

PHILIPS

Lighting the Future
Sustainable lighting solutions



What is Sustainability?

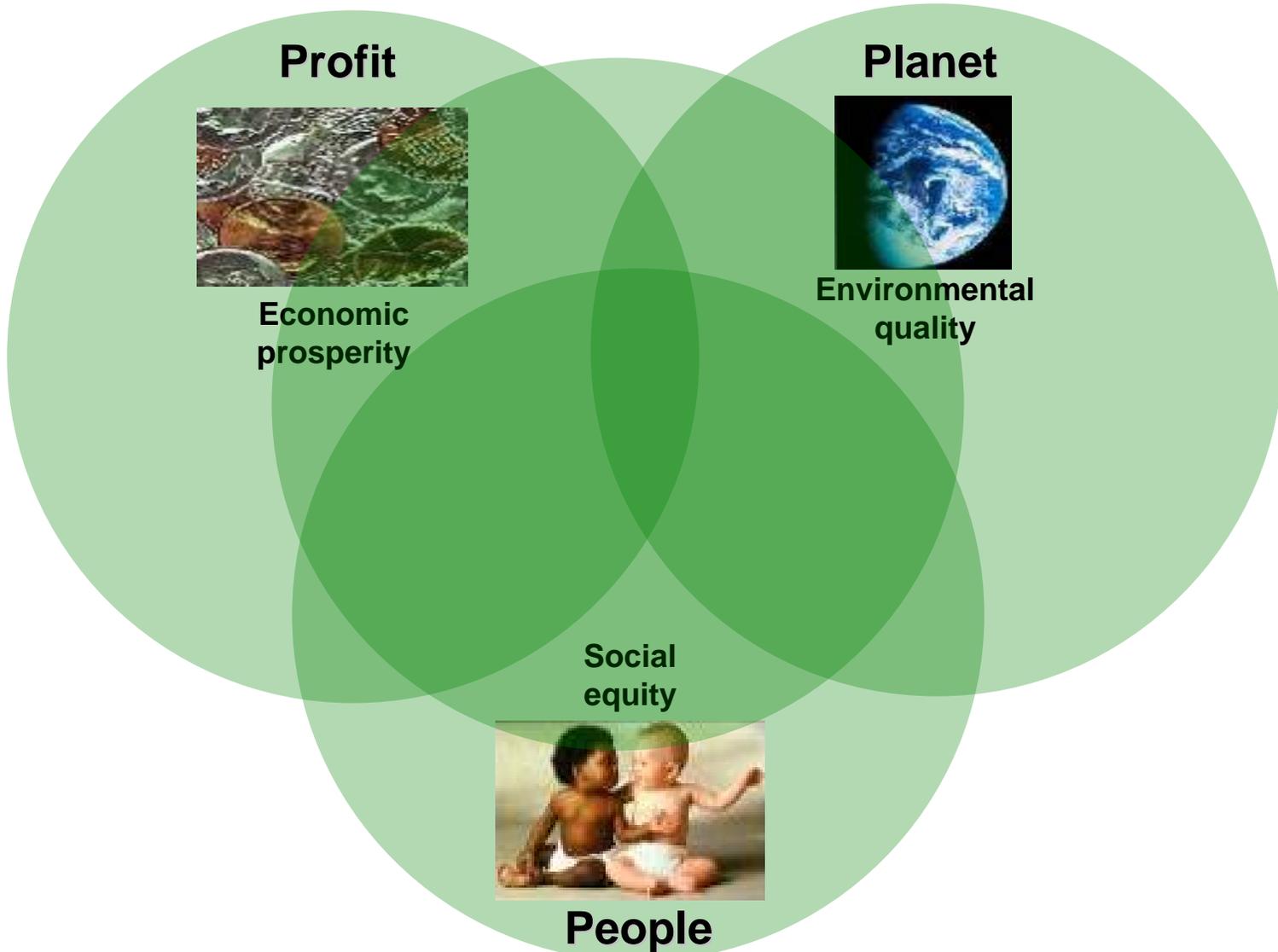
Sustainability is about meeting the **needs** of the present generation without compromising the **ability** of future generations to meet their own needs”

Sustainability is about how we affect nature’s balance and future generations:

- ~ The **resources** we consume
- ~ The **products** we produce
- ~ The **waste** we generate



Three Aspects of Sustainability



What Sustainable Companies Do

- Embed sustainability throughout their business practices
- Set sustainability targets and objectives
- Act transparently
- Communicate the culture



EcoVision: Environmental Program

Internal Process

EcoVision III (2006-2009)

Improvements	Targets
Product improvements	
Yearly target set on number of Green Flagships: 2006	35
Process improvements*	
Global Warming Potential (CO ₂ equivalents)	
Energy reduction (direct CO ₂)	5%
PFC reduction	31%
Other greenhouse gas reductions	4%
Water	7%
Total waste	7%
Restricted substances: benzene emissions	100%
Restricted substances: mercury emissions	83%
Restricted substances: CFCs/HCFCs	94%
Other restricted substances	100%
(excluding CFCs from cooling systems)	
Hazardous substances: PFC emissions	31%
Hazardous substances: lead	100%
Hazardous substances: toluene	100%
Hazardous substances: xylene	100%
Other hazardous substances	100%

*Total reduction targets in absolute terms, against the base year 2005

Products

- **EcoDesign embedded**
- **Focal Areas**
- **Top line: Green Flagships**



Energy consumption



Packaging



Hazardous substances



Weight



Recycling and disposal



Lifetime reliability

Sales Green Flagships in 2006

- **2 billion Euro**
- **More than 160 on the market**

Eco Design

- Formal process
- Product creation
- Innovation to market
- Focused
- Green Flagships



Green
Flagship



Energy
consumption



Packaging



Hazardous
substances



Weight



Recycling
and disposal



Lifetime
reliability

Supply Chain Sustainability

- Suppliers must certify they conform to the policy
- Critical in today's global business
- Part of sustainable best practice
- Why PHILIPS makes the best supplier



Sustainable Lighting

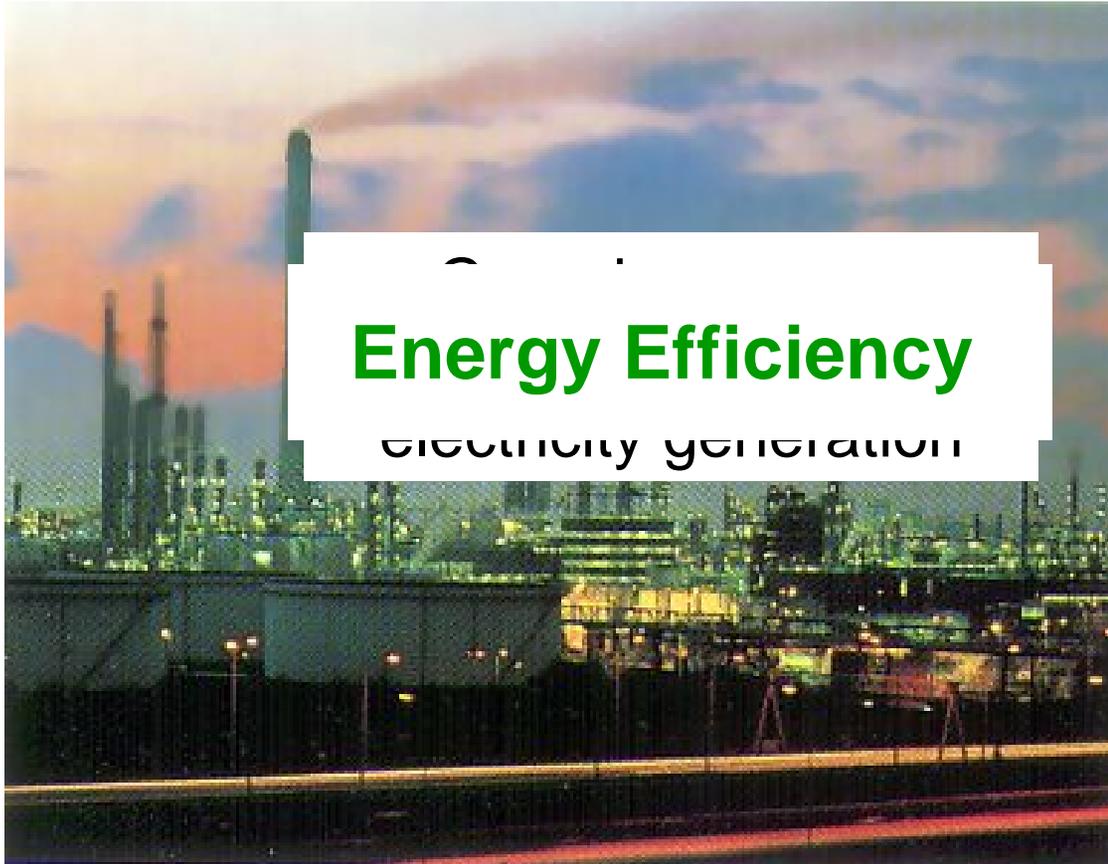


lighting

Sustainability is about meeting the needs of the present generation without compromising the ability of future generations to meet their own needs

First, meet the lighting need!

Environmental Impact of Lighting



Energy Efficiency

electricity generation



Low Mercury



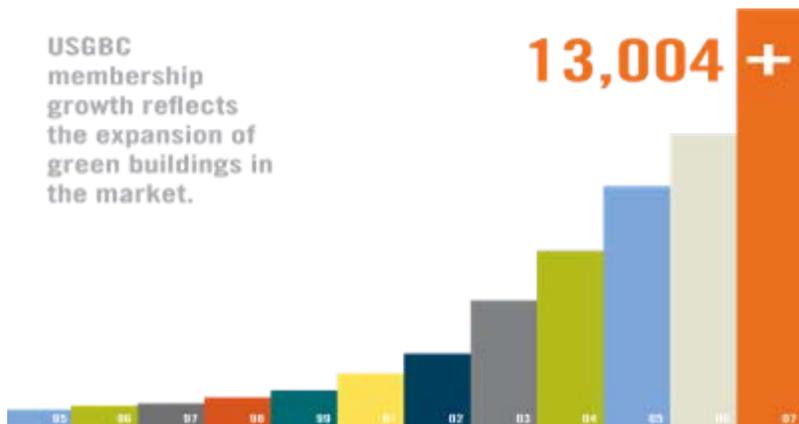
Long Lamp Life

consumption

Strategies for sustainable lighting

US Green Building Council (USGBC)

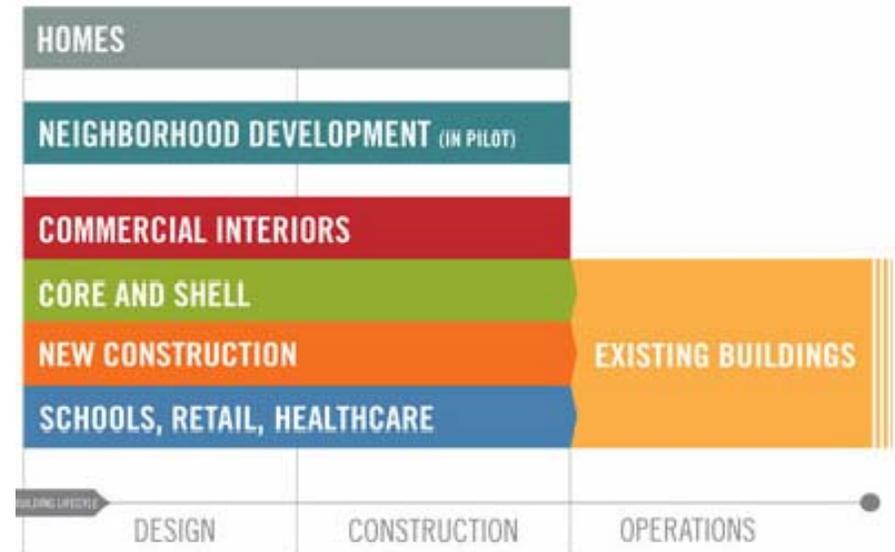
- 13000+ members, 70 chapters and USGBC
- Mission
- LEED® Green Building Rating System
- 100000+ projects



Philips Lighting Company is proud to be the first lighting manufacturer to become a member of the USGBC.

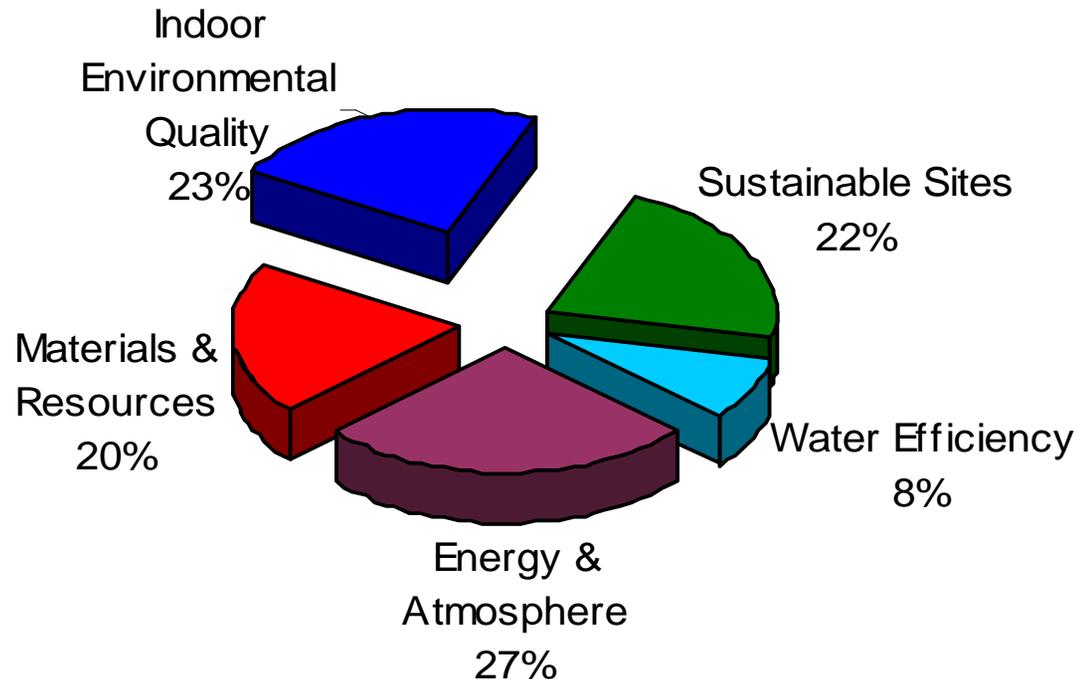
LEED

- Leadership in Energy and Environmental Design
- Voluntary, consensus-based national rating system
- Rating Systems
 - New Construction (NC)
 - Existing Buildings (EB)
 - Commercial Interiors (CI)
 - Core & Shell
 - Schools, Retail, Healthcare
 - Homes
 - Neighborhood Development



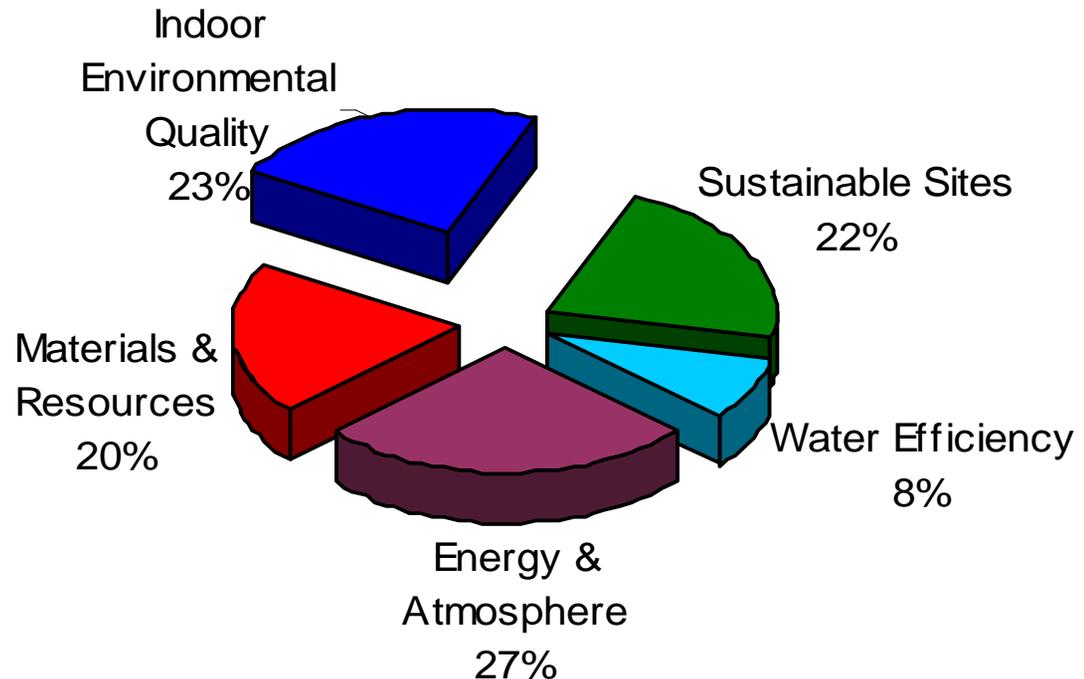
How the LEED System Works

- Credit Categories
- LEED Points
- Certification Levels
 - Platinum
 - Gold
 - Silver
 - Certified



How Lighting Affects LEED Credits

- Daylight and daylight-integrated controls
- Mercury reduction
- Energy efficiency and power reduction
- Elimination of “light pollution”



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LEED-EB Picogram/Lumen Hour Calculator

LEED-EB Picogram/Lumen hour calculator

To help you calculate the picograms of mercury per lumen hour — pg/lu-hr for lighting systems in facilities considering LEED-EB certification, Philips Lighting has created this unique combination worksheet and calculator. A rating below 90.00 is considered to be in compliance with the LEED-EB certification standards. If you are not doing LEED-EB this calculator is still a great tool to reduce overall lamp mercury content.

Simply name an area within your facility. Select the brands and types of lighting used in that area. Enter the number of fixtures for each type and hit the "Calculate" button.

Add more areas until you've covered the entire facility. Then click on "Finish Calculations." A summary report will appear, complete with buttons that will print out a LEED-EB friendly version of the information.

Area Name:

Brand	Lamp type	Lamp	Lamps per Fixture	# of Fixtures	pg/lu-hr Rating
- Select - ▼	-- ▼	-- ▼	- Select - ▼	<input type="text"/>	--
- Select - ▼	-- ▼	-- ▼	- Select - ▼	<input type="text"/>	--
- Select - ▼	-- ▼	-- ▼	- Select - ▼	<input type="text"/>	--
- Select - ▼	-- ▼	-- ▼	- Select - ▼	<input type="text"/>	--
- Select - ▼	-- ▼	-- ▼	- Select - ▼	<input type="text"/>	--
- Select - ▼	-- ▼	-- ▼	- Select - ▼	<input type="text"/>	--

pg/lu-hr rating weighted average for this area:

Calculator tools:

✓✓ Indicates average mercury content of lamps is 70 or below picograms per Lumen-Hour.

✓ Indicates average mercury content of lamps is 71 - 90 picograms per Lumen-Hour.

LEED and Sustainable Lighting Solutions

- Linear Fluorescent Lamps
- MasterColor® CDM and CDMi PAR and T Lamps
- Halogen Energy Advantage IRC Lamps
- Optanium® IS and PS Ballasts
- Mark 7® Dimming and Multi-Level Ballasts
- ActiLume® System





Designed Around You:

Lowest energy consuming
4ft T8

- Lower Energy Cost

Longer life, 40,000 Hrs

- Fewer Lamp Changes



Advanced:

Alto Lamp technology

- Low Mercury - Better for the environment
- Exceeds LEED requirements



Easy to Experience:

Change existing 32w T8

- Save 25% energy, instantly!
- No ballast change required!

Philips Energy Advantage
T8 25W Extra Long
Life Lamps featuring
ALTO II™ Technology

*Ideal for applications
where energy savings and
longer relamp cycles would
be beneficial*

T8 COLLECTION

Alto II™



**ALTO II™ means 50%
less mercury than the
original ALTO T8 lamps†**

† Original 2', 3' and 4' T8 lamps featuring ALTO® Lamp Technology had 3.5mg of mercury. New 2', 3' and 4' T8 lamps featuring ALTO II™ Technology have 1.7mg of mercury.

Luminaire Schedule

Symbol	Qty	Label	Arrangement	Lumens	LLF	Description
	6	A-3	SINGLE	2850/LAMP	0.78	DAYBRITE

Cat.# 2TG8432 EB F32T8

Numeric Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
ROOM_2.5Ft_Workplane	Illuminance	Fc	54.39	96	13	4.18	7.38

Luminaire Schedule

Symbol	Qty	Label	Arrangement	Lumens	LLF	Description
	6	A-4	SINGLE	2400/LAMP	0.78	DAYBRITE-CAPRI-OMEGA Cat.# 2TG8432 EB F25T8

Numeric Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
ROOM_2.5Ft_Workplane	Illuminance	Fc	51.28	91	13	3.94	7.00

32w – 54.39

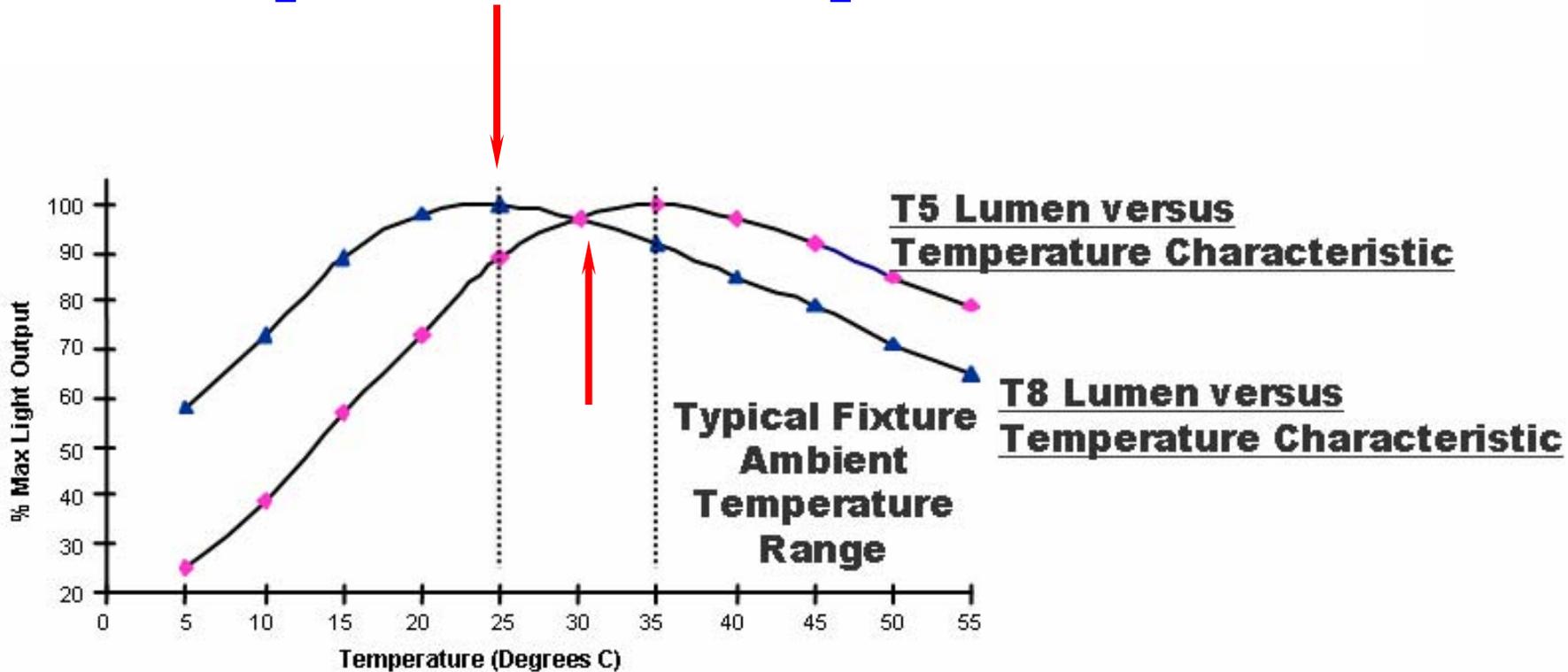
5.7% less light

25w – 51.28

Cat.# 2TG8432 EB F25T8



T8 Lamp Performance Optimized at 25° C

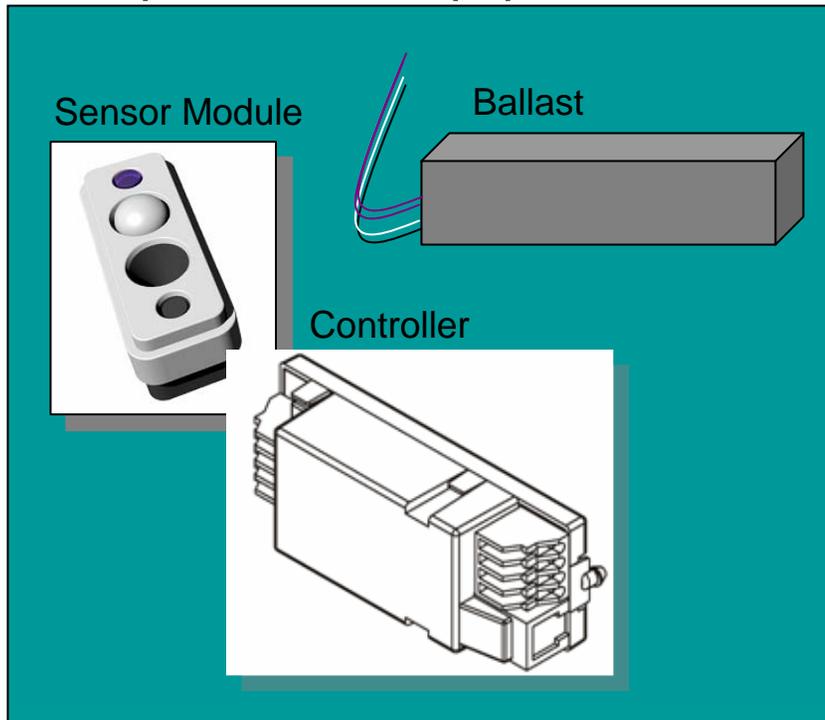


ActiLume

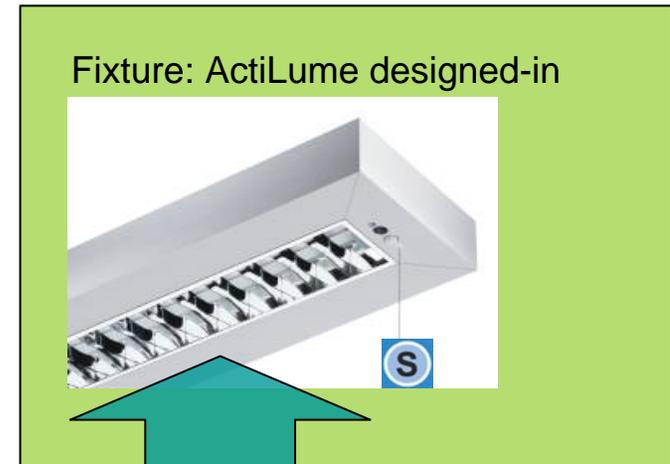
What is it?

- Simple energy-saving lighting system, contained within a light fixture
- Increases end-user comfort and productivity

Philips Control Equipment



OEM Fixture



Municipalities

- Municipal Policies
- Incorporated into local codes or recommendations
- Municipal or private construction
- Based on LEED (22 states and 75 cities by 2007)
- Guidelines vs. Certification



Why Do Organizations Act Sustainably

Want to...

Pays to...

- Cost reduction
- Productivity improvement
- Image enhancement

Have to...

- Increasing restrictions
- Best practice



*“We’re not waiting for the future;
we’re too busy inventing it”*

Gerard Kleisterlee



PHILIPS