

CRI 95+

How important is adequate lighting in healthcare applications?

Most people equate "better lighting" with "how much light".

However, visual performance in medical applications requires the consideration of multiple factors beyond the simple metric of the required quantity of light.

Modern healthcare applications have breathtaking capabilities, but for medical staff to deliver the expected outcomes at the highest quality, a lighting criterion must be specified to enable optimum visual performance. A clear visual perspective is essential to apply processes and execute procedures quickly and accurately.

Whether the procedure is surgery, patient examination, monitoring recovery or diagnosing problems, medical staff need excellent illumination and colour rendering to differentiate conditions and identify symptoms.

When considering the perception of colour, accuracy of colour discrimination, differentiation of shades of skin tone (Cyanosis Observation Index) the colour quality of the LED light source is paramount.

Eagle Lighting have introduced CRI 95+ as an option for the Operating Theatre Light, Cleanroom IP65, and Secureroom (see below). CRI 95+ provides enhanced visual performance for medical staff and delivers beneficial outcomes for patient care.

Main benefits of CRI 95+

CRI 95+ delivers the best-in-class COI (Cyanosis Observation Index) of <0.9. The lower the number, the greater the capability of Cyanosis detection. The maximum permitted Index score is 3.3. Refer AS/NZS 1680.2.5:2018).

An exceptionally high R9 value of 80+ is achieved enhancing the visual representation of objects within the space. Recent studies recommend using red light as it promotes alertness in settings where (or at times when) you don't want to suppress melatonin but maintain/increase alertness and attention levels. This is particularly beneficial for surgeons, night shift workers, nurses, and patients in recovery. See in **Figure 1.1** comparison in red light between CRI90+ and CRI 95+.

2 SDCM (Standard Deviation of Colour Matching) is also achieved which maintains a high quality and prestigious impression across the complete operating duration of the lighting installation. The lower the SDCM value, the tighter the colour tolerance, meaning that the colour difference between any two luminaires of the installation is small. **Figure 1.2** highlights where 2 SDCM sits in the Chromaticity diagram.

CRI 95+ gives our customers access to the best colour rendition LED technology on the market, and it is locally available! New CRI 95+ product codes are now published on our website for the Operating Theatre Light, Cleanroom IP65, and Secureroom ranges. However, this technology can also be specified for most of our locally made products upon request. Please speak to your Eagle Lighting representative for further information.



Operating Theatre Light
CRI 95+



Cleanroom IP65
CRI 95+



Secureroom CRI 95+

Figure 1.1
CRI 95+ 4000K R9: 80+ vs CRI90+ 4000K R9: 61

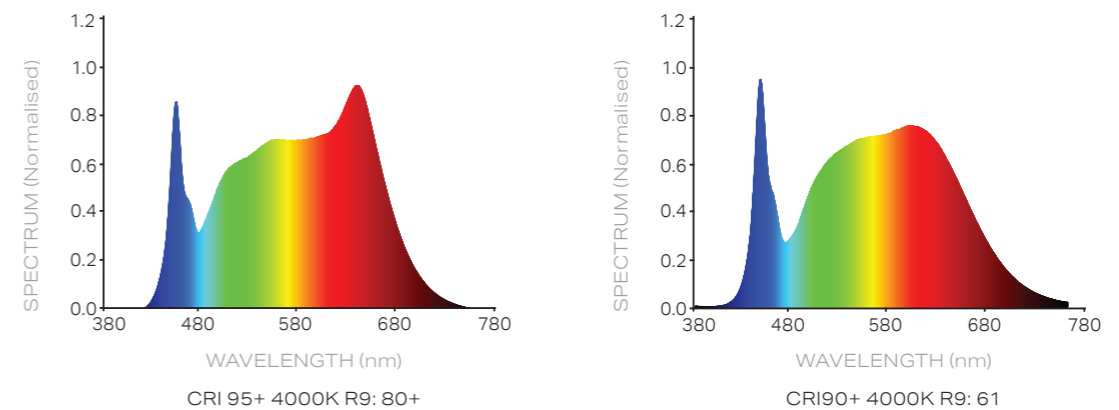


Figure 1.2
SDCM chart, visibility descriptions, and chromaticity diagram.

Size MacAdams Ellipse	Visibility
1 SDCM	Hardly any colour difference visible
2 SDCM	Differences are visible only with instruments
3 SDCM	Slight difference in colour visible
4 SDCM	Colour difference visible
5 SDCM	Marked difference visible

