



HAVELLS



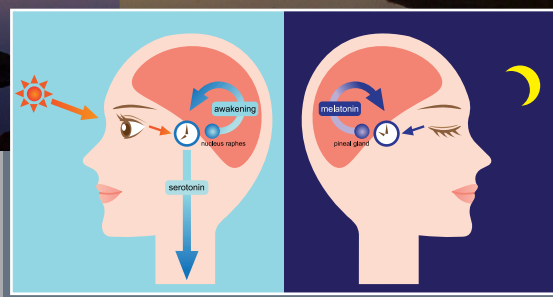
CIRCADIAN LIGHTING

TECHNOLOGY

BRINGING THE SUN INDOOR



Tapping Circadian rhythm with Biologically effective lighting



The photobiological flavours of Technologies have induced enough interest amongst researchers to go beyond energy efficiency of Luminaires and enhance Human health & function. Light controls many biological responses which are not associated with sight, like our internal body clock. Human vision follows the cycle of variation in the colour & intensity of Sun throughout the day, from amber & light, to cooler & brighter and then warmer thereby balancing our wake sleep cycle. The photoreceptors in eyes - Rods & Cones, sense the bright & low light levels & send signals to Brain to trigger the release of serotonin in day that boosts attention, & melatonin in night that promotes effective sleep. This creates Circadian Rhythm & supplements our physical & mental Health.

Hence a Lighting system is created to follow the cycle of natural light as experienced by Human & is called Circadian Lighting that enables people to perform at optimum levels while contributing towards mind & body wellness .



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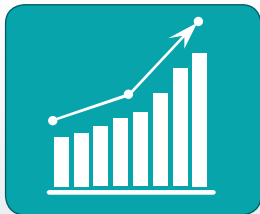
HOW DOES IT WORK

Light fixtures are integrated with Daylight & are designed to mimic the natural pattern of Sun with the help of tunable technology & automatic adjustment of intensity in harmony with Circadian rhythm. Light color with blue wavelength in Daytime are beneficial as they improve alertness & increases productivity, and reduce the fatigue & accidents at work at the same time. At night, the lighting system reduces the brightness & color is changed to warm, signalling the body to relax.

Havells innovation on Human Centric lighting is instigated by taking advantage of LED's real time color & light level changing capability with Bluetooth CSR mesh technology & is offering Light solution as per the natural need to track circadian health.



BENEFITS



INCREASED PRODUCTIVITY



IMPROVED HEALTH



IMPROVED ALERTNESS



REDUCED HYPERACTIVITY



IMPROVED MOOD &
BEHAVIOUR

GENESIS

Our contemporaneous lives would be inconceivable without the invention of artificial lights that gave human beings the flexibility of continuing to work in indoor atmosphere with all comforts & till late in the night. But it somewhere de sync people with local time & distort circadian system which brings a whole host of long term health & behavioural problems like reduced productivity, fatigue, obesity, depression, sleep disorders, irritability & many more.

Technical advancements coupled with most favourable source of light in the form of LED, help us conceptualize & deliver lighting solution that alleviates circadian disruption, optimize mood, and improves our sense of well being.

Lighting & Health discoveries are in its infancy but promising a whole new line of potential benefits for times to come. Circadian Lighting is a step towards creating lighting prescription to outstretch the potential benefits on health, mind and productivity through light that lets the soul & body behave to contrast & chromes in the Indoor World.

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