iGuzzini illuminazione S.p.A
via Mariano Guzzini, 37, 62019, Recanati, Italy
https://www.iguzzini.com/it/

Product Environmental Profile of luminaires for indoor recessed lighting – Crystal family

Reference product: RD93.D8

Registration number	IGUZ-00004-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	09-2022	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:

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Reference product:

"Crystal RD93.D8"

The assessed products range covers indoor lighting luminaires from the "Crystal" family. The luminaires are used for professional lighting of indoor environments, mainly use for workplace as well as a decorative finish for Hospitality & Retail applications.

The main technical features of the reference product RD93.D8 are described in the table below.

	Unit	Crystal family
Product code	-	RD93.D8
Light source	-	Integrated LED module
LED module code	-	W/W BIN1 CEM /CONN
Power supply	-	20W SR 87500921
Color temperature	K	3000
Protection index for water and dust (IP) - visible part	-	IP43
Protection index for water and dust (IP) - recessed part	-	IP20
Impact resistance index (IK)	-	IK02
Nominal operating voltage	V	220-240
Assigned lifetime	Hours	50.000
Declaration lifetime of the LED module	Hours	50.000
Useful output flux	Lumen	4020
Electrical power	W	37,4
Luminous efficiency	Lumen/W	108
Dimension	mm	76 x 556 x 100

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/outgoing luminous flux of the analyzed product in lumens) x (35,000/declared product lifetime of the analyzed product in hours):

(1,000/4020) x (35,000/50,000) = 0,174

Homogeneous environmental family:

The reference product represents the "Crystal" luminaires family, which differs in terms of power, useful output flux (lumen) of the integrated LED installed in the luminaries and dimension (weight).

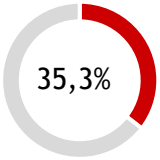
The range of variations for the products in the same family are the following:

Crystal family	Unit	Value for the reference product	Minimum value in product range	Maximum value in product range
Electrical power	W	37,3	5,1	37,3
Useful output flux	Lumen	4020	739	4449
Weight	Kg	1,20	0,716	1,20

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 Crystal family, based on the technical parameters of the considered product, as requested by the PSR.

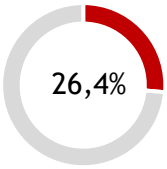
Constituent materials

METALS



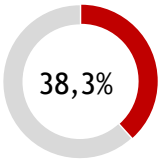
	kg	%
Aluminum	0,438	27,0%
Zamak	0,090	5,5%
Steel	0,045	2,8%

PLASTICS



	kg	%
Polymethyl methacrylate (PMMA)	0,255	15,7%
Polycarbonate (PC)	0,148	9,1%
Polyethylene terephthalate (PET)	0,025	1,6%

OTHER MATERIALS



	kg	%
Electronical components	0,184	11,4%
Paper	0,016	1,0%
Cardboard - Packaging	0,193	12,0%
Plastic (PE) - Packaging	0,030	1,9%
Wood - Packaging	0,195	12,0%

Total reference product	1,20	74%
Total packaging	0,42	26%
TOTAL	**1,62**	**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 76,2% of recycled aluminum;
- The plastic cover of the luminaire is made of 85% of recycled PET;
- 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 Recanati (Italy) manufacturing site. iGuzzini applies an environmental management system, certified according to ISO 14001:2015 and an energy management system certified according to ISO 50001:2018 (the certificates are available at: https://www.iguzzini.com/it/certificazioni/).

In 2021 iGuzzini gained the silver medal in the EcoVadis platform, confirmed in 2022. In the same year, iGuzzini disclosed its sustainability performances within the Fagerhult Group Sustainability Report.

In 2022 iGuzzini plant of Recanati passed to 100% green energy procurement verified and certified by GO (origin guarantee certificates).

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

There is no hub for the distribution. Products leaving the production site in Recanati (MC), Italy, are delivered directly to the final clients. The distribution of the final destinations is the following:

Destination	Share (%)	Type transport considered
Italy	6,5%	Local
Spain	6,5%	Intercontinental
South America	4%	Intracontinental
France	7%	Intercontinental
Great Britain	25%	Intercontinental
Northern Europe	18%	Intercontinental
Russia	11%	Intercontinental
Middle east, Emirates	16%	Intracontinental
China, India	6%	Intracontinental

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. Therefore, the installation of the luminaire does not require additional components and the product is easily installed using manual tools. 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. 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 (50,000 hours), as specified in the PSR-0014-ed1.0-EN-2018 07 18 (Average lifetime of light sources = 50,000 hours).

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	Spain	France	UK	Germany	Modelling assumptions
Recycling	95%	34%	77%	59%	54%	Transport (150km) and treatment of waste based on materials contained in the components
Incineration (with energy recovery)	2%	24,5%	8,5%	15%	17%	Transport (150km) and treatment of waste based on materials contained in the components
Incineration (without energy recovery)	0%	17%	6%	11%	12%	Transport (150km) and treatment of waste based on materials contained in the components
Landfill	3%	24,5%	8,5%	15%	17%	Transport (150km) and treatment of waste based on materials contained in the components

WEEE	Argentina	Russia	Emirates	China	Modelling assumptions
Recycling	1%	23%	6%	20%	Transport (1000km) and treatment of waste based on materials contained in the components
Incineration (with energy recovery)	36,5%	28,5%	35%	30%	Transport (1000km) and treatment of waste based on materials contained in the components
Incineration (without energy recovery)	26%	20%	24%	20%	Transport (1000km) and treatment of waste based on materials contained in the components
Landfill	36,5%	28,5%	35%	30%	Transport (1000km) 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 9.3.0.3 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 Crystal RD93.D8 luminaire:

Impact category	Unit	Total	Manufacturing	Distribution	Installation	Use	EoL
Climate change	kg CO_2 eq	1,63E+02	1,66E+00	6,66E-01	2,02E-02	1,61E+02	1,05E-01
Ozone depletion	kg CFC-11 eq	9,06E-06	8,92E-08	1,51E-07	1,52E-09	8,81E-06	3,92E-09
Photochemical ozone formation	kg NMVOC eq	3,21E-01	6,68E-03	3,64E-03	3,89E-05	3,10E-01	1,18E-04
Acidification	mol H^+ eq	5,92E-01	1,90E-02	3,49E-03	3,64E-05	5,69E-01	1,05E-04
Eutrophication, freshwater	kg P eq	7,66E-02	1,08E-03	1,13E-05	5,10E-07	7,56E-02	2,79E-06
Eutrophication, marine	kg N eq	1,19E-01	1,87E-03	1,28E-03	1,33E-05	1,16E-01	1,22E-04
Eutrophication, terrestrial	mol N eq	1,17E+00	2,10E-02	1,40E-02	1,38E-04	1,13E+00	4,02E-04
Water use	m^3 depriv.	3,37E+01	6,89E-01	8,20E-03	5,84E-04	3,30E+01	2,36E-03
Abiotic resource depletion, fossils	MJ	2,94E+03	2,01E+01	9,37E+00	1,03E-01	2,91E+03	2,72E-01
Abiotic resource depletion, minerals and metals	kg Sb eq	1,50E-03	3,15E-04	3,27E-07	2,39E-08	1,19E-03	6,35E-08
Climate change - Fossil	kg CO_2 eq	1,59E+02	1,65E+00	6,66E-01	1,03E-02	1,57E+02	6,39E-02
Climate change - Biogenic	kg CO_2 eq	3,35E+00	1,16E-03	2,22E-04	9,86E-03	3,30E+00	3,97E-02
Climate change - Land use and LU change	kg CO_2 eq	3,59E-01	1,86E-03	5,51E-05	2,84E-06	3,57E-01	8,06E-06

Results of mandatory indicators per unit of product (declared unit, 4020 lumen during 50,000 hours) of Crystal RD93.D8 luminaire:

Impact category	Unit	Total	Manufacturing	Distribution	Installation	Use	EoL
Climate change	kg CO_2 eq	9,38E+02	9,52E+00	3,83E+00	1,16E-01	9,23E+02	6,05E-01
Ozone depletion	kg CFC-11 eq	5,21E-05	5,13E-07	8,69E-07	8,76E-09	5,07E-05	2,25E-08
Photochemical ozone formation	kg NMVOC eq	1,84E+00	3,84E-02	2,09E-02	2,24E-04	1,78E+00	6,79E-04
Acidification	mol H^+ eq	3,40E+00	1,09E-01	2,00E-02	2,09E-04	3,27E+00	6,04E-04
Eutrophication, freshwater	kg P eq	4,40E-01	6,19E-03	6,50E-05	2,93E-06	4,34E-01	1,60E-05
Eutrophication, marine	kg N eq	6,83E-01	1,07E-02	7,34E-03	7,63E-05	6,65E-01	7,03E-04
Eutrophication, terrestrial	mol N eq	6,71E+00	1,20E-01	8,03E-02	7,92E-04	6,51E+00	2,31E-03
Water use	m^3 depriv.	1,94E+02	3,96E+00	4,71E-02	3,36E-03	1,89E+02	1,35E-02
Abiotic resource depletion, fossils	MJ	1,69E+04	1,16E+02	5,39E+01	5,89E-01	1,67E+04	1,56E+00
Abiotic resource depletion, minerals and metals	kg Sb eq	8,62E-03	1,81E-03	1,88E-06	1,37E-07	6,81E-03	3,65E-07
Climate change - Fossil	kg CO_2 eq	9,16E+02	9,50E+00	3,83E+00	5,92E-02	9,02E+02	3,67E-01
Climate change - Biogenic	kg CO_2 eq	1,93E+01	6,69E-03	1,28E-03	5,67E-02	1,90E+01	2,28E-01
Climate change - Land use and LU change	kg CO_2 eq	2,06E+00	1,07E-02	3,17E-04	1,63E-05	2,05E+00	4,63E-05

Results of mandatory indicators per unit of product (of Crystal RD93.D8 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	9,23E+02	-	-	-	-	-	9,23E+02	-
Ozone depletion	kg CFC-11 eq	5,07E-05	-	-	-	-	-	5,07E-05	-
Photochemical ozone formation	kg NMVOC eq	1,78E+00	-	-	-	-	-	1,78E+00	-
Acidification	mol H^+ eq	3,27E+00	-	-	-	-	-	3,27E+00	-
Eutrophication, freshwater	kg P eq	4,34E-01	-	-	-	-	-	4,34E-01	-
Eutrophication, marine	kg N eq	6,65E-01	-	-	-	-	-	6,65E-01	-
Eutrophication, terrestrial	mol N eq	6,51E+00	-	-	-	-	-	6,51E+00	-
Water use	m^3 depriv.	1,89E+02	-	-	-	-	-	1,89E+02	-
Abiotic resource depletion, fossils	MJ	1,67E+04	-	-	-	-	-	1,67E+04	-
Abiotic resource depletion, minerals and metals	kg Sb eq	6,81E-03	-	-	-	-	-	6,81E-03	-
Climate change - Fossil	kg CO_2 eq	9,02E+02	-	-	-	-	-	9,02E+02	-
Climate change - Biogenic	kg CO_2 eq	1,90E+01	-	-	-	-	-	1,90E+01	-
Climate change - Land use and LU change	kg CO_2 eq	2,05E+00	-	-	-	-	-	2,05E+00	-

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 Crystal RD93.D8 luminaire:

Indicators	Unit	Value
Renewable primary energy (without raw material)	MJ	4,23E+02
Renewable primary energy (raw material)	MJ	1,33E+00
Total use of renewable primary energy	MJ	4,24E+02
Non renewable primary energy (without raw material)	MJ	3,10E+03
Non renewable primary energy (raw material)	MJ	1,79E+01
Total use of non-renewable primary energy	MJ	3,12E+03
Use of secondary materials	kg	1,17E-01
Use of renewable secondary fuels	MJ	-
Use of non-renewable secondary fuels	MJ	-
Net use of fresh water	m^3	8,20E-01
Hazardous waste disposed	kg	6,13E-04
Non-hazardous waste disposed	kg	4,53E-02
Radioactive waste disposed	kg	-
Components for reuse	kg	-
Materials for recycling	kg	*
Materials for energy recovery	kg	*
Exported energy	MJ	-
Biogenic carbon content of the product	kg	-
Biogenic carbon content of the associated packaging	kg	-

*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, 4020 lumen during 50,000 hours) of Crystal RD93.D8 luminaire:

Indicators	Unit	Value
Renewable primary energy (without raw material)	MJ	2,43E+03
Renewable primary energy (raw material)	MJ	7,62E+00
Total use of renewable primary energy	MJ	2,44E+03
Non renewable primary energy (without raw material)	MJ	1,78E+04
Non renewable primary energy (raw material)	MJ	1,03E+02
Total use of non-renewable primary energy	MJ	1,79E+04
Use of secondary materials	kg	6,72E-01
Use of renewable secondary fuels	MJ	-
Use of non-renewable secondary fuels	MJ	-
Net use of fresh water	m^3	4,71E+00
Hazardous waste disposed	kg	3,53E-03
Non-hazardous waste disposed	kg	2,60E-01
Radioactive waste disposed	kg	-
Components for reuse	kg	-
Materials for recycling	kg	*
Materials for energy recovery	kg	*
Exported energy	MJ	-
Biogenic carbon content of the product	kg	-
Biogenic carbon content of the associated packaging	kg	-

*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 (Crystal RD93.D8)
Lighting output [lumens]	4020
Weight of light source [kg]	0,0012
Weight of luminaire structure and his packaging [kg]	1,514
Weight of power equipment [kg]	0,108
Weight of light management system [kg]	-
Weight of product including its light source (no packaging) [kg]	1,202
Weight of product including its packaging [kg]	1,623
Power [W]	37,3

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

$$Estrapolatuion\ coefficent\ at\ the\ product\ level\ x\ \frac{Lighting\ output\ of\ reference\ product\ (lumen)}{Lighting\ output\ of\ concerned\ product\ (lumens)}$$

Extrapolation coefficients

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

Category	Code	Finish	Manufacturing	Distribution	Installation	Use	EoL
UGR	RD01	.D8	0,711	0,615	0,670	0,146	0,596
		.83	0,711	0,615	0,670	0,146	0,596
	RD02	.D8	0,681	0,669	0,637	0,306	0,681
		.83	0,681	0,669	0,637	0,306	0,681
	RD03	.D8	0,945	0,945	1,000	0,437	0,925
		.83	0,945	0,945	1,000	0,437	0,925
	RD04	.D8	0,711	0,615	0,670	0,172	0,596
		.83	0,711	0,615	0,670	0,172	0,596
	RD05	.D8	0,681	0,669	0,637	0,354	0,681
		.83	0,681	0,669	0,637	0,354	0,681
	RD06	.D8	0,945	0,945	1,000	0,517	0,925
		.83	0,945	0,945	1,000	0,517	0,925
	RD07	.D8	0,711	0,615	0,670	0,273	0,596
		.83	0,711	0,615	0,670	0,273	0,596
	RD08	.D8	0,681	0,669	0,637	0,558	0,681
		.83	0,681	0,669	0,637	0,558	0,681
	RD09	.D8	0,945	0,945	1,000	0,820	0,925
		.83	0,945	0,945	1,000	0,820	0,925
	RD10	.D8	0,711	0,615	0,670	0,333	0,596
		.83	0,711	0,615	0,670	0,333	0,596
	RD11	.D8	0,681	0,669	0,637	0,673	0,681
		.83	0,681	0,669	0,637	0,673	0,681
	RD12	.D8	0,945	0,945	1,000	1,000	0,925
		.83	0,945	0,945	1,000	1,000	0,925
	RD13	.D8	0,711	0,615	0,670	0,146	0,596
		.83	0,711	0,615	0,670	0,146	0,596
	RD14	.D8	0,681	0,669	0,637	0,306	0,681
		.83	0,681	0,669	0,637	0,306	0,681
	RD15	.D8	0,945	0,945	1,000	0,437	0,925
		.83	0,945	0,945	1,000	0,437	0,925
	RD16	.D8	0,711	0,615	0,670	0,172	0,596
		.83	0,711	0,615	0,670	0,172	0,596
	RD17	.D8	0,681	0,669	0,637	0,354	0,681
		.83	0,681	0,669	0,637	0,354	0,681
	RD18	.D8	0,945	0,945	1,000	0,517	0,925
		.83	0,945	0,945	1,000	0,517	0,925
	RD19	.D8	0,711	0,615	0,670	0,273	0,596
		.83	0,711	0,615	0,670	0,273	0,596
	RD20	.D8	0,681	0,669	0,637	0,558	0,681
		.83	0,681	0,669	0,637	0,558	0,681
	RD21	.D8	0,945	0,945	1,000	0,820	0,925
		.83	0,945	0,945	1,000	0,820	0,925

UGR	RD22	.D8	0,711	0,615	0,670	0,333	0,596
		.83	0,711	0,615	0,670	0,333	0,596
	RD23	.D8	0,681	0,669	0,637	0,673	0,681
		.83	0,681	0,669	0,637	0,673	0,681
	RD24	.D8	0,945	0,945	1,000	1,000	0,925
		.83	0,945	0,945	1,000	1,000	0,925
	RD25	.D8	0,711	0,615	0,670	0,137	0,596
		.83	0,711	0,615	0,670	0,137	0,596
	RD26	.D8	0,681	0,669	0,637	0,292	0,681
		.83	0,681	0,669	0,637	0,292	0,681
	RD27	.D8	0,945	0,945	1,000	0,410	0,925
		.83	0,945	0,945	1,000	0,410	0,925
	RD28	.D8	0,711	0,615	0,670	0,163	0,596
		.83	0,711	0,615	0,670	0,163	0,596
	RD29	.D8	0,681	0,669	0,637	0,335	0,681
		.83	0,681	0,669	0,637	0,335	0,681
	RD30	.D8	0,945	0,945	1,000	0,488	0,925
		.83	0,945	0,945	1,000	0,488	0,925
	RD31	.D8	0,711	0,615	0,670	0,259	0,596
		.83	0,711	0,615	0,670	0,259	0,596
	RD32	.D8	0,681	0,669	0,637	0,531	0,681
		.83	0,681	0,669	0,637	0,531	0,681
	RD33	.D8	0,945	0,945	1,000	0,777	0,925
		.83	0,945	0,945	1,000	0,777	0,925
	RD34	.D8	0,711	0,615	0,670	0,311	0,596
		.83	0,711	0,615	0,670	0,311	0,596
	RD35	.D8	0,681	0,669	0,637	0,630	0,681
		.83	0,681	0,669	0,637	0,630	0,681
	RD36	.D8	0,945	0,945	1,000	0,933	0,925
		.83	0,945	0,945	1,000	0,933	0,925
OVAL	RD76	.D8	0,711	0,615	0,670	0,273	0,596
		.83	0,711	0,615	0,670	0,273	0,596
	RD77	.D8	0,711	0,615	0,670	0,332	0,596
		.83	0,711	0,615	0,670	0,332	0,596
	RD78	.D8	0,711	0,615	0,670	0,332	0,596
		.83	0,711	0,615	0,670	0,332	0,596
	RD79	.D8	0,711	0,615	0,670	0,273	0,596
		.83	0,711	0,615	0,670	0,273	0,596
	RD80	.D8	0,711	0,615	0,670	0,273	0,596
		.83	0,711	0,615	0,670	0,273	0,596
	RD81	.D8	0,711	0,615	0,670	0,332	0,596
		.83	0,711	0,615	0,670	0,332	0,596
	RD82	.D8	0,711	0,615	0,670	0,332	0,596
		.83	0,711	0,615	0,670	0,332	0,596
	RD83	.D8	0,711	0,615	0,670	0,273	0,596
		.83	0,711	0,615	0,670	0,273	0,596

OVAL	RD84	.D8	0,711	0,615	0,670	0,260	0,596
		.83	0,711	0,615	0,670	0,260	0,596
	RD85	.D8	0,711	0,615	0,670	0,260	0,596
		.83	0,711	0,615	0,670	0,260	0,596
	RD86	.D8	0,711	0,615	0,670	0,260	0,596
		.83	0,711	0,615	0,670	0,260	0,596
	RD87	.D8	0,711	0,615	0,670	0,260	0,596
		.83	0,711	0,615	0,670	0,260	0,596
WALL WASHER	RD88	.D8	0,712	0,633	0,670	0,273	0,621
		.83	0,712	0,633	0,670	0,273	0,621
	RD89	.D8	0,718	0,710	0,637	0,558	0,735
		.83	0,718	0,710	0,637	0,558	0,735
	RD90	.D8	1,000	1,000	1,000	0,820	1,000
		.83	1,000	1,000	1,000	0,820	1,000
	RD91	.D8	0,712	0,633	0,670	0,333	0,621
		.83	0,712	0,633	0,670	0,333	0,621
	RD92	.D8	0,718	0,710	0,637	0,673	0,735
		.83	0,718	0,710	0,637	0,673	0,735
	RD93	**.D8**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**
		.83	1,000	1,000	1,000	1,000	1,000
	RD94	.D8	0,712	0,633	0,670	0,273	0,621
		.83	0,712	0,633	0,670	0,273	0,621
	RD95	.D8	0,718	0,710	0,637	0,558	0,735
		.83	0,718	0,710	0,637	0,558	0,735
	RD96	.D8	1,000	1,000	1,000	0,820	1,000
		.83	1,000	1,000	1,000	0,820	1,000
	RD97	.D8	0,712	0,633	0,670	0,333	0,621
		.83	0,712	0,633	0,670	0,333	0,621
	RD98	.D8	0,718	0,710	0,637	0,673	0,735
		.83	0,718	0,710	0,637	0,673	0,735
	RD99	.D8	1,000	1,000	1,000	1,000	1,000
		.83	1,000	1,000	1,000	1,000	1,000
	RE00	.D8	0,712	0,633	0,670	0,259	0,621
		.83	0,712	0,633	0,670	0,259	0,621
	RE01	.D8	0,718	0,710	0,637	0,531	0,735
		.83	0,718	0,710	0,637	0,531	0,735
	RE02	.D8	1,000	1,000	1,000	0,777	1,000
		.83	1,000	1,000	1,000	0,777	1,000
	RE03	.D8	0,712	0,633	0,670	0,311	0,621
		.83	0,712	0,633	0,670	0,311	0,621
	RE04	.D8	0,718	0,710	0,637	0,630	0,735
		.83	0,718	0,710	0,637	0,630	0,735
	RE05	.D8	1,000	1,000	1,000	0,933	1,000
		.83	1,000	1,000	1,000	0,933	1,000

CORRIDORS	RE61	.D8	0,711	0,615	0,670	0,279	0,596
		.83	0,711	0,615	0,670	0,279	0,596
	RE62	.D8	0,681	0,669	0,637	0,558	0,681
		.83	0,681	0,669	0,637	0,558	0,681
	RE63	.D8	0,711	0,615	0,670	0,336	0,596
		.83	0,711	0,615	0,670	0,336	0,596
	RE64	.D8	0,681	0,669	0,637	0,673	0,681
		.83	0,681	0,669	0,637	0,673	0,681
	RE65	.D8	0,711	0,615	0,670	0,279	0,596
		.83	0,711	0,615	0,670	0,279	0,596
	RE66	.D8	0,681	0,669	0,637	0,558	0,681
		.83	0,681	0,669	0,637	0,558	0,681
	RE67	.D8	0,711	0,615	0,670	0,336	0,596
		.83	0,711	0,615	0,670	0,336	0,596
	RE68	.D8	0,681	0,669	0,637	0,673	0,681
		.83	0,681	0,669	0,637	0,673	0,681
	RE69	.D8	0,711	0,615	0,670	0,265	0,596
		.83	0,711	0,615	0,670	0,265	0,596
	RE70	.D8	0,681	0,669	0,637	0,531	0,681
		.83	0,681	0,669	0,637	0,531	0,681
	RE71	.D8	0,711	0,615	0,670	0,315	0,596
		.83	0,711	0,615	0,670	0,315	0,596
	RE72	.D8	0,681	0,669	0,637	0,630	0,681
		.83	0,681	0,669	0,637	0,630	0,681

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

Category	Code	Finish	Wattage (W)	Lumen (lm)	Product weight (kg)	Structure weight (kg)	Weight of power equipment (kg)	Weight of light source (kg)	Packaging weight (kg)
GL + UGR	RD01	.D8	5,4	813	0,998	0,741	0,257	0,0004	0,282
		.83	5,4	755	0,998	0,741	0,257	0,0004	0,282
	RD02	.D8	11,4	1602	1,086	0,977	0,108	0,0008	0,268
		.83	11,4	1486	1,086	0,977	0,108	0,0008	0,268
	RD03	.D8	16,3	2390	1,533	1,424	0,108	0,0012	0,421
		.83	16,3	2218	1,533	1,424	0,108	0,0012	0,421
	RD04	.D8	6,4	797	0,998	0,741	0,257	0,0004	0,282
		.83	6,4	739	0,998	0,741	0,257	0,0004	0,282
	RD05	.D8	13,2	1585	1,086	0,977	0,108	0,0008	0,268
		.83	13,2	1471	1,086	0,977	0,108	0,0008	0,268
	RD06	.D8	19,3	2357	1,533	1,424	0,108	0,0012	0,421
		.83	19,3	2187	1,533	1,424	0,108	0,0012	0,421
	RD07	.D8	10,2	1461	0,998	0,741	0,257	0,0004	0,282
		.83	10,2	1355	0,998	0,741	0,257	0,0004	0,282
	RD08	.D8	20,8	2947	1,086	0,977	0,108	0,0008	0,268
		.83	20,8	2734	1,086	0,977	0,108	0,0008	0,268
	RD09	.D8	30,6	4441	1,533	1,424	0,108	0,0012	0,421
		.83	30,6	4120	1,533	1,424	0,108	0,0012	0,421
	RD10	.D8	12,4	1469	0,998	0,741	0,257	0,0004	0,282
		.83	12,4	1363	0,998	0,741	0,257	0,0004	0,282
	RD11	.D8	25,1	2963	1,086	0,977	0,108	0,0008	0,268
		.83	25,1	2749	1,086	0,977	0,108	0,0008	0,268
	RD12	.D8	37,3	4449	1,533	1,424	0,108	0,0012	0,421
		.83	37,3	4127	1,533	1,424	0,108	0,0012	0,421
	RD13	.D8	5,4	813	0,998	0,741	0,257	0,0004	0,282
		.83	5,4	755	0,998	0,741	0,257	0,0004	0,282
	RD14	.D8	11,4	1602	1,086	0,977	0,108	0,0008	0,268
		.83	11,4	1486	1,086	0,977	0,108	0,0008	0,268
	RD15	.D8	16,3	2390	1,533	1,424	0,108	0,0012	0,421
		.83	16,3	2218	1,533	1,424	0,108	0,0012	0,421
	RD16	.D8	6,4	797	0,998	0,741	0,257	0,0004	0,282
		.83	6,4	739	0,998	0,741	0,257	0,0004	0,282
	RD17	.D8	13,2	1585	1,086	0,977	0,108	0,0008	0,268
		.83	13,2	1471	1,086	0,977	0,108	0,0008	0,268
	RD18	.D8	19,3	2357	1,533	1,424	0,108	0,0012	0,421
		.83	19,3	2187	1,533	1,424	0,108	0,0012	0,421
	RD19	.D8	10,2	1461	0,998	0,741	0,257	0,0004	0,282
		.83	10,2	1355	0,998	0,741	0,257	0,0004	0,282
	RD20	.D8	20,8	2947	1,086	0,977	0,108	0,0008	0,268
		.83	20,8	2734	1,086	0,977	0,108	0,0008	0,268
	RD21	.D8	30,6	4441	1,533	1,424	0,108	0,0012	0,421
		.83	30,6	4120	1,533	1,424	0,108	0,0012	0,421

GL + UGR	RD22	.D8	12,4	1469	0,998	0,741	0,257	0,0004	0,282
		.83	12,4	1363	0,998	0,741	0,257	0,0004	0,282
	RD23	.D8	25,1	2963	1,086	0,977	0,108	0,0008	0,268
		.83	25,1	2749	1,086	0,977	0,108	0,0008	0,268
	RD24	.D8	37,3	4449	1,533	1,424	0,108	0,0012	0,421
		.83	37,3	4127	1,533	1,424	0,108	0,0012	0,421
	RD25	.D8	5,1	805	0,998	0,741	0,257	0,0004	0,282
		.83	5,1	747	0,998	0,741	0,257	0,0004	0,282
	RD26	.D8	10,9	1602	1,086	0,977	0,108	0,0008	0,268
		.83	10,9	1486	1,086	0,977	0,108	0,0008	0,268
	RD27	.D8	15,3	2374	1,533	1,424	0,108	0,0012	0,421
		.83	15,3	2202	1,533	1,424	0,108	0,0012	0,421
	RD28	.D8	6,1	797	0,998	0,741	0,257	0,0004	0,282
		.83	6,1	739	0,998	0,741	0,257	0,0004	0,282
	RD29	.D8	12,5	1594	1,086	0,977	0,108	0,0008	0,268
		.83	12,5	1478	1,086	0,977	0,108	0,0008	0,268
	RD30	.D8	18,2	2374	1,533	1,424	0,108	0,0012	0,421
		.83	18,2	2202	1,533	1,424	0,108	0,0012	0,421
	RD31	.D8	9,7	1461	0,998	0,741	0,257	0,0004	0,282
		.83	9,7	1355	0,998	0,741	0,257	0,0004	0,282
	RD32	.D8	19,8	2955	1,086	0,977	0,108	0,0008	0,268
		.83	19,8	2741	1,086	0,977	0,108	0,0008	0,268
	RD33	.D8	29,0	4441	1,533	1,424	0,108	0,0012	0,421
		.83	29,0	4120	1,533	1,424	0,108	0,0012	0,421
	RD34	.D8	11,6	1453	0,998	0,741	0,257	0,0004	0,282
		.83	11,6	1348	0,998	0,741	0,257	0,0004	0,282
	RD35	.D8	23,5	2963	1,086	0,977	0,108	0,0008	0,268
		.83	23,5	2749	1,086	0,977	0,108	0,0008	0,268
	RD36	.D8	34,8	4441	1,533	1,424	0,108	0,0012	0,421
		.83	34,8	4120	1,533	1,424	0,108	0,0012	0,421
OVAL	RD76	.D8	10,2	1338	0,998	0,741	0,257	0,0004	0,282
		.83	10,2	1179	0,998	0,741	0,257	0,0004	0,282
	RD77	.D8	10,2	1338	0,998	0,741	0,257	0,0004	0,282
		.83	10,2	1179	0,998	0,741	0,257	0,0004	0,282
	RD78	.D8	12,4	1345	0,998	0,741	0,257	0,0004	0,282
		.83	12,4	1186	0,998	0,741	0,257	0,0004	0,282
	RD79	.D8	12,4	1345	0,998	0,741	0,257	0,0004	0,282
		.83	12,4	1186	0,998	0,741	0,257	0,0004	0,282
	RD80	.D8	10,2	1338	0,998	0,741	0,257	0,0004	0,282
		.83	10,2	1179	0,998	0,741	0,257	0,0004	0,282
	RD81	.D8	10,2	1338	0,998	0,741	0,257	0,0004	0,282
		.83	10,2	1179	0,998	0,741	0,257	0,0004	0,282
	RD82	.D8	12,4	1345	0,998	0,741	0,257	0,0004	0,282
		.83	12,4	1186	0,998	0,741	0,257	0,0004	0,282
	RD83	.D8	12,4	1345	0,998	0,741	0,257	0,0004	0,282
		.83	12,4	1186	0,998	0,741	0,257	0,0004	0,282

OVAL	RD84	.D8	9,7	1338	0,998	0,741	0,257	0,0004	0,282
		.83	9,7	1179	0,998	0,741	0,257	0,0004	0,282
	RD85	.D8	9,7	1338	0,998	0,741	0,257	0,0004	0,282
		.83	9,7	1179	0,998	0,741	0,257	0,0004	0,282
	RD86	.D8	9,7	1330	0,998	0,741	0,257	0,0004	0,282
		.83	9,7	1173	0,998	0,741	0,257	0,0004	0,282
	RD87	.D8	9,7	1330	0,998	0,741	0,257	0,0004	0,282
		.83	9,7	1173	0,998	0,741	0,257	0,0004	0,282
WALL WASHER	RD88	.D8	10,2	1320	1,028	0,771	0,257	0,0004	0,282
		.83	10,2	1267	1,028	0,771	0,257	0,0004	0,282
	RD89	.D8	20,8	2663	1,152	1,043	0,108	0,0008	0,268
		.83	20,8	2556	1,152	1,043	0,108	0,0008	0,268
	RD90	.D8	30,6	4013	1,623	1,514	0,108	0,0012	0,421
		.83	30,6	3852	1,623	1,514	0,108	0,0012	0,421
	RD91	.D8	12,4	1328	1,028	0,771	0,257	0,0004	0,282
		.83	12,4	1274	1,028	0,771	0,257	0,0004	0,282
	RD92	.D8	25,1	2678	1,152	1,043	0,108	0,0008	0,268
		.83	25,1	2570	1,152	1,043	0,108	0,0008	0,268
	RD93	**.D8**	**37,3**	**4020**	**1,623**	**1,514**	**0,108**	**0,0012**	**0,421**
		.83	37,3	3859	1,623	1,514	0,108	0,0012	0,421
	RD94	.D8	10,2	1320	1,028	0,771	0,257	0,0004	0,282
		.83	10,2	1267	1,028	0,771	0,257	0,0004	0,282
	RD95	.D8	20,8	2663	1,152	1,043	0,108	0,0008	0,268
		.83	20,8	2556	1,152	1,043	0,108	0,0008	0,268
	RD96	.D8	30,6	4013	1,623	1,514	0,108	0,0012	0,421
		.83	30,6	3852	1,623	1,514	0,108	0,0012	0,421
	RD97	.D8	12,4	1328	1,028	0,771	0,257	0,0004	0,282
		.83	12,4	1274	1,028	0,771	0,257	0,0004	0,282
	RD98	.D8	25,1	2678	1,152	1,043	0,108	0,0008	0,268
		.83	25,1	2570	1,152	1,043	0,108	0,0008	0,268
	RD99	.D8	37,3	4020	1,623	1,514	0,108	0,0012	0,421
		.83	37,3	3859	1,623	1,514	0,108	0,0012	0,421
	RE00	.D8	9,7	1320	1,028	0,771	0,257	0,0004	0,282
		.83	9,7	1267	1,028	0,771	0,257	0,0004	0,282
	RE01	.D8	19,8	2670	1,152	1,043	0,108	0,0008	0,268
		.83	19,8	2563	1,152	1,043	0,108	0,0008	0,268
	RE02	.D8	29,0	4013	1,623	1,514	0,108	0,0012	0,421
		.83	29,0	3852	1,623	1,514	0,108	0,0012	0,421
	RE03	.D8	11,6	1313	1,028	0,771	0,257	0,0004	0,282
		.83	11,6	1260	1,028	0,771	0,257	0,0004	0,282
	RE04	.D8	23,5	2678	1,152	1,043	0,108	0,0008	0,268
		.83	23,5	2570	1,152	1,043	0,108	0,0008	0,268
	RE05	.D8	34,8	4013	1,623	1,514	0,108	0,0012	0,421
		.83	34,8	3852	1,623	1,514	0,108	0,0012	0,421

CORRIDORS	RE61	.D8	10,4	1408	0,998	0,741	0,257	0,0004	0,282
		.83	10,4	1338	0,998	0,741	0,257	0,0004	0,282
	RE62	.D8	20,8	2840	1,086	0,977	0,108	0,0008	0,268
		.83	20,8	2698	1,086	0,977	0,108	0,0008	0,268
	RE63	.D8	12,6	1416	0,998	0,741	0,257	0,0004	0,282
		.83	12,6	1345	0,998	0,741	0,257	0,0004	0,282
	RE64	.D8	25,1	2856	1,086	0,977	0,108	0,0008	0,268
		.83	25,1	2713	1,086	0,977	0,108	0,0008	0,268
	RE65	.D8	10,4	1408	0,998	0,741	0,257	0,0004	0,282
		.83	10,4	1338	0,998	0,741	0,257	0,0004	0,282
	RE66	.D8	20,8	2840	1,086	0,977	0,108	0,0008	0,268
		.83	20,8	2698	1,086	0,977	0,108	0,0008	0,268
	RE67	.D8	12,6	1416	0,998	0,741	0,257	0,0004	0,282
		.83	12,6	1345	0,998	0,741	0,257	0,0004	0,282
	RE68	.D8	25,1	2856	1,086	0,977	0,108	0,0008	0,268
		.83	25,1	2713	1,086	0,977	0,108	0,0008	0,268
	RE69	.D8	9,9	1408	0,998	0,741	0,257	0,0004	0,282
		.83	9,9	1338	0,998	0,741	0,257	0,0004	0,282
	RE70	.D8	19,8	2848	1,086	0,977	0,108	0,0008	0,268
		.83	19,8	2706	1,086	0,977	0,108	0,0008	0,268
	RE71	.D8	11,8	1400	0,998	0,741	0,257	0,0004	0,282
		.83	11,8	1330	0,998	0,741	0,257	0,0004	0,282
	RE72	.D8	23,5	2856	1,086	0,977	0,108	0,0008	0,268
		.83	23,5	2713	1,086	0,977	0,108	0,0008	0,268