

Reference Design Sheet – L513A-RGB1840 (RGBWW LES18)



Performance Specifications:

| Output | Input Voltage [V] | Wattage [W] | Lumens [lm] | Efficacy [lm/W] |
|----------|-------------------|-------------|-------------|-----------------|
| Standard | 24 | 26.8 | 2460 | 92 |

Note: All performance measurements taken @ 4000K, 100% intensity, 25°C ambient with ARK-IR-PS-LES18 and no diffuser in use

Calibrated CCT Specs:

| CCT [K] | Typical CRI |
|------------|-------------|
| 1800 (min) | 92 |
| 2700 | 94 |
| 3000 | 96 |
| 3500 | 97 |
| 4000 | 96 |
| 6500 (max) | 86 |

Diffuser Transmittance:

| Diffuser | Transmittance |
|------------|---------------|
| ARK-DF-SF2 | 84 |
| ARK-DF-SF4 | 77 |
| ARK-DF-SF6 | 72 |
| ARK-DF-SF8 | 63 |

Recommended Thermal Management Specifications:

Standard Output:

Thermal Interface Material: Thermal paste - PN: TC3-1G or equivalent. Alternatively, 18x18mm phase change thermal pad - PN: ARK-TM-PC1-1818
Heat Sink: Anodized aluminum. Dissipated power(W): 48 - Thermal Resistance (°C/W): 1.1

Contact Arkalumen for validation of any other thermal interface materials. The use of gallium based paste is not recommended.

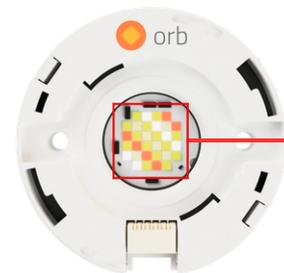
Temperature Conditions*:

| Output | Max T [°C] |
|--------------------------|------------|
| Max Tc - ORB5-VA | 110 |
| Max Tc - ORB5-VWC | 90 |
| Max LED Surface | 145 |

*Refer to the ORB System Thermal Testing Guideline application note in the Resource section:
www.arkalumen.com/orb-led-controllers



Figure 1 - USB Tc temperature is measured on the metal sleeve of the micro-USB programming port. To measure USB Tc, insert a K-type thermal probe between micro-USB and top encasement of the ORB controller as shown. Solder the tip of the thermal probe to the center of the USB connector.



LED Array
Surface Temp

Figure 2 - To measure LED array surface temperature, use thermal camera with diffuser removed after system reached thermal equilibrium

System Inclusions:

DMX/RDM

| Order Code | LoDA | ORB | Cable | Inner Reflector | Diffuser/Holder | Firmware |
|--------------------------------|---------------|---------|--------------|-----------------|-----------------|----------|
| Z513A1840-VA1-18-X-4020 | L513A-RGB1840 | ORB5-VA | ARK-C1-5A-30 | ARK-IR-PS-LES18 | ARK-RH-LA** | 4020 |
| Z513A1840-VA1-18-4-4020 | L513A-RGB1840 | ORB5-VA | ARK-C1-5A-30 | ARK-IR-PS-LES18 | ARK-DF-SF4 | 4020 |

Casambi

| Order Code | LoDA | ORB | Cable | Inner Reflector | Diffuser/Holder | Firmware |
|---------------------------------|---------------|----------|--------------|-----------------|-----------------|----------|
| Z513A1840-VWC1-18-X-4020 | L513A-RGB1840 | ORB5-VWC | ARK-C1-2A-30 | ARK-IR-PS-LES18 | ARK-RH-LA** | 4020 |
| Z513A1840-VWC1-18-4-4020 | L513A-RGB1840 | ORB5-VWC | ARK-C1-2A-30 | ARK-IR-PS-LES18 | ARK-DF-SF4 | 4020 |

**When selecting a system without a diffuser, an inner reflector holder (RH) will be included
Other system combinations available (alternative diffusers, cables). Contact Arkalumen for all options.