

Calculate the total wattage of the LED lighting installation

Steps

- 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.
- 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.

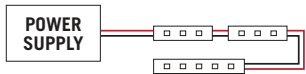
Notes

- 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.

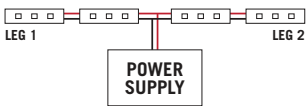
Typical Design Configurations

Straight Run

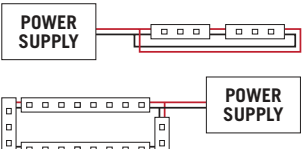
Only one end of the LED strip is powered. Multiple strips can be connected in a series for a continuous run. LEDs farther away from the power supply may appear dimmer due to voltage drop, especially if longer wires are used in between to connect strips.



Center Feed / Loop Back



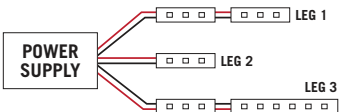
LEG 1 LEG 2



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)

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)	38	16.4/ (5)	28	32.8/ (10)	47	16.4/ (5)	48	32.8/ (10)	64
Ctr. feed / Loop back	65.6/ (20)	46	131.2/ (40)	76	32.8/ (10)	56	65.6/ (20)	94	32.8/ (10)	96	65.6/ (20)	128
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[®] Outdoor White LED Tape Light (24-volt)

Maximum recommended tape length				
Configuration	30 LEDs/meter		60 LEDs/meter	
	Length	Watts used	Length	Watts used
Straight run	32.8 ft. (10m)	38	22.96 ft. (7m)	47
Ctr. feed / Loop back	65.6 ft. (20m)	76	45.92 ft. (14m)	94
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	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	4.4	8.6	16.9	24.6	31.2	37.5	42.8	47.1	50.9	53.9	56.3

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

Maximum recommended tape length		
Configuration	Dim-to-Warm White	
	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	Tunable White	
	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							
Tunable White							
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	Continuous White	
	Length	Watts used
Straight run	16.4 ft. (5m)	60
Center feed / Loop back	32.8 ft. (10m)	120
Array	Varies based on layout and max wattage of power supply	

Approximate watts used per meter at full brightness					
Continuous White					
Meters	1	2	3	4	5
Feet	3.3	6.6	9.8	13	16.4
Watts used	12	24	36	48	60

RibbonFlex PRO®
Multi-Color/White RGB+W LED Tape Light (24-volt)

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®
Multi-Color 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