Juno

Efficient, reliable and consistant

Clearvision

Clearvision overview

Clearvision Lighting has a 15-year pedigree in ergonomic and environmental lighting. We have been at the leading edge of the industry in adopting new technology and design techniques to improve workplaces and reduce energy consumption.

Our appreciation of daylight has been apparent from the beginning. One of our first innovations in ergonomics was Virtual Daylight® in 1997, which has since been copied by many other companies.

We focus on lens technologies (some patented) that are central to our most successful products. We find that they're an effective means of optimising design between efficiency, glare control and useful light distribution.

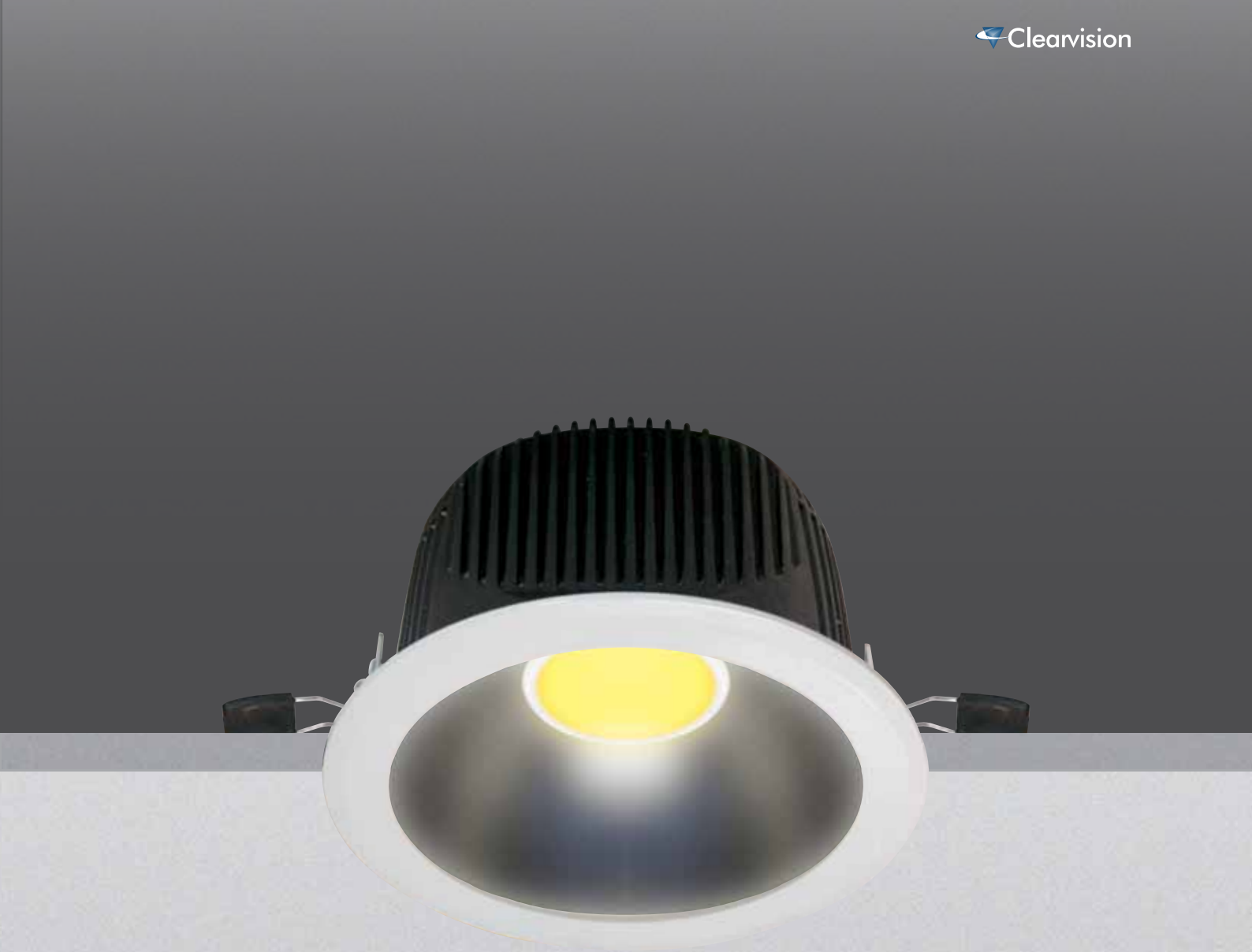
Clearvision is a project lighting company with a focus on customer applications for our products. We therefore provide a full technical support service–including Dialux (plug-in available), AutoCAD, emergency test and control systems.

Please contact our technical department for design and product related questions and sales for project quotations. All queries can be addressed to enquiries@clearvisionlighting.com or on 01252 344011.

LED Downlights

LEDs are an exciting lighting technology, but one that has suffered in recent years from marketing hype and some suppliers providing low quality products that do not live up to customer expectations.
LED technology is still a recent development in lighting for illumination, being distinct as an application from their use as architectural lighting effects. When used in downlights, competing with halogen or CFL sources, there are new factors to be considered. One is thermal management, because LED products require good heat dissipation in order to meet their specified performance in terms of electrical efficiency and longevity. Another is colour, because the supply chain for LEDs has found it difficult to provide consistent colour characteristics over longer periods of time. For many customers who are considering the risks or rewards of the new technology, some form of safety factor is important.

Philips is the largest company in lighting worldwide and over the past 5 years has invested more in LED technology than any other organisation. Philips has introduced a range of light modules under the name Fortimo for use in LED downlights.



Fortimo modules provide known thermal management to luminaire manufacturers so we are able to benefit from their testing programme that runs back several years. This is inherently safer than launching a completely new product, which cannot have the same testing period.

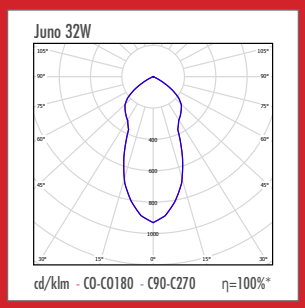
Colour consistency is another issue for LED luminaires. White LEDs are usually blue LEDs with a yellow phosphor applied to the surface. Fortimo uses a different design method, called remote phosphor, in which the blue LEDs are separated from colour conversion phosphor, which is integrated into a diffuser material. The advantage of remote phosphor is greater colour consistency and less heat degradation effect on the phosphor over time. Some people also prefer the visual appearance, because the individual LED ‘dots’ are not visible.

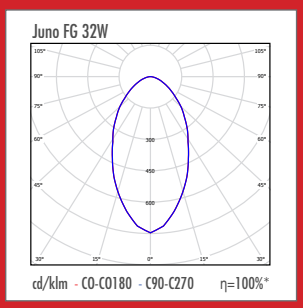
Order codes	Code	
Juno	JNO-	
Light source		Lumens
32W LED	-32	2055
32W LED (-ADS)	-32	1800
Colour temperature		
4000K	-4K	
Dimming		
DALI/Switch dimming	-DTD	
Options		
ADS IP54 diffuser	-ADS	
Ceiling support pattress*	-PAT	
3 hour remote emergency facility	-EMR	

** Recommended for installation in fibre tiles*

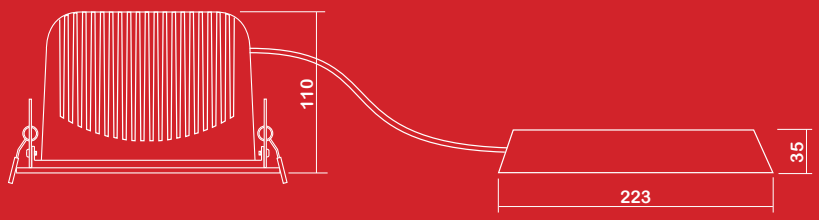
Key features of the Juno range

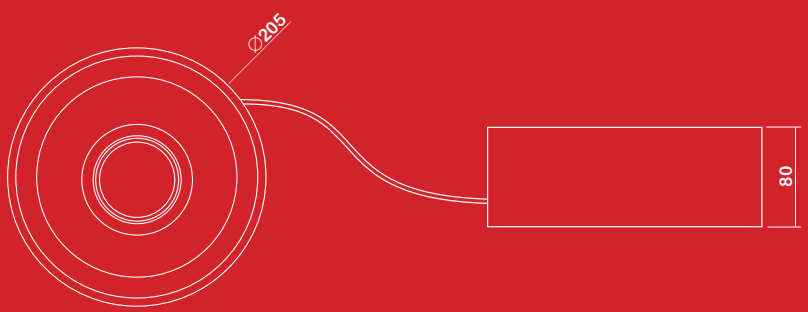
- New Part L compliant @ 64 ll/cW
- CRI = >80
- 50,000 hrs life (LM70)
- Emergency version available
- DALI/Switch dimming option
- Excellent colour consistency

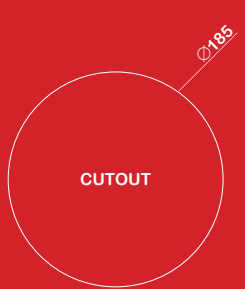




** Photometrics using absolute lumens*







The Juno

Juno is a LED downlight for ambient lighting that has a higher output than a typical 2x18W compact fluorescent fitting, but uses up to 25% less energy. The Juno is based around the Philips Fortimo DLM light module and has been independently tested to provide 2055 lumens in the open version and 1800 lumens when fitted with the ADS flush IP54 diffuser.

The bezel is finished in a semi-matt white finish with a specular aluminium reflector. The heatsink is cast aluminium with a black finish. Fortimo protects itself with a temperature feedback loop that lowers light output if the temperature rises above 70°C.

When partnered with a dimmable driver the Juno is able to achieve even higher levels of efficiency by utilising AM (Amplitude Modulation) as opposed to PWM (Pulse Width Modulation). At 50% dimming, efficiency increases significantly from 64 ll/cW to 74 ll/cW.

Due to the use of remote phosphor technology the Juno achieves excellent colour consistency, equal to that of conventional compact fluorescent lamps.

Fast calculation table - Luminaire quantities

Reflectances: 70/50/20 Maintenance factor: 0.80 Ceiling height: 2.70m

The below figures are approximate, suitable as a rough guide for budget costing.
For specific project designs and calculations please contact our design department
enquiries@clearvisionlighting.com

32W

Lux	40m²	60m²	80m²	100m²	200m²	300m²
100	3	5	6	7	13	18
200	6	9	11	13	25	36
300	9	13	16	20	37	53

32W with ADS

Lux	40m²	60m²	80m²	100m²	200m²	300m²
100	4	5	7	8	15	21
200	8	10	13	16	29	42
300	11	15	19	23	43	62

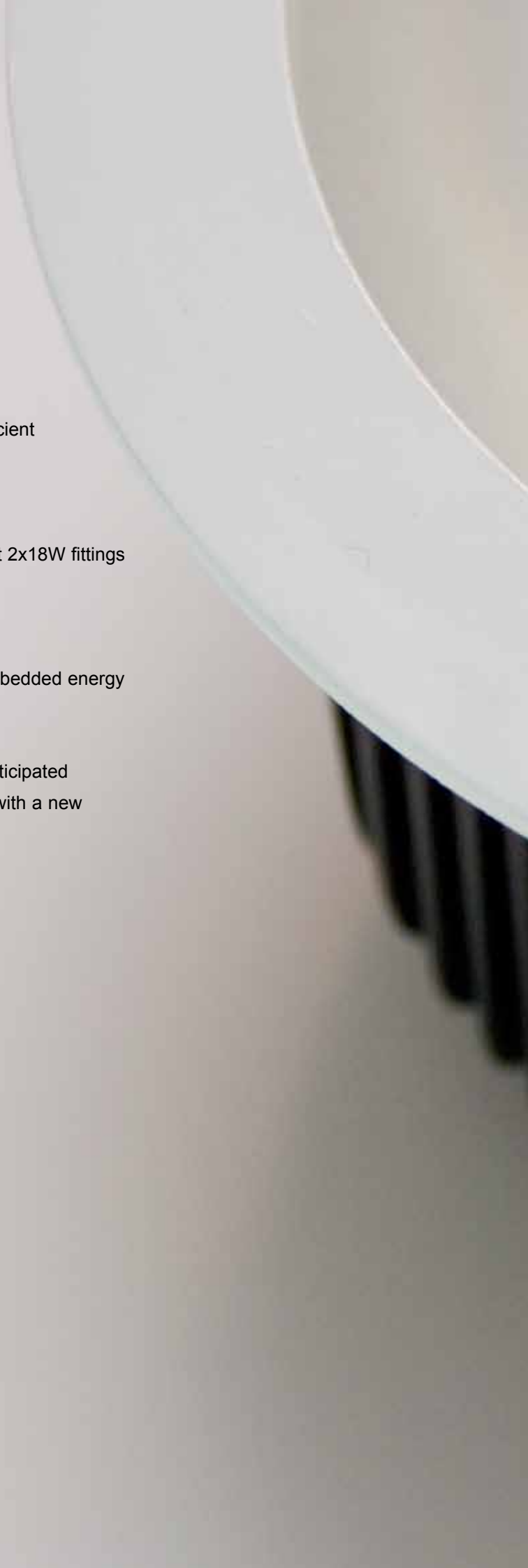
Environmental

The Juno offers a good environmental solution for efficient lighting for two primary reasons:

Energy
It offers savings of over 25% against the most efficient 2x18W fittings and considerably more against inefficient products.

Lamps
Over the life of a Juno luminaire, it would save the embedded energy and waste of 10 CFL lamps.

The Fortimo has a common form factor and so it is anticipated that much of the fitting will be reusable after 50,000h with a new replacement light engine.



Fortimo engine

- High energy efficiency, 70 system Lm/W
- Consistent colour over lifetime (5 SDCM)
- High quality white LED light with CRI>80
- Globally released product with CE and ENEC approval.

The Fortimo LED DLM module is equipped with a special remote phosphor technology, enabling very high levels of LED efficacy.

As energy efficacy advances in LEDs are made and new bins become available, these will be incorporated in to the Fortimo LED Modules, offering constant higher efficacies, without changing the dimensions, shape or lumen output of the system.

This is seen as a really future proof approach to enable luminaire manufacturers to plan and design new luminaire ranges for the coming years.

The Fortimo engine contains an array of blue LEDs that mix together in a light chamber capped with a phosphor diffuser which converts the light to a uniform white.

Related Products

Oslo

Strom

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DIALux

A Clearvision Dialux Plug-in is available for download from www.clearvisionlighting.com

Clearvision is an ergonomic lighting company that designs and manufactures energy efficient lighting. Our products are developed with the environment in mind whilst also leading in performance and appearance. Our design and technical teams are on hand to support our customers throughout the lifetime of our products.

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