



HEALTHCARE LIGHTING



Kakariki Hospital Greenlane
Engineer: NDY
Featuring: Zera Bed



LIGHT FOR WELLBEING

Light Has a Deep Impact on our Health, Wellbeing and Recovery

Humans have both visual and non-visual responses to light. Like all living things on Earth, we have evolved over millennia with a constant day-night cycle repeating every 24 hours. Indoor environments disrupt this natural rhythm, and artificial lighting often does not meet the biological needs we have as a species.

Nowhere is this more important than in a healthcare setting.

Patients in a healthcare facility are there to heal, and their circadian rhythm and sleep quality are major contributing factors in the

healing process. Careful planning of the placement and timing of both visual and non-visual light spectrums can have a positive impact on the speed of a patient's recovery.

Healthcare facilities are also the workplace of countless people who are there day in and day out, undertaking tasks of the utmost importance—often under pressure and working long hours or shifts. Effective zoning of both visual and non-visual light in healthcare spaces can support both employees and patients.



Hillmorton Hospital
Engineer: Beca
Architect: Klein
Featuring: ERCO Skim



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Lighting plan by Cundall
Featuring: ERCO Compar and Lighting System

Research & Studies



Synopsis: Patients near windows tend to go home sooner.

[Link to paper.](#)



Synopsis: Reduced melanopic light at night improves sleep quality.

[Link to paper.](#)



Synopsis: Good quality sleep improved wound healing.

[Link to paper.](#)

CIRCADIAN LIGHTING

Non Visual Light for Health

Only in the last 25 years has neuroscience discovered that our eyes perform two functions: visual and non-visual. They send signals to parts of the brain that regulate our circadian rhythm, cognition, mood, and alertness. These systems influence how we perform, how we feel, and ultimately our health and wellbeing.

The light that drives this process is commonly referred to as melanopic or circadian light. The term melanopic comes from melanopsin, a light-sensitive protein found in specialised cells in the eye known as intrinsically photosensitive retinal ganglion cells (ipRGCs). This protein transmits signals directly to the brain's master clock, the suprachiasmatic nucleus (SCN).

These ipRGCs are most sensitive to light wavelengths between 480–490 nm. To the human eye, this light appears as a light blue or cyan colour, similar to a clear blue sky.

Many standard LED light sources have relatively low output in this “blue sky” region of the spectrum. When used throughout healthcare environments, this can result in daytime lighting that is biologically too dim and night-time lighting that is biologically too bright for human needs.

While individuals differ slightly in chronotype (early birds versus night owls), and ageing

reduces the amount of light that reaches the retina, the human circadian response to light is broadly consistent. In healthcare facilities, however, people use spaces in very different ways and with very different objectives.

Patients may be present for a short or extended stay. Their health is already compromised, and their primary goal is recovery. Staff, on the other hand, work in these environments day after day, often for many years, sometimes across rotating shifts, with the goal of supporting patient care.

Circadian Light for Patients

If patients receive insufficient melanopic-enriched light during the day and are exposed to excessive light at night, the signals from the eye to the brain become disrupted. This leads to circadian rhythm disturbances, poorer sleep quality, and longer recovery times. Conversely, exposure to a melanopic-enriched spectrum during the day supports alertness and cognitive function – important when patients need to process complex information and make significant decisions about their health. Circadian lighting can now be quantified, measured, and delivered using the latest evidence-based design applications.

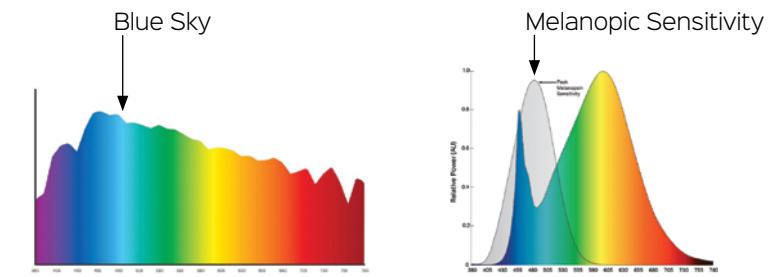
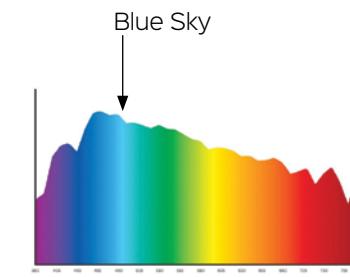


CIRCADIAN LIGHTING FOR HEALTHCARE STAFF

While all humans share the same biological needs, healthcare employees need to be considered differently from patients. Staff occupy many different spaces across a 24-hour cycle, and they do so repeatedly over the course of their careers.

Much of the discussion around circadian lighting in healthcare has focused on shift workers. This is understandable – working at night disrupts circadian timing. However, artificial light alone cannot resolve the misalignment created by working against the natural day–night cycle. Because of this misalignment, most circadian lighting guidance has focused on people with a conventional day-awake, night-sleep schedule.

In a typical hospital, the number of staff working during the day is around five times higher than those working overnight on shift. Many of these daytime staff work deep within buildings, with little or no access to daylight, relying on artificial lighting with insufficient melanopic content. By delivering appropriate levels of melanopic light in the spaces that staff occupy regularly – such as offices, nurses' stations, consultation and meeting rooms, reception areas, and staff rooms – lighting can improve circadian entrainment for the vast majority of healthcare workers.



Typical LED Light Spectrum

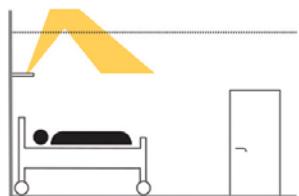


INNOVATION FOR PATIENT ROOMS

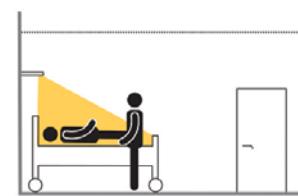
There is now a simple solution for room lighting that supports wellbeing and recovery while simplifying installation, reducing maintenance, and enabling easy operation by healthcare staff.

Introducing the Zera Bed, a 4-in-1 luminaire from Waldmann. The Zera Bed light offers four lighting scenarios: ambient lighting to softly illuminate the room, a focused examination light directed toward the bed area, a glare-free reading light for comfortable personal time, and a night-light mode to minimise disturbance during rest.

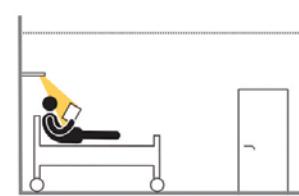
Ambient Light - 3,000K



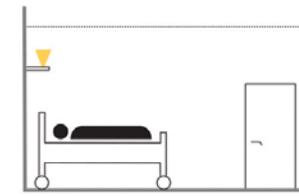
Examination Light - 4,000K (COI)



Reading Light - 2,700K



Night Light - 2,700K or 3000K

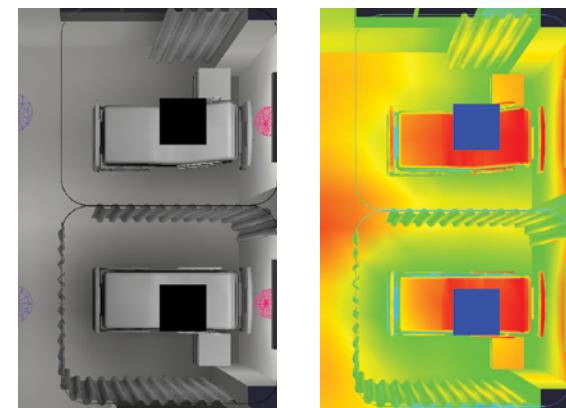




ZERA BED VS TRADITIONAL SOLUTION

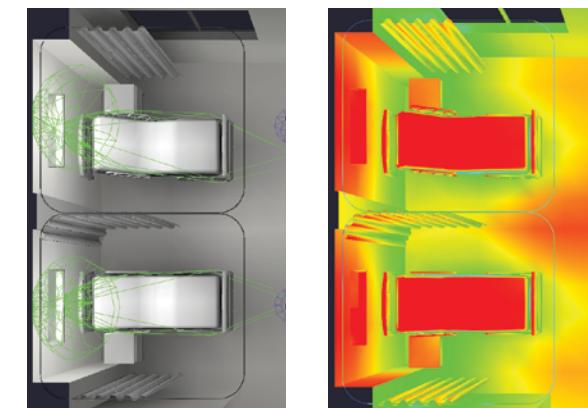
A **traditional lighting solution** often requires three or four luminaires to deliver the various lighting scenarios needed in a hospital room. This increases overall project cost. Diffuse and uncontrolled light distribution from fittings such as troffers can disturb neighbouring occupants and often requires additional ceiling coordination with other building services.

TRADITIONAL SOLUTION



The **Zera Bed** provides the required patient bed lighting from a single luminaire. Its innovative optics deliver an asymmetrical distribution that directs light precisely along the bed, creating a clear, uniform examination field while preventing glare for neighbouring occupants.

ZERA BED



Comparison Chart

	INSTALLED POINTS PER BED	ENERGY	USER COMFORT	MAINTENANCE	CONTROL	INSTALLED COST	CEILING SERVICE COORDINATION
TRADITIONAL SOLUTION	Up to 4	>30%	Light in line of sight	Complex via ladder	Complex	> 40% (\$\$\$\$)	Complex
ZERA BED	Only 1	<30%	No light in line of sight	Easy via steps	Simple	< 40% (\$\$)	Simple

As the luminaire incorporates a horizontal surface, cleaning is often questioned during the design phase. All horizontal surfaces are assessed during the hospital design process, and a cleaning regime – agreed by Infection Prevention & Control – is applied. This standard procedure must apply to any wall-mounted bedhead luminaire.



INNOVATION FOR MENTAL HEALTH UNITS

The Salvalux Product Family by Energylight

Traditional inpatient mental health units have often been kept minimal, with poor lighting and an environment that can feel institutional or even prison-like. This is not aligned with the state or needs of individual consumers, nor is it an appropriate setting for active recovery. These spaces frequently provide only the basic function of visual light, with little warmth, care, or aesthetic appeal.

Through collaboration with an engineering consultant and Energylight's in-house product design team, the Salvalux anti-ligature lighting solution was developed to pave the way for more welcoming and supportive lighting within the mental health sector.

Salvalux is derived from two Latin words: Salva (meaning "save" or "rescue") and Lux (a measure of light).

Salvalux is designed to provide a sense of safety, security, and comfort – much like one might feel at home – while also ensuring individuals are protected from accessing internal components of the fitting or causing harm. The overarching purpose of Salvalux is to enhance wellbeing for people who may spend extended periods in their rooms, helping to create a space that is pleasant both aesthetically and biologically.

The Salvalux product family now includes:

- Small and Large Sizes
- Wall Light
- Linear
- Emergency Kit
- Amber Night Light
- Circadian Light
- Colour RGB





Te Kotuku, Whangarei Maternity Hospital
Engineer: Beca
Architect: Klein
Featuring: Zera Bed, Examination light on

CYANOSIS OBSERVATION INDEX

What is COI?

COI stands for Cyanosis Observation Index. It is a unit of measure used in Australia and New Zealand since 1997 – most recently defined in the lighting standard AS/NZS 1680.2.5:2018 – and specifies the suitability of a light source for healthcare environments. In particular, the index describes how well a light source supports the visual detection of cyanosis.

The test evaluates the colour appearance of fully oxygenated and oxygen-depleted blood under both a reference light source and the light source being assessed.

The interior lighting standard AS/NZS 1680.2.5:1997, which covers “Hospital and medical tasks,” introduced the concept of lighting designed to aid cyanosis observation. This standard established the Cyanosis Observation Index (COI) as the measure of how effectively a light source supports detection of cyanosis.

Full requirements are outlined in Section 7.2 of the standard, which states that “where it is decided” that cyanosis observation is necessary, the lighting should have a colour temperature between 3300K and 5300K, and a COI of 3.3 or less.



Images: Parkside Ward in Christchurch Hospital. Trunking system seen either side of the bed bars and Zera Bed Head light.

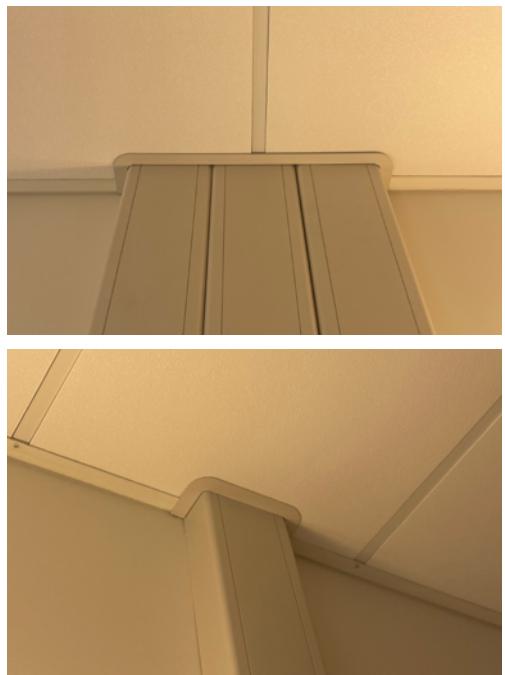
150V TRUNKING

Customisable Vertical Trunking for Healthcare

Electrical outlets in hospitals are critical to room functionality. Developed locally in New Zealand through collaboration with the Canterbury District Health Board and health engineering consultants, Energylight 150V was created specifically for New Zealand hospital applications.

The specified aluminium extrusion uses vertical mounting to ensure effective use of space and compliance with safety legislation. Compared to horizontally mounted systems, the vertical configuration allows for a higher density of accessories, including electrical power sockets, data outlets, nurse call points, and medical gas fittings. The advantage of the Energylight 150V product is that all accessories remain within easy reach of clinical staff and room occupants when installed vertically.

The trunking system is inherently a second-fix construction component, as it is mounted on the surface of the wall. This allows walls to be completed and painted earlier in the project timeline before the trunking is installed, reducing the risk of damage during the final-fix stage.



Images: Parkside Ward at Christchurch Hospital.
Energylight 150v Trunking in two arrangements; one and three trunking in the system, either side of the bed head.

150V TRUNKING

The Energylight 150V's key features include safety, ease of use, and hassle-free installation. It is also backed by a 10-year warranty.



Customisable height to align with hospital needs.



Cost-effective installation



10-year warranty



Ease of use for doctors, nurses and patients.



Flexibility for further changes.



Locally sourced aluminium



Different services separated and well-located.

The 150V trunking system provides a uniform appearance and can incorporate clinical colour coding (e.g., ports needed for staff and occupant use). This gives clinical staff confidence that each required service is located consistently at each bedhead and remains within easy reach. This reduces clinical risk and minimises delays in accessing essential emergency services.



Eastfield Health Medical Centre
Architect: Three Sixty Architecture
Featuring: Viline, ERCO, RZB



NAVIGATING LIGHTING IN THE HEALTHCARE FACILITY

LOBBY & WAITING ROOMS

Lobby and waiting areas shape how people feel as they enter a healthcare facility. Lighting in these spaces operates for long hours and should be glare-free while supporting easy orientation. Ambient illumination to walls or ceilings helps define the space, while focused accent lighting draws attention to key destinations such as entry thresholds and waiting areas. Given the long runtime of these environments, luminaires must be robust and designed for a service life of 20 years or more to ensure consistent performance over time.

Circadian consideration:

Most people will simply pass through these areas, and the lighting will have minimal impact on their circadian rhythm or overall health. However, it is important to consider the staff who may work in these locations for extended periods, often with little or no access to daylight.

NZ MADE



Energylight
VIFO



Energylight
Vilne



Energylight
Vilne



ERCO Iku
Recessed



ERCO Skim
Surface &
Recessed



ERCO Compar
Recessed



ERCO Parscan
Track Lighting



ERCO Atrium
Surface &
Recessed



RZB Kaleea
Tile Ceiling



RZB Triona
Ceiling mount



RZB Flat Slim



Hillmorton Hospital

Engineer: BECA

Architect: Klein

Client: Te Whatu Ora, Health NZ

Featuring: Salvalux, ERCO and Energyline



WORKSTATIONS & RECEPTION AREAS

These areas require lighting that enables staff to see clearly, work accurately, and communicate confidently, with suitable control over their environment. Low-glare task lighting is essential for sustained visual performance in these high-use spaces. Good vertical illumination supports clear face-to-face interaction with others, promoting trust and understanding.

Circadian consideration:

These areas are often located deep within the building and isolated from natural daylight. Considering melanopic spectra — enriched during the day and reduced at night — can help support staff cognition, mood, and alertness during peak daytime hours, while maintaining a more natural circadian rhythm overall.

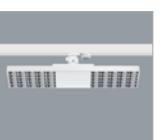
NZ MADE



RZB Parledo Round



RZB Kaleea Tile Ceiling



ERCO Jelly Track Lighting



ERCO Iku Recessed



ERCO Skim Surface & Recessed
ERCO Compar Recessed



Energylight VIFO



Energyline



Energylight Viline

PATIENT ROOMS & WARDS

Room lighting must support healing, comfort, and rest while enabling staff to provide effective care. Thoughtful lighting design reduces visual clutter and creates a calm environment without compromising clinical performance. Solutions such as the wall-mounted approach developed by Waldmann show how a single luminaire can replace multiple fittings, simplifying installation and space while meeting the needs of caregivers and room occupants.

Circadian consideration:

Staff impact in these rooms is minimal (except in intensive care), as they do not remain for long periods. Those staying several nights or more benefit most. Melanopic-enriched light during the day and melanopic-depleted light at night can support circadian entrainment, aiding recovery and improving sleep-wake patterns.

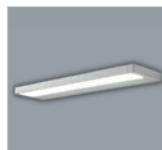
NZ MADE



Energylight
EVALA



ZERA Bed



ZERA Bath



ERCO Iku
Recessed



RZB Parledo
Cleanroom IP65



RZB Parledo
Round



Selwyn Health Hub
Engineer: Powell Fenwick
Architect: IKON Architects
Featuring: Zera Bed, RZB



MENTAL HEALTH UNITS

These environments require lighting that prioritises dignity, safety, and emotional wellbeing. Historically, such spaces have often been illuminated with overly harsh, institutional lighting. Current design objectives focus on a more human-centred approach, balancing a warm, residential character with robust, tamper-resistant construction. These solutions help create environments that feel supportive rather than restrictive.

Circadian consideration:

Melanopic spectra should be considered in areas designed for longer stays where natural daylight is limited, as well as in staff spaces that are occupied for extended periods.

NZ MADE



STAIRS & CORRIDORS

Stairs and corridors are active circulation spaces that must support safe movement for everyone – whether walking, using wheelchairs, or being transported in beds. Lighting should provide clear, even illumination while carefully controlling glare.

Circadian consideration:

As these are transitional spaces, circadian lighting is less critical than ensuring visual clarity, safety, and consistency.

NZ MADE



Energylight
Viline



Energylight
Energyline



Energylight
EVALA



ERCO Skim
Panlens
Recessed



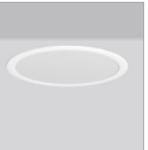
ERCO Skim
Panlens
Surface



RZB Kaleea
Tile Ceiling



RZB Flat Slim
IK08



RZB Parledo
Round



RZB Rounded
IK10



RZB Mondana
Ceiling mount



Manai House
Engineer: Aurecon
Featuring: Viline



Image courtesy of Solite

CLINICAL & PROCEDURE SPACES

Clinical and procedure spaces demand lighting that supports precision, hygiene, and visual confidence. Uniform, shadow-free illumination is essential for focused tasks and safe clinical practice. In clean and sterile environments, luminaires must meet high ingress-protection ratings and incorporate antimicrobial surface treatments compliant with international standards. These features enhance infection control while delivering reliable, high-performance lighting where it matters most.

NZ MADE



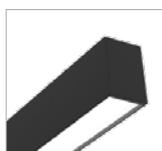
Solite Epsilon
For Plaster Board
Ceiling



RZB Parledo
Cleanroom IP65



Energylight
Viline



Energyline
Optimised



Energyline
108

EMERGENCY & CRITICAL CARE

Emergency and critical care spaces require lighting that supports rapid decision-making, visual accuracy, and continuous activity. High light levels with excellent colour rendering are essential for assessing individuals quickly and clearly. At the same time, glare control and layered lighting strategies help reduce visual fatigue during long shifts. Flexible control systems allow lighting to adapt to changing clinical demands while maintaining a stable, high-performance environment.

Circadian consideration:

Circadian lighting becomes relevant in zones that healthcare staff occupy for extended periods. Occupant stays in these areas are typically brief, making circadian impact less significant for them than for staff.



Te Kotuku, Whangarei Hospital
Engineer: Beca
Architect: Klein
Featuring: Energyline

NZ MADE



Energyline
Viline



Energyline



Energylight
EVALA



ERCO Skim
Panlens
Recessed



ERCO Skim
Panlens
Surface



RZB Kaleea
Tile Ceiling



RZB Flat Slim
IK08



RZB Parledo
Round



RZB Rounded
IK10



RZB Mondana
Ceiling mount



Te Nikau Grey Base Hospital
Engineer: WSP
Featuring: Evala, Energyline

DIAGNOSTIC & IMAGING

Diagnostic and imaging areas require carefully controlled lighting to support accuracy, concentration, and overall comfort. Low-glare ambient lighting helps staff transition between screens and physical tasks without eye strain, while adjustable light levels support different procedures and imaging requirements. In MRI environments, non-ferrous luminaires are essential to ensure safety and equipment compatibility. Softer lighting can also help reduce anxiety, creating a calmer and more reassuring experience during examinations.

Circadian consideration:

Circadian lighting is typically not required for short-stay occupants, as time spent in these rooms is brief. However, staff may work continuously in these environments, often without access to natural daylight. For this reason, melanopic-enriched lighting should be considered

NZ MADE



Solite Epsilon
For Plaster Board
Ceiling



RZB Parledo
Cleanroom IP65



Energylight
Viline



Energyline
Optimised



Energyline
108

CONSULTATION & MEETING ROOMS

These spaces benefit from lighting that supports comfort, communication, and flexibility. A balanced combination of direct and indirect light helps create a calm, professional atmosphere for both staff and room occupants. Dimming controls allow light levels to be adjusted for different activities, while occupancy sensors help reduce unnecessary energy use.

Circadian Consideration:

In areas with limited daylight or night-time operation, circadian-informed lighting can support the wellbeing of staff who use these spaces for extended periods.

NZ MADE



Energylight
VIFO



Energylight
Viline



Energylight
Viline



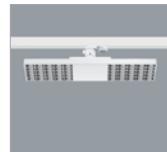
ERCO Iku
Recessed



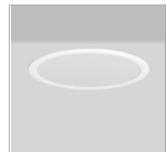
ERCO Skim
Surface &
Recessed



ERCO Compar
Recessed



ERCO Jilly
Track Lighting



RZB Parledo
Round



RZB Kaleea
Tile Ceiling



RZB Triona
Ceiling mount





HIGH PROTECTION LABORATORY



Energyline Robust
IP65 IK08

Solite Epsilon
For Plaster Board
Ceiling

Solite Gamma
Surface

LABORATORIES & CLEAN ROOM

Laboratories place high demands on light quality. Appropriate illumination levels, colour temperature, colour-rendering performance, and effective glare control all help ensure accurate readings, minimise errors, and create a comfortable, safe environment. Glare reduction should be prioritised to support visual comfort and reduce eye strain and fatigue.

Recommended light levels for different areas within laboratory, testing, and medical facilities vary depending on the tasks being performed. Luminaire specifications also differ according to laboratory type, ranging from general laboratory spaces to PC2 facilities and pressurised room environments.

Circadian consideration:

Laboratories are typically isolated from natural daylight and often occupied for long periods of time, therefore melanopic enriched spectrum during the day would have a positive biological impact.

STANDARD LABORATORY



Energylight
Viline

Energyline 75
IP5X

RZB Parledo
Cleanroom IP65



Hillmorton Hospital

Engineer: BECA

Architect: Klein

Client: Te Whatu Ora, Health NZ

Featuring: Salvalux, ERCO and Energyline

EXTERIOR FACADE & CARPARKS

Exterior lighting plays an important role in safety, orientation, and reassurance when arriving at or leaving a healthcare facility. Warm-toned, uniform lighting improves visual comfort and reduces glare, helping people feel secure. Exterior solutions that meet PC1 standards are essential for car parks and pathways, with bollard lighting supporting clear and comfortable navigation for all visitors. Good glare control enhances visibility, safety, and overall confidence in the environment.



RZB Planox Eco
Interior Carpark



RZB Rounded
Eyelid



ERCO IKU IP65
Recessed



ERCO IKU IP65
Surface



ewo GO



ewo F-System



ewo FA100



ewo FA170
Bollard



ERCO Castor
Bollard



Energyline Robust
IK10 with Optics



SALVALUX
Small

NZ MADE



Hillmorton Hospital
Engineer: BECA
Architect: Klein
Client: Te Whatu Ora, Health NZ
Featuring: ERCO and RZB



Burwood Hospital
Engineer: BECA
Featuring: Energyline



Auckland Stroke Unit
Engineer: Aurecon
Featuring: Energylight

OUR NZ MADE STORY

Energylight strongly believes in the value of the New Zealand brand.

We are highly experienced in the design and manufacture of quality lighting solutions. While technology continues to evolve, our values remain the same – to support New Zealand.



At Energylight, “Made in New Zealand” is central to our purpose, and we strive to support local industry throughout multiple stages of our production process. Our selected portfolio of luminaires is built from the ground up in New Zealand, and this is something we are genuinely proud of.

These locally manufactured solutions are complemented by a range of high-quality products from our exceptional global partners, whose technical strength and reliability broaden and enhance our offering. We are fully engaged with the latest innovations worldwide, while continuing to encourage investment in local manufacturing and employment.

The specialist engineering and manufacturing expertise within our company – along with the strength of our local supply chain – contributes to the depth of talent and the positive culture that the Energylight has demonstrated since its inception. We are constantly inspired by the brilliant ideas by fellow New Zealanders, helping us continually improve efficiency and performance.

‘We are proud to support the New Zealand Healthcare market, and work with design teams to deliver robust and efficient lighting solutions.’

CALEB KING

Technical Director, Energylight



RSF

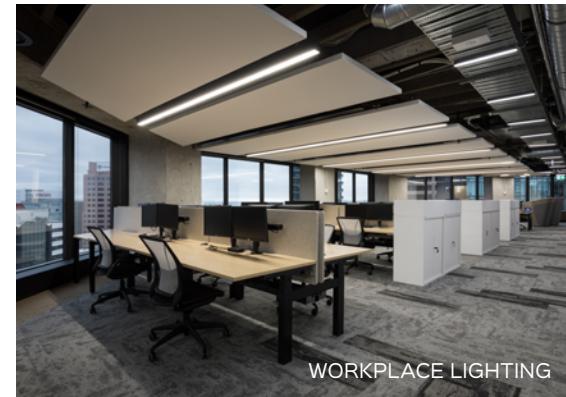
OBS

cobas® 8100

ACU



OUR BROCHURES



CONTACT US



James Duder
Sales Director
National



Caleb King
Technical Director
National



Mark Jansen
Creative Director
National



Donna Julian
Lighting Specialist
Team Lead - AKL



Allan Davies
Lighting Specialist
Auckland



Divya Somerville
Lighting Specialist
Auckland



Mike Geddis
Lighting Specialist
Outdoor - National



Rochelle Wong
Lighting Specialist
Christchurch



Derek Colley
Lighting Specialist
Christchurch



Christchurch Outpatients
Architect: CCM Architects
Engineer: Cosgroves
Featuring: Energyline

Front Cover Image:
Hillmorton Hospital
Engineer: Beca
Architect: Klein
Featuring: Salvalex, ERCO and Energyline

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www.energylight.net | contact@energylight.net
AUCKLAND: 504/150 Karangahape Road, CBD | 03 977 2034
CHRISTCHURCH: 204 Cumnor Terrace, Woolston | 03 977 2034



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