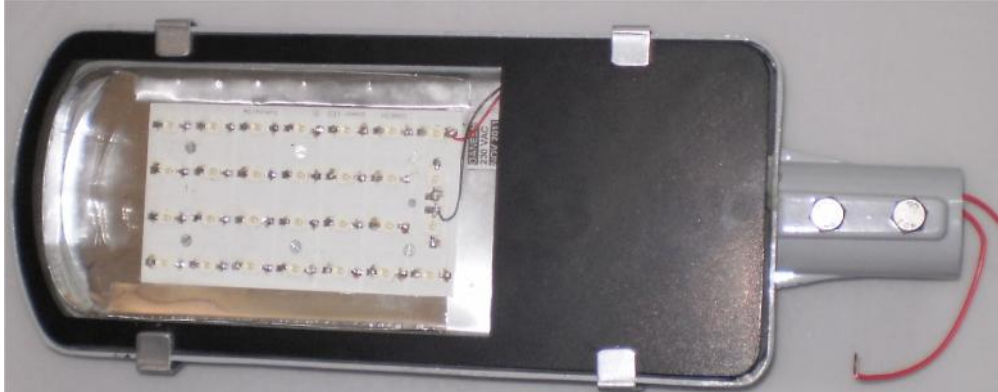


GANESH LED Street light

GANESH comes with a street lamp equipped with LEDs. In this article the 28 LEDs version is measured. The street light is so robust that the LEDs do not run hot. This will positively impact their lifetime. Also available are the measurement data in Eulumdat format. The measurements were done without the transparent cover of this lamp.

See this overview for a comparison with other light bulbs.



Luminous flux

With the luminous intensity data as a function of the inclination angle, it is possible to compute the luminous flux.

The result of this computation for this lamp is a luminous flux of 3840 lm.

This radiation pattern shows a wide beam.

When using the average values per inclination angle, the beam angle can be computed, being 137 grades.

However, this value is dependent from the plane observed.

Luminous efficiency

The luminous flux being 3840 lm, and the power of the streetlight being 48 W, yields a luminous efficacy of $(3840 / 48) \text{ [lm/W]} = 80 \text{ lm/W}$.

A power factor of 0.94 means that for every 1 kWh net power consumed, a reactive component of 0.38 kVAR was needed.

Light bulb voltage	230 V
Light bulb current	200 mA
Power P	28 W
Apparent power S	31 VA
Power factor	0.96

Summary measurement data

parameter	meas. result	Remark
Color temperature	5500-6500 K	Bright white.
Beam angle	137 deg	A wide beam. This is the average value. To different directions this light has a different beam (by design).
Power P	28 W	
Power Factor	0.96	For every 1 kWh net power consumed, there has been 0.38 kVAhr for reactive power.
Luminous flux	3640 lm	
Luminous efficacy	130 lm/W	
Fitting	230V	Needs connection to 230 V grid voltage.
L x B x H external dimensions	350 x 115 x 75 mm	Maximum dimensions
L x B dimensions of luminous area	200 x 95 mm	For this light the leds are situated in a bucket that reflects light. Herewith given are the dimensions of this bucket. The concept of luminous area is used in programs as Dialux / Relux.
General remarks	<p>The ambient temperature during the whole set of measurements was 20.0 - 21.5 deg C.</p> <p>Warm up effect: no effect.</p> <p>Voltage dependency: power and luminance are dependent on the lamp voltage.</p>	

STREET LIGHT COMPARATIVE COST

	PARTICULARS	CONVENTIONAL St. Light WITH 70W FILAMENT BULB	GANESH LED STREET LIGHT
1	Life	2000 hrs.	50,000 hrs
2	Replacements/year	2.19	0.0876
3	Annual costs for replacement/maintenance activities	Rs. 4380.00 (@ Rs.2000.00/instance)*	Rs. 0.00
4	Wattage	70 W	28.0 W
5	Units of Electricity (KwH) consumed/year	307 KwH	122 KwH
6	Annual cost of above Electricity @ Rs.7.00/unit	Rs. 2150	Rs. 854
7	Total cost/year (3+6)	Rs. 6530	Rs. 854

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