

Zeon LumenArc™ Headlight System (Project 05-15) (1/06)

The Zeon LumenArc™ Headlight System is designed to provide superior visualization for the restorative dentist. The headlight uses a metal-halide bulb that the manufacturer claims produces 5,500 foot-candles of brightness at 16 inches working distance and has a rated bulb life of 500 hours. The light source weighs 1.2 lbs and is very compact. The intensity of the light can be adjusted and a filter can be placed between the light source and fiber-optic cord that will prevent curing of photo-initiated dental materials. The fiber-optic attachment can be attached to magnification loupes, a rigid headband, or a cloth headband. Brackets are also available to mount the light source to a counter top, under a counter, or on a wall.



Manufacturer:

Orascoptic Sybron Dental Specialties
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Middleton, WI 53562
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Suggested Retail Price:

\$950.00	Zeon LumenArc™ Light Source
\$500.00	Fiber-optic Cable
\$160.00	Rigid Headband
\$100.00	Cloth Headband
\$32.00	Mounting Bracket

Government Price:

\$695.00	Zeon LumenArc™ Light Source
\$445.00	Fiber-optic Cable
\$160.00	Rigid Headband
\$100.00	Cloth Headband
\$32.00	Mounting Bracket

ADVANTAGES:

- + Requires minimal counter space
- + Adequate illuminance for most dental procedures
- + Metal-halide bulb with 500-hour life span
- + Metal-halide bulb more cost effective than halogen light bulb
- + Easy to set up and adjust light intensity
- + Multiple mounting options (loupes, rigid and cloth headbands)
- + Brackets available to attach unit to a wall, under counter, or counter top
- + Filter prevents headlight from curing photo-initiated materials
- + Color-corrected temperature in the ideal range for perceiving color
- + Minimal heat generation
- + Maintains constant illuminance under variable voltage conditions

DISADVANTAGES:

- Intensity and area of illuminance not adequate for oral surgical clinics
- Fiber-optic cord may not be long enough for some dental treatment rooms

SUMMARY AND CONCLUSIONS:

The Zeon LumenArc™ is the first headlight designed for restorative dentistry that uses a metal-halide bulb and has a filter to prevent the curing of photo-initiated dental materials. The headlight system consists of the Zeon LumenArc™ light source and a seven-foot fiber-optic cable. Optional accessories include clips to mount the cable on loupes, rigid and cloth headbands and brackets to mount the light source. The majority of evaluators stated that the headlight provided sufficient light intensity for restorative and periodontal procedures. The light did not provide adequate illuminance or area of coverage for routine use in oral surgery. The light was not designed for the operating room or surgical clinics and is not recommended by DECS for these locations. The LumenArc met most of the specifications listed in the owners manual that were tested in the DECS laboratory. The rigid headband and cloth headband were both found to be stable and comfortable to wear, however, there was a preference for the cloth headband. Clips for attaching the headlight to magnification loupes were not evaluated. It is highly recommend that anyone purchasing the LumenArc first evaluate the treatment room where it will be used and purchase a bracket that fits the room configuration to install the light source. All but one of the evaluators would purchase the headlight for their clinic. The **Zeon LumenArc™** is rated **Excellent** for use in US Air Force dental facilities.