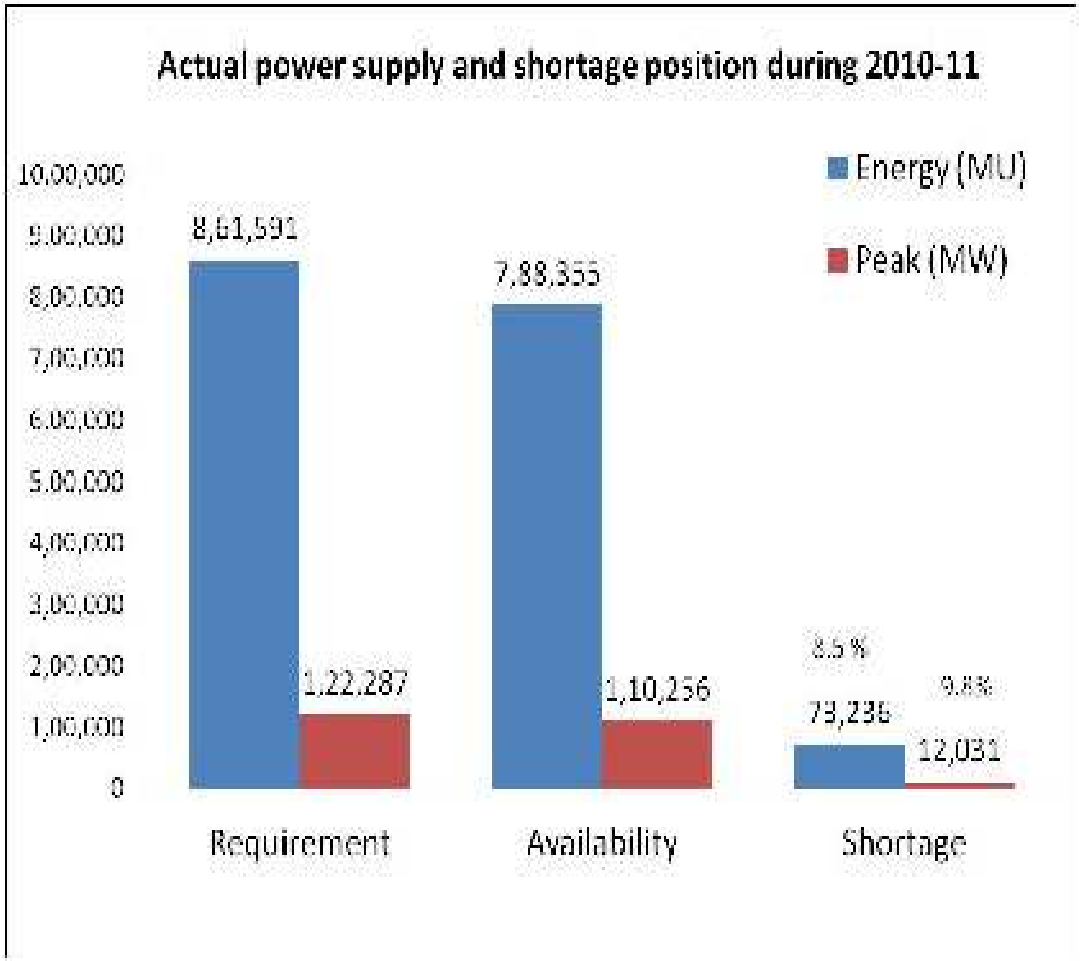
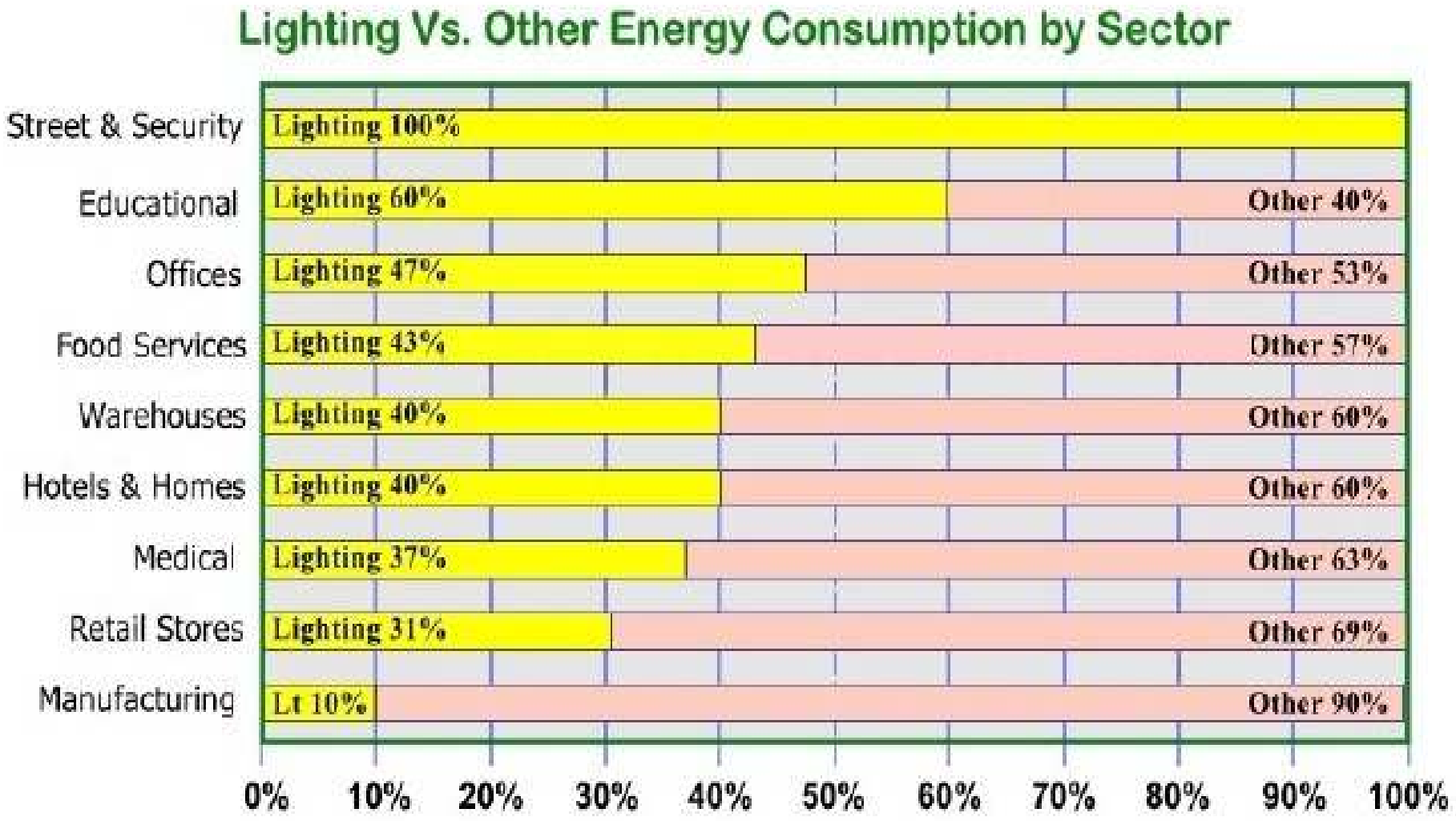
ENERGY EFFICIENCY

THE NEED OF THE HOUR

A presentation by:
KAREE LIGHTING (INDIA)
New Delhi

Energy scenario




Lighting Vs. Other Energy Consumption by Sector
Street & Security
Lighting 100%
Educational
Lighting 60%
Other 40%
Offices
Lighting 47%
Other 53%
Food Services
Lighting 43%
Other 57%
Warehouses
Lighting 40%
Other 60%
Hotels & Homes
Lighting 40%
Other 60%
Medical
Lighting 37%
Other 63%
Retail Stores
Lighting 31%
Other 69%
Manufacturing
Lt 10%
Other 90%
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%

Pointers for implementing energy conservation through innovative energy efficient lighting

- Lighting upgrades yield quick savings on energy bills but more efficient lights release less heat—an indirect benefit for the air-conditioning systems.
- For optimal lighting solutions, the total system involving daylighting, lamps, fixtures, controls, configuration, materials, and furnishing needs to be considered holistically.
- Broader impacts of lighting choices, including the persistence of energy efficiency measures, with implications for the type of technologies, are to be considered.
- It is necessary to upgrade information on energy-efficient lighting technologies, which have been changing drastically for the last 60 years.

Barriers in India for implementing Energy-Efficient Lighting solutions:

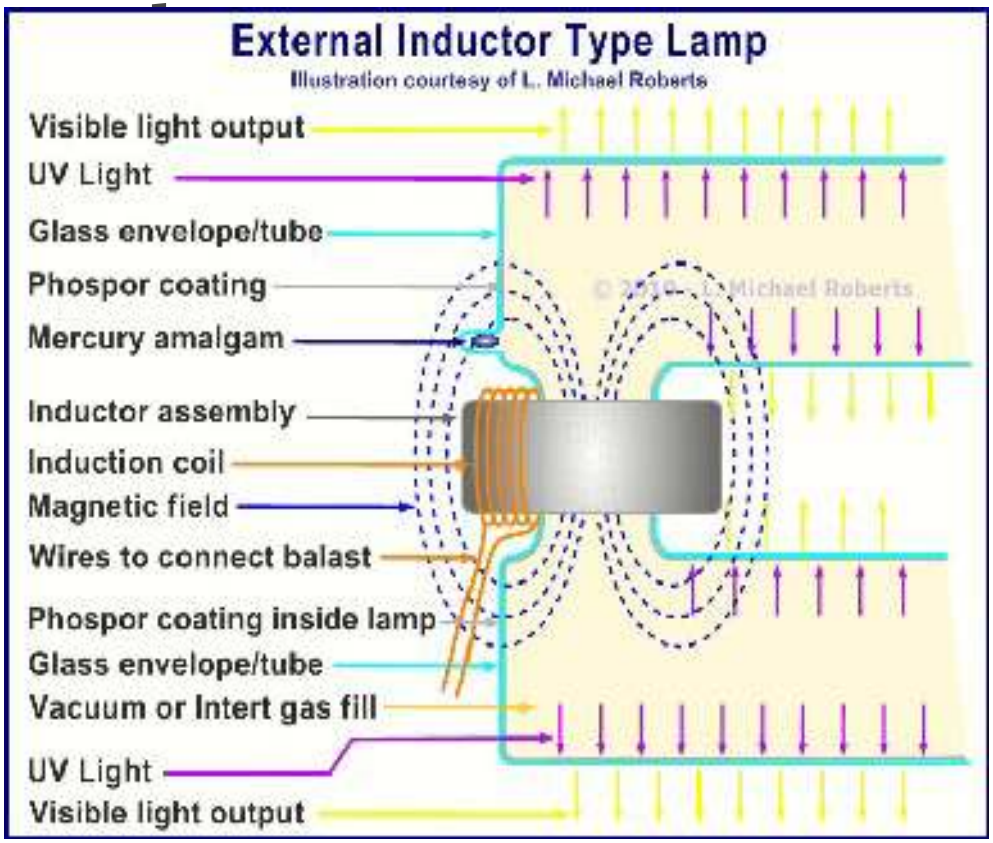
- Emphasis on minimization of first cost by end-users
- Capital availability constraints
- Spread of imported solutions to some inherently Indian problems
- One-solution-fits-all attitude.


GROUP
KAREE LIGHTING (INDIA)
Induction LampLuminaires
….a new concept in energy efficient lighting
devices or provides new comforts
of our existence."
Nikola Tesla

The Induction Chronicles!

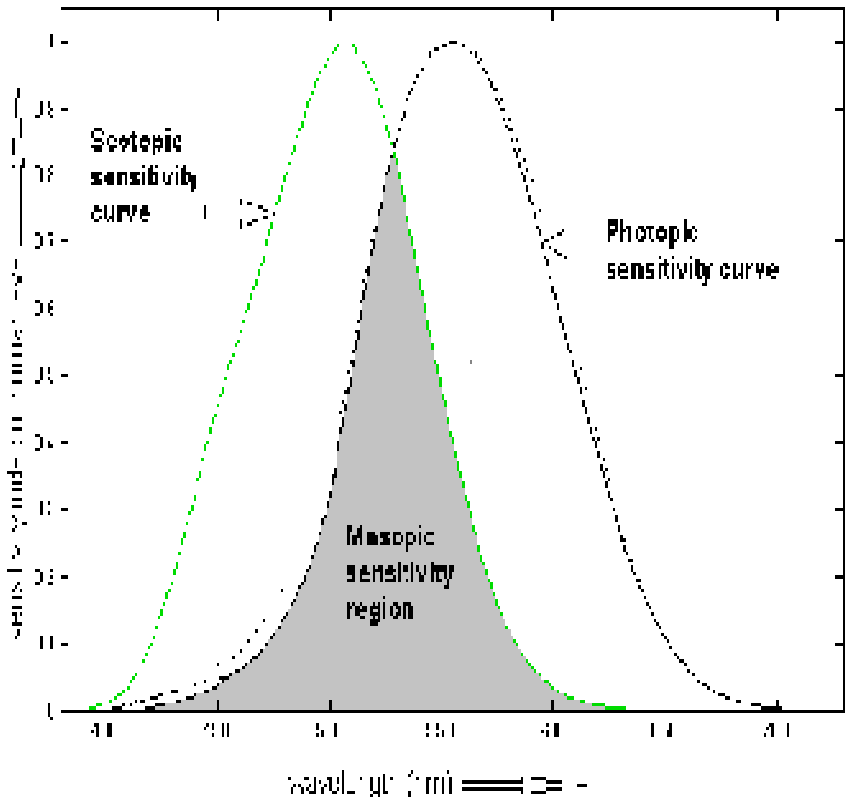
2011: Karee Lighting (India), **1st Indian Manufacturer** , begins production of Induction Lighting systems.

Induction Lamps–The inside



Why Induction Lamps?

VISIBILTY:

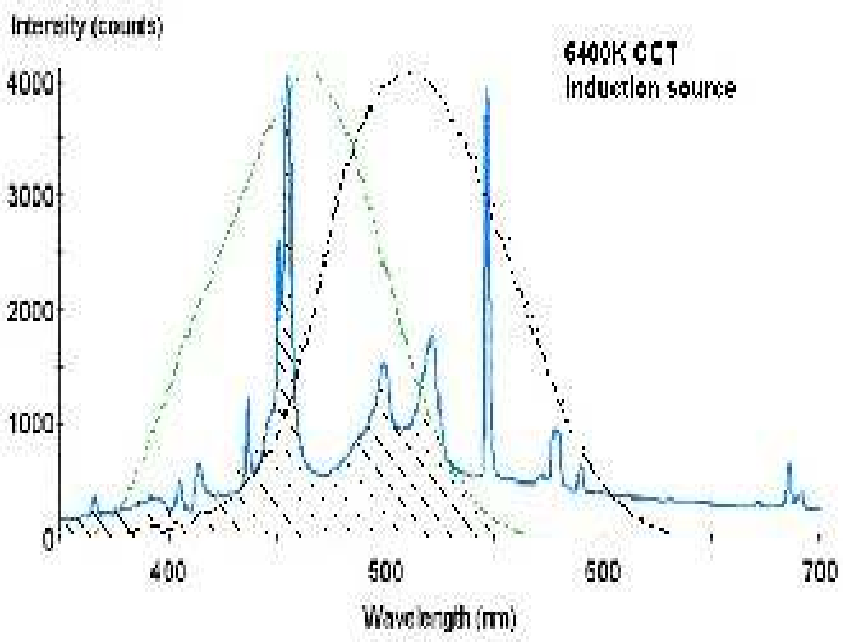


- The human eye is not equally sensitive to all wavelengths of visible light.
- This function shifts according to the lighting conditions.
- Human Vision in “Day Light” is **“PHOTOPIC VISION”.**
- Human Vision in “ Dark ” is **“SCOTOPIC VISION”** .

Comparison of Metal Halide source with Induction Source

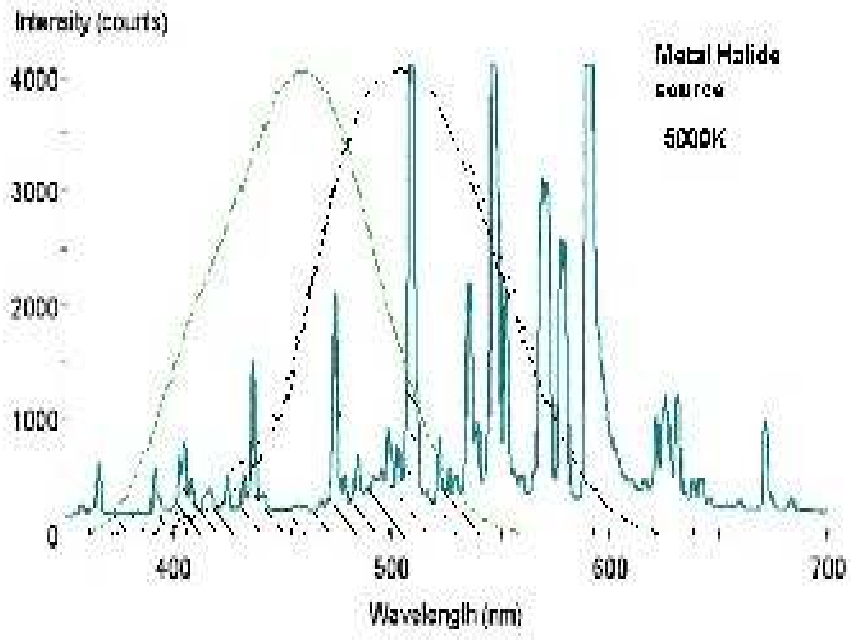
- Metal Halide

Gives less visibility

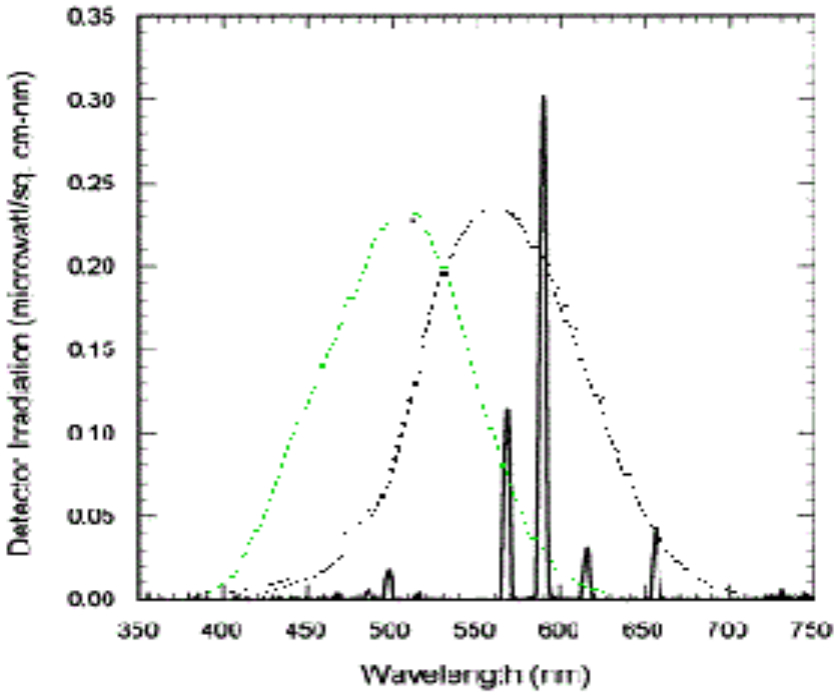


- Induction

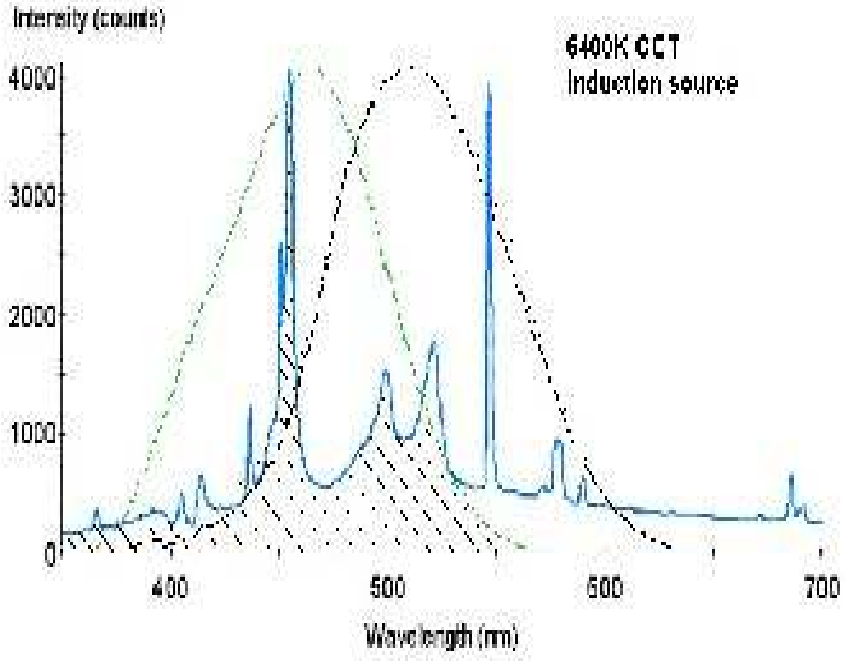
Gives more visibility in scotopic/mesopic range)



- High-Pressure Sodium Vapour very low



- more



SCOTOPIC/PHOTOPIC (S/P) RATIO

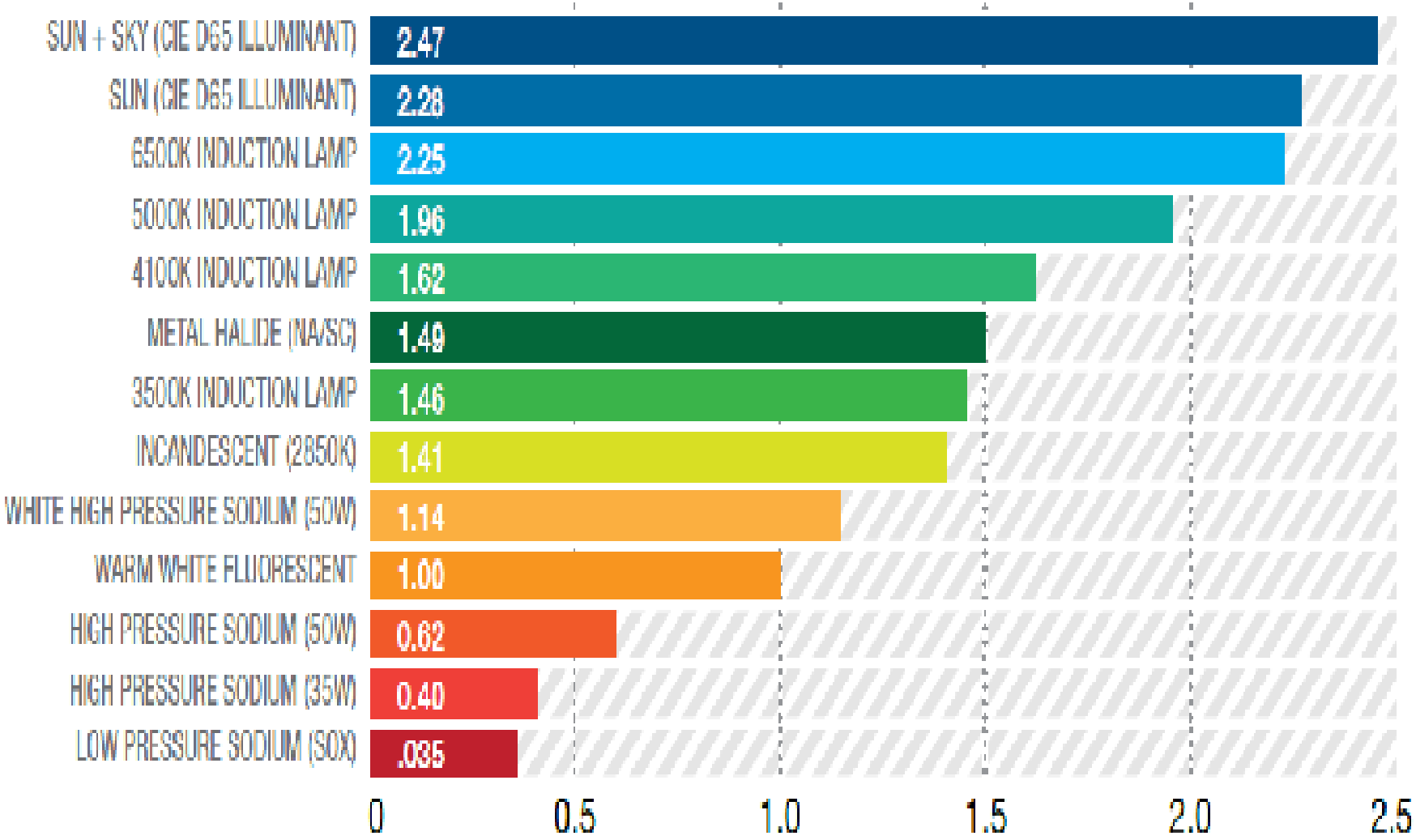
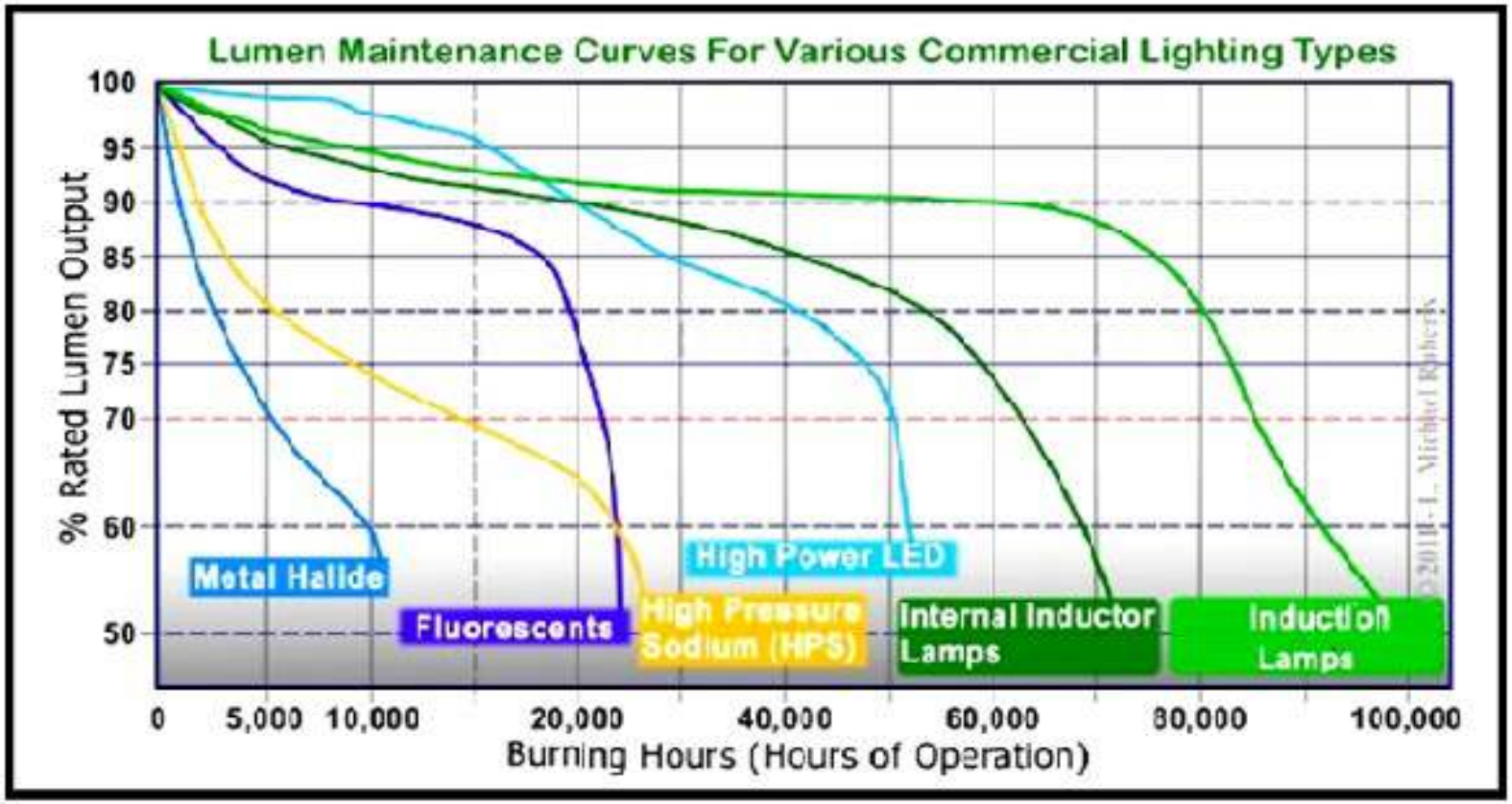


Chart calculations by Berkley Labs - actual selection of induction lamp wattage and type will vary with installation and user requirement.

INDUCTION LAMPS
"Long-Haul Trucks of the Lighting Industry"

- Long lifespan due to absence of Electrodes(filaments)
- Minimal lumen depreciation over lifespan.



Light sources at a glance

When compared to other common light sources, Induction's specifications clearly dominate the competition

	INDUCTION	LED	METAL HALIDE	HIGH PRESSURE SODIUM
LAMP LIFE HRS	60k - 100k	30k - 50k	10k - 15k	15k - 24k
LIGHTING EFFICIENCY Lm/Wt	65 - 90	90 - 120	60 - 110	60 - 120
CRI	> 80	> 70	> 70	> 20
S/P RATIO	1.46 - 2.25	1.96	1.49	0.62
COLOR TEMPERATURE	Full Range	Full Range	Limited Range	Limited Range
HOT RESTART	INSTANT	INSTANT	DELAY	DELAY
MERCURY	Low	N/A	Low - High	Low - Medium

KAREE
INDUCTION LAMP LUMINAIRES

- ….the Indian advantage

"The scientific man does not aim at an immediate result. He does not expect that his advanced ideas will be readily taken up. His work is like that of the planter - for the future. His duty is to lay the foundation for those who are to come, point the way"
- Nikola Tesla

The “MADE IN INDIA” advantage!

- Rugged electronics design architecture to suit local conditions.
- High ambient temperature sustainability (-20 to 60°C)
- Recommended operating range : 140V-280V
- Overvoltage and Under voltage protection.
- Prompt and efficient technical service and support.
- Capability for customized solutions.

Karee Induction Luminaires

Street lighting range:

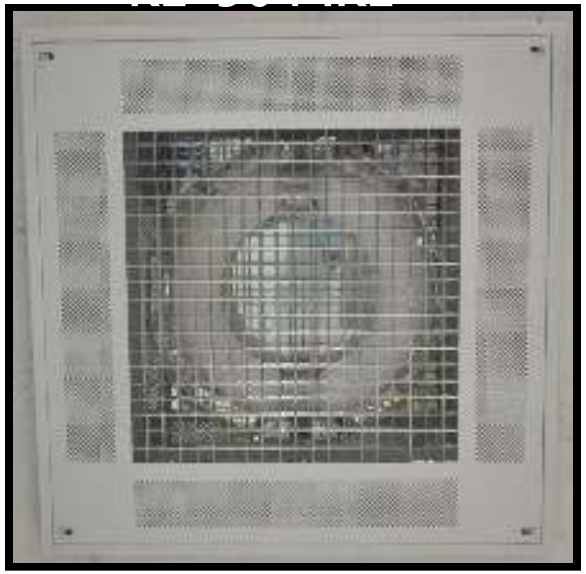
KL-201SDS Induction

KL-202SDS Induction

KL-203SDS Induction

Industrial/Commercial range:

Induction Indoor range



Induction Garden Light Luminaire

PAY BACK PERIOD & SAVINGS
'FOR NEW PROJECT/INSTALLATIONS
KAREE INDUCTION LIGHT
V/S

Parameters	Unit	MH/SV	Karee Lighting
Rated Lamp Power	Watts	400	200
Power Factor		0.85	0.98
Power consumed (including ballast)	Watts	471	204
Energy Consumption / day @ 10hrs	KWh	4.71	2.04
Energy Consumption for 1 month (30 days)	KWh	141.30	61.20
Energy bill @ Rs. 7/KWh for 1 month	Rs.	989.10	367.20
Cost (For complete fixture)	Rs.	5500.00	15600.00

PAY BACK PERIOD

Saving in energy consumed / month	Rs.	622.00
Additional saving due to elimination of replacement cost of HID lamps and ballast per month (1 lamp @ Rs 500/- per year and 1 ballast @ Rs1500/- in 2 years)	Rs.	104.00
Total saving in one month	Rs.	726.00
PAYBACK PERIOD for additional investment – diff in cost of fixtures/ saving per month	Months	14

'(Note: The Maintenance/Labour charges, production losses etc., have not been considered in the above calculations.)

GUARANTEED SAVINGS IN 3 YEARS

Net Saving in 3 Years (Warranty period) per Luminaire beyond the payback period	Rs.	15,972.00
Net Saving in 3 Years (Warranty period) per Luminaire beyond the payback period	Rs.	1,597,200.00

In case Induction Lights are installed, due to lower power requirements, lower size of cables/wires, transformers, MCB's etc. can be used and therefore the overall lighting project cost will go down.

CUSTOMER INSTALLATIONS

Application – Street Light

NORTH DELHI POWER LTD.,SECTOR-3,ROHNI,NEW DELHI-110025

Application – Warehouse

INDOAUTO TECH, BALLABHGARH, HARYANA

Application – Flood Light

ACE FARM HOUSE, FARIDABAD, HARYANA

Application – Garden Light

MUSOORIE

Some prestigious customers…

- ACTION CONSTRUCTION EQUIPMENT FARIDABAD
- RELIANCE CHEMOTEX PVT.L TD. UDAIPUR
- DCM SRIRAM INDIA LTD. KOTA,RAJ
- EXIDE INDUSTRIES LTD. BAWAL,HARYANA
- DAIKIN AIRCONDITIONING INDIA PVT. LTD. NEEMRANA,RAJ.
- KAMANA INDUSTRIES LTD.(KUBER KHENI) SONIPAT,HARYANA
- MARKET DYNAMICS KOLKATA
- BHAGWATI CONSTRUCIONS NEEMRANA,RAJ.
- KAGAZ PRINT NEEMRANA,RAJ.
- STOTZ GEAR PVT. LTD. GHAZIABAD
- PEARL INTNL. TOUR & TRAVEL(P)LTD. NEW DELHI
- INDO AUTO TECH FARIDABAD
- OSWAL INDUSTRIES FARIDABAD
- JHALANI EXTRUSION NEEMRANA,RAJ.

THANK YOU

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