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LEDGINE - Philips LED Promise

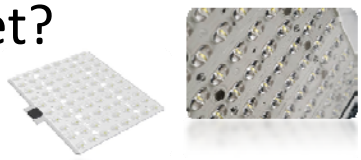
… the only future proof solution for Outdoor

Marianne Hornuff
Philips Lighting
April 2010

LEDGINE

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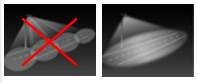
LEDGINE – Hvad er det?



Energy saving

LEDGINE
Serviceable

LEDGINE
Upgradeable



Lighting Quality



Preference / Strategy



All Ranges



Multi Application

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Serviceable LED engines

for easy maintenance

Toolless
Easy replacement of LED Engine and Driver – as simple as a lamp

Only replace what's needed
Our thermal management will provide the best operating conditions for leds, still ambient temperature is the key factor impacting depreciation.
After 60.000 hrs* only LED Engine and the driver need to be replaced.
The luminaire can stay for another 60.000 hrs, or more …
Flat glass closure protect led lenses and reduce maintenance factors

*Depending on operating temperature

From Cosmopolis to Leds
or
From Leds to upgraded Leds

Service and up-grading
The cost over lifetime



Make sure your LED Luminaire can be upgraded to the latest technology or maintenance after the end of the LED-lifetime

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Can you imagine a lighting installation which becomes more efficient during its lifetime to get more energy saving or meet future legislation?

LEDGINE
Upgradeable

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Upgradeable LED Engine

Future proof, retro-compatible

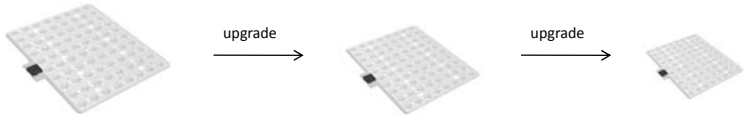
Led technology is expected to evolve fast in the coming years, with energy efficiency going up. Our LedGine will continuously be upgraded to the best leds, to allow you get the best out of it. And it can also be retrofitted in previous generation

Maximum Energy Saving

To utilize the increasing energy saving possibilities that LED's offer, our system can be upgraded whenever needed. You will be able to decrease number of leds and maximize energy reductions.

Greener solution.

Only LED module and driver are replaced - the luminaire shall stay in place
Made out of recyclable aluminium, with sturdy flat glass closure for night preservation (dark sky friendly), our luminaires are there to stand the test of time. And for sea-side areas, a marine-grade paint process can be applied.

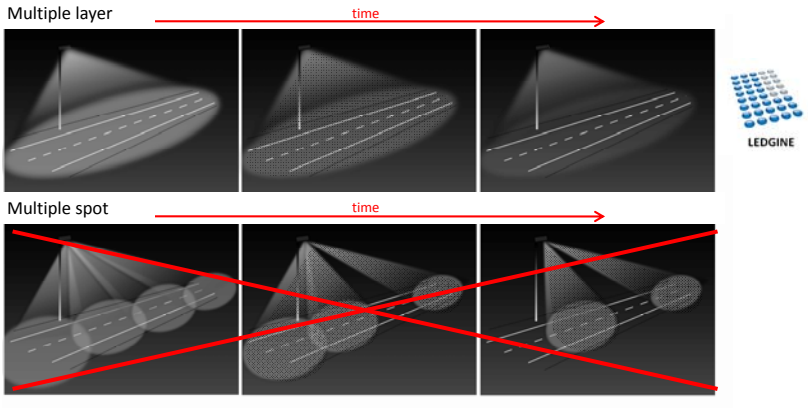


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LEDGINE - Belysningskvalitet

4 forskellige "multi-Layer" optikker (DC, DM, DW, DX)
– garanter bedre regelmæssighed i hele driftsperioden



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Hvilken strategi ønsker Du i din by?

Vælg den LED enhed der passer bedst til din strategi:

ComfortLine

Varm og hyggelig atmosfære
og det mest komfortable lys mht. blænding



GreenLine

Den mest energieffektive løsning som giver lavest mulig energiregning og mindst mulig CO2 belastning



EconomyLine

Billigste løsning mht. Anlægsomkostninger – kold farvetemp.



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LEDGINE - OVERBLIK



ComfortLine

Farvetemp. 3000 K
Farvegengivelse 80
Strøm, driver 410 mA
Optik DC, DM, DW, DX
Antal dioder 16 til 160
Energiforbrug, system 24 til 237 W
Vedligeholdelsesfaktor* 0,78
Effektivitet 59 lm/W



GreenLine

4000 K
70
350 mA
DC, DM, DW, DX
16 til 160
20 til 199 W
0,79
84 lm/W



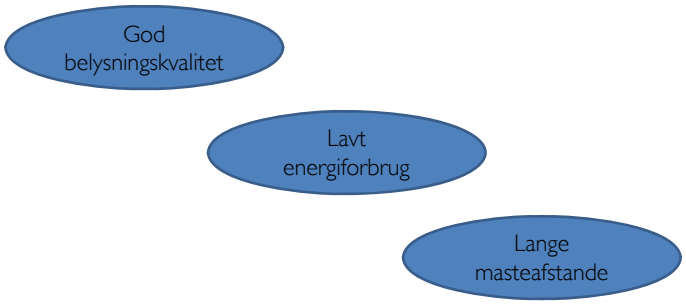
EconomyLine

5600 K
70
530 mA
DC, DM, DW, DX
16 til 160 W
0,72
76 lm/W

* Uden CLO, 10 grd C.

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LEDGINE – 196 valgmuligheder
Hvad skal jeg vælge???



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LEDGINE

Belysningskvalitet

ComfortLine

Varmt hvidt lys	3000 K
Høj farvegengivelse	80
Optik	DC*

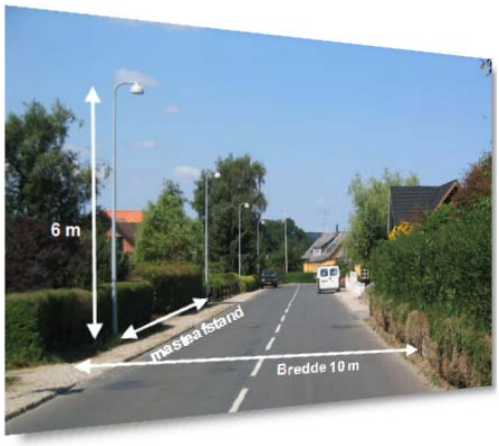


* DC: Giver mindst risko for blænding
Afskærmningsklasse G4 / laveste TI

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LEDGINE vs. Tradtionelle lyskilder

Eksempel



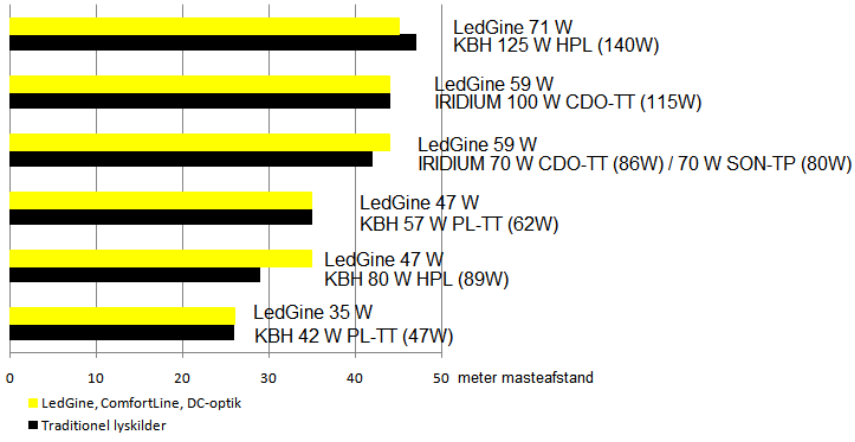
Lokalvej
Belysningsklasse E2

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LEDGINE vs Trad. lyskilder

Lange masteafstande

Eksempel: Lokalvej (E2)

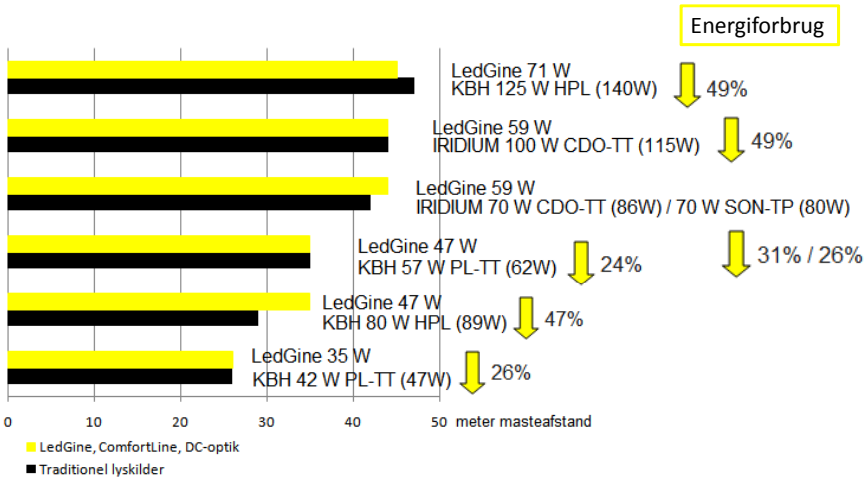


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LEDGINE vs Trad. lyskilder

Lavt energiforbrug

Eksempel: Lokalvej (E2)

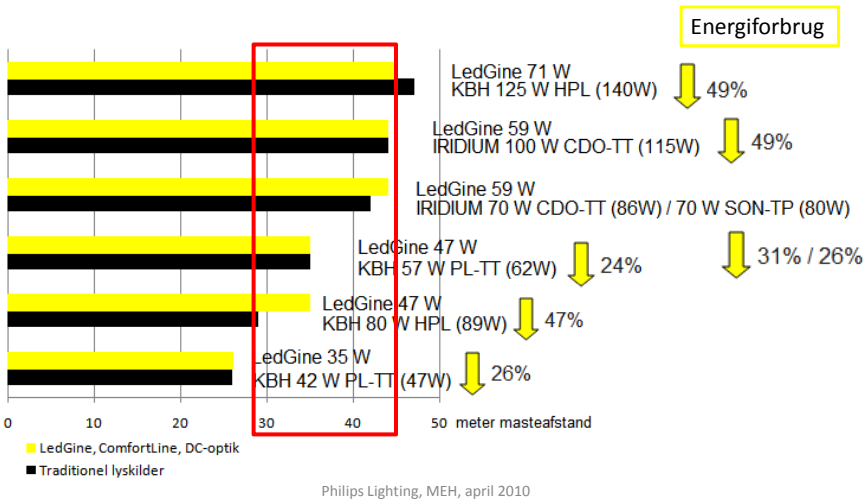


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LEDGINE vs Traditionelle lyskilder

Eksempel: Lokalvej (E2)



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LEDGINE - Lokalveje

God belysningskvalitet

Lavt energiforbrug

Lange masteafstande

ComfortLine

Varmt hvidt lys
Høj farvegengivelse
Optik DC (for laveste risiko for blænding)

Antal dioder: 24, 32 el 40 (E2-klasse)
Energiforbrug (inkl. tab): 35 – 59 W

Mere effektiv end traditionelle lyskilder:
Samme eller længere masteafstand med LedGine for et lavere energiforbrug !!!

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LEDGINE – Afstandstabeller

Lokalvej E2

ComfortLine

DC optik
Tilt: 5 grd
OH: 0,25 m
VF: 0,78
Uden CLO
Midlertidig lysfordeling

LedGine, COMFORTLINE, DC optik						
Antal dioder		16	24	32	40	48
Effekt inkl. tab i driver		24 W	35 W	47 W	59 W	71 W
Bredde på færdselsareal inkl. fortov og cykelsti: 8 m	LPH [m]	Max mastafstand				
	4	23 m	30 m			
	5	21 m	32 m	37 m		
	6	20 m	30 m	40 m	45 m	
	7	18 m	27 m	36 m	45 m	54 m

LedGine, COMFORTLINE, DC optik						
Antal dioder		16	24	32	40	48
Effekt inkl. tab i driver		24 W	35 W	47 W	59 W	71 W
Bredde på færdselsareal inkl. fortov og cykelsti: 10 m	LPH [m]	Max mastafstand				
	5	18 m	28 m	37 m	38 m	
	6	17 m	26 m	35 m	44 m	45 m
	7	16 m	25 m	33 m	41 m	50 m
	8	21 m	32 m	37 m		

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LEDGINE – Afstandstabeller
Lokalvej E2

GreenLine

DC optik
Tilt: 5 grd
OH: 0,25 m
VF: 0,79
Uden CLO
Midlertidig lysfordeling

LedGine, GREENLINE, DC optik							
Antal dioder		16	24	32	40	48	56
Effekt inkl. tab i driver		20 W	30 W	40 W	50 W	60 W	70 W
	LPH [m]	Max mastafstand					
Bredde på færdselsareal inkl. fortov og cykelsti: 8 m	3,5	14 m					
	4	29 m	30 m				
	5	26 m	37 m				
	6	24 m	36 m	45 m			
	7	22 m	33 m	44 m	54 m		

LedGine, GREENLINE, DC optik							
Antal dioder		16	24	32	40	48	56
Effekt inkl. tab i driver		20 W	30 W	40 W	50 W	60 W	70 W
	LPH [m]	Max mastafstand					
Bredde på færdselsareal inkl. fortov og cykelsti: 10 m	5	23 m	34 m	38 m			
	6	21 m	32 m	43 m	45 m		
	7	20 m	30 m	41 m	51 m	55 m	
	8	19 m	28 m	38 m	47 m	57 m	59 m

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LEDGINE – Stier

Samme gode historier som kendes fra
- MiniIridiumLED,
- KBH LED
- MiniMilewide LED





Mini LED platform



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LEDGINE – Trafikveje & Motorveje

- Signalværdi – Kraftig LED løsning
- Våd vej krav (optik er under udvikling – 2010)

Kun DC optik der overholder afskærmningskrav

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VEDLIGEHOLDELSESFAKTOR

Vedligeholdelsesfaktoren afhænger af:

- Strømniveau (350mA / 410mA / 530mA).

(Jo højere strømniveau desto mere lysudbytte – men desto hurtigere lysstrømsnedgang)

- Forurening af omgivelser / rengøring af armatur
- Udskiftningsinterval af led-enhed
- Omgivelsestemperatur
- CLO (constand light output) indbygget eller ej

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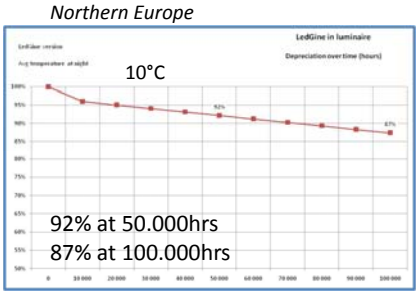
VEDLIGEHOLDELSESFAKTOR

Lysstrøm - omgivelsestemperatur

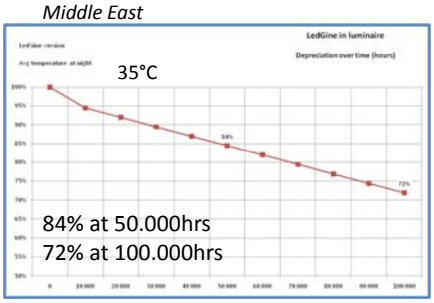


I takt med diodens alder falder lysstrømmen.
Flere paramentre spiller ind bl.a.: Omgivelsestemperaturen

Northern Europe



Middle East



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VEDLIGEHOLDELSESFAKTOR

Uden CLO

Vedligeholdelsesfaktor (VF)		Strøm		
		350 mA	410 mA	530 mA
Omgivelses-temperatur (°C)	10°	0,79	0,78	0,72
	15°	0,77	0,76	0,7
	20°	0,75	0,75	0,69
	25°	0,74	0,73	0,67

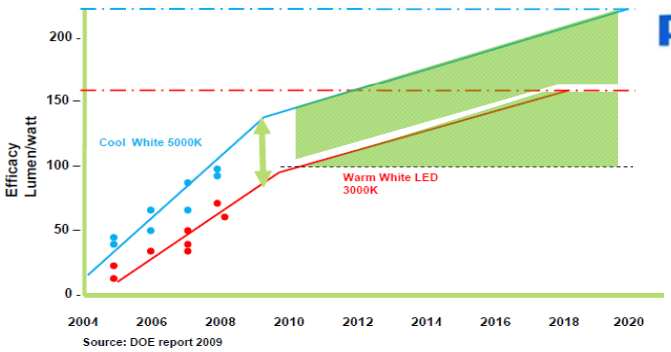
Midlertidige data

Noter: Disse VF er beregnet for
- medium forurenet omgivelser (0.87)
- en levetid på 60.000 timer
- uden CLO
- samme lysstrømsnedgagng for varm, neutral og kold hvide dioder

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Important "mindset breakthrough"

What can we expect from LEDs?



Source: DOE report 2009

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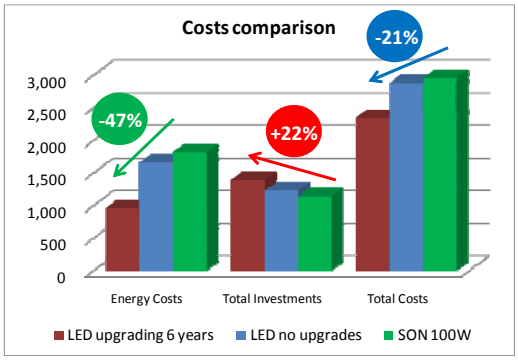
1st phase	2nd phase	3rd phase
Testing LEDs, not yet there!	LEDs already there…and fast improvement with continuous energy reduction	LEDs maturity phase… lower improvements in energy consumption

Preparing for...	Energy efficiency race …keeping the LEDs updated!	Life-time, low maintenance… …new features and innovations!

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Upgrading LED systems during evolution of technology is the best choice for you



Customers prepared to make investments in the technology evolution will benefit during the typical life-time of Outdoor Luminaires

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47% less energy consumed

Extra investments of 22% to keep the Lighting Infrastructure updated with the latest LED modules are compensated by the costs saved with energy

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Philips Lighting, MEH, april 2010