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Your reference ~

Our reference R/I1002/59

Date 12.6.74

DUPLICATE

Dear John,

Tinted Headbox

Following our conversation and my subsequent receipt of the special headbox I am now able to advise you upon the results of my simple checks of it under conditions of phototherapy.

With an NPL calibrated IL444 radiometer I recorded the effects of the headbox during the application of phototherapy in the SCBU at University College hospital and have detailed the following results.

1. Use of an Ohio NICC with a phototherapy application from 3x Phillips 20 W 03 blue tubes and 3X Phillips 20 W 55 tubes. In addition, an Airshield's phototherapy unit was directed at the same mattress and comprised 2X Phillips 20 W 55 tubes and 2X Phillips 20 W 03 blue tubes. I was unable to verify the service life of these tubes from new.

Result

With the Viamed headbox in position on the mattress under the warmer and at a number of measurements taken with the radiometer sensor positioned within the headbox the following values were noted from the radiometer as follows:

Headbox unfiltered	0.3-0.33 mw/cm ²
Headbox filtered	0.04-0.06 mw/cm ²

2. Measurements taken with the headbox positioned on the mattress in a baby incubator. Phototherapy was being applied from the top of the incubator by an Airshields apparatus comprising 4X 20 W 03 blue tubes of unknown service life. With the radiometer sensor positioned within the headbox the following results were recorded:

Headbox unfiltered	0.15-0.17 mw/cm ²
Headbox filtered	0.01-0.02 mw/cm ²

3. Measurements taken from the head of a small baby in the Viamed headbox resting on a mattress close to an Airshields Fluorlite apparatus

comprising 4X Phillips 20 W 03 blue tubes.

Result

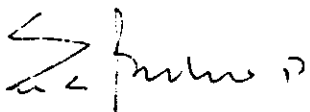
Headbox unfiltered
Headbox filtered

1.15-1.2 mw/cm²
0.08-0.1 mw/cm².

The headbox tinted filter seemed to be very effective in reducing the measured response of the tube outputs by about a factor of 10 in the 420 - 470 nm working range of this radiometer. The headbox was of particular interest to the Nursing Officer and others connected with this SCBU.

I shall arrange to return the headbox to the above address.

Yours sincerely



S C Bishop

Scientific and Technical Branch

P.S I enjoyed meeting Mr Corry and will endeavour to pass the knowledge of his abilities elsewhere.

