

# ArcSystem<sup>1.5</sup>

## Pro Multi-Cell fixtures



### Datasheet



Pro Two-Cell



Pro Four-Cell  
Linear



Pro Four-Cell  
Round



Pro Four-Cell  
Square



Pro Eight-Cell

### Introduction

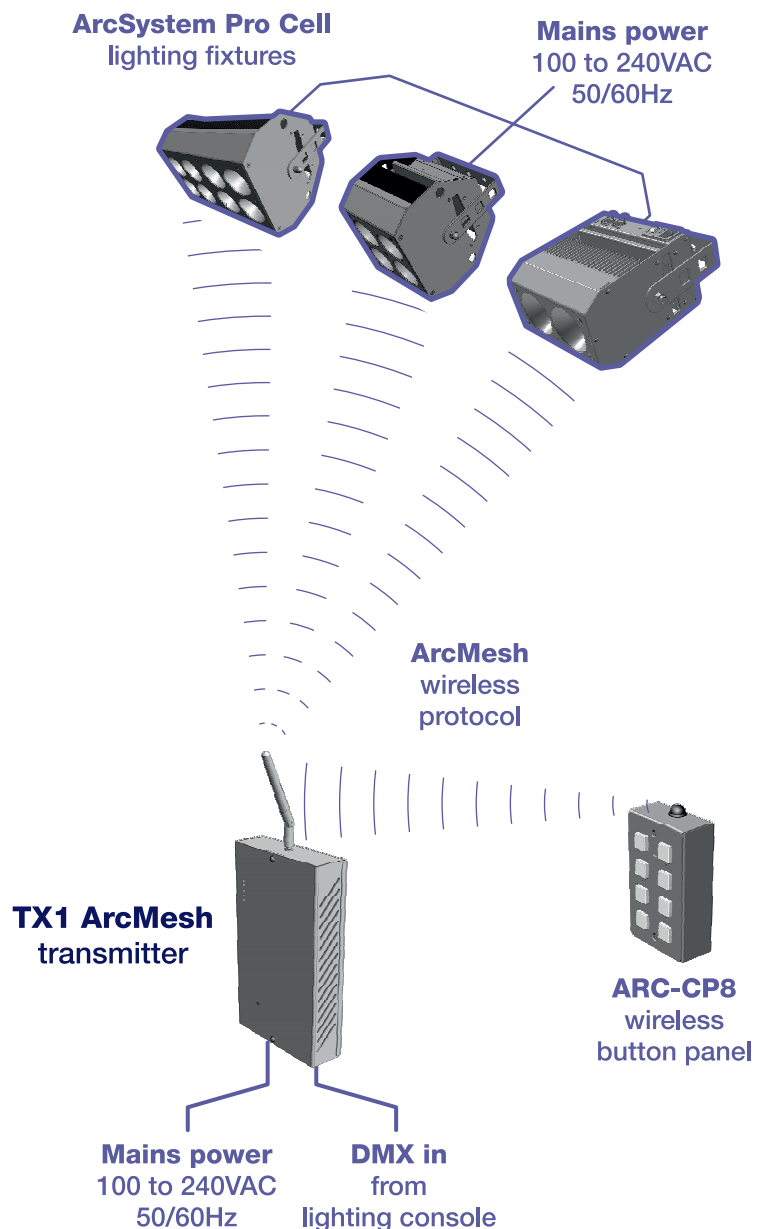
**ArcSystem** is a comprehensive range of LED lighting fixtures and control options specifically designed for auditorium and arena spaces where quality of light, precise dimming control and ease of installation are primary factors. Wired and wireless operation allows for rapid integration of the whole ArcSystem with existing auditorium lighting installations.

ArcSystem **Pro Cell** fixtures are designed for medium to long throw applications and are manufactured from high grade powder coated steel for high durability.

Pro Cell fixtures are available in various sizes to suit a range of venue types. Each features our high output LED light engines with low glare recessed reflectors. Colour temperature (CCT) options range from 2700 to 5000K while a choice of beam angles are available from 19 to 60 degrees, delivering the precise coverage that your venue requires.

All Pro Cell fixtures provide high lumen outputs, high Colour Rendering Index (CRI) values and smooth dimming curves to ensure your venue attains the highest quality illumination. Fan noise is not an issue as all Pro Cell fixtures are convection cooled and run silently.

Each Pro Cell unit contains its own power supply, dimming driver unit and wireless (as well as wired) communication system, ready for linking with a **TX1 ArcMesh transmitter** and your chosen auditorium control method(s).



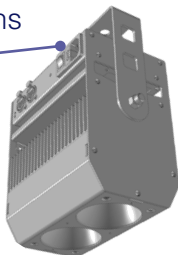
### Connections

#### Power

Pro Cell fixtures are available in two main versions: *Standard* and *Emergency*.

- **Standard** versions have a single mains power input via an IEC connector.

This is connected to the normal mains supply and in the event of a power failure, the fixture will switch off.



- **Emergency** versions have two mains power inputs via fixed cables.

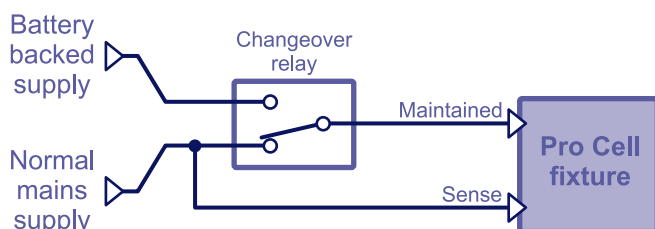
One input is connected to a maintained supply (most often a central mains fed, battery backup installation with an inverter system) while the other input is connected to the normal mains supply as a sense line. Fixture power is always taken from the maintained input.

*Note: For full conformity, the maintained supply must be fed to the fixture via fire rated cable.*

If at any time the sense input is lost (signalling an overall mains failure), the Pro Cell fixture will automatically go to a 100% on state, regardless of its wireless or wired control inputs. This will continue until the sense input is restored, whereupon normal operation will resume, as determined by the control inputs.

*Note: It is possible to select whether all or only some cells should switch on in an emergency state. This allows for a reduced light output to conserve power from the backup supply.*

If the venue's central battery system only provides power upon mains failure, a changeover relay will be required to switch the maintained input from a normal mains supply to the battery fed system:



Changeover relays such as the ACM1 from Cooper Controls are suitable for use with all GDS Pro Cell fixtures.

#### Control

Pro Cell fixtures can all be used with either wired or wireless control, as best suits your venue.

- **Wired** installations require a DMX connection from the control source to be fed to the input socket of the first Pro Cell fixture. A connection is then taken from the output socket of that fixture to the input socket of the next fixture, and so on. Up to 32 Pro Cell fixtures can be wired in a single control daisy chain.

The DMX control signals used can be derived either from a standard lighting console or from the optional TX1 ArcMesh transmitter. The TX1 ArcMesh transmitter provides the great advantage that multiple control sources, including wireless control panels (as well as the lighting console) can be combined and arbitrated to determine the required lighting states.

- **Wireless** control mandates the use of a TX1 ArcMesh transmitter to provide the source wireless control signal. The TX1 ArcMesh transmitter uses an industry standard communication protocol (IEEE802.15.4) and is designed to reliably operate over short to medium distances. The beauty of the ArcSystem is that the transmitter does not need to reach every fixture; the Pro Cell 2, 4, and 8 fixtures are capable of re-transmitting the data they receive in order to greatly extend the range over which they can operate as a whole. We call this **ArcMesh** and it provides great flexibility to the system. Up to 100 wireless ArcSystem fixtures can be controlled via a single TX1 ArcMesh transmitter; for larger installations additional transmitters can be added to coordinate extra fixtures.

Whether using wired or wireless control, the initial setup (and ongoing maintenance) must be performed using the **ARC-CT Commissioning Tool**. This wireless USB dongle plus accompanying software allows the system to be configured and fine tuned from any location within the installation space, using just a basic notebook computer.

### Key features

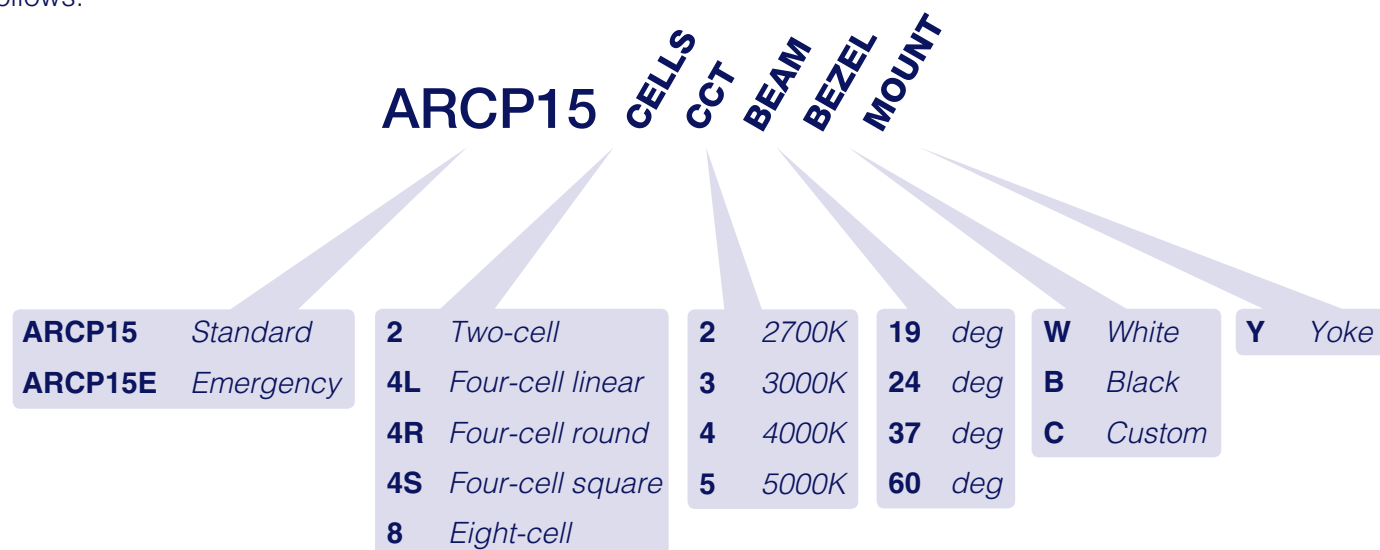
- Wired DMX or Wireless (ArcMesh) control protocols
- Stepless smooth dimming down to absolute zero
- High frequency dimming control
- Range of colour temperature (CCT) options: 2700K, 3000K, 4000K or 5000K
- Range of beam angles: 19°, 24°, 37° or 60°
- Low glare, recessed reflectors
- High lumen output (@ 3000K, 37° beam):
 

Pro Two-Cell	Pro Four-Cell	Pro Eight-Cell
3,551 lm	6,911 lm	13,822 lm
- Low power consumption:
 

Pro Two-Cell	Pro Four-Cell	Pro Eight-Cell
<3W	<3W	<4W (Standby)
48W	93.5W	187W (Full load)
2.3A	1.2A	0.42A (Max current @ 100VAC)
120A	120A	30A (Inrush)
- Universal mains input: 100 to 240VAC, 50 or 60Hz
- Integral power supply and drivers
- Internal switch settings allow you to determine how individual cells respond to control inputs, useful for providing reduced illumination coverage in certain situations
- Encrypted wireless operation, not identifiable by Wi-Fi
- Silent operation
- Convection cooled
- Maximum ambient operational temperature: 40°C
- Fitted with an adjustable yoke for surface mounting
- Manufactured from high grade powder coated steel
- Compliant with Part L of building regulations and proposed efficiency levels for energy saving incentives (UK)
- Excellent thermal management ensures LEDs will meet the stated > 50,000 hours life at L<sub>70</sub>

### Order codes

The Pro Cell fixtures are available with many different feature combinations. The main order code for any particular variant is a compound of various subcodes that define your feature choices, this is summarised as follows:



### Order code examples

A standard, Pro Two-Cell with 3000K emitters, 19° beams and white finish would have the code: **ARCP152319WY**

An emergency Pro Eight-Cell with 5000K emitters, 60° beams and black finish would be: **ARCP15E8560BY**

### Choosing the right emitter type

#### Colour temperature and lumens

To ensure that your Pro Cell fixtures perfectly match your venue's ambience, we offer a choice of four Correlated Colour Temperature (CCT) options; from a very warm 2700K through to a quite cool 5000K.

As the choice of colour temperature for the emitters increases, their respective lumen outputs also increase. These relationships are summarised here:

CCT	CRI	Pro 2-Cell	Pro 4-Cell	Pro 8-Cell
2700K	90	3,688 lm	6,671 lm	13,343 lm
3000K	90	3,551 lm	6,911 lm	13,822 lm
4000K	90	3,841 lm	7,475 lm	14,950 lm
5000K	80	4,259 lm	8,288 lm	16,577 lm

*Note: All measurements are taken at a realistic fixture temperature of 70°C, known as 'hot lumens'. Many other manufacturers quote their outputs at a much lower 25°C, which can yield better figures, but is not attainable in real world operating conditions.*

#### Beam angles

To assist with your choice of beam angles, please see the photometric details presented on the pages that follow.

*Note: IES and LDT photometric files are available on request for all Pro Cell fixture beam angles and colour temperatures.*

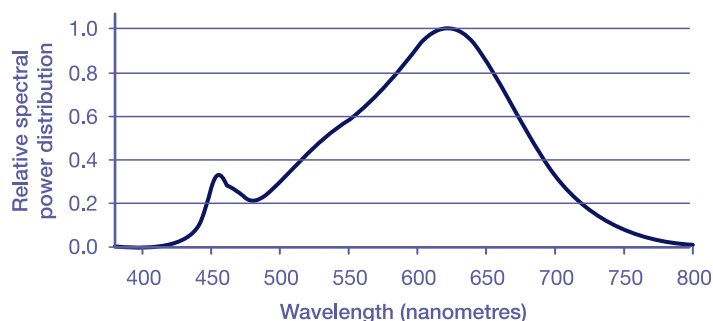
### To specify state

A high performance LED luminaire with powder coated steel housing, designed for surface mounting. Controllable via wired DMX or wireless ArcMesh network, having remote addressing. Light outputs are between 3,551 and 13,822 lumens (at 3000K CCT) with a CRI value of 90. The fixture is convection cooled and has smooth step-less dimming to absolute zero. Direct mains input to the fixture without any additional driver units.

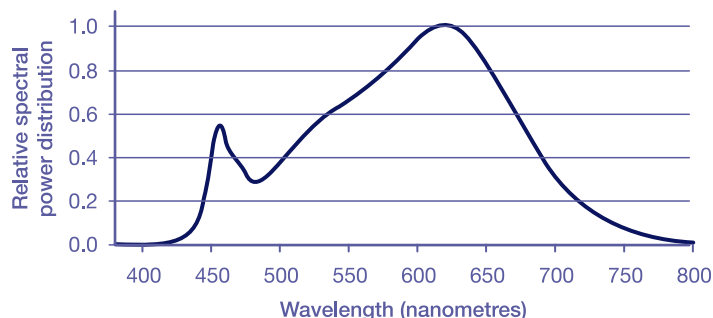
#### Spectrum charts for differing CCT options

The following charts show the distribution of intensity among the constituent spectrum wavelengths for the differing LED light engine CCT options.

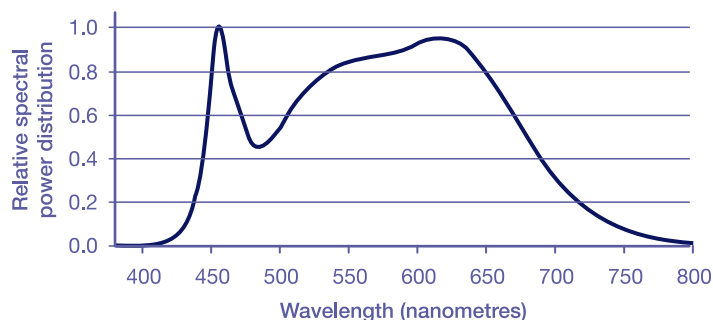
##### CCT = 2700K



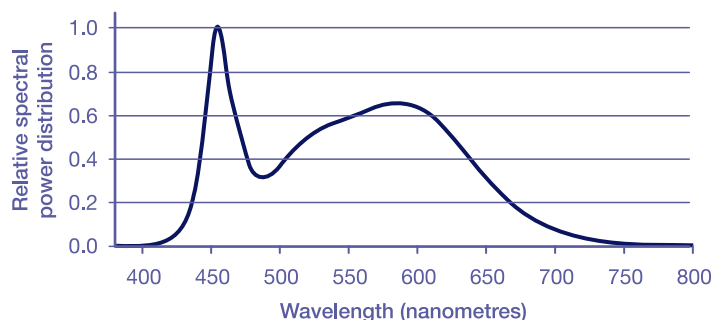
##### CCT = 3000K



##### CCT = 4000K



##### CCT = 5000K



### Photometrics (Pro Two-Cell, CCT=2700K)

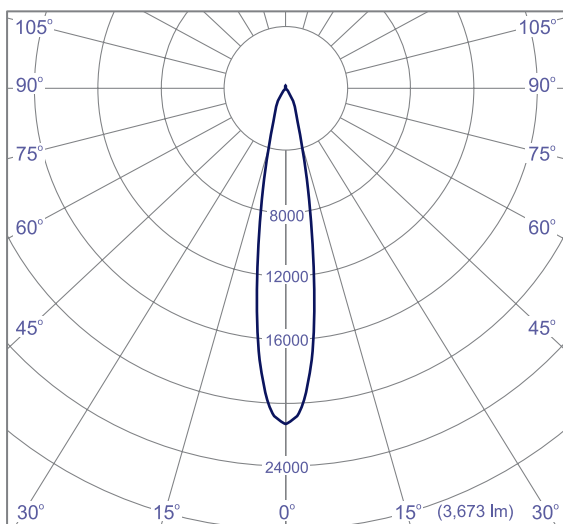
(4000K and 5000K data available on request)

#### Illuminance at a distance: Beam angle 19°

Distance	Centre beam	Beam width
2m (79")	5,341 lx	0.67m
4m (157")	1,335 lx	1.34m
6m (236")	593 lx	2.01m
8m (315")	334 lx	2.68m
10m (394")	214 lx	3.35m



#### Polar Candela distribution: Beam angle 19°

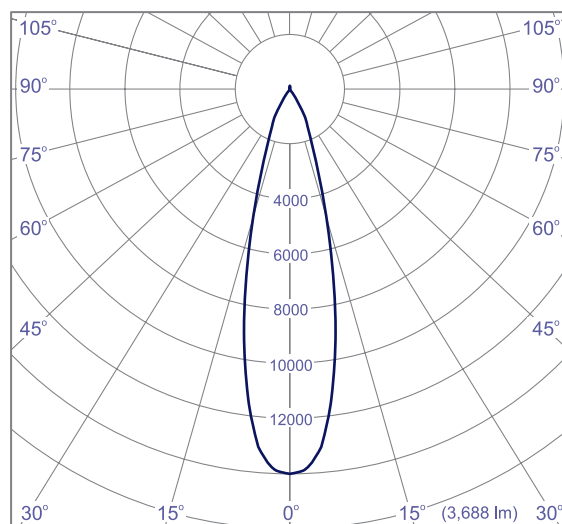


#### Illuminance at a distance: Beam angle 24°

Distance	Centre beam	Beam width
2m (79")	3,499 lx	0.92m
4m (157")	875 lx	1.85m
6m (236")	389 lx	2.77m
8m (315")	219 lx	3.69m
10m (394")	140 lx	4.62m



#### Polar Candela distribution: Beam angle 24°

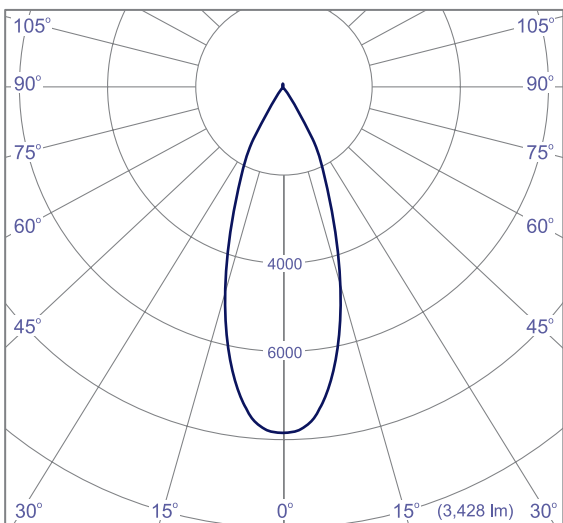


#### Illuminance at a distance: Beam angle 37°

Distance	Centre beam	Beam width
2m (79")	1,963 lx	1.34m
4m (157")	491 lx	2.68m
6m (236")	218 lx	4.02m
8m (315")	123 lx	5.35m
10m (394")	79 lx	6.69m



#### Polar Candela distribution: Beam angle 37°

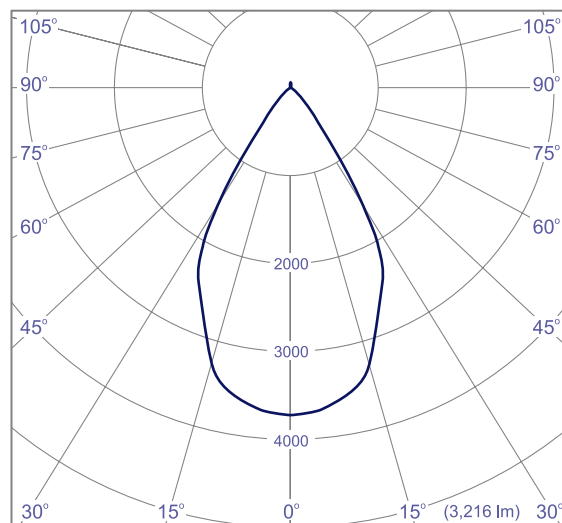


#### Illuminance at a distance: Beam angle 60°

Distance	Centre beam	Beam width
2m (79")	928 lx	2.34m
4m (157")	232 lx	4.67m
6m (236")	103 lx	7.01m
8m (315")	58 lx	9.35m
10m (394")	37 lx	11.69m



#### Polar Candela distribution: Beam angle 60°





### Photometrics (Pro Two-Cell, CCT=3000K)

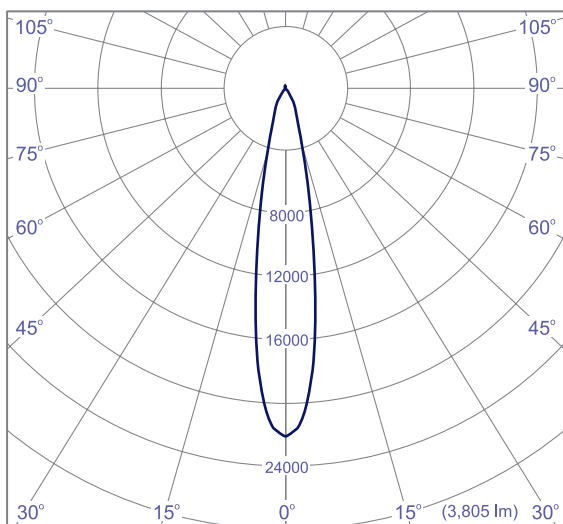
(4000K and 5000K data available on request)

#### Illuminance at a distance: Beam angle 19°

Distance	Centre beam	Beam width
2m (79")	5,533 lx	0.67m
4m (157")	1,383 lx	1.34m
6m (236")	615 lx	2.01m
8m (315")	346 lx	2.68m
10m (394")	221 lx	3.35m



#### Polar Candela distribution: Beam angle 19°

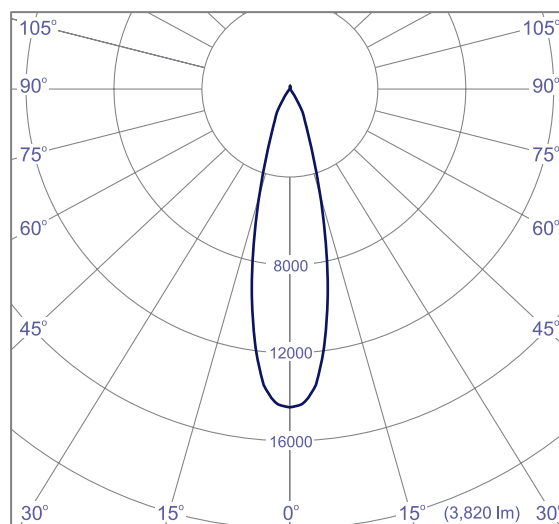


#### Illuminance at a distance: Beam angle 24°

Distance	Centre beam	Beam width
2m (79")	3,924 lx	0.92m
4m (157")	906 lx	1.85m
6m (236")	403 lx	2.77m
8m (315")	227 lx	3.69m
10m (394")	145 lx	4.62m



#### Polar Candela distribution: Beam angle 24°

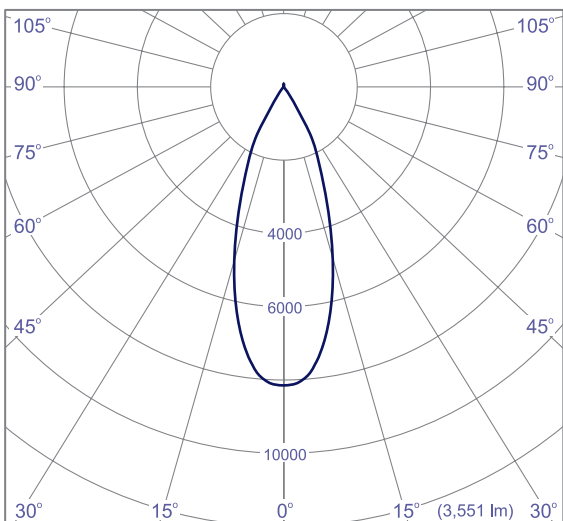


#### Illuminance at a distance: Beam angle 37°

Distance	Centre beam	Beam width
2m (79")	2,033 lx	1.34m
4m (157")	508 lx	2.68m
6m (236")	226 lx	4.02m
8m (315")	127 lx	5.35m
10m (394")	81 lx	6.69m



#### Polar Candela distribution: Beam angle 37°

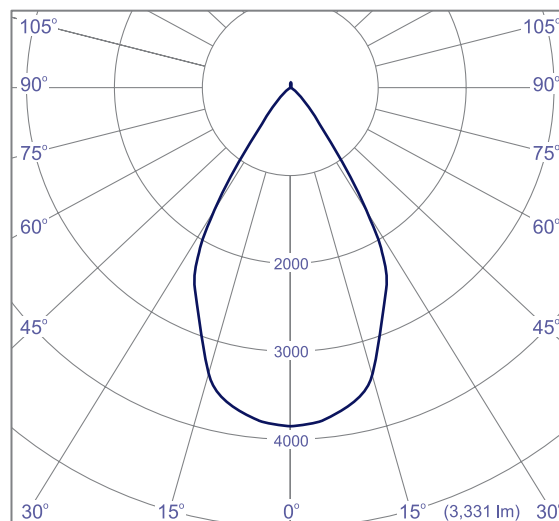


#### Illuminance at a distance: Beam angle 60°

Distance	Centre beam	Beam width
2m (79")	961 lx	2.34m
4m (157")	240 lx	4.67m
6m (236")	107 lx	7.01m
8m (315")	60 lx	9.35m
10m (394")	38 lx	11.69m



#### Polar Candela distribution: Beam angle 60°



### Photometrics (Pro Four-Cell Square and Round, CCT=2700K)

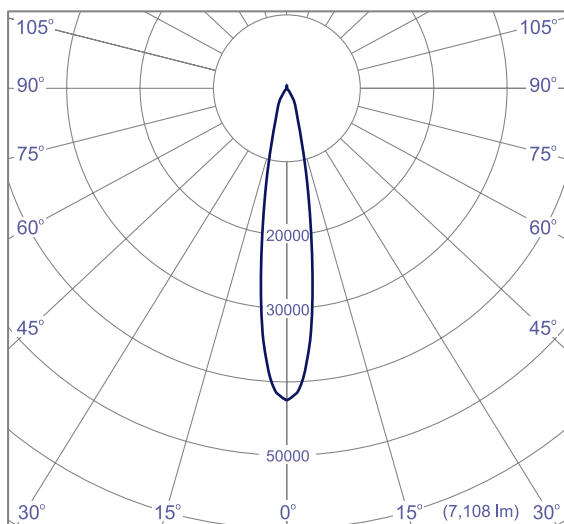
(4000K and 5000K data available on request)

#### Illuminance at a distance: Beam angle 19°

Distance	Centre beam	Beam width
2m (79")	10,662 lx	0.65m
4m (157")	2,665 lx	1.30m
6m (236")	1,185 lx	1.94m
8m (315")	666 lx	2.59m
10m (394")	426 lx	3.24m



#### Polar Candela distribution: Beam angle 19°

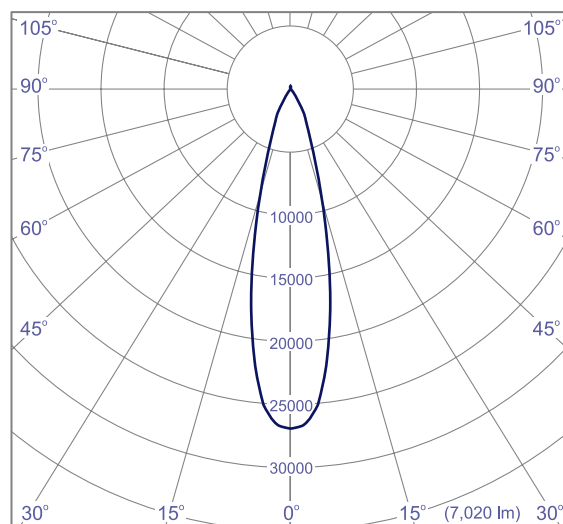


#### Illuminance at a distance: Beam angle 24°

Distance	Centre beam	Beam width
2m (79")	6,735 lx	0.92m
4m (157")	1,684 lx	1.83m
6m (236")	748 lx	2.77m
8m (315")	421 lx	3.66m
10m (394")	269 lx	4.58m



#### Polar Candela distribution: Beam angle 24°

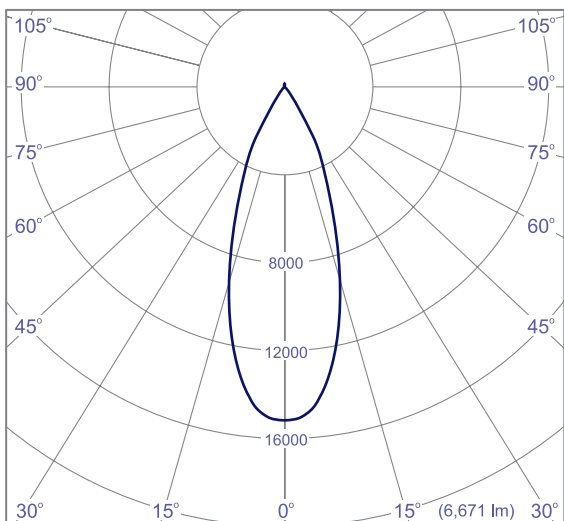


#### Illuminance at a distance: Beam angle 37°

Distance	Centre beam	Beam width
2m (79")	3,792 lx	1.34m
4m (157")	948 lx	2.68m
6m (236")	421 lx	4.02m
8m (315")	237 lx	5.35m
10m (394")	152 lx	6.69m

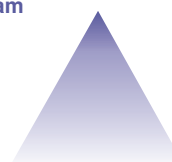


#### Polar Candela distribution: Beam angle 37°

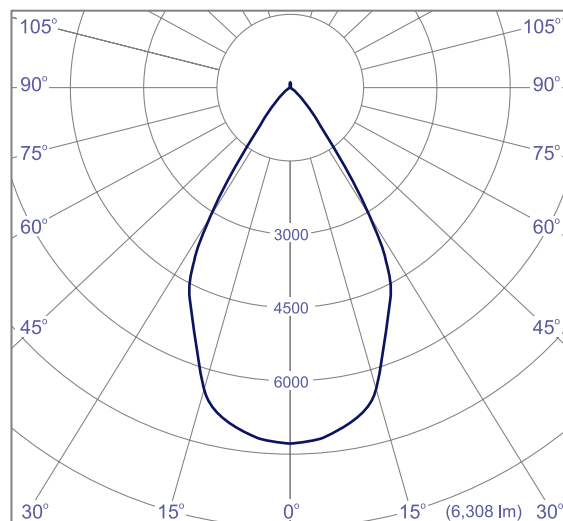


#### Illuminance at a distance: Beam angle 60°

Distance	Centre beam	Beam width
2m (79")	1,821 lx	2.34m
4m (157")	455 lx	4.67m
6m (236")	202 lx	7.01m
8m (315")	114 lx	9.35m
10m (394")	73 lx	11.69m



#### Polar Candela distribution: Beam angle 60°



### Photometrics (Pro Four-Cell Square and Round, CCT=3000K)

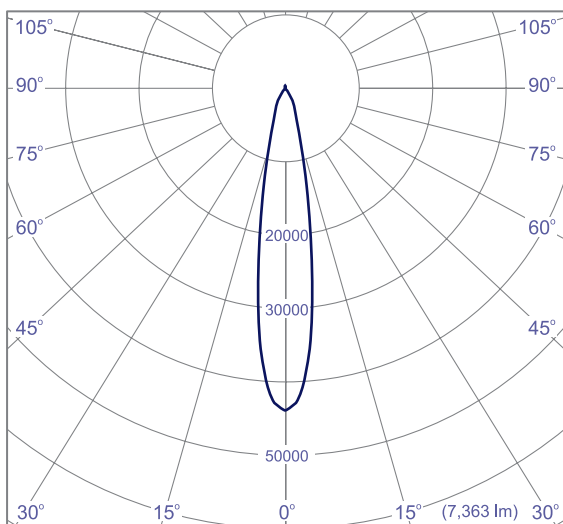
(4000K and 5000K data available on request)

#### Illuminance at a distance: Beam angle 19°

Distance	Centre beam	Beam width
2m (79")	11,044 lx	0.65m
4m (157")	2,761 lx	1.30m
6m (236")	1,227 lx	1.94m
8m (315")	690 lx	2.59m
10m (394")	442 lx	3.24m



#### Polar Candela distribution: Beam angle 19°

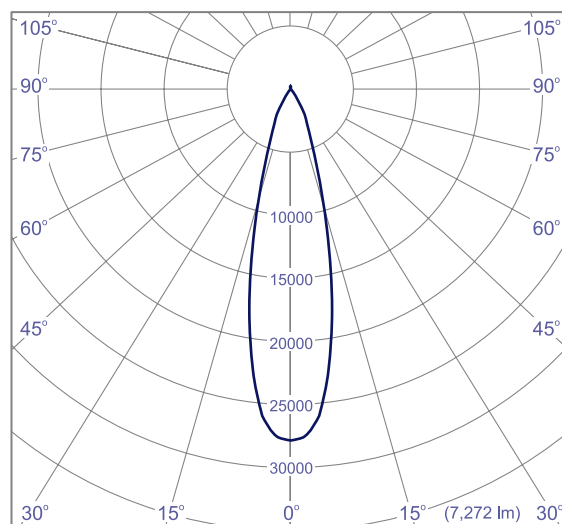


#### Illuminance at a distance: Beam angle 24°

Distance	Centre beam	Beam width
2m (79")	6,977 lx	0.92m
4m (157")	1,744 lx	1.83m
6m (236")	775 lx	2.77m
8m (315")	436 lx	3.66m
10m (394")	279 lx	4.58m



#### Polar Candela distribution: Beam angle 24°

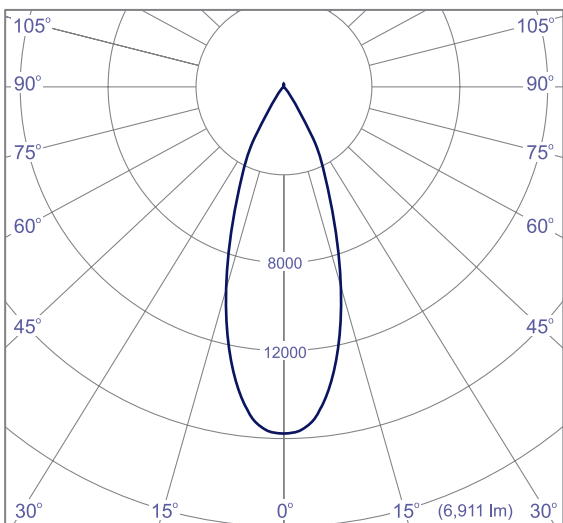


#### Illuminance at a distance: Beam angle 37°

Distance	Centre beam	Beam width
2m (79")	3,929 lx	1.34m
4m (157")	982 lx	2.68m
6m (236")	437 lx	4.02m
8m (315")	246 lx	5.35m
10m (394")	157 lx	6.69m



#### Polar Candela distribution: Beam angle 37°

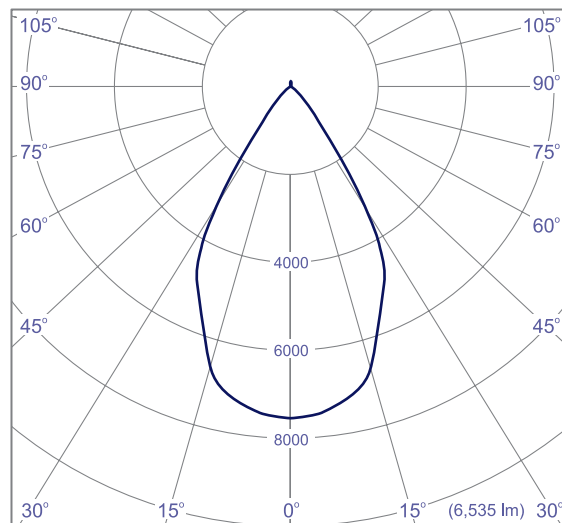


#### Illuminance at a distance: Beam angle 60°

Distance	Centre beam	Beam width
2m (79")	1,887 lx	2.34m
4m (157")	472 lx	4.67m
6m (236")	210 lx	7.01m
8m (315")	118 lx	9.35m
10m (394")	75 lx	11.69m



#### Polar Candela distribution: Beam angle 60°





### Photometrics (Pro Four-Cell Linear, CCT=2700K)

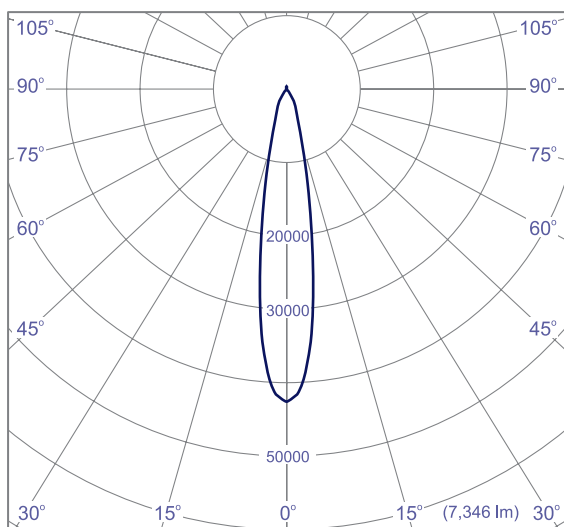
(4000K and 5000K data available on request)

#### Illuminance at a distance: Beam angle 19°

Distance	Centre beam	Beam width
2m (79")	11,683 lx	0.67m
4m (157")	2,671 lx	1.34m
6m (236")	1,187 lx	2.01m
8m (315")	668 lx	2.68m
10m (394")	427 lx	3.35m



#### Polar Candela distribution: Beam angle 19°

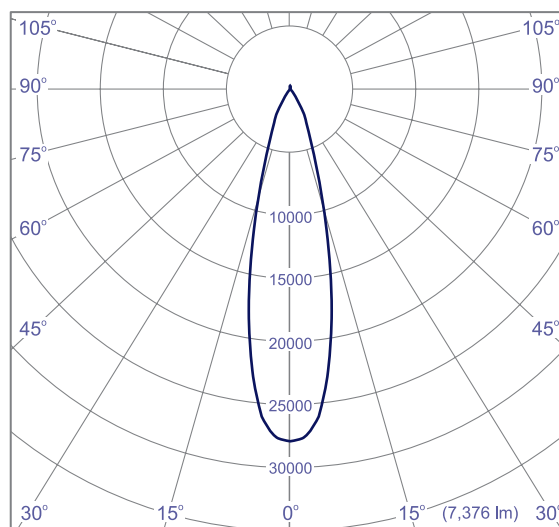


#### Illuminance at a distance: Beam angle 24°

Distance	Centre beam	Beam width
2m (79")	6,998 lx	0.92m
4m (157")	1,749 lx	1.85m
6m (236")	778 lx	2.77m
8m (315")	437 lx	3.69m
10m (394")	280 lx	4.62m



#### Polar Candela distribution: Beam angle 24°

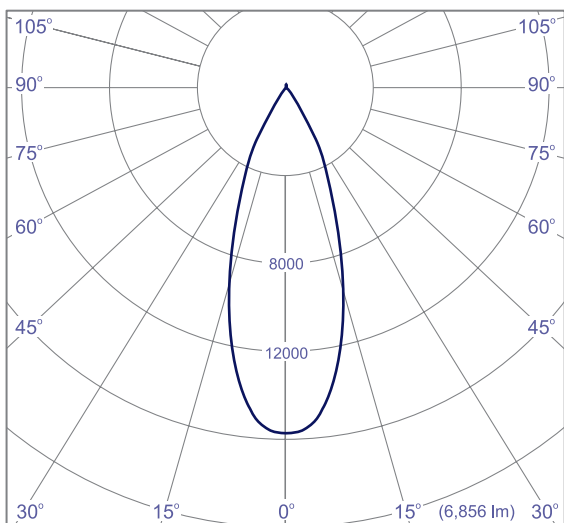


#### Illuminance at a distance: Beam angle 37°

Distance	Centre beam	Beam width
2m (79")	3,926 lx	1.34m
4m (157")	981 lx	2.68m
6m (236")	436 lx	4.02m
8m (315")	245 lx	5.35m
10m (394")	157 lx	6.69m

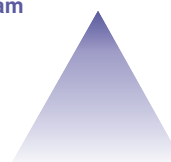


#### Polar Candela distribution: Beam angle 37°

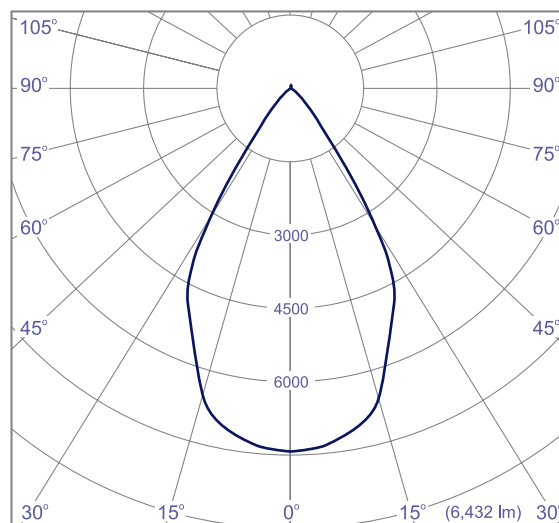


#### Illuminance at a distance: Beam angle 60°

Distance	Centre beam	Beam width
2m (79")	1,856 lx	2.34m
4m (157")	464 lx	4.67m
6m (236")	206 lx	7.01m
8m (315")	116 lx	9.35m
10m (394")	74 lx	11.69m



#### Polar Candela distribution: Beam angle 60°



### Photometrics (Pro Four-Cell Linear, CCT=3000K)

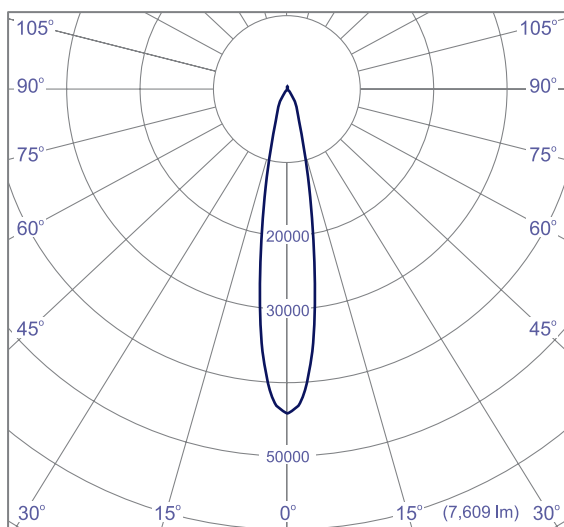
(4000K and 5000K data available on request)

#### Illuminance at a distance: Beam angle 19°

Distance	Centre beam	Beam width
2m (79")	11,065 lx	0.67m
4m (157")	2,766 lx	1.34m
6m (236")	1,229 lx	2.01m
8m (315")	692 lx	2.68m
10m (394")	443 lx	3.35m



#### Polar Candela distribution: Beam angle 19°

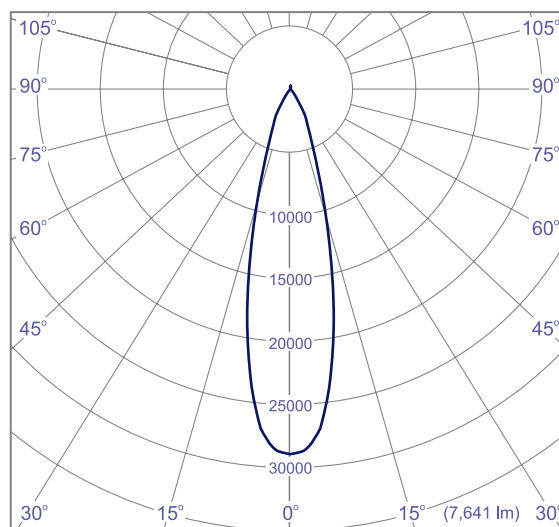


#### Illuminance at a distance: Beam angle 24°

Distance	Centre beam	Beam width
2m (79")	7,249 lx	0.92m
4m (157")	1,812 lx	1.85m
6m (236")	805 lx	2.77m
8m (315")	453 lx	3.69m
10m (394")	290 lx	4.62m



#### Polar Candela distribution: Beam angle 24°

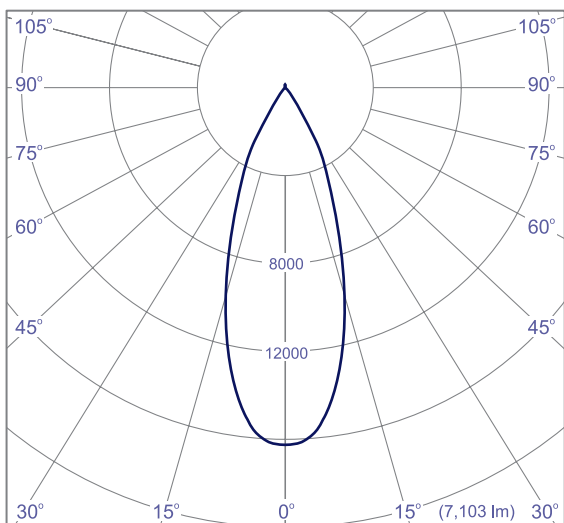


#### Illuminance at a distance: Beam angle 37°

Distance	Centre beam	Beam width
2m (79")	4,067 lx	1.34m
4m (157")	1,017 lx	2.68m
6m (236")	452 lx	4.02m
8m (315")	254 lx	5.35m
10m (394")	163 lx	6.69m



#### Polar Candela distribution: Beam angle 37°

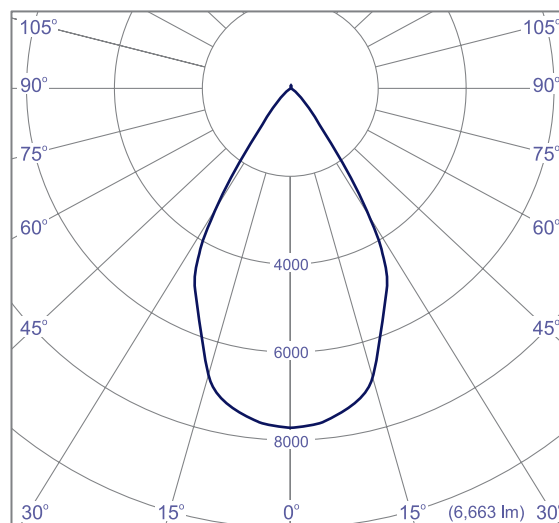


#### Illuminance at a distance: Beam angle 60°

Distance	Centre beam	Beam width
2m (79")	1,923 lx	2.34m
4m (157")	481 lx	4.67m
6m (236")	214 lx	7.01m
8m (315")	120 lx	9.35m
10m (394")	77 lx	11.69m



#### Polar Candela distribution: Beam angle 60°



### Photometrics (Pro Eight-Cell, CCT=2700K)

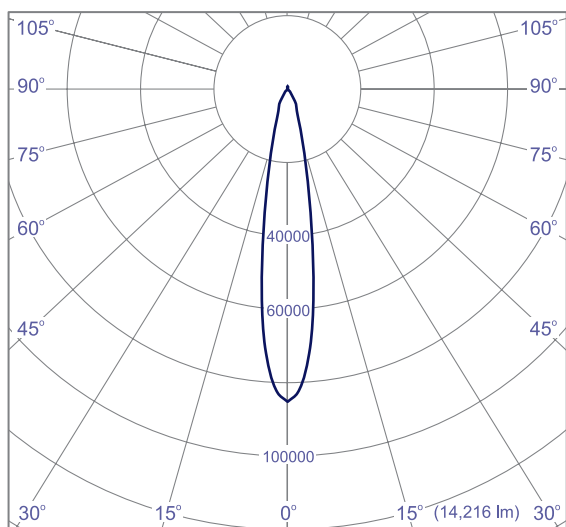
(4000K and 5000K data available on request)

#### Illuminance at a distance: Beam angle 19°

Distance	Centre beam	Beam width
2m (79")	21,323 lx	0.65m
4m (157")	5,331 lx	1.30m
6m (236")	2,369 lx	1.94m
8m (315")	1,333 lx	2.59m
10m (394")	853 lx	3.24m



#### Polar Candela distribution: Beam angle 19°

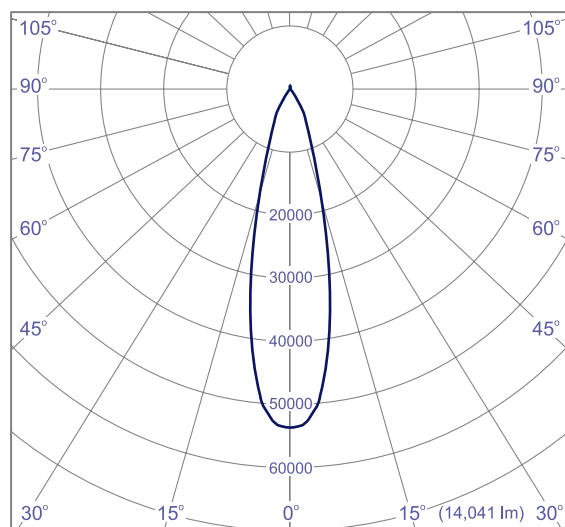


#### Illuminance at a distance: Beam angle 24°

Distance	Centre beam	Beam width
2m (79")	13,471 lx	0.92m
4m (157")	3,368 lx	1.83m
6m (236")	1,497 lx	2.75m
8m (315")	842 lx	3.66m
10m (394")	539 lx	4.58m



#### Polar Candela distribution: Beam angle 24°

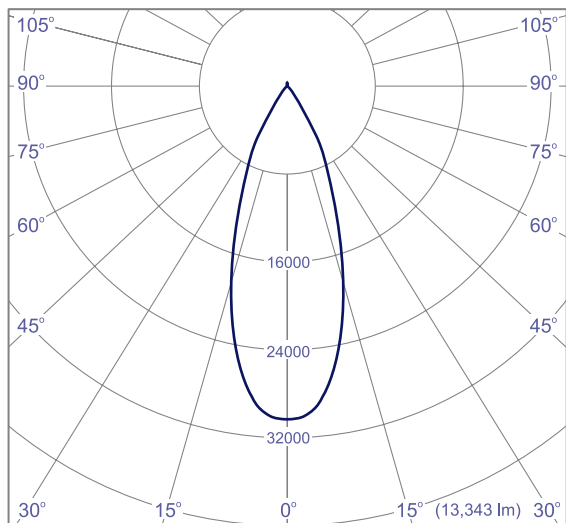


#### Illuminance at a distance: Beam angle 37°

Distance	Centre beam	Beam width
2m (79")	7,585 lx	1.34m
4m (157")	1,896 lx	2.68m
6m (236")	843 lx	4.02m
8m (315")	474 lx	5.35m
10m (394")	303 lx	6.69m

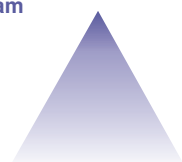


#### Polar Candela distribution: Beam angle 37°

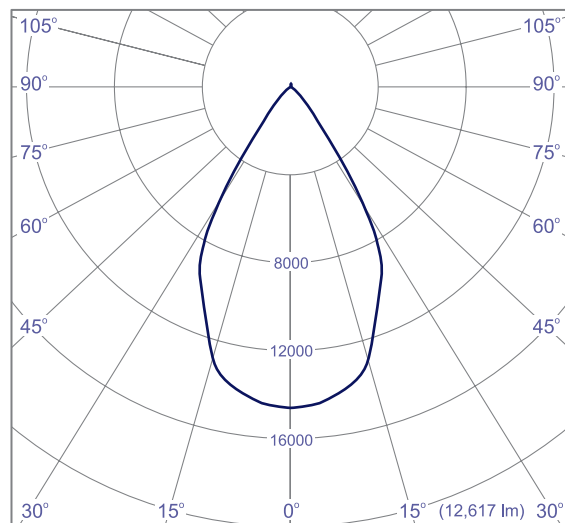


#### Illuminance at a distance: Beam angle 60°

Distance	Centre beam	Beam width
2m (79")	3,643 lx	2.34m
4m (157")	911 lx	4.67m
6m (236")	405 lx	7.01m
8m (315")	228 lx	9.35m
10m (394")	146 lx	11.69m



#### Polar Candela distribution: Beam angle 60°



### Photometrics (Pro Eight-Cell, CCT=3000K)

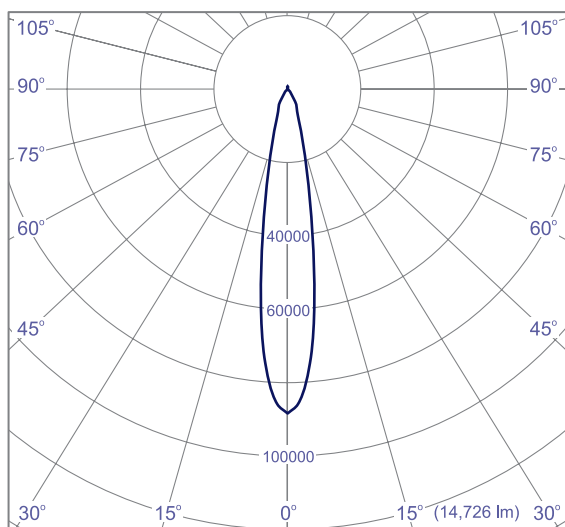
(4000K and 5000K data available on request)

#### Illuminance at a distance: Beam angle 19°

Distance	Centre beam	Beam width
2m (79")	22,088 lx	0.65m
4m (157")	5,522 lx	1.30m
6m (236")	2,454 lx	1.94m
8m (315")	1,381 lx	2.59m
10m (394")	884 lx	3.24m



#### Polar Candela distribution: Beam angle 19°

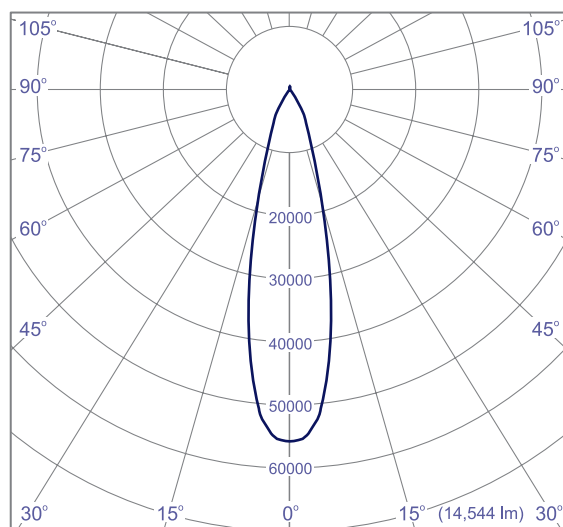


#### Illuminance at a distance: Beam angle 24°

Distance	Centre beam	Beam width
2m (79")	13,953 lx	0.92m
4m (157")	3,488 lx	1.83m
6m (236")	1,550 lx	2.75m
8m (315")	872 lx	3.66m
10m (394")	558 lx	4.58m



#### Polar Candela distribution: Beam angle 24°

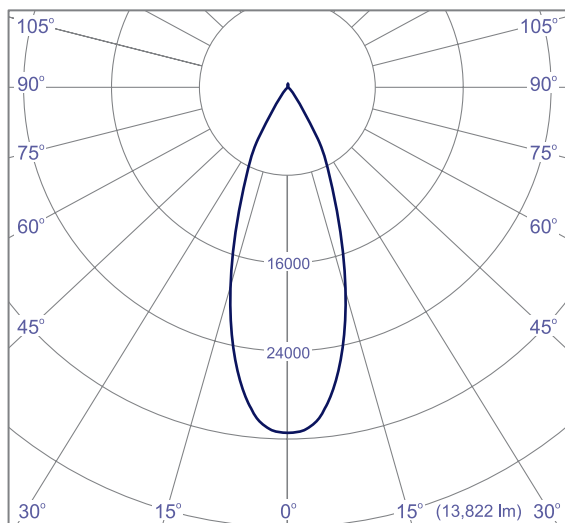


#### Illuminance at a distance: Beam angle 37°

Distance	Centre beam	Beam width
2m (79")	7,857 lx	1.34m
4m (157")	1,964 lx	2.68m
6m (236")	873 lx	4.02m
8m (315")	491 lx	5.35m
10m (394")	314 lx	6.69m



#### Polar Candela distribution: Beam angle 37°

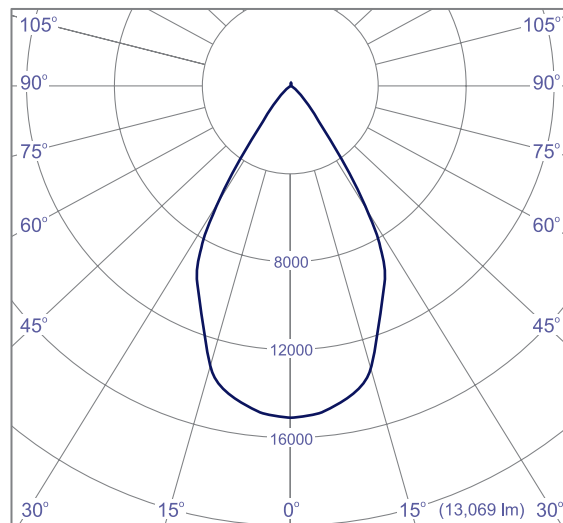


#### Illuminance at a distance: Beam angle 60°

Distance	Centre beam	Beam width
2m (79")	3,773 lx	2.34m
4m (157")	943 lx	4.67m
6m (236")	419 lx	7.01m
8m (315")	236 lx	9.35m
10m (394")	151 lx	11.69m



#### Polar Candela distribution: Beam angle 60°



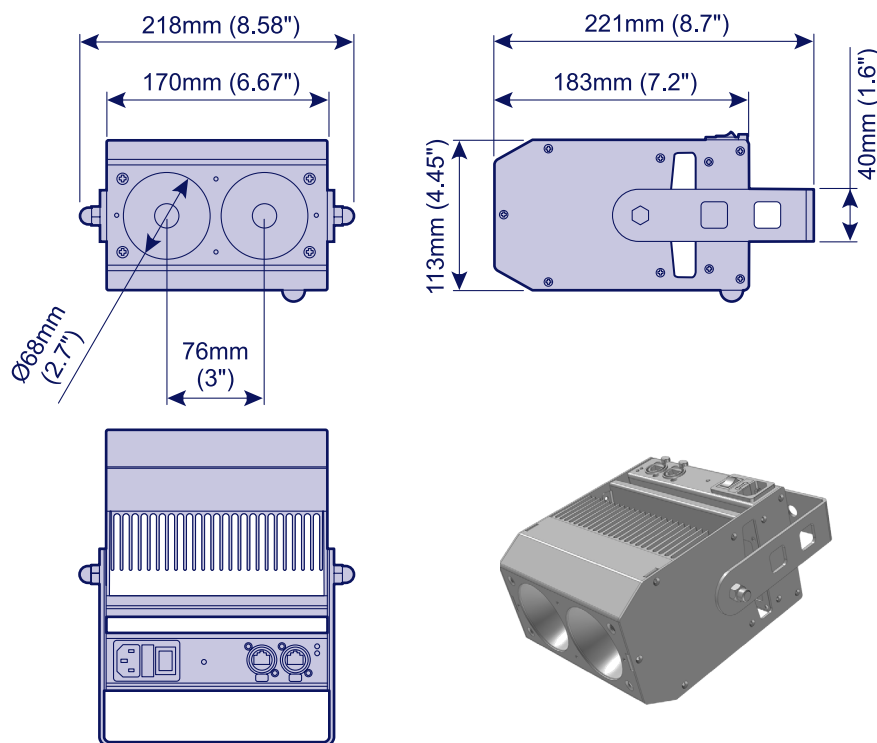
# ArcSystem<sup>1.5</sup>

## Pro Multi-Cell fixtures



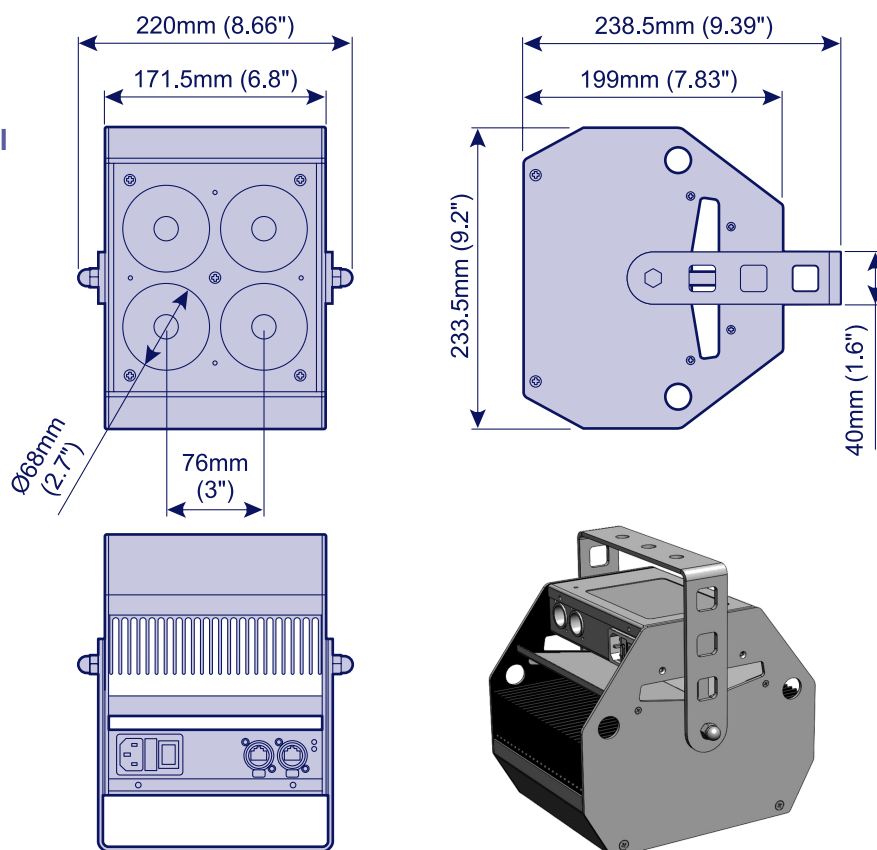
### Dimensions

**Pro Two-Cell**



Weight:  
3.6 kg (7.9 lbs)

**Pro Four-Cell Square**

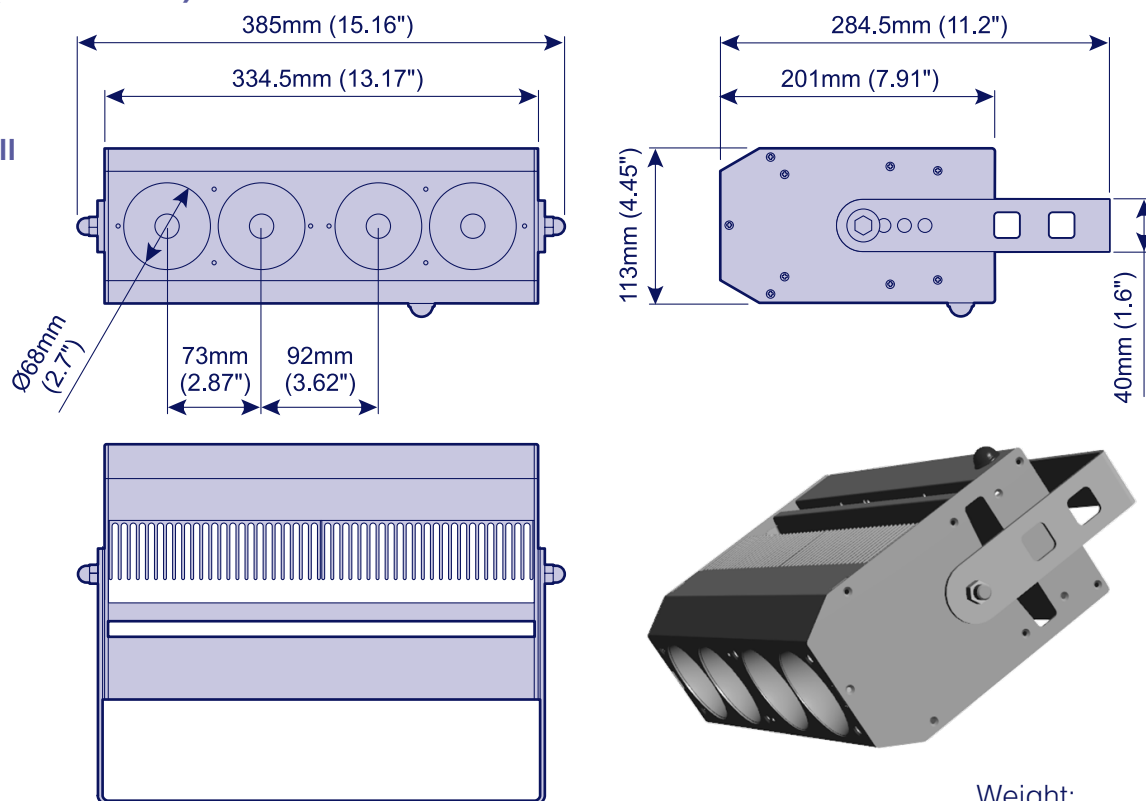


Weight:  
6.4 kg (14.1 lbs)



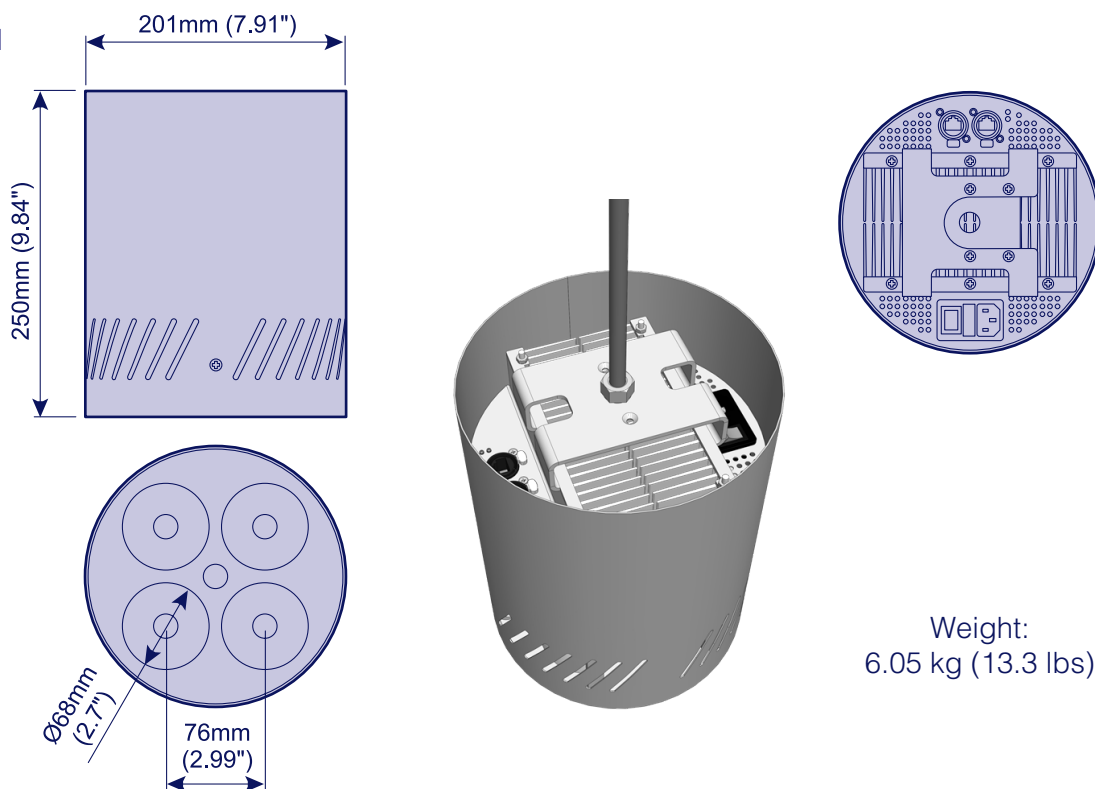
### Dimensions (continued)

**Pro Four-Cell Linear**



Weight:  
5.7 kg (12.5 lbs)

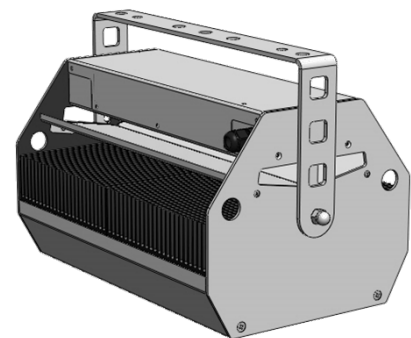
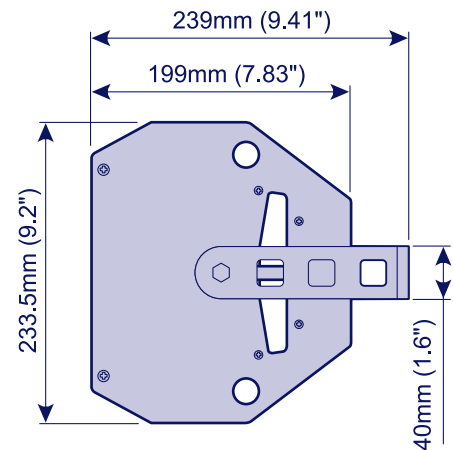
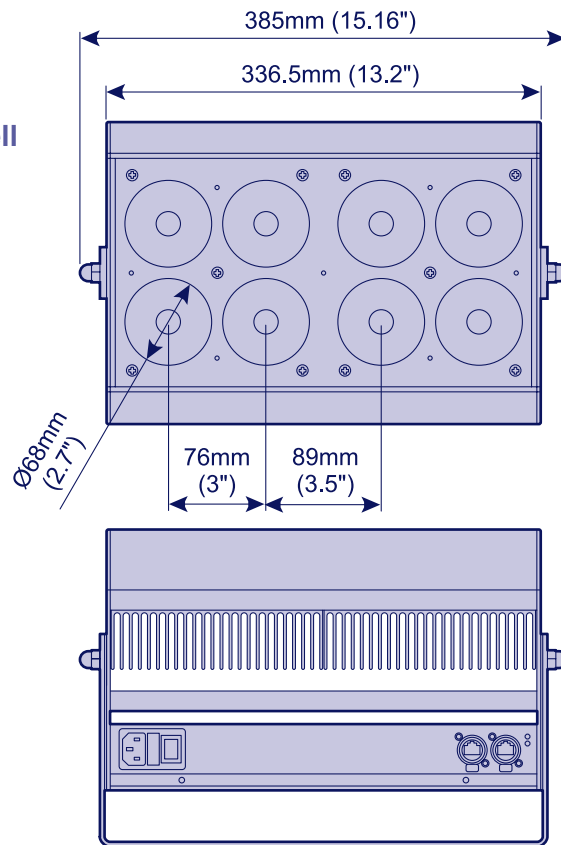
**Pro Four-Cell Round**



Weight:  
6.05 kg (13.3 lbs)

### Dimensions (continued)

**Pro Eight-Cell**



Weight:  
10.5 kg (23.15 lbs)

# ArcSystem<sup>1.5</sup>

## Pro Multi-Cell fixtures



### Key items within the ArcSystem range

#### TX1 ArcMesh transmitter

*A vital element in most ArcSystem installations. Controls and coordinates all other elements.*



#### ARC-CP8 button panels

*Provide direct recall for 8 of the 24 preset scenes contained within the TX1 ArcMesh transmitter.*



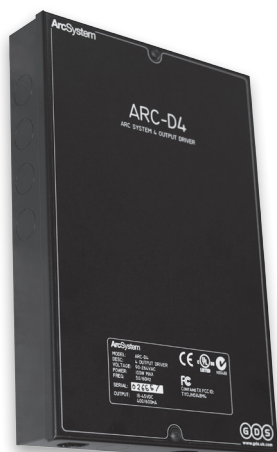
#### ArcMesh Control USB Commissioning Tool & software

*A USB wireless interface tool plus PC application used to commission and maintain ArcSystem installations.*



#### ARC-D1 and ARC-D4 drivers

*Mains powered compact drivers in various sizes to dim Pro One-Cell fixtures or ArcLamps according to wireless (or wired) control. Emergency versions also available.*



#### Pro One-Cell fixtures

*A range of high output recessed, and yoke mount, single emitter fixtures. These require the use of a D1 or D4 CC driver.*

#### ArcLamps

*A range of direct replacement lamps for traditional fixtures. ArcLamps are designed to closely mimic the light output and dimming response of traditional 60W tungsten lamps. ArcLamps require the use of a D4 CV driver.*



#### Pro Multi-Cell (Two to Eight) fixtures

*Mains powered fixtures with 2, 4 or 8 emitters. All driver and wireless systems on board. Can also be hardwired to the control system where necessary. Emergency versions also available.*



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