

isollux™

Intelligent Lighting Solutions



Specifier Series | **Sentinel**

Extraordinary Service Life

Sentinel is a truly capable, fully serviceable commercial luminaire, with the highest possible specification, in a package that will deliver a minimum service life in excess of 25 years*.

It not only delivers unmatched durability, Sentinel is specified with the latest technological innovations including high performance, high density, dual-die chipsets and DALI D4i, IoT LED drivers. To deliver a future proofed LED lighting system, that is optimised for quality commercial, civic and governmental investment programs.

Its combination of quality components, extended life cycle and serviceable parts eliminates unnecessary waste to deliver the highest ROI and NPV and lowest carbon footprint of any competing product available today. Outperforming all competing products in its class in terms of form, function and financial return.



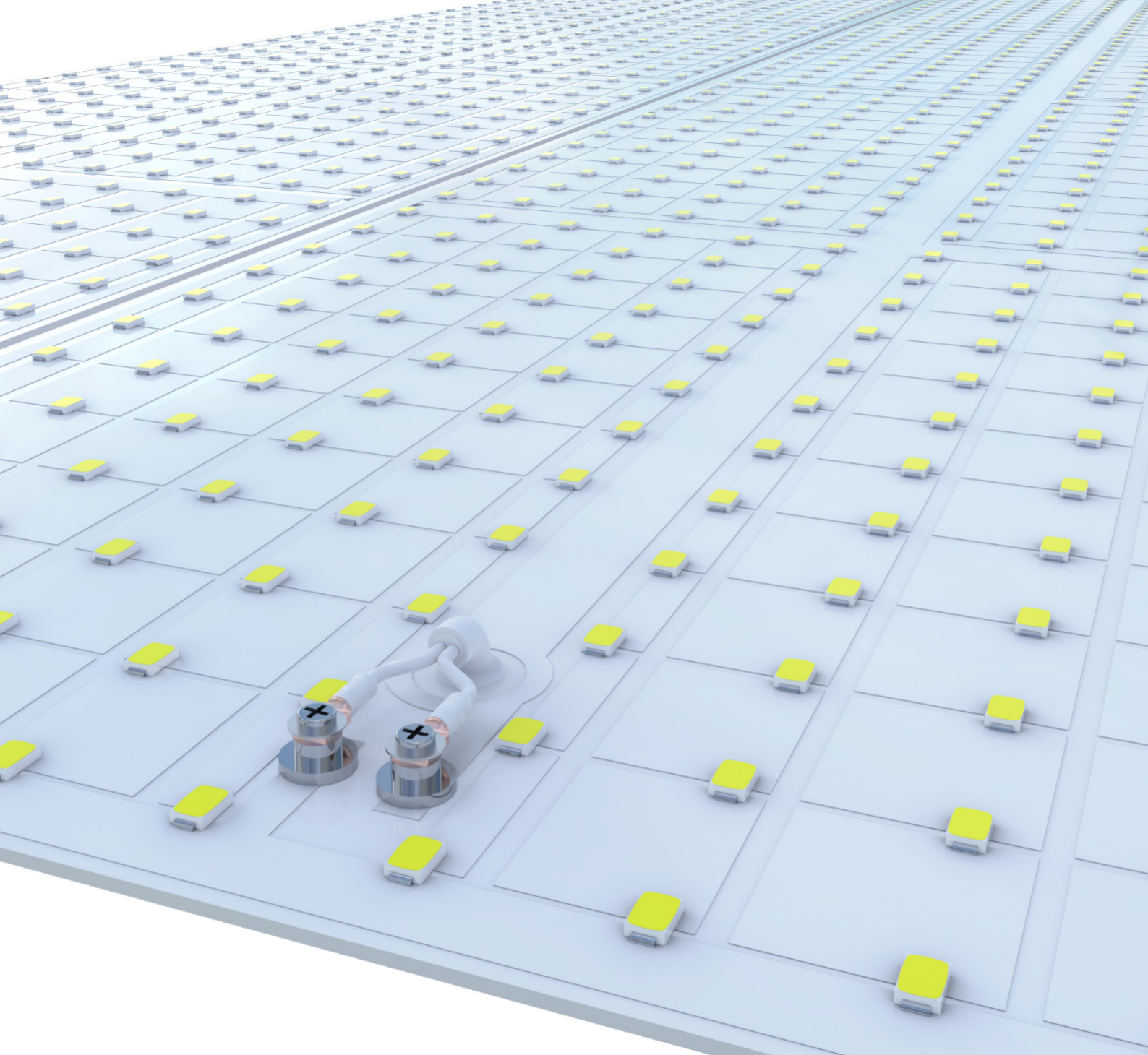
Available in Standard
or Custom Sizes.

With power options from 40W-200W at 1200mm x 600mm and 40-100W at half panel sizes, Sentinel is perfect for standard openings across all standard nominal sizes from 300/600/900 to 1200mm.

Sentinel may be customised at any comparable power rating to suit custom architectural requirements and at virtually any size or length up to 3.6m*.



* Max length generally restricted to 3.6m as single lens



High Performance Arrays

To achieve Sentinel's extraordinary longevity, reliability and performance characteristics, we specified the highest chip count of any comparable product, with over 2,300 Isollux dual-die HE chipsets/m². Through board screw-terminals provide serviceable connections to a 1.5mm Aluminium/Copper PCB without compromising durability, whilst maximising thermal efficiency, eliminating internal wiring looms, reducing and simplifying components

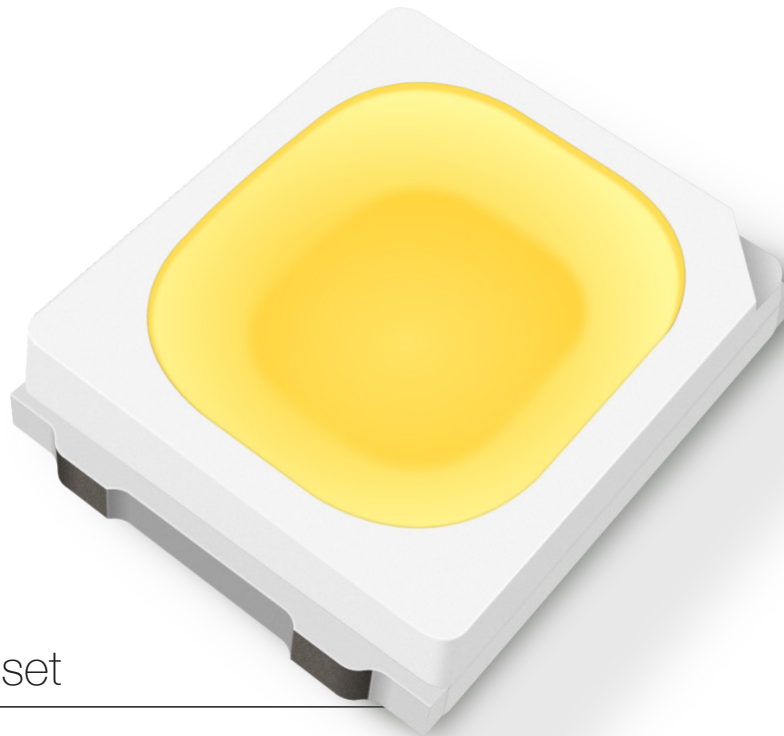
The result is a highly efficient, superbly uniform light source of the highest possible quality colour point accuracy at 4,000°K | 5000°K | 6,000°K within a 3 step McAdam Ellipse.

132lm/W @ Ra93 (5,000°K)

L₉₀ ≥ 100,000 Hrs L₇₀ > 200,000 Hrs



Performance that delivers greater control



HE LED Chipset

180lm/W @ CRI (Re) 95

≥100,000Hrs/L90

Ra95 | 3000K | 4000K | 5000K | 6000K

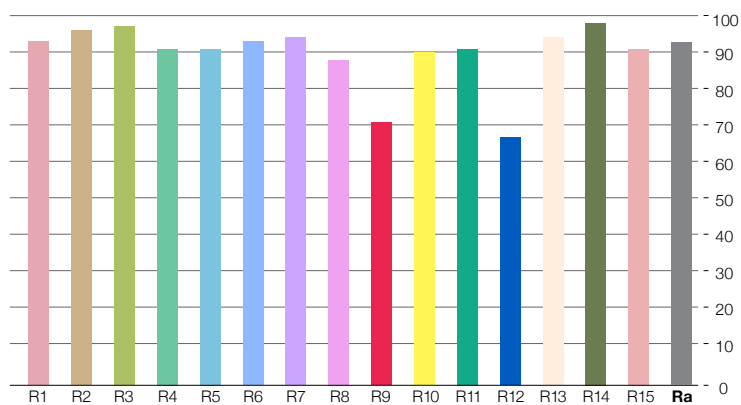
The Isollux HE LED Chip is a powerful and long-lasting dual die chipset. It delivers an incredible 180lm/W at CRI (Re) 95 while operating four times longer than industry standard with minimal losses*. The combination of L90 performance and absence of B'ratings for the fitting, provides lighting designers with the freedom to adopt tighter specification with confidence. Lowering power density and stable lux levels without the use of lighting controls.

*HE Chipset L90 Lifetime calculated using 9,000hr independent LM80 photometry report, citing zero failures, using the Energy Star TM-21 protocol. Calculations are based on ambient temperatures of 25°C. Assumes driver replacement as routine maintenance event with driver replacement schedules subject to, power quality, frequency of switching cycles and average to peak ambient operating temperatures. Assumes driver replacement at midpoint of lifecycle, with the calculated MTFB 192.2K hrs min. MIL-HDBK-217F (25°C) based on the 100W 1500mm TPA/TPH. Average driver life 62,000Hrs



Sentinel delivers the ultimate experience with accurate, stable colour rendering.

Sentinel surpasses the most stringent international colour rendering performance requirements with a standard offering of CRI 87 (Ra) ≥ 93 and the power to deliver this experience even at the highest lux level requirements of quality control, retail and medical applications.



Fully Serviceable Construction

Sprung corners provide access to all of the internal components for long term servicing for example lens replacement if accidentally damaged.

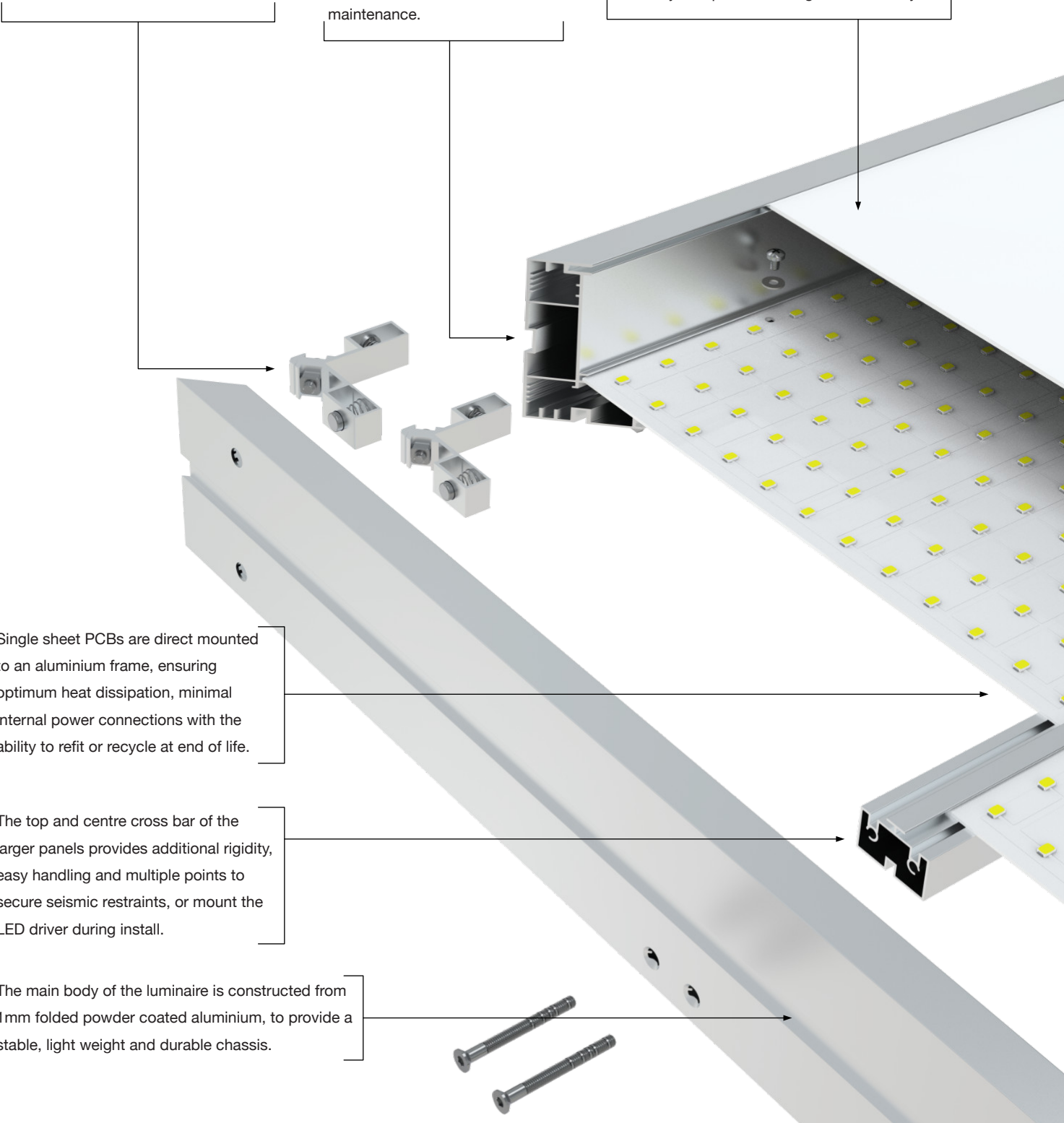
An extruded anodised aluminium frame fully encapsulates the lens and prevents finings permeating the interior during assembly and maintenance.

The polycarbonate (2MM/PC) impact resistant and fire rated primary lens eliminates glare and spotting. The lens is both seismically secure and easy to replace if damaged accidentally.

Single sheet PCBs are direct mounted to an aluminium frame, ensuring optimum heat dissipation, minimal internal power connections with the ability to refit or recycle at end of life.

The top and centre cross bar of the larger panels provides additional rigidity, easy handling and multiple points to secure seismic restraints, or mount the LED driver during install.

The main body of the luminaire is constructed from 1mm folded powder coated aluminium, to provide a stable, light weight and durable chassis.





Passive Heat Sink

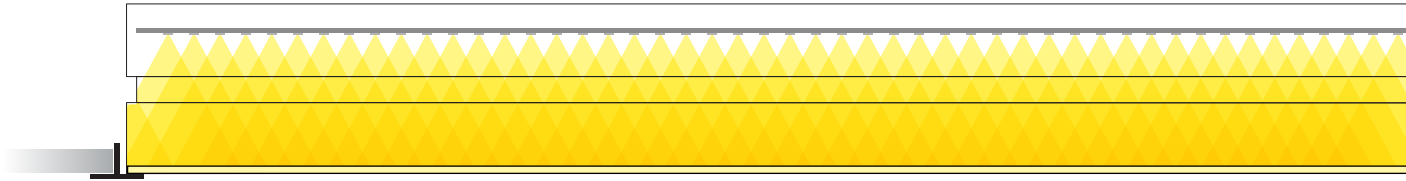
The back panel is a single passive heat sink, utilising natural convection to optimise and stabilise thermal load across the entire PCB.

The extruded aluminium frame is anodised to protect its long term cosmetic appearance and features a recessed structural mount around its perimeter that provides multiple anchor points for the seismic restraints supplied with the product for simple safe installation.

Sentinel Eliminates Panel Fade

Sentinel is guaranteed to deliver uniform light across the entire lens throughout its lifetime. The high density PCB packs the highest LED count of any panel fixture not only optimising performance and reliability but ensuring a perfect, clean visual aesthetic, that looks as good as it did on the first day of install for its entire service life.

Sentinel PCB Board ▼

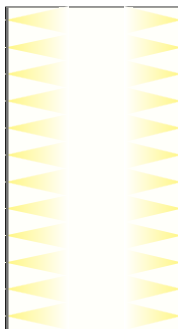


What is panel fade?

Typical LED panel lights are cheap to manufacture, designed with the lowest possible component count, and volume to reduce manufacturing and freight costs. Designed as throw away items, they are unserviceable, with poor thermal performance and the initial clean look degrades quickly.

Both low density side and top lit panels frequently suffer rapid aesthetic depreciation or “panel fade”. The appearance of dark patches that spread persistently from the centre of the panel or across the surface. These cosmetic faults often appear just a few short months after installation.

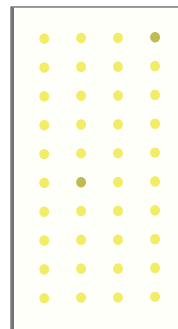
Typical Side Lit Panel



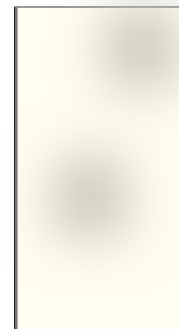
Expanding Dark Band



Low Density TLP

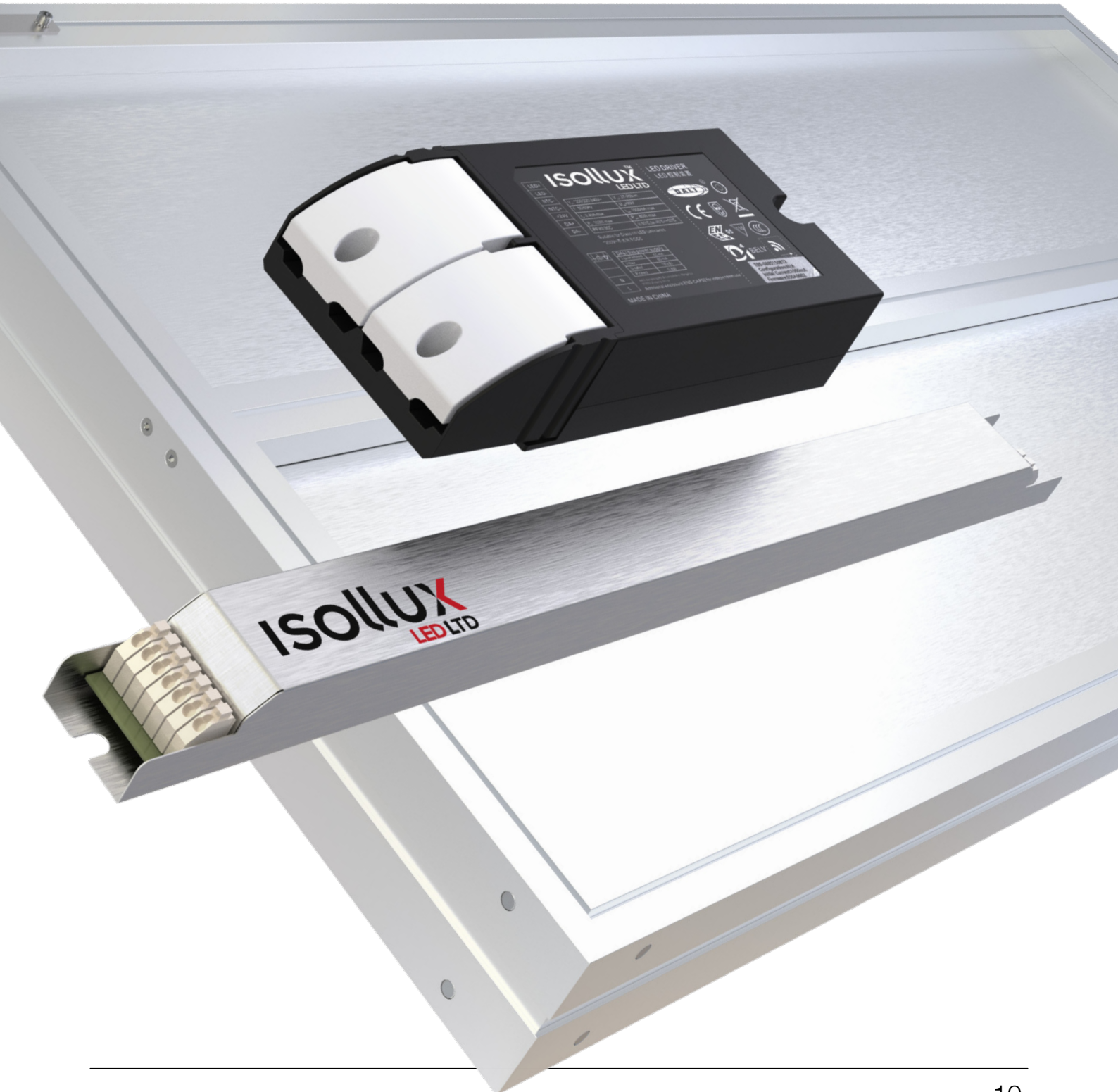


Dark Patches



Multiple Driver Options

Sentinel can be specified with a range of LED drivers, from simple flicker free non dimming options with a minimum five year warranty, to the latest DALI D4i, IOT ready solutions that offer extended warranties of up to ten years and remote health monitoring. Allowing cost effective integrated emergency options via a centralised UPS.



Main Luminaire

- ▶ 25 Year Service Life Main Housing (Min)
- ▶ Fully serviceable and replaceable LED arrays
- ▶ Fully serviceable and replaceable Driver
- ▶ Fully serviceable and replaceable Lens
- ▶ Powder Coat White over 1.2mm Mild Steel / Aluminium Frame
- ▶ Impact resistant and fire rated PC lens (2mm)
- ▶ Open frame natural convection cooling direct to rear of the PCB
- ▶ Dual plate 2mm Aluminium PCB, optimised electrical connection to min contacts and cable run
- ▶ Lowest thermal load in class
- ▶ Dual point seismic tethers
- ▶ Cable lock at luminaire
- ▶ Push Terminal Connection DALI / Mains at luminaire
- ▶ Optional Auxiliary D250 90Min (UPS) Emergency Driver 30W
- ▶ Standard Operating Power 64W / 80W Max
- ▶ 1st Service @ 100,000Hrs - Driver Only
- ▶ Main service @ 200,000Hrs - Driver and PCB

Optics

- ▶ High Density Array comprising 2,300/m² HE Dual-Die Chipset
- ▶ De-rated 200W max output to 80W (40% Max capacity)
- ▶ Chipset Efficacy 180lm/W@ Ra95
- ▶ Luminaire output $\geq 132\text{lm/W}$ after all losses
- ▶ R9 ≥ 92 Full colour chipset
- ▶ L90 >100,000Hrs (9,000Hrs/B0)
- ▶ L90 $\geq 100,000\text{Hrs}$ / L70 >200,000Hrs
- ▶ Lumen Output (@ 40%) 11,200lm, Max Output 26,400lm

Certification

- ▶ AU/NZS 60598
- ▶ AU/NZS 61347 Pts 1&2 (Driver)
- ▶ 750°C Glow Wire Tested All Electrical Circuits (SELV Inc)
- ▶ CISPR 15
- ▶ LM79
- ▶ TM21 Energy Star

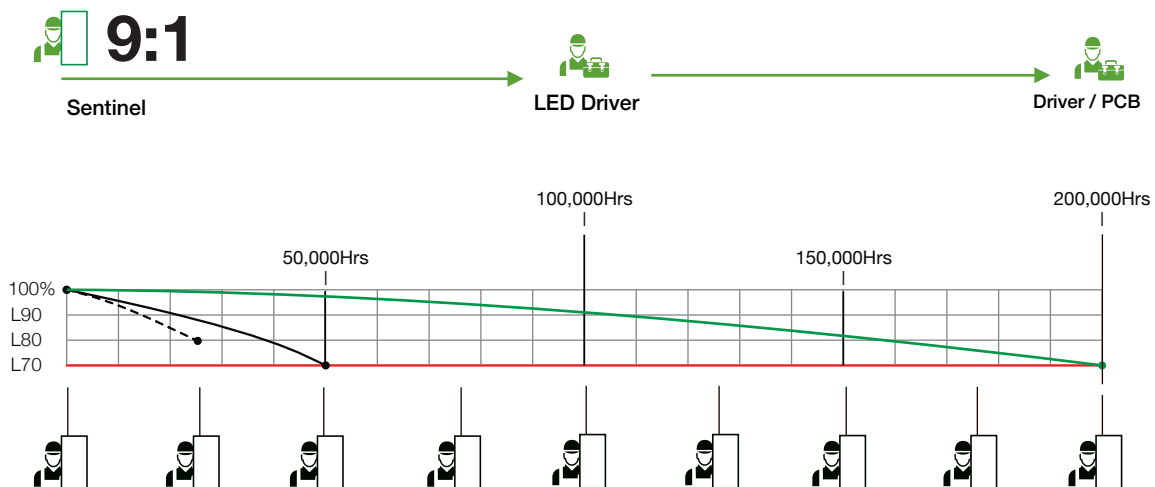
Driver

- ▶ Operational rating 64W operating at 80% Load Max
- ▶ THD < 4% @ 80-100% Load (Typical)
- ▶ PF > 98% @ 80-100% Load (Typical)
- ▶ DALI D4i Supports Detailed Reports (Subject to DALI controller)
- ▶ Integrated Power Monitoring (High accuracy (+/-1%))
- ▶ Thermal Sensing and Protection of LED Arrays
- ▶ End of life indicator
- ▶ Complies with Zhaga Interface Specification Book 13
- ▶ Surge Protection DM 6kV, CM 10kV
- ▶ Input Under/Over Voltage Protection (160~350Vac)
- ▶ Over Voltage Protection
- ▶ Short Circuit Protection
- ▶ Over Temperature Protection
- ▶ Suitable for Emergency Support Polling via UPS
- ▶ Class 2 SELV Output
- ▶ Always on Auxiliary Power / Supports Intra Luminaire IOT protocols (Future proofed)
- ▶ MTBF 203,000Hrs MIL-HDBK-217F @ 80% Load / 25°C
- ▶ 8 Year warranty

Cost Effective and Ecologically Sound

Maintenance makes sense, financially, ecologically and practically. Our team can explain the true cost of short term thinking and help your business reduce costs and achieve a sustainable future, with regular maintenance of your fitting.

- ▶ Reduces total cost of ownership maximising ROI and NPV
- ▶ Reduces land fill, manufacturing and supply related carbon footprint by up to 800%
- ▶ Delivers a longer practical performance life
- ▶ Supports planned and unscheduled maintenance to the maximum life of the fitting
- ▶ Minimises downtime with easily maintained and replaceable parts
- ▶ Ensures continuity of fixtures on site
- ▶ Design philosophy ensures components are easily dismantled at end of life for recycling



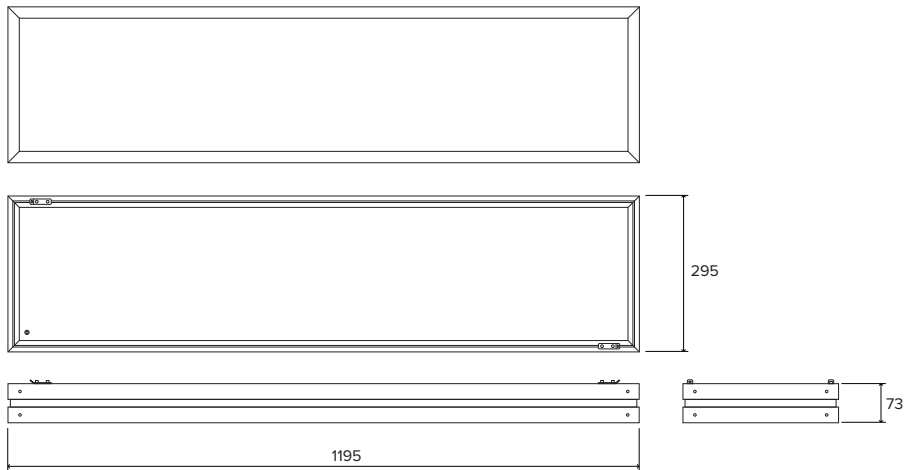
Typical service life of low cost panel light

A typical panel light (L70 B90 rated) will show cosmetic depreciation from 10,000 Hours as the luminaire fails to age consistently. Its appearance will continue to degrade until the light source fails to deliver sufficient light on or before 50,000 Hours. However in real terms the dotted line represents the point at which the majority of low cost panels are replaced due to their poor appearance.

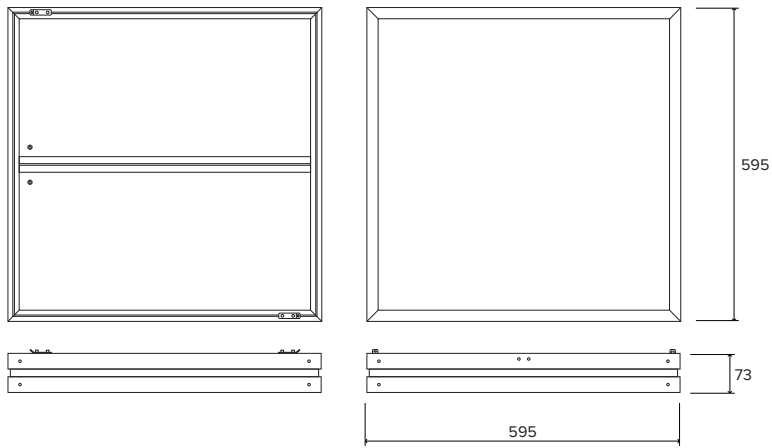
*HE Chipset L70 Lifetime calculated using 9,000hr independent LM80 photometry report, citing zero failures, using the Energy Star TM-21 protocol. Calculations are based on ambient temperatures of 25°C. With regular maintenance to keep heatsinks and vents clear from blockages. Assumes driver replacement as routine maintenance event at driver replacement at 100,000Hrs (D4i). Power tray replacement at schedule to suit customers lux requirements estimated $\geq 200,000$ Hrs

Sentinel Specifications

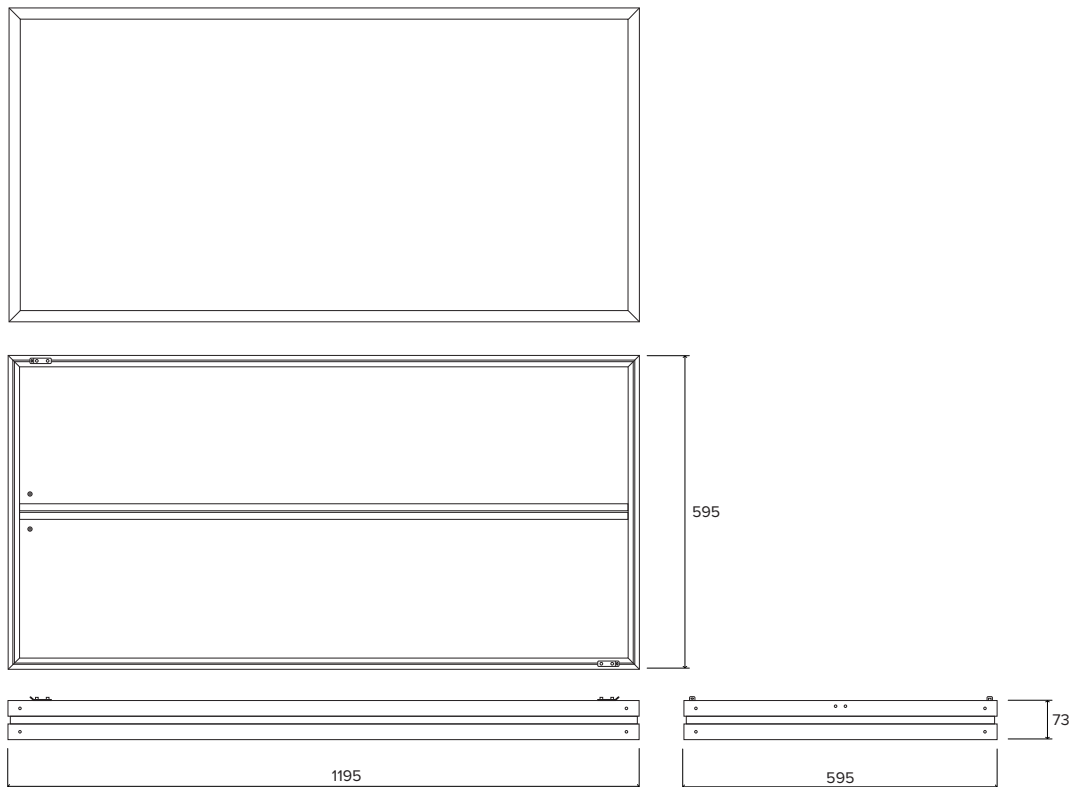
Sentinel 1230



Sentinel 6060



Sentinel 1260



Sentinel Specifications

HE Chipset and Meanwell HLG series drivers

PRODUCT	PERFORMANCE			AMBIENT		DRIVER	INRUSH	MAX INPUT	WARRANTY*
Model Number	Output	Power	Efficiency	Min*	Max	Function	Amps	Watts	24/7 @ max (Ta)
600 x 600									
SNT-6060-HE-Y95-40W-ZZ	5,280lm	40W	132lm/W	0°C	40°C	See Below	1.6A	100W	5 YRS
SNT-6060-HE-Y95-60W-ZZ	7,920lm	60W	132lm/W	0°C	40°C	See Below	1.6A	100W	5 YRS
SNT-6060-HE-Y95-80W-ZZ	10,560lm	80W	132lm/W	0°C	40°C	See Below	1.6A	100W	5 YRS
SNT-6060-HE-Y95-100W-ZZ	13,200lm	100W	132lm/W	0°C	40°C	See Below	1.6A	100W	5 YRS
1200 x 300									
SNT-1230-HE-Y95-40W-ZZ	5,280lm	40W	132lm/W	0°C	40°C	See Below	1.6A	100W	5 YRS
SNT-1230-HE-Y95-60W-ZZ	7,920lm	60W	132lm/W	0°C	40°C	See Below	1.6A	100W	5 YRS
SNT-1230-HE-Y95-80W-ZZ	10,560lm	80W	132lm/W	0°C	40°C	See Below	1.6A	100W	5 YRS
SNT-1230-HE-Y95-100W-ZZ	13,200lm	100W	132lm/W	0°C	40°C	See Below	1.6A	100W	5 YRS
1200 x 600									
SNT-1260-HE-Y95-60W-ZZ	7,920lm	60W	132lm/W	0°C	40°C	See Below	1.6A	200W	5 YRS
SNT-1260-HE-Y95-80W-ZZ	10,560lm	80W	132lm/W	0°C	40°C	See Below	1.6A	200W	5 YRS
SNT-1260-HE-Y95-100W-ZZ	13,200lm	100W	132lm/W	0°C	40°C	See Below	1.6A	200W	5 YRS
SNT-1260-HE-Y95-120W-ZZ	15,840lm	120W	132lm/W	0°C	40°C	See Below	1.6A	200W	5 YRS
SNT-1260-HE-Y95-160W-ZZ	21,120lm	160W	132lm/W	0°C	40°C	See Below	1.6A	200W	5 YRS
SNT-1260-HE-Y95-200W-ZZ	26,400lm	200W	132lm/W	0°C	40°C	See Below	1.6A	200W	5 YRS

(Y95) Correlated Colour Temperature options include: 4000°K **(4)** | 5000°K **(5)** | 6000°K **(6)** Ra (CRI) Option: Ra95 **(95)**

(ZZ) **ND** Non dimming (Vo to reduce output) | **DM** 1-10V Dimming | **ZB** 1-10V Dimming (Excludes sensor)* | **DA** DALI | **D4i** DALI D4i

*Driver warranties are five years as standard with seven and ten year warranties available subject to final specification and application.

Terms and conditions apply



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