



## **TABLE OF CONTENTS**

A difference you can see	5
The anatomy of lighting systems	6
Smart control app	11
Healthy lighting	14
The color of light	15
The spectrum of light	16
Healthy lighting summary	17
Improved design and materials	18
Product selection guide	19
E-Efficiency series	21
L-Lumen series	26
D-Definition series	30
N-Natural series	34
CCT series	38
Radiance series	42
RGB series	45
RGB+W series	48
RGB+CCT series	51
Dimmer	54
Power Supply	55
Dimming drivers	57
Smart controller	59
Control diagrams	60
Recessed lighting	63
Installation guidelines	65

All rights reserved. No portion of this document may be reproduced or used in any manner without the prior written permission of the copyright owner, except for the use of brief quotations as approved. © 2022 Lighting Leaf





## A Difference You Can See

### Who Is Lighting Leaf?

Lighting Leaf is a leader in the design, engineering, and manufacturing of custom indoor & outdoor LED lights. Offering products optimized for both residential lighting fixtures and commercial applications. We are a leading supplier of high-quality, energy-efficient LED lighting solutions. We provide top-notch lighting solutions, along with superior customer service at a highly competitive price.

### We Are Revolutionizing the Low Voltage LED Lighting Market

Our vision is to improve the standard for QUALITY OF LIGHT in the low voltage lighting industry and for consumers, based on the elevated understanding of how light affects life. This brings a new level to the concept of lighting quality and the benefits "good" light can provide.

### Lighting So Good You Can Feel It!

Lighting Leaf creates simple, cost-effective products that blend the efficacy of DC lighting and the ease of advanced control features with the health benefits of a refined light spectrum. Improved technology like our "Sun-Like-LED™" offers a natural balance of light without harmful UV Rays for the latest True-to-Life LED Lighting. Additional enhancements include elegant color controls and brightness levels that automatically adjust, improving how we live indoors with artificial lighting.

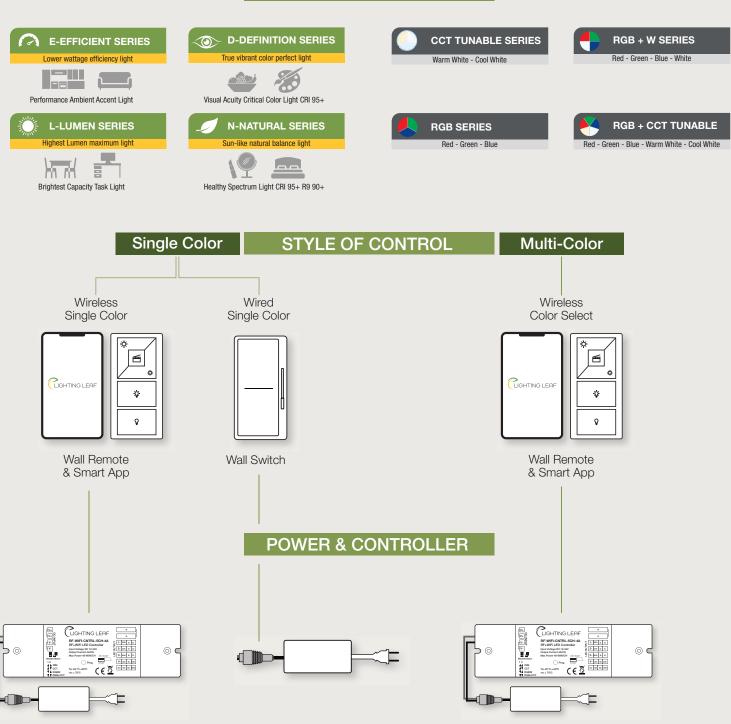
Lighting Leaf uses the very latest in improved manufacturing technologies to create and build our low voltage LED lighting products from start to finish, based on the needs of our clients and the changing marketplace. We employ refined technology, including the latest generation of SMD chipsets, and offer a minimalistic and simple approach to bring new opportunity and value to market as well as to educate consumers.



## the Anatomy of Lighting Systems

## **3 Main Components** BUILD A SYSTEM

### **TYPE OF LIGHT**



Power Supply & Controller

sales@lightingleaf.com

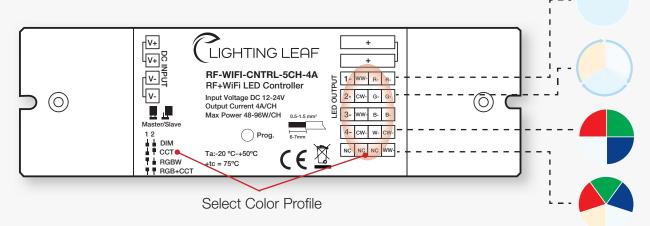
Power Supply & Controller

Power Supply





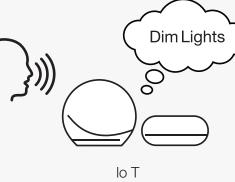
### 4-IN-1 SELECTABLE CONTROL APPLICATIONS

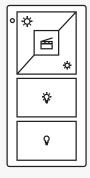


### **3-IN 1-WIRELESS COMMUNICATIONS**



App





RF Wireless Wall Remote



Sub-GHz RF - Extended Interference Free Coverage

Push-to-Pair - Simple Direct Connect to RF Remotes



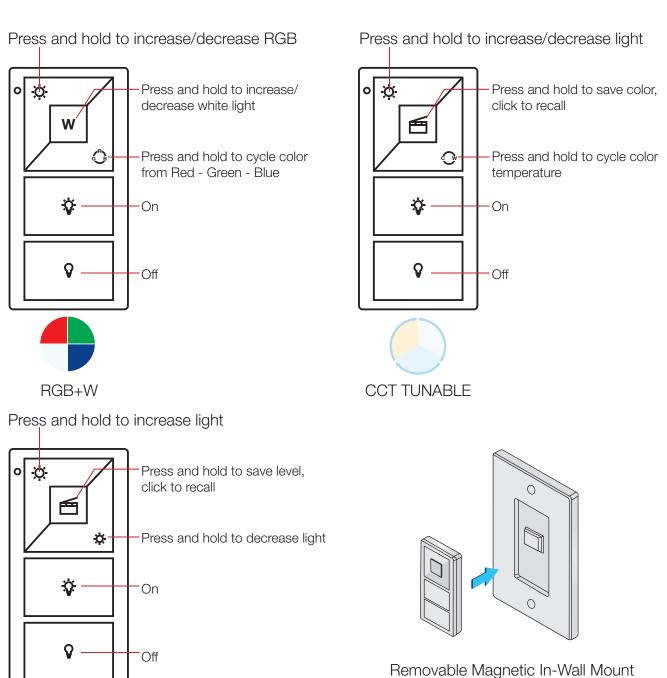
BLE - Easy Find & Pair to Wi-Fi Network

Wi-Fi - IoT Integration, Alexa, Google, App, 3rd Party Driver

## **RF Wireless** WALL REMOTES

### **3 REMOTE OPTIONS**

Based on color selection

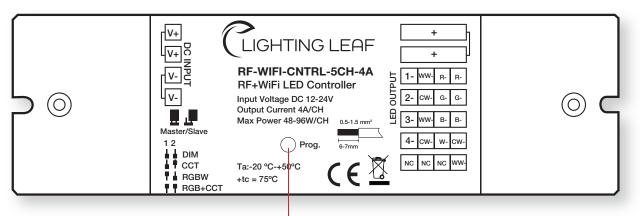


DIMMING

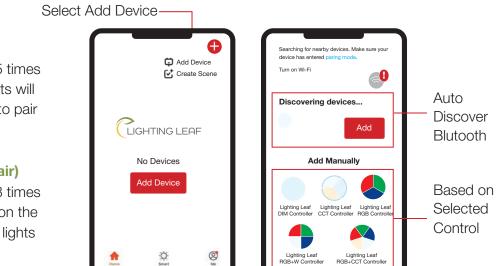
sales@lightingleaf.com

## **Controller** PAIRING

### Wi-Fi AND RF PAIRING



Program button: Reset or Pair to RF Wall Remote and Wi-Fi



### Wi-Fi Pairing Mode or Reset

Quickly press Program Button 5 times continuously. Attached LED lights will flash once. Tap **"Add Device"** to pair controller to Wi-Fi.

### **RF Pairing Mode (Push-to-Pair)**

Quickly press Program Button 3 times continuously. Press any button on the RF Wall Remote. Attached LED lights will flash once.



## ILLUMINATE SPACE With Insightful Controls



## SMART CONTROL APP

The Smart Control app ads additional features and control when paired with the Lighting Leaf Controller. This versatile all-in-1 enabled module allows direct control of brightness, lighting effects, and color levels depending on the type of LEDs connected.

Additionally, once added to Amazon Alexa or Google Assistant, it becomes capable of voice interaction and other in-app functionality.

Enable voice control by pairing the Controller through the Smart App with IoT devices





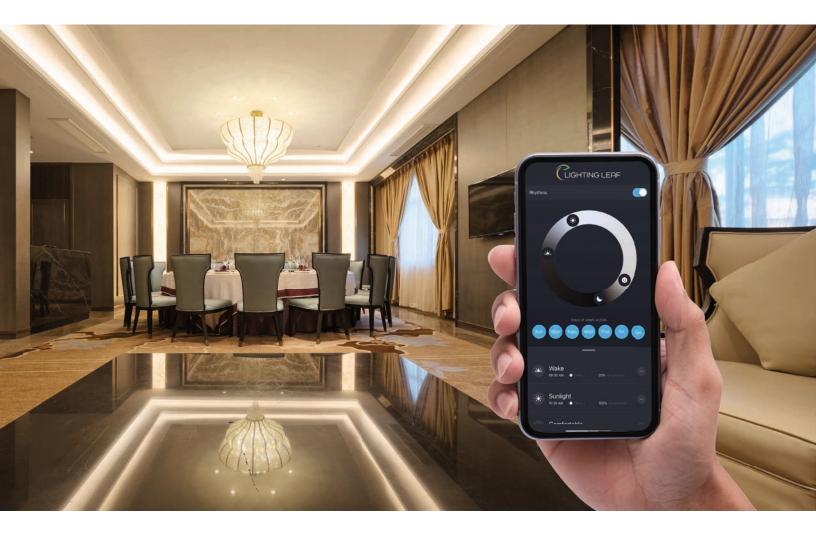


**É** 



No Hub Required

## SMART CONTROL APP FEATURES



#### LIGHTING LEAF SMART CONTROL APP Giving you easy and convenient control of lighting

- Use your voice or touch to dim, brighten and control from anywhere on Smart Enabled Devices.
- Change your environment to adjust the color or amount of light for any occasion or mood.
- Save energy by setting a schedule or adjusting the lights throughout the day.
- Set timers to wake up with minimal lighting that ramps up with your morning coffee.
- Never arrive to a dark room or home again.

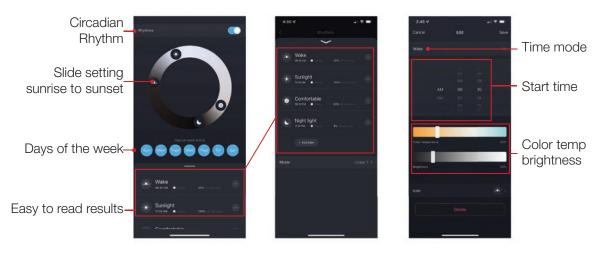
## IF YOU ARE STARTING YOUR DAY OR ENDING IT Setting up lights to your natural rhythm is easy!

Characteristic Rhuthm mode a Lighting Leaf technology, is an intuitive feature that automatically

adjusts lighting color and levels. It follows an adaptive biological circadian rhythm that supports our natural internal time clock throughout the day. From sunrise to sunset your lighting is all set.

## ◇ Rhythm mode

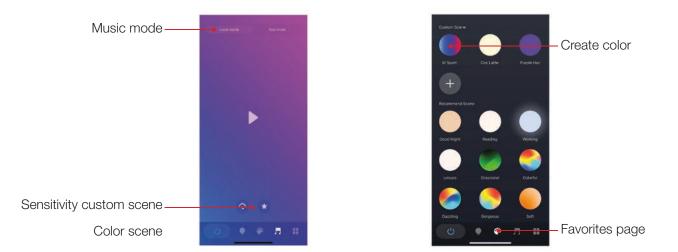
Use with CCT Tunable Series



## APP COLOR SELECT



## APP CUSTOM COLOR



# Healthy Lighting

ou can google and research the subject of Healthy lighting and get thousands of opinions and studies on the subject. Using what we have already learned as LED basics this is a high-level overview of the path Lighting Leaf will offer as a Healthier alternative and differentiator.

Warning, lots of geek talk ahead and realize none of this matters if we can't provide true results of enhancing people's lives. As a manufacture of Light products, it still requires the design to be cost effective, be reliable, add value and provide the basic benefits for vision and sight.

Some of the biggest challenges are manufactures and the industry do not always agree. Time to market for new technology is years for large companies and everyone has their own spin. Even though its huge, it is still early in the development stages and acceptance, so what is considered healthy is just now coming to light.

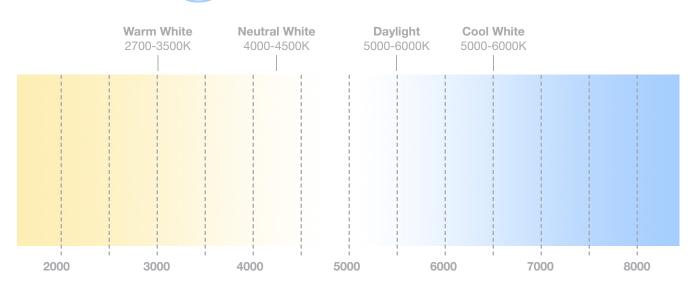
The fact is just like continued education and research on food, chemicals, or environmental conditions, we are still learning how potential bad what we have been exposed to for years is to our health. This does not mean it is enough for people to change their buying habits. We buy cheap light bulbs based on their cost, efficiency, or color not science or biology because that would be weird. The common goal in any healthy lifestyle or products is our return to nature or what is more natural. Everyone is at a minimum interested in improving your family's heath or at least limiting contact to what could be considered bad.

For healthier lighting results, the objective is to replicate the suns light. Obviously, all light other than the sun is artificial and designed to provide essential lighting so we can see. As a result of it being its original intention, artificial light is still what we have, and its use is for visibility and not based on reviews of its adverse effects or health benefits.

For years we have heard, go outside and get some sun because it is what is good for us, what may not be known is exactly how by staying inside the light has influenced our health. Old sayings like the blue light from the monitor is bad for you or that you can get headaches from long exposure to strong fluorescent lighting. This type of exposure to harmful rays of light is what is considered as bad lighting but what is healthy lights? It is not just the opposite of removing what's bad but adding the portion of the good light that has been missing this whole time.

# The Color of Light



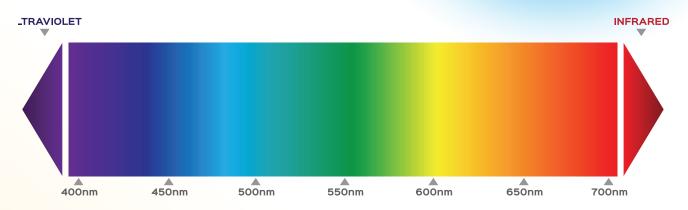


The predominate topic of healthy living is "Human Centric Lighting (HCL)."Based on our body's Circadian Rhythm the basic concept is lightning effects the amount of melatonin released to correlate sleepiness with darkness and alertness with lightness. This means the color of light and its intensity is directly related with the body's natural condition and our internal 24-hour time clock. Our daytime/nighttime cycle.

Using a feature called color tuning we can change or adjust colors of the light mimicking a sunrise to sunset effect. This is done by using LED chips of different colors in place of using the standard single-color LED chip spectrum. Although there is no standard for color tuning it can rage in color from the warm of 1800k to the cool of 6500k covering the spectrum range the sun has during its sunrise to sunset. The Color tuning method is achieved by varying the voltage or power between the 2 led chips. This gives you any color range between the 2 chips being used. Color tuning is the easy part, the hard part is how it is controlled or having it done automatically based on time of day. This is where it requires additional software, intelligence or programming far beyond the traditional light switch controls.

There is also a common product and method called color dimming or dim to warm. This uses the same concept but is much simpler because it changes the color of the light as it is dimmed. This is assuming the time of day does not matter and its more about the relaxation color at the same time as requiring less light as it is dimmed. Not exactly circadian but uses the same principles of lights effect on our mood. You lower the light to set a relaxing ambiance which is associated with the warmer color. This type of product is Dim to Warm Lighting.

# Spectrum of Light



The next healthy lighting topic is more complicated and reviews the subject of the quality of the light and its missing color spectrum as artificial light is compared to that the sun.

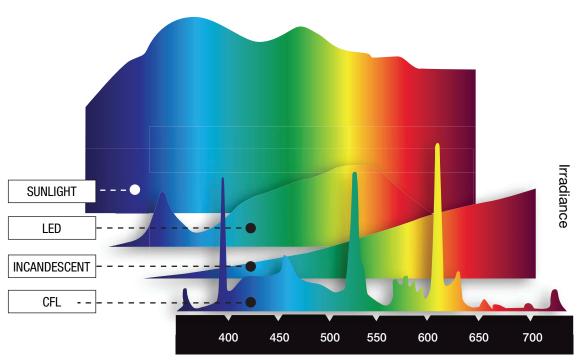
Lighting products are rated using a method called CRI. The color rendering index (CRI) is the lights' ability to accurately or properly reflect true colors. Lights that can produce natural colors have a higher rating. It is used as a qualifier but just like all other methods of measurements can be challenging as ratings used to market products can be subjective. This does not mean the light can produce all the required colors. Only recently has lighting test standards evolved to include new measurements that match LED technology and its capability of reproducing colors that are closer to the spectrum in the sun's natural ability. This is known as full spectrum. Not to be confused with the use of full spectrum growth lighting which is something completely different and has limited focus on use for plant growth.

The sun contains a visible spectrum of many colors and as mentioned up until recently most lights where only capable of producing about half of those colors. In fact, most lights are only tested to produce half of them. The most common used CRI rating is based on 8 of 15 color samples associated with a portion of the sun's spectrum ability. Having been the standard for a long time its standard practice in the industry to only use this limited range of R1-R8 as the CRI results. This means even the most highly rated products on the market can fall far short of producing half of the known spectrum we now know as healthy light from the sun. (R1-R15) To make matters worse we ad in the use of complicated Math and Science that few people care about or understand. What we end up with is lighting that was never designed or tested to produce full natural light and a product rating system that is confusing because it did not originally have the capacity to address what we now know as the missing spectrum of healthy lighting.

# Healthy Lighting Summary

Circadian lighting and full spectrum light are the future of healthy lighting. Products that have these features are limited and rarely follow a common standard. Circadian can be done as color tuning but it is not usually done with high quality full spectrum light sources and its control or automation remains in question.

A Full Spectrum Circadian Light would be the ultimate option. For testing and rating a full spectrum product should have a minimum CRI of 90 and test across all 15 colors not just the first 8. This result is known as the R9 value which extends after the first 8 color results. R1-R8 vs R1-R15. Bringing these type of enhanced lighting products to market is our goal.



Wavelength (nanometers)

Color spectrum recognized wavelengths emitted by sunlight and traditional lighting



## FLEXIBLE LED LIGHTING



**REDUCE SHADOWS - IMPROVE WORKSPACE LIGHT - ENHANCE DESIGN ELEMENTS** Ambient illumination adds a unique and dynamic style, enabling focus, comfort, or creativity to any space.

**The benefit of Flexible LED Lighting** allows it to disappear, blending into the environment it is illuminating. The result is enhancing reflective light that avoids the harshness of a light fixture shining directly in your eyes. This improved low glare allows you to enjoy the use of the intended space and its design elements. The LED tape can be applied to most surfaces Over, Under or Inside Cabinets in the Kitchen, Laundry room or Bathroom or used to light up pathways. It is a natural for high-use spaces and creating an inspired appearance.

**VISUAL** - Increase aesthetic appeal adding depth, dimension making the space feel larger.

FUNCTIONAL - Use as nightlight, ambient light, or enhancing task area light.

EFFORTLESS - Simple to use or leave on 24/7.

LIFESPAN - Outlasts most lighting. (50,000 hours)

**VALUE** - Functionality, Beauty, and Ultra High Energy Efficiency.

### WHY IT'S BECOME A REQUIRED FEATURE

On Upper Cabinets it creates the effect of higher ceilings and provides soft accent lighting. On Lower Cabinets it lights work surfaces and enhances the color and detail of your space.

Lighting Leaf uses 90+ CRI (Color Rendering Index) technology. This high-quality color accuracy measurement prevents the light from altering the hue or shade appearance of color in surrounding surfaces when compared to low level CRI light products.

### **IMPROVED DESIGN AND MATERIALS**



DUAL LAYER PCB - Higher Tension Bending and Strength
 COPPER THICKNESS - Superior Voltage and Thermal Conductivity
 NEXT GEN LED CHIP - 2-3 Times Efficiency and Lumen's Output
 ADHESION - VHB 3M Pressure Foam Tape (Very High Bond)

### COVERLAY

Both top and bottom layer are covered by PI film, which offers protection for the copper layer, enhanced tension, high toughness, and bending resistance.

### COPPER

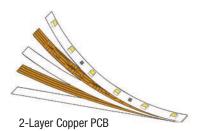
Strictly conforms to standard, 1 oz  $\ge$  35UM, 2 oz  $\ge$  70UM, 3 oz  $\ge$  105UM. Low voltage drop, high electric and thermal conductivity.

#### **ADHESION**

Authentic 3M<sup>™</sup> VHB<sup>™</sup> 5604AAcrylic Pressure Active Foam Tape.

### **NEXT GEN SMD LED**

Half the thickness, 1 ½ to 8 times brightness. Built in heat sink, 2.1 times larger emitting surface.

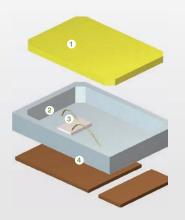




3M VHB Maximum Bonding



Older Style Next Generation



- 1 Intematix or Branded Phosphor Powder
- 2 99.99% purity gold wire, diameter at 1.0UM or above
- 3 Epistar or San'an chips
- 4 Non-reconditioned plastic, Pure copper LED bracket

Select from 4 series & 3 brightness levels

E-EFFICIENT SERIES		
MODEL	DESCRIPTION	APPLICATION
Normal Bright: E-12NBXX1.5 Super Bright: E-12SBXX3.0 Ultra Bright:	12VDC 1.5 W, 130-150 LM/FT 12VDC 3W, 400-460 LM/FT	
E-24UBXX3.0	24VDC 3W, 510-612 LM/FT	Performance Ambient Accent Light
L-LUMEN SERIES		
MODEL	DESCRIPTION	APPLICATION
Normal Bright: L-24NBXX5.0 Super Bright: L-24SBXX5.8 Ultra Bright:	24VDC 5W, 655-730 LM/FT 24VDC 5.8W, 880-1050 LM/FT	
L-24UBXX7.0	24VDC 7W, 950-1180 LM/FT	Brightest Capacity Task Light
D-DEFINITION SERIES		
MODEL	DESCRIPTION	APPLICATION
Normal Bright: D-24NBXX4.4 Super Bright: D-24SBXX5.0	24VDC 4.4W, 300-360 LM/FT 24VDC 5W, 550-605 LM/FT	
Ultra Bright: D-24UBXX5.8		Visual Acuity Critical Color Light CRI 95+
N-NATURAL SERIES	24VDC 5.8W, 604-685 LM/FT	
MODEL	DESCRIPTION	APPLICATION
Normal Bright: <b>N-12NBXX2.2</b> Super Bright: <b>N-24SBXX4.4</b> Ultra Bright:	24VDC 2.2W, 130-150 LM/FT 24VDC 4.4W, 220-260 LM/FT	
N-24UBXX5.0	24VDC 5W, 488-520 LM/FT	Healthy Spectrum Color Light CRI 95+ R9 90+
R-RADIANCE SERIES		
MODEL	DESCRIPTION	
SUPER BRIGHT R-24SBXX4.4	INDIRECT MICRO ARRAY 24VDC 3.0W, 300 LM/FT	Seamless beam of light
Available color temperature options: 2700K (27), 3000K (30), 4000K (40), 5000K (5 Note: Other CCT can be customized, such as 1800K (18), All LEDs are 16.4 FT/Roll unless otherwise specified. Specifications may vary with updated products releases.		3XX 5.0 Color Watts L-24NB305.0

## PRODUCT SELECTION GUIDE COLOR SELECT LED STRIP TAPE

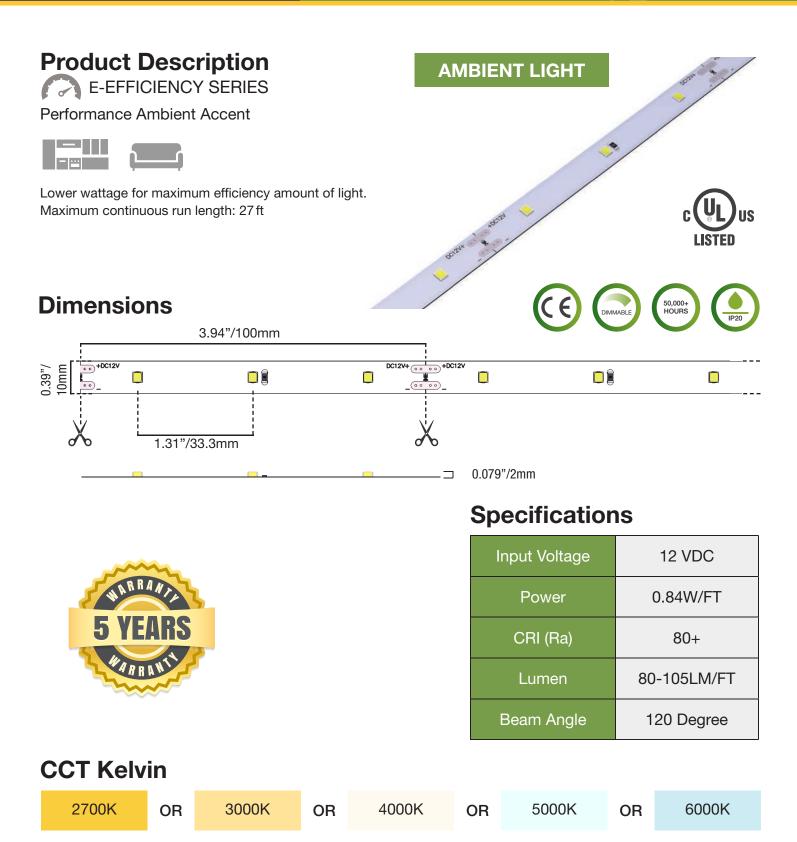
Select from 4 series & 1-3 brightness levels

RGB SERIES		
MODEL	DESCRIPTION	
Normal Bright: <b>RGB-12NB2.2</b> Super Bright: <b>RGB-24SB4.4</b>	12VDC 2.2W, 80 LM/FT (No White) 24VDC 4.4W, 165 LM/FT (No White)	RED GREEN BLUE
RGB + W SERIES		BLUE
MODEL	DESCRIPTION	
Normal Bright: RGB/W-24NBXX4.4 Super Bright: RGB/W-24SBXX7.0 RGB + CCT TUNABLE	24VDC 4.4W, 80-250 LM/FT 24VDC 7W, 135-285 LM/FT	RED GREEN WHITE BLUE
MODEL	DESCRIPTION	
Super Bright RGB/CCT/T-24SB10.5	24VDC 10.5W, 400 LM/FT	RED BLUE WHITE WHITE
MODEL	DESCRIPTION	
Normal Bright: CCT/T-12NB.84/1.7 Super Bright: CCT/T-24SB3.0/5.5 Ultra Bright: CCT/T-24UB3.5/7.0	12VDC 0.84-1.7W, 80-120 LM/FT 24VDC 3.0-5.5W, 210-430 LM/FT 24VDC 3.5-7.0W, 260-540 LM/FT	2700K 4000K
R-RADIANCE SERIES	DESCRIPTION	
MODEL	DESCRIPTION	
NORMAL BRIGHT R-24RGB4.4	INDIRECT MICRO ARRAY 24VDC 4.4W, 300 LM/FT	Seamless beam of light
Available color temperature options: 2700K (27), 3000K (30), 4000K (40), 5000K (40), 5000K (40), 5000K (18), Note: Other CCT can be customized, such as 1800K (18), All LEDs are 16.4 FT/Roll unless otherwise specified. Specifications may vary with updated products releases.	2000K (20), etc. Series Voltage Brightness	<b>RGB/W-24SB307.0</b>

Performance Ambient Accent

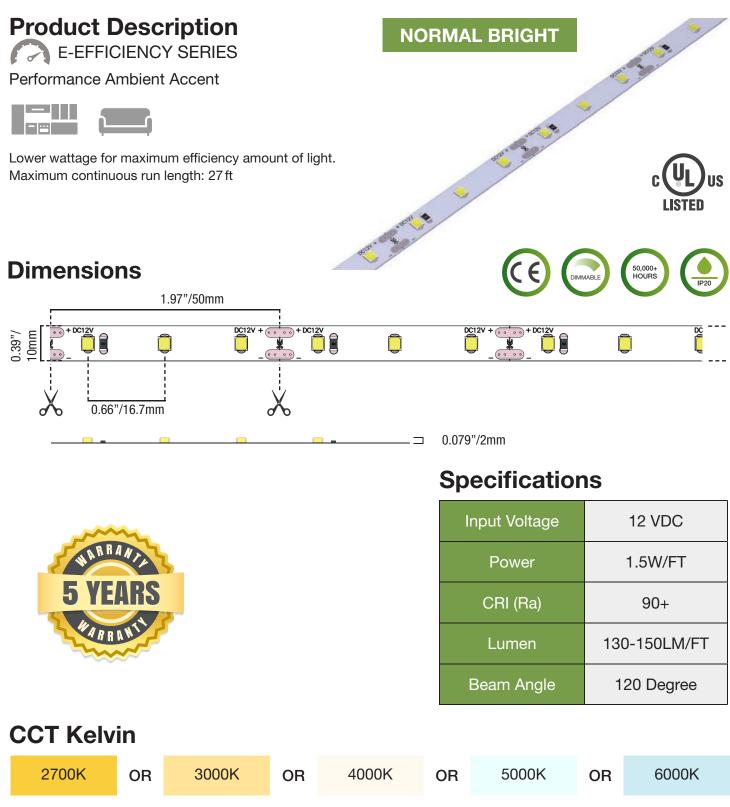
6 Tartas





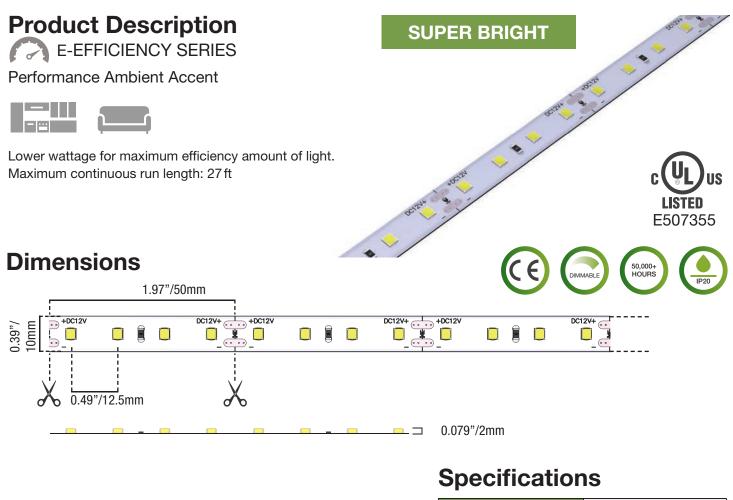
Model No.: E-12ALXX.84





Model No.: E-12NBXX1.5







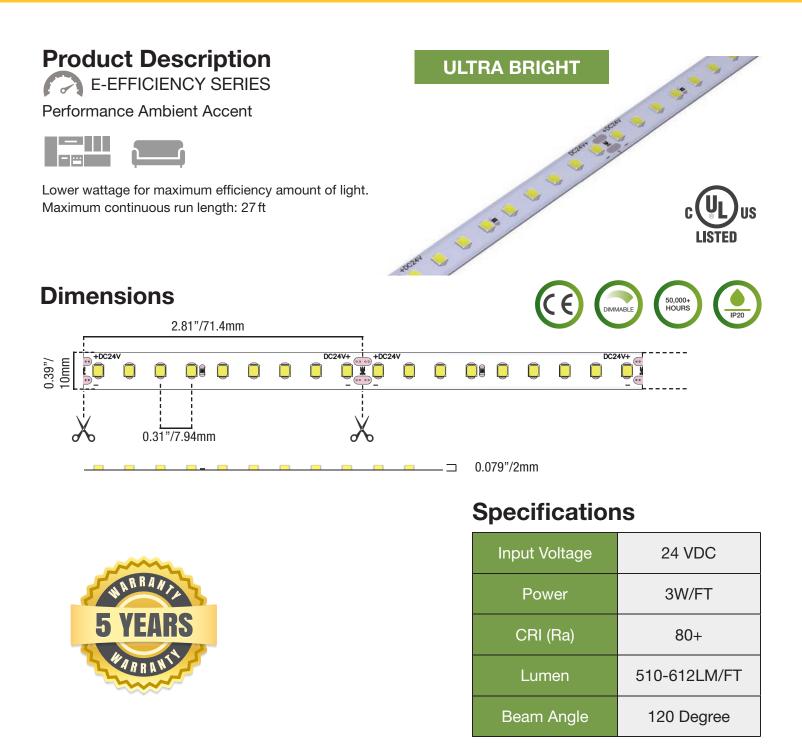
Input Voltage	12 VDC				
Power	3W/FT				
CRI (Ra)	80+				
Lumen	400-460LM/FT				
Beam Angle	120 Degree				

Model No.: E-12SBXX3.0

## **CCT Kelvin**

2700K	OR	3000K	OR	4000K	OR	5000K	OR	6000K





Model No.: E-24UBXX3.0

## **CCT Kelvin**

07001/	OP	20001/	0.0	4000K		5000K	0.0	6000K
2700K	OR	3000K	OR	4000K	OR	2000K	OR	6000K

Note: Other CCT can be customized, such as 1800-2000K, 2000-2200K, etc.

26

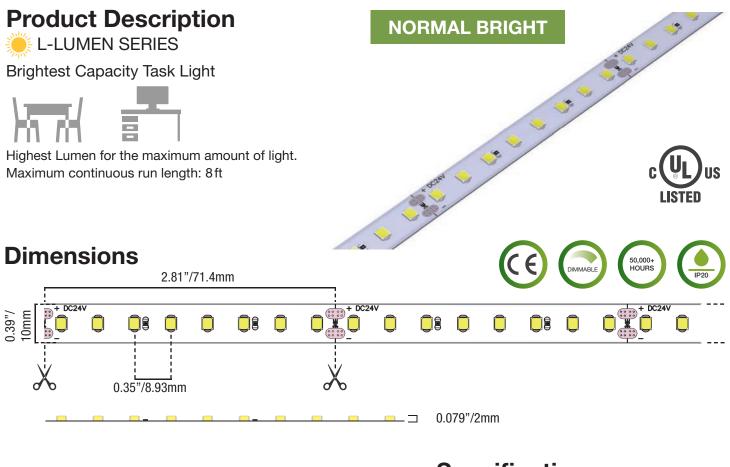
## L-LUMEN SERIES Brightest Capacity Task Light

1...**O**....

. .









## **Specifications**

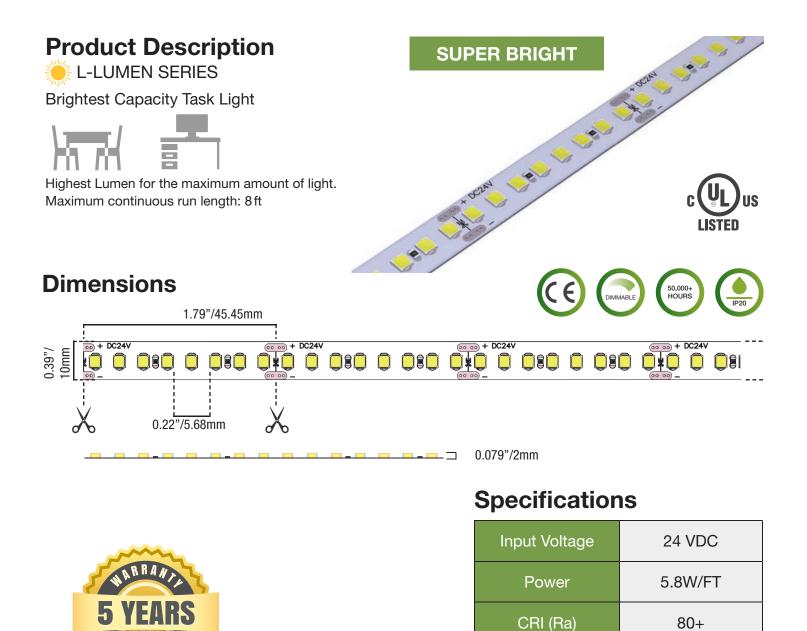
Input Voltage	24 VDC			
Power	5W/FT			
CRI (Ra)	80+			
Lumen	655-730LM/FT			
Beam Angle	120 Degree			

## **CCT Kelvin**

2700K	OR	3000K	OR	4000K	OR	5000K	OR	6000K









## **CCT Kelvin**

2700K	OR	3000K	OR	4000K	OR	5000K	OR	6000K
27001		SOOOK		40001		50001	UR	00001

Lumen

**Beam Angle** 

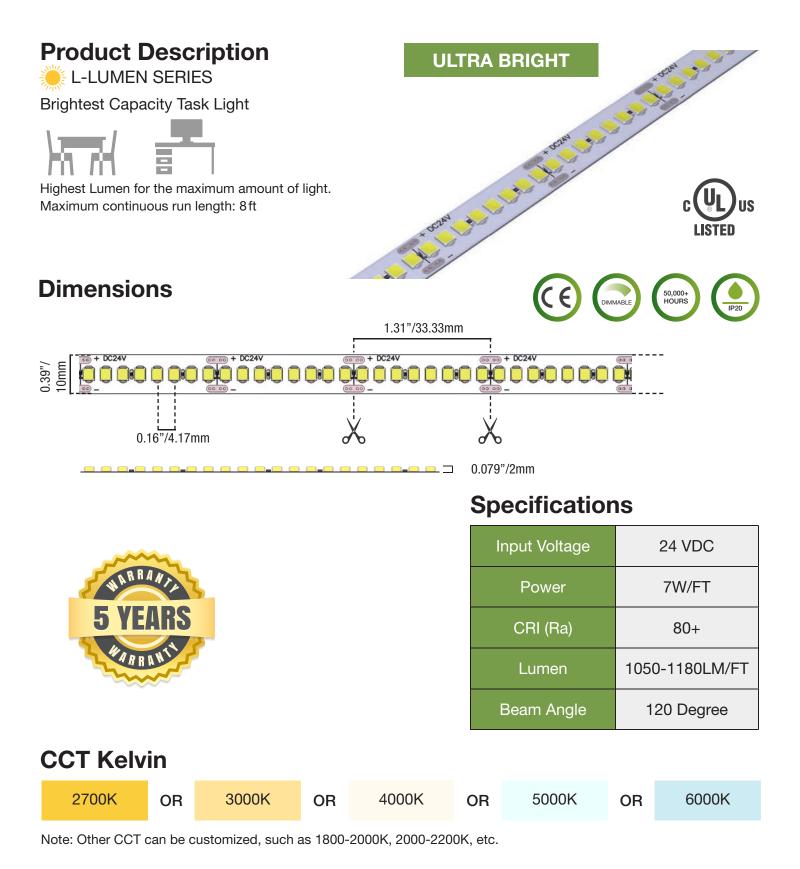
880-1050LM/FT

120 Degree

20





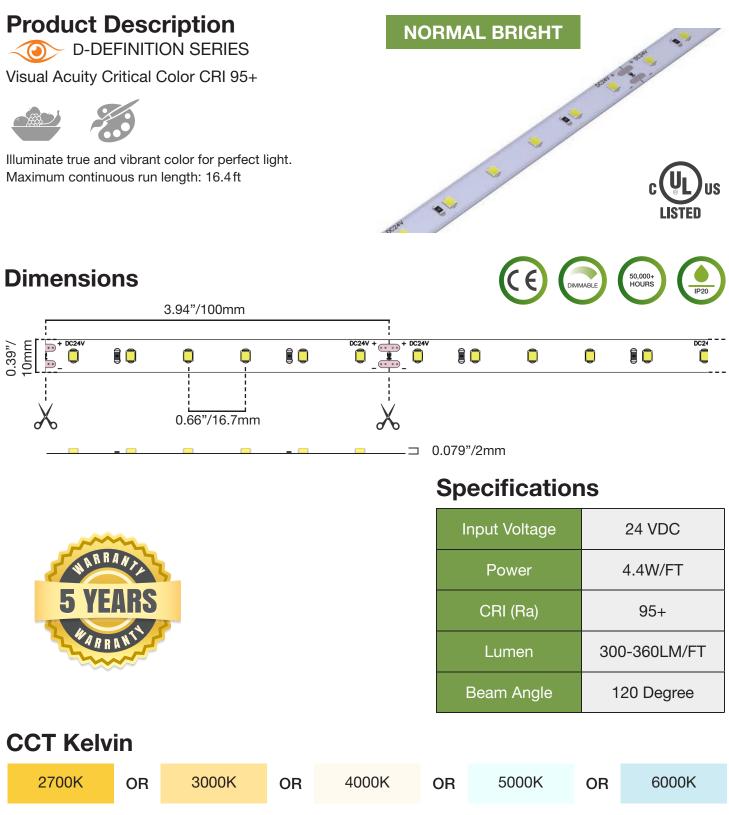


sales@lightingleaf.com

D-DEFINITION SERIES Visual Acuity Critical Color CRI 95+

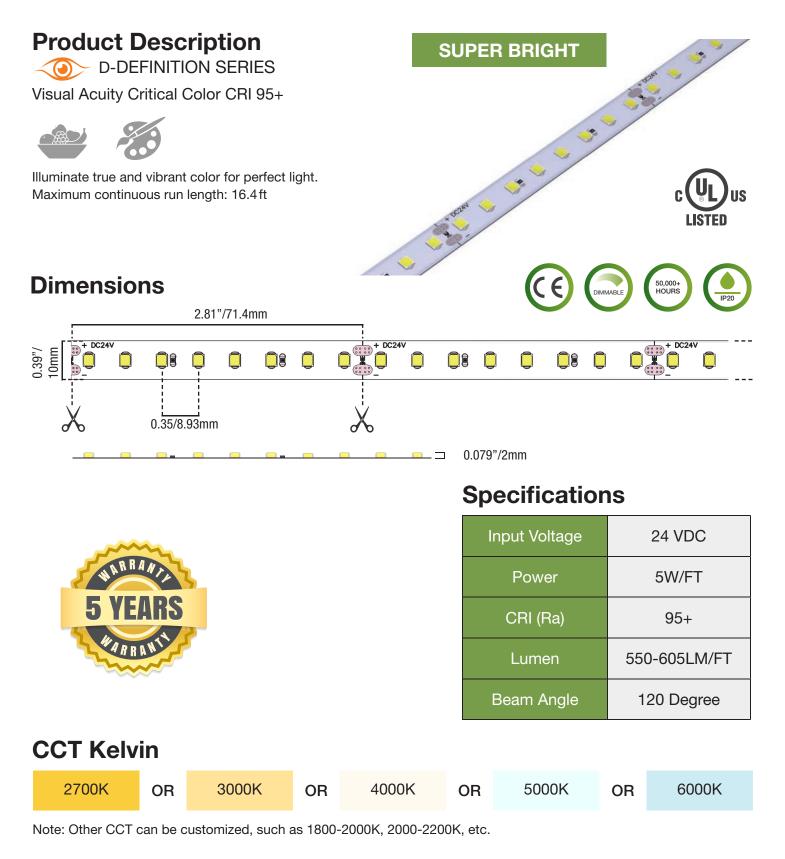


**D-DEFINITION SERIES** Model No.: D-24NBXX4.4



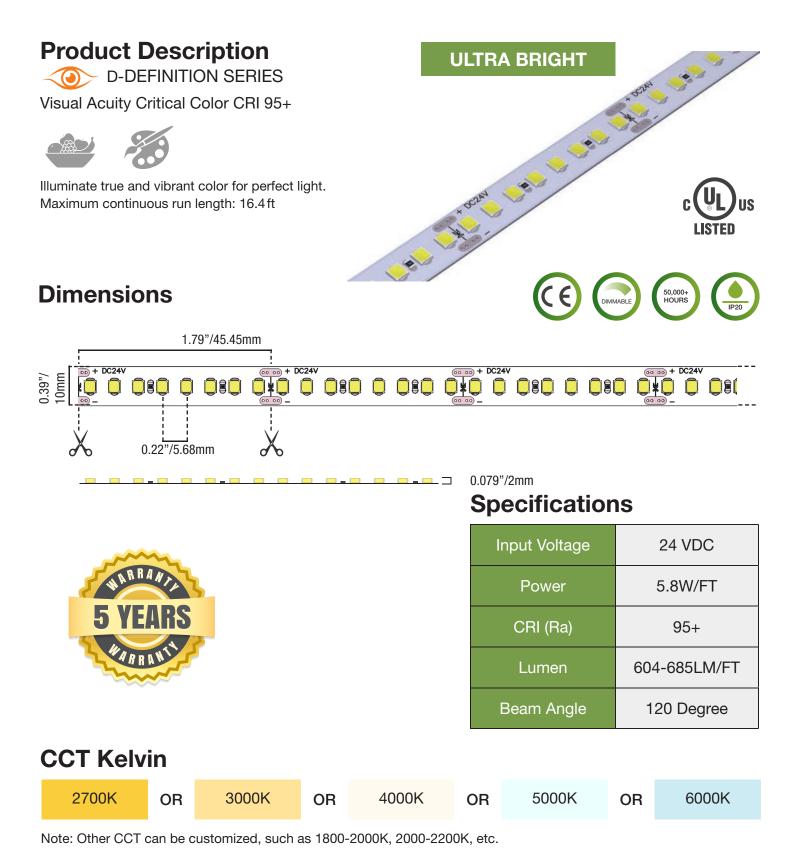


D-DEFINITION SERIES Model No.: D-24SBXX5.0





**D-DEFINITION SERIES** Model No.: D-24UBXX5.8



sales@lightingleaf.com

## N-NATURAL SERIES

EI E

.

Healthy Spectrum CRI 95+ R9 90+

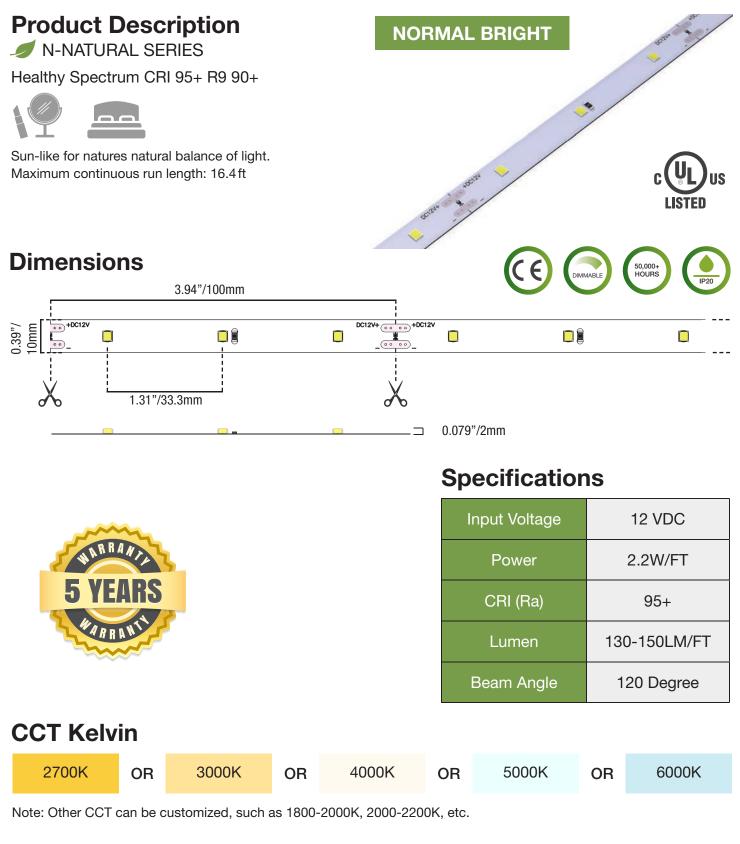
0

Ana 3



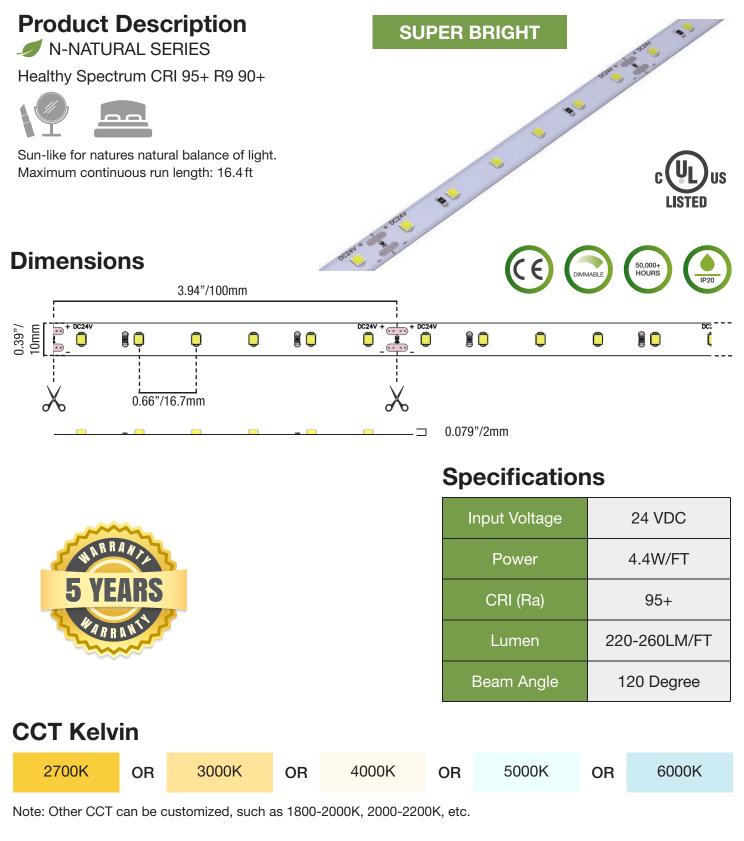
36

N-NATURAL SERIES Full Spectrum Model No.: N-12NBXX2.2





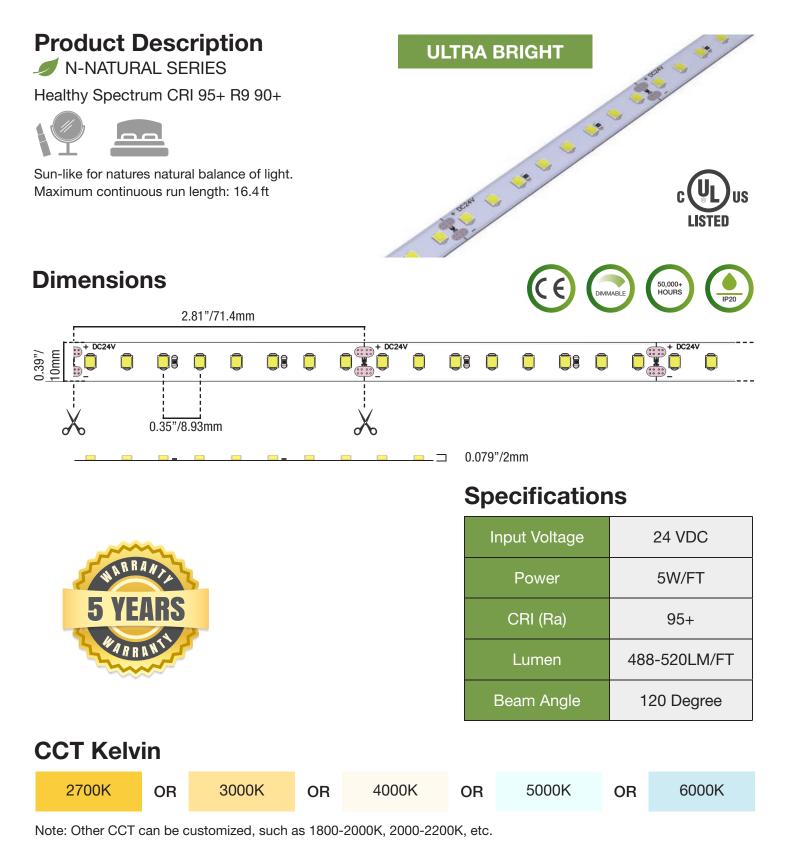
N-NATURAL SERIES Full Spectrum Model No.: N-24SBXX4.4



sales@lightingleaf.com



**N-NATURAL SERIES** Full Spectrum Model No.: N-24UBXX5.0



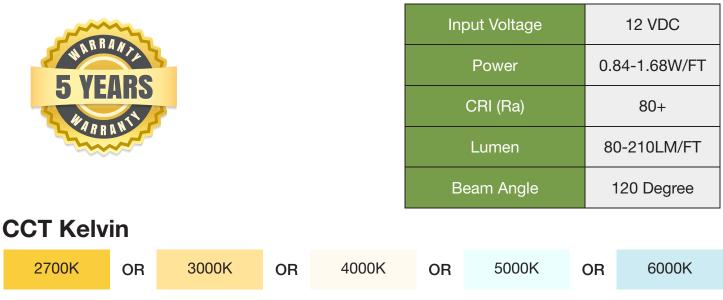
# CCT SERIES | COLOR TUNABLE WHITE Control the color temperature of your lights





### **Product Description** NORMAL BRIGHT Our CCT color tunable LEDs allow you to control the color temperature of your lights. (Requires controller) Maximum continuous run length: 16.4 ft ..... **Dimensions** 50,000+ HOURS IP20 3.94"/100mm 0.39"/ 10mm +DC12 2V+ (• ÔÔ Î () () w 🕂 w ÔÔ ê 🗰 NH (0 1.31"/33.3mm 0.079"/2mm

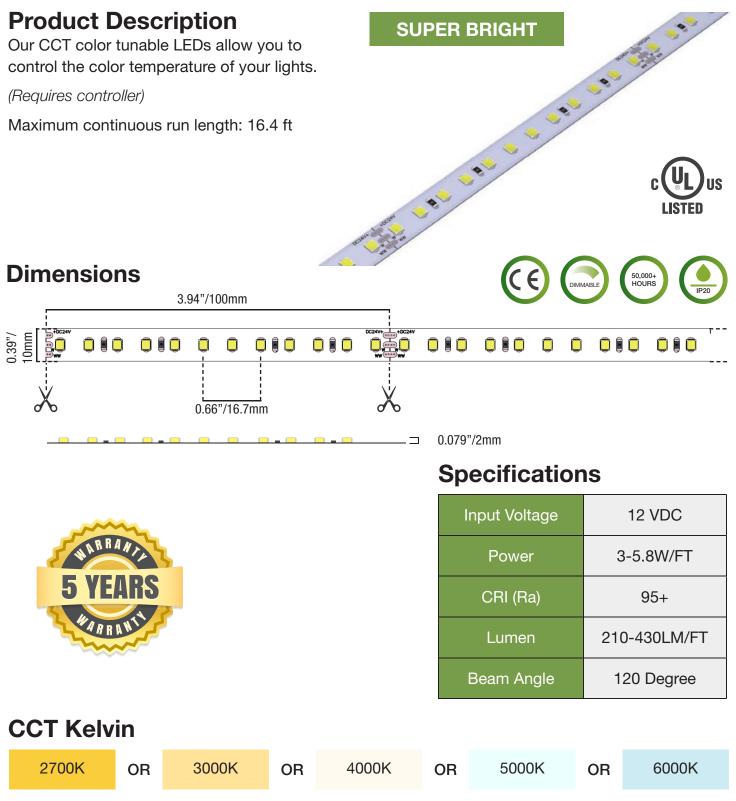




Note: Other CCT can be customized, such as 1800-2000K, 2000-2200K, etc.

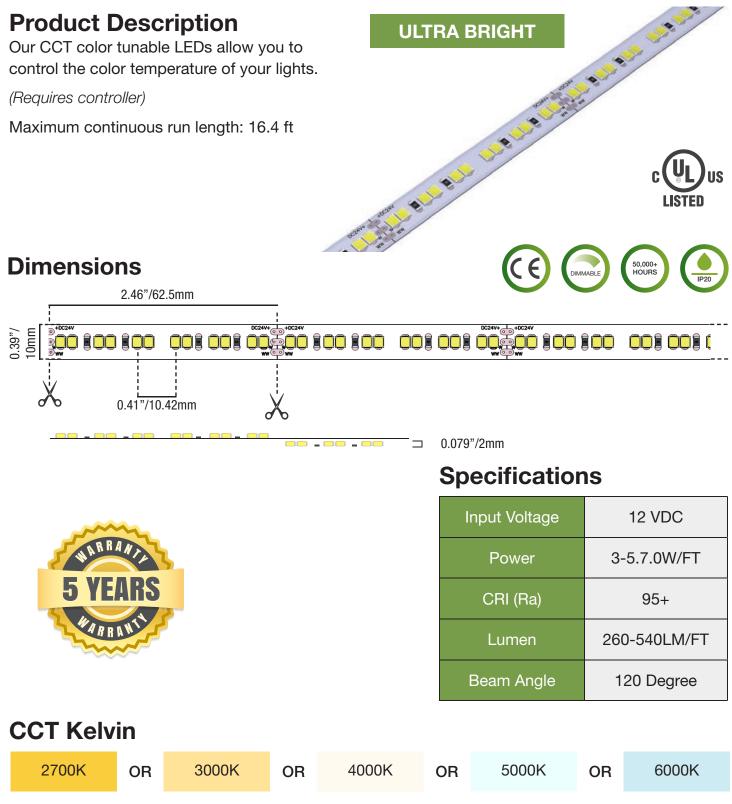


## CCT SERIES COLOR TUNABLE WHITE Model No.: CCT-24SB3.0/5.5



Note: Other CCT can be customized, such as 1800-2000K, 2000-2200K, etc.





Note: Other CCT can be customized, such as 1800-2000K, 2000-2200K, etc.

42

# RADIANCE SERIES

Extreme low-profile seamless beam of light



# R-RADIANCE SERIES Model No.: R-24SBXX3.0







# **Product Description**

Indirect Micro Array LED I.M.A

### **Color Selectable RGB**

Sleek modern minimalist light for discerning reflective coverage. High Density Color Blending extends standard RGB color variations

(Requires controller)

**Dimensions** 

Maximum continuous run length: 16.4 ft



## **Features**

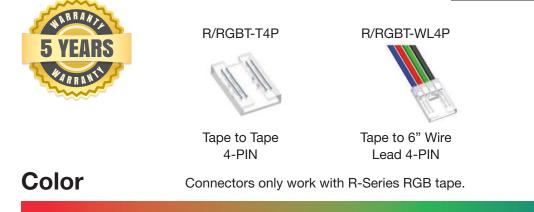
).39"/ I0mm

Features excellent linear Illumination. Extreme low-profile w/high flexibility. Eliminates spotting for seamless beam of light.

### **IMA RGB Connectors**

## **Specifications**

Input Voltage	24 VDC
Power	4.4W/FT
Lumen	180-300 LM/FT



0.98" 25MM

# RGB SERIES

# Wide range of vibrant colors. No white light





**RGB SERIES** Model No.: RGB-12NB2.2

# **Product Description**

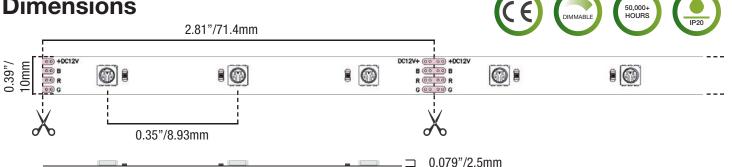
Bring color into your space with our RGB LED tape. With a wide range of vibrant colors for you to choose from, the possibilities are endless. No white light.

(Requires controller)

Maximum continuous run length: 16.4 ft



# **Dimensions**



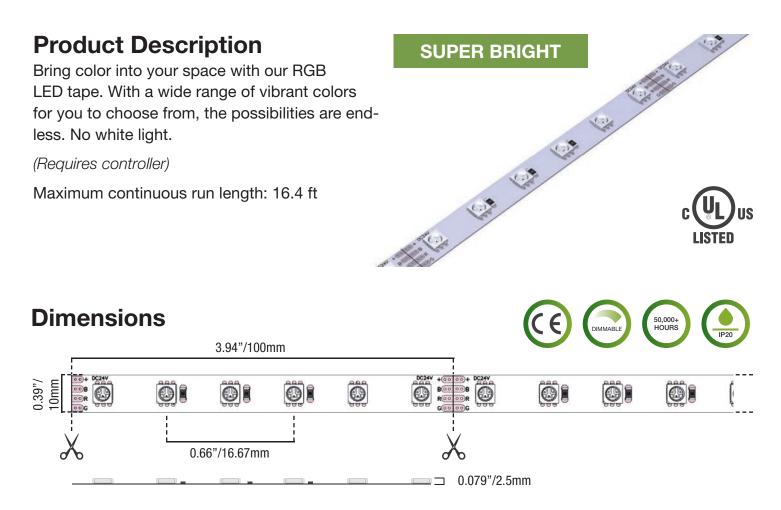


# **Specifications**

Input Voltage	12 VDC
Power	2.2W/FT
CRI (Ra)	N/A
Lumen	80LM/FT
Beam Angle	120 Degree

### Color







# **Specifications**

Input Voltage	24 VDC
Power	4.4W/FT
CRI (Ra)	N/A
Lumen	165LM/FT
Beam Angle	120 Degree

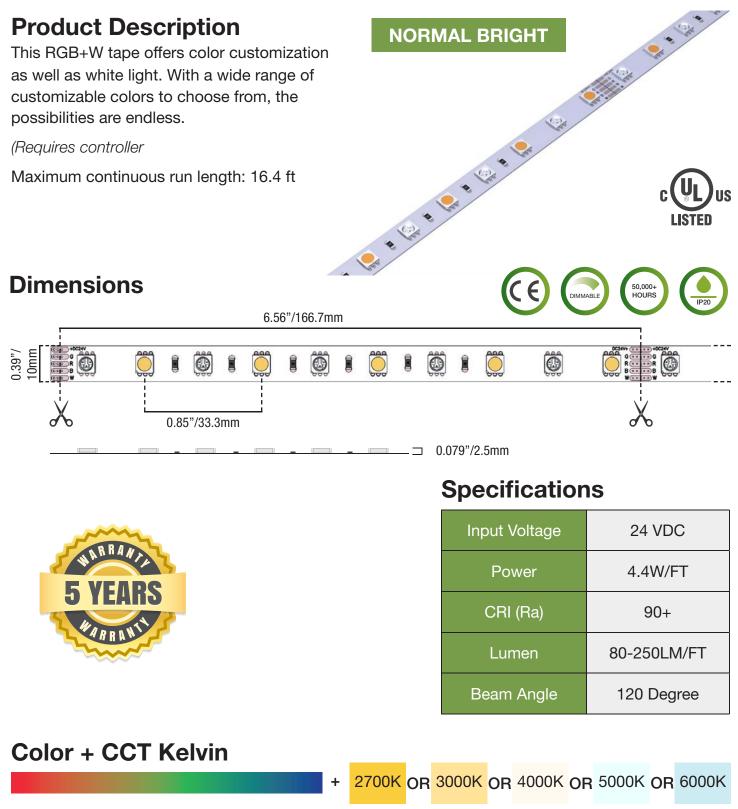
### Color

# RGB+W SERIES

102200

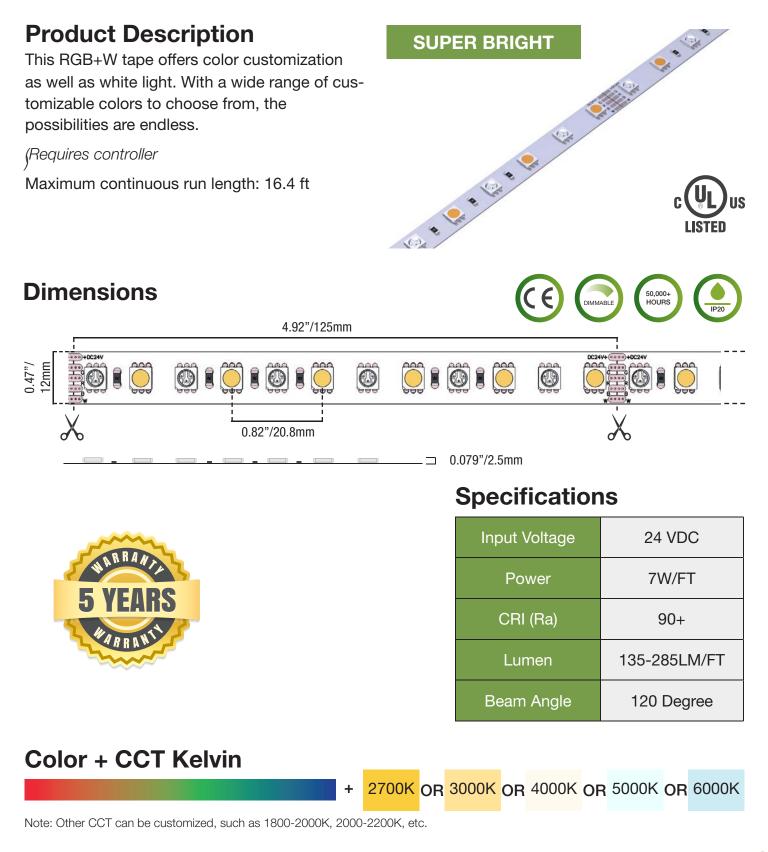
# Wide range of vibrant colors, with white light





Note: Other CCT can be customized, such as 1800-2000K, 2000-2200K, etc.





51



# **RGB+CCT SERIES**

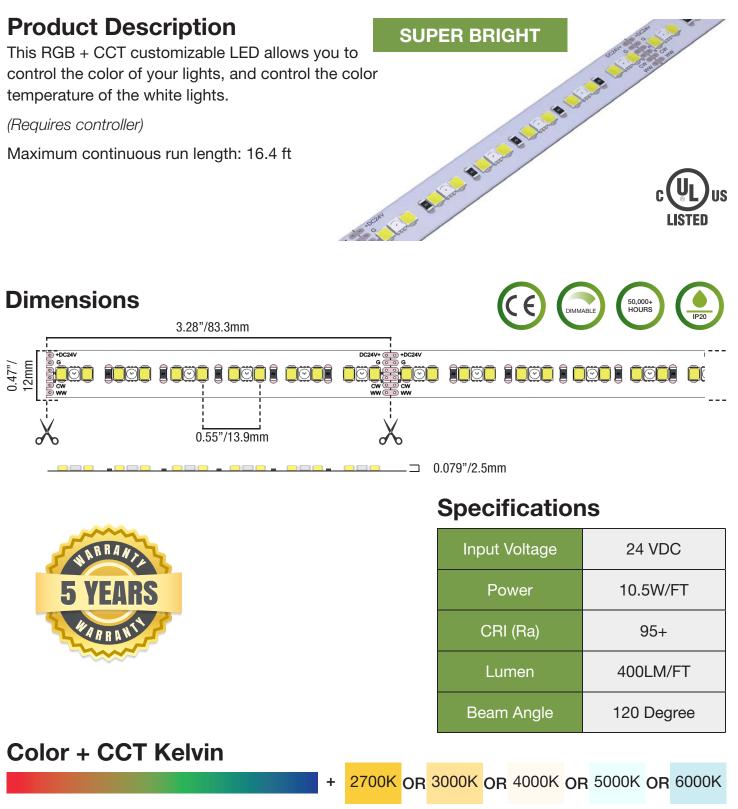
Control color and the temperature of white light











Note: Other CCT can be customized, such as 1800-2000K, 2000-2200K, etc.

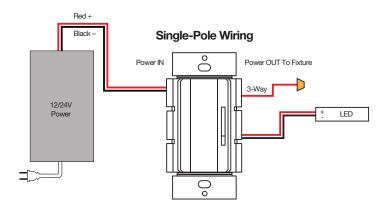


# DIMMER Model No.: IWD-3W100WW

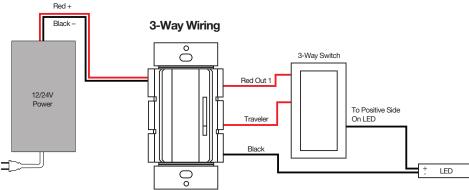


**Product Description** 

3-Way Universal single color Pulse-Width Modulation (PWM) Dimmer. Use with 12-24v DC only power supply and dimmable LED fixtures. Fits in standard 1-Gang wall box







# **Product Features**

- Single Gang Decora
- On/Off Switch
- PWM Slide Dimmer
- 12-24v DC Only
- 100 Watts
- 3-Way Switch

# **Specifications**

Voltage	12/24V DC
Power	100 Watts
Color	White



# **12V DC POWER SUPPLY** Model No.: 12V-100WDTP

# **Product Description**

DC 12V 8 AMP 96 Watts UL Listed Power Supply with 48"device cord and 48" power supply cord AC 120V~ 50/60Hz 2A. Not dimmable on 120V A/C input

Use with dimmer or controller Model No.: IWD-3W100WW Model No.: RF-WIFI-CNTRL-5CH-4A



# **Product Features**

- UL Listed Power Supply
- 12V 8A 96Watts
- AC 120V-50/60Hz 2A
- 48" Power Cord
- Non Dimmable

# **Specifications**

Output Voltage	12 VDC
Power	96 Watts
Connection	5.5mm x 2.1mm plug



# 24V DC POWER SUPPLY Model No.: 24 V-100WDTP

# **Product Description**

DC 24V 4 AMP 100 Watts UL Listed Power Supply with 48"device cord and 48" power supply cord AC 120V~ 50/60Hz 2A. Not dimmable on 120V A/C input

Use with dimmer or controller Model No.: IWD-3W100WW Model No.: RF-WIFI-CNTRL-5CH-4A



# **Product Features**

- UL Listed Power Supply
- 24V 4A 100Watts
- AC 120V-50/60Hz 2A
- 48" Power Cord
- Non Dimmable

# **Specifications**

Output Voltage	24 VDC
Power	100 Watts
Connection	5.5mm x 2.1mm plug

57



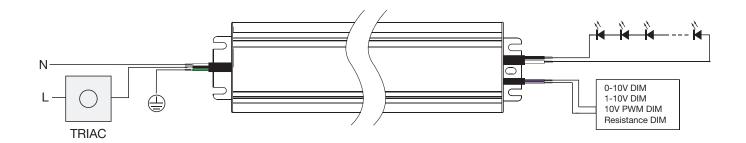
## DIMMING DRIVER 12V 150-WATT TRIAC/0-10V Model No.: 12V-150W-D

# **Product Description**

Constant Voltage 12V 12.5 AMP 150 Watts. TRIAC/0-10V/1-10V/10V PWM/ resistance dimming. Dimming range 0-100%, dimming depth: Max 1%. Flicker-free IEEE 1789 high frequency exemption. Cooling by free air convection.



### Wiring diagram



# **Product Features**

- UL Listed Class P Power Supply
- Efficiency 92%
- 5 in 1 Dimming
- Overload/Over temp/ Short circuit/protection
- Auto recover
- IP67

# **Specifications**

Output Voltage	12V DC
Power	150 Watts
Connection	Bare Wire



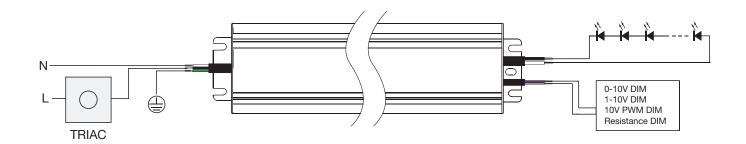
## DIMMING DRIVER 24V 150-WATT TRIAC/0-10V Model No.: 24V-150W-D

# **Product Description**

Constant Voltage 24V 6.3 AMP 150 Watts. TRIAC/0-10V/1-10V/10V PWM/ resistance dimming. Dimming range 0-100%, dimming depth: Max 1%. Flicker-free IEEE 1789 high frequency exemption. Cooling by free air convection.



### Wiring diagram



# **Product Features**

- UL Listed Class P Power Supply
- Efficiency 92%
- 5 in 1 Dimming
- Overload/Over temp/ Short circuit/protection
- Auto recover
- IP67

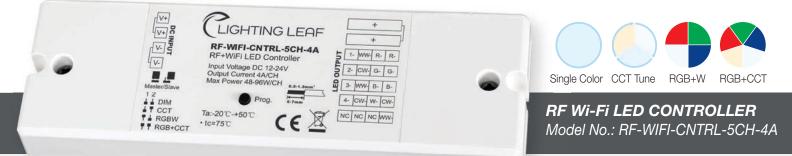
# **Specifications**

Output Voltage	24V DC
Power	150 Watts
Connection	Bare Wire

59



# SMART SELECTABLE LIGHTING CONTROLLER

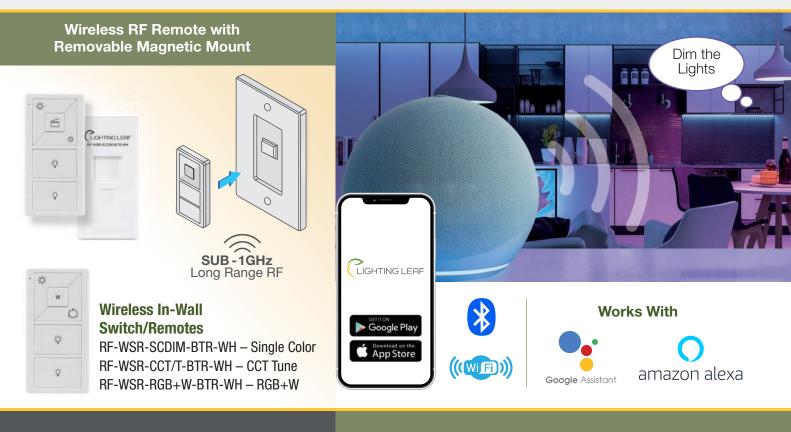


### The versatile All-in-1 Controller

gives you easy control over low voltage lighting products with a smart device. Integrating multiple technologies, the system is well-suited to provide control and connectivity to both retrofit applications and new construction.

### **PRODUCT FEATURES**

- 4-in-1 Selectable Color Control
- RF / Wi-Fi / BLE Built-in (no hub needed)
- Matching Wireless Remotes
- 3rd Party Bi-directional Driver
- Auto Discover & Push-to-Pair RF



### **SPECIFICATIONS**

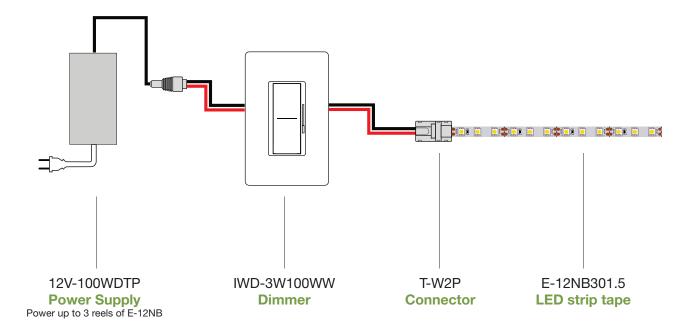
Voltage: 12-24 VDC Power: 4A Per Channel Termination: Screw Terminal Connection: RF / Wi-Fi / BLE Contact Us Today! sales@lightingleaf.com LightingLeaf.com

# LED LIGHTING CONTROL DIAGRAMS SINGLE COLOR CONTROL HARDWIRED

- 1 Power Supply
- 2 In-wall dimmer/switch
- 3 LED Strip Tape and Connectors

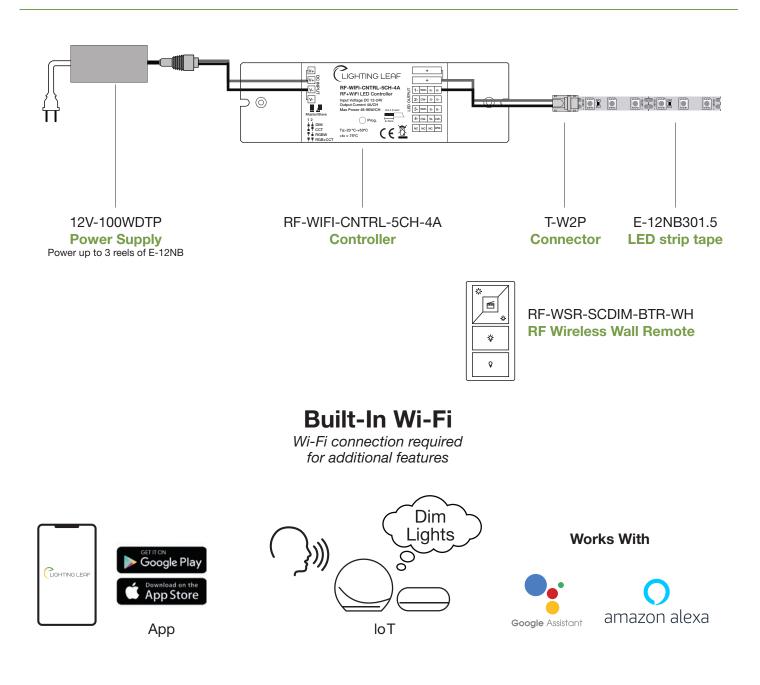
# Wiring

16/2 - From power to dimmer 18/2 - Dimmer to LED strip tape



# LED LIGHTING CONTROL DIAGRAMS SINGLE COLOR CONTROL WIRELESS

- 1 Power Supply
- 2 RF/Wi-Fi Controller
- 3 RF Wireless In-wall Remote
- 4 LED Strip Tape and Connectors

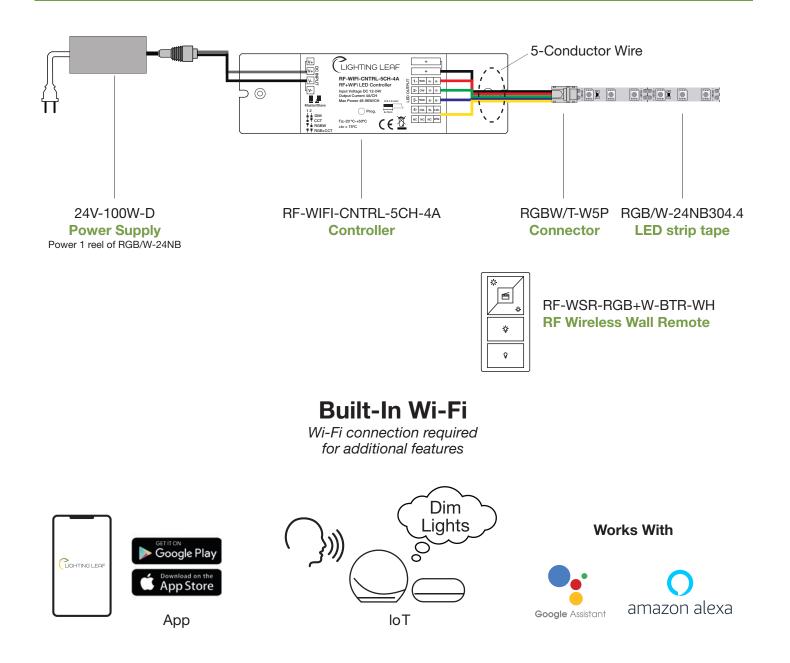


### sales@lightingleaf.com

# LED LIGHTING CONTROL DIAGRAMS COLOR SELECT CONTROL WIRELESS

- 1 Power Supply
- 2 RF/Wi-Fi Controller
- 3 RF Wireless In-wall Remote
- 4 LED Strip Tape and Connectors





# LOW VOLTAGE RECESSED LED LIGHTING 4-INCH 24VDC FULL SPECTRUM LED

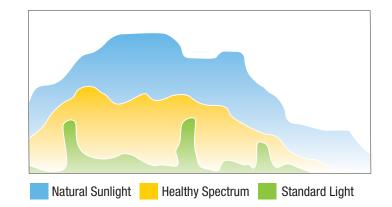
# Exceptional Light Quality Inspired By The Sun HEALTHY SPECTRUM RECESSED LIGHTING



Sun-Like LED. The latest True-to-Life LED lighting technology. Natures natural balance of light. Without harmful UV rays



N-NATURAL SERIES. Healthy Spectrum Light CRI 95+ R9 90+ (Illuminating Engineering Society TM-30 Standards)



# High Color Image Accuracy

# Improved Health & Biological Benefits

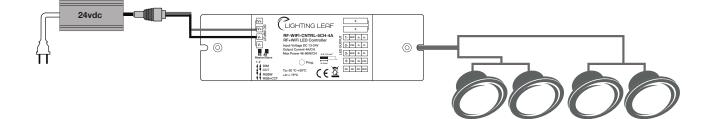
This light closely matches the full spectrum of natural sun light providing a healthier experience by reducing potential negative effects (*Fatigue*, *Eyestrain, Headaches, or Insomnia*) of artificial light.

785 Lumens 24VDC 9W

# Eco-Friendly Ultra-Efficient DC Wiring



Centralized DC power system with driver septate from light fixture



### **IMPROVEMENTS**

- No heat transference on light to power
- No ambient temperature increase
- 50% or higher lighting load reduction
- Light fixture thinner, lighter, cooler
- Safer working voltage

### BENEFITS

- Longer life & higher efficiency
- No added heat gain or cooling cost
- Lower cost for materials & labor
- Design flexibility & Easier install
- Minimized risk of electrical shock



Removes all **HIGH VOLTAGE No Romex** or large load center

# LED STRIP TAPE **POWER AND INSTALL GUIDELINES**

### Never connect LED strip directly to 120-volt power.

Only use low-voltage DC constant voltage power supplies rated to match the selected LED Strip Tape.

Do not power LED tape when coiled on reel as it will overheat and damage the LEDs.

Its normal for the tape to feel warm but not hot. Excessive heat is a sign of improper powering of over-voltage or an under-wattage power supply.

Never connect more than one power supply to an LED strip.

LED Strips use current limiting resistors and do not respond well to increases in Voltage. Never use a higher voltage than the LED strip is rated.

Do not install LED strip where it comes in contact with water or in high humidity environments.

Surface preparation must be clean, smooth, dry and free from oil or dust.

All wiring must be done in accordance with national and local electrical codes, low-voltage Class 2 circuit. Consult a qualified professional as needed.

### Power Supply Selection

Only use Manufacture approved LED drivers and power supplies as others can cause damage and void LED Strip Tape warranty.

Power supplies come in various sizes with different Voltage and wattages and are referred to as transformers, AC/DC adapters, or LED drivers.

LED strips operate on low voltage and require a power supply to convert 120-volt AC power to the proper DC power of 12v or 24v depending on the selected products.

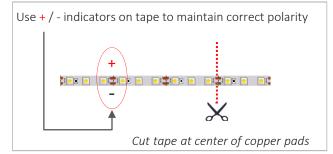
Power Supply capacity is determined by wattage rating of Fixture or watts per foot of LED strip. (WPF)

Length of LED strip (measured in feet) x watts per foot = total watts used.

The load calculation of power supply should not pass 80% of its rated wattage output. Example: 20 feet x 1.5watts per foot = 30 watts requires minimum 36-watt Power Supply.

Always choose a power supply rated 20% greater than actual wattage required. Over wattage doesn't adversely effect LEDs.

"Over driving" the LEDs rated voltage (not wattage) will cause inconsistent light results and eventual failure.



### Min-Max Power Voltage

For best results check voltage at the LED strip prior to powering. Avoid voltage loss of more than 3% at LED strip. Limit distance between power supply and LED strip.

**Voltage Drop** - Result of Long Power Wire gauge and distance Increase AWG of wire for longer lengths. Power in Parallel not Series.



**Forward Voltage Drop** - Result of Tape Length Loss Power to middle of Strip for longer lengths.



#### Troubleshooting

#### Tape light strip does not light

- Make sure your LED power supply has power.
- Confirm you have the correct polarity (+ Positive Negative)
- Check all connections.
- Test voltage at LED strip with a multimeter for correct DC voltage.

#### Partial lit LED tape light

- Check connections to the part of the strip not working.
- Confirm the correct polarity to unlit section.
- LED strips are connected in a set of series. A damaged section can be cut out and replaced by splicing in a new piece.

### LED tape lights blink on and off

- Check Connection points.
- Refer to Power supply selection.
- Power supply is not sufficient for the length of LED strip light being powered. Use a higher wattage power supply or shorten the length of the LED strip connected.

#### LEDs at farthest-point from power supply are dimmer

- Refer to power supply location and voltage drop.
- Check voltage at dim location.

#### Limited Warranty

Improper installation, abuse, or failure to use the products for its intended purpose will void warranty. Warranty only applies when all components, including LED power supplies, have been provided by or approved for use by manufacture. The warranty does not cover labor or any other associated costs or expenses to remove or install any defective, repaired or replaced products.

# LED STRIP TAPE PLACEMENT AND INSTALL GUIDELINES

### Surface Preparation and Install

Prior to permanent adhesion test the space you intend to light. Once the red cover backing is removed and installed on a surface it cannot be adjusted or moved. If removed more than once it may no longer stick securely.

Top of LED strip should never come in contact with any surface.

Try using various positions to achieve an even reflection appearance of light, avoiding direct viewing of the LED. Reposition as needed to limit hot spots or uneven results.

Mounting surfaces should be clean, dry, smooth, dust and oil free. If cleaning surface is required use only isopropyl alcohol. Do not use household cleaners that leave residues.

The 3M adhesive tape requires pressure to activate and bond to the surface. Using your fingers, begin at one end of the tape pressing down securing the tape to the surface until reaching the other end. Use caution not to press on the individual LEDs or use excessive force.

Support power wire leads, and connection points as needed to secure mounting under cabinets and shelves.

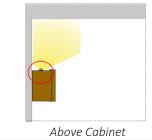
### **Lighting Placement**

LED Strip Tape is designed to illuminate space and can be added almost anywhere on any surface. When placed as indirect lighting the added reflection increases the aesthetic appeal by adding depth, and dimension making the space feel larger.

It can be used as nightlight, or ambient light, and is ultra energy efficient.

### Above Cabinet Placement

Try different mounting positions to create indirect up lighting over cabinets. Distance from ceiling and walls should remain even and level for a seamless uniform glow with no hot spots.



#### Corners

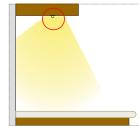
LED tape is thin and flexible but not designed to make sharp lateral bends and turns that damage the product. Use Connectors to wires to go around corners or create soft bends with a loop that will make the tape lighting change direction without straining the tape.

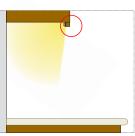


#### **Under-Cabinet Placement**

Ideal placement of LED strip is on the back of the cabinet lip or frame with the LEDs facing towards the back-splash, limiting unwanted direct view or "hot spots" reflecting off surfaces.

For cabinets with no lip or frame test try multiple positions with the tape light back from front edge of cabinet preventing its direct view.







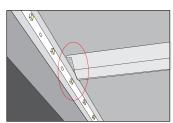


Cabinet with NO Lip

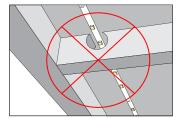
Cabinet with Lip

### Cutting or Drilling Cabinets

When mounting to the front lip or frame, use an oscillating multi-tool saw making vertical cuts allowing the LED strip to pass. LEDs should not come in direct contact with wood.



LED strip installed through slot



Avoid drilling holes



Oscillating multi-tool saw

If drilling is required only use proper bits designed for wood. Limit cutting size but allow for air space around LED strip. Prevent wood chipping by always using sharpened tools.

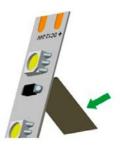
## INSTALLATION DATA LED TAPE TO WIRE 2PIN CONNECTOR Part Number T-W2P

Step 1



Cut strip in center of cuttable mark

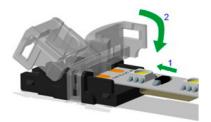
Step 2



Remove outer paper covering adhesive tape

Step 5

Step 3



Insert strip in holder press cap down

Step 6

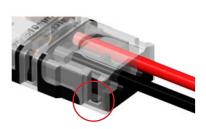




Ensure cap is locked over tab



Insert wire in grooved section



Ensure cap is locked over tab

## Tape Side



### Wire Side



**Completed Connection** 



Copper Wire and Strip are pierce-to-contact from connector blades Do not strip wire use 18-22 AWG

sales@lightingleaf.com