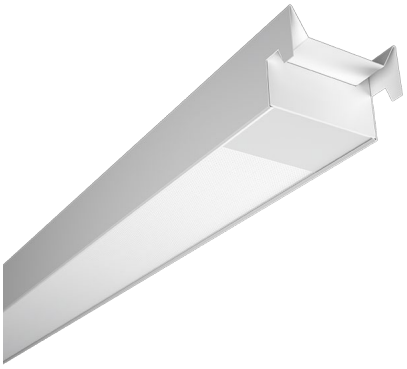
Phi Product family

Vision
Vision Direct/Indirect

Linear

Modul



Program operator, publisher:	Rakennustietosäätiö RTS Building Information Foundation RTS Malminkatu 16 A 00100 Helsinkihttp://cer.rts.fi
Owner of the declaration:	Greenled
Name of the product:	Phi
Declaration number:	RTS EPD_210_23
Registration number:	RTS EPD_210_23
ECO Platform reference number:	
Issue date:	29.3.2023
Valid to:	29.3.2028
Scope of the declaration	This environmental product declaration covers the environmental impacts of Phi Luminaire. The declaration has been prepared in accordance with EN15804:2012+A2:2019 and ISO 14025 standards and the additional requirements stated in the RTS PCR (Finnish version, 26.8.2020). This declaration covers the life cycle stages from cradle to gate with options, modules C1-C4, and module D.

Jukka Seppänen
RTS EPD Committee Secretary

Laura Apilo
Managing Director

Yleissääntönä on noudatettu eurooppalaisen standardin EN 15804:2012 + A2:2019 vaatimuksia ja RTS tuoteryhmäsääntöjä	
Kansainvälisen standardin EN ISO 14025:2010 mukainen riippumaton varmentava taho on	
☐ **Sisäinen**	☒ **Ulkoinen**
Kolmannen osapuolen varmentamisen on suorittanut: Heini Koutonen Ramboll Finland Oy	

GENERAL INFORMATION, PURPOSE OF THE ENVIRONMENTAL DECLARATION, VERIFICATION (Standard 7.1)

1. Owner of the declaration, manufacturer

Greenled Oy
Oritkarintie 4
90400 Oulu
Finland
info@greenled.fi
www.greenled.fi

2. Product name and number

Model	Product number
Phi Linear 1160	GLPL013111, GLPL013911, GLPL014811, GLPL015711
Phi Linear 1720	GLPL014517, GLPL015717, GLPL017117, GLPL0111217
Phi Linear 2312	GLPL015823, GLPL017523, GLPL019323, GLPL0114823
Phi Vision 1160	GLPV01DIR1511, GLPV01DIR2211, GLPV01DIR3111, GLPV01DIR3911, GLPV01DIR4811
Phi Vision 1720	GLPV01DIR2217, GLPV01DIR3317, GLPV01DIR4517, GLPV01DIR5717, GLPV01DIR7117
Phi Vision 2312	GLPV01DIR2923, GLPV01DIR4323, GLPV01DIR5823, GLPV01DIR7523, GLPV01DIR9323
Phi Vision Direct/Indirect 1160	GLPV01DIRI3511, GLPV01DIRI4411
Phi Vision Direct/Indirect 1720	GLPV01DIRI5617, GLPV01DIRI7017, GLPV01DIRI6617
Phi Modul 1340	GLPM011513, GLPM012213, GLPM013113, GLPM013913, GLPM014813
Phi Modul 1400	GLPM011514, GLPM012214, GLPM013114, GLPM013914, GLPM014814
Phi Modul 1640	GLPM011516, GLPM012216, GLPM013116, GLPM013916, GLPM014816
Phi Modul 1700	GLPM011517, GLPM012217, GLPM013117, GLPM013917, GLPM014817
Phi Modul 1840	GLPM012218, GLPM013318, GLPM014518, GLPM015718, GLPM017118
Phi Modul 1900	GLPM012219, GLPM013319, GLPM014519, GLPM015719, GLPM017119

Variations included in this EPD:

Phi Linear
Length: **1160mm*, 1720mm*, 2312mm***
Led color temperature: **3000 K, 4000 K*, 5000 K**
Led color rendering index: **CRI 80*, CRI 90**
Light distribution: **MP90*(D90), MP80 (D80)**
Dimmability: **DALI*, On/Off**
Frame color: **Not painted (ZINC)**
Brackets: **2 pc ceiling brackets**

Phi Vision
Length: **1160mm*, 1720mm*, 2312mm***
Led color temperature: **3000 K, 4000 K*, 5000 K**
Led color rendering index: **CRI 80*, CRI 90**
Light distribution: **Soft 75*(D75)**, **MP90(D90), MP80(D80)**
Dimmability: **DALI*, On/Off**

Frame color: **Powder painted**
Brackets: **2 pc ceiling brackets*, 2 pc suspension cables**

Phi Vision Direct/indirect
Length: **1160mm*, 1720mm***
Led color temperature: **3000 K, 4000 K*, 5000 K**
Led color rendering index: **CRI 80*, CRI 90**
Light distribution: **Soft 75 + UP**
Dimmability: **DALI*, On/Off**
Frame color: **Powder painted**
Brackets: **2 pc suspension cables**

Phi Modul
Length: **1340-1400mm*,1640-1700mm*,1840-1900mm***
Led color temperature: **3000 K, 4000 K*, 5000 K**
Led color rendering index: **CRI 80*, CRI 90**
Light distribution: **MP90(D90), MP80*(D80)**
Dimmability: **DALI*, On/Off**
Frame color: **Powder painted**

*Actual versions used in calculations, other variants do not differ more than 10% GWP total, A1-A3. Except On/Off versions stated below which has left out from result tables:
Phi Linear 1160 31W,39W,48W On/Off (-11%)
Phi Linear 1720 112W On/Off (-14%)
Phi Linear 2312 148W On/Off (-12%)
Phi Vision Direct 1160 15W,22W,31W,33W,48W On/Off (-11%)
Phi Modul 1340-1400 15W,22W On/Off (-11%)

3. Summary of GWP total

Climate change total, kg CO2 eq	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Phi Linear 1160 31-58W DALI & 58W On/Off	2,81E+01	1,88E-01	1,69E+00	1,20E+03	0,00E+00	3,40E-02	1,09E-01	3,51E-01	-1,74E+01
Phi Linear 1720 45-71W DALI & On/Off	3,50E+01	2,19E-01	1,69E+00	1,93E+03	0,00E+00	4,01E-02	1,45E-01	4,75E-01	-2,23E+01
Phi Linear 1720 112W DALI	4,21E+01	2,19E-01	1,69E+00	1,93E+03	0,00E+00	4,01E-02	1,51E-01	4,74E-01	-2,59E+01
Phi Linear 2312 58-93W DALI & On/Off	4,41E+01	3,01E-01	1,70E+00	2,56E+03	0,00E+00	5,66E-02	1,84E-01	5,98E-01	-2,68E+01
Phi Linear 2312 148W DALI	5,00E+01	3,01E-01	1,70E+00	2,56E+03	0,00E+00	5,66E-02	1,91E-01	6,04E-01	-3,10E+01
Phi Modul 1340-1400 15-48W DALI & 31-48W On/Off	3,06E+01	2,05E-01	1,69E+00	8,43E+02	0,00E+00	3,74E-02	8,90E-02	3,09E-01	-1,80E+01
Phi Modul 1640-1700 15-48 DALI & On/Off	3,25E+01	2,27E-01	1,69E+00	8,43E+02	0,00E+00	4,18E-02	9,23E-02	3,20E-01	-1,86E+01
Phi Modul 1840-1900 22-71W DALI & On/Off	3,81E+01	2,62E-01	1,70E+00	1,25E+03	0,00E+00	4,88E-02	1,21E-01	4,34E-01	-2,28E+01
Phi Vision Direct 1160 15-48W DALI	2,92E+01	1,88E-01	1,69E+00	8,43E+02	0,00E+00	3,40E-02	1,07E-01	3,89E-01	-1,74E+01
Phi Vision Direct 1720 22-71W DALI & On/Off	3,67E+01	2,19E-01	1,69E+00	1,25E+03	0,00E+00	4,01E-02	1,43E-01	4,25E-01	-2,22E+01
Phi Vision Direct 2312 29-93W DALI & On/Off	4,63E+01	3,01E-01	1,70E+00	1,63E+03	0,00E+00	5,66E-02	1,81E-01	6,74E-01	-2,68E+01
Phi Vision Direct/Indirect 1160 35-44W DALI & On/Off	3,88E+01	1,97E-01	1,69E+00	1,09E+03	0,00E+00	3,57E-02	1,29E-01	4,54E-01	-2,41E+01
Phi Vision Direct/Indirect 1720 56-70W DALI & On/Off	4,91E+01	2,36E-01	1,69E+00	1,74E+03	0,00E+00	4,35E-02	1,83E-01	6,69E-01	-3,23E+01

4. Place of production

Produced in Oulu, Finland

5. Additional information

Additional Information from Jani Kaaresto

e-mail jani.kaaresto@greenled.fi

6. Product Category Rules and the scope of the declaration

The declaration has been prepared in accordance with EN 15804:2012+A2:2019 and ISO 14025 standards andthe additional requirements stated in the RTS PCR (Finnis version 2020). The EPD of construction products may not be comparable if they do not comply with EN 15804 and are seen in a building context.

7. LCA software and database

The used LCA software was SimaPro 9.3. In the study used databases were ecoinvent 3.8 and other SimaPro databases. Allocation used in ecoinvent follows the methodology “allocation, cut-off by classification”. The methodology is in line with the requirements of the EN 15804 standard. But in the waste scenarios used allocation is APOS (allocation at the point of substitution) because cut-off allocation does not include recycling emissions or benefits.

8. Author of the life-cycle assessment and declaration

Karelia University of Applied Sciences, Tikkarinne 9, 80200 Joensuu,

Complier Alma Pohjonen

9. Verification

This EPD has been verified according to the requirements of EN 15804:2012 + A2:2019 and RTS PCR by a third party. The verification has been carried out by Heini Koutonen, Ramboll Finland Oy.

Third party verification on 17.2.2023. Verification is valid 17.2.2023-16.2.2028.

10. Declaration issue date and validity

Declaration issue date 15.3.2023. The declaration is valid for 5 years, until 16.2.2028.

Product information

11. Product description

EPD is made for one luminaire (Family). The EPD covers all length variations of Phi Linear, Vision, and Vision Direct/Indirect. Phi Modul covers three length variations. The life cycle assessment of the product group variations does not differ by more than 10 % (GWP total, A1-A3), see paragraph 2.

Products described in this EPD are:

Phi Linear

Phi Modul

Phi Vision

Phi Vision Direct/Indirect

Phi Linear is a cost-effective microprism luminaire with an evenly illuminating light surface. It is ideal for retail and clean industrial settings. Phi Vision is an elegant microprism luminaire with an evenly illuminating light surface. It is ideal for offices and schools. The textured surface and impeccable finishing give the luminaire a high-quality, premium look. Phi Vision has a wide aperture that enables soft and glare-free lighting. Phi Modul is a microprism luminaire with an evenly illuminating light surface. It has been particularly designed for Tego ceiling systems. This luminaire offers a cost-effective way to integrate lighting into a Tego system.

12. Technical specification

The products covered in this declaration are LED luminaires for indoor use. Luminaires are manufactured in Finland. Raw materials are steel, plastics, non-ferrometals such as copper and aluminum, and electronic components. The package contains corrugated cardboard and PET film.

The EPD is based on product-specific data from manufacturing facilities in Finland. The results represent one luminaire.

13. Product standards

Products conform with the:

LVD 2014/35/EU
EN 60598-1:2021
EN 62493:2015
EMC 2014/30/EU
EN 55015:2019
EN 61000-3-2:2019
EN 61000-3-3:2013
EN 61547:2010

RoHS 2011/65/EU

14. Physical properties

Model	Length (mm)	Height (mm)	Width (mm)	Weight (kg)	Power(W)
Phi Linear 1160	1160	71	103	3,9	31-57
Phi Linear 1720	1720	71	103	4,6	45-112
Phi Linear 2312	2312	71	103	6,5	58-148
Phi Vision 1160	1160	71	103	3,9	15-48
Phi Vision 1720	1720	71	103	4,6	22-71
Phi Vision 2312	2312	71	103	6,5	29-93
Phi Vision Direct/Indirect 1160	1160	71	103	4,1	35-44
Phi Vision Direct/Indirect 1720	1720	71	103	5,0	56-70
Phi Modul 1340	1339	71	103	4,2	15-48
Phi Modul 1400	1399	71	103	4,3	15-48
Phi Modul 1640	1639	71	103	4,7	15-48
Phi Modul 1700	1699	71	103	4,8	15-48
Phi Modul 1840	1839	71	103	5,5	22-71
Phi Modul 1900	1899	71	103	5,6	22-71

15. Raw materials of the product and product information (used in production)

The calculations of the LCA results are solely based on the actual weight of all single material components in the table. The product weight in the product description may differ from the declared total weight in the EPD.

	Phi Linear 1160	Phi Linear 1720	Phi Linear 2312	Phi Vision 1160	Phi Vision 1720	Phi Vision 2312
Metal – Steel (kg / w%)	2,90 / 81,75	3,97 / 82,95	5,34 / 84,36	2,90 / 80,85	3,97 / 81,81	5,34 / 83,31
Metal - Aluminium (kg / w%)	0,00 / 0,07	0,00 / 0,07	0,00 / 0,07	0,00 / 0,07	0,00 / 0,07	0,00 / 0,07
Electronic - LED-Driver (kg / w%)	0,21 / 5,83	0,21 / 2,57	0,21 / 3,32	0,21 / 5,77	0,21 / 4,33	0,21 / 3,28
Electronic – LED-Module (kg / w%)	0,08 / 2,31	0,12 / 2,57	0,16 / 2,59	0,08 / 2,28	0,12 / 2,53	0,16 / 2,56
Electronic – Wiring, internal (kg / w%)	0,02 / 0,70	0,03 / 0,65	0,04 / 0,61	0,02 / 0,69	0,03 / 0,64	0,04 / 0,60
Electronic – Resistor (kg / w%)	0,00 / 0,03	0,00 / 0,02	0,00 / 0,02	0,00 / 0,03	0,00 / 0,02	0,00 / 0,02
Electronic – Connector (kg / w%)	0,02 / 0,44	0,02 / 0,33	0,02 / 0,25	0,02 / 0,43	0,02 / 0,32	0,02 / 0,24
Plastic - PC-ABS (kg / w%)	0,06 / 1,72	0,06 / 1,29	0,06 / 0,98	0,06 / 1,72	0,06 / 1,27	0,06 / 0,96
Plastic – PC (kg / w%)	0,01 / 0,37	0,02 / 0,32	0,02 / 0,27	0,01 / 0,36	0,02 / 0,31	0,02 / 0,27
Plastic – PMMA (kg / w%)	0,21 / 6,03	0,32 / 6,64	0,43 / 6,75	0,18 / 4,90	0,26 / 5,41	0,35 / 5,50
Plastic – PET (kg / w%)	-	-	-	0,03 / 0,88	0,05 / 0,98	0,06 / 0,98
Plastic – Nylon (kg / w%)	0,00 / 0,12	0,01 / 0,13	0,01 / 0,13	0,00 / 0,12	0,01 / 0,13	0,01 / 0,13
Powder coating – Polyester (kg / w%)	0,02 /0,62	0,03 / 0,65	0,04 /0,65	0,07 /1,89	0,11 /2,18	0,13 /2,08

	Phi Vision Direct/indirect 1160	Phi Vision Direct/indirect 1720
Metal – Steel (kg / w%)	2,87 / 77,64	4,07 / 77,88
Metal - Aluminium (kg / w%)	0,00 / 0,09	0,00 / 0,08
Electronic - LED-Driver (kg / w%)	0,24 / 6,37	0,26 / 4,97
Electronic – LED-Module (kg / w%)	0,12 / 3,33	0,21 / 3,92
Electronic – Wiring, internal (kg / w%)	0,03 / 0,92	0,05 / 1,01
Electronic – Resistor (kg / w%)	-	-
Electronic – Connector (kg / w%)	0,02 / 0,42	0,02 / 0,30
Plastic - PC-ABS (kg / w%)	0,06 / 1,67	0,06 / 1,18
Plastic – PC (kg / w%)	0,01 / 0,35	0,02 / 0,29
Plastic – PMMA (kg / w%)	0,24 / 6,37	0,38 / 7,28
Plastic – PET (kg / w%)	0,03 / 0,86	0,05 / 0,91
Plastic – Nylon (kg / w%)	0,00 / 0,13	0,01 / 0,14
Powder coating – Polyester (kg / w%)	0,07 /1,84	0,11 /2,03

	Phi Modul 1340	Phi Modul 1400	Phi Modul 1640	Phi Modul 1700	Phi Modul 1840	Phi Modul 1900
Metal – Steel (kg / w%)	3,23 / 84,21	3,34 / 84,58	3,66 / 85,56	3,77 / 85,87	4,29 / 84,67	4,40 / 84,94
Metal - Aluminium (kg / w%)	0,00 / 0,06	0,00 / 0,06	0,00 / 0,06	0,00 / 0,05	0,00 / 0,07	0,00 / 0,07
Electronic - LED-Driver (kg / w%)	0,21 / 5,40	0,21 / 5,24	0,21 / 4,84	0,21 / 4,71	0,21 / 4,15	0,21 / 4,06
Electronic – LED-Module (kg / w%)	0,08 / 2,14	0,08 / 2,08	0,08 / 1,92	0,08 / 1,87	0,12 / 2,43	0,12 / 2,38
Electronic – Wiring, internal (kg / w%)	0,02 / 0,65	0,02 / 0,63	0,02 / 0,58	0,02 / 0,56	0,03 / 0,61	0,03 / 0,60
Electronic – Resistor (kg / w%)	0,00 / 0,03	0,00 / 0,03	0,00 / 0,02	0,00 / 0,02	0,00 / 0,02	0,00 / 0,02
Electronic – Connector (kg / w%)	0,02 / 0,41	0,02 / 0,40	0,02 / 0,36	0,01 / 0,30	0,02 / 0,31	0,02 / 0,30
Plastic - PC-ABS (kg / w%)	-	-	-	-	-	-
Plastic – PC (kg / w%)	0,01 / 0,34	0,01 / 0,33	0,01 / 0,30	0,01 / 0,30	0,01 / 0,30	0,02 / 0,29
Plastic – PMMA (kg / w%)	0,18 / 4,59	0,18 / 4,46	0,18 / 4,11	0,18 / 4,01	0,26 / 5,18	0,26 / 5,07
Plastic – PET (kg / w%)	-	-	-	-	-	-
Plastic – Nylon (kg / w%)	0,00 / 0,11	0,00 / 0,11	0,00 / 0,10	0,00 / 0,10	0,01 / 0,12	0,01 / 0,12
Powder coating – Polyester (kg / w%)	0,08 /2,06	0,08 /2,09	0,09 /2,15	0,09 /2,16	0,11 /2,14	0,11 /2,16

Packaging materials:

	Phi Linear 1160	Phi Linear 1720	Phi Linear 2312	Phi Vision 1160	Phi Vision 1720	Phi Vision 2312
Cardboard (kg / w%)	0,37 / 47,25	0,37 / 46,89	0,37 / 46,84	0,37 / 47,25	0,37 / 46,89	0,37 / 46,84
Plastic - PE (kg / w%)	0,00 / 0,38	0,00 / 0,63	0,00 / 0,76	0,00 / 0,38	0,00 / 0,63	0,00 / 0,76
Plastic - PET (kg / w%)	0,1 / 12,77	0,1 / 12,67	0,1 / 12,66	0,1 / 12,77	0,1 / 12,67	0,1 / 12,66
Pallet - Wood (kg / w%)	0,31 / 39,59	0,31 / 39,80	0,31 / 39,75	0,31 / 39,59	0,31 / 39,80	0,31 / 39,75

	Phi Vision Direct/indirect 1160	Phi Vision Direct/indirect 1720
Cardboard (kg / w%)	0,37 / 47,25	0,37 / 46,89
Plastic - PE (kg / w%)	0,00 / 0,38	0,00 / 0,63
Plastic - PET (kg / w%)	0,1 / 12,77	0,1 / 12,67
Pallet - Wood (kg / w%)	0,31 / 39,59	0,31 / 39,80

	Phi Modul 1340	Phi Modul 1400	Phi Modul 1640	Phi Modul 1700	Phi Modul 1840	Phi Modul 1900
Cardboard (kg / w%)	0,37 / 47,25	0,37 / 47,25	0,37 / 46,89	0,37 / 46,89	0,37 / 46,84	0,37 /46,84
Plastic - PE (kg / w%)	0,00 / 0,38	0,00 / 0,38	0,00 / 0,63	0,00 / 0,63	0,00 / 0,76	0,00 / 0,76
Plastic - PET (kg / w%)	0,1 / 12,77	0,1 / 12,77	0,1 / 12,67	0,1 / 12,67	0,1 / 12,66	0,1 / 12,66
Pallet - Wood (kg / w%)	0,31 / 39,59	0,31 / 39,59	0,31 / 39,80	0,31 / 39,80	0,31 / 39,75	0,31 / 39,75

16. Substances under European Chemicals Agency's REACH, SVHC restrictions

Phi luminaire fulfills the requirements of the REACH EU Regulation. The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).

SCOPE OF LIFE CYCLE ASSESSMENT (Standard 7.2.1-2)

All the covered modules of the EPD are marked with X. Mandatory modules are marked with blue in the table below. This declaration covers “cradle-to-gate with options”.

Product stage			Constructio nprocess stage		Use stage							End-of-life stage				Supplementa ryinformation beyond the lifecycle		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	D	D
☒	☒	☒	☒	☒	☐	☐	☐	☐	☐	☒	☐	☒	☒	☒	☒	☒	☒	☒
Raw material supply	Transport	Manufacturing	Transport	Construction-installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Mandatory modules
Mandatory as per the RTS PCR section 6.2.1 rules and termsOptional modules based on scenarios

17. Data collection and quality

Product specific data was collected directly from manufacturers production plant. The data represent year 2022. Production phase electricity and heat consumption data was collected in 2021 and production phase waste flow data was collected 2020. Quality of data is considered to be good.

18. Functional/declared unit

The functional unit is the quantification of a function offered by the object of study according to which all the inputs and outputs of the system will be referred. The functional unit of this EPD is one Phi luminaire.
Reference service life of luminaire (LED) is 100 000 hours(L80B50) in indoor use (Ta= +25C). The reference lifetime of the luminaire is 25 years (4000h operating hours/year). It should be noted the that life time in years is depending of the use case of the luminaire and environment where luminaire is installed. For example, in office use, controlled with manual push button, yearly operating hours are 2000 (0,8 x 2500h) *, so then luminaire lifetime can be up to 50 years in that scenario.

*According the collection of Finnish building regulations D3 value is 0,8 if manual push button is used in office. According the EN15193-1 total operating hours per year is 2500 in office.

19. System boundary

This EPD covers the following modules; A1 (Raw material supply), A2 (Transport), and A3 (Manufacturing). The construction stage includes module A4 (Transport to the site). The use phase includes module B6 (energy consumption). In addition, the end-of-life stage is included information from C2, C3, and C4 and beyond the life cycle information from D module. B4 module has been left out because calculations are based on reference lifetime of the luminaire and during that period there is no need for replacements for parts.

A1-A3 Manufacturing

A1 raw material supply, the module takes the acquisition and processing of both base materials and the prefabricated components that make up the product.

A2 transportation module includes the transportation of different materials and components from the manufacturer to the factory where the final product is made (Oulu, Finland).

A3 manufacturing module includes the consumption of energy and packaging material used during the manufacturing process. Electricity energy consumed is from certified renewable hydropower.

The primary data used has been obtained from the production plant itself. A1-A3 states consider waste management of production waste. Production waste scenarios are municipal waste treatment in Finland. No secondary fuels or materials are used in production.

A4-A5 Installation stage

The information from transportation A4 is included in the LCA calculation. Modul includes transportation of the finished and packaged product. The transportation distance is 500 km with a truck.

Module A5 installation process includes transport and management of packaging waste.

Installation is considered in EPD. Installation takes into account the materials necessary for installation, but excluding energy used in installation.

B1-B7 Use stage

B1 includes the environmental aspects and impacts of the normal use of the product, not including the consumption of water and energy. The impact of the product at this stage is null.

B2 maintenance is not considered.

B3-reparation is not considered.

B4 substitution is not considered

B5 rehabilitation is not considered

B6 operational energy use is considered in EPD.

C1-C4 End-of-life stage

The information from the transportation of waste C2 is included in the LCA calculation, the average distance to the recycling center is 100 km.

C3 Waste management.

C4 Final disposal module considers the treatment of the rest of the product. The final disposal is incineration and landfill.

D Benefits and loads beyond the system boundary

This product claims environmental benefits due to recycling according to Directive 2012/19/EU of WEEE. Approximately 90.4% of luminaire ends up to recycling according to Eurostat recycling rate for large electronic equipment. Luminaire is dismantled into metals, plastics and electronics. An assumption is made that 90% of metal is recycled, 55% of plastics are recycled and 94,1% of SER waste is recycled.

20. Allocation

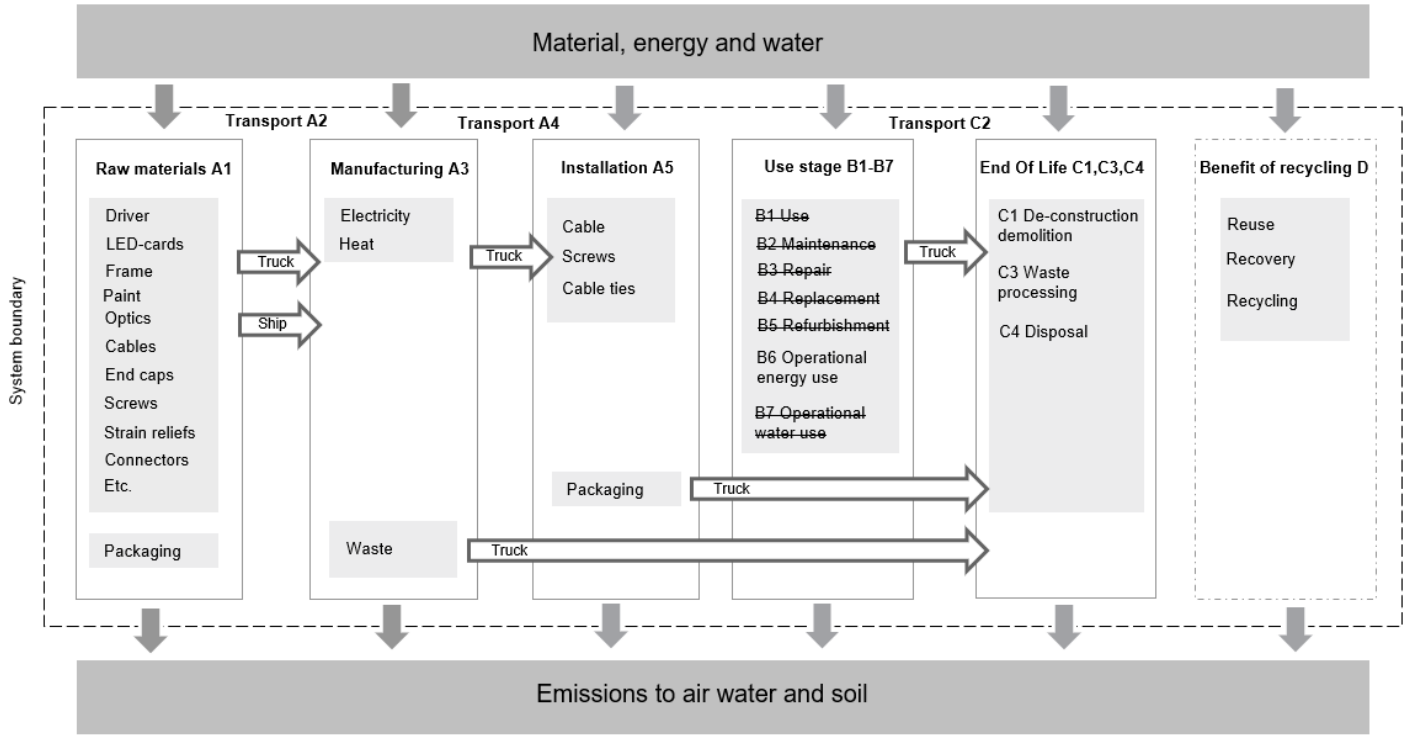
Allocation in production energy consumption and waste streams are based on annual production rate. Energy consumption and production phase waste streams are calculated by dividing annual energy consumption rate and annual waste mass by the annual production volume. Pallet has been allocated for one luminaire by taking account how many luminaires can fit into one wooden EUR pallet.

21. Cut-off criteria

The study is Gradle to gate with options, modules C1-C4, and module D. The study includes all modules which are stated mandatory in the EN 15804 A1:2012+A2:2019 and RTS PCR 2020. The table below shows what actions study includes and excludes.

Included	Excluded
Production of the component and packaging (A1)	Production of machines
Transport to manufacturing (A2)	Transport of returned products
Electricity, heat and waste from manufacturing (A3)	Labor and related aspects
Transport of products to client (A4)	Business travel
Installation of luminaire(A5)	Research and development activities
Energy consumption of use phase (B6)	Use phase emissions to environment (B1)
Disassembly of product (C1)	Maintenance (B2)
Transport to disposal (C2)	Repair (B3)
Disposal, dismantling and treatment of waste (C3-C4)	Replacement (B4)
Avoided production of raw materials if recycled (D)	Refurbishment (B5)
	Operational water use (B7)

22. Production process



20 Energy in manufacturing phase

Information of energy quality in manufacturing phase.

Parameter	Quantity	Data quality
A3 Electricity information and CO_2 emission $kgCO_2$ eq/kWh	0,006	Electricity emission have been calculated on the ELCD emission factor for hydro power production in Europe. Electricity emissions have been calculated on Quantity is based on Greenled information from year 2021.
A3 Heat information and CO_2 emission $kgCO_2$ eq/kWh	0,24	Heat emissions have been calculated on the ecoinvent 3,8 emission factors based on average district heat production in Europe. Quantity is based on Greenled information from year 2021.

21 Transport to the building site

Technical information of transportation (A4) from the production plant to the site.

Parameter	Quantity	Unit	data description
Transport, distance, road	500	km	The average distance of transportation in Finland.
Specific emissions, type of vehicle used for transport	0,0892	kg CO2 eq/tkm	Transport freight lorry >32 metric tons, Euro 6
Capacity utilization		%	assumed by ecoinvent

22 Installation and disposal of packaging

Installation takes into account the material needed for installation like cable and screws. Recycling possessing considers only transport to recycling site.

Parameter	Unit	Quantity per declared unit
Water use	m3	0
Energy use	kWh	0
Materials used in the installation		
Cable tie (nylon)	kg	0,007
Screws	kg	0,012
Cable	m	3,5
Packaging material for recycling		
Cardboard	kg	0,37
Plastic (PE)	kg	0,00126-0,00252
Plastic (PET)	kg	0,042
Packaging material for disposal		
Plastic (PE)	kg	0,00174-0,00348
Plastic (PET)	kg	0,058

24 Use phase energy consumption

Parameters	Unit	Quantity per declared unit
Auxiliary materials	kg	0
Energy quality and quantity	kWh	Electricity, quantities are shown in tables below
Power	W	Average power, quantities are shown in tables below
Use environment		Indoor, office use
Operation time	h	100 000
Luminaire efficacy	lm/W	quantities are shown in tables below

To each luminaire, energy consumption was modeled with model averaged power per length type, see table below. Energy consumption is calculated so that power (W) is multiplied by operation time (h). For luminaires, energy consumption emissions were modeled with Finland's low-voltage Grid mix. Emission factors for grid mix are presented in the table below.

Average by length	Power W	Energy consumption kWh	Luminaire efficacy lm/W
Phi Linear			
1160 mm	44	4400	148-154
1720 mm	71	7100	140-160
2312 mm	94	9400	141-166
Phi Modul			
1340-4000 mm	31	3100	140-151
1640-1700 mm	31	3100	140-151
1840-1900 mm	46	4600	142-156
Phi Vision			
1160 mm	31	3100	125-134
1720 mm	46	4600	127-138
2312 mm	60	6000	129-139
Phi Vision Direct/Indirect			
1160 mm	40	4000	136-137
1720 mm	64	6400	135-136

Impact category	Emission factor, kg CO2/kWh
Climate change- Total	0,272
Climate change- Fossil	0,266
Climate change- Biogenic	0,0033
Climate change- Land use and LU change	0,0024

23 End-of-life process description

In EOL scenario waste to recycling is divided to three categories: metals, plastic and SER. SER includes cable, LED-drivers, LED-card and resistors. Used SER waste recycling rate is 94,1% to small electronic devices from Eurostat, for metal recycling rate is considered to be 90% and for plastics 55%. Material that cannot be recycled eds up to landfill or incineration.

Process flow	Unit (expressed per functional unit)	Amount kg/kg Data quality
Collection process specified by type	kg collected separately	3,9-6,5
	kg collected with mixed construction waste	0
Recovery system specified by type	kg for re-use	0
	kg for recycling	3,08-5,556
	kg for energy recovery	0
Disposal of waste	kg product or material for final deposition	0,82-0,944
Assumptions for scenario development, e.g., transportation	units as appropriate	transportation distance 100km

24 Impact assessment methods

Potential environmental impacts were calculated by using EN 15804 + A2 v 1,02 impact assessment method. The consumption of resources in terms of energy is measured as primary energy demand with Cumulative Energy Demand 1,11 (CED) method and freshwater use was calculated using the ReCiPe midpoint method. Waste output flows were calculated by using EDIP 2003 method. Tables below show indicators for life cycle impact assessment.

Impact category	Unit	Indicator
Climate change	kg CO2 eq	Impact potential on global warming
Climate change - Fossil	kg CO2 eq	Impact Potential on Global Warming, Fossil Fuels
Climate change - Biogenic	kg CO2 eq	Impact potential on global warming, organic
Climate change - Land use and LU change	kg CO2 eq	Impact potential on global warming, land use, and land use change
Ozone depletion	kg CFC11 eq	Impact potential for upper atmospheric ozone depletion
Acidification	mol H+ eq	Impact potential on acidification
Eutrophication, freshwater	kg P eq	Impact potential on eutrophication, proportion of nutrients transferred to freshwater
Eutrophication, marine	kg N eq	Impact potential on eutrophication, proportion of nutrients transferred to seawater
Eutrophication, terrestrial	mol N eq	Impact potential for eutrophication, accumulated overflow
Photochemical ozone formation	kg NMVOC eq	Impact category potential for lower atmospheric ozone formation
Resource use, fossils	MJ	Impact potential on depletion of non-renewable natural resources, minerals and metals
Resource use, minerals and metals	kg Sb eq	Impact potential on depletion of non-renewable natural resources, fossil fuels
Water use	m3 depriv.	Impact potential on water scarcity, water consumption weighted by scarcity.

Abbreviation	Unit	Indicator
PERE	MJ, net calorific value	Use of renewable primary energy excluding renewable primary energy resources used as raw materials
PERM	MJ, net calorific value	Use of renewable primary energy resources used as raw materials
PERT	MJ, net calorific value	Total use of renewable primary energy resources
PENRE	MJ, net calorific value	Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials
PENRM	MJ, net calorific value	Use of non-renewable primary energy resources used as raw materials
PENRT	MJ, net calorific value	Total use of non-renewable primary energy resources
SM	kg	Secondary materials
RSF	MJ, net calorific value	Use of renewable secondary fuels
NRSF	MJ, net calorific value	Use of non-renewable secondary fuels
FWT	m3	Total use of net fresh water

25 Phi Linear

Phi Linear 1160, 31-58W DALI & 58W On/Off

Environmental impact indicators

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Climate change	kg CO2 eq	2,81E+01	1,88E-01	1,69E+00	1,20E+03	0,00E+00	3,39E-02	1,09E-01	3,50E-01	-1,74E+01
Climate change - Fossil	kg CO2 eq	2,82E+01	1,88E-01	1,68E+00	1,17E+03	0,00E+00	3,39E-02	1,08E-01	3,18E-01	-1,74E+01
Climate change - Biogenic	kg CO2 eq	-1,15E-01	1,90E-04	5,88E-03	1,46E+01	0,00E+00	3,44E-05	5,27E-04	3,19E-02	8,26E-04
Climate change - Land use and LU change	kg CO2 eq	9,48E-03	7,04E-05	1,53E-03	1,06E+01	0,00E+00	1,27E-05	1,69E-04	1,27E-05	-2,23E-02
Ozone depletion	kg CFC11 eq	2,00E-06	4,68E-08	4,33E-07	6,61E-05	0,00E+00	8,46E-09	1,13E-08	2,23E-09	-1,63E-06
Acidification	mol H+ eq	1,32E-01	5,98E-04	7,55E-03	5,12E+00	0,00E+00	1,08E-04	6,18E-04	1,79E-04	-1,41E-01
Eutrophication, freshwater	kg P eq	7,13E-03	1,22E-05	4,26E-04	4,12E-01	0,00E+00	2,20E-06	4,29E-05	5,79E-06	-1,96E-02
Eutrophication, marine	kg N eq	1,30E-02	1,34E-04	1,50E-03	9,29E-01	0,00E+00	2,42E-05	1,47E-04	1,14E-04	-2,36E-02
Eutrophication, terrestrial	mol N eq	1,20E-01	1,46E-03	1,43E-02	9,70E+00	0,00E+00	2,64E-04	1,54E-03	5,22E-04	-2,59E-01
Photochemical ozone formation	kg NMVOC eq	4,44E-02	5,76E-04	4,44E-03	2,59E+00	0,00E+00	1,04E-04	4,25E-04	1,39E-04	-9,03E-02
Resource use, fossils	MJ	3,23E+02	3,06E+00	2,80E+01	3,53E+04	0,00E+00	5,52E-01	1,64E+00	1,70E-01	-2,16E+02
Resource use, minerals and metals	kg Sb eq	1,06E-03	4,49E-07	4,59E-05	1,47E-02	0,00E+00	8,12E-08	3,87E-07	1,70E-06	-5,45E-03
Water use	m3 depriv.	4,86E+00	1,05E-02	9,36E-01	4,08E+02	0,00E+00	1,90E-03	3,26E-02	1,93E-02	-4,56E+00

Additional environmental impact indicators

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Particulate matter	disease inc.	7,38E-07	2,18E-08	1,10E-07	2,91E-05	0,00E+00	3,94E-09	6,94E-09	1,40E-09	-1,20E-06
Ionising radiation	kBq U-235 eq	1,13E+00	1,55E-02	1,35E-01	1,70E+03	0,00E+00	2,79E-03	1,51E-02	8,72E-04	-1,58E+00
Ecotoxicity, freshwater	CTUe	1,89E+02	2,39E+00	3,41E+01	2,20E+04	0,00E+00	4,31E-01	2,07E+00	1,63E+00	-1,52E+03
Human toxicity, non-cancer	CTUh	2,12E-07	2,51E-09	2,10E-08	1,53E-05	0,00E+00	4,53E-10	1,44E-09	5,28E-09	-7,79E-07
Human toxicity, cancer	CTUh	9,79E-09	6,51E-11	8,00E-10	6,68E-07	0,00E+00	1,18E-11	3,70E-11	9,26E-11	-3,73E-08
Land use	Pt	9,90E+01	3,49E+00	3,75E+00	1,13E+04	0,00E+00	6,31E-01	1,14E+00	1,87E-01	-1,02E+02

Use of natural resources

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PERE	MJ	5,02E+01	4,25E-02	1,43E+00	6,11E+03	0,00E+00	7,74E-03	1,43E-01	8,24E-03	-1,95E+01
PERM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	5,02E+01	4,25E-02	1,43E+00	6,11E+03	0,00E+00	7,74E-03	1,43E-01	8,24E-03	-1,95E+01
PENRE	MJ	3,73E+02	3,55E+00	3,00E+01	2,54E+04	0,00E+00	6,46E-01	1,74E+00	1,82E-01	-2,30E+02
PEMRM	MJ	1,39E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	3,75E+02	3,55E+00	3,00E+01	2,54E+04	0,00E+00	6,46E-01	1,74E+00	1,82E-01	-2,30E+02
SM	kg	1,56E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m3	2,68E-01	3,97E-04	2,10E-02	2,21E+01	0,00E+00	7,24E-05	1,09E-03	5,64E-04	-1,48E-01

Waste output flows

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Hazardous waste	kg	4,04E-04	7,40E-06	6,23E-05	1,48E-02	0,00E+00	1,34E-06	1,44E-06	8,30E-07	-1,33E-03
Non-hazardous waste	kg	1,87E+00	2,86E-01	1,21E+00	1,00E+02	0,00E+00	5,16E-02	2,62E+00	3,43E-01	6,90E-02
Radioactive waste	kg	7,13E-03	2,07E-05	-2,20E-04	3,71E-01	0,00E+00	3,74E-06	6,95E-06	7,73E-07	-5,86E-04

Output flow	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	7,81E-01	0,00E+00	4,29E-01	0,00E+00	0,00E+00	0,00E+00	3,08E+00	0,00E+00	0,00E+00
Material for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MWh	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Biogenic carbon content

Share of biogenic carbon	Amount	Unit
Biogenic carbon in the product	0	kg C
Biogenic carbon in the packaging	0,0011	kg C
1 kg biogenic carbon is equivalent to 44/12 kg of CO2		

GREENLED

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Climate change	kg CO2 eq	7,21E+00	4,82E-02	4,33E-01	3,08E+02	0,00E+00	8,69E-03	2,79E-02	8,97E-02	-4,46E+00
Resource use, fossils	MJ	8,28E+01	7,85E-01	7,18E+00	9,05E+03	0,00E+00	1,42E-01	4,21E-01	4,36E-02	-5,54E+01
Resource use, minerals and metals	kg Sb eq	2,72E-04	1,15E-07	1,18E-05	3,77E-03	0,00E+00	2,08E-08	9,92E-08	4,36E-07	-1,40E-03
Water use	m3 depriv.	1,25E+00	2,69E-03	2,40E-01	1,05E+02	0,00E+00	4,87E-04	8,36E-03	4,95E-03	-1,17E+00
Secondary materials	kg	4,00E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Biogenic carbon in the product	kg C	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Biogenic carbon in the packaging	kg C	2,82E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

GREENLED

Phi Linear 1720, 45-71W DALI & On/Off

Environmental impact indicators

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Climate change	kg CO2 eq	3,50E+01	2,19E-01	1,69E+00	1,93E+03	0,00E+00	4,01E-02	1,45E-01	4,74E-01	-2,23E+01
Climate change - Fossil	kg CO2 eq	2,50E+01	2,18E-01	1,69E+00	1,89E+03	0,00E+00	4,00E-02	1,44E-01	4,32E-01	-2,22E+01
Climate change - Biogenic	kg CO2 eq	4,70E-02	2,21E-04	5,88E-03	2,36E+01	0,00E+00	4,06E-05	7,32E-04	4,15E-02	-1,75E-03
Climate change - Land use and LU change	kg CO2 eq	1,17E-02	8,19E-05	1,53E-03	1,70E+01	0,00E+00	1,50E-05	2,25E-04	1,59E-05	-2,77E-02
Ozone depletion	kg CFC11 eq	2,14E-06	5,44E-08	4,33E-07	1,07E-04	0,00E+00	9,98E-09	1,53E-08	3,00E-09	-2,08E-06
Acidification	mol H+ eq	1,62E-01	6,96E-04	7,55E-03	8,27E+00	0,00E+00	1,28E-04	8,25E-04	2,26E-04	-1,83E-01
Eutrophication, freshwater	kg P eq	8,63E-03	1,42E-05	4,26E-04	6,64E-01	0,00E+00	2,60E-06	5,70E-05	6,96E-06	-2,49E-02
Eutrophication, marine	kg N eq	1,69E-02	1,56E-04	1,50E-03	1,50E+00	0,00E+00	2,85E-05	1,97E-04	1,55E-04	-3,03E-02
Eutrophication, terrestrial	mol N eq	1,55E-01	1,70E-03	1,43E-02	1,56E+01	0,00E+00	3,12E-04	2,06E-03	6,97E-04	-3,33E-01
Photochemical ozone formation	kg NMVOC eq	5,79E-02	6,70E-04	4,44E-03	4,18E+00	0,00E+00	1,23E-04	5,70E-04	1,86E-04	-1,18E-01
Resource use, fossils	MJ	4,02E+02	3,55E+00	2,80E+01	5,70E+04	0,00E+00	6,51E-01	2,19E+00	2,27E-01	-2,75E+02
Resource use, minerals and metals	kg Sb eq	1,51E-03	5,22E-07	4,59E-05	2,38E-02	0,00E+00	9,57E-08	4,85E-07	1,92E-06	-6,95E-03
Water use	m3 depriv.	6,16E+00	1,22E-02	9,36E-01	6,58E+02	0,00E+00	2,24E-03	4,39E-02	2,60E-02	-5,83E+00

Additional environmental impact indicators

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Particulate matter	disease inc.	9,50E-07	2,53E-08	1,10E-07	4,69E-05	0,00E+00	4,64E-09	9,32E-09	1,85E-09	-1,56E-06
Ionising radiation	kBq U-235 eq	1,49E+00	1,80E-02	1,35E-01	2,74E+03	0,00E+00	3,29E-03	2,02E-02	1,14E-03	-1,97E+00
Ecotoxicity, freshwater	CTUe	2,32E+02	2,77E+00	3,41E+01	3,55E+04	0,00E+00	5,09E-01	2,74E+00	2,02E+00	-1,96E+03
Human toxicity, non-cancer	CTUh	2,79E-07	2,92E-09	2,10E-08	2,48E-05	0,00E+00	5,35E-10	1,86E-09	5,84E-09	-9,75E-07
Human toxicity, cancer	CTUh	1,28E-08	7,57E-11	8,00E-10	1,08E-06	0,00E+00	1,39E-11	4,85E-11	1,07E-10	-4,88E-08
Land use	Pt	1,11E+02	4,06E+00	3,75E+00	1,83E+04	0,00E+00	7,44E-01	1,54E+00	2,49E-01	-1,31E+02

Use of natural resources

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PERE	MJ	6,42E+01	4,52E-02	1,43E+00	1,40E+04	0,00E+00	8,28E-03	1,90E-01	1,03E-02	-2,42E+01
PERM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	6,42E+01	4,52E-02	1,43E+00	1,40E+04	0,00E+00	8,28E-03	1,90E-01	1,03E-02	-2,42E+01
PENRE	MJ	4,35E+02	3,77E+00	3,00E+01	5,81E+04	0,00E+00	6,91E-01	2,33E+00	2,43E-01	-2,93E+02
PEMRM	MJ	1,60E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	4,36E+02	3,77E+00	3,00E+01	5,81E+04	0,00E+00	6,91E-01	2,33E+00	2,43E-01	-2,93E+02
SM	kg	1,64E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m3	3,01E-01	4,22E-04	2,10E-02	5,06E+01	0,00E+00	7,74E-05	1,46E-03	7,62E-04	-1,87E-01

Waste output flows

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Hazardous waste	kg	5,54E-04	8,60E-06	1,56E-05	2,39E-02	0,00E+00	1,58E-06	1,94E-06	1,23E-06	-1,69E-03
Non-hazardous waste	kg	2,38E+00	3,32E-01	2,41E-01	1,62E+02	0,00E+00	6,09E-02	3,59E+00	4,67E-01	3,64E-01
Radioactive waste	kg	7,78E-03	2,41E-05	4,33E-05	5,99E-01	0,00E+00	4,41E-06	9,35E-06	1,04E-06	-7,43E-04

Output flow	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	7,81E-01	0,00E+00	4,30E-01	0,00E+00	0,00E+00	0,00E+00	4,15E+00	0,00E+00	0,00E+00
Material for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MWh	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Biogenic carbon content

Share of biogenic carbon	Amount	Unit
Biogenic carbon in the product	0	kg C
Biogenic carbon in the packaging	0,0011	kg C
1 kg biogenic carbon is equivalent to 44/12 kg of CO2		

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Climate change	kg CO2 eq	7,61E+00	4,76E-02	3,67E-01	4,20E+02	0,00E+00	8,72E-03	3,15E-02	1,03E-01	-4,85E+00
Resource use, fossils	MJ	8,74E+01	7,72E-01	6,09E+00	1,24E+04	0,00E+00	1,42E-01	4,76E-01	4,93E-02	-5,98E+01
Resource use, minerals and metals	kg Sb eq	3,28E-04	1,13E-07	9,98E-06	5,17E-03	0,00E+00	2,08E-08	1,05E-07	4,17E-07	-1,51E-03
Water use	m3 depriv.	1,34E+00	2,65E-03	2,03E-01	1,43E+02	0,00E+00	4,87E-04	9,54E-03	5,65E-03	-1,27E+00
Secondary materials	kg	3,57E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Biogenic carbon in the product	kg C	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Biogenic carbon in the packaging	kg C	2,39E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Phi Linear 1720, 112W DALI

Environmental impact indicators

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Climate change	kg CO2 eq	4,20E+01	2,19E-01	1,69E+00	1,93E+03	0,00E+00	4,01E-02	1,51E-01	4,73E-01	-2,59E+01
Climate change - Fossil	kg CO2 eq	4,18E+01	2,18E-01	1,69E+00	1,89E+03	0,00E+00	4,00E-02	1,50E-01	4,32E-01	-2,59E+01
Climate change - Biogenic	kg CO2 eq	1,52E-01	2,21E-04	5,88E-03	2,36E+01	0,00E+00	4,06E-05	7,06E-04	4,05E-02	8,49E-04
Climate change - Land use and LU change	kg CO2 eq	3,58E-02	8,19E-05	1,53E-03	1,70E+01	0,00E+00	1,50E-05	2,36E-04	2,46E-05	-3,40E-02
Ozone depletion	kg CFC11 eq	3,13E-06	5,44E-08	4,33E-07	1,07E-04	0,00E+00	9,98E-09	1,56E-08	3,47E-09	-2,39E-06
Acidification	mol H+ eq	1,90E-01	6,96E-04	7,55E-03	8,27E+00	0,00E+00	1,28E-04	8,59E-04	2,32E-04	-2,12E-01
Eutrophication, freshwater	kg P eq	2,00E-02	1,42E-05	4,26E-04	6,64E-01	0,00E+00	2,60E-06	5,99E-05	7,18E-06	-2,97E-02
Eutrophication, marine	kg N eq	3,53E-02	1,56E-04	1,50E-03	1,50E+00	0,00E+00	2,85E-05	2,03E-04	1,58E-04	-3,54E-02
Eutrophication, terrestrial	mol N eq	3,48E-01	1,70E-03	1,43E-02	1,56E+01	0,00E+00	3,12E-04	2,13E-03	7,19E-04	-3,89E-01
Photochemical ozone formation	kg NMVOC eq	1,29E-01	6,70E-04	4,44E-03	4,18E+00	0,00E+00	1,23E-04	5,88E-04	1,91E-04	-1,34E-01
Resource use, fossils	MJ	5,01E+02	3,55E+00	2,80E+01	5,70E+04	0,00E+00	6,51E-01	2,27E+00	2,45E-01	-3,23E+02
Resource use, minerals and metals	kg Sb eq	4,41E-03	5,22E-07	4,59E-05	2,38E-02	0,00E+00	9,57E-08	5,68E-07	1,93E-06	-8,30E-03
Water use	m3 depriv.	1,05E+01	1,22E-02	9,36E-01	6,58E+02	0,00E+00	2,24E-03	4,50E-02	2,62E-02	-6,87E+00

Additional environmental impact indicators

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Particulate matter	disease inc.	1,70E-06	2,53E-08	1,10E-07	4,69E-05	0,00E+00	4,64E-09	9,62E-09	1,93E-09	-1,77E-06
Ionising radiation	kBq U-235 eq	3,36E+00	1,80E-02	1,35E-01	2,74E+03	0,00E+00	3,29E-03	2,11E-02	1,66E-03	-2,40E+00
Ecotoxicity, freshwater	CTUe	1,22E+03	2,77E+00	3,41E+01	3,55E+04	0,00E+00	5,09E-01	2,90E+00	2,05E+00	-2,30E+03
Human toxicity, non-cancer	CTUh	7,91E-07	2,92E-09	2,10E-08	2,48E-05	0,00E+00	5,35E-10	2,07E-09	5,86E-09	-1,18E-06

Human toxicity, cancer	CTUh	2,43E-08	7,57E-11	8,00E-10	1,08E-06	0,00E+00	1,39E-11	5,24E-11	1,10E-10	-5,42E-08
Land use	Pt	1,68E+02	4,06E+00	3,75E+00	1,83E+04	0,00E+00	7,44E-01	1,57E+00	2,65E-01	-2,56E+02

Use of natural resources

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PERE	MJ	6,75E+01	4,52E-02	1,43E+00	1,40E+04	0,00E+00	8,28E-03	2,00E-01	1,45E-02	-2,98E+01
PERM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	6,40E+01	4,52E-02	1,43E+00	1,40E+04	0,00E+00	8,28E-03	2,00E-01	1,45E-02	-2,98E+01
PENRE	MJ	5,12E+02	3,77E+00	3,00E+01	5,81E+04	0,00E+00	6,91E-01	2,41E+00	2,61E-01	-3,44E+02
PEMRM	MJ	3,26E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	5,13E+02	3,77E+00	3,00E+01	5,81E+04	0,00E+00	6,91E-01	2,41E+00	2,61E-01	-3,44E+02
SM	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m3	3,77E-01	4,22E-04	2,10E-02	5,06E+01	0,00E+00	7,74E-05	1,51E-03	8,01E-04	-2,24E-01

Waste output flows

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Hazardous waste	kg	1,11E-03	8,60E-06	1,56E-05	2,39E-02	0,00E+00	1,58E-06	2,00E-06	1,29E-06	-1,98E-03
Non-hazardous waste	kg	3,52E+00	3,32E-01	2,41E-01	1,62E+02	0,00E+00	6,09E-02	3,59E+00	4,72E-01	-2,13E-01
Radioactive waste	kg	2,66E-03	2,41E-05	4,33E-05	5,99E-01	0,00E+00	4,41E-06	9,62E-06	1,12E-06	-8,80E-04

Output flow	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	7,81E-01	0,00E+00	4,30E-01	0,00E+00	0,00E+00	0,00E+00	4,27E+00	0,00E+00	0,00E+00
Material for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MWh	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Biogenic carbon content

Share of biogenic carbon	Amount	Unit
Biogenic carbon in the product	0	kg C
Biogenic carbon in the packaging	0,0011	kg C
1 kg biogenic carbon is equivalent to 44/12 kg of CO2		

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Climate change	kg CO2 eq	9,13E+00	4,76E-02	3,67E-01	4,20E+02	0,00E+00	8,72E-03	3,28E-02	1,03E-01	-5,63E+00
Resource use, fossils	MJ	1,09E+02	7,72E-01	6,09E+00	1,24E+04	0,00E+00	1,42E-01	4,93E-01	5,33E-02	-7,02E+01
Resource use, minerals and metals	kg Sb eq	9,59E-04	1,13E-07	9,98E-06	5,17E-03	0,00E+00	2,08E-08	1,23E-07	4,20E-07	-1,80E-03
Water use	m3 depriv.	2,28E+00	2,65E-03	2,03E-01	1,43E+02	0,00E+00	4,87E-04	9,78E-03	5,70E-03	-1,49E+00
Secondary materials	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Biogenic carbon in the product	kg C	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Biogenic carbon in the packaging	kg C	2,39E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Phi Linear 2312, 58-93W DALI & On/Off

Environmental impact indicators

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Climate change	kg CO2 eq	4,41E+01	3,01E-01	1,70E+00	2,55E+03	0,00E+00	5,66E-02	1,84E-01	5,95E-01	-2,68E+01
Climate change - Fossil	kg CO2 eq	4,35E+01	3,01E-01	1,69E+00	2,50E+03	0,00E+00	5,65E-02	1,82E-01	5,48E-01	-2,67E+01
Climate change - Biogenic	kg CO2 eq	3,14E-01	3,05E-04	5,88E-03	3,13E+01	0,00E+00	5,73E-05	9,79E-04	4,71E-02	-3,21E-03
Climate change - Land use and LU change	kg CO2 eq	2,82E-02	1,13E-04	1,53E-03	2,25E+01	0,00E+00	2,12E-05	2,82E-04	2,42E-05	-3,19E-02
Ozone depletion	kg CFC11 eq	2,84E-06	7,51E-08	4,33E-07	1,41E-04	0,00E+00	1,41E-08	2,01E-08	4,11E-09	-2,50E-06
Acidification	mol H+ eq	2,04E-01	9,59E-04	7,55E-03	1,09E+01	0,00E+00	1,80E-04	1,05E-03	2,77E-04	-2,18E-01
Eutrophication, freshwater	kg P eq	1,58E-02	1,96E-05	4,26E-04	8,80E-01	0,00E+00	3,67E-06	7,14E-05	8,05E-06	-2,92E-02
Eutrophication, marine	kg N eq	3,23E-02	2,15E-04	1,50E-03	1,99E+00	0,00E+00	4,03E-05	2,53E-04	2,00E-04	-3,63E-02
Eutrophication, terrestrial	mol N eq	3,11E-01	2,34E-03	1,43E-02	2,07E+01	0,00E+00	4,40E-04	2,66E-03	8,89E-04	-3,98E-01
Photochemical ozone formation	kg NMVOC eq	1,13E-01	9,24E-04	4,44E-03	5,54E+00	0,00E+00	1,74E-04	7,36E-04	2,37E-04	-1,45E-01
Resource use, fossils	MJ	5,12E+02	4,90E+00	2,80E+01	7,55E+04	0,00E+00	9,20E-01	2,80E+00	2,98E-01	-3,28E+02
Resource use, minerals and metals	kg Sb eq	3,29E-03	7,20E-07	4,59E-05	3,15E-02	0,00E+00	1,35E-07	5,77E-07	2,13E-06	-8,14E-03
Water use	m3 depriv.	1,03E+01	1,68E-02	9,36E-01	8,71E+02	0,00E+00	3,16E-03	5,70E-02	3,28E-02	-6,90E+00

Additional environmental impact indicators

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Particulate matter	disease inc.	1,64E-06	3,49E-08	1,10E-07	6,21E-05	0,00E+00	6,56E-09	1,20E-08	2,37E-09	-1,91E-06
Ionising radiation	kBq U-235 eq	3,01E+00	2,48E-02	1,35E-01	3,62E+03	0,00E+00	4,65E-03	2,55E-02	1,73E-03	-2,28E+00

Ecotoxicity, freshwater	CTUe	8,82E+02	3,82E+00	3,41E+01	4,71E+04	0,00E+00	7,19E-01	3,43E+00	2,42E+00	-2,32E+03
Human toxicity, non-cancer	CTUh	6,99E-07	4,02E-09	2,10E-08	3,28E-05	0,00E+00	7,56E-10	2,27E-09	6,39E-09	-1,14E-06
Human toxicity, cancer	CTUh	2,36E-08	1,04E-10	8,01E-10	1,43E-06	0,00E+00	1,96E-11	6,06E-11	1,22E-10	-6,08E-08
Land use	Pt	1,58E+02	5,60E+00	3,75E+00	2,42E+04	0,00E+00	1,05E+00	2,04E+00	3,29E-01	-1,55E+02

Use of natural resources

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PERE	MJ	6,63E+01	6,23E-02	1,43E+00	1,85E+04	0,00E+00	1,17E-02	2,38E-01	1,49E-02	-2,78E+01
PERM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	6,63E+01	6,23E-02	1,43E+00	1,85E+04	0,00E+00	1,17E-02	2,38E-01	1,49E-02	-2,78E+01
PENRE	MJ	5,45E+02	5,20E+00	3,00E+01	7,70E+04	0,00E+00	9,77E-01	2,98E+00	3,18E-01	-3,48E+02
PEMRM	MJ	6,52E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	5,46E+02	5,20E+00	3,00E+01	7,70E+04	0,00E+00	9,77E-01	2,98E+00	3,18E-01	-3,48E+02
SM	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m3	3,76E-01	5,82E-04	2,10E-02	6,70E+01	0,00E+00	1,09E-04	1,88E-03	9,88E-04	-2,18E-01

Waste output flows

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Hazardous waste	kg	1,06E-03	1,19E-05	1,56E-05	3,16E-02	0,00E+00	2,23E-06	2,52E-06	1,66E-06	-2,03E-03
Non-hazardous waste	kg	3,40E+00	4,58E-01	2,41E-01	2,14E+02	0,00E+00	8,61E-02	4,82E+00	6,24E-01	9,72E-01
Radioactive waste	kg	2,22E-03	7,93E-01	4,33E-05	7,93E-01	0,00E+00	6,23E-06	1,21E-05	1,38E-06	-8,81E-04

Output flow	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	7,81E-01	0,00E+00	4,31E-01	0,00E+00	0,00E+00	0,00E+00	5,47E+00	0,00E+00	0,00E+00
Material for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MWh	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Biogenic carbon content

Share of biogenic carbon	Amount	Unit
Biogenic carbon in the product	0	kg C
Biogenic carbon in the packaging	0,0011	kg C
1 kg biogenic carbon is equivalent to 44/12 kg of CO2		

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Climate change	kg CO2 eq	6,78E+00	4,63E-02	2,62E-01	3,92E+02	0,00E+00	8,71E-03	2,83E-02	9,15E-02	-4,12E+00
Resource use, fossils	MJ	7,88E+01	7,54E-01	4,31E+00	1,16E+04	0,00E+00	1,42E-01	4,31E-01	4,58E-02	-5,05E+01
Resource use, minerals and metals	kg Sb eq	5,06E-04	1,11E-07	7,06E-06	4,85E-03	0,00E+00	2,08E-08	8,88E-08	3,28E-07	-1,25E-03
Water use	m3 depriv.	1,58E+00	2,58E-03	1,44E-01	1,34E+02	0,00E+00	4,86E-04	8,77E-03	5,05E-03	-1,06E+00
Secondary materials	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Biogenic carbon in the product	kg C	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Biogenic carbon in the packaging	kg C	1,69E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Phi Linear 2312, 148W DALI

Environmental impact indicators

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Climate change	kg CO2 eq	5,00E+01	3,01E-01	1,70E+00	2,55E+03	0,00E+00	5,66E-02	1,90E-01	6,02E-01	-3,10E+01
Climate change - Fossil	kg CO2 eq	4,96E+01	3,01E-01	1,69E+00	2,50E+03	0,00E+00	5,65E-02	1,89E-01	5,51E-01	-3,09E+01
Climate change - Biogenic	kg CO2 eq	3,53E-01	3,05E-04	5,88E-03	3,13E+01	0,00E+00	5,73E-05	9,49E-04	5,07E-02	-2,13E-04
Climate change - Land use and LU change	kg CO2 eq	3,81E-02	1,13E-04	1,53E-03	2,25E+01	0,00E+00	2,12E-05	2,95E-04	2,78E-05	-3,92E-02
Ozone depletion	kg CFC11 eq	3,26E-06	7,51E-08	4,33E-07	1,41E-04	0,00E+00	1,41E-08	2,04E-08	4,32E-09	-2,85E-06
Acidification	mol H+ eq	2,43E-01	9,59E-04	7,55E-03	1,09E+01	0,00E+00	1,80E-04	1,09E-03	2,81E-04	-2,53E-01
Eutrophication, freshwater	kg P eq	2,15E-02	1,96E-05	4,26E-04	8,80E-01	0,00E+00	3,67E-06	7,47E-05	8,34E-06	-3,48E-02
Eutrophication, marine	kg N eq	3,96E-02	2,15E-04	1,50E-03	1,99E+00	0,00E+00	4,03E-05	2,61E-04	2,02E-04	-4,21E-02
Eutrophication, terrestrial	mol N eq	3,87E-01	2,34E-03	1,43E-02	2,07E+01	0,00E+00	4,40E-04	2,74E-03	9,05E-04	-4,62E-01
Photochemical ozone formation	kg NMVOC eq	1,44E-01	9,24E-04	4,44E-03	5,54E+00	0,00E+00	1,74E-04	7,56E-04	2,41E-04	-1,63E-01
Resource use, fossils	MJ	5,89E+02	4,90E+00	2,80E+01	7,55E+04	0,00E+00	9,20E-01	2,89E+00	3,07E-01	-3,83E+02
Resource use, minerals and metals	kg Sb eq	4,66E-03	7,20E-07	4,59E-05	3,15E-02	0,00E+00	1,35E-07	6,73E-07	2,13E-06	-9,69E-03
Water use	m3 depriv.	1,20E+01	1,68E-02	9,36E-01	8,71E+02	0,00E+00	3,16E-03	5,83E-02	3,33E-02	-8,10E+00

Additional environmental impact indicators

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Particulate matter	disease inc.	1,93E-06	3,49E-08	1,10E-07	6,21E-05	0,00E+00	6,56E-09	1,24E-08	2,42E-09	-2,15E-06
Ionising radiation	kBq U-235 eq	3,73E+00	2,48E-02	1,35E-01	3,62E+03	0,00E+00	4,65E-03	2,65E-02	1,96E-03	-2,78E+00

Ecotoxicity, freshwater	CTUe	1,25E+03	3,82E+00	3,41E+01	4,71E+04	0,00E+00	7,19E-01	3,62E+00	2,45E+00	-2,72E+03
Human toxicity, non-cancer	CTUh	8,69E-07	4,02E-09	2,10E-08	3,28E-05	0,00E+00	7,56E-10	2,52E-09	6,42E-09	-1,37E-06
Human toxicity, cancer	CTUh	2,79E-08	1,04E-10	8,01E-10	1,43E-06	0,00E+00	1,96E-11	6,51E-11	1,24E-10	-6,71E-08
Land use	Pt	1,81E+02	5,60E+00	3,75E+00	2,42E+04	0,00E+00	1,05E+00	2,07E+00	3,36E-01	-1,82E+02

Use of natural resources

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PERE	MJ	7,43E+01	6,23E-02	1,43E+00	1,85E+04	0,00E+00	1,17E-02	2,50E-01	1,66E-02	-3,42E+01
PERM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	7,43E+01	6,23E-02	1,43E+00	1,85E+04	0,00E+00	1,17E-02	2,50E-01	1,66E-02	-3,42E+01
PENRE	MJ	6,26E+02	5,20E+00	3,00E+01	7,70E+04	0,00E+00	9,77E-01	3,07E+00	3,28E-01	-4,07E+02
PEMRM	MJ	6,52E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	6,27E+02	5,20E+00	3,00E+01	7,70E+04	0,00E+00	9,77E-01	3,07E+00	3,28E-01	-4,07E+02
SM	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m3	4,34E-01	5,82E-04	2,10E-02	6,70E+01	0,00E+00	1,09E-04	1,93E-03	1,01E-03	-2,61E-01

Waste output flows

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Hazardous waste	kg	1,25E-03	1,19E-05	1,56E-05	3,16E-02	0,00E+00	2,23E-06	2,60E-06	1,70E-06	-2,36E-03
Non-hazardous waste	kg	4,00E+00	4,58E-01	2,41E-01	2,14E+02	0,00E+00	8,61E-02	4,82E+00	6,27E-01	3,06E-01
Radioactive waste	kg	3,31E-03	3,32E-05	4,33E-05	7,93E-01	0,00E+00	6,23E-06	1,24E-05	1,42E-06	-1,04E-03

Output flow	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	7,81E-01	0,00E+00	4,31E-01	0,00E+00	0,00E+00	0,00E+00	5,56E+00	0,00E+00	0,00E+00
Material for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MWh	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Biogenic carbon content

Share of biogenic carbon	Amount	Unit
Biogenic carbon in the product	0	kg C
Biogenic carbon in the packaging	0,0011	kg C
1 kg biogenic carbon is equivalent to 44/12 kg of CO2		

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Climate change	kg CO2 eq	7,69E+00	4,63E-02	2,62E-01	3,92E+02	0,00E+00	8,71E-03	2,92E-02	9,26E-02	-4,77E+00
Resource use, fossils	MJ	9,06E+01	7,54E-01	4,31E+00	1,16E+04	0,00E+00	1,42E-01	4,45E-01	4,72E-02	-5,89E+01
Resource use, minerals and metals	kg Sb eq	7,17E-04	1,11E-07	7,06E-06	4,85E-03	0,00E+00	2,08E-08	1,04E-07	3,28E-07	-1,49E-03
Water use	m3 depriv.	1,85E+00	2,58E-03	1,44E-01	1,34E+02	0,00E+00	4,86E-04	8,97E-03	5,12E-03	-1,25E+00
Secondary materials	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Biogenic carbon in the product	kg C	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Biogenic carbon in the packaging	kg C	1,69E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

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Phi Modul 1340-1400, 15-48W DALI & 31-48W On/Off

Environmental impact indicators

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Climate change	kg CO2 eq	3,06E+01	2,05E-01	1,69E+00	8,43E+02	0,00E+00	3,75E-02	8,89E-02	3,04E-01	-1,80E+01
Climate change - Fossil	kg CO2 eq	3,06E+01	2,05E-01	1,68E+00	8,25E+02	0,00E+00	3,74E-02	8,83E-02	2,21E-01	-1,80E+01
Climate change - Biogenic	kg CO2 eq	-4,24E-02	2,08E-04	5,88E-03	1,03E+01	0,00E+00	3,79E-05	4,80E-04	8,29E-02	3,76E-03
Climate change - Land use and LU change	kg CO2 eq	1,17E-02	7,70E-05	1,53E-03	7,44E+00	0,00E+00	1,40E-05	1,30E-04	1,30E-05	-2,25E-02
Ozone depletion	kg CFC11 eq	2,29E-06	5,12E-08	4,33E-07	4,65E-05	0,00E+00	9,33E-09	1,17E-08	2,16E-09	-1,50E-06
Acidification	mol H+ eq	1,42E-01	6,54E-04	7,55E-03	3,61E+00	0,00E+00	1,19E-04	5,32E-04	1,65E-04	-1,43E-01
Eutrophication, freshwater	kg P eq	7,98E-03	1,33E-05	4,26E-04	2,90E-01	0,00E+00	2,43E-06	3,25E-05	6,44E-06	-1,98E-02
Eutrophication, marine	kg N eq	1,46E-02	1,46E-04	1,50E-03	6,55E-01	0,00E+00	2,67E-05	1,34E-04	2,04E-04	-2,41E-02
Eutrophication, terrestrial	mol N eq	1,35E-01	1,60E-03	1,43E-02	6,83E+00	0,00E+00	2,91E-04	1,42E-03	4,34E-04	-2,65E-01
Photochemical ozone formation	kg NMVOC eq	4,92E-02	6,30E-04	4,44E-03	1,83E+00	0,00E+00	1,15E-04	3,96E-04	1,32E-04	-9,28E-02
Resource use, fossils	MJ	3,60E+02	3,34E+00	2,80E+01	2,49E+04	0,00E+00	6,09E-01	1,42E+00	1,69E-01	-2,18E+02
Resource use, minerals and metals	kg Sb eq	1,09E-03	4,91E-07	4,59E-05	1,04E-02	0,00E+00	8,95E-08	3,68E-07	1,70E-06	-5,45E-03
Water use	m3 depriv.	5,82E+00	1,15E-02	9,36E-01	2,87E+02	0,00E+00	2,09E-03	3,13E-02	1,55E-02	-4,51E+00

Additional environmental impact indicators

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Particulate matter	disease inc.	7,77E-07	2,38E-08	1,10E-07	2,05E-05	0,00E+00	4,34E-09	6,61E-09	1,33E-09	-1,26E-06
Ionising radiation	kBq U-235 eq	1,58E+00	1,69E-02	1,35E-01	1,19E+03	0,00E+00	3,08E-03	1,21E-02	9,22E-04	-1,59E+00
Ecotoxicity, freshwater	CTUe	2,13E+02	2,61E+00	3,41E+01	1,55E+04	0,00E+00	4,75E-01	1,71E+00	1,72E+00	-1,54E+03
Human toxicity, non-cancer	CTUh	2,74E-07	2,74E-09	2,10E-08	1,08E-05	0,00E+00	5,00E-10	1,28E-09	5,03E-09	-7,91E-07
Human toxicity, cancer	CTUh	1,22E-08	7,11E-11	8,00E-10	4,70E-07	0,00E+00	1,30E-11	3,35E-11	8,47E-11	-3,98E-08
Land use	Pt	1,08E+02	3,82E+00	3,75E+00	7,97E+03	0,00E+00	6,96E-01	1,23E+00	2,23E-01	-1,03E+02

Use of natural resources

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PERE	MJ	6,15E+01	4,25E-02	1,43E+00	6,11E+03	0,00E+00	7,74E-03	1,10E-01	8,38E-03	-1,96E+01
PERM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	6,15E+01	4,25E-02	1,43E+00	6,11E+03	0,00E+00	7,74E-03	1,10E-01	8,38E-03	-1,96E+01
PENRE	MJ	3,91E+02	3,55E+00	3,00E+01	2,54E+04	0,00E+00	6,46E-01	1,50E+00	1,80E-01	-2,32E+02
PEMRM	MJ	1,39E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	3,92E+02	3,55E+00	3,00E+01	2,54E+04	0,00E+00	6,46E-01	1,50E+00	1,80E-01	-2,32E+02
SM	kg	1,56E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m3	2,80E-01	3,97E-04	2,10E-02	2,21E+01	0,00E+00	7,24E-05	9,80E-04	4,41E-04	-1,48E-01

Waste output flows

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Hazardous waste	kg	4,47E-04	8,08E-06	1,56E-05	1,04E-02	0,00E+00	1,47E-06	1,48E-06	8,24E-07	-1,40E-03
Non-hazardous waste	kg	2,25E+00	3,12E-01	2,41E-01	7,07E+01	0,00E+00	5,69E-02	3,01E+00	4,42E-01	3,55E-01
Radioactive waste	kg	7,26E-03	2,26E-05	4,33E-05	2,61E-01	0,00E+00	4,12E-06	6,53E-06	8,12E-07	-5,99E-04

Output flow	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	7,81E-01	0,00E+00	4,29E-01	0,00E+00	0,00E+00	0,00E+00	3,42E+00	0,00E+00	0,00E+00
Material for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MWh	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Biogenic carbon content

Share of biogenic carbon	Amount	Unit
Biogenic carbon in the product	0	kg C
Biogenic carbon in the packaging	0,0011	kg C
1 kg biogenic carbon is equivalent to 44/12 kg of CO2		

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Climate change	kg CO2 eq	7,20E+00	4,82E-02	3,98E-01	1,98E+02	0,00E+00	8,82E-03	2,09E-02	7,15E-02	-4,24E+00
Resource use, fossils	MJ	8,47E+01	7,86E-01	6,59E+00	5,86E+03	0,00E+00	1,43E-01	3,34E-01	3,98E-02	-2,18E+02
Resource use, minerals and metals	kg Sb eq	2,56E-04	1,16E-07	1,08E-05	2,45E-03	0,00E+00	2,11E-08	8,66E-08	4,00E-07	-5,45E-03
Water use	m3 depriv.	1,37E+00	2,71E-03	2,20E-01	6,75E+01	0,00E+00	4,92E-04	7,36E-03	3,65E-03	-4,51E+00
Secondary materials	kg	3,67E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Biogenic carbon in the product	kg C	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Biogenic carbon in the packaging	kg C	2,59E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

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Environmental impact indicators

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Climate change	kg CO2 eq	3,25E+01	2,27E-01	1,69E+00	8,43E+02	0,00E+00	4,18E-02	9,23E-02	3,15E-01	-1,86E+01
Climate change - Fossil	kg CO2 eq	3,25E+01	2,27E-01	1,69E+00	8,25E+02	0,00E+00	4,17E-02	9,16E-02	2,22E-01	-1,86E+01
Climate change - Biogenic	kg CO2 eq	2,92E-02	2,30E-04	5,88E-03	1,03E+01	0,00E+00	4,23E-05	5,26E-04	9,30E-02	5,69E-03
Climate change - Land use and LU change	kg CO2 eq	1,28E-02	8,52E-05	1,53E-03	7,44E+00	0,00E+00	1,57E-05	1,32E-04	1,32E-05	-2,26E-02
Ozone depletion	kg CFC11 eq	2,37E-06	5,66E-08	4,33E-07	4,65E-05	0,00E+00	1,04E-08	1,29E-08	2,30E-09	-1,52E-06
Acidification	mol H+ eq	1,49E-01	7,23E-04	7,55E-03	3,61E+00	0,00E+00	1,33E-04	5,59E-04	1,70E-04	-1,46E-01
Eutrophication, freshwater	kg P eq	8,36E-03	1,47E-05	4,26E-04	2,90E-01	0,00E+00	2,71E-06	3,29E-05	6,65E-06	-2,01E-02
Eutrophication, marine	kg N eq	1,60E-02	1,62E-04	1,50E-03	6,55E-01	0,00E+00	2,98E-05	1,44E-04	2,26E-04	-2,47E-02
Eutrophication, terrestrial	mol N eq	1,48E-01	1,77E-03	1,43E-02	6,83E+00	0,00E+00	3,25E-04	1,53E-03	4,48E-04	-2,71E-01
Photochemical ozone formation	kg NMVOC eq	5,32E-02	6,97E-04	4,44E-03	1,83E+00	0,00E+00	1,28E-04	4,26E-04	1,38E-04	-9,57E-02
Resource use, fossils	MJ	3,84E+02	3,69E+00	2,80E+01	2,49E+04	0,00E+00	6,79E-01	1,49E+00	1,79E-01	-2,24E+02
Resource use, minerals and metals	kg Sb eq	1,10E-03	5,43E-07	4,59E-05	1,04E-02	0,00E+00	9,99E-08	3,80E-07	1,70E-06	-5,45E-03
Water use	m3 depriv.	6,36E+00	1,27E-02	9,36E-01	2,87E+02	0,00E+00	2,34E-03	3,39E-02	1,60E-02	-4,55E+00

Additional environmental impact indicators

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Particulate matter	disease inc.	8,52E-07	2,63E-08	1,10E-07	2,05E-05	0,00E+00	4,85E-09	7,14E-09	1,40E-09	-1,32E-06
Ionising radiation	kBq U-235 eq	1,79E+00	1,87E-02	1,35E-01	1,19E+03	0,00E+00	3,44E-03	1,25E-02	9,76E-04	-1,60E+00

Ecotoxicity, freshwater	CTUe	2,45E+02	2,88E+00	3,41E+01	1,55E+04	0,00E+00	5,31E-01	1,76E+00	1,79E+00	-1,56E+03
Human toxicity, non-cancer	CTUh	3,07E-07	3,03E-09	2,10E-08	1,08E-05	0,00E+00	5,58E-10	1,33E-09	5,05E-09	-8,04E-07
Human toxicity, cancer	CTUh	1,36E-08	7,87E-11	8,00E-10	4,70E-07	0,00E+00	1,45E-11	3,52E-11	8,52E-11	-4,24E-08
Land use	Pt	1,13E+02	4,22E+00	3,75E+00	7,97E+03	0,00E+00	7,77E-01	1,37E+00	2,43E-01	-1,04E+02

Use of natural resources

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PERE	MJ	6,31E+01	4,70E-02	1,43E+00	6,11E+03	0,00E+00	8,64E-03	1,11E-01	8,62E-03	-1,97E+01
PERM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	6,31E+01	4,70E-02	1,43E+00	6,11E+03	0,00E+00	8,64E-03	1,11E-01	8,62E-03	-1,77E+01
PENRE	MJ	4,16E+02	3,92E+00	3,00E+01	2,54E+04	0,00E+00	7,21E-01	1,59E+00	1,91E-01	-2,38E+02
PEMRM	MJ	1,39E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	4,17E+02	3,92E+00	3,00E+01	2,54E+04	0,00E+00	7,21E-01	1,59E+00	1,91E-01	-2,36E+02
SM	kg	1,56E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m3	2,96E-01	4,39E-04	2,10E-02	2,21E+01	0,00E+00	8,08E-05	1,05E-03	4,52E-04	-1,49E-01

Waste output flows

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Hazardous waste	kg	4,66E-04	8,94E-06	1,56E-05	1,04E-02	0,00E+00	1,64E-06	1,62E-06	8,47E-07	-1,47E-03
Non-hazardous waste	kg	2,43E+00	3,46E-01	2,41E-01	7,07E+01	0,00E+00	6,36E-02	3,40E+00	4,97E-01	6,34E-01
Radioactive waste	kg	7,32E-03	2,50E-05	4,33E-05	2,61E-01	0,00E+00	4,60E-06	7,04E-06	8,75E-07	-6,13E-04

Output flow	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	7,81E-01	0,00E+00	4,30E-01	0,00E+00	0,00E+00	0,00E+00	3,81E+00	0,00E+00	0,00E+00
Material for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MWh	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Biogenic carbon content

Share of biogenic carbon	Amount	Unit
Biogenic carbon in the product	0	kg C
Biogenic carbon in the packaging	0,0011	kg C
1 kg biogenic carbon is equivalent to 44/12 kg of CO2		

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Climate change	kg CO2 eq	6,84E+00	4,78E-02	3,56E-01	1,77E+02	0,00E+00	8,80E-03	1,94E-02	6,63E-02	-3,92E+00
Resource use, fossils	MJ	8,08E+01	7,77E-01	5,89E+00	5,24E+03	0,00E+00	1,43E-01	3,14E-01	3,77E-02	-4,72E+01
Resource use, minerals and metals	kg Sb eq	2,32E-04	1,14E-07	9,66E-06	2,19E-03	0,00E+00	2,10E-08	8,00E-08	3,58E-07	-1,15E-03
Water use	m3 depriv.	1,34E+00	2,67E-03	1,97E-01	6,04E+01	0,00E+00	4,93E-04	7,14E-03	3,37E-03	-9,58E-01
Secondary materials	kg	3,28E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Biogenic carbon in the product	kg C	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Biogenic carbon in the packaging	kg C	2,32E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Phi Modul 1840-1900, 22-71W DALI & On/Off

Environmental impact indicators

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Climate change	kg CO2 eq	3,81E+01	2,62E-01	1,70E+00	1,25E+03	0,00E+00	4,88E-02	1,21E-01	4,28E-01	-2,28E+01
Climate change - Fossil	kg CO2 eq	3,79E+01	2,62E-01	1,69E+00	1,22E+03	0,00E+00	4,87E-02	1,20E-01	3,18E-01	-2,28E+01
Climate change - Biogenic	kg CO2 eq	1,27E-01	2,66E-04	5,88E-03	1,53E+01	0,00E+00	4,94E-05	6,67E-04	1,09E-01	1,30E-03
Climate change - Land use and LU change	kg CO2 eq	1,48E-02	9,82E-05	1,53E-03	1,10E+01	0,00E+00	1,83E-05	1,78E-04	1,64E-05	-2,79E-02
Ozone depletion	kg CFC11 eq	2,51E-06	6,53E-08	4,33E-07	6,91E-05	0,00E+00	1,21E-08	1,55E-08	2,94E-09	-1,93E-06
Acidification	mol H+ eq	1,76E-01	8,34E-04	7,55E-03	5,36E+00	0,00E+00	1,55E-04	7,18E-04	2,11E-04	-1,84E-01
Eutrophication, freshwater	kg P eq	9,87E-03	1,70E-05	4,26E-04	4,30E-01	0,00E+00	3,16E-06	4,46E-05	7,87E-06	-2,51E-02
Eutrophication, marine	kg N eq	1,89E-02	1,87E-04	1,50E-03	9,71E-01	0,00E+00	3,48E-05	1,81E-04	2,77E-04	-3,08E-02
Eutrophication, terrestrial	mol N eq	1,74E-01	2,04E-03	1,43E-02	1,01E+01	0,00E+00	3,79E-04	1,91E-03	5,96E-04	-3,38E-01
Photochemical ozone formation	kg NMVOC eq	6,37E-02	8,04E-04	4,44E-03	2,71E+00	0,00E+00	1,50E-04	5,31E-04	1,80E-04	-1,21E-01
Resource use, fossils	MJ	4,50E+02	4,26E+00	2,80E+01	3,69E+04	0,00E+00	7,93E-01	1,92E+00	2,27E-01	-2,76E+02
Resource use, minerals and metals	kg Sb eq	1,54E-03	6,26E-07	4,59E-05	1,54E-02	0,00E+00	1,17E-07	4,61E-07	1,91E-06	-6,95E-03
Water use	m3 depriv.	7,39E+00	1,47E-02	9,36E-01	4,26E+02	0,00E+00	2,73E-03	4,19E-02	2,16E-02	-5,77E+00

Additional environmental impact indicators

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Particulate matter	disease inc.	9,96E-07	3,04E-08	1,10E-07	3,04E-05	0,00E+00	5,65E-09	8,82E-09	1,77E-09	-1,61E-06
Ionising radiation	kBq U-235 eq	2,15E+00	2,16E-02	1,35E-01	1,77E+03	0,00E+00	4,01E-03	1,66E-02	1,21E-03	-1,98E+00
Ecotoxicity, freshwater	CTUe	2,68E+02	3,33E+00	3,41E+01	2,30E+04	0,00E+00	6,19E-01	2,30E+00	2,17E+00	-1,97E+03

Human toxicity, non-cancer	CTUh	3,60E-07	3,50E-09	2,10E-08	1,60E-05	0,00E+00	6,51E-10	1,66E-09	5,55E-09	-9,87E-07
Human toxicity, cancer	CTUh	1,58E-08	9,07E-11	8,01E-10	6,98E-07	0,00E+00	1,69E-11	4,40E-11	9,75E-11	-5,12E-08
Land use	Pt	1,22E+02	4,87E+00	3,75E+00	1,18E+04	0,00E+00	9,06E-01	1,62E+00	2,93E-01	-1,32E+02

Use of natural resources

Impact category	**unit**	**A1-A3**	**A4**	**A5**	**B6**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	6,92E+01	5,42E-02	1,43E+00	9,06E+03	0,00E+00	1,01E-02	1,50E-01	1,06E-02	-2,43E+01
PERM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	6,92E+01	5,42E-02	1,43E+00	9,06E+03	0,00E+00	1,01E-02	1,50E-01	1,06E-02	-2,43E+01
PENRE	MJ	4,86E+02	4,52E+00	3,00E+01	3,77E+04	0,00E+00	8,42E-01	2,04E+00	2,42E-01	-2,94E+02
PEMRM	MJ	1,60E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	4,88E+02	4,52E+00	3,00E+01	3,77E+04	0,00E+00	8,42E-01	2,04E+00	2,42E-01	-2,94E+02
SM	kg	1,64E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m3	3,43E-01	5,07E-04	2,10E-02	3,28E+01	0,00E+00	9,43E-05	1,32E-03	6,18E-04	-1,86E-01

Waste output flows

Impact category	**unit**	**A1-A3**	**A4**	**A5**	**B6**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste	kg	6,12E-04	1,03E-05	1,56E-05	1,55E-02	0,00E+00	1,92E-06	1,95E-06	1,24E-06	-1,76E-03
Non-hazardous waste	kg	2,84E+00	3,99E-01	2,41E-01	1,05E+02	0,00E+00	7,41E-02	3,97E+00	5,84E-01	6,44E-01
Radioactive waste	kg	7,97E-03	2,89E-05	4,33E-05	3,88E-01	0,00E+00	5,37E-06	8,75E-06	1,09E-06	-7,56E-04

Output flow	**unit**	**A1-A3**	**A4**	**A5**	**B6**	**C1**	**C2**	**C3**	**C4**	**D**
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	7,81E-01	0,00E+00	4,31E-01	0,00E+00	0,00E+00	0,00E+00	4,31E+00	0,00E+00	0,00E+00
Material for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MWh	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Biogenic carbon content

Share of biogenic carbon	**Amount**	**Unit**
Biogenic carbon in the product	0	kg C
Biogenic carbon in the packaging	0,0011	kg C
1 kg biogenic carbon is equivalent to 44/12 kg of CO2		

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Climate change	kg CO2 eq	6,86E+00	4,72E-02	3,06E-01	2,25E+02	0,00E+00	8,79E-03	2,18E-02	7,71E-02	-4,11E+00
Resource use, fossils	MJ	8,11E+01	7,68E-01	5,05E+00	6,65E+03	0,00E+00	1,43E-01	3,46E-01	4,09E-02	-4,97E+01
Resource use, minerals and metals	kg Sb eq	2,77E-04	1,13E-07	8,27E-06	2,77E-03	0,00E+00	2,11E-08	8,31E-08	3,44E-07	-1,25E-03
Water use	m3 depriv.	1,33E+00	2,65E-03	1,69E-01	7,68E+01	0,00E+00	4,92E-04	7,55E-03	3,89E-03	-1,04E+00
Secondary materials	kg	2,95E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Biogenic carbon in the product	kg C	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Biogenic carbon in the packaging	kg C	1,98E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

27 Phi Vision Direct

Phi Vision Direct 1160, 15-48W DALI

Environmental impact indicators

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Climate change	kg CO2 eq	2,92E+01	1,88E-01	1,69E+00	8,43E+02	0,00E+00	3,40E-02	1,07E-01	3,85E-01	-1,74E+01
Climate change - Fossil	kg CO2 eq	2,93E+01	1,88E-01	1,68E+00	8,25E+02	0,00E+00	3,39E-02	1,06E-01	3,14E-01	-1,74E+01
Climate change - Biogenic	kg CO2 eq	-1,09E-01	1,90E-04	5,88E-03	1,03E+01	0,00E+00	3,44E-05	5,21E-04	7,06E-02	8,89E-04
Climate change - Land use and LU change	kg CO2 eq	1,06E-02	7,04E-05	1,53E-03	7,44E+00	0,00E+00	1,27E-05	1,67E-04	1,34E-05	-2,23E-02
Ozone depletion	kg CFC11 eq	2,68E-06	4,68E-08	4,33E-07	4,65E-05	0,00E+00	8,46E-09	1,12E-08	2,36E-09	-1,62E-06
Acidification	mol H+ eq	1,38E-01	5,98E-04	7,55E-03	3,61E+00	0,00E+00	1,08E-04	6,11E-04	1,86E-04	-1,41E-01
Eutrophication, freshwater	kg P eq	7,58E-03	1,22E-05	4,26E-04	2,90E-01	0,00E+00	2,20E-06	4,22E-05	6,50E-06	-1,96E-02
Eutrophication, marine	kg N eq	1,37E-02	1,34E-04	1,50E-03	6,55E-01	0,00E+00	2,42E-05	1,45E-04	1,95E-04	-2,36E-02
Eutrophication, terrestrial	mol N eq	1,27E-01	1,46E-03	1,43E-02	6,83E+00	0,00E+00	2,64E-04	1,52E-03	5,36E-04	-2,59E-01
Photochemical ozone formation	kg NMVOC eq	4,67E-02	5,76E-04	4,44E-03	1,83E+00	0,00E+00	1,04E-04	4,21E-04	1,54E-04	-9,03E-02
Resource use, fossils	MJ	3,44E+02	3,06E+00	2,80E+01	2,49E+04	0,00E+00	5,52E-01	1,62E+00	1,84E-01	-2,16E+02
Resource use, minerals and metals	kg Sb eq	1,07E-03	4,49E-07	4,59E-05	1,04E-02	0,00E+00	8,12E-08	3,85E-07	1,70E-06	-5,45E-03
Water use	m3 depriv.	5,42E+00	1,05E-02	9,36E-01	2,87E+02	0,00E+00	1,90E-03	3,23E-02	1,96E-02	-4,56E+00

Additional environmental impact indicators

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Particulate matter	disease inc.	7,62E-07	2,18E-08	1,10E-07	2,05E-05	0,00E+00	3,94E-09	6,88E-09	1,48E-09	-1,20E-06
Ionising radiation	kBq U-235 eq	1,34E+00	1,55E-02	1,35E-01	1,19E+03	0,00E+00	2,79E-03	1,49E-02	9,63E-04	-1,58E+00
Ecotoxicity, freshwater	CTUe	2,11E+02	2,39E+00	3,41E+01	1,55E+04	0,00E+00	4,31E-01	2,04E+00	1,85E+00	-1,52E+03
Human toxicity, non-cancer	CTUh	2,48E-07	2,51E-09	2,10E-08	1,08E-05	0,00E+00	4,53E-10	1,43E-09	5,33E-09	-7,79E-07
Human toxicity, cancer	CTUh	1,09E-08	6,51E-11	8,00E-10	4,70E-07	0,00E+00	1,18E-11	3,67E-11	9,35E-11	-3,73E-08
Land use	Pt	1,03E+02	3,49E+00	3,75E+00	7,97E+03	0,00E+00	6,31E-01	1,14E+00	2,15E-01	-1,02E+02

Use of natural resources

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PERE	MJ	5,97E+01	3,89E-02	1,43E+00	6,11E+03	0,00E+00	7,02E-03	1,41E-01	8,90E-03	-1,95E+01
PERM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	5,97E+01	3,89E-02	1,43E+00	6,11E+03	0,00E+00	7,02E-03	1,41E-01	8,90E-03	-1,95E+01
PENRE	MJ	3,73E+02	3,24E+00	3,00E+01	2,54E+04	0,00E+00	5,86E-01	1,72E+00	1,97E-01	-2,30E+02
PEMRM	MJ	1,39E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	3,75E+02	3,24E+00	3,00E+01	2,54E+04	0,00E+00	5,86E-01	1,72E+00	1,97E-01	-2,30E+02
SM	kg	1,56E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m3	2,66E-01	3,63E-04	2,10E-02	2,21E+01	0,00E+00	6,56E-05	1,08E-03	5,69E-04	-1,48E-01

Waste output flows

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Hazardous waste	kg	2,16E-05	4,10E-04	1,56E-05	1,04E-02	0,00E+00	1,34E-06	1,44E-06	8,77E-07	-1,33E-03
Non-hazardous waste	kg	5,83E-01	1,50E+00	2,41E-01	7,07E+01	0,00E+00	5,16E-02	2,62E+00	3,89E-01	6,93E-02
Radioactive waste	kg	6,77E-03	4,22E-04	4,33E-05	2,61E-01	0,00E+00	3,74E-06	6,89E-06	8,47E-07	-5,86E-04

Output flow	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	7,81E-01	0,00E+00	4,29E-01	0,00E+00	0,00E+00	0,00E+00	3,08E+00	0,00E+00	0,00E+00
Material for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MWh	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Biogenic carbon content

Share of biogenic carbon	Amount	Unit
Biogenic carbon in the product	0	kg C
Biogenic carbon in the packaging	0,0011	kg C
1 kg biogenic carbon is equivalent to 44/12 kg of CO2		

GREENLED

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Climate change	kg CO2 eq	7,49E+00	4,82E-02	4,33E-01	2,16E+02	0,00E+00	8,72E-03	2,74E-02	9,87E-02	-4,46E+00
Resource use, fossils	MJ	8,82E+01	7,85E-01	7,18E+00	6,38E+03	0,00E+00	1,42E-01	4,15E-01	4,72E-02	-5,54E+01
Resource use, minerals and metals	kg Sb eq	2,74E-04	1,15E-07	1,18E-05	2,67E-03	0,00E+00	2,08E-08	9,87E-08	4,36E-07	-1,40E-03
Water use	m3 depriv.	1,39E+00	2,69E-03	2,40E-01	7,36E+01	0,00E+00	4,87E-04	8,28E-03	5,03E-03	-1,17E+00
Secondary materials	kg	4,00E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Biogenic carbon in the product	kg C	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Biogenic carbon in the packaging	kg C	2,82E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Phi Vision Direct 1720, 22-71W DALI & On/Off

Environmental impact indicators

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Climate change	kg CO2 eq	3,67E+01	2,19E-01	1,69E+00	1,25E+03	0,00E+00	4,01E-02	1,43E-01	4,25E-01	-2,22E+01
Climate change - Fossil	kg CO2 eq	3,67E+01	2,18E-01	1,69E+00	1,22E+03	0,00E+00	4,00E-02	1,42E-01	4,10E-01	-2,22E+01
Climate change - Biogenic	kg CO2 eq	5,56E-02	2,21E-04	5,88E-03	1,53E+01	0,00E+00	4,06E-05	7,24E-04	1,48E-02	-1,67E-03
Climate change - Land use and LU change	kg CO2 eq	1,34E-02	8,19E-05	1,53E-03	1,10E+01	0,00E+00	1,50E-05	2,22E-04	3,75E-06	-2,77E-02
Ozone depletion	kg CFC11 eq	3,16E-06	5,44E-08	4,33E-07	6,91E-05	0,00E+00	9,98E-09	1,52E-08	1,54E-09	-2,07E-06
Acidification	mol H+ eq	1,71E-01	6,96E-04	7,55E-03	5,36E+00	0,00E+00	1,28E-04	8,16E-04	1,13E-04	-1,83E-01
Eutrophication, freshwater	kg P eq	9,31E-03	1,42E-05	4,26E-04	4,30E-01	0,00E+00	2,60E-06	5,61E-05	2,09E-06	-2,49E-02
Eutrophication, marine	kg N eq	1,79E-02	1,56E-04	1,50E-03	9,71E-01	0,00E+00	2,85E-05	1,95E-04	8,07E-05	-3,03E-02
Eutrophication, terrestrial	mol N eq	1,66E-01	1,70E-03	1,43E-02	1,01E+01	0,00E+00	3,12E-04	2,05E-03	5,27E-04	-3,33E-01
Photochemical ozone formation	kg NMVOC eq	6,14E-02	6,70E-04	4,44E-03	2,71E+00	0,00E+00	1,23E-04	5,65E-04	1,31E-04	-1,18E-01
Resource use, fossils	MJ	4,33E+02	3,55E+00	2,80E+01	3,69E+04	0,00E+00	6,51E-01	2,17E+00	1,19E-01	-2,75E+02
Resource use, minerals and metals	kg Sb eq	1,52E-03	5,22E-07	4,59E-05	1,54E-02	0,00E+00	9,57E-08	4,83E-07	4,43E-08	-6,95E-03
Water use	m3 depriv.	7,03E+00	1,22E-02	9,36E-01	4,26E+02	0,00E+00	2,24E-03	4,36E-02	2,04E-02	-5,83E+00

Additional environmental impact indicators

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Particulate matter	disease inc.	9,88E-07	2,53E-08	1,10E-07	3,04E-05	0,00E+00	4,64E-09	9,25E-09	1,04E-09	-1,56E-06
Ionising radiation	kBq U-235 eq	1,81E+00	1,80E-02	2,10E-08	1,77E+03	0,00E+00	3,29E-03	1,99E-02	4,57E-04	-1,97E+00
Ecotoxicity, freshwater	CTUe	2,66E+02	2,77E+00	8,00E-10	2,30E+04	0,00E+00	5,09E-01	2,70E+00	9,26E-01	-1,96E+03
Human toxicity, non-cancer	CTUh	3,34E-07	2,92E-09	7,55E-03	1,60E-05	0,00E+00	5,35E-10	1,84E-09	1,51E-09	-9,75E-07

Human toxicity, cancer	CTUh	1,46E-08	7,57E-11	4,26E-04	6,98E-07	0,00E+00	1,39E-11	4,81E-11	4,26E-11	-4,88E-08
Land use	Pt	1,17E+02	4,06E+00	1,50E-03	1,18E+04	0,00E+00	7,44E-01	1,54E+00	6,52E-02	-1,31E+02

Use of natural resources

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PERE	MJ	6,67E+01	4,52E-02	1,43E+00	9,06E+03	0,00E+00	8,28E-03	1,88E-01	1,15E-02	-2,42E+01
PERM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	6,67E+01	4,52E-02	1,43E+00	9,06E+03	0,00E+00	8,28E-03	1,88E-01	1,15E-02	-2,42E+01
PENRE	MJ	4,69E+02	3,77E+00	3,00E+01	3,77E+04	0,00E+00	6,91E-01	2,30E+00	2,67E-01	-2,92E+02
PEMRM	MJ	1,60E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	4,70E+02	3,77E+00	3,00E+01	3,77E+04	0,00E+00	6,91E-01	2,30E+00	2,67E-01	-2,92E+02
SM	kg	1,64E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m3	3,28E-01	4,22E-04	2,10E-02	3,28E+01	0,00E+00	7,74E-05	1,45E-03	7,73E-04	-1,87E-01

Waste output flows

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Hazardous waste	kg	5,96E-04	8,60E-06	1,56E-05	1,55E-02	0,00E+00	1,58E-06	1,93E-06	1,31E-06	-1,69E-03
Non-hazardous waste	kg	2,73E+00	3,32E-01	2,41E-01	1,05E+02	0,00E+00	6,09E-02	3,59E+00	5,42E-01	3,65E-01
Radioactive waste	kg	7,68E-03	2,41E-05	4,33E-05	3,88E-01	0,00E+00	4,41E-06	9,28E-06	1,16E-06	-7,43E-04

Output flow	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	7,81E-01	0,00E+00	4,30E-01	0,00E+00	0,00E+00	0,00E+00	3,99E+00	0,00E+00	0,00E+00
Material for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MWh	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Biogenic carbon content

Share of biogenic carbon	Amount	Unit
Biogenic carbon in the product	0	kg C
Biogenic carbon in the packaging	0,0011	kg C
1 kg biogenic carbon is equivalent to 44/12 kg of CO2		

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Climate change	kg CO2 eq	7,98E+00	4,76E-02	3,67E-01	2,72E+02	0,00E+00	8,72E-03	3,11E-02	9,24E-02	-4,83E+00
Resource use, fossils	MJ	9,41E+01	7,72E-01	6,09E+00	8,02E+03	0,00E+00	1,42E-01	4,72E-01	2,59E-02	-5,98E+01
Resource use, minerals and metals	kg Sb eq	3,30E-04	1,13E-07	9,98E-06	3,35E-03	0,00E+00	2,08E-08	1,05E-07	9,63E-09	-1,51E-03
Water use	m3 depriv.	1,53E+00	2,65E-03	2,03E-01	9,26E+01	0,00E+00	4,87E-04	9,48E-03	4,43E-03	-1,27E+00
Secondary materials	kg	3,57E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Biogenic carbon in the product	kg C	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Biogenic carbon in the packaging	kg C	2,39E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Phi Vision Direct 2312, 29-93W DALI & On/Off

Environmental impact indicators

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Climate change	kg CO2 eq	4,63E+01	3,01E-01	1,70E+00	1,63E+03	0,00E+00	5,66E-02	1,81E-01	6,66E-01	-2,68E+01
Climate change - Fossil	kg CO2 eq	4,59E+01	3,01E-01	1,69E+00	1,60E+03	0,00E+00	5,65E-02	1,79E-01	5,42E-01	-2,67E+01
Climate change - Biogenic	kg CO2 eq	3,25E-01	3,05E-04	5,88E-03	2,00E+01	0,00E+00	5,73E-05	9,67E-04	1,24E-01	-3,09E-03
Climate change - Land use and LU change	kg CO2 eq	3,05E-02	1,13E-04	1,53E-03	1,44E+01	0,00E+00	2,12E-05	2,77E-04	2,57E-05	-3,19E-02
Ozone depletion	kg CFC11 eq	4,19E-06	7,51E-08	4,33E-07	9,01E-05	0,00E+00	1,41E-08	2,00E-08	4,39E-09	-2,48E-06
Acidification	mol H+ eq	2,15E-01	9,59E-04	7,55E-03	6,99E+00	0,00E+00	1,80E-04	1,04E-03	2,90E-04	-2,18E-01
Eutrophication, freshwater	kg P eq	1,67E-02	1,96E-05	4,26E-04	5,62E-01	0,00E+00	3,67E-06	7,00E-05	9,47E-06	-2,92E-02
Eutrophication, marine	kg N eq	3,36E-02	2,15E-04	1,50E-03	1,27E+00	0,00E+00	4,03E-05	2,51E-04	3,62E-04	-3,63E-02
Eutrophication, terrestrial	mol N eq	3,25E-01	2,34E-03	1,43E-02	1,32E+01	0,00E+00	4,40E-04	2,63E-03	9,18E-04	-3,98E-01
Photochemical ozone formation	kg NMVOC eq	1,18E-01	9,24E-04	4,44E-03	3,53E+00	0,00E+00	1,74E-04	7,29E-04	2,66E-04	-1,45E-01
Resource use, fossils	MJ	5,54E+02	4,90E+00	2,80E+01	4,82E+04	0,00E+00	9,20E-01	2,76E+00	3,25E-01	-3,27E+02
Resource use, minerals and metals	kg Sb eq	3,31E-03	7,20E-07	4,59E-05	2,01E-02	0,00E+00	1,35E-07	5,73E-07	2,13E-06	-8,14E-03
Water use	m3 depriv.	1,15E+01	1,68E-02	9,36E-01	5,56E+02	0,00E+00	3,16E-03	5,66E-02	3,33E-02	-6,89E+00

Additional environmental impact indicators

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Particulate matter	disease inc.	1,69E-06	3,49E-08	1,10E-07	3,96E-05	0,00E+00	6,56E-09	1,19E-08	2,54E-09	-1,91E-06

Ionising radiation	kBq U-235 eq	3,42E+00	2,48E-02	1,35E-01	2,31E+03	0,00E+00	4,65E-03	2,51E-02	1,91E-03	-2,28E+00
Ecotoxicity, freshwater	CTUe	9,26E+02	3,82E+00	3,41E+01	3,00E+04	0,00E+00	7,19E-01	3,38E+00	2,87E+00	-2,32E+03
Human toxicity, non-cancer	CTUh	7,71E-07	4,02E-09	2,10E-08	2,09E-05	0,00E+00	7,56E-10	2,25E-09	6,48E-09	-1,14E-06
Human toxicity, cancer	CTUh	2,59E-08	1,04E-10	8,01E-10	9,10E-07	0,00E+00	1,96E-11	6,00E-11	1,24E-10	-6,08E-08
Land use	Pt	1,66E+02	5,60E+00	3,75E+00	1,54E+04	0,00E+00	1,05E+00	2,03E+00	3,83E-01	-1,55E+02

Use of natural resources

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PERE	MJ	6,96E+01	6,23E-02	1,43E+00	1,18E+04	0,00E+00	1,17E-02	2,34E-01	1,62E-02	-2,78E+01
PERM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	6,96E+01	6,23E-02	1,43E+00	1,18E+04	0,00E+00	1,17E-02	2,34E-01	1,62E-02	-2,78E+01
PENRE	MJ	5,90E+02	5,20E+00	3,00E+01	4,91E+04	0,00E+00	9,77E-01	2,94E+00	3,47E-01	-3,48E+02
PEMRM	MJ	6,52E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	5,91E+02	5,20E+00	3,00E+01	4,91E+04	0,00E+00	9,77E-01	2,94E+00	3,47E-01	-3,48E+02
SM	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m3	4,11E-01	5,82E-04	2,10E-02	4,27E+01	0,00E+00	1,09E-04	1,86E-03	9,99E-04	-2,18E-01

Waste output flows

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Hazardous waste	kg	1,11E-03	1,19E-05	1,56E-05	2,02E-02	0,00E+00	2,23E-06	2,51E-06	1,76E-06	-2,03E-03
Non-hazardous waste	kg	3,83E+00	4,58E-01	2,41E-01	1,37E+02	0,00E+00	8,61E-02	4,82E+00	7,15E-01	9,72E-01
Radioactive waste	kg	3,23E-03	3,32E-05	4,33E-05	5,06E-01	0,00E+00	6,23E-06	1,20E-05	1,53E-06	-8,81E-04

Output flow	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	7,81E-01	0,00E+00	4,31E-01	0,00E+00	0,00E+00	0,00E+00	5,46E+00	0,00E+00	0,00E+00
Material for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MWh	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Biogenic carbon content

Share of biogenic carbon	Amount	Unit
Biogenic carbon in the product	0	kg C
Biogenic carbon in the packaging	0,0011	kg C
1 kg biogenic carbon is equivalent to 44/12 kg of CO2		

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Climate change	kg CO2 eq	7,12E+00	4,63E-02	2,62E-01	2,51E+02	0,00E+00	8,71E-03	2,78E-02	1,02E-01	-4,12E+00
Resource use, fossils	MJ	8,52E+01	7,54E-01	4,31E+00	7,42E+03	0,00E+00	1,42E-01	4,25E-01	5,00E-02	-5,03E+01
Resource use, minerals and metals	kg Sb eq	5,09E-04	1,11E-07	7,06E-06	3,09E-03	0,00E+00	2,08E-08	8,82E-08	3,28E-07	-1,25E-03
Water use	m3 depriv.	1,77E+00	2,58E-03	1,44E-01	8,55E+01	0,00E+00	4,86E-04	8,71E-03	5,12E-03	-1,06E+00
Secondary materials	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Biogenic carbon in the product	kg C	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Biogenic carbon in the packaging	kg C	1,69E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

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Phi Visio Direct/Indirect 1160, 35-44W DALI & On/Off

Environmental impact indicators

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Climate change	kg CO2 eq	3,88E+01	1,97E-01	1,69E+00	1,09E+03	0,00E+00	3,57E-02	1,29E-01	4,50E-01	-2,41E+01
Climate change - Fossil	kg CO2 eq	3,88E+01	1,96E-01	1,68E+00	1,06E+03	0,00E+00	3,57E-02	1,28E-01	3,78E-01	-2,40E+01
Climate change - Biogenic	kg CO2 eq	6,34E-03	1,99E-04	5,88E-03	1,33E+01	0,00E+00	3,62E-05	5,34E-04	7,16E-02	-3,55E-03
Climate change - Land use and LU change	kg CO2 eq	3,60E-02	7,37E-05	1,53E-03	9,59E+00	0,00E+00	1,34E-05	2,07E-04	2,75E-05	-3,36E-02
Ozone depletion	kg CFC11 eq	3,73E-06	4,90E-08	4,33E-07	6,00E-05	0,00E+00	8,89E-09	1,19E-08	3,53E-09	-2,25E-06
Acidification	mol H+ eq	1,96E-01	6,26E-04	7,55E-03	4,66E+00	0,00E+00	1,14E-04	7,24E-04	2,22E-04	-2,05E-01
Eutrophication, freshwater	kg P eq	2,14E-02	1,28E-05	4,26E-04	3,74E-01	0,00E+00	2,32E-06	5,28E-05	7,55E-06	-2,91E-02
Eutrophication, marine	kg N eq	3,37E-02	1,40E-04	1,50E-03	8,45E-01	0,00E+00	2,54E-05	1,67E-04	2,14E-04	-3,39E-02
Eutrophication, terrestrial	mol N eq	3,37E-01	1,53E-03	1,43E-02	8,82E+00	0,00E+00	2,78E-04	1,74E-03	6,67E-04	-3,72E-01
Photochemical ozone formation	kg NMVOC eq	1,25E-01	6,03E-04	4,44E-03	2,36E+00	0,00E+00	1,09E-04	4,78E-04	1,87E-04	-1,26E-01
Resource use, fossils	MJ	4,77E+02	3,20E+00	2,80E+01	3,21E+04	0,00E+00	5,80E-01	1,90E+00	2,44E-01	-3,06E+02
Resource use, minerals and metals	kg Sb eq	4,84E-03	4,70E-07	4,59E-05	1,34E-02	0,00E+00	8,53E-08	5,20E-07	1,87E-06	-8,27E-03
Water use	m3 depriv.	2,78E+01	1,10E-02	9,36E-01	3,71E+02	0,00E+00	2,00E-03	3,58E-02	2,35E-02	-6,71E+00

Additional environmental impact indicators

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Particulate matter	disease inc.	1,58E-06	2,28E-08	1,10E-07	2,64E-05	0,00E+00	4,14E-09	7,75E-09	1,88E-09	-1,61E-06
Ionising radiation	kBq U-235 eq	3,33E+00	1,62E-02	1,35E-01	1,54E+03	0,00E+00	2,94E-03	1,81E-02	1,95E-03	-2,36E+00
Ecotoxicity, freshwater	CTUe	1,35E+03	2,50E+00	3,41E+01	2,00E+04	0,00E+00	4,53E-01	2,52E+00	2,99E+01	-2,25E+03
Human toxicity, non-cancer	CTUh	1,00E-06	2,63E-09	2,10E-08	1,40E-05	0,00E+00	4,77E-10	1,84E-09	5,70E-09	-1,14E-06
Human toxicity, cancer	CTUh	2,65E-08	6,81E-11	8,00E-10	6,07E-07	0,00E+00	1,24E-11	4,52E-11	1,06E-10	-4,75E-08
Land use	Pt	1,68E+02	3,66E+00	3,75E+00	1,03E+04	0,00E+00	6,64E-01	1,18E+00	2,77E-01	-1,51E+02

Use of natural resources

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PERE	MJ	6,80E+01	4,07E-02	1,43E+00	7,88E+03	0,00E+00	7,38E-03	1,76E-01	1,83E-02	-2,93E+01
PERM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	6,80E+01	4,07E-02	1,43E+00	7,88E+03	0,00E+00	7,38E-03	1,76E-01	1,83E-02	-2,93E+01
PENRE	MJ	5,08E+02	3,39E+00	3,00E+01	3,28E+04	0,00E+00	6,16E-01	2,02E+00	2,60E-01	-3,25E+02
PEMRM	MJ	4,89E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	5,09E+02	3,39E+00	3,00E+01	3,28E+04	0,00E+00	6,16E-01	2,02E+00	2,60E-01	-3,25E+02
SM	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m3	4,48E+01	3,80E-04	2,10E-02	2,85E+01	0,00E+00	6,90E-05	1,24E-03	7,45E-04	-2,20E-01

Waste output flows

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Hazardous waste	kg	1,24E-03	7,74E-06	1,56E-05	1,35E-02	0,00E+00	1,40E-06	1,57E-06	1,29E-06	-1,79E-03
Non-hazardous waste	kg	3,51E+00	2,99E-01	2,41E-01	9,12E+01	0,00E+00	5,43E-02	2,57E+00	4,39E-01	-9,35E-01
Radioactive waste	kg	2,67E-03	2,16E-05	4,33E-05	3,37E-01	0,00E+00	3,93E-06	7,76E-06	1,14E-06	-8,40E-04

Output flow	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	7,81E-01	0,00E+00	4,29E-01	0,00E+00	0,00E+00	0,00E+00	3,21E+00	0,00E+00	0,00E+00
Material for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MWh	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Biogenic carbon content

Share of biogenic carbon	Amount	Unit
Biogenic carbon in the product	0	kg C
Biogenic carbon in the packaging	0,0011	kg C
1 kg biogenic carbon is equivalent to 44/12 kg of CO2		

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Climate change	kg CO2 eq	9,46E+00	4,80E-02	4,12E-01	2,66E+02	0,00E+00	8,71E-03	3,15E-02	1,10E-01	-5,88E+00
Resource use, fossils	MJ	1,16E+02	7,80E-01	6,83E+00	7,83E+03	0,00E+00	1,41E-01	4,63E-01	5,95E-02	-7,46E+01
Resource use, minerals and metals	kg Sb eq	1,18E-03	1,15E-07	1,12E-05	3,27E-03	0,00E+00	2,08E-08	1,27E-07	4,56E-07	-2,02E-03
Water use	m3 depriv.	6,78E+00	2,68E-03	2,28E-01	9,05E+01	0,00E+00	4,88E-04	8,73E-03	5,73E-03	-1,64E+00
Secondary materials	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Biogenic carbon in the product	kg C	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Biogenic carbon in the packaging	kg C	2,68E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

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Environmental impact indicators

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Climate change	kg CO2 eq	4,91E+01	2,36E-01	1,69E+00	1,74E+03	0,00E+00	4,35E-02	1,82E-01	6,63E-01	-3,23E+01
Climate change - Fossil	kg CO2 eq	4,89E+01	2,36E-01	1,69E+00	1,70E+03	0,00E+00	4,35E-02	1,81E-01	5,55E-01	-3,22E+01
Climate change - Biogenic	kg CO2 eq	1,27E-01	2,39E-04	5,88E-03	2,13E+01	0,00E+00	4,41E-05	7,96E-04	1,07E-01	-1,30E-02
Climate change - Land use and LU change	kg CO2 eq	3,90E-02	8,84E-05	1,53E-03	1,54E+01	0,00E+00	1,63E-05	2,92E-04	3,31E-05	-4,41E-02
Ozone depletion	kg CFC11 eq	4,20E-06	5,88E-08	4,33E-07	9,61E-05	0,00E+00	1,08E-08	1,68E-08	4,80E-09	-3,03E-06
Acidification	mol H+ eq	2,23E-01	7,51E-04	7,55E-03	7,45E+00	0,00E+00	1,39E-04	1,02E-03	3,03E-04	-2,83E-01
Eutrophication, freshwater	kg P eq	2,42E-02	1,53E-05	4,26E-04	5,99E-01	0,00E+00	2,83E-06	7,46E-05	1,01E-05	-3,92E-02
Eutrophication, marine	kg N eq	3,83E-02	1,68E-04	1,50E-03	1,35E+00	0,00E+00	3,10E-05	2,35E-04	3,19E-04	-4,61E-02
Eutrophication, terrestrial	mol N eq	3,81E-01	1,84E-03	1,43E-02	1,41E+01	0,00E+00	3,39E-04	2,45E-03	9,45E-04	-5,07E-01
Photochemical ozone formation	kg NMVOC eq	1,42E-01	7,23E-04	4,44E-03	3,77E+00	0,00E+00	1,33E-04	6,73E-04	2,66E-04	-1,76E-01
Resource use, fossils	MJ	5,99E+02	3,84E+00	2,80E+01	5,14E+04	0,00E+00	7,08E-01	2,69E+00	3,36E-01	-4,10E+02
Resource use, minerals and metals	kg Sb eq	5,33E-03	5,64E-07	4,59E-05	2,14E-02	0,00E+00	1,04E-07	6,75E-07	2,33E-06	-1,13E-02
Water use	m3 depriv.	2,96E+01	1,32E-02	9,36E-01	5,93E+02	0,00E+00	2,43E-03	5,06E-02	3,39E-02	-9,16E+00

Additional environmental impact indicators

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Particulate matter	disease inc.	1,83E-06	2,74E-08	1,10E-07	4,23E-05	0,00E+00	5,05E-09	1,09E-08	2,60E-09	-2,19E-06
Ionising radiation	kBq U-235 eq	3,86E+00	1,94E-02	1,35E-01	2,47E+03	0,00E+00	3,58E-03	2,57E-02	2,41E-03	-3,12E+00
Ecotoxicity, freshwater	CTUe	1,39E+03	3,00E+00	3,41E+01	3,20E+04	0,00E+00	5,53E-01	3,52E+00	3,06E+01	-3,08E+03

Human toxicity, non-cancer	CTUh	1,09E-06	3,15E-09	2,10E-08	2,23E-05	0,00E+00	5,81E-10	2,48E-09	6,69E-09	-1,51E-06
Human toxicity, cancer	CTUh	2,98E-08	8,17E-11	8,00E-10	9,71E-07	0,00E+00	1,51E-11	6,18E-11	1,30E-10	-6,49E-08
Land use	Pt	1,80E+02	4,39E+00	3,75E+00	1,65E+04	0,00E+00	8,09E-01	1,66E+00	3,74E-01	-2,06E+02

Use of natural resources

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PERE	MJ	7,95E+01	4,88E-02	1,43E+00	1,26E+04	0,00E+00	9,00E-03	2,48E-01	2,23E-02	-3,84E+01
PERM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	7,95E+01	4,88E-02	1,43E+00	1,26E+04	0,00E+00	9,00E-03	2,48E-01	2,23E-02	-3,84E+01
PENRE	MJ	6,38E+02	4,07E+00	3,00E+01	5,24E+04	0,00E+00	7,52E-01	2,86E+00	3,58E-01	-4,36E+02
PEMRM	MJ	8,15E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	6,39E+02	4,07E+00	3,00E+01	5,24E+04	0,00E+00	7,52E-01	2,86E+00	3,58E-01	-4,36E+02
SM	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m3	7,43E+01	4,56E-04	2,10E-02	4,56E+01	0,00E+00	8,42E-05	1,75E-03	1,05E-03	-2,95E-01

Waste output flows

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Hazardous waste	kg	1,39E-03	9,28E-06	6,23E-05	2,15E-02	0,00E+00	1,71E-06	2,20E-06	1,80E-06	-2,35E-03
Non-hazardous waste	kg	3,98E+00	3,59E-01	1,21E+00	1,46E+02	0,00E+00	6,62E-02	3,64E+00	6,09E-01	-9,52E-01
Radioactive waste	kg	2,82E-03	2,60E-05	-2,20E-04	5,40E-01	0,00E+00	4,79E-06	1,10E-05	1,55E-06	-1,12E-03

Output flow	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	7,81E-01	0,00E+00	4,31E-01	0,00E+00	0,00E+00	0,00E+00	4,47E+00	0,00E+00	0,00E+00
Material for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MWh	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Biogenic carbon content

Share of biogenic carbon	Amount	Unit
Biogenic carbon in the product	0	kg C
Biogenic carbon in the packaging	0,0011	kg C
1 kg biogenic carbon is equivalent to 44/12 kg of CO2		

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Climate change	kg CO2 eq	9,82E+00	4,72E-02	3,38E-01	3,48E+02	0,00E+00	8,70E-03	3,64E-02	1,33E-01	-6,46E+00
Resource use, fossils	MJ	1,20E+02	7,68E-01	5,60E+00	1,03E+04	0,00E+00	1,42E-01	5,38E-01	6,72E-02	-8,20E+01
Resource use, minerals and metals	kg Sb eq	1,07E-03	1,13E-07	9,18E-06	4,28E-03	0,00E+00	2,08E-08	1,35E-07	4,66E-07	-2,26E-03
Water use	m3 depriv.	5,92E+00	2,64E-03	1,87E-01	1,19E+02	0,00E+00	4,86E-04	1,01E-02	6,78E-03	-1,83E+00
Secondary materials	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Biogenic carbon in the product	kg C	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Biogenic carbon in the packaging	kg C	2,20E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

23. Other technical information

For all luminaire models, it is possible to choose certain accessories and options. The accessories emissions are additional information. This additional information is for the customer to see what kind of environmental impact each accessory and options has and help to gen understanding that how significant or not the certain accessory and option are.

Climate change total kg CO2 eq	A1-A3	C2	C3	C4
Pull-Cord switch (PS)	2,41E-01	5,03E-04	3,30E-03	1,48E-02
Casambi (CA)	3,80E+00	6,82E-04	3,92E-03	5,25E-03
Connection piece hanging installation	1,32E+00	6,82E-04	3,37E-03	2,09E-04
Connection piece ceiling installation	1,70E-01	6,82E-04	3,52E-04	2,19E-05
DALI 2 power (DP)	1,96E+00	6,82E-04	2,92E-03	3,75E-03
Extension Profile 2,5m white	1,83E+01	4,09E-02	4,13E-02	1,68E-02
Extension Profile 2,5m galvanized	1,47E+01	4,09E-02	4,00E-02	2,48E-03
Lighting suspension rail bracket 70mm	5,73E-01	5,80E-06	5,67E-04	3,52E-05
Phi ceiling bracket	3,96E-01	3,36E-04	3,29E-04	2,04E-05
Phi wire suspension kit 3m	2,86E-01	4,50E-04	4,40E-04	5,45E-05

24. Additional information

(Standard7.4)

Emissions to soil

The information is not available

Emissions to water

The information is not available

Emissions to indoor air

The information is not available

25. Product declaration:

The information is available at the web pages, please see link https://greenled.fi/

26. Reference of the common information

RTS
The Building Information Foundation RTS (RTS EPD Product Category Rules) https://cer.rts.fi/wp-content/uploads/rts-pcr_sfsen15804_2019_-versio_260820_voimassa.pdf

ISO 14025
ISO 14025:2011-10 Environmental labels and declarations. Type III environmental declarations. Principles and procedures

EN 15804
EN15804+A1 Sustainability of construction works. Environmental Product Declarations. Core rules for the product category of construction products.

Eurostat

Waste electrical and electronic equipment (WEEE) by waste management operations- open scope, 6 product categories (from 2018 onwards).
https://ec.europa.eu/eurostat/databrowser/view/ENV_WASELEEOS__custom_4417413/default/table?lang=en

Phi Luminaire LCA background report. 24.1.2023.

27. Product information (volunteer, verified information)