LED Daylite Wireless

INTRODUCTION/MANUFACTURER’S CLAIMS

Cordless LED headlight from Designs for Vision. Includes a mini headlight, which is very similar to its 5 Star sibling, the DayLite UltraMini, but instead of having a cord emerge from its rear, there is a compact, lithium ion battery that screws onto a receptacle attached to the headlight bracket. You have your choice to attach it to your loupes using various attachments or you can wear it on a headband.

Most (60%) evaluators really liked the design, while the other 40% found it to be acceptable. Half of the evaluators used a mount specifically designed for their loupes, 10% used a universal mount, and 40% used it on a headband.

The screw on and off attachment of the battery was considered to be easy by half of the evaluators, acceptable by 40%, and cumbersome by 10%. However, four evaluators expressed concerns about stripping the threads, with one expressing that it was a hassle lining up the battery perfectly to fully seat it in its receptacle.

Since there is no control unit on your hip, you may be wondering how to turn it on and off. This is accomplished via a silver band at the top of the battery receptacle. Using “capacitive touch” technology, you barely have to make contact virtually anywhere along this band to activate the light. One touch produces the high power setting, while lightly touching the band a second time decreases the power to medium (there is no low power). Touch the band a third time and the light deactivates. While we predict most opera-
tors will use it on high power, this medium setting is available if you prefer to tone down the light somewhat.

As you may remember, we have been complaining about operators reaching up and moving the light curing filters over and away from the headlight with their contaminated hands, so as clever as the touch on-off is, it could be a serious infection control issue. The manufacturer, replying to our queries on this subject, suggested a barrier of a cling type of plastic and provided a sample, but we found it excessively reduced the sensitivity of the capacitive touch to be practical for everyday use. Other barriers may be more effective, but searching them out is beyond the scope of this evaluation.

In addition, if you do reach up to activate/deactivate the light with your gloved hand, the thickness of your gloves can interfere with the capacitive touch feature. We tested two types of nitrile gloves and one latex version. We had no trouble activating/deactivating the headlight with the latex gloves and one of the nitrile brands, but the second nitrile brand would not permit this feature to operate. It would seem the prudent approach to negate the activation and contamination issues would be to position and activate the headlight before donning your gloves and then just leave it on until you have completed your procedure and have ungloved.

As expected, the capacitive touch technology was a mixed bag with the evaluators: 40% thought it made activation easy, 30% found it to be acceptable, and 30% considered it to be cumbersome. One evaluator noted that it turned the light off frequently when aiming the beam. Two others reported having to touch it several times to activate it and it would turn the light off or on when other parts of the light were touched. Still another stated the obvious about contaminating the light with soiled gloves.

Concerning specifically changing the intensity during a procedure, 40% of the evaluators thought it was easy, 30% found it to be acceptable, 20% stated it was cumbersome, and 10% never changed it. Two evaluators noted that you can inadvertently touch the silver band twice, which of course would deactivate the light when you didn’t want to.

The light beam itself is quite white and is stated to be 5800° K, which makes it reasonably color corrected.

**BATTERY**

Lithium ion battery. According to the manufacturer, a fully charged battery will power the headlight for about 100 minutes or 1 hour and 40 minutes. Our test found the manufacturer was very conservative — we had power for 127 minutes or 2 hours and 7 minutes.

There is also supposed to be a low battery warning where the light will flash 3 times about 5 minutes before you run out of power. Then this warning will continue every minute until you are, indeed, out of juice. In our test, these warnings started 4 minutes before the light deactivated. Regardless, these warning lights are very helpful and give you plenty of advance notice to change the battery before you start working in the dark.

Most (70%) evaluators thought the battery life was acceptable, while the other 30% found it to run out of power too quickly. One evaluator found the battery power draining when attached to the headlight even when it was not being used.

Recharging time for a spent battery is stated to be about 60 minutes, while we found it to be exactly 60 minutes. With the 3 batteries included in the kit, you should never be out of juice.

All evaluators thought the recharging time was acceptable.

**BATTERY CHARGER**

Called the Smart Charging Cradle, has a small footprint and four rubberized feet to keep it stable. The front section is where the action is. There are two recesses for the two extra batteries. To charge the batteries, you screw them into the recesses, which changes the blue indicator LED in front of each recess to yellow, which only stays lit for a few seconds and then deactivates. There is another pair of LEDs between the batteries. When the batteries are charging, these lights are flashing red. When fully charged, the lights will charge to solid green.
Most (80%) evaluators thought the design was acceptable, while the other 20% really liked it. Screwing and unscrewing the batteries in and out of the charger was considered to be easy by 40% of the evaluators, 40% thought it was acceptable, and 20% found it to be cumbersome. Two evaluators voiced concern about stripping the threads when screwing the batteries into the charger.

**SIZE OF SPOT @ 14.0in/35.6cm**
3.1in/8.0cm. Its shape is somewhat like a diamond, but just like most LED headlights, its borders are diffuse, not distinct.

**POWER @ 14.0in/35.6cm**

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<th>Foot-candles</th>
<th>Lux</th>
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<td>High</td>
<td>2,741</td>
<td>29,500</td>
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<tr>
<td>Medium</td>
<td>2,202</td>
<td>23,700</td>
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Most evaluators (80%) thought the illumination level was more than enough, while 10% found it to be OK but not great and 10% didn’t think it was bright enough. Along the same lines, all evaluators except one used high most frequently, while the lone hold-out preferred the medium setting.

**UMBILICAL**
None.

**HEADLIGHT (WITH FILTER INSTALLED)**

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<tr>
<td>Diameter</td>
<td>0.8in/20.8mm</td>
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<td>Weight (with the universal loupé attachment)</td>
<td>1.7oz/48.2g</td>
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All evaluators considered the size to be acceptable, while most (80%) found its weight to be acceptable, with the other 20% finding it to be too heavy. Two evaluators noted that it felt very balanced and stable.

**FILTER**
Comes already attached to the headlight via a small screw at the top. This allows the filter to rotate easily over the aperture via a single pivot point when needed, but there is no mini-handle for pivoting it to cover or uncover the headlight. Therefore, due to the potential for contamination, you may want to have your dental assistant perform this task.

**IRIS ADJUSTMENT**
None.

**DIRECTIONS**
Small, plain paper booklet with several color photos. Information is reasonably straightforward and easy to understand. All evaluators also found the directions to be straightforward, easy to understand and follow.
STRENGTHS

WEAKNESSES
Capacitive touch doesn’t always work as intended. Lining up the battery for the screw-type attachment can be a nuisance and stripping the threads is worrisome. Users of headband thought it was bulky.

BOTTOM LINE
Very cool technology, but it needs some tweaking. However, Designs for Vision has just released a new cordless called the LED Daylite Wireless Mini, which besides being smaller and lighter, it also has a simplified rotational activation and is less expensive ($995). Look in FirstLook for a preview.