CE



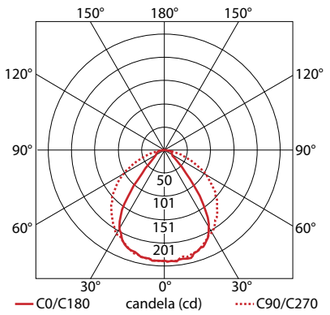
750lm/m

Luminous flux: 750.3lm/m nominal (@ 3200K + Clear cover)
Size: H15/W13/L120-2020mm
Chip: Toyoda Gosei
Beam angle: 75° (Clear cover)
CRI: ≥90
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 55°C (T_c max = 75°C)
IP rating: IP54/67
Finish: Silver anodised
Cover/Lens: Diffused/Clear
Mounting: Surface mounting via clips or brackets
Connection: Hardwire tails or male/female connectors
Control: 1-10V/DMX (see visDIM range)



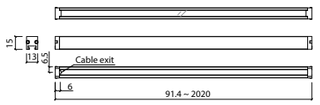
MiMi 508/e508

24V DC | 17.28 W/m | ≤57.4 lm/W | IP54/67



992lm/m

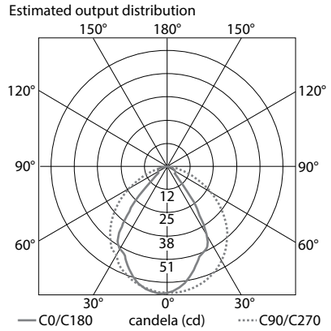
Luminous flux: 991.9lm/m nominal (@ 3200K + Clear cover)
Size: H15/W13/L91.4-2020mm
Chip: Toyoda Gosei
Beam angle: 75° (Clear cover)
CRI: ≥90
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 45°C (T_c max = 70°C)
IP rating: IP54/67
Finish: Silver anodised
Cover/Lens: Diffused/Clear
Mounting: Surface mounting via clips or brackets
Connection: Hardwire tails or male/female connectors
Control: 1-10V/DMX (see visDIM range)



MiMi RGB

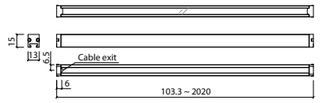
RGB | 24V DC | 15.6 W/m | IP54/67

Estimated output distribution



15.6W/m

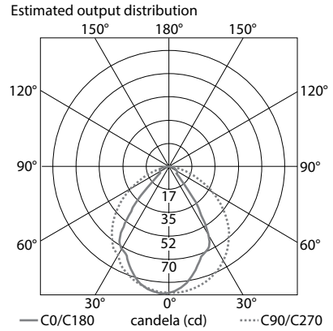
Luminous flux: Red: 54.3lm/m
Green: 156.9lm/m
Blue: 26.6lm/m
White: 238.6lm/m
(Clear cover)
Size: H15/W13/L103.3-2020mm
Chip: Red Epistar/Green Samsung/Blue Samsung
Beam angle: 75° (Clear cover)
Colours: Red 620-628nm/Blue 459-464nm/Green 521-527nm
CRI: N/A
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 55°C (T_c max = 70°C)
IP rating: IP54/67
Finish: Silver anodised
Cover/Lens: Diffused/Clear
Mounting: Surface mounting via clips or brackets
Connection: Hardwire tails or male/female connectors
Control: DMX (See visDIM range)



MiMi XEN

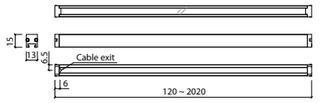
Variable | 24V DC | 12.24 W/m | ≤26.8 lm/W | IP54/67

Estimated output distribution

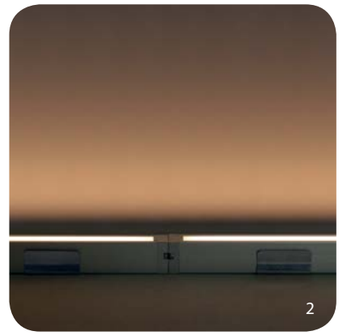


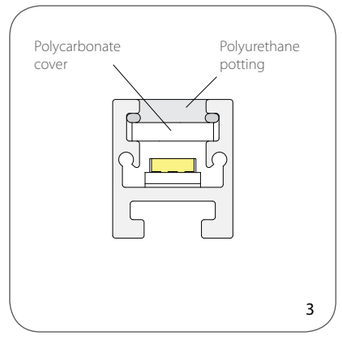
328lm/m

Luminous flux: 328.2lm/m (White + Clear cover)
Size: H15/W13/L120-2020mm
Chip: Citizen
Beam angle: 75° (Clear cover)
Colour: White: 2800K continuously variable to amber
CRI: ≥80 (White 2800K)
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 55°C (T_c max = 70°C)
IP rating: IP54/67
Finish: Silver anodised
Cover/Lens: Diffused/Clear
Mounting: Surface mounting via clips or brackets
Connection: Hardwire tails or male/female connectors
Control: 1-10V/DMX (see visDIM range)



MiMi Product Details



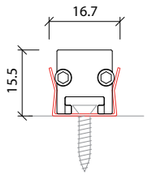


1. Soft spotting on diffused cover
2. End to end for continuous indirect lighting
3. IP67 MiMi 504 section diagram
4. Adjustable angle bracket

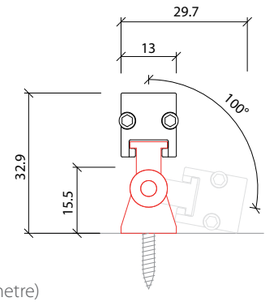
Private residence, New Zealand
Architect: Daniel Marshall Architects
Lighting Design: ECC Lighting
Photography: Emily Andrews

MiMi Accessories

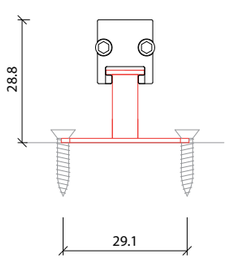
Mounting Options



KKCP-02 (1no.)
KKCP-52 (500no.)
Clip (Allow 3 per metre)
S/Steel finish



KKBK-05
Adjustable bracket (Allow 2 per metre)
S/Steel finish



KKBK-06
Fixed bracket (Allow 3 per metre)
S/Steel finish

Connectors

CN54-2P-0300 300mm pair
IP54
2 PIN male + female connector set

CN67-2P-0300 300mm pair
CN67-2P-1000 1000mm pair
CN67-2P-3000 3000mm pair
IP67
2 PIN male + female connector set

Connectors (Continued)

CN54-4P-0300 300mm pair
IP54
4 PIN RGB male + female connector set

CN67-4P-0300 300mm pair
CN67-4P-1000 1000mm pair
CN67-4P-3000 3000mm pair
IP67
4 PIN RGB male + female connector set

visDIM Control Gear Options

IP67
100W 24V
Aluminium housing
L248/W73/H48mm

KKPS-01 1-10V PSU
visDIM dimmable power supply
(See Control Gear)

IP20
Black plastic housing
L164/W64/H34mm

KKDM-04 1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)

MiMi Code Table

s-line

			MiMi 352 MIS352	MiMi 007 MIS007	MiMi 504 MIS504	MiMi 508 MIS508	MiMi RGB MIS501	MiMi XEN MIS006
LED Colour	2300K	N	•	•	•	•	n/a	n/a
	2500K	S	•	•	•	•	n/a	n/a
	2700K	A	•	•	•	•	n/a	n/a
	3000K	P	•	•	•	•	n/a	n/a
	3200K	B	•	•	•	•	n/a	n/a
	3800K	C	•	•	•	•	n/a	n/a
	5000K	D	•	•	•	•	n/a	n/a
	Red	F	•	•	•	n/a	n/a	n/a
	Green	G	•	•	•	n/a	n/a	n/a
	Blue	H	•	•	•	n/a	n/a	n/a
	Orange	I	•	•	•	n/a	n/a	n/a
	Amber	J	•	•	•	n/a	n/a	n/a
	RGB	L	n/a	n/a	n/a	n/a	•	n/a
	Variable	M	n/a	n/a	n/a	n/a	n/a	•
IP	IP54	4	•	•	•	•	•	•
	IP67[1]	7	•	•	•	•	•	•
Connection	300mm IP54 male + female connectors	15	•	•	•	•	•	•
	300mm IP67 male + female connectors	05	•	•	•	•	•	•
	300mm sheathed single tail	07	•	•	•	•	•	•
	300mm sheathed double tails	09	•	•	•	•	•	•
	Custom	00	•	•	•	•	•	•
Volt	24V	W	•	•	•	•	•	•
Length Availability			103.3-2020mm 83.3mm increments	61.67-2020mm 41.67mm increments	120-2020mm 100mm increments	91.4-2020mm 71.4mm increments	103.3-2020mm 83.3mm increments	120-2020mm 100mm increments
Finishes	Silver anodised Diffused cover	A	•	•	•	•	•	•
	Silver anodised Clear cover	B	•	•	•	•	•	•

[1] Due to the clear, flush potted polyurethane top layer on IP67 MiMi a colour shift of +/-20K should be expected.

Code Example:

MIS504 A 4 15 W 2020 A

- MIS504: MiMi 504
- A: 2700K
- 4: IP54
- 15: 300mm IP54 male + female connectors
- W: 24V
- 2020: 2020mm
- A: Silver anodised Diffused cover

e-line

			MiMi e352 MIE352	MiMi e007 MIE007	MiMi e504 MIE504	MiMi e508 MIE508
LED Colour	2300K	N	•	•	•	•
	2500K	S	•	•	•	•
	2700K	A	•	•	•	•
	3000K	P	•	•	•	•
	3200K	B	•	•	•	•
	3800K	C	•	•	•	•
	5000K	D	•	•	•	•
IP	IP54	4	•	•	•	•
	IP67[1]	7	•	•	•	•
Connection	300mm IP54 male + female connectors	15	•	•	•	•
	300mm IP67 male + female connectors	05	•	•	•	•
	300mm sheathed single tail	07	•	•	•	•
	300mm sheathed double tails	09	•	•	•	•
	Custom	00	•	•	•	•
Volt	24V	W	•	•	•	•
Length Availability			103.3-2020mm 83.3mm increments	61.67-2020mm 41.67mm increments	120-2020mm 100mm increments	91.4-2020mm 71.4mm increments
Finishes	Silver anodised Diffused cover	A	•	•	•	•
	Silver anodised Clear cover	B	•	•	•	•

[1] Due to the clear, flush potted polyurethane top layer on IP67 MiMi a colour shift of +/-20K should be expected.

Code Example:

MIE504 A 4 15 W 2020 A

- MIE504: MiMi e504
- A: 2700K
- 4: IP54
- 15: 300mm IP54 male + female connectors
- W: 24V
- 2020: 2020mm
- A: Silver anodised Diffused cover

KKSL series

KKSL

- Silicone sealed, IP67, linear source for concealed illumination of architectural details.
- Output options from 257 to 1052 lumens per metre with ≥90 CRI.
- Available with a wide range of white, single colour, and RGB LED sources.

s-line

- 2 step package binning.
- Optimum colour consistency for high quality/close proximity lighting.
- White: 2500K/2600K/3400K/3800K/4100K.
  Single colours: Red/Green/Blue/Orange/Amber.

e-line

- 3 step package binning.
- Good colour consistency providing an economic choice when mounted over 300mm from the illuminated surface.
- White: 2500K/2600K/3400K/3800K/4100K.

Note: To avoid any visible colour differences we advise that s-line and e-line products should not share the same location.

LED strip options


KK352/KKe352

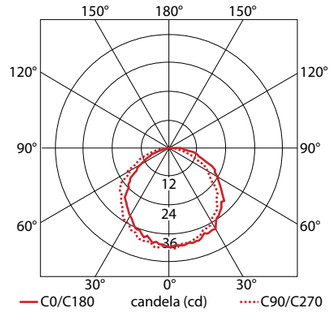

KK504/KKe504


KK508/KKe508


KKRGB

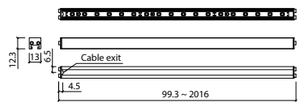
KKSL 352s/e352

24V DC | 5.52 W/m | 46.5 lm/W | IP67 | cULus LISTED E356145 | CE



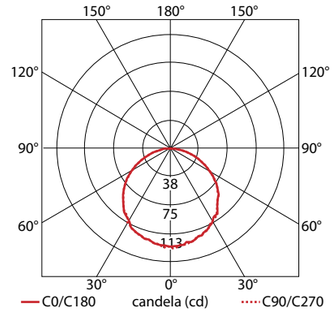
257lm/m

Luminous flux: 256.7lm/m nominal (@ 3200K)
Size: H12.3/W13/L99.3-2016mm
Chip: Toyoda Gosei
Beam angle: 115°
CRI: ≥90
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 50°C (T_c max = 60°C)
IP rating: IP67
Finish: Silver anodised
Cover/Lens: Silicone potted
Mounting: Surface mounting via clips or brackets
Connection: Hardwire tails or male/female connectors
Control: 1-10V/DMX (see visDIM range)



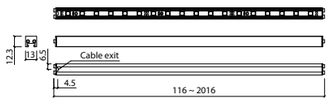
KKSL 504s/e504

24V DC | 12.24 W/m | 61.3 lm/W | IP67 | cULus LISTED E356145 | CE



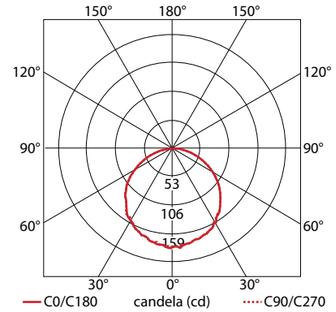
750lm/m

Luminous flux: 750.3lm/m nominal (@ 3200K)
Size: H12.3/W13/L116-2016mm
Chip: Toyoda Gosei
Beam angle: 115°
CRI: ≥90
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 50°C (T_c max = 65°C)
IP rating: IP67
Finish: Silver anodised
Cover/Lens: Silicone potted
Mounting: Surface mounting via clips or brackets
Connection: Hardwire tails or male/female connectors
Control: 1-10V/DMX (see visDIM range)



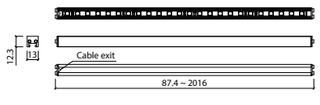
KKSL 508s/e508

24V DC | 17.28 W/m | 60.9 lm/W | IP67 | cULus LISTED E356145 | CE



1052lm/m

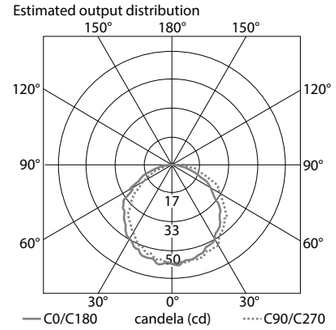
Luminous flux: 1052.4lm/m nominal (@ 3200K)
Size: H12.3/W13/L87.4-2016mm
Chip: Toyoda Gosei
Beam angle: 110°
CRI: ≥90
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 50°C (T_c max = 75°C)
IP rating: IP67
Finish: Silver anodised
Cover/Lens: Silicone potted
Mounting: Surface mounting via clips or brackets
Connection: Hardwire tails or male/female connectors
Control: 1-10V/DMX (see visDIM range)



KKSL RGB

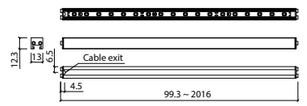
RGB | 24V DC | 15.6 W/m | IP67 | ETL Intertek | CE

Estimated output distribution



15.6W/m

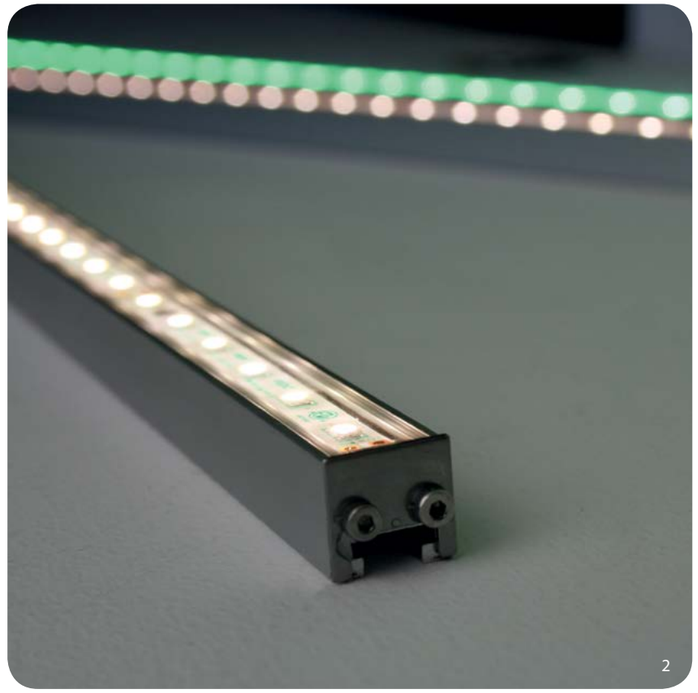
Luminous flux: Red: 65.6lm/m
Green: 78.2lm/m
Blue: 36.2lm/m
White: 294.3lm/m
(Clear cover)
Size: H12.3/W13/L99.3-2016mm
Chip: Red Epistar/Green Samsung/Blue Samsung
Beam angle: 110°
Colours: Red 620-628nm/Blue 459-464nm/Green 521-527nm
CRI: N/A
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 50°C (T_c max = 70°C)
IP rating: IP67
Finish: Silver anodised
Cover/Lens: Silicone Potted
Mounting: Surface mounting via clips or brackets
Connection: Hardwire tails or male/female connectors
Control: DMX (See visDIM range)



KKSL Product Details


1


3

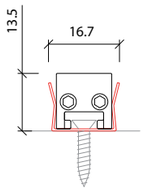

2

1. Silicone potting for IP67 protection
2. KKSL with range of LED options
3. Stainless steel adjustable angle bracket

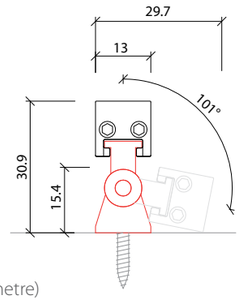
Auckland War Memorial Museum
Architect: Vincent Associates
Photography: Simon Devitt

KKSL Accessories

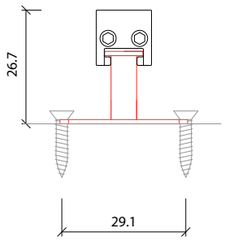
Mounting Options



KKCP-02 (1no.)
KKCP-52 (500no.)
Clip (Allow 3 per metre)
S/Steel finish



KKBK-05
Adjustable bracket (Allow 2 per metre)
S/Steel finish



KKBK-06
Fixed bracket (Allow 3 per metre)
S/Steel finish

Connectors

CN67-2P-0300 300mm pair
CN67-2P-1000 1000mm pair
CN67-2P-3000 3000mm pair
IP67
2 PIN male + female connector set

CN67-4P-0300 300mm pair
CN67-4P-1000 1000mm pair
CN67-4P-3000 3000mm pair
IP67
4 PIN RGB male + female connector set

visDIM Control Gear Options

IP67
100W 24V
Aluminium housing
L248/W73/H48mm

KKPS-01 1-10V PSU
visDIM dimmable power supply
(See Control Gear)

IP20
Black plastic housing
L164/W64/H34mm

KKDM-04 1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)

KKSL Code Table

s-line

			KKSL 352 SLS352	KKSL 504 SLS504	KKSL 508 SLS508	KKSL RGB SLS501
LED Colour	2500K[1] (2300K PCB)	N	•	•	•	n/a
	2600K[1] (2500K PCB)	S	•	•	•	n/a
	3400K[1] (2700K PCB)	A	•	•	•	n/a
	3800K[1] (3000K PCB)	P	•	•	•	n/a
	4100K[1] (3200K PCB)	B	•	•	•	n/a
	Red	F	•	•	n/a	n/a
	Green	G	•	•	n/a	n/a
	Blue	H	•	•	n/a	n/a
	Orange	I	•	•	n/a	n/a
	Amber	J	•	•	n/a	n/a
	RGB	L	n/a	n/a	n/a	•
IP	IP67	7	•	•	•	•
Connection	300mm IP67 male + female connectors	05	•	•	•	•
	300mm sheathed single tail	07	•	•	•	•
	300mm sheathed double tails	09	•	•	•	•
	Custom	00	•	•	•	•
Volt	24V	W	•	•	•	•
Length Availability			99.3-2016mm 83.3mm increments	116-2016mm 100mm increments	87.4-2016mm 71.4mm increments	99.3-2016mm 83.3mm increments

[1] Actual colour temperature after colour shift caused by silicone potting.

Code Example:

SLS504 A 7 05 W 2016

- SLS504: KKSL 504
- A: 3400K (2700K PCB)
- 7: IP67
- 05: 300mm IP67 male + female connectors
- W: 24V
- 2016: 2016mm

e-line

			KKSL e352 SLE352	KKSL e504 SLE504	KKS e508 SLE508
LED Colour	2500K[1] (2300K PCB)	N	•	•	•
	2600K[1] (2500K PCB)	S	•	•	•
	3400K[1] (2700K PCB)	A	•	•	•
	3800K[1] (3000K PCB)	P	•	•	•
	4100K[1] (3200K PCB)	B	•	•	•
IP	IP67	7	•	•	•
Connection	300mm IP67 male + female connectors	05	•	•	•
	300mm sheathed single tail	07	•	•	•
	300mm sheathed double tails	09	•	•	•
	Custom	00	•	•	•
Volt	24V	W	•	•	•
Length Availability			99.3-2016mm 83.3mm increments	116-2016mm 100mm increments	87.4-2016mm 71.4mm increments

[1] Actual colour temperature after colour shift caused by silicone potting.

Code Example:

SLE504 A 7 05 W 2016

- SLE504: KKSL e504
- A: 3400K (2700K PCB)
- 7: IP67
- 05: 300mm IP67 male + female connectors
- W: 24V
- 2016: 2016mm

MoMo series

MoMo

- A compact, covered, profile for architectural details and low level ambient lighting.
- Output options from 218 to 810 lumens per metre with ≥90 CRI.
- Available with a full range of white, single colour, and RGB LED sources.
- Interior and IP67 exterior versions with many mounting options.

s-line

- 2 step package binning.
- Optimum colour consistency for high quality/close proximity lighting.
- White: 2300K/2500K/2700K/3000K/3200K/3800K/5000K.
  Single colours: Red/Green/Blue/Orange/Amber.

e-line

- 3 step package binning.
- Good colour consistency providing an economic choice when mounted over 300mm from the illuminated surface.
- White: 2300K/2500K/2700K/3000K/3200K/3800K/5000K.

Note: To avoid any visible colour differences we advise that s-line and e-line products should not share the same location.

LED strip options


KK352/KKe352

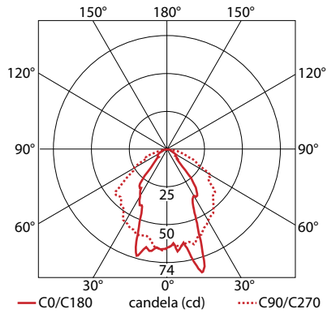

KK504/KKe504


KK508/KKe508


KKRGB

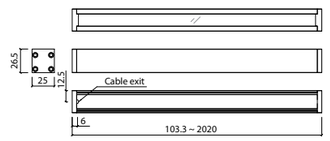
MoMo 352s/e352

24V DC | 5.52 W/m | ≤39.5 lm/W | IP54/67 | cULus LISTED E356145 | CE



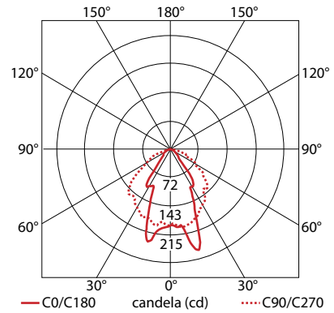
218lm/m

Luminous flux: 218lm/m nominal (@ 3200K + Clear cover)
Size: H26.5/W25/L103.3-2020mm
Chip: Toyoda Gosei
Beam angle: 50° (Clear cover)
CRI: ≥90
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 60°C (T_c max = 65°C)
IP rating: IP54/67
Finish: Silver anodised
Cover/Lens: Diffused/Clear
Mounting: Surface mounting via clips or brackets
Connection: Hardwire tails or male/female connectors
Control: 1-10V/DMX (see visDIM range)



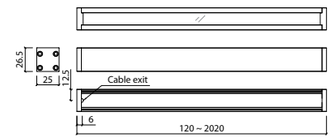
MoMo 504s/e504

24V DC | 12.24 W/m | ≤49.8 lm/W | IP54/67 | cULus LISTED E356145 | CE



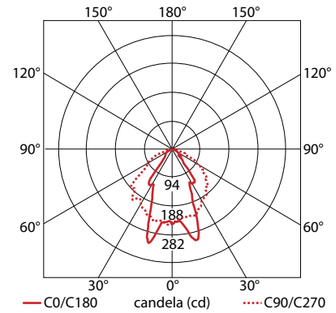
610lm/m

Luminous flux: 609.6lm/m nominal (@ 3200K + Clear cover)
Size: H26.5/W25/L120-2020mm
Chip: Toyoda Gosei
Beam angle: 50° (Clear cover)
CRI: ≥90
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 60°C (T_c max = 70°C)
IP rating: IP54/67
Finish: Silver anodised
Cover/Lens: Diffused/Clear
Mounting: Surface mounting via clips or brackets
Connection: Hardwire tails or male/female connectors
Control: 1-10V/DMX (see visDIM range)



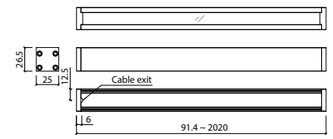
MoMo 508s/e508

24V DC | 17.28 W/m | ≤46.9 lm/W | IP54/67 | cULus LISTED E356145 | CE



810lm/m

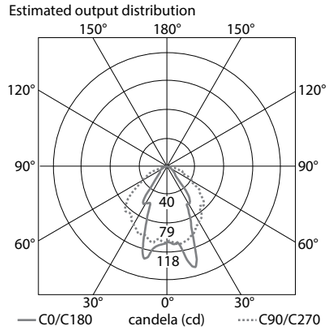
Luminous flux: 810.4lm/m nominal (@ 3200K + Clear cover)
Size: H26.5/W25/L91.4-2020mm
Chip: Toyoda Gosei
Beam angle: 45° (Clear cover)
CRI: ≥90
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 45°C (T_c max = 65°C)
IP rating: IP54/67
Finish: Silver anodised
Cover/Lens: Diffused/Clear
Mounting: Surface mounting via clips or brackets
Connection: Hardwire tails or male/female connectors
Control: 1-10V/DMX (see visDIM range)



MoMo RGB

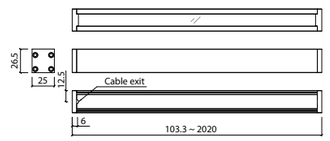
RGB | 24V DC | 15.6 W/m | IP54/67 | ETL Intertek | CE

Estimated output distribution



15.6W/m

Luminous flux: Red: 77.5lm/m
Green: 215.1lm/m
Blue: 39lm/m
White: 334.3lm/m
(Clear cover)
Size: H26.5/W25/L103.3-2020mm
Chip: Red Epistar/Green Samsung/Blue Samsung
Beam angle: 45° (Clear cover)
Colours: Red 620-628nm/Blue 459-464nm/Green 521-527nm
CRI: N/A
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 60°C (T_c max = 70°C)
IP rating: IP54/67
Finish: Silver anodised
Cover/Lens: Diffused/Clear
Mounting: Surface mounting via clips or brackets
Connection: Hardwire tails or male/female connectors
Control: DMX (See visDIM range)

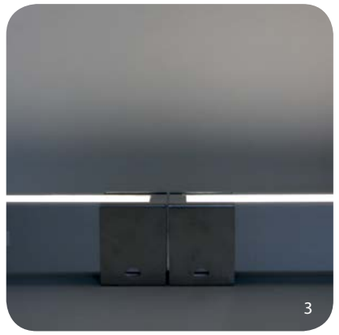


Hedonism Wines, London
Lighting Design: Speirs + Major

MoMo Product Details


1


2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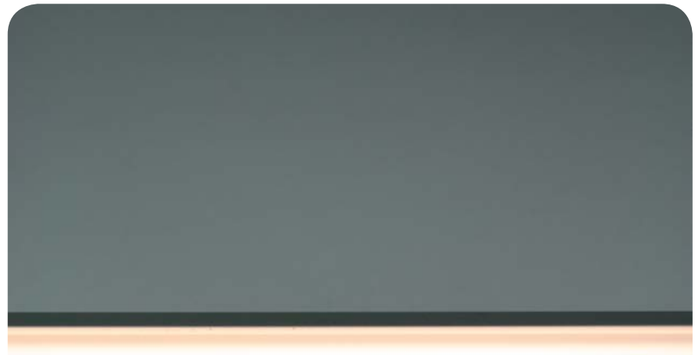
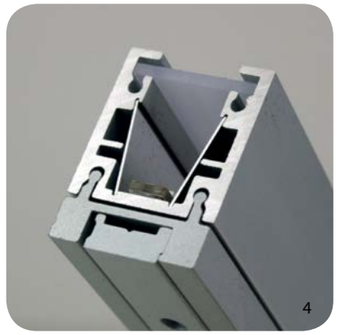
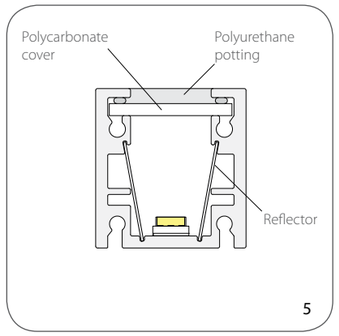



4


6

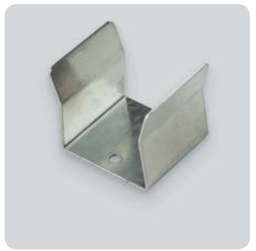


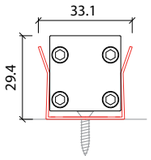
5

1. Adjustable angle bracket
2. Lock clip
3. End to end for continuous indirect lighting
4. Internal reflector for increased lumen efficiency
5. IP67 MoMo 504 section diagram
6. Homogenous lighting with all LED strip options

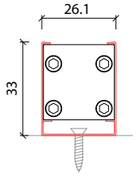
MoMo Accessories

Mounting Options

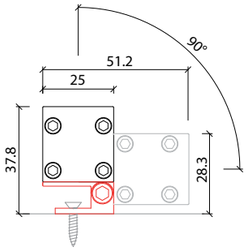




KKCP-03 (1no.)
KKCP-53 (500no.)
Clip (Allow 3 per metre)
S/Steel finish



KKCP-09
Lock clip (Allow 2 per metre)
S/Steel finish



KKBK-21
Adjustable bracket (Allow 2 per metre)
Anodised aluminium finish

KKBK-07
Fixing plate (Allow 2 per metre)
Anodised aluminium finish

Connectors

CN54-2P-0300 300mm pair
IP54
2 PIN male + female connector set

CN67-2P-0300 300mm pair
CN67-2P-1000 1000mm pair
CN67-2P-3000 3000mm pair
IP67
2 PIN male + female connector set

Connectors (Continued)

CN54-4P-0300 300mm pair
IP54
4 PIN RGB male + female connector set

CN67-4P-0300 300mm pair
CN67-4P-1000 1000mm pair
CN67-4P-3000 3000mm pair
IP67
4 PIN RGB male + female connector set

visDIM Control Gear Options

IP67
100W 24V
Aluminium housing
L248/W73/H48mm

KKPS-01 1-10V PSU
visDIM dimmable power supply
(See Control Gear)

IP20
Black plastic housing
L164/W64/H34mm

KKDM-04 1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)

MoMo Code Table

s-line

			MoMo 352 MMS352	MoMo 504 MMS504	MoMo 508 MMS508	MoMo RGB MMS501
LED Colour	2300K	N	•	•	•	n/a
	2500K	S	•	•	•	n/a
	2700K	A	•	•	•	n/a
	3000K	P	•	•	•	n/a
	3200K	B	•	•	•	n/a
	3800K	C	•	•	•	n/a
	5000K	D	•	•	•	n/a
	Red	F	•	•	n/a	n/a
	Green	G	•	•	n/a	n/a
	Blue	H	•	•	n/a	n/a
	Orange	I	•	•	n/a	n/a
	Amber	J	•	•	n/a	n/a
	RGB	L	n/a	n/a	n/a	•
IP	IP54	4	•	•	•	•
	IP67[1]	7	•	•	•	•
Connection	300mm IP54 male + female connectors	15	•	•	•	•
	300mm IP67 male + female connectors	05	•	•	•	•
	300mm sheathed single tail	07	•	•	•	•
	300mm sheathed double tails	09	•	•	•	•
	Custom	00	•	•	•	•
Volt	24V	W	•	•	•	•
Length Availability			103.3-2020mm 83.3mm increments	120-2020mm 100mm increments	91.4-2020mm 71.4mm increments	103.3-2020mm 83.3mm increments
Finishes	Silver anodised Diffused cover	A	•	•	•	•
	Silver anodised Clear cover	B	•	•	•	•

[1] Due to the clear, flush potted polyurethane top layer on IP67 MoMo a colour shift of +/-20K should be expected.

Code Example:

MMS504 A 7 05 W 2000 A

MMS504: MoMo 504 | A: 2700K | 7: IP67 | 05: 300mm IP67 male + female connectors | W: 24V | 2000: 2000mm | A: Silver anodised Diffused cover

e-line

			MoMo e352 MME352	MoMo e504 MME504	MoMo e508 MME508
LED Colour	2300K	N	•	•	•
	2500K	S	•	•	•
	2700K	A	•	•	•
	3000K	P	•	•	•
	3200K	B	•	•	•
	3800K	C	•	•	•
	5000K	D	•	•	•
IP	IP54	4	•	•	•
	IP67[1]	7	•	•	•
Connection	300mm IP54 male + female connectors	15	•	•	•
	300mm IP67 male + female connectors	05	•	•	•
	300mm sheathed single tail	07	•	•	•
	300mm sheathed double tails	09	•	•	•
	Custom	00	•	•	•
Volt	24V	W	•	•	•
Length Availability			103.3-2020mm 83.3mm increments	120-2020mm 100mm increments	91.4-2020mm 71.4mm increments
Finishes	Silver anodised Diffused cover	A	•	•	•
	Silver anodised Clear cover	B	•	•	•

[1] Due to the clear, flush potted polyurethane top layer on IP67 MoMo a colour shift of +/-20K should be expected.

Code Example:

MME504 A 7 05 W 2020 A

MME504: MoMo e504 | A: 2700K | 7: IP67 | 05: 300mm IP67 male + female connectors | W: 24V | 2020: 2020mm | A: Silver anodised Diffused cover

MoMo-F

- Compact, IP67 rated and designed for recessed mounting in interior floors.
- Choice of output: from 103 to 373 lumens per metre with ≥90 CRI.
- Fully diffused and available with all our SMD linear LED sources.

s-line

- 2 step package binning.
- Optimum colour consistency for high quality/close proximity lighting.
- White: 2300K/2500K/2700K/3000K/3200K/3800K/5000K.
  Single colours: Red/Green/Blue/Orange/Amber.

e-line

- 3 step package binning.
- Good colour consistency providing an economic choice when mounted over 300mm from the illuminated surface.
- White: 2300K/2500K/2700K/3000K/3200K/3800K/5000K.

Note: To avoid any visible colour differences we advise that s-line and e-line products should not share the same location.

LED strip options


KK352/KKe352

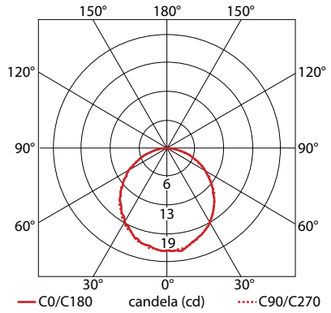

KK504/KKe504


KK508/KKe508


KKRGB

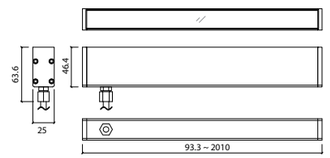
MoMo-F 352s-/e352e-

24V DC | 5.52 W/m | 18.6 lm/W | IP67 | cULus LISTED E356145 | CE



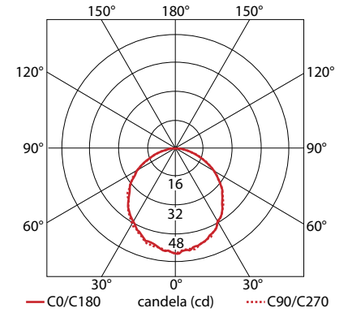
103lm/m

Luminous flux: 102.7lm/m nominal (@ 3200K)
Size: H46.4/W25/L93.3-2010mm (Excluding ground box)
Chip: Toyoda Gosei
Beam angle: Diffused
CRI: ≥90
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 60°C (T_c max = 65°C)
IP rating: IP67
Finish: Silver anodised
Cover/Lens: Diffused
Mounting: Ground recessed
Connection: Hardwire tails or male/female connectors
Control: 1-10V/DMX (see visDIM range)



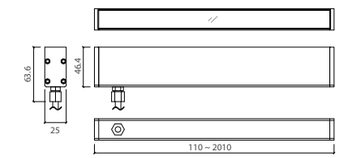
MoMo-F 504s-/e504e-

24V DC | 12.24 W/m | 23.2 lm/W | IP67 | cULus LISTED E356145 | CE



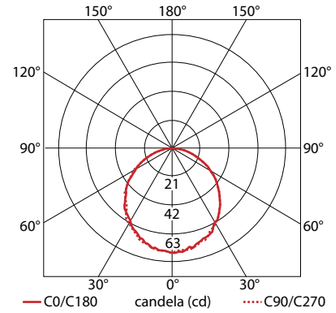
284lm/m

Luminous flux: 284lm/m nominal (@ 3200K)
Size: H46.4/W25/L110-2010mm (Excluding ground box)
Chip: Toyoda Gosei
Beam angle: Diffused
CRI: ≥90
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 60°C (T_c max = 70°C)
IP rating: IP67
Finish: Silver anodised
Cover/Lens: Diffused
Mounting: Ground recessed
Connection: Hardwire tails or male/female connectors
Control: 1-10V/DMX (see visDIM range)



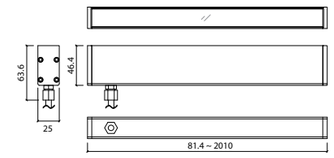
MoMo-F 508s-/e508e-

24V DC | 17.28 W/m | 21.6 lm/W | IP67 | cULus LISTED E356145 | CE



373lm/m

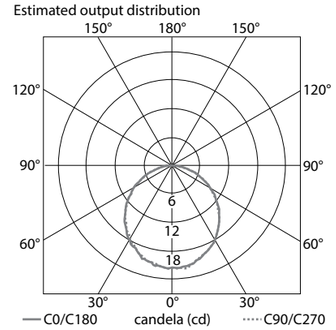
Luminous flux: 373.3lm/m nominal (@ 3200K)
Size: H26.5/W25/L81.4-2010mm (Excluding ground box)
Chip: Toyoda Gosei
Beam angle: Diffused
CRI: ≥90
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 45°C (T_c max = 65°C)
IP rating: IP67
Finish: Silver anodised
Cover/Lens: Diffused
Mounting: Ground recessed
Connection: Hardwire tails or male/female connectors
Control: 1-10V/DMX (see visDIM range)



MoMo-F RGB

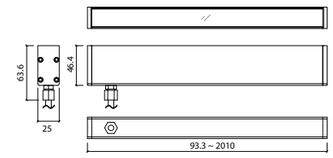
RGB | 24V DC | 15.6 W/m | IP67 | ETL Intertek | CE

Estimated output distribution



15.6W/m

Luminous flux: Red: 20.6lm/m
Green: 67.5lm/m
Blur: 8.6lm/m
White: 106.6lm/m
(Clear cover)
Size: H46.4/W25/L93.3-2010mm (Excluding ground box)
Chip: Red Epistar/Green Samsung/Blue Samsung
Beam angle: Diffused
Colours: Red 620-628nm/Blue 459-464nm/Green 521-527nm
CRI: N/A
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 60°C (T_c max = 70°C)
IP rating: IP67
Finish: Silver anodised
Cover/Lens: Diffused
Mounting: Ground recessed
Connection: Hardwire tails or male/female connectors
Control: DMX (See visDIM range)

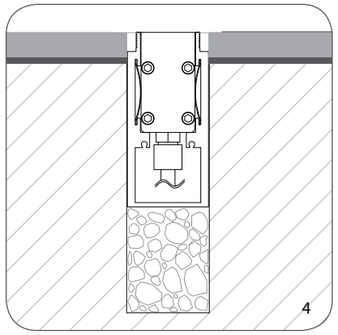


MoMo-F Product Details


1


2


5

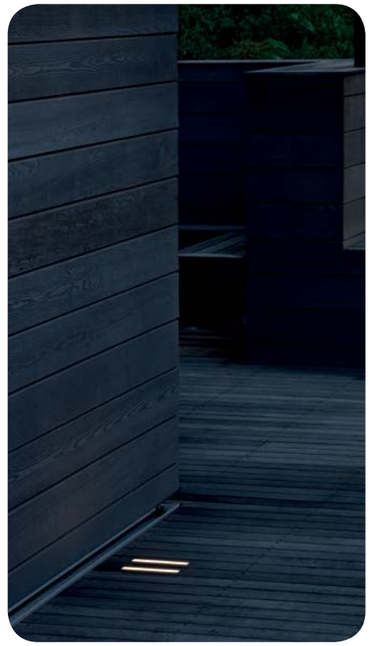

4

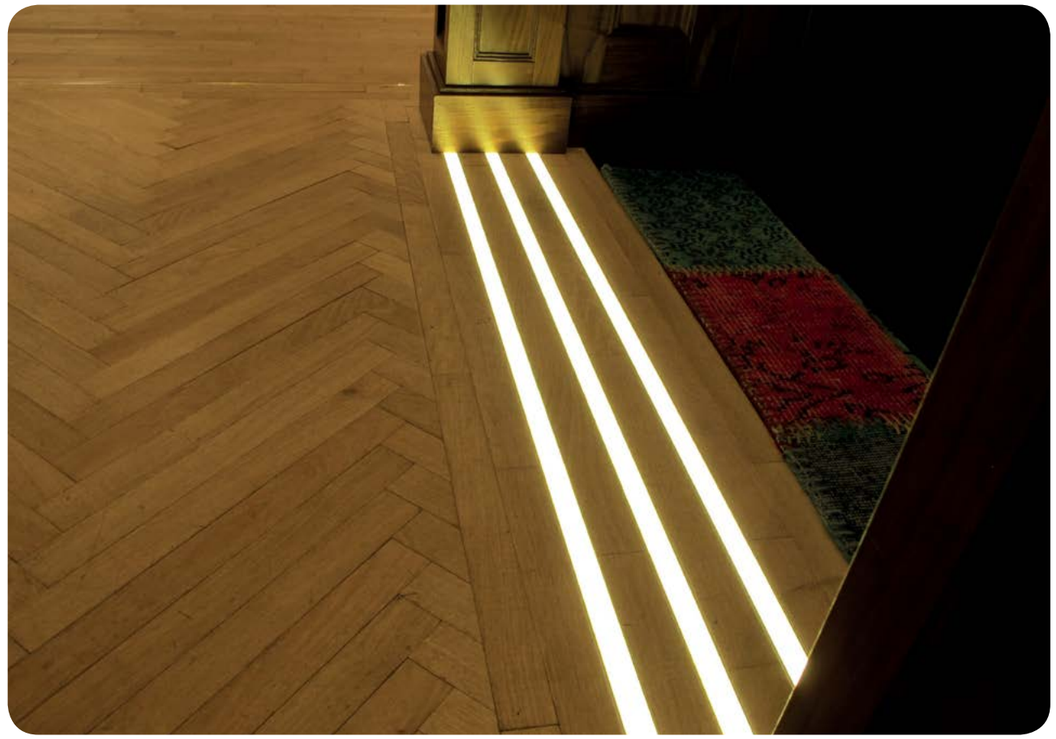

3

1. MoMo-F with ground box
2. Homegenous lighting with all LED strip options
3. Cable exit with stainless steel cable gland
4. Typical recessed ground installation
5. Ground box cover plate

Opposite page Top Left:
Beach Pavilions, Waiheke Island
Architect: Young+Richards
KKDC New Zealand
Photography: Simon Devitt

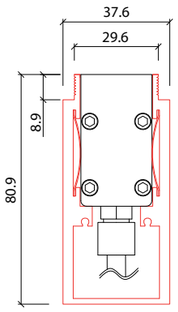
Opposite page Below:
Tommy Hilfiger Store, Paris





MoMo-F Accessories

Mounting Options



KKFR-03*
Ground box
Anodised aluminium finish
* Specify length to match MoMo-F

Connectors

CN67-2P-0300 300mm pair
CN67-2P-1000 1000mm pair
CN67-2P-3000 3000mm pair
IP67
2 PIN male + female connector set

CN67-4P-0300 300mm pair
CN67-4P-1000 1000mm pair
CN67-4P-3000 3000mm pair
IP67
4 PIN RGB male + female connector set

visDIM Control Gear Options

IP67
100W 24V
Aluminium housing
L248/W73/H48mm

KKPS-01 1-10V PSU
visDIM dimmable power supply
(See Control Gear)

IP20
Black plastic housing
L164/W64/H34mm

KKDM-04 1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)

MoMo-F Code Table

s-line

			MoMo-F 352 MFS352	MoMo-F 504 MFS504	MoMo-F 508 MFS508	MoMo-F RGB MFS501
LED Colour	2300K	N	•	•	•	n/a
	2500K	S	•	•	•	n/a
	2700K	A	•	•	•	n/a
	3000K	P	•	•	•	n/a
	3200K	B	•	•	•	n/a
	3800K	C	•	•	•	n/a
	5000K	D	•	•	•	n/a
	Red	F	•	•	n/a	n/a
	Green	G	•	•	n/a	n/a
	Blue	H	•	•	n/a	n/a
	Orange	I	•	•	n/a	n/a
	Amber	J	•	•	n/a	n/a
	RGB	L	n/a	n/a	n/a	•
IP	IP67	7	•	•	•	•
Connection	300mm IP67 male + female connectors	05	•	•	•	•
	1000mm sheathed single tail	08	•	•	•	•
	1000mm sheathed double tail	16	•	•	•	•
	Custom	00	•	•	•	•
Volt	24V	W	•	•	•	•
Length Availability			93.3-2010mm 83.3mm increments	110-2010mm 100mm increments	81.4-2010mm 71.4mm increments	93.3-2010mm 83.3mm increments
Finish	Silver anodised Diffused cover	A	•	•	•	•

Code Example:

MFS504 | A | 7 | 05 | W | 2010 | A

- MFS504: MoMo-F 504
- A: 2700K
- 7: IP67
- 05: 300mm IP67 male + female connectors
- W: 24V
- 2010: 2010mm
- A: Silver anodised Diffused cover

e-line

			MoMo-F e352 MFE352	MoMo-F e504 MFE504	MoMo-F e508 MFE508
LED Colour	2300K	N	•	•	•
	2500K	S	•	•	•
	2700K	A	•	•	•
	3000K	P	•	•	•
	3200K	B	•	•	•
	3800K	C	•	•	•
	5000K	D	•	•	•
IP	IP67	7	•	•	•
Connection	300mm IP67 male + female connectors	05	•	•	•
	1000mm sheathed single tail	08	•	•	•
	1000mm sheathed double tails	16	•	•	•
	Custom	00	•	•	•
Volt	24V	W	•	•	•
Length Availability			93.3-2010mm 83.3mm increments	110-2010mm 100mm increments	81.4-2010mm 71.4mm increments
Finish	Silver anodised Diffused cover	A	•	•	•

Code Example:

MFE504 | A | 7 | 05 | W | 2010 | A

- MFE504: MoMo-F e504
- A: 2700K
- 7: IP67
- 05: 300mm IP67 male + female connectors
- W: 24V
- 2010: 2010mm
- A: Silver anodised Diffused cover

SUMO

series

SUMO

- Robust, large luminaire for interior and exterior applications.
- Integrated 220-240V power supply for simple installation and optional internal 1-10V control module.
- Powerful output 1691lm/m (Clear cover), in a full range of white colour temperatures with ≥90 CRI.

s-line

- 2 step package binning.
- Optimum colour consistency for high quality/close proximity lighting.
- White: 2300K/2500K/2700K/3000K/3200K/3800K/5000K.
  Single colours: Red/Green/Blue/Orange/Amber.

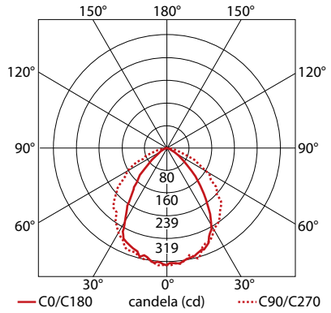
e-line

- 3 step package binning.
- Good colour consistency providing an economic choice when mounted over 300mm from the illuminated surface.
- White: 2300K/2500K/2700K/3000K/3200K/3800K/5000K.

Note: To avoid any visible colour differences we advise that s-line and e-line products should not share the same location.

SUMO 504s/e504e

220 ~ 240V AC | 34.1 W/m | ≤49.6 lm/W | IP54/67 | CE



1691lm/m

Luminous flux: 1691.4lm/m nominal (@ 3200K + Clear cover)

Size: H53.2/W50/L520, 1020, 1520, 2020mm

Chip: Toyoda Gosei

Beam angle: 75° (Clear cover)

CRI: ≥90

Lifetime: 50,000 hours @ 25°C

Operating temp: T_a = -25 to 60°C (T_c max = 65°C)

IP rating: IP54/IP67

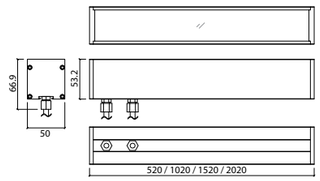
Finish: Silver anodised

Cover/Lens: Diffused/Clear

Mounting: Surface mounting via brackets

Connection: Hardwire tails

Control: Integral 1-10V/switched



SUMO Product Details

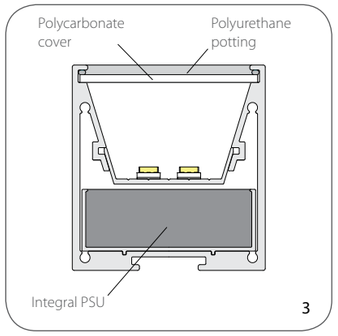

1


5


2

1. SUMO 504 with clear cover
2. SUMO with small adjustable angle bracket
3. SUMO section diagram
4. Diffused cover for homogenous lighting
5. Single cable exit gland (dimmable version has two cable glands)


4

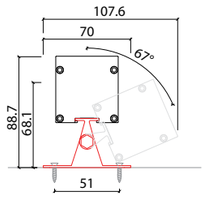


3

2012 YEOSU Expo, South Korea
Lighting Design: Bitzro

SUMO Accessories

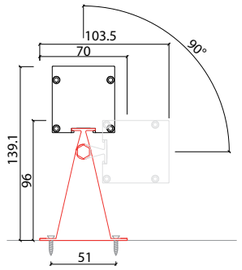
Mounting Options



KKBK-16

Small adjustable bracket
(Allow 2 per metre)

Silver anodised aluminium finish



KKBK-17

Large adjustable bracket
(Allow 2 per metre)

Silver anodised aluminium finish

SUMO Code Table

s-line

			SUMO 504 SUS504
LED Colour	2300K	N	•
	2500K	S	•
	2700K	A	•
	3000K	P	•
	3200K	B	•
	3800K	C	•
	5000K	D	•
	Red	F	•
	Green	G	•
	Blue	H	•
	Orange	I	•
	Amber	J	•
IP	IP54	4	•
	IP67[1]	7	•
Connection	1000mm sheathed single tail[2]	08	•
	Custom	00	•
Volt	220-240V AC	M	•
Length Availability			520/1020/1520 2020mm
Finishes	Silver anodised Diffused cover	A	•
	Silver anodised Clear cover	B	•
Control	Switched	N	•
	Integral 1-10V[2]	T	•

[1] Due to the clear, flush potted polyurethane top layer on IP67 SUMO a colour shift of +/-20K should be expected.

[2] 1-10V version has two cable exits: 1000mm power connection & 1000mm dimming connection.

Code Example:

SUS504 A 7 08 M 1020 A N

SUMO 504 | 2700K | IP67 | 1000mm sheathed single tail | 220-240V AC | 1020mm | Silver anodised Diffused cover | Switched

e-line

			SUMO e504 SUE504
LED Colour	2300K	N	•
	2500K	S	•
	2700K	A	•
	3000K	P	•
	3200K	B	•
	3800K	C	•
	5000K	D	•
IP	IP54	4	•
	IP67[1]	7	•
Connection	1000mm sheathed single tail[2]	08	•
	Custom	00	•
Volt	220-240V AC	M	•
Length Availability			520/1020/1520 2020mm
Finishes	Silver anodised Diffused cover	A	•
	Silver anodised Clear cover	B	•
Control	Switched	N	•
	Integral 1-10V	T	•

[1] Due to the clear, flush potted polyurethane top layer on IP67 SUMO a colour shift of +/-20K should be expected.

[2] 1-10V version has two cable exits: 1000mm power connection & 1000mm dimming connection.

Code Example:

SUE504 A 7 08 M 1020 A N

SUMO e504 | 2700K | IP67 | 1000mm sheathed single tail | 220-240V AC | 1020mm | Silver anodised Diffused cover | Switched

FX series

FX

- Flexible linear strip for concealed lighting applications.
- Silicone sheathed IP65 rated variant also available.
- Full range of ≥90 CRI white colour temperatures and RGB or single colours.

s-line

- 2 step package binning.
- Optimum colour consistency for high quality/close proximity lighting.
- White: 2300K/2500K/2700K/3000K/ 3200K/3800K/5000K.
  Single colours: Red/Green/Blue/ Orange/Amber.

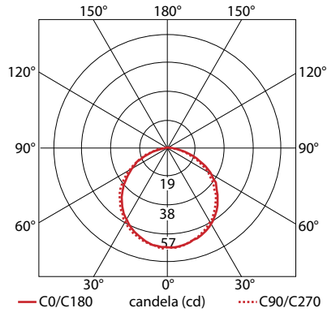
e-line

- 3 step package binning.
- Good colour consistency providing an economic choice when mounted over 300mm from the illuminated surface.
- White: 2300K/2500K/2700K/3000K/ 3200K/3800K/5000K.

Note: To avoid any visible colour differences we advise that s-line and e-line products should not share the same location.

FX s-/eFX e-

24V DC | 6.96 W/m | ≤50.1 lm/W | IP20/65



349lm/m

Luminous flux: 348.7lm/m nominal (@ 3200K, IP20)

Size: H2.2/W10/L125-7000mm (IP20)
H5.5/W14/L127-7002mm (IP65 – Excluding fixings)
(Power connection solder points every 125mm, cut point every 62.5mm)

Chip: Toyoda Gosei

Beam angle: 110°

CRI: ≥90

Lifetime: 50,000 hours @ 25°C

Operating temp: T_a = -25 to 50°C (T_c max = 67°C)

IP rating: IP20/IP65

Finish: N/A

Cover/Lens: IP65 version with silicone sheathed cover

Mounting: 3M adhesive tape (IP20), surface mounting clips (IP65)

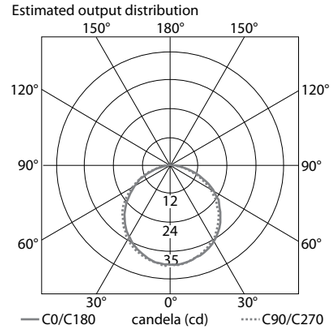
Connection: Hardwire tails or male/female connectors

Control: 1-10V/DMX (see visDIM range)

FX RGB

RGB | 24V DC | 9.84 W/m | IP20/65

Estimated output distribution



9.84W/m

Luminous flux: Red: 54.2lm/m
Green: 142.1lm/m
Blue: 22.8lm/m
White: 216lm/m (IP20)

Size: H1.9/W11.8/L125-7000mm (IP20)
H5.5/W16/L127-7002mm (IP65 – Excluding fixings)
(Power connection possible at 125mm, cut point every 62.5mm)

Chip: Red Epistar/Green Samsung/Blue Samsung

Beam angle: 110°

Colours: Red 620-628nm/Blue 459-464nm/Green 521-527nm (5nm tolerance)

CRI: N/A

Lifetime: 50,000 hours @ 25°C

Operating temp: T_a = -25 to 50°C (T_c max = 78°C)

IP rating: IP20/IP65

Finish: N/A

Cover/Lens: IP65 version with silicone sheathed cover

Mounting: 3M adhesive tape (IP20), surface mounting clips (IP65)

Connection: Hardwire tails or male/female connectors

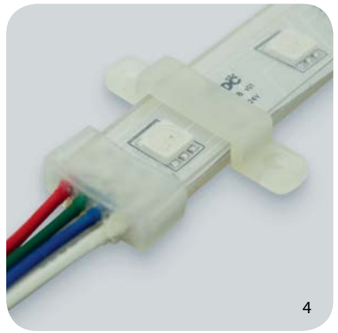
Control: DMX (see visDIM range)

FX Product Details


1


2


3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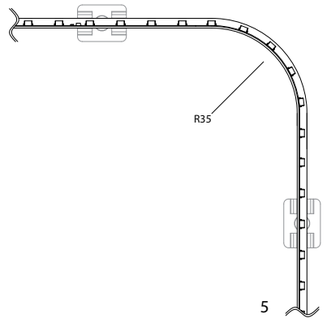

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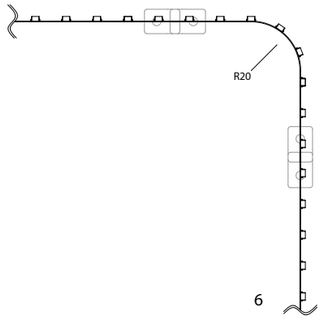
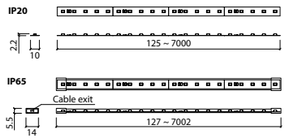


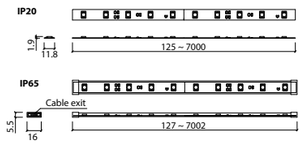
6

1. IP65 FX with side mounting clip
2. IP65 s-line and e-line FX with silicone brackets
3. FX RGB and IP65 FX RGB
4. IP65 FX RGB end cap with cable exit
5. IP65 FX/IP65 FX RGB minimum bend radius
6. FX/FX RGB minimum bend radius

FX Drawing



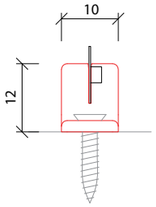
FX RGB Drawing



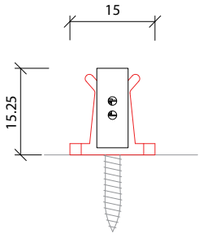
Qantas Lounge, Australia
Lighting Design: Point Of View

FX Accessories

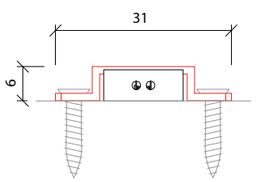
Mounting Options



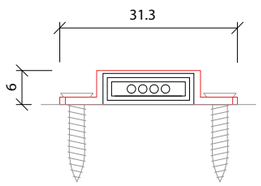
KKCP-07
Side clip (Allow 4 per metre)
White plastic



KKCP-08
IP65 side clip (Allow 4 per metre)
Clear plastic



KKBK-14
IP65 silicone bracket
(Allow 4 per metre)
Translucent silicone



KKBK-18
IP65 RGB silicone bracket
(Allow 4 per metre)
Translucent silicone

Connectors

KKCN-01 50mm pair
KKCN-03 300mm pair
2 PIN male + female connector set

KKCN-07 50mm pair
KKCN-09 300mm pair
4 PIN RGB male + female connector set

Connectors (continued)

KKCN-06
2 PIN 300mm extension lead

KKCN-11
4 PIN RGB 300mm extension lead

visDIM Power/Control Options

IP67
100W 24V
Aluminium housing
L248/W73/H48mm

KKPS-01 1-10V PSU
visDIM dimmable power supply
(See Control Gear)

IP20
Black plastic housing
L164/W64/H34mm

KKDM-04 1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)

FX Code Table

s-line

			FX FXS902	FX RGB FXS301
LED Colour	2300K	N	•	n/a
	2500K	S	•	n/a
	2700K	A	•	n/a
	3000K	P	•	n/a
	3200K	B	•	n/a
	3800K	C	•	n/a
	5000K	D	•	n/a
	Red	F	•	n/a
	Green	G	•	n/a
	Blue	H	•	n/a
	Orange	I	•	n/a
	Amber	J	•	n/a
	RGB	L	n/a	•
IP	IP20	0	•	•
	IP65[1]	5	•	•
Connection	50mm male + female connectors[2]	01	•	•
	300mm male + female connectors[2]	02	•	•
	300mm single tail	03	•	•
	300mm double tail	04	•	•
	Custom	00	•	•
Volt	24V	W	•	•
Length Availability	IP20		125-7000mm 62.5mm increments	125-7000mm 125mm increments
	IP65		127-7002mm 62.5mm increments	127-7002mm 125mm increments

[1] External dimensions of IP65 version increase slightly due to silicone sleeve cover.
IP65 variant only available with tail options.
IP65 requires silicone mounting solutions, please see accessories.

[2] Not available for IP65.

Code Example:

FXS902 A 0 02 W 1000

FXS902 — FX
A — 2700K
0 — IP20
02 — 300mm male + female connectors
W — 24V
1000 — 1000mm

e-line

			eFX FXE902
LED Colour	2300K	N	•
	2500K	S	•
	2700K	A	•
	3000K	P	•
	3200K	B	•
	3800K	C	•
	5000K	D	•
IP	IP20	0	•
	IP65[1]	5	•
Connection	50mm male + female connectors[2]	01	•
	300mm male + female connectors[2]	02	•
	300mm single tail	03	•
	300mm double tail	04	•
	Custom	00	•
Volt	24V	W	•
Length Availability	IP20		125-7000mm 62.5mm increments
	IP65		127-7002mm 62.5mm increments

[1] External dimensions of IP65 version increase slightly due to silicone sleeve cover.
IP65 variant only available with tail options.
IP65 requires silicone mounting solutions, please see accessories.

[2] Not available for IP65.

Code Example:

FXE902 A 0 02 W 1000

FXE902 — eFX
A — 2700K
0 — IP20
02 — 300mm male + female connectors
W — 24V
1000 — 1000mm

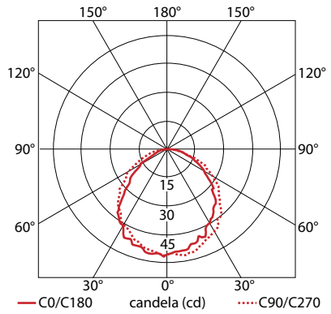
KKFS series

KKFS

- Side emitting, flexible linear strip for concealed lighting applications.
- Silicone sheathed IP65 rated variant also available.

KKFS

24V DC | 6.15 W/m | ≤43.7 lm/W | IP20/65



269lm/m

Luminous flux: 268.8lm/m nominal (@ 2800K IP20)

Size: H1.3/W10/L125-7000mm (IP20)
H5.5/W14/L127-7002mm (IP65 – Excluding fixings)
(Power connection possible at 125mm, cut point every 62.5mm)

Chip: Cree

Beam angle: 105°

Colour: 2800K/3800K/6500K

Bin/Step: 3 step MacAdam ellipse

CRI: ≥65

Lifetime: 50,000 hours @ 25°C

Operating temp: T_a = -25 to 50°C (T_c max = 65°C)

IP rating: IP20/IP65

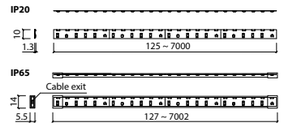
Finish: N/A

Cover/Lens: IP65 version with silicone sheathed cover

Mounting: 3M adhesive tape (IP20), surface mounting clips (IP65)

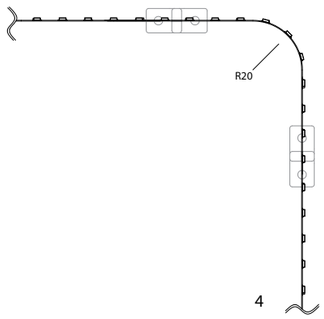
Connection: Hardwire tails or male/female connectors

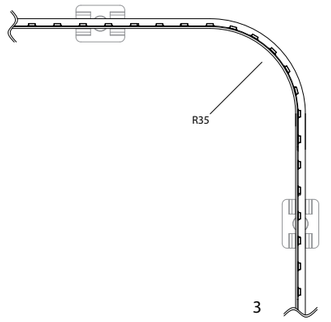
Control: 1-10V/DMX (see visDIM range)

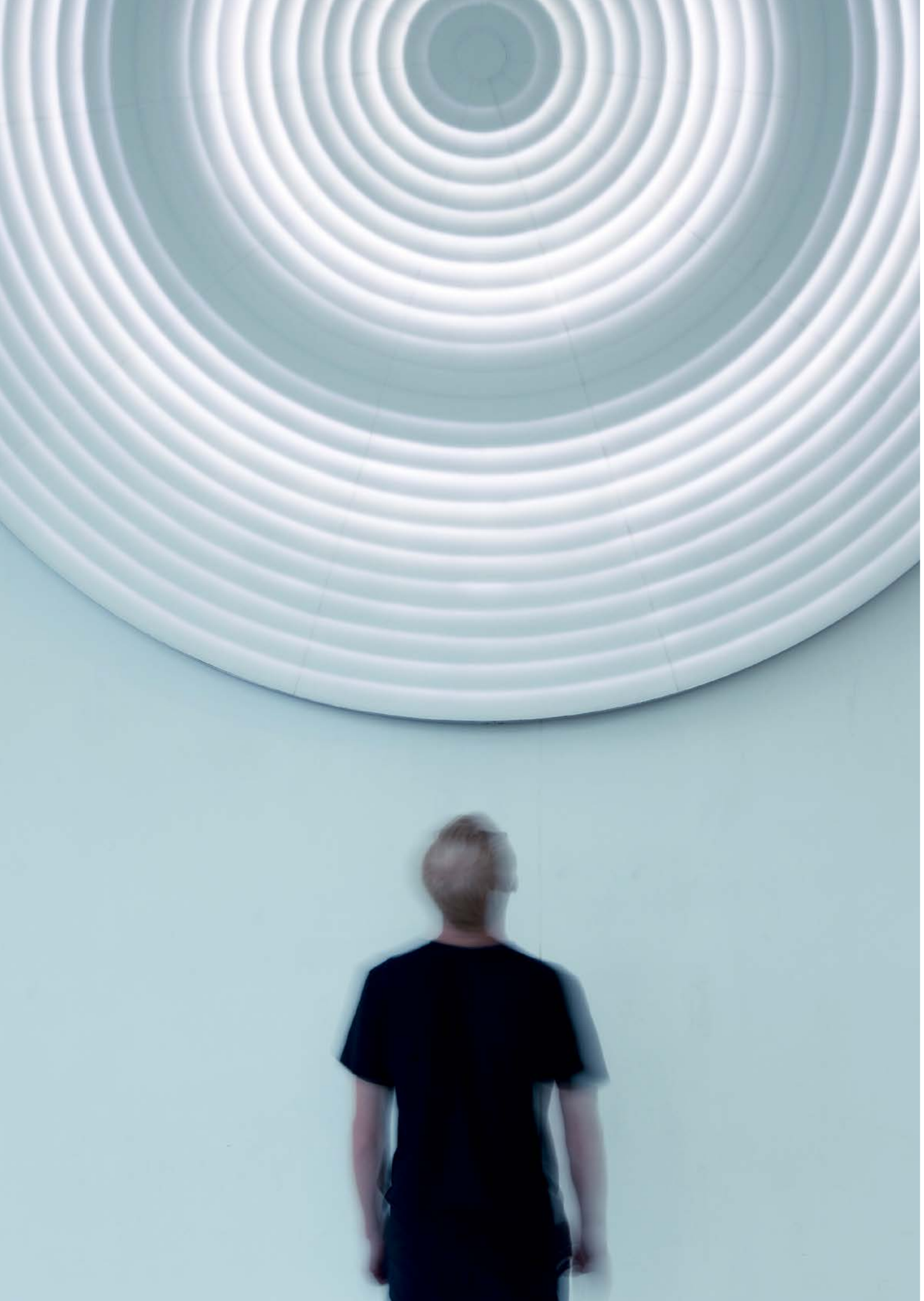


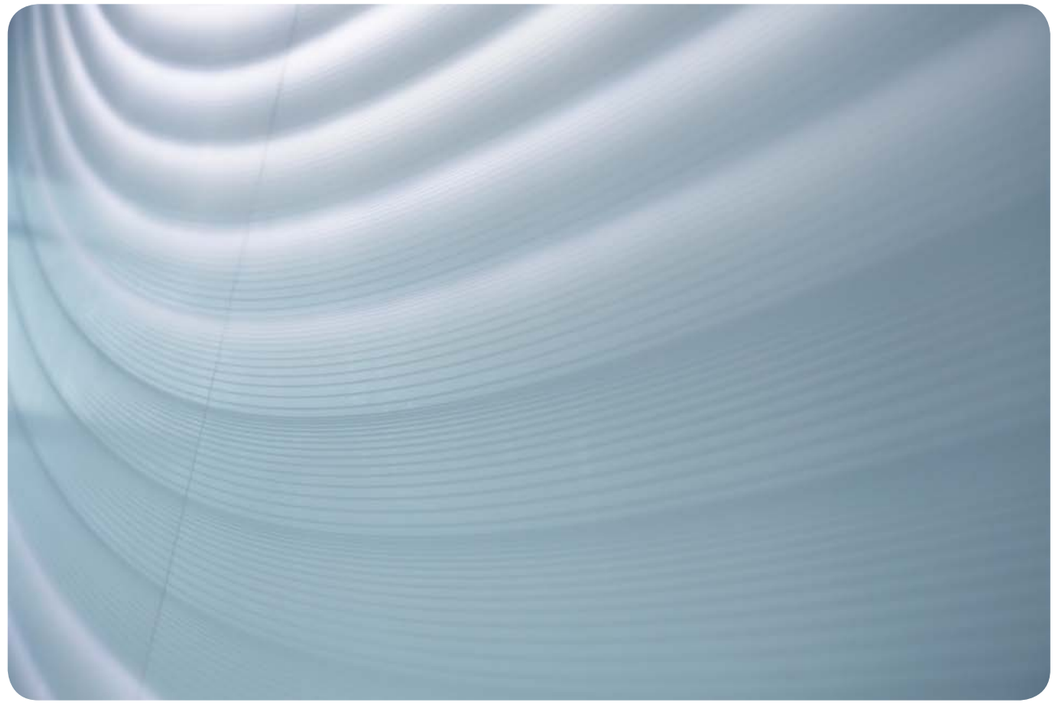
KKFS Product Details

1. Self-adhesive IP20 KKFS side emitting LED
2. Flexible KKFS with integral heat-sink
3. IP65 KKFS minimum bend radius
4. KKFS minimum bend radius
5. KKFS mounting clip





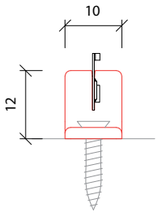




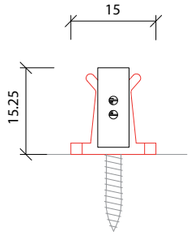
Above & Opposite page:
Artwork by United Visual Artists
Commissioned by Hengrove Park Leisure Centre

KKFS Accessories

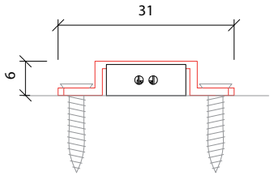
Mounting Options



KKCP-07
Clip (Allow 4 per metre)
White plastic



KKCP-08
IP65 clip (Allow 4 per metre)
Clear plastic



KKBK-14
IP65 silicone bracket
(Allow 4 per metre)
Translucent silicone

Connectors

KKCN-01 50mm pair
KKCN-03 300mm pair
2 PIN male + female connector set

KKCN-06
2 PIN 300mm extension lead

visDIM Power/Control Options

IP67
100W 24V
Aluminium housing
L248/W73/H48mm

KKPS-01 1-10V PSU
visDIM dimmable power supply
(See Control Gear)

IP20
Black plastic housing
L164/W64/H34mm

KKDM-04 1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)

1885 Bar, KKDC New Zealand

KKFS Code Table

			KKFS FSS112
LED Colour	2800K	K	•
	3800K	C	•
	6500K	E	•
IP	IP20	0	•
	IP65[1]	5	•
Connection	50mm male + female connectors[2]	01	•
	300mm male + female connectors[2]	02	•
	300mm single tail	03	•
	300mm double tail	04	•
	Custom	00	•
Volt	24V	W	•
Length Availability	IP20		125-7000mm 62.5mm increments
	IP65		127-7002mm 62.5mm increments

1 External dimensions of IP65 version increase slightly due to silicone sleeve cover. IP65 requires silicone mounting solutions, please see accessories.

2 Not available for IP65 variant.

Code Example:

FSS112	K	0	02	W	1000
KKFS	2800K	IP20	300mm male + female connectors	24V	1000mm

luna series

Duo Luna

- A versatile, cost effective, flexible light source for backlighting and concealed illumination.
- Polycarbonate casings, hardwired with a choice of 9 or 13 modules per metre (229 or 331lm/m)
- Available with a full range of white colour temperatures (≥90 CRI) and in single colours or RGB.
- IP68 version with resin encapsulation and ultrasonic case welding for superior protection.

s-line

- 2 step package binning.
- Optimum colour consistency for high quality/close proximity lighting.
- White: 2300K/2500K/2700K/3000K/3200K/3800K/5000K.
  Single colours: Red/Green/Blue/Orange/Amber.

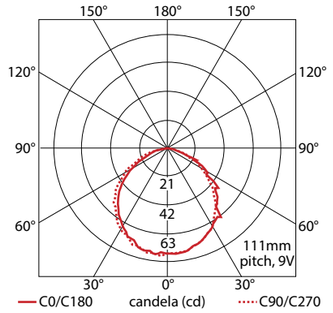
e-line

- 3 step package binning.
- Good colour consistency providing an economic choice when mounted over 300mm from the illuminated surface.
- White: 2300K/2500K/2700K/3000K/3200K/3800K/5000K.

Note: To avoid any visible colour differences we advise that s-line and e-line products should not share the same location.

Duo Luna s-/eDuo Luna e-

9/12V DC | 5.27/3.65 W/m | ≤62.8 lm/W | IP40/65/68 | ETL Intertek | CE



331lm/m (77mm pitch)
229lm/m (111mm pitch)

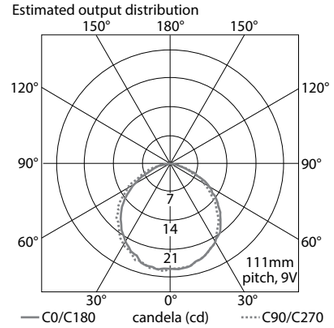
Luminous flux:	331lm/m nominal (@3200K, 77mm pitch)
Module Size:	H10.7/W22.45/L60mm 111mm pitch = 9 modules per metre 77mm pitch = 13 modules per metre
Chip:	Toyoda Gosei
Beam angle:	105°
CRI:	≥90
Lifetime:	50,000 hours @ 25°C
Operating temp:	T_a = -25 to 50°C (T_c max = 65°C)
IP rating:	IP40/IP65/IP68
Finish:	Polycarbonate
Cover/Lens:	Clear
Mounting:	3M adhesive tape (IP40/65), Screw fixing (IP68)
Minimum bend radius:	130° (77mm pitch) 180° (111mm pitch)
Connection:	Hardwire single/double ended sheathed tail
Control:	1-10V/DMX (see visDIM range)

Note: Performance data for 9V operation

Duo Luna RGB

RGB | 12V DC | 7.8/5.4 W/m | IP40/65/68 | CE

Estimated output distribution



7.8W/m (77mm pitch)
5.4W/m (111mm pitch)

Luminous flux:	Red: 28lm/m Green: 84.1lm/m Blue: 14.2lm/m White: 124.7lm/m (77mm pitch)
Module Size:	H10.7/W 22/L60mm 111mm pitch = 9 modules per metre 77mm pitch = 13 modules per metre
Chip:	Red Epistar/Green Samsung/Blue Samsung
Beam angle:	105°
Colours:	Red 620-628nm/Blue 459-464nm/Green 521-527nm
CRI:	N/A
Lifetime:	50,000 hours @ 25°C
Operating temp:	T_a = -25 to 50°C (T_c max = 65°C)
IP rating:	IP40/IP65/IP68
Finish:	Polycarbonate
Cover/Lens:	Clear
Mounting:	3M adhesive tape (IP40/65), Screw fixing (IP68)
Minimum bend radius:	20° (77mm pitch) 45° (111mm pitch)
Connection:	Hardwire single/double ended sheathed tail
Control:	DMX (see visDIM range)

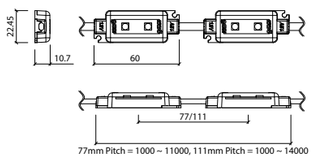
Duo Luna Product Details

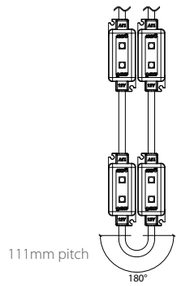

1

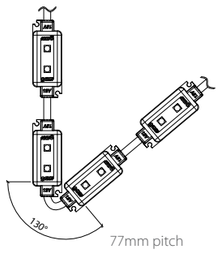

3


2

Duo Luna Drawing (12V)

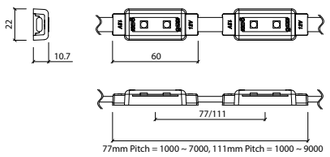


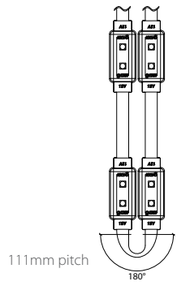


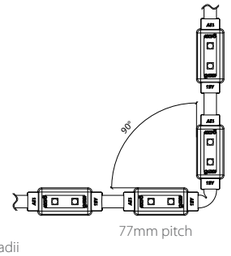


Minumum bend radii

Duo Luna RGB Drawing (12V)







RGB Minumum bend radii

1. IP40 Duo Luna with self-adhesive backing
2. IP68 Duo Luna for waterproof protection
3. Colour coded PCB printing for s-line, e-line and single colour

Britomart Showcase, Auckland
Architect: Cheshire and Assembly Architects
Lighting Design: Lightworks

Quadro Luna

- Higher output, cost effective, flexible light source for backlighting and concealed illumination.
- Polycarbonate casings hardwired with a choice of 9 or 13 modules per metre (441 or 643lm/m).
- Available with a full range of white colour temperatures (≥90 CRI) and in single colours or RGB.
- IP68 version with resin encapsulation and ultrasonic case welding for superior protection.

s-line

- 2 step package binning.
- Optimum colour consistency for high quality/close proximity lighting.
- White: 2300K/2500K/2700K/3000K/3200K/3800K/5000K.
  Single colours: Red/Green/Blue/Orange/Amber.

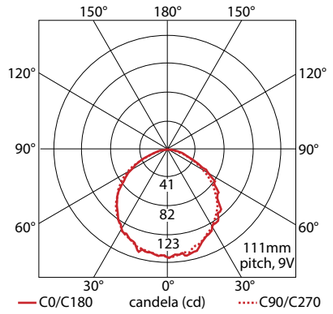
e-line

- 3 step package binning.
- Good colour consistency providing an economic choice when mounted over 300mm from the illuminated surface.
- White: 2300K/2500K/2700K/3000K/3200K/3800K/5000K.

Note: To avoid any visible colour differences we advise that s-line and e-line products should not share the same location.

Quadro Luna s- / eQuadro Luna e-

9/12V DC | 10.5/7.2 W/m | 61.2 lm/W | IP40/65/68 | Intertek | CE



643lm/m (77mm pitch)
441lm/m (111mm pitch)

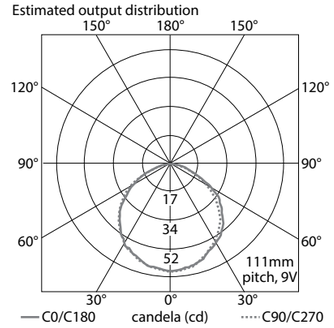
Luminous flux:	642.6lm/m nominal (@3200K, 13module/m)
Module Size:	H10.8/W40/L56.7mm 111mm pitch = 9 modules per metre 77mm pitch = 13 modules per metre
Chip:	Toyoda Gosei
Beam angle:	110°
CRI:	≥90
Lifetime:	50,000 hours @ 25°C
Operating temp:	T_a = -25 to 50°C (T_c max = 68°C)
IP rating:	IP40/IP65/IP68
Finish:	Polycarbonate
Cover/Lens:	Clear
Mounting:	3M adhesive tape (IP40/65), Screw fixing (IP68)
Minimum bend radius:	90°(77mm pitch)/ 180°(111mm pitch)
Connection:	Hardwire single/double ended sheathed tail
Control:	1-10V/DMX (see visDIM range)

Note: Performance data for 9V operation

Quadro Luna RGB

RGB | 12V DC | 14.04/9.72 W/m | IP40/65/68 | Intertek | CE

Estimated output distribution



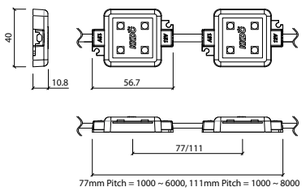
14.04W/m (77mm pitch)
9.72W/m (111mm pitch)

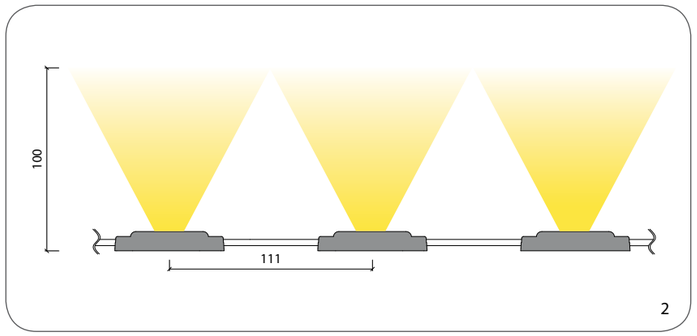
Luminous flux:	Red: 61.1lm/m Green: 186.5lm/m Blue: 34.6lm/m White: 268.7lm/m (77mm pitch)
Module Size:	H10.8/W40/L56.7mm 111mm pitch = 9 modules per metre 77mm pitch = 13 modules per metre
Chip:	Red Epistar/Green Samsung/Blue Samsung
Beam angle:	110°
Colours:	Red 620-628nm/Blue 459-464nm/Green 521-527nm
CRI:	N/A
Lifetime:	50,000 hours @ 25°C
Operating temp:	T_a = -25 to 50°C (T_c max = 68°C)
IP rating:	IP40/IP65/IP68
Finish:	Polycarbonate
Cover/Lens:	Clear
Mounting:	3M adhesive tape (IP40/65), Screw fixing (IP68)
Connection:	Hardwire single/double ended sheathed tail
Control:	DMX (see visDIM range)

Quadro Luna Product Details

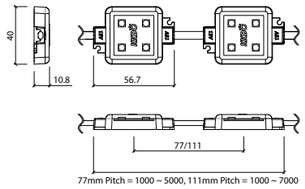
1. Quadro Luna with self-adhesive backing
2. Back lighting minimun distance diagram

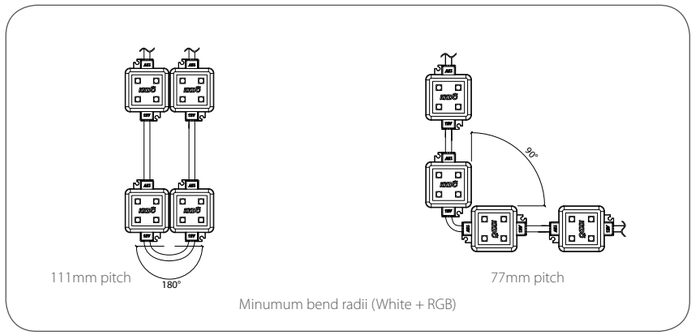
Quadro Luna Drawing (12V)

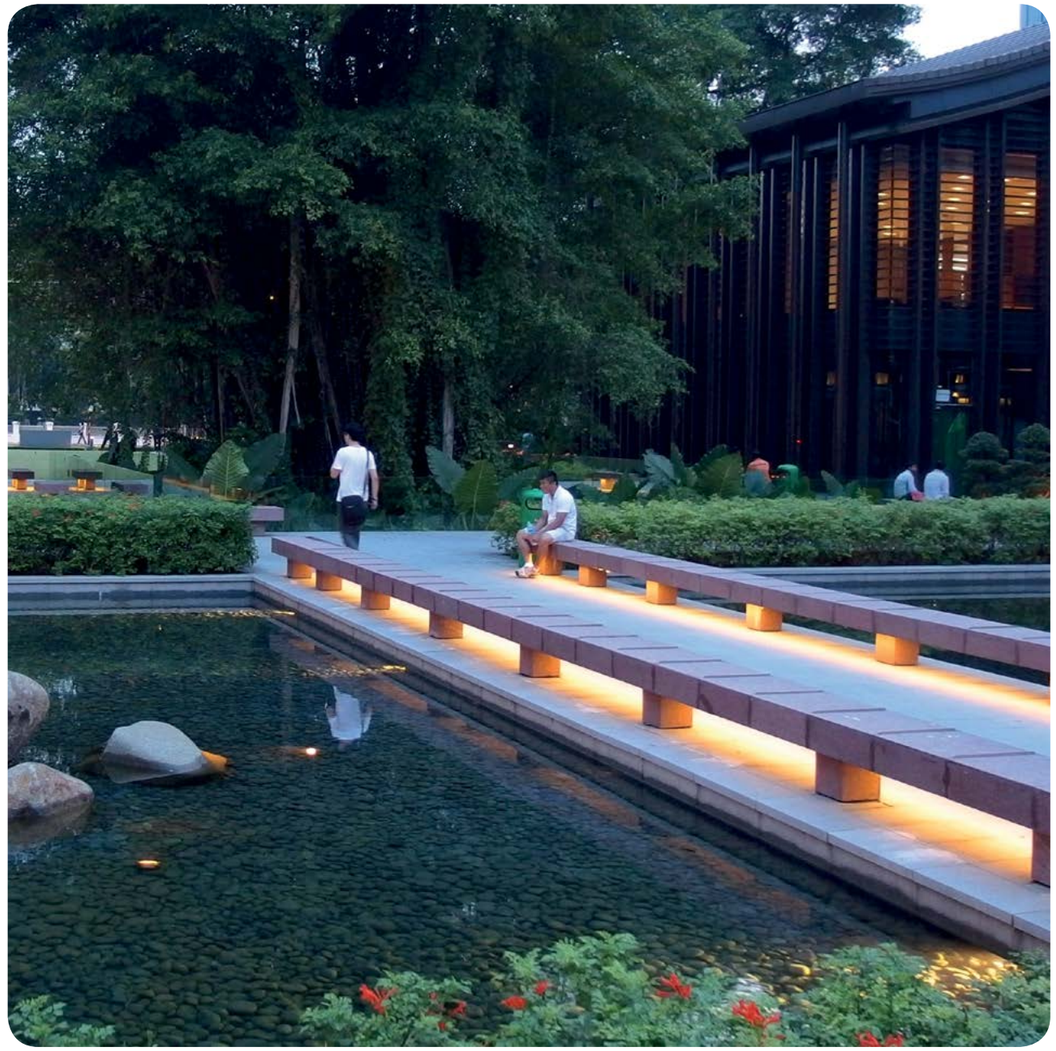




Quadro Luna RGB Drawing (12V)







Above:
Zhongshan Park, China
Lighting Design: iLAB
Image © iLAB

Corinthia Hotel, London
Lighting Design International

Luna Accessories

visDIM Power/Control Options

IP20
Black plastic housing
L164/W64/H34mm

KKDM-04 1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)

PSU Options

30W
9V DC
IP64
White plastic housing
H30/W47/L145mm

KKM309-CV
Non-dimmable
Constant voltage PSU
Standards: RU/CE

60W
9V DC
IP64
White plastic housing
H35/W61.5/L181mm

KKM609-CV
Non-dimmable
Constant voltage PSU
Standards: RU/CE

Luna Code Table

s-line

			Duo Luna DLS204	Quadro Luna QLS404	Duo Luna RGB DLS201	Quadro Luna RGB QLS401
LED Colour	2300K	N	•	•	n/a	n/a
	2500K	S	•	•	n/a	n/a
	2700K	A	•	•	n/a	n/a
	3000K	P	•	•	n/a	n/a
	3200K	B	•	•	n/a	n/a
	3800K	C	•	•	n/a	n/a
	5000K	D	•	•	n/a	n/a
	Red	F	•	•	n/a	n/a
	Green	G	•	•	n/a	n/a
	Blue	H	•	•	n/a	n/a
	Orange	I	•	•	n/a	n/a
	Amber	J	•	•	n/a	n/a
	RGB	L	n/a	n/a	•	•
IP	IP40	1	•	•	•	•
	IP65	5	•	•	•	•
	IP68	8	•	•	•	•
Connection	100mm sheathed single tail[1]	14	•	•	•	•
	100mm sheathed double tails[1]	06	•	•	•	•
	1000mm sheathed single tail	08	•	•	•	•
	1000mm sheathed double tails	16	•	•	•	•
	Custom	00	•	•	•	•
Volt	9/12V	Y	•	•	•	•
Length Availability	9V	111mm pitch	1000-5000mm	1000-3000mm	n/a	n/a
		77mm pitch	1000-4000mm	1000-2000mm	n/a	n/a
	12V	111mm pitch	1000-14000mm	1000-8000mm	1000-9000mm	1000-7000mm
		77mm pitch	1000-11000mm	1000-6000mm	1000-7000mm	1000-5000mm
Pitch	111mm Module Pitch[2]	1	•	•	•	•
	77mm Module Pitch[3]	7	•	•	•	•

[1] Not available for IP68 variant
[2] 9 modules per metre @ 111mm pitch
[3] 13 modules per metre @ 77mm pitch

Code Example:

DLS204 | A | 1 | 14 | Y | 1000 | 1

Duo Luna | 2700K | IP40 | 100mm sheathed single tails | 9/12V | 1000mm | 111mm Module Pitch

e-line

			eDuo Luna DLE204	eQuadro Luna QLE404
LED Colour	2300K	N	•	•
	2500K	S	•	•
	2700K	A	•	•
	3000K	P	•	•
	3200K	B	•	•
	3800K	C	•	•
	5000K	D	•	•
IP	IP40	1	•	•
	IP65	5	•	•
	IP68	8	•	•
Connection	100mm sheathed single tail[1]	14	•	•
	100mm sheathed double tails[1]	06	•	•
	1000mm sheathed single tail	08	•	•
	1000mm sheathed double tails	16	•	•
	Custom	00	•	•
Volt	9/12V	Y	•	•
Length Availability	9V	111mm pitch	1000-5000mm	1000-3000mm
		77mm pitch	1000-4000mm	1000-2000mm
	12V	111mm pitch	1000-14000mm	1000-8000mm
		77mm pitch	1000-11000mm	1000-6000mm
Pitch	111mm Module Pitch[2]	1	•	•
	77mm Module Pitch[3]	7	•	•

[1] Not available for IP68 variant
[2] 9 modules per metre @ 111mm pitch
[3] 13 modules per metre @ 77mm pitch

Code Example:

DLE204 | A | 1 | 14 | Y | 1000 | 1

eDuo Luna | 2700K | IP40 | 100mm sheathed single tail | 9/12V | 1000mm | 111mm Module Pitch

SEN series

SEN

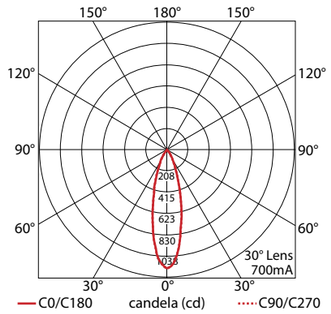
- Powerful, continuous linear illumination for exterior façades, wall washing and other architectural applications.
- Output options from 676 to 3340 lumens per metre in a choice of white colour temperatures or RGB and single colours.
- **Constant current** remote driven Cree LED with many lens and control options for white.
- **Constant voltage** RGB with integral DMX receiver.

Size:	H43.2/W39.2mm (Various lengths)
Chip:	Cree
Beam angle:	10°/20°/30°/60°/Spread lens/No lens
Bin/Step:	2 step MacAdam ellipse (2800K, 3200K, 3800K) 4 step MacAdam ellipse (5000K, 6500K)
CRI:	80 (2800K, 3200K, 3800K)/75 (5000K)/70 (6500K)
Lifetime:	50,000 hours @ 25°C
IP rating:	IP54/67
Finish:	Silver anodised
Cover/Lens:	Clear
Mounting:	Surface mounting via brackets
Connection:	Sheathed hardwire tails
Control:	Switched/1-10V/DMX/DALI via external power supply options

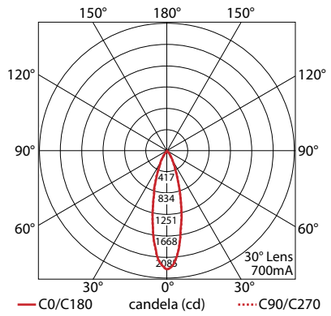
SEN 100/050/033

350mA/700mA IP54/67 CE

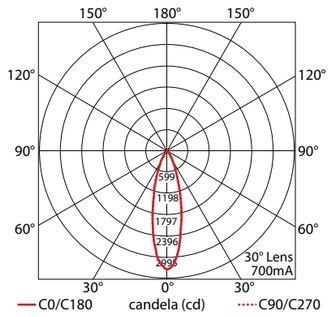
SEN 100



SEN 050



SEN 033



SEN 100

(LED pitch at 100mm centres)
Constant current

675.7lm/m @ 350mA
1118lm/m @ 700mA

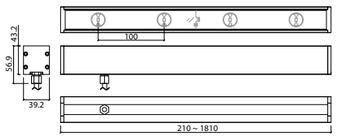
@350mA

lm/W:	63.3
Power consumption:	10.675W/m
Luminous flux:	675.7lm/m nominal (@3200K + Clear cover)
Operating temp:	T_a = -25 to 75°C (T_c max = 82°C)

@700mA

lm/W:	48.4
Power consumption:	23.1W/m
Luminous flux:	1118lm/m nominal (@3200K + Clear cover)
Operating temp:	T_a = -25 to 55°C (T_c max = 71°C)

Colour:	White: 2800K/3200K/3800K/5000K/6500K Single colours: Red/Green/Blue
Available lengths:	210/410/610/810/1010/1210/1410/1810mm



SEN 050

(LED pitch at 50mm centres)
Constant current

1416.7lm/m @ 350mA
2300.8lm/m @ 700mA

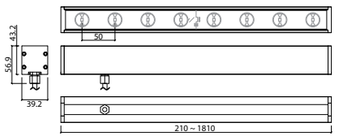
@350mA

lm/W:	65.8
Power consumption:	21.53W/m
Luminous flux:	1416.7lm/m nominal (@3200K + Clear cover)
Operating temp:	T_a = -25 to 75°C (T_c max = 87°C)

@700mA

lm/W:	49.8
Power consumption:	46.2W/m
Luminous flux:	2300.8lm/m nominal (@3200K + Clear cover)
Operating temp:	T_a = -25 to 30°C (T_c max = 54°C)

Colour:	White: 2800K/3200K/3800K/5000K/6500K Single colours: Red/Green/Blue
Available lengths:	210/410/610/810/1010/1210/1410/1810mm



SEN 033

(LED pitch at 33mm centres)
Constant current

2036.8lm/m @ 350mA
3340.3lm/m @ 700mA

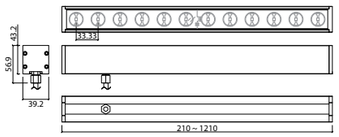
@350mA

lm/W:	63.6
Power consumption:	32.025W/m
Luminous flux:	2036.8lm/m nominal (@3200K + Clear cover)
Operating temp:	T_a = -25 to 70°C (T_c max = 85°C)

@700mA

lm/W:	48.2
Power consumption:	69.3W/m
Luminous flux:	3340.3lm/m nominal (@3200K + Clear cover)
Operating temp:	T_a = -25 to 30°C (T_c max = 47°C)

Colour:	White: 2800K/3200K/3800K/5000K/6500K Single colours: Red/Green/Blue
Available lengths:	210/410/610/810/1010/1210mm

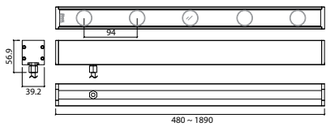


SEN 094 RGB

(LED pitch at 94mm centres)
Constant Voltage

15.36W/m

Luminous flux:	Red: 117.5lm/m Green: 351.2lm/m Blue: 15lm/m White: 472.2lm/m
Size:	H43.2/W39.2mm (Various lengths)
Chip:	Cree
Beam angle:	35°/Spread lens
CRI:	N/A
Lifetime:	50,000 hours @ 25°C
Operating temp:	T_a = -25 to 40°C (T_c max = 55°C)
IP rating:	IP54/67
Finish:	Silver anodised
Cover/Lens:	Clear
Mounting:	Surface mounting via brackets
Connection:	Sheathed hardwire tails
Control:	Integral DMX receiver
Power consumption:	15.36W/m
Available lengths:	480/950/1420/1890mm

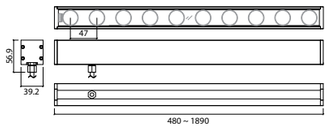


SEN 047 RGB

(LED pitch at 47mm centres)
Constant Voltage

30.72W/m

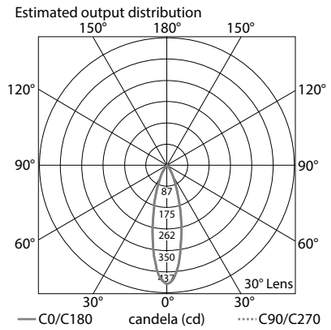
Luminous flux:	Red: 176lm/m Green: 727.4lm/m Blue: 40.3lm/m White: 889lm/m
Size:	H43.2/W39.2mm (Various lengths)
Chip:	Cree
Beam angle:	35°/Spread lens
CRI:	N/A
Lifetime:	50,000 hours @ 25°C
Operating temp:	T_a = -25 to 40°C (T_c max = 60°C)
IP rating:	IP54/67
Finish:	Silver anodised
Cover/Lens:	Clear
Mounting:	Surface mounting via brackets
Connection:	Sheathed hardwire tails
Control:	Integral DMX receiver
Power consumption:	30.72W/m
Available lengths:	480/715/950/1185/1420/1655/1890mm



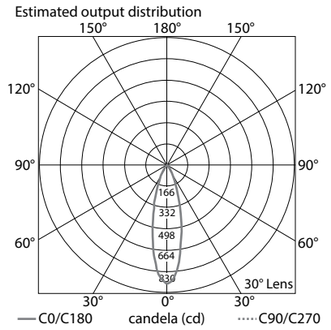
SEN 094/047 RGB

RGB 24V DC IP54/67 CE

SEN 094 RGB



SEN 047 RGB



SEN Product Details


1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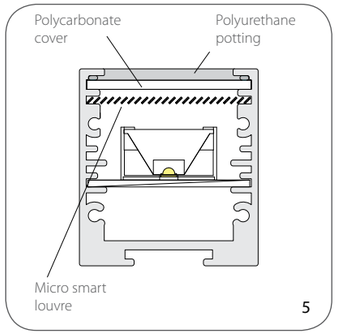
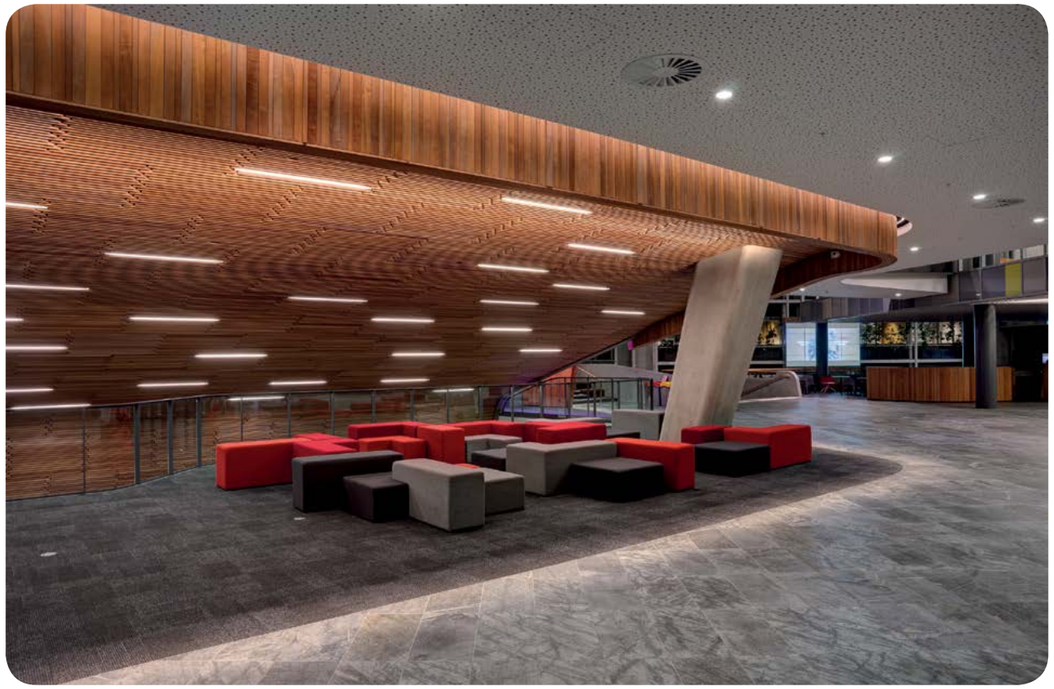


1. SEN fixed bracket
2. SEN optional micro smart louvre
3. SEN lighting effect with no lense
4. Small adjustable bracket and cable exit gland
5. IP67 SEN section diagram with micro smart louvre
6. Cree high power LED with various lense options



Above:
AUT WG Precinct, Auckland
Architect: Jasmax
Lighting Design: Lightworks
Photography: Ewen Cafe

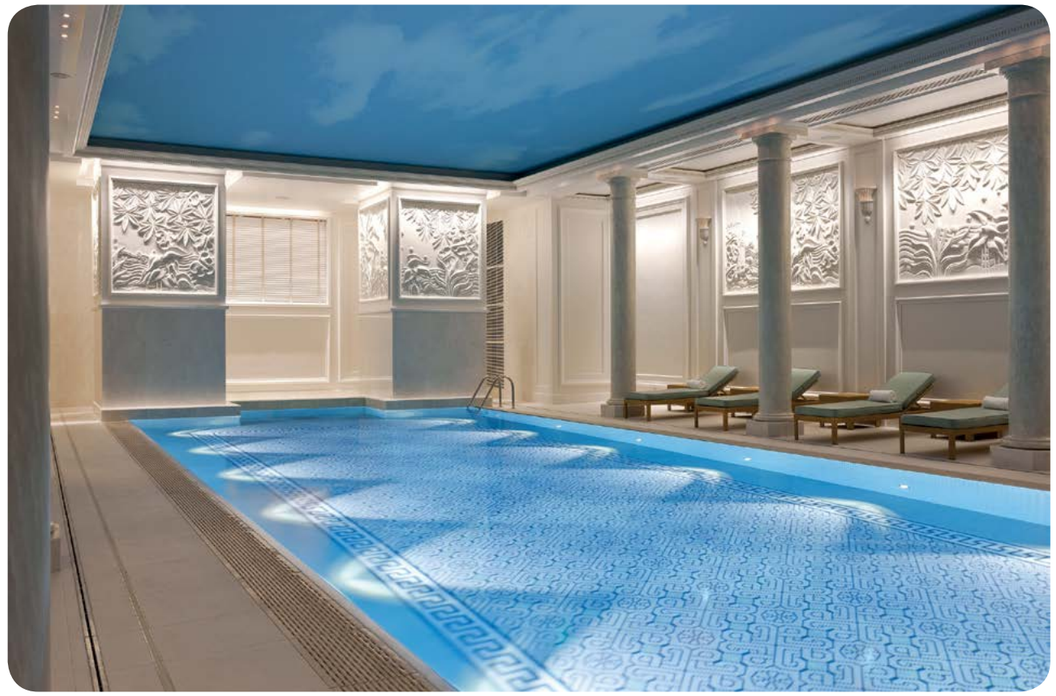
Left:
Musée de la Fédération Française de Tennis,
Roland Garros Stadium, Paris
Lighting Designer: Gérald Karlikow-Gélatic
Photography: Jean Garcin

Opposite page:
6 Battery Road, Singapore
Lighting Design: iLAB
Image © iLAB

Opposite page:
Westin Hotel Façade Sydney
Lighting Design: Point Of View

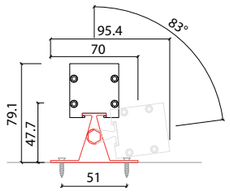
Right:
AUT WG Precinct, Auckland
Architect: Jasmax
Lighting Design: Lightworks
Photography: Ewen Cafe

Below:
Shangri-La Hotel, Paris
Lighting Design: Wild Design

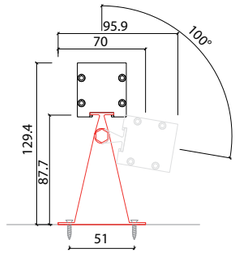


SEN Accessories

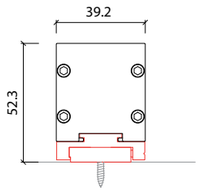
Mounting Options



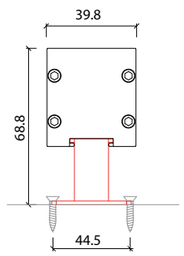
KKBK-16
Small adjustable bracket
(Allow 2 per metre)
Silver anodised aluminium finish



KKBK-17
Large adjustable bracket
(Allow 2 per metre)
Silver anodised aluminium finish



KKBK-09
Mounting plate
(Allow 2 per metre – factory fitted)
Silver anodised aluminium finish



KKBK-02
Fixed bracket
(Allow 2 per metre)
Steel finish

Constant Current Driver Options

100W
350~700mA
IP20
Black metal housing
H30/W80/L230mm

KKE100DMX-CC
4 channel control DMX
Dimmable constant current PSU
Standards: cRUus/CE/ENEC/DALI/DMXRDM

100W
350~700mA
IP67
Silver metal housing
H38.8/W68/L236mm

KKM100350110-CC 350mA
KKM100700110-CC 700mA
1 channel 1-10V
Dimmable constant current PSU
Standards: cRUus/CE/CB/FCC/0-10V

Constant Current Driver Options (Continued)

150W
350~700mA
IP67
Silver metal housing
H38.8/W68/L246mm

KKM150350110-CC 350mA
KKM150700110-CC 700mA
1 channel 1-10V
Dimmable constant current PSU
Standards: cRUus/CE/CB/FCC

75W/150W
350~700mA
IP66
Black metal housing
H37.1/W59.1/L240.5mm

KKP75DALI-CC 75W
KKP150DALI-CC 150W
1 channel DALI
Dimmable constant current PSU
Standards: CE/CSA/RU/DALI

Constant Voltage PSU Options

60W
24V DC
IP67
Black metal housing
H40/W44/L198mm

KKL6024-CV
Non-dimmable
Constant voltage PSU
Standards: CE

100W
24V DC
IP67
Black metal housing
H42/W66/L230mm

KKL10024-CV
Non-dimmable
Constant voltage PSU
Standards: CE

150W
24V DC
IP67
White metal housing
H42/W66/L230mm

KKL15024-CV
Non-dimmable
Constant voltage PSU
Standards: CE

SEN Code Table

			SEN 100 SN100	SEN 050 SN050	SEN 033 SN033	SEN 094 RGB SN194	SEN 047 RGB SN147
LED Colour	2800K	K	•	•	•	n/a	n/a
	3200K	B	•	•	•	n/a	n/a
	3800K	C	•	•	•	n/a	n/a
	5000K	D	•	•	•	n/a	n/a
	6500K	E	•	•	•	n/a	n/a
	Red	F	•	•	•	n/a	n/a
	Green	G	•	•	•	n/a	n/a
	Blue	H	•	•	•	n/a	n/a
	RGB	L	n/a	n/a	n/a	•	•
IP	IP54	4	•	•	•	•	•
	IP67[1]	7	•	•	•	•	•
Connection	1000mm sheathed single tail	08	•	•	•	•	•
	1000mm sheathed double tails	16	•	•	•	n/a	n/a
	Custom	00	•	•	•	•	•
Power	24V	W	n/a	n/a	n/a	•	•
	Constant Current 1-10V/PWM/DALI	P	•	•	•	n/a	n/a
	Constant Current DMX	D	•	•	•	n/a	n/a
Length Availability			210/410/610/ 810/1010/1210/ 1410/1610/1810mm	210/410/610/ 810/1010/1210/ 1410/1610/1810mm	210/410/610/ 810/1010/1210mm	480/950/ 1420/1890mm	480/715/950/ 1185/1420/ 1655/1890mm
Lens Type	10°	A	•	•	•	n/a	n/a
	20°	B	•	•	•	n/a	n/a
	30°	F	•	•	•	n/a	n/a
	35°	G	n/a	n/a	n/a	•	•
	60°	E	•	•	•	n/a	n/a
	Spread lens	H	•	•	•	n/a	n/a
	No lens	Y	•	•	•	n/a	n/a
Finishes	Silver anodised Clear cover	B	•	•	•	•	•
	Silver anodised Clear cover + Micro louvre	M	•	•	•	n/a	n/a
Control	Integral DMX	Z	n/a	n/a	n/a	•	•

[1] Due to the clear, flush potted polyurethane top layer on IP67 SEN a colour shift of +/-20K should be expected.

Code Example:

SN050	K	4	08	P	1010	A	B
SEN 050	2800K	IP54	1000mm sheathed single tail	1-10V	1010mm	10°	Silver anodised Clear cover

Paju Light Festival 2013, Korea
Andrew Jaques
The Flaming Beacon, Australia

SEN-F

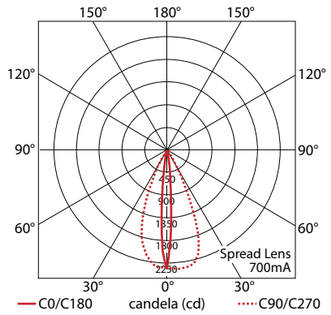
- Recessed in-ground or installed flush with flooring surfaces for continuous linear illumination of interior and exterior walls and other architectural features.
- Output options from 561 to 2664 lumens per metre in a range of white colour temperatures or single colours.
- **Constant current** remote driven Cree LED with many lens and control options.

Size:	H48.9/W52.2/L210-810mm
Chip:	Cree
Beam angle:	10°/20°/30°/60°/Spread lens/No lens
Bin/Step:	2 step MacAdam ellipse (2800K, 3200K, 3800K) 4 step MacAdam ellipse (5000K, 6500K)
CRI:	80 (2800K, 3200K, 3800K)/75 (5000K)/70 (6500K)
Lifetime:	50,000 hours @25°C
IP rating:	IP67
Finish:	Silver anodised
Cover/Lens:	Clear Glass, Frosted Glass
Mounting:	Ground Recessed Mounting
Connection:	Sheathed hardwire tail
Control:	1-10V/DMX via. External power supply options

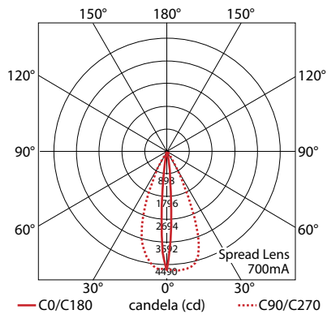
SEN-F 100/050/033

350mA/ 700mA | IP67 | CE

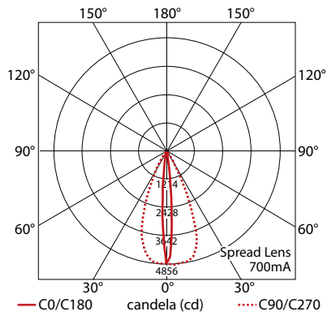
SEN-F 100



SEN-F 050



SEN-F 033



SEN-F 100

(LED pitch at 100mm centres)
Constant current

561.1lm/m @ 3200K, 350mA
944.3lm/m @ 3200K, 700mA

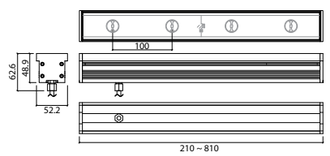
@350mA

lm/W:	65.7
Power consumption:	10.675W/m
Luminous flux:	561.1lm (@ 3200K)
Operating temp:	T_a = -25 to 75°C (T_c max = 80°C)

@700mA

lm/W:	51.1
Power consumption:	23.1W/m
Luminous flux:	944.3lm (@ 3200K)
Operating temp:	T_a = -25 to 55°C (T_c max = 67°C)

Colour:	White: 2800K/3200K/ 3800K/5000K/6500K Single colours: Red/ Green/Blue
Available lengths:	210/410/610/810mm



SEN-F 050

(LED pitch at 50mm centres)
Constant current

1125.6lm/m @ 3200K, 350mA
1866.5lm/m @ 3200K, 700mA

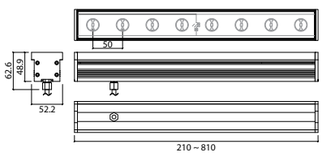
@350mA

lm/W:	65.9
Power consumption:	21.53W/m
Luminous flux:	1125.6lm (@ 3200K)
Operating temp:	T_a = -25 to 75°C (T_c max = 83°C)

@700mA

lm/W:	50.5
Power consumption:	46.2W/m
Luminous flux:	1866.5lm (@ 3200K)
Operating temp:	T_a = -25 to 50°C (T_c max = 70°C)

Colour:	White: 2800K/3200K/ 3800K/5000K/6500K Single colours: Red/ Green/Blue
Available lengths:	210/410/610/810mm



SEN-F 033

(LED pitch at 33mm centres)
Constant current

1639.7lm/m @ 3200K, 350mA
2664.1lm/m @ 3200K, 700mA

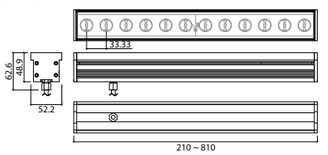
@350mA

lm/W:	64
Power consumption:	32.025W/m
Luminous flux:	1639.7lm (@ 3200K)
Operating temp:	T_a = -25 to 70°C (T_c max = 76°C)

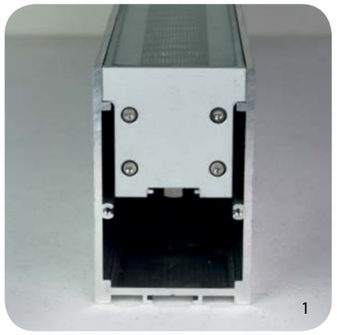
@700mA

lm/W:	48
Power consumption:	69.3W/m
Luminous flux:	2664.1lm (@ 3200K)
Operating temp:	T_a = -25 to 40°C (T_c max = 57°C)

Colour:	White: 2800K/3200K/ 3800K/5000K/6500K Single colours: Red/ Green/Blue
Available lengths:	210/410/610/810mm



SEN-F Product Details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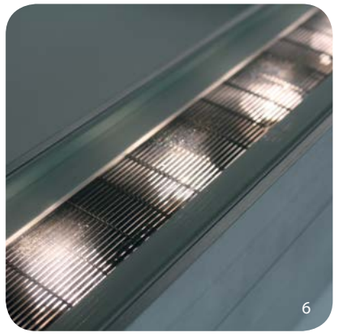
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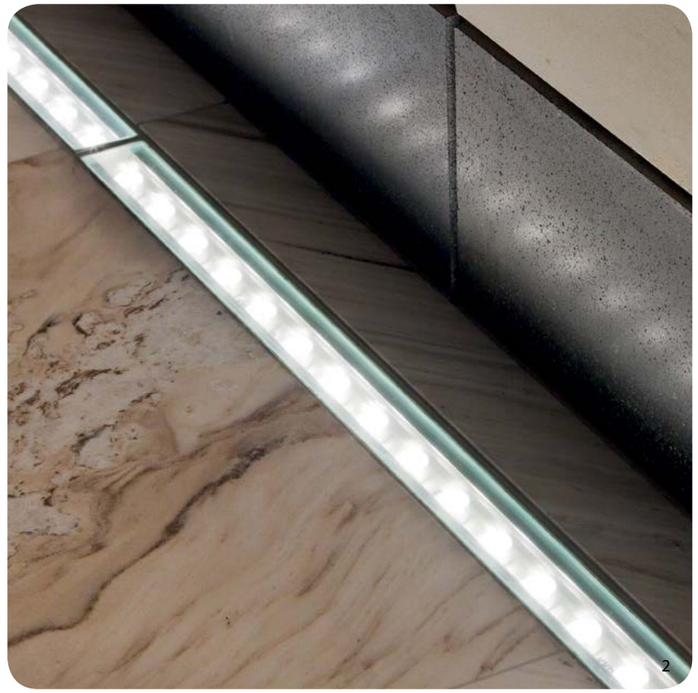
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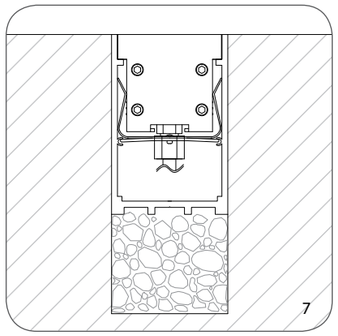
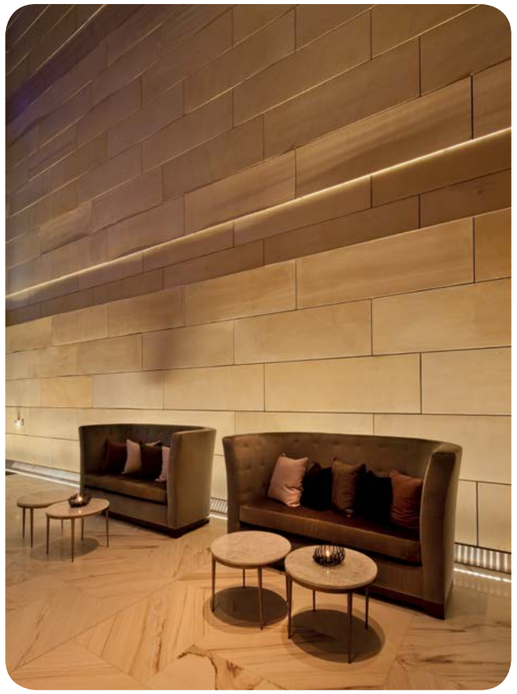

7

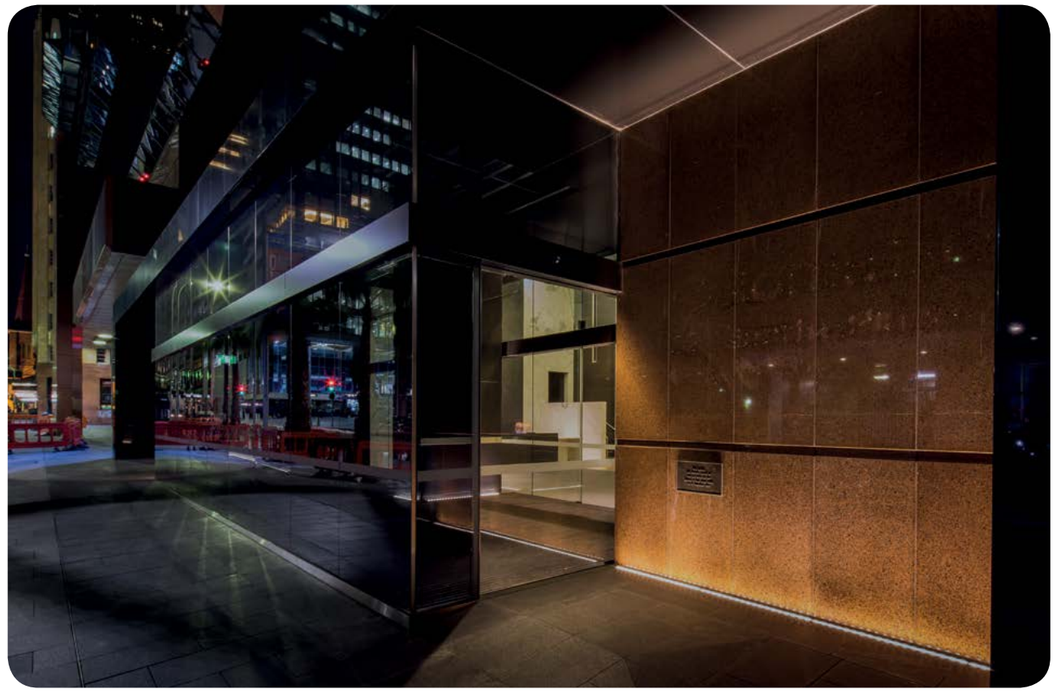
1. SEN-F with ground box
2. SEN-F tiled floor installation
3. Ground box installation cover plate
4. Ground box cable exit hole
5. IP67 cable exit gland
6. Optional internal micro smart louver
7. Typical ground installation section diagram

Opposite page Above Left:
52 Martin Place, Sydney
Lighting Design: Point Of View

Opposite page Above Right:
The Darling Star City Casino, Sydney
Lighting Design: Point Of View

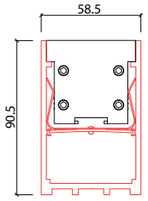
Opposite page Below:
52 Martin Place, Sydney
Lighting Design: Point Of View





SEN-F Accessories

Mounting Options



KKSG-02*
Ground box
Anodised aluminium finish
* Specify length to match SEN-F

Constant Current Driver Options

100W
350~700mA
IP20
Black metal housing
H30/W80/L230mm

KKE100DMX-CC
4 channel control DMX
Dimmable constant current PSU
Standards: cRUus/CE/ENEC/DALI/DMXRDM

100W
350/700mA
IP67
Silver metal housing
H38.8/W68/L236mm

KKM100350110-CC 350mA
KKM100700110-CC 700mA
1 channel 1-10V
Dimmable constant current PSU
Standards: cRUus/CE/CB/FCC/0-10V

150W
350~700mA
IP67
Silver metal housing
H38.8/W68/L246mm

KKM150350110-CC 350mA
KKM150700110-CC 700mA
1 channel 1-10V
Dimmable constant current PSU
Standards: cRUus/CE/CB/FCC

75W/150W
350~700mA
IP66
Black metal housing
H37.1/W59.1/L240.5mm

KKP75DALI-CC 75W
KKP150DALI-CC 150W
1 channel DALI
Dimmable constant current PSU
Standards: CE/CSA/RU/DALI

SEN-F Code Table

			SEN-F 033 SF033	SEN-F 050 SF050	SEN-F 100 SF100
LED Colour	2800K	K	•	•	•
	3200K	B	•	•	•
	3800K	C	•	•	•
	5000K	D	•	•	•
	6500K	E	•	•	•
	Red	F	•	•	•
	Green	G	•	•	•
	Blue	H	•	•	•
IP	IP67	7	•	•	•
Connection	1000mm sheathed single tail	08	•	•	•
	1000mm sheathed double tails	16	•	•	•
	Custom	00	•	•	•
Power	Constant Current 1-10V/PWM/DALI	P	•	•	•
	Constant Current DMX	D	•	•	•
Length Availability			210/410/610/810mm	210/410/610/810mm	210/410/610/810mm
Lens Type	10°	A	•	•	•
	20°	B	•	•	•
	30°	F	•	•	•
	60°	E	•	•	•
	Spread lens	H	•	•	•
	No lens	Y	•	•	•
Finishes	Silver anodised Clear glass	G	•	•	•
	Silver anodised Frosted glass	R	•	•	•
	Silver anodised Clear glass + Micro Louvre	M	•	•	•

Code Example:

SF050	K	7	08	P	610	A	G
SEN-F 050	2800K	IP67	1000mm sheathed single tail	1-10V	610mm	10°	Silver anodised Clear glass

SIL series

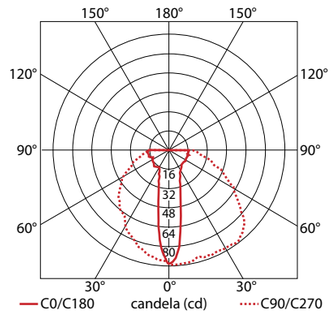
SIL

- Low profile, surface mounting, luminaire designed for exterior illumination of window reveals and close offset wall washing.
- Cree LED with unique 23° x 124° radial spread lens in a range of white colour temperatures.
- Integrated 220-240V power supply for simple installation.

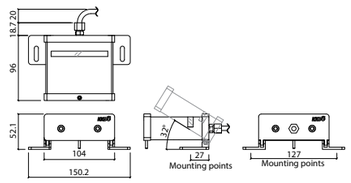
** Visual lighting effect will vary depending on window size/shape and ambient lighting conditions.*

SIL

220 ~ 240V AC | 3.79W | 18.9 lm/W | IP65 | CE

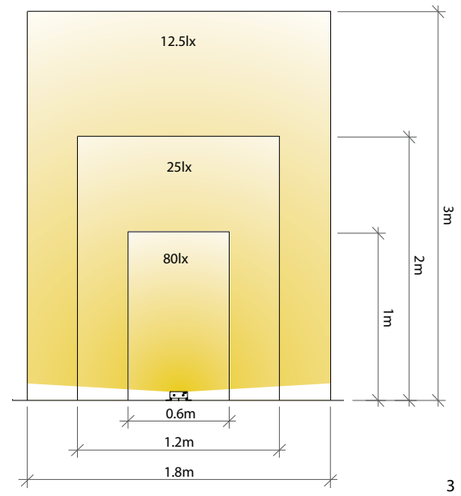


Luminous flux: 72lm nominal (@2800K)
Size: H52.1/W150.2/L114.7mm
Chip: Cree
Beam angle: 23° by 124°
Bin/Step: 2 step MacAdam ellipse (2800K, 3200K, 3800K)
4 step MacAdam ellipse (5000K, 6500K)
Colours: White: 2800K/3200K/3800K/ 5000K/6500K
Single colours: Red/Green/Blue
CRI: 80 (2800K, 3200K, 3800K)/ 75 (5000K)/70 (6500K)
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 55°C (T_c max = 63°C)
IP rating: IP65
Finish: Black/Silver anodised end caps (black injection molded section)
Cover/Lens: Clear
Mounting: Surface mounted
Connection: Hardwire tail 1000mm
Control: Integral 700mA driver (Non dimmable)



SIL Product Details

1. Surface mounted to window sil
2. SIL side view
3. Window illumination guide diagram
4. Rear cable exit gland
5. Cree LED with innovative spread lens



3

SIL Code Table

			SIL SIS111
LED Colour	2800K	K	•
	3200K	B	•
	3800K	C	•
	5000K	D	•
	6500K	E	•
	Red	F	•
	Green	G	•
	Blue	H	•
IP	IP65	5	•
Connection	1000mm sheathed single tail	08	•
	Custom	00	•
Volt	220-240V AC	M	•
Finishes	Silver anodised	B	•
	Black anodised	F	•

Code Example:

SIS111 K 5 08 M B

SIL | 2800K | IP65 | 1000mm sheathed single tail | 220-240V AC | Silver anodised

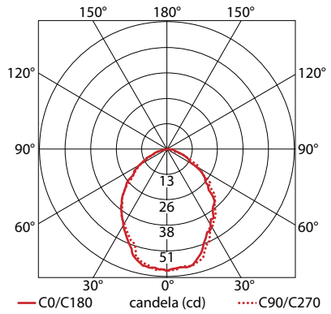
PUK series

PUK-L

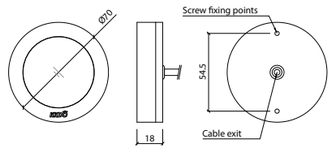
- Compact, surface mounting luminaire designed for downlighting beneath cabinets and shelves.
- Available in a full range of white colour temperatures with a CRI of ≥90 to suit display applications.
- Silver anodised aluminium housing with polycarbonate covers and optional louvre.

PUK-L

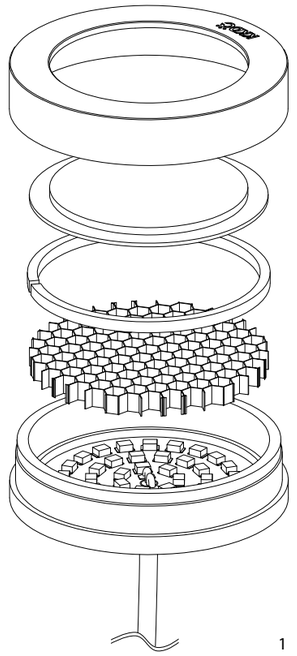
24V DC | 2.64W | ≤51.7 lm/W | IP44 | CE



Luminous flux: 136.5lm nominal (@3200K)
Size: H18/Ø70mm
Chip: Toyoda Gosei
Beam angle: 90° (Clear cover)
Colours: White: 2300K/2500K/2700K/3000K/3200K/3800K/5000K
CRI: ≥90
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 45°C (T_c max = 62°C)
IP rating: IP44
Finish: Silver anodised
Cover/Lens: Diffused/Clear (Optional honeycomb louvre accessory)
Mounting: Surface mounted via screws (supplied)
Connection: Hardwire tail
Control: 1-10V/DMX (see visDIM range)



PUK-L Product Details



1

2

1. PUK-L exploded assembly diagram
2. PUK-L installed with diffused cover
3. Cable exit and fixing hole positions
4. High quality machined and anodised aluminium housing

4

3

PUK-L Accessories

PUHC-01
5mm Honeycomb louvre (Includes clip)
Black finish

visDIM Power/Control Options

IP67
100W 24V
Aluminium housing
L248/W73/H48mm

KKPS-01 1-10V PSU
visDIM dimmable power supply
(See Control Gear)

IP20
Black plastic housing
L164/W64/H34mm

KKDM-04 1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)

PUK-L Code Table

			PUK-L PLS142
LED Colour	2300K	N	•
	2500K	S	•
	2700K	A	•
	3000K	P	•
	3200K	B	•
	3800K	C	•
	5000K	D	•
IP	IP44	2	•
Cable	1000mm sheathed single tail	08	•
Volt	24V	W	•
Finishes	Silver anodised Diffused cover	A	•
	Silver anodised Clear cover	B	•

Code Example:

PLS142	A	2	08	W	A
PUK-L	2700K	IP44	1000mm sheathed single tail	24V	Silver anodised Diffused cover

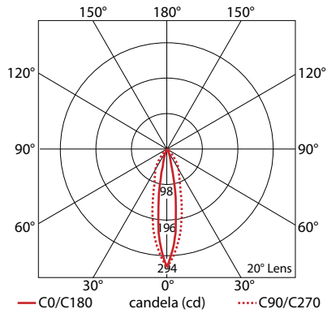
TAYO series

TAYO Spot

- A small, robust, IP67 spotlight for recessed interior/exterior in-ground mounting.
- Cree LED with lens options, in a range of white colour temperatures and single colours
- Stainless steel housing with safety glass cover.

TAYO Spot

12V DC | 1.62W | 30.2 lm/W | IP67 | CE



Luminous flux: 48.9lm nominal (@ 3200K)

Size: H63/Ø56mm

Chip: Cree

Beam angle: 10°/20°/30°/60°/Linear Beam

Bin/Step: 2 step MacAdam ellipse (2800K, 3200K, 3800K)
4 step MacAdam ellipse (5000K, 6500K)

CRI: 80 (2800K~3800K)/ 75 (5000K)/70 (6500K)

Lifetime: 50,000 hours @ 25°C

Operating temp: T_a = -25 to 50°C (T_c max = 70°C)

IP rating: IP67

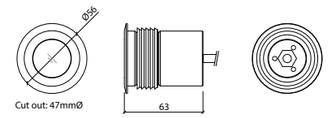
Finish: Stainless steel

Cover/Lens: Clear glass

Mounting: Recessed mounting

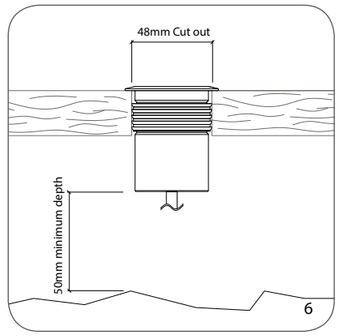
Connection: Single sheathed tail

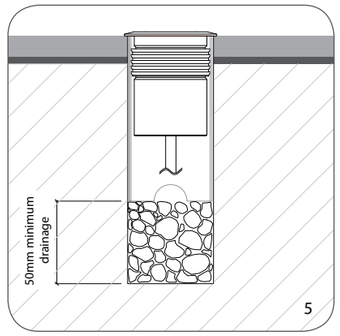
Control: 1-10V/DMX (see visDIM range)



TAYO Spot Product Details

1. High power Cree LED with narrow beam optic
2. Flush cable exit gland for reduced height
3. Ground housing cable exit
4. Clear glass cover with stainless steel bezel
5. Typical concrete installation
6. Typical flooring installation
7. TAYO spot with spread lens optic



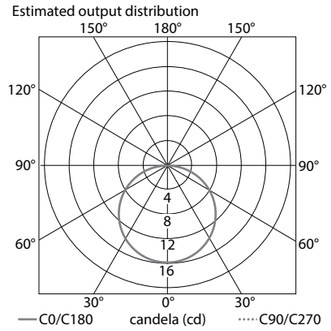


TAYO Micro

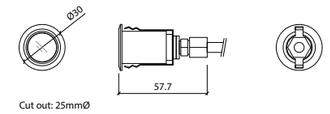
- Compact recessed marker spots with single Citizen LED source.
- Available in a range of white colour temperatures or as single colours.
- IP67 Stainless steel body for exterior use or anodised aluminium IP54 version for indoors.

TAYO Micro (Indoor)

12V DC | 0.144W | 22.6 lm/W | IP54 | CE

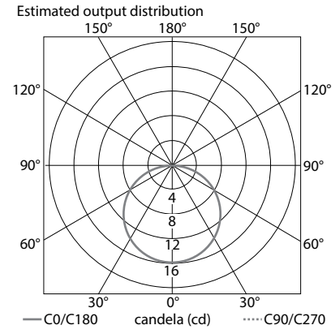


Luminous flux: 3.26lm nominal (@ 2700K)
Size: H57.7/Ø30mm
Chip: Citizen
Beam angle: 160°
Colour: White: 2700K/3000K/3500K/5000K Single colours: Red/Green/Blue
Bin/Step: 3 step MacAdam ellipse
CRI: 80
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 60°C (T_c max = 65°C)
IP rating: IP54
Finish: Silver anodised
Cover/Lens: Diffused
Mounting: Recessed mounting
Connection: Single sheathed tail
Control: 1-10V/DMX (see visDIM range)

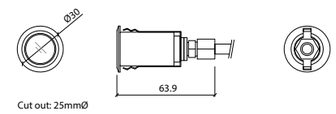


TAYO Micro (Outdoor)

12V DC | 0.144W | 15.2 lm/W | IP67 | CE



Luminous flux: 2.19lm nominal (@ 2700K)
Size: H63.9/Ø30mm
Chip: Citizen
Beam angle: 160°
Colour: White: 2700K/3000K/3500K/5000K Single colours: Red/Green/Blue
Bin/Step: 3 step MacAdam ellipse
CRI: 80
Lifetime: 50,000 hours @ 25°C
Operating temp: T_a = -25 to 60°C (T_c max = 60°C)
IP rating: IP67
Finish: Stainless steel
Cover/Lens: Frosted glass
Mounting: Recessed mounting
Connection: Single sheathed tail
Control: 1-10V/DMX (see visDIM range)



TAYO Micro Product Details

1. TAYO Micro indoor fixing clip
2. TAYO Micro indoor

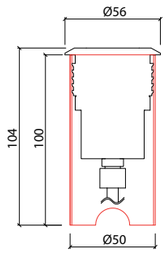

1


2


Auckland Convention Centre

TAYO Accessories

Mounting Options



KKBK-13
TAYO Spot in-ground housing
Anodised aluminium finish

visDIM Power/Control Options

IP20
Black plastic housing
L164/W64/H34mm

KKDM-04 1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)

TAYO Code Table

			TAYO Micro (Indoor) TMS100	TAYO Micro (Outdoor) TOS100	TAYO Spot TPS101
LED Colour	2700K	A	•	•	n/a
	2800K	K	n/a	n/a	•
	3000K	P	•	•	n/a
	3200K	B	n/a	n/a	•
	3500K	T	•	•	n/a
	3800K	C	n/a	n/a	•
	5000K	D	•	•	n/a
	6500K	E	n/a	n/a	•
	Red	F	•	•	•
	Green	G	•	•	•
	Blue	H	•	•	•
IP	IP54	4	•	n/a	n/a
	IP67	7	n/a	•	•
Cable	1000mm sheathed single tail	08	•	•	•
Volt	12V	Y	•	•	•
Lens Type	10°	C	n/a	n/a	•
	20°	P	n/a	n/a	•
	30°	T	n/a	n/a	•
	60°	E	n/a	n/a	•
	Spread lens	H	n/a	n/a	•
	Diffused cover	F	•	•	n/a

Code Example:

TMS100	A	4	08	Y	F
TAYO Micro (Indoor)	2700K	IP54	1000mm sheathed single tail	12V	Diffused cover

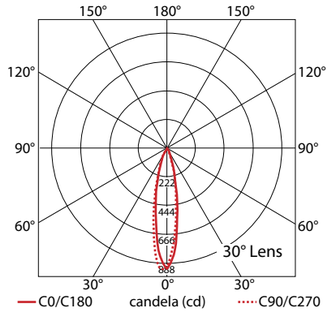
MR16 series

LED MR16

- An efficient, high CRI, single point 4W LED source with a compact cast aluminium body.
- Suitable as an alternative to 20 - 35W MR16 halogen lamps.
- Available in a choice of colour temperatures and beam angles.
- Remote 1-10V/DMX dimming control (See visDIM range).

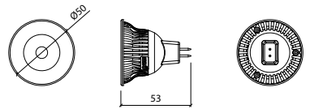
LED MR16

12V DC | 4W | 55.6 lm/W | CE



Luminous flux: 222.4lm nominal (@ 3200K)

Size:	H53mm/Ø50mm
Chip:	Citizen
Beam angle:	15°/30°
Bin/Step:	7 step MacAdam ellipse (Multi chip mixing)
CRI:	≥85
Lifetime:	50,000 hours @ 25°C
Operating temp:	T_a = -25 to 40°C (T_c max = 70°C)
IP rating:	IP20
Finish:	Black housing and black bezel
Cover/Lens:	N/A
Mounting:	MR16 lamp
Connection:	GU5.3 lamp base
Control:	1-10V/DMX (see visDIM range)



LED MR16 Product Details


1


2


4

3

1. Private residential installation, housing by others
2. Black cast aluminium housing
3. LED MR16 packaging
4. Medium beam spread

LED MR16 Accessories

visDIM Power/Control Options

IP67
100W 24V
Aluminium housing
L248/W73/H48mm

KKPS-01 1-10V PSU
visDIM dimmable power supply
(See Control Gear)

IP20
Black plastic housing
L164/W64/H34mm

KKDM-04 1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)

LED MR16 Code Table

			LED MR16 MRS016
LED Colour	2800K	K	•
	3000K	P	•
	5000K	D	•
IP	IP20	0	•
Power	12V	Y	•
Lens Type	15°	B	•
	30°	T	•

Code Example:

MRS016	K	0	Y	T
LED MR16	2800K	IP20	12V	30°

Control Gear

Control Gear

visDIM

KKDC designed, control units – for superior dimming and control of our LED products.

- For local dimming control or to interface with 1-10V, 0-10V and DMX control systems.
- Higher frequency pulse width modulation (1100-1200 Hz) minimises flicker and strobe effects for comfortable dimming and interference free video monitoring or recording.
- Smooth, stable dimming across the output range with very good resolution and subtle pop on/pop off at low levels.
- High quality of components and circuit design preserves both control and output quality over longer wiring distances, maximising the colour stability and lifetime of LED products.
- High load capacity sub-controllers (5A per channel) for reduced numbers and lower costs in larger projects.

visDIM 1-10V PSU (100W/24V)

- 24V DC 1-10V dimmable power supply unit
- Linear dimming curve
- IP67 with hardwired 1-10V cable

Order code: KKPS-01
Size: H48/W73/L248mm
Weight: 1.5kg
Operating temp: T_a = -20 to 60°C (T_c max = 85°C)
Storage temp: T_a = -40 to 85°C
IP rating: IP67
Finish: Silver anodised
Mounting: Screw fixing
Connection: AC Input: 0.75mm² 3C 300mm DC Output: 16AWG 2C 300mm Dimming Input: 22AWG 3C 300mm
Control: 1-10V systems or 100KΩ variable resistor
Output Current: 4.3A (max)

visDIM 1-10V sub-controller

- 9-24V DC product control
- Selectable linear or logarithmic curve
- XEN product control
- LED MR16 product control

Order code: KKDM-04
Size: H34/W64/L164mm
Weight: 150g
Operating temp: T_a = -10 to 60°C (T_c max = 80°C)
Storage temp: T_a = -20 to 70°C
IP rating: IP20
Finish: Plastic cover (black)
Mounting: Screw fixing
Connection: Screw terminals (Wire gauge 12~26AWG)
Control: 1-10V/0-10V systems or 100KΩ variable resistor
Input Voltage: 9-24V DC
Output Current: 2 x 5A (max)

visDIM DMX sub-controller

- 9-24V DC product control
- DMX standalone RGB fade sequences, static colours, or fixed dimming levels for white light
- Screw terminal or RJ45 control connection

Order code: KKSC-03A (terminal type) KKSC-03B (RJ45 type)
Size: H34/W64/L164mm
Weight: Terminal Type: 155g, RJ45 Type: 160g
Operating temp: T_a = -10 to 60°C (T_c max = 80°C)
Storage temp: T_a = -20 to 70°C
IP rating: IP20
Finish: Plastic cover (black)
Mounting: Screw fixing
Connection: Power Input/output: Screw terminals (Wire gauge 12~26AWG) Control: KKSC-03A screw terminals (Wire gauge 18~26AWG) KKSC-03B RJ45 leads
Control: DMX512 systems
Input Voltage: 9-24V DC
Output Current: 3 x 5A (max)

visDIM 1-10V sub-controller functions and wiring

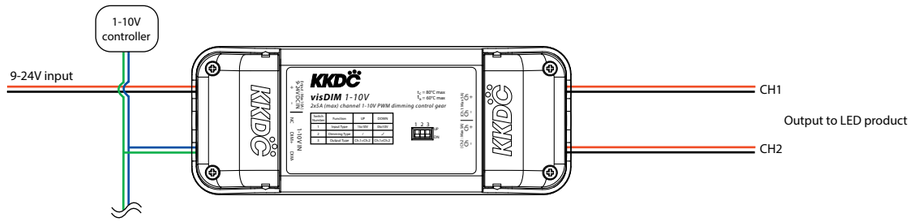
visDIM 1-10V sub-controller dip switches

Switch Number	Function	UP	DOWN
1	Input Type	1to10V	0to10V
2	Dimming Type	/	⌒
3	Output Type	Ch.1=Ch.2	Ch.1≠Ch.2

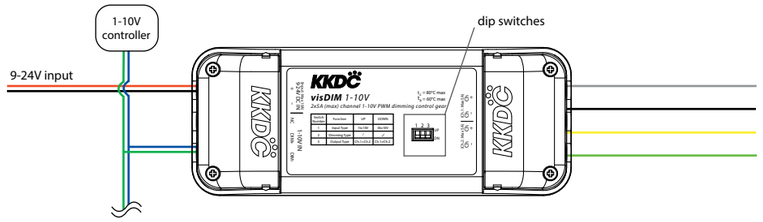
Symbols explained

/	Linear dimming curve
⌒	Logarithmic dimming curve
Ch.1=Ch.2	Channel 1 and channel 2 act in unison, for white/mono control
Ch.1≠Ch.2	Channel 1 and channel 2 act as XEN product control

White/mono wiring



XEN wiring



visDIM DMX sub-controller functions and wiring

visDIM DMX sub-controller dip switches

DMX Receiver Mode — Rotary pots control DMX channel (Unit must be reset after changing the DMX channel, by switching unit off then on)

DMX end of line termination — Rotary pots control DMX channel (Unit must be reset after changing the DMX channel, by switching unit off then on)

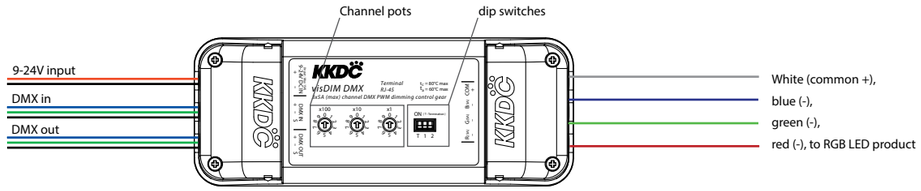
Stand alone (white/mono) — Rotary pots act as dimmer
x100 = 10% dim step
x10 = 1% dim step
x1 = 0.1% dim step

Stand alone (RGB) — Rotary pots act as sequence control

STAND ALONE SET UP

	Pot address/function		
Mode	x100	x10	x1
Fixed colour	0	Output control, 0=Low, 9=High	Static colour, 0=Blue, 1=Red, 2=Yellow, 3=Green...
RGB Scroll	1~9	Output control, 0=Low, 9=High	Scroll speed, 0=Low, 9=high

RGB/3 channel wiring



(For RJ45 connections, Pin 1 = DMX +, Pin 2 = DMX -, Pins 7+8 = Shield)

Other DMX Products

DMX master controller

- Simple DMX controller with variable speed RGB sequences, static colours and dimming mode
- DMX output
- RGB (3x1A max.) PWM output

Order code:	KKMC-01
Size:	W116.6/H45.4/L72.7mm
IP rating:	IP20
Finish:	White plastic
Mounting:	Screw fixing concealed mounting clip
Connection:	Hardwire tails DC power in: red +/black - DMX out: white +/green - RGB output: white common +
Control:	DMX512 output
Input Voltage:	9-24V DC
Output Current:	3 x 1A (max) channels RGB output
Power Consumption:	2W max. (controller only)

DMX repeater

- DMX signal booster
- Preserves signal level and integrity in long/complex DMX systems or areas of high electromagnetic interference

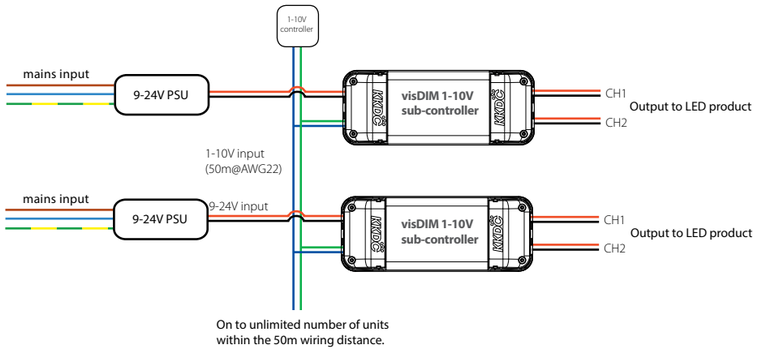
Order code:	KKRP-01
Size:	W49.5/H30/L194.5mm
IP rating:	IP20
Finish:	Black metal
Mounting:	Screw fixing
Connection:	Screw terminals DC power in: +/- DC power loop out: +/- DMX: +/-/shield
Control:	DMX512 repeater
Input Voltage:	9-24V DC
Power Consumption:	2W max.

visDIM 1-10V wiring examples

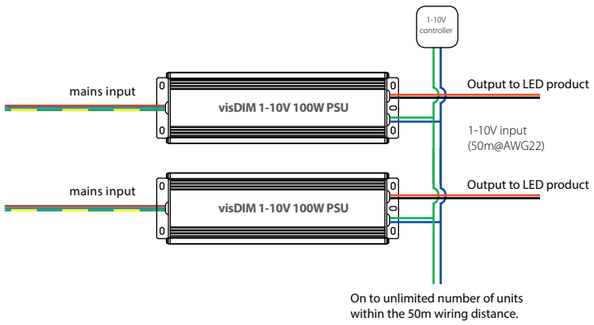
The following diagrams depict common wiring solutions using KKDC's visDIM 1-10V products.

It is useful to know the following information when using 1-10V
Shorted (10V) = lowest output (0%)
Open (0V) = highest output (100%)

visDIM 1-10V sub-controller

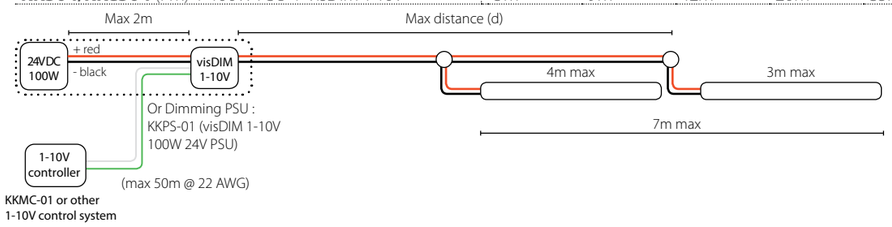


visDIM 1-10V 100W PSU



visDIM 1-10V 100W wiring example with KK504/KKe504 strip

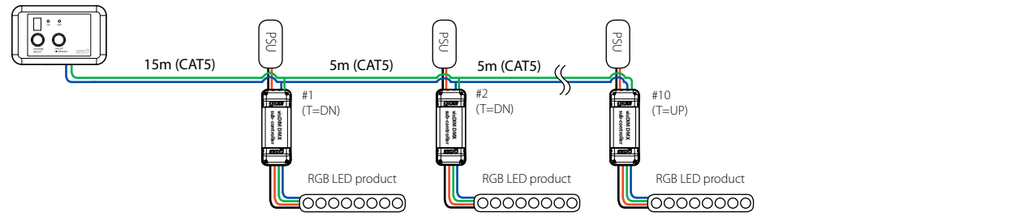
	Cable size / Max distance (d)				
	0.5mm²/ 20AWG	0.75mm²/ 18AWG	1.0mm²/ 17AWG	1.5mm²/ 15AWG	2.5mm²/ 13AWG
KK504/KKe504 (7m) + 100W PSU + visDIM 1-10V	5m	9m	12m	20m	35m



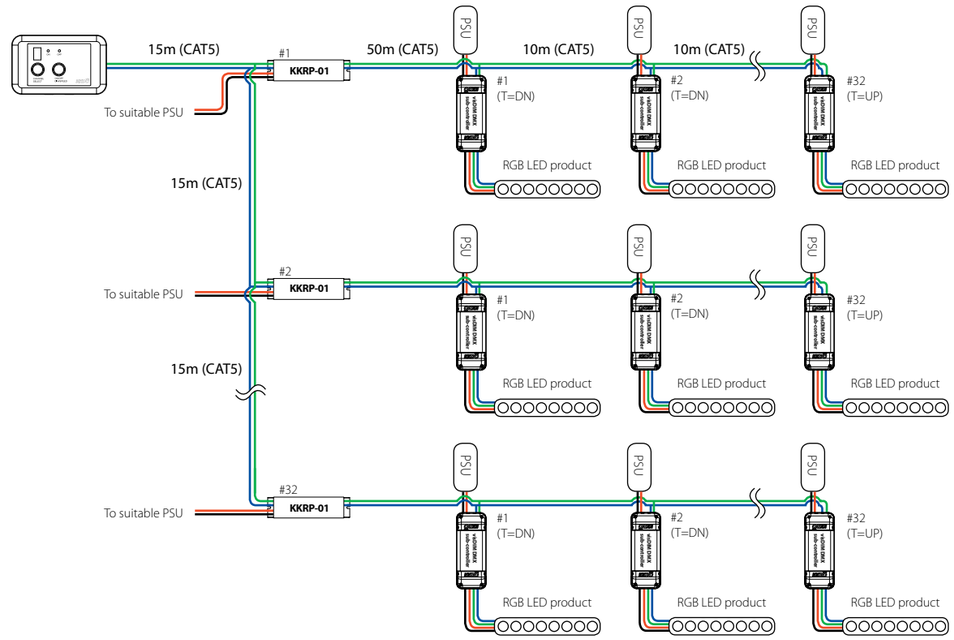
visDIM DMX wiring examples

The following diagrams depict common wiring solutions using KKDC's visDIM DMX products.

DMX wiring example (small system)

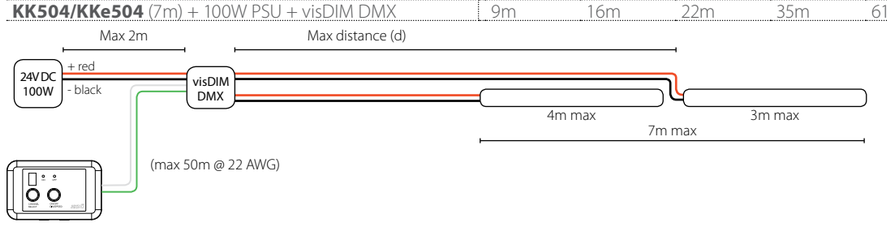


DMX wiring example (big system)



visDIM DMX 100W wiring example with KK504/KKe504 strip

	Cable size / Max distance (d)				
	0.5mm²/ 20AWG	0.75mm²/ 18AWG	1.0mm²/ 17AWG	1.5mm²/ 15AWG	2.5mm²/ 13AWG
KK504/KKe504 (7m) + 100W PSU + visDIM DMX	9m	16m	22m	35m	61m



All loading and wiring run lengths indicated are based on best case scenarios, site conditions may require these details to vary. Always contact a professional when assessing site conditions, all installations must be carried out by qualified persons.

Industry Terms

1. Lighting

1.1. General Lighting Terms

1.1.1. Luminaire

Term for 'light fittings' or 'fixtures', referring to a complete lighting product.

1.1.2. Glare

The result of excessive amounts of viewable contrast. Glare is often the cause of visual discomfort and can lead to sight being impaired or an individual being distracted, in the extreme it's called disability glare. Interior glare is often known as discomfort glare; caused by bright windows or luminaires.

1.1.3. Optic

The method of controlling light, either by reflection or by refraction.

1.1.4. Diffusion/Diffuser

Where an optical element – often translucent glass or plastic – covers the light source within a housing. The light transmitted throughout the diffuser will be redirected and scattered with the optical properties and transmission efficiency of the material used.

1.2. Photometry

1.2.1. Luminous flux & lumens

The total quantity of light emitted by a light source within the visible spectrum (380-780nm) as perceived by the human eye, luminous flux is measured in lumens (lm).

1.2.2. Radiant flux

The total power of radiation produced through all spectrums, measured in Watts (W).

1.2.3. Illuminance & Lux

Illuminance is the number of lumens falling per square metre, measured in lux (lx).

1.2.4. Candela (cd)

Is the measurement of luminous intensity within a narrow cone, calculated by:

luminous flux ÷ unit solid angle.

This is often the quantitative figure used to describe the output of directional lamps.

1.2.5. Luminaire efficacy

Defined as the number of lumens produced from a luminaire, divided by Wattage of power provided, lumens per Watt (lm/W).

1.2.6. Luminous efficiency

Refers to the percentage of emitted radiation within the visible spectrum compared to the emitted radiation outside the visible spectrum, including UV, IR and heat. A light source that is 45% efficient would turn 45% of the input power into visible light and the remaining 55% would be emitted as waste radiation.

1.2.7. Photometric testing

The science of measuring light intensity, colour and quality of light perceived by the human eye.

1.2.8. Absolute photometry

The collected photometric data produced from testing a finished and complete solid state lighting system (as supplied to end users) under realistic conditions. Essential for accurate comparison and evaluation of LED lighting products. Data produced allows true specification of luminous flux, chromaticity, efficacy and electrical power. Absolute photometry is the basis of the IESNA LM79 testing standard.

1.2.9. Relative photometry

Data set produced from comparative photometric testing using a reference light source or by separation of light source from other parts of the system. Some figures may be obtained by normalisation calculations. Provides at best only a partial description of LED product performance.

1.2.10. Integrating sphere

Part of the testing system used for photometric measurements and is the most accurate way of measuring total luminous flux, colour temperature and colour properties.

1.2.11. Goniophotometer

The goniophotometer is a piece of photometric testing equipment that measures light intensity at a given angle to the luminaire or light source. The data a goniophotometer records can be used to generate photometric files (e.g. ies, ldt, etc) which digitally model the output of a luminaire and allows it to be loaded into lighting design software.

1.3. Colourimetry

1.3.1. Colour Space (CIE colour space/chromaticity diagrams)

A theoretical colour concept illustrated by a series of graphical projections mathematically representing all visible colours of light. The International Commission on Illumination (CIE) has defined several of these spaces – the CIE 1931 colour space and CIE 1976 CIELUV colour space being the most widely referenced in lighting. A three dimensional colour space is projected as a two dimensional chromaticity diagram on which other colourimetric scales, such as CCT ranges and the Planckian locus, can be overlaid. Measured colorimetric data for LED sources can be plotted and compared to illustrate colour performance and consistency between products and relative to the colour specifications of lighting test standards.

1.3.2. Kelvin (Correlated Colour Temperature – CCT)

In lighting, Kelvin is the system adopted to define colour of white light with a single-number. It compares the colour of a black body conductor emitting light when being heated to the given temperature in degrees Kelvin (K). It is important to note that CCT can only relate a light source to the closest Kelvin value of a black body conductor, and thus does not account for hue shift within the colour.

1.3.3. Planckian locus/ Black body line

The plot of colour temperature (CCT) that a black body conductor or tungsten filament produces as it is heated up through degrees Kelvin.

1.3.4. MacAdam Ellipse (SDCM)

The results of a statistical study being plotted on to a colour space diagram. The spread of results is defined within an elliptical plot, the edges of which represent a set deviation in colour from that at its centre. The scale of the ellipse is determined by the number of standard deviations of colour matching or 'steps' used in plotting.

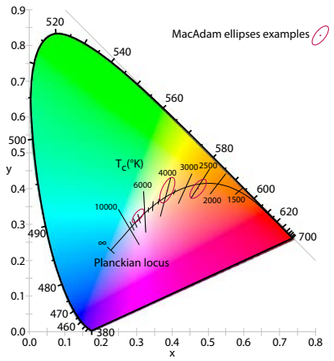
The colour variation represented by a 1-step MacAdam ellipse in not visible but becomes progressively more discernible in ellipses with a greater number of steps and becomes apparent to most observers above 2 or 3 steps. MacAdam ellipses are sometimes quoted in the specifications of white LED products to quantify colour consistency. Standard Deviation Colour Matching or SDCM has the same meaning as MacAdam ellipse.

1.3.5. Saturation/saturated

Describes the amount of colour compared to white within a colour. 0% saturated would be a black and white image, whereas fully saturated would be vivid colours (at the very edge of the CIE colour space diagrams).

1.3.6. Hue

Is the attribute based on classification of colour as reddish, yellowish, greenish, bluish or their intermediaries.



CIE 1931 xy chromaticity diagram

1.3.7. Colour rendering index (CRI)

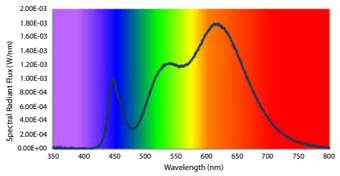
Is the method of measuring how well a light source renders a specific set of colours. CRI is based on 14 colour samples, the first 8 in the set are pastel colours arranged around the hue circle, 9 to 14 are colours of special significance (skin tone, organic materials etc.). A blackbody radiator such as an incandescent lamp and natural midday sun (5000-6000K) will have a CRI of 100%.

1.3.8. Rendering average (Ra)

The average of the rendering values for the first 8 colour samples for a given light source.

1.3.9. Spectral power distribution

Displayed in graph form, plotting emitted radiation power against wavelength. By integrating the graph/function you would get the wattage of light being emitted.



Spectral Radiant Flux versus Wavelength

1.3.10. Wavelength

Light is considered as a wave, and has measureable wavelengths, it is the wavelength of light that determines its type of electromagnetic radiation. The distance between the successive waves is defined as its wavelength. Within the visible spectrum, it is the combined visual power of light at every given wavelength that makes up a light sources apparent colour.

LED dice producing light in the visible spectrum, emit light of wavelengths ranging from around 330 to 780 nanometres – a specified range of wavelengths indicating the colour of light produced. In most white LED's, phosphors absorb the shorter blue wavelengths and re-emit light at a wider range of longer wavelengths.

1.3.11. Ultraviolet (UV)

A range of non-visible radiation with wavelengths less than 380nm beyond the blue end of the visible spectrum. Protection from the sun's UV radiation is required to prevent degradation of plastics and other materials used in exterior lighting products.

1.3.12. Infrared (IR)

Infrared radiation is non-visible electromagnetic radiation with a longer wavelength than visible light beyond the red end of the spectrum. Infrared radiation includes thermal radiation which is used for thermal imaging.

2. Electrical

2.1. General Electrical

2.1.1. Voltage

Defined as the potential difference across a conductor, often referred to as the electrical force or pressure that drives a circuit. Unit of measurement is Volts (V).

2.1.2. Current

Measured in Amperes (Amps, A) is the flow of electric charge. Electric charge flows when there is a voltage or electric potential difference between connected conductors.

2.1.3. Resistance

Measured in Ohms (Ω) defines the resistance against current flow when a voltage or electrical potential is present.

2.1.4. Wattage

Is the measure of work done, or energy consumed most commonly known as power. Unit of measurement is Watts (W).

One Watt is defined as the work done when one ampere (A) of current flows through an electrical potential difference of one volt (V).

2.1.5. Direct current (DC)

Is when the direction of current flow in a circuit remains constant, the type of supply you would expect from a battery.

2.1.6. Alternating current (AC)

When the current flow in a circuit alternates or reverses direction at regular intervals. Used for transmission and distribution of industrial and household power.

2.1.7. Constant current

Often referred to when describing circuits and products' power requirements. A constant current product or component would require a power source (driver) to vary voltage to maintain the desired current.

Constant current products are most commonly wired in series circuits.

The individual LED chips on the circuit boards of power LED products are supplied with a constant current power source for stable performance and control of thermal output. The voltage supplied varies to accommodate multiple chips. Almost all KKDC LED products employ on-board constant current conversion of an external constant voltage power supply.

2.1.8. Constant voltage

Often referred to when describing circuits and products' power requirements. A constant voltage component or product would require a power source to vary current to maintain the desired voltage.

Constant voltage products are most commonly wired in parallel circuits.

2.1.9. Power factor

In AC circuits, power factor is the ratio of real power to apparent power in the circuit. This power loss is caused by components in the circuit pushing the current flow out of phase with the voltage. A power factor of 1, is achieved when the current and voltage are in unity, whereby the real power and apparent are equal. A power of 0 is achieved when the current is 180° out of phase with the voltage, and no power can be delivered to the load. i.e When power factor is less than 1, more power is required to produce the desired output.

Example of calculating power factor:

PSU has power factor or 0.85. If you want to power 100W then you will need to input: -

100 ÷ 0.85 = 117.6W

2.1.10. Interference

Unwanted distortions in a digital signal or analogue wave. Interference causes control inaccuracies and loss of data. In extreme cases, total loss of control.

2.1.11. Parasitic capacitance

The effect of closely located conductors acting as capacitors which can cause unwanted electromagnetic effects, due to induced oscillations into circuits and components that are not intended to be there. This is quite often the major cause of interference within dimming controllers. High inrush currents can also be a result of poorly managed parasitic capacitance.

2.1.12. Inrush current

Refers to the initial current draw when first switching on a component, circuit or electronic device. The inrush current is often a multiple of the normal operating current. When dealing with LED circuits, high inrush currents can cause chip fatigue due to heat leading to colour drift over time. In extreme cases can lead to premature chip failure.

2.2. Electrical & Electronic Components

2.2.1. Printed circuit board (PCB)

An assembly of single or multi-layered mounting surfaces with conductive tracks (and soldered components) found at the heart of most modern electronic devices. Most KKDC products use metal based PCB technologies which provide significant advantages in thermal management. As a result KKDC's metal based flexible linear products can be used without additional heat sinking.

2.2.2. Capacitor

A component that temporarily stores electrical charge, having many uses including signal filtering and stabilising voltage and power flow.

2.2.3. Resistor

A circuit component which has a specific resistance measured in Ohms (Ω). May have multiple applications including reducing voltages for component requirements or used as parameter settings for certain IC's.

2.2.4. Integrated circuit (IC)

A circuit or collection of circuits mounted on a small plate of semiconductor material, most commonly silicon. IC's have a range of applications, for LED technology the most common uses for IC's are voltage and current control within circuits.

2.2.5. Diode

A circuit component with asymmetric conductance, meaning that current will only flow in one direction. Some diodes also emit light (LED's) in response to the passage of current in a phenomenon called electroluminescence.

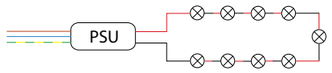
2.2.6. Bridge rectifier

A combination of 4 diodes arranged in a way that converts AC supply to DC.

2.3. Installation

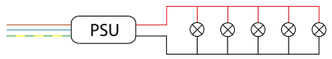
2.3.1. Series circuit

When components, or products, are wired from positive to negative, or in series, throughout the circuit.



2.3.2. Parallel circuit

When all components, or products, in the circuit share common positives and negatives.



2.3.3. AWG

Abbreviation for 'American Wire Gauge' – a numerical scale for wire size. The AWG number relates to the diameter, cross sectional area and thus the current carrying capacity of electrical wires.

By contrast, in the Metric system electrical conductors are described directly by cross sectional area in mm^2 or in stranded wires by the number and size of the strands.

2.3.4. IP rating

Ingress protection rating refers to a specific set of numbers that refer to a products ability to prevent intrusion from solid objects (including fingers and dust) and water.

IPXX

The first digit of the IP code indicates the degree of protection against contact with internal components and the degree of protection against foreign bodies intruding into the product enclosure.

0 No special protection

1 Protection from large solid objects, greater than 50mm in diameter.

2 Protection against finger sized objects no greater than 80mm in length and 12mm in diameter.

3 Protection from entry by tools, wires, etc., with a diameter of thickness greater than 2.5mm.

4 Protection from entry by solid objects with a diameter or thickness greater than 1.0mm

5 Dust protected, limited ingress of dust permitted.

6 Dust tight.

IPXX

The second digit indicates the degree of protection the product has against various forms of moisture and liquid.

0 No special protection Limited ingress permitted.

1 Protection from dripping water. Limited ingress permitted.

2 Protection from vertically dripping water when enclosure is tilted to 15° from vertical. Limited ingress permitted.

3 Protection from sprays of water at 60° form vertical. Limited ingress permitted.

4 Protection from low pressure water jets from all directions. Limited ingress permitted.

5 Protection from high pressure water jets from all directions. Limited ingress permitted.

6 Protection against heavy seas, or powerful jets of water. Limited ingress permitted.

7 Protection against temporary immersion at a depth of 150~1000mm.

8 Protection against complete, continuous submersion in water at a specified depth*.

* Submersion depth must be specified by the manufacturer.

2.4. Lighting control

2.4.1. Control gear

In general lighting, control gear is a term for any additional electronics that are required to power or control a luminaire, such as; a ballast for florescent, PSU or driver for LED or a dimming sub-controller.

2.4.2. DALI – Digitally Addressable Lighting Interface

A digital communication protocol originally developed for the centralised control of fluorescent lighting in buildings and now also used for control of LED installations.

2.4.3. DMX

A digital communication protocol for control of dimming, colour change and other control parameters. Used extensively in the theatre and entertainment industry and has become a commonly used method for digital control of architectural lighting.

2.4.4. 1-10V

A standard convention for control of dimming used in LED lighting – originally developed for fluorescent lighting. An analogue control voltage is varied between 0 and 10 Volts by means of a potentiometer or other controller and produces a corresponding change in the pulse width modulated power supplied to an LED circuit and thus the brightness.

Following is helpful for quick 1-10V on-site testing:

Shorted (10V) = lowest output (0%)

Open (0V) = highest output (100%)

2.4.5. 0-10V

Often referring to the same operation of 1-10V, 0-10V can mean that a sub-controller or dimmable fitting is set up to receive a control voltage generated by the master controller. A resistive dimmer may not work with a 0-10V system so it is worth checking the exact meaning from the manufacturer.

KKDC have adopted the following understanding:

- 1-10V – device will operate and respond to resistive control, and receiving supply control voltage.
- 0-10V – device will only operate when supplied with a control voltage.

2.4.6. KNX

A standardised control protocol for intelligent building control. The standard is administered by the KNX Association, where by a list of compliant manufactures are listed on the KNX website. Its aim is to standardise control protocol to avoid compatibility issues through the systems used in building control.

2.4.7. Power supply unit (PSU)

Refers to the devise that produces the, normally low voltage, DC signal for equipment and lighting products. PSU's have a wide range of power variations available with various constant current or constant voltage outputs. Also dimmable PSU's are available, which normally receive a control signal and output a PWM supply to the light source.

2.4.8. Driver

General term for a power supply unit or power supply circuit.

KKDC have adopted the following understanding:

- PSU – for constant voltage power sources
- Driver – for devices performing constant current power conversion

2.4.9. Pulse width modulation (PWM)

An electronic method for varying the power supplied to LED light sources through rapid switching. Adjustment of pulse duration or duty cycle gives rise to variations in brightness for dimming and colour mixing.

2.4.10. visDIM

KKDC's term for the technology in our range of dimmable sub-controllers and dimmable PSU's, which utilise a high frequency PWM output of 1.1~1.2KHz. visDIM provides extremely stable dimming environments for a range of dimming protocols.

2.5. LED

2.5.1. Bin/Binning

During manufacture, LED dice will have significant performance variations and can be sorted or 'binned' in to smaller groups according to spectral distribution, luminous intensity and forward voltage for example. The application of phosphors during the packaging of white LED's introduces further variations in colour and performance which may in turn be 'binned'. The scale and parameters of the bins used will often determine the colour consistency and cost of finished white LED products – (co-ordinates (x, y or u', v') of quadrangles on colour space plots are used to document colour consistency of binned white LEDs).

2.5.2. Phosphors

Absorbs a specific spectrum of wavelengths and re-emits light a wider range of wavelengths. In most white LEDs, the die is emitting a small range of blue wavelengths and the phosphor is absorbing this and re-emitting light across the green and red

2.5.3. Die

Term for the manufactured semiconductor junction component/s within an LED package. A 3 chip or tri-chip LED having 3 dice in a single LED package.

2.5.4. LED array

An assembly of LED packages on a printed circuit board or substrate.

2.5.5. Heat sink

In LED lighting – a component or assembly to conduct and dissipate heat away from an LED package. KKDC products have heat sinking elements as integral parts of the product design and require no additional heat sink under all normal operating conditions.

2.5.6. LED lifetime

The useful lifetime of an LED light source in hours.

L70 (lifetime to 70% of initial lumen output) has become a standard way of stating lifetime. The length of time an LED light source actually performs to an acceptable standard, depends on most aspects of design and manufacture, including quality of source components and thermal, electrical and environmental operating conditions.

Poor design, components, manufacture or operation can result in premature loss of light output, colour shifts and failure. The LM80 lumen maintenance test can provide data that can be extrapolated to give more reliable L70 lifetime figures.

2.5.7. LED package

An assembly or encapsulation of one or more LED dice that contains wire bond connections along with any phosphors, optical elements and thermal or mechanical structures.

The complete LED component for incorporation into arrays and finished products.

2.5.8. Temperature – T_a/T_c/T_j

T_a – Ambient temperature;

T_c – Reference point (Case) temperature;

T_j – Junction temperature.

Values for these are often quoted in the testing of LED components, specification of LED products and discussion of thermal design of LED products.

T_j is the temperature at the semiconductor junction within an LED die. Heat produced must be removed by efficient thermal design of LED package, PCB and housing in order that T_j does not exceed a specified maximum (T_j max) or degradation of performance and failure may occur.

T_a is the temperature of the surroundings. In KKDC specifications T_a is given as a range of temperatures within which the product is designed to operate.

T_c, in testing of products, may refer to any named reference point where temperature is measured. In KKDC products T_c is given as a maximum value which the outside of a product housing or mounting may reach in operation within the T_a range given.

2.5.9. Thermal management

Referring to the practical steps taken by the designers of LED packages and LED lighting products, to ensure that heat is conducted and dissipated away from the light producing junction within an LED package. In general, higher LED light output requires more electrical power which, in turn, generates more heat. Failure to address this adequately leads to degradation of output power, colour quality and ultimately premature LED failure.

2.5.10. Thermal resistance

Describes the heat conducting or transferring properties of a material, component or assembly. Expressed in degrees Celsius per Watt (°C/W). Thermal resistance is minimised in the design of high quality LED lighting products.

3. Standards

3.1. Organisations

3.1.1. UKAS

The United Kingdom Accreditation Service, quoted from the UKAS website, about UKAS section; 'The United Kingdom Accreditation Service is the sole national accreditation body recognised by government to assess, against internationally agreed standards, organisations that provide certification, testing, inspection and calibration services.'

UKAS also provide an online accreditation Test Schedule, which anybody can use to see what companies are accredited and what measurements the organisation can perform under the accredited conditions.

3.1.2. IEC

International Electrotechnical Commission, quoted from IEC website, about IEC; 'Millions of devices that contain electronics, and use or produce electricity, rely on IEC International Standards and Conformity Assessment Systems to perform, fit and work safely together.

It is the IEC for instance, who produced IEC 60598-1 for Luminaires – Part 1: General requirements and tests

3.1.3. BSI

British Standards Institution. A business standards company providing manufacturers and service providers with assessment, certification and specification of British, European and international standards and quality marks.

3.1.4. IESNA

Illuminating Engineering Society of North America (IES or IESNA) are a non-profit organisation whose mission statement is: 'The IES seeks to improve the lighted environment by bringing together those with lighting knowledge and by translating that knowledge into actions that benefit the public.' The IES have developed some of the now commonplace global standards for measuring light such as LM79, and LM80. The IES constantly updates standards to reflect the evolving industry.

3.1.5. ANSI

The American National Standards Institute. Co-ordinates and accredits national and international standards meeting the needs of American organisations and companies. Lighting performance is one area in which their standards have reached international prominence.

3.1.1. OSHA

Occupational Safety and Health Administration is the main federal agency in the U.S. that is charged with the enforcement of safety and health legislation. Their Nationally Recognised Testing Laboratory (NRTL) Program recognises independent or private sector laboratories or organisations and signifies that qualifications specified in the regulations are met and maintained.

3.1.1. ISO

Comprised of representatives from various national standards organisations, the International Organisation for Standardisation produces international standards.

3.2. Standards

3.2.1. LM79-08

LM79-08 defines the "Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products" developed by the IES. It provides absolute photometric, colorimetric and electrical data for luminous flux, chromaticity, CCT and CRI for complete LED products. LM79 allows fair comparison of LED lighting products and evaluation for use in particular environments.

KKDC products have been independently tested by an accredited UK laboratory and testing facility to the LM79 standards.

3.2.2. LM80

Developed by the IES is the standard for "Approved method for measuring lumen depreciation of LED light sources." It is important to note that LM80 covers light sources (LED chips, arrays and modules) not lamps and luminaires.

It provides guidance for measuring lumen maintenance by testing for at least 6000 hours at 3 different case temperatures: 55°C, 85°C and another manufacturer specified.

3.2.3. TM-21

TM-21 provides the extrapolation method for LM-80 measurements. This provides lumen maintenance predictions for either 5.5 or 6 times the measured data, dependant on sample size tested.

3.2.4. CE

Mandatory conformity marking for products sold in the European Economic Area (EEA). The marking is the manufacturer's declaration that the product meets the specific requirements applicable to that product.

3.2.5. RoHS Directive 2002/95/ECN

The Restriction of Hazardous Substances Directive (RoHS), is a European directive that has become law in EC member countries now law that restricting the use of several hazardous materials in the manufacture of electronics.

3.2.6. WEEE

The Waste Electrical and Electronic Equipment Directive is the European Community directive 2002/96/EC developed to reduce the amount of waste electrical and electronic equipment being scrapped into landfills by promoting recycling.

4. Manufacturing terms

4.1. Machining

4.1.1. Extruding

Extruding or extrusion is a process of manufacturing an object with a fixed cross section. The process involves a material being pushed or drawn through a mould or die of the desired cross section. KKDC uses this process for housing and diffused and clear cover production.

4.1.2. CNC machining

An automated machining process in manufacturing; drilling, milling or cutting material as per a digital program or drawing. KKDC utilises in-house CNC machining for manufacture of end caps and SIL end caps for example.

4.1.3. Ultrasonic welding

A low heat method for joining suitable plastics, utilised in KKDC's Luna range.

4.1.4. SMT

SMT stands for surface-mount technology. Replacing through hole techniques in the production of electronic circuit boards, SMT allows more compact products and more automation in their manufacture.

KKDC has SMT machine processes in the manufacture of all our linear LED light sources.

4.2. Surface treatment

4.2.1. Anodising

An electrolytic process producing a very hard oxide layer on the surface of aluminium parts. Anodising can protect against corrosion in harsh chlorinated or marine environments and can also incorporate coloured dyes for decorative effect.

4.2.2. Silicone

Any one of a class of largely inert, synthetic polymer compounds used for sealing and encapsulation in some KKDC products. Thermal, optical and environmental factors govern the choice of compound for a particular application.

4.2.3. VP – Vacuum Plating

A protective conformal coating produced by vacuum deposition polymerisation techniques on circuit boards and assemblies to prevent dust and moisture ingress. KKDC use this process within some products to enhance waterproofing and protection of components.

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e: info@kkdc.co.kr
www.kkdc.lighting

KKDC **R&D Centre/ Showroom**
(opening soon,
Magok New Town in Seoul)
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www.kkdc.lighting

KKDC **Design House**
117 Airport House
Purley Way
Croydon
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United Kingdom
t: +44 (0) 20 8781 1952
e: info@kkdcdesignhouse.com
www.kkdcdesignhouse.com

Terms and Conditions

1. THESE TERMS AND CONDITIONS OF SALE ESTABLISH THE RIGHTS, OBLIGATIONS AND REMEDIES OF KKDC AND THE CUSTOMER WHICH APPLY TO ANY CONTRACT FOR THE PURCHASE OF KKDC'S GOODS. NO ADDITIONAL OR DIFFERENT TERMS OR CONDITIONS, WHETHER CONTAINED IN THE CUSTOMER'S ORDER FORM OR ANY OTHER DOCUMENT OR COMMUNICATION PERTAINING TO THE CUSTOMER'S ORDER, WILL BE BINDING UPON KKDC UNLESS ACCEPTED IN WRITING, AND KKDC HEREBY EXPRESSLY OBJECTS TO ANY SUCH TERMS AND CONDITIONS WHICH SHALL BE DEEMED INEFFECTIVE AND ARE REJECTED

2. Interpretation

2.1 In these conditions, unless the contrary intention appears:

2.1.1 **Confidential Information** has the meaning as set out in clause 15.1;

2.1.2 **contract** means any contract or agreement whatsoever made by KKDC to supply any goods to the customer, whether resulting from the acceptance by KKDC of an order given by a customer, the acceptance by a customer of a quote from KKDC or otherwise;

2.1.3 **contract price** means the total of the prices specified for the Supply by KKDC to a customer;

2.1.4 **KKDC** means KKDC Pty Ltd ACN 117 624 370 being a company duly incorporated under the laws of Australia and having its registered office at Suite 305, 160 Rowe Street, Eastwood in the State of New South Wales;

2.1.5 **customer** means a customer of KKDC who buys goods from KKDC;

2.1.6 **goods** means any or all of the products the subject of Supply by KKDC to a customer;

2.1.7 **order** means any offer to purchase the goods from KKDC made by a customer;

2.1.8 **parties** means both KKDC and the customer;

2.1.9 **party** means KKDC and the customer;

2.1.10 **price** means, in relation to any goods, the price of those goods;

2.1.11 **Supply** means the supply of any goods the subject of any contract; and

2.1.12 **Tax** means sales tax, GST, value added tax, retail tax or any other tax or duty that may be imposed on or in relation to any Supply made by KKDC;

2.1.13 a reference to a clause is a reference to a clause of these conditions;

2.1.14 where any word or phrase is given a definite meaning in these conditions, any part of speech or other grammatical form of that word or phrase has a corresponding meaning;

2.1.15 a reference to a statute, statutory provision or regulation includes all amendments, consolidations or replacements thereof;

2.1.16 headings and captions are for convenience or reference only and do not alter the meaning or interpretation of these conditions;

3. Orders & Specifications

3.1 The customer shall be responsible for ensuring the accuracy of the terms of any order (including any applicable specification) submitted by the customer, and for giving KKDC any necessary information relating to the Supply within a sufficient time to enable KKDC to perform the contract in accordance with its terms.

3.2 The quantity, quality and description of and any specification for the Supply shall be those set out in the quotation (if accepted by the customer) or the customer's order (if accepted by KKDC).

3.3 If the goods are to be manufactured or any process is to be applied to the goods by KKDC in accordance with a specification submitted by the customer, the customer shall indemnify KKDC against all loss, damages, cost and expenses awarded against or incurred by KKDC in connection with or paid or agreed to be paid by KKDC in settlement of any claim for infringement of any patent, copyright, design, trade mark or other industrial or intellectual property rights of any other person which results from KKDC's use of the customer's specification.

3.4 KKDC reserves the right to make any changes in the specification of the goods which are required to conform to any applicable statutory requirements or, where the goods are to be supplied to the customer's specification, which do not materially affect their quality or performance.

3.5 No order which has been accepted by KKDC may be cancelled by the customer except with the written consent of KKDC and on terms that the customer shall indemnify KKDC in full against all loss (including loss of profit), costs (including the cost of all labour and material used), damages, charges and expenses incurred by KKDC as a result of cancellation.

3.6 The customer may issue a written change order to request changes within the scope of the contract. Such requests are subject to acceptance by KKDC.

3.7 KKDC will inform the customer if the change will cause an increase in KKDC's costs or time required to perform the contract. The change will become effective, and KKDC will commence performance, only upon execution of a written amendment to the contract.

3.8 Unless otherwise agreed in writing, upon performance of the change order KKDC will be entitled to invoice the customer and the customer shall be obligated to pay for the costs of the change, even if KKDC agreed to proceed with the change prior to execution of an amendment.

3.9 KKDC reserves the right to establish minimum order sizes or to reject purchase orders if KKDC does not have sufficient capacity to fulfil such orders.

3.10 KKDC reserves the right to change its prices if series production ends, or if, from the time of quotation:

3.10.1 raw material prices have changed; or

3.10.2 actual volume is less than forecast volume; or

3.10.3 there is any significant change in economic circumstances.

4. Terms of Payment

4.1 Time for payment of the price for any Supply is of the essence in any contract.

4.2 Payment must be made in the applicable currency quoted.

4.3 If KKDC:

4.3.1 accepts an order, and KKDC has not agreed in writing to extend credit to the customer, the customer must pay the contract price to KKDC in full on delivery of the goods; or

4.3.2 has agreed in writing to extend credit to the customer, the customer must pay the contract price to KKDC in full prior to the end of the month following the date of the invoice sent by KKDC in relation to that Supply.

4.4 If the customer is delinquent in its payment obligation to KKDC, KKDC may upon written notice to the customer stop work and withhold future shipments until all delinquent amounts and late interest, if any, are paid. Additionally, KKDC may at its option:

4.4.1 repossess goods for which payment has not been made;

4.4.2 charge interest on delinquent amounts at the maximum rate permitted by law for each full or partial month;

4.4.3 recover all costs of collection, including but not limited to reasonable legal fees;

4.4.4 combine any of the above rights and remedies as may be permitted by applicable law.

4.5 These remedies are in addition to all other remedies available at law or in equity.

4.6 KKDC may re-evaluate the customer's credit standing at all times.

4.7 If KKDC reasonably determines in its sole discretion that the customer fails to qualify for the above payment terms at any time, then KKDC may without notice to Buyer modify or withdraw credit terms, including but not limited to requiring advance payment, guarantees, or other security.

5. Setoff

5.1 The customer will not set off or recoup invoiced amounts or any portion thereof against sums that are due or may become due from KKDC.

6. Taxes

6.1 All prices are in the applicable currency of the contract.

6.2 If, notwithstanding the provisions hereof, the customer's terms and conditions of purchase are deemed to apply by a court of competent jurisdiction, then KKDC reserves the right to either:-

6.2.1 modify the prices (including retroactively) according to the additional level of risk and responsibility that the customer's terms and conditions require KKDC to undertake; or

6.2.2 cancel the contract any time after such determination without liability for such termination other than for the goods already delivered on the terms set out herein;

6.3 Unless otherwise expressly agreed by, or shown on an invoice issued by KKDC, the prices specified do not include any charges for services such as packaging; insurance; or brokerage fees. KKDC's pricing excludes all taxes (including but not limited to, sales, use, excise, value-added, and other similar taxes), duties and charges.

6.4 The customer is responsible for all such taxes, duties and charges resulting from a contract or as a result of KKDC's performance hereunder, whether now or hereafter imposed, levied, collected, withheld, or assessed.

6.5 If KKDC is required to impose, levy, collect, withhold or assess any such taxes, duties or charges on any transaction under these terms, then in addition to the price, KKDC will invoice the customer for such taxes, duties, and charges unless at the time of order placement the customer furnishes KKDC with an exemption certificate or other documentation sufficient to verify exemption from such taxes, duties or charges.

7. Delivery and Costs

7.1 KKDC will not be liable for any delays or increased costs caused by a failure of the customer, such as delays in providing necessary information.

7.2 KKDC may, but is not obliged to, deliver the goods to the customer's premises, in accordance with KKDC's usual practices, but if:

7.2.1 the customer requests another method of delivery; or

7.2.2 KKDC elects to use an independent courier to deliver the goods; KKDC may arrange another form of transport with that independent courier by a separate contract, and the customer must pay to KKDC on demand any costs of that courier incurred by KKDC.

7.3 KKDC reserves the right to quote additional charges for any special routing, packing, labeling, handling or insurance required by the customer.

7.4 Where the goods are to be delivered in installments, each delivery shall constitute a separate contract and failure by KKDC to deliver any one or more of the installments in accordance with these conditions or any claim by the customer in respect of any one or more installments shall not entitle the customer to treat the contract as a whole as repudiated.

7.5 If KKDC fails to deliver the goods (or any installment) for any reason other than any cause beyond KKDC's reasonable control or the customer's fault, and KKDC is accordingly liable to the customer, KKDC's liability is limited to the excess (if any) of the cost of the customer (in the cheapest available market) of similar goods to replace those not delivered over the price of the goods.

7.6 If delivery of the goods fail (otherwise than by reason of any cause beyond the customer's reasonable control or by reason of KKDC's fault) then, without prejudice to any other right or remedy available to KKDC, KKDC may:

7.7 Store the goods at the customer's risk and expense and, may invoice the customer just as if there had been no delay in delivery and charge the customer for the reasonable costs (including insurance) or storage; or

7.7.1 Sell the goods at the best readily obtainable and (after deducting all reasonable storage and selling expenses) account to the customer for the excess over the price under the contract or charge the customer for any shortfall below the price under the contract

8. Export and Import Compliance

8.1 The customer is responsible for compliance with all import and export control laws and regulations. The customer will obtain import, export, and re-export approvals and licenses required for goods delivered and will retain documentation evidencing compliance with those laws and regulations.

8.2 KKDC will not be liable to the customer for any failure to provide goods as a result of government actions that impact KKDC's ability to perform, including:

8.2.1 The failure to provide or the cancellation of export or re-export licenses;

8.2.2 Any subsequent interpretation of applicable import, transfer, export or re-export law or regulation after the date of any order or commitment that has a material adverse effect on KKDC 's performance; or

8.2.3 Delays due to the customer's failure to follow applicable import, export, transfer, or re-export laws and regulations.

8.3 If the customer designates the freight forwarder/independent courier for export shipments from Australia, then the customer's forwarder/independent courier will export on the customer's behalf and the customer will be responsible for any failure of the customer's forwarder/independent courier to comply with all applicable export requirements. KKDC will provide the customer's designated freight forwarder/ independent courier with required commodity information.

9. Hardship

9.1 If for any reason KKDC's production or purchase costs for the goods (including without limitation costs of energy, equipment, labour, regulation, transportation, raw material, or goods) increases over KKDC's production or purchase costs for the goods on the date of entering into a contract, then KKDC may, by written notice to the customer of such increased costs, request a renegotiation of the price of the goods under a contract. In the event the parties are not able to agree on a revised price within 10 days after a request for renegotiation is given, then KKDC may terminate the contract on 10 days written notice to the customer.

10. Acceptance

10.1 Unless other acceptance criteria have been expressly agreed to by the parties under a contract the customer will inspect goods within a reasonable period after delivery not to exceed 30 calendar days.

10.2 Goods are presumed accepted unless KKDC receives written notice of rejection explaining the basis for proper rejection within the same timeframe.

10.3 KKDC will have a reasonable opportunity to repair or replace rejected goods, at its option.

10.4 Following initial delivery, the party initiating shipment will bear the risk of loss or damage to goods in transit.

10.5 If KKDC reasonably determines that rejection was improper, the customer will be responsible for all expenses caused by the improper rejection.

10.6 Subject to clause 10.5, KKDC assumes shipping costs in an amount not to exceed normal surface shipping charges to KKDC's designated facility for the return of properly rejected goods.

11. Title and Property

11.1 The title to and property in the goods will not pass from KKDC to the customer until the customer has paid the contract price in full (other than the costs of any independent courier referred to in clause 7.2) to KKDC in accordance with these conditions. Until then, the customer:

11.1.1 holds the goods in a fiduciary relationship with KKDC as bailee only;

11.1.2 must keep the goods separate from other items it holds and must not resell or transfer possession of the goods;

11.2 If the customer:

11.2.1 fails to pay the contract price in full when due;

11.2.2 pays for the goods by cheque (in whole or in part) and that cheque is not met on presentation;

11.2.3 commits any act of bankruptcy, becomes bankrupt, or is insolvent under administration, as defined in section 9 of the Corporations Act;

11.2.4 is or becomes insolvent within the meaning as given by any of section 9 and subsection 95A (2) of the Corporations Act or regulation 7.5.02 of the Corporations Regulations; or

11.2.5 has a controller appointed, as defined in section 9 of the Corporations Act, in respect of any of the customer's property;

11.3 KKDC may:

11.3.1 enter onto the premises where the goods are situated; and

11.3.2 repossess the goods, notwithstanding that the goods may have been affixed to any structure by KKDC or the customer, and if necessary for that purpose, may sever the goods from any structure to which they may have been affixed.

11.4 If KKDC repossesses the goods, it reserves the right to resell them.

11.5 The customer must also indemnify and keep KKDC indemnified against, and pay to KKDC, all expenses, loses and damages incurred or sustained by KKDC as a result of, or in relation, to KKDC exercising its rights under:

11.5.1 this clause;

11.5.2 under any other term, express or implied, of these conditions; or

11.5.3 otherwise at law or in equity, and

11.5.4 any bank or other costs, charges or expenses incurred by KKDC resulting from any customer's cheque not being met on presentation

12. Risk and Insurance

12.1 Notwithstanding clauses 7 and 11, the goods will be at the customer's risk after they leave KKDC's premises.

12.2 If the customer requests it in writing, KKDC may, at the customer's expense, insure the goods.

13. Compliance with Laws

13.1 The customer shall comply with all local laws and regulations applicable to the installation, use or import of all goods delivered under a contract. As a condition of purchase the customer shall comply with all applicable export control laws and regulations of Australia, the United States, the European Union and any other country having proper jurisdiction and shall obtain all necessary export licenses in connection with any subsequent export, re-export, transfer and use of all goods delivered under a contract.

14. LIMITED WARRANTY

14.1 KKDC DISCLAIMS ALL WARRANTIES, WHETHER WRITTEN, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE.

14.2 No provision of these conditions purports to exclude, restrict or modify or have the effect of excluding, restricting or modifying:

14.2.1 the application in relation to the supply of the goods of any provision of the Trade Practices Act 1974 or of any similar State or Federal legislation that may not be excluded, restricted or modified;

14.2.2 the exercise of a right conferred by such provision; or

14.2.3 subject to clauses 14.2.3.1, 14.2.3.2, 14.2.3.3 and 14.2.3.4 any liability of KKDC for breach of a condition or warranty implied by such a provision of Division 2 of Part V of the Trade Practices Act 1974, or of any similar State or Federal legislation where KKDC may similarly limit its liability, will be limited to any one of the following:

14.2.3.1 the replacement of the relevant goods or the supply of equivalent goods;

14.2.3.2 the repair of the relevant goods (excluding costs of removal and installation)

14.2.3.3 the payment of the costs of replacing the relevant goods, or of acquiring equivalent goods; or

14.2.3.4 the payment of the costs of having the relevant goods repaired; and KKDC may in its sole discretion determine which of the foregoing limits will apply in any case.

15. Confidentiality

15.1 'Confidential Information' means:

15.1.1 any information, technical data or know-how in whatever form, including, but not limited to, documented information, machine readable or interpreted information, information contained in physical components, mask works and artwork, that is clearly identified as being confidential, proprietary or a trade secret;

15.1.2 business related information including but not limited to pricing, manufacturing, or marketing;

15.1.3 the terms and conditions of any proposed or actual contract between the parties;

15.1.4 either party's business policies, or practices; and

15.1.5 the information of others that is received by either party under an obligation of confidentiality.

15.2 The receiving party will keep all Confidential Information disclosed hereunder confidential for a period of 5 years following the expiration or termination of a contract.

15.3 Each party will retain ownership of its Confidential Information including, without limitation, all rights in patents, copyrights, trademarks and trade secrets.

15.4 No right or license is granted hereby to a party or its customers, employees or agents, expressly or by implication, with respect to the Confidential Information or any patent, patent application or other Confidential right of the other party, notwithstanding the expiration of the confidentiality obligations stated herein.

15.5 KKDC agrees to use the Confidential Information of the customer only to provide goods for the customer. The customer agrees that it will not use or disclose KKDC's Confidential Information for any purpose besides the purchase or use of goods under these terms.

15.6 The customer will not use KKDC's Confidential Information for the manufacture or procurement of parts that are the subject of these conditions or any similar parts or to cause such goods to be manufactured or procured from any other source.

15.7 The receiving party has no duty to protect information that is proven by written records to be:

15.7.1 publicly known at the time of disclosure or becomes publicly known through no fault of recipient;

15.7.2 known to recipient at the time of disclosure through no wrongful act of recipient;

15.7.3 received by recipient from a third party without restrictions similar to those in this section; or

15.7.4 independently developed by recipient

16. Intellectual Property

16.1 Any design, source code, drawing, description, model, documentation, sample and/or the like, created by KKDC, shall remain the intellectual property of KKDC

16.2 Intellectual property may only be used under license from KKDC

16.3 The customer agrees not to remove or alter any indicia of manufacturing contained on or within the goods, including without limitation trademarks on nameplates or cast or machined components.

17. LIMITATION OF LIABILITY

17.1 IN NO EVENT WILL KKDC BE LIABLE TO COMPENSATE OR INDEMNIFY THE CUSTOMER FOR ANY LOSS OR DAMAGE SUFFERED OR INCURRED BY THE CUSTOMER IN RELATION TO THE ORDER, THE GOODS, OR THEIR DELIVERY, MIS-DELIVERY OR NON-DELIVERY FOR ANY INCIDENTAL DAMAGES, CONSEQUENTIAL DAMAGES, SPECIAL DAMAGES, PUNITIVE DAMAGES, STATUTORY DAMAGES, INDIRECT DAMAGES, LOSS OF PROFIT'S, LOSS OF REVENUES, OR LOSS OF USE, EVEN IF INFORMED OF THE POSSIBILITY OF SUCH DAMAGES.

17.2 KKDC'S LIABILITY FOR DAMAGES ARISING OUT OF OR RELATED TO THESE CONDITIONS SHALL IN NO CASE EXCEED THE AMOUNT ACTUALLY PAID TO KKDC FOR THE GOODS FROM WHICH THE CLAIM AROSE. TO THE EXTENT PERMITTED BY APPLICABLE LAW, THESE LIMITATIONS AND EXCLUSIONS WILL APPLY REGARDLESS OF WHETHER LIABILITY ARISES FROM BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING BUT NOT LIMITED TO NEGLIGENCE), BY OPERATION OF LAW, OR OTHERWISE. NOTHING HEREIN, HOWEVER, IS INTENDED TO DISCLAIM KKDC'S LIABILITY FOR PERSONAL INJURY OR DEATH CAUSED BY DEFECTIVE GOODS TO THE EXTENT SUCH LIABILITY IS MANDATED BY APPLICABLE LAW.

17.3 The customer's sole remedy for any defective goods will be the repair or replacement of the defective goods.

18. Governing Law

18.1 Any Supply by KKDC to the customer, and the construction and interpretation of these conditions, shall be governed by the laws of New South Wales including the United Nations Convention on the International Sale of Goods of 1980 (and any amendments or successors thereto) and any dispute not resolved by the parties shall be subject to the exclusive jurisdiction of the Courts of New South Wales.

19. Dispute Resolution

19.1 If a dispute arises out of or relates to these conditions, or the breach, termination, validity or subject matter thereof, or as to any claim in tort, in equity or pursuant to any domestic or international statute or law, the parties to the contract and to the dispute expressly agree to endeavour in good faith to settle the dispute by mediation administered by the Australian Commercial Disputes Centre (ACDC) before having recourse to arbitration.

19.1.1 A party claiming that a dispute has arisen, must give written notice to the other party to the dispute specifying the nature of the dispute.

19.1.2 On receipt of the notice specified in clause 19.1.1, the parties to the dispute must within 7 days of receipt of the notice seek to resolve the dispute.

19.1.3 If the dispute is not resolved within 7 days or within such further period as the parties agree then the dispute is to be referred to ACDC.

19.1.4 The mediation is to be conducted in accordance with ACDC Mediation Guidelines which set out the procedures to be adopted, the process of selection of the mediator and the costs involved and which terms are deemed incorporated.

19.2 In the event that the dispute has not settled within 28 days or such other period as agreed to in writing between the parties after the appointment of the mediator, the dispute is to be submitted to arbitration (administered by ACDC) and conducted in accordance with ACDC's Arbitration Guidelines available at https://www.acdcltd.com.au. The arbitrator is not to be the same person as the mediator.

19.2.1 Any such arbitration is to be administered by ACDC.

19.2.2 The appointing authority is to be ACDC.

19.2.3 The number of arbitrators is to be one.

19.2.4 The place of arbitration is to be New South Wales, Australia.

19.2.5 The language to be used in the arbitral proceedings is to be English.

20. General

20.1 Any notice required or permitted to be given by either party to the other under these conditions shall be in writing addressed to that other party at its registered office or principal place of business or such other address as may at the relevant time have been notified pursuant to this provision to the party given the notice.

20.2 No waiver by KKDC of any breach of these conditions by the customer shall be considered as a waiver of any subsequent breach of the same or any other provision nor shall any such waiver prejudice the right of KKDC to take any action in the future to enforce any provisions of a contract.

20.3 If any provision of these conditions is held by any competent authority to be illegal, invalid or unenforceable in whole or in part the validity of the other provisions of these conditions and the remainder of the provision in question shall not be affected and, in lieu of such illegal, invalid or unenforceable provision, there will be added, as part of these conditions, one or more provisions as similar in terms as may be legal, valid and enforceable under applicable law.

20.4 All provisions of these conditions which by their nature should apply beyond the term of a contract will remain in force after acceptance and complete performance of a contract, including but not limited to, the Payment, Confidentiality, Limitation of Liability and Dispute Resolution clauses.

20.5 The customer will not assign any rights or obligations under these conditions without the prior written consent of KKDC. KKDC may assign any rights or obligations under these conditions without the prior written consent of the customer.

20.6 For the avoidance of doubt nothing in these conditions shall confer on any third party any benefit or the right to enforce any term of these conditions.

KKDC would like to thank the following lighting design companies for use of project pictures.*

Mulberry Company (Sales) Ltd
www.mulberry.com

J. Choo Limited
www.jimmychoo.com

iLAB independent Specialist Architectural Lighting Consultants
www.ilab.ac

Lighting Design International
www.lightingdesigninternational.com

PointOfView
www.pov.com.au

DPA Lighting Consultants
www.dpalighting.com

Wainbridge Limited
www.wainbridge.com

Serra Eclairage
www.serraeclairage.com

* Whilst every effort has been made to accurately depict KKDC product in context with use of genuine project photography, some images may be for illustrative purposes only.

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