

# **PV STREET LIGHTING SYSTEM IN MARGINENI COMMON**

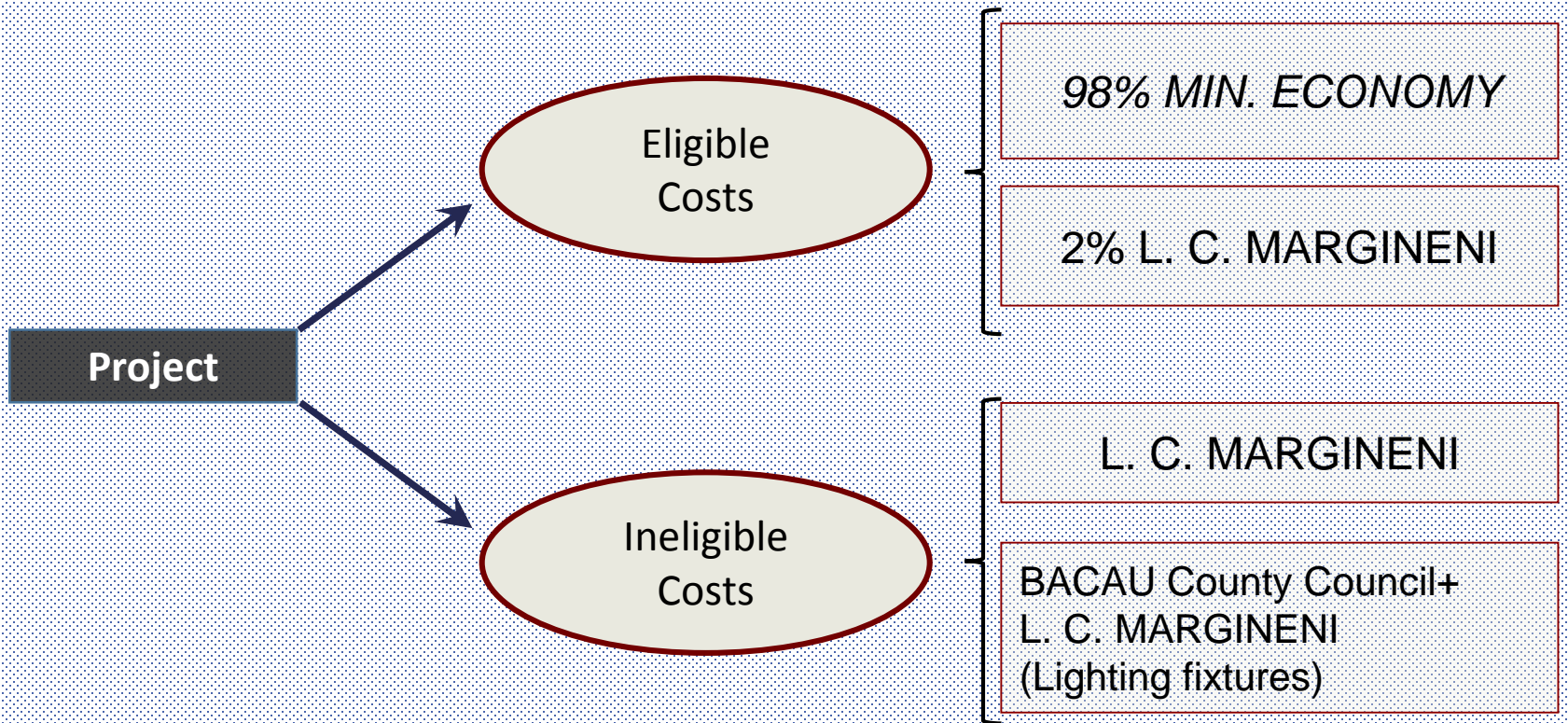
**„ The achieving of street lighting in Margineni by using solar energy”**

Funding

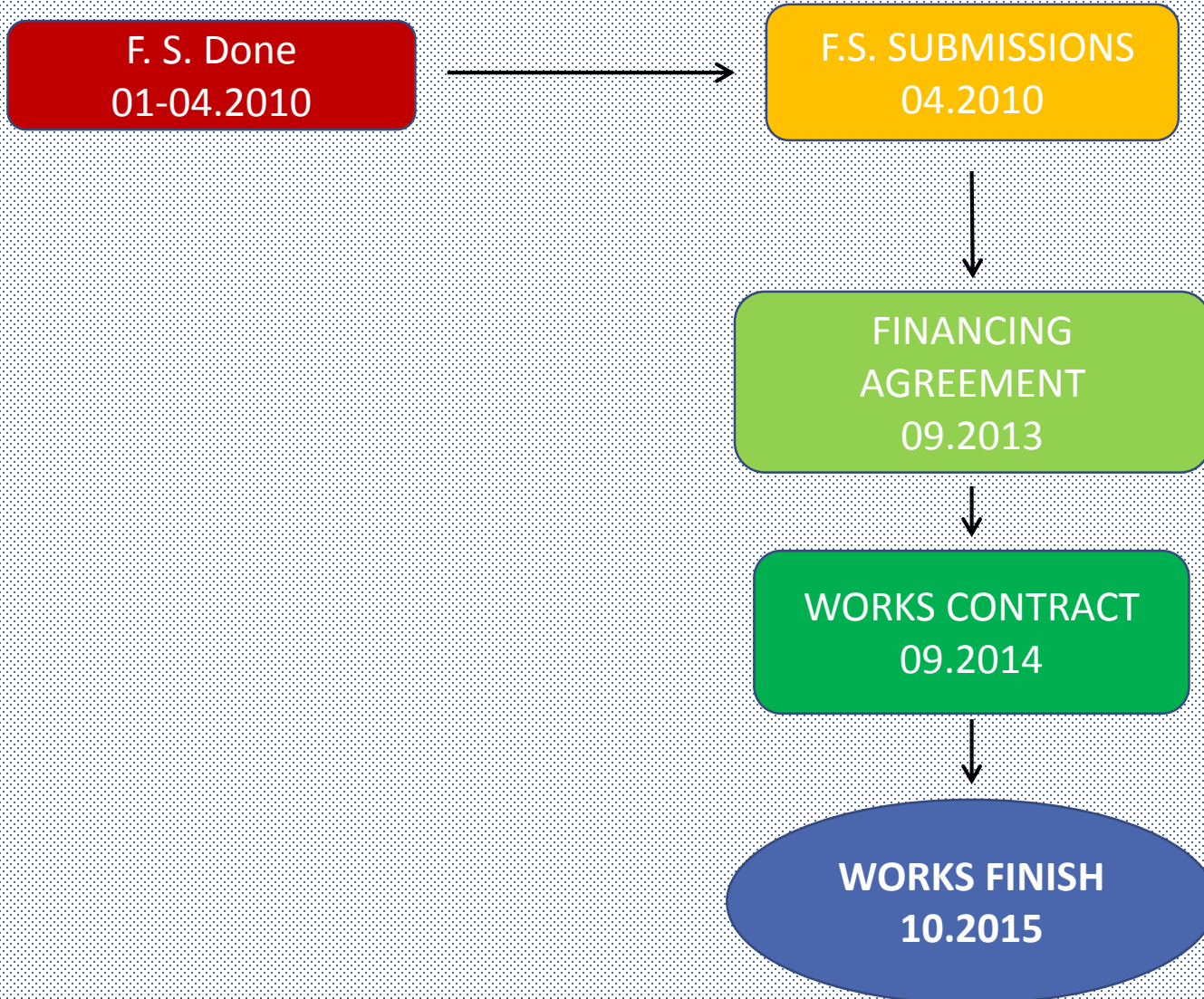
**European Regional Development Fund (ERDF)**

*Operation 4.2 . "Supporting investments in upgrading and building of new capacity for the electricity and heat production by harnessing renewable energy sources: biomass, hydropower resources (in units with installed up to 10 MW), solar, wind , biofuel, geothermal and other renewable energy resources*

**Total amount 3.5 mil euro**



# HISTORIC



## GENERAL DATA

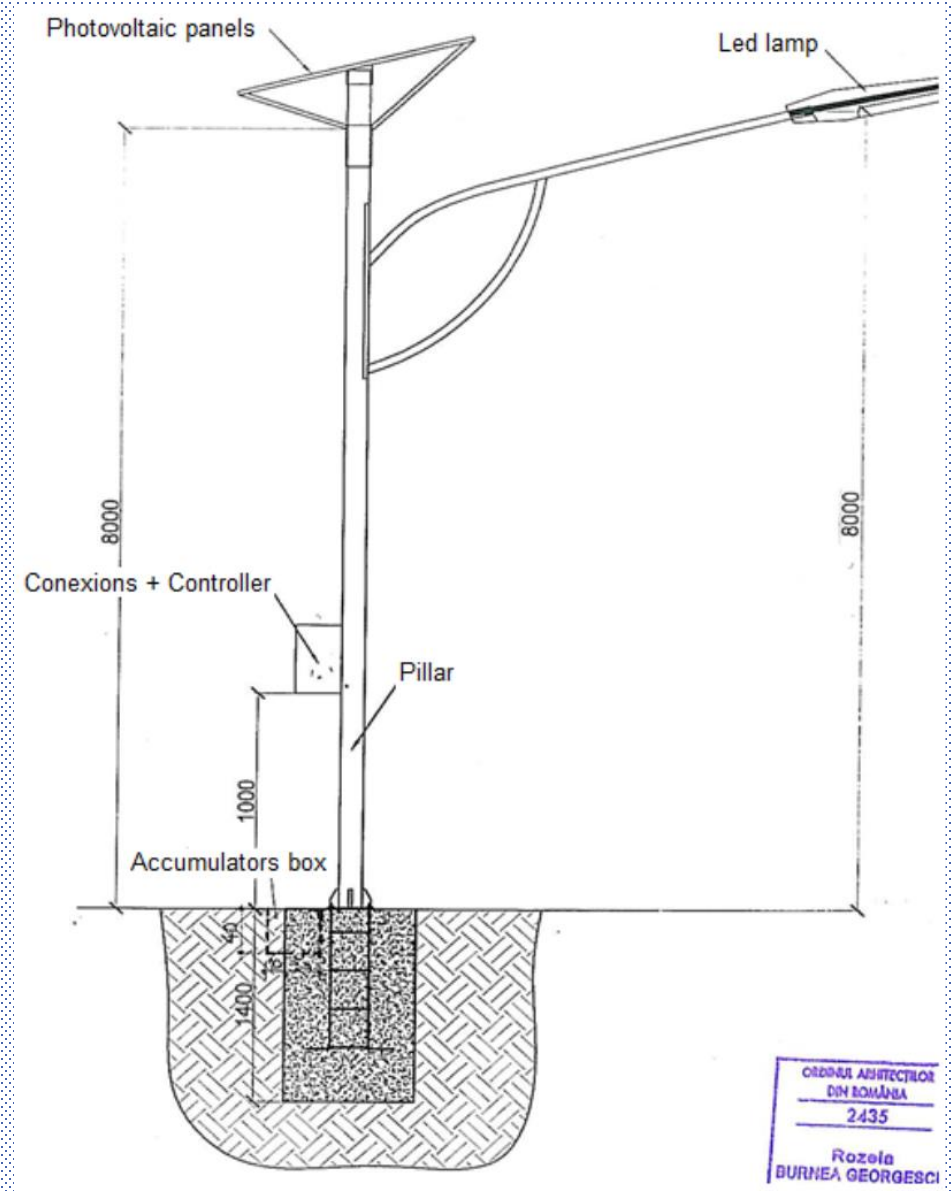
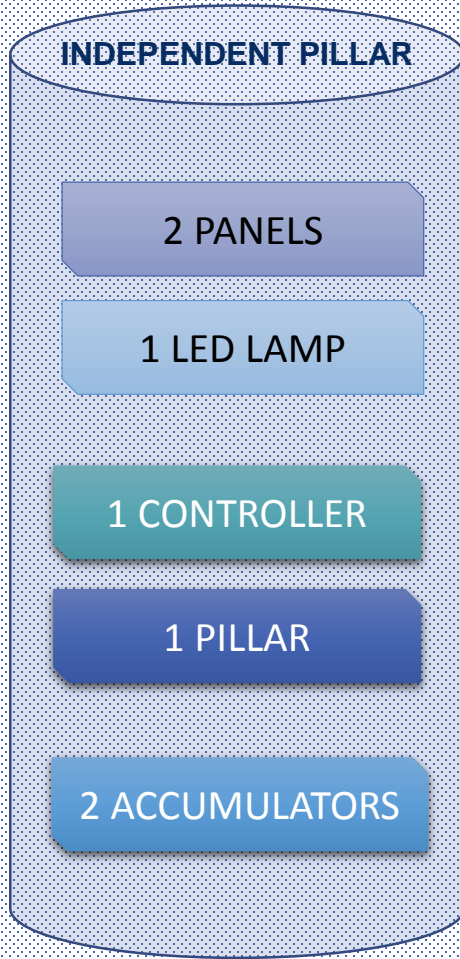
### MARGINENI COMMON

**8 VILAGES** including **two types of road** classified as **EN 13433**

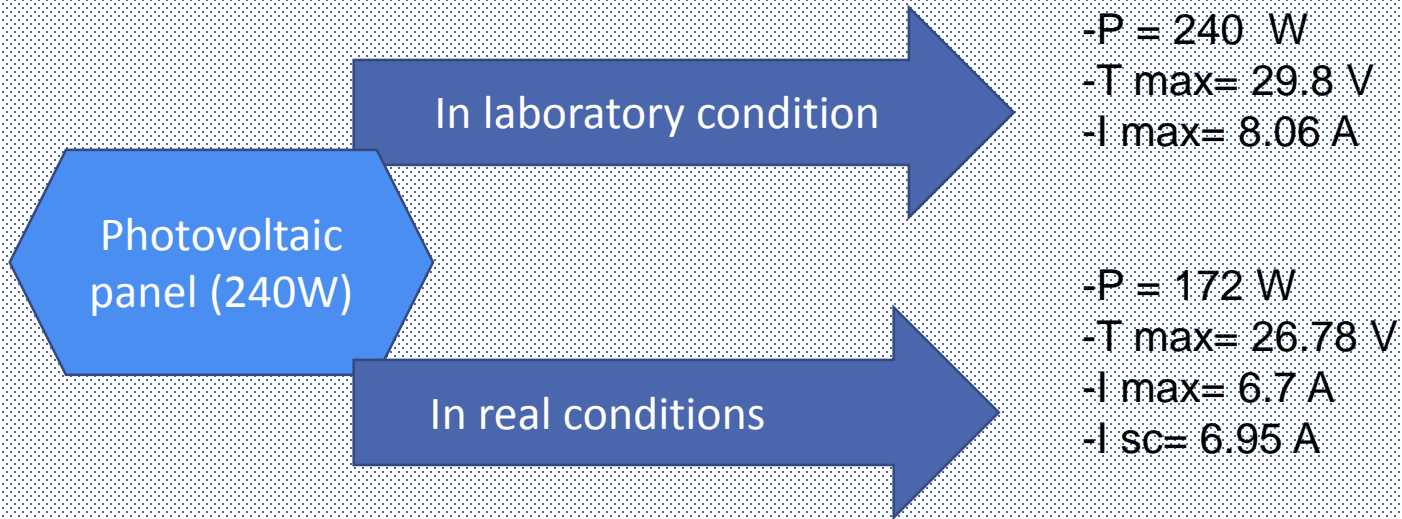
1. **M3**: 15 km ( DN 2G + DJ119B) - 30 m distance between poles
2. **M5**: 55km ( D.C.) - 50 m distance between poles

**STREET LIGHTS - 1606 INDEPENDENT PILLARS**

# COMPONENTS



# PHOTOVOLTAIC PANEL CHARACTERISTICS



## Design features

Number of cells: 60

Cell type: polycrystalline

Internal drainage channels frost

Length / width / height: 1700/100/50

box connections

Mounting and connection accessories

## ACUMULATOR



Without maintenance

Type: Deep-cycle

Electrolyte: acid sulfate

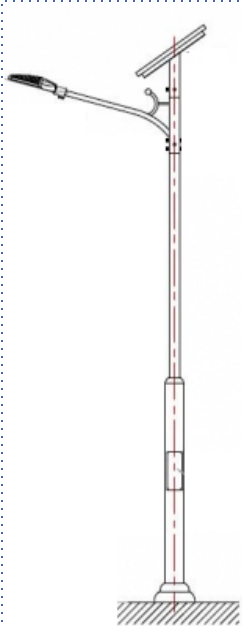
Nominal voltage: 12 V

100Ah nominal capacity

Hardened safety valve

Dimensions: 350/200/250 mm

## PILLAR



Material: OL37

Mounting: the base plate anchored in reinforced concrete foundation

Corrosion protection by painting

Height: 8 m

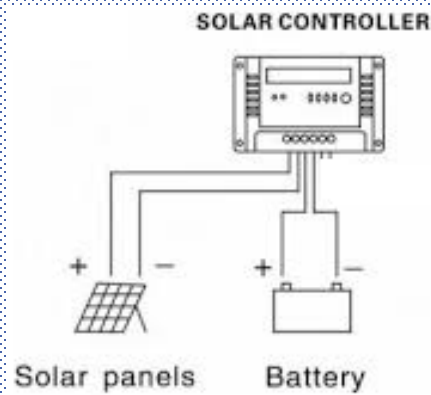
Wind resistance: 150km / h

Accessory:

- Mounting box controller
- Battery mounting box
- Anchors embedded in the foundation



## CONTROLLER



Auto Detect operating voltage: 12V (24V)

Input voltage: 47 V

Maximum output voltage: 34 V

Maximum output current: 20A

Operating Temperature: -25 +55

Short-circuit protection

Automatic voltage detection

System monitoring and control of electrical parameters

Multistage charging technology

Voltage and current adjustment

Automatic load reconnection

# LAMP



	M3	M5
Maximum consumption:	80W	60 W
MINIMUM NET FLUX:	6400 lm	4300lm

Aluminium housing

Flat or curved treated glass lens

Light color temperature: 3000-4500 K

Driver 12-24V supply with possible settlement at least 4 hourly intervals

Adjustable vertical: 0-15 degrees

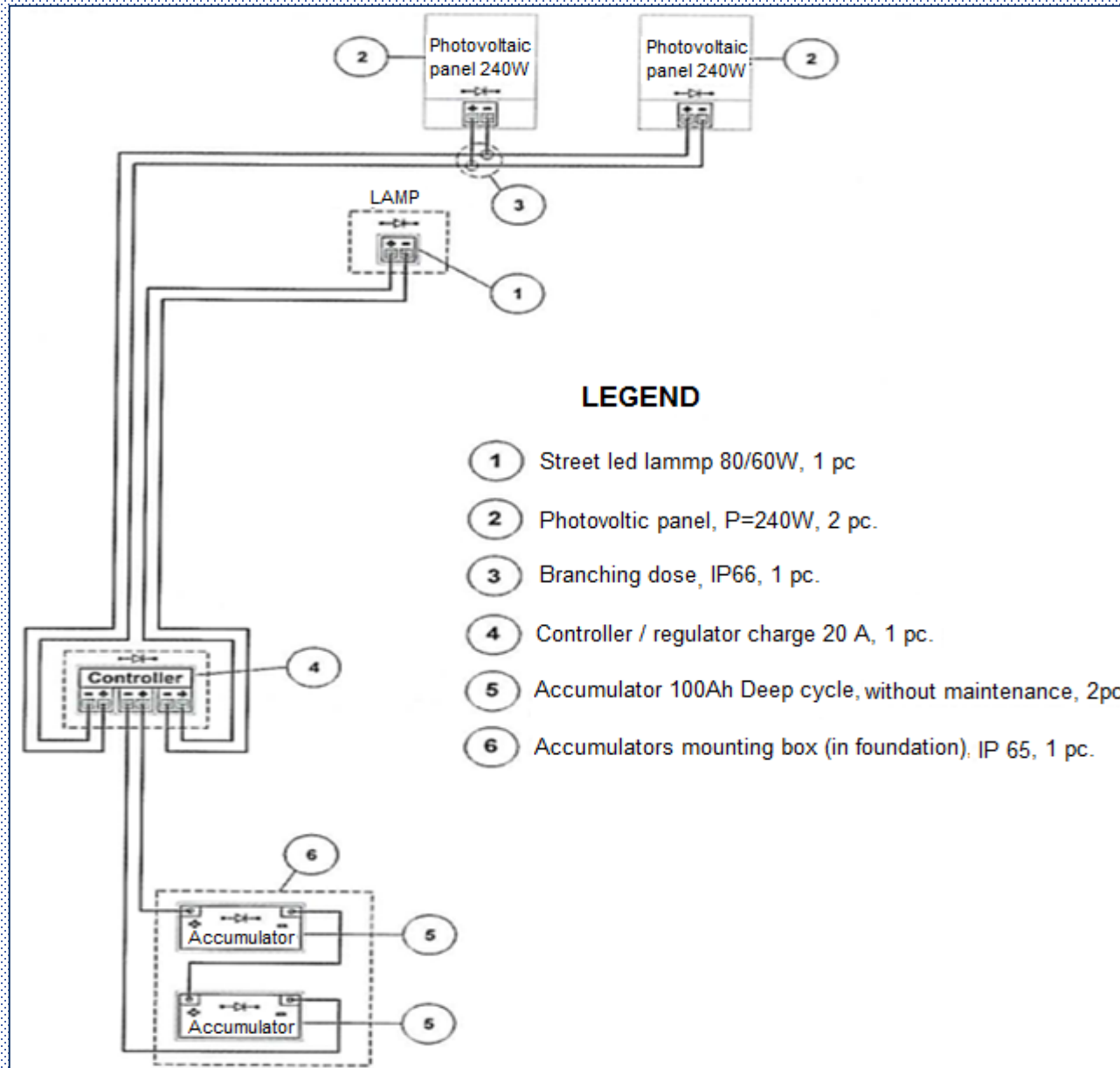
Temperatura operation: -30, +35

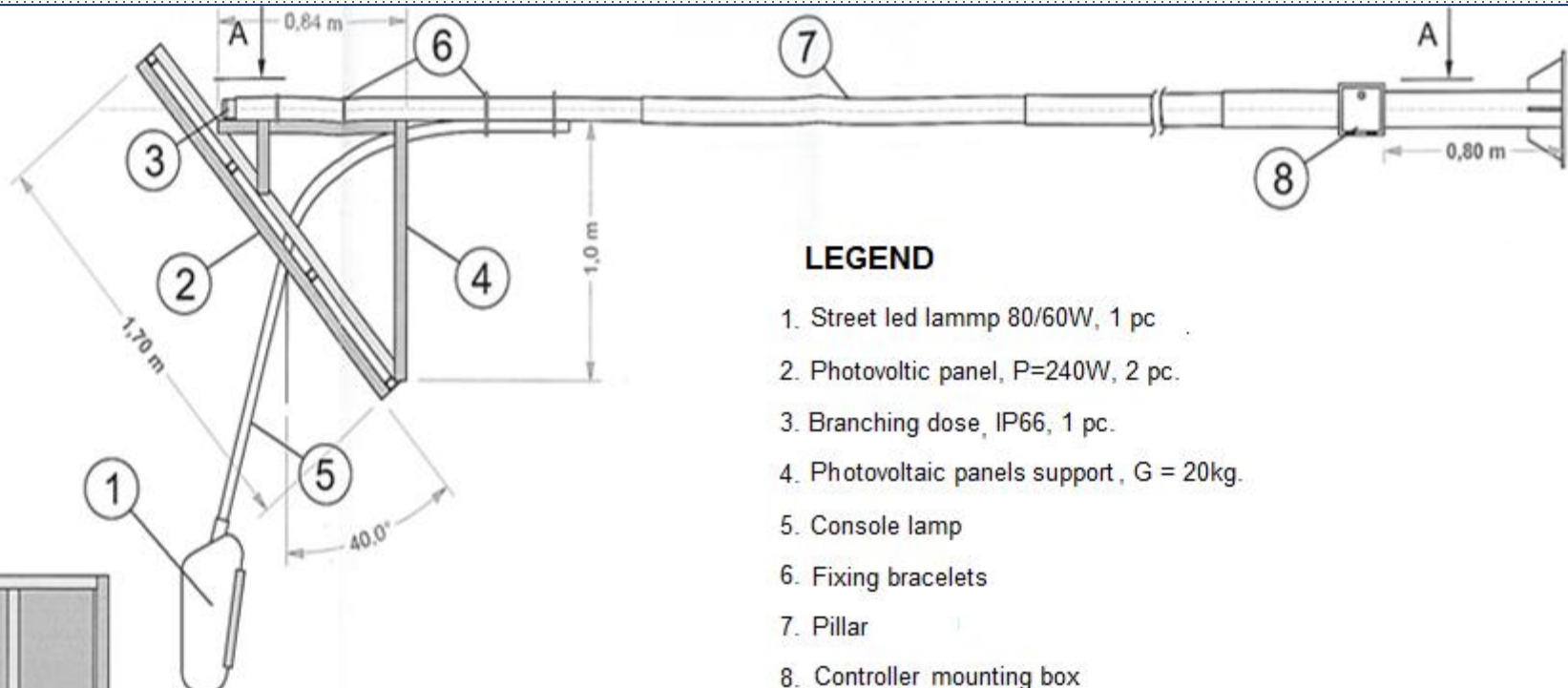
Console: OL 37

The minimum duration to decrease the luminous flux at 90% : 50000h

Protection: minimum IP66

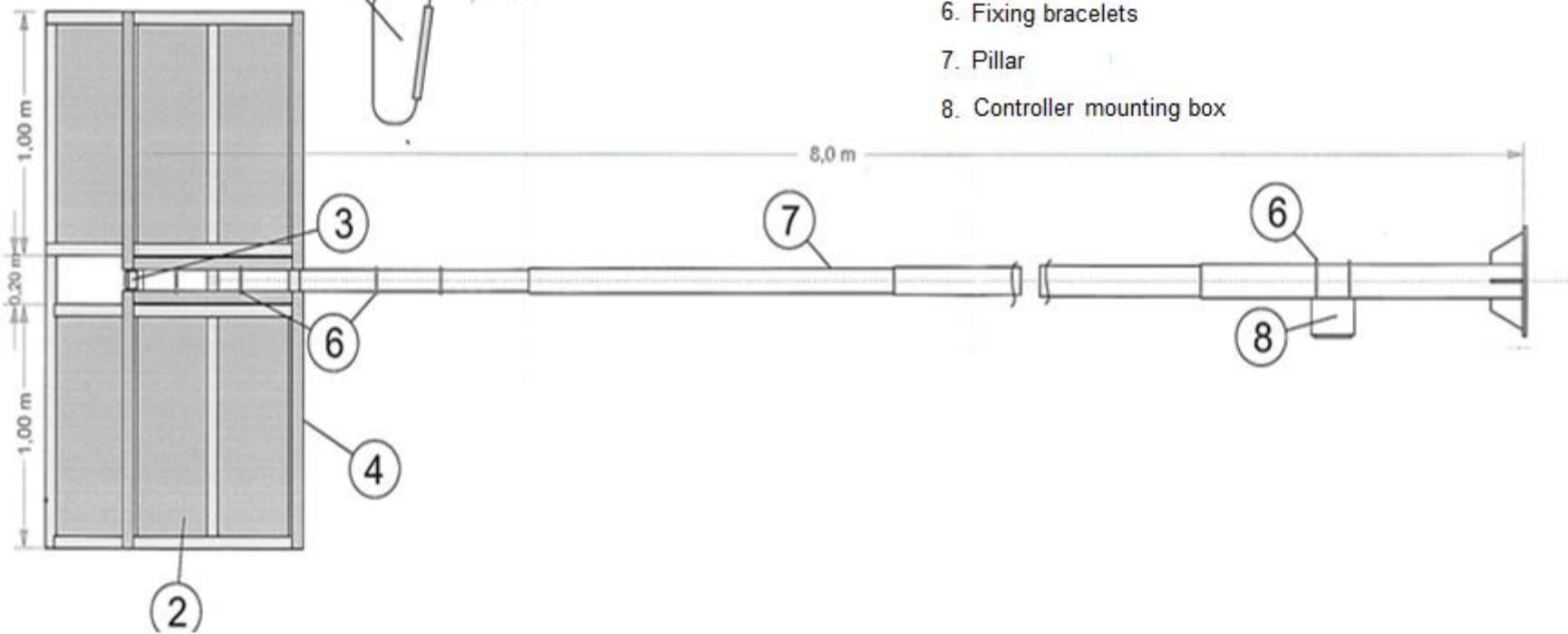
# ELECTRIC DIAGRAM





### LEGEND

1. Street led lamp 80/60W, 1 pc
2. Photovoltaic panel, P=240W, 2 pc.
3. Branching dose, IP66, 1 pc.
4. Photovoltaic panels support, G = 20kg.
5. Console lamp
6. Fixing bracelets
7. Pillar
8. Controller mounting box



## DESIGN INFORMATION

```
graph TD; A([DESIGN INFORMATION]) --> B[The annual average of sun glow - 2000 hours  
The annual average of temperature: 8-9 ° C  
Maximum temperature: 38.8 degrees C  
Minimum temperature - 32.5 degrees C  
The average value of speed wind: 2.1 m / s]; B --> C[Inclined Panel : 35-45 degrees]; C --> D[The system has been made so as to ensure the functioning for at least 3 consecutive days without any solar energy intake.];
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The average value of speed wind: 2.1 m / s

Inclined Panel : 35-45 degrees

The system has been made so as to ensure the functioning for at least 3 consecutive days without any solar energy intake.

GENERAL DESIGNER : SC FINANCE PROIECT SRL,

ing. Ciuche Dan

RESISTANCE DESIGN : SC AMA-ZING SRL,

ing. Andrisoaia Gheorghe

ELECTRICAL DESIGNER : SC NEXANO CONSULTING SRL

ing: Danila Nicu













THANK YOU FOR YOUR ATTENTION!