

lednet Led Street Lighting



lednet ltd 02/04/2012

Background

- Legacy street lighting systems are based on high pressure discharge lamps, most commonly high pressure sodium (HPS) lamps.
- These have been generally recognized to give the highest amount of lighting per watt of electricity used.
- When scotopic / photopic S/P light calculations are used, it can be seen how inappropriate high pressure sodium lamps are for night lighting.
- New street lighting technologies, such as Light Emitting Diode (LED) emit a white light that provides high levels of scotopic lumens allowing street lights with lower wattages and lower photopic lumens to replace existing street lights.
- White light sources have been shown to double driver peripheral vision and increase driver brake reaction time at least 25%.
(See picture)

Led Street light comparison HPS 200W Vs Led 60W

Retrofit LED street light 60w



Traditional HPS 200W



lednet

Led Street Light Lamps

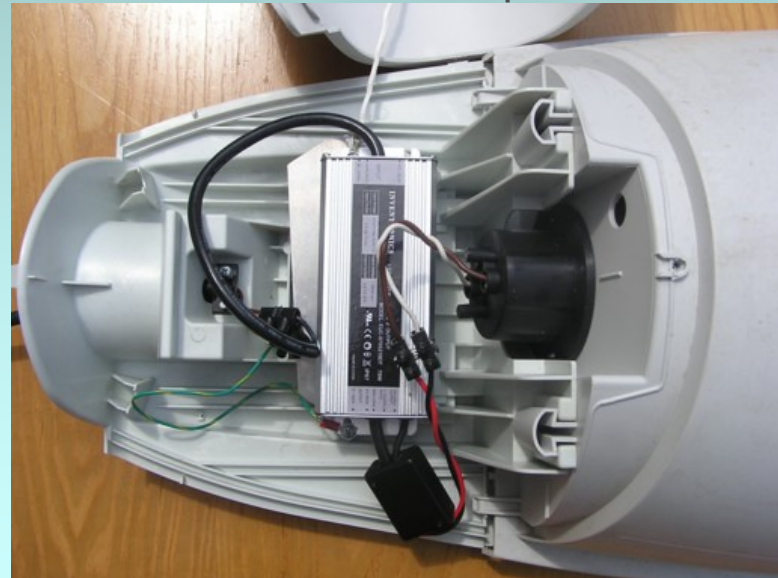
- lednet “Led Streetlight Lamp” comprising a LED lamp for fitting into a light fitting having a screw-in socket (Inlet).
- The LED lamp comprising a plurality of high power leds with special lenses arranged over a surface of the lamp.
- The lamp being **rotatable connected** through a rotatable electrical connection to a screw-in adaptor for insertion into the screw-in socket, such that the screw in adaptor is rotatable independently of the lamp.
- The independent rotation of the screw-in adaptor thereby making an electrical connection through socket even if the light fitting is insufficiently sized to allow rotation therein of the LED lamp.
- Municipalities can save significant energy and maintenance costs by retrofitting existing residential street lights with our new Patent-pending Led Street Light Lamps.

Retrofitting lednet Lamp to Existing street light fixture

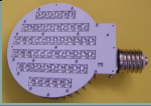
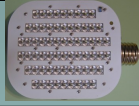





Bulb compartment

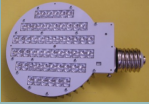
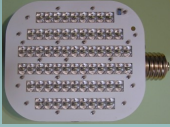
Electric compartment



Electrical & Optical Specifications

			New
Description	LDN-56W00-000	LDN-66W00-000	LDN-72W00-000
Bulb Shape	Round	Ellipse	Ellipse
Nominal Consumption (W)	62.7W	Max 85W	Max 85W
Rated voltage (V)	90~264 VAC, 47~63 Hz	90~264 VAC, 47~63 Hz	90~264 VAC, 47~63 Hz
Power Factor	PF>0.9	PF>0.95	PF>0.95
Efficiency (Typ.)	0.89	0.89	0.89
Initial Light output	>5600 Lm	>7500 Lm @80W	>9,000 Lm @72W
Initial Light efficiency	>85lm/w	>90 lm/w @80W	>100 lm/w
Color Temperature CCT (°K)	4,000 k~5,300k	4,000 k~5,300k	4,000 k~5,300k
Color Rendering index (CRI)	>70	>70	>70
Beam Angle	Asymmetrical 136.8° x 53.8°	Asymmetrical 136.8° x 53.8°	Asymmetrical 136.8° x 53.8°
Beam shape			

Mechanical & Environmental Specifications

			New
Description	LDN-56W00-000	LDN-66W00-000	LDN-72W00-000
Lifetime	>50,000 Hr	>50,000 Hr	>50,000 Hr
Operating Temp	-35°C to 45°C	-35°C to 45°C	-35°C to 45°C
Storage Temp.	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C
Humidity	0 –99%	0 –99%	0 –99%
Ingress Protection	IP65	IP65	IP65
Wireless Network (lamps to internet site)	Jennet 2.4G	Jennet 2.4G	Jennet 2.4G

Main Features

- Patent Application No. PCT/IL2010/000943
- Universal input voltage range (90~264Vac)
- Maintenance-free
- Consumes over 60% less energy than a standard street light (HPS lamps)
- Lasts longer than 50,000 Hours (Assuming 10 hours a day will last more than 10 years)
- Fast connection & mechanical angle adj. (Feet to standard bulb inlet E40)
- Micro controller based (Intelligent on/off, light and current control).
- Mesh Network Communication (Control and monitoring)
- Dimming (For more energy saving)
- Unique heat removal system.
- Led's temperature control (For led long life).
- light sensor
- Motion sensor (Optional)
- Rectangular beam pattern (Ensure an ideal uniformity of light on the road surface)
- Sharp optical cutoffs (dark sky compliant)
- Pure White, Nature White, Warm White types.

LED NET

kWh Consumption Comparison

(Measured at azor – Saving power >80%)



Study case - Local Council Asor

Replacing traditional HPS 150W lamp with lednet lamp 56W

Data

Description	Units	Value
Led lamp (LN56WA-W) Max power consumption	W	60
Electricity price	\$/KWh	\$ 0.10
Electricity saving	%	66%
HPS Bulb power	W	150
HPS lamp max power consumption (Average)	W	180

Calculations

Description	Units	HPS 150	Lednet 56
Lamp ON time (Average) per day	Hr	12	12
Lamp power consumption per year	KWh	788.4	262.8
Lamp electricity cost per year		\$ 78.8	\$ 26.2
Electricity cost saving (Lamp / year)	\$ 52.6		

Internet Control and monitoring

Azor - Ben Gurion st.

[23/06/2010 01:57:27] Connected !

Momentary energy usage (KW)	1.870
Before switching energy (KW)	9.348
Monthly energy consumption (KW)	3816
Lamps Count	44
Switchboard number	220022

Actions

<input type="button" value="Low light intensity"/>	<input type="button" value="All lights on command"/>
<input type="button" value="Medium light intensity"/>	<input type="button" value="All lights off command"/>
<input type="button" value="High light intensity"/>	

[23/06/2010 01:37:19] Lights-On command was sent to everyone!



Assemblies & Installation



PG&E

LED Street Light Rebates

- **Program Components**

Pacific Gas and Electric Company's (PG&E) LED Street Light Program will offer street light customers on our LS-2 rate two ways to save energy and money when replacing traditional street lighting.

- **Rate Change**

Customers who have installed or replaced existing street light fixtures after May 1st, 2009 with LED fixtures will be able to switch to a lower billing rate under the LS-2 rate schedule.

- **Potential LED Replacement Savings**

Customers who have purchased and installed pre-qualified LED fixtures after May 1, 2009, may be eligible for rebates. Read below to learn more about which fixtures qualify.

EP&G

Rebate/fixture

Replace 70 watt fixture with new LED fixture	\$50
Replace 100 watt fixture with new LED fixture	\$75
Replace 150 watt fixture with new LED fixture	\$100
Replace 200 watt fixture with new LED fixture	\$125
Replace 250 watt fixture with new LED fixture	\$150
Replace 310 watt fixture with new LED fixture	\$175
Replace 400 watt fixture with new LED fixture	\$200