

Catalog 2.0 US version

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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 Korean facility outside Seoul, with product design and marketing from our London offices.

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, 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.

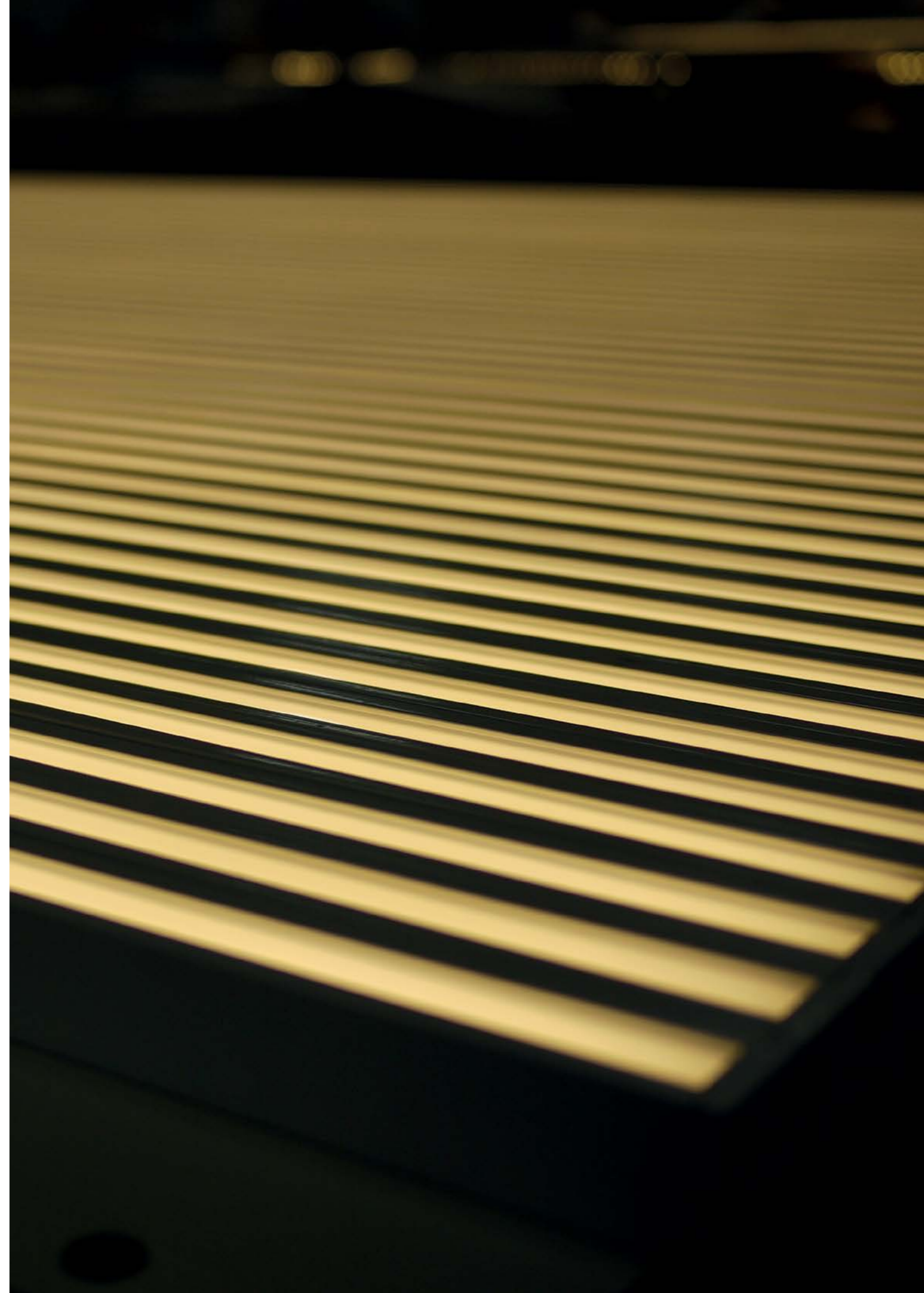
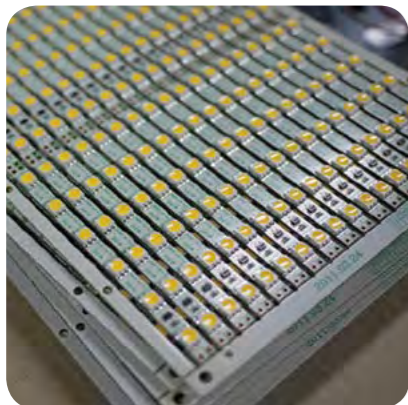
Optical, electronic, thermal and mechanical aspects of LED product design are significantly interdependent. To maximise the capability of current technology requires careful balance throughout the whole design process. With comprehensive control of source components and the expertise and facility to 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, color temperature and color 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 color 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 Color

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 color 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 Color Rendering Index (>90), with significantly superior R9 values, is now a standard product feature.*

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

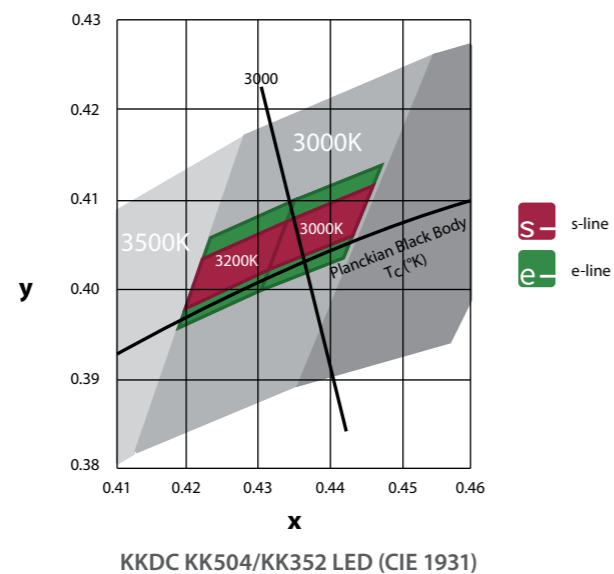
Every length of KKDC linear LED product manufactured is etched with a unique project code and the LED's within are traceable. If a project is duplicated or extended, or if products are damaged in use – even years after installation – we ensure an accurate color match by manufacturing LED packages to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

s-line & e-line

Because not all projects and installation locations benefit from the highest degree of consistency in color 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.

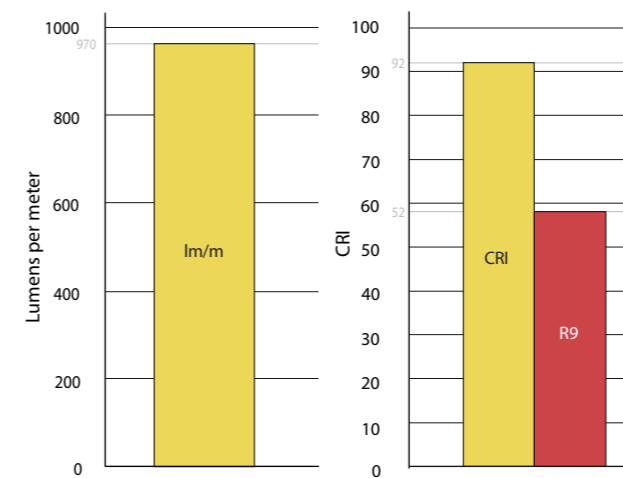
Identical in chip type and phosphors, all s-line and e-line products share the same high quality electrical and mechanical components providing specifiers with a simple choice to suit project requirements and budgets.



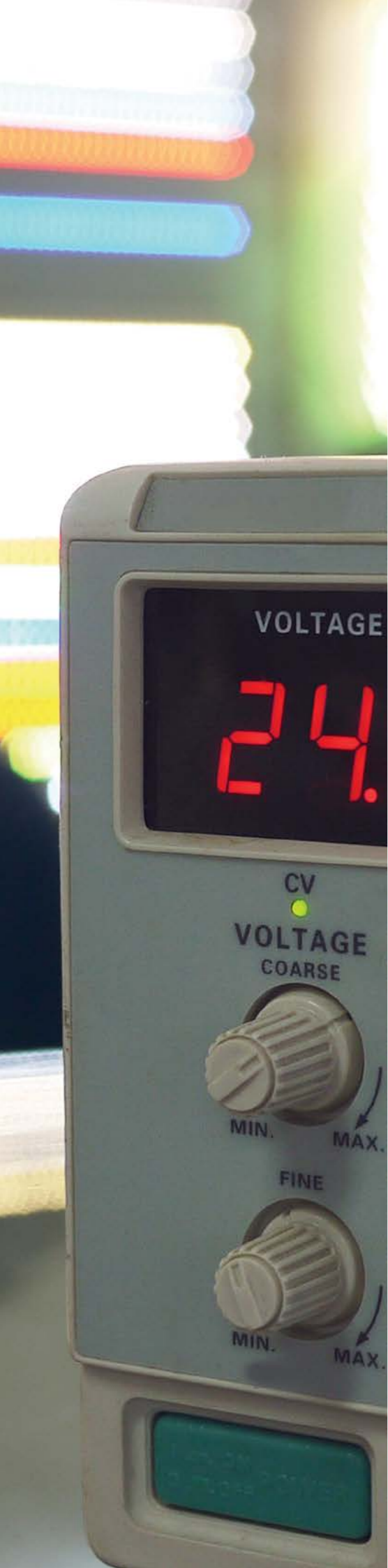
* Only applies to s-line and e-line product ranges.

Key points:

- Visible and measured color consistency – within linear products, between product ranges and across multiple projects over time.
- KKDC color temperatures and hue characteristics – our specification through design.
- Flexible or rigid PCB; the color 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 – Color consistency choice to match project requirements.
- KKDC color characteristics are developed, tested and tuned in collaboration with leading lighting designers.



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



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 color 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 and UL certification, all KKDC products maintain the most internationally recognized 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 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.

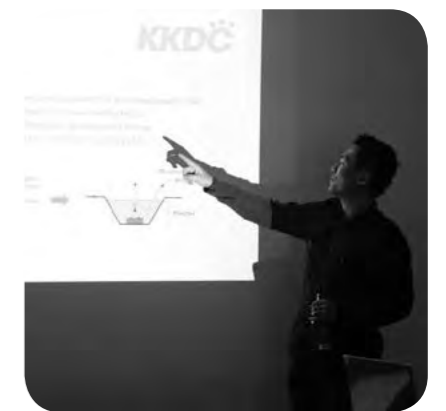
Mounting, housing, and powering our light sources to maintain a consistent quality of light within a durable luminaire is where product design experience and our broad competence and attention to detail in many engineering fields comes to the fore.

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 color 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 125 to 427 lumens per foot with high color rendering index (≥ 90).
- Wide choice of color temperatures; single colors, RGB, and variable XEN versions.

s-line

- 2 step package binning.
- Optimum color consistency for high quality/close proximity lighting.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K. Single colors: Red/Green/Blue/Orange/Amber.

e-line

- 3 step package binning.
- Good color consistency providing an economic choice when mounted over 11.8 inches from the illuminated surface.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K.

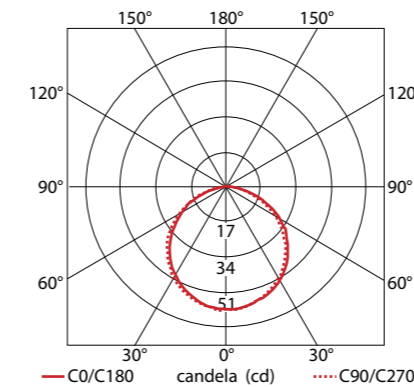
Note: To avoid any visible color differences we advise that s-line and e-line products should not share the same location.

LED strip options



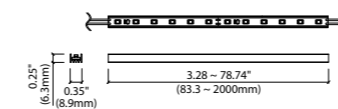
TiMi 352 s / e352 e

24V DC 1.68 W/ft 74.1 lm/W IP20



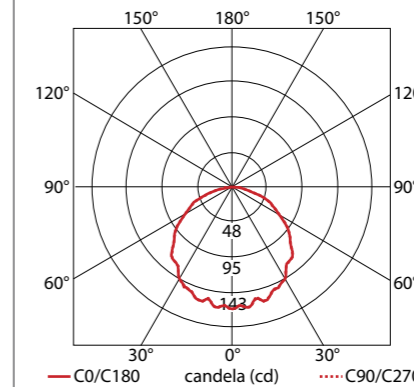
125lm/ft (409lm/m)

Luminous flux: 125lm/ft nominal (@ 3200K, No cover)
Size: H0.25/W0.35/L3.28-78.74" (H6.3/W8.9/L83.3-2000mm)
Chip: Toyoda Gosei
Beam angle: 115°
CRI: ≥ 90
Lifetime: 50,000 hours @ 77°F
Operating temp: $T_a = -13$ to 140°F (T_c max = 167°F)
IP rating: IP20
Finish: Silver anodized
Cover/Lens: No cover/Semi-diffused
Mounting: Surface mounting via clips
Connection: Hardwire tails or male/female connectors
Control: 0-10V/1-10V/DMX/DALI (see visDIM range)



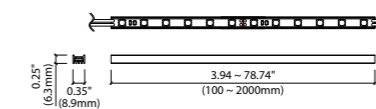
TiMi 504 s / e504 e

24V DC 3.73 W/ft 79.3 lm/W IP20



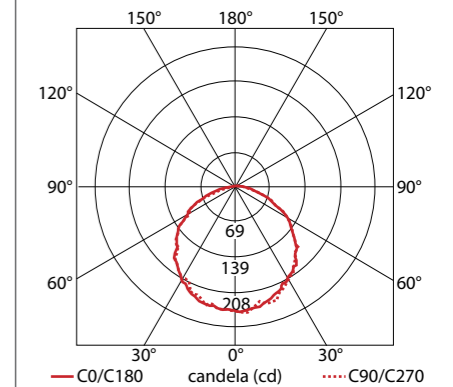
296lm/ft (971lm/m)

Luminous flux: 296lm/ft nominal (@ 3200K, No cover)
Size: H0.25/W0.35/L3.94-78.74" (H6.3/W8.9/L100-2000mm)
Chip: Toyoda Gosei
Beam angle: 100°
CRI: ≥ 90
Lifetime: 50,000 hours @ 77°F
Operating temp: $T_a = -13$ to 122°F (T_c max = 158°F)
IP rating: IP20
Finish: Silver anodized
Cover/Lens: No cover/Semi-diffused
Mounting: Surface mounting via clips
Connection: Hardwire tails or male/female connectors
Control: 0-10V/1-10V/DMX/DALI (See visDIM range)



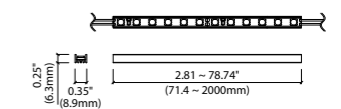
TiMi 508 s / e508 e

24V DC 5.27 W/ft 81 lm/W IP20

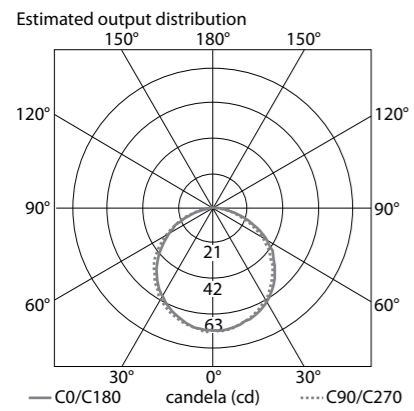


427lm/ft (1400lm/m)

Luminous flux: 427lm/ft nominal (@ 3200K, No cover)
Size: H0.25/W0.35/L2.81-78.74" (H6.3/W8.9/L71.4-2000mm)
Chip: Toyoda Gosei
Beam angle: 115°
CRI: ≥ 90
Lifetime: 50,000 hours @ 77°F
Operating temp: $T_a = -13$ to 104°F (T_c max = 158°F)
IP rating: IP20
Finish: Silver anodized
Cover/Lens: No cover/Semi-diffused
Mounting: Surface mounting via clips
Connection: Hardwire tails or male/female connectors
Control: 0-10V/1-10V/DMX/DALI (See visDIM range)



TiMi RGB



4.75W/ft (15.6W/m)

Luminous flux: Red: 39lm/ft
Green: 102lm/ft
Blue: 16lm/ft
White: 137lm/ft (No cover)

Size: H0.25/W0.35/L3.28-78.74"
(H6.3/W8.9/L83.3-2000mm)

Chip: Red TEKCORE/
Green EPILEDs/Blue 3E

Beam angle: 115°

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

CRI: N/A

Lifetime: 50,000 hours @ 77°F

Operating temp: T_a = -13 to 122°F
(T_c max = 176°F)

IP rating: IP20

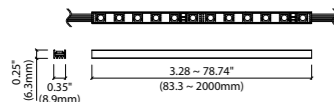
Finish: Silver anodized

Cover/Lens: No cover/Semi-diffused

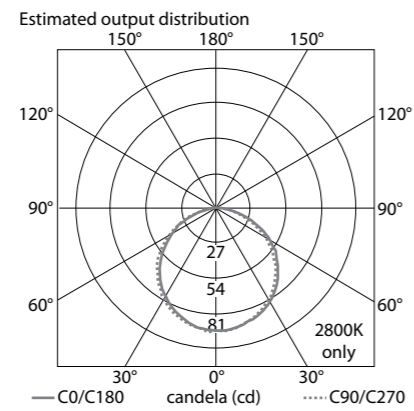
Mounting: Surface mounting
via clips

Connection: Hardwire tails or
male/female connectors

Control: DMX/DALI
(See visDIM range)



TiMi XEN



162lm/ft (532lm/m)

Luminous flux: 162lm/ft
(White 2800K, No cover)

Size: H0.25/W0.35/L3.94-78.74"
(H6.3/W8.9/L100-2000mm)

Chip: Citizen

Beam angle: 115°

Color: White: 2800K continuously
variable to amber

CRI: ≥80 (White 2800K)

Lifetime: 50,000 hours @ 77°F

Operating temp: T_a = -13 to 122°F
(T_c max = 167°F)

IP rating: IP20

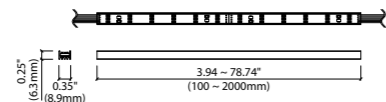
Finish: Silver anodized

Cover/Lens: No cover/Semi-diffused

Mounting: Surface mounting
via clips

Connection: Hardwire tails or
male/female connectors

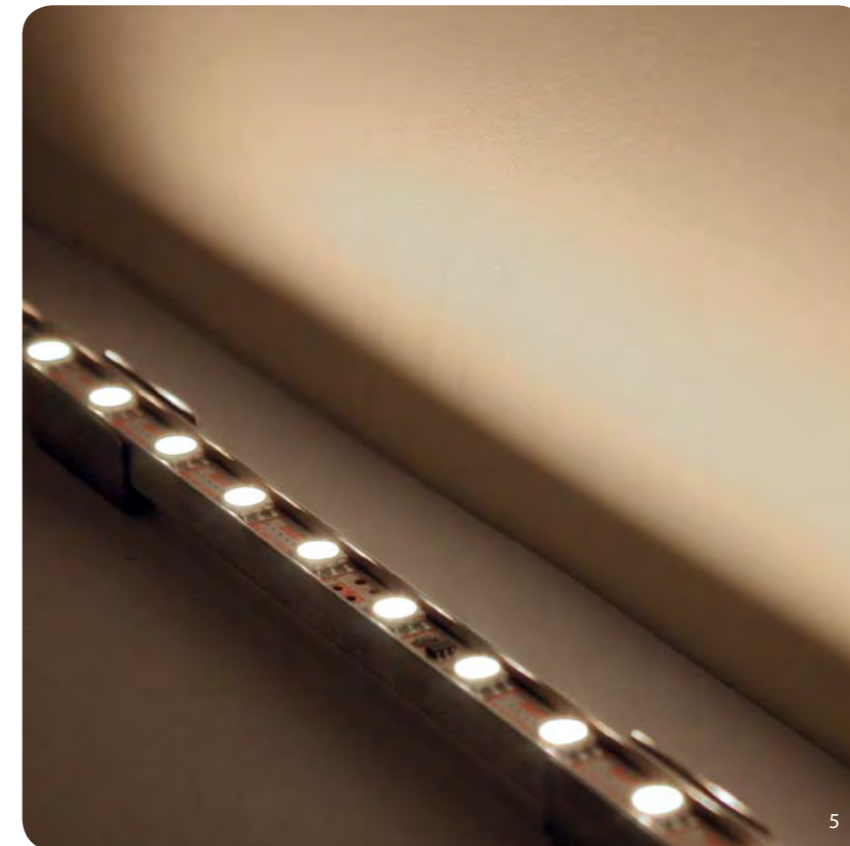
Control: 0-10V/1-10V/DMX/DALI
(See visDIM range)



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





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

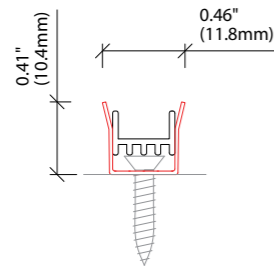
Left:
52 Martin Place, Sydney
Lighting Design: Point Of View

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



TiMi Accessories

Mounting Options



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

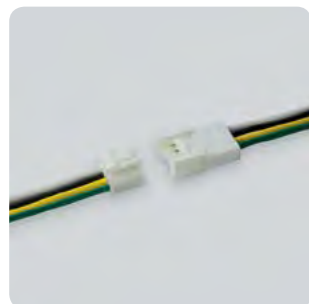
Connectors



KKCN-01 1.97" (50mm) pair
KKCN-03 11.81" (300mm) pair
 2 PIN male + female connector set



KKCN-07 1.97" (50mm) pair
KKCN-09 11.81" (300mm) pair
 4 PIN RGB male + female connector set



KKCN-18 1.97" (50mm) pair
KKCN-19 11.81" (300mm) pair
 4 PIN XEN/LEDmix male + female connector set



KKCN-06
 2 PIN 11.81" (300mm) extension lead

Connectors (Continued)



KKCN-11
 4 PIN RGB 11.81" (300mm) extension lead



KKCN-24
 4 PIN XEN/LEDmix 11.81" (300mm) extension lead

visDIM Control Gear Options



IP20
 Black plastic housing
 L6.46/W2.52/H1.34"
 (L164/W64/H34mm)

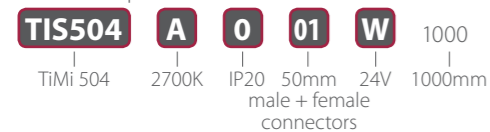
KKDM-04 0-10V/1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
 visDIM dimming sub-controllers
 (See Control Gear)

TiMi Code Table



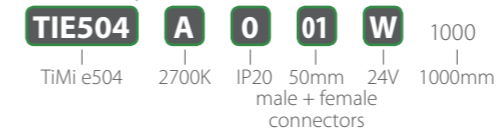
		TiMi 352 TIS352	TiMi 504 TIS504	TiMi 508 TIS508	TiMi RGB TIS501	TiMi XEN TIS006
LED Color	2100K	Q	•	•	n/a	n/a
	2300K	N	•	•	n/a	n/a
	2500K	S	•	•	n/a	n/a
	2700K	A	•	•	n/a	n/a
	3000K	P	•	•	n/a	n/a
	3200K	B	•	•	n/a	n/a
	3800K	C	•	•	n/a	n/a
	5000K	D	•	•	n/a	n/a
	Red	F	•	•	n/a	n/a
	Green	G	•	•	n/a	n/a
	Blue	H	•	•	n/a	n/a
	Orange	I	•	•	n/a	n/a
	Amber	J	•	•	n/a	n/a
	RGB	L	n/a	n/a	n/a	•
Variable	M	n/a	n/a	n/a	n/a	•
IP	IP20	O	•	•	•	•
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:



		TiMi e352 TIE352	TiMi e504 TIE504	TiMi e508 TIE508	
LED Color	2100K	Q	•	•	•
	2300K	N	•	•	•
	2500K	S	•	•	•
	2700K	A	•	•	•
	3000K	P	•	•	•
	3200K	B	•	•	•
	3800K	C	•	•	•
	5000K	D	•	•	•
	IP	IP20	O	•	•
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:



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 16 feet 4.85 inches (5m) continuous run from a single power feed.

s-line

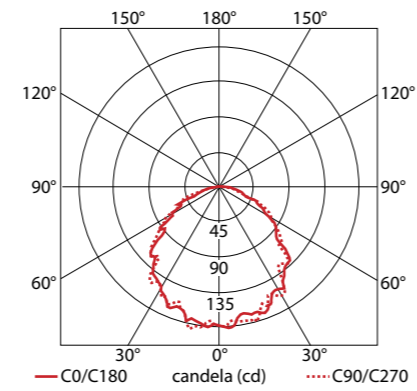
- 2 step package binning.
- Optimum color consistency for high quality/close proximity lighting.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K. Single colors: Red/Green/Blue/Orange/Amber.

e-line

- 3 step package binning.
- Good color consistency providing an economic choice when mounted over 11.8 inches from the illuminated surface.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K.

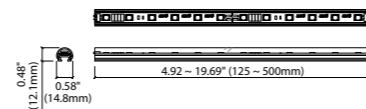
Note: To avoid any visible color differences we advise that s-line and e-line products should not share the same location.

TiMi Click 506 /e506

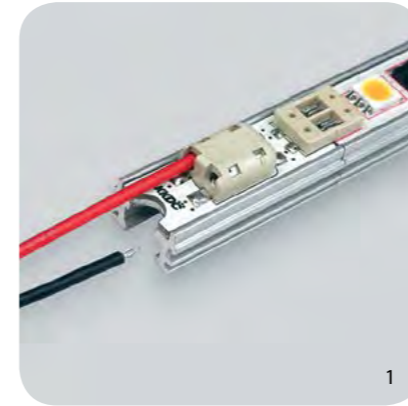


268lm/ft (879lm/m)

- Luminous flux:** 268lm/ft nominal (@ 3200K + Clear cover)
- Size:** H0.48/W0.58/L4.92 or 19.69" (H12.1/W14.8/L125 or 500mm)
- Chip:** Toyoda Gosei
- Beam angle:** 105° (Clear cover)
- CRI:** ≥90
- Lifetime:** 50,000 hours @ 77°F
- Operating temp:** T_a = -13 to 122°F (T_c max = 163.4°F)
- IP rating:** IP20
- Finish:** Silver anodized
- Cover/Lens:** Diffused/Clear
- Mounting:** Surface mounting via clips or magnets
- Connection:** Hardwire tail or push feed connector accessories
- Control:** 0-10V/1-10V/DMX/DALI (see visDIM range)



TiMi Click Product Details



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



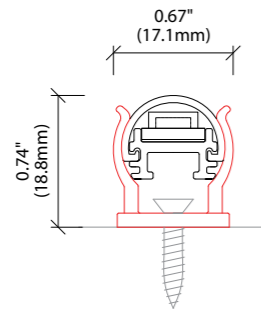


Above & Opposite page:
Retail store, Edinburgh
Lighting Design: DPA Lighting Consultants (London)

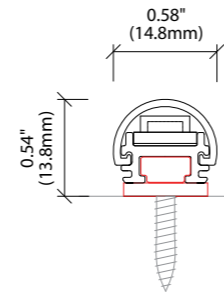


TiMi Click Accessories

Mounting Options



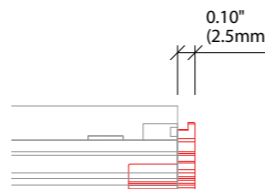
TCFC-01
Clip (Allow 2 per 19")
Clear plastic finish



TCMS-01
Magnet fixing set
(Allow 2 per 19")
Aluminum/Steel finish

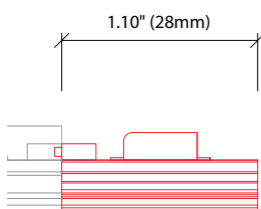


TCJT-01
Joint bar (Allow 1 per join)
Anodized aluminum finish

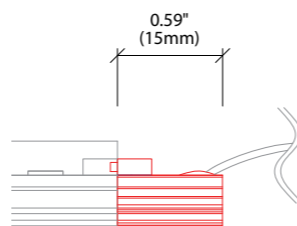


TCEC-01
End cap
White plastic finish

Connectors



TCPF-01
Push feed connector



TCTC-01
39.37" (1000mm) tail connector

visDIM Control Gear Options



IP20
Black plastic housing
L6.46/W2.52/H1.34"
(L164/W64/H34mm)

KKDM-04 0-10V/1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)

TiMi Click Code Table



		TiMi Click 506 TCS506	
LED Color	2100K	Q	•
	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	O	•
Volt	24V	W	•
Length Availability		125mm & 500mm Modules only	
Finishes	Silver anodized Diffused cover	A	•
	Silver anodized Clear cover	B	•

Code Example:

TCS506 **A** **O** **W** 500 **A**
 TiMi Click 506 2700K IP20 24V 500mm Silver anodized Diffused cover



		TiMi Click e506 TCE506	
LED Color	2100K	Q	•
	2300K	N	•
	2500K	S	•
	2700K	A	•
	3000K	P	•
	3200K	B	•
	3800K	C	•
	5000K	D	•
	IP	IP20	O
Volt	24V	W	•
Length Availability		125mm & 500mm Modules only	
Finishes	Silver anodized Diffused cover	A	•
	Silver anodized Clear cover	B	•

Code Example:

TCE506 **A** **O** **W** 500 **A**
 TiMi Click e506 2700K IP20 24V 500mm Silver anodized Diffused cover

LiNi series

LiNi-S



- A compact surface mounted linear profile for our full range of linear LED sources
- Output options from 102 to 371 lumens per foot with ≥ 90 CRI.
- Concealed clip mounting for clean lines, with a range of cover options.

s-line

- 2 step package binning.
- Optimum color consistency for high quality/close proximity lighting.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K.
Single colors: Red/Green/Blue/Orange/Amber.

e-line

- 3 step package binning.
- Good color consistency providing an economic choice when mounted over 11.8 inches from the illuminated surface.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K.

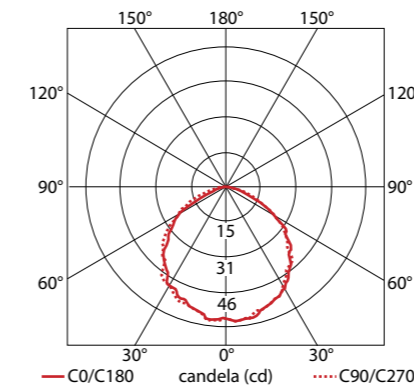
Note: To avoid any visible color differences we advise that s-line and e-line products should not share the same location.

LED strip options



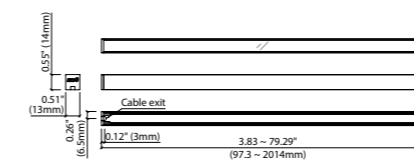
LiNi-S 352 /e352

24V DC 1.68 W/ft ≤ 60.9 lm/W IP40



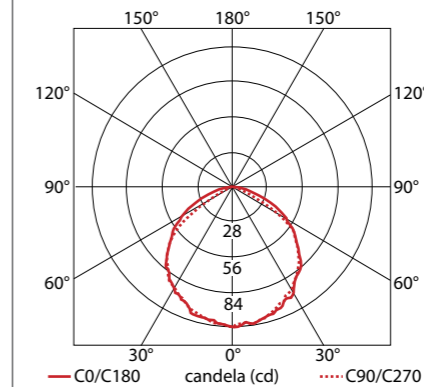
102lm/ft (336lm/m)

Luminous flux: 102lm/ft nominal (@ 3200K + Clear cover)
Size: H0.55/W0.51/L3.83-79.29" (H14/W13/L97.3-2014mm)
Chip: Toyoda Gosei
Beam angle: 110° (Clear cover)
CRI: ≥ 90
Lifetime: 50,000 hours @ 77°F
Operating temp: $T_a = -13$ to 122°F (T_c max = 161.6°F)
IP rating: IP40
Finish: Silver anodized
Cover/Lens: Diffused/Clear/Prismatic
Mounting: Surface mounting via concealed clips
Connection: Hardwire tails or male/female connectors
Control: 0-10V/1-10V/DMX/DALI (see visDIM range)



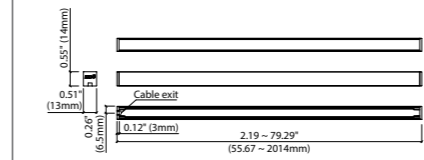
LiNi-S 007 /e007

24V DC 3.30 W/ft ≤ 51.1 lm/W IP40



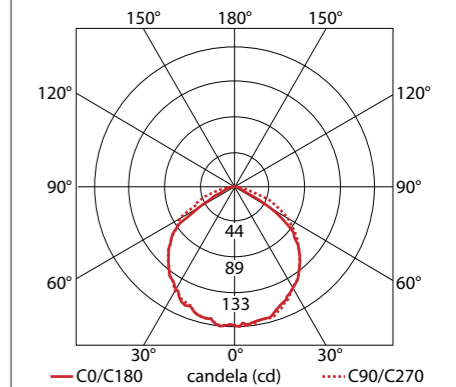
169lm/ft (553lm/m)

Luminous flux: 169lm/ft nominal (@ 3200K + Clear cover)
Size: H0.55/W0.51/L2.19-79.29" (H14/W13/L55.67-2014mm)
Chip: Toyoda Gosei
Beam angle: 105° (Clear cover)
CRI: ≥ 90
Lifetime: 50,000 hours @ 77°F
Operating temp: $T_a = -13$ to 122°F (T_c max = 156.2°F)
IP rating: IP40
Finish: Silver anodized
Cover/Lens: Diffused/Clear/Prismatic
Mounting: Surface mounting via concealed clips
Connection: Hardwire tails or male/female connectors
Control: 0-10V/1-10V/DMX/DALI (see visDIM range)



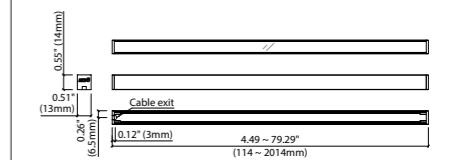
LiNi-S 504 /e504

24V DC 3.73 W/ft ≤ 69.4 lm/W IP40

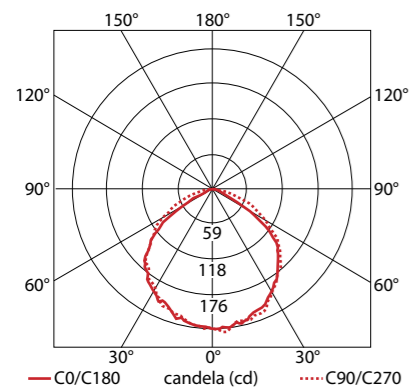


259lm/ft (850lm/m)

Luminous flux: 259lm/ft nominal (@ 3200K + Clear cover)
Size: H0.55/W0.51/L4.49-79.29" (H14/W13/L114-2014mm)
Chip: Toyoda Gosei
Beam angle: 105° (Clear cover)
CRI: ≥ 90
Lifetime: 50,000 hours @ 77°F
Operating temp: $T_a = -13$ to 122°F (T_c max = 149°F)
IP rating: IP40
Finish: Silver anodized
Cover/Lens: Diffused/Clear/Prismatic
Mounting: Surface mounting via concealed clips
Connection: Hardwire tails or male/female connectors
Control: 0-10V/1-10V/DMX/DALI (see visDIM range)

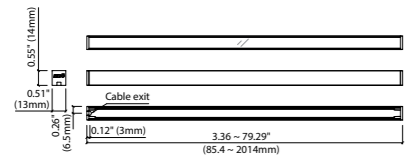


LiNi-S 508

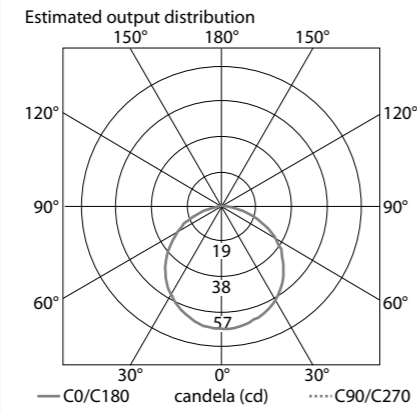


371lm/ft (1217lm/m)

- Luminous flux:** 371lm/ft nominal (@ 3200K + Clear cover)
- Size:** H0.55/W0.51/L3.36-79.29" (H14/W13/L85.4-2014mm)
- Chip:** Toyoda Gosei
- Beam angle:** 105° (Clear cover)
- CRI:** ≥90
- Lifetime:** 50,000 hours @ 77°F
- Operating temp:** T_a = -13 to 113°F (T_c max = 172.4°F)
- IP rating:** IP40
- Finish:** Silver anodized
- Cover/Lens:** Diffused/Clear/Prismatic
- Mounting:** Surface mounting via concealed clips
- Connection:** Hardwire tails or male/female connectors
- Control:** 0-10V/1-10V/DMX/DALI (see visDIM range)

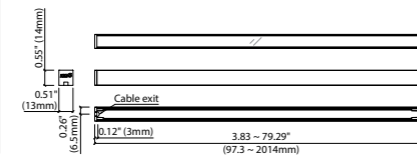


LiNi-S RGB

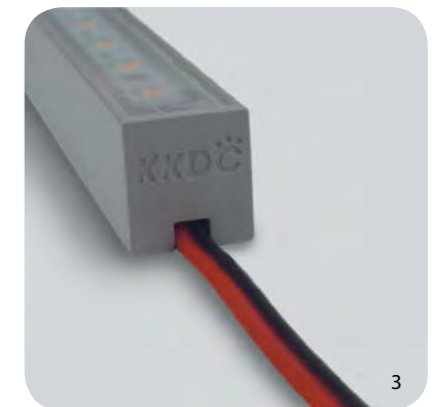
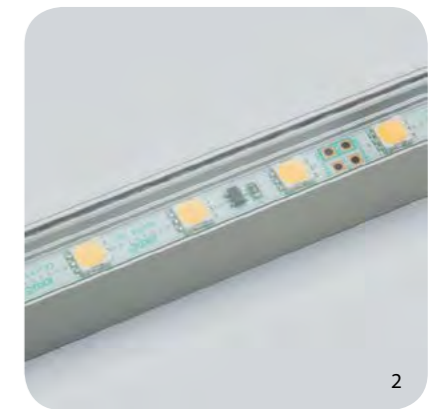


4.75W/ft (15.6W/m)

- Luminous flux:** Red: 35lm/ft, Green: 93lm/ft, Blue: 14lm/ft, White: 130lm/ft (Clear cover)
- Size:** H0.55/W0.51/L3.83-79.29" (H14/W13/L97.3-2014mm)
- Chip:** Red TEKCORE/ Green EPILEDs/Blue 3E
- Beam angle:** 110° (Clear cover)
- Colors:** Red 620-628nm/Blue 459-464nm/Green 521-527nm (5nm tolerance)
- CRI:** N/A
- Lifetime:** 50,000 hours @ 77°F
- Operating temp:** T_a = -13 to 122°F (T_c max = 168.8°F)
- IP rating:** IP40
- Finish:** Silver anodized
- Cover/Lens:** Diffused/Clear/Prismatic
- Mounting:** Surface mounting via concealed clips
- Connection:** Hardwire tails or male/female connectors
- Control:** DMX/DALI (see visDIM range)



LiNi-S Product Details



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



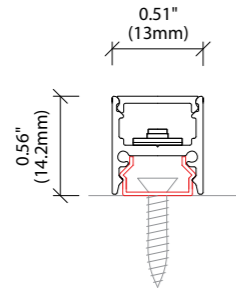
Above:
Beach Pavilions, Waiheke Island
Architect: Young+Richards
KKDC New Zealand
Photography: Simon Devitt

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



LiNi-S Accessories

Mounting Options



KKCP-10
Concealed Clip
(Allow 1 per ft)
S/Steel finish

Connectors



KKCN-01 1.97" (50mm) pair
KKCN-03 11.81" (300mm) pair
2 PIN male + female connector set



KKCN-07 1.97" (50mm) pair
KKCN-09 11.81" (300mm) pair
4 PIN RGB male + female connector set



KKCN-06
2 PIN 11.8" (300mm) extension lead



KKCN-11
4 PIN RGB 11.81" (300mm) extension lead

visDIM Control Gear Options



IP20
Black plastic housing
L6.46/W2.52/H1.34"
(L164/W64/H34mm)

KKDM-04 0-10V/1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)

LiNi-S Code Table



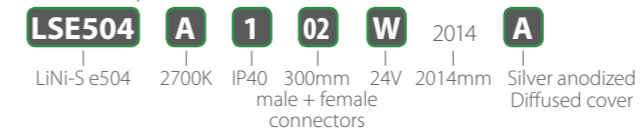
		LiNi-S 352	LiNi-S 007	LiNi-S 504	LiNi-S 508	LiNi-S RGB
		LSS352	LSS007	LSS504	LSS508	LSS501
LED Color	2100K	Q	•	•	•	n/a
	2300K	N	•	•	•	n/a
	2500K	S	•	•	•	n/a
	2700K	A	•	•	•	n/a
	3000K	P	•	•	•	n/a
	3200K	B	•	•	•	n/a
	3800K	C	•	•	•	n/a
	5000K	D	•	•	•	n/a
	Red	F	•	•	n/a	n/a
	Green	G	•	•	n/a	n/a
	Blue	H	•	•	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 anodized Diffused cover	A	•	•	•	•
	Silver anodized Clear cover	B	•	•	•	•
	Silver anodized Prismatic cover	K	•	•	•	•

Code Example:

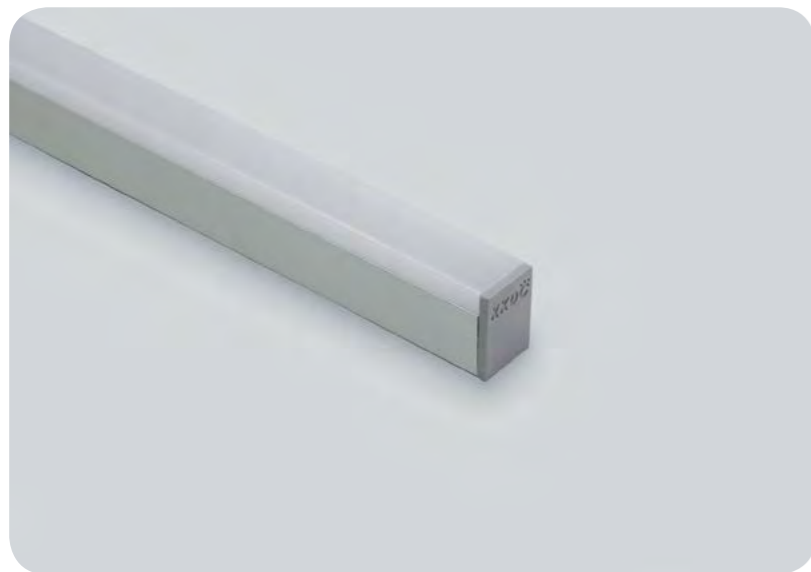


		LiNi-S e352	LiNi-S e007	LiNi-S e504	LiNi-S e508
		LSE352	LSE007	LSE504	LSE508
LED Color	2100K	Q	•	•	•
	2300K	N	•	•	•
	2500K	S	•	•	•
	2700K	A	•	•	•
	3000K	P	•	•	•
	3200K	B	•	•	•
	3800K	C	•	•	•
	5000K	D	•	•	•
	IP	IP40	1	•	•
Connection	50mm male + female connectors	01	•	•	•
	300mm male + female connectors	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 anodized Diffused cover	A	•	•	•
	Silver anodized Clear cover	B	•	•	•
	Silver anodized Prismatic cover	K	•	•	•

Code Example:



LiNi Glow



- Compact surface mounted linear profile with even diffusion, viewed from 180 degrees.
- 143 or 312 lumens per foot output with (≥90 CRI).
- Homogenous face to suit recessed, concealed clip mounting.

s-line

- 2 step package binning.
- Optimum color consistency for high quality/close proximity lighting.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K. Single colors: Red/Green/Blue/Orange/Amber.

e-line

- 3 step package binning.
- Good color consistency providing an economic choice when mounted over 11.8 inches from the illuminated surface.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K.

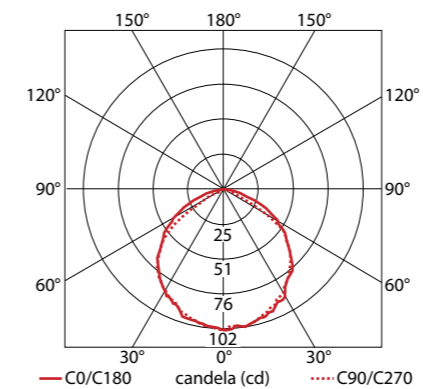
Note: To avoid any visible color differences we advise that s-line and e-line products should not share the same location.

LED strip options



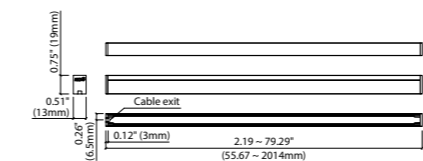
LiNi Glow 007_s /e007_e

24V DC 3.30 W/ft 43.3 lm/W IP40



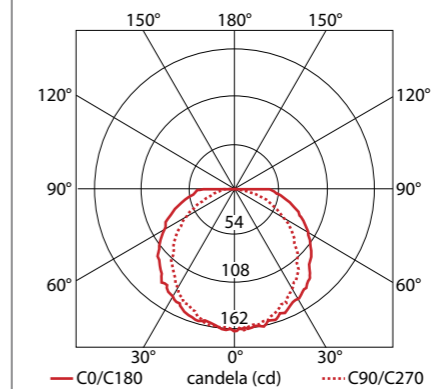
143lm/ft (469lm/m)

Luminous flux: 143lm/ft nominal (@ 3200K)
Size: H0.75/W0.51/L2.19-79.29" (H19/W13/L55.67-2014mm)
Chip: Toyoda Gosei
Beam angle: Diffused
CRI: ≥90
Lifetime: 50,000 hours @ 77°F
Operating temp: T_a = -13 to 131°F (T_c max = 163.4°F)
IP rating: IP40
Finish: Silver anodized
Cover/Lens: Diffused
Mounting: Surface mounting via concealed clips
Connection: Hardwire tails or male/female connectors
Control: 0-10V/1-10V/DMX/DALI (see visDIM range)



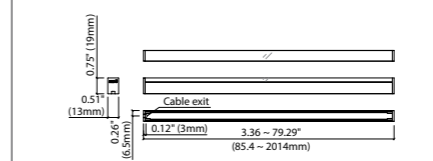
LiNi Glow 508_s /e508_e

24V DC 5.27 W/ft 59.2 lm/W IP40



312lm/ft (1023lm/m)

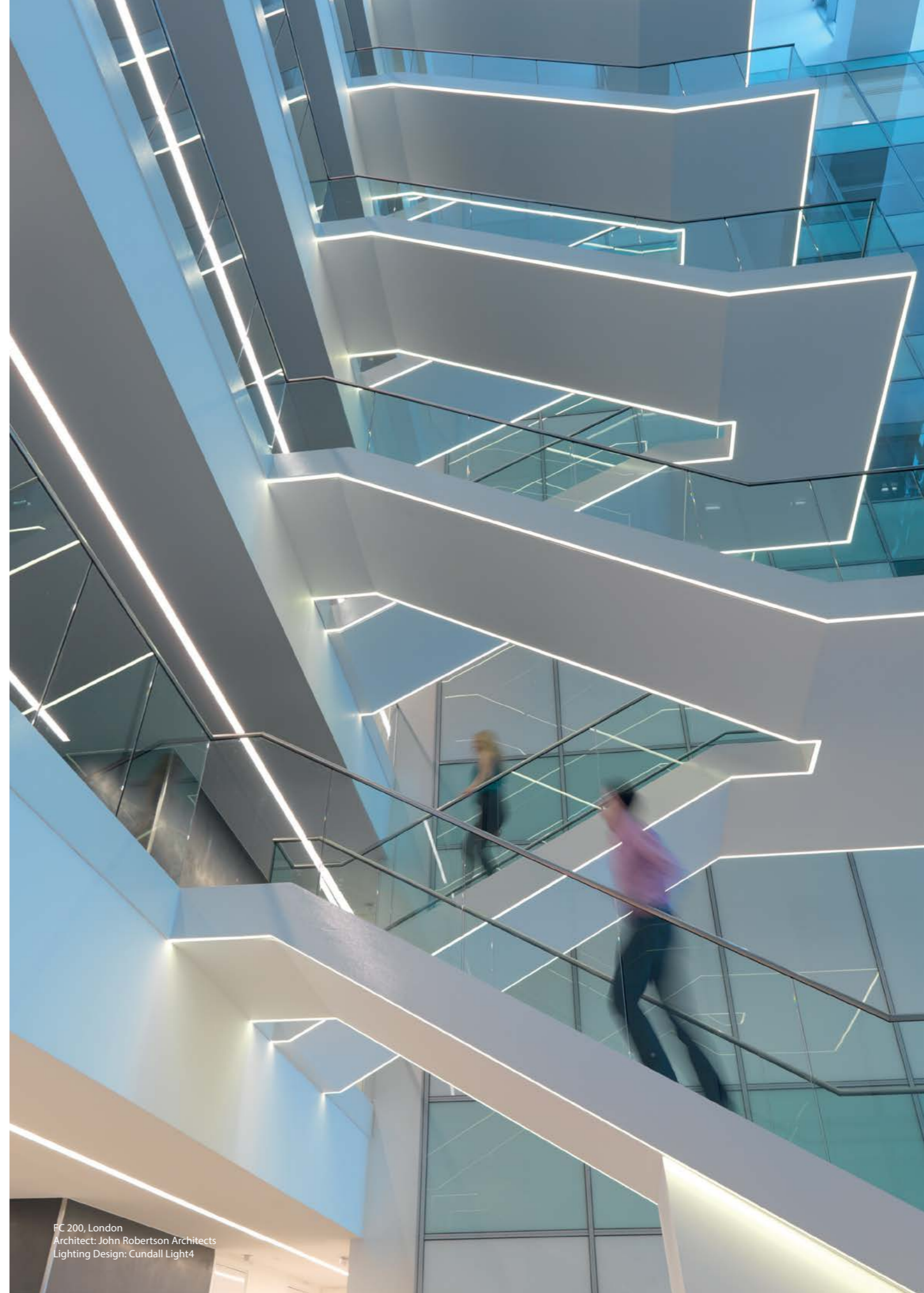
Luminous flux: 312lm/ft nominal (@ 3200K)
Size: H0.75/W0.51/L3.36-79.29" (H19/W13/L85.4-2014mm)
Chip: Toyoda Gosei
Beam angle: Diffused
CRI: ≥90
Lifetime: 50,000 hours @ 77°F
Operating temp: T_a = -13 to 113°F (T_c max = 172.4°F)
IP rating: IP40
Finish: Silver anodized
Cover/Lens: Diffused
Mounting: Surface mounting via concealed clips
Connection: Hardwire tails or male/female connectors
Control: 0-10V/1-10V/DMX/DALI (see visDIM range)



LiNi Glow Product Details



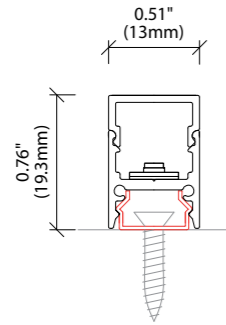
1. Concealed fixing clip
2. Optional cable exit end cap
3. LiNi Glow 007 for homogenous lighting



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

LiNi Glow Accessories

Mounting Options



KKCP-10
 Concealed Clip
 (Allow 1 per ft)
 S/Steel finish

Connectors



KKCN-01 1.97" (50mm) pair
KKCN-03 11.81" (300mm) pair
 2 PIN male + female connector set



KKCN-07 1.97" (50mm) pair
KKCN-09 11.81" (300mm) pair
 4 PIN RGB male + female connector set



KKCN-06
 2 PIN 11.81" (300mm) extension lead



KKCN-11
 4 PIN RGB 11.81" (300mm) extension lead

visDIM Control Gear Options



IP20
 Black plastic housing
 L6.46/W2.52/H1.34"
 (L164/W64/H34mm)

KKDM-04 0-10V/1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
 visDIM dimming sub-controllers
 (See Control Gear)

LiNi Glow Code Table



		LiNi Glow 007 LGS007	LiNi Glow 508 LGS508	
LED Color	2100K	Q	•	
	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 anodized Diffused U cover	U	•	•

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



		LiNi Glow e007 LGE007	LiNi Glow e508 LGE508	
LED Color	2100K	Q	•	
	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 anodized Diffused U cover	U	•	•

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

LiNi-R



- Recessed, slim aperture, linear profile with spring clip retainers.
- Output options from 40 to 136 lumens per foot with ≥ 90 CRI.
- Available with a full range of high CRI white, single color, and RGB LED sources.

s-line

- 2 step package binning.
- Optimum color consistency for high quality/close proximity lighting.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K.
Single colors: Red/Green/Blue/Orange/Amber.

e-line

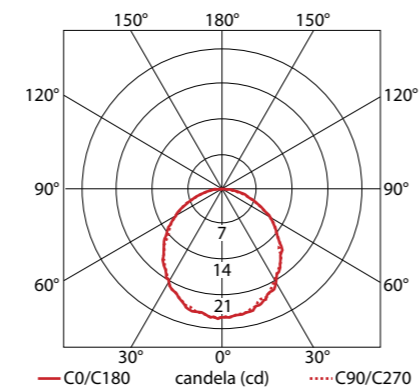
- 3 step package binning.
- Good color consistency providing an economic choice when mounted over 11.8 inches from the illuminated surface.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K.

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

LED strip options

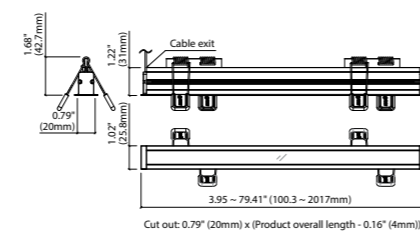


LiNi-R 352_s/e352_e

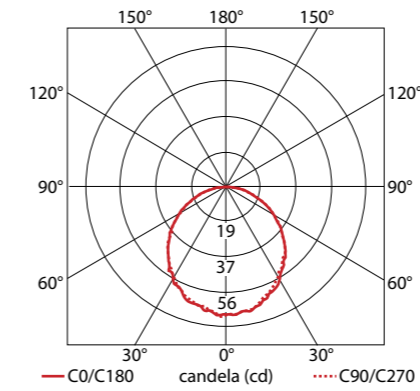
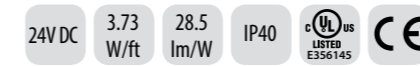


40lm/ft (132lm/m)

- Luminous flux:** 40lm/ft nominal (@ 3200K)
- Size:** H1.68/W1.02/L3.95-79.41" (H42.7/W25.8/L100.3-2017mm) (Excludes spring clips)
- Chip:** Toyoda Gosei
- Beam angle:** Diffused
- CRI:** ≥ 90
- Lifetime:** 50,000 hours @ 77°F
- Operating temp:** $T_a = -13$ to 140°F (T_c max = 158°F)
- IP rating:** IP40
- Finish:** Silver anodized
- Cover/Lens:** Diffused
- Mounting:** Recessed mounting via spring clips
- Connection:** Hardwire tails or male/female connectors
- Control:** 0-10V/1-10V/DMX/DALI (see visDIM range)

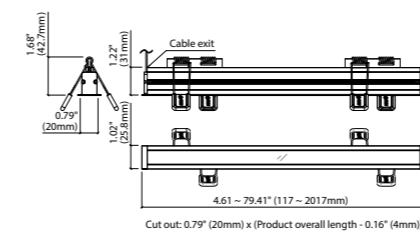


LiNi-R 504_s/e504_e

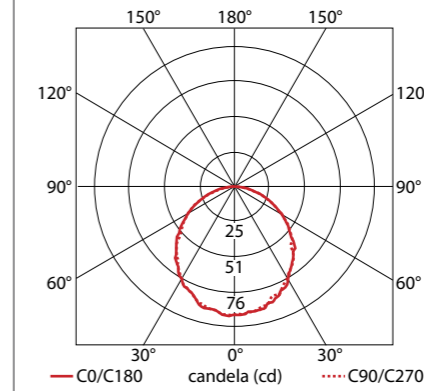
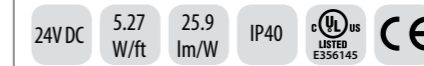


106lm/ft (349lm/m)

- Luminous flux:** 106lm/ft nominal (@ 3200K)
- Size:** H1.68/W1.02/L4.61-79.41" (H42.7/W25.8/L117-2017mm) (Excludes spring clips)
- Chip:** Toyoda Gosei
- Beam angle:** Diffused
- CRI:** ≥ 90
- Lifetime:** 50,000 hours @ 77°F
- Operating temp:** $T_a = -13$ to 131°F (T_c max = 158°F)
- IP rating:** IP40
- Finish:** Silver anodized
- Cover/Lens:** Diffused
- Mounting:** Recessed mounting via spring clips
- Connection:** Hardwire tails or male/female connectors
- Control:** 0-10V/1-10V/DMX/DALI (see visDIM range)

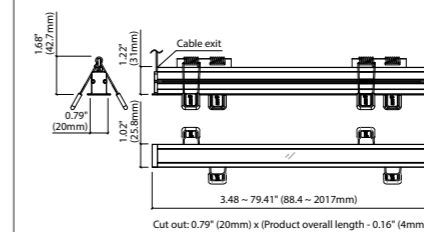


LiNi-R 508_s/e508_e

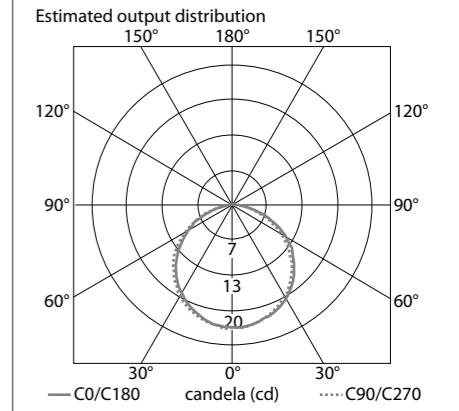


136lm/ft (448lm/m)

- Luminous flux:** 136lm/ft nominal (@ 3200K)
- Size:** H1.68/W1.02/L3.48-79.41" (H42.7/W25.8/L88.4-2017mm) (Excludes spring clips)
- Chip:** Toyoda Gosei
- Beam angle:** Diffused
- CRI:** ≥ 90
- Lifetime:** 50,000 hours @ 77°F
- Operating temp:** $T_a = -13$ to 113°F (T_c max = 140°F)
- IP rating:** IP40
- Finish:** Silver anodized
- Cover/Lens:** Diffused
- Mounting:** Recessed mounting via spring clips
- Connection:** Hardwire tails or male/female connectors
- Control:** 0-10V/1-10V/DMX/DALI (see visDIM range)

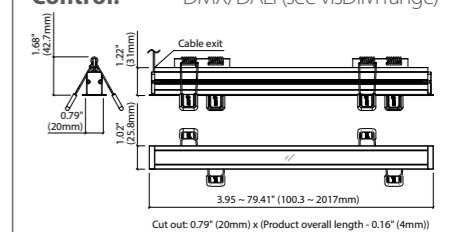


LiNi-R RGB

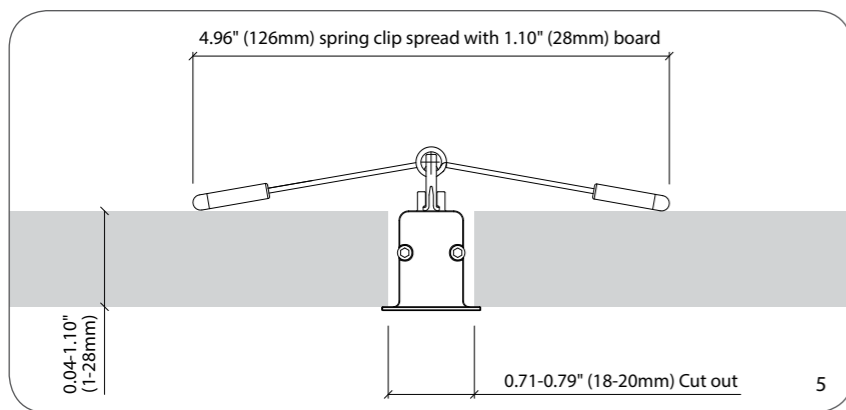
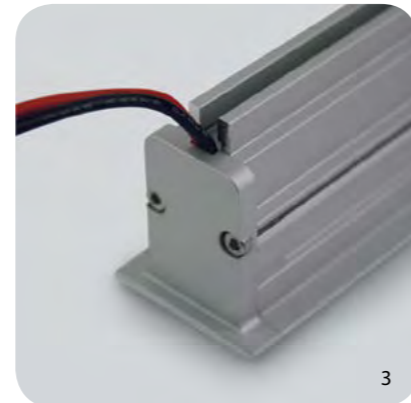


4.75W/ft (15.6W/m)

- Luminous flux:** Red: 16lm/ft
Green: 41lm/ft
Blue: 6lm/ft
White: 60lm/ft
- Size:** H1.68/W1.02/L3.95-79.41" (H42.7/W25.8/L100.3-2017mm) (Excludes spring clips)
- Chip:** Red TEKCORE/
Green EPILEDs/Blue 3E
- Beam angle:** Diffused
- Colors:** Red 620-628nm/Blue 459-464nm/Green 521-527nm (5nm tolerance)
- CRI:** N/A
- Lifetime:** 50,000 hours @ 77°F
- Operating temp:** $T_a = -13$ to 131°F (T_c max = 165.2°F)
- IP rating:** IP40
- Finish:** Silver anodized
- Cover/Lens:** Diffused
- Mounting:** Recessed mounting via spring clips
- Connection:** Hardwire tails or male/female connectors
- Control:** DMX/DALI (see visDIM range)



LiNi-R Product Details



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 1.97" (50mm) pair
KKCN-03 11.81" (300mm) pair
2 PIN male + female connector set



KKCN-07 1.97" (50mm) pair
KKCN-09 11.81" (300mm) pair
4 PIN RGB male + female connector set



KKCN-06
2 PIN 11.81" (300mm) extension lead



KKCN-11
4 PIN RGB 11.81" (300mm) extension lead

visDIM Control Gear Options



KKDM-04 0-10V/1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)

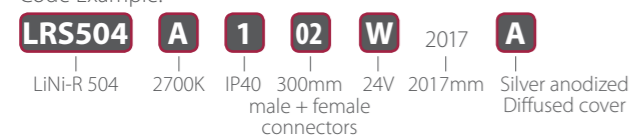
IP20
Black plastic housing
L6.46/W2.52/H1.34"
(L164/W64/H34mm)

LiNi-R Code Table



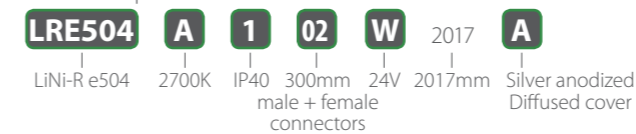
		LiNi-R 352	LiNi-R 504	LiNi-R 508	LiNi-R RGB	
		LRS352	LRS504	LRS508	LRS501	
LED Color	2100K	Q	•	•	n/a	
	2300K	N	•	•	n/a	
	2500K	S	•	•	n/a	
	2700K	A	•	•	n/a	
	3000K	P	•	•	n/a	
	3200K	B	•	•	n/a	
	3800K	C	•	•	n/a	
	5000K	D	•	•	n/a	
	Red	F	•	•	n/a	
	Green	G	•	•	n/a	
	Blue	H	•	•	n/a	
	Orange	I	•	•	n/a	
	Amber	J	•	•	n/a	
RGB	L	n/a	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 anodized Diffused cover	A	•	•	•	

Code Example:



		LiNi-R e352	LiNi-R e504	LiNi-R e508	
		LRE352	LRE504	LRE508	
LED Color	2100K	Q	•	•	
	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 anodized Diffused cover	A	•	•	

Code Example:



Linini XXXL series

LiNi-S XL



- A compact, extensible, interior profile with homogenous diffusion for all our SMD linear LED sources
- Output options from 71 to 248 lumens per foot with ≥ 90 CRI.
- Surface mounted via concealed clips or optional snap on cable channel.

s-line

- 2 step package binning.
- Optimum color consistency for high quality/close proximity lighting.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K. Single colors: Red/Green/Blue/Orange/Amber.

e-line

- 3 step package binning.
- Good color consistency providing an economic choice when mounted over 11.8 inches from the illuminated surface.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K.

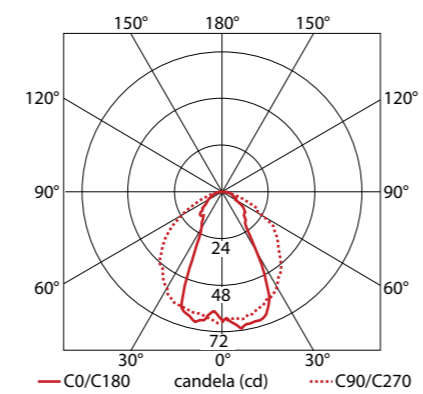
Note: To avoid any visible color differences we advise that s-line and e-line products should not share the same location.

LED strip options



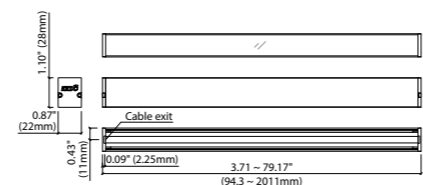
LiNi-S XL 352_s/e352_e

24V DC 1.68 W/ft ≤ 42.1 lm/W IP40



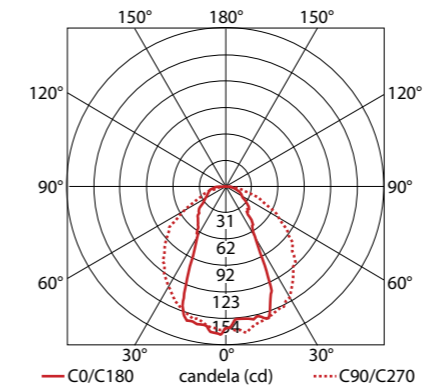
71lm/ft (232lm/m)

- Luminous flux:** 71lm/ft nominal (@ 3200K + Clear cover)
- Size:** H1.10/W0.87/L3.71-79.17" (H28/W22/L94.3-2011mm)
- Chip:** Toyoda Gosei
- Beam angle:** 50° (Clear cover)
- CRI:** ≥ 90
- Lifetime:** 50,000 hours @ 77°F
- Operating temp:** $T_a = -13$ to 140°F (T_c max = 150.8°F)
- IP rating:** IP40
- Finish:** Silver anodized
- Cover/Lens:** Diffused/Clear
- Mounting:** Surface mounting via concealed clips or cable raceway
- Connection:** Hardwire tails or male/female connectors
- Control:** 0-10V/1-10V/DMX/DALI (see visDIM range)



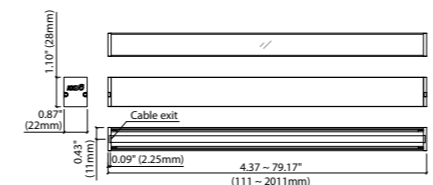
LiNi-S XL 504_s/e504_e

24V DC 3.73 W/ft ≤ 46.1 lm/W IP40



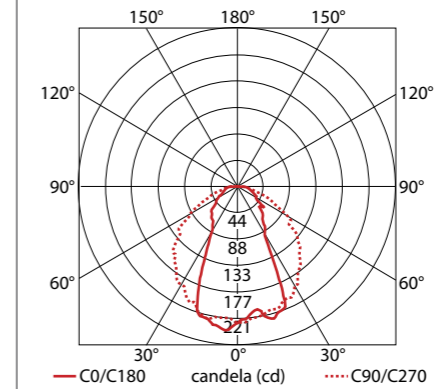
172lm/ft (564lm/m)

- Luminous flux:** 172lm/ft nominal (@ 3200K + Clear cover)
- Size:** H1.10/W0.87/L4.37-79.17" (H28/W22/L111-2011mm)
- Chip:** Toyoda Gosei
- Beam angle:** 50° (Clear cover)
- CRI:** ≥ 90
- Lifetime:** 50,000 hours @ 77°F
- Operating temp:** $T_a = -13$ to 122°F (T_c max = 145°F)
- IP rating:** IP40
- Finish:** Silver anodized
- Cover/Lens:** Diffused/Clear
- Mounting:** Surface mounting via concealed clips or cable raceway
- Connection:** Hardwire tails or male/female connectors
- Control:** 0-10V/1-10V/DMX/DALI (see visDIM range)



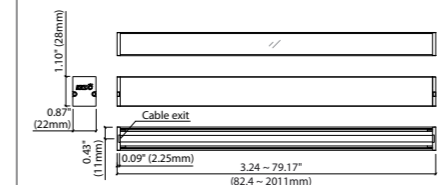
LiNi-S XL 508_s/e508_e

24V DC 5.27 W/ft ≤ 47 lm/W IP40



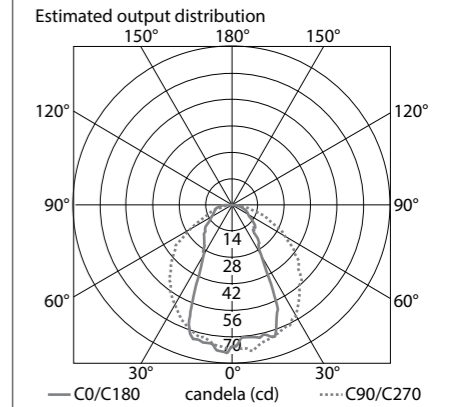
248lm/ft (812lm/m)

- Luminous flux:** 248lm/ft nominal (@ 3200K + Clear cover)
- Size:** H1.10/W0.87/L3.24-79.17" (H28/W22/L82.4-2011mm)
- Chip:** Toyoda Gosei
- Beam angle:** 50° (Clear cover)
- CRI:** ≥ 90
- Lifetime:** 50,000 hours @ 77°F
- Operating temp:** $T_a = -13$ to 113°F (T_c max = 142.7°F)
- IP rating:** IP40
- Finish:** Silver anodized
- Cover/Lens:** Diffused/Clear
- Mounting:** Surface mounting via concealed clips or cable raceway
- Connection:** Hardwire tails or male/female connectors
- Control:** 0-10V/1-10V/DMX/DALI (see visDIM range)



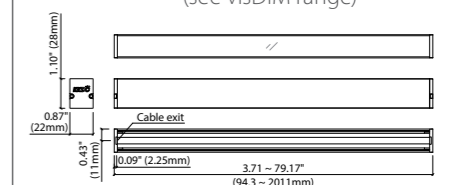
LiNi-S XL RGB

RGB 24V DC 4.75 W/ft IP40



4.75W/ft (15.6W/m)

- Luminous flux:** Red: 24lm/ft
Green: 60lm/ft
Blue: 9lm/ft
White: 89lm/ft (Clear cover)
- Size:** H1.10/W0.87/L3.71-79.17" (H28/W22/L94.3-2011mm)
- Chip:** Red TEKCORE/
Green EPILEDs/Blue 3E
- Beam angle:** 50° (Clear cover)
- Colors:** Red 620-628nm/Blue 459-464nm/Green 521-527nm
- CRI:** N/A
- Lifetime:** 50,000 hours @ 77°F
- Operating temp:** $T_a = -13$ to 140°F (T_c max = 162.5°F)
- IP rating:** IP40
- Finish:** Silver anodized
- Cover/Lens:** Diffused/Clear
- Mounting:** Surface mounting via concealed clips or cable raceway
- Connection:** Hardwire tails or male/female connectors
- Control:** DMX/DALI (see visDIM range)





LiNi-S XL Product Details

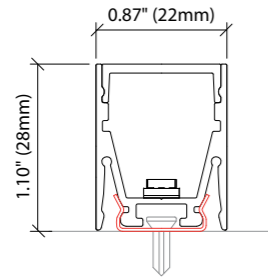


1. Screw-on plastic end cap
2. Snap-in cable raceway channel
3. Diffused cover for homogenous lighting with all LED strip options
4. LiNi-S XL 504 with clear cover

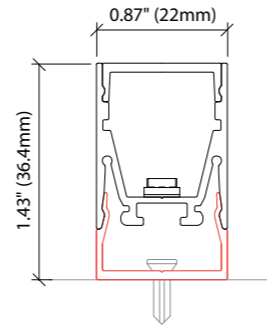
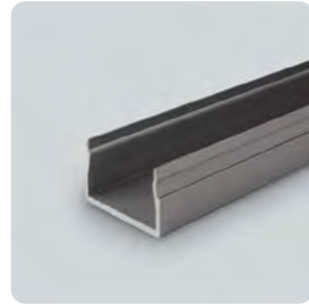


LiNi-S XL Accessories

Mounting Options



KKCP-11
Concealed Clip
(Allow 1 per ft)
S/Steel finish



KKCR-01-1000 39.37" (1000mm)
KKCR-01-2000 78.74" (2000mm)
KKCR-01-3000 118.11" (3000mm)
Cable Raceway*
Anodized aluminum finish
* Cut & drilled to fit on site



KKJT-02
Joining Bar (Allow 1 per join)
Anodized aluminum finish

Connectors



KKCN-01 1.97" (50mm) pair
KKCN-03 11.81" (300mm) pair
2 PIN male + female connector set



KKCN-07 1.97" (50mm) pair
KKCN-09 11.81" (300mm) pair
4 PIN RGB male + female connector set

Connectors (continued)



KKCN-06
2 PIN 11.81" (300mm) extension lead



KKCN-11
4 PIN RGB 11.81" (300mm) extension lead

visDIM Control Gear Options



IP20
Black plastic housing
L6.46/W2.52/H1.34"
(L164/W64/H34mm)

KKDM-04 0-10V/1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)

LiNi-S XL Code Table



		LiNi-S XL 352 SXS352	LiNi-S XL 504 SXS504	LiNi-S XL 508 SXS508	LiNi-S XL RGB SXS501
LED Color	2100K	Q	•	•	n/a
	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	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 anodized Diffused cover	A	•	•	•
	Silver anodized Clear cover	B	•	•	•

Code Example:

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



		LiNi-S XL e352 SXE352	LiNi-S XL e504 SXE504	LiNi-S XL e508 SXE508
LED Color	2100K	Q	•	•
	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 anodized Diffused cover	A	•	•
	Silver anodized Clear cover	B	•	•

Code Example:

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

LiNi Glow XL



- A compact, extensible, linear profile with homogenous diffusion, viewed from 180 degrees.
- 78 or 259 lumens per foot output with (≥90 CRI).
- Surface mounted via concealed clips or optional snap on cable channel.

s-line

- 2 step package binning.
- Optimum color consistency for high quality/close proximity lighting.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K. Single colors: Red/Green/Blue/Orange/Amber.

e-line

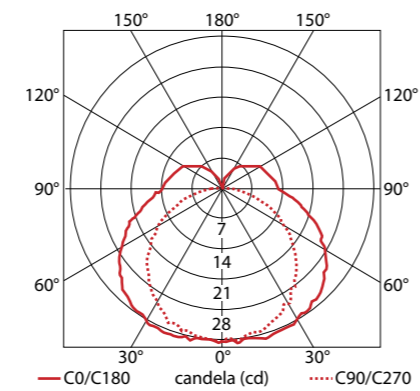
- 3 step package binning.
- Good color consistency providing an economic choice when mounted over 11.8 inches from the illuminated surface.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K.

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

LED strip options

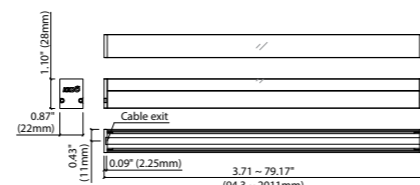


LiNi Glow XL 352_s/e352_e

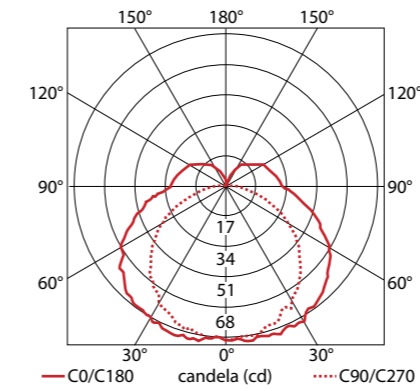


78lm/ft (256lm/m)

- Luminous flux:** 78lm/ft nominal (@ 3200K)
- Size:** H1.10/W0.87/L3.71-79.17" (H28/W22/L94.3-2011mm)
- Chip:** Toyoda Gosei
- Beam angle:** Diffused
- CRI:** ≥90
- Lifetime:** 50,000 hours @ 77°F
- Operating temp:** T_a = -13 to 140°F (T_c max = 152.6°F)
- IP rating:** IP40
- Finish:** Silver anodized
- Cover/Lens:** Diffused
- Mounting:** Surface mounting via concealed clips or cable raceway
- Connection:** Hardwire tails or male/female connectors
- Control:** 0-10V/1-10V/DMX/DALI (see visDIM range)

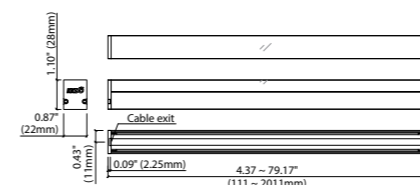


LiNi Glow XL 504_s/e504_e

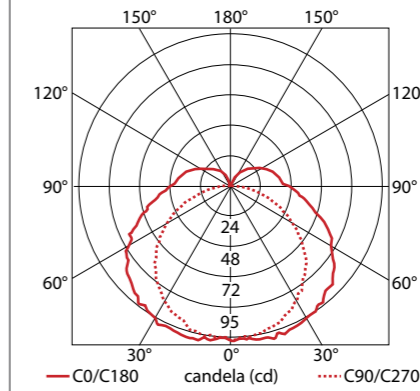
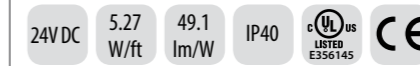


187lm/ft (612lm/m)

- Luminous flux:** 187lm/ft nominal (@ 3200K)
- Size:** H1.10/W0.87/L4.37-79.17" (H28/W22/L111-2011mm)
- Chip:** Toyoda Gosei
- Beam angle:** Diffused
- CRI:** ≥90
- Lifetime:** 50,000 hours @ 77°F
- Operating temp:** T_a = -13 to 140°F (T_c max = 161.6°F)
- IP rating:** IP40
- Finish:** Silver anodized
- Cover/Lens:** Diffused
- Mounting:** Surface mounting via concealed clips or cable raceway
- Connection:** Hardwire tails or male/female connectors
- Control:** 0-10V/1-10V/DMX/DALI (see visDIM range)

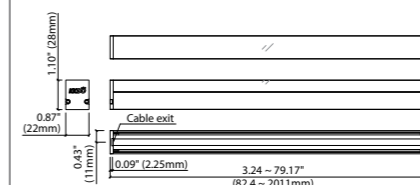


LiNi Glow XL 508_s/e508_e

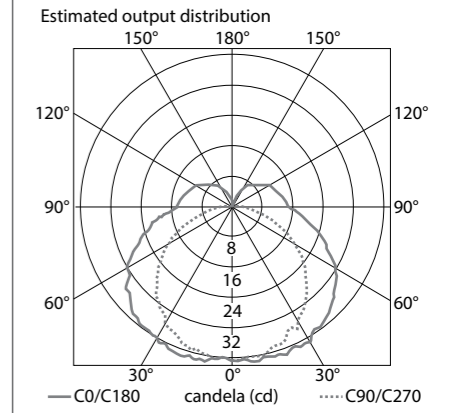


259lm/ft (849lm/m)

- Luminous flux:** 259lm/ft nominal (@ 3200K)
- Size:** H1.10/W0.87/L3.24-79.17" (H28/W22/L82.4-2011mm)
- Chip:** Toyoda Gosei
- Beam angle:** Diffused
- CRI:** ≥90
- Lifetime:** 50,000 hours @ 77°F
- Operating temp:** T_a = -13 to 122°F (T_c max = 145.4°F)
- IP rating:** IP40
- Finish:** Silver anodized
- Cover/Lens:** Diffused
- Mounting:** Surface mounting via concealed clips or cable raceway
- Connection:** Hardwire tails or male/female connectors
- Control:** 0-10V/1-10V/DMX/DALI (see visDIM range)

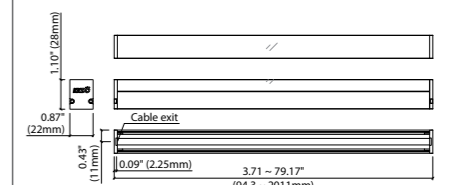


LiNi Glow XL RGB

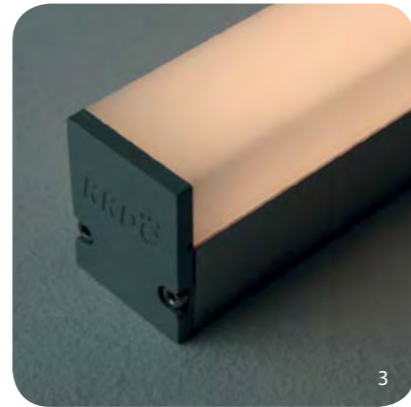
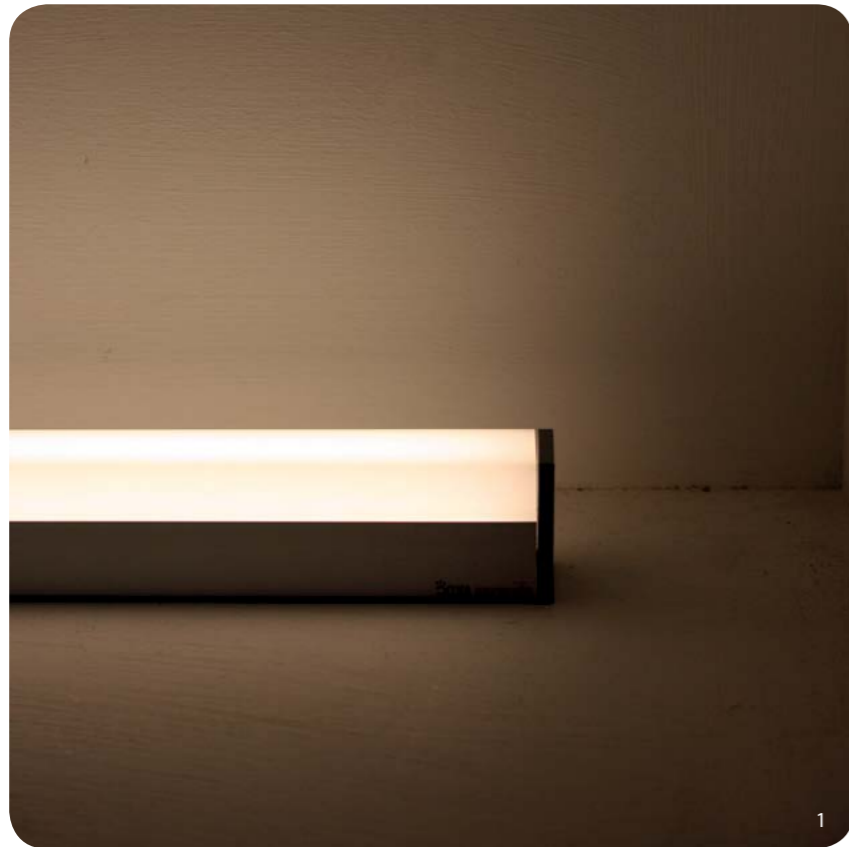


4.75W/ft (15.6W/m)

- Luminous flux:** Red: 29lm/ft, Green: 72lm/ft, Blue: 11lm/ft, White: 105lm/ft
- Size:** H1.10/W0.87/L3.71-79.17" (H28/W22/L94.3-2011mm)
- Chip:** Red TEKCORE/ Green EPILEDS/Blue 3E
- Beam angle:** Diffused
- Colors:** Red 620-628nm/Blue 459-464nm/Green 521-527nm
- CRI:** N/A
- Lifetime:** 50,000 hours @ 77°F
- Operating temp:** T_a = -13 to 131°F (T_c max = 158°F)
- IP rating:** IP40
- Finish:** Silver anodized
- Cover/Lens:** Diffused
- Mounting:** Surface mounting via concealed clips or cable raceway
- Connection:** Hardwire tails or male/female connectors
- Control:** DMX/DALI (see visDIM range)



LiNi Glow XL Product Details

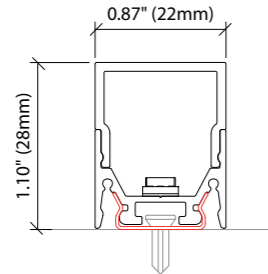


1. Surface mounted LiNi Glow XL
2. Homogenous lighting with 155° distribution
3. Screw-fit plastic end caps
4. Optional joining bar accessory
5. Snap-in cable raceway channel
6. Easy snap-fit flush mounting clips

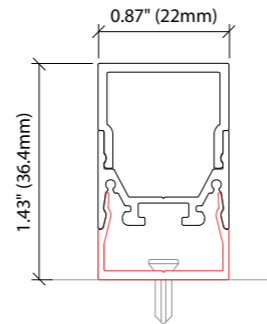
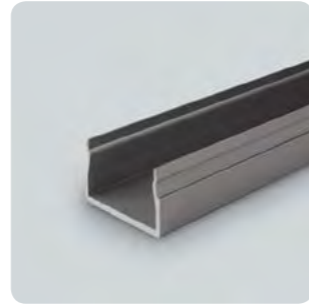


LiNi Glow XL Accessories

Mounting Options



KKCP-11
Concealed Clip
(Allow 1 per ft)
S/Steel finish



KKCR-01-1000 39.37" (1000mm)
KKCR-01-2000 78.74" (2000mm)
KKCR-01-3000 118.11" (3000mm)
Cable Raceway*
Anodized aluminum finish
* Cut & drilled to fit on site



KKJT-02
Joining Bar (Allow 1 per join)
Anodized aluminum finish

Connectors



KKCN-01 1.97" (50mm) pair
KKCN-03 11.81" (300mm) pair
2 PIN male + female connector set



KKCN-07 1.97" (50mm) pair
KKCN-09 11.81" (300mm) pair
4 PIN RGB male + female connector set

Connectors (continued)



KKCN-06
2 PIN 11.81" (300mm) extension lead



KKCN-11
4 PIN RGB 11.81" (300mm) extension lead

visDIM Control Gear Options



IP20
Black plastic housing
L6.64/W2.52/H1.34"
(L164/W64/H34mm)

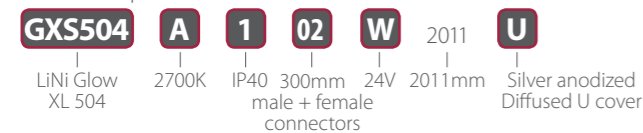
KKDM-04 0-10V/1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)

LiNi Glow XL Code Table



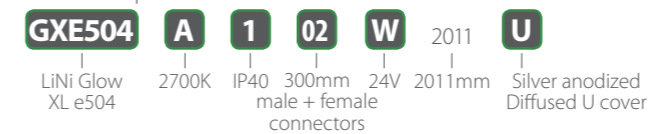
			LiNi Glow XL 352 GXS352	LiNi Glow XL 504 GXS504	LiNi Glow XL 508 GXS508	LiNi Glow XL RGB GXS501
LED Color	2100K	Q	•	•	•	n/a
	2300K	N	•	•	•	n/a
	2500K	S	•	•	•	n/a
	2700K	A	•	•	•	n/a
	3000K	P	•	•	•	n/a
	3200K	B	•	•	•	n/a
	3800K	C	•	•	•	n/a
	5000K	D	•	•	•	n/a
	Red	F	•	•	n/a	n/a
	Green	G	•	•	n/a	n/a
	Blue	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 anodized Diffused U cover	U	•	•	•	•

Code Example:



			LiNi Glow XL e352 GXE352	LiNi Glow XL e504 GXE504	LiNi Glow XL e508 GXE508
LED Color	2100K	Q	•	•	•
	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 anodized Diffused U cover	U	•	•	•

Code Example:



LiNi-R XL



- Recessed, extensible, linear profile with spring clip retainers.
- Available with a full range of white, single color, and RGB LED sources.
- Output options from 45 to 162 lumens per foot with ≥ 90 CRI.

s-line

- 2 step package binning.
- Optimum color consistency for high quality/close proximity lighting.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K.
Single colors: Red/Green/Blue/Orange/Amber.

e-line

- 3 step package binning.
- Good color consistency providing an economic choice when mounted over 11.8 inches from the illuminated surface.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K.

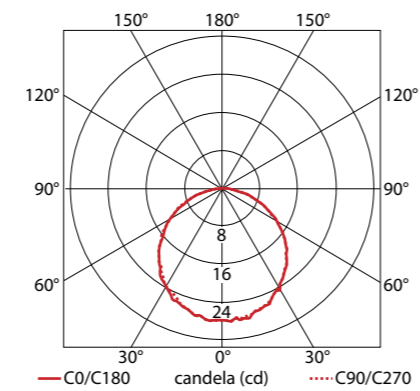
Note: To avoid any visible color differences we advise that s-line and e-line products should not share the same location.

LED strip options



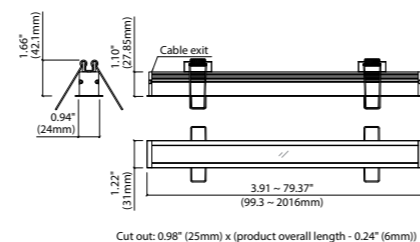
LiNi-R XL 352 ^s /e352 ^e

24V DC 1.68 W/ft 27 lm/W IP40



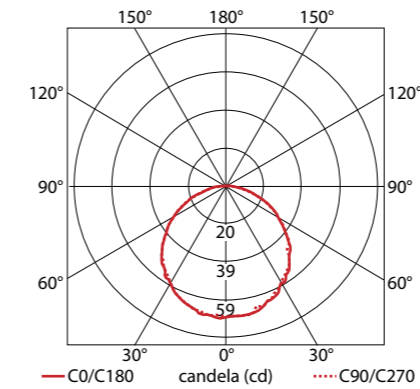
45lm/ft (149lm/m)

Luminous flux: 45lm/ft nominal (@ 3200K)
Size: H1.66/W1.22/L3.91-79.37" (H42.1/W31/L99.3-2016mm) (Excludes spring clips)
Chip: Toyoda Gosei
Beam angle: Diffused
CRI: ≥ 90
Lifetime: 50,000 hours @ 77°F
Operating temp: $T_a = -13$ to 140°F (T_c max = 149°F)
IP rating: IP40
Finish: Silver anodized
Cover/Lens: Diffused
Mounting: Recessed mounting via spring clip
Connection: Hardwire tails or male/female connectors
Control: 0-10V/1-10V/DMX/DALI (see visDIM range)



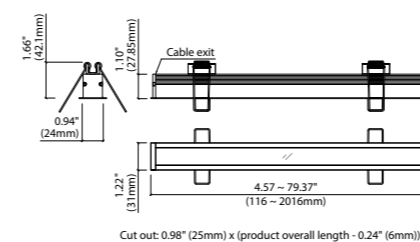
LiNi-R XL 504 ^s /e504 ^e

24V DC 3.73 W/ft 29.9 lm/W IP40



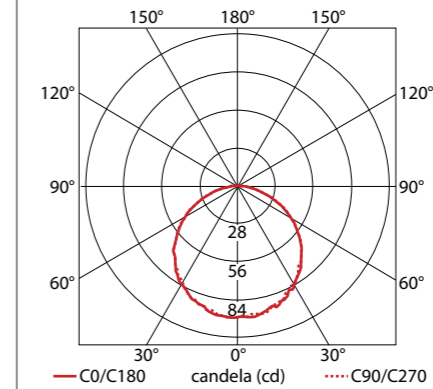
112lm/ft (366lm/m)

Luminous flux: 112lm/ft nominal (@ 3200K)
Size: H1.66/W1.22/L4.57-79.37" (H42.1/W31/L116-2016mm) (Excludes spring clips)
Chip: Toyoda Gosei
Beam angle: Diffused
CRI: ≥ 90
Lifetime: 50,000 hours @ 77°F
Operating temp: $T_a = -13$ to 140°F (T_c max = 150.8°F)
IP rating: IP40
Finish: Silver anodized
Cover/Lens: Diffused
Mounting: Recessed mounting via spring clip
Connection: Hardwire tails or male/female connectors
Control: 0-10V/1-10V/DMX/DALI (see visDIM range)



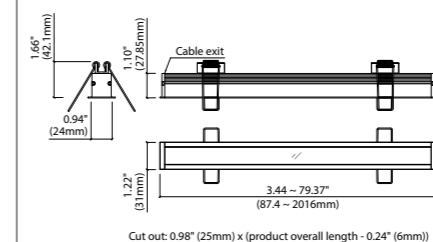
LiNi-R XL 508 ^s /e508 ^e

24V DC 5.27 W/ft 30.7 lm/W IP40



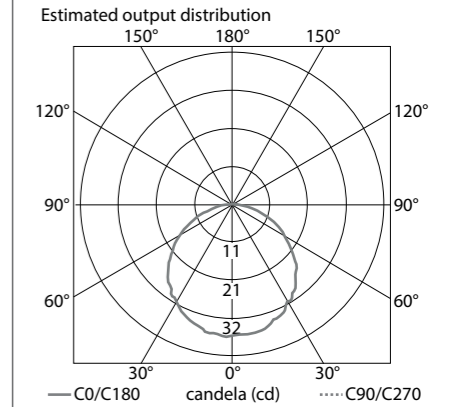
162lm/ft (531lm/m)

Luminous flux: 162lm/ft nominal (@ 3200K)
Size: H1.66/W1.22/L3.44-79.37" (H42.1/W31/L87.4-2016mm) (Excludes spring clips)
Chip: Toyoda Gosei
Beam angle: Diffused
CRI: ≥ 90
Lifetime: 50,000 hours @ 77°F
Operating temp: $T_a = -13$ to 131°F (T_c max = 147.2°F)
IP rating: IP40
Finish: Silver anodized
Cover/Lens: Diffused
Mounting: Recessed mounting via spring clip
Connection: Hardwire tails or male/female connectors
Control: 0-10V/1-10V/DMX/DALI (see visDIM range)



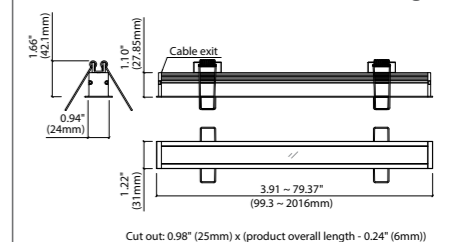
LiNi-R XL RGB

24V DC 4.75 W/ft IP40

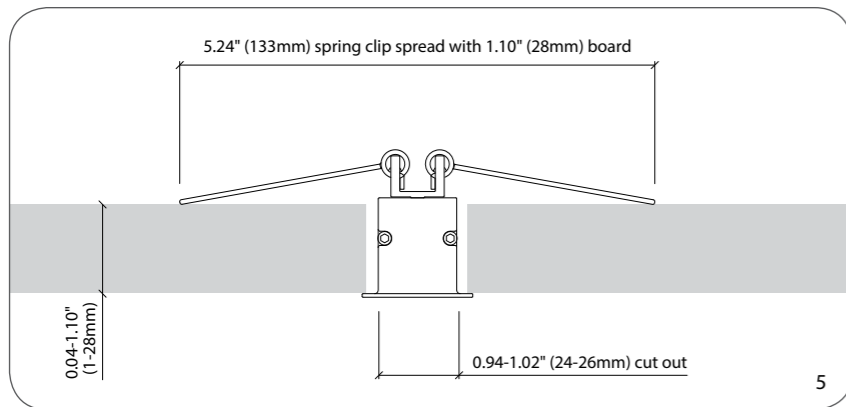
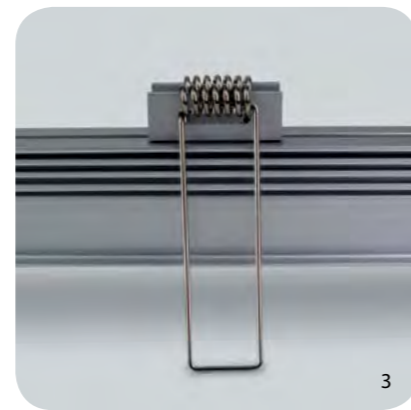


4.75W/ft (15.6W/m)

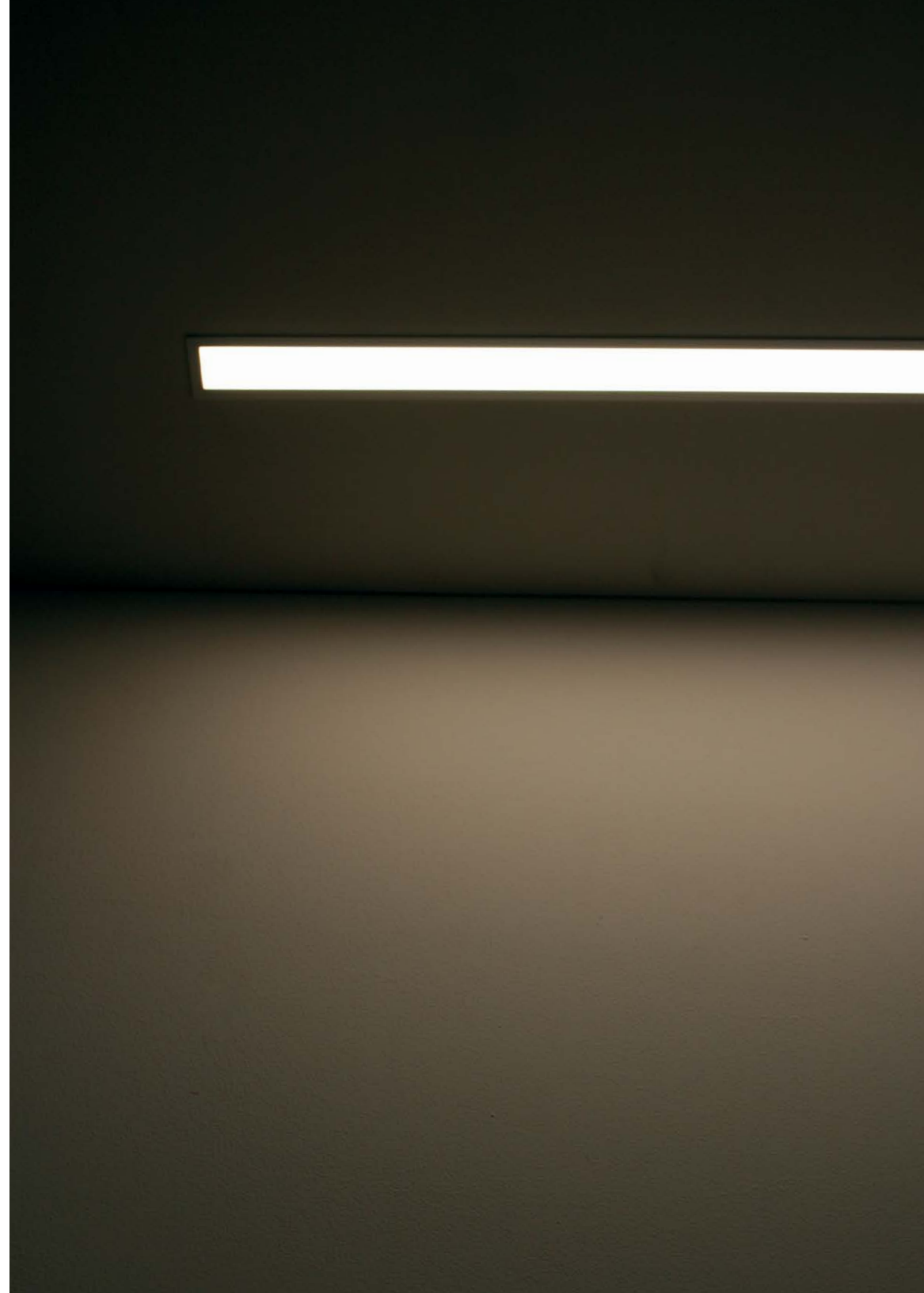
Luminous flux: Red: 25lm/ft
Green: 64lm/ft
Blue: 10lm/ft
White: 91lm/ft
Size: H1.66/W1.22/L3.91-79.37" (H42.1/W31/L99.3-2016mm) (Excludes spring clips)
Chip: Red TEKCORE/
Green EPILEDs/Blue 3E
Beam angle: Diffused
Colors: Red 620-628nm/Blue 459-464nm/Green 521-527nm
CRI: N/A
Lifetime: 50,000 hours @ 77°F
Operating temp: $T_a = -13$ to 131°F (T_c max = 151.7°F)
IP rating: IP40
Finish: Silver anodized
Cover/Lens: Diffused
Mounting: Recessed mounting via spring clip
Connection: Hardwire tails or male/female connectors
Control: DMX/DALI (see visDIM range)



LiNi-R XL Product Details



1. Homogenous lighting with all LED strips
2. Machined aluminum 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 1.97" (50mm) pair
KKCN-03 11.81" (300mm) pair
2 PIN male + female connector set



KKCN-07 1.97" (50mm) pair
KKCN-09 11.81" (300mm) pair
4 PIN RGB male + female connector set



KKCN-06
2 PIN 11.81" (300mm) extension lead



KKCN-11
4 PIN RGB 11.81" (300mm) extension lead

visDIM Control Gear Options



IP20
Black plastic housing
L6.46/W2.52/H1.34"
(L164/W64/H34mm)

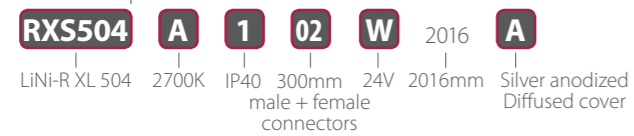
KKDM-04 0-10V/1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)

LiNi-R XL Code Table



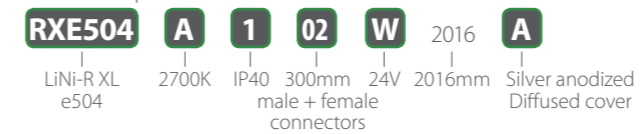
			LiNi-R XL 352 RXS352	LiNi-R XL 504 RXS504	LiNi-R XL 508 RXS508	LiNi-R XL RGB RXS501
LED Color	2100K	Q	•	•	•	n/a
	2300K	N	•	•	•	n/a
	2500K	S	•	•	•	n/a
	2700K	A	•	•	•	n/a
	3000K	P	•	•	•	n/a
	3200K	B	•	•	•	n/a
	3800K	C	•	•	•	n/a
	5000K	D	•	•	•	n/a
	Red	F	•	•	n/a	n/a
	Green	G	•	•	n/a	n/a
	Blue	H	•	•	n/a	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 anodized Diffused cover	A	•	•	•	•

Code Example:



			LiNi-R XL e352 RXE352	LiNi-R XL e504 RXE504	LiNi-R XL e508 RXE508
LED Color	2100K	Q	•	•	•
	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 anodized Diffused cover	A	•	•	•

Code Example:



TANA series



- Versatile, glare free, linear shelf light made to custom sizes with centered LED.
- Output options from 91 to 328 lumens per foot with ≥ 90 CRI.
- A choice of covers and mounting options.

s-line

- 2 step package binning.
- Optimum color consistency for high quality/close proximity lighting.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K.
Single colors: Red/Green/Blue/Orange/Amber.

e-line

- 3 step package binning.
- Good color consistency providing an economic choice when mounted over 11.8 inches from the illuminated surface.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K.

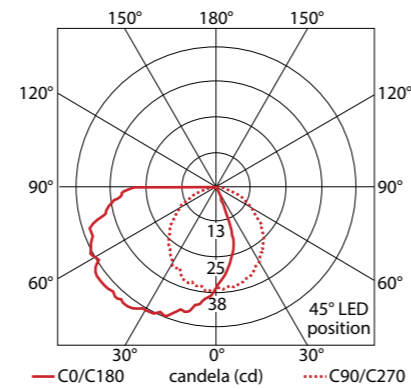
Note: To avoid any visible color differences we advise that s-line and e-line products should not share the same location.

LED strip options



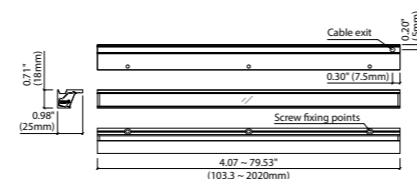
TANA 352 **s** /e352 **e**

24V DC 1.68 W/ft ≤ 54 lm/W IP40



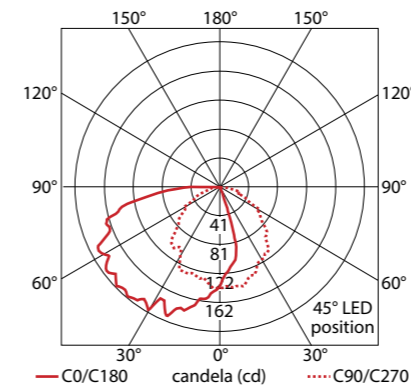
91lm/ft (298lm/m)

Luminous flux: 91lm/ft nominal (@ 3200K + Clear cover)
Size: H0.71/W0.98/L4.07-79.53" (H18/W25/L103.3-2020mm)
Chip: Toyoda Gosei
Beam angle: 50° (@ 45° LED position, Clear cover)
CRI: ≥ 90
Lifetime: 50,000 hours @ 77°F
Operating temp: $T_a = -13$ to 140°F (T_c max = 156.2°F)
IP rating: IP40
Finish: Silver anodized
Cover/Lens: Diffused/Clear
Mounting: Surface mounting via screw fixing, 3M tape or magnets
Connection: Hardwire tails
Control: 0-10V/1-10V/DMX/DALI (see visDIM range)



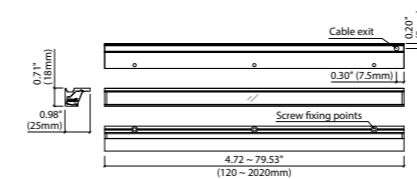
TANA 504 **s** /e504 **e**

24V DC 3.73 W/ft ≤ 64.4 lm/W IP40



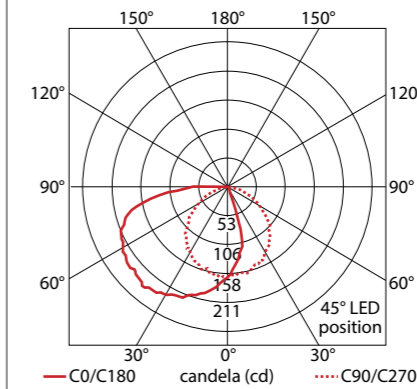
240lm/ft (788lm/m)

Luminous flux: 240lm/ft nominal (@ 3200K + Clear cover)
Size: H0.71/W0.98/L4.72-79.53" (H18/W25/L120-2020mm)
Chip: Toyoda Gosei
Beam angle: 95° (@ 45° LED position, Clear cover)
CRI: ≥ 90
Lifetime: 50,000 hours @ 77°F
Operating temp: $T_a = -13$ to 140°F (T_c max = 170.6°F)
IP rating: IP40
Finish: Silver anodized
Cover/Lens: Diffused/Clear
Mounting: Surface mounting via screw fixing, 3M tape or magnets
Connection: Hardwire tails
Control: 0-10V/1-10V/DMX/DALI (see visDIM range)



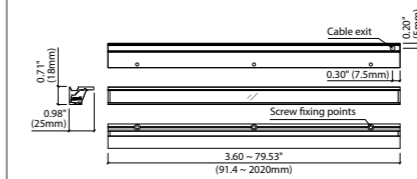
TANA 508 **s** /e508 **e**

24V DC 5.27 W/ft ≤ 62.2 lm/W IP40



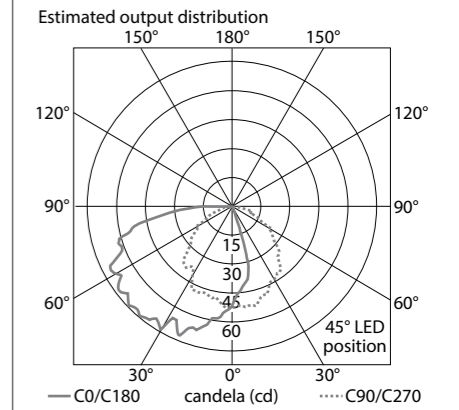
328lm/ft (1075lm/m)

Luminous flux: 328lm/ft nominal (@ 3200K + Clear cover)
Size: H0.71/W0.98/L3.60-79.53" (H18/W25/L91.4-2020mm)
Chip: Toyoda Gosei
Beam angle: 95° (@ 45° LED position, Clear cover)
CRI: ≥ 90
Lifetime: 50,000 hours @ 77°F
Operating temp: $T_a = -13$ to 122°F (T_c max = 154.4°F)
IP rating: IP40
Finish: Silver anodized
Cover/Lens: Diffused/Clear
Mounting: Surface mounting via screw fixing, 3M tape or magnets
Connection: Hardwire tails
Control: 0-10V/1-10V/DMX/DALI (see visDIM range)



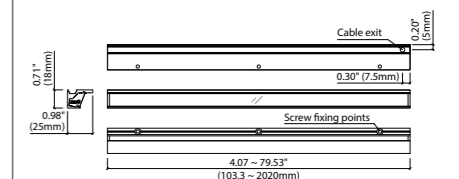
TANA RGB

RGB 24V DC 4.75 W/ft IP40

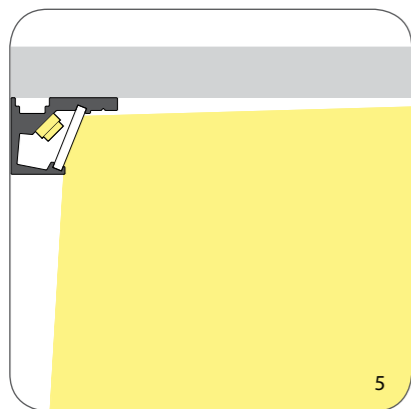
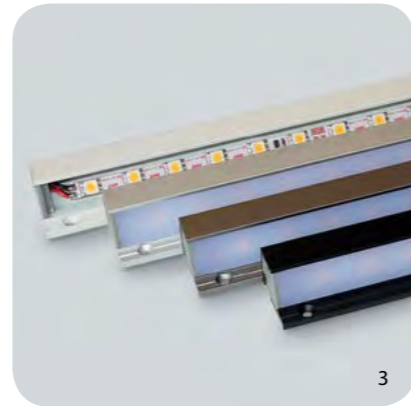


4.75W/ft (15.6W/m)

Luminous flux: Red: 32lm/ft
Green: 81lm/ft
Blue: 12lm/ft
White: 118lm/ft (Clear cover)
Size: H0.71/W0.98/L4.07-79.53" (H18/W25/L103.3-2020mm)
Chip: Red TEKCORE/
Green EPILEDs/Blue 3E
Beam angle: 110° (@ 45° LED position, Clear cover)
Colors: Red 620-628nm/Blue 459-464nm/Green 521-527nm
CRI: N/A
Lifetime: 50,000 hours @ 77°F
Operating temp: $T_a = -13$ to 122°F (T_c max = 181.4°F)
IP rating: IP40
Finish: Silver anodized
Cover/Lens: Diffused/Clear
Mounting: Surface mounting via screw fixing, 3M tape or magnets
Connection: Hardwire tails
Control: DMX/DALI (see visDIM range)



TANA Product Details



1. Screw fixed TANA with diffused cover
2. Push-fit flush end caps
3. Custom color 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



IP20
Black plastic housing
L6.46/W2.52/H1.34"
(L164/W64/H34mm)

KKDM-04 0-10V/1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)



TANA Code Table



			TANA 352 TNS352	TANA 504 TNS504	TANA 508 TNS508	TANA RGB TNS501
LED Color	2100K	Q	•	•	•	n/a
	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 anodized Diffused cover	A	•	•	•	•
	Silver anodized Clear cover	B	•	•	•	•
	Custom color Diffused cover	I	•	•	•	•
	Custom color 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 anodized 45° 3M tape Diffused cover



			TANA e352 TNE352	TANA e504 TNE504	TANA e508 TNE508	
LED Color	2100K	Q	•	•	•	
	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 anodized Diffused cover	A	•	•	•	
	Silver anodized Clear cover	B	•	•	•	
	Custom color Diffused cover	I	•	•	•	
	Custom color 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 anodized 45° 3M tape Diffused cover

TANA Micro



- Slim profile linear shelf light made to custom sizes with centered LED.
- Choice of output: from 109 to 405 lumens per foot with ≥90 CRI.

s-line

- 2 step package binning.
- Optimum color consistency for high quality/close proximity lighting.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K. Single colors: Red/Green/Blue/Orange/Amber.

e-line

- 3 step package binning.
- Good color consistency providing an economic choice when mounted over 11.8 inches from the illuminated surface.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K.

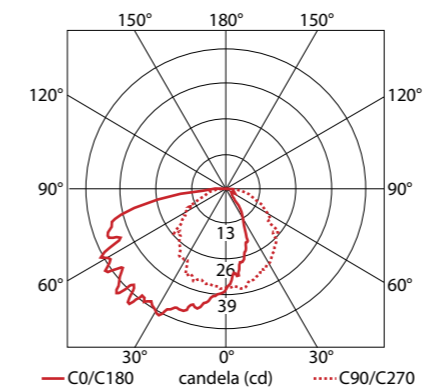
Note: To avoid any visible color differences we advise that s-line and e-line products should not share the same location.

LED strip options



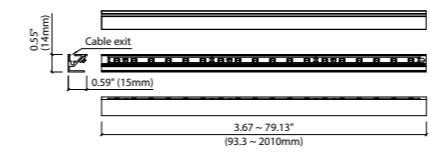
TANA Micro 352_s/e352_e

24V DC 1.68 W/ft 65 lm/W IP20



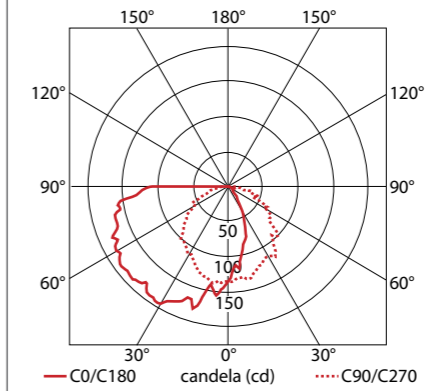
109lm/ft (359lm/m)

Luminous flux: 109lm/ft nominal (@ 3200K)
Size: H0.55/W0.59/L3.67-79.13" (H14/W15/L93.3-2010mm)
Chip: Toyoda Gosei
Beam angle: 90°
CRI: ≥90
Lifetime: 50,000 hours @ 77°F
Operating temp: T_a = -13 to 131°F (T_c max = 149°F)
IP rating: IP20
Finish: Silver anodized
Cover/Lens: N/A
Mounting: Surface mounting via 3M tape or screw mount end caps
Connection: Hardwire tails
Control: 0-10V/1-10V/DMX/DALI (see visDIM range)



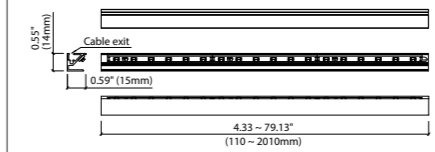
TANA Micro 504_s/e504_e

24V DC 3.73 W/ft 78.6 lm/W IP20



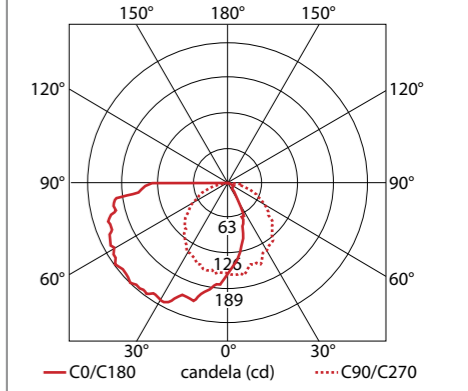
293lm/ft (962lm/m)

Luminous flux: 293lm/ft nominal (@ 3200K)
Size: H0.55/W0.59/L4.33-79.13" (H14/W15/L110-2010mm)
Chip: Toyoda Gosei
Beam angle: 45°
CRI: ≥90
Lifetime: 50,000 hours @ 77°F
Operating temp: T_a = -13 to 131°F (T_c max = 158°F)
IP rating: IP20
Finish: Silver anodized
Cover/Lens: N/A
Mounting: Surface mounting via 3M tape or screw mount end caps
Connection: Hardwire tails
Control: 0-10V/1-10V/DMX/DALI (see visDIM range)



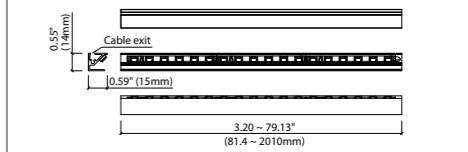
TANA Micro 508_s/e508_e

24V DC 5.27 W/ft 76.9 lm/W IP20

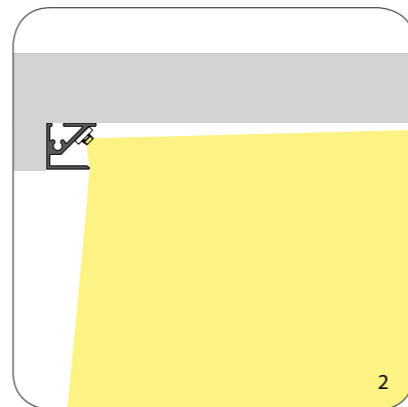
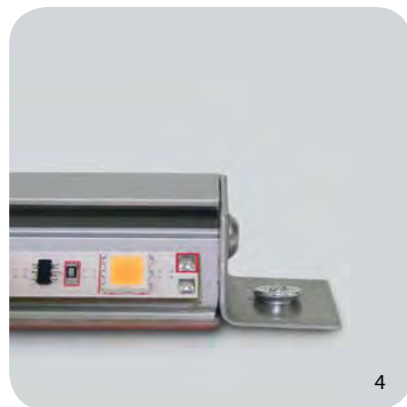
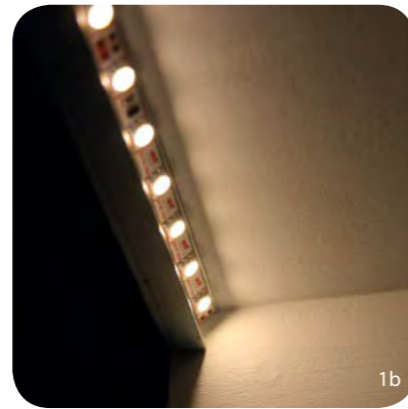
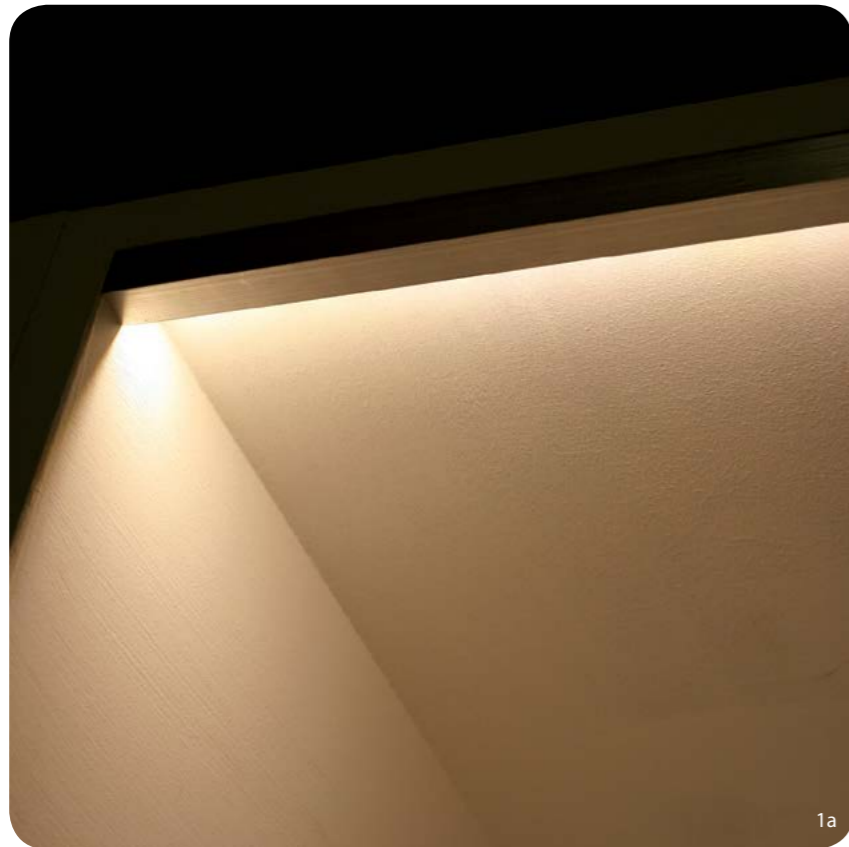


405lm/ft (1329lm/m)

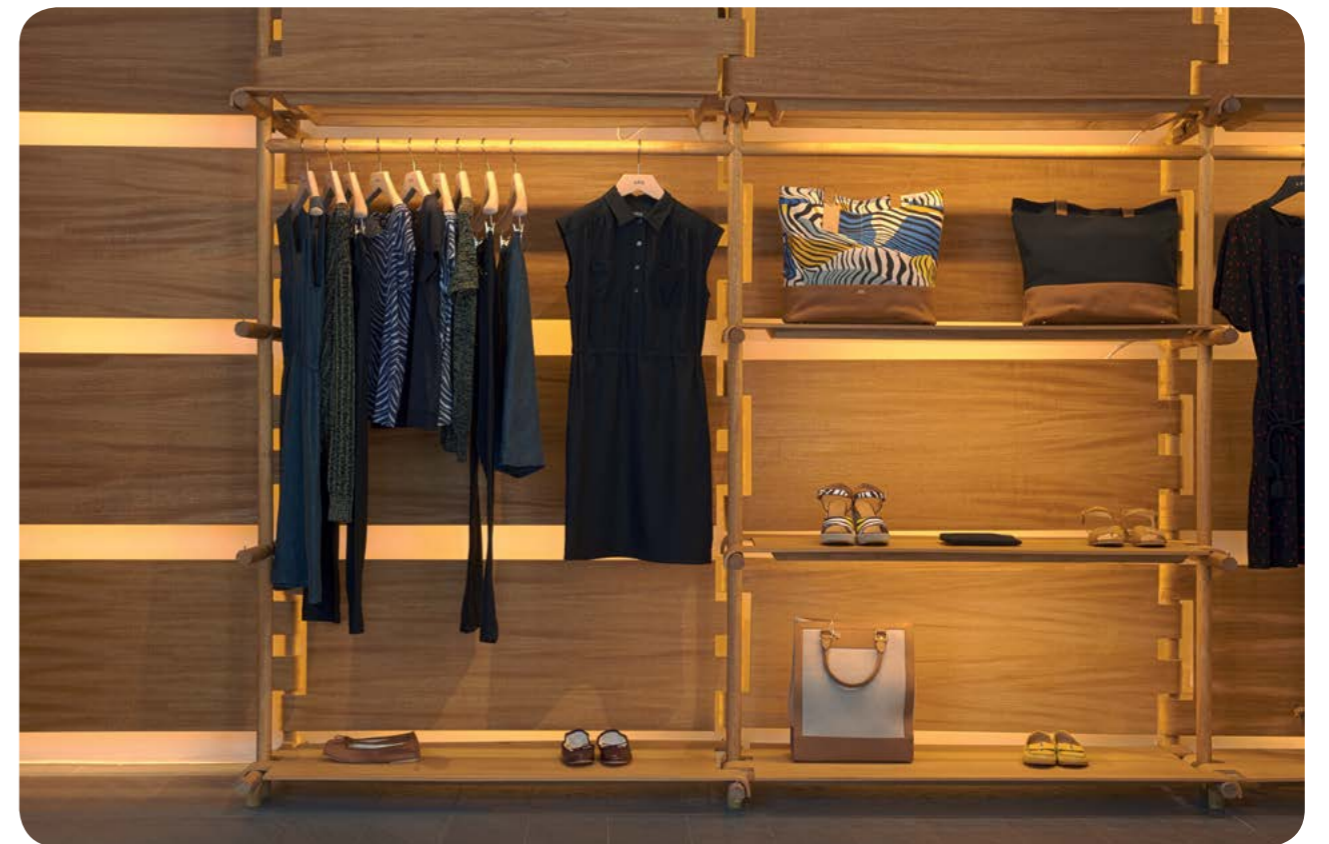
Luminous flux: 405lm/ft nominal (@ 3200K)
Size: H0.55/W0.59/L3.20-79.13" (H14/W15/L81.4-2010mm)
Chip: Toyoda Gosei
Beam angle: 65°
CRI: ≥90
Lifetime: 50,000 hours @ 77°F
Operating temp: T_a = -13 to 113°F (T_c max = 156.2°F)
IP rating: IP20
Finish: Silver anodized
Cover/Lens: N/A
Mounting: Surface mounting via 3M tape or screw mount end caps
Connection: Hardwire tails
Control: 0-10V/1-10V/DMX/DALI (see visDIM range)



TANA Micro Product Details



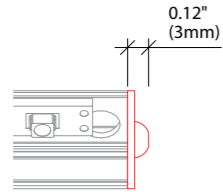
1. Surface mounted TANA Micro 504
2. Wide beam distribution for uniform shelf lighting
3. High strength self adhesive 3M tape
4. Optional end cap bracket accessory (sold separately)



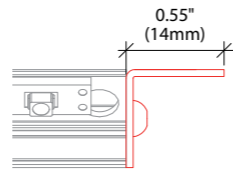
Opposite page:
 APC Filles du Calvaire, Paris
 Architect: Laurent Deroo
 Lighting Design: Franck Franjou
 Photography: Jean Garcin

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 39.37" (1000mm)

visDIM Control Gear Options



IP20
Black plastic housing
L6.46/W2.52/H1.34"
(L164/W64/H34mm)

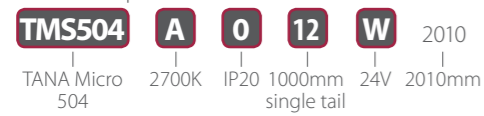
KKDM-04 0-10V/1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)

TANA Micro Code Table



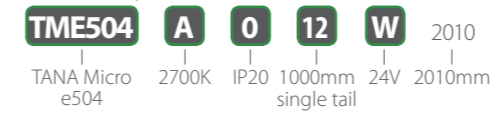
		TANA Micro 352	TANA Micro 504	TANA Micro 508
		TMS352	TMS504	TMS508
LED Color	2100K	Q	•	•
	2300K	N	•	•
	2500K	S	•	•
	2700K	A	•	•
	3000K	P	•	•
	3200K	B	•	•
	3800K	C	•	•
	5000K	D	•	•
	Red	F	•	n/a
	Green	G	•	n/a
	Blue	H	•	n/a
	Orange	I	•	n/a
Amber	J	•	n/a	
IP	IP20	0	•	•
Connection	1000mm single tail	12	•	•
	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:



		TANA Micro e352	TANA Micro e504	TANA Micro e508
		TME352	TME504	TME508
LED Color	2100K	Q	•	•
	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:

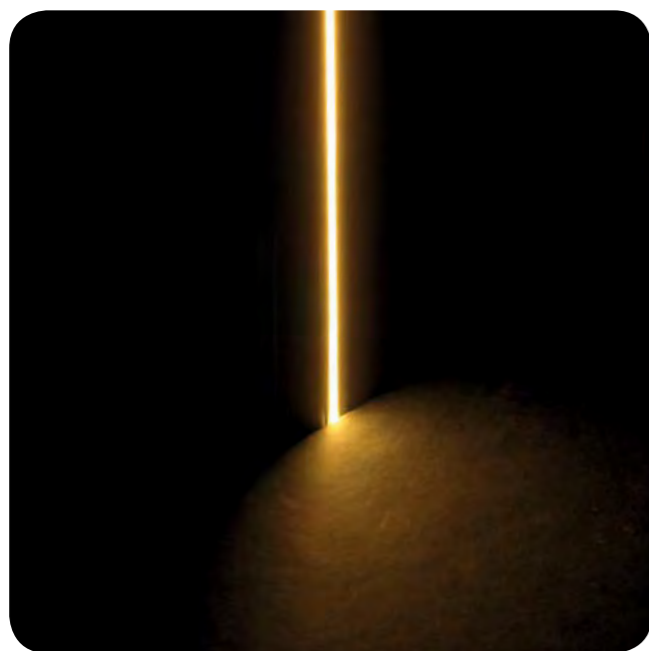


Groove series

Groove Light



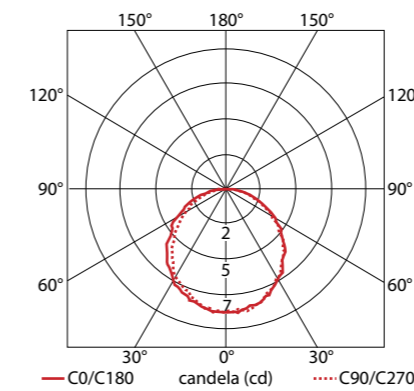
- Ultra-slim (0.24 in) linear accent marker for continuous, sharp light lines.
- Designed for inseting into shopfittings, shelves, joinery and architectural features.
- End to end diffusion for seamless extension.
- Low glare output in a choice of color temperatures or RGB.



Groove Light recessed into joinery

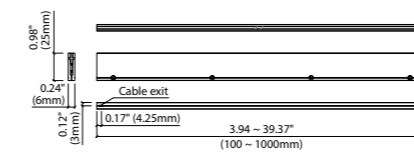
Groove Light

24V DC 2.34 W/ft 4 lm/W IP40/65 cUL US LISTED E350145 CE



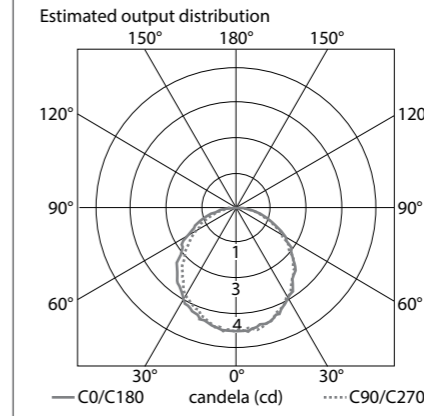
9lm/ft (31lm/m)

- Luminous flux:** 9lm/ft nominal (@ 3800K)
- Size:** H0.98/W0.24/L3.94-39.37" (H25/W6/L100-1000mm)
- Chip:** Cree
- Beam angle:** Diffused
- Color:** 2800K/3800K/6500K
- Bin/Step:** 3~3.5 step MacAdam ellipse
- CRI:** ≥65
- Lifetime:** 50,000 hours @ 77°F
- Operating temp:** T_a = -13 to 122°F (T_c max = 140°F)
- IP rating:** IP40/IP65
- Finish:** Silver anodized
- Cover/Lens:** Diffused
- Mounting:** Recessed (no flange)
- Connection:** Hardwire tails or male/female connectors
- Control:** 0-10V/1-10V/DMX/DALI (see visDIM range)



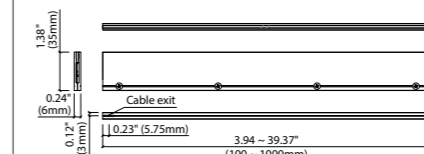
Groove Light RGB

RGB 24V DC 6.58 W/ft IP40/65 cUL US LISTED E350145 CE



6.58W/ft (21.6W/m)

- Luminous flux:** Red: 1lm/ft
Green: 3lm/ft
Blue: 1lm/ft
White: 5lm/ft
- Size:** H1.38/W0.24/L3.94-39.37" (H35/W6/L100-1000mm)
- Chip:** Everlight
- Beam angle:** Diffused
- Colors:** RGB color mixing
- CRI:** N/A
- Lifetime:** 20,000 hours @ 77°F
- Operating temp:** T_a = -13 to 95°F (T_c max = 150.8°F)
- IP rating:** IP40/IP65
- Finish:** Silver anodized
- Cover/Lens:** Diffused
- Mounting:** Recessed (no flange)
- Connection:** Hardwire tails or male/female connectors
- Control:** DMX/DALI (see visDIM range)



Groove Light RGB cable exit

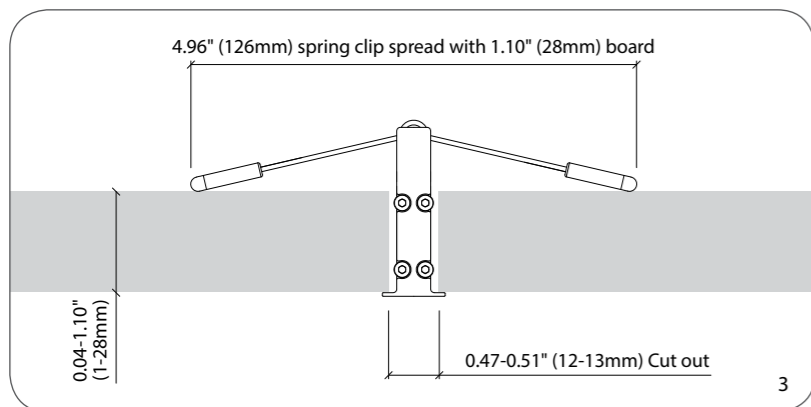
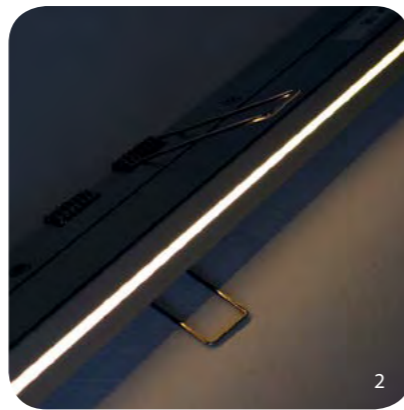


Above & Opposite page:
'Broken Heart', Luminale, Light & Building 2012, Frankfurt
Design: GNI Projects

Groove IN



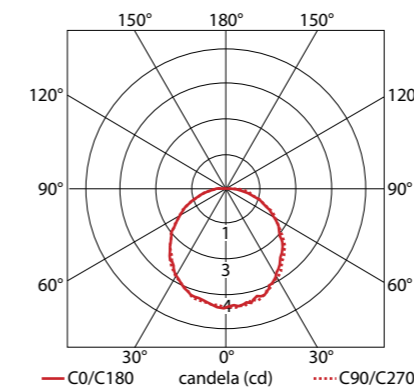
- Recessed, ultra-slim, linear accent marker for sharp light lines.
- Low glare output in a choice of color temperatures or RGB.
- Spring clip retention for hollow walls/ceilings.



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

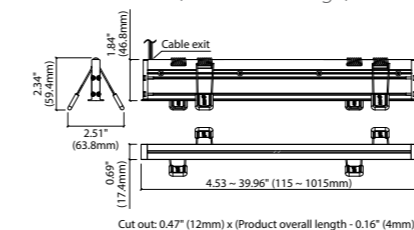
Groove IN

24V DC 2.34 W/ft 5.1 lm/W IP40/65



12lm/ft (39lm/m)

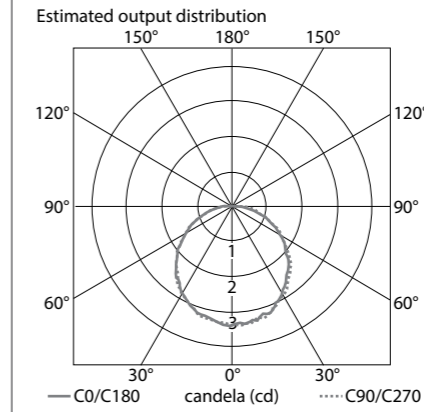
- Luminous flux:** 12lm/ft nominal (@ 3800K)
- Size:** H1.84/W0.69/L4.53-39.96" (H46.8/W17.4/L115-1015mm) (Excludes spring clips)
- Chip:** Cree
- Beam angle:** Diffused
- Color:** 2800K/3800K/6500K
- Bin/Step:** 3~3.5 step
MacAdam ellipse
- CRI:** ≥65
- Lifetime:** 50,000 hours @ 77°F
- Operating temp:** T_a = -13 to 122°F (T_c max = 149°F)
- IP rating:** IP40/IP65
- Finish:** Silver anodized
- Cover/Lens:** Diffused
- Mounting:** Recessed mounting via spring clips
- Connection:** Hardwire tails or male/female connectors
- Control:** 0-10V/1-10V/DMX/DALI (see visDIM range)



Cut out: 0.47" (12mm) x (Product overall length - 0.16" (4mm))

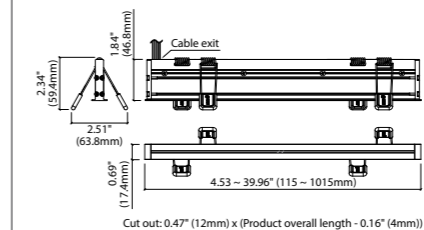
Groove IN RGB

RGB 24V DC 6.58 W/ft IP40/65

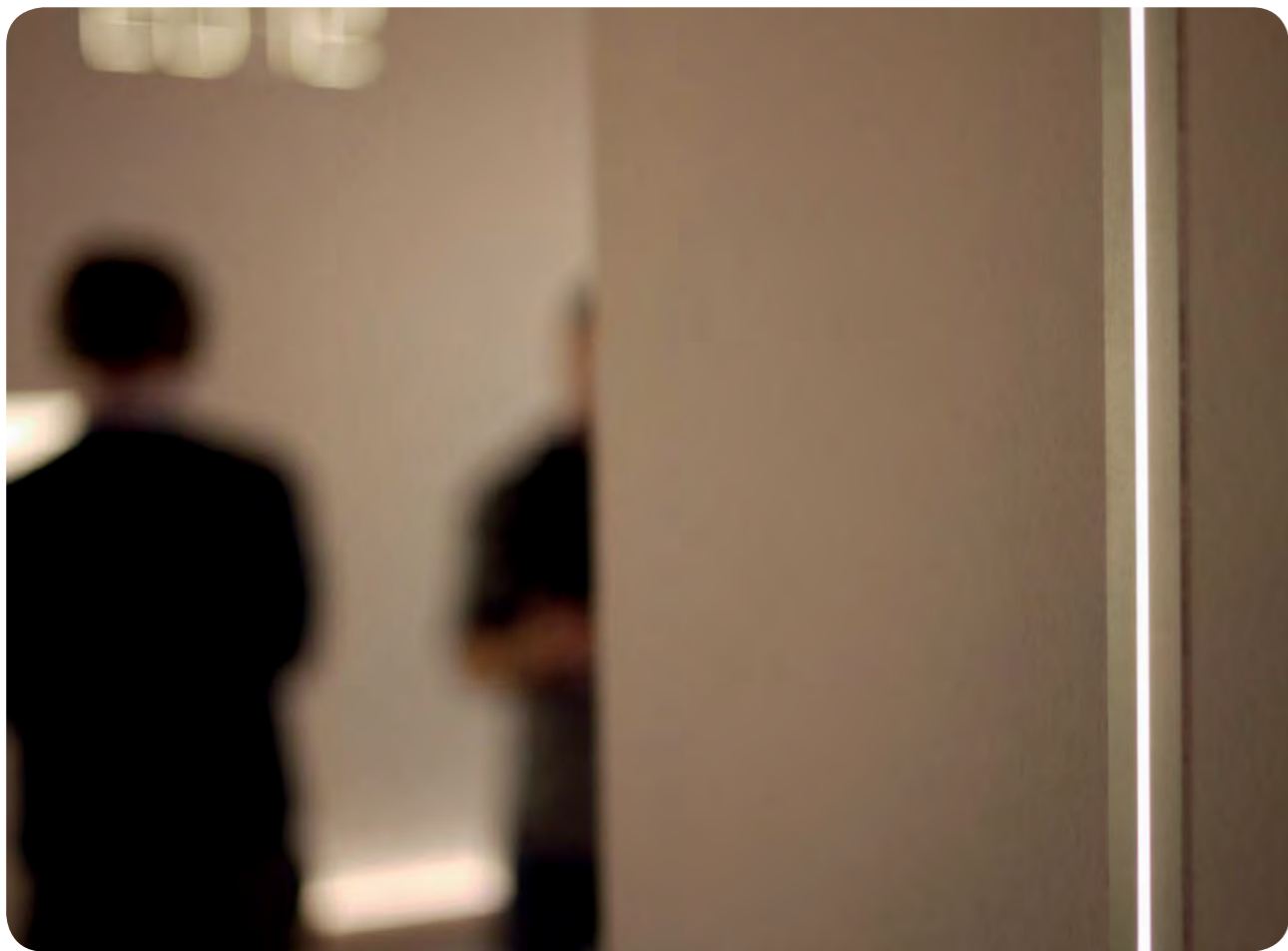


6.58W/ft (21.6W/m)

- Luminous flux:** Red: 1lm/ft
Green: 3lm/ft
Blue: 1lm/ft
White: 5lm/ft
- Size:** H1.84/W0.69/L4.53-39.96" (H46.8/W17.4/L115-1015mm) (Excludes spring clips)
- Chip:** Everlight
- Beam angle:** Diffused
- Colors:** RGB color mixing
- CRI:** N/A
- Lifetime:** 20,000 hours @ 77°F
- Operating temp:** T_a = -13 to 104°F (T_c max = 134.6°F)
- IP rating:** IP40/IP65
- Finish:** Silver anodized
- Cover/Lens:** Diffused
- Mounting:** Recessed mounting via spring clips
- Connection:** Hardwire tails or male/female connectors
- Control:** DMX/DALI (see visDIM range)



Cut out: 0.47" (12mm) x (Product overall length - 0.16" (4mm))



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



Groove Accessories

visDIM Power/Control Options



IP20
Black plastic housing
L6.46/W2.52/H1.34"
(L164/W64/H34mm)

KKDM-04 0-10V/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 Color	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

Wimi series

MiMi



- A compact, covered, profile for architectural detail and low level ambient lighting.
- Output options from 91 to 302 lumens per foot with ≥ 90 CRI.
- Available with a full range of white, single color, and RGB LED sources.
- Interior and exterior versions with many mounting options.

s-line

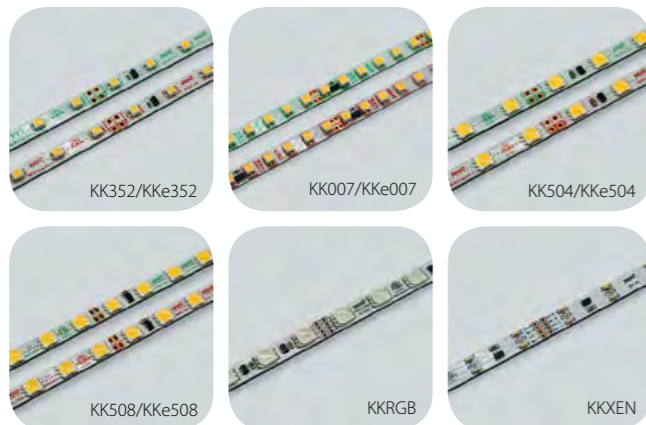
- 2 step package binning.
- Optimum color consistency for high quality/close proximity lighting.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K. Single colors: Red/Green/Blue/Orange/Amber.

e-line

- 3 step package binning.
- Good color consistency providing an economic choice when mounted over 11.8 inches from the illuminated surface.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K.

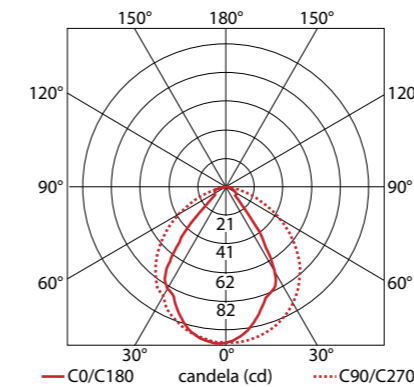
Note: To avoid any visible color differences we advise that s-line and e-line products should not share the same location.

LED strip options



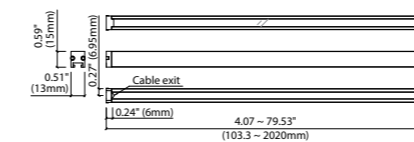
MiMi 352_s/e352_e

24V DC 1.68 W/ft ≤ 54.1 lm/W IP54/67



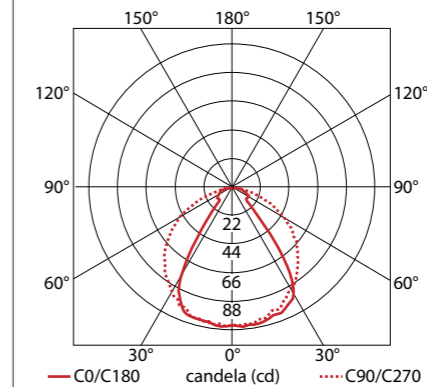
91lm/ft (299lm/m)

Luminous flux: 91lm/ft nominal (@ 3200K + Clear cover)
Size: H0.59/W0.51/L4.07-79.53" (H15/W13/L103.3-2020mm)
Chip: Toyoda Gosei
Beam angle: 70° (Clear cover)
CRI: ≥ 90
Lifetime: 50,000 hours @ 77°F
Operating temp: $T_a = -13$ to 140°F (T_c max = 149°F)
IP rating: IP54/67
Finish: Silver anodized
Cover/Lens: Diffused/Clear
Mounting: Surface mounting via clips or brackets
Connection: Sheathed hardwire tails or male/female connectors
Control: 0-10V/1-10V/DMX/DALI (see visDIM range)



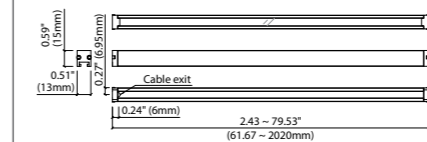
MiMi 007_s/e007_e

24V DC 3.30 W/ft ≤ 41 lm/W IP54/67



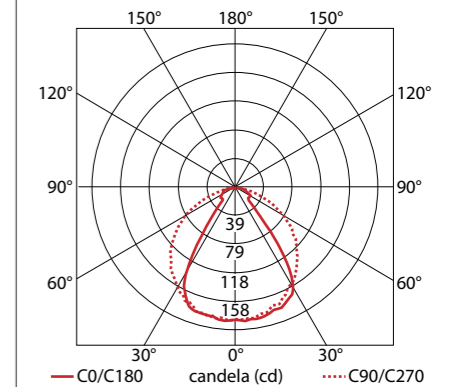
135lm/ft (444lm/m)

Luminous flux: 135lm/ft nominal (@ 3200K + Clear cover)
Size: H0.59/W0.51/L2.43-79.53" (H15/W13/L61.67-2020mm)
Chip: Toyoda Gosei
Beam angle: 70° (Clear cover)
CRI: ≥ 90
Lifetime: 50,000 hours @ 77°F
Operating temp: $T_a = -13$ to 113°F (T_c max = 140°F)
IP rating: IP54/67
Finish: Silver anodized
Cover/Lens: Diffused/Clear
Mounting: Surface mounting via clips or brackets
Connection: Sheathed hardwire tails or male/female connectors
Control: 0-10V/1-10V/DMX/DALI (see visDIM range)



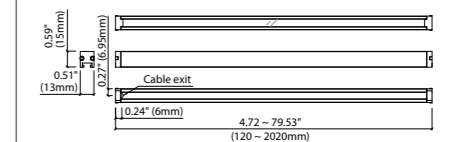
MiMi 504_s/e504_e

24V DC 3.73 W/ft ≤ 61.3 lm/W IP54/67

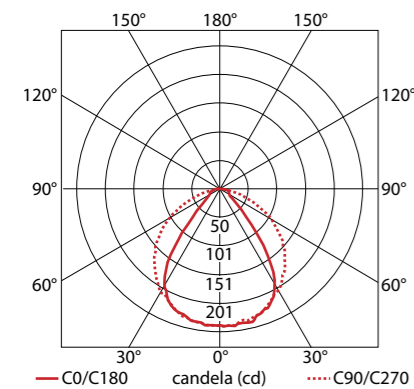
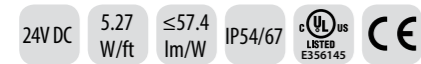


229lm/ft (750lm/m)

Luminous flux: 229lm/ft nominal (@ 3200K + Clear cover)
Size: H0.59/W0.51/L4.72-79.53" (H15/W13/L120-2020mm)
Chip: Toyoda Gosei
Beam angle: 75° (Clear cover)
CRI: ≥ 90
Lifetime: 50,000 hours @ 77°F
Operating temp: $T_a = -13$ to 131°F (T_c max = 167°F)
IP rating: IP54/67
Finish: Silver anodized
Cover/Lens: Diffused/Clear
Mounting: Surface mounting via clips or brackets
Connection: Sheathed hardwire tails or male/female connectors
Control: 0-10V/1-10V/DMX/DALI (see visDIM range)

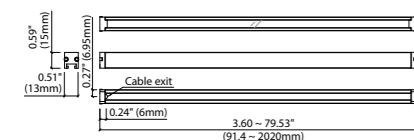


MiMi 508 /e508

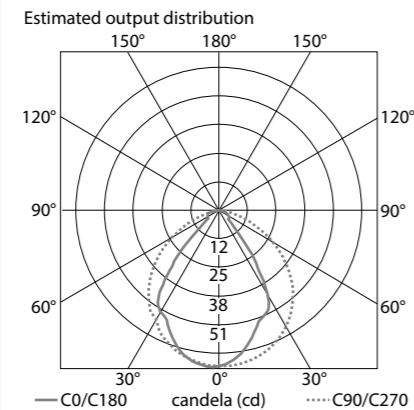


302lm/ft (992lm/m)

- Luminous flux:** 302lm/ft nominal (@ 3200K + Clear cover)
- Size:** H0.59/W0.51/L3.60-79.53" (H15/W13/L91.4-2020mm)
- Chip:** Toyoda Gosei
- Beam angle:** 75° (Clear cover)
- CRI:** ≥90
- Lifetime:** 50,000 hours @ 77°F
- Operating temp:** T_a = -13 to 113°F (T_c max = 158°F)
- IP rating:** IP54/67
- Finish:** Silver anodized
- Cover/Lens:** Diffused/Clear
- Mounting:** Surface mounting via clips or brackets
- Connection:** Sheathed hardwire tails or male/female connectors
- Control:** 0-10V/1-10V/DMX/DALI (see visDIM range)

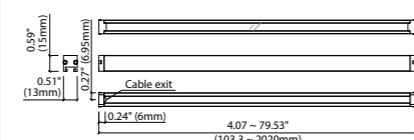


MiMi RGB

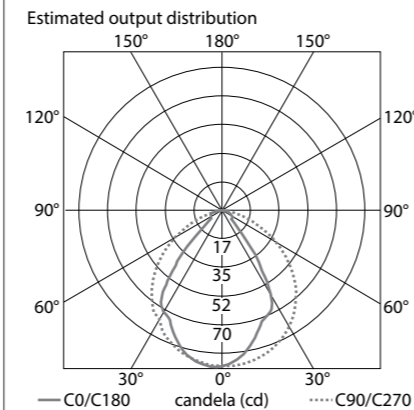
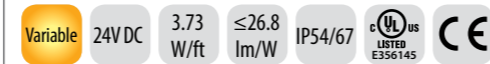


4.75W/ft (15.6W/m)

- Luminous flux:** Red: 28lm/ft, Green: 72lm/ft, Blue: 11lm/ft, White: 105lm/ft (Clear cover)
- Size:** H0.59/W0.51/L4.07-79.53" (H15/W13/L103.3-2020mm)
- Chip:** Red TEKCORE/ Green EPILEDs/Blue 3E
- Beam angle:** 75° (Clear cover)
- Colors:** Red 620-628nm/Blue 459-464nm/Green 521-527nm
- CRI:** N/A
- Lifetime:** 50,000 hours @ 77°F
- Operating temp:** T_a = -13 to 131°F (T_c max = 158°F)
- IP rating:** IP54/67
- Finish:** Silver anodized
- Cover/Lens:** Diffused/Clear
- Mounting:** Surface mounting via clips or brackets
- Connection:** Sheathed hardwire tails or male/female connectors
- Control:** DMX/DALI (See visDIM range)

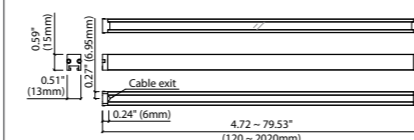


MiMi XEN



100lm/ft (328lm/m)

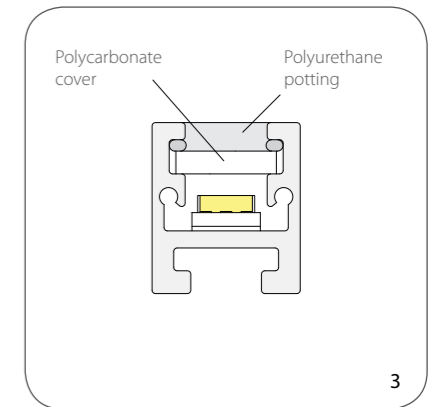
- Luminous flux:** 100lm/ft (White + Clear cover)
- Size:** H0.59/W0.51/L4.72-79.53" (H15/W13/L120-2020mm)
- Chip:** Citizen
- Beam angle:** 75° (Clear cover)
- Color:** White: 2800K continuously variable to amber
- CRI:** ≥80 (White 2800K)
- Lifetime:** 50,000 hours @ 77°F
- Operating temp:** T_a = -13 to 131°F (T_c max = 158°F)
- IP rating:** IP54/67
- Finish:** Silver anodized
- Cover/Lens:** Diffused/Clear
- Mounting:** Surface mounting via clips or brackets
- Connection:** Sheathed hardwire tails or male/female connectors
- Control:** 0-10V/1-10V/DMX/DALI (see visDIM range)



MiMi Product Details



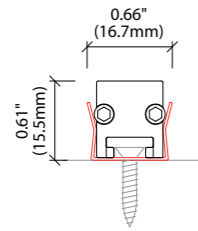
1. Soft spotting on diffused cover



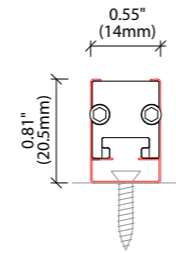


MiMi Accessories

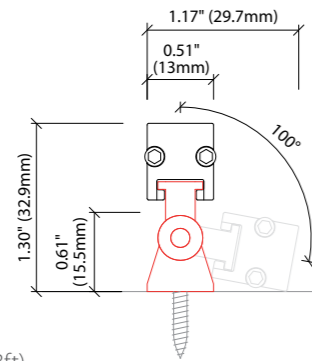
Mounting Options



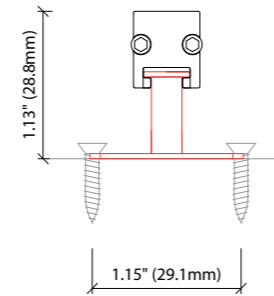
KKCP-02 (1no.)
KKCP-52 (500no.)
 Clip (Allow 1 per ft)
 S/Steel finish



KKCP-14
 Lock clip (Allow 2 per 3ft)
 S/Steel finish



KKBK-05
 Adjustable bracket (Allow 2 per 3ft)
 S/Steel finish



KKBK-06
 Fixed bracket (Allow 1 per ft)
 S/Steel finish

Connectors



CN54-2P-0300 11.81" (300mm) pair
 IP54
 2 PIN male + female connector set



CN67-2P-0300 11.81" (300mm) pair
CN67-2P-1000 39.37" (1000mm) pair
CN67-2P-3000 118.11" (3000mm) pair
 IP67
 2 PIN male + female connector set

Connectors (Continued)



CN54-4P-0300 11.81" (300mm) pair
 IP54
 4 PIN RGB male + female connector set



CN67-4P-0300 11.81" (300mm) pair
CN67-4P-1000 39.37" (1000mm) pair
CN67-4P-3000 118.11" (3000mm) pair
 IP67
 4 PIN RGB male + female connector set

visDIM Control Gear Options



IP20
 Black plastic housing
 L6.46/W2.52/H1.34"
 (L164/W64/H34mm)

KKDM-04 0-10V/1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
 visDIM dimming sub-controllers
 (See Control Gear)

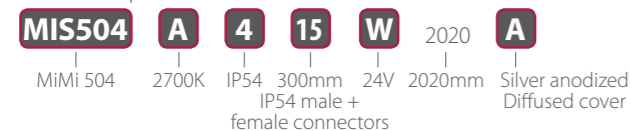
MiMi Code Table



		MiMi 352 MIS352	MiMi 007 MIS007	MiMi 504 MIS504	MiMi 508 MIS508	MiMi RGB MIS501	MiMi XEN MIS006
LED Color	2100K	Q	•	•	•	n/a	n/a
	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	n/a	n/a	•	
Variable	M	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 anodized Diffused cover	A	•	•	•	•	•
	Silver anodized Clear cover	B	•	•	•	•	•

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

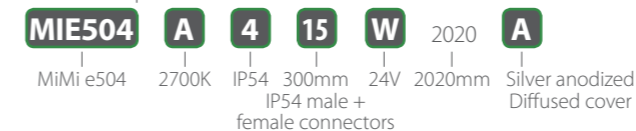
Code Example:



		MiMi e352 MIE352	MiMi e007 MIE007	MiMi e504 MIE504	MiMi e508 MIE508
LED Color	2100K	Q	•	•	•
	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 anodized Diffused cover	A	•	•	•
	Silver anodized Clear cover	B	•	•	•

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

Code Example:



KKKS L series

KKSL



- Silicone sealed, IP67, linear source for concealed illumination of architectural details.
- Output options from 78 to 321 lumens per foot with ≥ 90 CRI.
- Available with a wide range of white, single color, and RGB LED sources.

s-line

- 2 step package binning.
- Optimum color consistency for high quality/close proximity lighting.
- White: 2300K/2500K/3000K/3400K/3800K/4100K.
Single colors: Red/Green/Blue/Orange/Amber.

e-line

- 3 step package binning.
- Good color consistency providing an economic choice when mounted over 11.8 inches from the illuminated surface.
- White: 2300K/2500K/3000K/3400K/3800K/4100K.

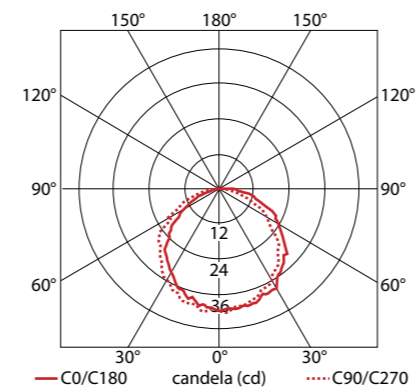
Note: To avoid any visible color differences we advise that s-line and e-line products should not share the same location.

LED strip options



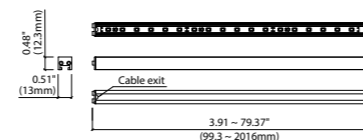
KKSL 352 /e352

24V DC 1.68 W/ft 46.5 lm/W IP67  





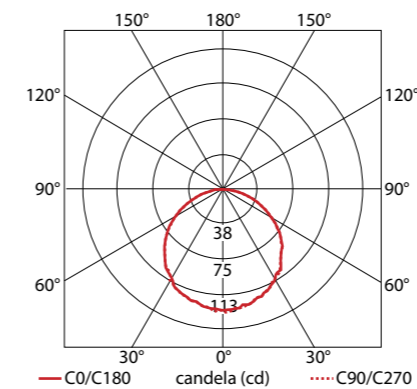
78lm/ft (257lm/m)

- Luminous flux:** 78lm/ft nominal (@ 4100K (3200K PCB))
- Size:** H0.48/W0.51/L3.91-79.37" (H12.3/W13/L99.3-2016mm)
- Chip:** Toyoda Gosei
- Beam angle:** 115°
- CRI:** ≥ 90
- Lifetime:** 50,000 hours @ 77°F
- Operating temp:** $T_a = -13$ to 122°F (T_c max = 140°F)
- IP rating:** IP67
- Finish:** Silver anodized
- Cover/Lens:** Silicone potted
- Mounting:** Surface mounting via clips or brackets
- Connection:** Sheathed hardwire tails or male/female connectors
- Control:** 0-10V/1-10V/DMX/DALI (see visDIM range)



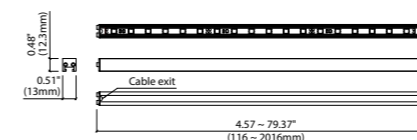
KKSL 504 /e504

24V DC 3.73 W/ft 61.3 lm/W IP67  





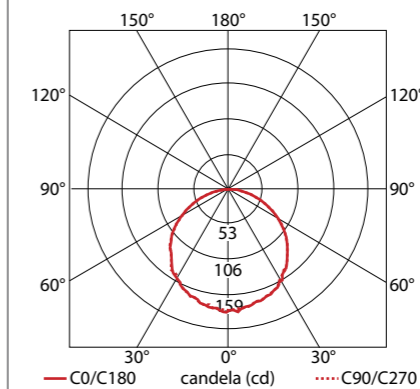
229lm/ft (750lm/m)

- Luminous flux:** 229lm/ft nominal (@ 4100K (3200K PCB))
- Size:** H0.48/W0.51/L4.57-79.37" (H12.3/W13/L116-2016mm)
- Chip:** Toyoda Gosei
- Beam angle:** 115°
- CRI:** ≥ 90
- Lifetime:** 50,000 hours @ 77°F
- Operating temp:** $T_a = -13$ to 122°F (T_c max = 149°F)
- IP rating:** IP67
- Finish:** Silver anodized
- Cover/Lens:** Silicone potted
- Mounting:** Surface mounting via clips or brackets
- Connection:** Sheathed hardwire tails or male/female connectors
- Control:** 0-10V/1-10V/DMX/DALI (see visDIM range)



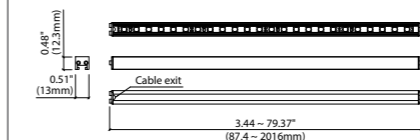
KKSL 508 /e508

24V DC 5.27 W/ft 60.9 lm/W IP67  



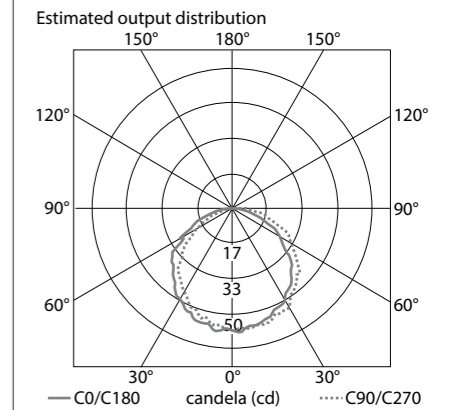
321lm/ft (1052lm/m)

- Luminous flux:** 321lm/ft nominal (@ 4100K (3200K PCB))
- Size:** H0.48/W0.51/L3.44-79.37" (H12.3/W13/L87.4-2016mm)
- Chip:** Toyoda Gosei
- Beam angle:** 110°
- CRI:** ≥ 90
- Lifetime:** 50,000 hours @ 77°F
- Operating temp:** $T_a = -13$ to 122°F (T_c max = 167°F)
- IP rating:** IP67
- Finish:** Silver anodized
- Cover/Lens:** Silicone potted
- Mounting:** Surface mounting via clips or brackets
- Connection:** Sheathed hardwire tails or male/female connectors
- Control:** 0-10V/1-10V/DMX/DALI (see visDIM range)



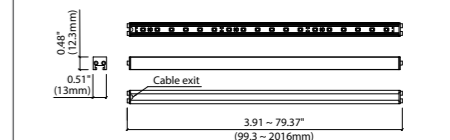
KKSL RGB

RGB 24V DC 4.75 W/ft IP67  

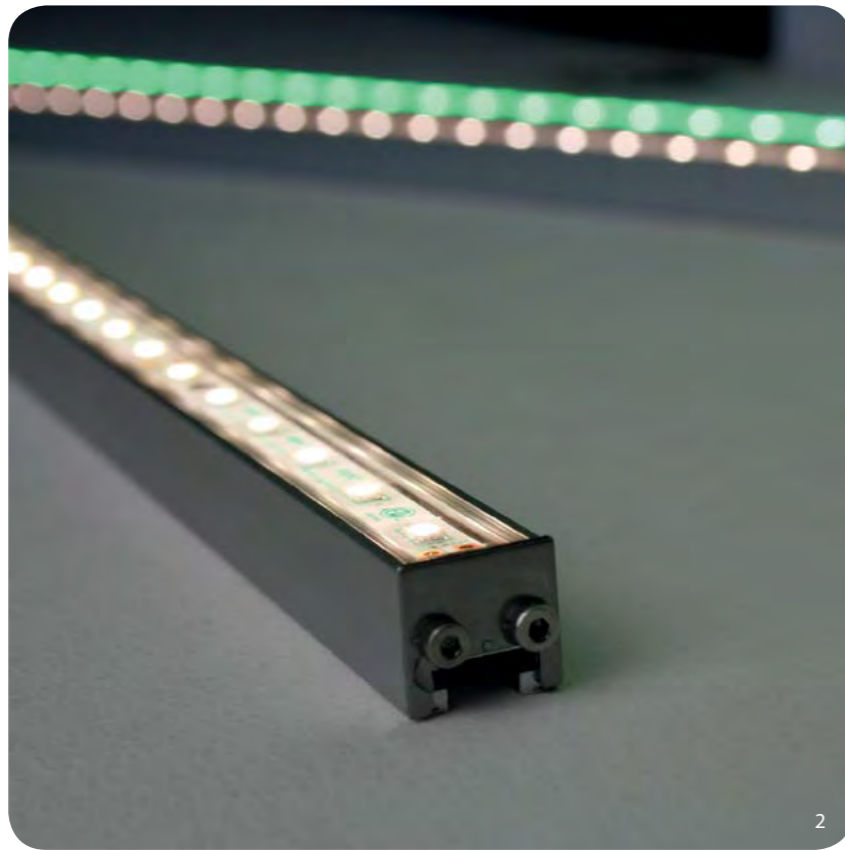
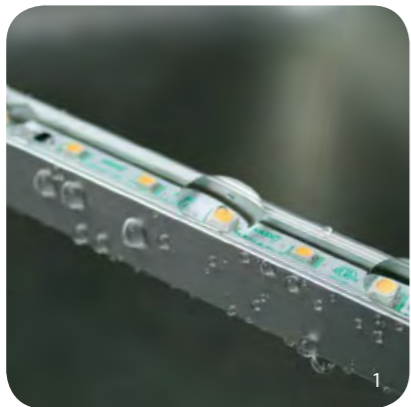


4.75W/ft (15.6W/m)

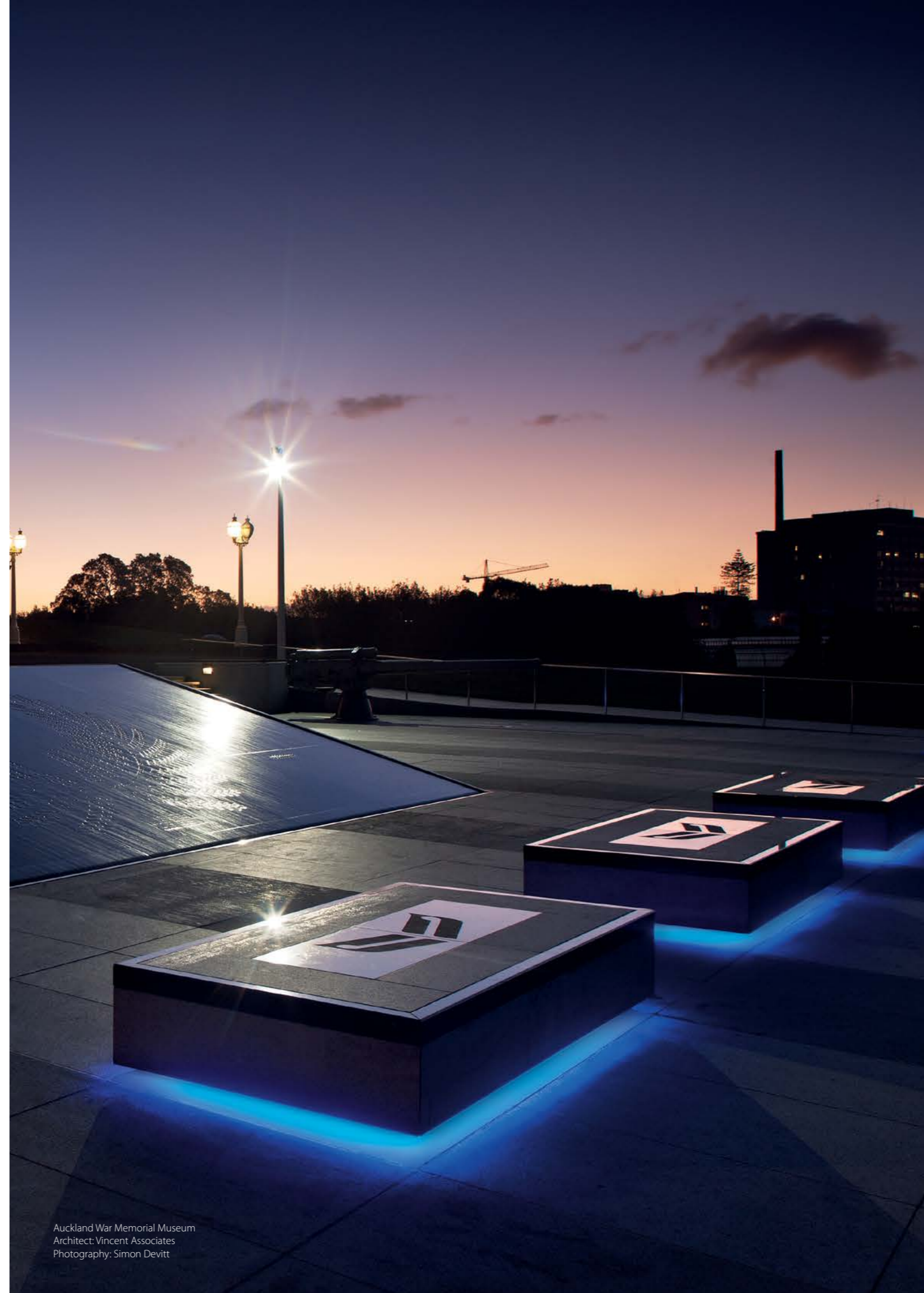
- Luminous flux:** Red: 34lm/ft
Green: 85lm/ft
Blue: 13lm/ft
White: 124lm/ft
- Size:** H0.48/W0.51/L3.91-79.37" (H12.3/W13/L99.3-2016mm)
- Chip:** Red TEKCORE/
Green EPILEDs/Blue 3E
- Beam angle:** 110°
- Colors:** Red 620-628nm/Blue 459-464nm/Green 521-527nm
- CRI:** N/A
- Lifetime:** 50,000 hours @ 77°F
- Operating temp:** $T_a = -13$ to 122°F (T_c max = 158°F)
- IP rating:** IP67
- Finish:** Silver anodized
- Cover/Lens:** Silicone Potted
- Mounting:** Surface mounting via clips or brackets
- Connection:** Sheathed hardwire tails or male/female connectors
- Control:** DMX/DALI (See visDIM range)



KKSL Product Details



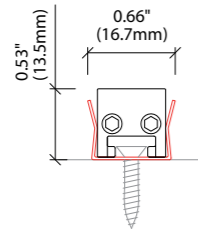
1. Silicone potting for IP67 protection
2. KKSL with range of LED options
3. Stainless steel adjustable angle bracket



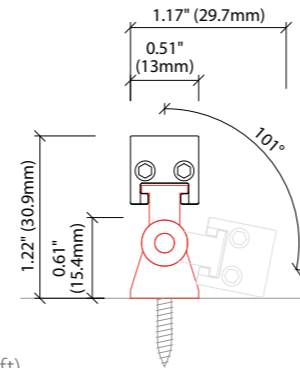
Auckland War Memorial Museum
Architect: Vincent Associates
Photography: Simon Devitt

KKSL Accessories

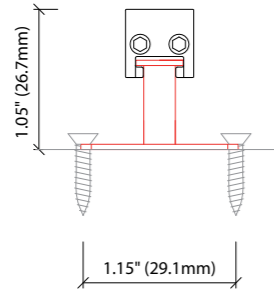
Mounting Options



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



KKBK-05
 Adjustable bracket (Allow 2 per 3ft)
 S/Steel finish

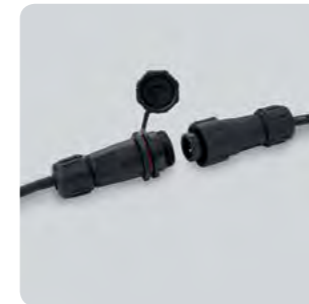


KKBK-06
 Fixed bracket (Allow 1 per ft)
 S/Steel finish

Connectors



CN67-2P-0300 11.81" (300mm) pair
CN67-2P-1000 39.37" (1000mm) pair
CN67-2P-3000 118.11" (3000mm) pair
 IP67
 2 PIN male + female connector set



CN67-4P-0300 11.81" (300mm) pair
CN67-4P-1000 39.37" (1000mm) pair
CN67-4P-3000 118.11" (3000mm) pair
 IP67
 4 PIN RGB male + female connector set

visDIM Control Gear Options



IP20
 Black plastic housing
 L6.46/W2.52/H1.34"
 (L164/W64/H34mm)

KKDM-04 0-10V/1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
 visDIM dimming sub-controllers
 (See Control Gear)

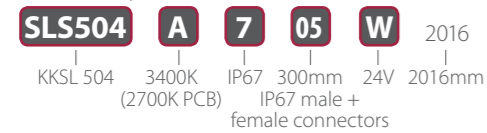
KKSL Code Table



		KKSL 352 SLS352	KKSL 504 SLS504	KKSL 508 SLS508	KKSL RGB SLS501
LED Color	2300K ¹ (2100K PCB)	Q	•	•	n/a
	2500K ¹ (2300K PCB)	N	•	•	n/a
	3000K 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
	Green	G	•	•	n/a
	Blue	H	•	•	n/a
	Orange	I	•	•	n/a
Amber	J	•	•	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 color temperature after color shift caused by silicone potting.

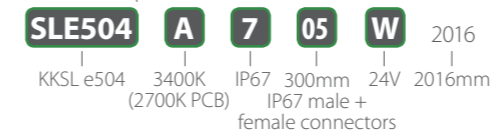
Code Example:



		KKSL e352 SLE352	KKSL e504 SLE504	KKSL e508 SLE508
LED Color	2300K ¹ (2100K PCB)	Q	•	•
	2500K ¹ (2300K PCB)	N	•	•
	3000K 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

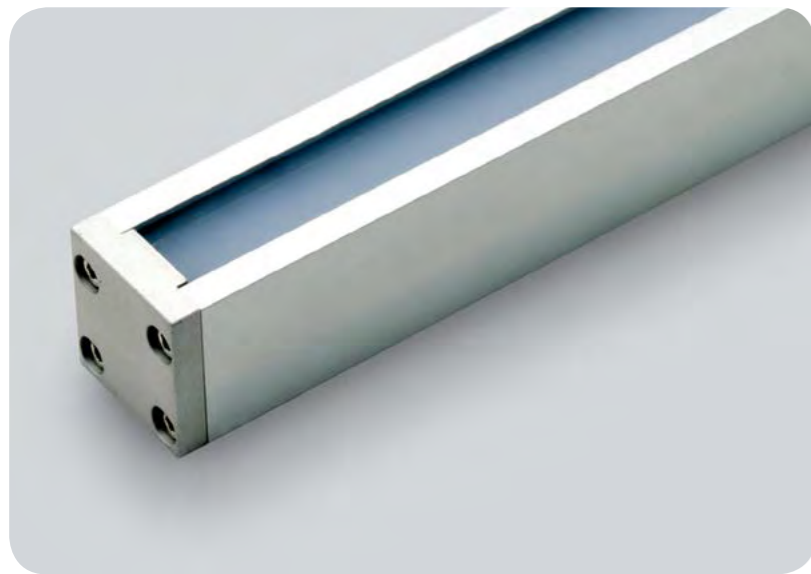
¹ Actual color temperature after color shift caused by silicone potting.

Code Example:



WOWO series

MoMo



- A compact, covered, profile for architectural details and low level ambient lighting.
- Output options from 66 to 247 lumens per foot with ≥ 90 CRI.
- Available with a full range of white, single color, and RGB LED sources.
- Interior and IP67 exterior versions with many mounting options.

s-line

- 2 step package binning.
- Optimum color consistency for high quality/close proximity lighting.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K.
Single colors: Red/Green/Blue/Orange/Amber.

e-line

- 3 step package binning.
- Good color consistency providing an economic choice when mounted over 11.8 inches from the illuminated surface.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K.

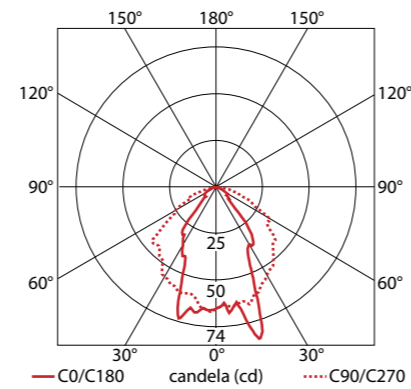
Note: To avoid any visible color differences we advise that s-line and e-line products should not share the same location.

LED strip options



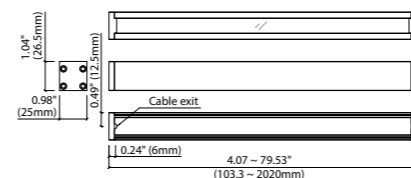
MoMo 352 s-/e352 e-

24V DC 1.68 W/ft ≤ 39.5 lm/W IP54/67



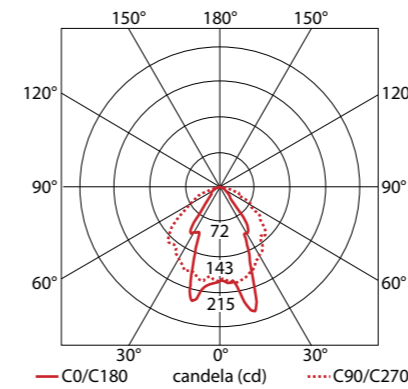
66lm/ft (218lm/m)

Luminous flux: 66lm/ft nominal (@ 3200K + Clear cover)
Size: H1.04/W0.98/L4.07-79.53" (H26.5/W25/L103.3-2020mm)
Chip: Toyoda Gosei
Beam angle: 50° (Clear cover)
CRI: ≥ 90
Lifetime: 50,000 hours @ 77°F
Operating temp: $T_a = -13$ to 140°F (T_c max = 149°F)
IP rating: IP54/67
Finish: Silver anodized
Cover/Lens: Diffused/Clear
Mounting: Surface mounting via clips or brackets
Connection: Sheathed hardwire tails or male/female connectors
Control: 0-10V/1-10V/DMX/DALI (see visDIM range)



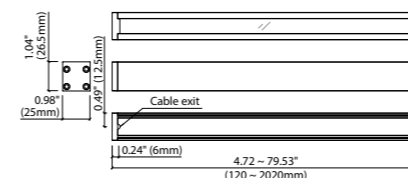
MoMo 504 s-/e504 e-

24V DC 3.73 W/ft ≤ 49.8 lm/W IP54/67



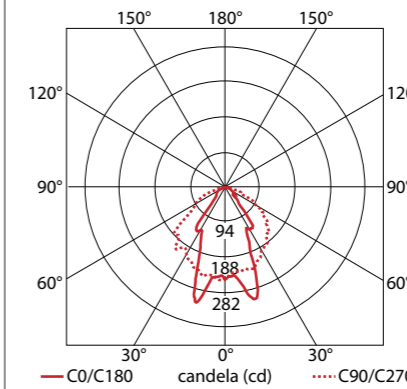
186lm/ft (610lm/m)

Luminous flux: 186lm/ft nominal (@ 3200K + Clear cover)
Size: H1.04/W0.98/L4.72-79.53" (H26.5/W25/L120-2020mm)
Chip: Toyoda Gosei
Beam angle: 50° (Clear cover)
CRI: ≥ 90
Lifetime: 50,000 hours @ 77°F
Operating temp: $T_a = -13$ to 122°F (T_c max = 158°F)
IP rating: IP54/67
Finish: Silver anodized
Cover/Lens: Diffused/Clear
Mounting: Surface mounting via clips or brackets
Connection: Sheathed hardwire tails or male/female connectors
Control: 0-10V/1-10V/DMX/DALI (see visDIM range)



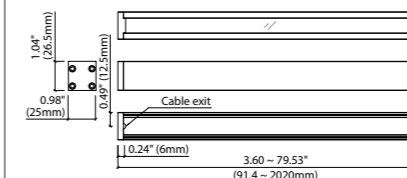
MoMo 508 s-/e508 e-

24V DC 5.27 W/ft ≤ 46.9 lm/W IP54/67



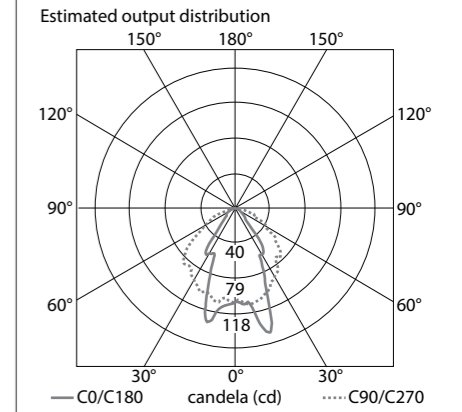
247lm/ft (810lm/m)

Luminous flux: 247lm/ft nominal (@ 3200K + Clear cover)
Size: H1.04/W0.98/L3.60-79.53" (H26.5/W25/L91.4-2020mm)
Chip: Toyoda Gosei
Beam angle: 45° (Clear cover)
CRI: ≥ 90
Lifetime: 50,000 hours @ 77°F
Operating temp: $T_a = -13$ to 104°F (T_c max = 149°F)
IP rating: IP54/67
Finish: Silver anodized
Cover/Lens: Diffused/Clear
Mounting: Surface mounting via clips or brackets
Connection: Sheathed hardwire tails or male/female connectors
Control: 0-10V/1-10V/DMX/DALI (see visDIM range)



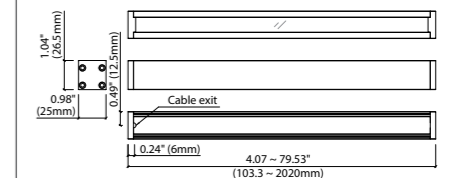
MoMo RGB

RGB 24V DC 4.75 W/ft IP54/67



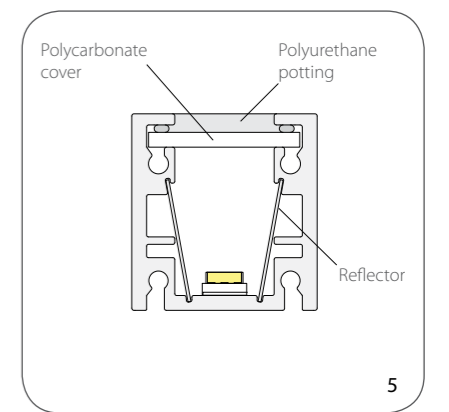
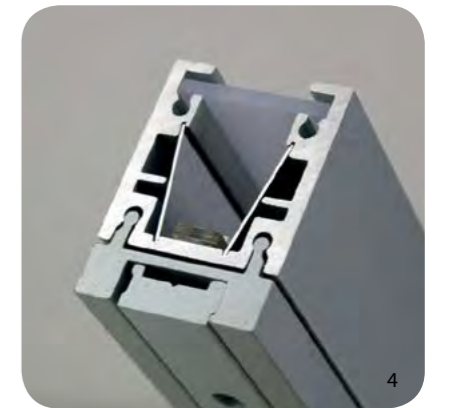
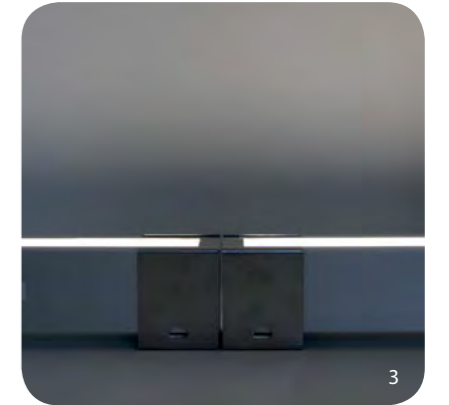
4.75W/ft (15.6W/m)

Luminous flux: Red: 34lm/ft
Green: 88lm/ft
Blue: 13lm/ft
White: 125lm/ft (Clear cover)
Size: H1.04/W0.98/L4.07-79.53" (H26.5/W25/L103.3-2020mm)
Chip: Red TEKCORE/
Green EPILEDs/Blue 3E
Beam angle: 45° (Clear cover)
Colors: Red 620-628nm/Blue 459-464nm/Green 521-527nm
CRI: N/A
Lifetime: 50,000 hours @ 77°F
Operating temp: $T_a = -13$ to 140°F (T_c max = 158°F)
IP rating: IP54/67
Finish: Silver anodized
Cover/Lens: Diffused/Clear
Mounting: Surface mounting via clips or brackets
Connection: Sheathed hardwire tails or male/female connectors
Control: DMX/DALI (See visDIM range)





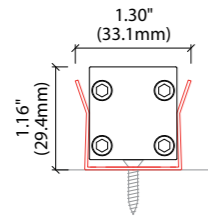
MoMo Product Details



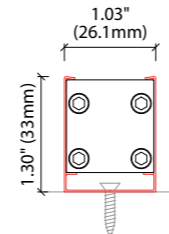
1. Adjustable angle bracket
2. Lock clip
3. End to end for continuous indirect lighting
4. Internal reflector for increased lumen efficiency
5. IP67 MoMo 504 section diagram
6. Homogenous lighting with all LED strip options

MoMo Accessories

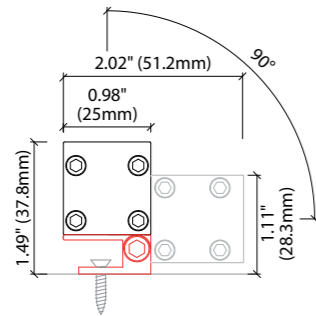
Mounting Options



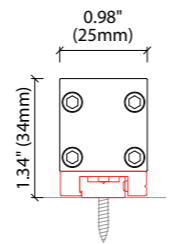
KKCP-03 (1no.)
KKCP-53 (500no.)
 Clip (Allow 1 per ft)
 S/Steel finish



KKCP-09
 Lock clip (Allow 2 per 3ft)
 S/Steel finish



KKBK-21
 Adjustable bracket (Allow 2 per 3ft)
 Anodized aluminum finish



KKBK-07
 Fixing plate (Allow 2 per 3ft)
 Anodized aluminum finish

Connectors



CN54-2P-0300 11.81" (300mm) pair
 IP54
 2 PIN male + female connector set



CN67-2P-0300 11.81" (300mm) pair
CN67-2P-1000 39.37" (1000mm) pair
CN67-2P-3000 118.11" (3000mm) pair
 IP67
 2 PIN male + female connector set

Connectors (Continued)



CN54-4P-0300 11.81" (300mm) pair
 IP54
 4 PIN RGB male + female connector set



CN67-4P-0300 11.81" (300mm) pair
CN67-4P-1000 39.37" (1000mm) pair
CN67-4P-3000 118.11" (3000mm) pair
 IP67
 4 PIN RGB male + female connector set

visDIM Control Gear Options



IP20
 Black plastic housing
 L6.46/W2.52/H1.34"
 (L164/W64/H34mm)

KKDM-04 0-10V/1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
 visDIM dimming sub-controllers
 (See Control Gear)

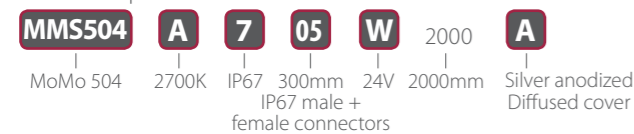
MoMo Code Table



		MoMo 352	MoMo 504	MoMo 508	MoMo RGB
		MMS352	MMS504	MMS508	MMS501
LED Color	2100K	Q	•	•	n/a
	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	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 anodized Diffused cover	A	•	•	•
	Silver anodized Clear cover	B	•	•	•

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

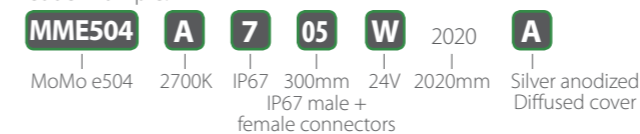
Code Example:



		MoMo e352	MoMo e504	MoMo e508
		MME352	MME504	MME508
LED Color	2100K	Q	•	•
	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 anodized Diffused cover	A	•	•
	Silver anodized Clear cover	B	•	•

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

Code Example:



MoMo-F



- Compact, IP67 rated and designed for recessed mounting in interior floors.
- Choice of output: from 31 to 114 lumens per foot with ≥ 90 CRI.
- Fully diffused and available with all our SMD linear LED sources.

s-line

- 2 step package binning.
- Optimum color consistency for high quality/close proximity lighting.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K.
Single colors: Red/Green/Blue/Orange/Amber.

e-line

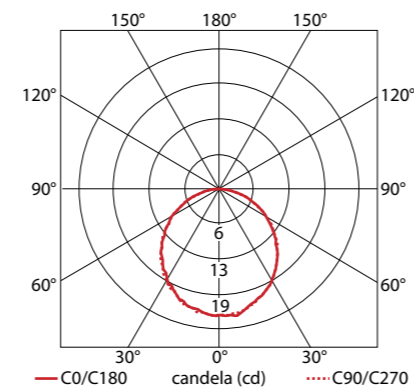
- 3 step package binning.
- Good color consistency providing an economic choice when mounted over 11.8 inches from the illuminated surface.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K.

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

LED strip options

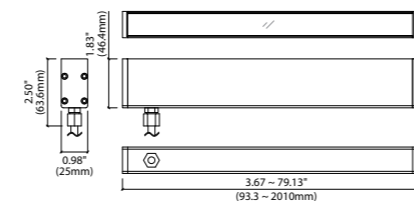


MoMo-F 352_s/e352_e

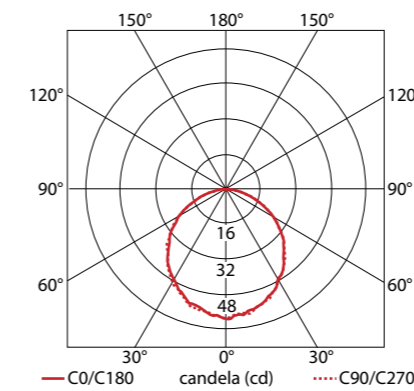
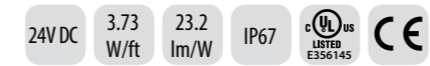


31lm/ft (103lm/m)

Luminous flux: 31lm/ft nominal (@ 3200K)
Size: H1.83/W0.98/L3.67-79.13" (H46.4/W25/L93.3-2010mm) (Excluding ground box)
Chip: Toyoda Gosei
Beam angle: Diffused
CRI: ≥ 90
Lifetime: 50,000 hours @ 77°F
Operating temp: $T_a = -13$ to 140°F (T_c max = 149°F)
IP rating: IP67
Finish: Silver anodized
Cover/Lens: Diffused
Mounting: Ground recessed
Connection: Sheathed hardwire tails or male/female connectors
Control: 0-10V/1-10V/DMX/DALI (see visDIM range)

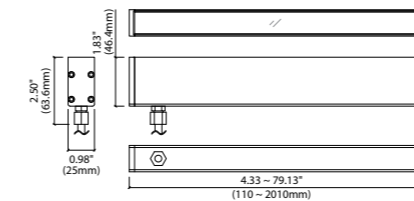


MoMo-F 504_s/e504_e

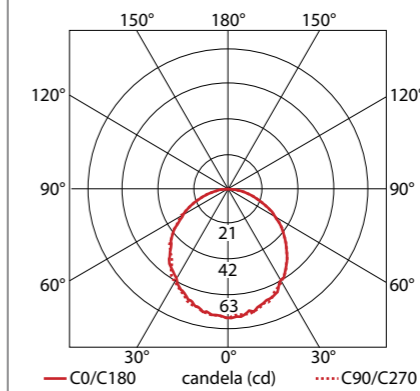


87lm/ft (284lm/m)

Luminous flux: 87lm/ft nominal (@ 3200K)
Size: H1.83/W0.98/L4.33-79.13" (H46.4/W25/L110-2010mm) (Excluding ground box)
Chip: Toyoda Gosei
Beam angle: Diffused
CRI: ≥ 90
Lifetime: 50,000 hours @ 77°F
Operating temp: $T_a = -13$ to 140°F (T_c max = 158°F)
IP rating: IP67
Finish: Silver anodized
Cover/Lens: Diffused
Mounting: Ground recessed
Connection: Sheathed hardwire tails or male/female connectors
Control: 0-10V/1-10V/DMX/DALI (see visDIM range)

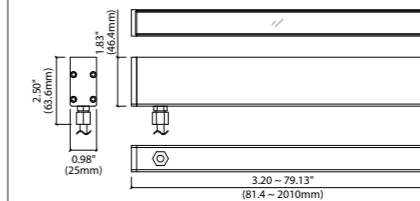


MoMo-F 508_s/e508_e

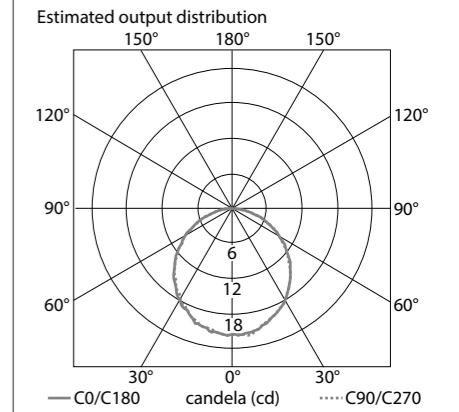


114lm/ft (373lm/m)

Luminous flux: 114lm/ft nominal (@ 3200K)
Size: H1.83/W0.98/L3.20-79.13" (H26.5/W25/L81.4-2010mm) (Excluding ground box)
Chip: Toyoda Gosei
Beam angle: Diffused
CRI: ≥ 90
Lifetime: 50,000 hours @ 77°F
Operating temp: $T_a = -13$ to 113°F (T_c max = 149°F)
IP rating: IP67
Finish: Silver anodized
Cover/Lens: Diffused
Mounting: Ground recessed
Connection: Sheathed hardwire tails or male/female connectors
Control: 0-10V/1-10V/DMX/DALI (see visDIM range)

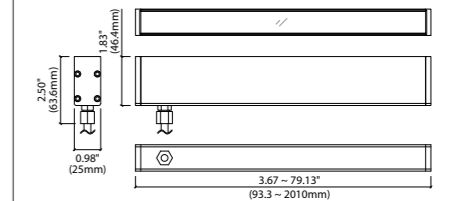


MoMo-F RGB

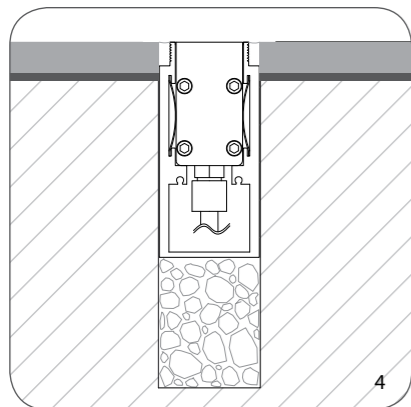
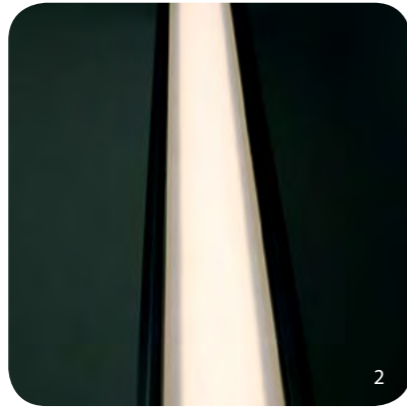


4.75W/ft (15.6W/m)

Luminous flux: Red: 13lm/ft
Green: 32lm/ft
Blur: 5lm/ft
White: 46lm/ft
Size: H1.83/W0.98/L3.67-79.13" (H46.4/W25/L93.3-2010mm) (Excluding ground box)
Chip: Red TEKCORE/
Green EPILEDs/Blue 3E
Beam angle: Diffused
Colors: Red 620-628nm/Blue 459-464nm/Green 521-527nm
CRI: N/A
Lifetime: 50,000 hours @ 77°F
Operating temp: $T_a = -13$ to 140°F (T_c max = 158°F)
IP rating: IP67
Finish: Silver anodized
Cover/Lens: Diffused
Mounting: Ground recessed
Connection: Sheathed hardwire tails or male/female connectors
Control: DMX/DALI (see visDIM range)



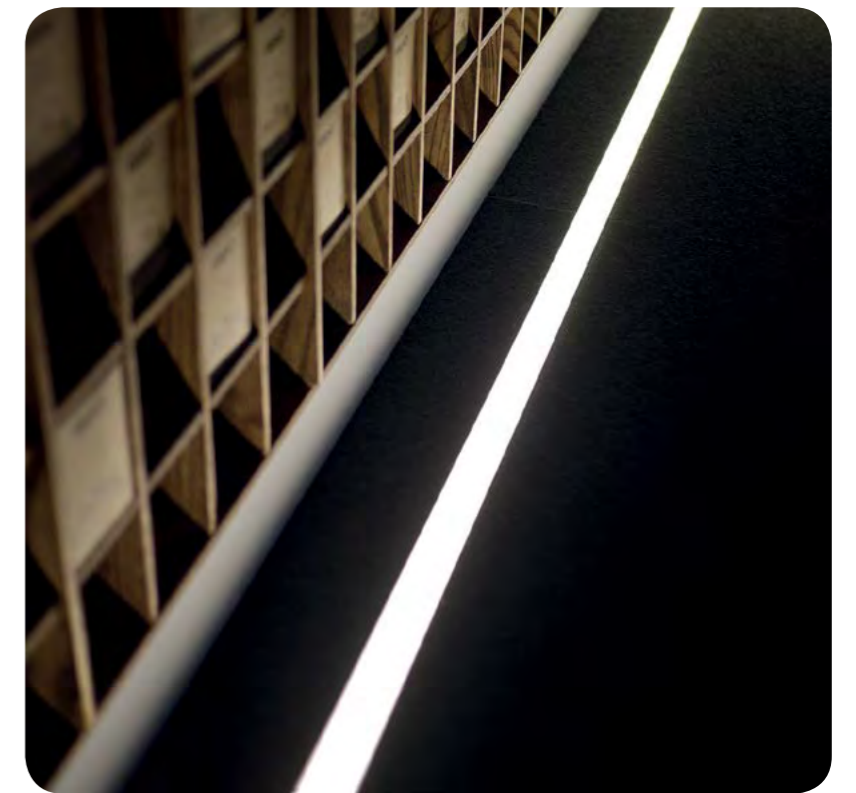
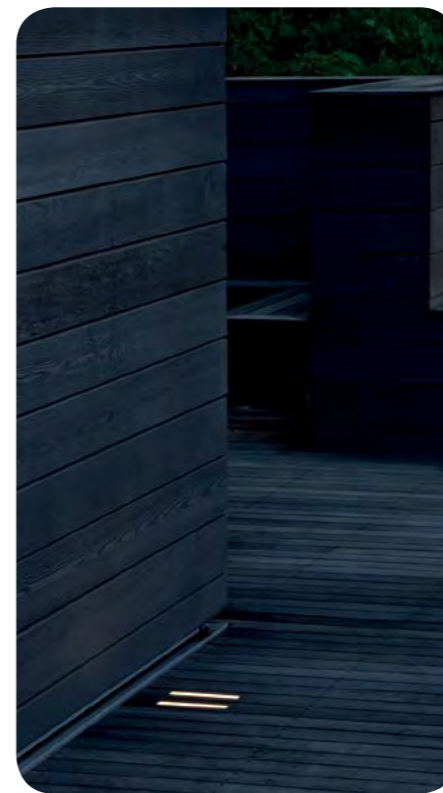
MoMo-F Product Details



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

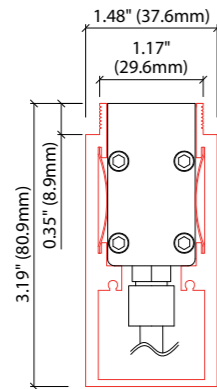
Opposite page Top Left:
Beach Pavilions, Waiheke Island
Architect: Young+Richards
KKDC New Zealand
Photography: Simon Devitt

Opposite page Below:
Tommy Hilfiger Store, Paris



MoMo-F Accessories

Mounting Options



KKFR-03*
Ground box
Anodized aluminum finish
* Specify length to match MoMo-F

Connectors



CN67-2P-0300 11.81" (300mm) pair
CN67-2P-1000 39.37" (1000mm) pair
CN67-2P-3000 118.11" (3000mm) pair
IP67
2 PIN male + female connector set



CN67-4P-0300 11.81" (300mm) pair
CN67-4P-1000 39.37" (1000mm) pair
CN67-4P-3000 118.11" (3000mm) pair
IP67
4 PIN RGB male + female connector set

visDIM Control Gear Options



IP20
Black plastic housing
L6.46/W2.52/H1.34"
(L164/W64/H34mm)

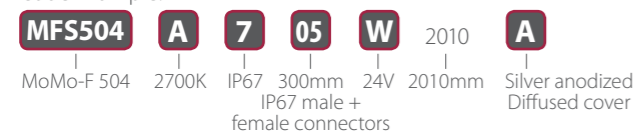
KKDM-04 0-10V/1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)

MoMo-F Code Table



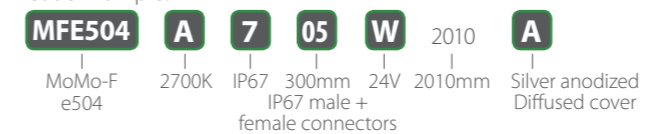
		MoMo-F 352	MoMo-F 504	MoMo-F 508	MoMo-F RGB	
		MFS352	MFS504	MFS508	MFS501	
LED Color	2100K	Q	•	•	n/a	
	2300K	N	•	•	n/a	
	2500K	S	•	•	n/a	
	2700K	A	•	•	n/a	
	3000K	P	•	•	n/a	
	3200K	B	•	•	n/a	
	3800K	C	•	•	n/a	
	5000K	D	•	•	n/a	
	Red	F	•	•	n/a	
	Green	G	•	•	n/a	
	Blue	H	•	•	n/a	
	Orange	I	•	•	n/a	
	Amber	J	•	•	n/a	
RGB	L	n/a	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 anodized Diffused cover	A	•	•	•	

Code Example:



		MoMo-F e352	MoMo-F e504	MoMo-F e508	
		MFE352	MFE504	MFE508	
LED Color	2100K	Q	•	•	
	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 anodized Diffused cover	A	•	•	

Code Example:



FEEX series

FX



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

s-line

- 2 step package binning.
- Optimum color consistency for high quality/close proximity lighting.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K. Single colors: Red/Green/Blue/Orange/Amber.

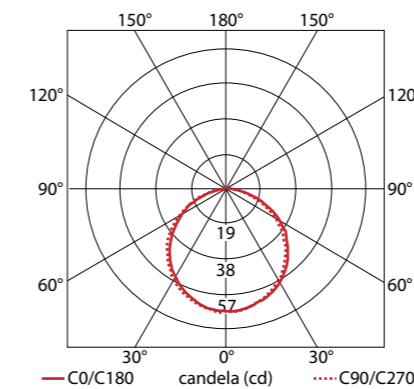
e-line

- 3 step package binning.
- Good color consistency providing an economic choice when mounted over 11.8 inches from the illuminated surface.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K.

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

FX s-line / eFX e-line

24V DC 2.12 W/ft ≤ 50.1 lm/W IP20/65

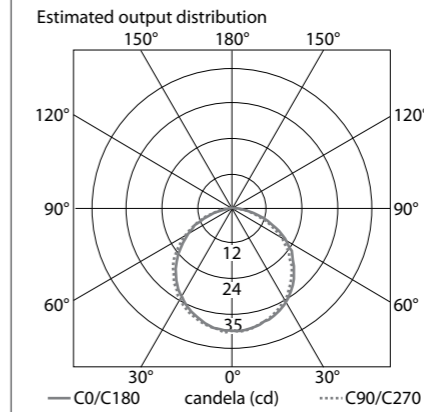


106lm/ft (349lm/m)

- Luminous flux:** 106lm/ft nominal (@ 3200K, IP20)
- Size:** H0.09/W0.39/L4.92-275.59" (H2.2/W10/L125-7000mm) (IP20)
H0.22/W0.55/L5.00-275.67" (H5.5/W14/L127-7002mm) (IP65 – Excluding fixings)
(power connection possible at 4.92" (125mm), cut point every 2.46" (62.5mm))
- Chip:** Toyoda Gosei
- Beam angle:** 110°
- CRI:** ≥ 90
- Lifetime:** 50,000 hours @ 77°F
- Operating temp:** $T_a = -13$ to 122°F (T_c max = 152.6°F)
- 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:** 0-10V/1-10V/DMX/DALI (see visDIM range)

FX RGB

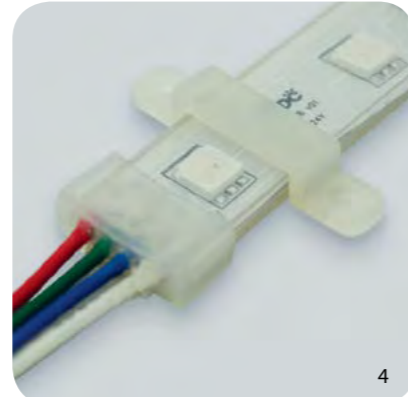
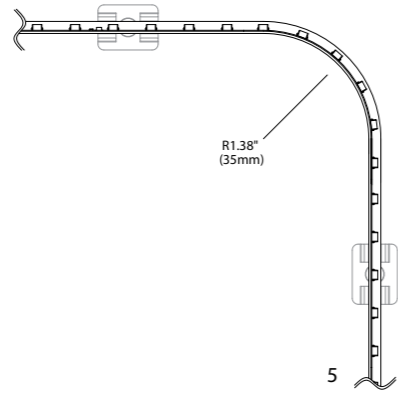
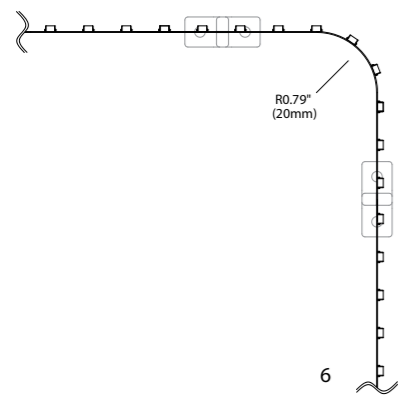
RGB 24V DC 3.00 W/ft IP20/65



3.00W/ft (9.84W/m)

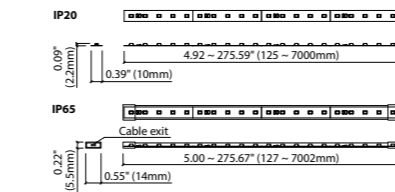
- Luminous flux:** Red: 22lm/ft
Green: 56lm/ft
Blue: 9lm/ft
White: 81lm/ft (IP20)
- Size:** H0.07/W0.46/L4.92-275.59" (H1.9/W11.8/L125-7000mm) (IP20)
H0.22/W0.63/L5.00-275.67" (H5.5/W16/L127-7002mm) (IP65 – Excluding fixings)
(power connection and cut point every 4.92" (125mm))
- Chip:** Red TEKCORE/
Green EPILEDs/Blue 3E
- Beam angle:** 110°
- Colors:** Red 620-628nm/Blue 459-464nm/Green 521-527nm (5nm tolerance)
- CRI:** N/A
- Lifetime:** 50,000 hours @ 77°F
- Operating temp:** $T_a = -13$ to 122°F (T_c max = 172.4°F)
- 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/DALI (see visDIM range)

FX Product Details



- 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



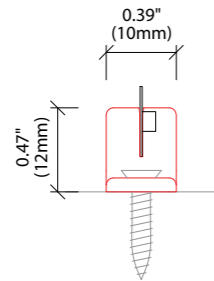
FX RGB Drawing



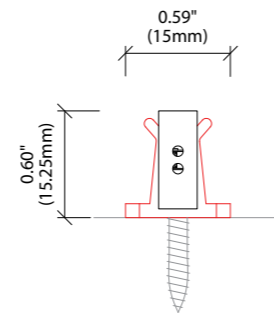
Qantas Lounge, Australia
Lighting Design: Point Of View

FX Accessories

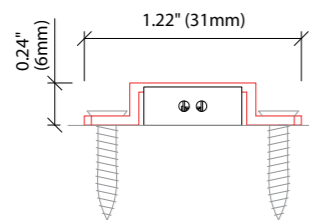
Mounting Options



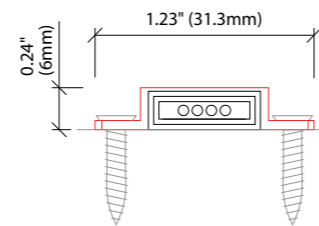
KKCP-07
Side clip (Allow 4 per 3ft)
White plastic



KKCP-08
IP65 side clip (Allow 4 per 3ft)
Clear plastic



KKBK-14
IP65 silicone bracket
(Allow 4 per 3ft)
Translucent silicone



KKBK-18
IP65 RGB silicone bracket
(Allow 4 per 3ft)
Translucent silicone

Connectors



KKCN-01 1.97" (50mm) pair
KKCN-03 11.81" (300mm) pair
2 PIN male + female connector set



KKCN-07 1.97" (50mm) pair
KKCN-09 11.81" (300mm) pair
4 PIN RGB male + female connector set

Connectors (continued)



KKCN-06
2 PIN 11.81" (300mm) extension lead



KKCN-11
4 PIN RGB 11.81" (300mm) extension lead

visDIM Power/Control Options



IP20
Black plastic housing
L6.46/W2.52/H1.34"
(L164/W64/H34mm)

KKDM-04 0-10V/1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)

FX Code Table

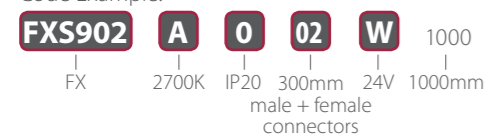


		FX		FX RGB
		FXS902	FXS301	FXS301
LED Color	2100K	Q	•	n/a
	2300K	N	•	n/a
	2500K	S	•	n/a
	2700K	A	•	n/a
	3000K	P	•	n/a
	3200K	B	•	n/a
	3800K	C	•	n/a
	5000K	D	•	n/a
	Red	F	•	n/a
	Green	G	•	n/a
	Blue	H	•	n/a
	Orange	I	•	n/a
	Amber	J	•	n/a
RGB	L	n/a	•	
IP	IP20	0	•	•
	IP65 ¹	5	•	•
Connection	50mm male + female 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:

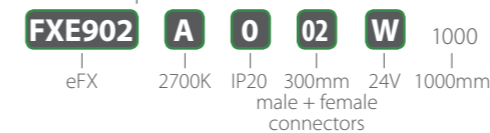


		eFX	
		FXE902	FXE902
LED Color	2100K	Q	•
	2300K	N	•
	2500K	S	•
	2700K	A	•
	3000K	P	•
	3200K	B	•
	3800K	C	•
	5000K	D	•
	IP	IP20	0
IP65 ¹		5	•
Connection	50mm male + female connectors ²	01	•
	300mm male + female connectors ²	02	•
	300mm single tail	03	•
	300mm double tail	04	•
	Custom	00	•
Volt	24V	W	•
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:



KKFS series

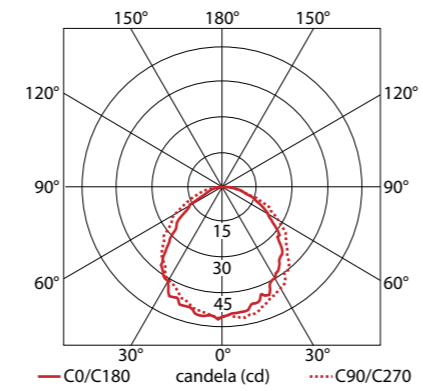
KKFS



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

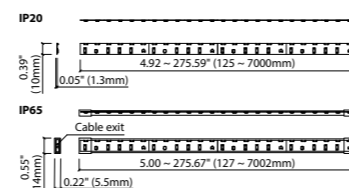
KKFS

24V DC 1.87 W/ft ≤43.7 lm/W IP20/65

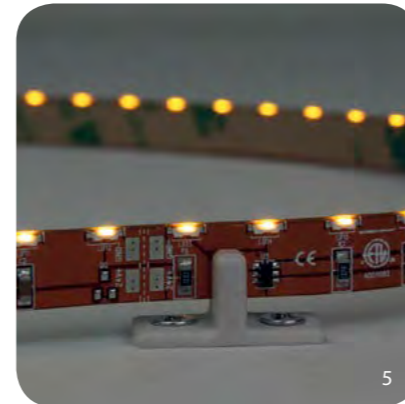
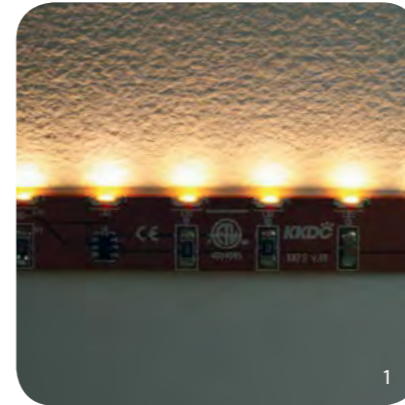


82lm/ft (269lm/m)

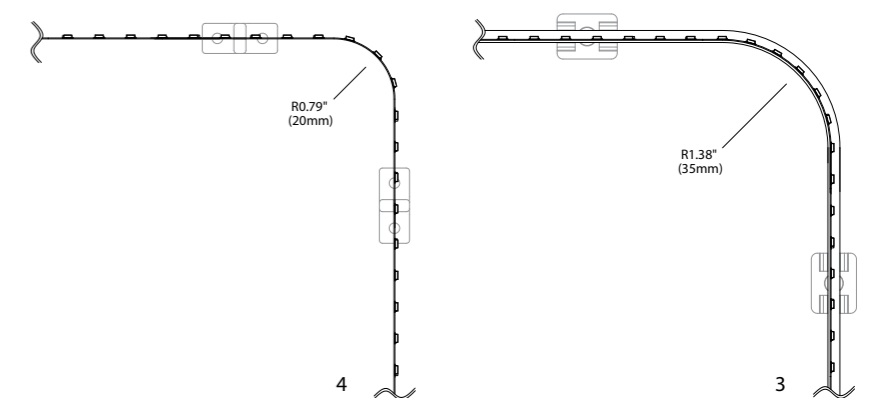
- Luminous flux:** 82lm/ft nominal (@ 2800K, IP20)
- Size:** H0.39/W0.05/L4.92-275.59" (H10/W1.3/L125-7000mm) (IP20)
H0.55/W0.22/L5.00-275.67" (H14/W5.5/L127-7002mm) (IP65 – Excluding fixings) (power connection possible at 4.92" (125mm), cut point every 2.46" (62.5mm))
- Chip:** Cree
- Beam angle:** 105°
- Color:** 2800K/3800K/6500K
- Bin/Step:** 3 step MacAdam ellipse
- CRI:** ≥65
- Lifetime:** 50,000 hours @ 77°F
- Operating temp:** T_a = -13 to 122°F (T_c max = 149°F)
- 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:** 0-10V/1-10V/DMX/DALI (see visDIM range)

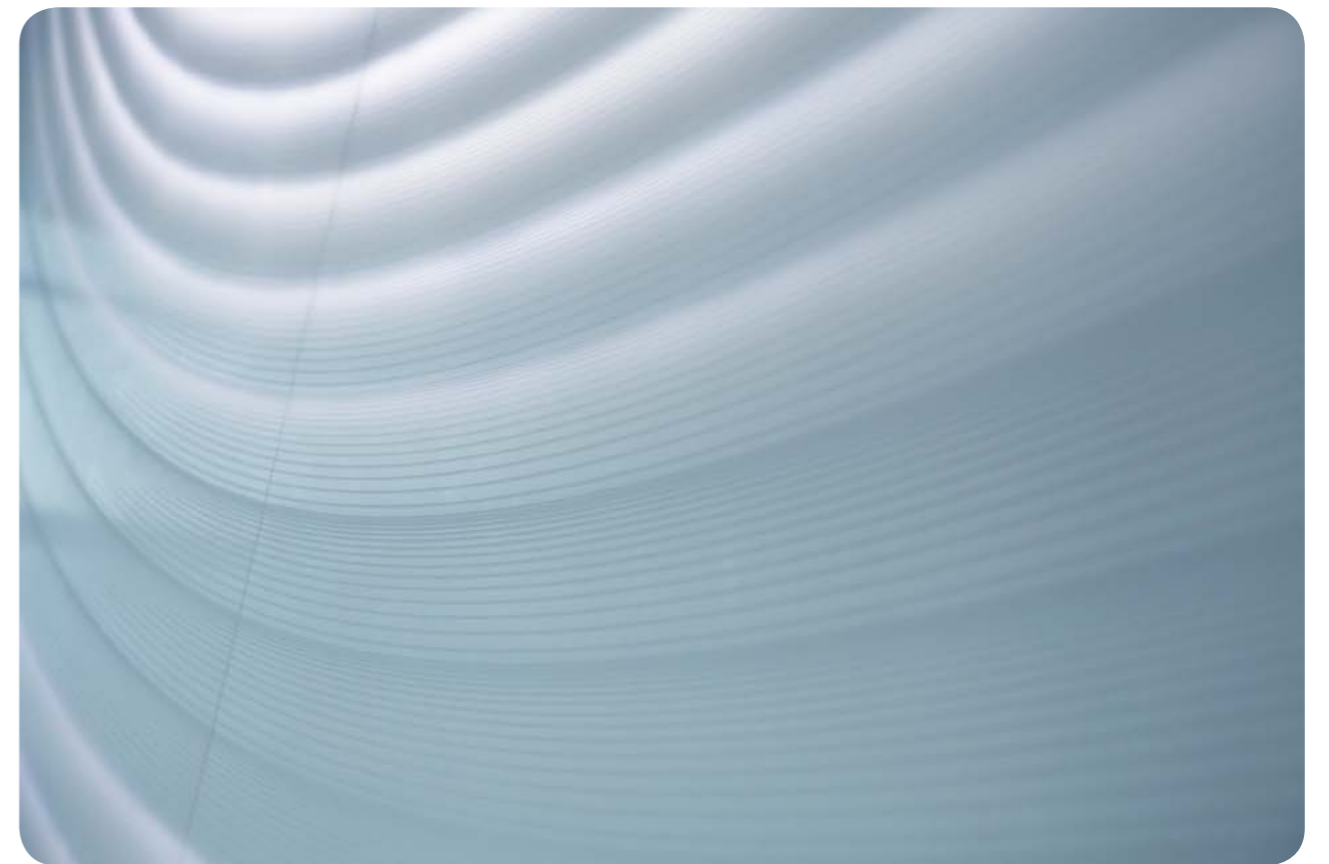


KKFS Product Details



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

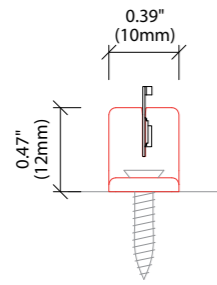




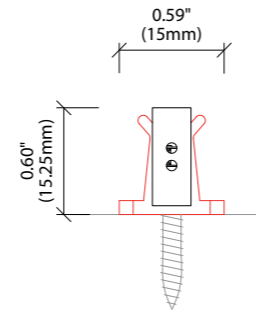
Above & Opposite page:
Artwork by United Visual Artists
Commissioned by Hengrove Park Leisure Centre

KKFS Accessories

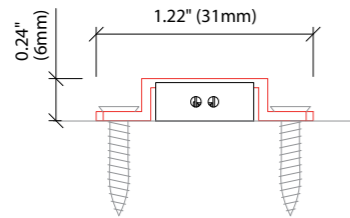
Mounting Options



KKCP-07
Clip (Allow 4 per 3ft)
White plastic



KKCP-08
IP65 clip (Allow 4 per 3ft)
Clear plastic



KKBK-14
IP65 silicone bracket
(Allow 4 per 3ft)
Translucent silicone

Connectors



KKCN-01 1.97" (50mm) pair
KKCN-03 11.81" (300mm) pair
2 PIN male + female connector set



KKCN-06
2 PIN 11.81" (300mm) extension lead

visDIM Power/Control Options



IP20
Black plastic housing
L6.46/W2.52/H1.34"
(L164/W64/H34mm)

KKDM-04 0-10V/1-10V
KKSC-03A DMX (Screw terminal)
KKSC-03B DMX (RJ45)
visDIM dimming sub-controllers
(See Control Gear)



KKFS Code Table

KKFS			
FSS112			
LED Color	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 24V 1000mm
 male + female connectors

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 (4.37in, 111mm pitch or 3.03in, 77mm pitch), (70 or 101lm/ft).
- Available with a full range of white color temperatures (≥ 90 CRI) and in single colors or RGB.
- IP68 version with resin encapsulation and ultrasonic case welding for superior protection.

s-line

- 2 step package binning.
- Optimum color consistency for high quality/close proximity lighting.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K.
Single colors: Red/Green/Blue/Orange/Amber.

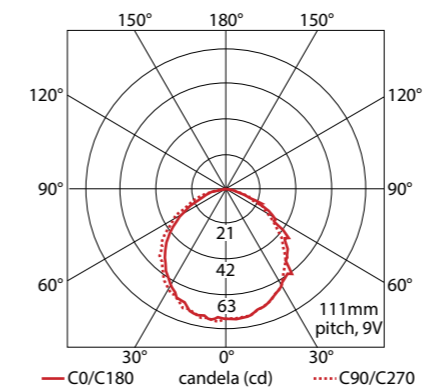
e-line

- 3 step package binning.
- Good color consistency providing an economic choice when mounted over 11.8 inches from the illuminated surface.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K.

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

Duo Luna s-line/eDuo Luna e-line

9/12V DC 1.61/1.11 W/ft ≤ 62.8 lm/W IP40/65/68



101lm/ft (331lm/m) (3.03" (77mm) pitch)
70lm/ft (229lm/m) (4.37" (111mm) pitch)

Luminous flux: 101lm/ft nominal (@ 3200K, 3.03" (77mm) pitch)

Module Size: H0.42/W0.88/L2.36" (H10.7/W22.45/L60mm)

Chip: Toyoda Gosei

Beam angle: 105°

CRI: ≥ 90

Lifetime: 50,000 hours @ 77°F

Operating temp: $T_a = -13$ to 122°F (T_c max = 149°F)

IP rating: IP40/IP65/IP68

Finish: Polycarbonate

Cover/Lens: Clear

Mounting: 3M adhesive tape (IP40/65), Screw fixing (IP68)

Minimum bend radius: 130° (3.03" (77mm) pitch)
180° (4.37" (111mm) pitch)

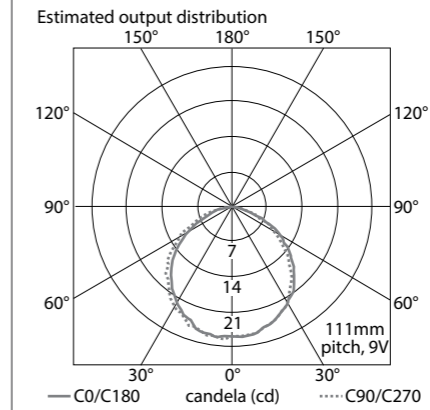
Connection: Sheathed hardwire single/double ended sheathed tail

Control: 0-10V/1-10V/DMX/DALI (see visDIM range)

*Note: Performance data for 9V operation

Duo Luna RGB

RGB 12V DC 2.38/1.65 W/ft IP40/65/68



2.38W/ft (7.8W/m) (3.03" (77mm) pitch)
1.65W/ft (5.4W/m) (4.37" (111mm) pitch)

Luminous flux: Red: 12lm/ft
Green: 36lm/ft
Blue: 5lm/ft
White: 50lm/ft (3.03" (77mm) pitch)

Module Size: H0.42/W0.87/L2.36" (H10.7/W22/L60mm)

Chip: Red TEKCORE/
Green EPILEDs/Blue 3E

Beam angle: 105°

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

CRI: N/A

Lifetime: 50,000 hours @ 77°F

Operating temp: $T_a = -13$ to 122°F (T_c max = 149°F)

IP rating: IP40/IP65/IP68

Finish: Polycarbonate

Cover/Lens: Clear

Mounting: 3M adhesive tape (IP40/65), Screw fixing (IP68)

Minimum bend radius: 90° (3.03" (77mm) pitch)
180° (4.37" (111mm) pitch)

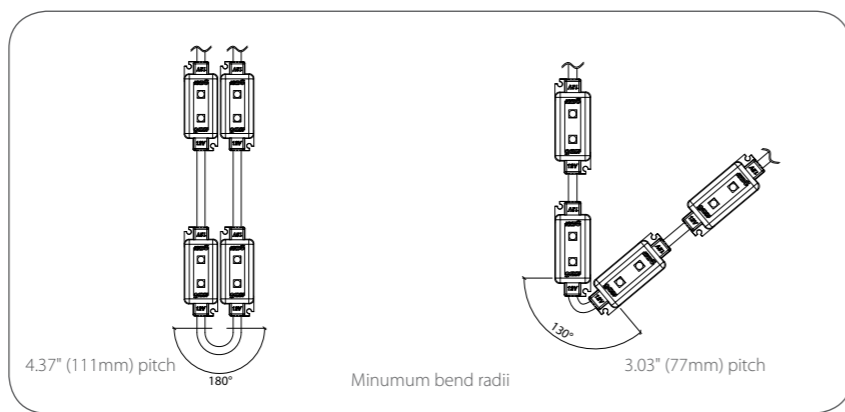
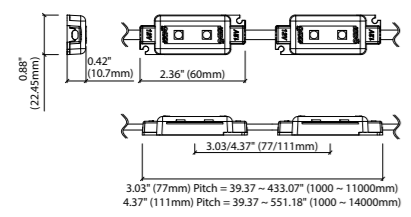
Connection: Sheathed hardwire single/double ended sheathed tail

Control: DMX/DALI (see visDIM range)

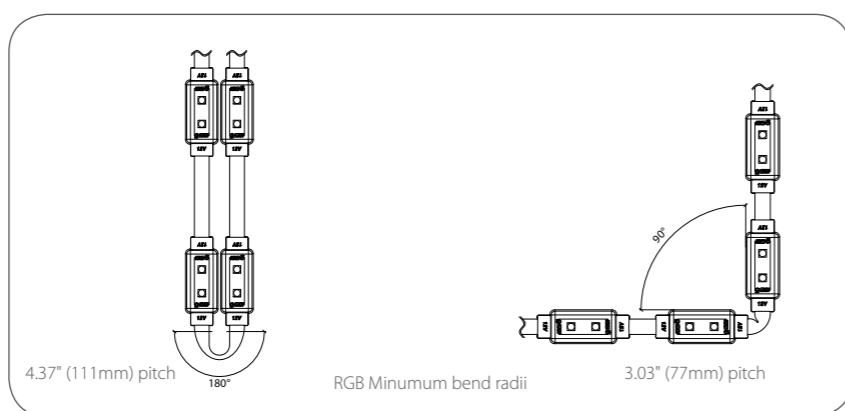
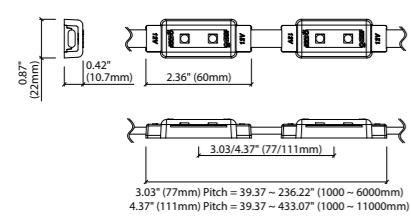
Duo Luna Product Details



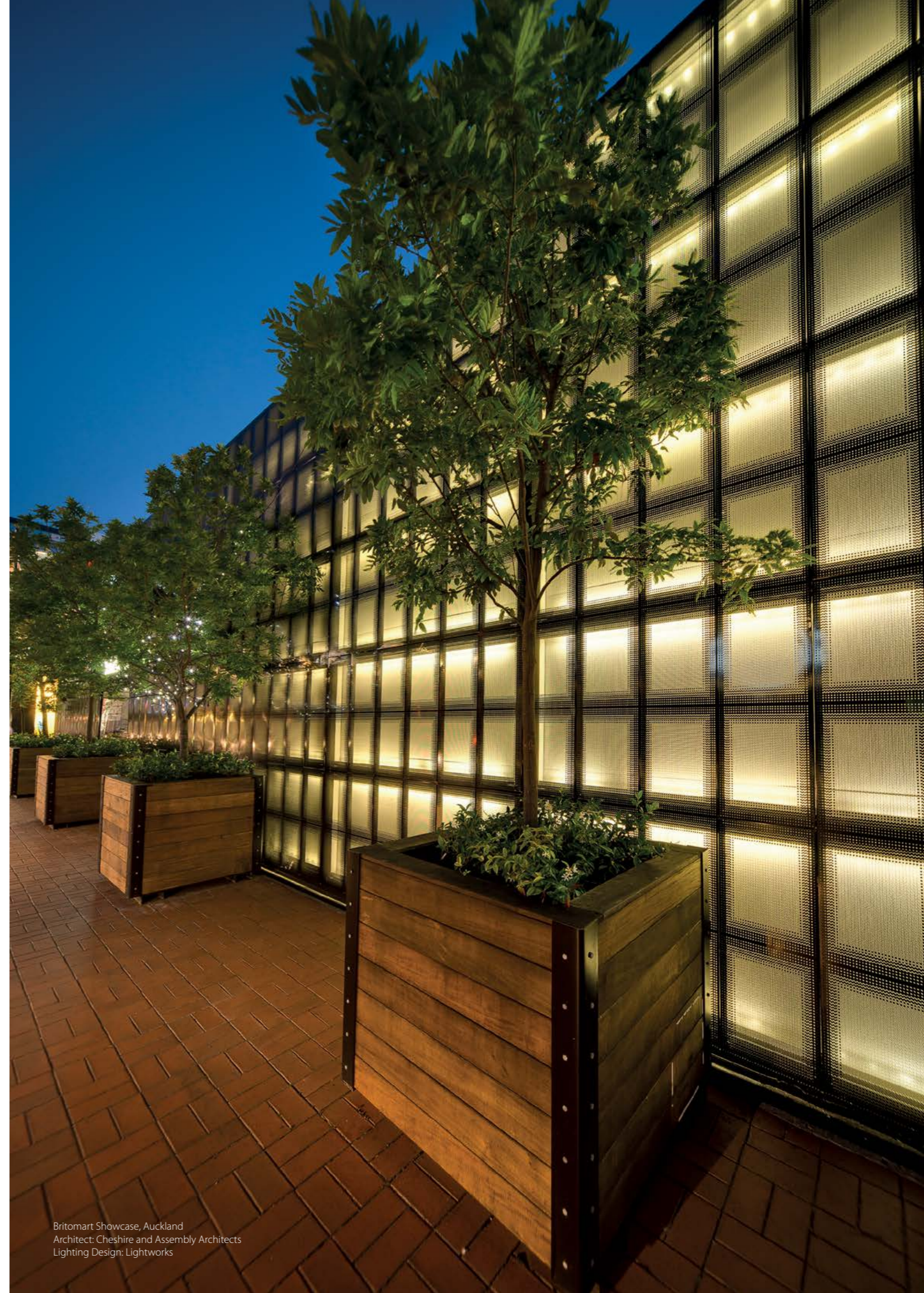
Duo Luna Drawing



Duo Luna RGB Drawing



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



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 (4.37in, 111mm pitch or 3.03in, 77mm pitch), (136 or 196lm/ft).
- Available with a full range of white color temperatures (≥ 90 CRI) and in single colors or RGB.
- IP68 version with resin encapsulation and ultrasonic case welding for superior protection.

s-line

- 2 step package binning.
- Optimum color consistency for high quality/close proximity lighting.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K.
Single colors: Red/Green/Blue/Orange/Amber.

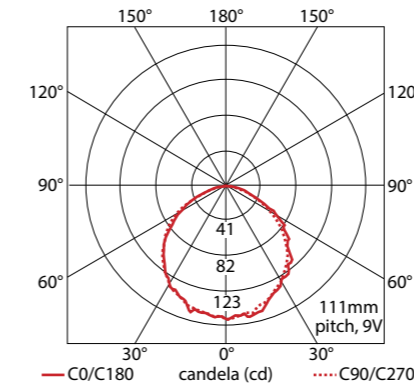
e-line

- 3 step package binning.
- Good color consistency providing an economic choice when mounted over 11.8 inches from the illuminated surface.
- White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K.

Note: To avoid any visible color 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 3.21/2.22 W/ft 61.2 lm/W IP40/65/68



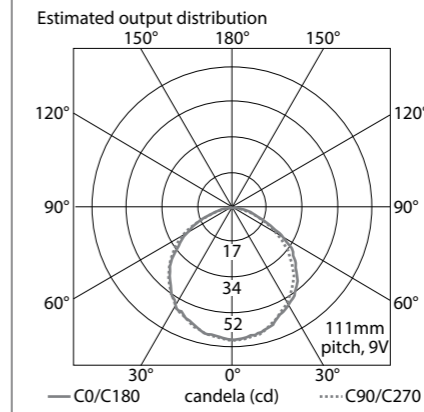
196lm/ft (644lm/m) (3.03" (77mm) pitch)
136lm/ft (446lm/m) (4.37" (111mm) pitch)

Luminous flux: 196lm/ft nominal (@ 3200K, 3.03" (77mm) pitch)
Module Size: H0.43/W1.57/L2.23" (H10.8/W40/L56.7mm)
Chip: Toyoda Gosei
Beam angle: 110°
CRI: ≥ 90
Lifetime: 50,000 hours @ 77°F
Operating temp: $T_a = -13$ to 122°F (T_c max = 154.4°F)
IP rating: IP40/IP65/IP68
Finish: Polycarbonate
Cover/Lens: Clear
Mounting: 3M adhesive tape (IP40/65), Screw fixing (IP68)
Minimum bend radius: 90° (3.03" (77mm) pitch), 180° (4.37" (111mm) pitch)
Connection: Sheathed hardwire single/double ended sheathed tail
Control: 0-10V/1-10V/DMX/DALI (see visDIM range)

*Note: Performance data for 9V operation

Quadro Luna RGB

12V DC 4.28/2.96 W/ft IP40/65/68



4.28W/ft (14.04W/m) (3.03" (77mm) pitch)
2.96W/ft (9.72W/m) (4.37" (111mm) pitch)

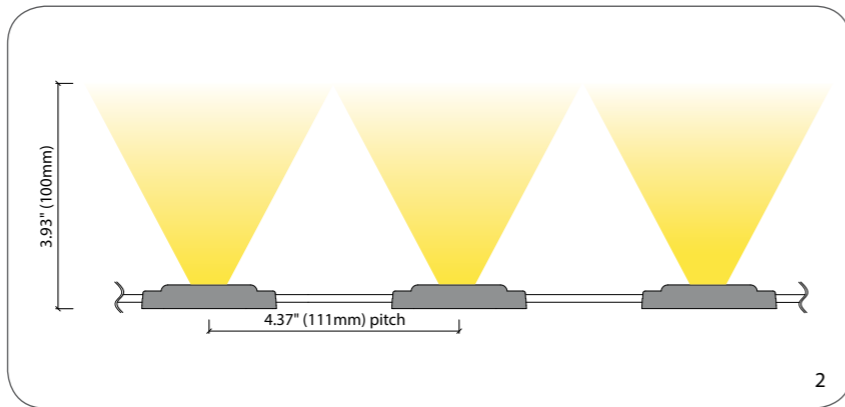
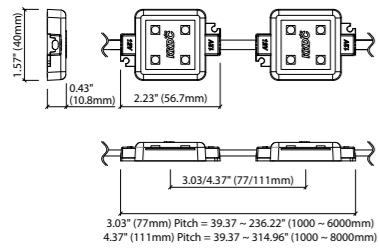
Luminous flux: Red: 26lm/ft
Green: 69lm/ft
Blue: 11lm/ft
White: 98lm/ft (3.03" (77mm) pitch)
Module Size: H0.43/W1.57/L2.23" (H10.8/W40/L56.7mm)
Chip: Red TEKCORE/
Green EPILEDs/Blue 3E
Beam angle: 110°
Colors: Red 620-628nm/Blue 459-464nm/Green 521-527nm
CRI: N/A
Lifetime: 50,000 hours @ 77°F
Operating temp: $T_a = -13$ to 122°F (T_c max = 154.4°F)
IP rating: IP40/IP65/IP68
Finish: Polycarbonate
Cover/Lens: Clear
Mounting: 3M adhesive tape (IP40/65), Screw fixing (IP68)
Minimum bend radius: 90° (3.03" (77mm) pitch), 180° (4.37" (111mm) pitch)
Connection: Sheathed hardwire single/double ended sheathed tail
Control: DMX/DALI (see visDIM range)

Quadro Luna Product Details

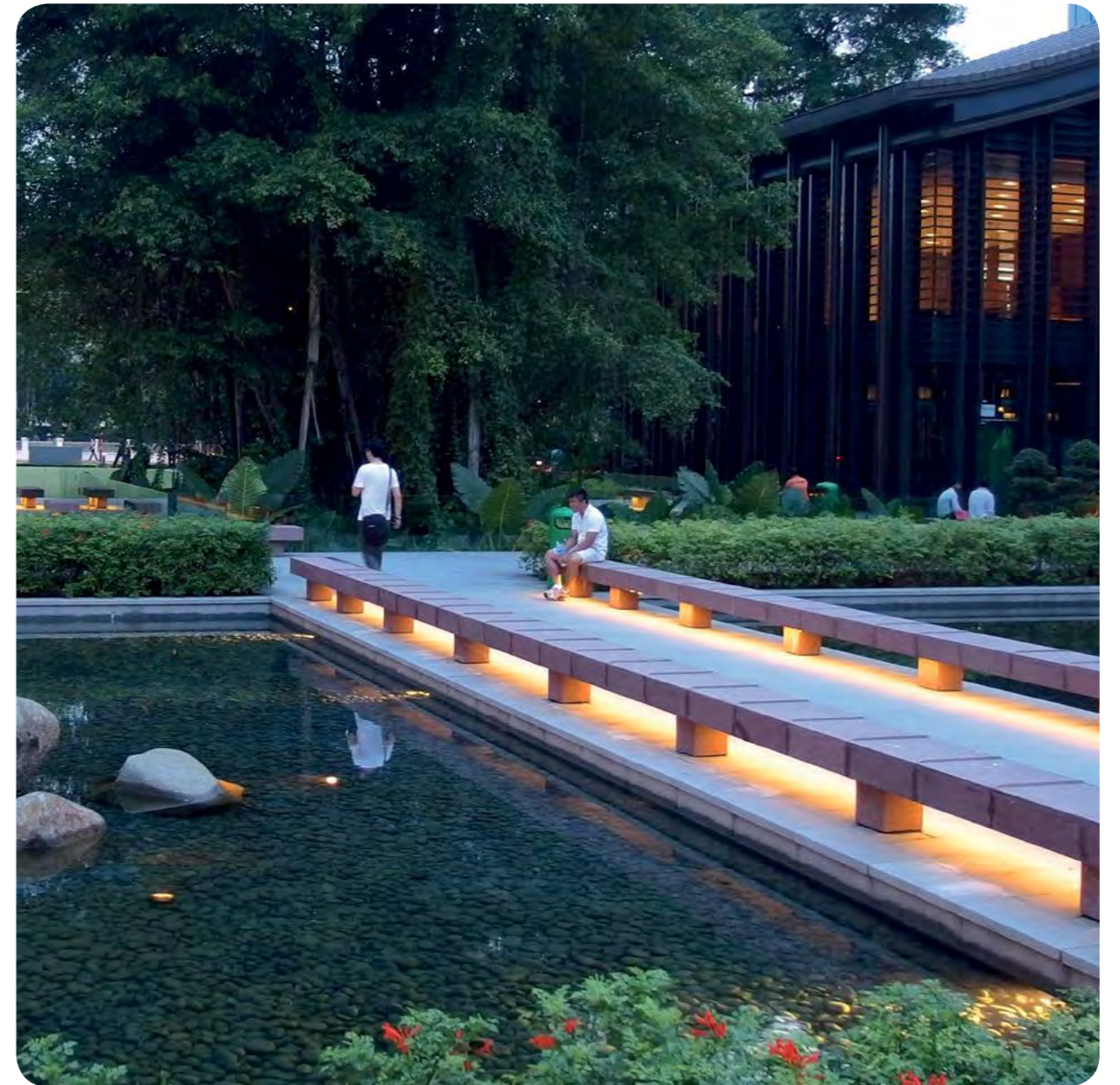
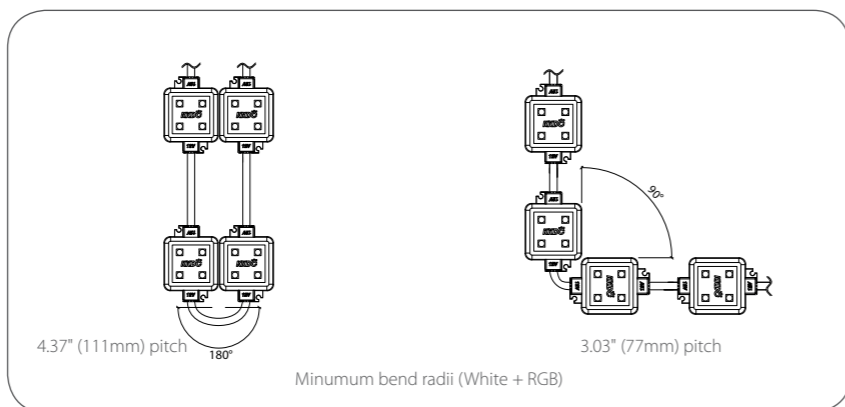
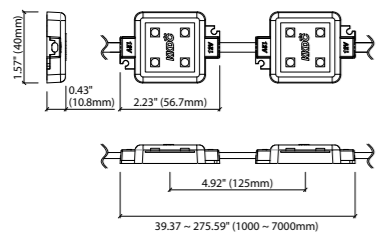


- 1. Quadro Luna with self-adhesive backing
- 2. Back lighting minimum distance diagram

Quadro Luna Drawing



Quadro Luna RGB Drawing



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



Luna Accessories

visDIM Power/Control Options



IP20
 Black plastic housing
 L6.46/W2.52/H1.34"
 (L164/W64/H34mm)

KKDM-04 0-10V/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
 L1.18/W1.85/H5.71"
 (L30/W47/H145mm)

KKM309-CV

Non-dimmable
 Constant voltage PSU
 Standards: RU/CE



60W
 9V DC
 IP64
 White plastic housing
 L1.38/W2.42/H7.13"
 (L35/W61.5/H181mm)

KKM609-CV

Non-dimmable
 Constant voltage PSU
 Standards: RU/CE

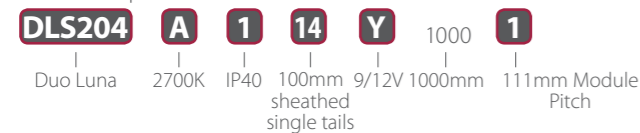
Luna Code Table



		Duo Luna DLS204	Quadro Luna QLS404	Duo Luna RGB DLS201	Quadro Luna RGB QLS401	
LED Color	2100K	Q	•	•	n/a	n/a
	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 meter @ 111mm pitch
³ 13 modules per meter @ 77mm pitch

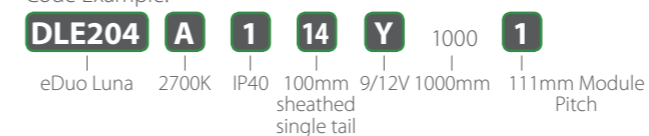
Code Example:



		eDuo Luna DLE204	eQuadro Luna QLE404	
LED Color	2100K	Q	•	•
	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 meter @ 111mm pitch
³ 13 modules per meter @ 77mm pitch

Code Example:



SEEN series

SEN



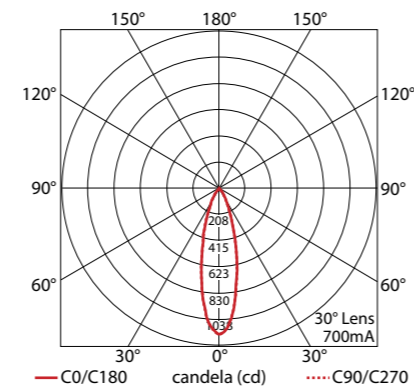
- Powerful, continuous linear illumination for interior façades, wall washing and other architectural applications.
- Output options from 206 to 1018 lumens per foot in a choice of white color temperatures or RGB and single colors.
- **Constant current** remote driven Cree LED with many lens and control options for white.
- **Constant voltage** RGB with integral DMX receiver.

Size: H1.70/W1.54" (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, 3000K, 3200K, 3800K)
 4 step MacAdam ellipse (5000K)
CRI: 80 (2800K, 3000K, 3200K, 3800K)/75 (5000K)
Lifetime: 50,000 hours @ 77°F
IP rating: IP54 (Indoor use only)
Finish: Silver anodized
Cover/Lens: Clear
Mounting: Surface mounting via brackets
Connection: Sheathed hardwire tails
Control: 0-10V/1-10V/DMX/DALI via. External power supply options

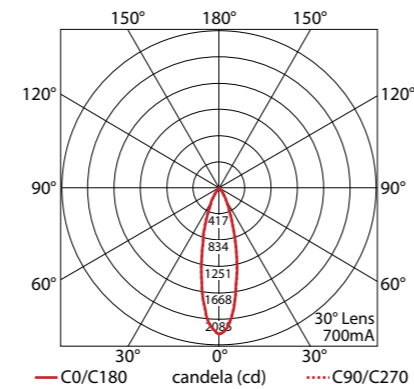
SEN 100/050/033



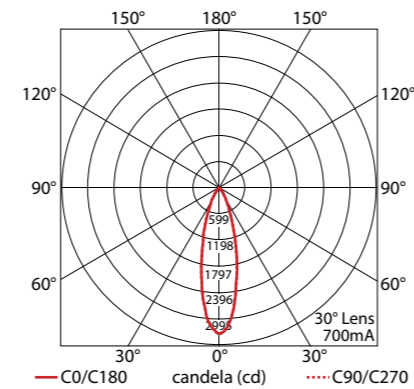
SEN 100



SEN 050



SEN 033



SEN 100

(LED pitch at 3.94" (100mm) centers)
 Constant current

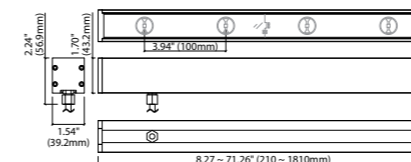


206lm/ft (676lm/m) @ 350mA
341lm/ft (1118lm/m) @ 700mA

@350mA
Im/W: 63.3
Power consumption: 3.25W/ft
Luminous flux: 206lm/ft nominal (@3200K)
Operating temp: T_a = -13 to 167°F (T_c max = 179.6°F)

@700mA
Im/W: 48.4
Power consumption: 7.04W/ft
Luminous flux: 341lm/ft nominal (@3200K)
Operating temp: T_a = -13 to 131°F (T_c max = 159.8°F)

Color: White: 2800K/3200K/3800K/5000K/6500K
 Single colors: Red/Green/Blue
Available lengths: 8.27/16.14/24.02/31.89/39.76/47.64/55.51/71.26" (210/410/610/810/1010/1210/1410/1810mm)



SEN 050

(LED pitch at 1.97" (50mm) centers)
 Constant current

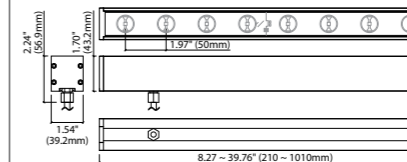


432lm/ft (1417lm/m) @ 350mA
701lm/ft (2301lm/m) @ 700mA

@350mA
Im/W: 65.8
Power consumption: 6.56W/ft
Luminous flux: 432lm/ft nominal (@3200K)
Operating temp: T_a = -13 to 167°F (T_c max = 188.6°F)

@700mA
Im/W: 49.8
Power consumption: 14.08W/ft
Luminous flux: 701lm/ft nominal (@3200K)
Operating temp: T_a = -13 to 86°F (T_c max = 129.2°F)

Color: White: 2800K/3200K/3800K/5000K/6500K
 Single colors: Red/Green/Blue
Available lengths: 8.27/16.14/24.02/31.89/39.76" (210/410/610/810/1010mm)



SEN 033

(LED pitch at 1.30" (33mm) centers)
 Constant current

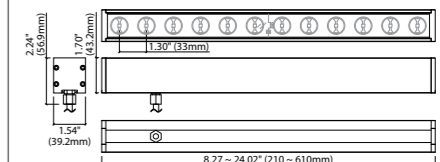


621lm/ft (2037lm/m) @ 350mA
1018lm/ft (3340lm/m) @ 700mA

@350mA
Im/W: 63.6
Power consumption: 9.76W/ft
Luminous flux: 621lm/ft nominal (@3200K)
Operating temp: T_a = -13 to 158°F (T_c max = 185°F)

@700mA
Im/W: 48.2
Power consumption: 21.12W/ft
Luminous flux: 1018lm/ft nominal (@3200K)
Operating temp: T_a = -13 to 86°F (T_c max = 116.6°F)

Color: White: 2800K/3200K/3800K/5000K/6500K
 Single colors: Red/Green/Blue
Available lengths: 8.27/16.14/24.02" (210/410/610mm)



SEN 094 RGB

(LED pitch at 3.70" (94mm) centers)
Constant Voltage



4.98W/ft (15.36W/m)

Luminous flux: Red: 38lm/ft
Green: 114lm/ft
Blue: 5lm/ft
White: 153lm/ft

Size: H1.70/W1.54"
(H43.2/W39.2mm)
(Various lengths)

Chip: Cree

Beam angle: 35°

CRI: N/A

Lifetime: 50,000 hours @ 77°F

Operating temp: T_a = -13 to 104°F
(T_c max = 131°F)

IP rating: IP54/IP67

Finish: Silver anodized

Cover/Lens: Clear

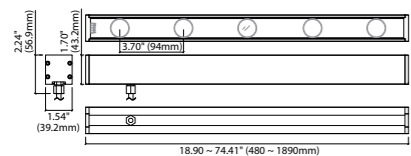
Mounting: Surface mounting via brackets

Connection: Sheathed hardwire tails

Control: DMX (see KKMC-01)

Power consumption: 4.98W/ft

Available lengths: 18.90/37.40/55.91/74.41"
(480/950/1420/1890mm)



SEN 047 RGB

(LED pitch at 1.85" (47mm) centers)
Constant Voltage



9.96W/ft (30.72W/m)

Luminous flux: Red: 57lm/ft
Green: 236lm/ft
Blue: 13lm/ft
White: 288lm/ft

Size: H1.70/W1.54"
(H43.2/W39.2mm)
(Various lengths)

Chip: Cree

Beam angle: 35°

CRI: N/A

Lifetime: 50,000 hours @ 77°F

Operating temp: T_a = -13 to 104°F
(T_c max = 140°F)

IP rating: IP54/IP67

Finish: Silver anodized

Cover/Lens: Clear

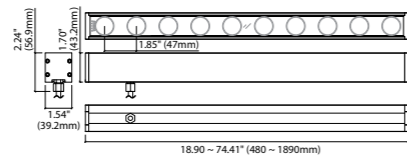
Mounting: Surface mounting via brackets

Connection: Sheathed hardwire tails

Control: DMX (see KKMC-01)

Power consumption: 9.96W/ft

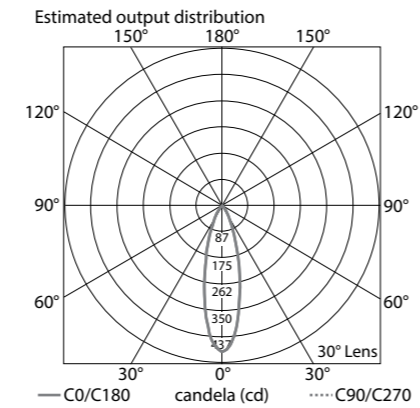
Available lengths: 18.90/28.15/37.40/46.65/
55.91/65.16/74.41"
(480/715/950/1185/
1420/1655/1890mm)



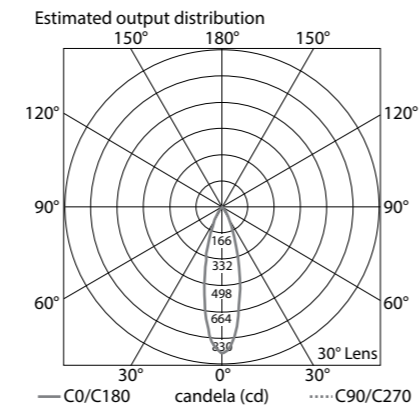
SEN 094/047 RGB



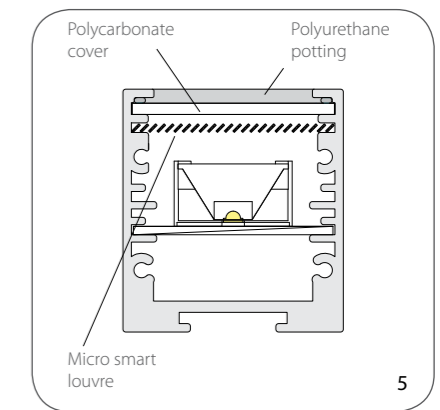
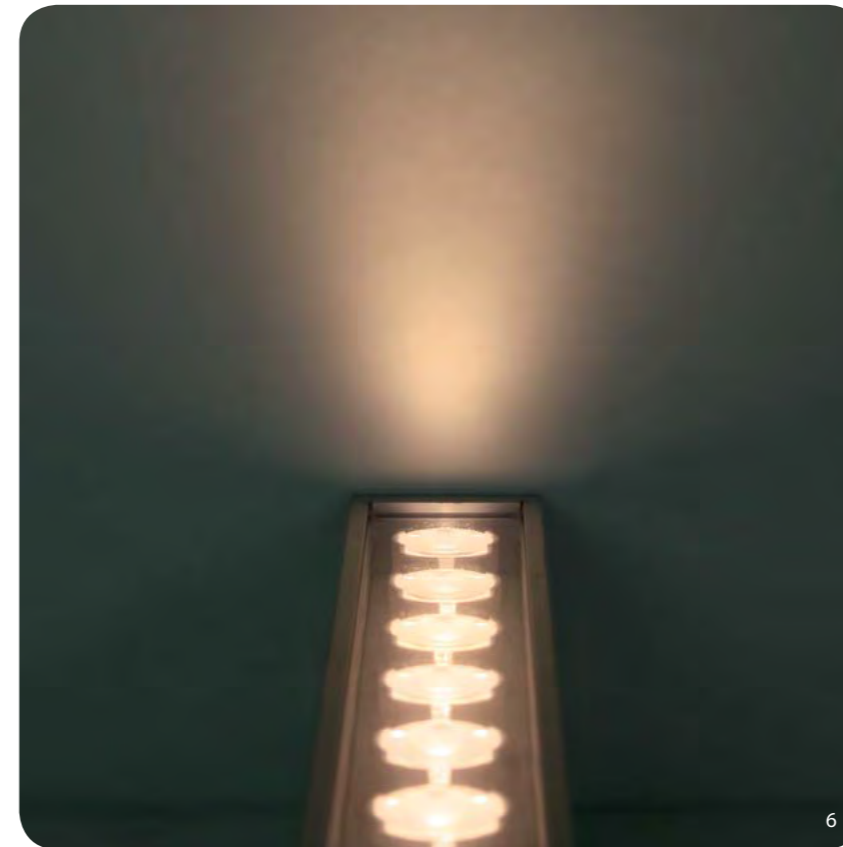
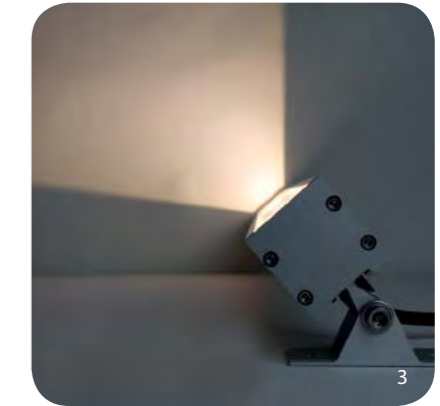
SEN 094 RGB



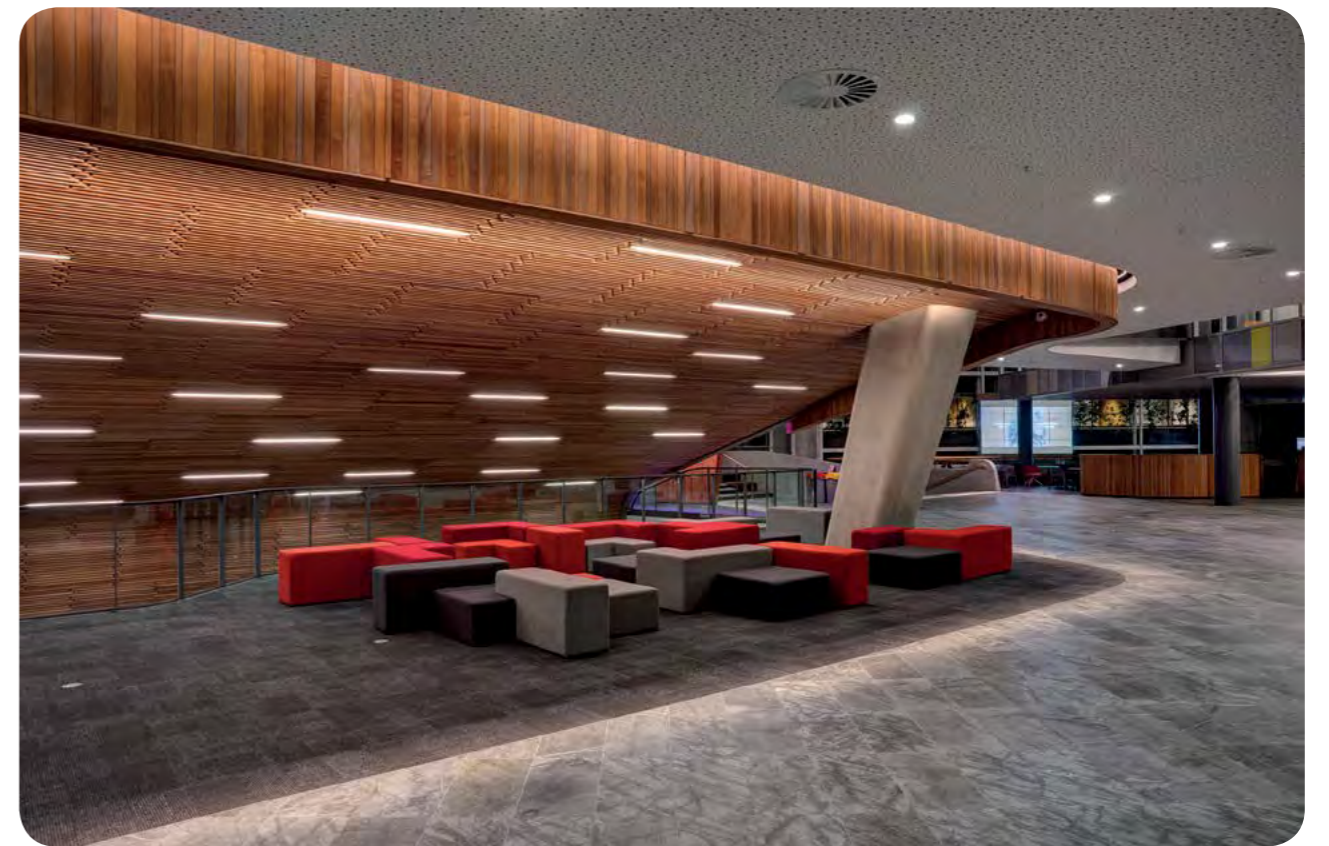
SEN 047 RGB



SEN Product Details



1. SEN fixed bracket
2. SEN optional micro smart louvre
3. SEN lighting effect with no lens
4. Small adjustable bracket and cable exit gland
5. IP54 SEN section diagram with micro smart louvre
6. Cree high power LED with various lense options



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

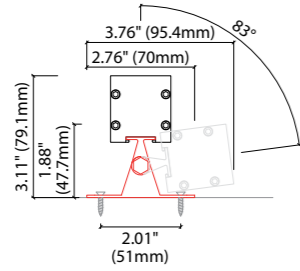
Right:
AUT WG Precinct, Auckland
Architect: Jasmx
Lighting Design: Lightworks
Photography: Ewen Cafe

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

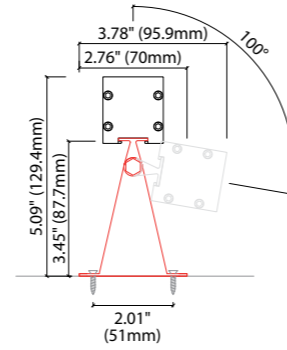


SEN Accessories

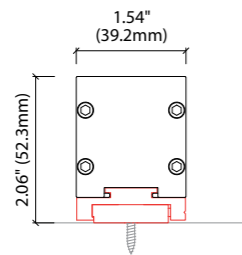
Mounting Options



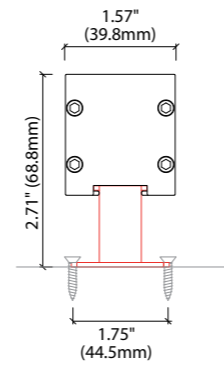
KKBK-16
Small adjustable bracket
(Allow 2 per 3ft)
Silver anodized aluminum finish



KKBK-17
Large adjustable bracket
(Allow 2 per 3ft)
Silver anodized aluminum finish



KKBK-09
Mounting plate
(Allow 2 per 3ft – factory fitted)
Silver anodized aluminum finish



KKBK-02
Fixed bracket
(Allow 2 per 3ft)
Steel finish

SEN Code Table

			SEN 100 SN100	SEN 050 SN050	SEN 033 SN033	SEN 094 RGB SN194	SEN 047 RGB SN147
LED Color	2800K	K	•	•	•	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
	RGB	L	n/a	n/a	n/a	•	•
IP	IP54 (Indoor use only)	4	•	•	•	•	•
	IP67 ¹	7	n/a	n/a	n/a	•	•
Connection	1000mm sheathed single tail	08	•	•	•	•	•
	1000mm sheathed double tails	16	•	•	•	•	•
	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/ 810/1010mm	210/410/610mm	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 anodized Clear cover	B	•	•	•	•	•
	Silver anodized 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 color 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 anodized Clear cover

PURK series

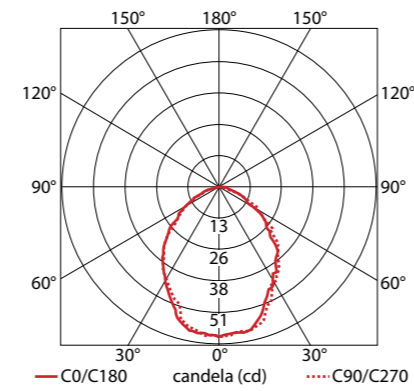
PUK-L



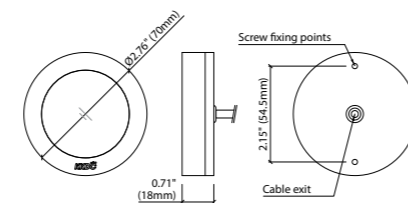
- Compact, surface mounting luminaire designed for downlighting beneath cabinets and shelves.
- Available in a full range of white color temperatures with a CRI of ≥ 90 to suit display applications.
- Silver anodized aluminum housing with polycarbonate covers and optional louvre.

PUK-L

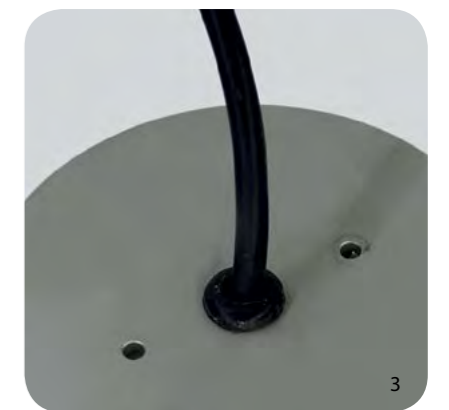
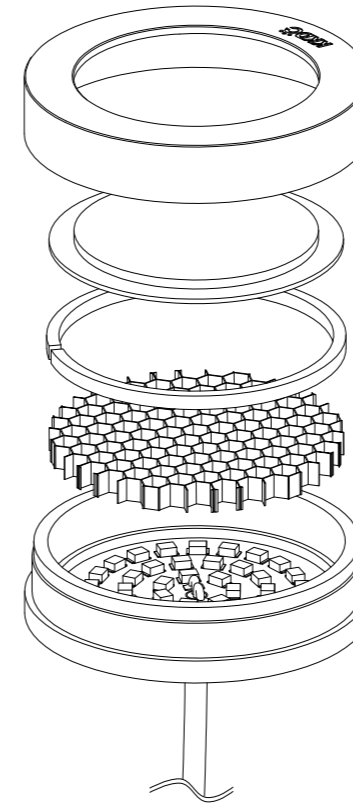
24V DC 2.64W ≤ 51.7 lm/W IP44 CE



- Luminous flux:** 136lm nominal (@3200K + Clear cover)
- Size:** H0.71/Ø2.76" (H18/Ø70mm)
- Chip:** Toyoda Gosei
- Beam angle:** 90° (Clear cover)
- Colors:** White: 2100K/2300K/2500K/2700K/3000K/3200K/3800K/5000K
- CRI:** ≥ 90
- Lifetime:** 50,000 hours @ 77°F
- Operating temp:** $T_a = -13$ to 113°F (T_c max = 143.6°F)
- IP rating:** IP44
- Finish:** Silver anodized
- Cover/Lens:** Diffused/Clear (Optional honeycomb louvre accessory)
- Mounting:** Surface mounted via screws (supplied)
- Connection:** Hardwire tail
- Control:** 0-10V/1-10V/DMX/DALI (see visDIM range)



PUK-L Product Details



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 anodized aluminum housing

PUK-L Accessories



PUHC-01
0.20" (5mm) Honeycomb louvre (Includes clip)
Black finish

visDIM Power/Control Options



IP20
Black plastic housing
L6.46/W2.52/H1.34"
(L164/W64/H34mm)

KKDM-04 0-10V/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 Color	2100K	Q	•
	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 anodized Diffused cover	A	•
	Silver anodized Clear cover	B	•

Code Example:

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

TAYO

series

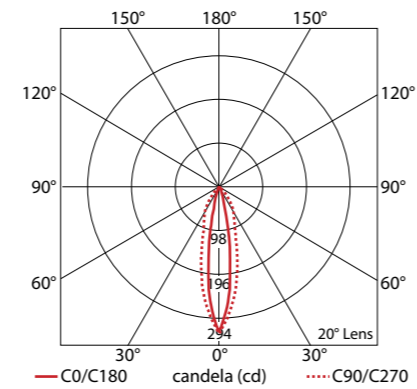
TAYO Spot



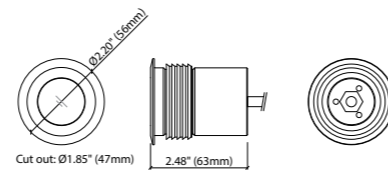
- A small, robust, IP67 spotlight for recessed interior/exterior in-ground mounting.
- Cree LED with lens options, in a range of white color temperatures and single colors.
- Stainless steel housing with safety glass cover.

TAYO Spot

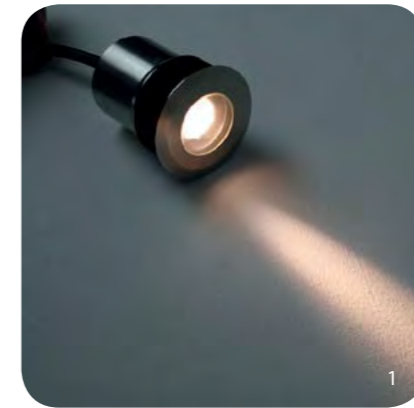
12V DC 1.62W 30.2 lm/W IP67 CE



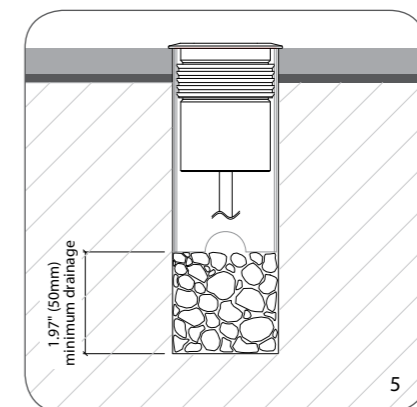
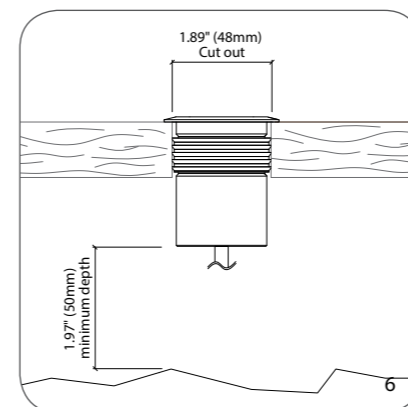
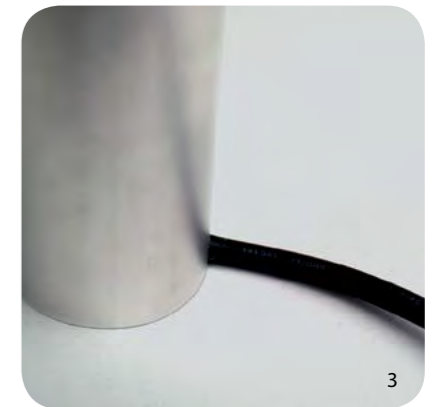
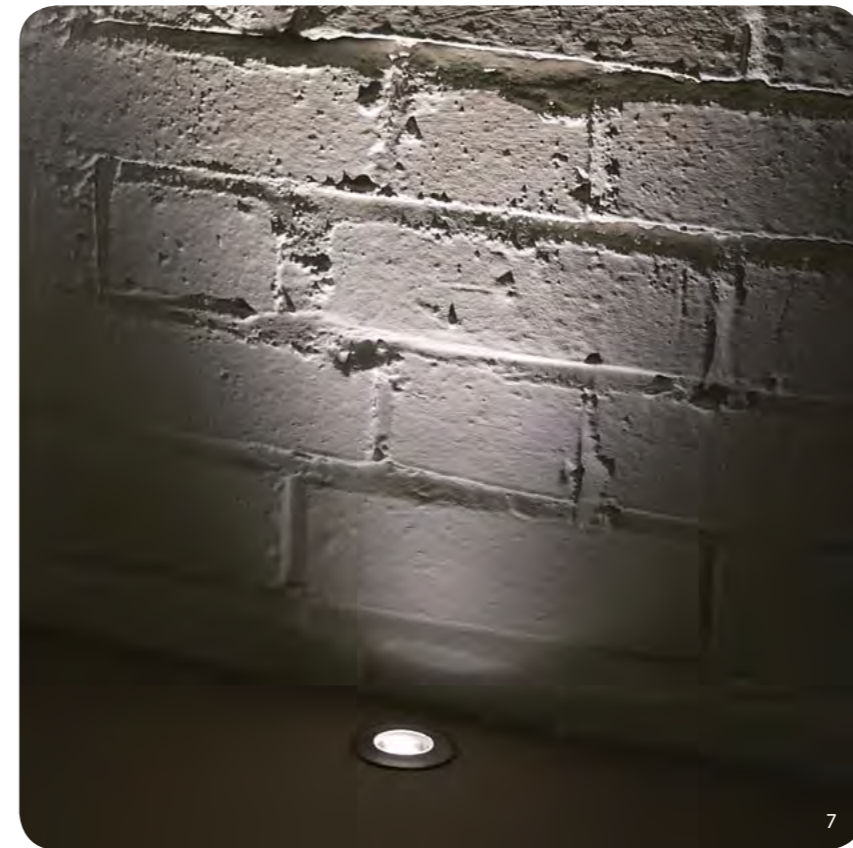
Luminous flux: 48.9lm nominal (@ 3200K)
Size: H2.48/Ø2.20" (H63/Ø56mm)
Chip: Cree
Beam angle: 10°/20°/30°/60°/Spread lens
Bin/Step: 2 step MacAdam ellipse (2800K, 3200K, 3800K)
 4 step MacAdam ellipse (5000K, 6500K)
CRI: 80 (2800K, 3200K, 3800K)/75 (5000K)/70 (6500K)
Lifetime: 50,000 hours @ 77°F
Operating temp: T_a = -13 to 122°F (T_c max = 158°F)
IP rating: IP67
Finish: Stainless steel
Cover/Lens: Clear glass
Mounting: Recessed mounting
Connection: Single sheathed tail
Control: 0-10V1-10V/DMX/DALI (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



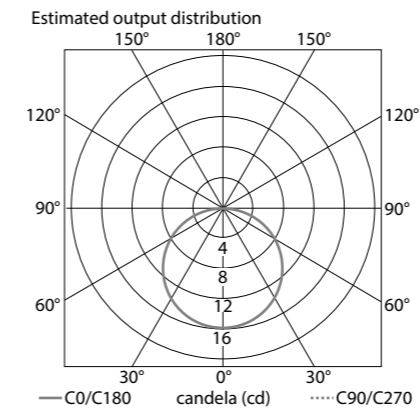
TAYO Micro



- Compact recessed marker spots with single Citizen LED source.
- Available in a range of white color temperatures or as single colors.
- IP67 Stainless steel body for exterior use or anodized aluminum IP54 version for indoors.

TAYO Micro (Indoor)

12V DC 0.144W 22.6 lm/W IP54 CE



Luminous flux: 3.25lm nominal (@ 2700K)

Size: H2.27/Ø1.18"
(H57.7/Ø30mm)

Chip: Citizen

Beam angle: Diffused

Color: White:
2700K/3000K/3500K/5000K
Single colors:
Red/Green/Blue

Bin/Step: 3 step MacAdam ellipse

CRI: 80

Lifetime: 50,000 hours @ 77°F

Operating temp: $T_a = -13$ to 140°F
(T_c max = 149°F)

IP rating: IP54

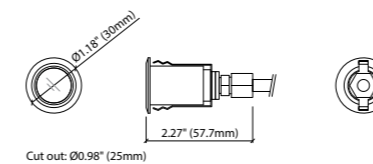
Finish: Silver anodized

Cover/Lens: Diffused

Mounting: Recessed mounting

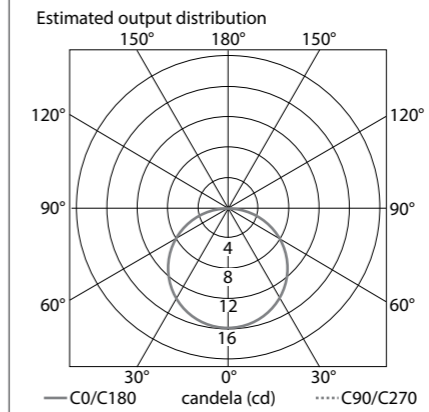
Connection: Single sheathed tail

Control: 0-10V1-10V/DMX/DALI
(see visDIM range)



TAYO Micro (Outdoor)

12V DC 0.144W 15.2 lm/W IP67 CE



Luminous flux: 2.19lm nominal (@ 2700K)

Size: H2.52/Ø1.18"
(H63.9/Ø30mm)

Chip: Citizen

Beam angle: Diffused

Color: White:
2700K/3000K/3500K/5000K
Single colors:
Red/Green/Blue

Bin/Step: 3 step MacAdam ellipse

CRI: 80

Lifetime: 50,000 hours @ 77°F

Operating temp: $T_a = -13$ to 140°F
(T_c max = 140°F)

IP rating: IP67

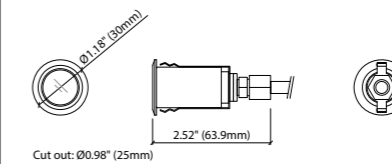
Finish: Stainless steel

Cover/Lens: Frosted glass

Mounting: Recessed mounting

Connection: Single sheathed tail

Control: 0-10V1-10V/DMX/DALI
(see visDIM range)



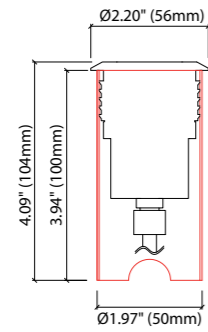
TAYO Micro Product Details

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



TAYO Accessories

Mounting Options



KKBK-13
TAYO Spot in-ground housing
Anodized aluminum finish

visDIM Power/Control Options



IP20
Black plastic housing
L6.46/W2.52/H1.34"
(L164/W64/H34mm)

KKDM-04 0-10V/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 Color	2700K	A	•	n/a
	2800K	K	n/a	•
	3000K	P	•	n/a
	3200K	B	n/a	•
	3500K	T	•	n/a
	3800K	C	n/a	•
	5000K	D	•	n/a
	6500K	E	n/a	•
	Red	F	•	•
	Green	G	•	•
Blue	H	•	•	
IP	IP54	4	•	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	•	•

Code Example:

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

WR16 series

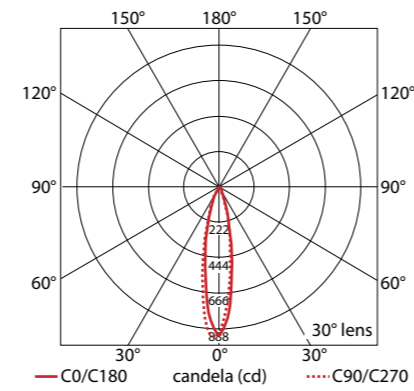
LED MR16



- An efficient, high CRI, single point 4W LED source with a compact cast aluminum body.
- Suitable as an alternative to 20 - 35W MR16 halogen lamps.
- Available in a choice of color temperatures and beam angles.
- Remote 0-10V/1-10V/DMX dimming control (See visDIM range).

LED MR16

12V DC 4W 55.6 lm/W CE



Luminous flux: 222lm nominal (@ 3000K + 30° lens)

Size: H2.09/Ø1.97" (H53/Ø50mm)

Chip: Citizen

Beam angle: 15°/30°

Bin/Step: 7 step MacAdam ellipse (Multi chip mixing)

CRI: ≥85

Lifetime: 50,000 hours @ 77°F

Operating temp: T_a = -13 to 104°F (T_c max = 158°F)

IP rating: IP20

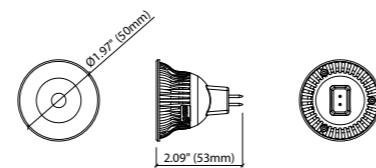
Finish: Black housing and black bezel

Cover/Lens: N/A

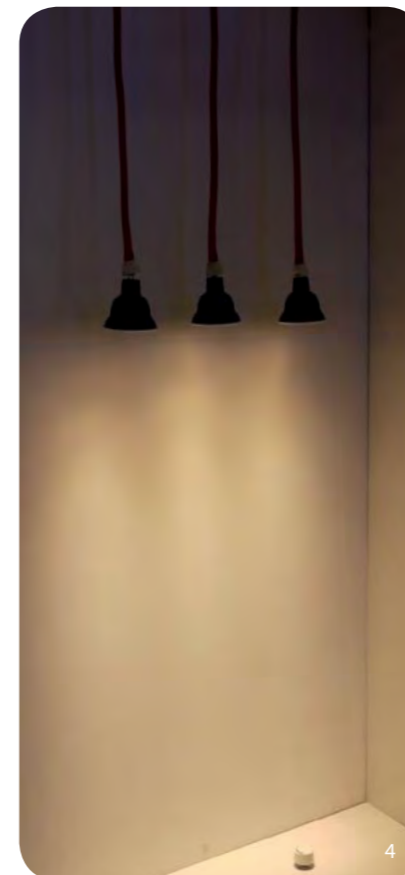
Mounting: MR16 lamp

Connection: GU5.3 lamp base

Control: 0-10V/1-10V/DMX (see visDIM range)



LED MR16 Product Details



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

LED MR16 Accessories

visDIM Power/Control Options



IP20
Black plastic housing
L6.46/W2.52/H1.34"
(L164/W64/H34mm)

KKDM-04 0-10V/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 Color	2800K	K	•
	3000K	P	•
	5000K	D	•
IP	IP20	O	•
Power	12V	Y	•
Lens Type	15°	B	•
	30°	T	•

Code Example:

MRS016 **K** **O** **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 color 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 sub-controller



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

Order code: KKDM-04
Size: H1.34/W2.52/L6.46" (H34/W64/L164mm)
Weight: 150g
Operating temp: T_a = 14 to 140°F (T_c max = 176°F)
Storage temp: T_a = -4 to 158°F
IP rating: IP20
Finish: Plastic cover (black)
Mounting: Surface mounting via screws
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 colors, or fixed dimming levels for white light
- Screw terminal or RJ45 control connection

Order code: KKSC-03A (terminal type)
 KKSC-03B (RJ45 type)
Size: H1.34/W2.52/L6.46" (H34/W64/L164mm)
Weight: Terminal Type: 155g, RJ45 Type: 160g
Operating temp: T_a = 14 to 140°F (T_c max = 176°F)
Storage temp: T_a = -4 to 158°F
IP rating: IP20
Finish: Plastic cover (black)
Mounting: Surface mounting via screws
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

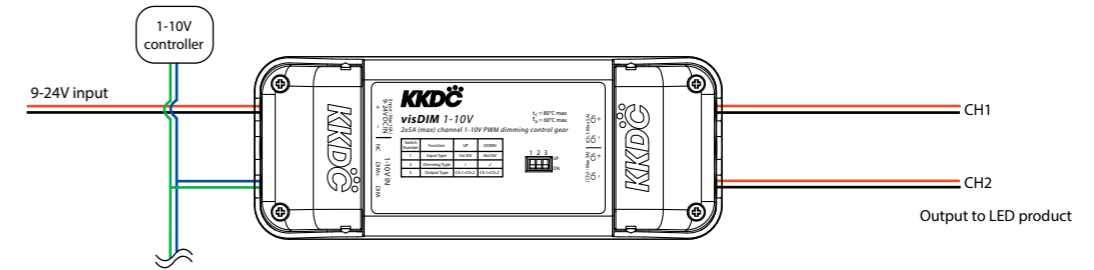
visDIM 1-10V sub-controller dip switches

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

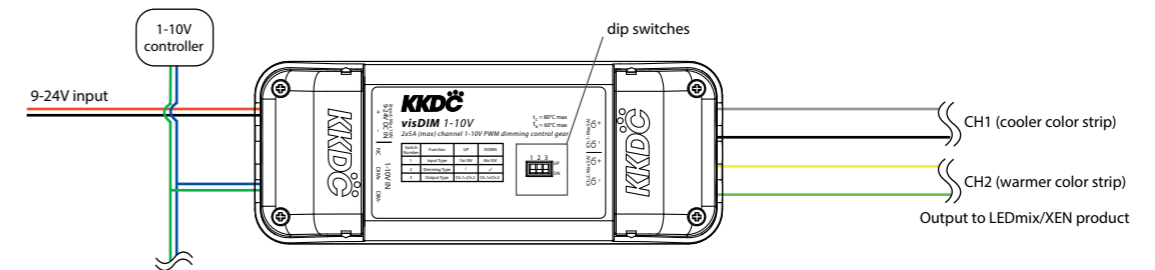
Symbols explained

- / 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 Dynamic white color mixing for LEDmix/XEN product control

White/mono wiring



LEDmix/XEN color mix 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)

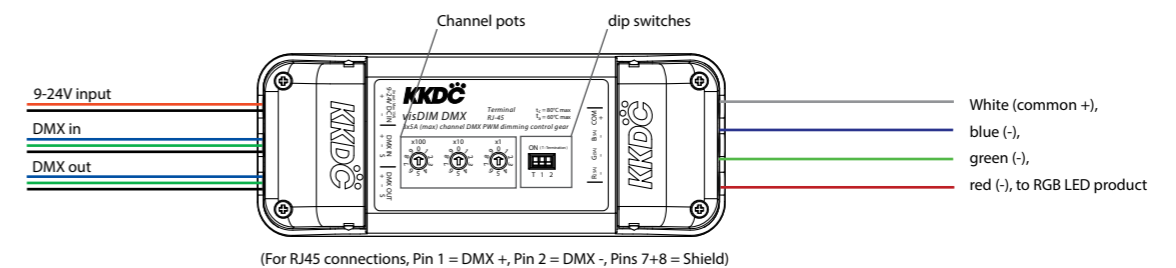
- Stand alone (white/mono) Rotary pots act as dimmer
 x100 = 10% dim step
 x10 = 1% dim step
 x1 = 0.1% dim step

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

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

STAND ALONE SET UP

RGB/3 channel wiring



Other DMX Products

DMX master controller



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

Order code: KKMC-01

Size: H1.79/W4.59/L2.86"
(H45.4/W116.6/L72.7mm)

IP rating: IP20

Finish: Plastic cover (White)

Mounting: Surface mounting via 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 on
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: H1.18/W1.95/L7.66"
(H30/W49.5/L194.5mm)

IP rating: IP20

Finish: Metal cover (Black)

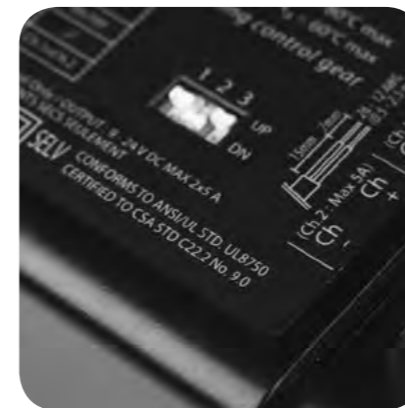
Mounting: Surface mounting via
screw fixing

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

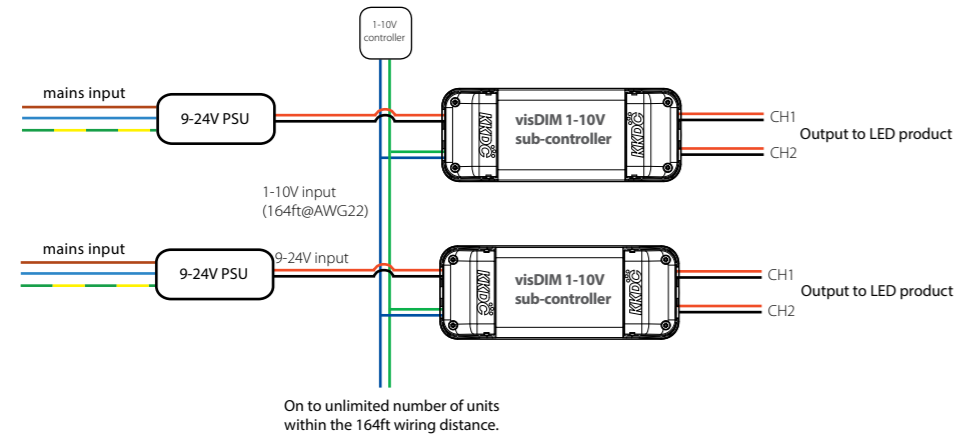
The following diagrams depict common wiring solutions using KKDC's visDIM 1-10V products.

It is useful to know the following information when using 1-10V

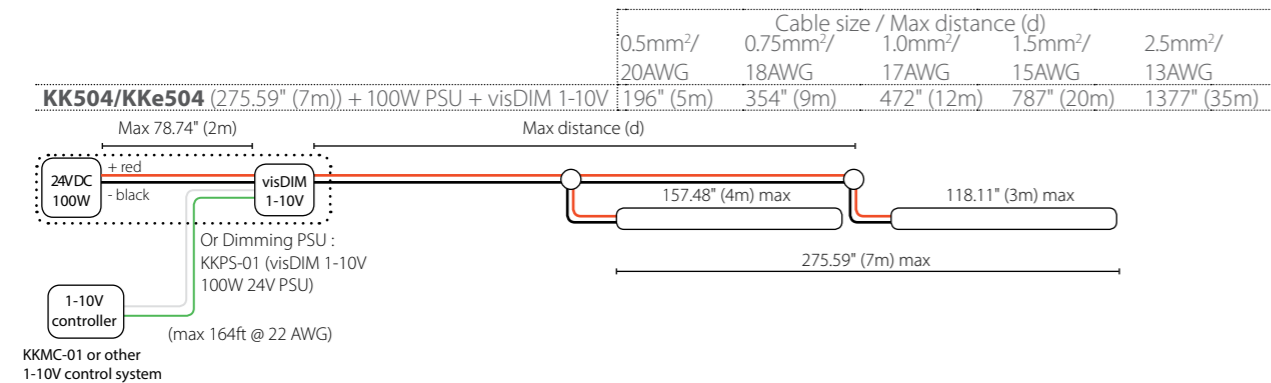
Shorted (10V) = lowest output (0%)

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

visDIM 1-10V sub-controller



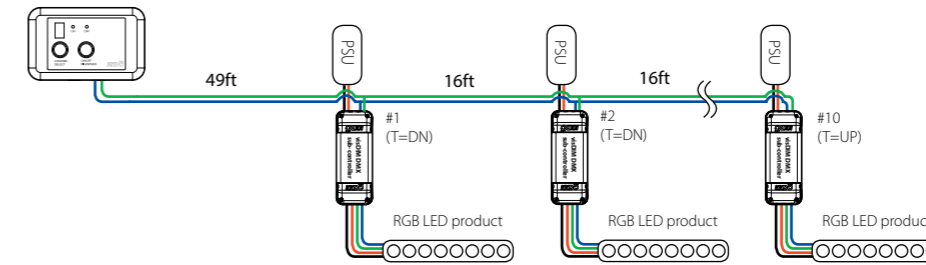
visDIM 1-10V 100W wiring example with KK504/KKe504 strip



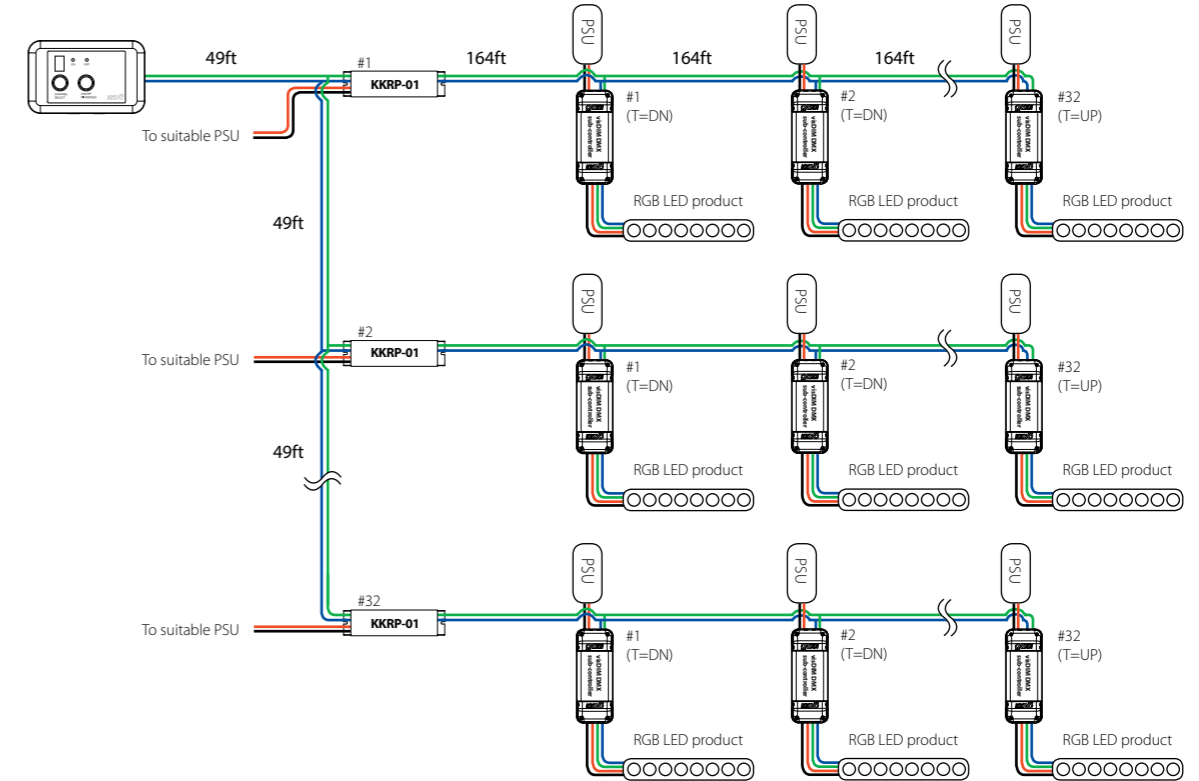
visDIM DMX wiring examples

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

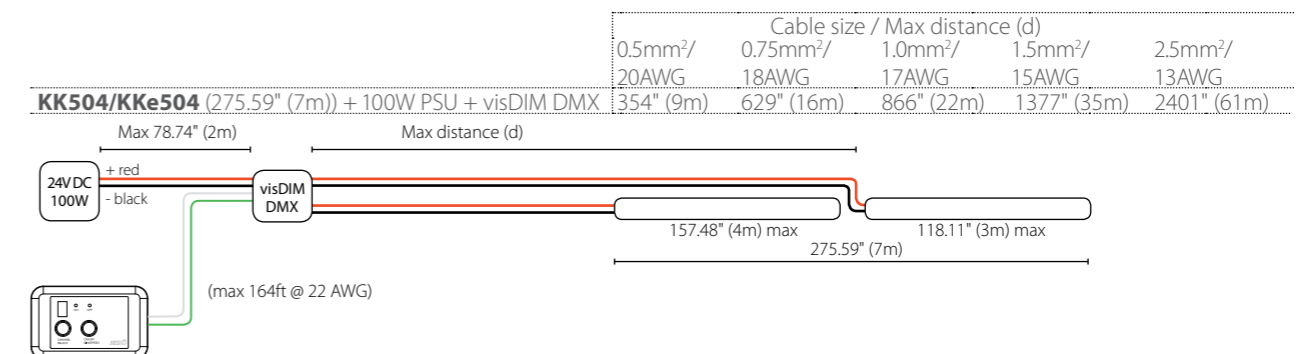
DMX wiring example (small system)



DMX wiring example (big system)



visDIM DMX 100W wiring example with KK504/KKe504 strip



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
- 1.1.2. Glare
- 1.1.3. Optic
- 1.1.4. Diffusion/Diffuser

1.2. Photometry

- 1.2.1. Luminous flux & lumens
- 1.2.2. Radiant flux
- 1.2.3. Illuminance & Lux
- 1.2.4. Candela (cd)
- 1.2.5. Luminaire efficacy
- 1.2.6. Luminous efficiency
- 1.2.7. Photometric testing
- 1.2.8. Absolute photometry
- 1.2.9. Relative photometry
- 1.2.10. Integrating sphere
- 1.2.11. Goniophotometer

1.3. Colorimetry

- 1.3.1. Color Space (CIE color space/ chromaticity diagrams)
- 1.3.2. Kelvin (Correlated Color Temperature – CCT)
- 1.3.3. Planckian locus/ Black body line
- 1.3.4. MacAdam Ellipse (SDCM)
- 1.3.5. Saturation/saturated
- 1.3.6. Hue
- 1.3.7. Color rendering index (CRI)
- 1.3.8. Rendering average (Ra)
- 1.3.9. Spectral power distribution
- 1.3.10. Wavelength
- 1.3.11. Ultraviolet (UV)
- 1.3.12. Infrared (IR)

2. Electrical

2.1. General Electrical

- 2.1.1. Voltage
- 2.1.2. Current
- 2.1.3. Resistance
- 2.1.4. Wattage
- 2.1.5. Direct current (DC)
- 2.1.6. Alternating current (AC)
- 2.1.7. Constant current
- 2.1.8. Constant voltage
- 2.1.9. Power factor
- 2.1.10. Interference
- 2.1.11. Parasitic capacitance
- 2.1.12. Inrush current

2.2. Electrical & Electronic Components

- 2.2.1. Printed circuit board (PCB)
- 2.2.2. Capacitor
- 2.2.3. Resistor
- 2.2.4. Integrated circuit (IC)
- 2.2.5. Diode
- 2.2.6. Bridge rectifier

2.3. Installation

- 2.3.1. Series circuit
- 2.3.2. Parallel circuit
- 2.3.3. AWG
- 2.3.4. IP rating

2.4. Lighting control

- 2.4.1. Control gear
- 2.4.2. DALI – Digitally Addressable Lighting Interface
- 2.4.3. DMX
- 2.4.4. 1-10V
- 2.4.5. 0-10V
- 2.4.6. KNX
- 2.4.7. Power supply unit (PSU)
- 2.4.8. Driver
- 2.4.9. Pulse width modulation (PWM)
- 2.4.10. visDIM

2.5. LED

- 2.5.1. Bin/Binning
- 2.5.2. Phosphors
- 2.5.3. Die
- 2.5.4. LED array
- 2.5.5. Heat sink
- 2.5.6. LED lifetime
- 2.5.7. LED package
- 2.5.8. Temperature – $T_a/T_c/T_j$
- 2.5.9. Thermal management
- 2.5.10. Thermal resistance

3. Standards

3.1. Organisations

- 3.1.1. UKAS
- 3.1.2. IEC
- 3.1.3. BSI
- 3.1.4. IESNA
- 3.1.5. ANSI
- 3.1.1. OSHA
- 3.1.1. ISO

3.2. Standards

- 3.2.1. LM79-08
- 3.2.2. LM80
- 3.2.3. TM-21
- 3.2.4. CE
- 3.2.5. RoHS Directive 2002/95/ECN
- 3.2.6. WEEE

4. Manufacturing terms

4.1. Machining

- 4.1.1. Extruding
- 4.1.2. CNC machining
- 4.1.3. Ultrasonic welding
- 4.1.4. SMT

4.2. Surface treatment

- 4.2.1. Anodising
- 4.2.2. Silicone
- 4.2.3. VP – Vacuum Plating

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 meter, measured in lux (lx).

1.2.4. Candela (cd)

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

$\text{luminous flux} \div \text{unit solid angle}$.

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, color 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, color temperature and color 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. Colorimetry

1.3.1. Color Space (CIE color space/ chromaticity diagrams)

A theoretical color concept illustrated by a series of graphical projections mathematically representing all visible colors of light. The International Commission on Illumination (CIE) has defined several of these spaces – the CIE 1931 color space and CIE 1976 CIELUV color space being the most widely referenced in lighting. A three dimensional color space is projected as a two dimensional chromaticity diagram on which other colorimetric 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 color performance and consistency between products and relative to the color specifications of lighting test standards.

1.3.2. Kelvin (Correlated Color Temperature – CCT)

In lighting, Kelvin is the system adopted to define color of white light with a single-number. It compares the color 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 color.

1.3.3. Planckian locus/ Black body line

The plot of color 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 color space diagram. The spread of results is defined within an elliptical plot, the edges of which represent a set deviation in color from that at its center. The scale of the ellipse is determined by the number of standard deviations of color matching or 'steps' used in plotting.

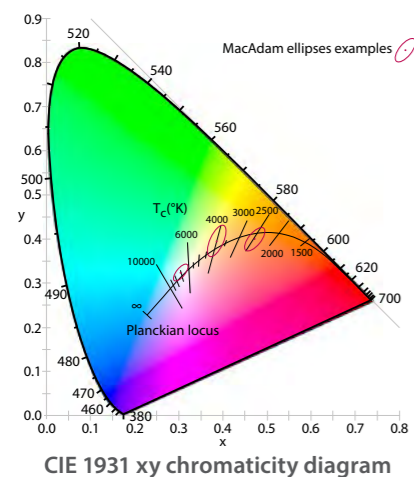
The color variation represented by a 1-step MacAdam ellipse is not visible but becomes progressively more discernible in ellipses with a greater number of steps and becomes apparent to most observers above 2 or 3 steps. MacAdam ellipses are sometimes quoted in the specifications of white LED products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

1.3.5. Saturation/saturated

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

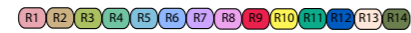
1.3.6. Hue

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



1.3.7. Color rendering index (CRI)

Is the method of measuring how well a light source renders a specific set of colors. CRI is based on 14 color samples, the first 8 in the set are pastel colors arranged around the hue circle, 9 to 14 are colors 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%.

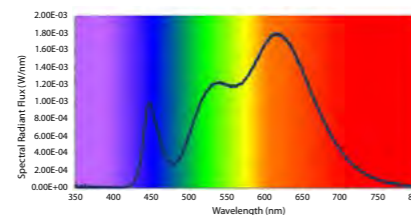


1.3.8. Rendering average (Ra)

The average of the rendering values for the first 8 color 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 source's apparent color.

LED dice producing light in the visible spectrum, emit light of wavelengths ranging from around 330 to 780 nanometers – a specified range of wavelengths indicating the color 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: -
 $100 \div 0.85 = 117.6W$

2.1.10. Interference

Unwanted distortions in a digital signal or analog 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 color 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.

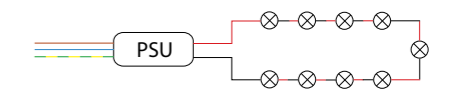
2.2.6. Bridge rectifier

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

2.3. Installation

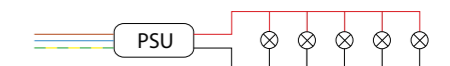
2.3.1. Series circuit

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 mm² 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 1.97in (50mm) in diameter.
- 2 Protection against finger sized objects no greater than 3.15in (80mm) in length and 0.47in (12mm) in diameter.
- 3 Protection from entry by tools, wires, etc., with a diameter of thickness greater than 0.10in (2.5mm).
- 4 Protection from entry by solid objects with a diameter or thickness greater than 0.04in (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 5.91 ~ 39.37in (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, color 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 analog 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 (Current sink device).
- 0-10V – device will only operate when supplied with a control voltage (Current source device).

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 color 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 color and performance which may in turn be 'binned'. The scale and parameters of the bins used will often determine the color consistency and cost of finished white LED products – (co-ordinates (x, y or u', v') of quadrangles on color space plots are used to document color 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, color 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, color 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 recognized 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 Recognized Testing Laboratory (NRTL) Program recognizes 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 aluminum parts. Anodising can protect against corrosion in harsh chlorinated or marine environments and can also incorporate colored 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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(opening soon,
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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.

<p>7. Delivery and Costs</p> <p>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.</p> <p>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:</p> <p>7.2.1 the customer requests another method of delivery; or</p> <p>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.</p> <p>7.3 KKDC reserves the right to quote additional charges for any special routing, packing, labeling, handling or insurance required by the customer.</p> <p>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.</p> <p>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.</p> <p>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:</p> <p>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</p> <p>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</p> <p>8. Export and Import Compliance</p> <p>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.</p> <p>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:</p> <p>8.2.1 The failure to provide or the cancellation of export or re-export licenses;</p> <p>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</p>	<p>8.2.3 Delays due to the customer's failure to follow applicable import, export, transfer, or re-export laws and regulations.</p> <p>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.</p> <p>9. Hardship</p> <p>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.</p> <p>10. Acceptance</p> <p>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.</p> <p>10.2 Goods are presumed accepted unless KKDC receives written notice of rejection explaining the basis for proper rejection within the same timeframe.</p> <p>10.3 KKDC will have a reasonable opportunity to repair or replace rejected goods, at its option.</p> <p>10.4 Following initial delivery, the party initiating shipment will bear the risk of loss or damage to goods in transit.</p> <p>10.5 If KKDC reasonably determines that rejection was improper, the customer will be responsible for all expenses caused by the improper rejection.</p> <p>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.</p> <p>11. Title and Property</p> <p>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:</p> <p>11.1.1 holds the goods in a fiduciary relationship with KKDC as bailee only;</p> <p>11.1.2 must keep the goods separate from other items it holds and must not resell or transfer possession of the goods;</p> <p>11.2 If the customer:</p> <p>11.2.1 fails to pay the contract price in full when due;</p> <p>11.2.2 pays for the goods by cheque (in whole or in part) and that cheque is not met on presentation;</p>	<p>11.2.3 commits any act of bankruptcy, becomes bankrupt, or is insolvent under administration, as defined in section 9 of the Corporations Act;</p> <p>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</p> <p>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;</p> <p>11.3 KKDC may:</p> <p>11.3.1 enter onto the premises where the goods are situated; and</p> <p>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.</p> <p>11.4 If KKDC repossesses the goods, it reserves the right to resell them.</p> <p>11.5 The customer must also indemnify and keep KKDC indemnified against, and pay to KKDC, all expenses, losses and damages incurred or sustained by KKDC as a result of, or in relation, to KKDC exercising its rights under:</p> <p>11.5.1 this clause;</p> <p>11.5.2 under any other term, express or implied, of these conditions; or</p> <p>11.5.3 otherwise at law or in equity, and</p> <p>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</p> <p>12. Risk and Insurance</p> <p>12.1 Notwithstanding clauses 7 and 11, the goods will be at the customer's risk after they leave KKDC's premises.</p> <p>12.2 If the customer requests it in writing, KKDC may, at the customer's expense, insure the goods.</p> <p>13. Compliance with Laws</p> <p>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.</p> <p>14. LIMITED WARRANTY</p> <p>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.</p> <p>14.2 No provision of these conditions purports to exclude, restrict or modify or have the effect of excluding, restricting or modifying:</p> <p>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;</p> <p>14.2.2 the exercise of a right conferred by such provision; or</p>	<p>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:</p> <p>14.2.3.1 the replacement of the relevant goods or the supply of equivalent goods;</p> <p>14.2.3.2 the repair of the relevant goods (excluding costs of removal and installation)</p> <p>14.2.3.3 the payment of the costs of replacing the relevant goods, or of acquiring equivalent goods; or</p> <p>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.</p> <p>15. Confidentiality</p> <p>15.1 'Confidential Information' means:</p> <p>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;</p> <p>15.1.2 business related information including but not limited to pricing, manufacturing, or marketing;</p> <p>15.1.3 the terms and conditions of any proposed or actual contract between the parties;</p> <p>15.1.4 either party's business policies, or practices; and</p> <p>15.1.5 the information of others that is received by either party under an obligation of confidentiality.</p> <p>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.</p> <p>15.3 Each party will retain ownership of its Confidential Information including, without limitation, all rights in patents, copyrights, trademarks and trade secrets.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>15.7 The receiving party has no duty to protect information that is proven by written records to be:</p> <p>15.7.1 publicly known at the time of disclosure or becomes publicly known through no fault of recipient;</p> <p>15.7.2 known to recipient at the time of disclosure through no wrongful act of recipient;</p> <p>15.7.3 received by recipient from a third party without restrictions similar to those in this section; or</p>	<p>15.7.4 independently developed by recipient</p> <p>16. Intellectual Property</p> <p>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</p> <p>16.2 Intellectual property may only be used under license from KKDC</p> <p>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.</p> <p>17. LIMITATION OF LIABILITY</p> <p>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 PROFITS, LOSS OF REVENUES, OR LOSS OF USE, EVEN IF INFORMED OF THE POSSIBILITY OF SUCH DAMAGES.</p> <p>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.</p> <p>17.3 The customer's sole remedy for any defective goods will be the repair or replacement of the defective goods.</p> <p>18. Governing Law</p> <p>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.</p> <p>19. Dispute Resolution</p> <p>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.</p> <p>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.</p> <p>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.</p>	<p>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.</p> <p>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.</p> <p>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.acdcld.com.au. The arbitrator is not to be the same person as the mediator.</p> <p>19.2.1 Any such arbitration is to be administered by ACDC.</p> <p>19.2.2 The appointing authority is to be ACDC.</p> <p>19.2.3 The number of arbitrators is to be one.</p> <p>19.2.4 The place of arbitration is to be New South Wales, Australia.</p> <p>19.2.5 The language to be used in the arbitral proceedings is to be English.</p> <p>20. General</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p>
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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.serraclairage.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.

KKDC is constantly developing and improving its products therefore, KKDC reserves the right to discontinue any products from its ranges at any time whatsoever and without prior notice. KKDC also reserves the right to make technical and photometric modifications in addition to the change of any parts, details or finishes deemed suitable for improvement purposes and meeting statutory requirements.

For installation purposes, refer exclusively to the conditions described in the instruction sheet supplied with the product package and/or download from the website www.kkdcusa.com.

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