Armacost LIGHTING

RibbonFlex® LED Accent Lighting

Calculate the total wattage of the LED lighting installation

Steps

1. Using the following charts, determine the watts used in each leg of lighting. A straight run is considered one leg. A center feed is two equal lengths of lighting. An array can have many legs. As a best practice, use the next longer length on the chart to determine the approximate wattage per leg. Include only the lengths of the LED tape in your calculation, not the connecting wires.
2. Add together the watts used for each leg of lighting to get total watts used in your lighting layout. Note that watts shown in the chart represent the approximate watts used when your color RGB LEDs are set at full bright white.

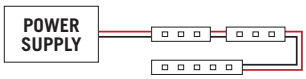
Notes

- Watts used is the power consumed by your LED lighting system, not the watt rating of a power supply. Always choose a power supply rated greater than your needs.
- The watts used, as shown, are based on 100% full brightness white light. Color changing or dimming of LED lighting will use less power and extend the life of LEDs.
- Due to voltage drop, longer lengths of LED tape will use fewer watts per meter than shorter lengths. To accurately measure watts used by your LED lighting system, use a multimeter. Watts are calculated by multiplying volts by amps used in your LED system.

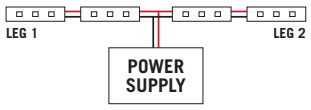
Typical Design Configurations

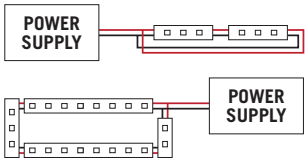
Straight Run

Only one end of the LED strip is powered. Multiple strips can be connected in a series for a continuous run. LEDs farther away from the power supply may appear dimmer due to voltage drop, especially if longer wires are used in between to connect strips.



Center Feed / Loop Back

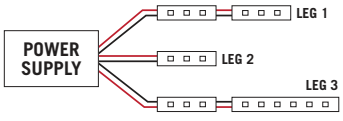




Either power two equal legs of tape lighting from the center or loop back and power both ends of the LED tape. These configurations will produce more consistent brightness and color over the length of the strip. A loop back is excellent for room perimeter tray ceiling or cove lighting.

Array

An array uses two or more legs of various lengths wired to a power supply in a parallel connection. You will need to calculate total wattage used in an array to guard against overloading the power supply.



RibbonFlex PRO®

White LED Tape Light (12- and 24-volt)

Indoor, Outdoor IP67

Maximum recommended tape length												
Config.	30 LEDs/meter				60 LEDs/meter				120 LEDs/meter			
	12V tape		24V tape		12V tape		24V tape		12V tape		24V tape	
	Length ft. (m)	Watts used	Length ft. (m)	Watts used	Length ft. (m)	Watts used	Length ft. (m)	Watts used	Length ft. (m)	Watts used	Length ft. (m)	Watts used
Straight run	32.8 (10)	23	65.6 (20)	49.63	16.4 (5)	28	32.8 (10)	56	16.4 (5)	48	32.8 (10)	96
Ctr. feed / Loop back	65.6 (20)	46	131.2 (40)	76	32.8 (10)	56	65.6 (20)	113	32.8 (10)	96	65.6 (20)	193
Array	Varies based on layout and max wattage of power supply											

Approximate watts used per meter at full brightness											
30 LEDs/meter											
Meters	0.5	1	2	3	4	5	6	7	8	9	10
Feet	1.6	3.3	6.6	9.8	13.1	16.4	19.7	23.0	26.2	29.5	32.8
Watts used (12V tape light)	**2.3**	**4.5**	**8.5**	**12.0**	**15.0**	**17.3**	**19.2**	**20.5**	**21.6**	**22.3**	**23.0**
Watts used (24V tape light)	**2.3**	**4.6**	**9.1**	**13.4**	**17.6**	**21.6**	**25.2**	**28.7**	**31.9**	**34.7**	**37.3**

60 LEDs/meter											
Meters	0.5	1	2	3	4	5	6	7	8	9	10
Feet	1.6	3.3	6.6	9.8	13.1	16.4	19.7	23.0	26.2	29.5	32.8
Watts used (12V tape light)	**5**	**9**	**16**	**22**	**25**	**28**	**NOT RECOMMENDED**				
Watts used (24V tape light)	**4.4**	**8.6**	**16.9**	**24.6**	**31.2**	**37.5**	**42.8**	**47.1**	**50.9**	**53.9**	**56.3**

120 LEDs/meter											
Meters	0.5	1	2	3	4	5	6	7	8	9	10
Feet	1.6	3.3	6.6	9.8	13.1	16.4	19.7	23.0	26.2	29.5	32.8
Watts used (12V tape light)	**8**	**15**	**27**	**36**	**43**	**48**	**NOT RECOMMENDED**				
Watts used (24V tape light)	**7.2**	**14.4**	**28.1**	**40.1**	**52.6**	**63.1**	**72.4**	**80**	**86.4**	**92**	**96.3**

RibbonFlex PRO®

High CRI White Tape Light (24-volt)

Maximum recommended tape length		
Straight run	16.4 ft. (5m)	42
Center feed / Loop back	32.8 ft. (10m)	84
Array	Varies based on layout and max wattage of power supply	

Approximate watts used per meter at full brightness					
60 LEDs/m					
Meters	1	2	3	4	5
Feet	3.3	6.6	9.8	13	16.4
Watts used	**10**	**19**	**28**	**36**	**42**

RibbonFlex PRO®

Dim-to-Warm White LED Tape Light (24-volt)

Maximum recommended tape length		
Configuration	Length	Watts used
Straight run	16.4 ft. (5m)	44.8
Center feed / Loop back	32.8 ft. (10m)	89.6
Array	Varies based on layout and max wattage of power supply	

Approximate watts used per meter at full brightness					
Dim-to-Warm White					
Meters	1	2	3	4	5
Feet	3.3	6.6	9.8	13	16.4
Watts used	**10.88**	**20.16**	**30**	**38.64**	**44.8**

RibbonFlex PRO®
Tunable White LED Tape Light (24-volt)

Maximum recommended tape length		
Configuration	**Length**	**Watts used**
Straight run	23 ft. (7m)	37.32
Center feed / Loop back	45.9 ft. (14m)	74.64
Array	Varies based on layout and max wattage of power supply	

Approximate watts used per meter at full brightness							
Meters	1	2	3	4	5	6	7
Feet	3.3	6.6	9.8	13	16.4	19.7	23
Watts used	**6**	**11.76**	**17.02**	**22.25**	**26.59**	**30.24**	**37.32**

RibbonFlex PRO®
Continuous White LED Tape Light (24-volt)

Maximum recommended tape length						
Configuration	**165 Lumens/Foot**		**315 Lumens/Foot**		**442 Lumens/Foot**	
	Length (ft. / m)	**Watts used**	**Length (ft. / m)**	**Watts used**	**Length (ft. / m)**	**Watts used**
Straight run	16.4 / 5	20	16.4 / 5	40	16.4 / 5	57
Center feed / Loop back	32.8 / 10	40	32.8 / 10	80	32.8 / 10	114
Array	Varies based on layout and max wattage of power supply					

Approximate watts used at full brightness					
165 Lumens/Foot					
Meters	1	2	3	4	5
Feet	3.3	6.6	9.8	13	16.4
Watts used	**5**	**9**	**13**	**17**	**20**

315 Lumens/Foot					
Meters	1	2	3	4	5
Feet	3.3	6.6	9.8	13	16.4
Watts used	**10**	**19**	**27**	**34**	**40**

442 Lumens/Foot					
Meters	1	2	3	4	5
Feet	3.3	6.6	9.8	13	16.4
Watts used	**14.4**	**28**	**39**	**49**	**57**

RibbonFlex PRO®
Continuous Tunable White LED Tape Light

Maximum recommended tape length		
Configuration	**Length (ft. / m)**	**Watts used**
Straight run	16.4 / 5	80
Center feed / Loop back	32.8 / 10	160
Array	Varies based on layout and max wattage of power supply	

Approximate watts used at full brightness					
Meters	1	2	3	4	5
Feet	3.3	6.6	9.8	13	16.4
Watts used	**16**	**32**	**48**	**64**	**80**

RibbonFlex PRO®
Continuous Multicolor RGB+W LED Tape Light

Maximum recommended tape length		
Configuration	**Length (ft. / m)**	**Watts used**
Straight run	16.4 / 5	69
Center feed / Loop back	32.8 / 10	138
Array	Varies based on layout and max wattage of power supply	

Approximate watts used at full brightness					
Meters	1	2	3	4	5
Feet	3.3	6.6	9.8	13	16.4
Watts used	**18**	**35**	**49**	**60**	**69**

RibbonFlex PRO®
Multicolor/White RGB+WW LED Tape Light (24-volt)

Maximum recommended tape length		
Configuration	**Length**	**Watts used**
Straight run	23 ft. (7m)	~45
Center feed / Loop back	45.9 ft. (14m)	~90
Array	Varies based on layout and max wattage of power supply	

Approximate watts used per meter at full brightness							
Meters	1	2	3	4	5	6	7
Feet	3.3	6.6	9.8	13	16.4	19.7	23
Watts used	**9**	**17**	**24**	**30**	**36**	**41**	**45**

RibbonFlex PRO®
Multicolor/White RGB+W LED Tape Light (24-volt)
Indoor, Outdoor IP67

Maximum recommended tape length				
Configuration	**RGB 30+30 LEDs/m**		**RGB 60+60 LEDs/m**	
	Length	**Watts used**	**Length**	**Watts used**
Straight run	16.4 ft. (5m)	~47	16.4 ft. (5m)	~75
Center feed / Loop back	32.8 ft. (10m)	~94	32.8 ft. (10m)	~150
Array	Varies based on layout and max wattage of power supply			

Approximate watts used per meter					
RGB+W 30+30 LEDs/meter					
Meters	1	2	3	4	5
Feet	3.3	6.6	9.8	13	16.4
Watts used	**11**	**21**	**30**	**39**	**47**

RGB+W 60+60 LEDs/meter					
Meters	1	2	3	4	5
Feet	3.3	6.6	9.8	13	16.4
Watts used	**18**	**35**	**50**	**65**	**75**

RibbonFlex home®
White LED Tape Light (12-volt)

Maximum recommended tape length		
Configuration	**Length**	**Watts used**
Straight run	32.8 ft. / 10m	21.47
Center feed / Loop back	65.6 ft. / 20m	42.94
Array	Varies based on layout and max wattage of power supply	

Approximate watts used per meter at full brightness										
30 LEDs/meter										
Meters	1	2	3	4	5	6	7	8	9	10
Feet	3.3	6.6	9.8	13.1	16.4	19.7	23.0	26.2	29.5	32.8
Watts used	**4.08**	**7.93**	**11.1**	**13.65**	**15.56**	**17.22**	**18.95**	**19.82**	**20.73**	**21.47**

RibbonFlex home®
Multicolor RGB LED Tape Light (12-volt)

Maximum recommended tape length				
Configuration	**RGB 30 LEDs/m**		**RGB 60 LEDs/m**	
	Length	**Watts used**	**Length**	**Watts used**
Straight run	32.8 ft. (10m)	~40	16.4 ft. (5m)	~48
Center feed / Loop back	65.6 ft. (20m)	~80	32.8 ft. (10m)	~96
Array	Varies based on layout and max wattage of power supply			

Approximate watts used per meter										
RGB 30 LEDs/meter										
Meters	0.5	1	2	3	4	5	6	7	8	10
Feet	1.6	3.3	6.6	9.8	13	16.4	19.7	23	26.2	32.8
Watts used	**4**	**8**	**15**	**21**	**25**	**29**	**32**	**35**	**38**	**40**

RGB 60 LEDs/meter										
Meters	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5
Feet	1.6	3.3	4.9	6.6	8.2	9.8	11.5	13	14.8	16.4
Watts used	**8**	**15**	**22**	**28**	**33**	**37**	**41**	**44**	**46**	**48**