

	<b>Product Environmental Profile</b>	
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	<b>CrystalWay 20m - Self- contained</b>
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<b>Eaton product</b>	LUM17122U
<b>Description of the product</b>	<p>The CrystalWay self-contained emergency exit sign is the standard in high quality, aesthetic emergency exit sign luminaires. The clear frame and low profile allow seamless integration into the surrounding architecture and is perfect for any size of project. It is equipped with LED light guide which ensures the pictogram is uniformly illuminated without hot spots and gives the luminaire a flawless finish.</p> <p>Product comes with CGLine+ technology which provides automatic function and duration tests recorded in a logbook – optimizing central monitoring and control - ensuring compliance for building managers without the hassle and cost of manually testing each luminaire. Product can be operated with two luminance output – 50 and 500 Candela/m<sup>2</sup> (Cd/m<sup>2</sup>). For the study, reference product is considered to be operated at 50 Cd/m<sup>2</sup> of luminance output. Also, operating time of the product in emergency mode can also be configured for 1-, 3-, 5- or 8-hours.</p>
<b>Homogeneous Environmental Families Covered</b>	The PEP covers LUM17122U operating at 50 Cd/m <sup>2</sup> & 500Cd/m <sup>2</sup>
<b>Functional unit</b>	To facilitate the evacuation of people to the outside by providing light with luminance of 50 Cd/m <sup>2</sup> for 1 hour at 20 meters of viewing distance in the event of absence of power supply. This function is designed for 10 years by its self-contained battery power supply.
<b>Company information</b>	Cooper Industries Romania S.R.L. West Industrial Area, 12 Illrd str. 310510 Arad, Romania Email: <a href="mailto:productstewardship-es@eaton.com">productstewardship-es@eaton.com</a>

Constituent Materials			
Reference product mass	6.72E-01 kg (with accessory & packaging)		
Category PEP Material	Materials	Masse (kg)	Percentage (%)
Plastic	Polycarbonate (PC)	3.33E-01	49.5%
Others	Cardboard	1.23E-01	18.3%
Plastic	Polymethyl methacrylate (PMMA)	6.99E-02	10.4%
Others	Wood	4.17E-02	6.2%
Metal	Ferrite	2.23E-02	3.3%
Metal	Copper	2.00E-02	3.0%
Others	Glass fibre	8.09E-03	1.2%
Plastic	Epoxy resin	7.30E-03	1.1%
Metal	Aluminum	5.12E-03	0.8%
Others	Paper	4.85E-03	0.7%
Plastic	Low density polyethylene film	4.67E-03	0.7%
Others	Lithium nickel cobalt manganese hydroxide (from Li-ion battery)	3.92E-03	0.6%
Plastic	Polyethylene terephthalate (PET)	3.33E-03	0.5%
Plastic	Polyimide	2.24E-03	0.3%
Others	Quartz sand	1.91E-03	0.3%
Others	Miscellaneous	2.12E-02	3.2%
<b>Total</b>		<b>6.72E-01</b>	<b>100.00%</b>

## Substance Assessment

The representative product is compliant with the EU-RoHS Directive (2011/65/EU) without any exemptions and the product do not contains Substance-of-Very-High-Concern (SVHC) on the Candidate List of the EU-REACH Regulation (1907/2006/EC).

## Additional Environmental Information

<b>Manufacturing</b>	The reference product is assembled at Eaton plant holding management system certifications according to ISO9001 & 14001 standards.
<b>Distribution</b>	Eaton is committed to minimizing weight and volume of product and packaging with focus to optimize transport efficiency.
<b>Installation</b>	Product installation need standard tools which do not require any additional energy source and no waste other than the obsolete product packaging is generated during this step.
<b>Use</b>	Product do not require spare part replacement during operation.
<b>End of life</b>	Recyclability of product is equal to 16.3% as per EIME calculated based on the method described in IEC/TR 62635, Edition 1.0/2012-10 "Guidelines for end-of-life information provided by manufacturers and recyclers and for recyclability rate calculation of electrical and electronic equipment".

## Environmental Impacts

The calculation of environmental impacts is the result of a Product Life Cycle Analysis in accordance with ISO 14040/44, covering the entire product lifecycle, i.e. "Cradle-to-Grave" including the following life cycle phases: production, distribution, installation, use and end of life.

System modelling was carried out using the commercial LCA software EIME v5.9.3 with database version CODDE-2022-01.

<b>Manufacturing Phase</b>	The product is manufactured at Cooper Industries Romania S.R.L., Arad, Romania plant. Energy modelled used: Romania
<b>Distribution Phase</b>	Distribution of the product in its packaging from the manufacturer's last logistics platform to the installation place is considered as per PCR rules.
<b>Installation Phase</b>	Product installed in Europe. <u>Energy model used:</u> Europe
<b>Use Phase</b>	<u>Reference lifetime:</u> 10 Years <u>Energy model used:</u> Europe <u>Usage profile:</u> The product is active for 100% of the time and consume 0.7 W consumption. Total energy losses are 61.32 kWh over the 10 years.
<b>End of life Phase</b>	Product disposed with WEEE guidelines. <u>Energy model used:</u> Europe

## Environmental Impact Indicators: Mandatory

Indicators	Unit	Total	Manufacturing	Distribution	Installation	Use (Only B6*)	End of Life
<b>Global warming (GWP100)</b>	kg CO <sub>2</sub> eq.	3.89E+01	1.42E+01	1.58E-01	2.46E-01	2.42E+01	4.24E-02
<b>Ozone layer depletion</b>	kg CFC-11 eq.	2.52E-06	2.41E-06	3.21E-10	5.89E-10	9.60E-08	5.01E-09
<b>Acidification potential</b>	kg SO <sub>2</sub> eq.	6.52E-02	2.19E-02	7.11E-04	9.70E-05	4.24E-02	1.07E-04
<b>Eutrophication</b>	kg PO <sub>4</sub> <sup>3-</sup> eq.	1.50E-02	6.59E-03	1.63E-04	4.34E-04	7.81E-03	2.59E-05
<b>Photochemical oxidation</b>	kg ethylene eq.	5.75E-03	2.30E-03	5.05E-05	5.93E-05	3.33E-03	1.29E-05
<b>Abiotic depletion (elements)</b>	kg antimony eq.	7.45E-04	7.43E-04	6.33E-09	9.26E-10	2.49E-06	5.60E-09
<b>Abiotic depletion (fossil fuels)</b>	MJ	5.18E+02	1.37E+02	2.22E+00	2.61E-01	3.78E+02	4.89E-01
<b>Water Pollution</b>	m <sup>3</sup>	3.79E+03	2.89E+03	2.60E+01	1.19E+01	8.57E+02	4.09E+00
<b>Air pollution</b>	m <sup>3</sup>	2.80E+03	1.11E+03	6.49E+00	2.62E+00	1.68E+03	5.87E+00

\*B6 is energy requirements during the use stage. Other sub modules in the use stage (B1-B5,B7) are equal to zero. So, it is not listed in the table.

## Environmental Flow Indicators: Optional

Indicators	Unit	Total	Manufacturing	Distribution	Installation	Use (Only B6*)	End of Life
Use of renewable primary energy, excluding renewable primary energy resources used as raw materials	MJ	1.30E+02	6.61E+00	2.98E-03	1.76E-03	1.23E+02	6.25E-04
Use of renewable primary energy resources used as raw materials	MJ	2.07E+00	2.07E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	1.32E+02	8.68E+00	2.98E-03	1.76E-03	1.23E+02	6.25E-04
Use of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials	MJ	7.99E+02	1.55E+02	2.24E+00	2.76E-01	6.40E+02	6.51E-01
Use of non-renewable primary energy resources used as raw materials	MJ	1.34E+01	1.34E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	8.12E+02	1.69E+02	2.24E+00	2.76E-01	6.40E+02	6.51E-01
Use of secondary materials	kg	6.17E-02	6.17E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water	m3	2.93E+00	1.84E+00	1.42E-05	2.24E-05	1.09E+00	9.42E-05
Hazardous waste disposed of	kg	1.99E+01	1.85E+01	0.00E+00	1.53E-04	4.70E-01	8.93E-01
Non-hazardous waste disposed of	kg	8.12E+00	4.31E+00	5.62E-03	1.75E-01	3.62E+00	1.60E-02
Radioactive waste disposed of	kg	4.50E-03	3.73E-03	4.01E-06	2.29E-06	7.57E-04	3.93E-06
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	8.20E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.20E-02
Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy	MJ by energy vector	3.70E-02	0.00E+00	0.00E+00	3.70E-02	0.00E+00	0.00E+00
Total use of primary energy during the life cycle	MJ	9.44E+02	1.77E+02	2.24E+00	2.78E-01	7.63E+02	6.52E-01


\*B6 is energy requirements during the use stage. Other sub modules in the use stage (B1-B5,B7) are equal to zero. So, it is not listed in the table.

To evaluate the environmental impact of LUM17122U operating at 500 Cd/m<sup>2</sup>, multiply the impact figures by –

Product	Manufacturing	Distribution	Installation	Use	End of Life
LUM17122U operating at 50 Cd/m <sup>2</sup> (Baseline)	1	1	1	1	1
LUM17122U operating at 500 Cd/m <sup>2</sup>	1	1	1	3.6	1

#### Disclaimer

This Product Environmental Profile and its content is based on information available to us. It refers to the product at the date of issue. We make no express or implied representations or warranties with respect to the information contained herein.

<i>Registration N°</i>	EATO-00042-V01.01-EN	<i>Drafting rules</i>	PCR-ed3-EN-2015 04 02
<i>Verifier accreditation N°</i>	VH32	<i>Supplemented by</i>	PSR-0007-ed1.1-EN-2015 10 16
<i>Date of issue</i>	7-2022	<i>Information and reference documents</i>	<a href="http://www.pep-ecopassport.org">www.pep-ecopassport.org</a>
		<i>Validity period</i>	5 years
Independent verification of the declaration and data, in compliance with ISO 14025: 2010			
Internal		External	X
The PCR review was conducted by a panel of experts chaired by Philippe Osset (SOLINNEN)			
<i>The elements of the present PEP cannot be compared with elements from another program.</i>			
<i>Document in compliance with ISO 14025: 2010 « Environmental labels and declarations. Type III environmental declarations »</i>			