OCULAR LIGHTING EFFECTS ON HUMAN PHYSIOLOGY, MOOD, AND BEHAVIOUR (CIE 158:2004)

ERRATUM (2009-Jan-21)

The committee wishes to correct two errors in the original report, as follows:

Page 4, figure 3, should be as follows:

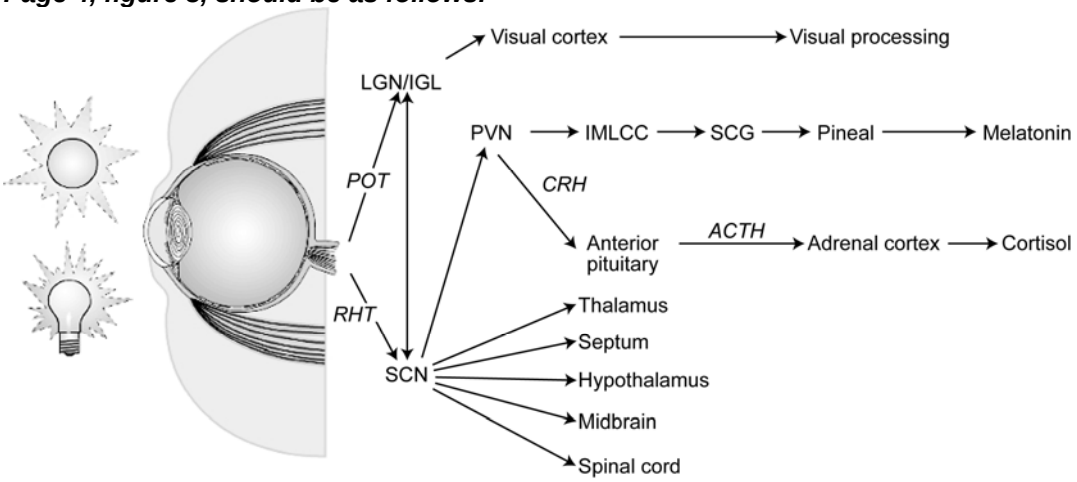

Figure 3: *Simplified schematic diagram of two eye-brain pathways. Light received by the eye is converted to neural signals that pass via the optic nerve to these visual and non-visual pathways. POT = Primary optic tract. RHT = Retino-hypothalamic tract. LGN/IGL = Lateral geniculate nucleus / Intergeniculate leaflet. SCN = Suprachiasmatic nucleus of the hypothalamus. PVN = Paraventricular nucleus of the hypothalamus. IMLCC = Intermediolateral cell column of the spinal cord. SCG = Superior cervical ganglion. CRH = Corticotropic releasing hormone. ACTH = adrenocorticotropic hormone.*

Page 7, paragraph 3, should read:

2.4 Cortisol

Cortisol is secreted principally by the cortex of the adrenal gland, at the end of a sequence of neurohormonal events. A current model for its circadian regulation holds that the SCN signals to cells in the paraventricular nucleus (PVN) of the hypothalamus to secrete corticotropic releasing hormone, which in turn stimulates the anterior pituitary to release adrenocorticotropic releasing hormone, which acts on the adrenal cortex to secrete cortisol (Buijs et al., 1998). Cortisol secretion shows a marked circadian pattern, peaking close to habitual waketime (~08h00) and reaching its trough close to habitual bedtime (~midnight) (Figure 2), superimposed on a distinct pulsatile (ultradian) profile. The amplitude of this rhythm might differ in people who report morning versus evening chronotypes (“larks” versus “owls”) (Bailey & Heitkemper, 2001), and for people with some mental disorders (American Psychiatric Association, 1994). Cortisol is also secreted, however, in pulses over the day, and acutely in response to strong external stimulation (Baum & Grunberg, 1997). Cortisol’s principal functions are to regulate glucose production from protein and to facilitate fat metabolism (Baum & Grunberg, 1997). Thus, its secretion in response to stressful events helps to release the energy needed to respond to threat. Its daily rhythm corresponds to the usual patterns of daily activity in humans.