

Reference Design Sheet – L512A-RGB1840 (RGBWW LES13)



Performance Specifications:

Output	Input Voltage [V]	Wattage [W]	Lumens [lm]	Efficacy [lm/W]
Standard	24	20.4	1648	81

Note: All performance measurements taken @ 4000K, 100% intensity, 25°C ambient with ARK-IR-PL-LES13 and no diffuser in use

Calibrated CCT Specs:

CCT [K]	Typical CRI
1800 (min)	90
2700	95
3000	97
3500	97
4000	94
6500 (max)	85

Diffuser Transmittance:

Diffuser	Transmittance
ARK-DF-SF2	96
ARK-DF-SF4	91
ARK-DF-SF6	84
ARK-DF-SF8	76

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	75
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.

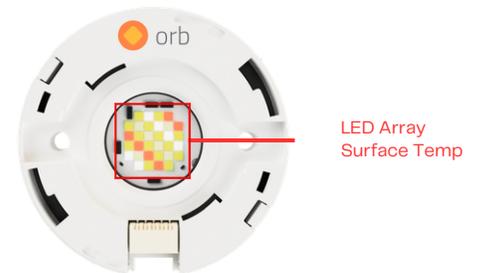


Figure 2 – To measure LED array surface temperature, use thermal camera with diffuser removed after system reached thermal equilibrium

System Inclusions:

DMX/RDM

Order Code	LoDA	ORB	Cable	Inner Reflector	Diffuser/Holder	Firmware
Z512A1840-VA1-13-X-4020	L512A-RGB1840	ORB5-VA	ARK-C1-5A-30	ARK-IR-PL-LES13	ARK-RH-SA**	4020
Z512A1840-VA1-13-4-4020	L512A-RGB1840	ORB5-VA	ARK-C1-5A-30	ARK-IR-PL-LES13	ARK-DF-SF4	4020

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Order Code	LoDA	ORB	Cable	Inner Reflector	Diffuser/Holder	Firmware
Z512A1840-VWC1-13-X-4020	L512A-RGB1840	ORB5-VWC	ARK-C1-2A-30	ARK-IR-PL-LES13	ARK-RH-SA**	4020
Z512A1840-VWC1-13-4-4020	L512A-RGB1840	ORB5-VWC	ARK-C1-2A-30	ARK-IR-PL-LES13	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.