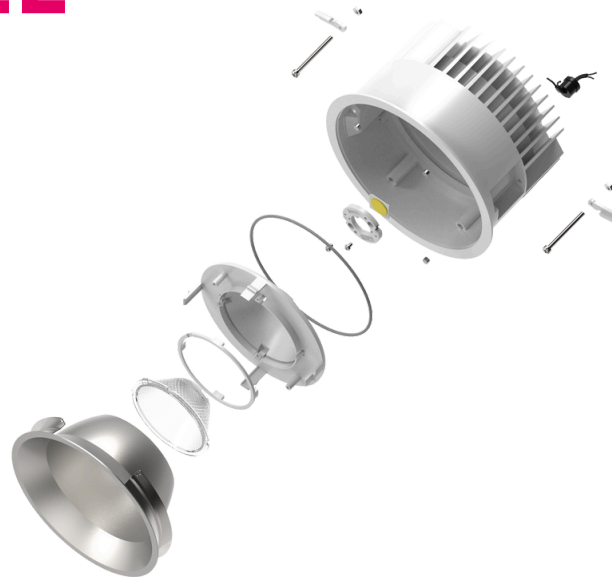


# PRODUCT ENVIRONMENTAL PROFILE



## TAKEO T150 PRO

### Holder of the declaration

NEKO Lighting AG  
Kreuzstrasse 2, 8008 Zürich  
<https://nekolighting.com/fr/>

PEP carried out by  
Alice Le Falher  
LCA Engineer  
Qweeko  
[alice@qweeko.io](mailto:alice@qweeko.io)

### References covered

VISION V68; VISION V68W; T75; TS68; T100 Pro;  
TS100 Pro; TS150 Pro; T200 Pro; TS200 Pro

### Methodology

This PEP has been produced in compliance with the PCR version PCR-ed4-FR-2021 09 06 and the PSR version PSR-0014-ed2-EN-2023 07 13 of the PEP ecopassport program. For more information, visit the program website [www.pep-ecopassport.org](http://www.pep-ecopassport.org)

## Reference product

### Identification of the reference product:

TAKEO T150 Pro

### Product category (PSR):

Family: Luminaire

## Functional unit

“Provide lighting that delivers an outgoing artificial luminous flux of 1,000 lumens during a reference lifetime of 35,000 hours”

$$\text{Reference flow} = \frac{1000 \text{ lm}}{\text{Output artificial flux (lm)}} \times \frac{35000 \text{ h}}{\text{Assigned lifetime (h)}}$$

$$\text{Reference flow} = \frac{1000}{3800} \times \frac{35000}{165000} = 0,056 \text{ product}$$

## Technical characteristics

<b>Description</b>	Round recessed downlight made of die-cast aluminium with white powder-coating finish (RAL 9016) and matt reflector. A DALI Dim Driver included. A led module CITIZEN LED Chip. Decent color rendering at an index of CRI80. Beam angle: 30°. 5 years warranty. No accessories included
<b>Operating mode</b>	One integrated LED Driver delivered with the luminaire
<b>Source type</b>	One LED module delivered with the luminaire
<b>Color temperature</b>	4000K
<b>Rated power</b>	26 W
<b>Declared flow (light source)</b>	4500 lm
<b>LOR</b>	84%
<b>Light efficiency</b>	146.2 lm/W
<b>Artificial light output</b>	3800 lm
<b>Rated life</b>	165000h (L70/B50)
<b>IP rating</b>	IP54
<b>IK rating</b>	IK7
<b>Operating voltage</b>	36 V
<b>Dimensions</b>	160mm*100mm
<b>Area of application</b>	Commercial building : Offices, Hotels, Restaurants
<b>Operating life (EN 15193-1:2017)</b>	The lowest default operating life according to PSR 14 ed2 is 5000h/year, i.e. 33 years operating life

## Materials and substances

All useful measures have been taken to ensure that the materials used in the composition of the product do not contain substances prohibited by the regulations in force when it was placed on the market. The mass of the reference product is 1.0398 kg. The mass of the product packaging is 0.150 kg. The constituent materials are:

Plastics	%	Metals	%	Others	%
PC	9.5%	Aluminium	5.,2%	Cardboard	12.7%
PMMA	2.1%	Steel	4.9%	Electronical components	7.0%
PVC	0.5%	Copper	4.2%	Silicon	0.5%
PA66	0.2%	NdFeB	0.2%		
PET	0.1%				
<b>Total</b>	<b>12.4%</b>	<b>Total</b>	<b>67.5%</b>	<b>Total</b>	<b>20.2%</b>

**Total mass of the reference product: 1.190 kg**

The masses indicated correspond to the masses modeled within the framework of the PEP, and may present slight variations with the masses indicated in the technical documentation of the products, due to the assumptions made for the study.

# The different stages of the life cycle

<b>Manufacturing</b>	<p>Manufactured on an ISO 14001 certified production site in China.</p> <p>The components come from China. Raw materials, transportation to the manufacturing site, manufacturing of components/parts, assembly, packaging and treatment of waste generated were considered.</p>																									
<b>Distribution</b>	<p>The main market is Europe. Thus, the present model incorporates intercontinental transport according to the rules of PEP-PCR-ed4-EN-2021 09 06:</p> <ul style="list-style-type: none"> <li>• Ship: 19,000 km</li> <li>• Truck: 1,000 km</li> </ul>																									
<b>Installation</b>	<p>The product does not require any special installation procedure and its installation does not require energy. The transport and disposal of the product packaging (0.150 kg composed of 100% cardboard) are counted in this step according to European scenarios in PSR-0014-ED2.0-EN-2023 07 13 rules :</p> <table border="1"> <thead> <tr> <th></th> <th>Recycling rate</th> <th>Incineration with energy valorization</th> <th>Incineration without energy valorization</th> <th>Landfill</th> </tr> </thead> <tbody> <tr> <td><b>Metal</b></td> <td>77</td> <td>2</td> <td>0</td> <td>21</td> </tr> <tr> <td><b>Paper and Cardboard</b></td> <td>82</td> <td>9</td> <td>0</td> <td>9</td> </tr> <tr> <td><b>Wood</b></td> <td>31</td> <td>31</td> <td>0</td> <td>38</td> </tr> <tr> <td><b>Plastics</b></td> <td>41</td> <td>37</td> <td>0</td> <td>23</td> </tr> </tbody> </table>		Recycling rate	Incineration with energy valorization	Incineration without energy valorization	Landfill	<b>Metal</b>	77	2	0	21	<b>Paper and Cardboard</b>	82	9	0	9	<b>Wood</b>	31	31	0	38	<b>Plastics</b>	41	37	0	23
	Recycling rate	Incineration with energy valorization	Incineration without energy valorization	Landfill																						
<b>Metal</b>	77	2	0	21																						
<b>Paper and Cardboard</b>	82	9	0	9																						
<b>Wood</b>	31	31	0	38																						
<b>Plastics</b>	41	37	0	23																						
<b>Use</b>	<p>The product generates no direct emissions (B1). In addition, no standard repairs (B3, B4) or refurbishments (B5) are planned. Use of the product doesn't consume water (B7).</p> <p>For maintenance (B2), With a 100,000-hour driver lifetime, a 165,000-hour LED module lifetime, the driver is considered to have been replaced 1 time over the lifetime of the light source.</p> <p>Use of the product consumes electricity (B6) :</p> $C = P \times \text{Assigned lifetime}$ <ul style="list-style-type: none"> <li>• P : declared power of the lighting circuit (W)</li> <li>• Assigned lifetime : based on L70B50 lifetime.</li> </ul> <p>The main market is Europe. The European energy mix has therefore been used here.</p>																									
<b>End of life</b>	<p>Given the complexity and lack of knowledge of the recycling sector and processes for electrical and electronic products, The treatment rates in Appendix D of PCR-ed4-FR-2021 09 06 have been used to treat the product's end-of-life. This gives for this product :</p> <ul style="list-style-type: none"> <li>• Material recovery : 54%</li> <li>• Energy recovery : 8%</li> <li>• Disposal : 38%</li> </ul>																									

## Environmental impacts

The environmental impact assessment covers the following stages of the product life cycle: Manufacturing (A1-A3), Distribution (A4), Installation (A5), Use (B1-B7), End of life (C1-C4) and Benefits and burdens across system boundaries (D).

The calculations were carried out with the OpenLCA software version 2.0.2 associated with the EcoInvent database version 3.9.1. EN15804.

PEP representative of the products covered, installed and marketed in: Europe

Energy models considered for each phase: (Energy mix taken from the year 2023)

Manufacturing (A1 - A3)	Distribution (A4)	Installation (A5)	Use (B1 - B7)	End of life (C1-C4)
China	Intercontinental	Europe	Europe	Europe

# Environmental impact of the reference product at functional unit level.

This environmental declaration has been developed by considering an outgoing artificial luminous flux of 1,000 lumens over a reference lifetime of 35,000 hours.

## Mandatory environmental impact indicators

Indicators	Unit	A1-A3	A4	A5	B2	B6	B1-B7	C1-C4	Total (excluding D)	D
Environment: Abiotic depletion potential (elements)   ADPE	kg Sb eq	1,25E-04	5,43E-08	1,91E-09	1,14E-04	1,03E-03	1,15E-03	3,60E-06	1,27E-03	5,43E-06
Environment: Abiotic depletion potential (fossils)   ADPF	MJ (net calorific)	8,40E+01	3,39E-01	5,29E-03	7,62E+00	1,98E+03	1,99E+03	4,74E-01	2,07E+03	-4,88E+00
Environment: Acidification potential   AP	mol H+ eq	3,07E-02	4,27E-04	2,07E-06	3,91E-03	4,93E-01	4,97E-01	3,91E-04	5,28E-01	-3,20E-03
Environment: Eutrophication potential (freshwater)   EPF	kg P eq	2,80E-03	1,46E-06	5,54E-08	5,20E-04	8,16E-02	8,21E-02	2,40E-05	8,49E-02	-1,52E-04
Environment: Eutrophication potential (marine)   EPM	kg N eq	7,52E-03	1,10E-04	8,65E-07	6,97E-04	7,98E-02	8,05E-02	1,68E-05	8,81E-02	-5,57E-04
Environment: Eutrophication potential (terrestrial)   EPT	mol N eq	6,02E-02	1,21E-03	8,28E-06	7,37E-03	7,21E-01	7,29E-01	5,13E-04	7,91E-01	-5,73E-03
Environment: Global warming potential (biogenic)   GWBP	kg CO2 eq	1,93E-02	1,07E-06	-1,03E-03	1,88E-03	2,88E+00	2,88E+00	1,29E-04	2,90E+00	8,59E-03
Environment: Global warming potential (fossil)   GWPF	kg CO2 eq	6,36E+00	2,56E-02	4,66E-04	5,55E-01	8,61E+01	8,66E+01	7,37E-02	9,31E+01	-5,12E-01
Environment: Global warming potential (land use)   GWPL	kg CO2 eq	1,27E-02	1,67E-05	1,69E-07	1,19E-03	2,15E-01	2,17E-01	3,57E-05	2,29E-01	-1,58E-03
Environment: Global warming potential (total)   GWPT	kg CO2 eq	6,39E+00	2,56E-02	-5,67E-04	5,58E-01	8,92E+01	8,97E+01	7,38E-02	9,62E+01	-5,05E-01
Environment: Ozone depletion potential   ODP	kg CFC-11 eq	1,61E-07	3,85E-10	5,84E-12	2,47E-08	1,64E-06	1,66E-06	2,05E-09	1,83E-06	-5,08E-09
Environment: Photochemical ozone creation potential   POCP	kg NMVOC eq	3,27E-02	3,46E-04	3,19E-06	2,87E-03	2,32E-01	2,35E-01	1,78E-04	2,68E-01	-1,77E-03
Environment: Water deprivation potential   WDP	m3 world eq	2,00E+00	1,30E-03	-6,66E-06	2,30E-01	4,75E+01	4,78E+01	9,36E-03	4,98E+01	-1,28E-01

## Resource utilisation indicators

Indicators	Unit	A1-A3	A4	A5	B2	B6	B1-B7	C1-C4	Total (excluding D)	D
Primary energy: Non-renewable (energy use)   PENRE	MJ (PENRE)	8,13E+01	3,09E-01	4,88E-03	7,37E+00	1,95E+03	1,96E+03	4,44E-01	2,04E+03	-4,78E+00
Primary energy: Non-renewable (material use)   PENRM	MJ (PENRM)	2,61E+00	2,99E-02	4,14E-04	2,52E-01	2,86E+01	2,89E+01	2,98E-02	3,15E+01	-1,00E-01
Primary energy: Non-renewable (total)   PENRT	MJ (PENRT)	8,40E+01	3,39E-01	5,29E-03	7,62E+00	1,98E+03	1,99E+03	4,74E-01	2,07E+03	-4,88E+00
Primary energy: Renewable (energy use)   PERE	MJ (PERE)	7,89E+00	3,39E-03	1,80E-04	7,93E-01	4,26E+02	4,27E+02	3,54E-02	4,35E+02	-6,61E-01
Primary energy: Renewable (material use)   PERM	MJ (PERM)	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
Primary energy: Renewable (total)   PERT	MJ (PERT)	7,89E+00	3,39E-03	1,80E-04	7,93E-01	4,26E+02	4,27E+02	3,54E-02	4,35E+02	-6,61E-01
Resource: Net use of fresh water   FW	m3(FW)	2,70E-02	3,01E-05	4,02E-07	5,07E-03	1,54E+00	1,54E+00	2,80E-04	1,57E+00	-2,28E-03
Resource: Non-renewable secondary fuels   NRSF	MJ (NRSF)	2,20E-01	1,04E-04	6,22E-06	2,06E-02	1,47E+01	1,47E+01	5,74E-04	1,49E+01	8,55E-04
Resource: Renewable secondary fuels   RSF	MJ (RSF)	7,99E-02	2,59E-05	8,38E-06	7,78E-03	1,45E+01	1,46E+01	5,18E-04	1,46E+01	-5,93E-04
Resource: Secondary materials   SM	kg (SM)	1,78E-01	2,34E-04	6,98E-03	1,90E-02	2,51E+01	2,51E+01	4,57E-02	2,53E+01	-2,01E-03

## Waste category indicators

Indicators	Unit	A1-A3	A4	A5	B2	B6	B1-B7*	C1-C4	Total (excluding D)	D
Waste: Hazardous waste disposed   HWD	kg	3,97E-01	3,65E-04	2,94E-06	4,11E-02	1,94E+00	1,98E+00	6,03E-03	2,38E+00	-8,47E-02
Waste: Non-hazardous waste disposed   NHWD	kg	4,65E-01	8,73E-03	8,95E-04	1,97E-02	5,92E+00	5,94E+00	-2,91E-03	6,42E+00	-9,63E-03
Waste: Radioactive waste disposed   RWD	kg	1,69E-04	5,36E-08	4,81E-09	1,52E-05	1,40E-02	1,40E-02	6,45E-07	1,42E-02	-2,23E-06

## Output flow indicators

Indicators	Unit	A1-A3	A4	A5	B2	B6	B1-B7	C1-C4	Total (excluding D)	D
Output: Components for reuse   CRU	kg (CRU)	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*
Output: Exported energy (electrical)   EEE	MJ (EEE)	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
Output: Exported energy (thermal)   EET	MJ (EET)	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
Output: Materials for energy recovery   MER	kg (MORE)	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
Output: Materials for recycling   MFR	kg (MFR)	2,05E-01	2,16E-04	1,81E-05	4,63E-02	2,43E+01	2,44E+01	-1,13E-03	2,46E+01	-4,74E-04

\* represents less than 0.01% of the impacts on the total life cycle of the reference flow

## Biogenic Carbon Inventory Flow

Indicators	Unit	Total
Biogenic carbon content of the product	kg	0
Biogenic Carbon content of associated packaging	kg	0,04

## Optional environmental impact indicators

Indicators	Unit	A1-A3	A4	A5	B2	B6	B1-B7	C1-C4	Total (excluding D)	D
Environment: Ecotoxicity potential (freshwater)   ETPF	CTUe	4,83E+01	1,78E-01	1,65E-03	1,20E+01	3,27E+02	3,39E+02	9,32E-01	3,89E+02	-7,76E-01
Environment: Human toxicity (carcinogenic)   HTC	CTUh	3,19E-09	1,13E-11	2,83E-13	6,18E-10	4,28E-08	4,34E-08	7,66E-11	4,67E-08	-6,05E-10
Environment: Human toxicity (non-carcinogenic)   HTNC	CTUh	8,40E-08	1,75E-10	1,41E-12	2,40E-08	1,71E-06	1,74E-06	5,21E-09	1,83E-06	-4,57E-09
Environment: Ionising radiation (human health)   IRH	kBq U235 eq	6,38E-01	2,28E-04	1,90E-05	6,19E-02	5,44E+01	5,45E+01	2,54E-03	5,51E+01	-9,05E-03
Environment: Land use and land use change   LULUC	dimensionless	3,03E+01	1,49E-01	3,08E-03	5,86E+00	5,24E+02	5,29E+02	3,89E-01	5,60E+02	-2,87E+00
Environment: Particulate matter formation   PMF	disease incidence	2,89E-07	1,39E-09	4,62E-11	3,11E-08	1,80E-06	1,83E-06	2,70E-09	2,13E-06	-4,41E-08

## Extrapolation factor of homogeneous environmental families

Technical characteristics	Power (W)	Artificial output luminous flux (lm)	Mass of the structure of the product (g)	Mass of Packaging (g)
VISION V68	21	1700	419,50	75,00
VISION V68W	36	1170	429,50	75,00
T75	11	1050	294,50	100,00
TS68	11	950	194,50	100,00
T100 Pro	17	2400	414,5	100
TS100 Pro	12	1500	469,5	100
TS150 Pro	25	3000	734	150
T200 Pro	38	4800	1744	400
TS200 Pro	36	4200	1419	400

To assess the environmental impact of other products covered by the PEP, multiply the impact values by the corresponding factors:

Coefficients Extrapolation	A1-A3 : Lighting structure	A1-A3 : Packaging production	A1-A3 : LED Driver	A4	A5	B2	B6	C1-C4
VISION V68	1,4	1,1	1,1	1,3	1,1	1,1	1,8	1,3
VISION V68W	2,0	1,6	1,6	1,9	1,6	1,6	4,5	2,0
T75	1,5	2,4	1,8	1,7	2,4	1,8	1,5	1,6
TS68	1,1	2,7	2,0	1,5	2,7	2,0	1,7	1,3
T100 Pro	1,0	1,1	0,8	0,9	1,1	0,8	1,0	0,9
TS100 Pro	1,7	1,7	1,3	1,6	1,7	1,3	1,2	1,6
TS150 Pro	1,3	1,3	1,3	1,3	1,3	1,3	1,2	1,3
T200 Pro	2,0	2,1	0,8	1,8	2,1	0,8	1,2	1,7
TS200 Pro	1,9	2,4	0,9	1,8	2,4	0,9	1,3	1,6

*Extrapolation coefficients are at the functional unit level.*

# Environmental impact of the reference product at declared unit level.

This environmental declaration has been developed by considering an outgoing artificial luminous flux of 3,800 lumens over a reference lifetime of 165,000 hours (33 years).

## Mandatory environmental impact indicators

Indicators	Unit	A1-A3	A4	A5	B2	B6	B1-B7	C1-C4	Total (excluding D)	D
Environment: Abiotic depletion potential (elements)   ADPE	kg Sb eq	2,24E-03	9,73E-07	3,43E-08	2,04E-03	1,85E-02	2,05E-02	6,45E-05	2,28E-02	9,72E-05
Environment: Abiotic depletion potential (fossils)   ADPF	MJ (net calorific)	1,50E+03	6,07E+00	9,48E-02	1,37E+02	3,55E+04	3,57E+04	8,49E+00	3,72E+04	-8,74E+01
Environment: Acidification potential   AP	mol H+ eq	5,50E-01	7,65E-03	3,71E-05	7,01E-02	8,83E+00	8,90E+00	7,01E-03	9,47E+00	-5,74E-02
Environment: Eutrophication potential (freshwater)   EPF	kg P eq	5,02E-02	2,62E-05	9,92E-07	9,31E-03	1,46E+00	1,47E+00	4,29E-04	1,52E+00	-2,73E-03
Environment: Eutrophication potential (marine)   EPM	kg N eq	1,35E-01	1,97E-03	1,55E-05	1,25E-02	1,43E+00	1,44E+00	3,01E-04	1,58E+00	-9,97E-03
Environment: Eutrophication potential (terrestrial)   EPT	mol N eq	1,08E+00	2,17E-02	1,48E-04	1,32E-01	1,29E+01	1,31E+01	9,18E-03	1,42E+01	-1,03E-01
Environment: Global warming potential (biogenic)   GWPB	kg CO2 eq	3,46E-01	1,91E-05	-1,85E-02	3,37E-02	5,16E+01	5,16E+01	2,31E-03	5,20E+01	1,54E-01
Environment: Global warming potential (fossil)   GWPF	kg CO2 eq	1,14E+02	4,58E-01	8,35E-03	9,94E+00	1,54E+03	1,55E+03	1,32E+00	1,67E+03	-9,18E+00
Environment: Global warming potential (land use)   GWPL	kg CO2 eq	2,28E-01	2,99E-04	3,03E-06	2,14E-02	3,86E+00	3,88E+00	6,40E-04	4,11E+00	-2,83E-02
Environment: Global warming potential (total)   GWPT	kg CO2 eq	1,14E+02	4,59E-01	-1,02E-02	9,99E+00	1,60E+03	1,61E+03	1,32E+00	1,72E+03	-9,05E+00
Environment: Ozone depletion potential   ODP	kg CFC-11 eq	2,89E-06	6,89E-09	1,05E-10	4,42E-07	2,93E-05	2,98E-05	3,68E-08	3,27E-05	-9,10E-08
Environment: Photochemical ozone creation potential   POCP	kg NMVOC eq	5,86E-01	6,19E-03	5,72E-05	5,14E-02	4,15E+00	4,20E+00	3,20E-03	4,80E+00	-3,17E-02
Environment: Water deprivation potential   WDP	m3 world eq	3,58E+01	2,32E-02	-1,19E-04	4,13E+00	8,52E+02	8,56E+02	1,68E-01	8,92E+02	-2,30E+00



## Resource utilisation indicators

Indicators	Unit	A1-A3	A4	A5	B2	B6	B1-B7	C1-C4	Total (excluding D)	D
Primary energy: Non-renewable (energy use)   PENRE	MJ (PENRE)	1,46E+03	5,54E+00	8,74E-02	1,32E+02	3,50E+04	3,51E+04	7,95E+00	3,66E+04	-8,56E+01
Primary energy: Non-renewable (material use)   PENRM	MJ (PENRM)	4,67E+01	5,35E-01	7,42E-03	4,51E+00	5,12E+02	5,17E+02	5,34E-01	5,65E+02	-1,80E+00
Primary energy: Non-renewable (total)   PENRT	MJ (PENRT)	1,50E+03	6,07E+00	9,48E-02	1,37E+02	3,55E+04	3,57E+04	8,49E+00	3,72E+04	-8,74E+01
Primary energy: Renewable (energy use)   PERE	MJ (PERE)	1,41E+02	6,08E-02	3,22E-03	1,42E+01	7,63E+03	7,64E+03	6,35E-01	7,79E+03	-1,18E+01
Primary energy: Renewable (material use)   PERM	MJ (PERM)	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
Primary energy: Renewable (total)   PERT	MJ (PERT)	1,41E+02	6,08E-02	3,22E-03	1,42E+01	7,63E+03	7,64E+03	6,35E-01	7,79E+03	-1,18E+01
Resource: Net use of fresh water   FW	m3(FW)	4,84E-01	5,40E-04	7,21E-06	9,09E-02	2,75E+01	2,76E+01	5,01E-03	2,81E+01	-4,08E-02
Resource: Non-renewable secondary fuels   NRSF	MJ (NRSF)	3,95E+00	1,87E-03	1,11E-04	3,70E-01	2,63E+02	2,64E+02	1,03E-02	2,68E+02	1,53E-02
Resource: Renewable secondary fuels   RSF	MJ (RSF)	1,43E+00	4,64E-04	1,50E-04	1,39E-01	2,61E+02	2,61E+02	9,27E-03	2,62E+02	-1,06E-02
Resource: Secondary materials   SM	kg (SM)	3,19E+00	4,19E-03	1,25E-01	3,41E-01	4,49E+02	4,49E+02	8,18E-01	4,53E+02	-3,60E-02

## Waste category indicators

Indicators	Unit	A1-A3	A4	A5	B2	B6	B1-B7*	C1-C4	Total (excluding D)	D
Waste: Hazardous waste disposed   HWD	kg	7,12E+00	6,54E-03	5,27E-05	7,36E-01	3,47E+01	3,55E+01	1,08E-01	4,27E+01	-1,52E+00
Waste: Non-hazardous waste disposed   NHWD	kg	8,34E+00	1,56E-01	1,60E-02	3,54E-01	1,06E+02	1,06E+02	-5,22E-02	1,15E+02	-1,73E-01
Waste: Radioactive waste disposed   RWD	kg	3,02E-03	9,60E-07	8,62E-08	2,73E-04	2,50E-01	2,51E-01	1,15E-05	2,54E-01	-4,00E-05

## Output flow indicators

Indicators	Unit	A1-A3	A4	A5	B2	B6	B1-B7	C1-C4	Total (excluding D)	D
Output: Components for reuse   CRU	kg (CRU)	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*
Output: Exported energy (electrical)   EEE	MJ (EEE)	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
Output: Exported energy (thermal)   EET	MJ (EET)	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
Output: Materials for energy recovery   MER	kg (MORE)	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
Output: Materials for recycling   MFR	kg (MFR)	3,68E+00	3,87E-03	3,25E-04	8,29E-01	4,36E+02	4,37E+02	-2,02E-02	4,41E+02	-8,49E-03

\* represents less than 0.01% of the impacts on the total life cycle of the reference flow

## Biogenic Carbon Inventory Flow

Indicators	Unit	Total
Biogenic carbon content of the product	kg	0
Biogenic Carbon content of associated packaging	kg	0,04

## Optional environmental impact indicators


Indicators	Unit	A1-A3	A4	A5	B2	B6	B1-B7	C1-C4	Total (excluding D)	D
Environment: Ecotoxicity potential (freshwater)   ETPF	CTUe	8,65E+02	3,18E+00	2,95E-02	2,14E+02	5,86E+03	6,08E+03	1,67E+01	6,96E+03	-1,39E+01
Environment: Human toxicity (carcinogenic)   HTC	CTUh	5,72E-08	2,03E-10	5,07E-12	1,11E-08	7,67E-07	7,78E-07	1,37E-09	8,36E-07	-1,08E-08
Environment: Human toxicity (non-carcinogenic)   HTNC	CTUh	1,50E-06	3,14E-09	2,53E-11	4,31E-07	3,07E-05	3,11E-05	9,34E-08	3,27E-05	-8,18E-08
Environment: Ionising radiation (human health)   IRH	kBq U235 eq	1,14E+01	4,09E-03	3,41E-04	1,11E+00	9,75E+02	9,76E+02	4,55E-02	9,88E+02	-1,62E-01
Environment: Land use and land use change   LULUC	dimensionless	5,43E+02	2,66E+00	5,52E-02	1,05E+02	9,38E+03	9,48E+03	6,96E+00	1,00E+04	-5,15E+01
Environment: Particulate matter formation   PMF	disease incidence	5,17E-06	2,49E-08	8,28E-10	5,57E-07	3,23E-05	3,28E-05	4,84E-08	3,81E-05	-7,90E-07

## Extrapolation factor of homogeneous environmental families

Technical characteristics	Power (W)	Artificial output luminous flux (lm)	Mass of the structure of the product (g)	Mass of Packaging (g)
VISION V68	21	1700	419,50	75,00
VISION V68W	36	1170	429,50	75,00
T75	11	1050	294,50	100,00
TS68	11	950	194,50	100,00
T100 Pro	17	2400	414,5	100
TS100 Pro	12	1500	469,5	100
TS150 Pro	25	3000	734	150
T200 Pro	38	4800	1744	400
TS200 Pro	36	4200	1419	400

To assess the environmental impact of other products covered by the PEP, multiply the impact values by the corresponding factors:

Coefficients Extrapolation	A1-A3 : Lighting structure	A1-A3 : Packaging production	A1-A3 : LED Driver	A4	A5	B2	B6	C1-C4
VISION V68	0,6	0,5	0,5	0,6	0,5	0,5	0,8	0,6
VISION V68W	0,6	0,5	0,5	0,6	0,5	0,5	1,4	0,6
T75	0,4	0,7	0,5	0,5	0,7	0,5	0,4	0,4
TS68	0,3	0,7	0,5	0,4	0,7	0,5	0,4	0,3
T100 Pro	0,6	0,7	0,5	0,6	0,7	0,5	0,7	0,6
TS100 Pro	0,7	0,7	0,5	0,6	0,7	0,5	0,5	0,6
TS150 Pro	1,1	1,0	1,0	1,0	1,0	1,0	1,0	1,1
T200 Pro	2,5	2,7	1,0	2,3	2,7	1,0	1,5	2,2
TS200 Pro	2,1	2,7	1,0	1,9	2,7	1,0	1,4	1,8

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PEPs comply with standards NF C08-100-1:2016 and EN 50693:2019. PEP elements cannot be compared with elements from another program	
Document compliant with standard ISO 14025: 2006 "Environmental markings and declarations. Type III Environmental Declarations »	