



SUSTAINABLE
ENERGY FOR ALL

ENERGY ACCESS
PRACTITIONER NETWORK



**CLEAN ENERGY
SOLUTIONS CENTER**

ASSISTING COUNTRIES WITH CLEAN ENERGY POLICY

Webinar: Off-Grid Energy Storage

Case study :

Bringing off-grid PV LED Street Lights
to the Syrian refugee camp Zaatari



Thomas SAMUEL, *Founder & CEO*

Sunna

Sustainable Lighting for All.



www.sunna-design.fr

Sunna designs and sells LED solar lighting solutions specifically adapted to tough climatic conditions.

- => Created in India in February 2010
- => Established in France since 2011
- => VC funded and R&D collaborations



Projects executed in Africa and south west Asia



Tender based, CAPEX driven market :

=> No lighting requirement, just sizing

=> Assembly of poor quality parts

Main technology bottleneck : storage lifespan

=> Low quality Lead Acid : 6 months to 2 years lifespan

=> maintenance, which is not funded or done

Result on the field :





Performance based, OPEX driven solution:

=> Assembly of best quality parts

=> Tight sizing, plug and play

=> new battery technology



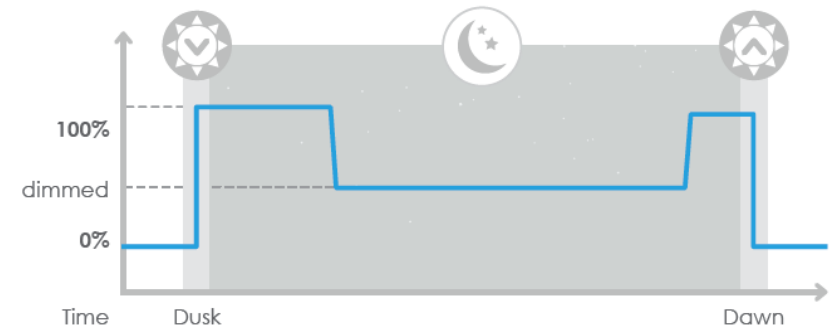
NiMH chemistry from SAFT :

- High resistance to temperature => suitable for developing countries
- Super Long life time => 8 to 12 years maintenance free
- Deep Depth of Discharge allowed => no over sizing
- Eco-designed, recyclable product => low environmental footprint



Battery and light management system from Sunna :

- Energy management system => **accurate SOC and SOE**
- Light management system => **adjustable parameters**
- Patent pending algorithm => **no black out**
- Low self consumption => **long transport time**



Conclusion Lowest Total Cost of Ownership and guaranteed lighting service

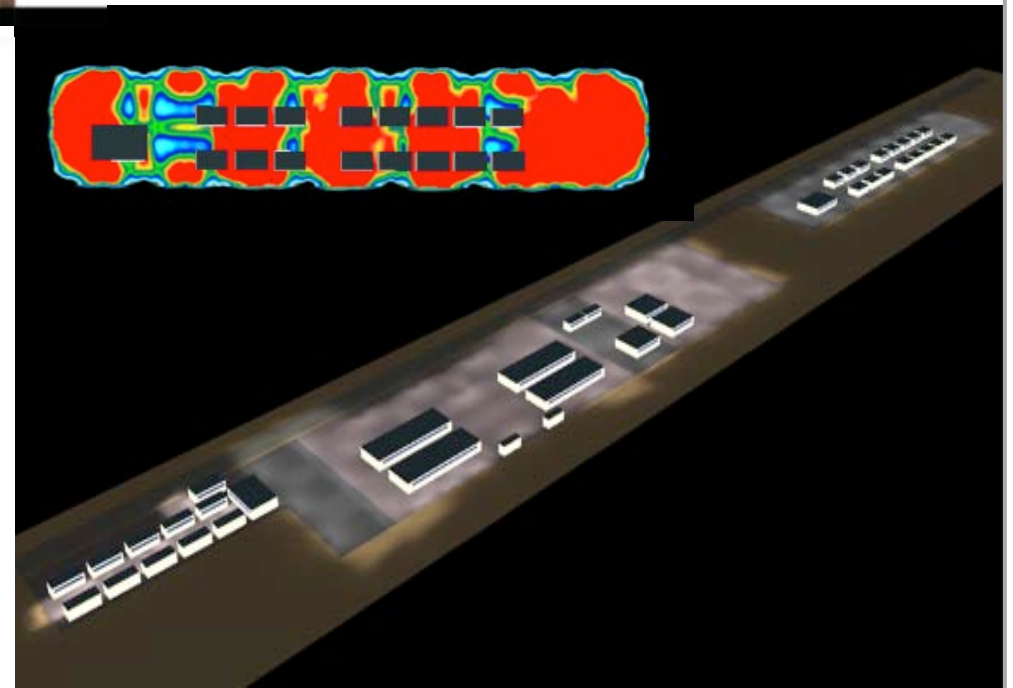
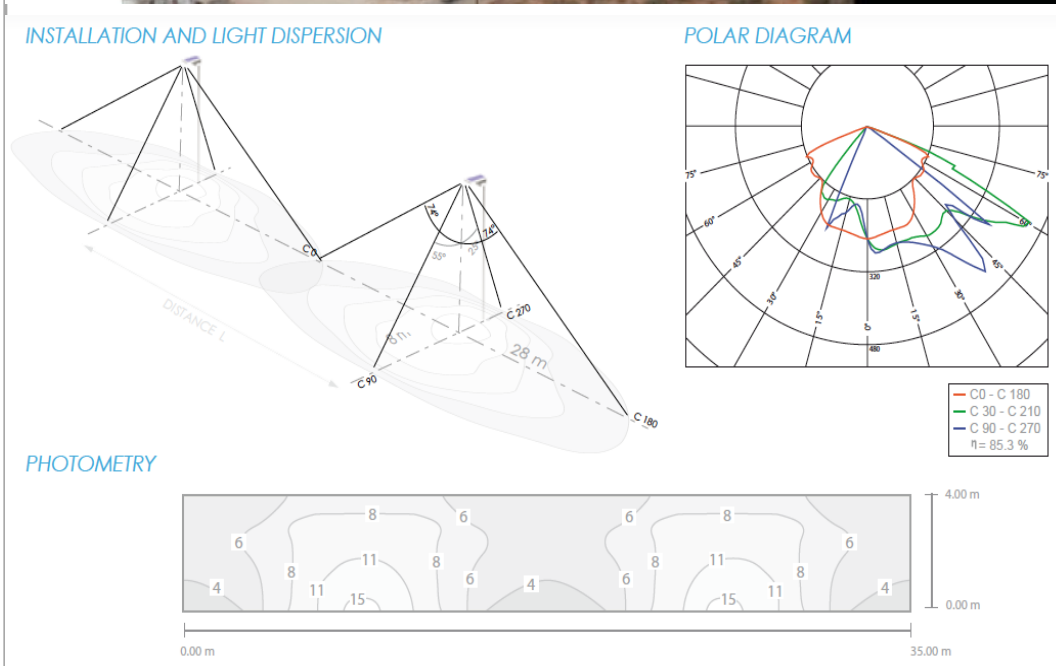


Project requirement :

5 lux minimum
good uniformity

The Lighting Study defines :

- Lumens and pole height
- Number and distance between pole
- => The cost of the project





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