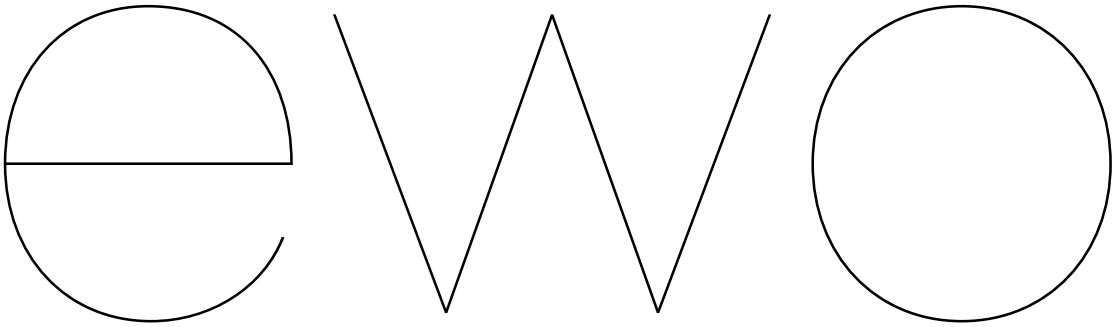
PROJECTS / PRODUCTS
2016

LARGE AREA LIGHTING

OUTDOOR LIGHTING

ARCHITECTURAL LIGHTING

URBAN FURNITURE


ewo

Airports and Logistics

There are few areas of public life in which the subject of security takes on such a critical position as in air traffic. The lighting on the apron creates security if it provides its service without compromise, meets all standards, and is reliable and durable.

ewo is the forerunner in the use of LED technology for large areas and represents the highest standards in airports and logistics areas. The products have proven themselves for both smaller regional airports and for global hubs. They are so robust that they have been used in the Siberian winter but also function reliably in the Arabian heat. Maintenance is required more rarely and, as a result of the modular construction, is also greatly simplified.

The people who work on-site are convinced: the lighting is perceived as brighter, and as a result of the higher color rendering index, things such as documents can be better recognized. Wherever light is needed, it is even and available without dazzling. That reduces stress and tension at work and, in so doing, increases the level of security.

Public Space

Products from ewo are used in squares and pathways, in pedestrian malls and parks, as visible objects, and in the service of carefully considered lighting concepts, the goal of which is the well-being of people.

With our flexible systems, we can adapt every individual light source to the details of a situation, create visual structures and rhythms and, in so doing, define the spatial perception. A high standard of design sets ewo's luminaires apart; at the same time, they maintain a low profile with respect to the special character of a location. With regard to the material, form, or technology, customized special solutions may be drawn up as desired.

We continue to develop the possibilities for intelligent control. Changing accentuations or courses of time can create a multitude of scenarios—dynamic spatial perception thus becomes a part of the lighting that is provided.

Architecture and the Arts

From medieval cultural buildings to contemporary urban designs—ewo's lighting systems are flexible depending on the context. In some projects, understatement is the best path. At other sites, our forms help to structure the architecture or integrate technical functions within the housing. But modular, configurable systems are always in use which precisely reach the desired degree of light distribution, colorfulness, direction, and intensity. Façades and textures become visible; soft transitions or precise demarcations are created; the surroundings enter into atmospheric dialogue with the edifice.

Our products are used not only in front of and on buildings, but also in interior spaces. We combine production quality and constantly developing technology with an open, creative attitude. For many architects and lighting designers, that makes us the first contact when realizing completely novel solutions.

Roads and Traffic

Good street lighting is rarely perceived consciously. And yet effective illumination is the precondition for safe mobility at night. Systems from ewo are arranged to meet the different demands that are required in road traffic. The modular systematology of our LED technology provides the necessary flexibility as a standard feature: the distribution of light, the light intensity, and the beam angle can be adapted to every situation along the road. Shining into the night sky is avoided. Products from ewo mean economical investments with low maintenance expenditures and longer life. Sensor technology and digital controls can help in using light in an even more need-oriented manner and thus increase even further the already high energy efficiency of the LED technology.

Airports and Logistics

Munich Airport, Germany, 2012
This is the largest LED project at a German airport: all of the park positions at Terminal 1 are illuminated with floodlights from ewo. The energy savings compared to the predecessor system are around 57 percent.

✳ F-System Large, F32, F16 ↘ pp. 90–93

Munich Airport

✳ F-System Large, F32 ↘ pp. 90–93

Linz Airport, Austria, 2014
After Innsbruck, Linz was the second Austrian airport to be outfitted completely by ewo. We developed light panels that were 5.3 meters by 4.8 meters. For maintenance, they can be lowered from a height of 34 meters to ground level.

* T-System, T200, T96, T560, T660

Linz Airport

Linz Airport

Linz Airport

Innsbruck Airport, Austria, 2011
The realization that LED technology provides improved light quality with lower costs while protecting the climate and the night sky was the deciding factor: the Innsbruck Airport, as the first one in the entire world, engaged ewo to switch over the entire apron illumination to LED.

Innsbruck Airport

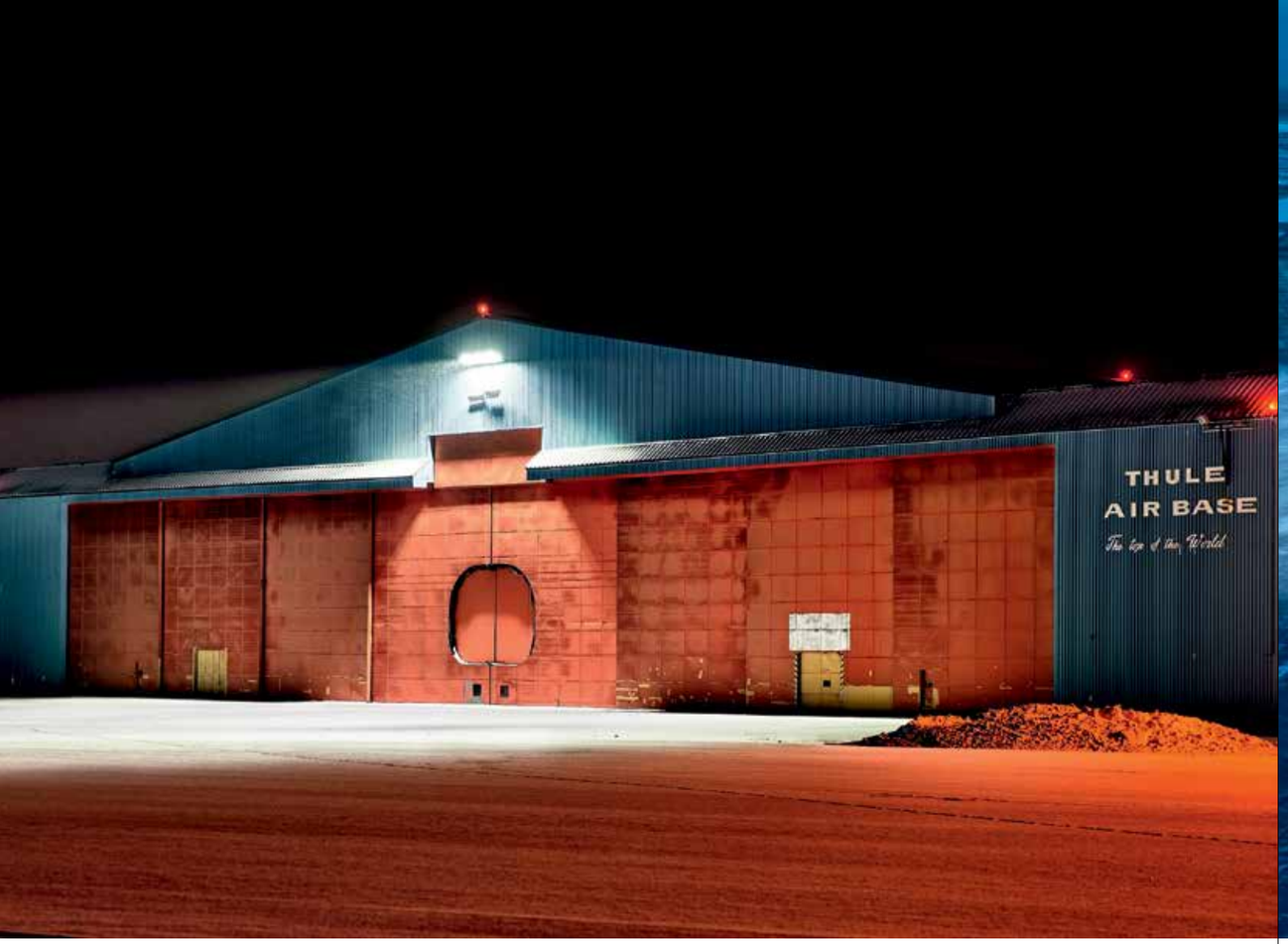
Innsbruck Airport

Innsbruck Airport

Hanover Airport, Germany, 2012
As the first airport in Germany to do so, the Hanover Airport replaced the complete apron illumination with LED technology. In addition to profitability and environmental protection, improved control possibilities and simpler maintenance were at the forefront for the operators.

✳ F-System Large, F32 ↘ pp. 90–93

Hanover Airport



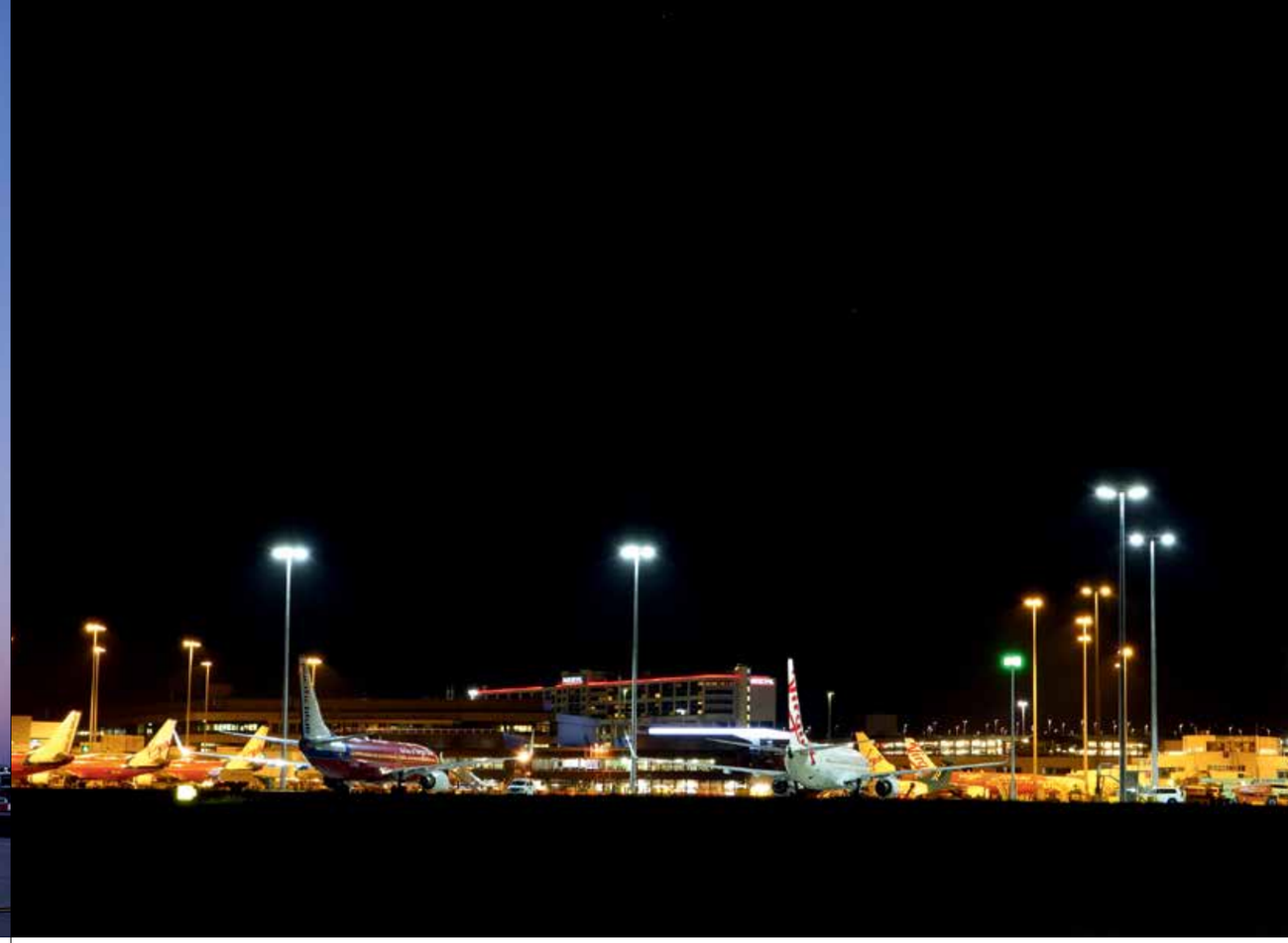
Thule Air Base, Greenland, 2014
Reliable apron illumination in the extreme polar cold at the U.S.A.'s northernmost military base: the lamp control gear is changed in the hangar. It is connected to the panel radiators by means of heating cables.

✳ F-System Large, F40 ↘ pp. 90–93

Thule Air Base

Melbourne Airport, Australia, 2014–15
With 50 floodlights of the F32 model on six high mast systems, the first Australian airport is switching over to LED lighting. The functioning method of the system has been coordinated with the high ambient temperatures.

✳ F-System Large, F32 ↘ pp. 90–93



Melbourne Airport

Molo di Ponente, Venice, Italy, 2010
The illumination of the 90,000 square meter (22 acre) port terminal is a breakthrough for ewo with the use of LED high masts in squares and extensive areas—and it has achieved energy savings of 80 percent. The finishes were specially pretreated for use in salty air.

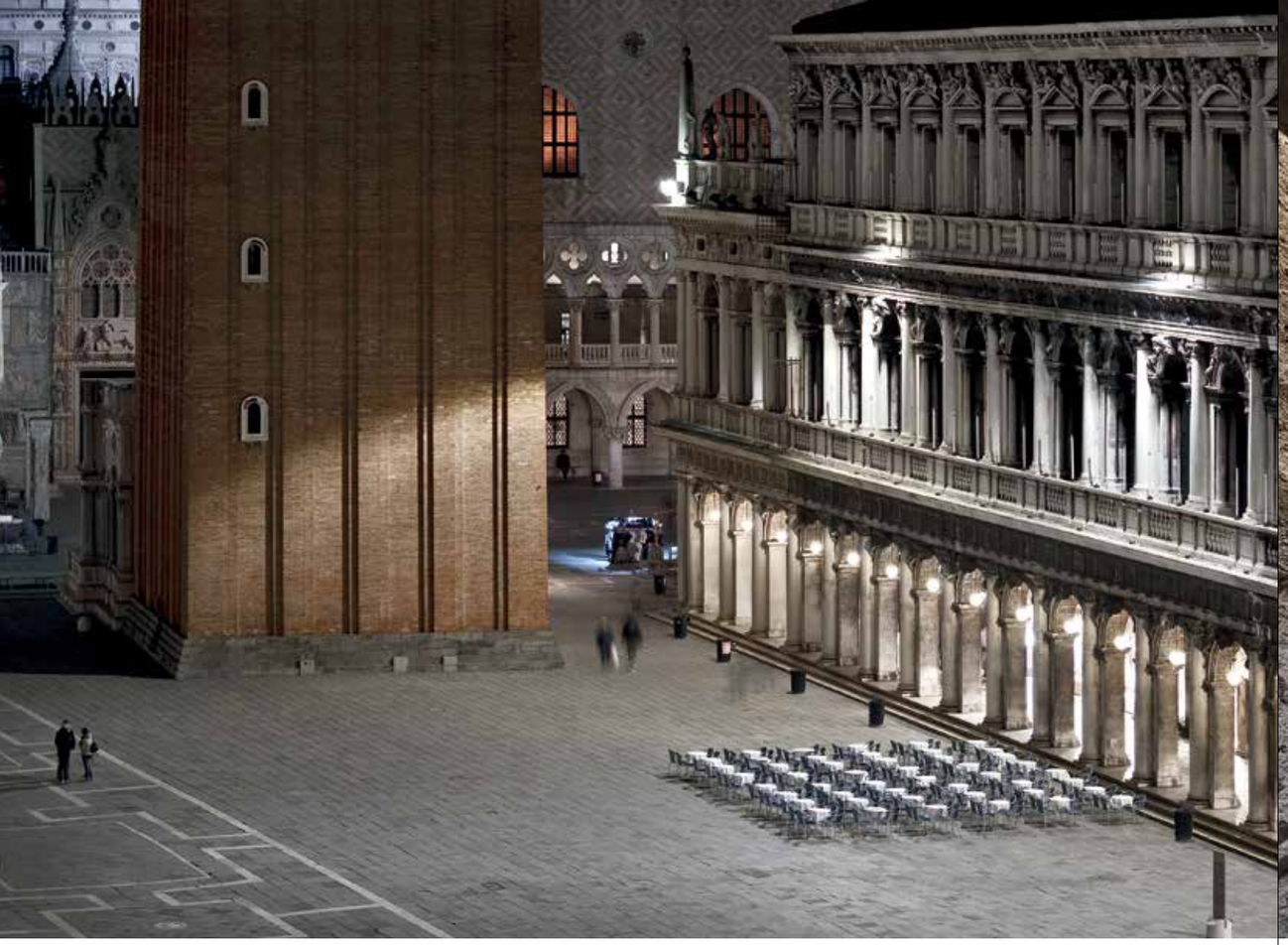
Molo di Ponente

* T-System, T120

Public Spaces

Piazza San Marco, Venice, Italy, 2014
Within the sensitive setting of the World Heritage Site, the 13 F-Systems on the façades are barely noticeable. They illuminate the square evenly all the way to its center.

✳ F-System Medium, F10 ↘ p. 104



Piazza San Marco

✳ F-System Medium, F10 ↘ p. 104

Glorenza-Glurns Municipal Center, Italy, 2015
The FA lighting system brings a new aesthetic clarity to a historical city center dating back to the Late Middle Ages.

✳ FA770-W, FA770, FA170-W ↘ pp. 114–117

ETH Campus (Swiss Federal Institute of Technology), Zurich, Switzerland, 2011
At the Hönggerberg campus, customized pole and bollard lights provide minimal lighting that has been intentionally reduced to the walkways. The perception of the night has been preserved.

* FA600, FA160, FA750 ↘ pp. 114–117

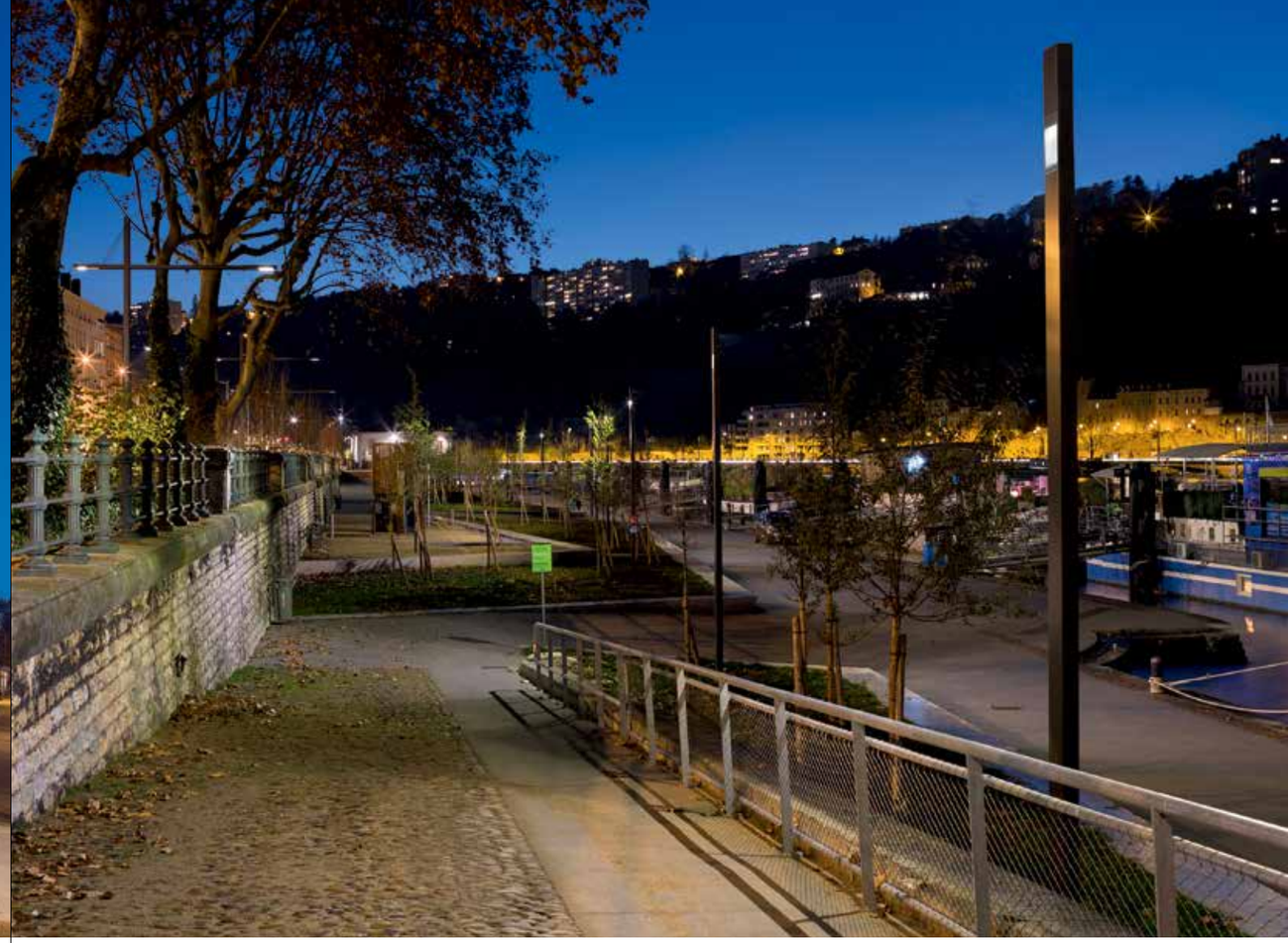
Unterer Stadtplatz, Kufstein, Austria, 2012
A new pedestrian mall, and a special production from ewo: precisely directed light produces the ground illumination in a downward direction. The globe attachment on top diffusely distributes the brightness onto the surrounding buildings and brings the vertical dimension of the space into play.

✳ ewoIndividual ↘ p. 78

Unterer Stadtplatz

Quai Rambaud, Lyons, France, 2015
The illumination along the restructured banks of the Saône River follows an integrated urban planning requirement. The EL Series with two additionally developed variations in form enriches the urban architecture and provides safe, pleasant light.

✳ ewoIndividual ↘ p. 78



Quai Rambaud

✳ EL6000 ↘ pp. 118–123

Urban Furniture, Up Series, since 2009
Up is a project by ewo and the Norwegian design collective Norway Says. The series encompasses light bollards, bicycle stands, trash receptacles, park benches, and other objects for the urban environment. From the basic form of the bollard, a variety of additional functions result through the openings, including illumination.

✳ SB21 ↘ p. 196

Urban Furniture

✳ LB23 ↘ p. 180

Via Tragara, Capri, Italy, 2011
The EL Series is completely integrated into the walls of the walkways. The light offers sufficient orientation, while the view of the landscape and the sea remains unhindered.

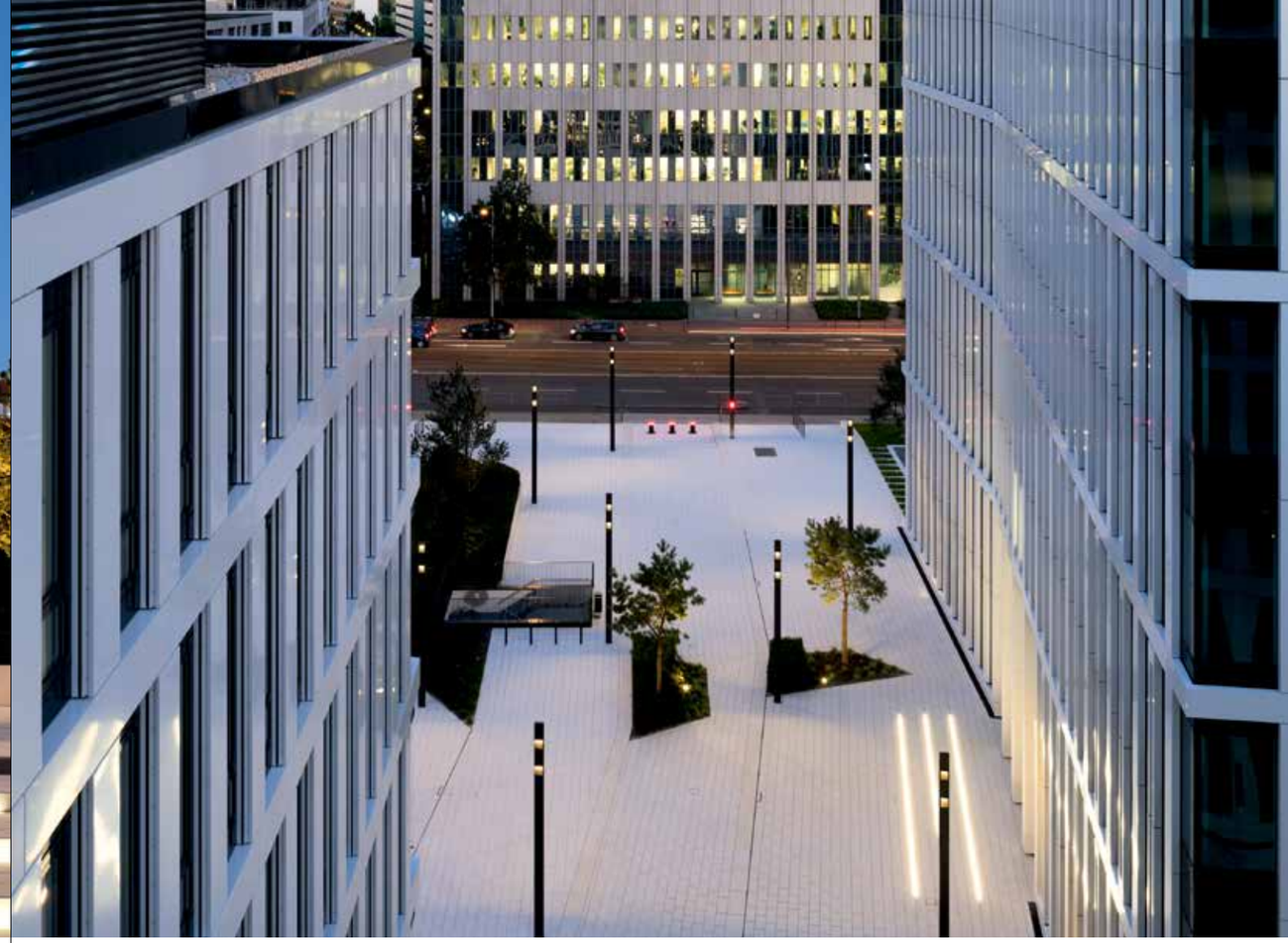
✳ EL-W ↘ pp. 118–123

St Martin Tower, Frankfurt am Main, Germany, 2015
The minimalist EL steles that radiate here on both sides turn into freely positionable elements of design. They form a unit along with the building and its façade structure and also include elements of the intercom installation, a traffic light system, video cameras, and tank ventilation.

✳ EL6000 ↘ pp. 118–123

St Martin Tower

✳ EL ↘ pp. 118–123



St Martin Tower

Erl Festspielhaus, Tyrol, Austria, 2013
As a counterpoint to the sharp-edged architecture, we developed a discus-shaped housing that integrates a variety of lighting functions, such as an even and precisely delimited ground illumination of the access road and a playful light-dark rhythm on the parking areas.

✳ ewoIndividual ↘ p. 78

Erl Festspielhaus

Villa Seligman, Frankfurt am Main, Germany, 2014
This lighting design had to be as detailed as the specifications for the building's historical preservation. A housing variation that is set in the ground and other adaptations reduce the presence of the product to a minimum.

✳ P200 ↘ p. 166

XAL Competence Center, Graz, Austria, 2011–2013
Three minimalistic lighting variants form a single unified design. FA and EL supply every point with perfectly calculated light—on the surfaces and pathways in front of the building, and on the façade itself.

✳ FA600, FA160 ↘ pp. 114–117
✳ EL710, EL6000 ↘ pp. 118–123

Gradonna Mountain Resort, Kals, Austria, 2011–2013
Like the sustainable architecture, the lighting respectfully refers to the mountain landscape. In several processing steps, the steel girders receive a rustproof finish, and the LED lenses are coated with an amber-colored lacquer for the special color of the light.

✳ ewoIndividual ↘ p. 78

Gradonna Mountain Resort

Museum of the Bavarian Kings, Hohenschwangau, Germany, 2011
Flat walls made from conglomerate are a part of the landscape arrangement of the prizewinning architecture. A special model from ewo is integrated into the rock with a flush mount, accentuating the terrace and pathways on both sides.

✳ ewoIndividual ↘ p. 78

Calambrone Theater, Pisa, Italy, 2011
Spotlights from the P Series and other elements structure the space of this open-air stage in various ways. They bring surfaces and forms to life in completely programmable colors, provide for a visual rhythm, and help orient members of the audience.

✳ ewoIndividual ↘ p. 78
✳ P160 ↘ p. 164, P200 ↘ p. 166, R60 ↘ p. 168

robatherm Factory, Scheppach, Germany, 2015
Two products, two functions, combined into a single system: FA illuminates the pathways in the factory, while EL elements are integrated into the pole that stages the façade from a distance with precisely calculated light.

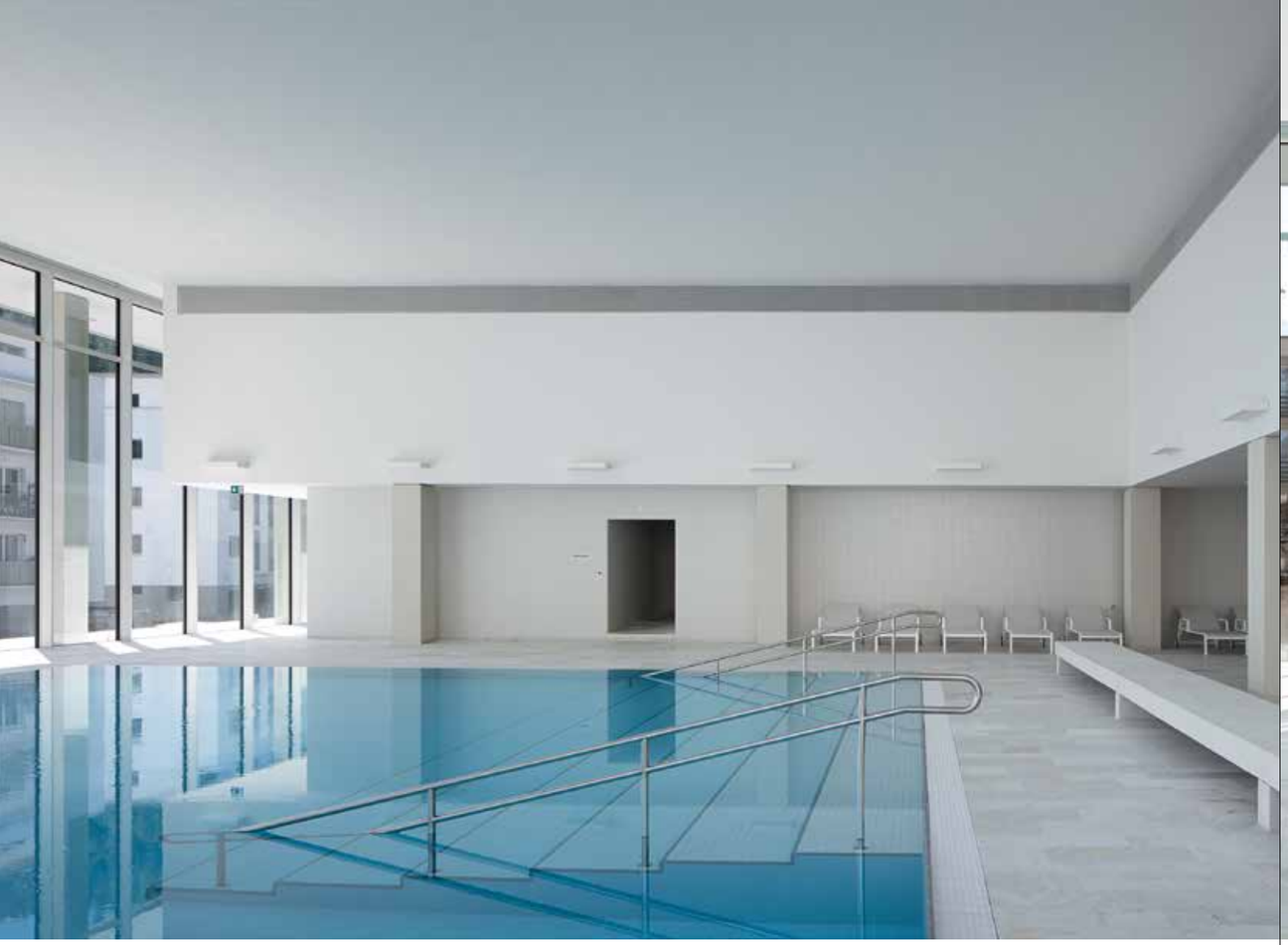
✳ FA1070, FA170 ↘ pp. 114–117
✳ EL ↘ pp. 118–123

robatherm Factory

Arsenali Repubblicani, Pisa, Italy, 2015
The historical character of the medieval complex influenced the architecture of the reconstruction. A special model from ewo integrates smoke detectors, speakers, and emergency lighting under the ceiling next to the lighting units.

✳ ewoIndividual ↘ p. 78

Arsenali Repubblicani



Ovaverva Indoor Swimming Pool, St. Moritz, Switzerland, 2014
This special model is worked almost imperceptibly into the building structure. It lights up the areas under the ceiling, providing the space with diffuse, indirect light. By means of a hidden mechanism, the luminaires can be directed lower for increased brightness during swimming competitions.

✳ ewoIndividual ↘ p. 78

Ovaverva Indoor Swimming Pool

Cittadella Nuova, Pisa, Italy, 2014
The steles integrate several lighting functions and also include elements of building services engineering. Warm light fills the space, while the masonry remains untouched.

✳ ewoIndividual ↘ p. 78

Cittadella Nuova

Roads and Traffic

Calcinate, Bergamo, Italy, 2010
For the first time, we are illuminating an extensive traffic junction with LED technology. The suitable quantity of lighting units is calculated to equip lighting systems of varying heights.

✳ T-System
✳ FO ↘ p. 110

Zero Center, Zero Branco, Italy, 2010
The 20,000 square meter (five acre) forecourt and the access roads of the shopping center are efficiently and sustainably illuminated by means of an integrated technology concept. Visitors to the shopping center receive safe light that is evenly distributed throughout.

✳ L-System, L20
✳ FO600 ↘ p. 110

Nordallee, Munich, Germany, 2012
The basis of this efficiently planned economic solution is the inclusion of the existing poles. The product concept of the F System makes it possible to adapt to the constantly changing route situation over the entire course of the roadway.

✳ F-System Small, F4, F6 ↘ p. 102
✳ F-System Medium, F10 ↘ p. 104

Pont Schuman, Lyons, France, 2014
The challenge of the architecture: street lighting, in compliance with all regulations, from a height of only 28 centimeters (11 inches). Specially calculated lens optics in a special housing model deal with the task without dazzling and provide light all the way to the curbs.

✳ ewoIndividual ↘ p. 78

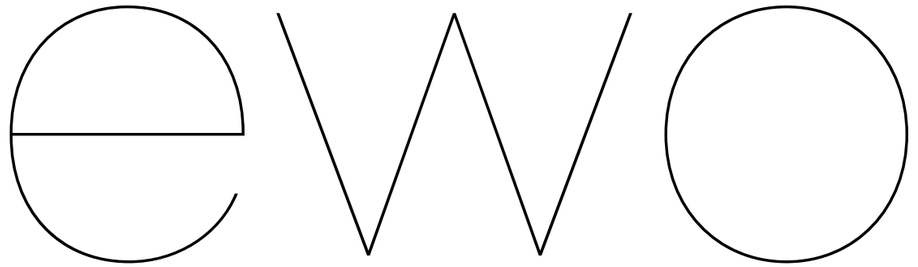
Pont Schuman

Ponte Roma, Bolzano, Italy, 2010
The renovation of street lighting has turned into an encounter with historical substance. The form and the special color of the FN luminaires enter into dialogue with the massive, 80-year-old structure.

✳ FN1200 ↘ p. 112

Ponte Roma

✳ FN ↘ p. 112


ewo

ewo

For 20 years, ewo has been bringing light to a variety of places: picturesque walking trails, urban gathering points, streets, buildings, cultural venues, and airports, in addition to other transport-related and industrial settings. For us, know-how means harnessing the current state of technology in order to create custom-tailored solutions.

At our facility in South Tyrol, we develop and craft high-quality products for distributing, controlling, and limiting illumination in public spaces. Our innovations revolve around a modular LED lighting unit. It is the global starting point for precise and sustainable lighting scenarios of any scale.

We bring passionate curiosity to each and every individual challenge, whether specific lighting effects, special requirements regarding design, color and material of the luminaires, fragile or extreme settings, or explicit technical requirements. We also place great importance on cultural and artistic issues as well as on experimental interaction with architecture, art, and design.

ewo is a family business. We value clear communication—not only with each other, but also with our clients, project partners, and suppliers. Our solutions emerge out of an environment of mutual exchange and a creative and open mindset—these innovations have turned us, together with our products, into a pioneering force in the industry.

ewoLAB initiates projects with artists, designers and architects and, in so doing, addresses the resource of light on a variety of different levels. The cover photo of this catalogue depicts the work “Lightways” by artist Linda Jasmin Mayer (2015). She developed a lighting installation along with ewoLAB in Refshaleøen in Copenhagen. In the area of the former shipyard, lights react to the movements of passersby by means of a system composed of sensors and software.

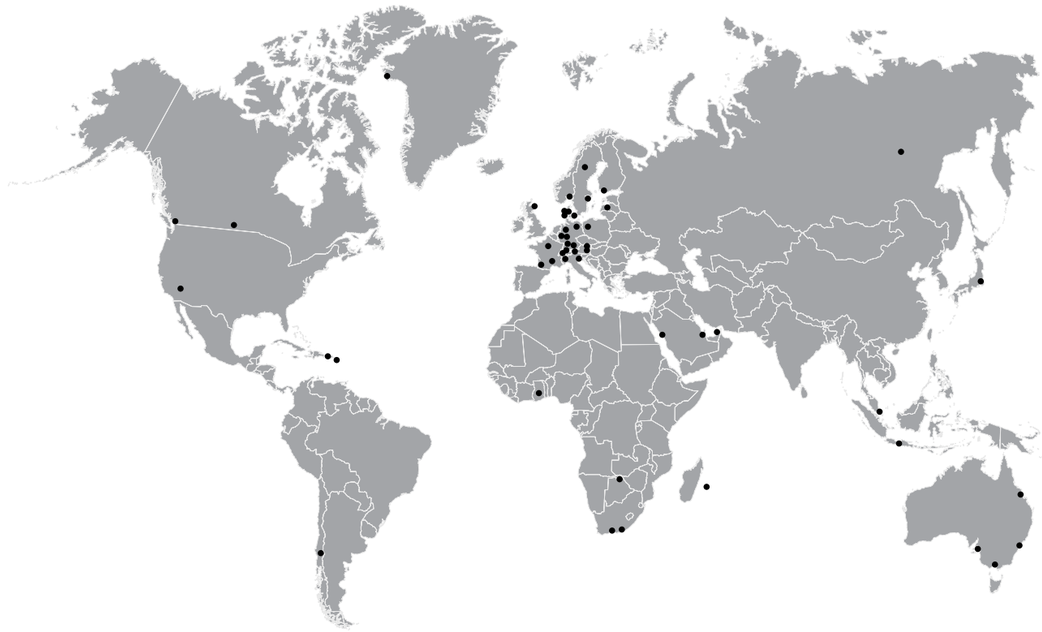
Additional information on ewoLAB may be found at ewo.com/ewoLAB

Flora Kröss and Ernst Wohlgemuth founded ewo in 1996, developing it out of a metal factory in Sarnthein/Sarentino. Products and solutions from the South Tyrol company are used in the following areas:

- Airports and Logistics
  High-performance high pole systems for large areas
- Public Space
  Customized light in urban areas
- Architecture and the Arts
  Configurable systems within the constructed context
- Roads and Transit
  Precise, need-oriented solutions for safe mobility

ewo Throughout the World—The Example of Airports

In 2011, we began outfitting airport aprons with LED lighting. Today, our technology is in use around the world.



AAL	Aalborg Airport
AAR	Aarhus Airport
ABZ	Aberdeen Airport
ADL	Adelaide Airport
ARN	Stockholm Arlanda Airport
BQN	Rafael Hernández International Airport (Puerto Rico)
BRN	Bern Airport
CDG	Paris Charles de Gaulle Airport
CPH	Copenhagen Airport
DOH	Hamad International Airport (Doha)
DPS	Denpasar International Airport (Bali)
DUS	Düsseldorf Airport
DXB	Dubai International Airport
EBJ	Esbjerg Airport
ELS	East London Airport
EUX	F.D. Roosevelt Airport (St. Eustatius)

FRA	Frankfurt Airport
GRJ	George Airport
HAJ	Hannover-Langenhagen Airport
HEL	Helsinki-Vantaa Airport
HSH	Henderson Executive Airport (Las Vegas)
INN	Innsbruck Airport
JED	King Abdulaziz International Airport (Jeddah)
KMS	Kumasi International Airport
LNZ	Linz Airport
MEL	Melbourne Airport
MKY	Mackay Airport
MUC	München Airport
NRT	Narita International Airport (Tokio)
OSD	Åre Östersund Airport
OSL	Oslo Airport
PUF	Pau Pyrénées Airport
RDZ	Rodez Marcillac Airport

RIX	Riga International Airport
RUN	Roland Garros Airport (Réunion)
SIN	Singapore Changi Airport
STR	Stuttgart Airport
SYD	Sydney Airport
THU	Thule Air Base (Grönland)
TRN	Turin Airport
TXL	Berlin Tegel Airport
VCE	Venice Marco Polo Airport
VFA	Victoria Falls Airport
VIE	Vienna International Airport
WRO	Wrocław–Copernicus Airport
YKS	Yakutsk Airport
YQR	Regina International Airport
YVR	Vancouver International Airport
ZCO	Aeropuerto Maquehue Araucania
ZRH	Zürich Airport

ewoIndividual

With ewoIndividual, we design lighting systems that meet special demands in unique projects at both the technical and creative levels. In collaboration with architects and designers, we bring to the table openness to experimentation, solution-oriented know-how, and technical precision.

Our special solutions can take on a variety of forms:

1 Lighting Control
In a process that is specific to each project, we sound out the possibilities of the distribution and limitation of the light. That ranges from the adaptation of the lighting unit to the development of completely new lens shapes.

2 Materiality
We can fundamentally and in a detailed manner adapt the color, texture, and finish of our installations. With our extensive background in metalworking, we bring along experience with a whole variety of materials and processes.

3 Construction
We implement complex creative ideas and bring into existence new forms and constructive solutions with luminaires.

4 Additional Functions
Poles and housings can be dimensioned in such a way that they offer space and connections for additional technical functions while, at the same time, keeping them out of view.

5 Building Integration
Our products do more than just fit into a context in terms of form and function. They can also take on a form that can actually be integrated into the building itself.

6 Communications
Going beyond the function of mere illumination, light can be a signal and take on a communicative task. We work with the entire bandwidth of means of expression and, in so doing, include the possibilities of sensor technology and software-based control.

1 Lighting Control — Pont Schuman, Lyons
The plan involved the placement of the light sources at just 28 centimeters (11 inches) above the ground. With a specially developed lens shape, ewo brings non-dazzling light to the street that meets the EN 13201 standard, even from this low height. ↘ pp. 66–67

4 Additional Functions — St Martin Tower, Frankfurt
The steles illuminate toward two sides and additionally integrate elements of the intercom installation, a traffic light system, video cameras, and tank ventilation. ↘ pp. 41–43

2 Materiality — Gradonna Mountain Resort, Kals
Rusting steel creates the connection to the rugged surrounding mountain landscape. ewo treats the rolled steel girders in a process involving several steps so that from the very beginning onward, they have the desired characteristic and a unified patina. ↘ pp. 48–49

5 Building Integration — Museum of the Bavarian Kings, Hohenschwangau
This special model from ewo is integrated with a flush mount into the flat wall made from conglomerate. ↘ p. 50

3 Construction — Quai Rambaud, Lyons
In conjunction with lighting designers, ewo developed two extensive new pole-mounted lighting models which, in their form, lend a framework and structure to the shore area. ↘ pp. 34–35

6 Communications — Unterer Stadtplatz, Kufstein
This centrally-controlled light management system allows for changeable color effects within individual spherical housing units, among other features. That means it is flexible enough to handle both predictable processes and exceptional scenarios with ease. ↘ pp. 32–33

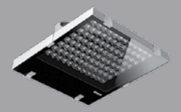
PRODUCTS

LARGE AREA LIGHTING

R-System

86

F-System L



90

OUTDOOR LIGHTING

F-System S

102

F-System M

104

DA

106

GO

108

FO

110

FN

112

FA

114

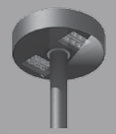
EL

118

CO

124

CN



126

UN

128

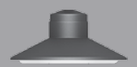
PV

130

ZA

132

SM

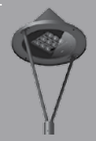


134

AM

142

PL



150

ARCHITECTURAL LIGHTING

P80

158

P100

160

P130

162

P160

164

P200

166

R60

168

R100

170

R170

172

URBAN FURNITURE

LB21

176

LB22

178

LB23

180

LB24

182

BD21

184

BD22

186

BD23

188

BR21

190

WR21

192

WR22

194

SB21

196

LARGE AREA LIGHTING

For nearly 15 years, we have been focusing on high-mast systems to illuminate large areas. We have gained important experience in the field of secondary reflector systems—and were pioneers in the industry-wide conversion to LED technology.

One LED lighting unit (↘ p. 98) was specially developed by ewo for large area lighting; it supplies performance comparable to floodlight systems, while using up to 70 percent less energy and requiring much less maintenance. The modular character of the technology and its diverse configuration options make it possible for us to fine-tune the production technique precisely to the task at hand. Through good planning, the right solutions are created for your project.

Our systems meet major challenges, such as precise light direction and reliable temperature management, using high-quality components.

R–System

↘
ewo.com/r-system

1
1.1 Color temperature: cool white (5,700 K) / neutral white (4,000 K)
1.2 Housing accommodates up to 6 panels
1.3 Current feed: 500 mA–800 mA, depending on ambient temperature
1.4 Electronic operating device with DALI interface or 1–10 V

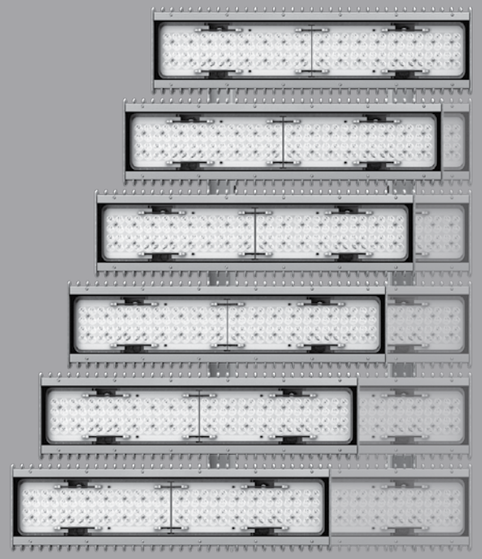
2
2.1 Various light distributions for large area, high bay or street lighting
2.2 Lens made from PMMA

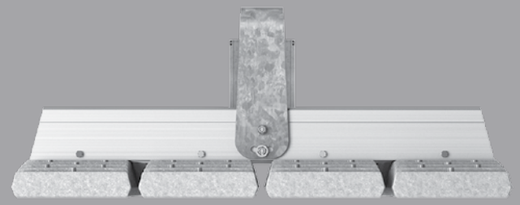
3
3.1 Lamp housing in die-cast aluminum, cover in single-pane safety glass (ESG)
3.2 Bracket made of hot-dip galvanized steel, holder made of aluminum
3.3 Finish: polyester powder coating, silver (RAL 9006/DB 701)

IP66 RoHS

cULus PENDING

Product variant R4
Finish: polyester powder coating



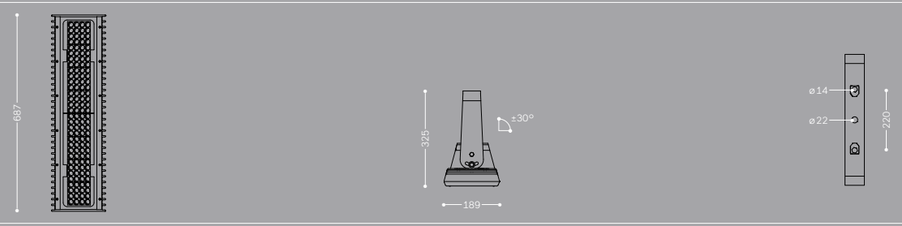


Product variants R1–R6

R-System

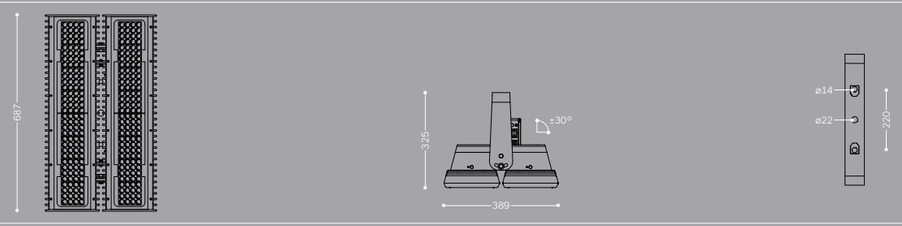
R1

11 kg
3 kg Driver



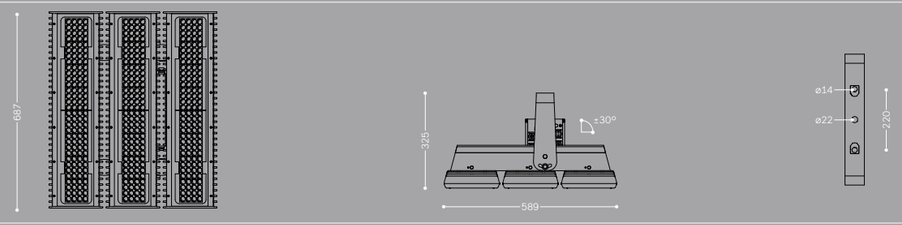
R2

18 kg
3 kg Driver



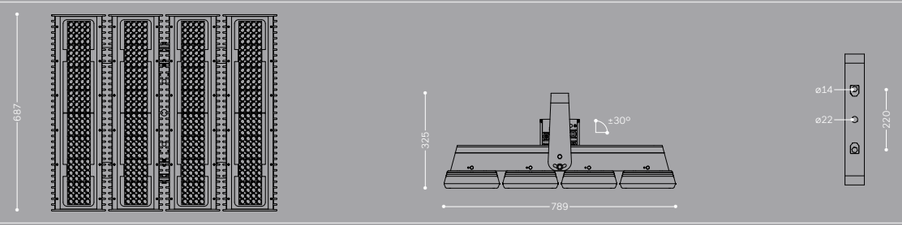
R3

26 kg
5 kg Driver



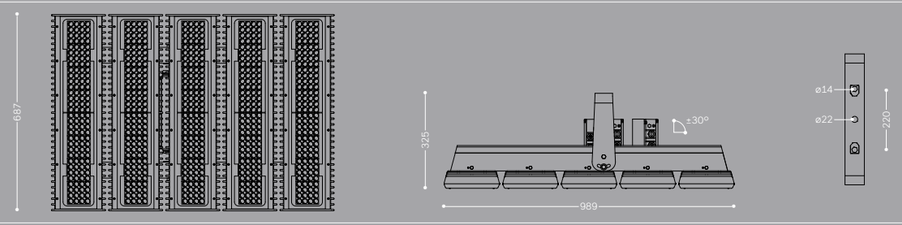
R4

33 kg
5 kg Driver



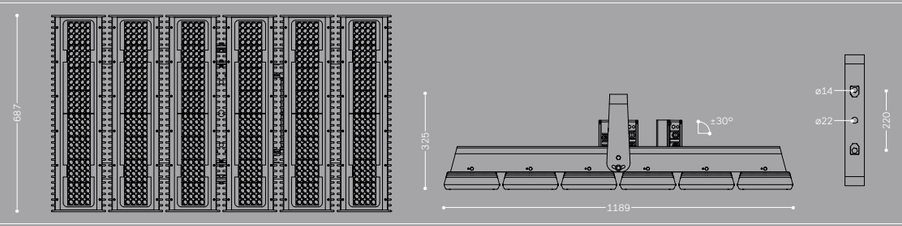
R5

41 kg
8 kg Driver



R6

48 kg
8 kg Driver



Color temperature

	4,000 K		5,700 K		
Current [mA]	Luminous flux * [lm]	Luminous efficacy [lm/W]	Luminous flux * [lm]	Luminous efficacy [lm/W]	Power [W]
R1					
500 mA	23,698	122.4	24,663	127.3	194
600 mA	27,316	117.2	28,406	121.9	233
700 mA	30,589	112.2	31,787	116.6	273
800 mA	33,572	107.4	34,843	111.5	313
R2					
500 mA	47,395	122.4	49,325	127.3	387
600 mA	54,632	117.2	56,812	121.9	466
700 mA	61,178	112.2	63,573	116.6	545
800 mA	67,144	107.4	69,687	111.5	625
R3					
500 mA	71,093	122.4	73,988	127.3	581
600 mA	81,947	117.2	85,218	121.9	699
700 mA	91,767	112.2	95,360	116.6	818
800 mA	100,716	107.4	104,530	111.5	938
R4					
500 mA	94,790	122.4	98,650	127.3	775
600 mA	109,263	117.2	113,624	121.9	932
700 mA	122,356	112.2	127,146	116.6	1,091
800 mA	134,287	107.4	139,373	111.5	1,251
R5					
500 mA	118,488	122.4	123,313	127.3	968
600 mA	136,579	117.2	142,030	121.9	1,166
700 mA	152,946	112.2	158,933	116.6	1,363
800 mA	167,859	107.4	174,216	111.5	1,563
R6					
500 mA	142,185	122.4	147,976	127.3	1,162
600 mA	163,895	117.2	170,436	121.9	1,399
700 mA	183,535	112.2	190,719	116.6	1,636
800 mA	201,431	107.4	209,060	111.5	1,876

* Luminous flux tolerance ±7%

F-System Large

↘
ewo.com/f-system

1
1.1 Color temperature: cool white (5,700 K) / neutral white (4,000 K) / warm white (3,000 K)
1.2 Housing accommodates up to 40 lenses
1.3 Current feed: 300 mA–500 mA, depending on ambient temperature
1.4 Electronic operating device with DALI interface or 1–10 V or stand-alone programming

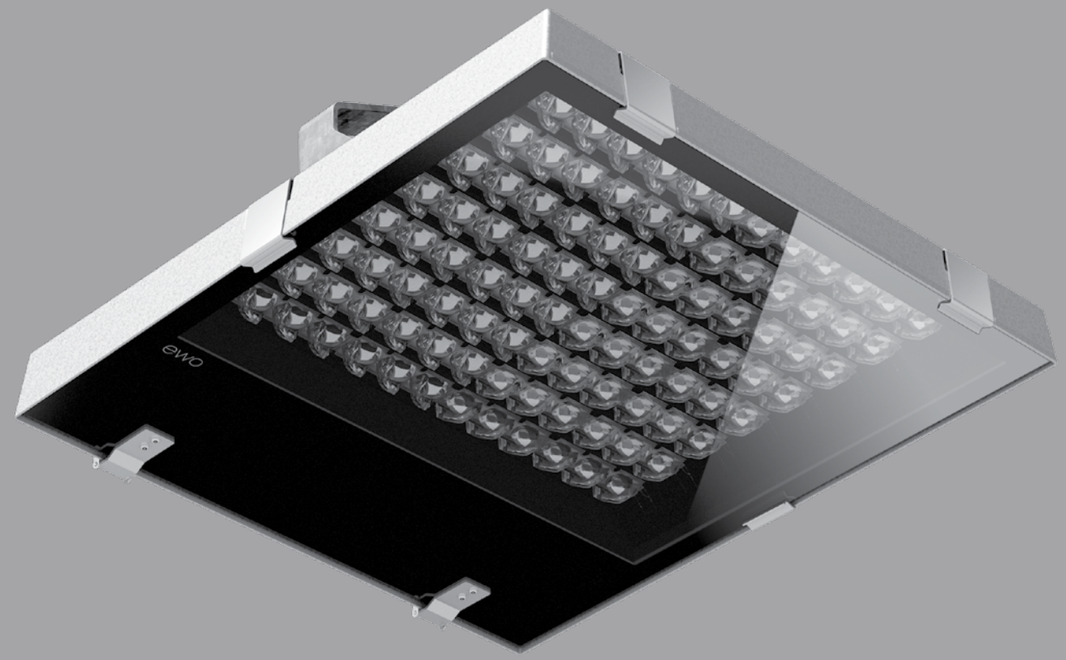
2
2.1 Various light distributions for large area, high bay or street lighting
2.2 LP32-R, LP32-L, LP32-L/R, LH31, LS34
2.3 Lens made from PMMA

3
3.1 5 output variants: F40/F32/F28/F24/F20
3.2 Die-cast aluminum housing, cover in single-pane safety glass (ESG)
3.3 Bracket made of hot-dip galvanized steel
3.4 Finish: untreated aluminum, polyester powder coating upon request, silver (RAL 9006/DB 701)

IP66 RoHS

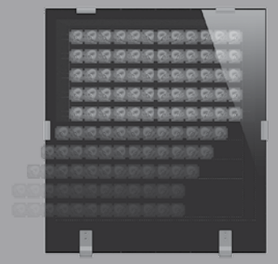
The F-System Large was also used for the following projects:

- Munich Airport, pp. 5–7
- Hanover Airport, pp. 16–17
- Thule Air Base, pp. 18–19
- Melbourne Airport, pp. 20–21



Product variant F32

Models / Optical units



F20 / F24 / F28 / F32 / F40
20–40 lenses

Also available in the following sizes:

F-System S

102

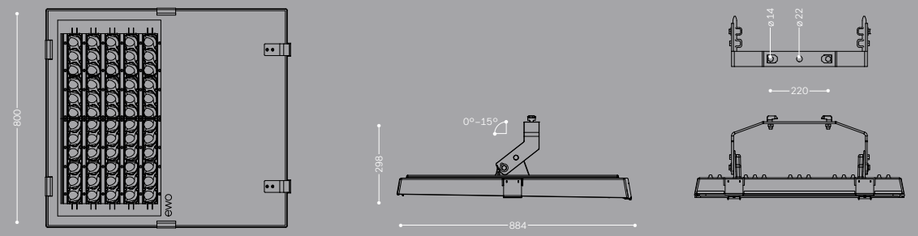
F-System M

104

F–System Large

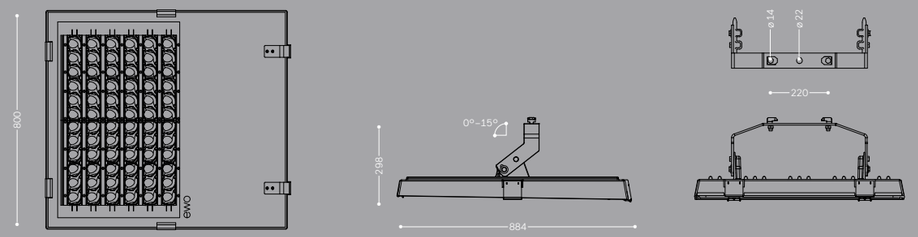
F20

31.5 kg



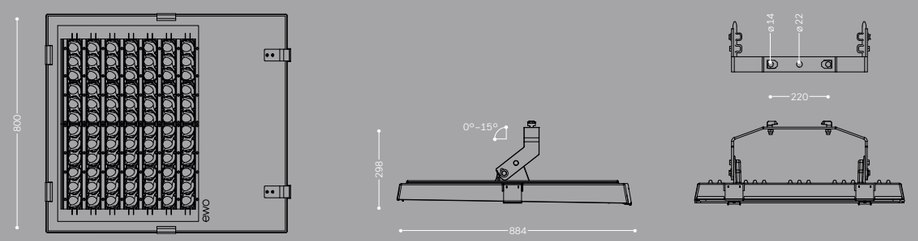
F24

32 kg



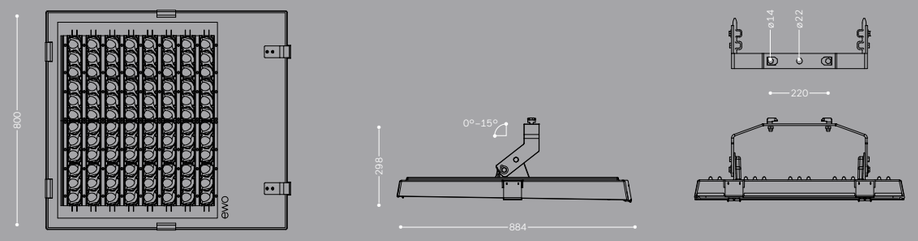
F28

33.5 kg



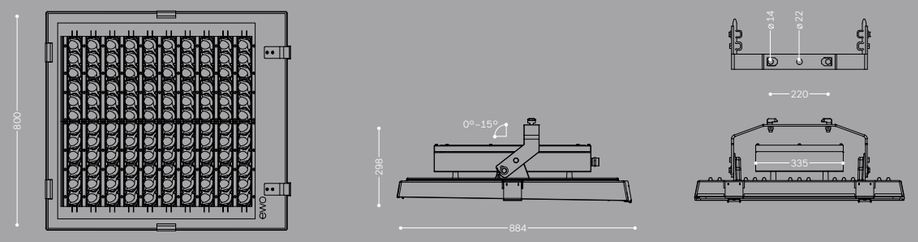
F32

34 kg



F40

44 kg



Color temperature

	3,000 K		4,000 K		5,700 K		
Current [mA]	Luminous flux * [lm]	Luminous efficacy [lm/W]	Luminous flux * [lm]	Luminous efficacy [lm/W]	Luminous flux * [lm]	Luminous efficacy [lm/W]	Power [W]
F20							
300 mA	19,699	94.8	22,856	110.0	24,623	118.5	208
350 mA	22,524	92.8	26,134	107.7	28,173	116.1	243
400 mA	25,197	90.8	29,246	105.4	31,512	113.6	277
450 mA	27,705	88.7	32,177	103.0	34,684	111.1	312
500 mA	30,031	86.6	34,926	100.7	37,645	108.5	347
F24							
300 mA	23,638	94.8	27,427	110.0	29,548	118.5	249
350 mA	27,028	92.8	31,361	107.7	33,808	116.1	291
400 mA	30,237	90.8	35,095	105.4	37,814	113.6	333
450 mA	33,246	88.7	38,612	103.0	41,621	111.1	375
500 mA	36,038	86.6	41,911	100.7	45,174	108.5	416
F28							
300 mA	27,578	94.8	31,998	110.0	34,473	118.5	291
350 mA	31,533	92.8	36,588	107.7	39,443	116.1	340
400 mA	35,276	90.8	40,944	105.4	44,117	113.6	388
450 mA	38,787	88.7	45,047	103.0	48,558	111.1	437
500 mA	42,044	86.6	48,896	100.7	52,703	108.5	486
F32							
300 mA	31,518	94.8	36,569	110.0	39,397	118.5	332
350 mA	36,038	92.8	41,814	107.7	45,077	116.1	388
400 mA	40,316	90.8	46,793	105.4	50,419	113.6	444
450 mA	44,328	88.7	51,482	103.0	55,495	111.1	500
500 mA	48,050	86.6	55,881	100.7	60,232	108.5	555
F40							
300 mA	39,397	94.8	45,712	110.0	49,247	118.5	415
350 mA	45,047	92.8	52,268	107.7	56,347	116.1	485
400 mA	50,395	90.8	58,492	105.4	63,024	113.6	555
450 mA	55,410	88.7	64,353	103.0	69,368	111.1	624
500 mA	60,063	86.6	69,852	100.7	75,290	108.5	694

* Luminous flux tolerance ±7%

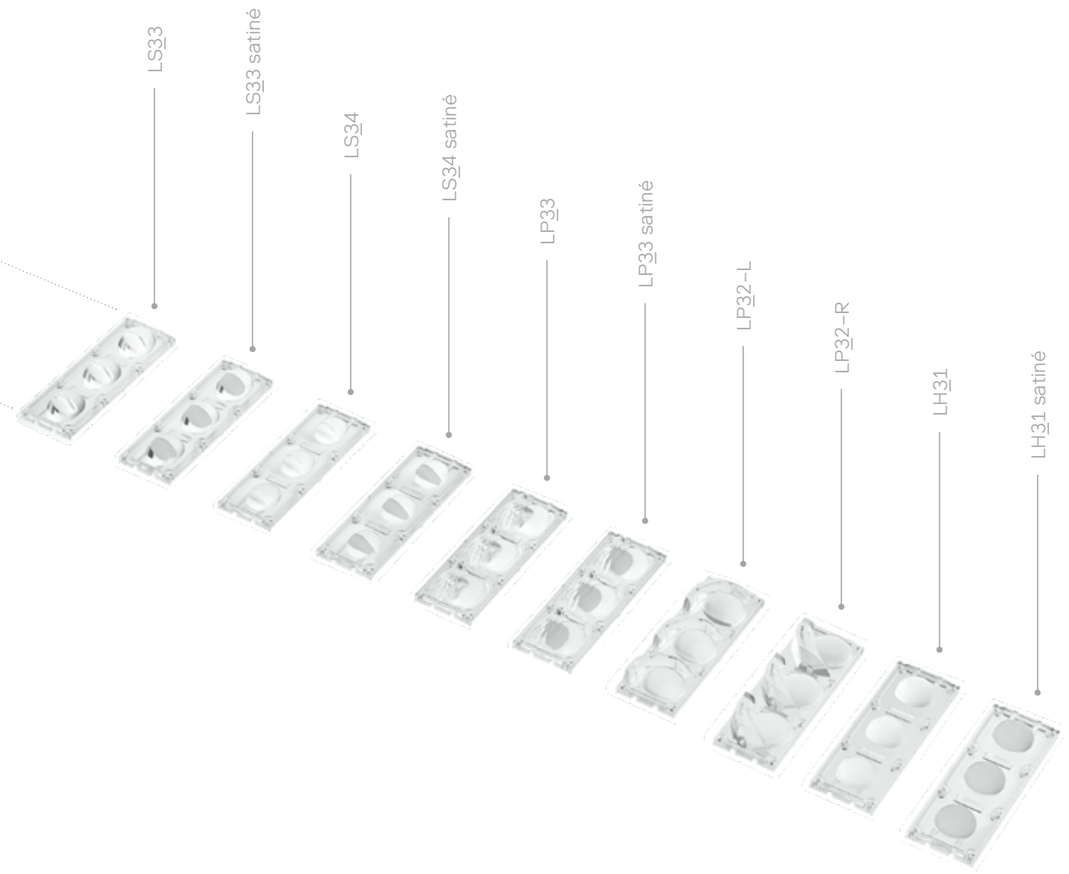
OUTDOOR LIGHTING

Light is an essential element of design. Our technically sophisticated products direct, distribute, and confine it according to the demands of the given project. In the field of outdoor lighting, we develop systems for streets, squares, walkways, and parks.

Every object in a public space has an influence on the way we perceive our surroundings. We place great emphasis on form and design, a careful choice of materials, and high-quality craftsmanship in creating our products. In international partnerships, we work with designers and creative institutions on design concepts for public spaces.

ewo
The light you have been looking for.

Every project has specific requirements. That’s why we have developed a product system that is adaptable down to the last detail. We create top-quality, technologically advanced solutions for the most varied of contexts.



The LED Lighting Unit
The Basic Building Block of Our Product System

The modular, highly-variable LED lighting unit is the basic building block for different lighting systems—from the bollard light to the high mast system. The size dimension and the number of the lighting units determine the brightness; the choice of the lens optics influences the distribution of the light; and the selection of the LEDs defines the color temperature. For the fine tuning of the system, the lighting units can be set within a luminaire independently of each other at different angles. When maintenance is performed, individual lighting units are removed from the entire system effortlessly.

Components of the LED lighting unit

Color temperature

warm white 3,000 K

neutral white 4,000 K

cool white 5,700 K

PCB / LED

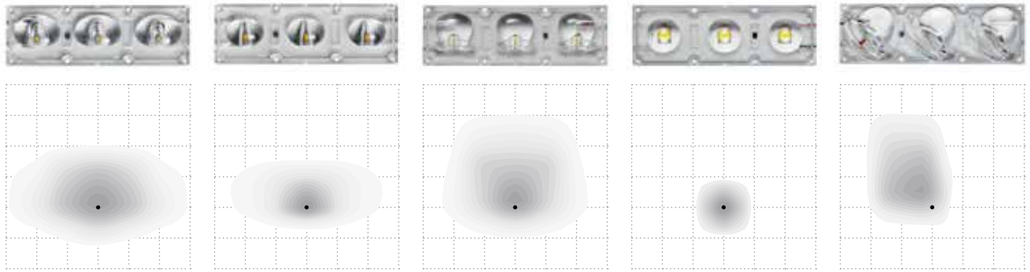
1 LED	2 LED	3 LED	4 LED	6 LED		
6 W	12 W	18 W	24 W	36 W		Color temperature
663 lm	1,325 lm	1,988 lm	2,651 lm	3,976 lm	→	3,000 K
771 lm	1,541 lm	2,312 lm	3,083 lm	4,624 lm	→	4,000 K
831 lm	1,661 lm	2,492 lm	3,323 lm	4,984 lm	→	5,700 K

Output and luminous flux per lighting unit @ 500 mA

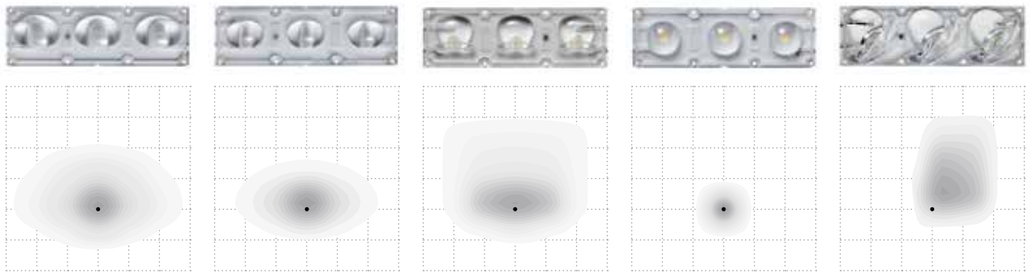
1 LED 2 LED 3 LED 4 LED 6 LED

Lens

LS_3 LS_4 LP_3 LH_1 LP_2-L



LS_3 satiné LS_4 satiné LP_3 satiné LH_1 satiné LP_2-R



5 mm = 1 m / ● Light point height (LPH) = 1 m

Output of the LED lighting unit

LS_3

1 MC LED	Luminous flux * [lm]			Power [W]
	3,000 K	4,000 K	5,700 K	
200 mA	229	266	287	2.4
250 mA	287	333	358	3
300 mA	344	399	430	3.6
350 mA	393	456	492	4.2
400 mA	440	511	550	4.8
450 mA	484	562	606	5.4
500 mA	525	610	658	6.0
550 mA	563	656	707	6.6
600 mA	599	698	753	7.2
650 mA	632	737	796	7.8
700 mA	663	773	835	8.4

LS_3 satiné

1 MC LED	Luminous flux * [lm]			Power [W]
	3,000 K	4,000 K	5,700 K	
200 mA	213	247	267	2.4
250 mA	267	309	333	3
300 mA	320	371	400	3.6
350 mA	366	424	457	4.2
400 mA	409	475	512	4.8
450 mA	450	522	563	5.4
500 mA	488	567	611	6.0
550 mA	524	609	657	6.6
600 mA	557	649	700	7.2
650 mA	588	685	739	7.8
700 mA	616	719	776	8.4

LS_4

1 MC LED	Luminous flux * [lm]			Power [W]
	3,000 K	4,000 K	5,700 K	
200 mA	234	272	293	2.4
250 mA	293	340	366	3
300 mA	351	408	439	3.6
350 mA	402	466	502	4.2
400 mA	449	521	562	4.8
450 mA	494	574	618	5.4
500 mA	535	623	671	6.0
550 mA	575	669	722	6.6
600 mA	612	712	768	7.2
650 mA	645	753	812	7.8
700 mA	676	789	852	8.4

LS_4 satiné

1 MC LED	Luminous flux * [lm]			Power [W]
	3,000 K	4,000 K	5,700 K	
200 mA	222	258	278	2.4
250 mA	278	322	347	3
300 mA	333	387	417	3.6
350 mA	381	442	477	4.2
400 mA	426	495	533	4.8
450 mA	469	544	587	5.4
500 mA	508	591	637	6.0
550 mA	546	635	685	6.6
600 mA	581	676	729	7.2
650 mA	612	714	771	7.8
700 mA	642	749	809	8.4

LP_3

1 MC LED	Luminous flux * [lm]			Power [W]
	3,000 K	4,000 K	5,700 K	
200 mA	228	265	285	2.4
250 mA	285	331	356	3
300 mA	342	397	428	3.6
350 mA	391	454	489	4.2
400 mA	438	508	547	4.8
450 mA	481	559	603	5.4
500 mA	522	607	654	6.0
550 mA	560	652	703	6.6
600 mA	596	694	749	7.2
650 mA	629	733	791	7.8
700 mA	659	769	830	8.4

LP_3 satiné

1 MC LED	Luminous flux * [lm]			Power [W]
	3,000 K	4,000 K	5,700 K	
200 mA	212	246	265	2.4
250 mA	265	307	331	3
300 mA	318	369	397	3.6
350 mA	363	421	454	4.2
400 mA	406	472	508	4.8
450 mA	447	519	559	5.4
500 mA	484	563	607	6.0
550 mA	520	605	653	6.6
600 mA	553	644	695	7.2
650 mA	584	681	734	7.8
700 mA	612	714	770	8.4

LH_1

1 MC LED	Luminous flux * [lm]			Power [W]
	3,000 K	4,000 K	5,700 K	
200 mA	242	281	303	2.4
250 mA	303	351	379	3
300 mA	363	422	454	3.6
350 mA	416	482	520	4.2
400 mA	465	540	581	4.8
450 mA	511	594	640	5.4
500 mA	554	644	695	6.0
550 mA	595	693	747	6.6
600 mA	633	737	795	7.2
650 mA	668	779	840	7.8
700 mA	700	817	882	8.4

LH_1 satiné

1 MC LED	Luminous flux * [lm]			Power [W]
	3,000 K	4,000 K	5,700 K	
200 mA	218	253	273	2.4
250 mA	273	316	341	3
300 mA	327	379	409	3.6
350 mA	374	434	468	4.2
400 mA	418	485	523	4.8
450 mA	460	534	576	5.4
500 mA	499	580	625	6.0
550 mA	535	623	672	6.6
600 mA	569	663	715	7.2
650 mA	601	701	756	7.8
700 mA	630	735	793	8.4

LP_2-L / LP_2-R

1 MC LED	Luminous flux * [lm]			Power [W]
	3,000 K	4,000 K	5,700 K	
200mA	219	254	274	2.4
250mA	274	317	342	3
300mA	328	381	410	3.6
350mA	375	435	469	4.2
400mA	420	487	525	4.8
450mA	462	536	578	5.4
500mA	500	582	627	6
550mA	537	625	674	6.6
600mA	572	666	718	7.2
650mA	603	703	759	7.8
700mA	632	738	796	8.4

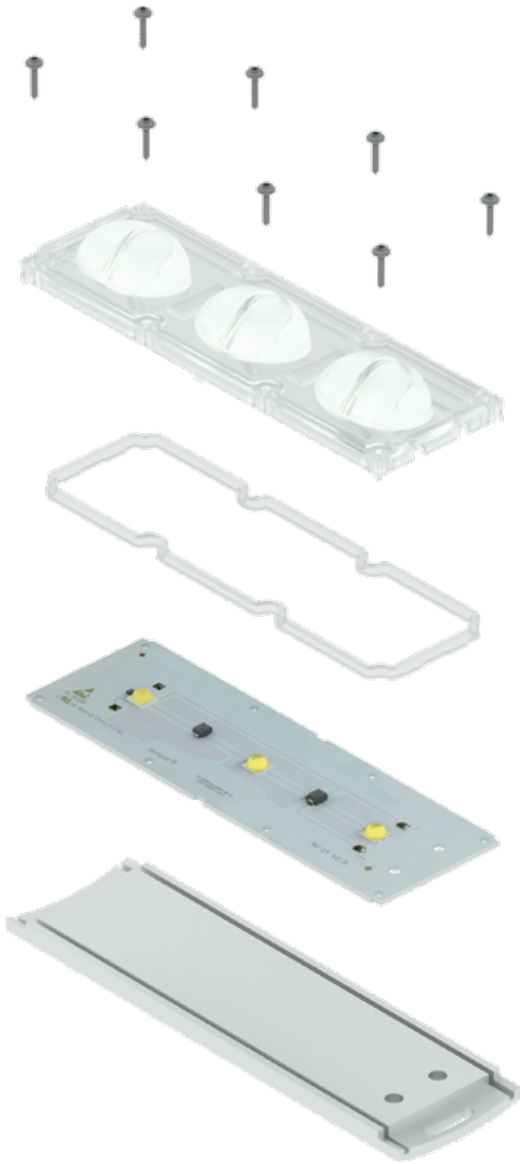
* Luminous flux tolerance ±7%

The output values of the lighting system are calculated from the following formula:

Formula **		Individual value of the selected light distribution	×	Number of LEDs per PCB ***	×	Number of Lighting Units	=	Output values
Example		[lm] [W]	×	[Quantity]	×	[Quantity]	=	[lm] [W]
Lens	LS_4							
Color temperature	4,000 K							
Power	450 mA	574 lm 5.4 W	×	3	×	4	=	6,888 lm 64.8 W
LED per PCB	3							
Lighting Units	4							

** From the formula, the approximate values can be calculated.
*** For figures on the possible number of lighting units per lighting system and on the number of LEDs per circuit board of the selected lighting unit, please see the product description.

Construction of the LED lighting unit



1 Lens Block
A variety of lens optics are available to choose from—with shining characteristics for roads, squares, or walkways, for use in tall poles or bollard lights. The lenses are made from sturdy acrylic glass (PMMA) and are therefore not subject to any yellowing process.

2 Seal
The silicone sealing element completely secures the unit against water, dirt, and dust (IP rating IP67).

3 LED Board
Three color temperatures are available for different atmospheres: cool white (5,700 K), neutral white (4,000 K), and warm white (3,000 K). LED boards can be exchanged upon reaching their operating life, while other components of the lighting unit continue to be used.

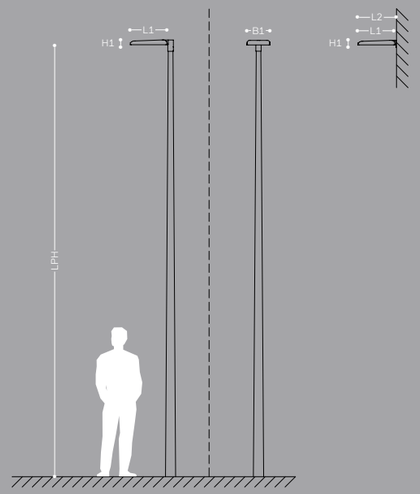
4 Support Plate
The aluminum support plate ensures the efficient heat dissipation and maintenance of the critical temperature of the insulating layer, even with high ambient temperatures and an intense current feed to the LEDs.

F-System Small

↘ ewo.com/f-system

1
- 1.1 Color temperature: cool white (5,700 K) / neutral white (4,000 K) / warm white (3,000 K)
- 1.2 Housing accommodates up to 4 LED lighting units (3 LED PCB)
- 1.3 Current feed: 300 mA–700 mA, depending on ambient temperature (F4 max. 600 mA)
- 1.4 Electronic operating device with DALI interface or 1–10 V or stand-alone programming
- 1.5 LED lighting units each adjustable ±5°

Dimension



2
- 2.1 Various light distributions, lens optics with asymmetric patterns for street, walkway, and large area lighting
- 2.2 LS33, LS33 satiné, LS34, LS34 satiné, LP33, LP33 satiné
- 2.3 Lens made from PMMA, with aluminum support plate

3
- 3.1 Cover in single-pane safety glass (ESG)
- 3.2 Die-cast aluminum housing, pole adapter made of aluminum, swivels from 0 to 90° in 5° increments, for pole ø 76 mm or ø 60 mm
- 3.3 Finish: polyester powder coating, anthracite (DB 703), other colors upon request

IP66 RoHS

Available Designs

Single Double Wall-mounted

Product variant F4

Models / Equipment Variations

F2 / F3 / F4
2–4 LU

Model	LPH [m]*	L1 [mm]	L2 [mm]	H1 [mm]	B1 [mm]	Pole	Lighting units (LU)
F4	4–8	620	/	77	278	MK_-_ _-(F)	4
F4-W	/	620	651	77	278	/	4
F3	4–8	620	/	77	278	MK_-_ _-(F)	3
F3-W	/	620	651	77	278	/	3
F2	4–8	620	/	77	278	MK_-_ _-(F)	2
F2-W	/	620	651	77	278	/	2

* in 1 m steps

F-System Medium

↘ ewo.com/f-system

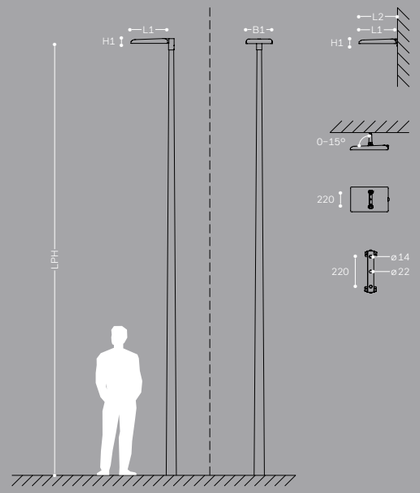
1
1.1 Color temperature: cool white (5,700 K) / neutral white (4,000 K) / warm white (3,000 K)
1.2 Housing accommodates up to 10 LED lighting units (6 LED PCB)
1.3 Current feed: 300 mA–700 mA, depending on ambient temperature (F10 max. 600 mA)
1.4 Electronic operating device with DALI interface or 1–10 V or stand-alone programming
1.5 LED lighting units each adjustable ±5°

2
2.1 Different pattern characteristics for street, hall, walkway, and large area lighting
2.2 LS33, LS34 satiné, LS44, LS44 satiné, LP33, LP43 satiné, LH41, LH41 satiné
2.3 Lens made from PMMA, with aluminum support plate

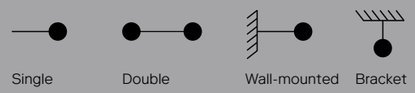
3
3.1 Cover in single-pane safety glass (ESG)
3.2 Die-cast aluminum housing, pole adapter made of aluminum, swivels from 0 to 90° in 5° increments, for pole ø 76 mm or ø 60 mm
3.3 Finish: polyester powder coating, anthracite (DB 703), other colors upon request

IP66 RoHS

Dimension

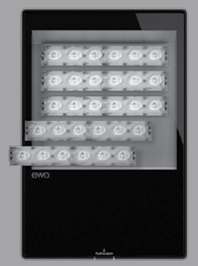


Available Designs



Product variant F10

Models / Equipment Variations



F6 / F8 / F10
6–10 LU

Model	LPH [m]*	L1 [mm]	L2 [mm]	H1 [mm]	B1 [mm]	Pole	Lighting units (LU)
F10	6–10	640	/	77	422	MK_-_ _-(F)	10
F10-W	/	640	671	77	422	/	10
F8	6–10	640	/	77	422	MK_-_ _-(F)	8
F8-W	/	640	671	77	422	/	8
F6	6–10	640	/	77	422	MK_-_ _-(F)	6
F6-W	/	640	671	77	422	/	6

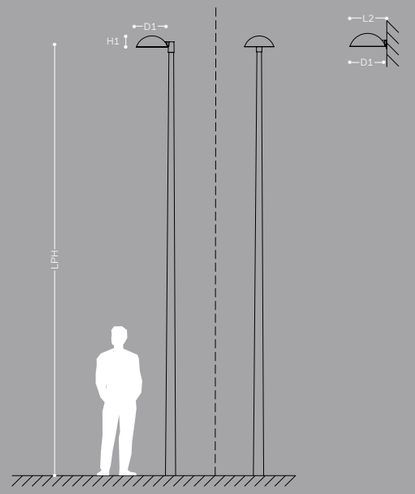
* in 1 m steps

DA

↘
ewo.com/DA

1
- 1.1 Color temperature: cool white (5,700 K) / neutral white (4,000 K) / warm white (3,000 K)
- 1.2 Housing accommodates up to 5 lighting units (3 LED PCB)
- 1.3 Current feed: 300 mA–600 mA, depending on ambient temperature
- 1.4 Electronic operating device with DALI interface or 1–10 V or stand-alone programming
- 1.5 LED lighting units each adjustable ±5°

Dimension

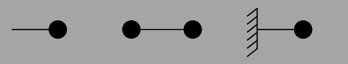


2
- 2.1 Various light distributions, lens optics with asymmetric patterns for street, walkway, and large area lighting
- 2.2 LS33, LS33 satiné, LS34, LS34 satiné, LP33, LP33 satiné
- 2.3 Lens made from PMMA, with aluminum support plate

3
- 3.1 Cover in single-pane safety glass (ESG)
- 3.2 Die-cast aluminum housing, pole adapter made of aluminum, swivels from 0 to 90° in 5° increments, for pole ø 76 mm or ø 60 mm
- 3.3 Finish: polyester powder coating, anthracite (DB 703), other colors upon request

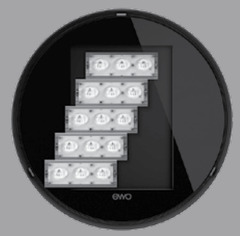
IP66 RoHS

Available Designs



Single Double Wall-mounted

Models / Equipment Variations



DA520
1–5 LU

Model	LPH [m]*	D1 [ø mm]	H1 [mm]	L2 [mm]	Pole	Lighting units (LU)
DA520	4–10	522	192	/	MK_-_ _-(F)	5
DA520-W	/	522	192	550	/	5

* in 1 m steps

GO

↘
ewo.com/GO

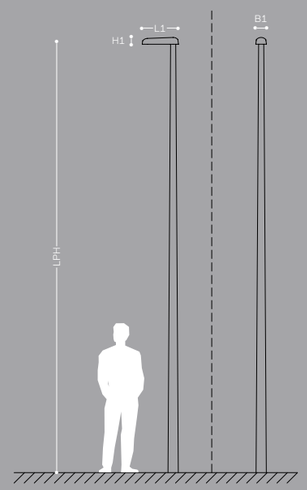
1
- 1.1 Color temperature: cool white (5,700 K) / neutral white (4,000 K) / warm white (3,000 K)
- 1.2 Housing accommodates 1 LED lighting unit (3 or 4 LED PCB)
- 1.3 Current feed: 200 mA–600 mA, depending on ambient temperature
- 1.4 Electronic operating device with DALI interface or 1–10 V or stand-alone programming

2
- 2.1 Different pattern characteristics for street, walkway, and large area lighting
- 2.2 LS33 Q, LS43 Q satiné, LP33 Q, LP43 Q satiné, LS43 Q, LS43 Q satiné, LP43 Q, LP43 Q satiné
- 2.3 Lens made from PMMA

3
- 3.1 Cover in single-pane safety glass (ESG)
- 3.2 Housing made from die-cast aluminum
- 3.3 Suitable for pole top diameter ø 60mm, optional adapter for ø 76mm
- 3.4 Finish: Aluminum vibratory finishing, or polyester powder coating, anthracite (DB 703), other colors upon request

IP66 RoHS

Dimension



Available Designs

Single Wall-mounted

Models / Equipment Variations

GO
1 LU
(3 LED PCB)

GO
1 LU
(4 LED PCB)

Luminaire and pole polyester powder coated, anthracite (DB 703)

Luminaire aluminium vibratory finished, pole made from hot-dip galvanized steel

Model	LPH [m]*	L1 [mm]	H1 [mm]	B1 [mm]	L2 [mm]	Pole	Lighting units (LU)
GO	3–5.5	424	79	125	368	MK_-_ _-(F)	1

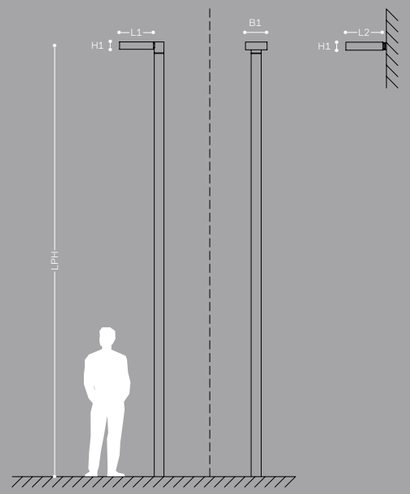
* in 0.5 m steps

FO

↘
ewo.com/FO

1
- 1.1 Color temperature: cool white (5,700 K) / neutral white (4,000 K) / warm white (3,000 K)
- 1.2 Housing accommodates up to 7 LED lighting units (3 LED PCB)
- 1.3 Current feed: 300 mA–600 mA, depending on ambient temperature
- 1.4 Electronic operating device with DALI interface or 1–10 V or stand-alone programming
- 1.5 LED lighting units each adjustable ±5°

Dimension

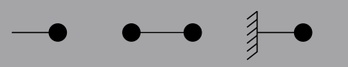


2
- 2.1 Different pattern characteristics for street, walkway, and large area lighting
- 2.2 LS_3, LS_3 satiné, LS_4, LS_4 satiné, LP_3, LP_3 satiné
- 2.3 Lens made from PMMA, with aluminum support plate

3
- 3.1 3 model variants: FO460/FO600/FO720
- 3.2 Housing made of stainless steel, pole adaptor made of aluminium, cover in single-pane safety glass (ESG)
- 3.3 Pole in hot-dip galvanized steel with cable insertion opening, junction box and service door
- 3.4 Finish: polyester powder coating, anthracite (DB 703), other colors upon request

IP66 RoHS

Available Designs



Single Double Wall-mounted

Models / Equipment Variations

FO460
1–3 LU

FO600
3–5 LU

FO720
5–7 LU

Model	LPH [m]	L1 [mm]	L2 [mm]	H1 [mm]	B1 [mm]	Pole	Lighting units (LU)
FO460	4.5–6.3	460	/	100	290	ME1, MSF4, MSE, MS11	1–3
FO460	6.4–8	460	/	100	290	MS, MSF8, MSF13, MS2	1–3
FO600	4.5–6.3	600	/	100	290	ME1, MSF4, MSE, MS11	3–5
FO600	6.4–8	600	/	100	290	MS, MSF8, MSF13, MS2	3–5
FO720	6.4–8	750	/	100	290	MS, MSF8, MSF13, MS2	5–7
FO720	8.1–10	750	/	100	290	MS4, MSF10, MSF9, MS6	5–7
FO460–W	/	460	505	100	290	/	1–3
FO600–W	/	600	645	100	290	/	3–5
FO720–W	/	750	795	100	290	/	5–7

FN

↘
ewo.com/FN

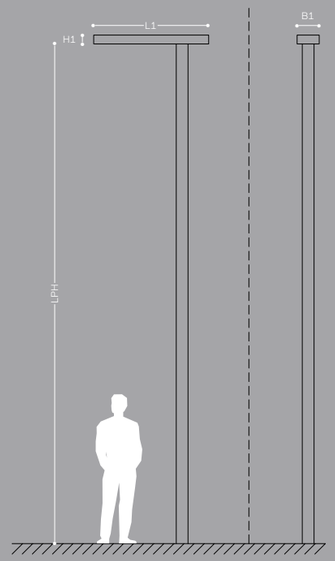
1
1.1 Color temperature: cool white (5,700 K) / neutral white (4,000 K) / warm white (3,000 K)
1.2 Housing accommodates up to 8 LED lighting units (3 LED PCB)
1.3 Current feed: 300 mA–600 mA, depending on ambient temperature
1.4 Electronic operating device with DALI interface or 1–10 V or stand-alone programming
1.5 LED lighting units each adjustable ±5°

2
2.1 Different pattern characteristics for street, walkway, and large area lighting
2.2 LS̲3, LS̲3 satiné, LS̲4, LS̲4 satiné, LP̲3, LP̲3 satiné
2.3 Lens made from PMMA, with aluminum support plate

3
3.1 2 product variants: FN/FN-B
2 model variants FN1000(-B)/FN1300(-B)
3.2 Product variant FN-B: additional lighting unit at the back
3.3 Housing made of extruded aluminum profile, cover in single-pane safety glass (ESG)
3.4 Pole in hot-dip galvanized steel with cable insertion opening, junction box and service door
3.5 Finish: polyester powder coating, anthracite (DB 703), other colors upon request

IP66 RoHS

Dimension



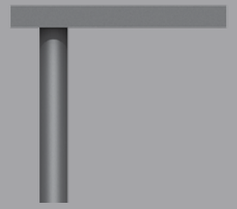
Available Designs

Single

Models / Equipment Variations

FN1000
1–4 LU
FN1000–B
1–4+1 LU

FN1300
5–8 LU
FN1300–B
5–8+1 LU



FN

FN–B

Model	LPH [m]	L1 [mm]	H1 [mm]	B1 [mm]	Pole	Lighting units (LU)
FN1000	5–6	1,000	108	268	MS10, MSF11	1–4
FN1000	6.4–10	1,000	108	268	MS, MSF8, MS4, MSF9	1–4
FN1300	8.1–10	1,300	108	268	MS, MSF8, MS4, MSF9	5–8
FN1000–B	5–6	1,000	108	268	MS10, MSF11	1–4+1
FN1000–B	6.4–10	1,000	108	268	MS, MSF8, MS4, MSF9	1–4+1
FN1300–B	8.1–10	1,300	108	268	MS, MSF8, MS4, MSF9	5–8+1

FA

↘
ewo.com/FA

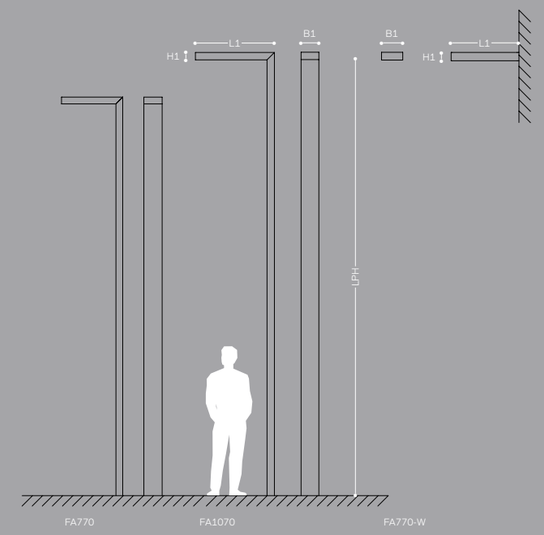
1
1.1 Color temperature: cool white (5,700 K) / neutral white (4,000 K) / warm white (3,000 K)
1.2 Housing accommodates up to 8 LED lighting units (3 LED PCB)
1.3 Current feed: 300 mA–600 mA, depending on ambient temperature
1.4 Electronic operating device with DALI interface or 1–10 V or stand-alone programming
1.5 LED lighting units each adjustable ±5°

2
2.1 Different pattern characteristics for street, walkway, and large area lighting
2.2 LS_3, LS_3 satiné, LS_4, LS_4 satiné, LP_3, LP_3 satiné
2.3 Lens made from PMMA, with aluminum support plate

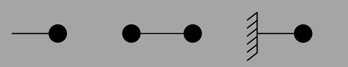
3
3.1 3 model variants: FA170/FA770/FA1070
3.2 Housing made of extruded aluminum profile (optional COR-TEN steel sheet), cover in single-pane safety glass (ESG)
3.3 Pole made of extruded aluminum profile (optional COR-TEN steel sheet) with cable insertion opening, junction box and service door
3.4 Finish: polyester powder coating, silver-gray (RAL 9007/DB 702), other colors upon request

IP66 RoHS

Dimension



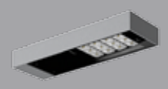
Available Designs



Models / Equipment Variations

FA770
1–4 LU

FA1070
5–8 LU



Wall luminaire
Finish: polyester powder coated or COR-TEN steel

Pole luminaire
Finish: polyester powder coated

Pole luminaire Finish: COR-TEN steel

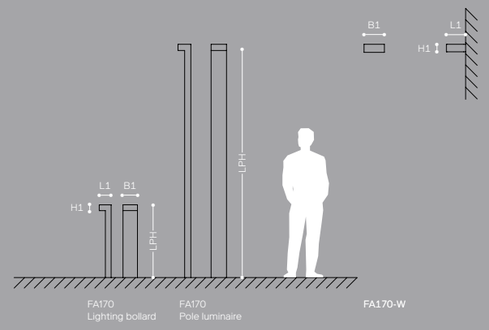
Model	LPH [m]	L1 [mm]	H1 [mm]	B1 [mm]	Lighting units (LU)
FA770	2.5–6	770	85	230	1–4
FA770–W	/	700	85	230	1–4
FA1070	6–8	1,070	108	268	5–8

FA

↘
ewo.com/FA

1
1.1 Color temperature: cool white (5,700 K) / neutral white (4,000 K) / warm white (3,000 K)
1.2 Housing accommodates 1 LED lighting unit (2 LED PCB)
1.3 Current feed: 200 mA–600 mA, depending on ambient temperature
1.4 Electronic operating device with DALI interface or 1–10 V or stand-alone programming
1.5 LED lighting units each adjustable ±5°

Dimension

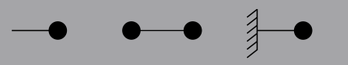


2
2.1 Different pattern characteristics for street, walkway, and large area lighting
2.2 LS23, LS23 satiné, LS24, LS24 satiné, LP23, LP23 satiné
2.3 Lens made from PMMA, with aluminum support plate

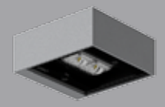
3
3.1 3 model variants: FA170/FA770/FA1070
3.2 Housing made of extruded aluminum profile (optional COR-TEN steel sheet), cover in single-pane safety glass (ESG)
3.3 Pole made of extruded aluminum profile (optional COR-TEN steel sheet) with cable insertion opening, junction box and service door
3.4 Finish: polyester powder coating, silver-gray (RAL 9007/DB 702), other colors upon request

IP66 RoHS

Available Designs



Single Double Wall-mounted



Wall luminaire
Finish: polyester powder coated or COR-TEN steel

Pole luminaire / lighting bollard
Finish: polyester powder coated

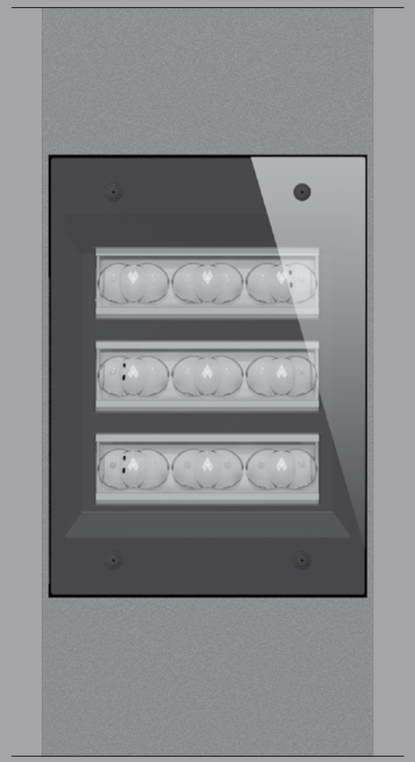
Pole luminaire / lighting bollard
Finish: COR-TEN steel

Model	LPH [m]	L1 [mm]	H1 [mm]	B1 [mm]	Lighting units (LU)
FA170	1–4	178	80	200	1
FA170–W	/	200	80	200	1

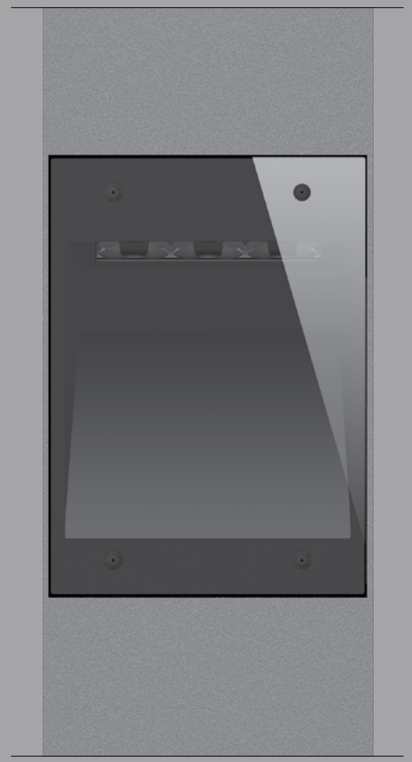
EL

↘
ewo.com/EL

The EL product series is a lighting system characterized by reduced forms. Different LED lighting elements, each with specific pattern characteristics, can be combined and their angle freely adjusted. They are installed flushly in a vertical aluminum column of any desired height or in a wall housing.



Façade lighting element



Area lighting element
Accent lighting element

Accent lighting wall element

EL

↘
ewo.com/EL

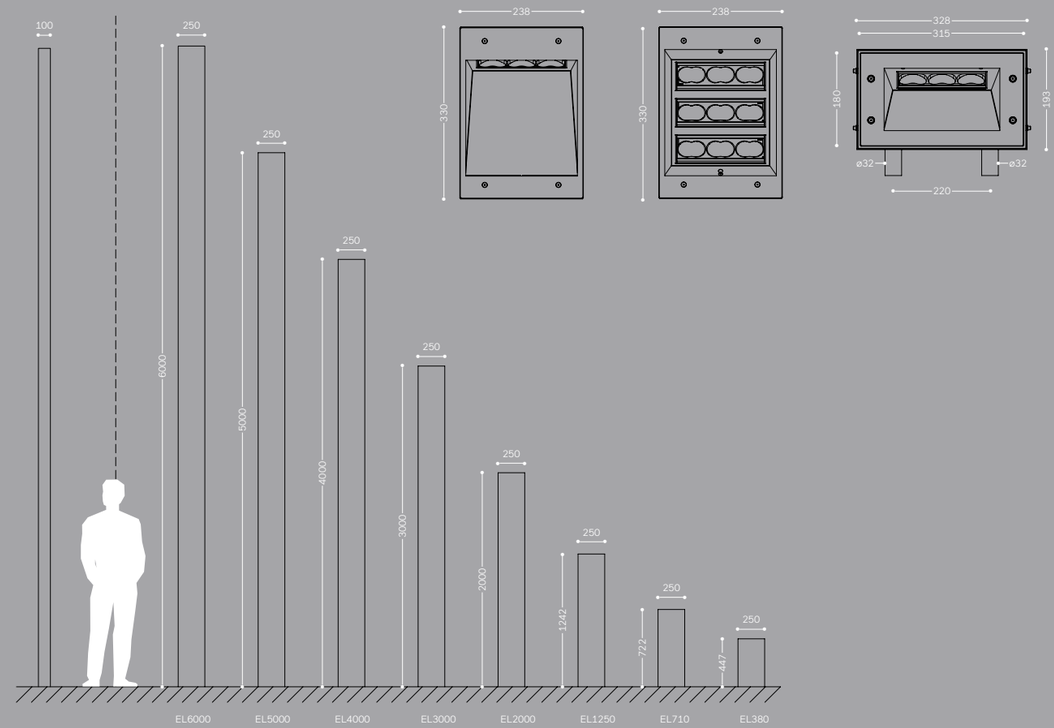
1
1.1 Color temperature: cool white (5,700 K) / neutral white (4,000 K) / warm white (3,000 K)
1.2 Housing accommodates up to 3 LED lighting units (3 LED PCB)
1.3 Current feed: 200 mA–600 mA, depending on ambient temperature
1.4 Electronic operating device with DALI interface or 1–10 V or stand-alone programming
1.5 LED lighting units adjustable

2
2.1 Different pattern characteristics for street, walkway, and large area lighting
2.2 Lens made from PMMA, with aluminum support plate

3
3.1 Recessed in stainless steel, frameless cover in single-pane safety glass (ESG)
3.2 Integration in column/bollard: extruded aluminum profile (optional COR-TEN steel sheet) with cable insertion opening, junction box and service door
3.3 Wall integration: plasterkit made of galvanized steel
3.4 Finish: polyester powder coating, silver-gray (RAL 9007/DB 702), other colors upon request

IP66 RoHS

Dimension

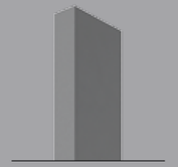


Models / Equipment Variations

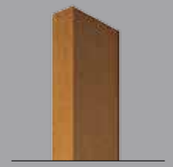
Façade lighting element
1–3 LU

Area lighting element
1 LU
Accent lighting element
1 LU

Accent lighting wall element
1 LU



Finish: polyester powder coated

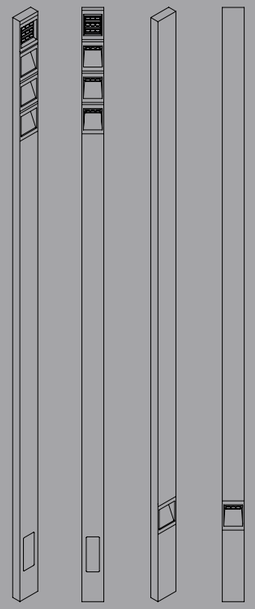


Finish: COR-TEN steel

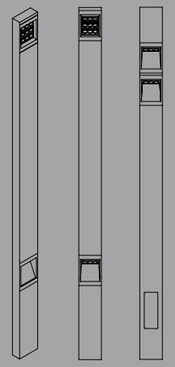
Pole	Lighting units	H1 [mm]	L2 [mm]	B1 [mm]
EL380	1	447	250	100
EL710	1	722	250	100
EL1250	1	1,242	250	100
EL2000	1–2	2,000	250	100
EL3000	1–3	3,000	250	100
EL4000	1–4	4,000	250	100
EL5000	1–5	5,000	250	100
EL6000	1–6	6,000	250	100

EL

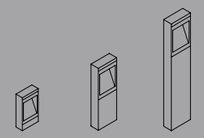
↘
ewo.com/EL



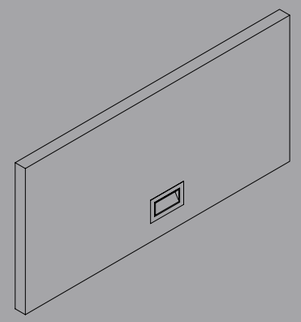
Configuration example 1
Lighting column EL6000
+ 1 façade lighting element
+ 3 area lighting elements
+ 1 accent lighting element



Configuration example 2
Lighting column EL2000
+ 1 façade lighting element
+ 2 area lighting elements
+ 1 accent lighting element



Configuration examples 3–5
Lighting bollard EL380 / EL710 / EL1250
+ 1 accent lighting element

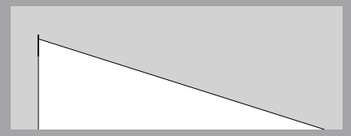


Configuration example 6
Recessed wall light fixture EL-W
+ 1 recessed wall accent lighting element

Façade lighting element

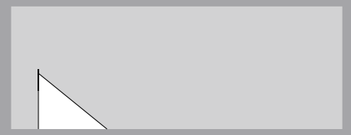
The lighting element can be used for surface lighting of façades and fitted with up to 3 lighting units. Each lighting unit can be adjusted individually and thus adapted ideally to the application.

Area lighting element



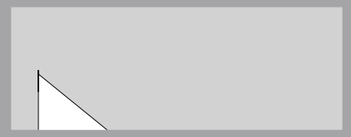
This element is suitable for lighting streets and squares. Multiple elements can be integrated into the column. One lighting unit is inserted per element. You can choose different pattern characteristics to suit the specific requirements.

Accent lighting element



This lighting element permits uniform lighting of walkways and setting of accent points. One lighting unit is inserted per element.

Accent lighting wall element



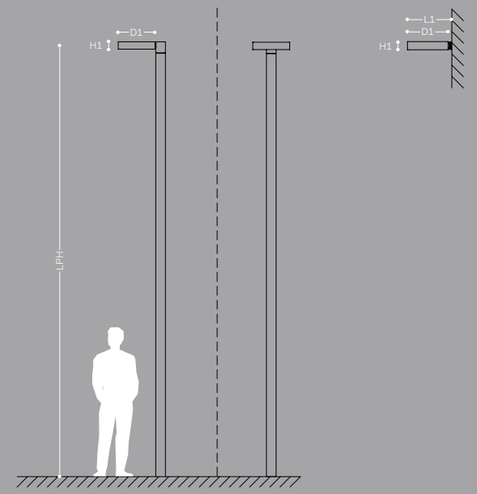
This element, which is also suited for the illumination of walkways, can be installed flush with the wall.

CO

↘
ewo.com/CO

1
1.1 Color temperature: cool white (5,700 K) / neutral white (4,000 K) / warm white (3,000 K)
1.2 Housing accommodates up to 6 LED lighting units (3 LED PCB)
1.3 Current feed: 300 mA–600 mA, depending on ambient temperature
1.4 Electronic operating device with DALI interface or 1–10 V or stand-alone programming
1.5 LED lighting units each adjustable ±5°

Dimension

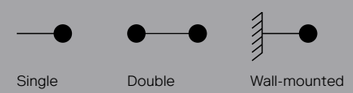


2
2.1 Different pattern characteristics for street, walkway, and large area lighting
2.2 LS_3, LS_3 satiné, LS_4, LS_4 satiné, LP_3, LP_3 satiné
2.3 Lens made from PMMA, with aluminum support plate

3
3.1 2 model variants: CO500/CO600
3.2 Housing made of aluminum, pole adaptor made of aluminum, cover in single-pane safety glass (ESG)
3.3 Pole in hot-dip galvanized steel with cable insertion opening, junction box and service door
3.4 Finish: polyester powder coating, anthracite (DB 703), other colors upon request

IP66 RoHS

Available Designs



Models / Equipment Variations

CO500
1–4 LU

CO600
5–6 LU

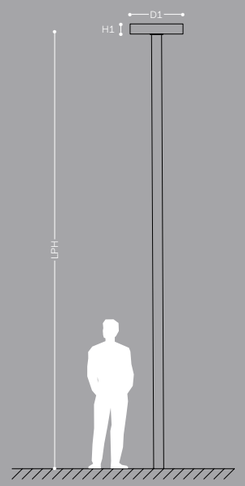
Model	LPH [m]	D1 [ø mm]	H1 [mm]	L1 [mm]	Pole	Lighting units (LU)
CO500	4.5–6.3	500	110	/	ME1, MSF4, MSE, MS11	1–4
CO500	6.4–8	500	110	/	MS, MSF8, MSF13, MS2	1–4
CO600	6.4–8	600	110	/	MS, MSF8, MSF13, MS2	5–6
CO600	8.1–10	600	110	/	MS4, MSF10, MSF9, MS6	5–6
CO500–W	/	500	110	545	/	1–4
CO600–W	/	600	110	645	/	5–6

CN

↘
ewo.com/CN

1
- 1.1 Color temperature: cool white (5,700 K) / neutral white (4,000 K) / warm white (3,000 K)
- 1.2 Housing accommodates up to 8 LED lighting units (3 LED PCB)
- 1.3 Current feed: 300 mA–600 mA, depending on ambient temperature
- 1.4 Electronic operating device with DALI interface or 1–10 V or stand-alone programming
- 1.5 LED lighting units each adjustable ±5°

Dimension



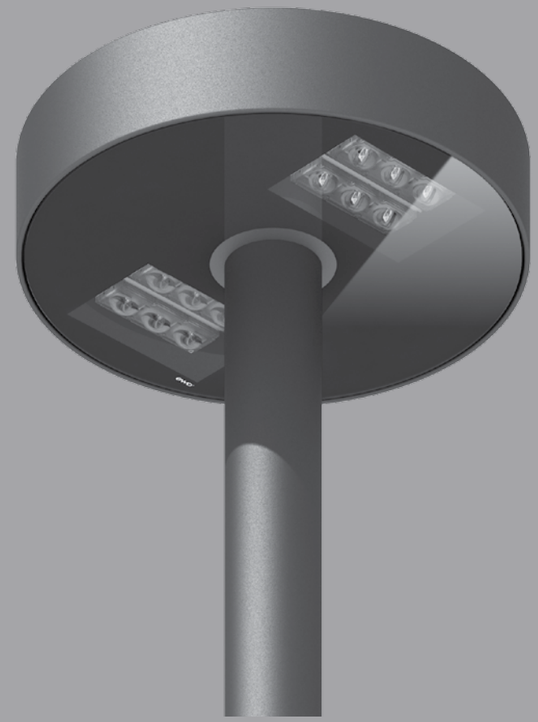
2
- 2.1 Different pattern characteristics for street, walkway, and large area lighting
- 2.2 LS3, LS3 satiné, LS4, LS4 satiné, LP3, LP3 satiné
- 2.3 Lens made from PMMA, with aluminum support plate

3
- 3.1 2 model variants: CN500/CN600
- 3.2 Housing made of aluminum, pole adaptor made of aluminum, cover in single-pane safety glass (ESG)
- 3.3 Pole in hot-dip galvanized steel with cable insertion opening, junction box and service door
- 3.4 Finish: polyester powder coating, anthracite (DB 703), other colors upon request

IP66 RoHS

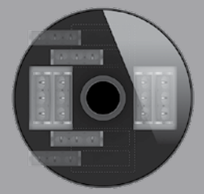
Available Designs

Pole top

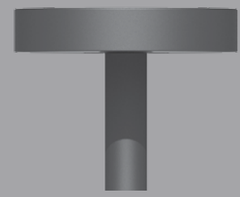


Models / Equipment Variations

CN500
1–4 LU



CN600
2–8 LU



Model	LPH [m]	D1 [ø mm]	H1 [mm]	Pole	Lighting units (LU)
CN500	4.5–6	500	116	MH4, MSE2	1–4
CN600	6–8	600	116	MS8, MSF	2–8

UN

↘
ewo.com/UN

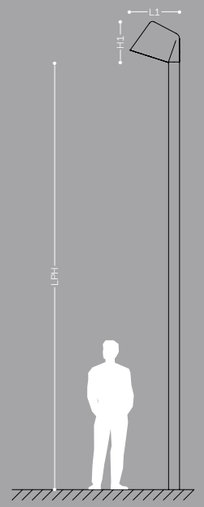
1
1.1 Color temperature: cool white (5,700 K) / neutral white (4,000 K) / warm white (3,000 K)
1.2 Housing accommodates up to 4 LED lighting units (3 LED PCB)
1.3 Current feed: 300 mA–600 mA, depending on ambient temperature
1.4 Electronic operating device with DALI interface or 1–10 V or stand-alone programming
1.5 LED lighting unit adjustable ±5°

2
2.1 Different pattern characteristics for street, walkway, and large area lighting
2.2 DS32, DS32 satiné, DP31, DP31 satiné
2.3 Lens made from PMMA, with aluminum support plate

3
3.1 Housing in cast aluminum, cover in single-pane safety glass (ESG)
3.2 Pole in hot-dip galvanized steel with cable insertion opening, junction box and service door
3.3 Finish: polyester powder coating, anthracite (DB 703), other colors upon request

IP66 RoHS

Dimension



Available Designs

Pole top

Models / Equipment Variations

UN420
1–4 LU

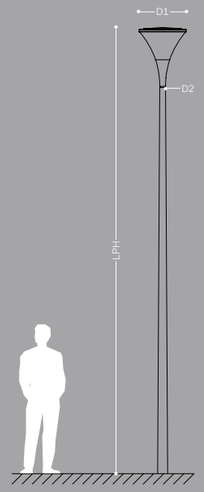
Model	LPH [m]	L1 [mm]	H1 [mm]	Pole	Lighting units (LU)
UN420	3.5–6.3	515	421	MSE1, MH1	1–4

PV

↘
ewo.com/PV

1
1.1 Color temperature: cool white (5,700 K) / neutral white (4,000 K) / warm white (3,000 K), RGB-W on request
1.2 Current feed: 300 mA–500 mA, depending on ambient temperature
1.3 Electronic operating device with DALI interface or 1–10 V or stand-alone programming

Dimension



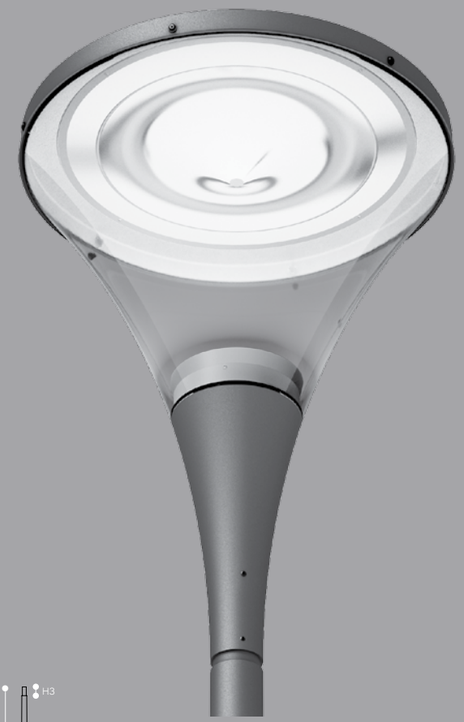
2
2.1 Primary LED light source with symmetric distribution, rotationally symmetric secondary reflector

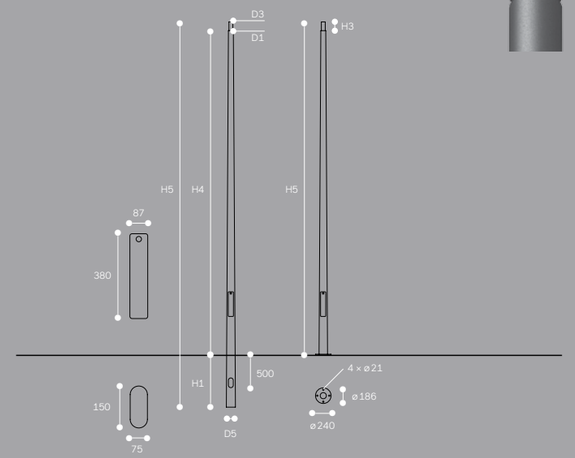
3
3.1 Housing in cast aluminum, cover in PMMA (clear), luminaire canopy in aluminum
3.2 Rotationally symmetric reflector made of pure aluminum
3.3 Pole made of hot-dip galvanized steel with cable insertion opening, junction box and service door
3.4 Finish: polyester powder coating, anthracite (DB 703), other colors upon request

IP66 RoHS

Available Designs

Pole top





Model	LPH [m]	D1 [ø mm]	D2 [ø mm]	Pole
PV615	3.5–4.7	615	76	M–DFC–08 (F)
PV615	4.8–5.7	615	76	M–DFC–09 (F)

Pole	H4 [mm]	H3 [mm]	D1 [mm]	D3 [mm]	D5 [mm]	H1 [mm]
M–DFC–08 (F)	4.000	135	76	60,3	129	800(0)
M–DFC–09 (F)	5.000	135	76	60,3	140	800(0)

H4 = Variable length (Depending on the light point height)

H5 = Total length of pole (Depending on the light point height)

ZA

↘
ewo.com/ZA

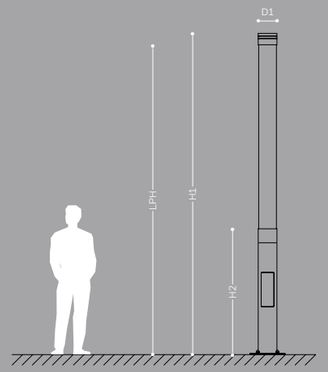
1
1.1 Color temperature: cool white (5,700 K) / neutral white (4,000 K) / warm white (3,000 K), RGB-W on request
1.2 Housing accommodates up to 4 LED lighting units (1 LED PCB)
1.3 Current feed: 300 mA–500 mA, depending on ambient temperature
1.4 Electronic operating device with DALI interface or 1–10 V or stand-alone programming

2
2.1 Different pattern characteristics (symmetric or asymmetric) for street, walkway, and large area lighting
2.2 LS_3, LS_3 satiné, LS_4, LS_4 satiné, LP_3, LP_3 satiné

3
3.1 Base body made of aluminum, PMMA tube (satiné)
3.2 Flush service door, with junction box
3.3 Finish: polyester powder coating, anthracite (DB 703), other colors upon request

IP66 RoHS

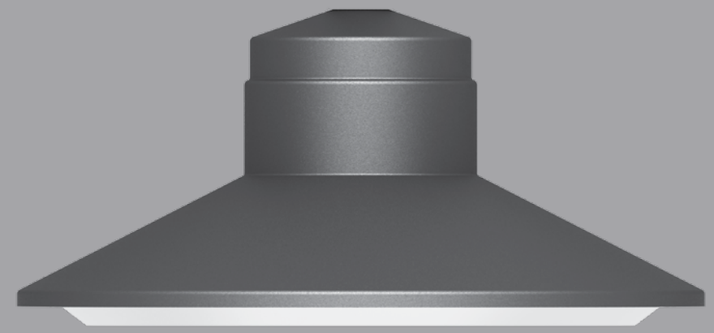
Dimension

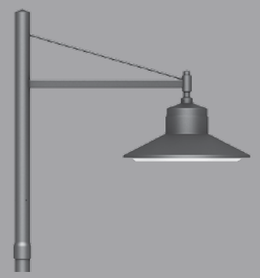


Model	LPH [m]	H1 [mm]	H2 [mm]	D1 [ø mm]
ZA190	3.5	3,650	1,700	190

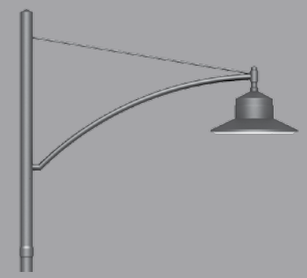
SM

↘
ewo.com/SM

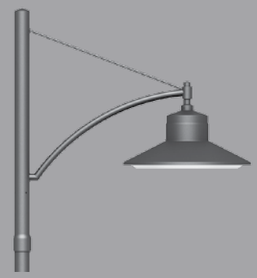




SM-03
↘ p. 136



SM-09
↘ p. 138



SM-12
↘ p. 140

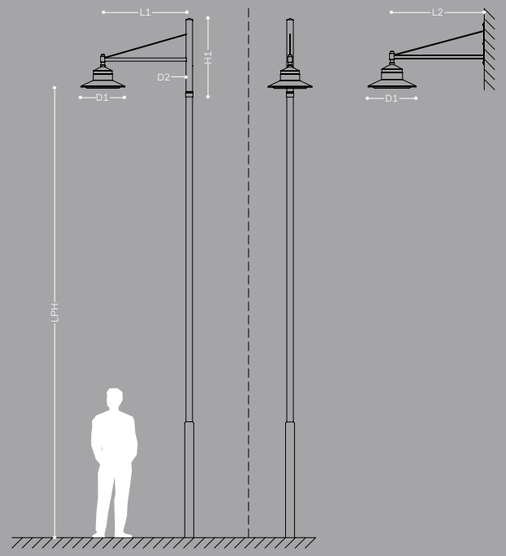
SM-03

↘
ewo.com/SM

1
1.1 Color temperature: cool white (5,700 K) / neutral white (4,000 K) / warm white (3,000 K)
1.2 Housing accommodates up to 6 LED lighting units (3 LED PCB)
1.3 Current feed: 300 mA–600 mA, depending on ambient temperature
1.4 Electronic operating device with DALI interface or 1–10 V or stand-alone programmin
1.5 LED lighting units each adjustable ±5°

2
2.1 Different pattern characteristics for street, walkway, and large area lighting
2.2 LS3, LS3 satiné, LS4, LS4 satiné, LP3, LP3 satiné
2.3 Lens made from PMMA, with aluminum support plate

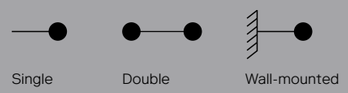
Dimension



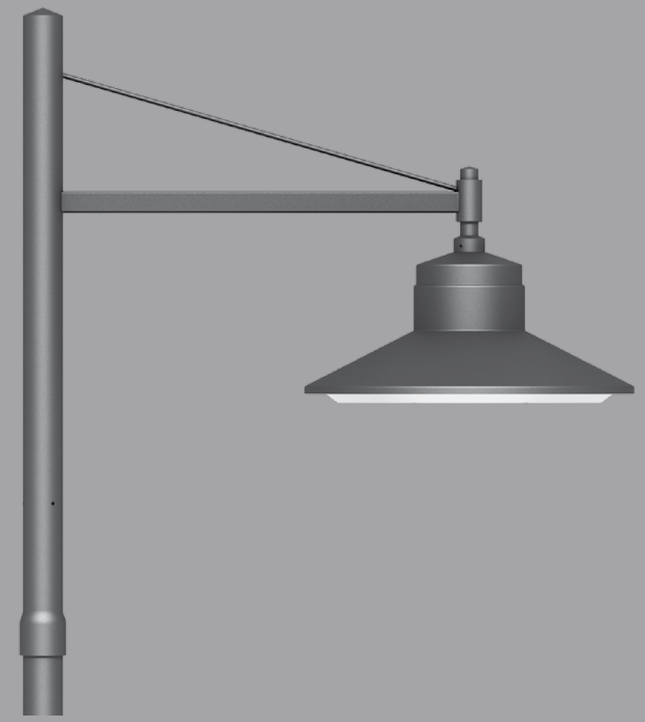
3
3.1 2 model variants: SM620/SM675
3.2 Housing made of aluminum, cover in single-pane safety glass (ESG), bracket made of stainless steel
3.3 Pole made of hot-dip galvanized steel with cable insertion opening, junction box and service door
3.4 Finish: polyester powder coating, anthracite (DB 703), other colors upon request

IP66 RoHS

Available Designs



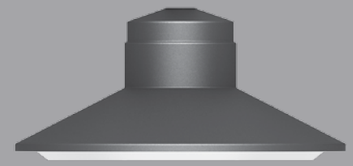
Single Double Wall-mounted



Models / Equipment Variations

SM620
1–4 LU

SM675
5–6 LU



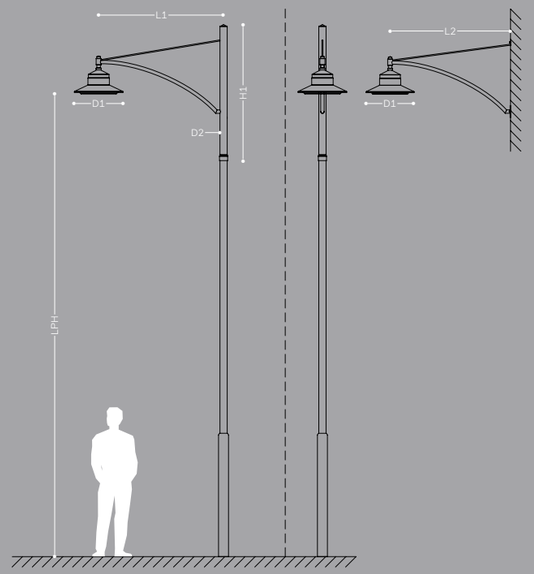
Model	Bracket	LPH [m]	L1 [mm]	L2 [mm]	H1 [mm]	D1 [ø mm]	D2 [ø mm]	Pole	Lighting units (LU)
SM620	03076	4,5–6,3	800	/	1,215	620	76	MFE	1–4
SM675	03089	6,1–7	1,350	/	1,220	680	89	MVE	5–6
SM675	03101	7,1–8	1,350	/	1,220	680	101	MNE1	5–6
SM675	03114	8,1–10	1,350	/	1,230	680	114	MXE	5–6
SM620-W	/	/	/	770	/	620	/	/	1–4
SM675-W	/	/	/	1,300	/	680	/	/	5–6

SM-09

↘
ewo.com/SM

1
- 1.1 Color temperature: cool white (5,700 K) / neutral white (4,000 K) / warm white (3,000 K)
- 1.2 Housing accommodates up to 6 LED lighting units (3 LED PCB)
- 1.3 Current feed: 300 mA–600 mA, depending on ambient temperature
- 1.4 Electronic operating device with DALI interface or 1–10 V or stand-alone programming
- 1.5 LED lighting units each adjustable ±5°

Dimension

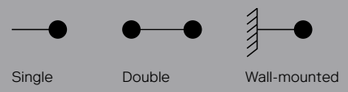


2
- 2.1 Different pattern characteristics for street, walkway, and large area lighting
- 2.2 LS3, LS3 satiné, LS4, LS4 satiné, LP3, LP3 satiné
- 2.3 Lens made from PMMA, with aluminum support plate

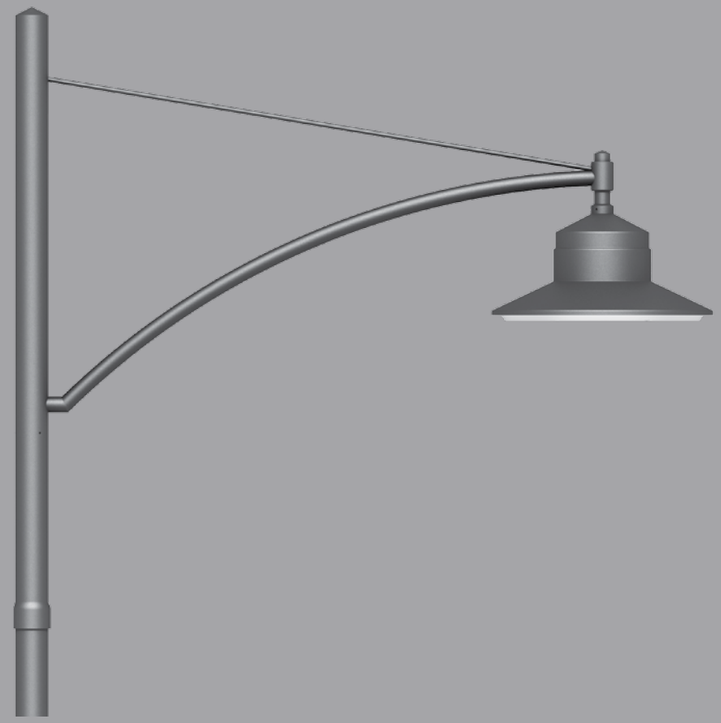
3
- 3.1 Housing made of aluminum, cover in single-pane safety glass (ESG), bracket made of stainless steel
- 3.2 Pole made of hot-dip galvanized steel with cable insertion opening, junction box and service door
- 3.3 Finish: polyester powder coating, anthracite (DB 703), other colors upon request

IP66 RoHS

Available Designs

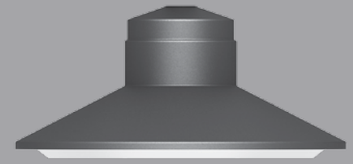


Single Double Wall-mounted



Models / Equipment Variations

SM675
5–6 LU



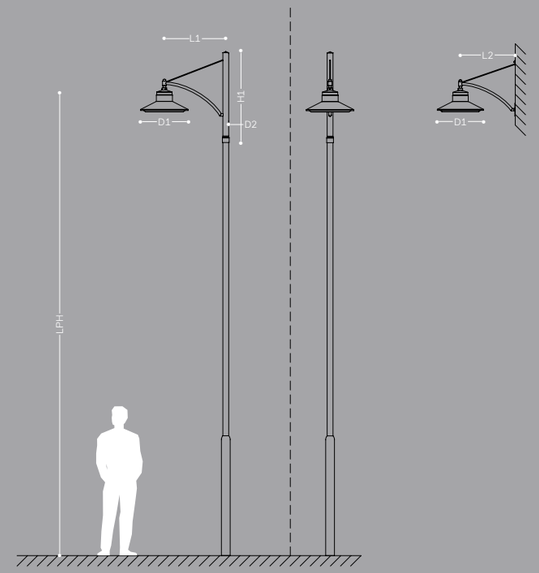
Model	Bracket	LPH [m]	L1 [mm]	L2 [mm]	H1 [mm]	D1 [ø mm]	D2 [ø mm]	Pole	Lighting units (LU)
SM675	09101	6.1–6.5	1,750	/	1,900	680	101	MUE	5–6
SM675	09101	7.1–8	1,750	/	1,900	680	101	MNE	5–6
SM675	09114	8–10	1,750	/	1,900	680	114	MXE2	5–6
SM675–W	/	/	/	1,710	/	680	/	/	5–6

SM-12

↘
ewo.com/SM

1
- 1.1 Color temperature: cool white (5,700 K) / neutral white (4,000 K) / warm white (3,000 K)
- 1.2 Housing accommodates up to 6 LED lighting units (3 LED PCB)
- 1.3 Current feed: 300 mA–600 mA, depending on ambient temperature
- 1.4 Electronic operating device with DALI interface or 1–10 V or stand-alone programming
- 1.5 LED lighting units each adjustable ±5°

Dimension

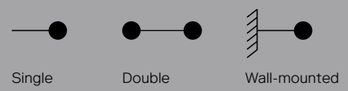


2
- 2.1 Different pattern characteristics for street, walkway, and large area lighting
- 2.2 LS3, LS3 satiné, LS4, LS4 satiné, LP3, LP3 satiné
- 2.3 Lens made from PMMA, with aluminum support plate

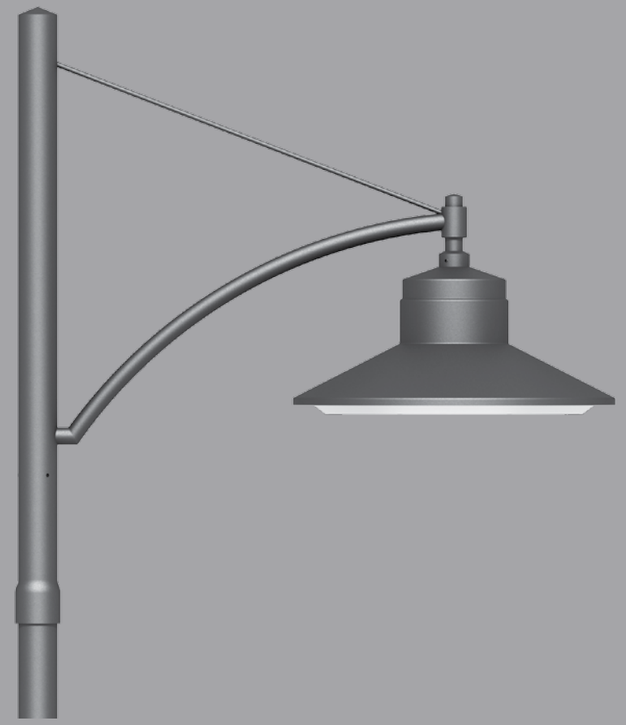
3
- 3.1 2 model variants: SM620/SM675
- 3.2 Housing made of aluminum, cover in single-pane safety glass (ESG), bracket made of stainless steel
- 3.3 Pole made of hot-dip galvanized steel with cable insertion opening, junction box and service door
- 3.4 Finish: polyester powder coating, anthracite (DB 703), other colors upon request

IP66 RoHS

Available Designs



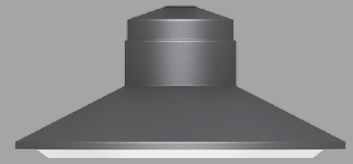
Single Double Wall-mounted



Models / Equipment Variations

SM620
1–4 LU

SM675
5–6 LU



Model	Bracket	LPH [m]	L1 [mm]	L2 [mm]	H1 [mm]	D1 [ø mm]	D2 [ø mm]	Pole	Lighting units (LU)
SM620	12076	4.5–6.3	800	/	1,190	620	76	MFE	1–4
SM675	12089	6.1–7	950	/	1,790	680	89	MVE2	5–6
SM675	12101	7.1–8	950	/	1,790	680	101	MNE1	5–6
SM675	12114	8.1–10	950	/	1,790	680	114	MXE	5–6
SM620–W	/	/	/	735	/	620	/	/	1–4
SM675–W	/	/	/	930	/	680	/	/	5–6

AM

↘
ewo.com/AM

AM-04
↘ p. 144

AM-05
↘ p. 146

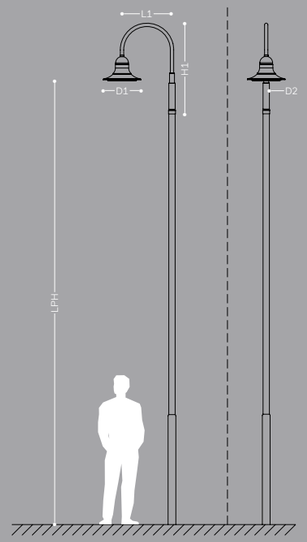
AM-08
↘ p. 148

AM-04

↘
ewo.com/AM

1
1.1 Color temperature: cool white (5,700 K) / neutral white (4,000 K) / warm white (3,000 K)
1.2 Housing accommodates up to 6 LED lighting units (3 LED PCB)
1.3 Current feed: 300 mA–600 mA, depending on ambient temperature
1.4 Electronic operating device with DALI interface or 1–10 V or stand-alone programming
1.5 LED lighting units each adjustable ±5°

Dimension



2
2.1 Different pattern characteristics for street, walkway, and large area lighting
2.2 LS_3, LS_3 satiné, LS_4, LS_4 satiné, LP_3, LP_3 satiné
2.3 Lens made from PMMA, with aluminum support plate

3
3.1 2 model variants: AM620/AM680
3.2 Housing made of aluminum, cover in single-pane safety glass (ESG), bracket made of stainless steel
3.3 Pole made of hot-dip galvanized steel with cable insertion opening, junction box and service door
3.4 Finish: polyester powder coating, anthracite (DB 703), other colors upon request

IP66 RoHS

Available Designs

Single

Models / Equipment Variations

AM620
1–4 LU

AM680
5–6 LU

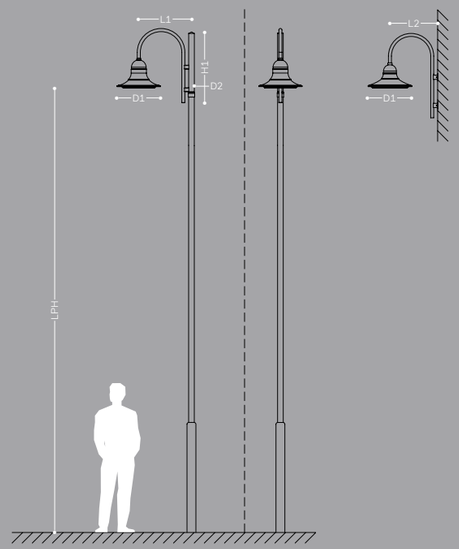
Model	Bracket	LPH [m]	L1 [mm]	L2 [mm]	H1 [mm]	D1 [ø mm]	D2 [ø mm]	Pole	Lighting units (LU)
AM620	04076	4.5–6.3	600	/	1,000	620	76	MFE	1–4
AM680	04089	6.1–7	700	/	1,430	680	89	MVE2	5–6
AM680	04101	7.1–8	900	/	1,630	680	101	MNE1	5–6
AM680	04114	8.1–10	900	/	1,640	680	114	MXE	5–6

AM-05

↘
ewo.com/AM

1
- 1.1 Color temperature: cool white (5,700 K) / neutral white (4,000 K) / warm white (3,000 K)
- 1.2 Housing accommodates up to 6 LED lighting units (3 LED PCB)
- 1.3 Current feed: 300 mA–600 mA, depending on ambient temperature
- 1.4 Electronic operating device with DALI interface or 1–10 V or stand-alone programming
- 1.5 LED lighting units each adjustable ±5°

Dimension

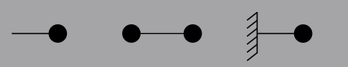


2
- 2.1 Different pattern characteristics for street, walkway, and large area lighting
- 2.2 LS3, LS3 satiné, LS4, LS4 satiné, LP3, LP3 satiné
- 2.3 Lens made from PMMA, with aluminum support plate

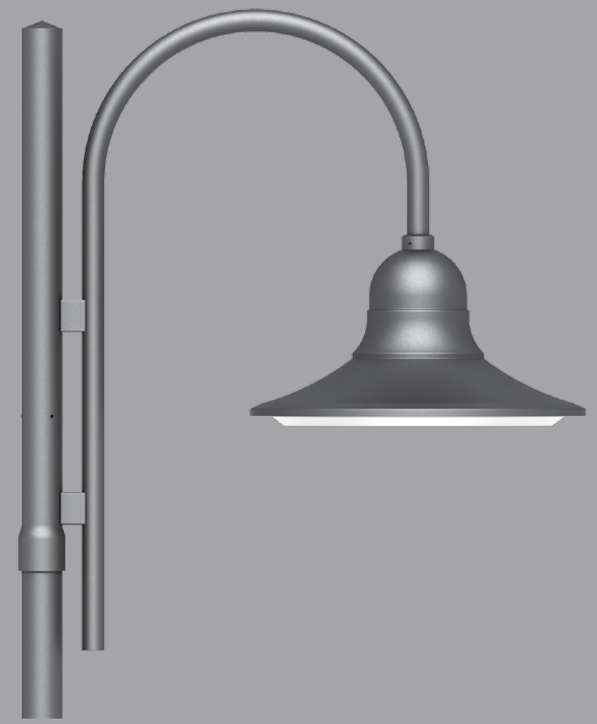
3
- 3.1 2 model variants: AM620/AM680
- 3.2 Housing made of aluminum, cover in single-pane safety glass (ESG), bracket made of stainless steel
- 3.3 Pole made of hot-dip galvanized steel with cable insertion opening, junction box and service door
- 3.4 Finish: polyester powder coating, anthracite (DB 703), other colors upon request

IP66 RoHS

Available Designs



Single Double Wall-mounted



Models / Equipment Variations

AM620
1–4 LU

AM680
5–6 LU

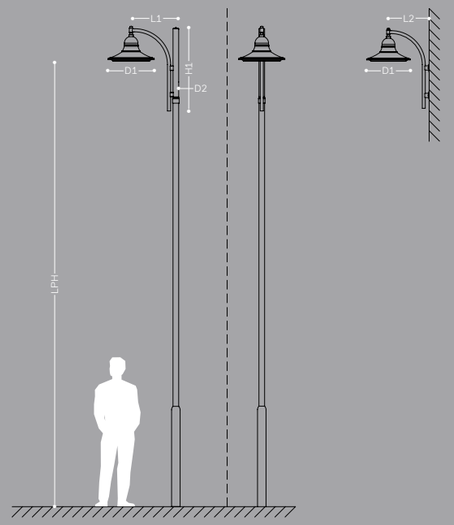
Model	Bracket	LPH [m]	L1 [mm]	L2 [mm]	H1 [mm]	D1 [ø mm]	D2 [ø mm]	Pole	Lighting units (LU)
AM620	05076	4.5–6.3	690	/	1,180	620	76	MFE	1–4
AM680	05089	6.1–7	830	/	1,170	680	89	MVE2	5–6
AM680	05101	7.1–8	1,020	/	1,340	680	101	MNE1	5–6
AM680	05114	8.1–10	1,020	/	1,340	680	114	MXE	5–6
AM620-W	/	/	/	680	/	620	/	/	1–4
AM680-W	/	/	/	980	/	680	/	/	5–6

AM-08

ewo.com/AM

1
- 1.1 Color temperature: cool white (5,700 K) / neutral white (4,000 K) / warm white (3,000 K)
- 1.2 Housing accommodates up to 6 LED lighting units (3 LED PCB)
- 1.3 Current feed: 300 mA–600 mA, depending on ambient temperature
- 1.4 Electronic operating device with DALI interface or 1–10 V or stand-alone programming
- 1.5 LED lighting units each adjustable ±5°

Dimension

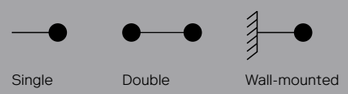


2
- 2.1 Different pattern characteristics for street, walkway, and large area lighting
- 2.2 LS33, LS33 satiné, LS34, LS34 satiné, LP33, LP33 satiné
- 2.3 Lens made from PMMA, with aluminum support plate

3
- 3.1 2 model variants: AM620/AM680
- 3.2 Housing made of aluminum, cover in single-pane safety glass (ESG), bracket made of stainless steel
- 3.3 Pole made of hot-dip galvanized steel with cable insertion opening, junction box and service door
- 3.4 Finish: polyester powder coating, anthracite (DB 703), other colors upon request

IP66 RoHS

Available Designs



Single Double Wall-mounted

Models / Equipment Variations

AM620
1–4 LU

AM680
5–6 LU

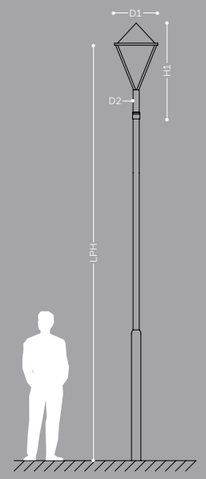
Model	Bracket	LPH [m]	L1 [mm]	L2 [mm]	H1 [mm]	D1 [ø mm]	D2 [ø mm]	Pole	Lighting units (LU)
AM620	08076	4.5–6.3	600	/	1,140	620	76	MFE	1–4
AM680	08089	6.1–7	800	/	1,360	680	89	MVE2	5–6
AM680	08101	7.1–8	980	/	1,810	680	101	MNE1	5–6
AM680	08114	8.1–10	980	/	1,810	680	114	MXE	5–6
AM620-W	/	/	/	580	/	620	/	/	1–4
AM680-W	/	/	/	750	/	680	/	/	5–6
AM680-W	/	/	/	950	/	680	/	/	5–6

PL

↘
ewo.com/PL

1
- 1.1 Color temperature: cool white (5,700 K) / neutral white (4,000 K) / warm white (3,000 K)
- 1.2 Housing accommodates up to 3 LED lighting units (3 LED PCB)
- 1.3 Current feed: 300 mA–600 mA, depending on ambient temperature
- 1.4 Electronic operating device with DALI interface or 1–10 V or stand-alone programming
- 1.5 LED lighting units each adjustable ±5°

Dimension



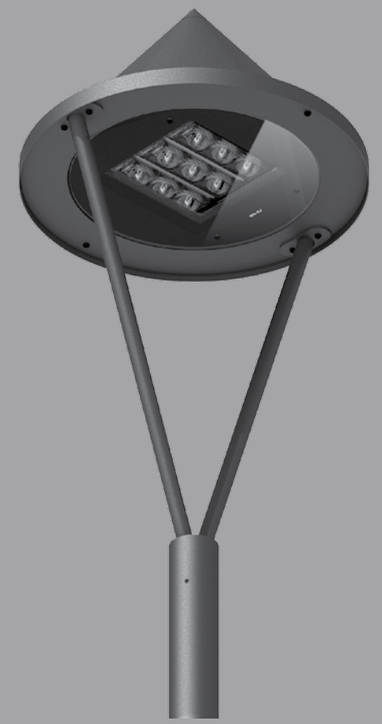
2
- 2.1 Different pattern characteristics for street, walkway, and large area lighting
- 2.2 LS33, LS33 satiné, LS34, LS34 satiné, LP33, LP33 satiné
- 2.3 Lens made from PMMA, with aluminum support plate

3
- 3.1 Housing made of aluminum, cover in single-pane safety glass (ESG), bracket made of stainless steel
- 3.2 Pole made of hot-dip galvanized steel with cable insertion opening, junction box and service door
- 3.3 Finish: polyester powder coating, anthracite (DB 703), other colors upon request

IP66 RoHS

Available Designs

Pole top



Models / Equipment Variations

PL530
1–3 LU

Model	LPH [m]	D1 [ø mm]	D2 [ø mm]	H1 [mm]	Pole	Lighting units (LU)
PL530	4.5–6.3	530	76	1,170	MFE	1–3

1 Cylindrical poles

1.1 Service door surface-mounted

Pole	H3 [mm]	D1 [mm]	D3 [mm]	H1 [mm]
MH4(-F)	85	114.3	76.1	800(0)
MS8(-F)	85	133	76.1	1,000(0)
MH1(-F)	140	114.3	88.9	800(0)
ME1(-F)	/	114.3	/	800(0)
MS(-F)	/	133	/	1,000(0)
MS2(-F)	160	133	114.3	1,000(0)
MS4(-F)	/	133	/	1,200(0)
MS5(-F)	280	133	101.6	800(0)
MS6(-F)	90	133	114.3	1,200(0)
MS7(-F)	280	133	101.6	1,000(0)
MS10(-F)	/	133	/	800(0)
MS11(-F)	90	133	114.3	800(0)
MS12(-F)	280	133	101.6	1,200(0)

1.2 Service door flush-mounted

Pole	H3 [mm]	D1 [mm]	D3 [mm]	H1 [mm]
MSE2(-F)	85	114.3	76.1	800(0)
MSF(-F)	85	133	76.1	1,000(0)
MSE (-F)	/	114.3	/	800(0)
MSE1 (-F)	140	114.3	88.9	800(0)
MSF4(-F)	90	133	114.3	800(0)
MSF7(-F)	280	133	101.6	800(0)
MSF8(-F)	/	133	/	1,000(0)
MSF9(-F)	/	133	/	1,200(0)
MSF10(-F)	90	133	114.3	1,200(0)
MSF11(-F)	/	133	/	800(0)
MSF12(-F)	280	133	101.6	1,000(0)
MSF13(-F)	90	133	114.3	1,000(0)
MSF14(-F)	280	133	101.6	1,200(0)
MSG3-F	605	168.3	133	/

2 Stepped poles

2.1 Service door surface-mounted

Pole	H2 [mm]	H3 [mm]	D1 [mm]	D2 [mm]	D3 [mm]	H1 [mm]
MAE(-F)	1,300	/	114.3	76.1	/	800(0)
MFE(-F)	1,300	250	114.3	76.1	60.3	800(0)
MNE(-F)	2,200	560	139.7	101.6	88.9	1,000(0)
MNE1(-F)	2,200	450	139.7	101.6	88.9	1,000(0)
MNE2(-F)	2,200	350	139.7	101.6	88.9	1,000(0)
MUE(-F)	1,700	560	139.7	101.6	88.9	1,000(0)
MUE1(-F)	1,700	450	139.7	101.6	88.9	1,000(0)
MUE2(-F)	1,700	350	139.7	101.6	88.9	1,000(0)
MVE(-F)	1,700	450	139.7	88.9	76.1	1,000(0)
MVE2(-F)	1,700	350	139.7	88.9	76.1	1,000(0)
MXE(-F)	2,700	450	139.7	114.3	101.6	1,200(0)
MXE1(-F)	2,700	350	139.7	114.3	101.6	1,200(0)
MXE2(-F)	2,700	560	139.7	114.3	101.6	1,200(0)

2.2 Service door flush-mounted

Pole	H2 [mm]	H3 [mm]	D1 [mm]	D2 [mm]	D3 [mm]	H1 [mm]
MAE-133(-F)	1,300	/	133	76.1	/	800(0)
MFE-133(-F)	1,300	250	133	76.1	60.3	800(0)
MNE-139(-F)	2,200	560	139.7	101.6	88.9	1,000(0)
MNE1-139(-F)	2,200	450	139.7	101.6	88.9	1,000(0)
MNE2-139(-F)	2,200	350	139.7	101.6	88.9	1,000(0)
MUE-139(-F)	1,700	560	139.7	101.6	88.9	1,000(0)
MUE1-139(-F)	1,700	450	139.7	101.6	88.9	1,000(0)
MUE2-139(-F)	1,700	350	139.7	101.6	88.9	1,000(0)
MVE-139(-F)	1,700	450	139.7	88.9	76.1	1,000(0)
MVE2-139(-F)	1,700	350	139.7	88.9	76.1	1,000(0)
MXE-139(-F)	2,700	450	139.7	114.3	101.6	1,200(0)
MXE1-139(-F)	2,700	350	139.7	114.3	101.6	1,200(0)
MXE2-139(-F)	2,700	560	139.7	114.3	101.6	1,200(0)
MY-139(-F)	1,000	140	139.7	114.3	88.9	800(0)

3 Conical poles

3.1 Service door surface-mounted

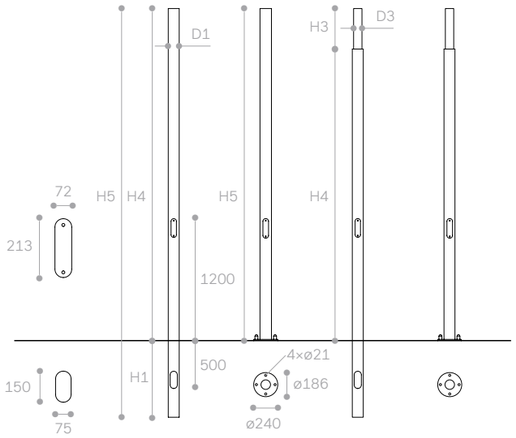
Pole	H2 [mm]	D1 [mm]	D5 [mm]	H1 [mm]	F1×F1 [mm]	F2×F2 [mm]	D6 [mm]
MKS-01(-F)	3,000	60	95(90)	500(0)	260 × 260	200 × 200	22
MKS-02(-F)	3,500	60	100(95)	500(0)	260 × 260	200 × 200	22
MKS-03(-F)	4,000	60	105(100)	500(0)	260 × 260	200 × 200	22
MKS-04(-F)	4,500	60	110(105)	500(0)	260 × 260	200 × 200	22
MKS-05(-F)	5,000	60	115(110)	500(0)	260 × 260	200 × 200	22
MKS-06(-F)	5,500	60	120(115)	500(0)	260 × 260	200 × 200	22
MKS-07(-F)	6,000	60	128(120)	800(0)	260 × 260	200 × 200	22
MKS-08(-F)	7,000	60	138(130)	800(0)	260 × 260	200 × 200	22
MKS-09(-F)	8,000	60	148(140)	800(0)	300 × 300	220 × 220	25
MKS-10(-F)	9,000	60	158(150)	800(0)	300 × 300	220 × 220	25
MKS-11(-F)	10,000	60	168(160)	800(0)	300 × 300	220 × 220	25

3.2 Service door flush-mounted

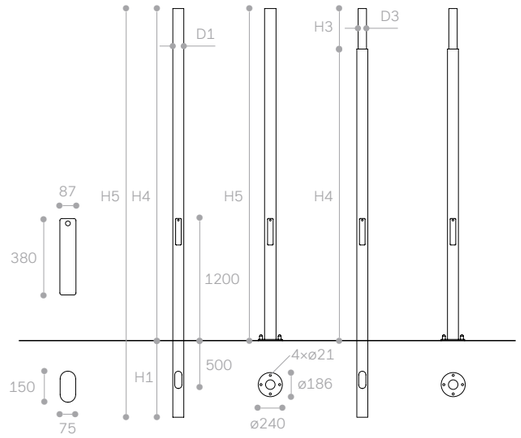
Pole	H2 [mm]	D1 [mm]	D5 [mm]	H1 [mm]	F1×F1 [mm]	F2×F2 [mm]
MKF-01(-F)	3,000	60	110(102)	600(0)	300 × 300	200 × 200
MKF-02(-F)	3,500	60	117(109)	600(0)	300 × 300	200 × 200
MKF-03(-F)	4,000	60	127(116)	800(0)	300 × 300	200 × 200
MKF-04(-F)	4,500	60	134(123)	800(0)	300 × 300	200 × 200
MKF-05(-F)	5,000	60	130(130)	800(0)	300 × 300	200 × 200
MKF-06(-F)	5,500	60	130(137)	800(0)	300 × 300	200 × 200
MKF-07(-F)	4,000	76	129(120)	800(0)	300 × 300	200 × 200
MKF-08(-F)	5,000	76	140(131)	800(0)	300 × 300	200 × 200
MKF-09(-F)	6,000	76	153(142)	1,000(0)	410 × 410	300 × 300
MKF-10(-F)	7,000	76	166(153)	1,200(0)	410 × 410	300 × 300
MKF-11(-F)	8,000	76	177(164)	1,200(0)	410 × 410	300 × 300
MKF-12(-F)	9,000	76	191(202)	1,500(0)	410 × 410	300 × 300
MKF-13(-F)	10,000	76	203(216)	1,500(0)	450 × 450	300 × 300

1 Cylindrical poles ME / MH / MS

1.1 Service door surface-mounted

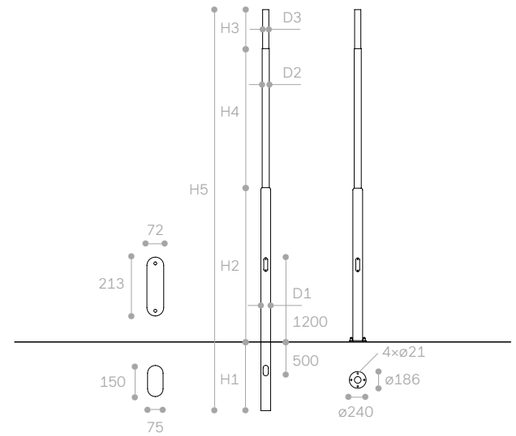


1.2 Service door flush-mounted

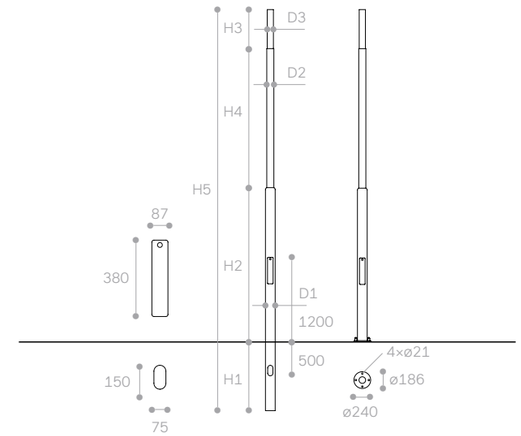


2 Stepped poles MA / MF / MN / MU / MV / MX / MY

2.1 Service door surface-mounted

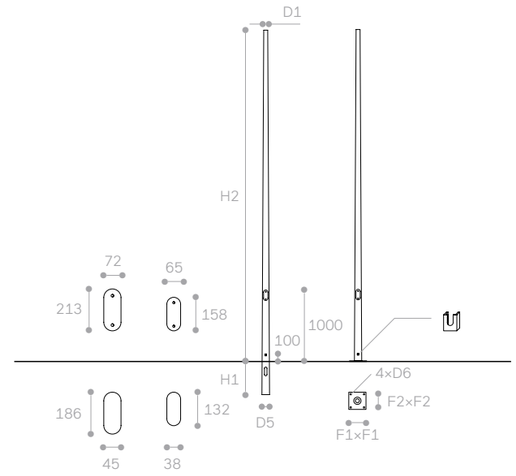


2.2 Service door flush-mounted

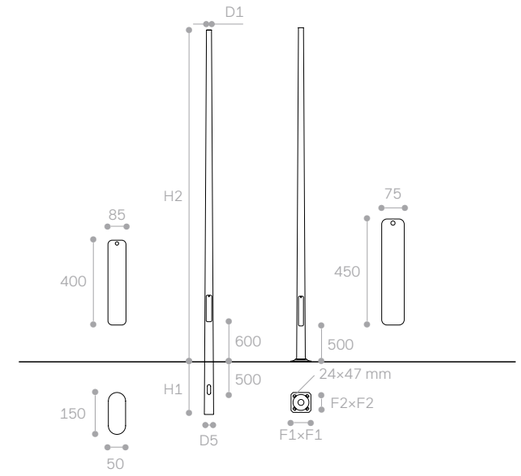


3 Conical poles MK

3.1 Service door surface-mounted



3.2 Service door flush-mounted



H4 = Variable length (Depending on the light point height)

H5 = Total length of pole (Depending on the light point height)

Poles

ewo develops complete lighting solutions. These also include the production of poles. In so doing, we ensure the ideal interaction of the individual components, from the mechanical interfaces to the matching finish. Changes to the mounting heights are effortless, and with additional adaptations such as the application of revised openings or special mounting variations, we are just as flexible. Additionally, at our facilities in Kurtatsch/Cortaccia as well as our metal manufacturing plant that is still active in Sarnthein, we create custom pole constructions with a great demand upon the creative and handcrafted qualities.

All of the poles meet high standards of quality. The light poles are certified according to the European standard EN 40-5. Welding parameters as well as other requirements that are essential to the structural engineering are tested during regular independent audits.

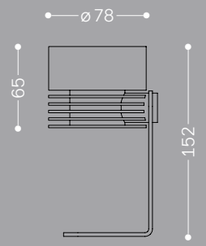
ARCHITECTURAL LIGHTING

After dark, the targeted illumination of spaces and volumes plays an essential role in our experience of the environment. With systems from our Architectural Lighting product line, the color, direction, distribution, and intensity of the light can be precisely controlled. The design adheres to essential technological and heat management requirements. In addition, the forms of these products are unobtrusive—of primary importance is the effect that they have in the dark.

P80

ewo.com/P80

Materials
Projector housing in aluminum, silver anodized, mounting bracket in stainless steel satin finish, cover made of tempered safety glass, screw joints in stainless steel, silicone gasket, cable connection in nickel-plated brass.

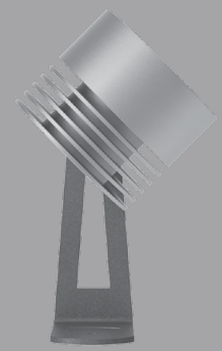


Lighting technology
3 high-performance LEDs, metal core circuit board, precision lenses made of PMMA, external driver, incl. 2 m connection cable.

Application area
Architectural floodlighting, object and effect lighting, floor mounting, wall mounting and ceiling mounting.

Power rating	3.6 W, 350 mA 7.2 W, 700 mA
Beam angle	8° 24° 41° 13+41°
Color temperature	RGB Warm white, 3,000 K Neutral white, 4,500 K Cool white, 6,000 K
Weight	0.9 kg
Accessories	Driver, current feed: 350–700 mA DMX Driver DMX Controller

CE RoHS IP67



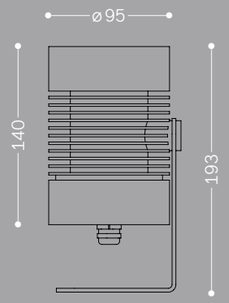
P100

ewo.com/P100

Materials
Projector housing in aluminum, silver anodized, mounting bracket in stainless steel satin finish, cover made of tempered safety glass, screw joints in stainless steel, silicone gasket, cable connection in nickel-plated brass.

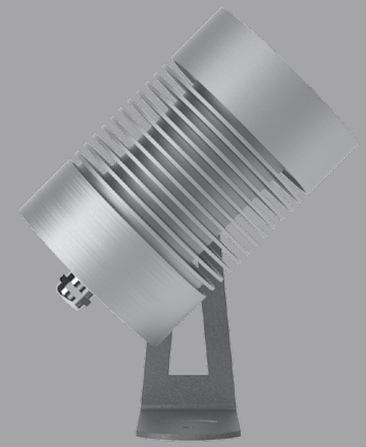
Lighting technology
3 high-performance LEDs, metal core circuit board, precision lenses made of PMMA, internal driver, incl. 2 m connection cable.

Application area
Architectural floodlighting, object and effect lighting, floor mounting, wall mounting and ceiling mounting.



Power rating	3.6 W, 350 mA 7.2 W, 700 mA
Beam angle	8° 24° 41° 13+41°
Color temperature	Warm white, 3,000 K Neutral white, 4,500 K Cool white, 6,000 K
Weight	1.9 kg

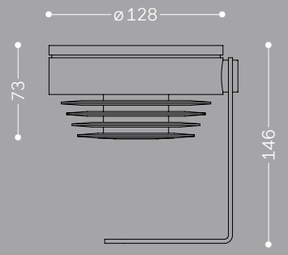
CE RoHS IP67



P130

ewo.com/P130

Materials
Projector housing in aluminum, silver anodized, mounting bracket in stainless steel satin finish, cover made of tempered safety glass, screw joints in stainless steel, silicone gasket, cable connection in nickel-plated brass.

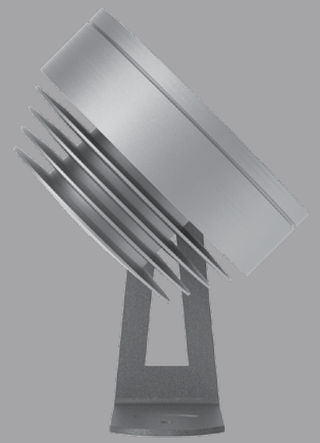


Lighting technology
9 high-performance LEDs, metal core circuit board, precision lenses made of PMMA, external driver, incl. 2 m connection cable.

Application area
Architectural floodlighting, object and effect lighting, floor mounting, wall mounting and ceiling mounting.

Power rating	10.8 W, 350 mA 18.5 W, 600 mA
Beam angle	8° 24° 41° 13+41°
Color temperature	RGB Warm white, 3,000 K Neutral white, 4,500 K Cool white, 6,000 K
Weight	1.7 kg
Accessories	Driver, current feed: 350–600 mA DMX Driver DMX Controller

CE RoHS IP67



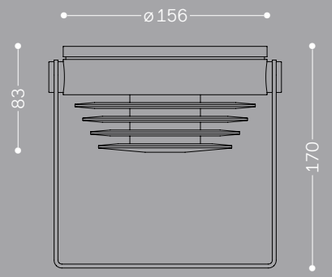
P160

ewo.com/P160

Materials
Projector housing in aluminum, silver anodized, mounting bracket in stainless steel satin finish, cover made of tempered safety glass, screw joints in stainless steel, silicone gasket, cable connection in nickel-plated brass.

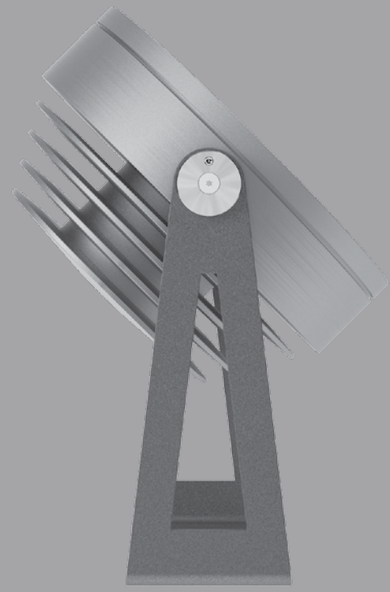
Lighting technology
18 high-performance LEDs, metal core circuit board, precision lenses made of PMMA, external driver, incl. 2 m connection cable.

Application area
Architectural floodlighting, object and effect lighting, floor mounting, wall mounting and ceiling mounting.



Power rating	21.6 W, 350 mA 37 W, 600 mA
Beam angle	8° 24° 41° 13+41°
Color temperature	RGB Warm white, 3,000 K Neutral white, 4,500 K Cool white, 6,000 K
Weight	2.7 kg
Accessories	Driver, current feed: 350–600 mA DMX Driver DMX Controller

CE RoHS IP67



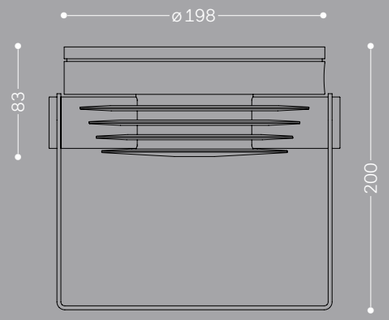
P200

↘
ewo.com/P200

Materials
Projector housing in aluminum, silver anodized, mounting bracket in stainless steel satin finish, cover made of tempered safety glass, screw joints in stainless steel, silicone gasket, cable connection in nickel-plated brass.

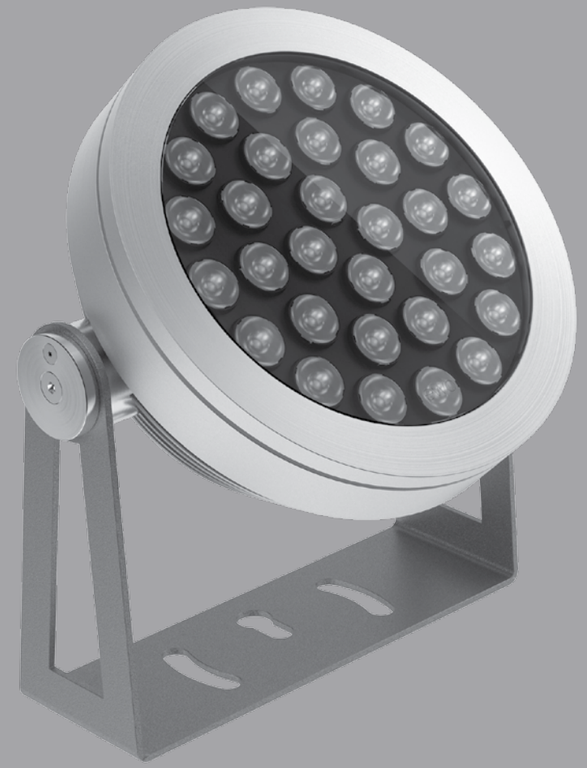
Lighting technology
30 high-performance LEDs, metal core circuit board, precision lenses made of PMMA, external driver, incl. 2 m connection cable.

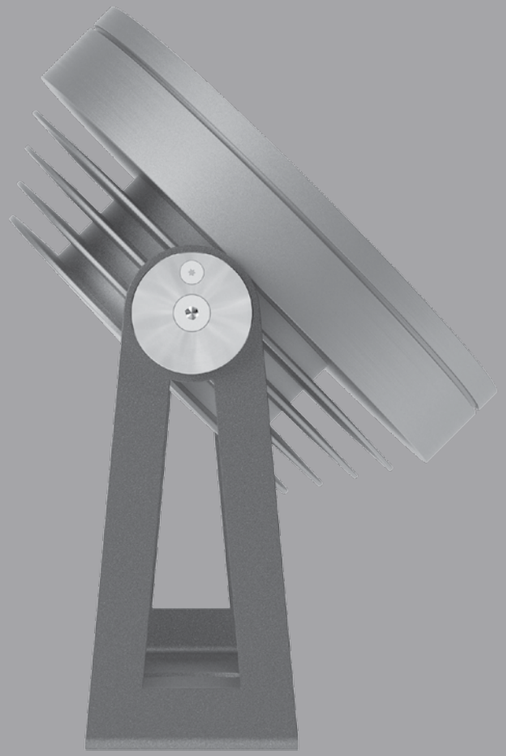
Application area
Architectural floodlighting, object and effect lighting, floor mounting, wall mounting and ceiling mounting.



Power rating	36 W, 350 mA 61.7 W, 600 mA
Beam angle	8° 24° 41° 13+41°
Color temperature	RGB Warm white, 3,000 K Neutral white, 4,500 K Cool white, 6,000 K
Weight	5.3 kg
Accessories	Driver, current feed: 350–600 mA DMX Driver DMX Controller

CE RoHS IP67





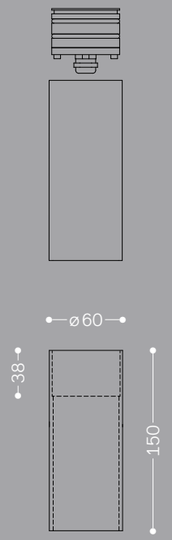
R60

ewo.com/R60

Materials
Projector housing in aluminum, silver anodized and stainless steel, mounting sleeve in stainless steel, cover made of tempered safety glass, screw joints in stainless steel, silicone gasket, cable connection in nickel-plated brass.

Lighting technology
1 high-performance LED, metal core circuit board; precision lense made of PMMA, external driver, incl. 2 m connection cable.

Application area
Architectural floodlighting, object and effect lighting, floor mounting.



Power rating	1.2 W, 350 mA 2.4 W, 700 mA
Beam angle	8° 24° 41° 13+41°
Color temperature	Warm white, 3,000 K Neutral white, 4,500 K Cool white, 6,000 K
Weight	1 kg
Accessories	Driver, current feed: 350–700 mA DMX Driver DMX Controller

CE RoHS IP67

R100

↘
ewo.com/R100

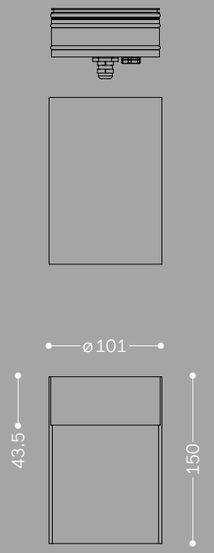
Materials
Projector housing in aluminum, silver anodized and stainless steel, mounting sleeve in stainless steel, cover made of tempered safety glass, screw joints in stainless steel, silicone gasket, cable connection in nickel-plated brass.

Lighting technology
3 high-performance LEDs, metal core circuit board, precision lenses made of PMMA, external driver, incl. 2 m connection cable.

Application area
Architectural floodlighting, object and effect lighting, floor mounting.

Power rating	3.6 W, 350 mA 7.2 W, 700 mA
Beam angle	8° 24° 41° 13+41°
Color temperature	Warm white, 3,000 K Neutral white, 4,500 K Cool white, 6,000 K
Weight	1.4 kg
Accessories	Driver, current feed: 350–700 mA DMX Driver DMX Controller

CE RoHS IP67



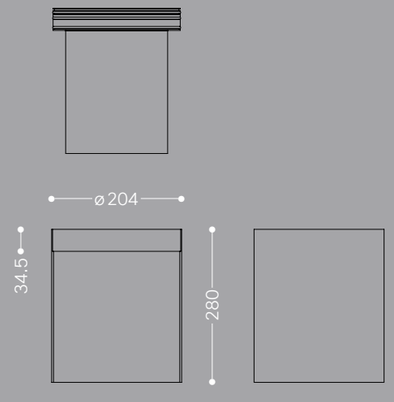
R170

ewo.com/R170

Materials
Projector housing in aluminum, silver anodized and stainless steel, mounting sleeve in stainless steel, cover made of tempered safety glass (can bear loads of up to max. 3,000 kg), screw joints in stainless steel, silicone gasket, cable connection in nickel-plated brass.
LED inset may be adjusted up to ± 6° for the optimal coordination of the beam angle to the application.

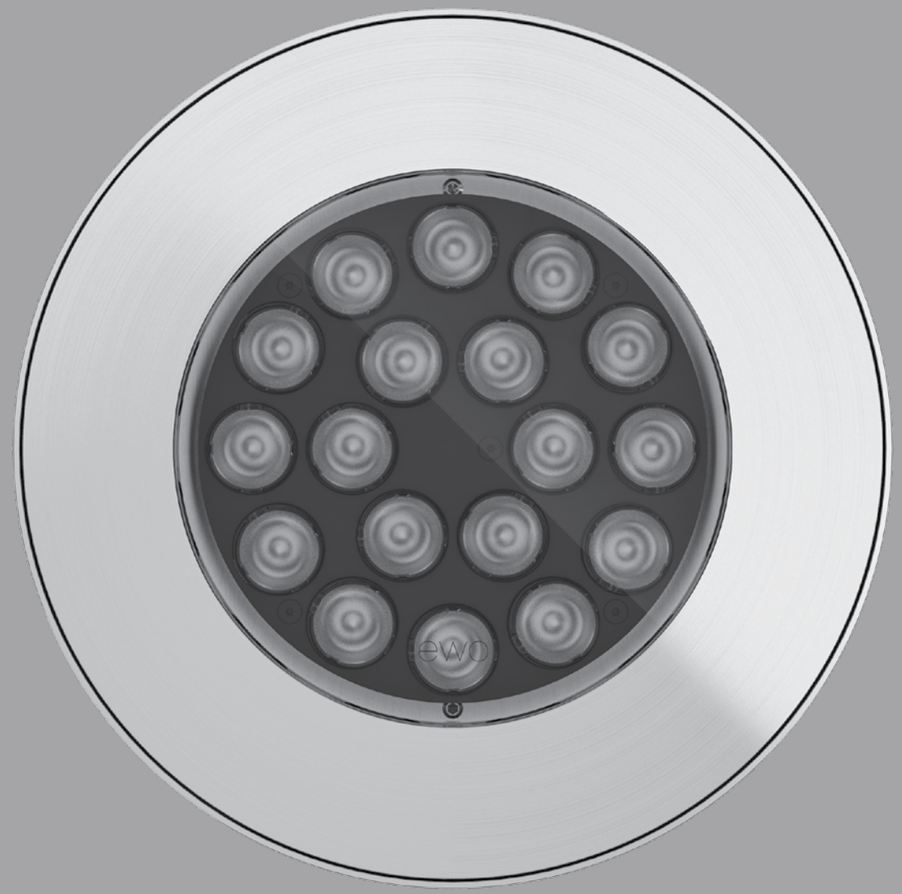
Lighting technology
18 high-performance LEDs, metal core circuit board, precision lenses made of PMMA, internal driver, incl. 2 m connection cable.

Application area
Architectural floodlighting, object and effect lighting, floor mounting.



Power rating	21.6 W, 350 mA 37 W, 600 mA
Beam angle	8° 24° 41° 13+41°
Color temperature	Warm white, 3,000 K Neutral white, 4,500 K Cool white, 6,000 K
Weight	13 kg
Accessories	Driver, current feed: 350–600 mA DMX Driver DMX Controller

CE RoHS IP67



URBAN FURNITURE

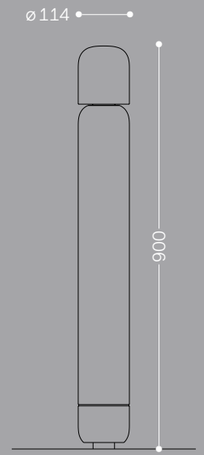
“The starting point for the development of the Up series was the simple, rounded bollard. Different functions were added by making incisions and the main shape was converted into a broad and versatile range of products—all of them seemingly floating in the air on a cushion of light.”
Torbjørn Anderssen, Norway Says

Up is the first joint project by ewo and the Norwegian design group Norway Says. The series encompasses lighting bollards, bicycle stands, park benches, and other objects designed for the urban environment. Their combination of design, technology, and light makes public spaces more attractive and livable. The universal formal concept of the line now offers designers the possibility of developing a more aesthetically logical cityscape.

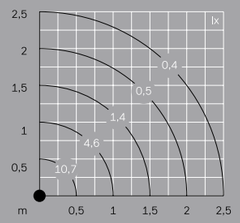
LB21

↘
ewo.com/LB21

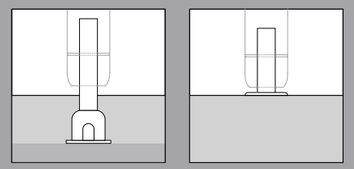
Lighting bollard with symmetric light distribution
for illuminating open spaces.
Additional accent lighting at ground level.



Materials
Stainless steel bollard.
Buried base made of hot-dip galvanized steel, flange plate made of stainless steel.
Finish: polyester powder coating (DB 703).
LED lighting unit in aluminum, sealed with polyurethane resin.



Lighting system
2 LED modules each with 6 high-performance LEDs, color temperature neutral white, 4,000 K, connected rating 14.4 W.
Electronic control gear.



Assembly variations
Flush-mounted using buried base, alternatively surface-mounted using flange plate.
Designed for feed-through wiring.

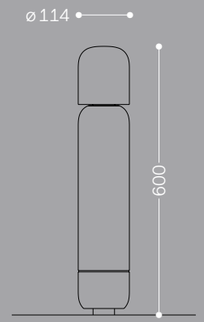
Weight	10.5 kg
Ingress protection	IP65
Protection rating	I or II

RoHS

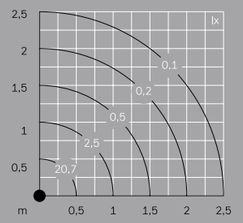
LB22

↘
ewo.com/LB22

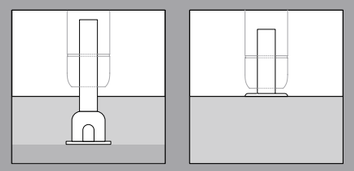
Lighting bollard with symmetric light distribution
for illuminating open spaces.
Additional accent lighting at ground level.



Materials
Stainless steel bollard.
Buried base made of hot-dip galvanized steel,
flange plate made of stainless steel.
Finish: polyester powder coating (DB 703).
LED lighting unit in aluminum, sealed with
polyurethane resin.



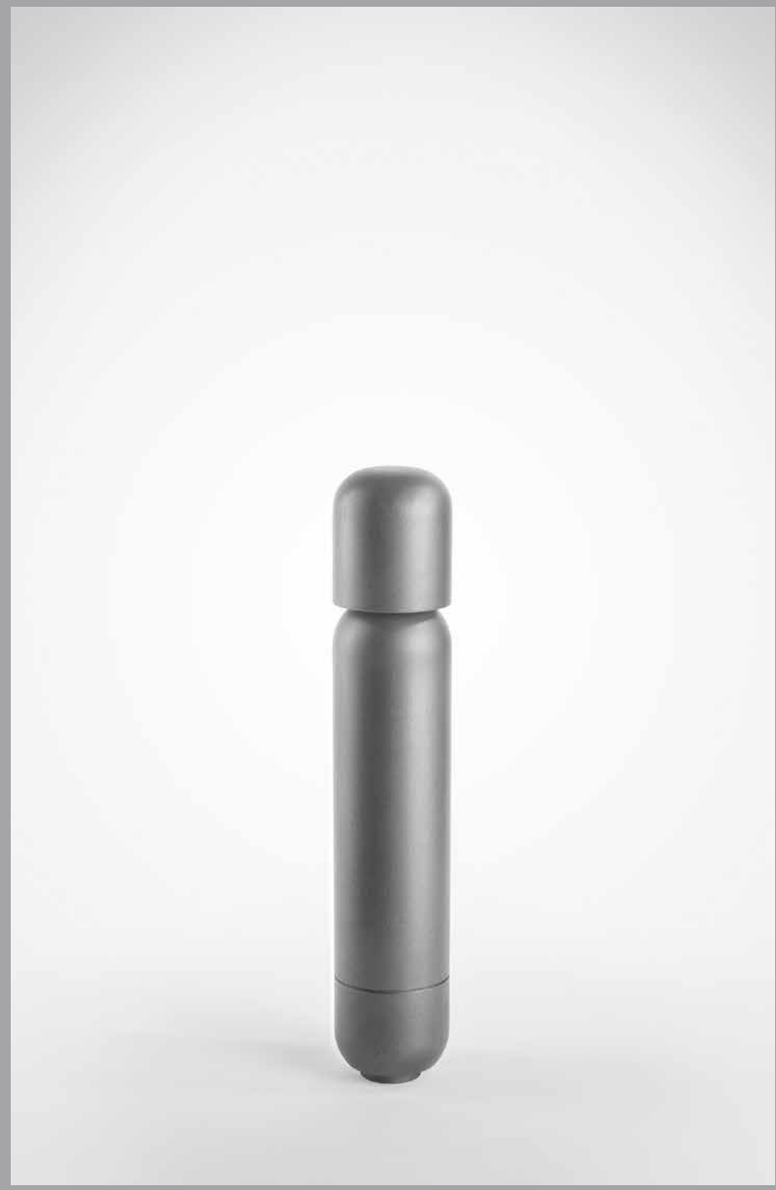
Lighting system
2 LED modules each with 6 high-performance LEDs,
color temperature neutral white, 4,000 K,
connected rating 14.4 W.
Electronic control gear.



Assembly variations
Flush-mounted using buried base, alternatively
surface-mounted using flange plate.
Designed for feed-through wiring.

Weight	8.5 kg
Ingress protection	IP65
Protection rating	I or II

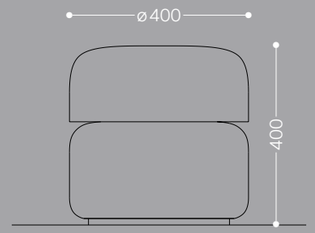
RoHS



LB23

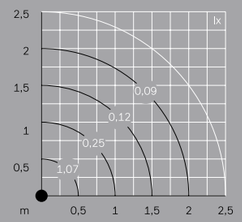
ewo.com/LB23

Lighting bollard/seating with symmetric light distribution
for illuminating open spaces.
Additional accent lighting at ground level.

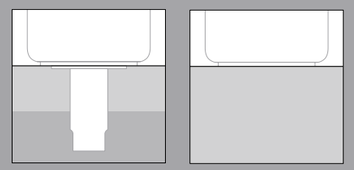


Materials
Bollard made of hot-dip galvanized steel.
Buried base made of hot-dip galvanized steel,
flange plate made of stainless steel.
Finish: polyester powder coating (DB 703).
LED lighting unit in aluminum with transparent
glass cover.

Lighting system
1 LED module with 18 high-performance LEDs,
color temperature neutral white, 4,000 K,
connected rating 21.6 W.
Electronic control gear.



Assembly variations
Flush-mounted using buried base, alternatively
surface-mounted using flange plate.
Designed for feed-through wiring.



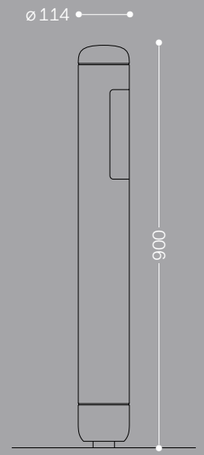
Weight	12 kg
Ingress protection	IP65
Protection rating	I or II

RoHS

LB24

ewo.com/LB24

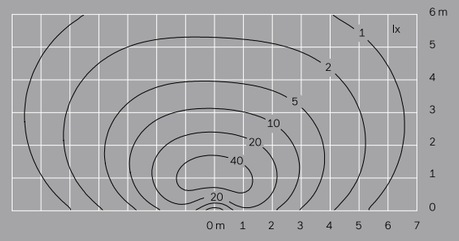
Bollard light with asymmetric light distribution
for illuminating walkways.
Additional accent lighting at ground level.

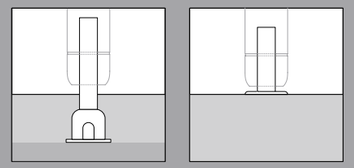


Materials
Stainless steel bollard.
Buried base made of hot-dip galvanized steel,
flange plate made of stainless steel.
Finish: polyester powder coating (DB 703).
LED lighting unit in aluminum, sealed with
polyurethane resin.

Lighting system
1 LED module with 16 high-performance LEDs,
1 LED module with 6 high-performance LEDs,
color temperature neutral white, 4,000 K,
connected rating 26.4 W.
Electronic control gear.

Assembly variations
Flush-mounted using buried base, alternatively
surface-mounted using flange plate.
Designed for feed-through wiring.





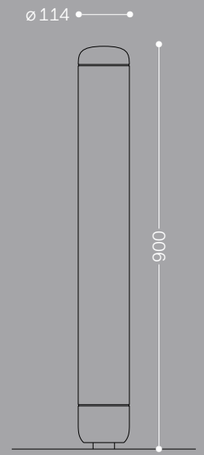
Weight	12.5 kg
Ingress protection	IP65
Protection rating	I or II

RoHS

BD21

↘
ewo.com/BD21

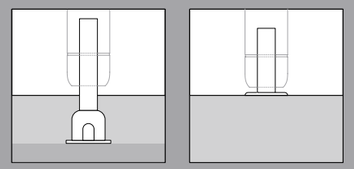
Bollard for marking area boundaries.
Additional accent lighting at ground level.



Materials
Stainless steel bollard.
Buried base made of hot-dip galvanized steel, flange plate made of stainless steel.
Finish: polyester powder coating (DB 703).
LED lighting unit in aluminum, sealed with polyurethane resin.

Lighting system
1 LED module with 6 high-performance LEDs, color temperature neutral white, 4,000 K, connected rating 7.2 W.
Electronic control gear.

Assembly variations
Flush-mounted using buried base, alternatively surface-mounted using flange plate.
Designed for feed-through wiring.



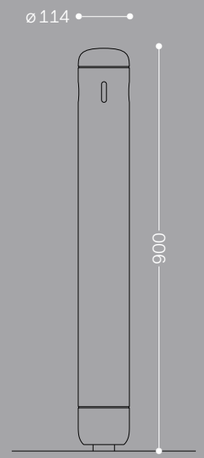
Weight	10.5 kg
Ingress protection	IP65
Protection rating	I or II

RoHS

BD22

↘
ewo.com/BD22

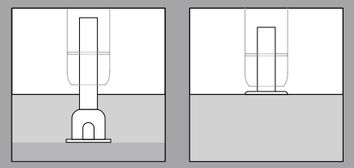
Bollard with chain fixture for marking boundaries.
Additional accent lighting at ground level.



Materials
Stainless steel bollard, chain made of hot-dip galvanized steel.
Buried base made of hot-dip galvanized steel, flange plate made of stainless steel.
Finish: polyester powder coating (DB 703).
LED lighting unit in aluminum, sealed with polyurethane resin.

Lighting system
1 LED module with 6 high-performance LEDs, color temperature neutral white, 4,000 K, connected rating 7.2 W.
Electronic control gear.

Assembly variations
Flush-mounted using buried base, alternatively surface-mounted using flange plate.
Designed for feed-through wiring.



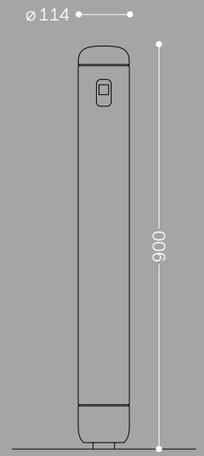
Weight	11.5 kg
Ingress protection	IP65
Protection rating	I or II

RoHS

BD23

↘
ewo.com/BD23

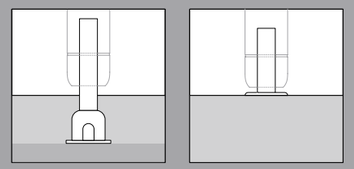
Bollard with integrated ashtray, removable cover to aid emptying. Additional accent lighting at ground level.



Materials
Stainless steel bollard.
Buried base made of hot-dip galvanized steel, flange plate made of stainless steel.
Finish: polyester powder coating (DB 703).
LED lighting unit in aluminum, sealed with polyurethane resin.

Lighting system
1 LED module with 6 high-performance LEDs, color temperature neutral white, 4,000 K, connected rating 7.2 W.
Electronic control gear.

Assembly variations
Flush-mounted using buried base, alternatively surface-mounted using flange plate.
Designed for feed-through wiring.



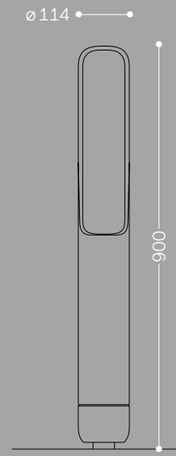
Weight	11.5 kg
Ingress protection	IP65
Protection rating	I or II

RoHS

BR21

↘
ewo.com/BR21

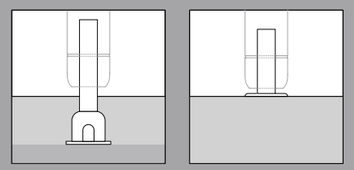
Bicycle parking bollard with opening for the attachment of locks. Additional accent lighting at ground level.



Materials
Bollard made from steel and stainless steel.
Buried base made of hot-dip galvanized steel, flange plate made of stainless steel.
Finish: polyester powder coating (DB 703).
LED lighting unit in aluminum, sealed with polyurethane resin.

Lighting system
1 LED module with 6 high-performance LEDs, color temperature neutral white, 4,000 K, connected rating 7.2 W.
Electronic control gear.

Assembly variations
Flush-mounted using buried base, alternatively surface-mounted using flange plate.
Designed for feed-through wiring.



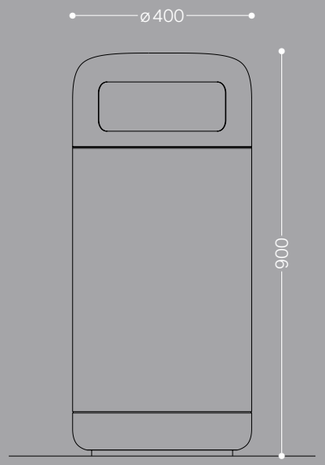
Weight	11 kg
Ingress protection	IP65
Protection rating	I or II

RoHS

WR21

↘
ewo.com/WR21

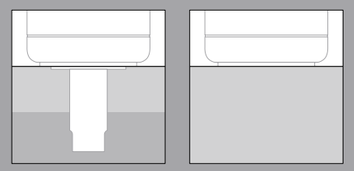
Waste bin with removable cover, capacity 45 l.
Additional accent lighting at ground level.



Materials
Container made of hot-dip galvanized steel.
Buried base/flange plate made of hot-dip galvanized steel.
Finish: polyester powder coating (DB 703).
LED lighting unit in aluminum, with transparent glass cover.

Lighting system
1 LED module with 18 high-performance LEDs, color temperature neutral white, 4,000 K, connected rating 21.6 W.
Electronic control gear.

Assembly variations
Flush-mounted using buried base, alternatively surface-mounted using flange plate.
Designed for feed-through wiring.



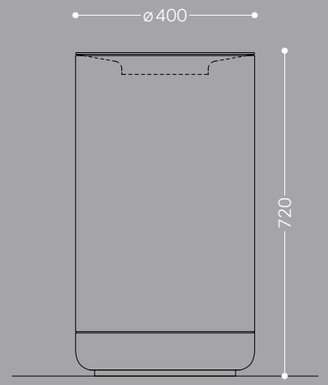
Weight	35.5 kg
Ingress protection	IP65
Protection rating	I or II

RoHS

WR22

ewo.com/WR22

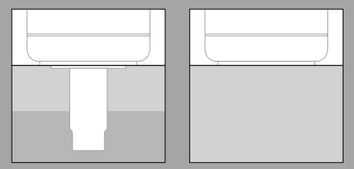
Waste bin with removable cover, capacity 45 l.
Additional accent lighting at ground level.



Materials
Container made of hot-dip galvanized steel.
Cover in polished stainless steel.
Buried base made of hot-dip galvanized steel, flange plate made of stainless steel.
Finish: polyester powder coating (DB 703).
LED lighting unit in aluminum, with transparent glass cover.

Lighting system
1 LED module with 18 high-performance LEDs, color temperature neutral white, 4,000 K, connected rating 21.6 W.
Electronic control gear.

Assembly variations
Flush-mounted using buried base, alternatively surface-mounted using flange plate.
Designed for feed-through wiring.



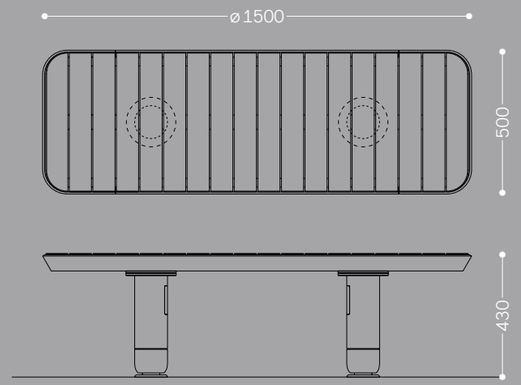
Weight	33 kg
Ingress protection	IP65
Protection rating	I or II

RoHS

SB21

ewo.com/SB21

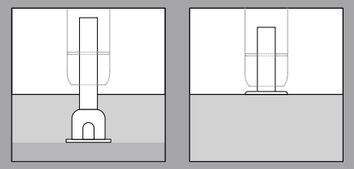
Bench with additional accent lighting at ground level.



Materials
Bench made of weatherproof oak (other woods available upon request), frame made of hot-dip galvanized steel
Buried base/flange plate made of hot-dip galvanized steel.
Finish: polyester powder coating (DB 703).
LED lighting unit in aluminum, sealed with polyurethane resin.

Lighting system
2 LED modules each with 6 high-performance LEDs, color temperature neutral white, 4,000 K, connected rating 14.4 W.
Electronic control gear.

Assembly variations
Flush-mounted using buried base, alternatively surface-mounted using flange plate.
Designed for feed-through wiring.



Weight	55 kg
Ingress protection	IP65
Protection rating	I or II

RoHS

ewo

Headquarters	Cortaccia / Kurtatsch in the Bolzano area, South Tyrol, Italy
Offices	Offices in Austria, Germany and Denmark; other European and international partners
Number of Employees	> 80
Management	Flora Kröss, Ernst Wohlgemuth

Contact

We understand that special locations require light to be dealt with in a special way. That is why we consider direct dialogue with you so important. It serves as the basis for our developing a lighting system that fulfills your individual needs.

We are always happy to advise you, simply give us a call.

ewo srl/GmbH
Via dell'Adige / Etschweg 15
IT–39040 Cortaccia / Kurtatsch (BZ)
Tel +39 0471 62 30 87
Fax +39 0471 62 37 69
mail@ewo.com
ewo.com

ewo Deutschland GmbH
Gotzinger Straße 8
DE–81371 München
Tel +49 (0)89 52 03 07 29
Fax +49 (0)89 52 03 07 80
germany@ewo.com

ewo Austria GmbH
Grabenweg 3a
AT–6020 Innsbruck
Tel +43 (0)650 3064 799
austria@ewo.com

Imprint

ewo

Projects and Products	Second Edition, June 2016
Copyright	© 2016 ewo srl/GmbH
Concept and Design	Norm, Zurich
Photography	Xavier Boymond, Mario Ciampi, Oskar DaRiz, Nicolò Degiorgis, Marcus Ebener, Hans Georg Esch, Ralph Feiner, Flash Studio Photography, Bernhard Limberger, Markus Lindert, Paul Ott, Achim Reissner, Pascal Simonin, Walther Toft
Texts	Tobias Ruderer
Translation	Phil Isenberg
Copyediting	Jeffrey Arlo Brown
Printing	Lanarepro GmbH