# WIRE GAUGE DETERMINATION TO AVOID VOLTAGE DROP

For optimal performance, and in order to avoid any functional issues with your EOS products (such as variations in brightness, shifts in color/CCT, flicker, etc.), it is important to select the proper wire gauge/thickness of wire to let current properly flow from the remote-mounted LED Driver(s) to the product.

The following tables helps you identify the proper wire gauge to specify, based on the Wattage load and distance from the driver, aka to consider the voltage drop from the power supply to the product, i.e. the voltage loss that needs to be considered based on distance to the driver.

## Determining Wire Gauge is as easy as 1-2-3:

1) Round up to the next greatest Wattage increment along the X axis of the table (the top row), compared with the Wattage of your product. If 18.5W, for example, choose 20W in the table (as indicated).
2) Look down the corresponding column of remote mount driver distances for your Wattage. If your distance is not exactly listed, round up, e.g. if 59 feet, choose 68 feet (as indicated).
3) Look to the left for the AWG wire gauge that corresponds with both the Wattage and remote mount distance of your driver, as indicated below.

### AWG based on 24V Voltage Drop and Wire Distance (3% Drop or 23.28V)

| WIRE GAUGE | 5W .2A | 10 W .42 A | 20 W .83 A | 30 W 1.3 A | 40 W 1.7 A | 50 W 2.1 A | 60 W 2.5 A | 70 W 2.9 A | 80 W 3.3 A | 90 W 3.75 A | 100 W 4.2 A |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 22 AWG | 107 ft. | 52 ft. | 27 ft. | 17 ft. | 13 ft. | 10.5 ft. | 9 ft. | 7.5 ft. | 6.8 ft. | 6 ft. | 5.3 ft. |
| 20 AWG | 170 ft. | 85 ft. | 43 ft. | 27 ft. | 21 ft. | 17 ft. | 14 ft. | 12 ft. | 11 ft. | 9 ft. | 8 ft. |
| 18 AWG | 270 ft. | 134 ft. | 68 ft. | 45 ft. | 33 ft. | 27 ft. | 22 ft. | 19 ft. | 17 ft. | 15 ft. | 14 ft. |
| 16 AWG | 430 ft. | 215 ft. | 109 ft. | 72 ft. | 54 ft. | 43 ft. | 36 ft. | 31 ft. | 27 ft. | 24 ft. | 22 ft. |
| 14 AWG | 680 ft. | 345 ft. | 174 ft. | 115 ft. | 86 ft. | 69 ft. | 57 ft. | 49 ft. | 43 ft. | 39 ft. | 36 ft. |
| 12 AWG | 1090 ft. | 539 ft. | 272 ft. | 181 ft. | 135 ft. | 108 ft. | 90 ft. | 77 ft. | 68 ft. | 61 ft. | 56 ft. |
| 10 AWG | 1730 ft. | 784 ft. | 397 ft. | 263 ft. | 197 ft. | 158 ft. | 131 ft. | 112 ft. | 98 ft. | 97 ft. | 82 ft. |