



## **LIVAL** - ENVIRONMENTAL PRODUCT DECLARATION

almost 60 years

dynamic light



### Product Information

Product name:	Form 70/E CDM-T WFL/HO silver
Product code:	10 946
Total weight:	1 121 g (without packaging)
Material content (weight-%)	
Plastics	49 %
Electronics	33 %
Glass	8 %
Aluminium	5 %
Light source	3 %
Cables	2 %

Product packaging is mainly corrugated cardboard, which can be recycled after use.

### Environmental Information

Functional unit	1 product (without packaging)
Estimated lifetime	5 years
Estimated annual use	3 456 hours
Lifetime electricity use	1 380 kWh
Electricity used in production (Lival)	8 kWh
Lumen output	6 600 Lumen
Estimated lifetime of a light source	10 000 hours

Environmental impacts include:

- Raw material acquisition and transport.
- Production and transport of components.
- Production, use of utilities and other supplementary actions at factory site.
- Product transport to the user (estimated transport distance = 100 km).
- Production of electricity consumed during the use phase.
- Production of supplementary light sources.
- End of use according to present practices.

The product is assumed to be used in Finland and the electricity profile is calculated according to the average Finnish electricity production profile (Nuclear 27%, hydro power 18%, hard coal 11%, natural gas 10%, peat 5%, others 12% and import 15%).

Total water use in production is about 800 grams per product.

Results of Inventory [g/item]

	Front-end 1)	Production	Use	Others 2)	Total
<b>Air emissions</b>					
Methane, CH4	20	2	690	10	720
Carbon monoxide, CO	20	<1	290	<1	310
Carbon dioxide, CO2	6 340	1 110	267 700	150	275 300
Particulates	10	<1	390	<1	400
Hydrocarbons	10	<1	60	<1	70
HCl	<1	<1	90	<1	90
Nitrous oxide, N2O	<1	<1	10	<1	10
Nitrogen oxides, NOx	30	2	470	2	500
Sulphur dioxide, SO2	50	1	490	<1	540
<b>Water emissions</b>					
Chemical oxygen demand (COD)	1	<1	<1	<1	<1
Oils	<1	0	30	<1	30
Nitrogen	<1	<1	<1	<1	<1
Nitrates	<1	<1	<1	0	<1
Sulphates	10	10	1 360	0	1 380
Total dissolved solids (TDS)	3	2	630	0	630
Total suspended solids (TSS)	4	<1	70	0	80
<b>Solid waste</b>					
Ashes	24	40	10 000	2	10 066
Hazardous waste	0	1	1	0	1
Industrial solid waste	2 400	1 520	332 400	1 300	337 620
Total solid waste	2 424	1 561	342 401	1 302	347 687

1) Includes material acquisition

2) Includes waste treatment and all the transports (also transportation of materials and components)

It is assumed that used products and packaging are landfilled after use. The material or energy content of these products has not been taken into account in the calculation of this profile.

Impact Assessment

Impact category	Unit	Production	Use	Total
Global warming potential (GWP)	kg CO2- equiv	8	290	298
Acidification	kg SO2- equiv	0,06	0,90	0,97
Eutrophication	kg PO4- equiv	0,004	0,063	0,067
Primary energy	MJ	420	7 190	7 610

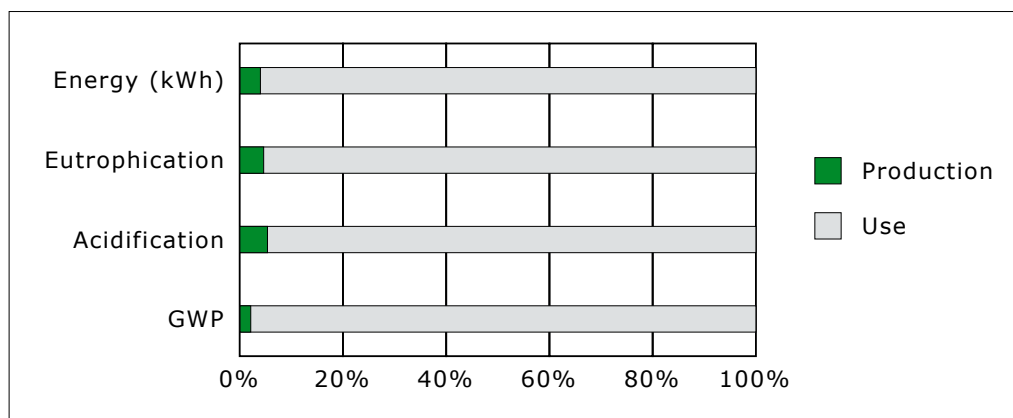


Figure 1. The division of the impact assessment results between production and use



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