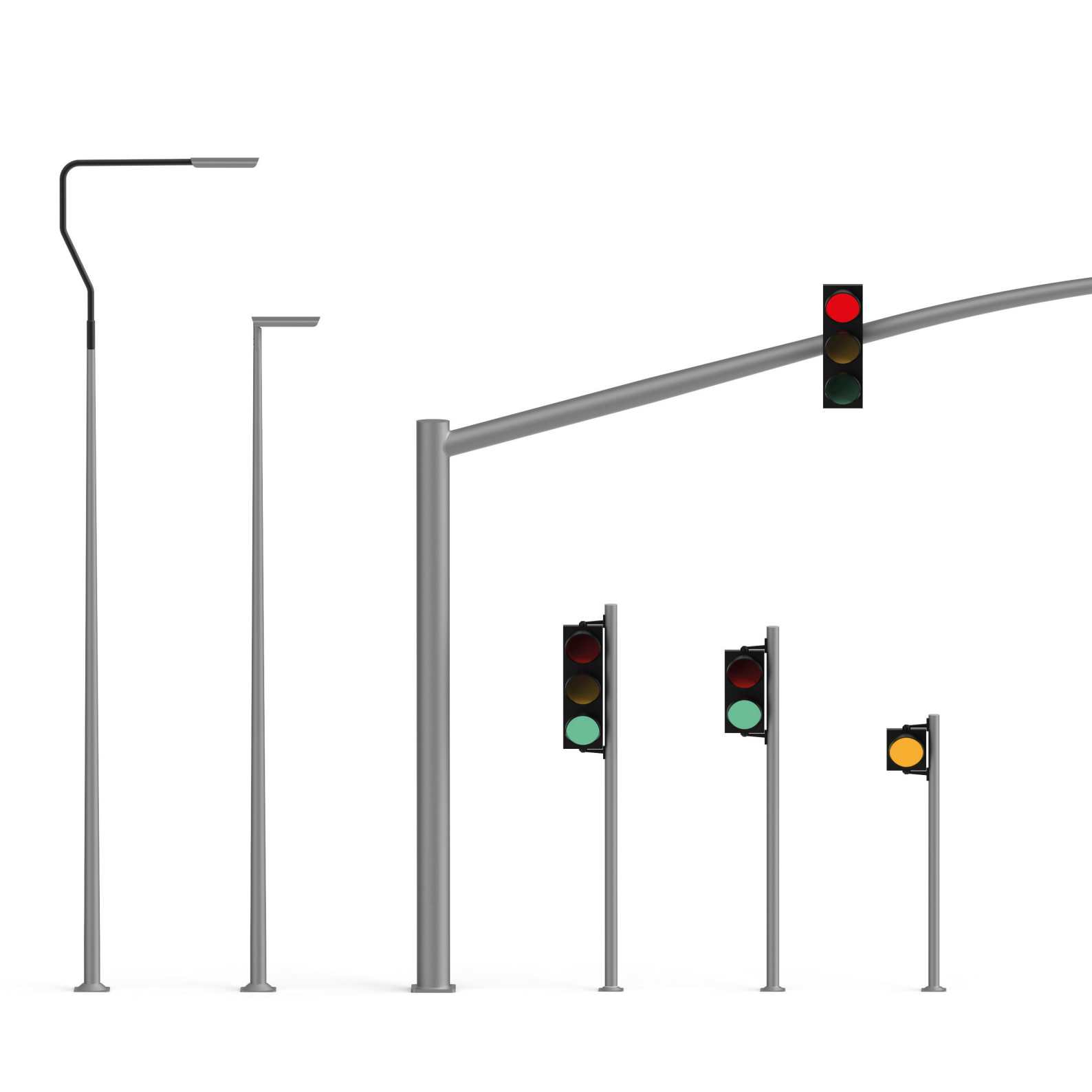
ROSA

Comprehensive solutions

for road infrastructure and pedestrian crossings



Comprehensive solutions

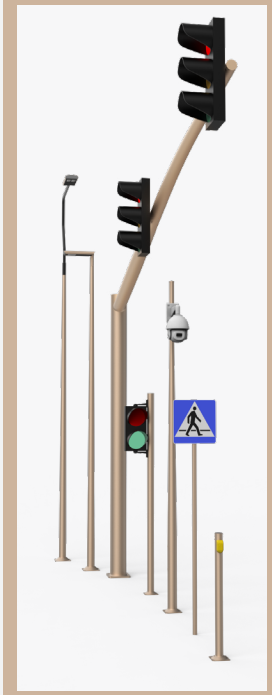
Our goal has always been to care for aesthetics of city streets. This is one of the reasons why we decided not to stop at the production of luminaires, columns and sets made of anodised aluminium, but to go a step further. This step is a **complete series of products for urban use** – sign posts and push button bollards, monitoring and traffic signal lights columns and more. Thanks to this, every urban intersection can be aesthetically consistent and, most importantly, safe.

10 unique anodising colours

We know how important it is to give an individual character to each investment. We also make sure, that every customer is satisfied not only on the day of purchase of our products, but also after many years. That is why we offer a choice of up to **10 anodising colours according to the ROSA template**. Anodising is the most effective way to protect and dye aluminium, which allows you to maintain high aesthetic values despite the passage of time.

C-0 Natural

C-32 Champagne



C-33 Olive

C-34 Brown

C-35 Black

Advantages of anodised aluminium

- is planet-friendly because it is **100% recyclable**,
- anodised aluminium column contributes to the production of approx. **37.7% less CO_2** than a galvanized steel column,
- is **resistant to corrosion** and weather conditions,
- they are characterized by **min. 50 years of service life** – our columns have obtained technical approval issued by an independent expert,
- they are distinguished by the possibility of permanent dyeing in 1 of 10 anodising colours,
- maintains high aesthetic values for many years,
- gives a consistent look to all products in a given investment - from small posts to large columns for the installation of traffic signal lights.

C-45 Inox

CI-63 Grey

CI-65 Graphite

CI-75 Green

CI-78 Anthracite

1 COLUMNS FOR TRAFFIC SIGNAL LIGHTS

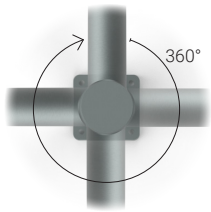
Aluminium traffic signal lights columns

Durability for years
The product is made of anodised aluminium, ensuring a service life of at least 50 years

Arm length
The arm can be of any size up to 9 m in length

Rotating head
Fast and trouble-free 360° rotation of the arm [1] allows for a perfect adjustment to the location and thus increases the safety of road users

[1] in SYG 300 the rotation is every 15°

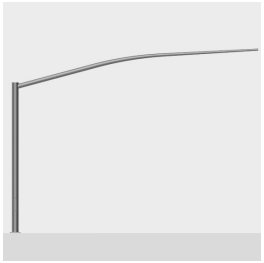


3 column diameters
choice of columns with Ø 225, 260 and 300 mm and the possibility of installing up to 3 sets of traffic lights for drivers

Available variants

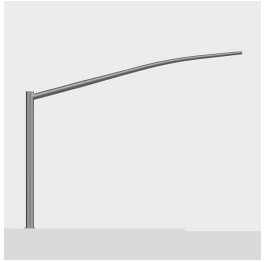
SAL SYG 260-6,5-7
42851/C…

SAL SYG 260-6,5-8
42852/C…

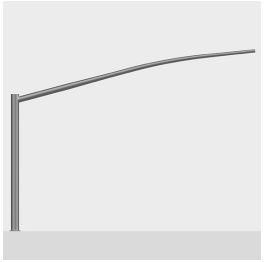


SAL SYG 260-6,5-9
42853/C…

SAL SYG 300-6,5-7
42861/C…

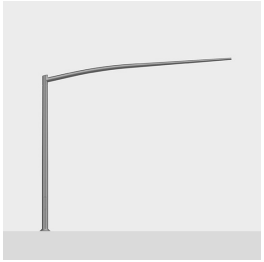


SAL SYG 300-6,5-8
42862/C…



SAL SYG 300-6,5-9
42863/C…

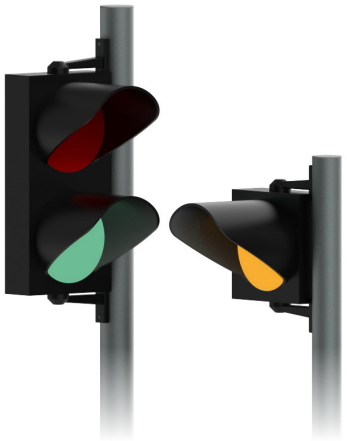
SAL SYG 65-4
42810/C…



SAL SYG 65-7
42811/C…

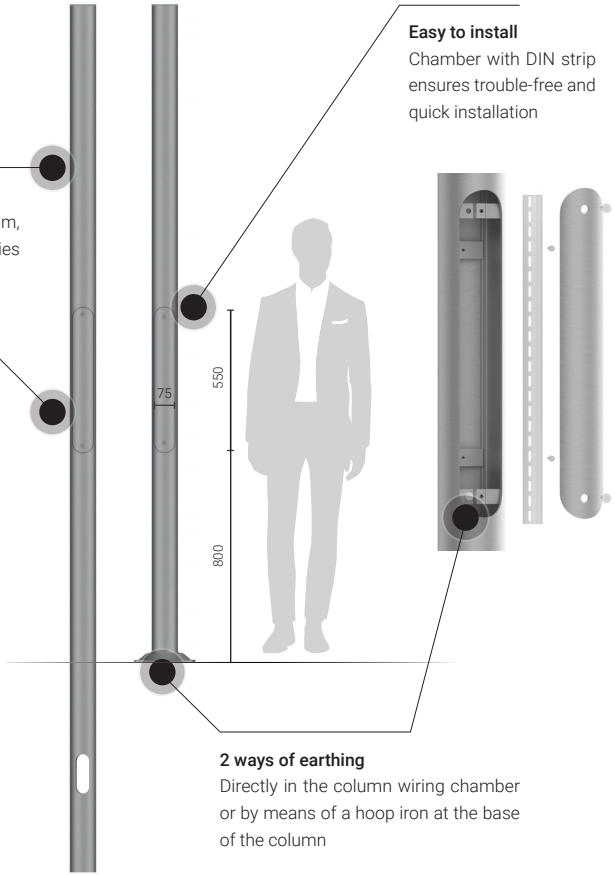
2 STRAIGHT ALUMINIUM TRAFFIC SIGNAL LIGHTS COLUMNS

Straight aluminium traffic signal lights columns



Aesthetics
Thanks to the shot blasted anodised aluminium, the columns have high anti-corrosion properties

Product designation
Columns are designed for hanging vertical signs, e.g. traffic lights, road signs, buttons, sensors, etc.



Easy to install
Chamber with DIN strip ensures trouble-free and quick installation

2 ways of earthing
Directly in the column wiring chamber or by means of a hoop iron at the base of the column

Available variants

SAL SYG CYL 100-2,5 dz
42875/C...

SAL SYG CYL 100-2,7 dz
42876/C...

SAL SYG CYL 100-3,05 dz
42877/C...

SAL SYG CYL 114-3,3 dz
42878/C...

SAL SYG CYL 114-3,5 dz
42879/C...

SAL SYG CYL 100-2,5
42805/C...

SAL SYG CYL 100-2,7
42806/C...

SAL SYG CYL 100-3,05
42807/C...

SAL SYG CYL 114-3,3
42808/C...

SAL SYG CYL 114-3,5
42809/C...

SAL SYG 3,6-B120
42826/C...

SAL SYG 3,9-B120
42827/C...

SAL SYG 3,7-B146
42822/C...

SAL SYG 4,2-B146
42823/C...

3 PEDESTRIAN CROSSING LIGHTING

Warsaw cares about pedestrian safety

The Warsaw Municipal Roads Authority (ZDM Warszawa) has published the Report on the state of road safety in Warsaw in 2022*. The report shows **that in 2022 the number of fatal accidents involving pedestrians decreased,** and no pedestrians died on Warsaw streets at night. As ZDM points out, these results are related to the successive lighting of pedestrian crossings in recent years.

Data from the ZDM Warszawa report

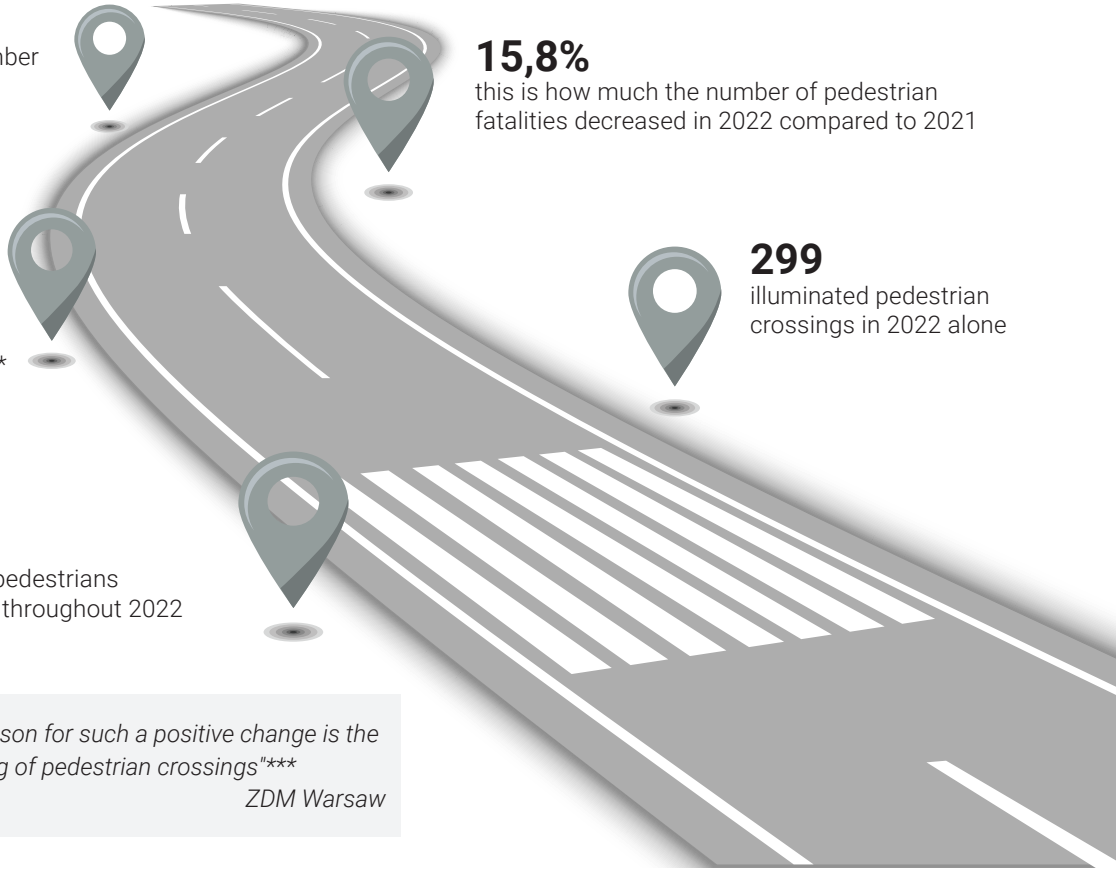
89,5%
this is how much the number of accident victims has dropped since 1991

15,8%
this is how much the number of pedestrian fatalities decreased in 2022 compared to 2021

1759
illuminated pedestrian crossings within 7 years**

299
illuminated pedestrian crossings in 2022 alone

0
fatal accidents involving pedestrians between 00:00 and 10:00 throughout 2022



> *"The main reason for such a positive change is the annual lighting of pedestrian crossings"****
> *ZDM Warsaw*

* source: Report on the state of road safety in Warsaw 2022, Warsaw 2023
** source: https://zdm.waw.pl/aktualnosci/doswietlenie-322-przejsc-dla-pieszych-przetarg-rozstrzygniety
Quote source: https://zdm.waw.pl/aktualnosci/brd-w-warszawie-w-2022-r-przez-10-godzin-nocnych-nie-zginal-zaden-pieszy

Rules for correct lighting of a pedestrian crossing

- dedicated lighting provides **a positive contrast of the pedestrian's silhouette** on the road and in the waiting zone on the pavement,
- luminaires are installed in front of the pedestrian crossing separately for each direction of traffic,
- optics directs the emitted light from the luminaire in such a way as to illuminate the silhouette of pedestrians from the side of oncoming vehicles,
- luminaires are **placed below the line of road lighting luminaires**, usually at a height of 5-7 m and at a distance of 0.5-1.5 m before a pedestrian crossing,
- the vertical illuminance should be significantly higher than the horizontal illuminance produced by the road lighting,
- to improve the visibility of the crossing, sometimes **a different colour temperature of light sources is used** than in the case of the main road lighting, e.g., road – 4000K, crossing – 5700K.

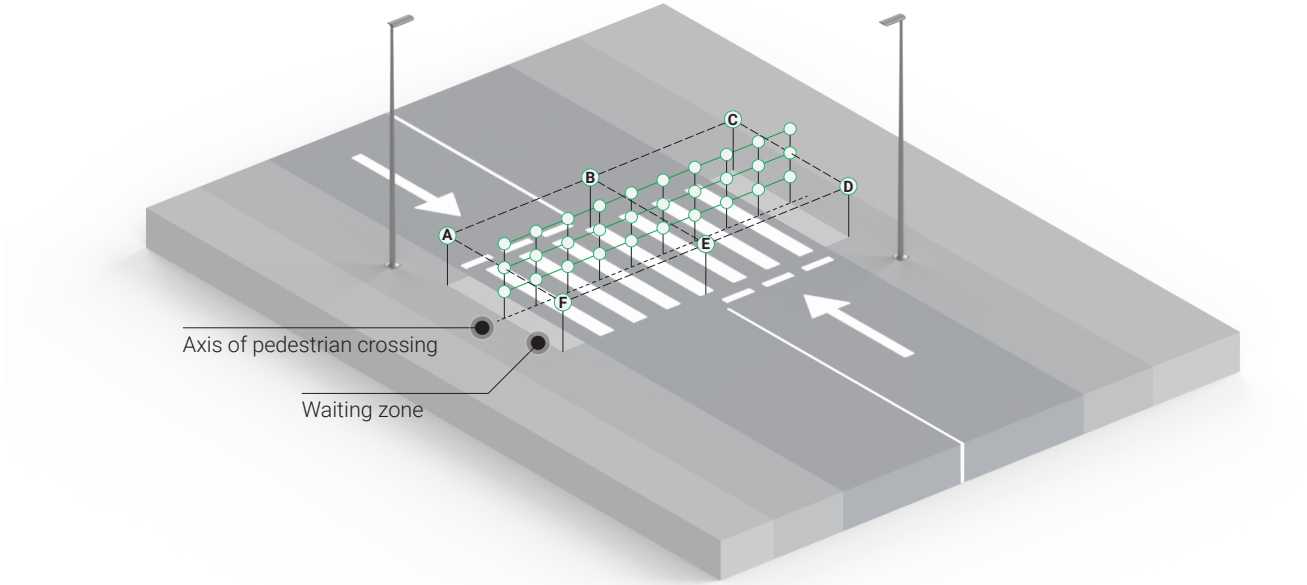
The Foundation for the Development of Civil Engineering, Gdańsk University of Technology, Warsaw University of Technology and the Road and Bridge Research Institute have developed **WR-D-41-4*** guidelines for lighting pedestrian crossings to increase pedestrian safety. These guidelines introduce among others, a new class of PC lighting.

Required levels of illuminance parameters at pedestrian crossings using asymmetric luminaires/dedicated lighting for roadways illuminated in classes M (luminance)

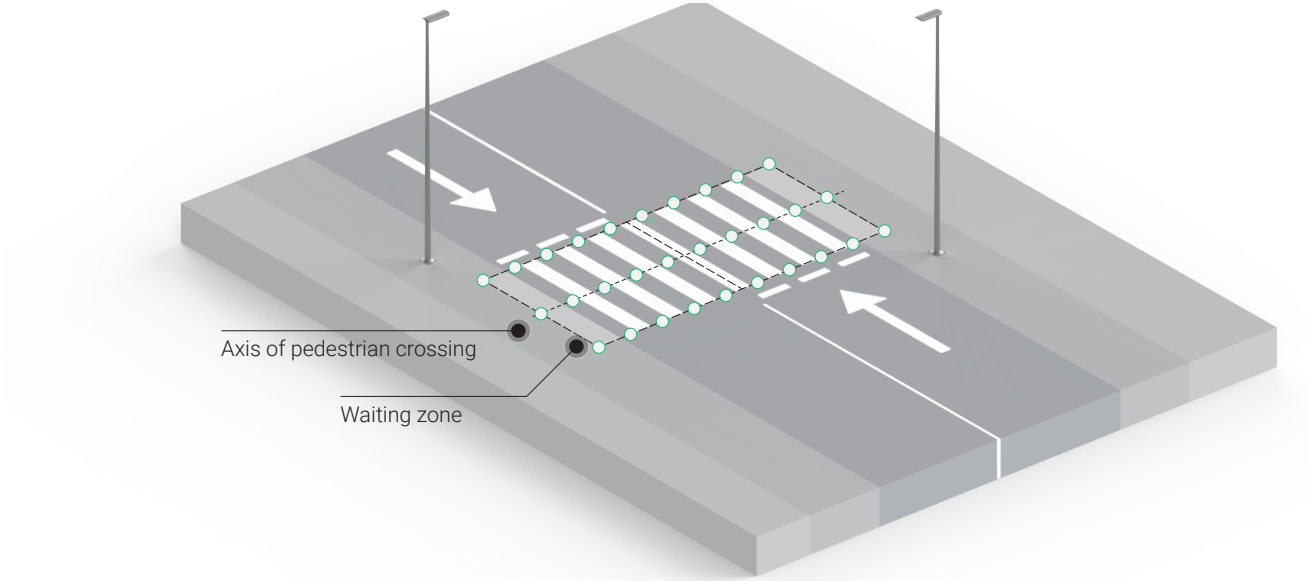
ROAD LIGHTING		PEDESTRIAN CROSSING LIGHTING					
Values before and after the pedestrian crossing		PC Class	Measuring lanes				Points A, B, C, D, E, F
			Vertical		Horizontal		
M Class	L_{av} [cd/m2] (average illuminance)		E_{vav} [lx] (average vertical illuminance)	U_{ov} [-] (vertical uniformity) (min.)	E_{hav} [lx] (average horizontal illuminance)	U_{oh} [-] (horizontal uniformity)	$E_{vmin\ (A,\ B,\ ...)}$ [lx] (minimum vertical illuminance)
M1	2,00	No need to use dedicated solutions					
M2	1,50	PC1	75	0,35	75	0,4	5,0
M3	1,00	PC2	50	0,35	50	0,4	4,0
M4	0,75	PC3	35	0,35	35	0,4	4,0
M5	0,50	PC4	25	0,35	25	0,4	3,0
M6	0,30	PC5	15	0,35	15	0,4	2,0

*WR-D-41-4 – Guidelines for pedestrian infrastructure design Part 4: Designing pedestrian crossing lighting. Models and standards recommended by the Minister responsible for transport

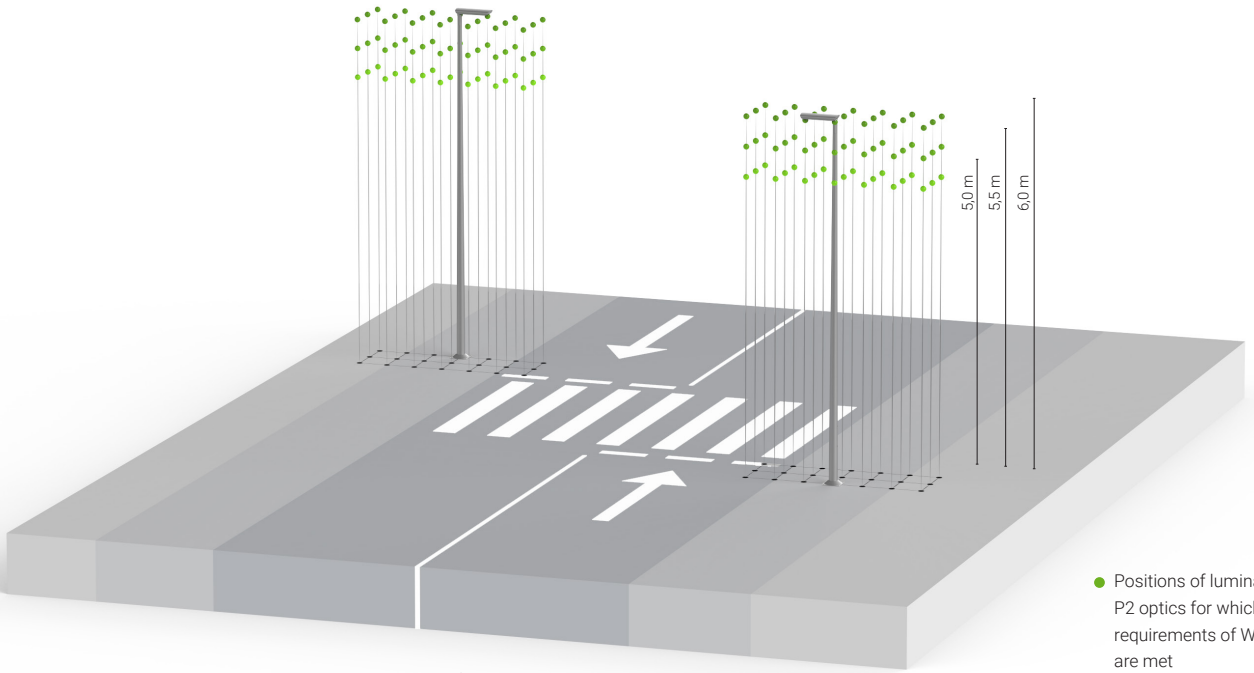
Point grid - vertical illuminance



Point grid - horizontal illuminance



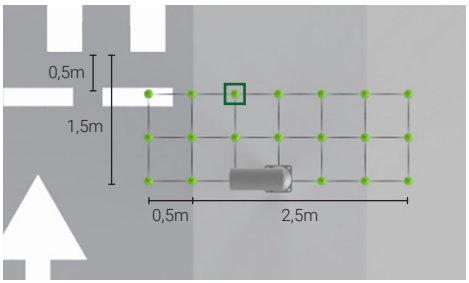
Two-way road with two lanes



● Positions of luminaires with P2 optics for which the requirements of WR-D-41-4 are met

Acceptable mounting points for the luminaire

Luminaire mounting height: 5,0 m



Calculation results for the selected point ☐

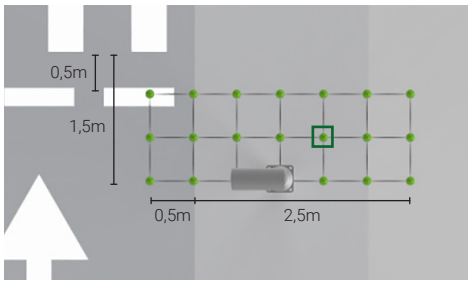
Mounting height: 5 m | Luminaire inclination: 5°

48W luminaire: PC3 class	≥35 lx
60W luminaire: PC2 class	≥50 lx

Uniformity of illuminance:

	WR-D-41-4 Guidelines	Result – P2 optics
U_{ov}	≥ 0,35	0,51
U_{oh}	≥ 0,4	0,58

Luminaire mounting height: 5,5 m

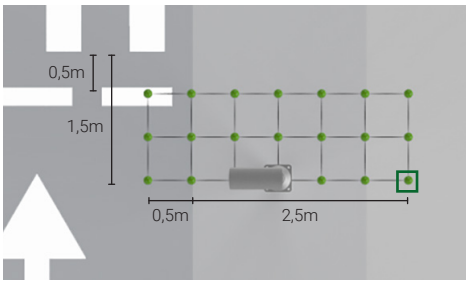


Mounting height: 5,5 m | Luminaire inclination: 5°

48W luminaire: PC4 class	≥25 lx
60W luminaire: PC3 class	≥35 lx

	WR-D-41-4 Guidelines	Result – P2 optics
U_{ov}	≥ 0,35	0,63
U_{oh}	≥ 0,4	0,62

Luminaire mounting height: 6,0 m



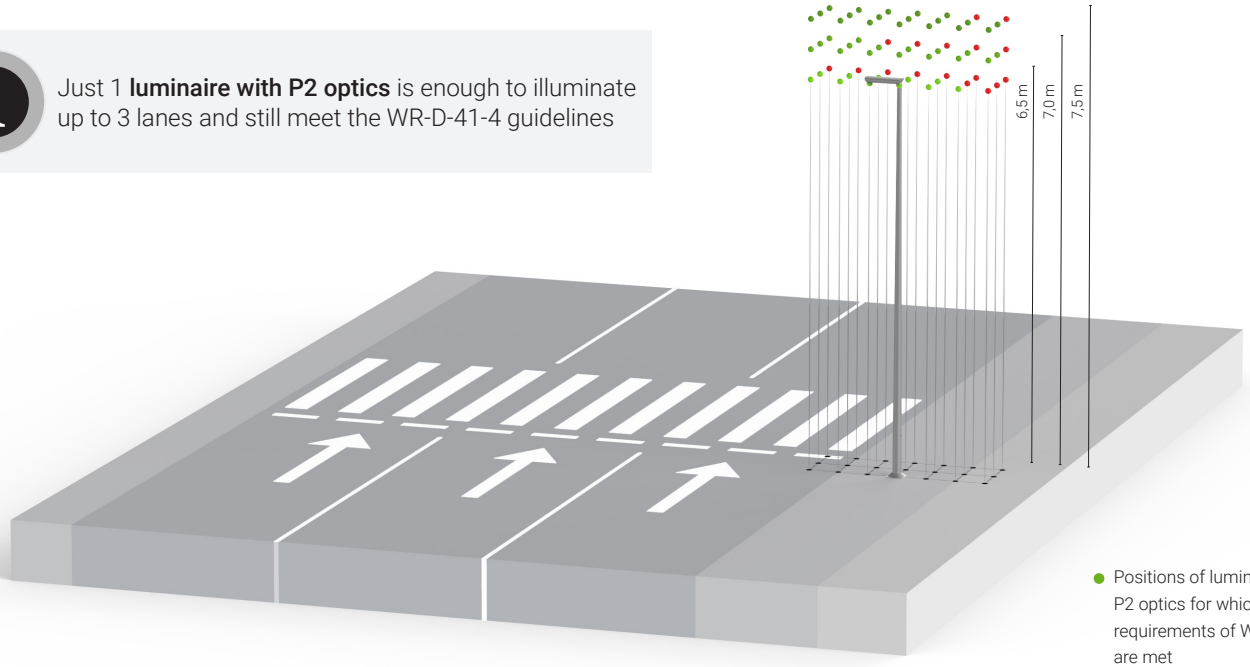
Mounting height: 6 m | Luminaire inclination: 5°

48W luminaire: PC4 class	≥25 lx
60W luminaire: PC3 class	≥35 lx
96W luminaire: PC2 class	≥50 lx

	WR-D-41-4 Guidelines	Result – P2 optics
U_{ov}	≥ 0,35	0,63
U_{oh}	≥ 0,4	0,69

One-way road with three lanes

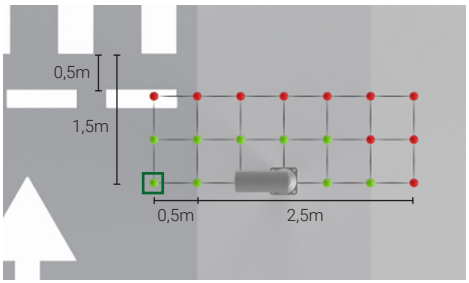
Just 1 **luminaire with P2 optics** is enough to illuminate up to 3 lanes and still meet the WR-D-41-4 guidelines



● Positions of luminaires with P2 optics for which the requirements of WR-D-41-4 are met

Acceptable mounting points for the luminaire

Luminaire mounting height: 6,5 m



Calculation results for the selected point ☐

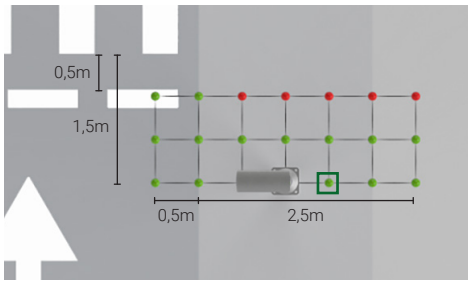
Mounting height: 6,5 m | Luminaire inclination: 5°

60W luminaire: PC4 class	≥25 lx
96W luminaire: PC2 class	≥50 lx

Uniformity of illuminance:

	WR-D-41-4 Guidelines	Result – P2 optics
U_{ov}	≥ 0,35	0,37
U_{oh}	≥ 0,4	0,51

Luminaire mounting height: 7,0 m

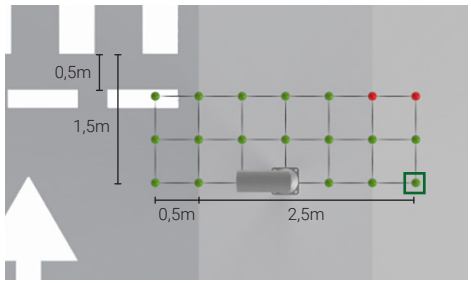


Mounting height: 7 m | Luminaire inclination: 5°

72W luminaire: PC4 class	≥25 lx
96W luminaire: PC3 class	≥35 lx
144W luminaire: PC2 class	≥50 lx

	WR-D-41-4 Guidelines	Result – P2 optics
U_{ov}	≥ 0,35	0,4
U_{oh}	≥ 0,4	0,55

Luminaire mounting height: 7,5 m

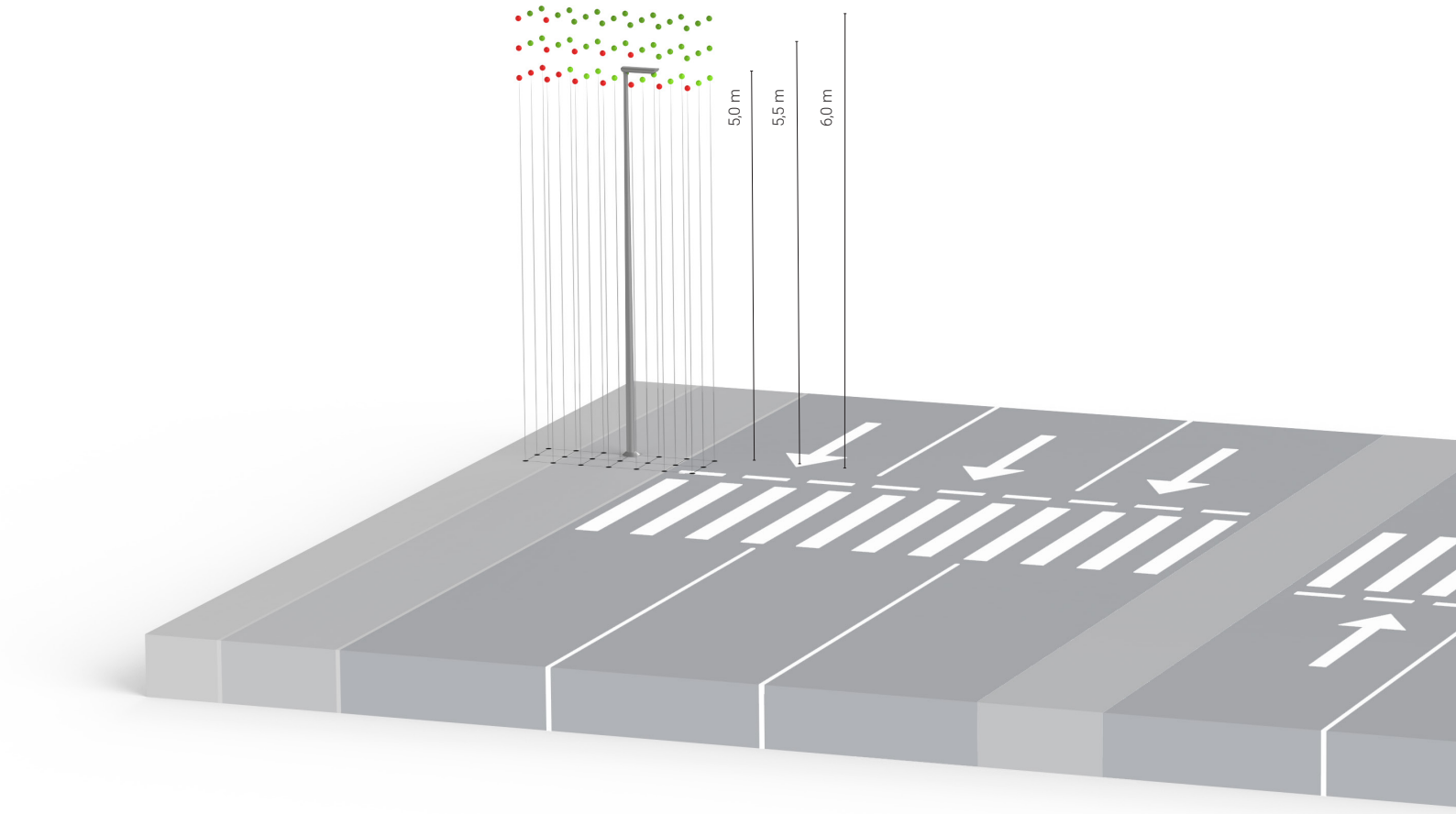


Mounting height: 7,5 m | Luminaire inclination: 5°

96W: luminaire: PC3 class	≥35 lx
144W: luminaire: PC2 class	≥50 lx

	WR-D-41-4 Guidelines	Result – P2 optics
U_{ov}	≥ 0,35	0,41
U_{oh}	≥ 0,4	0,56

Two-way road with six lanes



Calculation results for the selected point

Mounting height: 6,5 m | Luminaire inclination: 5°

60W: luminaire: PC4	class ≥25 lx
96W: luminaire: PC2	class ≥50 lx

Mounting height: 7 m | Luminaire inclination: 5°

72W: luminaire: PC4	class ≥25 lx
96W: luminaire: PC3	class ≥35 lx
144W: luminaire: PC2	class ≥50 lx

Mounting height: 7,5 m | Luminaire inclination: 5°

96W: luminaire: PC3	class ≥35 lx
144W: luminaire: PC2	class ≥50 lx

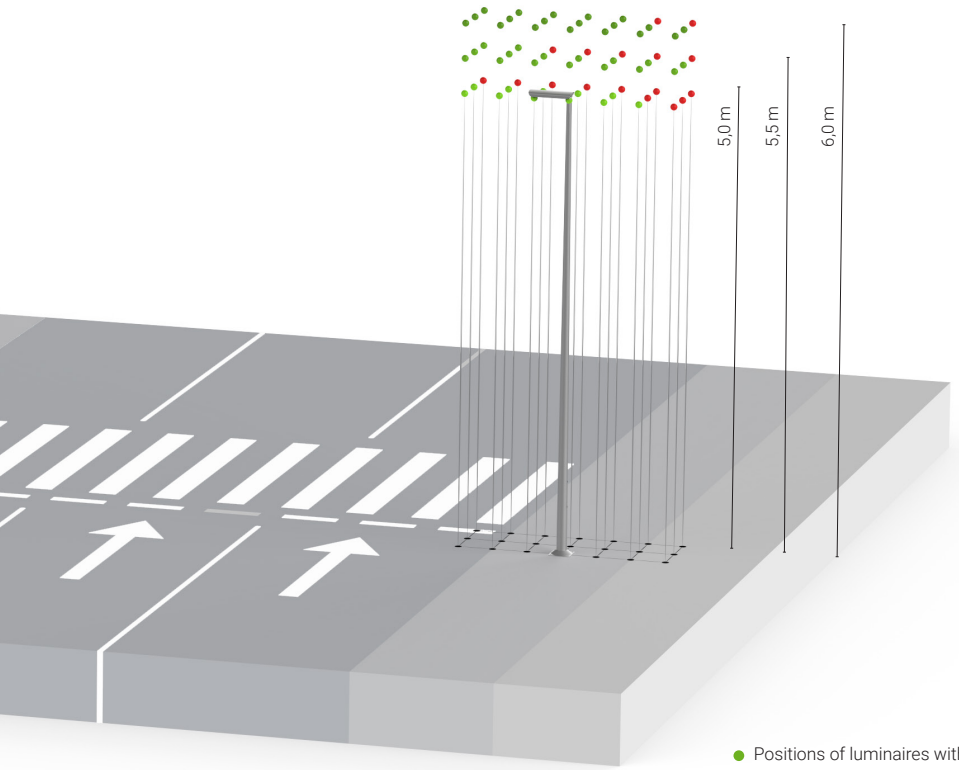
Uniformity of illuminance:

	WR-D-41-4 Guidelines	Result – P2 optics
U_{ov}	≥ 0,35	0,37
U_{oh}	≥ 0,4	0,51

	WR-D-41-4 Guidelines	Result – P2 optics
U_{ov}	≥ 0,35	0,4
U_{oh}	≥ 0,4	0,55

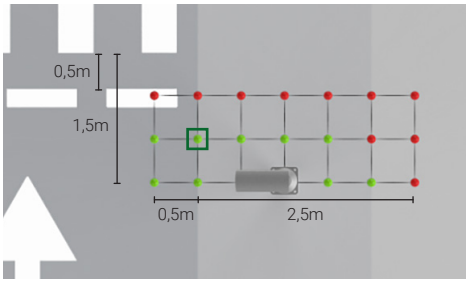
	WR-D-41-4 Guidelines	Result – P2 optics
U_{ov}	≥ 0,35	0,41
U_{oh}	≥ 0,4	0,56

2 luminaires with P2 optics are enough to illuminate up to 6 lanes and still meet the WR-D-41-4 guidelines

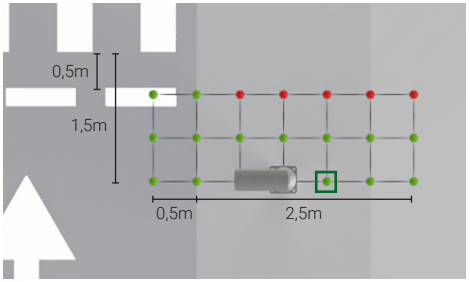


● Positions of luminaires with P2 optics for which the requirements of WR-D-41-4 are met

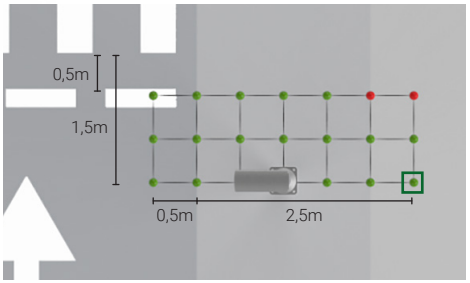
Luminaire mounting height: 6,5 m



Luminaire mounting height: 7,0 m



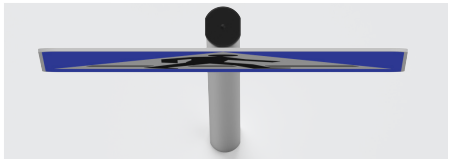
Luminaire mounting height: 7,5 m

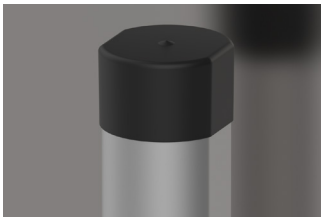


4 ALUMINIUM SIGN POSTS

Aluminium sign posts

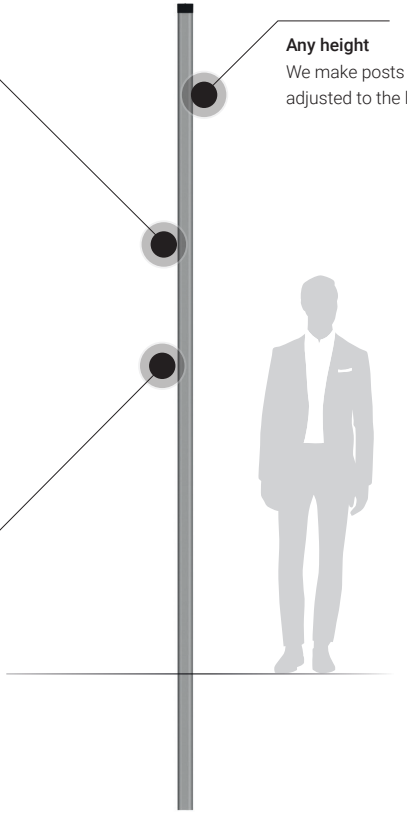
Unusual shape
The non-standard shaped posts do not twist on their own, so that the road sign is always perfectly visible





Aesthetics
The post made of anodised aluminium fits stylistically into the aesthetics of all ROSA products for intersections

Any height
We make posts in any height, so they can be perfectly adjusted to the location conditions



Create your own height variant

4289.../C...

Total height
32 - 3,2 m
33 - 3,3 m
34 - 3,4 m
...

Anodising colour selection

Example variants

ROS 3,2
428932/C...

ROS 3,3
428933/C...

ROS 3,4
428934/C...

5 ALUMINIUM MONITORING COLUMNS

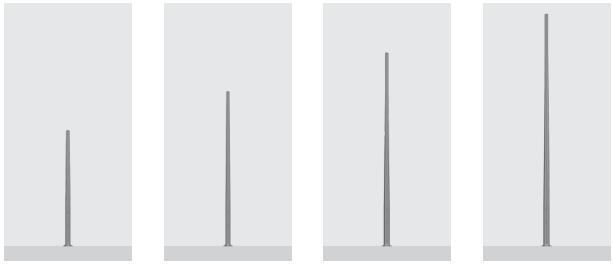
Aluminium monitoring columns

Attention to detail
Both the column and the cap covering it are made of anodised aluminium, which affects the aesthetics of the finish

Vibration resistance
Thanks to the high vibration resistance, the image from the mounted security camera is clearer

Finishing touch
Polished anodised aluminium is resistant to weather conditions, and the option of elastomer protection in the colour of the column up to a height of 350 mm further increases the protective properties

Available variants



SAL-30CAM
42841/C…

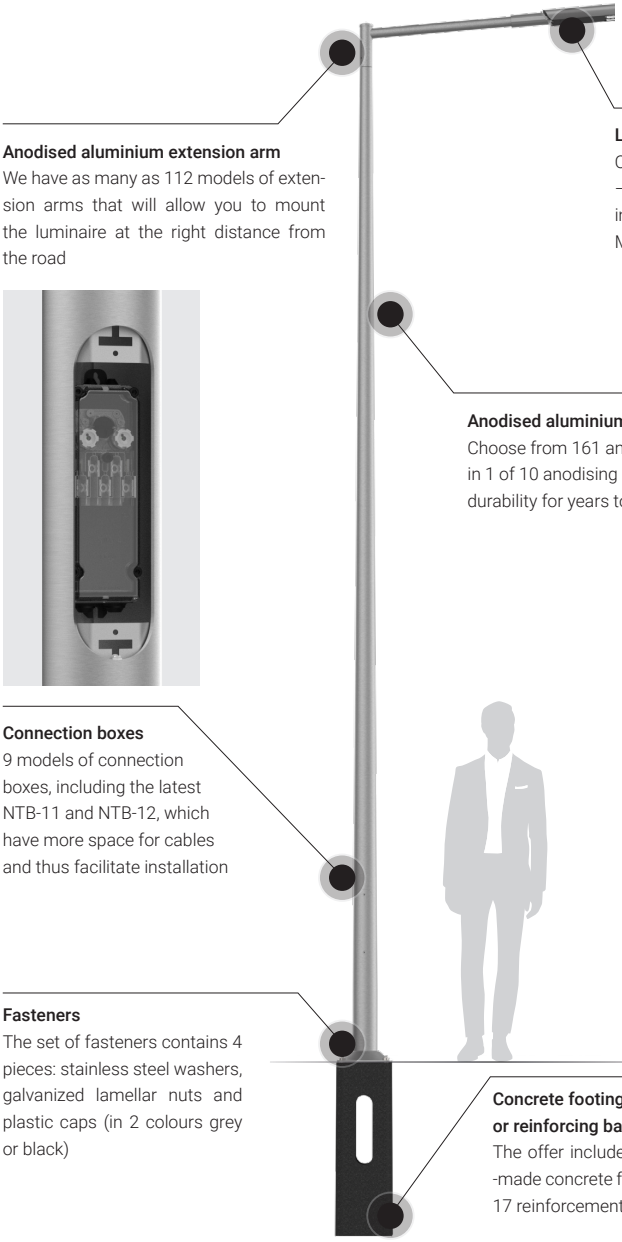
SAL-40CAM
42842/C…

SAL-50CAM
42843/C…

SAL-60CAM
42844/C…

6 ROAD LIGHTING

Road lighting



Anodised aluminium extension arm
We have as many as 112 models of extension arms that will allow you to mount the luminaire at the right distance from the road

LED luminaire
Over 44 models of luminaires – from stylized to modern, including the latest CUDDLE MINI LED luminaire

Anodised aluminium column
Choose from 161 anodised aluminium columns in 1 of 10 anodising colours for a sleek look and durability for years to come

Connection boxes
9 models of connection boxes, including the latest NTB-11 and NTB-12, which have more space for cables and thus facilitate installation

Fasteners
The set of fasteners contains 4 pieces: stainless steel washers, galvanized lamellar nuts and plastic caps (in 2 colours grey or black)

Concrete footings or reinforcing basket
The offer includes 10 ready--made concrete footings and 17 reinforcement baskets

Example sets

Type	Code	Name	Code	Name
Anodised aluminium column	**42315/C...**	SAL-70	**42630/C...**	SAL-80K
Extension arm	**47280106/C...**	WR-8A/1/0,6/5	**472041109**	WR-4/1/1,0/5 ZP
LED luminaire	**222733/...[1]/...[2]**	CUDDLE MINI LED 48	**2223034/...[1]/...[2]**	CUDDLE II LED 60
Concrete foundation	**311160**	B-60	**311171**	B-71
Fasteners	**4008**	M18 with grey caps	**4012**	M24 with grey capsi
Connection box	**324111**	NTB-11	**324111**	NTB-11
Fuse	**322006**	D 01 6A/400V	**322006**	D 01 6A/400V

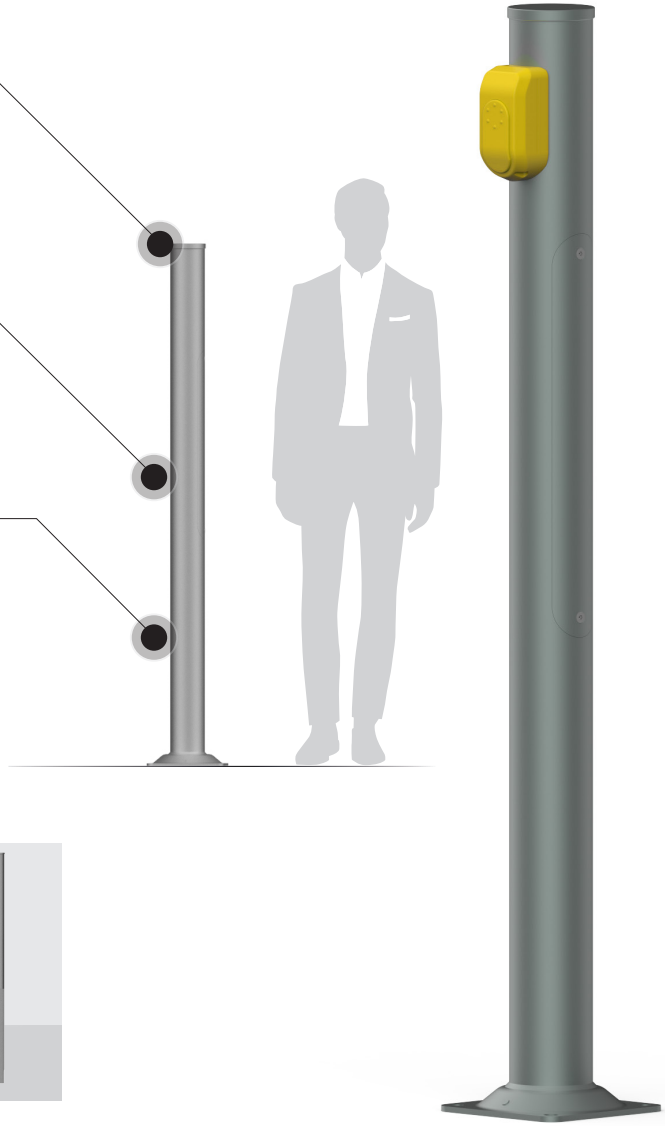
7 ALUMINIUM PUSH BUTTON BOLLARD

Aluminium push button bollard

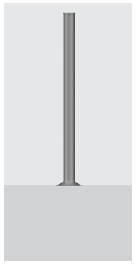
Attention to detail
Not only the bollard itself, but also the cap covering it are made of shot blasted anodised aluminium

Tailored design
The bollard stylistically complements other ROSA products for intersections and pedestrian crossings, thus introducing consistency into the urban space

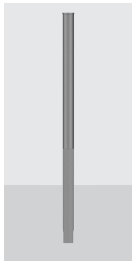
Individual adjustment
The bollard has a diameter of 100 or 114 mm, which allows you to mount buttons for pedestrian crossings from various manufacturers



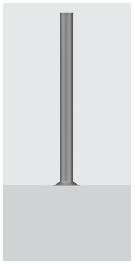
Available variants



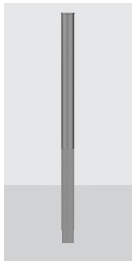
SAL1,5 CYL100
42870/C...



SAL1,5 CYL100-dz
42872/C...



SAL1,5 CYL114
42871/C...



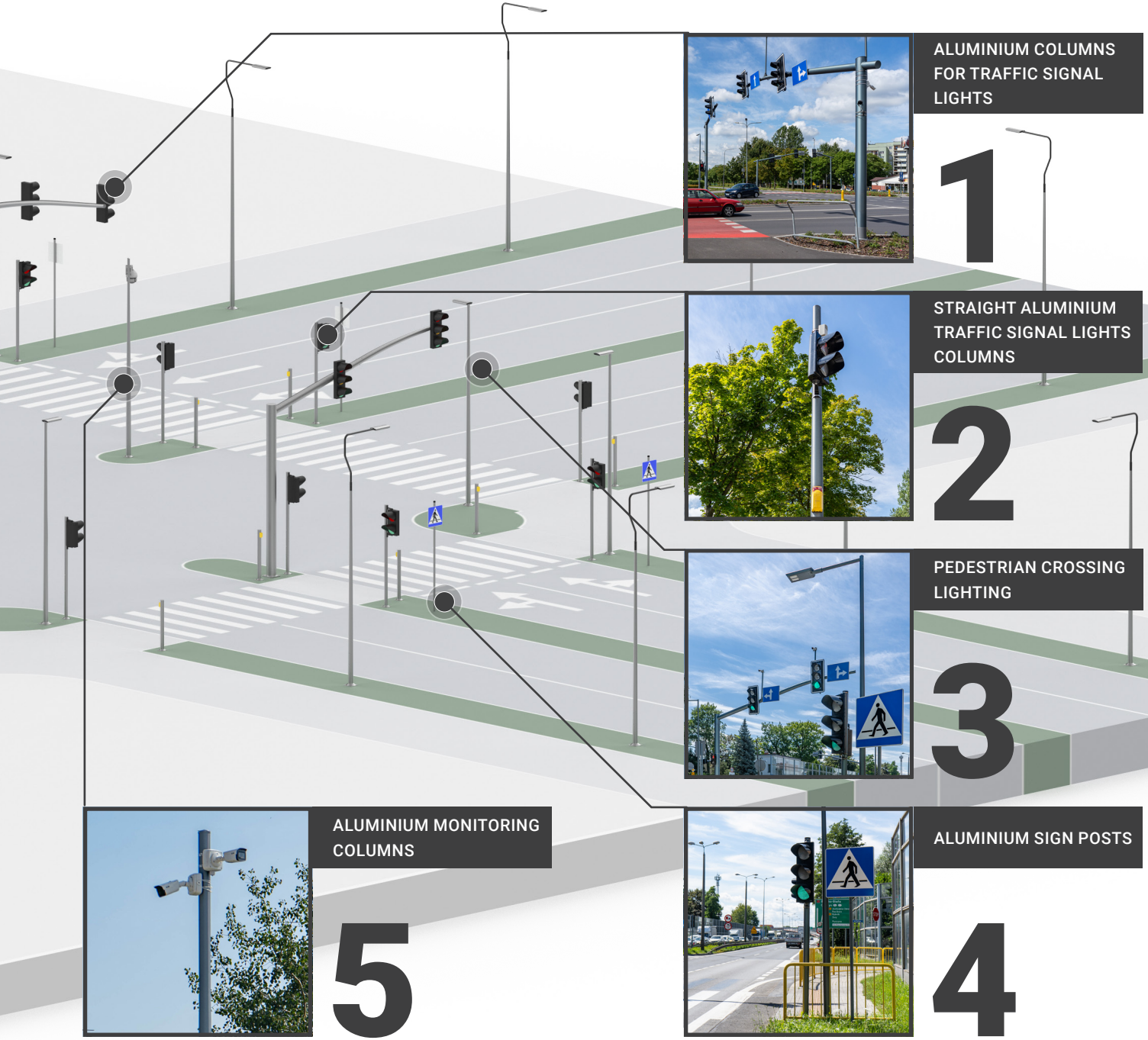
SAL1,5 CYL114-dz
42873/C...

ALUMINIUM PUSH BUTTON BOLLARD

7

ROAD LIGHTING

6



ALUMINIUM COLUMNS FOR TRAFFIC SIGNAL LIGHTS

1

STRAIGHT ALUMINIUM TRAFFIC SIGNAL LIGHTS COLUMNS

2

PEDESTRIAN CROSSING LIGHTING

3

ALUMINIUM MONITORING COLUMNS

5

ALUMINIUM SIGN POSTS

4

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