

### SAFETY INSTRUCTION

IMPORTANT: NEVER attempt any work without shutting off the electricity.

- Always turn off power at fuse box prior to installation to prevent electrical shock.
- Intended for indoor use. Dry and damp locations.
- Install in accordance with national electric code, and local regulations.
- Consult with local inspector to assure compliance.
- Do not submerge, or install within 5 feet of a swimming pool.
- Do not connect the PIXELS directly to high voltage power

### CAUTION – TO REDUCE RISK OF FIRE AND ELECTRICAL SHOCK

- Read all instructions before installing.
- Handle product with care.
- Do not conceal or extend exposed conductors through a building wall
- To reduce the risk of fire and burns, do not install this lighting system where the exposed bare conductors can be shorted or contact any conductive materials
- To reduce the risk of overheating and potential fire risk, make sure all connections are tight.
- Do not install any fixture assembly closer than 6 in. from any curtain, or similar combustible material.
- Do not modify or disassemble product beyond instructions or warranty will be void.
- Failure to follow safety warnings, and installation instruction will void the warranty

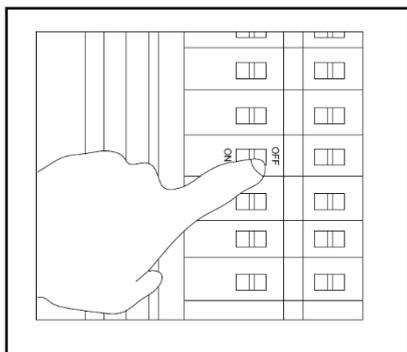
### ATTENTION - AFIN DE RÉDUIRE LES RISQUES D'INCENDIE ET DE CHOC ÉLECTRIQUE

- Lire toutes les instructions avant d'installer.
- Manipuler le produit avec soin.
- Ne pas dissimuler et faire passer les conducteurs exposés à travers un mur de bâtiment.
- Afin de réduire les risques d'incendie et de brûlures, ne pas installer ce système d'éclairage là où les conducteurs dénudés peuvent être court-circuités, ou entrer en contact avec des matériaux conducteurs.
- Afin de réduire le risque de surchauffe et d'incendie potentiel, s'assurer que toutes les connexions sont bien serrées.
- Ne pas installer aucun luminaire à moins de 6 pouces d'un rideau ou d'un matériau combustible similaire.
- Ne pas modifier ou démonter le produit au-delà des instructions sous peine d'annuler la garantie.
- Ne pas respecter les avertissements de sécurité et des instructions d'installation annulera la garantie.

### WIRING AND INSTALLATION:

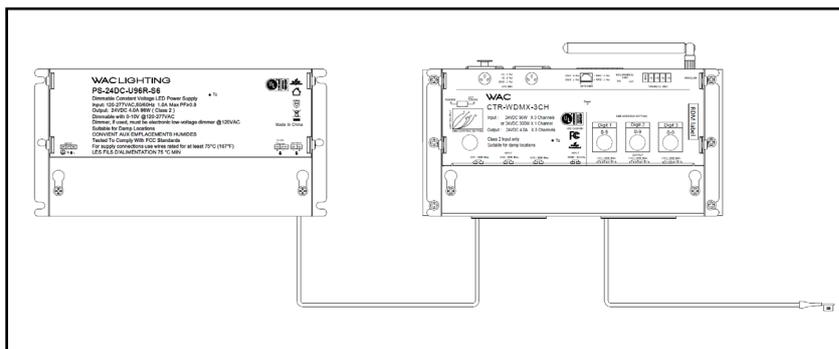
1. Turn Power off at circuit breaker (See FIG. 1)

FIG. 1



2. Mounting 24VDC Class 2 remote power supply and WAC Wireless DMX LED Controller at desired location. (See FIG. 2)

FIG. 2



3. Measured a distance between power supply and Wireless DMX controller to the beginning of the PIXELS run. Choose between two options below to wire the power and data communication to the PIXELS. When choosing wire, factor in voltage drop, amperage rating, shield/unshielded, and type (in-wall rated).

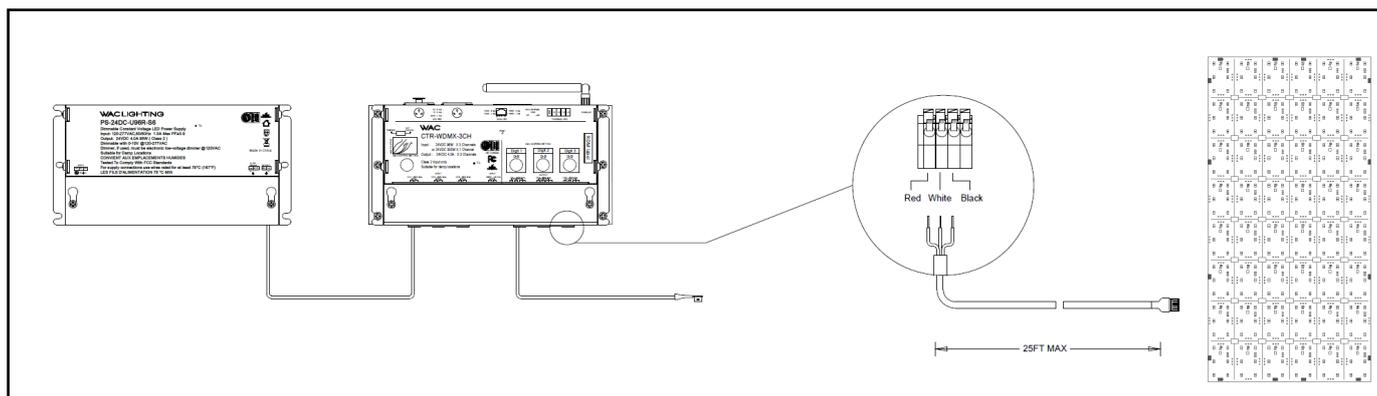
**Option A: Unshielded Cable 25 ft. maximum distance between power supply to the beginning of the PIXELS**

The WAC In wall rated 20 AWG unshielded cable can be used to wire between a power supply-Wireless DMX LED Controller to the beginning of the PIXELS up to 25 ft. Smaller gauge wire number (bigger conductor) can be used, but the maximum run length limitation remains at 25 ft. due data communication distortion if it's run over 25 ft. (See FIG. 3) Wire color connection is shown in Table 1.

**Table 1**

| Wire Color Connection                      |                 |                |
|--|-----------------|----------------|
| Wireless DMX LED Controller Terminal Color | T24-EX3-* Cable | PIXELS marking |
| RED  | RED             | V+             |
| WHITE                                      | WHITE           | DAT            |
| BLACK                                      | BLACK           | V-             |

**FIG. 3**



**Option B: Shielded data Cable 90 ft. maximum distance between power supply to the beginning of the PIXELS**

A shield data cable shall be used to connect between the power supply-Wireless DMX LED Controller to the beginning of the PIXELS up to 90 ft. (See FIG. 4)

ICE cable model number: Control Yellow is recommended. Product information can be found below:

<https://www.icecable.com/products/control-yellow>

[https://icecable.s3.amazonaws.com/uber\\_products/specs/000/000/078/original/Control\\_Yellow.pdf?1435595602](https://icecable.s3.amazonaws.com/uber_products/specs/000/000/078/original/Control_Yellow.pdf?1435595602)

For Plenum spaces, ICE cable Control Yellow Plenum is recommended. <https://www.icecable.com/products/control-yellow-plenum>

Both drain and common conductor wires shall be connected to a black terminal of Wireless DMX LED Controller. Another end shall be connected to the black wire of connector cable. The signal conductor shall be connected to the white terminal of Wireless DMX LED Controller. Another end shall be connected to the white wire of connector cable. The power carrying cable can be used either shielded or unshielded cable. The bigger conductor yields less voltage drop. The +24VDC polarity shall be connected to the red terminal on Wireless DMX LED Controller. Another end shall be connected to the red wire of connector cable. The -24VDC or common conductor wire shall be connected to a black terminal of Wireless DMX LED Controller. Another end shall be connected to the black wire of connector cable. (see FIG. 5)

T24-B-WT (5-3 low voltage wiring box) may be used to connect between 5 wires of shield cable to 3 wires of PIXELS connector.

**FIG. 4**

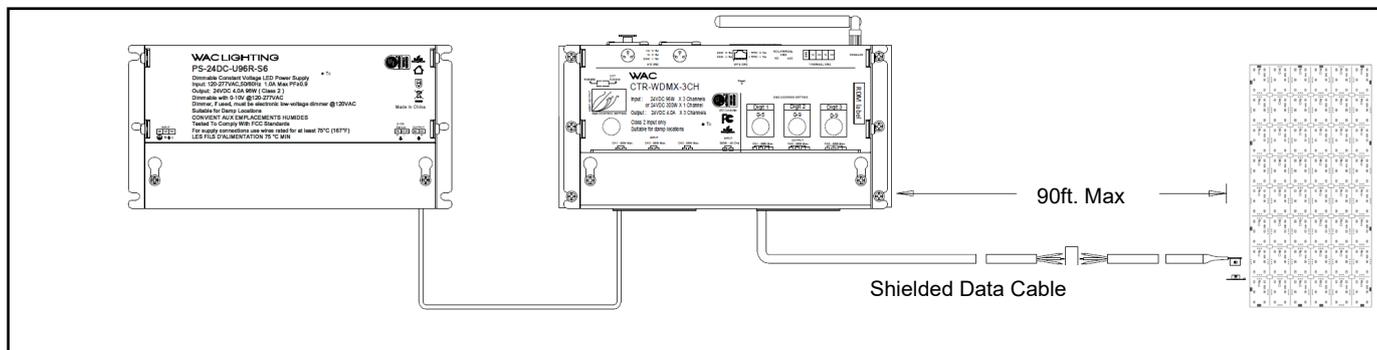
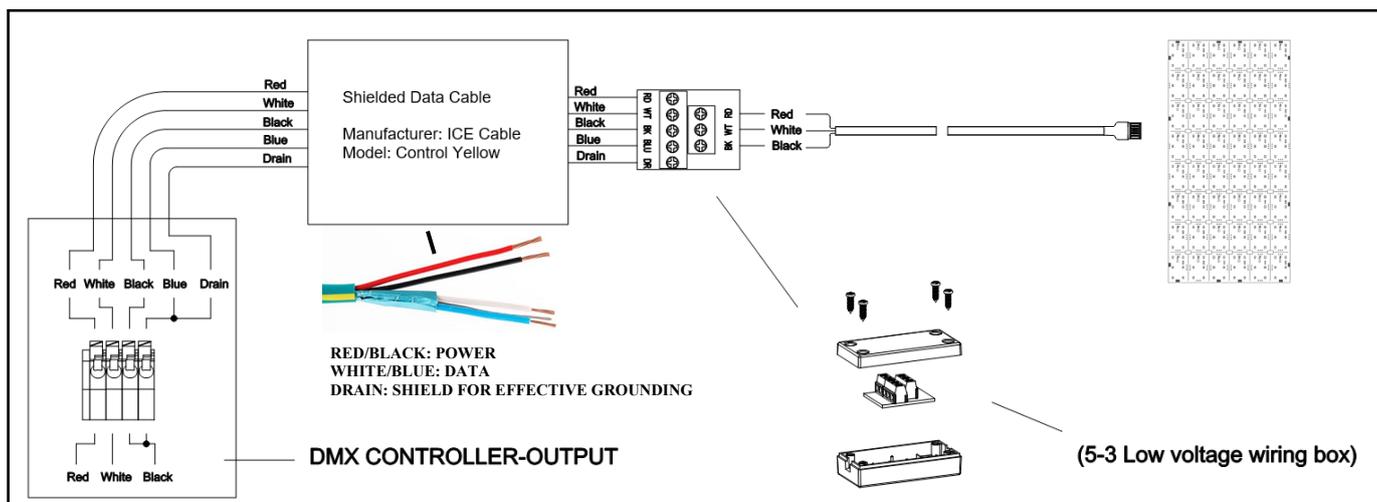
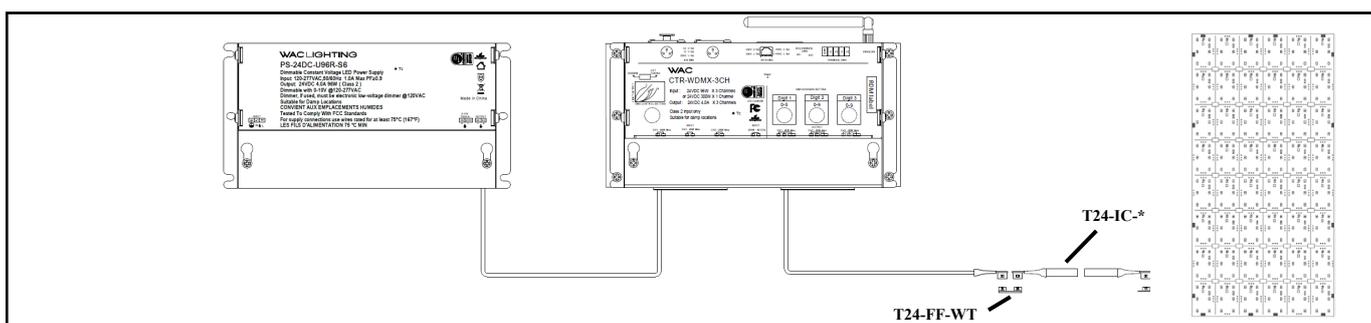


FIG. 5



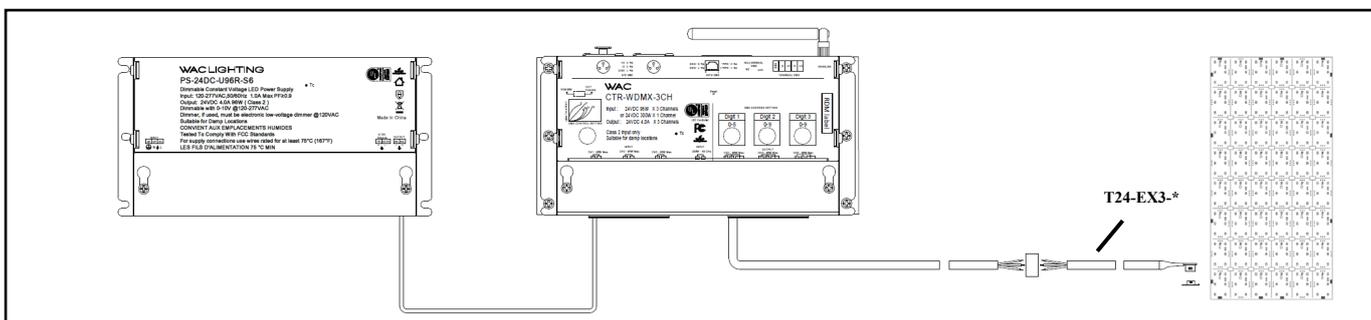
- To extend an unshielded cable length (if needed), In Wall Rated Joiner Cable (T24-IC-\*) and Joiner Cable Extender (T24-FF-WT) can be used to join between sections as shown in FIG. 6

FIG. 6



- To extend the cable length between Wireless DMX LED Controller cable or a wiring box to a PIXELS sections, (if needed), In Wall Rated Extension cable (T24-EX3-\*) can be used to join between sections by soldering as shown in FIG. 7. Wire color connection is shown in the Table 1.

FIG. 7



- Measure the desired area of PIXELS light and determine necessary quantities of other accessories and power supply need for each run.
- Determine the maximum power per square foot according to specific CCT range as shown in reference Table 2 & 3. A lower light output can be adjusted by lowering DMX value in the same ratio to keep the same CCT.  
Note: Setting the maximum DMX value at lower number will increase the maximum coverage area as the PIXELS consume less power.

**Table 2. : LED-P05-1224-1850**

| CCT(K) | Current(A) | Power(W) | Lumen | DMX Value  |            |            |              |
|--------|------------|----------|-------|------------|------------|------------|--------------|
|        |            |          |       | CH1: 1800K | CH2: 2700K | CH3: 5000K | CH4:18/27/50 |
| 1800K  | 0.53       | 12.7     | 354   | 255        | 0          |            | 255          |
| 1900K  | 0.58       | 14.0     | 449   | 255        | 6          |            | 255          |
| 2000K  | 0.62       | 14.8     | 490   | 255        | 20         |            | 255          |
| 2100K  | 0.67       | 16.1     | 582   | 255        | 70         |            | 255          |
| 2200K  | 0.73       | 17.5     | 693   | 170        | 255        |            | 255          |
| 2300K  | 0.67       | 16.2     | 614   | 75         | 255        |            | 255          |
| 2400K  | 0.64       | 15.3     | 560   | 35         | 255        |            | 255          |
| 2500K  | 0.60       | 14.3     | 496   | 9          | 255        |            | 255          |
| 2600K  | 0.56       | 13.5     | 448   | 1          | 255        |            | 255          |
| 2700K  | 0.54       | 12.8     | 405   | 0          | 255        | 0          | 255          |
| 2900K  | 0.56       | 13.5     | 460   |            | 255        | 1          | 255          |
| 3000K  | 0.58       | 14.0     | 500   |            | 255        | 5          | 255          |
| 3100K  | 0.60       | 14.5     | 536   |            | 255        | 12         | 255          |
| 3200K  | 0.62       | 14.9     | 570   |            | 255        | 22         | 255          |
| 3300K  | 0.65       | 15.6     | 625   |            | 255        | 45         | 255          |
| 3400K  | 0.68       | 16.3     | 682   |            | 255        | 80         | 255          |
| 3500K  | 0.70       | 16.9     | 730   |            | 255        | 120        | 255          |
| 3600K  | 0.74       | 17.8     | 803   |            | 255        | 200        | 255          |
| 3700K  | 0.76       | 18.3     | 844   |            | 255        | 255        | 255          |
| 3800K  | 0.73       | 17.4     | 780   |            | 165        | 255        | 255          |
| 3900K  | 0.70       | 16.8     | 735   |            | 115        | 255        | 255          |
| 4000K  | 0.68       | 16.3     | 696   |            | 80         | 255        | 255          |
| 4100K  | 0.65       | 15.7     | 652   |            | 50         | 255        | 255          |
| 4200K  | 0.63       | 15.2     | 615   |            | 30         | 255        | 255          |
| 4300K  | 0.62       | 14.8     | 590   |            | 20         | 255        | 255          |
| 4400K  | 0.61       | 14.6     | 574   |            | 15         | 255        | 255          |
| 4500K  | 0.59       | 14.2     | 546   |            | 8          | 255        | 255          |
| 4600K  | 0.58       | 14.0     | 530   |            | 5          | 255        | 255          |
| 4700K  | 0.57       | 13.7     | 507   |            | 2          | 255        | 255          |
| 4800K  | 0.56       | 13.5     | 494   |            | 1          | 255        | 255          |
| 5000K  | 0.54       | 12.9     | 444   |            | 0          | 255        | 255          |

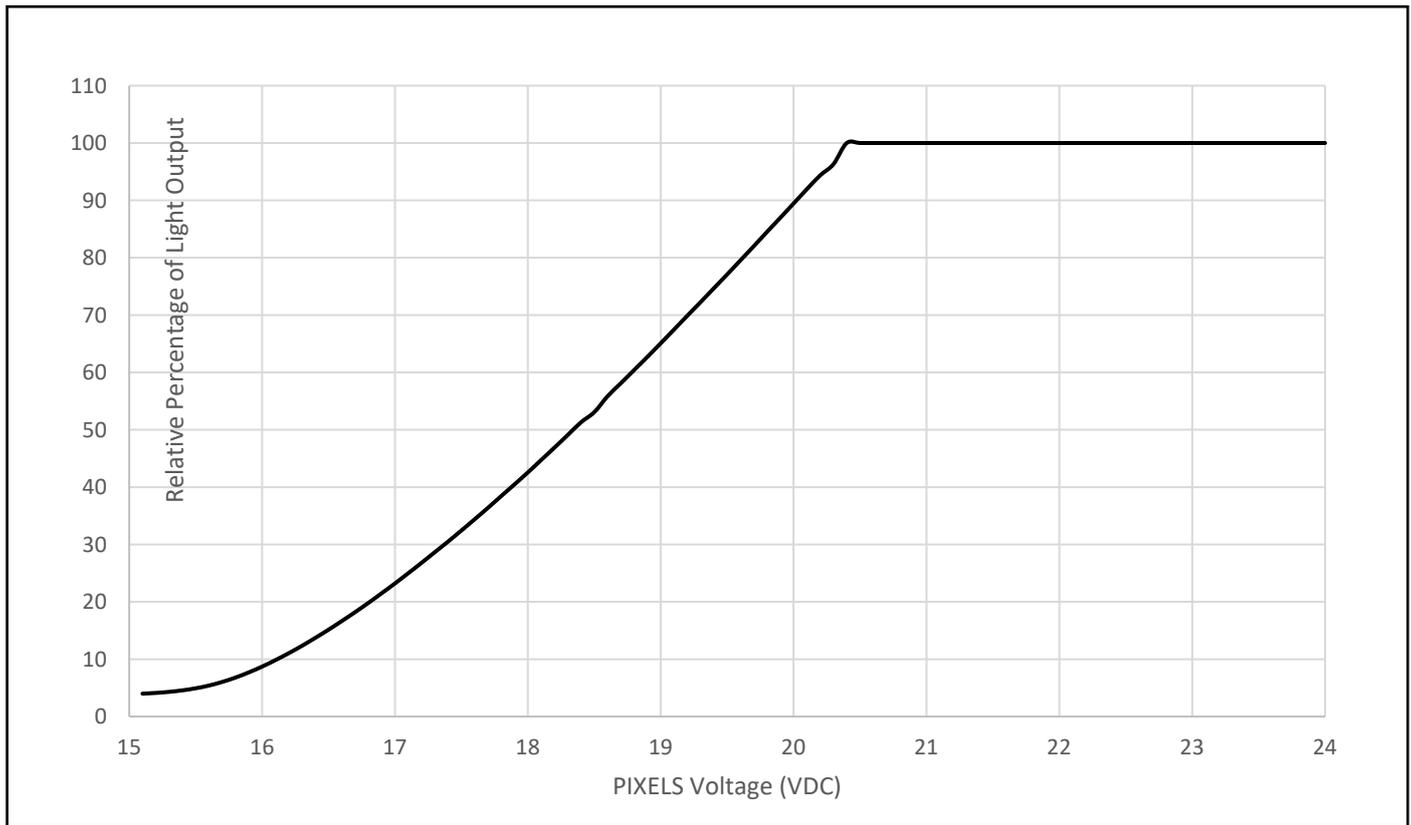
Any CCT or CCT mixing in between will maintain the light output as long as the PIXELS voltage is higher than 20.4VDC. The light output (Lumens) starts to degrade as a PIXELS voltage gets lower as shown in FIG. 9

**Table 3. : LED-P10-1224-1850**

| CCT(K) | Current(A) | Power(W) | Lumen | DMX Value  |            |            |               |
|--------|------------|----------|-------|------------|------------|------------|---------------|
|        |            |          |       | CH1: 1800K | CH2: 2700K | CH3: 5000K | CH4: 18/27/50 |
| 1800K  | 0.82       | 19.7     | 779   | 255        | 0          |            | 255           |
| 1900K  | 0.94       | 22.5     | 982   | 255        | 6          |            | 255           |
| 2000K  | 1.01       | 24.1     | 1103  | 255        | 20         |            | 255           |
| 2100K  | 1.12       | 27.0     | 1310  | 255        | 70         |            | 255           |
| 2200K  | 1.25       | 30.1     | 1559  | 170        | 255        |            | 255           |
| 2300K  | 1.13       | 27.2     | 1378  | 75         | 255        |            | 255           |
| 2400K  | 1.05       | 25.3     | 1256  | 35         | 255        |            | 255           |
| 2500K  | 0.96       | 23.0     | 1112  | 9          | 255        |            | 255           |
| 2600K  | 0.89       | 21.2     | 1004  | 1          | 255        |            | 255           |
| 2700K  | 0.82       | 19.7     | 909   | 0          | 255        | 0          | 255           |
| 2800K  | 0.80       | 19.3     | 1119  |            | 236        | 12         | 255           |
| 2900K  | 0.89       | 21.3     | 1032  |            | 255        | 1          | 255           |
| 3000K  | 0.93       | 22.3     | 1120  |            | 255        | 5          | 255           |
| 3100K  | 0.97       | 23.4     | 1201  |            | 255        | 12         | 255           |
| 3200K  | 1.01       | 24.3     | 1276  |            | 255        | 22         | 255           |
| 3300K  | 1.08       | 25.8     | 1398  |            | 255        | 45         | 255           |
| 3400K  | 1.14       | 27.4     | 1522  |            | 255        | 80         | 255           |
| 3500K  | 1.20       | 28.7     | 1627  |            | 255        | 120        | 255           |
| 3600K  | 1.28       | 30.8     | 1792  |            | 255        | 200        | 255           |
| 3700K  | 1.33       | 31.9     | 1884  |            | 255        | 255        | 255           |
| 3800K  | 1.25       | 30.0     | 1739  |            | 165        | 255        | 255           |
| 3900K  | 1.19       | 28.6     | 1639  |            | 115        | 255        | 255           |
| 4000K  | 1.14       | 27.4     | 1553  |            | 80         | 255        | 255           |
| 4100K  | 1.09       | 26.1     | 1456  |            | 50         | 255        | 255           |
| 4200K  | 1.04       | 25.0     | 1373  |            | 30         | 255        | 255           |
| 4300K  | 1.01       | 24.2     | 1317  |            | 20         | 255        | 255           |
| 4400K  | 0.99       | 23.7     | 1283  |            | 15         | 255        | 255           |
| 4500K  | 0.95       | 22.9     | 1223  |            | 8          | 255        | 255           |
| 4600K  | 0.93       | 22.4     | 1189  |            | 5          | 255        | 255           |
| 4700K  | 0.90       | 21.7     | 1135  |            | 2          | 255        | 255           |
| 4800K  | 0.89       | 21.3     | 1107  |            | 1          | 255        | 255           |
| 4900K  | 0.80       | 19.3     | 1248  |            | 15         | 235        | 255           |
| 5000K  | 0.80       | 19.3     | 1252  |            | 10         | 240        | 255           |
| 5100K  | 0.82       | 19.8     | 994   |            | 0          | 255        | 255           |

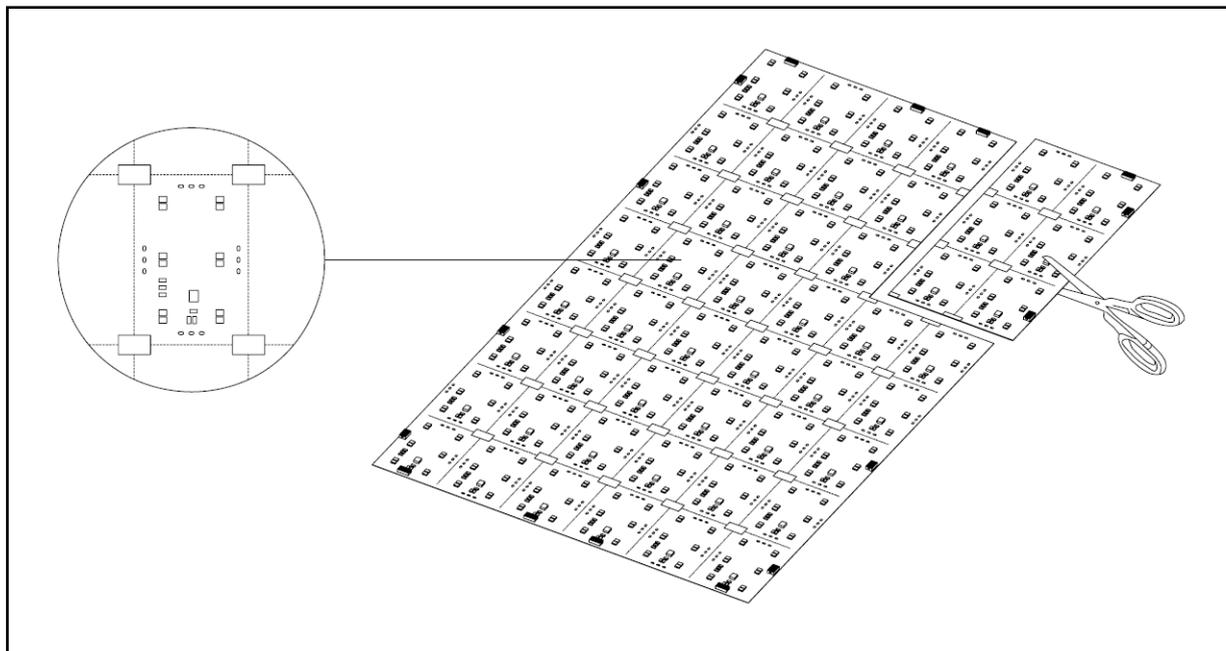
Any CCT or CCT mixing in between will maintain the light output as long as the PIXELS voltage is higher than 20.4VDC. The light output (Lumens) starts to degrade as a PIXELS voltage gets lower as shown in FIG. 9

**FIG. 9**



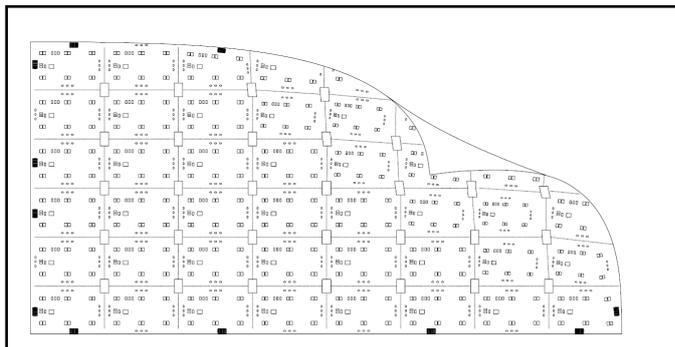
8. Follow the dotted line cutting guides and cut the PIXELS to desired size. PIXELS is field cuttable vertically or horizontally anywhere to a group of six LEDs increment (**Fig.10**).

**FIG. 10**



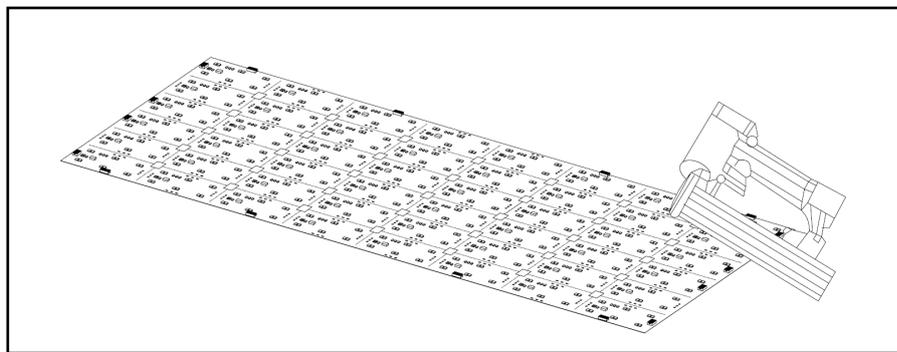
- PIXELS is flexible and is adaptable for flat or curved surfaces. The included 3M adhesive is sufficient in most applications for smooth surfaces (see FIG. 11)

**FIG. 11**



If mounting surface is a porous or textured surface, a staple gun or nails may be required to secure the PIXELS after wiring (See Fig. 12)

**FIG. 12**



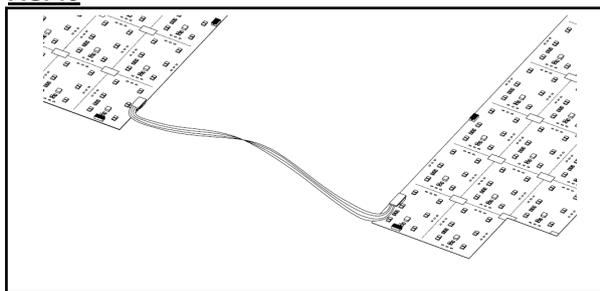
- Joining between PIXELS Tunable lights

the following accessories can be used to join between PIXELSs section depending on your application:

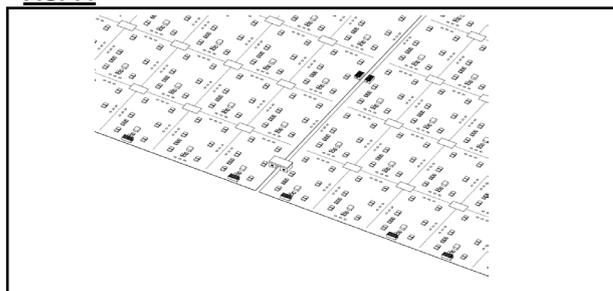
Joiner Cable 2" & 6" (T24-MM-XXX-WT), See FIG. 13

I Connector (T24-MM-FLEX-WT), See FIG. 14

**FIG. 13**



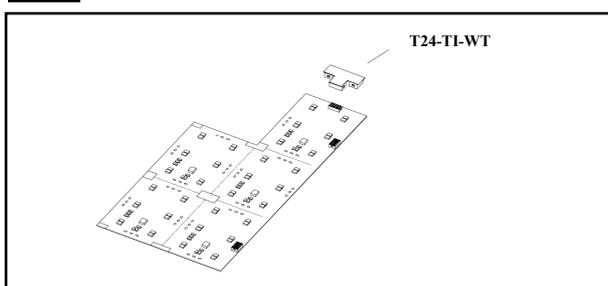
**FIG. 14**



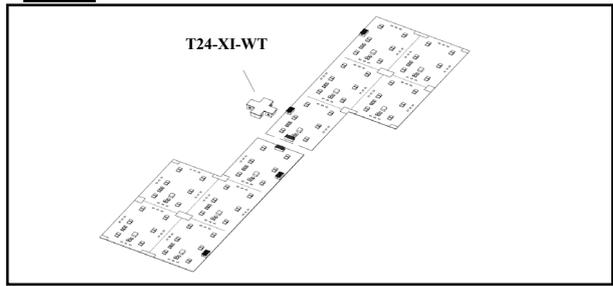
T Connector (T24-TI-WT), See FIG. 15

X Connector (T24-XI-WT), See FIG. 16

**FIG. 15**

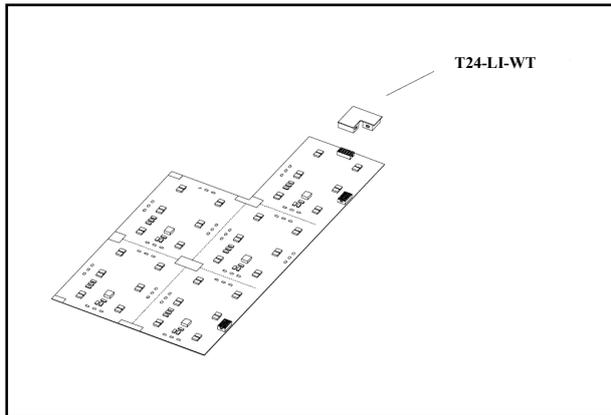


**FIG. 16**



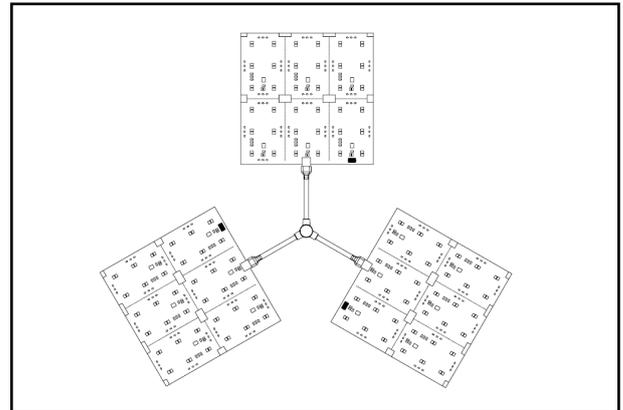
L Connector (T24-LI-WT), See FIG. 17

**FIG. 17**



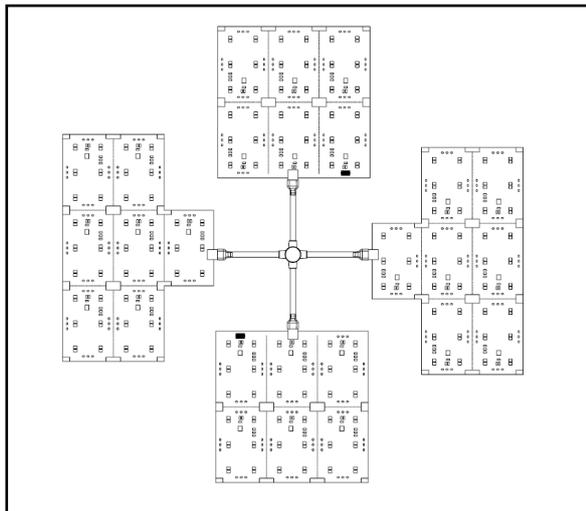
Flex Y Connector (T24-Y-\*), See FIG. 18

**FIG. 18**



Flex X Connector (T24-X-\*), See FIG. 19

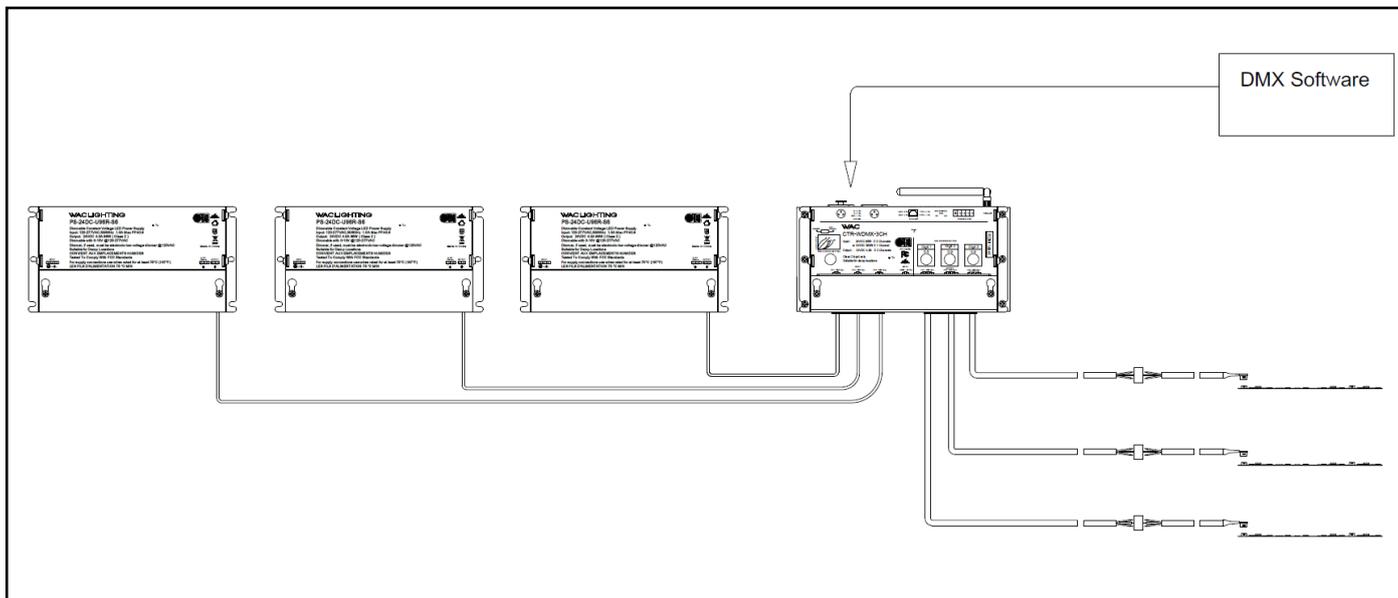
**FIG. 19**



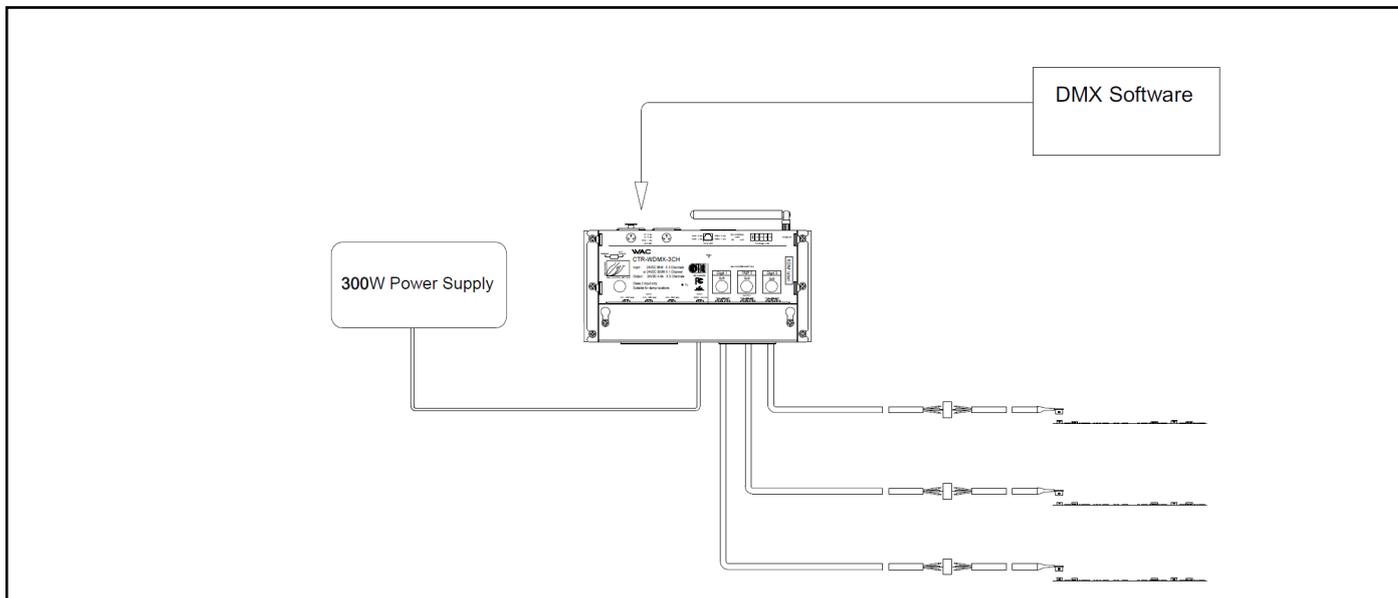
**SYSTEM DIAGRAM:**

PIXELS Tunable White shall be used with WAC Wireless DMX LED Controller at all times. Using other DMX controller brands will result in losing an ability to control PIXELS Tunable White light. The following diagram is provided as example system design. (See FIG. 20 & 21)

**FIG. 20**



**FIG. 21**



**TROUBLESHOOTING**

| <b>Symptom</b>   | <b>Common Cause and Solution</b>   |
|--|--|
| <b>Light Output turns on/off repeatedly or flashing</b>  | The PIXELS Tunable White consume too much power than a capacity of power supply. WAC power supply has an overload protection that will trip the internal auto-reset. Exceeding power capacity will repeatedly reset the power supply until an overload condition is removed.   |
| <b>Light output flashes wildly with different CCT</b>  | The data signal communication between Wireless DMX LED Controller and PIXELS Tunable White has a high distortion due to a long run of wires between Power Supply-Wireless DMX LED Controller and PIXELS Tunable White. The shield data cable is recommended to use to maintain a good quality data signal. Reducing the run length between Wireless DMX LED Controller to the PIXELS Tunable White will help solving the problem.  |
| <b>No light from one section of PIXELS /<br/>Light output flashes wildly with different CCT from one section of PIXELS</b> | The PIXELS Tunable White may be damaged due to high degree of bending angle and cause an electrical component soldering on the PIXELS to crack and lose electrical connection. To solve this issue quickly is by cutting and remove that section out.  |
| <b>Light output at the end of the run is dim<br/>High contrast between beginning and the end of run.</b>                   | This is the voltage drop effects. Using a thicker conductor wire or smaller gauge wire number yields less voltage drop and boost light output up.<br>Another way is to lower a maximum DMX value to reduce the current consumption to PIXELS Tunable White. Thus, a contrast between beginning and the end of PIXELS run will be smaller.<br><br>Make sure that no ELV/TRIAC dimmer is connected to power supply. PIXELS Tunable White is only control through Wireless DMX LED Controller                       |
| <b>Pixels Tunable White light overheats</b>  | Incorrect voltage pairing, ensure 24V PIXELS Tunable White light are not paired with a power supply with higher voltage<br>Incorrect ambient temperature. Ensure PIXELS is installed in environment -4° - 104°F (-20°C - 40°C)<br>Lower the maximum light output down to acceptable ranges.  |
| <b>Pixels Tunable White does not illuminate</b>  | Power Supply Failure, using voltage meter to check.<br>Incorrect wiring, polarity of positive and negative are reversed.<br>Incorrect DMX Channel setup, Check the DMX channel setup and properly activate the right channel.  |
| <b>Sudden Loss control over PIXELS Tunable White Light</b>   | This scenario may happen when you lose control over PIXELS Tunable White suddenly as you ramp up the brightness or increase the power to the PIXELS. This cause by a combination of voltage drop and data quality loss.<br>To regain control over PIXELS light, please remove the power to the PIXELS, lower the DMX value, and use shield data cable. Make sure that both common and drain wires are all connected on both ends.<br>Or reduce the run length between Wireless DMX LED Controller to the PIXELS. |
| <b>Unable to light up all 3 CCTs (1800K, 2700K, 5000K) at the same time</b>  | This feature has been designed in the Wireless DMX LED Controller A2C10-3 to prevent an overflow of power to PIXELS Tunable White that will cause an overheat. Thus, only two CCTs can be on at the same time by turning off one of CH1 to CH3 to zero. CH1 (1800K) has highest priority. CH2 (2700K) has second priority and CH3 (5000K) is at last.  |