traxon

ARCHISHAPE® Tube Ultra Slim

INSTALLATION GUIDE

V1.0

Cover:
ARCHISHAPE® Tube Ultra Slim

traxon

CONTENT

For your own safety and that of the product, please read this installation guide carefully before beginning setup and installation.

www.traxontechnologies.com

1. INTRODUCTION

1.1 General

ARCHISHAPE® Tube Ultra Slim	Length (mm)	Maximum number of pixels (PXL)
AS TUBE C1 RGBW 1000 10PXL 48V DV	1000	10
AS TUBE C1 RGBW 500 5PXL 48V DV	500	5
AS TUBE C1 RGBW 300 3PXL 48V DV	300	3
AS TUBE RGBW 1000 10PXL 48V DV	1000	10
AS TUBE RGBW 500 5PXL 48V DV	500	5
AS TUBE RGBW 300 3PXL 48V DV	300	3
AS TUBE RGB 1000 10PXL 48V DV	1000	10
AS TUBE RGB 500 5PXL 48V DV	500	5
AS TUBE RGB 300 3PXL 48V DV	300	3
AS Tube DW 1000 10PXL 48V DV	1000	10
AS Tube DW 500 5PXL 48V DV	500	5
AS Tube DW 300 3PXL 48V DV	300	3

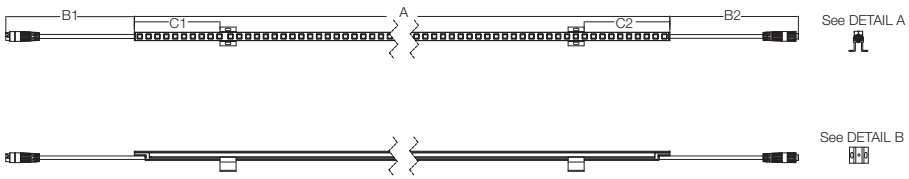
ARCHISHAPE® Tube Ultra Slim is an IP66-rated slim LED tube for any wall or façade media lighting. Available in 300 / 500 / 1000mm lengths, the simple but robust construction allows up to 12 meters of tubes to be daisy chained on a single power supply unit.

Features:

- Available lengths: 300mm (3PXL), 500mm (5PXL), and 1000mm (10PXL)
- Direct view
- Three color options: RGBW, RGB+W, RGB*, White* (*available upon request)
- DMX512
- Daisy Chain System
- Auto-Addressing
- Outdoor Applications (IP66-rated)

1.2 Dimensions

FIG.1: ARCHISHAPE® Tube Ultra Slim



Tube length A	Cable length B1	Cable length B2	Bracket position C1	Bracket position C2
1000	200	160	160	160
500	200	160	160	160
300	200	160	80	120

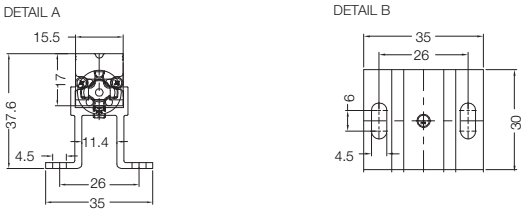
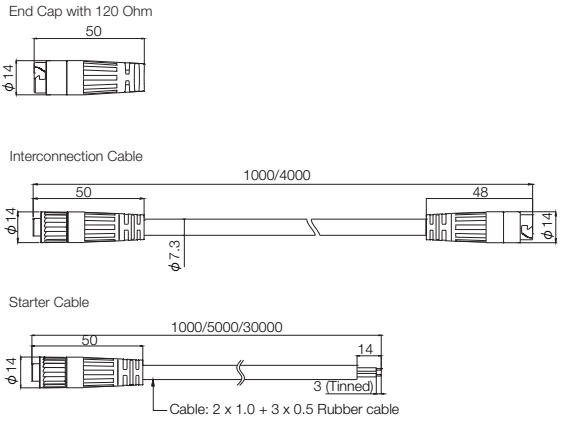
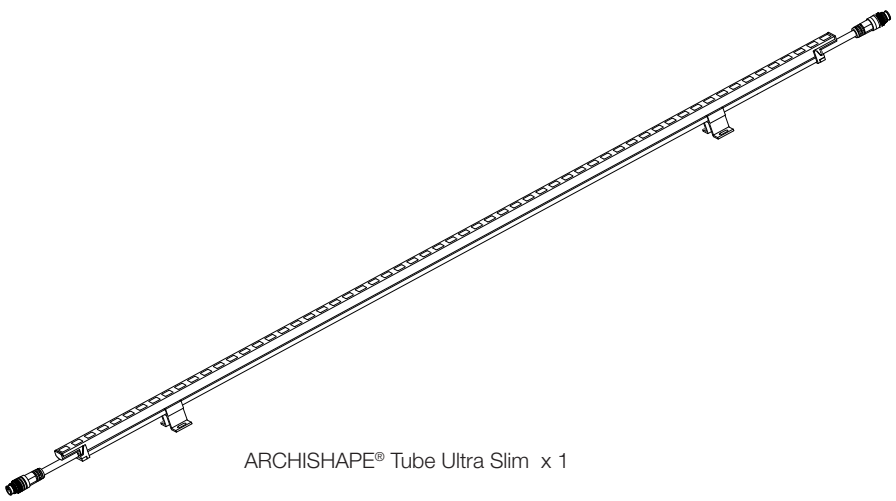


FIG.2: ARCHISHAPE® Tube Ultra Slim Accessories



1.3 Packing Contents

FIG.3: Packing Contents



2. INSTALLATION

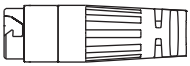
2.1 Points To Consider

Plan your installation before mounting the ARCHISHAPE® Tube Ultra Slim. The following should be considered for a successful installation.

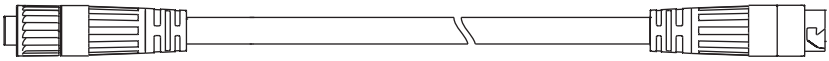
- Weather conditions and ambient temperature of installation site.
- Appropriate cable lengths (cable gauges described in below diagram). Please consult your local Traxon office or authorized agent for necessary aid.
- The number of ARCHISHAPE® Tube Ultra Slim and appropriate LED Engines.
- DMX512 to be used to control the ARCHISHAPE® Tube Ultra Slim.
- Distance between each Tube for thermal expansion and maintaining pixel pitch.
- Mounting distances should be paid attention on.
- Proper surge protection.

FIG.4: ARCHISHAPE® Tube Ultra Slim Cable System

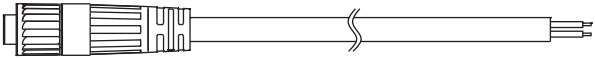
Cable A: End Cap with 120 Ohm



Cable B: Interconnection Cable



Cable C: Starter Cable



Cable A = End cap with 120 Ohm
(the end cap for a connection)

Cable B = Interconnection cable
(From ARCHISHAPE® Tube Ultra Slim to another ARCHISHAPE® Tube Ultra Slim)

Cable C = Starter cable
(From Terminal Block to first ARCHISHAPE® Tube Ultra Slim in chain)

2.2 Pre-Installation Checks

2.2.1 Installation Checklist

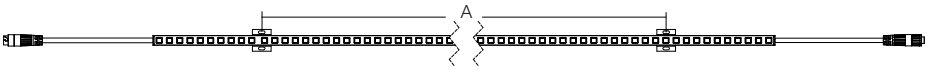
1. Prepare cables and all necessary accessories (Waterproof Quick Lock End Caps etc).
2. Perform functional check of ARCHISHAPE® Tube Ultra Slim. Take care not to damage cables/connectors during pre-installation checks.
3. Ensure all pre-installation checks laid out below have been followed.
4. Mount the ARCHISHAPE® Tube Ultra Slim on-site. If the installation is to be left uncompleted overnight, place all non-connected LED Engines and ARCHISHAPE® Tube Ultra Slim in an indoor environment.

Ensure all the Interconnection Cables, ARCHISHAPE® Tube Ultra Slim and LED Engines are initially stored in a dry area to guarantee the complete sealing of the system from water before installation.

2.2.2 Bracket

Screws are needed to fix the bracket. The schematic diagram of the bracket is as follows

FIG.5: ARCHISHAPE® Tube Ultra Slim



Tube Length	A
1000mm	660mm
500mm	160mm
300mm	80mm

2.2.3 Installation Sequence

1. Measure the correct distances for brackets.
2. Connect ARCHISHAPE® Tube Ultra Slim in the daisy-chain manner outlined in the System Diagram to form large installations.
3. Perform functional check on all ARCHISHAPE® Tube Ultra Slim and inspect cables and brackets for any damage. Check for any abnormalities with the control signal.
4. Report any functional defect found to your nearest Traxon Technologies office. DO NOT attempt to install ARCHISHAPE® Tube Ultra Slim with functional defects on-site.

2.3 On-Site Installation

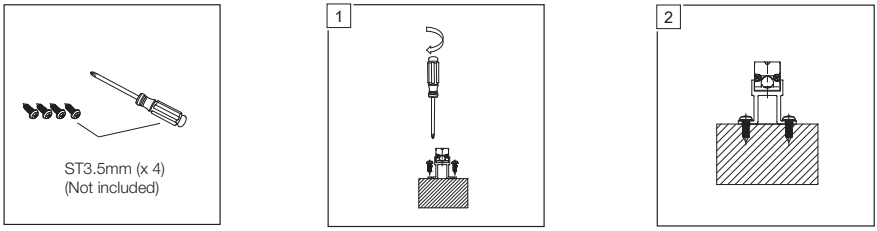
- DO NOT attempt installation in wet or severe weather conditions.
- DO NOT leave and expose any ARCHISHAPE® Tube Ultra Slim or LED Engines unconnected under wet/raining or snowing environment.
- IP failure induced by stressed/damaged cables during or after installation will not be under warranty by Traxon Technologies.
- ALWAYS keep the cables protected from sharp objects and ensure no damage is generated on the cable.

Failure to keep ARCHISHAPE® Tube Ultra Slim within the operating temperature range of –25°C to +50°C / –13°F to +122°F and storage temperature range of –40°C to +70°C / –40°F to +158°F will void the product's warranty.

2.3.1 On-Site Installation

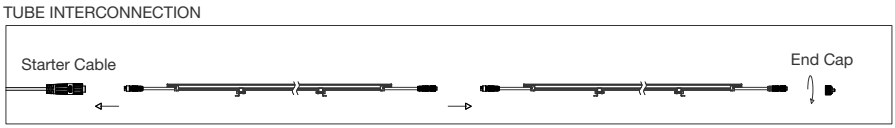
1. Fix brackets to installation surface with anchor bolts.

FIG.6: Fixing the Mounting Clip to Installation Surface



2. The ARCHISHAPE® Tube Ultra Slim are interconnected using the IN and OUT cables on each end of the tube. Screw the connectors tightly for a water-tight seal. Below diagram shows the Tube connections. Always remember to affix an Quick Lock Waterproof End Cap (sold separately) for the OUT connector of the final Tube in each daisy chain. See System Diagram for details.

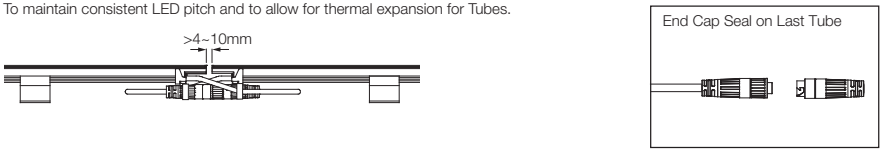
FIG.7: ARCHISHAPE® Tube Ultra Slim Connections



NOTE: Any water ingress incurred due to improper installation of cable connectors or Waterproof Quick Lock End Caps will not be under warranty by Traxon Technologies.

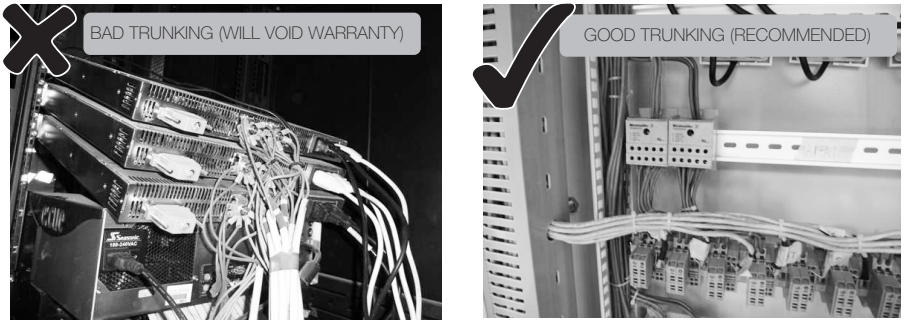
3. Be sure not to compress the IN/OUT cables.
   NOTE: To keep LED pitch consistent and allow for thermal expansion, be sure to keep a minimum distance of 4mm (0.16") between consecutive ARCHISHAPE® Tube Ultra Slim (see below diagram).

FIG.8: Fixing the Brackets to Installation Surface



4. The first tube of the daisy-chain group has to be connected to the control system via Waterproof Junction Box (not included).Starter cables, Data and Power cables, and video fiber optic cables have to be installed through conduits/trunking.

FIG.9: Bad vs. Good trunking. It is recommended to follow the example on the right.



5. Set up the control system indoors as detailed in the System Diagram and connect to the ARCHISHAPE® Tube Ultra Slim outside. Start up each unit and verify correct function.

3. SAFETY AND OPERATION

- CAUTION - Unplug the power supply from the mains power before connecting any cables as this can damage the products.
- CAUTION - Avoid looking directly into the LED light source at close range for your own safety.
- Persons installing this product should make sure:
    1. The installation complies with all applicable codes, state and local laws, ordinances, standards and safety regulations.
    2. The installation environment is carefully studied and suitable surge protection measure(s) is taken.
    3. He or she is qualified for the handling of electrical equipment.
- Do not attempt to install or use the product until installation instructions and safety labels are fully understood. This product is designed for indoor and outdoor use.
- Ensure product operates within the specified temperature range. (Refer to 7. TECHNICAL SPECIFICATION for more details.)
- Do not attempt to open the product. Not user serviceable.
- Do not use the product if any part of it, or the power cables are damaged.
- Only use product for specified voltage, do not exceed. (Refer to 7. TECHNICAL SPECIFICATION for more details.)
- Always maintain connection to ensure waterproofing.
- If the product has been subjected to drastic temperature variances, for example, following transportation, do not connect the fixture until it has reached room temperature, as moisture condensation may cause electric shock and product damages.
- When installing the products and system power supplies, please ensure they will not be exposed to moisture and extreme heat (and direct sunlight for outdoor products). Besides, keep a clean operating environment for the fixtures and system power supplies.
- Please study this Installation Guide thoroughly and check the latest Technical Specification Sheets available from the Traxon website www.traxontechnologies.com before setup.
- Any non-compliance of the Installation Guide will void the Traxon warranty.

4. SYSTEM CONFIGURATION

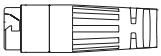
4.1 ARCHISHAPE® Tube Ultra Slim Connection Components

The ARCHISHAPE® Tube Ultra Slim is connected using a daisy chain system with power and data on the same cable. Below diagram shows some typical components for ARCHISHAPE® Tube Ultra Slim system.

FIG.10: Connection Components for ARCHISHAPE® Tube Ultra Slim System

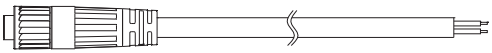
LED Engine 240W 48V Outdoor

Cable A: End Cap with 120 Ohm



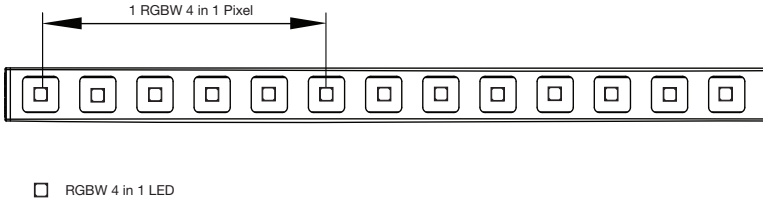
Cable B: Interconnection Cable

Cable C: Starter Cable

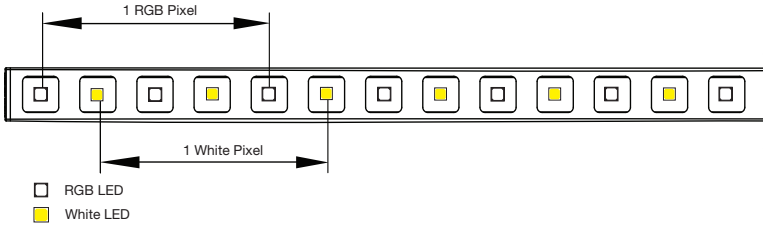


4.2 LED CONTROL

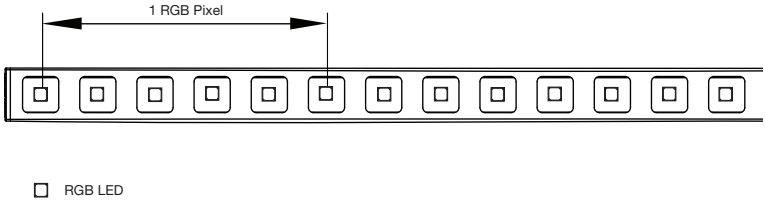
The LEDs on the ARCHISHAPE® Tube Ultra Slim are controlled by DMX512. Each pixel on the Tube uses three RGB 3 in 1 LEDs and three white LEDs with twelve channels, for R, G, B and W. Pixel number 1 begin on the IN connector side, and it uses the first four channels. The start address is the next address from the previous tube in the daisy chain.



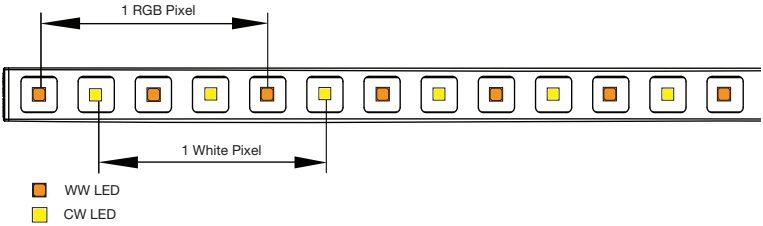
RGBW	
Pixel n	Control Channel Number
R	Tube start address +4(n-1)
G	Tube start address +4(n-1) + 1
B	Tube start address +4(n-1) + 2
W	Tube start address +4(n-1) + 3
Where: n is pixel number along the Tube. (Pixel 1 is located near the IN connector.)	



RGB+W	
Pixel n	Control Channel Number
R	Tube start address +4(n-1)
G	Tube start address +4(n-1) + 1
B	Tube start address +4(n-1) + 2
W	Tube start address +4(n-1) + 3
Where: n is pixel number along the Tube. (Pixel 1 is located near the IN connector.)	



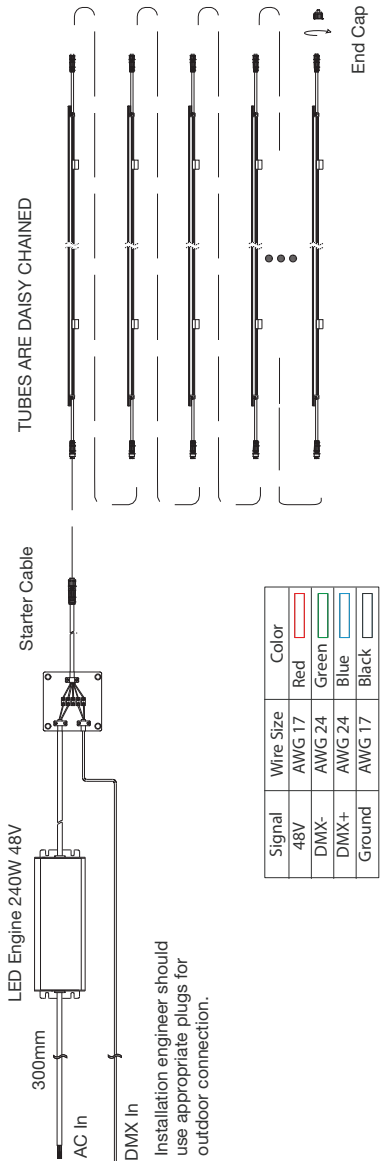
RGB	
Pixel n	Control Channel Number
R	Tube start address +3(n-1)
G	Tube start address +3(n-1) + 1
B	Tube start address +3(n-1) + 2
Where: n is pixel number along the Tube. (Pixel 1 is located near the IN connector.)	



DW	
Pixel n	Control Channel Number
WW	Tube start address +2(n-1)
DW	Tube start address +2n

Where: n is pixel number along the Tube.
(Pixel 1 is located near the IN connector.)

FIG.11: Daisy chain of tubes



Signal	Wire Size	Color
48V	AWG 17	Red
DMX-	AWG 24	Green
DMX+	AWG 24	Blue
Ground	AWG 17	Black

This wiring diagram shows only typical connections. Actual wiring depends on LED Tube configuration and installation. Actual no. vary according to cable lengths and signal source. Please consult your local Traxon office for aid.

LED Solution	Max. Connection Quantity
RGBW 4 in 1	12
RGB + W	12
RGB	14
DW	14

5. CARE AND MAINTENANCE

OSRAM products are of superior design and quality and should be treated with care. The recommendations below will help fulfill any warranty obligations and gain good use and longevity from the products.

- Do not attempt or use the product(s) until you read and understand the installation instructions. Failure to adhere to these instructions could result in serious injury or property damage.
- Do not use product(s) if cables are damaged.
- Do not connect cables and connectors when wet or in wet area. Moisture on bare connectors can cause electric shock and damage to product(s).
- Do not use product(s) in extreme heat environment. Ensure there is sufficient airflow and use cool air circulation if required.
- Do not drop, knock, or shake product(s). Rough handling can damage the electronics and void the warranty.
- Do not use harsh chemicals, cleaning solvents, or strong detergents to clean products. Wipe with a damp cloth on housings and a dry cloth on electronics to remove dirt or dust.
- Do not attempt to service or repair the product(s) unless done by an authorized service personnel. Contact your local Traxon office or distributor for details.
- If the product is not working as specified, please contact your nearest authorized service center or Traxon Technologies office for assistance.

6. TROUBLESHOOTING

CAUTION: Ensure power supply is OFF when disconnecting / connecting cables.

Problem	Cause	Possible Solutions
Product does NOT light up after installation	Incorrect power connection	• Check Mains Power • Check power supply leads and wire connections • Ensure output wires are connected with proper polarity • Check Wago terminal block fuse. If Indicator Lamp is on, either the fuse is not present or it is blown. • Check if LED Engine's secondary output is working as specified.
Shadowing	Light source covered	• Check for cables, wires or unwanted debris covering LED light source
Modules are dim	Excess products connected	• Ensure the power supplies are not overloaded due to an excess of products connected
Flickering	Incorrect power input/ Excess products connected	• Ensure the input voltage is correct • Ensure the power supplies are not overloaded due to an excess of products connected

If problems persist or the product is not working as specified, please contact your nearest authorized service center or Traxon Technologies office for assistance.

7. TECHNICAL SPECIFICATION

ARCHISHAPE® Tube Ultra Slim RGBW

Color Range:	16.7 Million additive RGB colors; White CCT 5000K
Light Source (4 in 1 LEDs):	18 / 30 / 60
Beam Angle:	100°
Power Input*:	48V DC
Power Consumption (typ).:	3.6W / 6.2W / 12W
Weight:	0.18kg / 0.3kg / 0.5kg
Operating Temperature:	–25°C to +50°C / –13°F to +122°F
Storage Temperature:	–40°C to +70°C / –40°F to +158°F

ARCHISHAPE® Tube Ultra Slim RGB+W

Color Range:	16.7 Million additive RGB colors; White CCT 5000K
Light Source:	9RGB + 9White / 15RGB + 15White / 30RGB + 30White
Beam Angle:	100°
Power Input*:	48V DC
Power Consumption (typ).:	3.6W / 6.2W / 12W
Weight:	0.18kg / 0.3kg / 0.5kg
Operating Temperature:	–25°C to +50°C / –13°F to +122°F
Storage Temperature:	–40°C to +70°C / –40°F to +158°F

ARCHISHAPE® Tube Ultra Slim RGB

Color Range:	16.7 Million additive RGB colors
Light Source (3 in 1 LEDs):	18RGB / 30RGB / 60RGB
Beam Angle:	100°
Power Input*:	48V DC
Power Consumption (typ).:	3.6W / 6.2W / 12W
Weight:	0.18kg / 0.3kg / 0.5kg
Operating Temperature:	–25°C to +50°C / –13°F to +122°F
Storage Temperature:	–40°C to +70°C / –40°F to +158°F

ARCHISHAPE® Tube Ultra Slim DW	
Color Range:	White CCT 2700K-6500K
Light Source:	9WW + 9CW / 15WW + 15CW / 30WW + 30CW
Beam Angle:	100°
Power Input*:	48V DC
Power Consumption (typ).:	3.6W / 6.2W / 12W
Weight:	0.18kg / 0.3kg / 0.5kg
Operating Temperature:	–25°C to +50°C / –13°F to +122°F
Storage Temperature:	–40°C to +70°C / –40°F to +158°F

*For use with TRAXON LED Engine 240W 48V Outdoor (PS.OB.0011002), PSUs.

As with all electronic devices, LED output degrades over time - a term called lumen depreciation. This also explains why it is nearly impossible to expect photometric performances of two LED products with different service life spans to be the same. The rate of LED degradation is a complex function of many factors such as operating efficiency, duration of continuous operation, and operating conditions (e.g. ambient temperature).

Because LEDs are semiconductor devices, their performances are subject to inherent variability commonly found in semiconductor industry. To improve consistency in performance across the same product, LED manufacturers “sort” LEDs into bins according to different preset parameters, such as forward driving voltage, illumination, etc. Whereas binning is a sorting function, it is not a correction process. Inherent variability in the manufacturing process always results in different binning distributions according to different production lots. Traxon uses automatically binned LEDs on its products, thereby minimizing output variations within the model range.

8. WARRANTY STATEMENT

Traxon Technologies warrants its Products against material or workmanship defects for a period of five (5) years from date of purchase, provided that the purchased items are used under the conditions stated in this user manual.

Please refer www.traxontechnologies.com for all warranty terms and conditions.

traxon e:cue

AN OSRAM BUSINESS

Please check for the latest updates and changes on the Traxon website.

www.traxontechnologies.com