



solar light



technical
data

series 60
mira

190-2400
190-3600

dimensions

product specification

mira 190 is a stand-alone solar light conceived for outdoor residential and municipal lighting. Equipped with advanced modern LED and photo-voltaic technology, mira 190 provides uniform light distribution ideal for street, pedestrian areas and roadway applications. Due to its unique energy management system, mira 190 ensures high performance and reliability in all weather conditions and in the most challenging solar radiance environments.

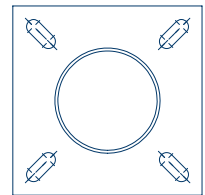
mira 190 is available with 24 or 36 LEDs and the following additional options:

- Motion detector for customer-specific light distribution
- Part-solar, hybrid version with power supply for locations with poor lighting conditions
- Remote maintenance and remote control (from 2011)

light pole versions

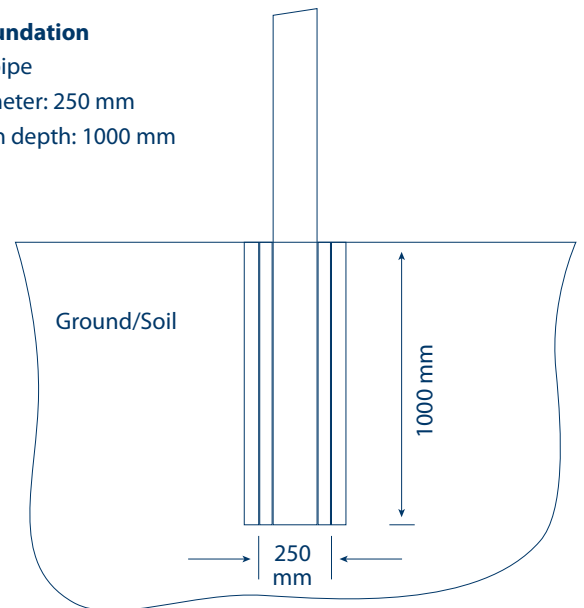
Square ground plate

according to EN 40-5
 dimensions: 330 x 330 x 25 mm
 hole spacing: 200 to 250 mm



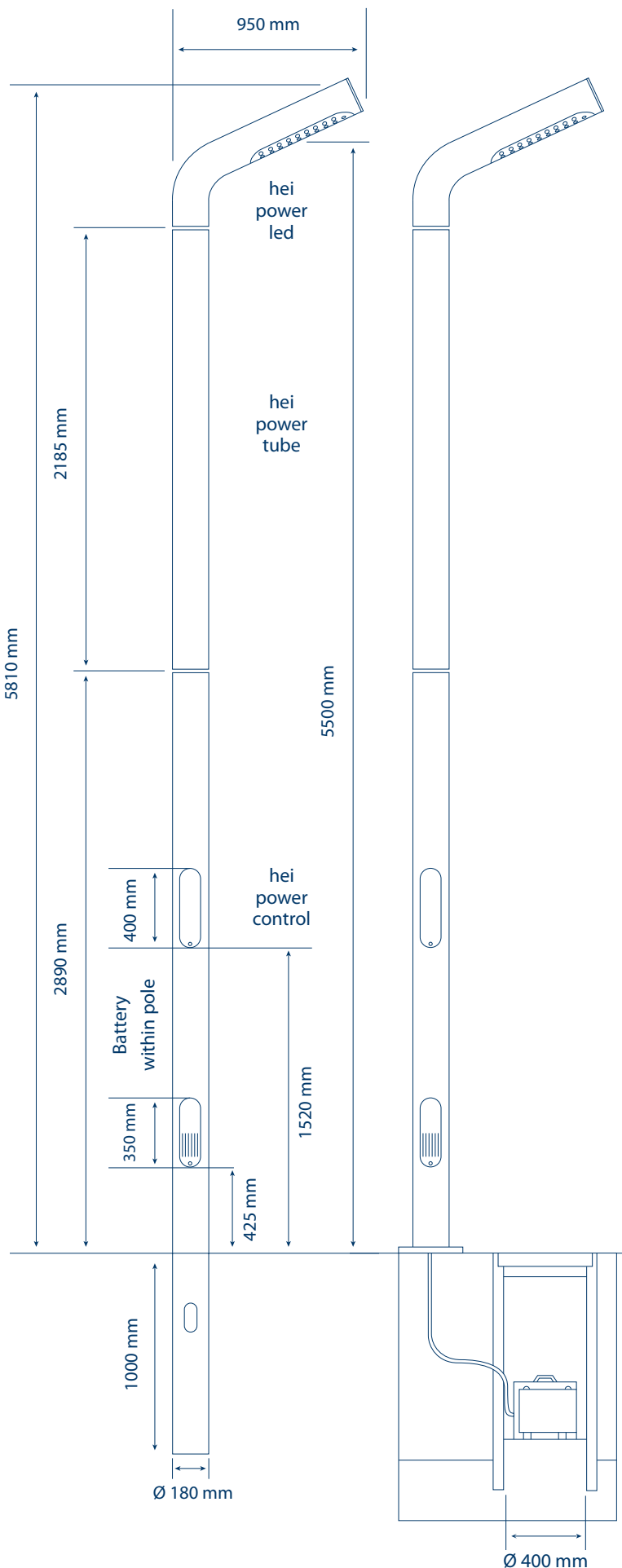
Sleeve foundation

concrete pipe
 inner diameter: 250 mm
 installation depth: 1000 mm



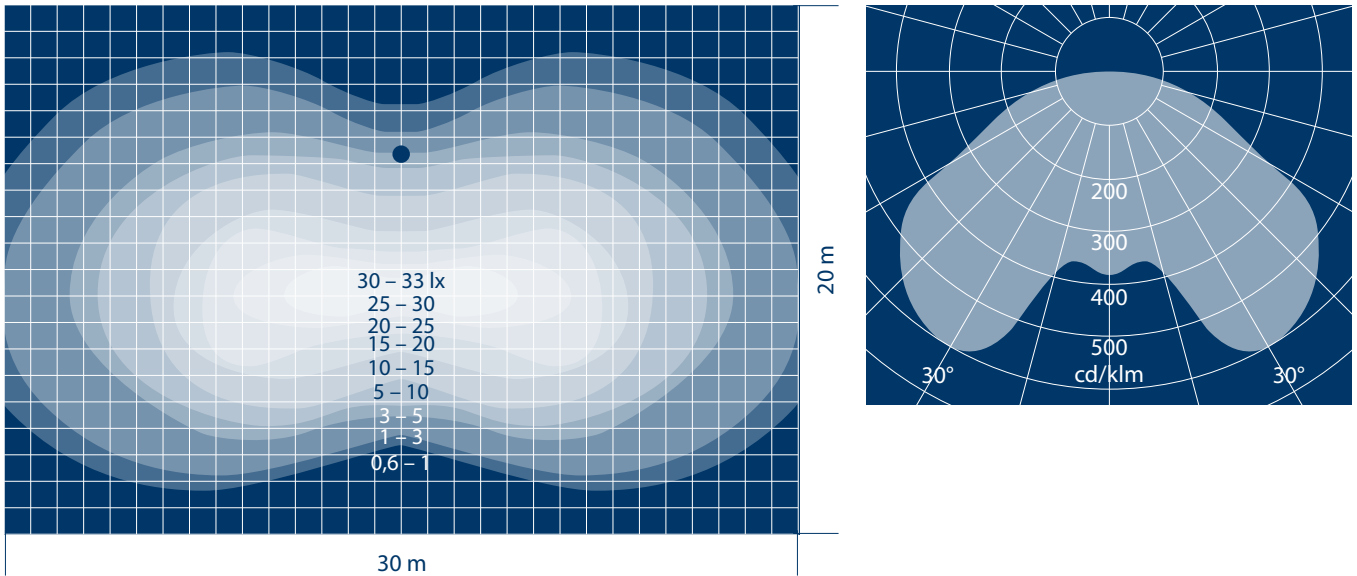
Battery enclosure

In very hot or cold regions, we recommend to position the battery in an underground enclosure rather than in the light pole.



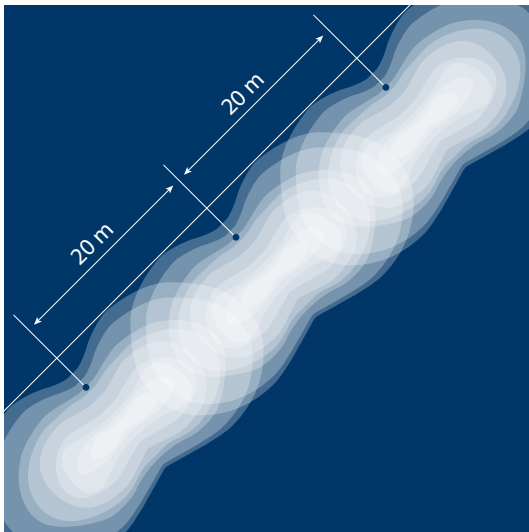
light distribution

Light distribution: lengthwise aligned Light spot height: 5.50 m 36 LEDs / 3.600 lm



installation example

Distance between lights: 20 m Average illuminance: 15 lx



illuminance

36 LEDs / 3.600 lm at full operation path-width: 7 m

distance [m]	area [sqm]	E_{av} [lx]	E_{min} [lx]
10	60	27	13
15	90	18	8.4
20	120	15	5.5
25	150	11	3.1
30	180	8.8	1.7
40	240	6.6	0.6
50	300	5.3	0.3

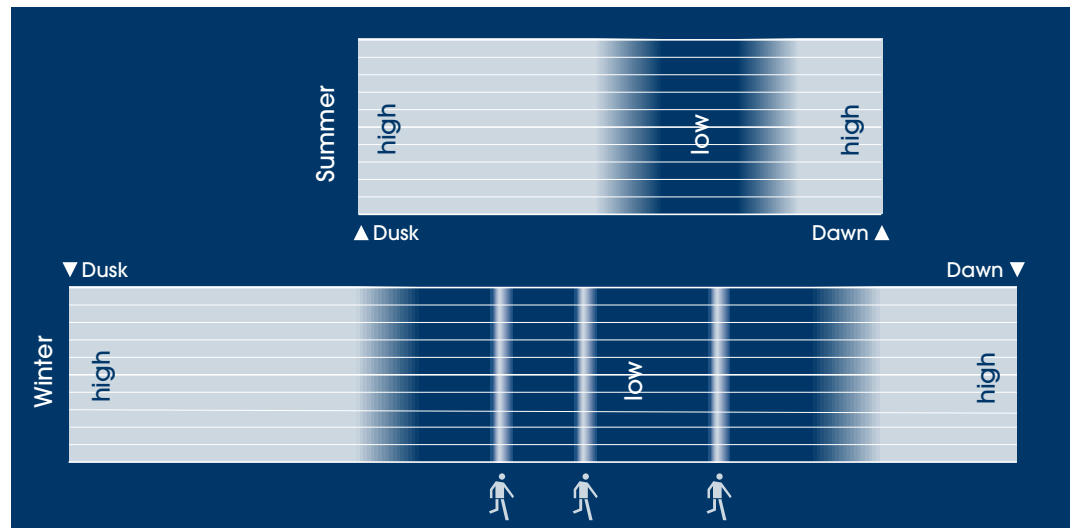
E_{av} [lx]: average illuminance

E_{min} [lx]: minimum illuminance

Illuminance in operation depending on local site conditions (average daylight available) and customer-specific lighting times.

illumination management

Lighting times can be individually adjusted with program-selection-switch.



technical data

Model	mira 190	
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System	
Installation height	5,80 m
Light spot height	5,50 m
Diameter of light pole	180 mm
Light pole	steel, hot-dip galvanized, paint-coated, (stainless steel, aluminium optional)
Light pole color	RAL 9006, white aluminium (standard)
Light head color	RAL 9005, deep black (standard)
Installation	sleeve foundation (ground plate optional)
Weight	185 kg

hei power led		
Type	mira 190-2400	mira 190-3600
Illuminant	24 high-efficiency LEDs	36 high-efficiency LEDs
Max. power	24 Watt	36 Watt
Max. luminous flux	2,400 Lumen	3,600 Lumen
Standard illuminance	up to 12 lx	up to 16 lx
Light distribution	lengthwise aligned	
Energy conversion efficiency	82 %	
LED-light temperature	cool-white, 5,300 Kelvin, CRI > 70 (standard) neutral-white, 4,100 Kelvin (optional) warm-white, 3,100 Kelvin (optional)	
Standard service life (part load)	> 75,000 hrs	
Illumination area	typ. 100 – 250 sqm	

hei power tube	
Height PV-module	2.16 m
Diameter PV-module	180 mm
PV-Technology	silicon-solar cells
Number of PV-cells	64 pcs
Nominal power output	192 Wp

hei power control	
Programmable microcontroller	✓
Dynamic light profile	customer-specific
Motion detector	optional
Capacity of battery	12 V / 72 Ah (pole-mounted, standard) 12 V / 75 Ah (underground enclosure, optional)*
Technology of battery	lead-acid

Standards / Compliances	
Degree of protection PV-module	IK06
Certification light pole	EN 40-5, EN 40-3-1, ISO 1461
Certification electronics	IP65
EMV	EN 55015, EN 61547
PV-standard	EN 61215 (adapted)
Temperature range	- 15° C to +50° C (pole-mounted) - 30° C to + 60° C (underground enclosure)*
CE-certification	✓

* Recommended installation for harsh climates in order to increase battery lifespan.

Your HEI Solar Light partner: (company stamp)

