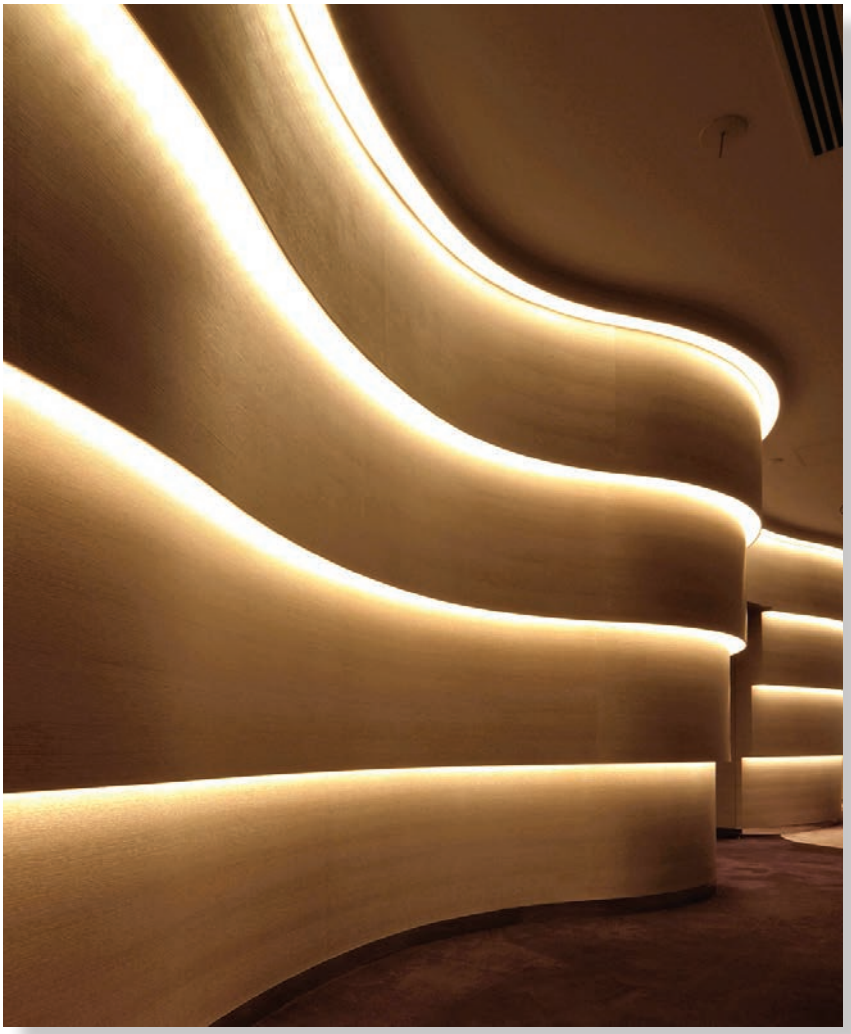
Advantage



TOKISTAR LIGHTING

Advantage Systems

For years lighting professionals have relied on Advantage Systems from Tokistar® to provide their clients with the most attractive, efficient and durable form of decorative indirect lighting.

Advantage's flexible conductors conform precisely to curves, twists and turns. Since the flexing is on the cable, lamps remain firmly seated in their sockets. With its many unique features, Advantage produces uniform light from more distant socket spacing. This means the system costs less to install, operate and maintain.

Advantage can be specified in many different configurations. Our energy-efficient LEDs are the most popular choice. The Basic Advantage System now includes our patented "smart" KC (Kelvin-Changing) LED as well as our signature warm white modules of 2000K, 2400K and 3000K.

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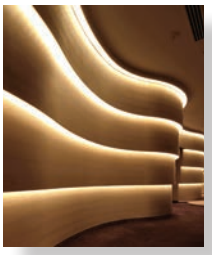
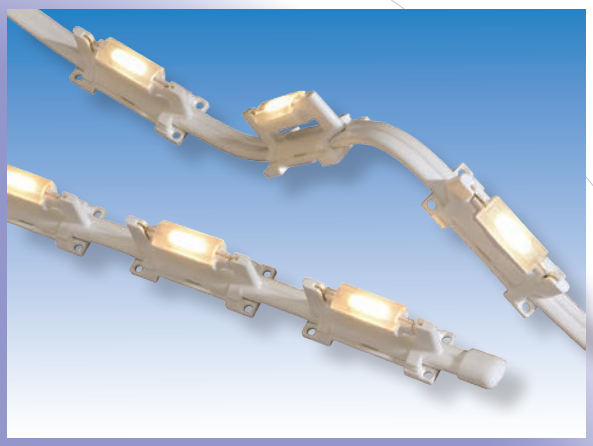


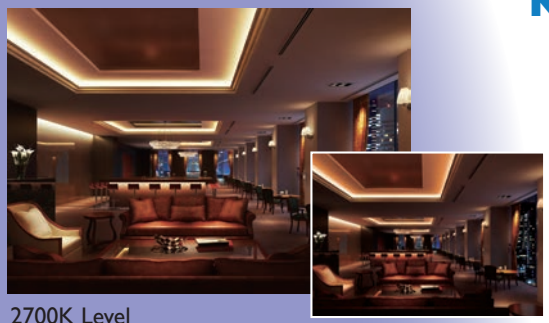
Cover:
A seamless flow of light follows the contour of this banquet room.
Designed by: Berlina/Taisuke Higuchi & Naiki Design Inc.



Advantage Basic System

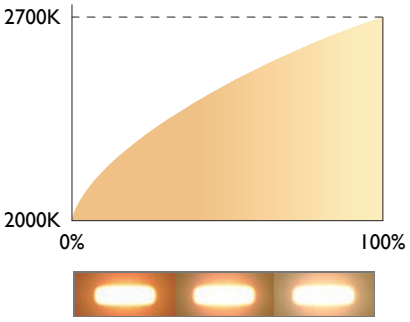
The Advantage Basic System is provided with larger conductors rated up to 20 Amps, and capable of running very long distances from a single feed point. This fixture operates from larger capacity 24 VAC magnetic transformers.

KC (Kelvin-Changing) LEDs



2700K Level

2000K Level



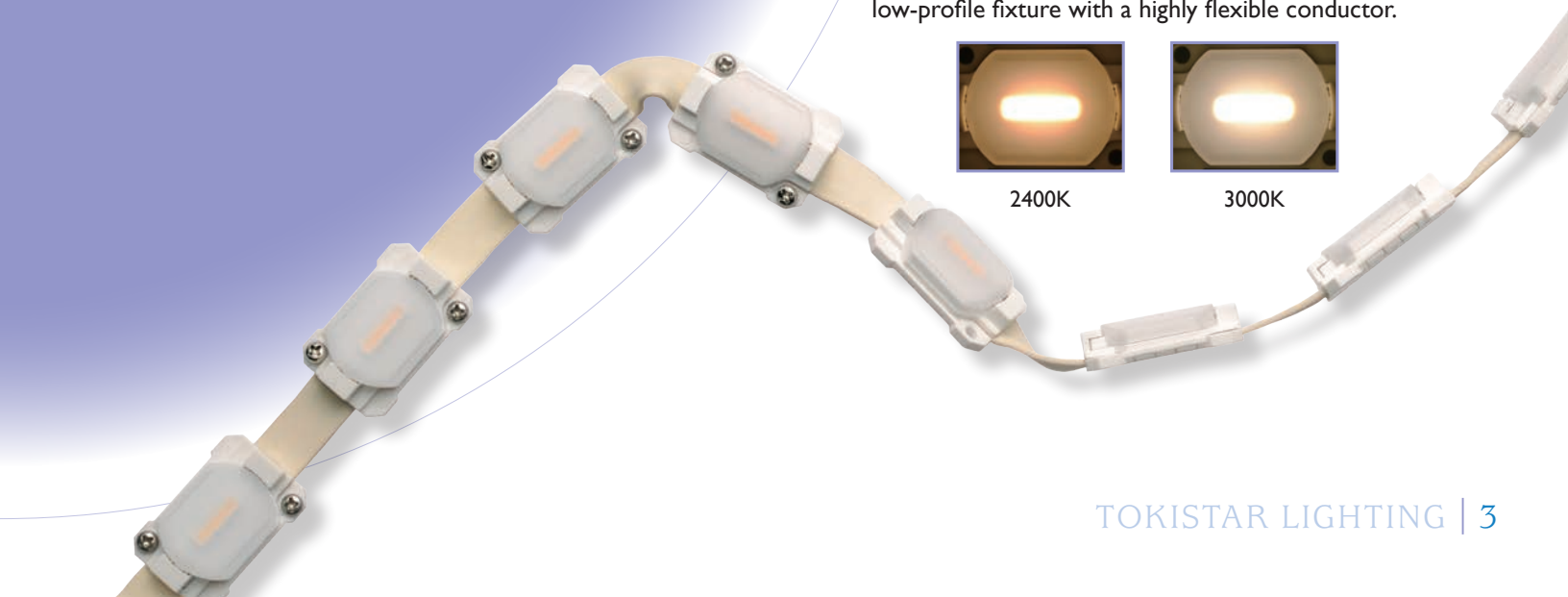
Advantage KC LEDs are a welcome addition to our Basic System. These LEDs change color temperature as they are dimmed. They begin at 2700K and go all the way to a candlelight color of 2000K.

Advantage XF Series

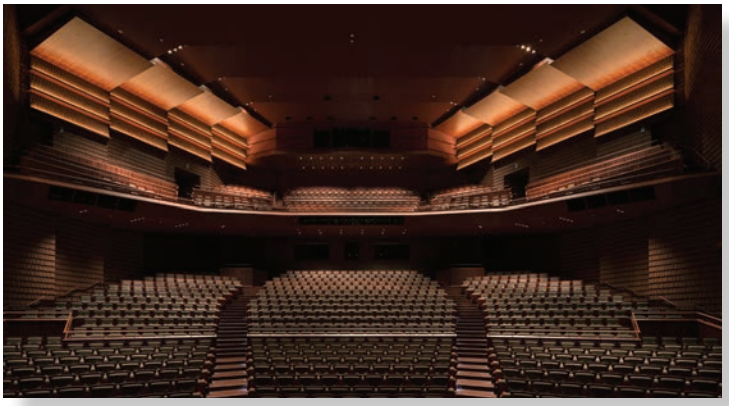
The XF Series is the newest addition to the Advantage line. This system features 2400K and 3000K LEDs in a low-profile fixture with a highly flexible conductor.

2400K

3000K



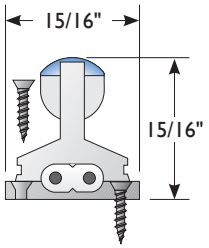
The Basic System



Designed by Environment Design Institute & Lighting Planners Associates

To specify the most attractive form of Advantage for an application, determine the appropriate light source and socket spacing. Tailor the system to the specific task by selecting from the listed options and accessories.

AV - 3 - KC - MC

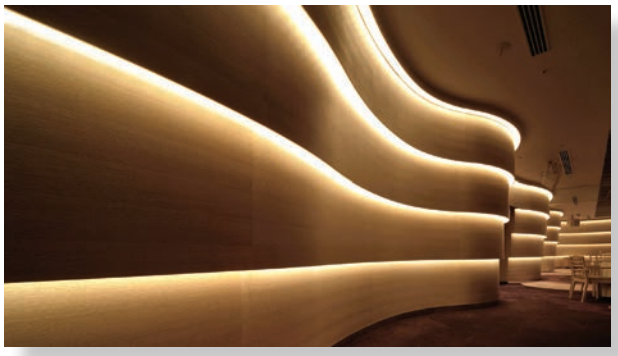


Each Advantage socket has four holes to accept mounting screws. Two screws installed at opposing corners provide easy and secure mounting.

Socket Spacing		Light Source		Options	
Code	Inches (mm)	Code	Style	Code	Option
2.4	2.4" (60 mm)	**KC**	2000K-2700K LED	**LNS**	Lens Cover
3	3" (75 mm)	**LLW**	2000K LED	**MC**	Mounting Channel
4	4" (100 mm)	**LWW**	2400K LED	**SR**	Symmetrical Reflector
6	6" (150 mm)	**LIW**	3000K LED	**AR**	Asymmetrical Reflector
		X3	3 Watt Xenon	**AVC**	C Channel
		X5	5 Watt Xenon	**AVL**	L Channel
				ACV	Channel Cover

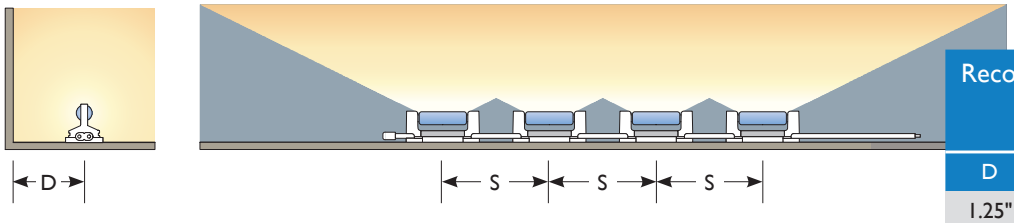
Seamless Light

Quality indirect lighting requires a seamless flow of light. Proper spacing between sockets is the key factor in achieving this goal. Surface finish also has an influence. A matte white finish inside the cove and on the reflective surface is best. A glossy surface will reflect lamp images, no matter how closely the sockets are spaced.



Socket Spacing

Recommended socket spacing varies, depending on how close the fixture is positioned from the reflective surface. Maintain the minimum distances shown to eliminate socket shadows and hot spots. More lamps will produce more light, but they will not always produce more uniform light.



Recommended Spacing Guide D = Distance to surface S = Socket spacing	
D	S
1.25"	No greater than 2.4" O.C.
2"	No greater than 3.0" O.C.
3"	No greater than 4.0" O.C.
4"	No greater than 6.0" O.C.

Light Sources

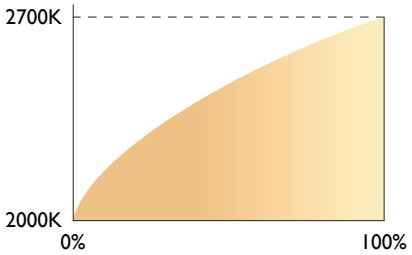
Selecting the light source is the first step in tailoring an Advantage System to an application. We offer six unique light sources, and one of these is sure to get the job done right.

KC LED Modules

One of the great hallmarks of Tokistar LED systems is our ability to deliver an exceptional warm-white color. Now we've improved on this ability by offering LED modules with full-spectrum dimming in the 2000K-2700K range.

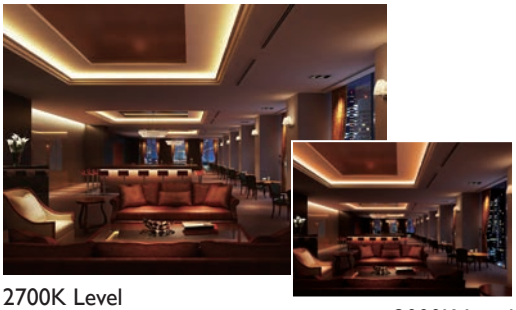
Advantage KC Modules are smart LEDs with an internal circuit to precisely emulate the color-changing characteristics of incandescent lamps. Our latest patented technology does this from a single-circuit fixture and requires no special controls other than a dimmer.

Our KC LED modules are dimmable with dimming protocols such as DMX, PWM, 0/1-10VDC and many popular phase-control dimming systems.



0.72 Watt KC LED 2000K - 2700K

Part #: AVLED-KC
Volts: 24 VAC or 24VDC
Color: 2000K-2700K
Output: 25 Lumens Max.
CRI value: 90 at Max. Lm
Life: 40,000 - 50,000 Hours



2700K Level

2000K Level

LED Modules

Advantage LED modules consume only 0.72 Watts each, making them an extremely efficient light source. They do an outstanding job of emulating true incandescent light. Each LED module has on-board circuitry enabling it to operate from 24 VAC magnetic transformers.

To optimize operating life, each module is packaged in a porcelain base to absorb and dissipate heat. This means Advantage LEDs can be specified in heat-sensitive applications. Since these solid-state devices have no filaments, vibration will not cause them to fail.

With such low power consumption, maximum run lengths become a great deal longer. Fewer transformers and secondary circuits significantly reduce installation costs.

0.72 Watt 2000K LED

Part #: AVLED-LW
Volts: 24VAC or 24VDC
Color: 2000K
Output: 20 Lumens
CRI value: 80
Life: 40,000 - 50,000 Hours

0.72 Watt 2400K LED

Part #: AVLED-WW
Volts: 24VAC or 24VDC
Color: 2400K
Output: 25 Lumens
CRI value: 90
Life: 40,000 - 50,000 Hours

0.72 Watt 3000K LED

Part #: AVLED-IW
Volts: 24VAC or 24VDC
Color: 3000K
Output: 28 Lumens
CRI value: 90
Life: 40,000 - 50,000 Hours

Frosted Xenon Lamps

Advantage rigid-loop xenon lamps evenly distribute light in all directions, and their frosted envelope casts a smooth glow of light without filament images.

Xenon lamps also produce a warm and inviting color of light. With a life rating of 20,000 hours, they are perfectly suited to commercial applications where lamps are operated continuously.

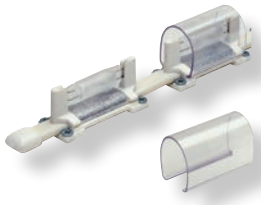
3 Watt 2300K Xenon

Part #: XB-3F
Volts: 24VAC
Color: 2300K
Output: 12.5 Lumens
Life: 20,000 Hours

5 Watt 2400K Xenon

Part #: XB-5F
Volts: 24VAC
Color: 2400K
Output: 40 Lumens
Life: 20,000 Hours

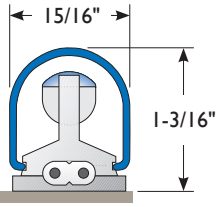
Options

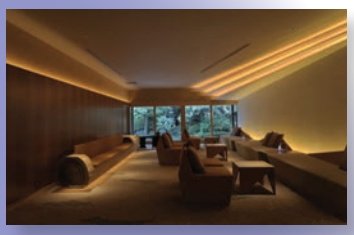


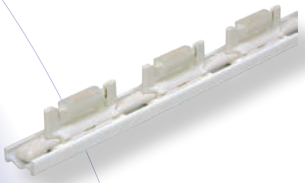
Lens Covers

To prevent direct contact with lamps, we offer a protective clear polycarbonate lens. The ends of each lens are open to allow heat to vent.

Part #: AV-LNS



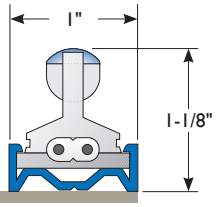


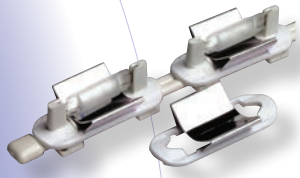


Mounting Channel

A high-temperature plastic channel is available as a mounting option. The channel is screwed in place and the sockets are snapped in. Maximum length is 100".

Part #: AV-MC

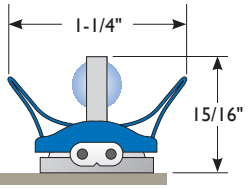


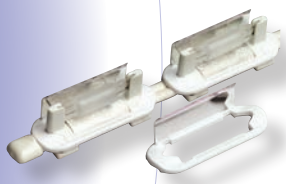


Symmetrical Reflector

These reflectors are for use with xenon lamps and snap onto sockets. They are used to focus light toward the center line of the fixture.

Part #: AVWH-REF-S

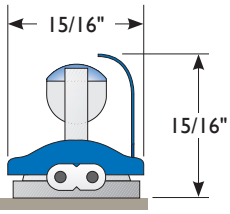


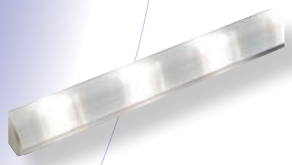


Asymmetrical Reflector

The asymmetrical reflectors are for use with LEDs or xenon lamps, and direct light output to one side of the fixture.

Part #: AVWH-REF-A



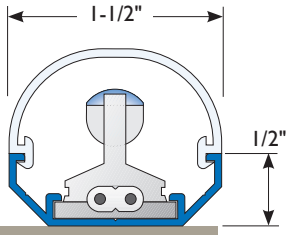


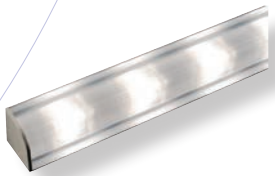
AVC Channel

This channel is rigid aluminum and available in satin or white. Lens covers are optional and ordered separately. Maximum length is 100".

Part #: AV-CH-SA (Satin Aluminum)

Part #: AV-CH-WH (White)



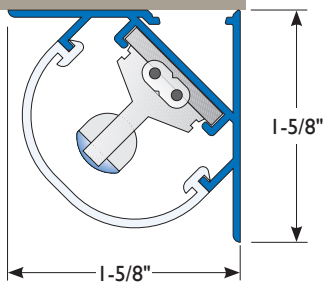


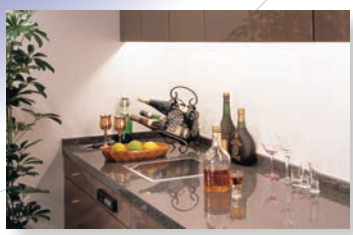
AVL Channel

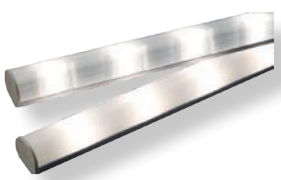
The AVL profile has a fascia and is available in satin or white. Lens covers are optional and ordered separately. Maximum length is 100".

Part #: AV-LCH-SA (Satin Aluminum)

Part #: AV-LCH-WH (White)





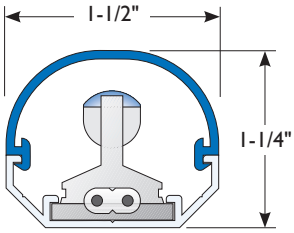


ACV Channel Lens

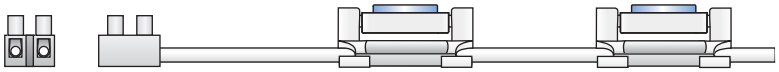
Lens covers are available in frosted white or clear prismatic. These cannot be used with 5 watt lamps spaced 2.4" O.C. Maximum length is 100".

Part #: AV-CV-CL (Clear Lens)

Part #: AV-CV-WH (White Lens)



Connectors

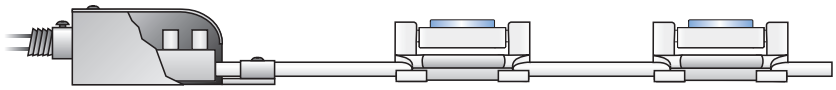


Terminal Block Connectors

Part #: AV-CONN

One end of this connector screws directly to the Advantage fixture. The other end accepts AWG# 14, 12, or 10 wire. A screw hole is provided in the center of the connector for secure mounting.

Dimensions: 3/4" high x 3/4" wide x 7/8" long



Mini Junction Box Connectors

Part #: AV-JBOX

If installation involves running wire through a building structure, special wiring methods to the fixture may be required by code. A miniature junction box is available with a 1/2"Ø knockout for use with conduit fittings.

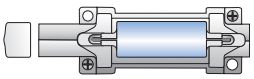
Dimensions: 1-9/16" high x 1-7/16" wide x 3-1/16" long

Accessories

End Caps

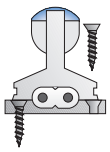
Part #: ECD-WH

End caps are attached to the end of each fixture to insulate the conductors.



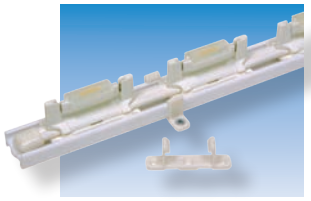
Mounting Screws

Part #: AV-MS

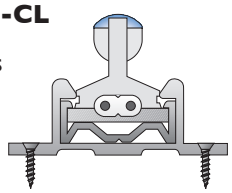


Each lamp socket of Advantage has four mounting holes. Use two screws in opposing corners for secure mounting.

Channel Clamps



Part #: AV-CL



These clamps are for use with AV-MC Mounting Channel.

The clamps screw in place and the channel snaps in. Suggested spacing is every 8 inches.

AVC Channel End Caps

Part #'s: AV-EC-WH AV-EC-SV AV-EC-BK

End caps are available in white, silver or black.

AVL Channel End Caps

Part #'s: AV-LEC-WH AV-LEC-SV AV-LEC-BK

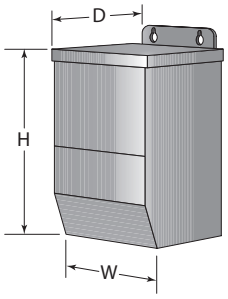
End caps are available in white, silver or black.

Transformers

Magnetic Transformer

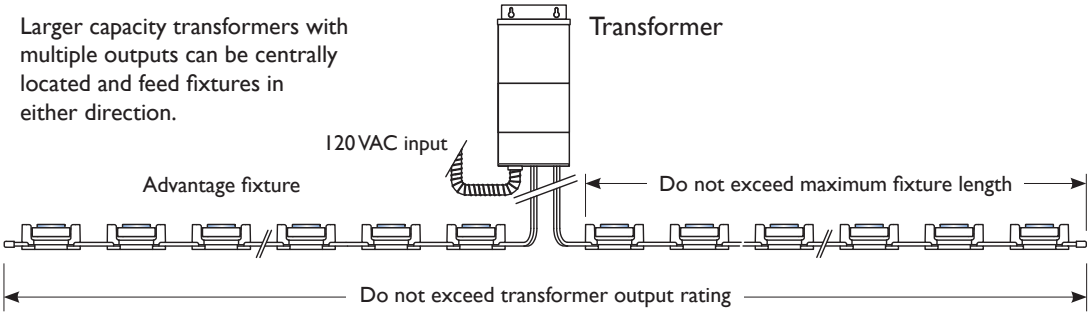
Tokistar transformers operate from a 120 VAC/60 Hz input and are fully dimmable. They are provided in a Nema 3R enclosure suitable for wet locations. The secondary outputs are protected by circuit breakers. Transformers should be installed in an accessible location where there is free air circulation.

Part #	Outputs	H	W	D	Weight
C2-40-24V	1 @ 40 Watt	5.75"	2.25"	2.25"	2 lbs
C2-96-24V	1 @ 96 Watt	6.5"	3.0"	2.5"	3 lbs
T24-150	1 @ 150 Watt	9.0"	3.0"	3.0"	5 lbs
T24-300	1 @ 300 Watt	9.5"	4.5"	3.5"	8 lbs
T24-600	1 @ 600 Watt	10.5"	4.5"	4.5"	15 lbs
T24-1200	2 @ 600 Watt	11.5"	7.0"	5.0"	28 lbs



Sizes and weights shown are approximate and subject to change without notice.

Consult factory for transformers with inputs of 230 or 277 VAC.



Dimming

All transformers are fully dimmable with the appropriate style of dimmer suitable for use with magnetic transformers. Although phase-control dimming might be convenient, some models may not function properly with LEDs at certain levels or loads. This is because a phase-control dimmer might not interpret an LED load as they do an incandescent load. Some dimming companies offer a "synthetic load" device to resolve this issue. Check with the dimmer manufacturer in such cases.

Optimum results of dimming LEDs are achieved by using PWM devices. In the most critical dimming applications, Advantage may be operated from Tokistar's LED Drivers in conjunction with our PWM dimming devices. Refer to pages 12 & 13 for more details on these options. For further information, visit our website and select Advantage Dimming Guidelines.

Maximum Fixture Length

The maximum load of each fixture must not exceed 480 Watts (20 amps @ 24 Volts). In addition to this limitation, consideration must be given to the affects of voltage drop. Fixtures with lower wattage lamps and more distant socket spacing have recommended maximum lengths less than 480 Watts.

	3 Watt/X3	5 Watt/X5	0.72 Watt LEDs
Maximum Lamps/Circuit	160 Lamps	96 Lamps	400 LEDs
Lamp Spacing	Maximum Lengths		
2.4" O.C. (60 mm)	32' (9.6 M)	19' (5.76 M)	80' (24 M)
3" O.C. (75 mm)	40' (12 M)	24' (7.2 M)	100' (30 M)
4" O.C. (100 mm)	48' (14.4 M)	32' (9.6 M)	133' (40 M)
6" O.C. (150 mm)	60' (18 M)	48' (14.4 M)	200' (60 M)

Secondary Lead Wire

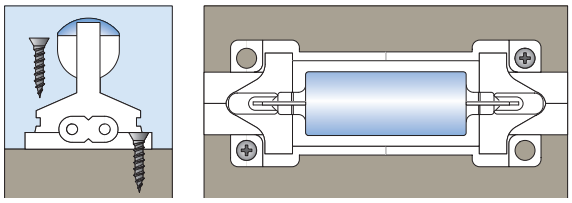
The distance from the transformer to the fixture and the load of the fixture will determine the proper size of secondary wire. This chart provides recommended distance of the secondary circuit using #12 AWG based upon the loads shown.

Load/Watts	Length
120	60' (18.2 M)
240	30' (9.1 M)
360	20' (6 M)
480	15' (4.5 M)

Installation Guidelines

Basic System

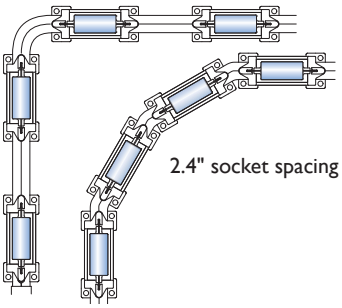
Each Advantage socket is provided with four mounting holes. For secure mounting, use two screws in opposing holes.



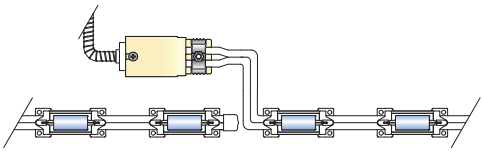
Seamless Light

Advantage fixtures are flexible enough to turn corners without the use of special hardware, eliminating any dark spots at corner locations.

3", 4" and 6" socket spacing



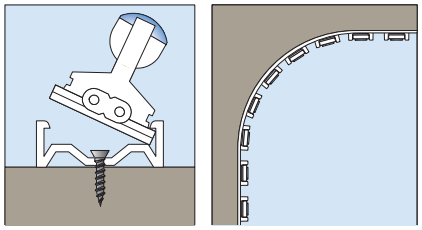
Connectors can be offset so socket spacing is not interrupted at feed locations.



AV-MC Mounting Channel

Attach the mounting channel securely in place with screws. Insert one side of socket under the lip of the mounting channel, then snap the socket in place.

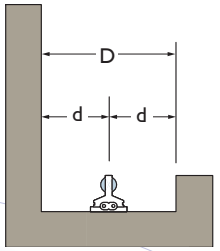
The mounting channel is flexible in one direction and will conform to a 24" radius with lamps facing into or away from the bend.



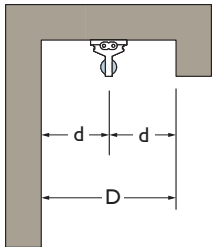
Heat Consideration with Xenon Lamps

Xenon lamps produce heat and may cause harm if they come in direct contact with persons or combustible materials. If fixtures are positioned where these conditions can occur, Advantage should always be specified with the appropriate lens cover to prevent harm.

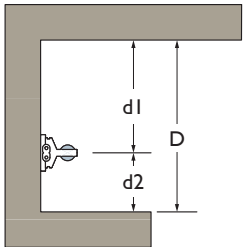
In accordance with NEC/NFPA 70 Article 410.11, combustible materials next to the fixtures must not be subjected to temperatures in excess of 90° C (194° F). In order to conform to this standard, fixtures need to be installed according to the minimum space requirements shown below.



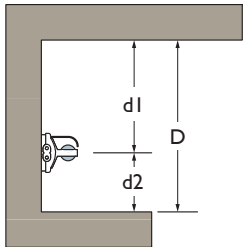
Basic System 2.4" O.C.		
Watts	d	D
3	.75"	1.5"
5	1"	2"



Basic System 2.4" O.C.		
Watts	d	D
3	1"	2"
5	1.5"	3"



Basic System 2.4" O.C.			
Watts	d1	d2	D
3	1"	.75"	1.75"
5	1.5"	1"	2.5"



With Reflector 2.4" O.C.			
Watts	d1	d2	D
3	.75"	.75"	1.5"
5	.75"	1.25"	2"

Advantage XF Series

The XF Series is a welcome addition to the Advantage product line. The overall height is only 3/8" so XF fixtures can be neatly tucked behind a ledge and discreetly hidden from view. The cable conductor is highly flexible so it easily conforms to any contour, twist or turn.

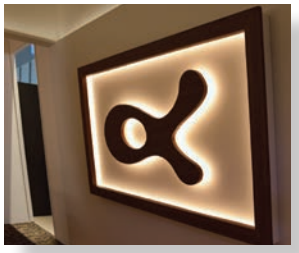
Advantage XF Series is very light weight, making it possible to conveniently mount the fixture with our high-bond adhesive tape.

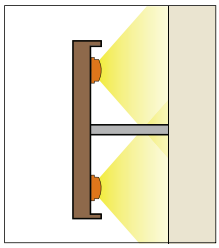
XF Series operates from 24 VDC LED drivers, and is dimmed with our PWM dimmer packs. This ensures flicker-free operation of LEDs at all intensities.

Designed by Yukio Hashimoto Design Studio

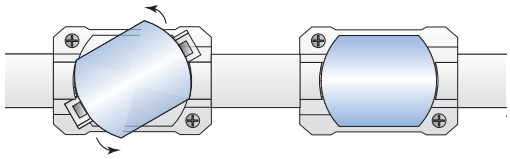
AVXF - 75 - LWW

Socket Spacing		Light Source	
Code	Inches (mm)	Code	Style
60	2.4" (60 mm)	**LWW**	2400K LED
75	3" (75 mm)	**LIW**	3000K LED
100	4" (100 mm)		

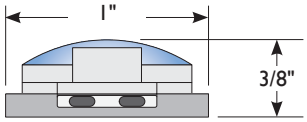




XF Series has a very low profile so it may be positioned very close to the reflective surface.



XF LED modules rotate in their sockets for removal.



Light Sources

XF LED Modules

Advantage XF LED modules consume only 0.72 Watts each, making them an extremely efficient light source. They do an outstanding job of emulating true incandescent light. Since these solid-state devices have no filaments, vibration will not cause them to fail.

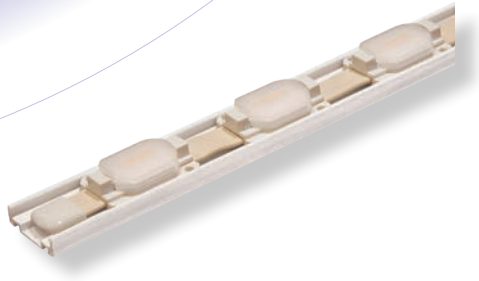
0.72 Watt XF LED 2400K

Part #: AVXF-WW
Volts: 24VDC
Color: 2400K
Output: 25 Lumens
CRI value: 90
Life: 40,000 - 50,000 Hours

0.72 Watt XF LED 3000K

Part #: AVXF-IW
Volts: 24VDC
Color: 3000K
Output: 28 Lumens
CRI value: 90
Life: 40,000 - 50,000 Hours

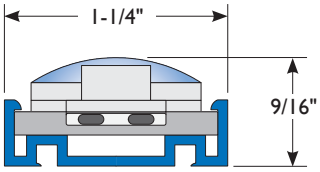
Mounting Accessories



Mounting Channel

Part #: AVXF-MC

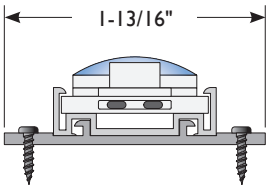
A high-temperature plastic channel is available for straight runs. The channel is screwed in place and the sockets snapped in, ensuring linear integrity of the fixture and reducing installation time. Maximum length is 96".



Channel Clamps

Part #: AVXF-CP

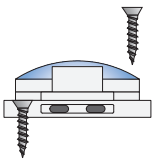
These clamps are for use with our AVFX-MC Mounting Channel. The clamps screw in place and the channel snaps in.



Mounting Screws

Part #: AV-MS

Each socket of Advantage XF has two mounting holes in opposing corners. Two screws must be used for secure mounting.



Adhesive Tape

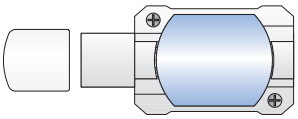
Part #: WFL-1

One inch pieces of high-bond adhesive tape can be attached to the base of each socket of Advantage XF for secure mounting to smooth and sealed surfaces.

End Caps

Part #: ECD-WH

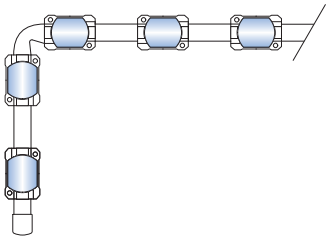
These end caps are attached to the end of each fixture to insulate the conductors.



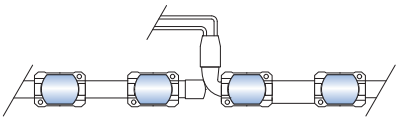
Installation Guidelines

Seamless Light

XF Series fixtures are flexible enough to turn corners without the use of special hardware, eliminating any dark spots at corner locations.



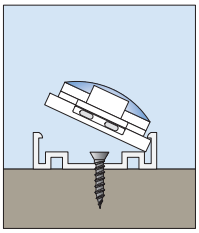
Lead wires can be offset so socket spacing is not interrupted at feed locations.

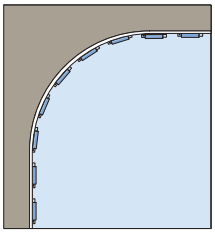


AVXF-MC Mounting Channel

Attach the mounting channel securely in place with screws. Insert one side of socket under the lip of the mounting channel, then snap the socket in place.

The mounting channel is flexible in one direction and will conform to a 24" radius with lamps facing into or away from the bend.





Maximum Fixture Length

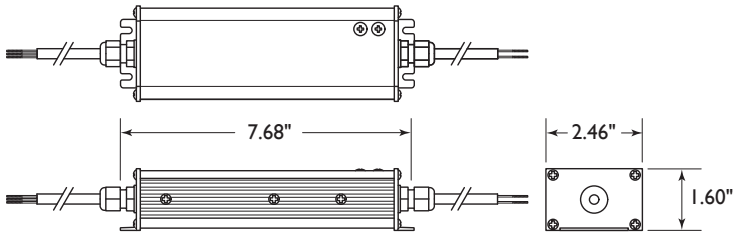
Advantage XF Series operates from Class 2 power supplies. The maximum capacity of an independent fixture is 96 Watts/133 LEDs.

Spacing	Length
2.4" (60 mm)	26' (8 M)
3" (75 mm)	32' (10 M)
4" (100 mm)	43' 6" (13.3 M)

XF Series 24VDC LED Drivers

LDR24-4A

Tokistar's LDR24-4A is a 96 Watt Class 2 LED Driver used to convert an AC input into a 24 VDC output. It may be operated from a wide range of input voltages.



LDR24-4A Specifications

Input Range: 100~277VAC
Frequency Range: 50/60 Hz
Output: 24VDC (+/- 3%)
Max. Output Current: 4.0A
Max. Output Power: 96W
Protection: Overload, Over voltage, Short Circuit, Over Temperature
Working Temperature: -30°C~+50°C

Mechanical Specifications

Dimensions: 2.46" x 7.68" x 1.60"
Weight: 600g / 1.32 lbs
Enclosure Rating: Suitable for use in Dry, Damp and Wet Locations/IP66 Rated
Mounting: Flange Mount

Safety Standards

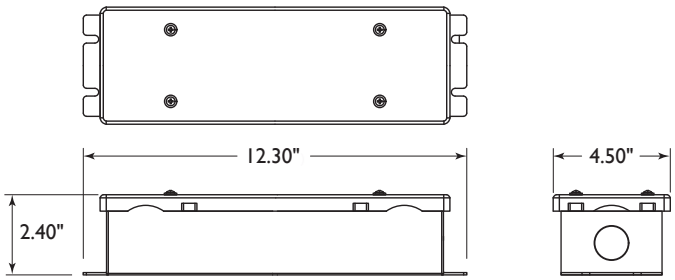
UL8750, CSA C22.2 No. 250.0-08, TUV EN61347-1, EN61347-2-13, IP66, J61347-1, J61347-2-13 approved

LED Module Capacity

0.72 watt LEDs: 133 pieces

LDR24-192

Tokistar's LDR24-192 has two independent 96 watt outputs. If the system is dimmed, each of the outputs requires an independent dimmer pack. This unit has wiring compartments for splicing on input and output leads, and can be connected directly to conduit.



LDR24-192 Specifications

Input Range: 100~277 VAC
Frequency Range: 50/60 Hz
Output: 24 VDC (Adjustable +5% / -30%)
Max. Output Current: 8.0A (2 @ 4.0A)
Max. Output Power: 192W (2 @ 96W)
Protection: Overload, Overcurrent, Short Circuit
Operating Temperature: -25°C to +60°C

Mechanical Specifications

Dimensions: 4.5" x 12.3" x 2.4"
Weight: 2.55Kg / 6 lbs
Enclosure Rating: Nema 3/IP65
Mounting: Flange Mount
Connection: Knockouts for 1/2" Conduit

Safety Standards

UL 1012/1585, UL8750, UL Class 2 Wet locations, UL 48,cUL, CE, UL #: E342485

LED Module Capacity

0.72 watt LEDs: 266 pieces

XF 24VAC Operation

It is possible to operate Advantage XF Series from Class 2 magnetic transformers. These transformers have a primary input of 120 VAC/60 Hz. All transformers are provided in enclosures rated Nema 3R.

Class 2 - 24 Volt					
Part Number	Outputs	D	H	W	Weight
C2-40-24V	1 @ 40 Watt / 24VAC	2.25"	5.75"	2.25"	2 lbs
C2-96-24V	1 @ 96 Watt / 24VAC	2.5"	6.5"	3.0"	3 lbs
C2-192-24V	2 @ 96 Watt / 24VAC	5.0"	7.0"	5.0"	12 lbs
C2-288-24V	3 @ 96 Watt / 24VAC	5.0"	7.0"	5.0"	12 lbs
C2-480-24V	5 @ 96 Watt / 24VAC	6.0"	8.0"	6.0"	20 lbs

Dimming

Optimum results of dimming LEDs are achieved by using pulse-width modulation (PWM). This will ensure full-range dimming with flicker-free operation at all levels. Tokistar offers two styles of dimming systems working on the PWM technique which are installed on the secondary outputs of our LED Drivers.

Magnetic transformers are dimmable with the appropriate style of dimmer, but not all phase-control dimmers will show favorable results at all intensity and load levels. If the system is to be dimmed, we recommend operating Advantage XF from our 24 VDC LED drivers and PWM dimmer packs.

LC-1CH-MULTI Dimming System/24VDC

Tokistar's LC-1CH-MULTI Dimmer Pack is compatible with industry-standard dimmers working on DMX or 0/1-10VDC protocol. In the manual mode, a preset light level can be set without the use of an external dimmer.

Part #: LC-1CH-MULTI
Technical Specifications:
Max. Load: 96 Watts @ 24VDC
Environmental Rating: Dry Location/IP20
Dimensions: 3/4" x 1-3/4" x 3-1/2"
Weight: 50g / 0.11 lbs
Listing: ETL Listed/CE Certified
Operating Temperature: 0~+50°C

DMX Mode

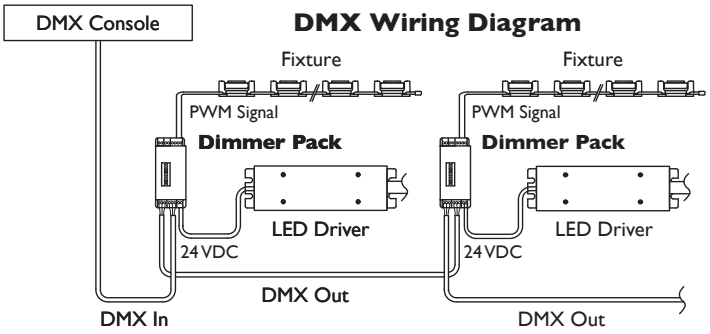
In this mode, dimmer packs are addressable and may be used with any controller working on DMX protocol. Up to 36 dimmer packs may be connected in series. For applications exceeding 36 dimmer packs, an additional feed from the DMX dimmer is required. The additional feed(s) can be sent directly from the dimmer, or you may specify DMX Splitters. Consult factory on details of DMX Splitters.

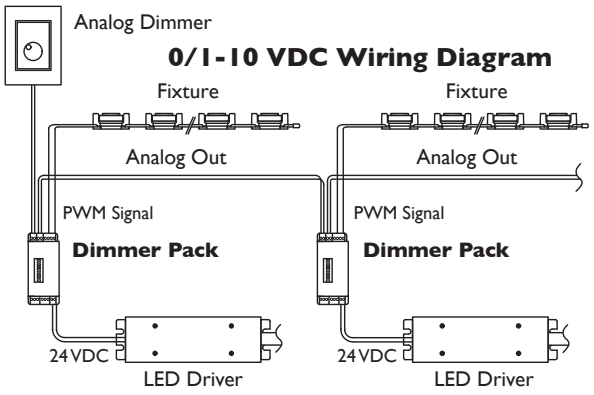
Analog Mode 0/1-10VDC

For operation from devices using 0/1-10VDC protocol, up to 10 dimmer packs may be connected in series. For applications exceeding 10 dimmer packs, an additional feed from the analog dimming device is required.

Manual Mode

You may select a light intensity at which the fixtures operate. In this case, no external dimming device is required.



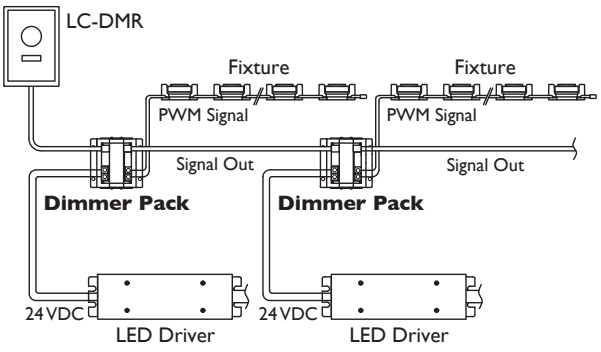


LC Dimming System/24VDC

This proprietary dimming system provides full-range dimming of LEDs from our LED Drivers. The system components connect with CAT5 cable. Up to 25 dimmer packs may be connected in series if the total length of all CAT5 cable does not exceed 165 feet from the wall dimmer to the last dimmer pack. CAT5 cables are included with units.

Part #: LC-DMR
The remote wall dimmer has a rotary dial and on/off switch. Power to the wall dimmer is provided from the LED Driver powering the first dimmer pack. The unit installs in a single-gang box.

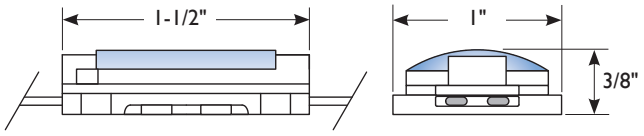
Part #: LC-1CH-DP
Each dimmer pack receives a 24VDC input from an LED Driver and sends a PWM output to the fixture. Logic input and output is communicated through CAT5 cable.
Max. Load: 96 Watts @ 24VDC
Dimensions: 1-1/2" x 3-1/2" x 4-1/16"



Specifications

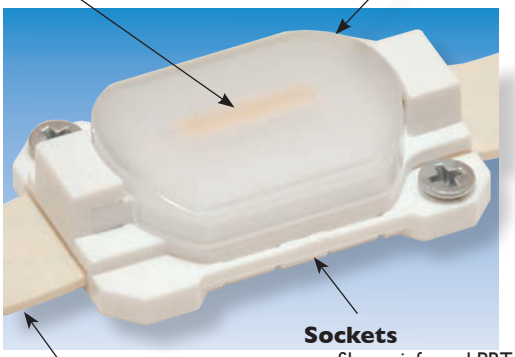
In accordance with our policy to continually improve products based upon changes in technology, Tokistar Lighting reserves the right to vary product specifications without prior notice.

XF Series



XF LED Module
consumes 0.72 Watts
available in 2400K and 3000K

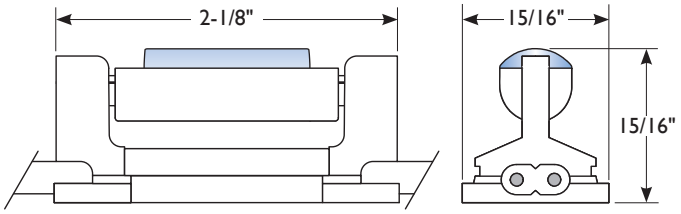
Frosted Lens
diffuses light and casts a smooth glow



Sockets
are fiber-reinforced PBT with flammability rating UL 94V-2

Flexible Braided Conductors
are plated copper with PVC insulation flammability rating UL 94HB

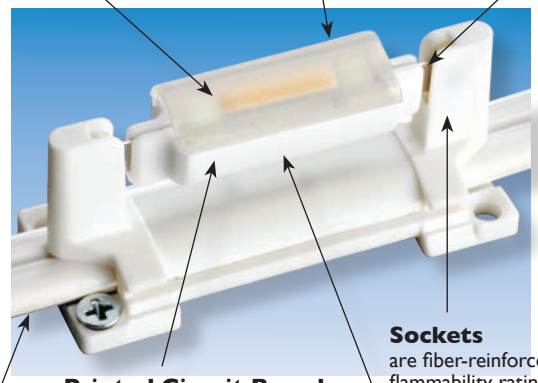
The Basic System



LED Module
consumes 0.72 Watts
available in 2000K, 2400K, 3000K, and 2000K-2700K

Frosted Lens
diffuses light and casts a smooth glow

Contacts
are plated copper and recessed in socket



Sockets
are fiber-reinforced PBT with flammability rating UL 94V-2

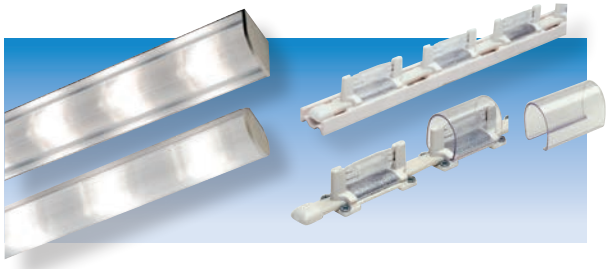
Printed Circuit Board
includes on-board bridge rectifier for 24 VAC operation

Conductors
are #12 AWG stranded and plated copper with PVC insulation rated 105° C

Porcelain Base
effectively dissipates heat

Plastic Specifications

Advantage Mounting Channels and Lens Covers are extruded polycarbonate with a flammability rating of UL 94V-0.



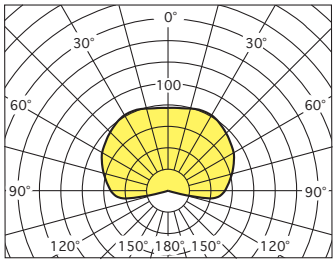
Safety Certification

Advantage Lighting Systems are ETL Listed and CE Certified.

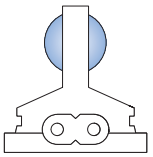
Life Ratings of Lamps

Ratings are based upon the manufacturer's published life data. With our LED source, life is defined as the time when lumen output depreciates to 70% of its initial value. Actual lifetime may vary based upon environmental conditions. Life of xenon sources is determined by the industry standard Mean Time Before Failure (MTBF) method, defined as the time when 50% of lamps fail.

Photometrics

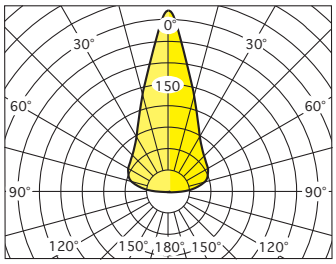


Catalog #: AV-3-X5
Test Criteria:
Lamps: 5 Watt/40 Lumen; Spacing: 3" O.C. ; Fixture length: 48"

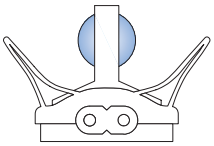


Conversion Factors
Lamps:
3 Watt/12.5 Lumen X3, Multiply by 0.31

Spacing:
2.4" O.C., Multiply by 1.25
4.0" O.C., Multiply by 0.75
6.0" O.C., Multiply by 0.50

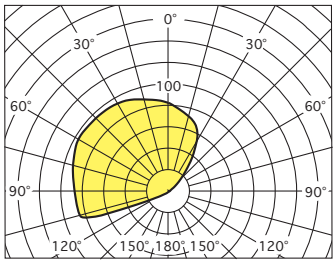


Catalog #: AV-3-X5-SR
Test Criteria:
Lamps: 5 Watt/40 Lumen; Spacing: 3" O.C. ; Fixture length: 48"

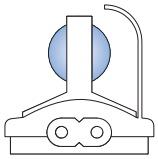


Conversion Factors
Lamps:
3 Watt/12.5 Lumen X3, Multiply by 0.31

Spacing:
2.4" O.C., Multiply by 1.25
4.0" O.C., Multiply by 0.75
6.0" O.C., Multiply by 0.50

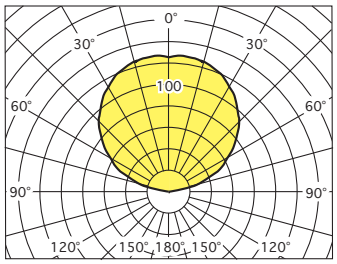


Catalog #: AV-3-X5-AR
Test Criteria:
Lamps: 5 Watt/40 Lumen; Spacing: 3" O.C. ; Fixture length: 48"

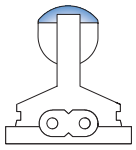


Conversion Factors
Lamps:
3 Watt/12.5 Lumen X3, Multiply by 0.31

Spacing:
2.4" O.C., Multiply by 1.25
4.0" O.C., Multiply by 0.75
6.0" O.C., Multiply by 0.50

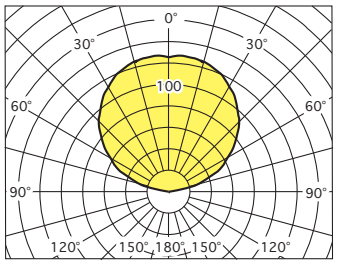


Catalog #: AV-3-LWW
Test Criteria:
0.72 Watt 2400K LED/25 Lumen; Spacing: 3" O.C. ; Fixture length: 48"
Note: Also applies to AV-3-KC at Maximum Output

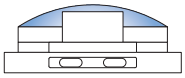


Conversion Factors
Light Source:
LED: 0.72 Watt 2000K LED/20 Lumen, Multiply by 0.8
LED: 0.72 Watt 3000K LED/28 Lumen, Multiply by 1.12

Spacing:
2.4" O.C., Multiply by 1.25
4.0" O.C., Multiply by 0.75
6.0" O.C., Multiply by 0.50

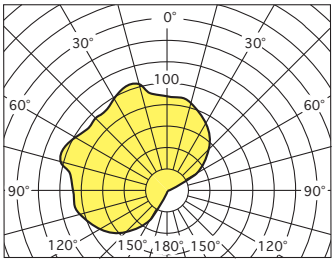


Catalog #: AVXF-75-LWW
Test Criteria:
0.72 Watt 2400K LED/25 Lumen; Spacing: 3" O.C. ; Fixture length: 48"

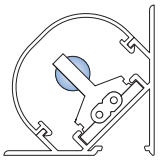


Conversion Factors
Light Source:
LED: 0.72 Watt 3000K LED/28 Lumen, Multiply by 1.12

Spacing:
2.4" O.C., Multiply by 1.25
4.0" O.C., Multiply by 0.75

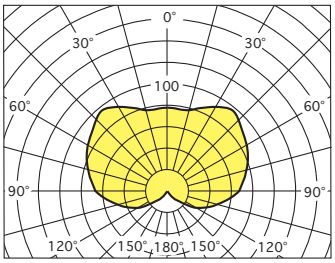


Catalog #: AV-3-X5 with AVL + ACV
Test Criteria:
Lamps: 5 Watt/40 Lumen; Spacing: 3" O.C. ; Fixture length: 48"

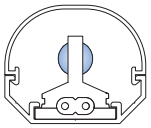


Conversion Factors
Lamps:
3 Watt/12.5 Lumen X3, Multiply by 0.31
LED: Refer to LED Graph

Spacing:
4.0" O.C., Multiply by 0.75
6.0" O.C., Multiply by 0.50

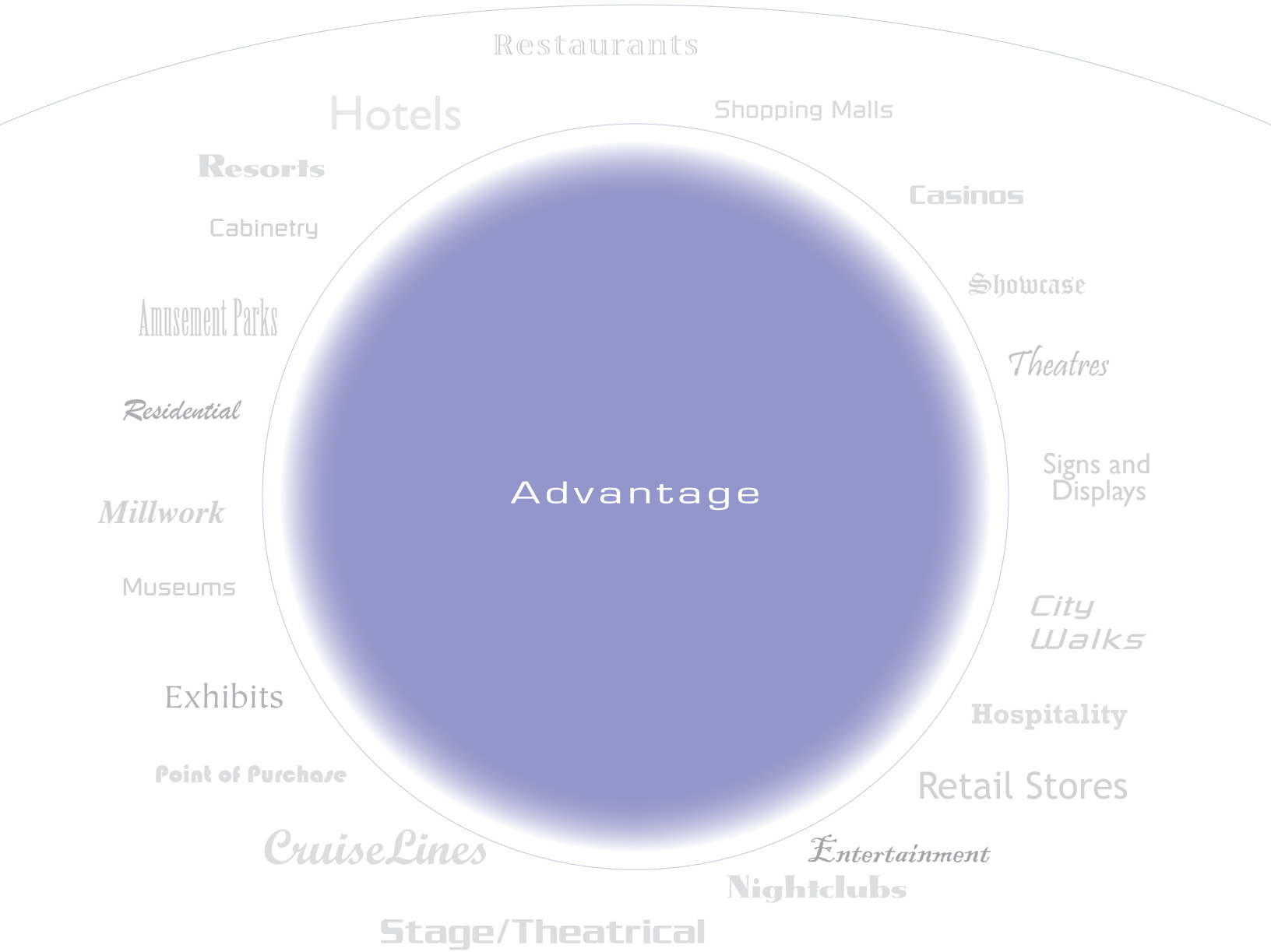


Catalog #: AV-3-X5 with AVC + ACV
Test Criteria:
Lamps: 5 Watt/40 Lumen; Spacing: 3" O.C. ; Fixture length: 48"



Conversion Factors
Lamps:
3 Watt/12.5 Lumen X3, Multiply by 0.31
LED: Refer to LED Graph

Spacing:
4.0" O.C., Multiply by 0.75
6.0" O.C., Multiply by 0.50



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