

## Reference Design Sheet – L502A-RGB2040 (RGBWW LES18)



### Performance Specifications:

Output	Input Voltage [V]	Wattage [W]	Lumens [lm]	Efficacy [lm/W]
Standard	24	22.8	2303	101

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
2200 (min)	89
3000	94
3500	96
4000	94
6500 (max)	86

### Diffuser Transmittance:

Diffuser	Transmittance
ARK-DF-SF2	88
ARK-DF-SF4	77
ARK-DF-SF6	70
ARK-DF-SF8	64

### 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	85
Max LED Surface	145

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

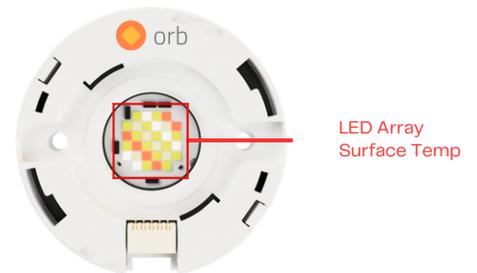


Figure 2 – To measure LED array surface temperature, use thermal camera with diffuser removed after system reached thermal equilibrium

## System Inclusions:

### DMX/RDM

Order Code	LoDA	ORB	Cable	Inner Reflector	Diffuser/Holder	Firmware
<b>Z502A2040-VA1-18-X-4020</b>	L502A-RGB2040	ORB5-VA	ARK-C1-5A-30	ARK-IR-PS-LES18	ARK-RH-LA**	4020
<b>Z502A2040-VA1-18-4-4020</b>	L502A-RGB2040	ORB5-VA	ARK-C1-5A-30	ARK-IR-PS-LES18	ARK-DF-SF4	4020

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Order Code	LoDA	ORB	Cable	Inner Reflector	Diffuser/Holder	Firmware
<b>Z502A2040-VWC1-18-X-4020</b>	L502A-RGB2040	ORB5-VWC	ARK-C1-2A-30	ARK-IR-PS-LES18	ARK-RH-LA**	4020
<b>Z502A2040-VWC1-18-4-4020</b>	L502A-RGB2040	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.