



# Acorn

The start of something **BIG**

**designplan** 

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**Thorlux**



AN INTRODUCTION TO

# Acorn

**Combining innovative technology and environmentally conscious design, Acorn is at the forefront of sustainability in exterior lighting.**

By optimising energy efficiency and prioritising sustainable materials, Acorn demonstrates Thorlux Lighting's commitment to sustainability by achieving a minimal carbon footprint throughout its entire lifecycle.

Acorn has achieved an industry-leading TM66 score of 3.1 which has been verified as the highest published score of any luminaire under the LIA/CIBSE certification scheme TSD-012 to date.

Acorn exemplifies the supreme performance expected of Thorlux luminaires with an efficiency of up to 182.8 luminaire lumens per circuit watt, minimizing energy consumption and operational carbon while maximizing light output. The LEDs are highly efficient and boast a 100,000-hour rated life, reducing the need for frequent replacements and decreasing electronic waste.





Top of luminaire



### Applications



Building  
perimeters



Cycleways



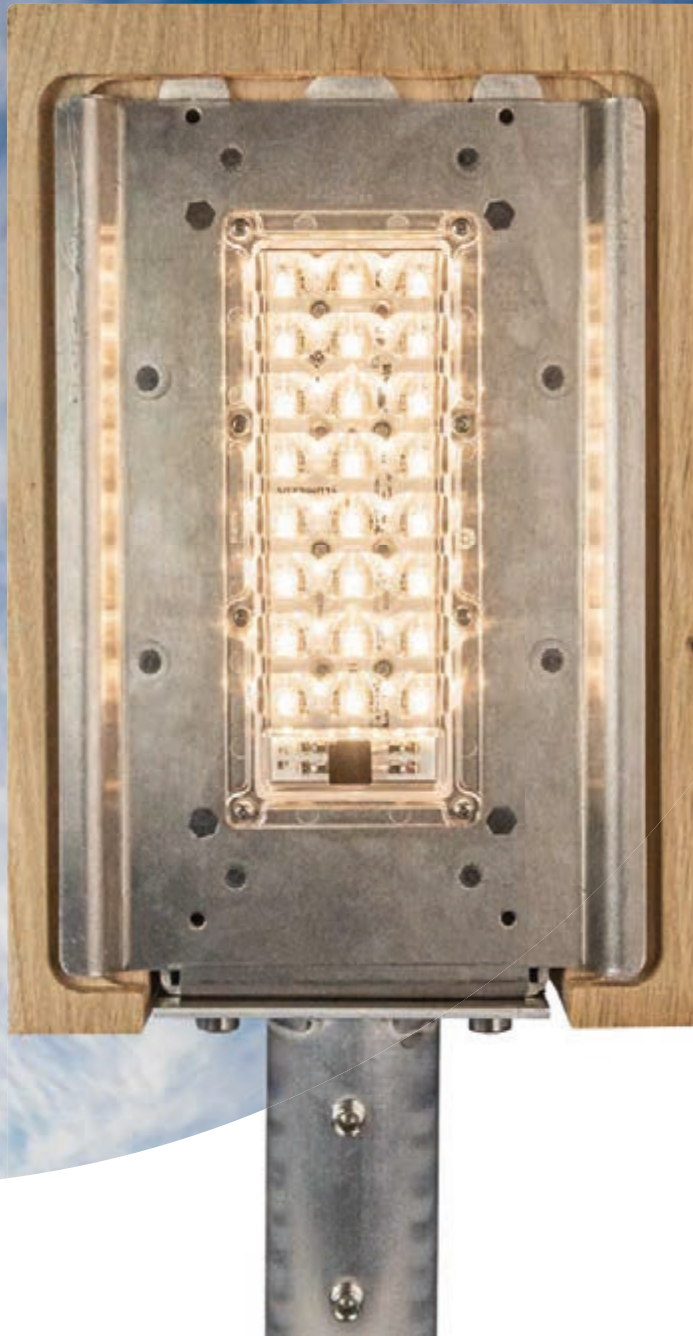
Car parks



Footpaths



Pedestrianised  
areas



## Eco-conscious product construction

Acorn has been engineered to redefine sustainability benchmarks, starting with its construction techniques. Every component is crafted with a commitment to environmental responsibility and carefully selected to ensure minimal ecological impact throughout its lifecycle.



## European oak housing

- Sourced from PEFC certified European forests
- Crafted from strips of laminate wood, utilising European oak that might otherwise be overlooked for traditional furniture applications
- Highly durable material that can withstand exposure to extreme weather conditions, and, will achieve a life in excess of 20 years

## Gear tray made from >90% recycled aluminium sheet

- Less heating processes and no mining
- Unpainted, simplifying the recycling process
- Made in EU

## LED module

- Up to 182.8 luminaire lumens per circuit watt
- Made in EU

## Highly efficient PMMA optics

- Impact resistance rating of IK07



## 100% post-industrial recycled polycarbonate gear enclosure

- IP66 rating provides high degree of protection and durability
- Using recycled material made from industrial waste
- Made in Britain

## Super efficient driver

- Circuit optimisation with up to 92% efficiency
- Made in the EU

## >90% Recycled aluminium mounting post

- Less heating processes and no mining
- Made in EU

## SmartScan external sensor

- Monitors energy usage
- Daily energy and carbon saving reporting
- Made in Britain



# Protecting the darkness

Thorlux is committed to reducing obtrusive light and light trespass, protecting the night sky from light pollution.

Light pollution is the artificial increase in outdoor light levels caused by human activities.

Research shows that poorly selected, planned, or installed Artificial Light At Night (ALAN) can disrupt wildlife, impact human health, waste money and energy, contribute to climate change, and block our view of the universe.

The 2700K color temperature versions of the Acorn luminaire have achieved DarkSky approval; by selecting these models, you are helping reduce the effect of ALAN. At 0° tilt, these luminaires produce no upward light.

When used with the SmartScan system to control luminaire output levels with presence detection, all Acorn models provide minimal impact on the environment they are illuminating.



**No upward  
light**



**DarkSky  
approved**

\*2700K version with 0° tilt



**SmartScan  
controls**



**Less impact  
on environment**





Certified by DarkSky.org







# Embracing sustainable materials

## Why wood?

Wood has less embodied carbon (CO<sub>2</sub>e/kg) than cast aluminium. It is also a renewable resource, requiring less energy-intensive processes to be transformed into a usable material. It therefore contributes less to the overall embodied carbon footprint of a luminaire when used in place of a cast aluminium body.

Trees are regrown through sustainable harvesting programs. Responsible forestry practices involve replanting trees and managing the harvesting process to ensure a continuous and sustainable wood supply. Participating in sustainable harvesting programs helps maintain the balance between consumption and regeneration, ensuring that the use of wood does not irreversibly deplete forests.

Wood is proven to have both longevity and durability, reducing the frequency of replacements, and contributing to a lower environmental impact over the product's life cycle.

## Does this contribute to deforestation?

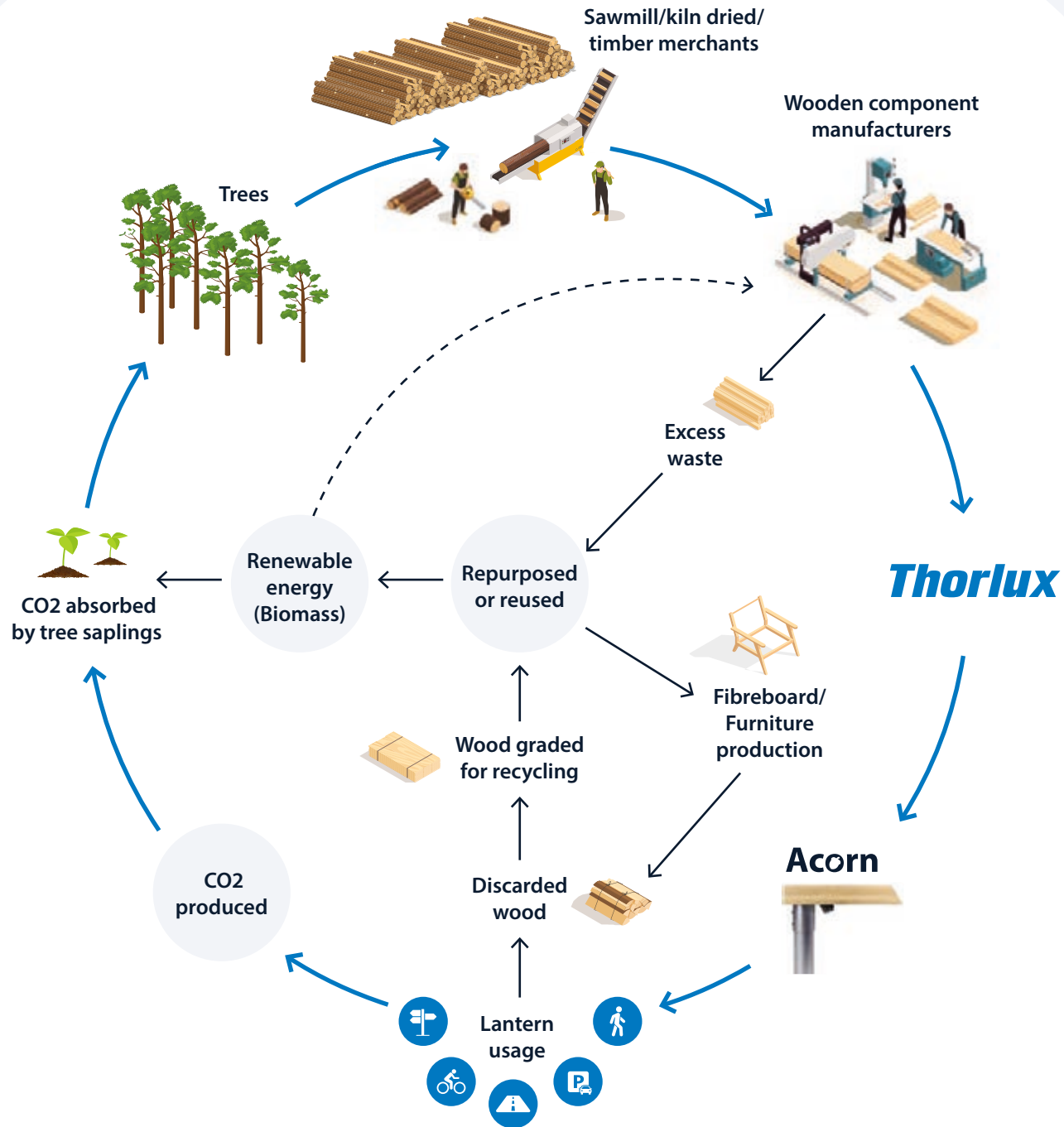
The European oak forests are monitored and regulated by the Program for the Endorsement of Forest Certification (PEFC).

PEFC is an international non-profit organization that promotes sustainable forest management through certification.

This certification assures that the harvest of European oak complies with strict environmental and social standards, helping to prevent deforestation and supporting responsible forestry practices.



Engineered to  
minimize the  
environmental  
impact



# A long term solution with a sustainable future

Thorlux Lighting, as part of the FW Thorpe Group of companies, is committed to minimizing the environmental impact of its activities across all operations.

The FW Thorpe Group of companies has been officially recognized as being carbon neutral, with systems of reduction, measurement and certified offsetting in

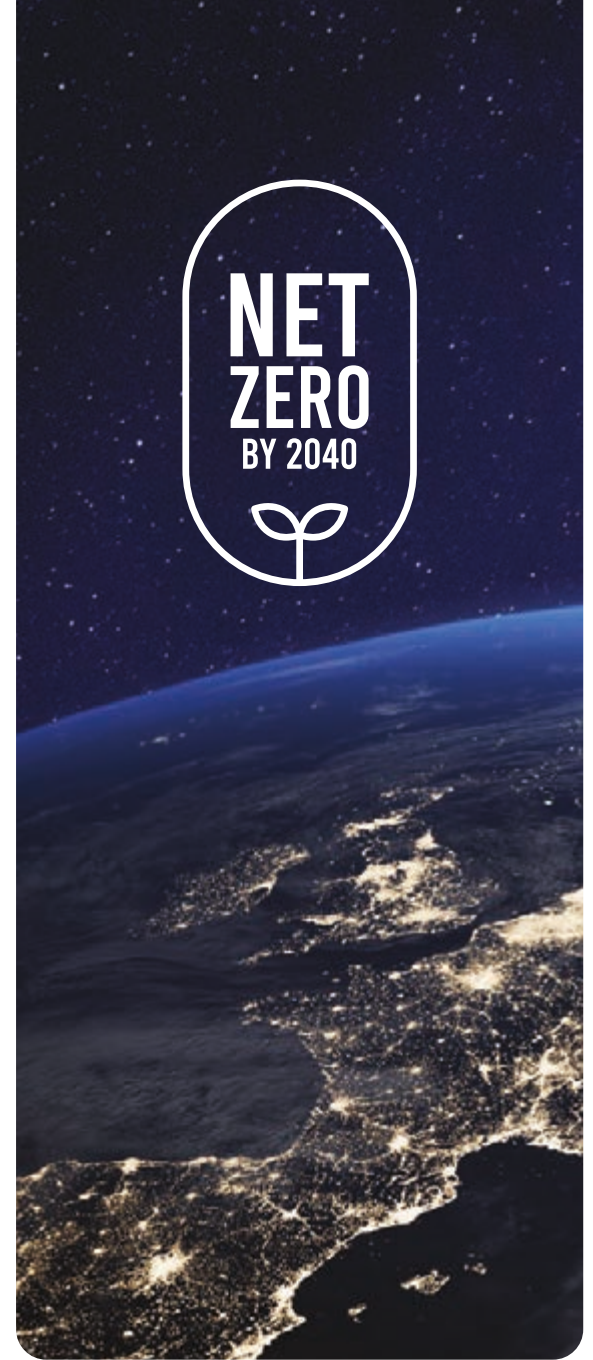
place, since 2012. Third-party assessment provides independent assurance of the Group's long-standing sustainability commitment across all its operations worldwide. Being carbon neutral means that FW Thorpe Plc offsets the carbon dioxide emissions it generates (scopes 1 and 2 of the Greenhouse Gas Protocol through its business activities.

FW Thorpe Plc is a carbon-neutral company through a combination of measures. Company-wide initiatives such as energy use minimization, self-generation of renewable energy through solar photovoltaic (PV units, and procurement of renewable energy have

reduced the Group's carbon footprint, whilst trees in the Group's award-winning carbon offsetting afforestation project absorb the remaining carbon dioxide produced.

In 2022, FW Thorpe initiated a process to calculate its complete carbon footprint, including upstream and downstream activities such as supplier and customer relationships. The Group has set a target of achieving net zero greenhouse gas emissions by 2040 across Scopes 1, 2 and 3, from a 2021 base year. The Science Based Targets Initiative (SBTi) validated the Group's plan in 2024 under the Net Zero Standard.







## Take control of your lighting

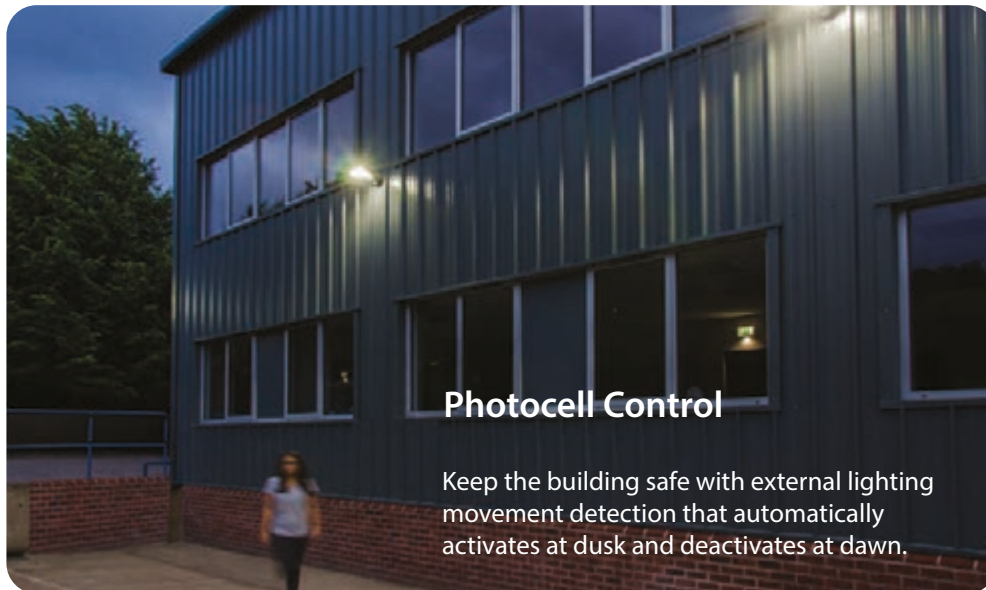
Integrated, intelligent lighting management that maximizes energy savings for external applications through movement detection and daylight switching, with timed override via the SmartScan Website.

Users can set luminaires to dim to a lower level or turn off completely when no presence detected, reducing the environmental impact of lighting.



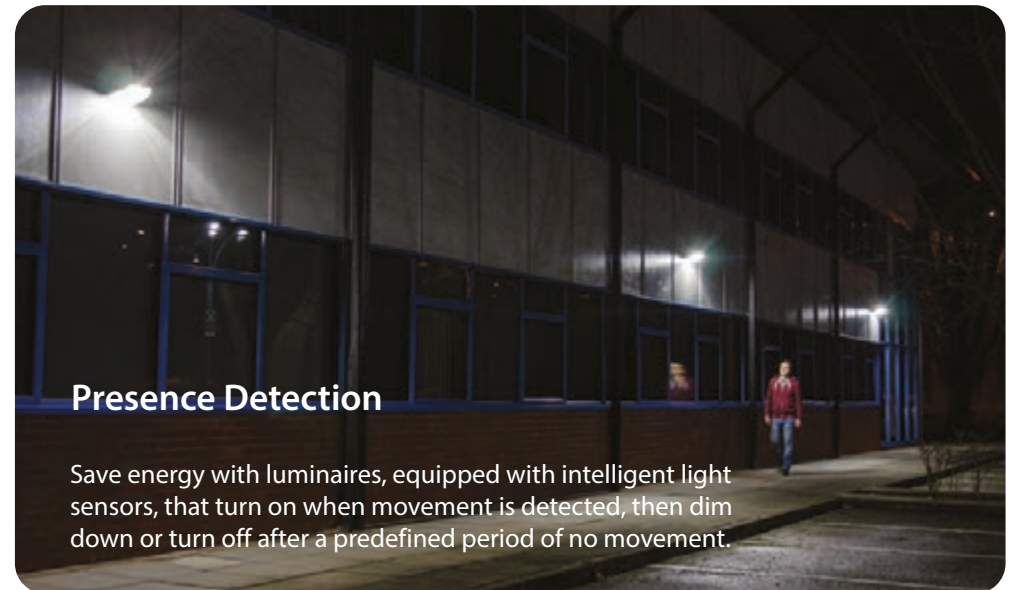
### Lighting Time Control

Enjoy flexible external lighting options with the ability to select automatic movement detection or set the lighting to turn on or off between set times.



### Photocell Control

Keep the building safe with external lighting movement detection that automatically activates at dusk and deactivates at dawn.



### Presence Detection

Save energy with luminaires, equipped with intelligent light sensors, that turn on when movement is detected, then dim down or turn off after a predefined period of no movement.





## Luminaire Status Monitoring

One convenient, central location to view the health status of the whole lighting installation, groups of luminaires or even an individual component within a luminaire.

## Energy Usage Monitoring

An interactive dashboard makes keeping track of your energy usage easy. Data is available for the entire installation, each area and each luminaire.

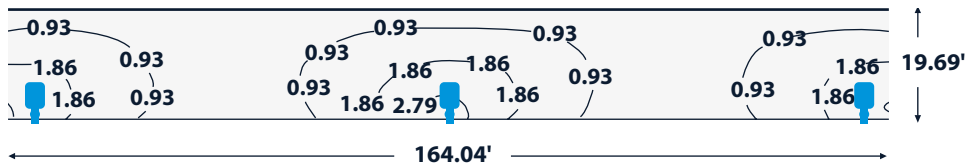


## Device Management

Eliminating the need for programming locally, this powerful tool allows building managers to change luminaire parameters on the SmartScan website, massively simplifying customization of the system.



# Typical spacing guide



## Roadway distribution

27W / 19.7' mounting height 82.0' spacing

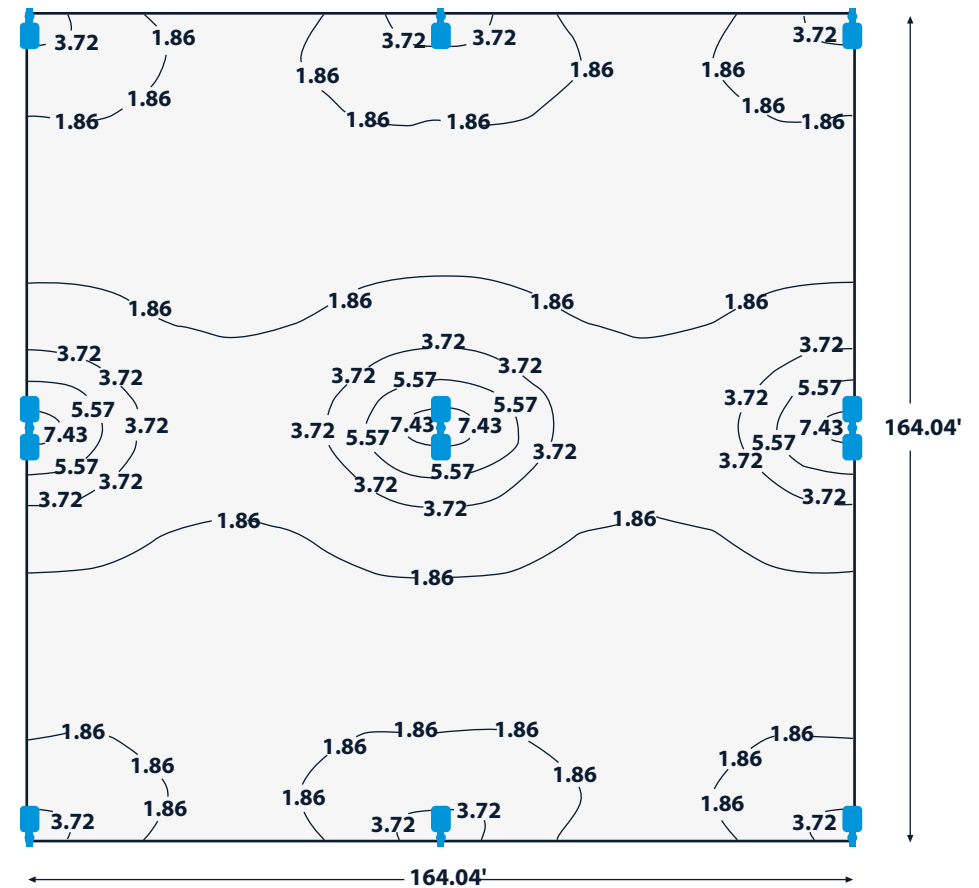
Average illuminance = 1.11 fc / Uniformity = 0.506



## Cycle path distribution

9W / 6.6' mounting height 32.8' spacing

Average illuminance = 3.25 fc / Uniformity = 0.422



## Area distribution

55W / 19.7' mounting height 82.0' x 82.0' spacing

Average illuminance = 2.23 fc / Uniformity = 0.57











# Acorn

## DIMENSIONS

### Ordering information

	SINGLE COLUMN MOUNT	SINGLE OUTREACH ARM	TWIN OUTREACH ARM 180°	TWIN OUTREACH ARM 90°
				
Mounting Height	Column Adaptor	Column Bracket	Column Bracket	Column Bracket
13.12'	FC4	FC4 AC 20630	FC4 AC 20635	FC4 AC 20640
16.40'	FC5	FC5 AC 20630	FC5 AC 20635	FC5 AC 20640
19.69'	FC6	FC6 AC 20630	FC6 AC 20635	FC6 AC 20640
26.25'	FC8 POT 101-76	FC8 AC 20632	FC8 AC 20637	FC8 AC 20642
32.81'	FC10 POT 101-76	FC10 AC 20632	FC10 AC 20637	FC10 AC 20642

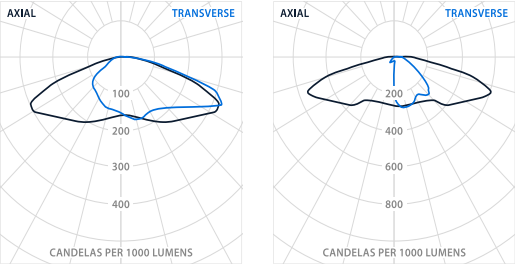
## CONFIGURATOR

PRODUCT CODE	WATTAGE	MOUNTING	DISTRIBUTION	COLOR TEMPERATURE	CONTROL TYPE
AC Acorn	09 09W	V Vertical 3.0" (76mm) column top	A2 Area	2 2700K	S SmartScan
	27 27W	H Horizontal 1.7" (42mm) outreach arm	R5 Roadway	4 4000K	L Non-dimming
	55 55W				P Photocell

### Ex. AC09VA22S

AC Acorn	09 09W	V Vertical 3.0" (76mm) column top	A2 Area	2 2700K	S SmartScan
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## PHOTOMETRIC GUIDE



### AREA DISTRIBUTION 2700K

Luminaire Lumen Output:  
9W = 1825  
27W = 5000  
55W = 10055

### 4000K

Luminaire Lumen Output:  
9W = 1990  
27W = 5450  
55W = 10965

### ROADWAY DISTRIBUTION 2700K

Luminaire Lumen Output:  
9W = 1740  
27W = 4775  
55W = 9600

### 4000K

Luminaire Lumen Output:  
9W = 1900  
27W = 5205  
55W = 10470

### Horizontal outreach arm



### Vertical column top



## WEIGHTS

WATTAGE	APPROX. lbs
9W / 27W	5.51 lbs
55W	9.26 lbs

### SMARTSCAN

Add 1.32 lbs to weight listed

## HIGHLY SUSTAINABLE EXTERIOR FLOOD LIGHT

IP66 IP65 SMART VERSION IK07 LED

WINDAGE - 0.021m<sup>2</sup> SmartScan: 0.035m<sup>2</sup>

### SPECIFICATION

- Programme for the Endorsement of Forest Certification (PEFC) certified European oak body
- 100% industrial recycled polycarbonate gear enclosure
- >90% recycled aluminium gear tray and mounting brackets with raw finish
- Industry leading TM66 score of 3.1 - LIA/ CIBSE certification scheme TSD-012 verified
- DarkSky approved (2700K versions at 0° tilt only)
- High-efficiency sealed acrylic lenses
- Area or roadway optical distributions
- Integral high-efficiency driver
- Extremely efficient and long system life up to 100,000 hours
- Smart External versions with intelligent lighting control for use up to 26.3' (8 meters) mounting height
- SmartScan wireless technology removes the need for control cabling. Ideal for retrofit
- Fitted with 19.7 ft lead
- Column top 3.0" as standard
- Outreach arm 1.65" as standard
- Wall mounting bracket accessory
- Wide range of mounting options
- Photocell option
- Fitted with 2700K or 4000K LEDs (other color temperatures available to special order)

### ACCESSORIES

DESCRIPTION	CAT. No.
Acorn front or rear baffle (9W and 27W)	<b>AC 20646</b>
Acorn front or rear baffle (55W)	<b>AC 20647</b>
Acorn side baffle – SmartScan versions only	<b>AC 20648</b>
Acorn side baffle – non-SmartScan versions only	<b>AC 20649</b>

### LED CHARACTERISTICS

CRI	<b>70+</b>
COLOR TEMPERATURE	<b>2700K</b>
RATED LIFE (HOURS)	<b>100K - L90/B10</b>
PROTECTION	<b>-</b>
DRIVER EFFICIENCY	<b>&gt;85%</b>
REPLACEABLE	<b>YES</b>
POWER FACTOR	<b>&gt;0.9</b>

**LL/CW 167.6**

### LED CHARACTERISTICS

CRI	<b>70+</b>
COLOR TEMPERATURE	<b>4000K</b>
RATED LIFE (HOURS)	<b>100K - L90/B10</b>
PROTECTION	<b>-</b>
DRIVER EFFICIENCY	<b>&gt;85%</b>
REPLACEABLE	<b>YES</b>
POWER FACTOR	<b>&gt;0.9</b>

**LL/CW 182.8**



SmartScan version





# Acorn

## Specification

- Stepped tubular galvanized steel columns, to BS EN 40-2:2004
- Mounting accessories are hot dip galvanised to BS EN ISO 1461:2009
- Supplied with wooden baseboard for mounting cable connection accessories
- Accessories are easily fixed with stainless steel grub screws and have an internal stop to ensure cable exit

## Non-standard columns

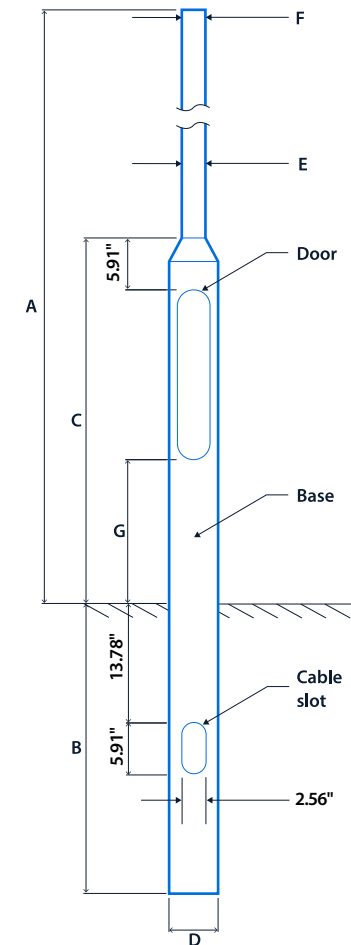
The following additional options are available on request:

- **3 and 4 way crossarms** - please ask us to confirm column suitability regarding head weight and windage.
- **Tubular steel columns with additional T-wash and matt black primer paint finish** - specify using suffix **PR** after column reference e.g. **FC5/PR/POT-89R**.
- **Flange plate mounted columns** - specify using suffix **FL** after column reference e.g. **FC5/FL/POT-89R**.
- **Mid/base hinged columns** - contact our Technical Department for further information

## Range

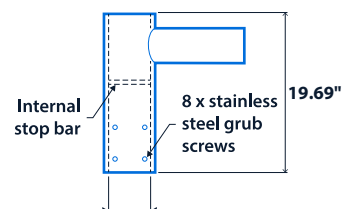
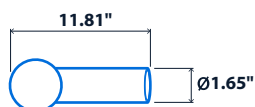
NOMINAL HEIGHT	CAT. No.	PLANTING DEPTH	BASE HEIGHT	DOOR HEIGHT	DOOR DIMENSIONS		BASE DIAMETER	SHAFT DIAMETER	APPROX. lbs	BASEBOARD SIZE
A		B	C	D	E	F	G	H		
<b>Single and twin luminaire column</b>										
13.12'	<b>FC4</b>	31.50"	36.42"	11.81"	19.69"	3.94"	5.51"	2.99"	72.75 lbs	3.50" (w) x 19.69" (h)
16.40'	<b>FC5</b>	31.50"	36.42"	11.81"	19.69"	3.94"	5.51"	2.99"	88.18 lbs	3.50" (w) x 19.69" (h)
19.69'	<b>FC6</b>	39.37"	36.42"	11.81"	19.69"	3.94"	5.51"	2.99"	97.00 lbs	3.50" (w) x 19.69" (h)
26.25'	<b>FC8</b>	47.24"	47.24"	15.75"	23.62"	4.53"	6.61"	4.49" ■	220.46 lbs	3.50" (w) x 23.62" (h)
32.81'	<b>FC10</b>	59.06"	51.18"	19.69"	23.62"	4.53"	6.61"	4.49" ■	313.06 lbs	3.50" (w) x 23.62" (h)
39.37'	<b>FC12/101</b>	66.93"	70.87"	39.37"	23.62"	4.53"	7.56"	5.51" ■	498.24 lbs	3.50" (w) x 23.62" (h)

▲ Reduced at top to 3.50" ■ Reduced at top to 3.98"



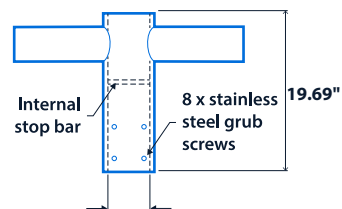
## Column accessories

### Single outreach arm



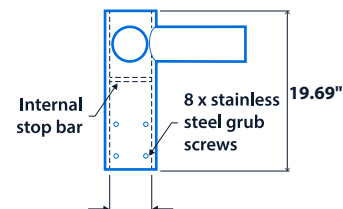
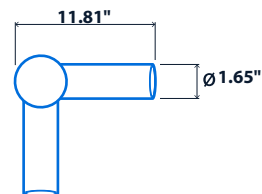
AC20630 to fit on to Ø2.99"  
AC20631 to fit on to Ø3.50"  
AC20632 to fit on to Ø3.98"  
AC20633 to fit on to Ø4.49"

### Twin outreach arm 180°



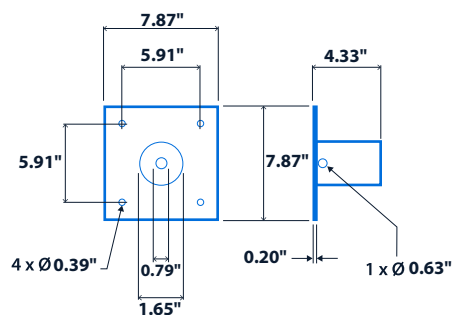
AC20635 to fit on to Ø2.99"  
AC20636 to fit on to Ø3.50"  
AC20637 to fit on to Ø3.98"  
AC20638 to fit on to Ø4.49"

### Twin outreach arm 90°

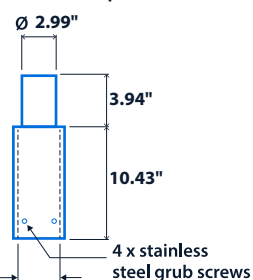


AC20640 to fit on to Ø2.99"  
AC20641 to fit on to Ø3.50"  
AC20642 to fit on to Ø3.98"  
AC20643 to fit on to Ø4.49"

### Wall mounting bracket AC 20644



### Column adaptors



POT89-76 to fit on to Ø3.50"  
POT101-76 to fit on to Ø3.98"  
POT114-76 to fit on to Ø4.49"

## Ordering information

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