

# Calculate the total wattage in your LED lighting system design

## Steps

- Using the chart below, 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.

Model RF3528030, 30 LEDs per meter										
Approximate watts used per meter at full brightness										
Meters	1	2	3	4	5	6	8	10	12	14
Feet	3.3	6.6	9.8	13	16.4	19.7	26.2	32.8	39.3	46
Watts used	3	6	8	10	12	14	15	17	18	19
Maximum recommended tape length										
Straight run configuration	14 meters (46 ft) – will use approximately 19 watts									
Center feed configuration	28 meters (92 ft) – will use approximately 38 watts									

Model RF3528060, 60 LEDs per meter										
Approximate watts used per meter at full brightness										
Meters	0.5	1	1.5	2	2.5	3	4	5	6	7
Feet	1.6	3.3	4.9	6.6	8.2	9.8	13	16.4	19.7	23
Watts used	3	6	9	12	14	16	19	22	24	26
Maximum recommended tape length										
Straight run configuration	7 meters (23 ft) – will use approximately 26 watts									
Center feed configuration	14 meters (46 ft) – will use approximately 52 watts									

Model RF3528120, 120 LEDs per meter										
Approximate watts used per meter at full brightness										
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	6	11	16	20	23	26	29	31	34	36
Maximum recommended tape length										
Straight run configuration	5 meters (16.4 ft) – will use approximately 36 watts									
Center feed configuration	10 meters (32.8 ft) – will use approximately 72 watts									

Model RF5050030-V2RGB, 30 LEDs per meter										
Approximate watts used per meter at 100% bright white										
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
Maximum recommended tape length										
Straight run configuration	10 meters (32.8 ft) – will use approximately 40 watts									
Center feed configuration	20 meters (65.6 ft) – will use approximately 80 watts									

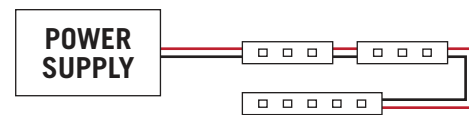
Model RF5050060-V2RGB, 60 LEDs per meter										
Approximate watts used per meter at 100% bright white										
Meters	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5
Feet	1.6	3.3	4.9	6.6	8.2	9.8	11.5	13	14.8	16.4
Watts used	8	15	22	28	33	37	41	44	46	48
Maximum recommended tape length										
Straight run configuration	5 meters (16.4 ft) – will use approximately 48 watts									
Center feed configuration	10 meters (32.8 ft) – will use approximately 96 watts									

## 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.

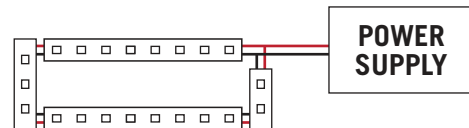
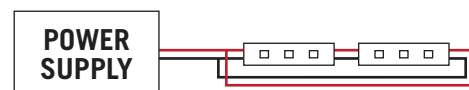
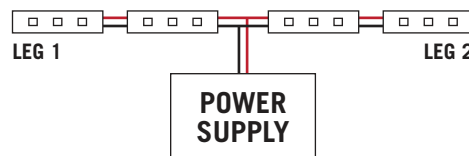
## Typical Design Configurations

### Straight Run



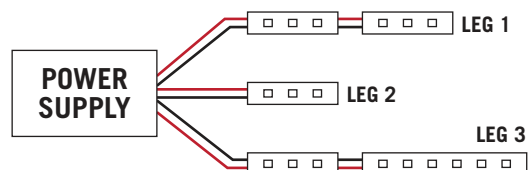
Only one end of the LED strip is powered. Multiple strips can be connected in a series for a continuous run. LEDs farther away from the power supply may appear dimmer due to voltage drop, especially if longer wires are used in between to connect strips.

### 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.