VOLTAGE DROP CHART

MAX WIRE LENGTH | WATTAGE | WIRE GAUGE

This voltage drop chart is intended for use as reference to determine the approximate amount of voltage loss occurring in a circuit due to resistance of current flow. It is recommended to round off to the nearest distance in feet when choosing the appropriate cable gauge.

HOW TO USE:

Step 1: Calculate the total wattage of your chosen LED lighting system. Round to the nearest 10 watts.

Total Wattage Calculation = Total Length of Lighting System x LED Lighting System Wattage
(Example: 30W Total = 10Ft. x 3W Tape Light)

Step 2: Find the wattage in the top row and trace downward in the column to determine the maximum wiring length between the LEDs and the power supply. Round up as needed.

Step 3: Refer to the left column to identify the required wire gauge.

24V VOLTAGE DROP

	FIXTURE WATTAGE | MAXIMUM DISTANCE (FT.)										
WIRE GAUGE	20W	30W	40W	50W	60W	70W	80W	90W	100W	200W	300W
18AWG	68 Ft.	45 Ft.	33 Ft.	27 Ft.	22 Ft.	19 Ft.	17 Ft.	15 Ft.	14 Ft.	7 Ft.	5 Ft.
16AWG	109 Ft.	72 Ft.	54 Ft.	43 Ft.	36 Ft.	031 Ft.	27 Ft.	24 Ft.	22 Ft.	11 Ft.	7 Ft.
14AWG	174 Ft.	115 Ft.	86 Ft.	69 Ft.	57 Ft.	49 Ft.	43 Ft.	39 Ft.	36 Ft.	17 Ft.	12 Ft.
12AWG	272 Ft.	181 Ft.	135 Ft.	108 Ft.	90 Ft.	77 Ft.	68 Ft.	61 Ft.	56 Ft.	27 Ft.	18 Ft.
10AWG	397 Ft.	263 Ft.	197 Ft.	158 Ft.	131 Ft.	112 Ft.	98 Ft.	97 Ft.	82 Ft.	43 Ft.	29 Ft.

* All values are based on a voltage drop of 10%

12V VOLTAGE DROP

	FIXTURE WATTAGE | MAXIMUM DISTANCE (FT.)					
WIRE GAUGE	10W	20W	30W	40W	50W	60W
18AWG	34 ft	17 ft	11 ft	8 ft	6 ft	5 ft
16AWG	54 ft	27 ft	18 ft	13 ft	10 ft	9 ft
14AWG	86 ft	43 ft	29 ft	21 ft	17 ft	14 ft
12AWG	134 ft	68 ft	45 ft	34 ft	27 ft	22 ft
10AWG	199 ft	99 ft	66 ft	49 ft	39 ft	33 ft

* All values are based on a voltage drop of 10%