


Product Environmental Profile of luminaires for outdoor lighting - Street family

Reference product: Street 2151



Registration number	IGUZ-00005-V01.01-EN	Drafting rules	PCR-ed4-EN-2021 09 14
		Supplemented by	PSR-0014-ed1.0-EN2018 07 18
Verifier accreditation number	VH23	Information and reference documents	www.pep-ecopassport.org
Date of issue	01-2023	Validity period	5 years
Independent verification of the declaration and data, in compliance with ISO 14025: 2006			
Internal		External	x
The PCR review was conducted by a panel of experts chaired by Julie ORGELET (DDemain)			
PEP are compliant with XP C08-100-1:2016 or EN 50693:2019			
The elements of the present PEP cannot be compared with elements from another program.			
Document in compliance with ISO 14025 : 2006 « Environmental labels and declarations. Type III environmental declarations»			



General information

Company information:

iGuzzini illuminazione S.p.A via Mariano Guzzini, 37 62019, Recanati, Italy

Web Site available at: <https://www.iguzzini.com/it/>

Legal contact: Cristiano Venturini (info.hq@iguzzini.com)

Reference product:

“Street 2151”

The assessed products range covers outdoor lighting luminaires from the “Street” family. The luminaires are used for professional lighting of outdoor environments, mainly for street and urban applications.

The main technical features of the reference product Street 2151 are described in the table below.

	Unit	Street family
Product code	-	2151
Light source	-	Integrated LED module
LED module code	-	GR. circuit 14 LED Samsung LH181B (C) 3070 P2 (P1Q1)
Power supply	-	OT DX 40/220-240/1A0 DIMA LT2 E
Color temperature	K	3000
Protection index for water and dust (IP)	-	IP66/67
Impact resistance index (IK)	-	IK09
Nominal operating voltage	V	220-240
Assigned lifetime	Hours	100.000
Declaration lifetime of the LED module	Hours	100.000
Useful output flux	Lumen	5260
Electrical power	W	42,1
Luminous efficiency	Lumen/W	124,94
Dimension	mm	416x211 mm.

Functional unit:

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

The reference flow is calculated as:

$(1,000/\text{outgoing luminous flux of the analyzed product in lumens}) \times (35,000/\text{declared product lifetime of the analyzed product in hours})$

The outgoing luminous flux is calculated taking in account the variation of the power (and therefore of the lumens, due to the light management system) during the use of the luminaries.

Consequently, the reference flow factor for the reference product Street 2151 corresponds to:

$$(1,000/4076,5) \times (35,000/100,000) = 0,086$$

Homogeneous environmental family:

The reference product represents the “Street” luminaires family, which differs in terms of power and useful output flux (lumen) of the integrated LED installed in the luminaries.

The range of variations for the products in the same family are the following:

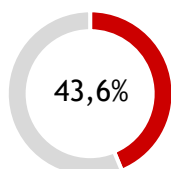
Street family	Unit	Value for the reference product	Minimum value in product range	Maximum value in product range
Electrical power	W	42,1	16,1	176,3
Useful output flux	Lumen	5260	1820	25656
Weight	Kg	3,71	3,55	9,90

The present PEP declaration is valid for all the products in the described homogenous environmental family. The spreadsheet provided as annex shall be used by the PEP user to extrapolate the impact of the other products from the Street family, based on the technical parameters of the considered product, as requested by the PSR.



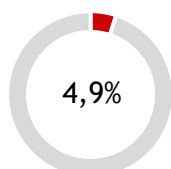
Constituent materials

METALS



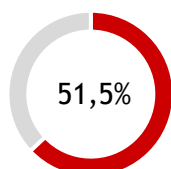
	kg	%
Aluminum	2,04	41,7
Steel	0,05	1,1
Brass	0,03	0,8

PLASTICS



	kg	%
Silicon product	0,07	1,4
Polymethyl methacrylate (PMMA)	0,06	1,3
Polyvinyl chloride	0,05	1,2
Other (PA, PP, PE ...)	0,05	1,0

OTHER MATERIALS



	kg	%
Glass	0,77	15,7
Electronical components	0,37	7,7
Chemicals	0,14	2,9
Paper	0,04	0,9
Cardboard - Packaging	0,85	17,4
Plastic (PE) - Packaging	0,03	0,8
Wood - Packaging	0,3	6,1

Total reference product	3,72	75,7%
Total packaging	1,18	24,3%
TOTAL	4,90	100%

The list above includes also materials with a certain amount of recycled content, in order to reduce the impacts linked to production of virgin materials. In particular:

- The main body of the luminaire is made of 100% of recycled diecast aluminum;
- The paperboard box of packaging is made of 100% of recycled content;
- The plastic used for packaging is made of 100% of recycled content;
- The pallet used for shipment is reused.



Manufacture

The product components are manufactured or assembled by iGuzzini S.p.A. in Shanghai (China) manufacturing site. iGuzzini applies an environmental management system, certified according to ISO 14001:2015 (the certificate is available at: <https://www.iguzzini.com/it/certificazioni/>).

In 2021 iGuzzini gained the silver medal in the EcoVadis platform. In the same year, iGuzzini disclosed its sustainability performances within the Fagerhult Group Sustainability Report.

All lighting products manufactured by iGuzzini comply to the European directive “2011/65/EU ROHS 2 - Restriction of dangerous substances in electrical and electronical equipment”



Distribution

After the manufacturing phase in the Shanghai plant, the products are sent to the iGuzzini S.p.A. Italy plant (Recanati) from where they are delivered directly to the final clients. The distribution of the final destinations is the following:

Destination	Share (%)	Type transport considered
Italy	70%	Local
France	10%	Intracontinental
Sweden	5%	Intracontinental
Denmark	5%	Intracontinental
Germany	5%	Intracontinental
Great Britain	5%	Intercontinental



Installation

The luminaires are provided to the client with the power supply, the fixing elements and the assembly elements, fittings and other electrical connectors needed for installation. The installation of the luminaire require the use of a lifting platform. In this phase the end of life (EoL) of the packaging of the final product is considered as well.



Use

Energy efficient light sources (LED lighting) are integrated in the luminaries. The use phase consists of electricity use during the whole lifetime of the product. The assigned lifetime of the luminaire is the same as for the integrated LED module: 100,000 hours.

The Street family luminaries are equipped with a light management system (named “Midnight profile”) capable of reducing electricity consumption by switching the power (from P_{max} to 70% of P_{max}) during the use.



End of life

The company is affiliated to a WEEE (Waste Electrical and Electronic Equipment) Italian consortium (Ecolight, <https://ecolight.it/>). The product at its end of life is managed as prescribed by the current legislation about EEE waste (Directive 2012/19/EU) and the waste treatment scenarios of the Countries in which the product is distributed. According to the most recent data available, waste treatment scenarios are the following:

WEEE	Italy	France	Sweden	Denmark	UK	Germany	Modelling assumptions
Recycling	95%	77%	59%	59%	59%	54%	Transport (150km) and treatment of waste based on materials contained in the components
Incineration (with energy recovery)	2%	8,5%	15%	15%	15%	17%	Transport (150km) and treatment of waste based on materials contained in the components
Incineration (without energy recovery)	0%	6%	11%	11%	11%	12%	Transport (150km) and treatment of waste based on materials contained in the components
Landfill	3%	8,5%	15%	15%	15%	17%	Transport (150km) and treatment of waste based on materials contained in the components



Environmental impacts

The evaluation of environmental impacts examines the manufacturing, distribution, installation, use and end-of-life stages of the Reference Product life cycle.

The environmental impacts assessment of the reference product has been performed using Simapro 9.3 software. Background datasets have been retrieved from Ecoinvent 3.8 libraries. The impact indicators and impact models used are the ones indicated by the PCR-ed4-EN-2021 09 14. This environmental declaration has been developed considering an outgoing artificial luminous flux of 1,000 lumens over a reference lifetime of 35,000 hours (Functional Unit).

Results of mandatory indicators per F.U. (for 1,000 lumens during 35,000 hours) of Street 2151 luminaire:

Impact category	Unit	Total	Manufacturing	Distribution	Installation	Use	EoL
Climate change	kg CO ₂ eq	1,03E+02	2,26E+00	2,49E-01	4,68E-02	1,01E+02	3,26E-02
Ozone depletion	kg CFC-11 eq	1,76E-05	6,44E-06	5,69E-08	9,94E-09	1,11E-05	3,28E-09
Photochemical ozone formation	kg NMVOC eq	2,17E-01	8,50E-03	1,44E-03	1,97E-04	2,07E-01	5,70E-05
Acidification	mol H ⁺ eq	4,54E-01	1,83E-02	1,35E-03	1,99E-04	4,34E-01	5,48E-05
Eutrophication, freshwater	kg P eq	3,62E-02	1,19E-03	7,29E-06	3,73E-06	3,50E-02	1,02E-06
Eutrophication, marine	kg N eq	7,37E-02	2,69E-03	4,94E-04	6,20E-05	7,04E-02	4,44E-05
Eutrophication, terrestrial	mol N eq	7,87E-01	3,02E-02	5,41E-03	6,76E-04	7,50E-01	1,85E-04
Water use	m ³ depriv.	5,46E+01	4,62E-01	5,24E-03	2,35E-03	5,41E+01	4,76E-04
Abiotic resource depletion, fossils	MJ	1,85E+03	2,00E+01	3,57E+00	6,69E-01	1,83E+03	2,11E-01
Abiotic resource depletion, minerals and metals	kg Sb eq	1,37E-03	3,34E-04	3,06E-07	2,45E-07	1,04E-03	3,03E-08
Climate change - Fossil	kg CO ₂ eq	9,55E+01	2,04E+00	2,49E-01	4,03E-02	9,32E+01	1,47E-02
Climate change - Biogenic	kg CO ₂ eq	7,61E+00	2,17E-01	1,19E-04	6,46E-03	7,37E+00	1,71E-02
Climate change - Land use and LU change	kg CO ₂ eq	8,56E-02	1,12E-03	3,95E-05	2,38E-05	8,44E-02	3,56E-06

Results of mandatory indicators per unit of product (declared unit, 5260 lumen during 100,000 hours) of Street 2151 luminaire:

Impact category	Unit	Total	Manufacturing	Distribution	Installation	Use	EoL
Climate change	kg CO ₂ eq	1,20E+03	2,63E+01	2,90E+00	5,45E-01	1,17E+03	3,80E-01
Ozone depletion	kg CFC-11 eq	2,05E-04	7,51E-05	6,62E-07	1,16E-07	1,29E-04	3,82E-08
Photochemical ozone formation	kg NMVOC eq	2,53E+00	9,90E-02	1,68E-02	2,29E-03	2,41E+00	6,64E-04
Acidification	mol H ⁺ eq	5,29E+00	2,13E-01	1,57E-02	2,31E-03	5,06E+00	6,38E-04
Eutrophication, freshwater	kg P eq	4,22E-01	1,38E-02	8,49E-05	4,34E-05	4,08E-01	1,18E-05
Eutrophication, marine	kg N eq	8,58E-01	3,13E-02	5,76E-03	7,22E-04	8,20E-01	5,17E-04
Eutrophication, terrestrial	mol N eq	9,16E+00	3,52E-01	6,30E-02	7,87E-03	8,74E+00	2,15E-03
Water use	m ³ depriv.	6,36E+02	5,38E+00	6,10E-02	2,74E-02	6,30E+02	5,55E-03
Abiotic resource depletion, fossils	MJ	2,16E+04	2,33E+02	4,16E+01	7,79E+00	2,13E+04	2,45E+00
Abiotic resource depletion, minerals and metals	kg Sb eq	1,60E-02	3,89E-03	3,56E-06	2,85E-06	1,21E-02	3,53E-07
Climate change - Fossil	kg CO ₂ eq	1,11E+03	2,37E+01	2,90E+00	4,69E-01	1,08E+03	1,72E-01
Climate change - Biogenic	kg CO ₂ eq	8,87E+01	2,53E+00	1,39E-03	7,52E-02	8,58E+01	1,99E-01
Climate change - Land use and LU change	kg CO ₂ eq	9,97E-01	1,30E-02	4,60E-04	2,77E-04	9,83E-01	4,15E-05

Results of mandatory indicators per unit of product (of Street 2151 luminaire) - Detail of the use phase with the decomposition of module B (B1-B7) according to EN 15978 and EN 15804

Impact category	Unit	Total	B1	B2	B3	B4	B5	B6	B7
Climate change	kg CO ₂ eq	1,17E+03	-	-	-	-	-	1,17E+03	-
Ozone depletion	kg CFC-11 eq	1,29E-04	-	-	-	-	-	1,29E-04	-
Photochemical ozone formation	kg NMVOC eq	4,45E+02	-	-	-	-	-	4,45E+02	-
Acidification	mol H ⁺ eq	2,41E+00	-	-	-	-	-	2,41E+00	-
Eutrophication, freshwater	kg P eq	2,29E-05	-	-	-	-	-	2,29E-05	-
Eutrophication, marine	kg N eq	1,23E-05	-	-	-	-	-	1,23E-05	-
Eutrophication, terrestrial	mol N eq	4,50E-07	-	-	-	-	-	4,50E-07	-
Water use	m ³ depriv.	5,06E+00	-	-	-	-	-	5,06E+00	-
Abiotic resource depletion, fossils	MJ	4,08E-01	-	-	-	-	-	4,08E-01	-
Abiotic resource depletion, minerals and metals	kg Sb eq	8,20E-01	-	-	-	-	-	8,20E-01	-
Climate change - Fossil	kg CO ₂ eq	8,74E+00	-	-	-	-	-	8,74E+00	-
Climate change - Biogenic	kg CO ₂ eq	1,52E+04	-	-	-	-	-	1,52E+04	-
Climate change - Land use and LU change	kg CO ₂ eq	6,36E+03	-	-	-	-	-	6,36E+03	-

Within the determination of the impacts of the manufacturing, installation, use and end of life the choice of the dataset relating to electricity consumption fell on low voltage energy (230 V) for all the geographical areas considered in the study. Furthermore, energy mixes were used for each country.

Results of mandatory inventory flows indicators per F.U. (for 1,000 lumens during 35,000 hours) of Street 2151 luminaire:

Indicators	Unit	Value
Renewable primary energy (without raw material)	MJ	5,19E+02
Renewable primary energy (raw material)	MJ	1,17E+00
Total use of renewable primary energy	MJ	5,20E+02
Non renewable primary energy (without raw material)	MJ	1,99E+03
Non renewable primary energy (raw material)	MJ	1,27E+01
Total use of non-renewable primary energy	MJ	2,01E+03
Use of secondary materials	kg	2,45E-01
Use of renewable secondary fuels	MJ	-
Use of non-renewable secondary fuels	MJ	-
Net use of fresh water	m ³	5,25E-04
Hazardous waste disposed	kg	1,44E-02
Non-hazardous waste disposed	kg	7,14E-03
Radioactive waste disposed	kg	-
Components for reuse	kg	2,58E-02
Materials for recycling	kg	*
Materials for energy recovery	kg	*
Exported energy	MJ	-
Biogenic carbon content of the product	kg	3,44E-03
Biogenic carbon content of the associated packaging	kg	9,89E-02

*The use of the symbol * indicates that the value depends on the country where the WEEE is disposed*

Results of mandatory inventory flows indicators per unit of product (declared unit, 5260 lumen during 100,000 hours) of Street 2151 luminaire:

Indicators	Unit	Value
Renewable primary energy (without raw material)	MJ	6,03E+03
Renewable primary energy (raw material)	MJ	1,36E+01
Total use of renewable primary energy	MJ	6,05E+03
Non renewable primary energy (without raw material)	MJ	2,32E+04
Non renewable primary energy (raw material)	MJ	1,48E+02
Total use of non-renewable primary energy	MJ	2,33E+04
Use of secondary materials	kg	2,85E+00
Use of renewable secondary fuels	MJ	-
Use of non-renewable secondary fuels	MJ	-
Net use of fresh water	m ³	6,10E-03
Hazardous waste disposed	kg	1,68E-01
Non-hazardous waste disposed	kg	8,30E-02
Radioactive waste disposed	kg	-
Components for reuse	kg	3,00E-01
Materials for recycling	kg	*
Materials for energy recovery	kg	*
Exported energy	MJ	-
Biogenic carbon content of the product	kg	4,00E-02
Biogenic carbon content of the associated packaging	kg	1,15E+00

*The use of the symbol * indicates that the value depends on the country where the WEEE is disposed*



Extrapolation rules

Extrapolations rules have been calculated following PCR-ed4-EN-2021 09 14 and PSR-0014-ed1.0-EN-2018 07 18. The defined rules shall be applied using the Extrapolation rules file provided in the following tables.

Parameter	Value for reference product (Street 2151)
Lighting output [lumens]	5260
Weight of light source [g]	0,336
Weight of luminaire structure and his packaging [kg]	4,66
Weight of power equipment [kg]	0,235
Weight of light management system [kg]	-
Weight of product including its light source [kg]	3,71
Weight of product including its packaging [kg]	4,90
Power [W]	42,1

The extrapolation coefficients calculation at the functional unit level shall be taken into account with the following formula:

$$\text{Extrapolation coefficient at the product level} \times \frac{\text{Lighting output of reference product (lumen)}}{\text{Lighting output of concerned product (lumens)}}$$

Extrapolation coefficients

The reported extrapolation coefficients are intended at product level (declared unit) and not at functional unit.

Product code	Manufacturing	Distribution	Installation	Use	EoL
N399	0,85	0,85	0,51	0,52	0,96
N400	0,85	0,85	0,51	0,56	0,96
N401	0,85	0,85	0,51	0,52	0,96
N402	0,85	0,85	0,51	0,77	0,96
N403	0,85	0,85	0,51	0,77	0,96
N404	0,85	0,85	0,51	0,72	0,96
N405	0,85	0,85	0,51	0,52	0,96
N406	0,85	0,85	0,51	0,56	0,96
N407	0,85	0,85	0,51	0,52	0,96
N408	0,85	0,85	0,51	0,77	0,96
N409	0,85	0,85	0,51	0,77	0,96
N410	0,85	0,85	0,51	0,72	0,96
N411	0,85	0,85	0,51	0,77	0,96
N412	0,85	0,85	0,51	0,77	0,96
N413	0,85	0,85	0,51	0,72	0,96
N414	0,85	0,85	0,51	0,52	0,96
N415	0,85	0,85	0,51	0,56	0,96
N416	0,85	0,85	0,51	0,52	0,96
N417	0,85	0,85	0,51	0,77	0,96
N418	0,85	0,85	0,51	0,77	0,96
N419	0,85	0,85	0,51	0,72	0,96
N420	0,85	0,85	0,51	0,52	0,96
N421	0,85	0,85	0,51	0,56	0,96
N422	0,85	0,85	0,51	0,52	0,96
N423	0,85	0,85	0,51	0,77	0,96
N424	0,85	0,85	0,51	0,77	0,96
N425	0,85	0,85	0,51	0,72	0,96
N426	0,85	0,85	0,51	0,52	0,96
N427	0,85	0,85	0,51	0,56	0,96
N428	0,85	0,85	0,51	0,52	0,96
N429	0,85	0,85	0,51	0,77	0,96
N430	0,85	0,85	0,51	0,77	0,96
N431	0,85	0,85	0,51	0,72	0,96
N432	0,85	0,85	0,51	0,38	0,96
N433	0,85	0,85	0,51	0,41	0,96
N434	0,85	0,85	0,51	0,38	0,96
N435	0,85	0,85	0,51	0,52	0,96
N436	0,85	0,85	0,51	0,56	0,96
N437	0,85	0,85	0,51	0,52	0,96
N438	0,85	0,85	0,51	0,38	0,96

N439	0,85	0,85	0,51	0,41	0,96
N440	0,85	0,85	0,51	0,38	0,96
N441	0,85	0,85	0,51	0,52	0,96
N442	0,85	0,85	0,51	0,56	0,96
N443	0,85	0,85	0,51	0,52	0,96
2131	0,85	0,85	0,51	0,98	0,96
2132	0,85	0,85	0,51	0,98	0,96
2133	0,85	0,85	0,51	0,97	0,96
2134	0,85	0,85	0,51	0,98	0,96
2135	0,85	0,85	0,51	0,98	0,96
2136	0,85	0,85	0,51	0,97	0,96
2137	0,85	0,85	0,51	0,98	0,96
2138	0,85	0,85	0,51	0,98	0,96
2139	0,85	0,85	0,51	0,97	0,96
2141	0,85	0,85	0,51	0,98	0,96
2142	0,85	0,85	0,51	0,98	0,96
2143	0,85	0,85	0,51	0,97	0,96
2144	0,85	0,85	0,51	0,98	0,96
2145	0,85	0,85	0,51	0,98	0,96
2146	0,85	0,85	0,51	0,97	0,96
2147	0,85	0,85	0,51	0,98	0,96
2148	0,85	0,85	0,51	0,98	0,96
2149	0,85	0,85	0,51	0,97	0,96
N450	1,00	1,00	1,00	0,53	1,00
N451	1,00	1,00	1,00	0,57	1,00
N452	1,00	1,00	1,00	0,53	1,00
N453	1,00	1,00	1,00	0,79	1,00
N454	1,00	1,00	1,00	0,79	1,00
N455	1,00	1,00	1,00	0,73	1,00
2150	1,00	1,00	1,00	1,00	1,00
2151	1,00	1,00	1,00	1,00	1,00
2152	1,00	1,00	1,00	0,98	1,00
N444	0,98	0,98	1,00	0,53	0,98
N445	0,98	0,98	1,00	0,57	0,98
N446	0,98	0,98	1,00	0,53	0,98
N447	0,98	0,98	1,00	0,79	0,98
N448	0,98	0,98	1,00	0,79	0,98
N449	0,98	0,98	1,00	0,73	0,98
2153	0,98	0,98	1,00	1,00	0,98
2154	0,98	0,98	1,00	1,00	0,98
2158	0,98	0,98	1,00	0,98	0,98
EQ19	1,64	1,53	0,59	0,39	1,83
EQ20	1,64	1,53	0,59	0,53	1,83
EQ21	1,64	1,53	0,59	0,64	1,83
EQ22	1,64	1,53	0,59	0,70	1,83
EQ23	1,64	1,53	0,59	0,92	1,83
EQ24	1,64	1,53	0,59	1,12	1,83

EQ25	1,64	1,53	0,59	1,41	1,83
EQ26	1,64	1,53	0,59	1,54	1,83
EQ27	1,64	1,53	0,59	2,00	1,83
EQ28	1,64	1,53	0,59	2,09	1,83
EQ29	1,64	1,53	0,59	0,37	1,83
EQ30	1,64	1,53	0,59	0,50	1,83
EQ31	1,64	1,53	0,59	0,60	1,83
EQ32	1,64	1,53	0,59	0,66	1,83
EQ33	1,64	1,53	0,59	0,86	1,83
EQ34	1,64	1,53	0,59	1,05	1,83
EQ35	1,64	1,53	0,59	1,32	1,83
EQ36	1,64	1,53	0,59	1,54	1,83
EQ37	1,64	1,53	0,59	1,86	1,83
EQ38	1,64	1,53	0,59	2,09	1,83
EQ39	1,64	1,53	0,59	0,64	1,83
EQ40	1,64	1,53	0,59	0,92	1,83
EQ41	1,64	1,53	0,59	1,41	1,83
EQ42	1,64	1,53	0,59	2,09	1,83
EQ43	1,64	1,53	0,59	0,60	1,83
EQ44	1,64	1,53	0,59	0,86	1,83
EQ45	1,64	1,53	0,59	1,32	1,83
EQ46	1,64	1,53	0,59	2,09	1,83
EQ47	1,64	1,53	0,59	0,64	1,83
EQ48	1,64	1,53	0,59	0,92	1,83
EQ49	1,64	1,53	0,59	1,41	1,83
EQ50	1,64	1,53	0,59	2,09	1,83
EQ51	1,64	1,53	0,59	0,60	1,83
EQ52	1,64	1,53	0,59	0,86	1,83
EQ53	1,64	1,53	0,59	1,32	1,83
EQ54	1,64	1,53	0,59	2,09	1,83
EQ55	1,64	1,53	0,59	0,92	1,83
EQ56	1,64	1,53	0,59	1,41	1,83
EQ57	1,64	1,53	0,59	2,09	1,83
EQ58	1,64	1,53	0,59	0,86	1,83
EQ59	1,64	1,53	0,59	1,32	1,83
EQ60	1,64	1,53	0,59	2,09	1,83
EQ61	1,64	1,53	0,59	0,64	1,83
EQ62	1,64	1,53	0,59	0,60	1,83
EQ63	1,64	1,53	0,59	0,64	1,83
EQ64	1,64	1,53	0,59	0,92	1,83
EQ65	1,64	1,53	0,59	1,41	1,83
EQ66	1,64	1,53	0,59	0,60	1,83
EQ67	1,64	1,53	0,59	0,86	1,83
EQ68	1,64	1,53	0,59	1,32	1,83
EX06	1,41	1,41	0,76	0,92	1,62
EX07	1,43	1,43	0,76	1,41	1,64
EX08	1,43	1,43	0,76	1,54	1,64

EX12	1,41	1,41	0,76	0,86	1,62
EX13	1,43	1,43	0,76	1,32	1,64
EX14	1,43	1,43	0,76	1,54	1,64
EW02	2,12	2,08	0,76	2,63	2,64
EW03	2,12	2,08	0,76	3,08	2,64
EW04	2,12	2,08	0,76	4,19	2,64
EW05	2,12	2,08	0,76	2,46	2,64
EW06	2,12	2,08	0,76	2,96	2,64
EW07	2,12	2,08	0,76	4,19	2,64
EW08	2,12	2,08	0,76	2,63	2,64
EW09	2,12	2,08	0,76	4,19	2,64
EW10	2,12	2,08	0,76	2,46	2,64
EW11	2,12	2,08	0,76	4,19	2,64
EW12	2,12	2,08	0,76	2,63	2,64
EW13	2,12	2,08	0,76	4,19	2,64
EW14	2,12	2,08	0,76	2,46	2,64
EW15	2,12	2,08	0,76	4,19	2,64
EW16	2,12	2,08	0,76	4,19	2,64
EW17	2,12	2,08	0,76	4,19	2,64
EX09	2,32	2,22	0,92	2,63	2,64
EX10	2,34	2,24	0,92	3,08	2,67
EX15	2,32	2,22	0,92	2,46	2,64
EX16	2,34	2,24	0,92	2,96	2,67

The following table reports the informations of the products included in the homogeneous environmental family.

Product code	Wattage (W)	Lumen (lm)	Product weight (kg)	Packaging weight (kg)	Structure Weight and his pack (kg)	Weight of power equipment (kg)	Weight of light source (kg)
N399	21,9	2520	4,16	0,61	3,94	0,215	0,0003
N400	23,4	3100	4,16	0,61	3,944664	0,215	0,000336
N401	21,9	3190	4,16	0,61	3,94	0,215	0,0003
N402	32,6	3740	4,16	0,61	3,94	0,215	0,0003
N403	32,6	4300	4,16	0,61	3,94	0,215	0,0003
N404	30,4	4420	4,16	0,61	3,94	0,215	0,0003
N405	21,9	2400	4,16	0,61	3,94	0,215	0,0003
N406	23,4	2950	4,16	0,61	3,94	0,215	0,0003
N407	21,9	3040	4,16	0,61	3,94	0,215	0,0003
N408	32,6	3560	4,16	0,61	3,94	0,215	0,0003
N409	32,6	4100	4,16	0,61	3,94	0,215	0,0003
N410	30,4	4210	4,16	0,61	3,94	0,215	0,0003
N411	32,6	3740	4,16	0,61	3,94	0,215	0,0003
N412	32,6	4300	4,16	0,61	3,94	0,215	0,0003
N413	30,4	4420	4,16	0,61	3,94	0,215	0,0003
N414	21,9	2460	4,16	0,61	3,94	0,215	0,0003
N415	23,4	3030	4,16	0,61	3,94	0,215	0,0003
N416	21,9	3110	4,16	0,61	3,94	0,215	0,0003
N417	32,6	3650	4,16	0,61	3,94	0,215	0,0003
N418	32,6	4200	4,16	0,61	3,94	0,215	0,0003
N419	30,4	4320	4,16	0,61	3,94	0,215	0,0003
N420	21,9	2370	4,16	0,61	3,94	0,215	0,0003
N421	23,4	2920	4,16	0,61	3,94	0,215	0,0003
N422	21,9	3000	4,16	0,61	3,94	0,215	0,0003
N423	32,6	3520	4,16	0,61	3,94	0,215	0,0003
N424	32,6	4050	4,16	0,61	3,94	0,215	0,0003
N425	30,4	4160	4,16	0,61	3,94	0,215	0,0003
N426	21,9	2370	4,16	0,61	3,94	0,215	0,0003
N427	23,4	2920	4,16	0,61	3,94	0,215	0,0003
N428	21,9	3000	4,16	0,61	3,94	0,215	0,0003
N429	32,6	3520	4,16	0,61	3,94	0,215	0,0003
N430	32,6	4050	4,16	0,61	3,94	0,215	0,0003
N431	30,4	4160	4,16	0,61	3,94	0,215	0,0003
N432	16,1	1820	4,16	0,61	3,94	0,215	0,0003
N433	17,1	2240	4,16	0,61	3,94	0,215	0,0003
N434	16,1	2300	4,16	0,61	3,94	0,215	0,0003
N435	21,9	2460	4,16	0,61	3,94	0,215	0,0003
N436	23,4	3030	4,16	0,61	3,94	0,215	0,0003
N437	21,9	3110	4,16	0,61	3,94	0,215	0,0003
N438	16,1	1870	4,16	0,61	3,94	0,215	0,0003
N439	17,1	2300	4,16	0,61	3,94	0,215	0,0003

N440	16,1	2360	4,16	0,61	3,94	0,215	0,0003
N441	21,9	2520	4,16	0,61	3,94	0,215	0,0003
N442	23,4	3100	4,16	0,61	3,94	0,215	0,0003
N443	21,9	3190	4,16	0,61	3,94	0,215	0,0003
2131	41,4	4570	4,16	0,61	3,94	0,215	0,0003
2132	41,4	5260	4,16	0,61	3,94	0,215	0,0003
2133	40,8	5660	4,16	0,61	3,94	0,215	0,0003
2134	41,4	4350	4,16	0,61	3,94	0,215	0,0003
2135	41,4	5010	4,16	0,61	3,94	0,215	0,0003
2136	40,8	5390	4,16	0,61	3,94	0,215	0,0003
2137	41,4	4570	4,16	0,61	3,94	0,215	0,0003
2138	41,4	5260	4,16	0,61	3,94	0,215	0,0003
2139	40,8	5660	4,16	0,61	3,94	0,215	0,0003
2141	41,4	4460	4,16	0,61	3,94	0,215	0,0003
2142	41,4	5140	4,16	0,61	3,94	0,215	0,0003
2143	40,8	5520	4,16	0,61	3,94	0,215	0,0003
2144	41,4	4300	4,16	0,61	3,94	0,215	0,0003
2145	41,4	4950	4,16	0,61	3,94	0,215	0,0003
2146	40,8	5320	4,16	0,61	3,94	0,215	0,0003
2147	41,4	4300	4,16	0,61	3,94	0,215	0,0003
2148	41,4	4950	4,16	0,61	3,94	0,215	0,0003
2149	40,8	5320	4,16	0,61	3,94	0,215	0,0003
N450	22,2	2520	4,9	1,19	4,66	0,235	0,0003
N451	23,8	3100	4,9	1,19	4,66	0,235	0,0003
N452	22,3	3190	4,9	1,19	4,66	0,235	0,0003
N453	33,1	3740	4,9	1,19	4,66	0,235	0,0003
N454	33,1	4300	4,9	1,19	4,66	0,235	0,0003
N455	30,9	4420	4,9	1,19	4,66	0,235	0,0003
2150	42,1	4570	4,9	1,19	4,66	0,235	0,0003
2151	42,1	5260	4,9	1,19	4,66	0,235	0,0003
2152	41,4	5660	4,9	1,19	4,66	0,235	0,0003
N444	22,2	2520	4,81	1,19	4,57	0,235	0,0003
N445	23,8	3100	4,81	1,19	4,57	0,235	0,0003
N446	22,3	3190	4,81	1,19	4,57	0,235	0,0003
N447	33,1	3740	4,81	1,19	4,57	0,235	0,0003
N448	33,1	4300	4,81	1,19	4,57	0,235	0,0003
N449	30,9	4420	4,81	1,19	4,57	0,235	0,0003
2153	42,1	4570	4,81	1,19	4,57	0,235	0,0003
2154	42,1	5260	4,81	1,19	4,57	0,235	0,0003
2158	41,4	5660	4,81	1,19	4,57	0,235	0,0003
EQ19	16,6	2300	7,5	0,7	6,71	0,785	0,0004
EQ20	22,3	3100	7,5	0,7	6,71	0,785	0,0004
EQ21	26,8	3700	7,5	0,7	6,71	0,785	0,0004
EQ22	29,6	4300	7,5	0,7	6,71	0,785	0,0007
EQ23	38,8	5500	7,5	0,7	6,71	0,785	0,0007
EQ24	47,2	7000	7,5	0,7	6,71	0,785	0,0010
EQ25	59,2	8600	7,5	0,7	6,71	0,785	0,0010

EQ26	65	9304	7,5	0,7	6,71	0,785	0,0010
EQ27	84	11600	7,5	0,7	6,71	0,785	0,0010
EQ28	88,1	12075	7,5	0,7	6,71	0,785	0,0010
EQ29	15,7	2300	7,5	0,7	6,71	0,785	0,0004
EQ30	21,1	3100	7,5	0,7	6,71	0,785	0,0004
EQ31	25,2	3700	7,5	0,7	6,71	0,785	0,0004
EQ32	27,9	4300	7,5	0,7	6,71	0,785	0,0007
EQ33	36,4	5500	7,5	0,7	6,71	0,785	0,0007
EQ34	44,4	7000	7,5	0,7	6,71	0,785	0,0010
EQ35	55,5	8600	7,5	0,7	6,71	0,785	0,0010
EQ36	65	9861	7,5	0,7	6,71	0,785	0,0010
EQ37	78,5	11600	7,5	0,7	6,71	0,785	0,0010
EQ38	88,1	12798	7,5	0,7	6,71	0,785	0,0010
EQ39	26,8	3700	7,5	0,7	6,71	0,785	0,0004
EQ40	38,8	5500	7,5	0,7	6,71	0,785	0,0007
EQ41	59,2	8600	7,5	0,7	6,71	0,785	0,0010
EQ42	88,1	12075	7,5	0,7	6,71	0,785	0,0010
EQ43	25,2	3700	7,5	0,7	6,71	0,785	0,0004
EQ44	36,4	5500	7,5	0,7	6,71	0,785	0,0007
EQ45	55,5	8600	7,5	0,7	6,71	0,785	0,0010
EQ46	88,1	12798	7,5	0,7	6,71	0,785	0,0010
EQ47	26,8	3700	7,5	0,7	6,71	0,785	0,0004
EQ48	38,8	5500	7,5	0,7	6,71	0,785	0,0007
EQ49	59,2	8600	7,5	0,7	6,71	0,785	0,0010
EQ50	88,1	12075	7,5	0,7	6,71	0,785	0,0010
EQ51	25,2	3700	7,5	0,7	6,71	0,785	0,0004
EQ52	36,4	5500	7,5	0,7	6,71	0,785	0,0007
EQ53	55,5	8600	7,5	0,7	6,71	0,785	0,0010
EQ54	88,1	12798	7,5	0,7	6,71	0,785	0,0010
EQ55	38,8	5500	7,5	0,7	6,71	0,785	0,0007
EQ56	59,2	8600	7,5	0,7	6,71	0,785	0,0010
EQ57	88,1	12075	7,5	0,7	6,71	0,785	0,0010
EQ58	36,4	5500	7,5	0,7	6,71	0,785	0,0007
EQ59	55,5	8600	7,5	0,7	6,71	0,785	0,0010
EQ60	88,1	12798	7,5	0,7	6,71	0,785	0,0010
EQ61	26,8	3700	7,5	0,7	6,71	0,785	0,0004
EQ62	25,2	3700	7,5	0,7	6,71	0,785	0,0004
EQ63	26,8	3700	7,5	0,7	6,71	0,785	0,0004
EQ64	38,8	5500	7,5	0,7	6,71	0,785	0,0007
EQ65	59,2	8600	7,5	0,7	6,71	0,785	0,0010
EQ66	25,2	3700	7,5	0,7	6,71	0,785	0,0004
EQ67	36,4	5500	7,5	0,7	6,71	0,785	0,0007
EQ68	55,5	8600	7,5	0,7	6,71	0,785	0,0010
EX06	38,8	5500	6,9	0,9	6,66	0,235	0,0007
EX07	59,2	8600	7	0,9	6,66	0,340	0,0010
EX08	65	9304	7	0,9	6,66	0,340	0,0010
EX12	36,4	5500	6,9	0,9	6,66	0,235	0,0007

EX13	55,5	8600	7	0,9	6,66	0,34	0,0010
EX14	65	9861	7	0,9	6,66	0,34	0,0010
EW02	110,7	15900	10,2	0,9	9,41	0,785	0,0017
EW03	129,5	18641	10,2	0,9	9,41	0,785	0,0020
EW04	176,3	24206	10,2	0,9	9,41	0,785	0,0020
EW05	103,6	15900	10,2	0,9	9,41	0,785	0,0017
EW06	124,5	19100	10,2	0,9	9,41	0,785	0,0020
EW07	176,3	25656	10,2	0,9	9,41	0,785	0,0020
EW08	110,7	15900	10,2	0,9	9,41	0,785	0,0017
EW09	176,3	24206	10,2	0,9	9,41	0,785	0,0020
EW10	103,6	15900	10,2	0,9	9,41	0,785	0,0017
EW11	176,3	25656	10,2	0,9	9,41	0,785	0,0020
EW12	110,7	15900	10,2	0,9	9,41	0,785	0,0017
EW13	176,3	24206	10,2	0,9	9,41	0,785	0,0020
EW14	103,6	15900	10,2	0,9	9,41	0,785	0,0017
EW15	176,3	25656	10,2	0,9	9,41	0,785	0,0020
EW16	176,3	24206	10,2	0,9	9,41	0,785	0,0020
EW17	176,3	25656	10,2	0,9	9,41	0,785	0,0020
EX09	110,7	15900	10,9	1,1	9,90	1	0,0017
EX10	129,5	18641	11	1,1	10,00	1	0,0020
EX15	103,6	15900	10,9	1,1	9,90	1	0,0017
EX16	124,5	19100	11	1,1	10,00	1	0,0020