

## DESCRIPTION

## Compliance



- ENEC safety mark.
- n compliance with EN 60598-1; EN 60598-2-3; EN 62031; EN 55015 EMC; EN 61547 EMC; EN 61000-3-2/3; IEC/TR 62778.

## Dimensions

Height	Width	Length	Weight	IP	IK	Area (S)
1065 mm	100 mm	218 mm	8 Kg	66	08	0.15 m <sup>2</sup>

## Electrical characteristics

Voltage	Frequency	Cos $\varphi$	Insulation class	Operative Temp.
220-240V	50/60Hz	> 0.9	CL II	-35°C/+25°C

- Insulation Class I on demand.

## Fixing

- Joint with tilt adjustment (step 0° /  $\pm 45^\circ$ ).
- Central frame with a tilting system of  $\pm 45^\circ$ .
- Fixing by two headless screws M6 stainless steel.

## Materials

- Extruded aluminium.
- Galvanized steel.
- Extra clear transparent or prismatic tempered flat glass.
- Stainless or burnished steel fasteners.

## Structure – Main components

- External frame and body in extruded aluminum.
- Shield in extra-clear transparent or prismatic tempered glass with impact resistance IK08 (EN 62262).
- Integrated heat sink in aluminium.

## Electrical features

- Electronic power supply with protection against short circuits, overheating and power surges.
- Input power cable with exiting H05RN-F cord.
- Standard surge protection for differential/common mode 10kV/10kV (CL I, CL II).

## Operations and maintenance

- Please refer to the installation and maintenance manual of the product.
- It is responsibility of the installer the correct installation and electric connection in accordance with applicable regulations.

## Finish

- Powder coating or anodising.

Powder coating:

- Neri grey
- Pure white
- White aluminum
- Grey aluminum
- Jet black

- Moss green

Anodising:

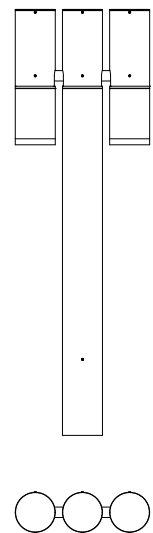
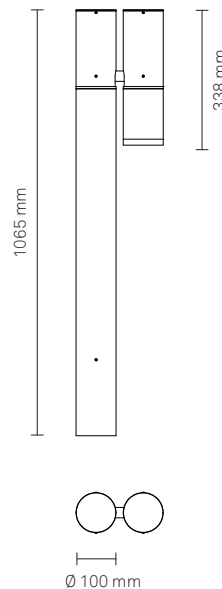
- Silver anodising
- Gold anodising
- Bronze anodising
- Brown anodising
- Black anodising

- Information about paint steps used on this product in specific technical sheet.

## Accessories

- Glare shield available in 30° and 45° versions (Cod. 9515.145.017 - 30°, Cod. 9515.145.018 - 45°).
- Refractor screen (Linear diffusion).

## DRAWINGS



**NEBULA BOLLARD - ST**

Transparent flat glass - High Power LED

Lighting distribution	Screen	LOR	ULOR
Type I	Transparent	100%	0%
Type II	Transparent	100%	0%
Type IV	Transparent	100%	0%
Type V	Transparent	100%	0%

- LOR: optical efficiency appliance due to the physical shielding.
- Refractive lens in PMMA.

**LUMINOUS FLUX**

Colour Temperature		2,700K			
System*		LED module			
lm tot	W tot	lm/W	n LED	mA	W
1,000	10.3	97	8	455	8.6

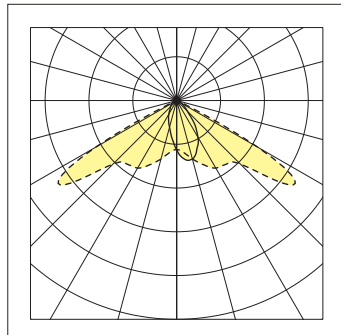
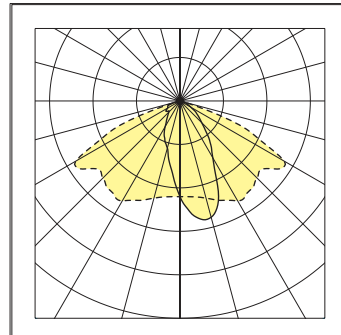
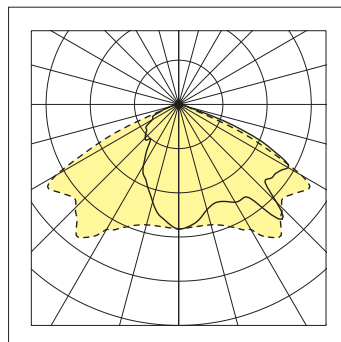
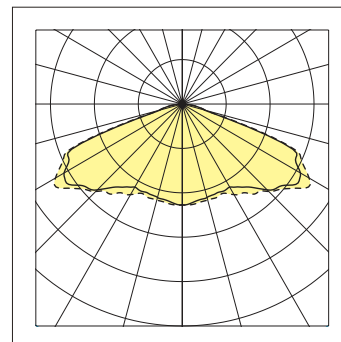
Colour Temperature		3,000K			
System*		LED module			
lm tot	W tot	lm/W	n LED	mA	W
1,000	10.0	100	8	444	8.3

Colour Temperature		3,500K			
System*		LED module			
lm tot	W tot	lm/W	n LED	mA	W
1,000	9.5	105	8	426	7.9

Colour Temperature		4,000K			
System*		LED module			
lm tot	W tot	lm/W	n LED	mA	W
1,000	9.3	108	8	416	7.7

\* The energy values in the table refer to LED module + driver.

- LED type: NVSLE21A Nichia.
- Life time specification for gradual light output degradation (EN 62722-2-1, LM80 data) 60,000 h L80B10 (Tq=25°C).
- Colour Rendering Index: CRI > 80.
- Photobiological risk (IEC/TR 62778): class RG1 to class RG2 at 1.5m from source.
- Photobiological risk (EN62471): class RG0 at 2 m from source.

**DRIVER FUNCTIONS****1-10V** (Analogic control)**DALI** (Digital control)**POLAR DIAGRAMS****Type I****Type II****Type IV****Type V**

# NERI

## Nebula Bollard

### NEBULA BOLLARD - PR

Transparent flat glass - COB LED

Lighting distribution	Screen	LOR	ULOR
30° Medium narrow spot	Transparent	100%	0%
60° Medium flood	Transparent	100%	0%
70° Medium wide flood	Transparent	100%	0%
80° Medium wide flood	Transparent	100%	0%

- LOR: optical efficiency appliance due to the physical shielding.  
- Single lens, silicone.

### LUMINOUS FLUX

Colour Temperature		2,700K			
System*		LED module			
lm tot	W tot	lm/W	n LED	mA	W
1,500	13.9	108	1	393	11.5
2,500	24.0	104	1	655	20.7

Colour Temperature		3,000K			
System*		LED module			
lm tot	W tot	lm/W	n LED	mA	W
1,500	13.4	112	1	382	11.2
2,500	23.3	107	1	637	20.0

Colour Temperature		3,500K			
System*		LED module			
lm tot	W tot	lm/W	n LED	mA	W
1,500	13.1	114	1	375	10.9
2,500	22.8	110	1	625	19.6

Colour Temperature		4,000K			
System*		LED module			
lm tot	W tot	lm/W	n LED	mA	W
1,500	12.6	119	1	363	10.5
2,500	22.0	114	1	605	18.9

\* The energy values in the table refer to LED module + driver.

- LED type: Lumileds Luxeon COB 1211.
- Life time specification for gradual light output degradation (EN 62722-2-1, LM80 data) 70,000 h L80B10 (Tq=25°C).
- Colour Rendering Index: CRI > 80.
- Photobiological risk (IEC/TR 62778): class RG1 to class RG2 at 3m from source.
- Photobiological risk (EN62471): class RG0 at 4 m from source.

### DRIVER FUNCTIONS

1-10V (Analogic control)

DALI (Digital control)

Version: PR

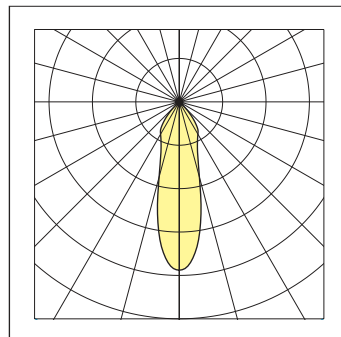
Screen: Transparent

Technical sheet

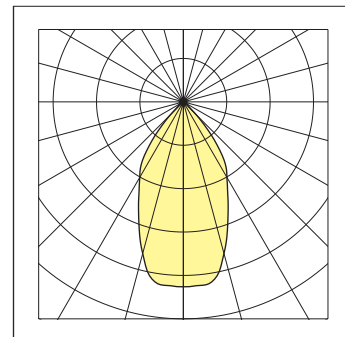
Rev.02 - 2022/09/07

### POLAR DIAGRAMS

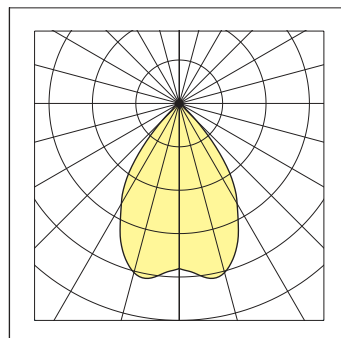
30° Medium narrow spot



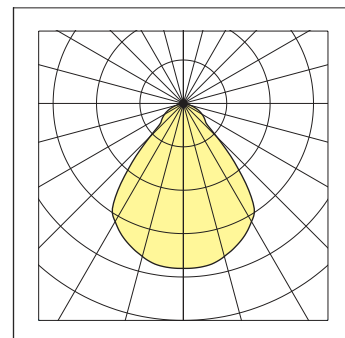
60° Medium flood



70° Medium wide flood



80° Medium wide flood



# NERI

Nebula Bollard

Version: RGBW

Screen: Transparent

Technical sheet

Rev.02 - 2022/09/07

## NEBULA BOLLARD - RGBW

Transparent flat glass - High Power LED

Lighting distribution	Screen	LOR	ULOR
15° Very narrow spot	Transparent	100%	0%
25° Narrow spot	Transparent	100%	0%
35° Medium narrow spot	Transparent	100%	0%

- LOR: optical efficiency appliance due to the physical shielding.
- Single lens, silicone.

## LUMINOUS FLUX

		RGBW			
System*		LED module			
Colour	lm tot	$\lambda$ (nm)	n LED	mA	W
Red	270 (R)	623	3	550	3.5
Green	210 (G)	517	3	550	4.5
Blu	75 (B)	455	3	550	4.5
White	390 (W)	warm	3	550	4.5

\* The energy values in the table refer to LED module.

- LED type: Cree XM-L Color.

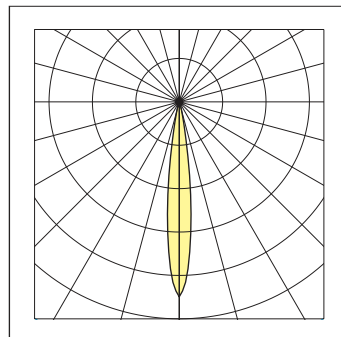
- Life time specification for gradual light output degradation (EN 62722-2-1, LM80 data) 91,000 h L90B10 (Tq=25°C).

## DRIVER FUNCTIONS

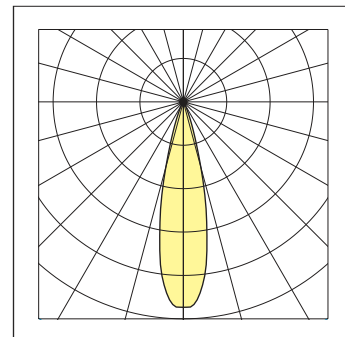
DMX

## POLAR DIAGRAMS

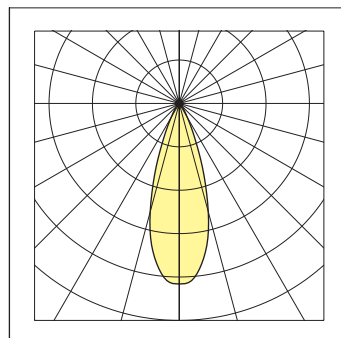
### 15° Very narrow spot



### 25° Narrow spot



### 35° Medium narrow spot



**NEBULA BOLLARD - A**

Prismatic flat glass - High Power LED

Lighting distribution	Screen	LOR	ULOR
Type II	Prismatic	100%	0%
Type V	Prismatic	100%	0%

- LOR: optical efficiency appliance due to the physical shielding.  
- Refractive lenses in PMMA.

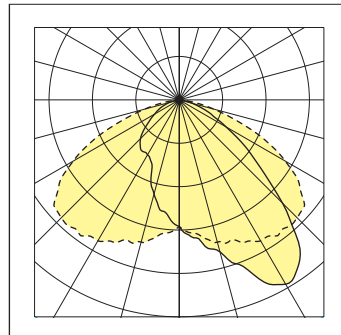
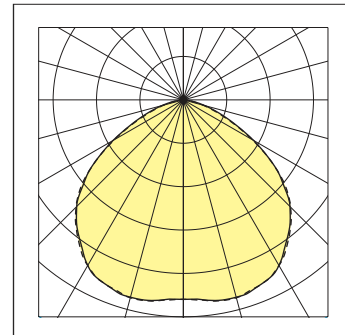
**LUMINOUS FLUX**

Colour Temperature			Amber		
System*			LED module		
Colour	lm tot	$\lambda$ (nm)	n LED	mA	W
Amber	180	598	6	700	11.0

\* The energy values in the table refer to LED module + driver.

- LED type: Cree XB-D.

- Life time specification for gradual light output degradation (EN 62722-2-1, LM80 data) 60,000 h L80B10 (Tq=25°C).

**DRIVER FUNCTIONS****1-10V** (Analogic control)**DALI** (Digital control)**POLAR DIAGRAMS****Type II****Type V**

# NERI

Nebula Bollard

Fixing: on ground

Luminaire head  
configuration form

## NEBULA BOLLARD

Nebula Bollard luminaire head consists of one source.

## NEBULA BOLLARD CONFIGURATION

### LUMINAIRE HEAD ONE

### LUMINAIRE HEAD CONFIGURATION # \_\_\_\_\_

#### ☐ NEBULA BOLLARD - ST

Optic system	CCT	Lumen output	Driver function	Screen shape
<input type="checkbox"/> Type I	<input type="checkbox"/> 2,700K	<input type="checkbox"/> 1,000 lm	<input type="checkbox"/> 1-10V	<input type="checkbox"/> Transparent flat glass
<input type="checkbox"/> Type II	<input type="checkbox"/> 3,000K		<input type="checkbox"/> DALI	
<input type="checkbox"/> Type IV	<input type="checkbox"/> 3,500K			
<input type="checkbox"/> Type V	<input type="checkbox"/> 4,000K			

#### ☐ NEBULA BOLLARD - PR

Optic system	CCT	Lumen output	Driver function	Screen shape
<input type="checkbox"/> 30° Medium narrow spot	<input type="checkbox"/> 2,700K	<input type="checkbox"/> 1,500 lm	<input type="checkbox"/> 1-10V	<input type="checkbox"/> Transparent flat glass
<input type="checkbox"/> 60° Medium flood	<input type="checkbox"/> 3,000K	<input type="checkbox"/> 2,500 lm	<input type="checkbox"/> DALI	
<input type="checkbox"/> 70° Medium wide flood	<input type="checkbox"/> 3,500K			
<input type="checkbox"/> 80° Medium wide flood	<input type="checkbox"/> 4,000K			

#### ☐ NEBULA BOLLARD - RGBW

Optic system	CCT	Lumen output	Driver function	Screen shape
<input type="checkbox"/> 15° Very narrow spot	<input type="checkbox"/> RGBW	270 lm (R)	<input type="checkbox"/> DMX	<input type="checkbox"/> Transparent flat glass
<input type="checkbox"/> 25° Narrow spot		210 lm (G)		
<input type="checkbox"/> 35° Medium narrow spot		75 lm (B)		
		390 lm (W)		

#### ☐ NEBULA BOLLARD - A

Optic system	CCT	Lumen output	Driver function	Screen shape
<input type="checkbox"/> Type II	<input type="checkbox"/> Amber	350 lm (A)	<input type="checkbox"/> 1-10V	<input type="checkbox"/> Prismatic flat glass
<input type="checkbox"/> Type V			<input type="checkbox"/> DALI	

#### ☐ NEBULA BOLLARD - GLARE SHIELD

- ☐ Glare shield 30°
- ☐ Glare shield 45°

#### ☐ NEBULA BOLLARD - REFRACTOR SCREEN

- ☐ Linear Diffusion

#### ☐ NEBULA BOLLARD - FINISH

Powder coating	Anodising
<input type="checkbox"/> Neri grey	<input type="checkbox"/> Silver anodising
<input type="checkbox"/> Pure white	<input type="checkbox"/> Gold anodising
<input type="checkbox"/> White aluminium	<input type="checkbox"/> Bronze anodising
<input type="checkbox"/> Grey aluminium	<input type="checkbox"/> Brown anodising
<input type="checkbox"/> Jet black	<input type="checkbox"/> Black anodising
<input type="checkbox"/> Moss green	



# NERI

Nebula Bollard

Fixing: on ground

Luminaire head  
configuration form

## NEBULA BOLLARD

Nebula Bollard luminaire head consists of two sources. Each source can be independently configured. The overview below lists available options.

## NEBULA BOLLARD CONFIGURATION

### LUMINAIRE HEAD ONE

#### LUMINAIRE HEAD CONFIGURATION # \_\_\_\_\_

#### ☐ NEBULA BOLLARD - ST

Optic system	CCT	Lumen output	Driver function	Screen shape
<input type="checkbox"/> Type I	<input type="checkbox"/> 2,700K	<input type="checkbox"/> 1,000 lm	<input type="checkbox"/> 1-10V	<input type="checkbox"/> Transparent flat glass
<input type="checkbox"/> Type II	<input type="checkbox"/> 3,000K		<input type="checkbox"/> DALI	
<input type="checkbox"/> Type IV	<input type="checkbox"/> 3,500K			
<input type="checkbox"/> Type V	<input type="checkbox"/> 4,000K			

#### ☐ NEBULA BOLLARD - PR

Optic system	CCT	Lumen output	Driver function	Screen shape
<input type="checkbox"/> 30° Medium narrow spot	<input type="checkbox"/> 2,700K	<input type="checkbox"/> 1,500 lm	<input type="checkbox"/> 1-10V	<input type="checkbox"/> Transparent flat glass
<input type="checkbox"/> 60° Medium flood	<input type="checkbox"/> 3,000K	<input type="checkbox"/> 2,500 lm	<input type="checkbox"/> DALI	
<input type="checkbox"/> 70° Medium wide flood	<input type="checkbox"/> 3,500K			
<input type="checkbox"/> 80° Medium wide flood	<input type="checkbox"/> 4,000K			

#### ☐ NEBULA BOLLARD - RGBW

Optic system	CCT	Lumen output	Driver function	Screen shape
<input type="checkbox"/> 15 ° Very narrow spot	<input type="checkbox"/> RGBW	270 lm (R)	<input type="checkbox"/> DMX	<input type="checkbox"/> Transparent flat glass
<input type="checkbox"/> 25° Narrow spot		210 lm (G)		
<input type="checkbox"/> 35° Medium narrow spot		75 lm (B)		
		390 lm (W)		

#### ☐ NEBULA BOLLARD - A

Optic system	CCT	Lumen output	Driver function	Screen shape
<input type="checkbox"/> Type II	<input type="checkbox"/> Amber	350 lm (A)	<input type="checkbox"/> 1-10V	<input type="checkbox"/> Prismatic flat glass
<input type="checkbox"/> Type V			<input type="checkbox"/> DALI	

#### ☐ NEBULA BOLLARD - GLARE SHIELD

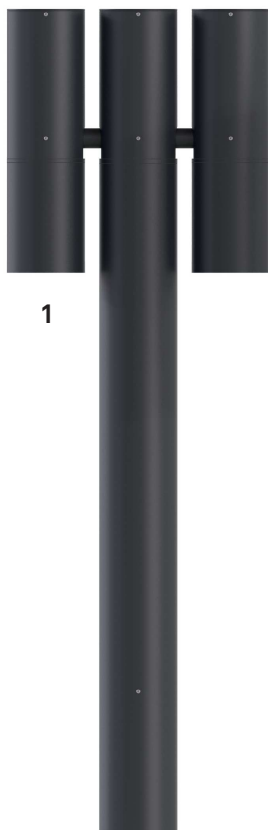
- ☐ Glare shield 30°
- ☐ Glare shield 45°

#### ☐ NEBULA BOLLARD - REFRACTOR SCREEN

- ☐ Linear Diffusion

#### ☐ NEBULA BOLLARD - FINISH

Powder coating	Anodising
<input type="checkbox"/> Neri grey	<input type="checkbox"/> Silver anodising
<input type="checkbox"/> Pure white	<input type="checkbox"/> Gold anodising
<input type="checkbox"/> White aluminium	<input type="checkbox"/> Bronze anodising
<input type="checkbox"/> Grey aluminium	<input type="checkbox"/> Brown anodising
<input type="checkbox"/> Jet black	<input type="checkbox"/> Black anodising
<input type="checkbox"/> Moss green	



**NEBULA BOLLARD**

Nebula Bollard luminaire head consists of two sources. Each source can be independently configured. The overview below lists available options.

**NEBULA BOLLARD CONFIGURATION****LUMINAIRE HEAD TWO****LUMINAIRE HEAD CONFIGURATION #**☐ **NEBULA BOLLARD - ST**

Optic system	CCT	Lumen output	Driver function	Screen shape
<input type="checkbox"/> Type I	<input type="checkbox"/> 2,700K	<input type="checkbox"/> 1,000 lm	<input type="checkbox"/> 1-10V	<input type="checkbox"/> Transparent flat glass
<input type="checkbox"/> Type II	<input type="checkbox"/> 3,000K		<input type="checkbox"/> DALI	
<input type="checkbox"/> Type IV	<input type="checkbox"/> 3,500K			
<input type="checkbox"/> Type V	<input type="checkbox"/> 4,000K			

☐ **NEBULA BOLLARD - PR**

Optic system	CCT	Lumen output	Driver function	Screen shape
<input type="checkbox"/> 30° Medium narrow spot	<input type="checkbox"/> 2,700K	<input type="checkbox"/> 1,500 lm	<input type="checkbox"/> 1-10V	<input type="checkbox"/> Transparent flat glass
<input type="checkbox"/> 60° Medium flood	<input type="checkbox"/> 3,000K	<input type="checkbox"/> 2,500 lm	<input type="checkbox"/> DALI	
<input type="checkbox"/> 70° Medium wide flood	<input type="checkbox"/> 3,500K			
<input type="checkbox"/> 80° Medium wide flood	<input type="checkbox"/> 4,000K			

☐ **NEBULA BOLLARD - RGBW**

Optic system	CCT	Lumen output	Driver function	Screen shape
<input type="checkbox"/> 15 ° Very narrow spot	<input type="checkbox"/> RGBW	270 lm (R)	<input type="checkbox"/> DMX	<input type="checkbox"/> Transparent flat glass
<input type="checkbox"/> 25° Narrow spot		210 lm (G)		
<input type="checkbox"/> 35° Medium narrow spot		75 lm (B)		
		390 lm (W)		

☐ **NEBULA BOLLARD - A**

Optic system	CCT	Lumen output	Driver function	Screen shape
<input type="checkbox"/> Type II	<input type="checkbox"/> Amber	350 lm (A)	<input type="checkbox"/> 1-10V	<input type="checkbox"/> Prismatic flat glass
<input type="checkbox"/> Type V			<input type="checkbox"/> DALI	

☐ **NEBULA BOLLARD - GLARE SHIELD**

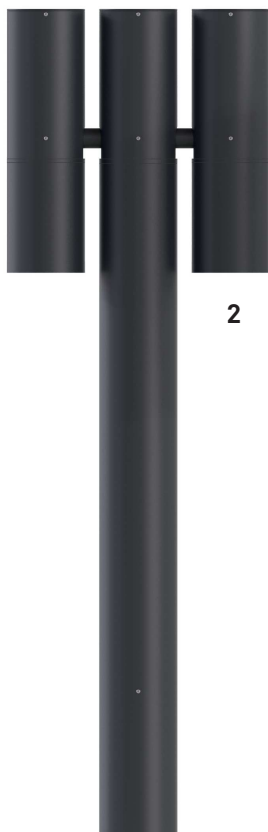
- ☐ Glare shield 30°
- ☐ Glare shield 45°

☐ **NEBULA BOLLARD - REFRACTOR SCREEN**

- ☐ Linear Diffusion

☐ **NEBULA BOLLARD - FINISH**

Powder coating	Anodising
<input type="checkbox"/> Neri grey	<input type="checkbox"/> Silver anodising
<input type="checkbox"/> Pure white	<input type="checkbox"/> Gold anodising
<input type="checkbox"/> White aluminium	<input type="checkbox"/> Bronze anodising
<input type="checkbox"/> Grey aluminium	<input type="checkbox"/> Brown anodising
<input type="checkbox"/> Jet black	<input type="checkbox"/> Black anodising
<input type="checkbox"/> Moss green	



2



## DESCRIPTION

## Compliance



- ENEC safety mark.
- n compliance with EN 60598-1; EN 60598-2-3; EN 62031; EN 55015 EMC; EN 61547 EMC; EN 61000-3-2/3; IEC/TR 62778.

## Dimensions

Height	Width	Length	Weight	IP	IK	Area (S)
2740 mm	100 mm	218 mm	11 Kg	66	08	0.30 m <sup>2</sup>

## Electrical characteristics

Voltage	Frequency	Cos φ	Insulation class	Operative Temp.
220-240V	50/60Hz	> 0.9	CL II	-35°C/+25°C

- Insulation Class I on demand.

## Fixing

- Flange Ø 230 mm (thickness 5 mm), for mounting with three anchors bolts to the foundation plinth.
- We recommend mounting with hidden flange, positioned 100 mm below the final pavement level.
- Joint with tilt adjustment (step 0° / ±45°).
- Central frame with a tilting system of ± 45°.
- Fixing by two headless screws M6 stainless steel.

## Materials

- Extruded aluminium.
- Galvanized steel.
- Extra clear transparent or prismatic tempered flat glass.
- Stainless or burnished steel fasteners.

## Structure – Main components

- External frame and body in extruded aluminium.
- Shield in extra-clear transparent or prismatic tempered glass with impact resistance IK08 (EN 62262).
- Integrated heat sink in aluminium.

## Electrical features

- Electronic power supply with protection against short circuits, overheating and power surges.
- Input power cable with exiting H05RN-F cord.
- Standard surge protection for differential/common mode 10kV/10kV (CL I, CL II).

## Operations and maintenance

- Please refer to the installation and maintenance manual of the product.
- It is responsibility of the installer the correct installation and electric connection in accordance with applicable regulations.

## Finish

- Powder coating or anodising.

## Powder coating:

- Neri grey
- Pure white
- White aluminum
- Grey aluminum
- Jet black
- Moss green

## Anodising:

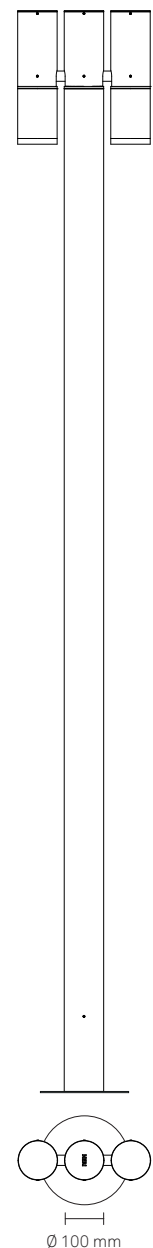
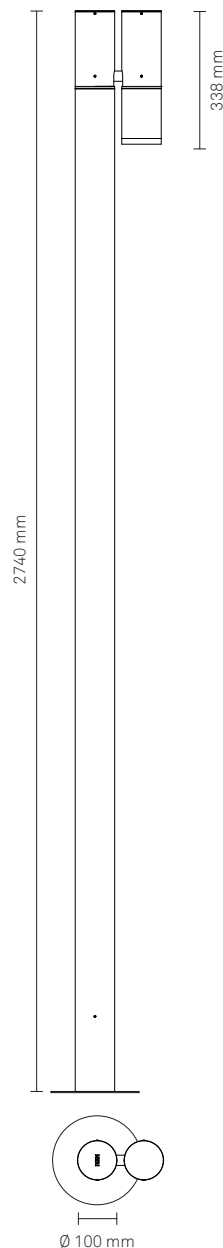
- Silver anodising
- Gold anodising
- Bronze anodising
- Brown anodising
- Black anodising

- Information about paint steps used on this product in specific technical sheet.

## Accessories

- Post base cover
- Glare shield available in 30° and 45° versions (Cod. 9515.145.017 - 30°, Cod. 9515.145.018 - 45°).
- Refractor screen (Linear diffusion).

## DRAWINGS



**NEBULA BOLLARD - ST**

Transparent flat glass - High Power LED

Lighting distribution	Screen	LOR	ULOR
Type I	Transparent	100%	0%
Type II	Transparent	100%	0%
Type IV	Transparent	100%	0%
Type V	Transparent	100%	0%

- LOR: optical efficiency appliance due to the physical shielding.
- Refractive lens in PMMA.

**LUMINOUS FLUX**

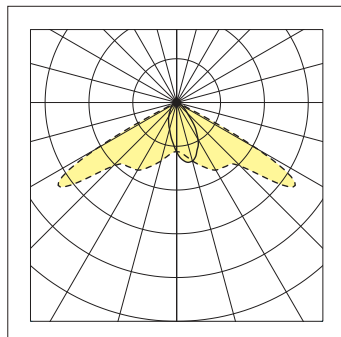
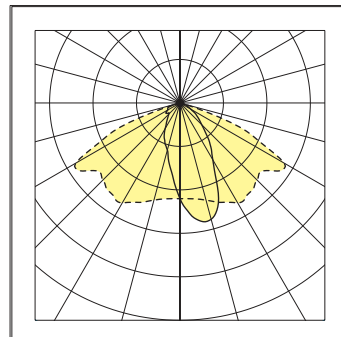
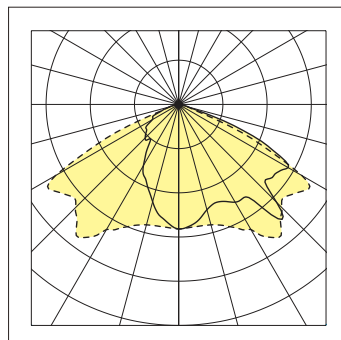
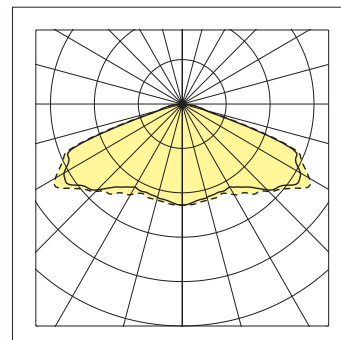
Colour Temperature		2,700K			
System*		LED module			
lm tot	W tot	lm/W	n LED	mA	W
1,000	10.3	97	8	455	8.6

Colour Temperature		3,000K			
System*		LED module			
lm tot	W tot	lm/W	n LED	mA	W
1,000	10.0	100	8	444	8.3

Colour Temperature		3,500K			
System*		LED module			
lm tot	W tot	lm/W	n LED	mA	W
1,000	9.5	105	8	426	7.9

Colour Temperature		4,000K			
System*		LED module			
lm tot	W tot	lm/W	n LED	mA	W
1,000	9.3	108	8	416	7.7

- \* The energy values in the table refer to LED module + driver.
- LED type: NVSLE21A Nichia.
  - Life time specification for gradual light output degradation (EN 62722-2-1, LM80 data) 60,000 h L80B10 (Tq=25°C).
  - Colour Rendering Index: CRI > 80.
  - Photobiological risk (IEC/TR 62778): class RG1 to class RG2 at 1.5m from source.
  - Photobiological risk (EN62471): class RG0 at 2 m from source.

**DRIVER FUNCTIONS****1-10V** (Analogic control)**DALI** (Digital control)**POLAR DIAGRAMS****Type I****Type II****Type IV****Type V**

# NERI

Nebula Bollard

Version: PR

Screen: Transparent

Technical sheet

Rev.02 - 2022/09/07

## NEBULA BOLLARD - PR

Transparent flat glass - COB LED

Lighting distribution	Screen	LOR	ULOR
30° Medium narrow spot	Transparent	100%	0%
60° Medium flood	Transparent	100%	0%
70° Medium wide flood	Transparent	100%	0%
80° Medium wide flood	Transparent	100%	0%

- LOR: optical efficiency appliance due to the physical shielding.  
- Single lens, silicone.

## LUMINOUS FLUX

Colour Temperature		2,700K			
System*		LED module			
lm tot	W tot	lm/W	n LED	mA	W
1,500	13.9	108	1	393	11.5
2,500	24.0	104	1	655	20.7

Colour Temperature		3,000K			
System*		LED module			
lm tot	W tot	lm/W	n LED	mA	W
1,500	13.4	112	1	382	11.2
2,500	23.3	107	1	637	20.0

Colour Temperature		3,500K			
System*		LED module			
lm tot	W tot	lm/W	n LED	mA	W
1,500	13.1	114	1	375	10.9
2,500	22.8	110	1	625	19.6

Colour Temperature		4,000K			
System*		LED module			
lm tot	W tot	lm/W	n LED	mA	W
1,500	12.6	119	1	363	10.5
2,500	22.0	114	1	605	18.9

\* The energy values in the table refer to LED module + driver.

- LED type: Lumileds Luxeon COB 1211.

- Life time specification for gradual light output degradation (EN 62722-2-1, LM80 data) 70,000 h L80B10 (Tq=25°C).

- Colour Rendering Index: CRI > 80.

- Photobiological risk (IEC/TR 62778): class RG1 to class RG2 at 3m from source.

- Photobiological risk (EN62471): class RG0 at 4 m from source.

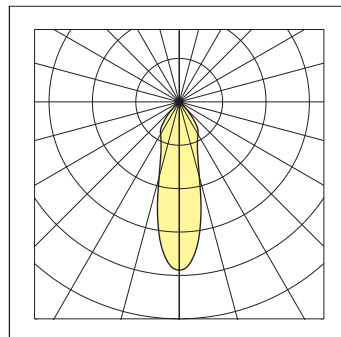
## DRIVER FUNCTIONS

1-10V (Analogic control)

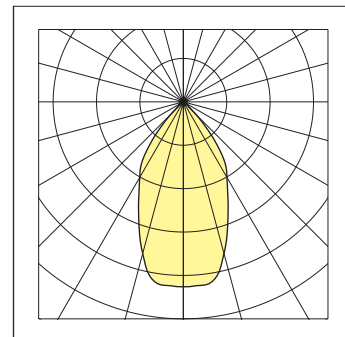
DALI (Digital control)

## POLAR DIAGRAMS

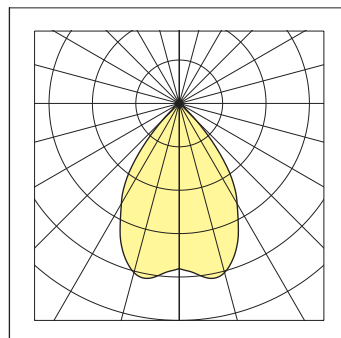
### 30° Medium narrow spot



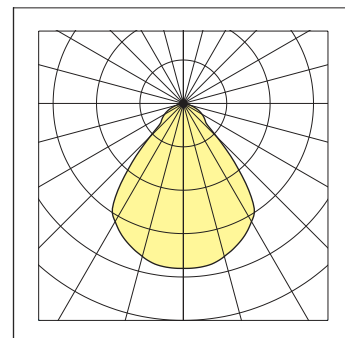
### 60° Medium flood



### 70° Medium wide flood



### 80° Medium wide flood



# NERI

Nebula Bollard

Version: RGBW

Screen: Transparent

Technical sheet

Rev.01 - 2022/09/07

## NEBULA BOLLARD - RGBW

Transparent flat glass - High Power LED

Lighting distribution	Screen	LOR	ULOR
15° Very narrow spot	Transparent	100%	0%
25° Narrow spot	Transparent	100%	0%
35° Medium narrow spot	Transparent	100%	0%

- LOR: optical efficiency appliance due to the physical shielding.  
- Single lens, silicone.

## LUMINOUS FLUX

		RGBW			
System*		LED module			
Colour	lm tot	λ (nm)	n LED	mA	W
Red	270 (R)	623	3	550	3.5
Green	210 (G)	517	3	550	4.5
Blu	75 (B)	455	3	550	4.5
White	390 (W)	warm	3	550	4.5

\* The energy values in the table refer to LED module.

- LED type: Cree XM-L Color.

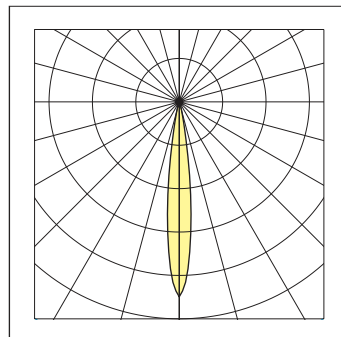
- Life time specification for gradual light output degradation (EN 62722-2-1, LM80 data) 91,000 h L90B10 (Tq=25°C).

## DRIVER FUNCTIONS

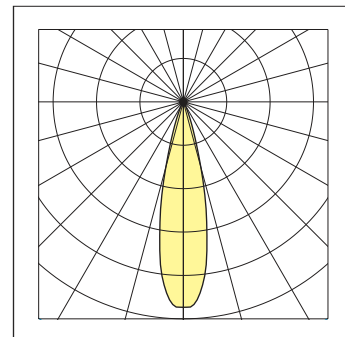
DMX

## POLAR DIAGRAMS

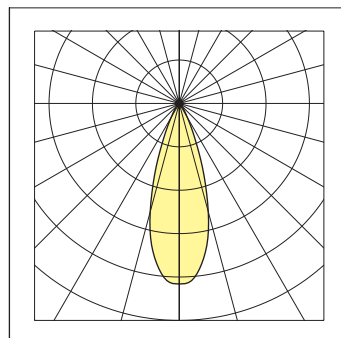
### 15° Very narrow spot



### 25° Narrow spot



### 35° Medium narrow spot



**NEBULA BOLLARD - A**

Prismatic flat glass - High Power LED

Lighting distribution	Screen	LOR	ULOR
Type II	Prismatic	100%	0%
Type V	Prismatic	100%	0%

- LOR: optical efficiency appliance due to the physical shielding.  
- Refractive lenses in PMMA.

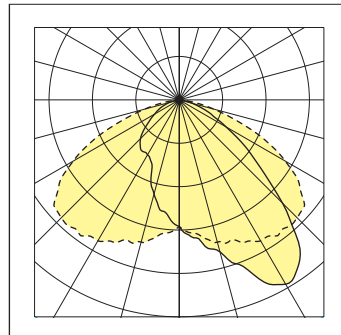
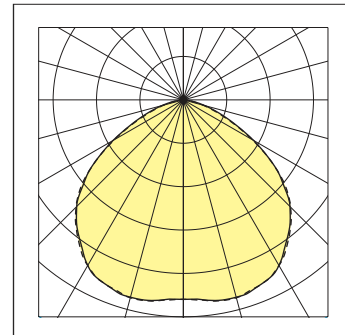
**LUMINOUS FLUX**

Colour Temperature			Amber		
System*			LED module		
Colour	lm tot	$\lambda$ (nm)	n LED	mA	W
Amber	180	598	6	700	11.0

\* The energy values in the table refer to LED module + driver.

- LED type: Cree XB-D.

- Life time specification for gradual light output degradation (EN 62722-2-1, LM80 data) 60,000 h L80B10 (Tq=25°C).

**DRIVER FUNCTIONS****1-10V** (Analogic control)**DALI** (Digital control)**POLAR DIAGRAMS****Type II****Type V**

# NERI

Nebula Bollard

Fixing: on ground

Luminaire head  
configuration form

## NEBULA BOLLARD

Nebula Bollard luminaire head consists of one source.

## NEBULA BOLLARD CONFIGURATION

### LUMINAIRE HEAD ONE

### LUMINAIRE HEAD CONFIGURATION # \_\_\_\_\_



#### ☐ NEBULA BOLLARD - ST

Optic system	CCT	Lumen output	Driver function	Screen shape
<input type="checkbox"/> Type I	<input type="checkbox"/> 2,700K	<input type="checkbox"/> 1,000 lm	<input type="checkbox"/> 1-10V	<input type="checkbox"/> Transparent flat glass
<input type="checkbox"/> Type II	<input type="checkbox"/> 3,000K		<input type="checkbox"/> DALI	
<input type="checkbox"/> Type IV	<input type="checkbox"/> 3,500K			
<input type="checkbox"/> Type V	<input type="checkbox"/> 4,000K			

#### ☐ NEBULA BOLLARD - PR

Optic system	CCT	Lumen output	Driver function	Screen shape
<input type="checkbox"/> 30° Medium narrow spot	<input type="checkbox"/> 2,700K	<input type="checkbox"/> 1,500 lm	<input type="checkbox"/> 1-10V	<input type="checkbox"/> Transparent flat glass
<input type="checkbox"/> 60° Medium flood	<input type="checkbox"/> 3,000K	<input type="checkbox"/> 2,500 lm	<input type="checkbox"/> DALI	
<input type="checkbox"/> 70° Medium wide flood	<input type="checkbox"/> 3,500K			
<input type="checkbox"/> 80° Medium wide flood	<input type="checkbox"/> 4,000K			

#### ☐ NEBULA BOLLARD - RGBW

Optic system	CCT	Lumen output	Driver function	Screen shape
<input type="checkbox"/> 15 ° Very narrow spot	<input type="checkbox"/> RGBW	270 lm (R)	<input type="checkbox"/> DMX	<input type="checkbox"/> Transparent flat glass
<input type="checkbox"/> 25° Narrow spot		210 lm (G)		
<input type="checkbox"/> 35° Medium narrow spot		75 lm (B)		
		390 lm (W)		

#### ☐ NEBULA BOLLARD - A

Optic system	CCT	Lumen output	Driver function	Screen shape
<input type="checkbox"/> Type II	<input type="checkbox"/> Amber	350 lm (A)	<input type="checkbox"/> 1-10V	<input type="checkbox"/> Prismatic flat glass
<input type="checkbox"/> Type V			<input type="checkbox"/> DALI	

#### ☐ NEBULA BOLLARD - GLARE SHIELD

- ☐ Glare shield 30°
- ☐ Glare shield 45°

#### ☐ NEBULA BOLLARD - REFRACTOR SCREEN

- ☐ Linear Diffusion

#### ☐ NEBULA BOLLARD - FINISH

Powder coating	Anodising
<input type="checkbox"/> Neri grey	<input type="checkbox"/> Silver anodising
<input type="checkbox"/> Pure white	<input type="checkbox"/> Gold anodising
<input type="checkbox"/> White aluminium	<input type="checkbox"/> Bronze anodising
<input type="checkbox"/> Grey aluminium	<input type="checkbox"/> Brown anodising
<input type="checkbox"/> Jet black	<input type="checkbox"/> Black anodising
<input type="checkbox"/> Moss green	

# NERI

Nebula Bollard

Fixing: on ground

Luminaire head  
configuration form

## NEBULA BOLLARD

Nebula Bollard luminaire head consists of two sources. Each source can be independently configured. The overview below lists available options.

## NEBULA BOLLARD CONFIGURATION

### LUMINAIRE HEAD ONE

#### LUMINAIRE HEAD CONFIGURATION # \_\_\_\_\_



1

#### ☐ NEBULA BOLLARD - ST

Optic system	CCT	Lumen output	Driver function	Screen shape
<input type="checkbox"/> Type I	<input type="checkbox"/> 2,700K	<input type="checkbox"/> 1,000 lm	<input type="checkbox"/> 1-10V	<input type="checkbox"/> Transparent flat glass
<input type="checkbox"/> Type II	<input type="checkbox"/> 3,000K		<input type="checkbox"/> DALI	
<input type="checkbox"/> Type IV	<input type="checkbox"/> 3,500K			
<input type="checkbox"/> Type V	<input type="checkbox"/> 4,000K			

#### ☐ NEBULA BOLLARD - PR

Optic system	CCT	Lumen output	Driver function	Screen shape
<input type="checkbox"/> 30° Medium narrow spot	<input type="checkbox"/> 2,700K	<input type="checkbox"/> 1,500 lm	<input type="checkbox"/> 1-10V	<input type="checkbox"/> Transparent flat glass
<input type="checkbox"/> 60° Medium flood	<input type="checkbox"/> 3,000K	<input type="checkbox"/> 2,500 lm	<input type="checkbox"/> DALI	
<input type="checkbox"/> 70° Medium wide flood	<input type="checkbox"/> 3,500K			
<input type="checkbox"/> 80° Medium wide flood	<input type="checkbox"/> 4,000K			

#### ☐ NEBULA BOLLARD - RGBW

Optic system	CCT	Lumen output	Driver function	Screen shape
<input type="checkbox"/> 15 ° Very narrow spot	<input type="checkbox"/> RGBW	270 lm (R)	<input type="checkbox"/> DMX	<input type="checkbox"/> Transparent flat glass
<input type="checkbox"/> 25° Narrow spot		210 lm (G)		
<input type="checkbox"/> 35° Medium narrow spot		75 lm (B)		
		390 lm (W)		

#### ☐ NEBULA BOLLARD - A

Optic system	CCT	Lumen output	Driver function	Screen shape
<input type="checkbox"/> Type II	<input type="checkbox"/> Amber	350 lm (A)	<input type="checkbox"/> 1-10V	<input type="checkbox"/> Prismatic flat glass
<input type="checkbox"/> Type V			<input type="checkbox"/> DALI	

#### ☐ NEBULA BOLLARD - GLARE SHIELD

☐ Glare shield 30°

☐ Glare shield 45°

#### ☐ NEBULA BOLLARD - REFRACTOR SCREEN

☐ Linear Diffusion

#### ☐ NEBULA BOLLARD - FINISH

Powder coating	Anodising
<input type="checkbox"/> Neri grey	<input type="checkbox"/> Silver anodising
<input type="checkbox"/> Pure white	<input type="checkbox"/> Gold anodising
<input type="checkbox"/> White aluminium	<input type="checkbox"/> Bronze anodising
<input type="checkbox"/> Grey aluminium	<input type="checkbox"/> Brown anodising
<input type="checkbox"/> Jet black	<input type="checkbox"/> Black anodising
<input type="checkbox"/> Moss green	

# NERI

Nebula Bollard

Fixing: on ground

Luminaire head  
configuration form

## NEBULA BOLLARD

Nebula Bollard luminaire head consists of two sources. Each source can be independently configured. The overview below lists available options.

## NEBULA BOLLARD CONFIGURATION

### LUMINAIRE HEAD TWO

### LUMINAIRE HEAD CONFIGURATION # \_\_\_\_\_



2

#### ☐ NEBULA BOLLARD - ST

Optic system	CCT	Lumen output	Driver function	Screen shape
<input type="checkbox"/> Type I	<input type="checkbox"/> 2,700K	<input type="checkbox"/> 1,000 lm	<input type="checkbox"/> 1-10V	<input type="checkbox"/> Transparent flat glass
<input type="checkbox"/> Type II	<input type="checkbox"/> 3,000K		<input type="checkbox"/> DALI	
<input type="checkbox"/> Type IV	<input type="checkbox"/> 3,500K			
<input type="checkbox"/> Type V	<input type="checkbox"/> 4,000K			

#### ☐ NEBULA BOLLARD - PR

Optic system	CCT	Lumen output	Driver function	Screen shape
<input type="checkbox"/> 30° Medium narrow spot	<input type="checkbox"/> 2,700K	<input type="checkbox"/> 1,500 lm	<input type="checkbox"/> 1-10V	<input type="checkbox"/> Transparent flat glass
<input type="checkbox"/> 60° Medium flood	<input type="checkbox"/> 3,000K	<input type="checkbox"/> 2,500 lm	<input type="checkbox"/> DALI	
<input type="checkbox"/> 70° Medium wide flood	<input type="checkbox"/> 3,500K			
<input type="checkbox"/> 80° Medium wide flood	<input type="checkbox"/> 4,000K			

#### ☐ NEBULA BOLLARD - RGBW

Optic system	CCT	Lumen output	Driver function	Screen shape
<input type="checkbox"/> 15 ° Very narrow spot	<input type="checkbox"/> RGBW	270 lm (R)	<input type="checkbox"/> DMX	<input type="checkbox"/> Transparent flat glass
<input type="checkbox"/> 25° Narrow spot		210 lm (G)		
<input type="checkbox"/> 35° Medium narrow spot		75 lm (B)		
		390 lm (W)		

#### ☐ NEBULA BOLLARD - A

Optic system	CCT	Lumen output	Driver function	Screen shape
<input type="checkbox"/> Type II	<input type="checkbox"/> Amber	350 lm (A)	<input type="checkbox"/> 1-10V	<input type="checkbox"/> Prismatic flat glass
<input type="checkbox"/> Type V			<input type="checkbox"/> DALI	

#### ☐ NEBULA BOLLARD - GLARE SHIELD

- ☐ Glare shield 30°
- ☐ Glare shield 45°

#### ☐ NEBULA BOLLARD - REFRACTOR SCREEN

- ☐ Linear Diffusion

#### ☐ NEBULA BOLLARD - FINISH

Powder coating	Anodising
<input type="checkbox"/> Neri grey	<input type="checkbox"/> Silver anodising
<input type="checkbox"/> Pure white	<input type="checkbox"/> Gold anodising
<input type="checkbox"/> White aluminium	<input type="checkbox"/> Bronze anodising
<input type="checkbox"/> Grey aluminium	<input type="checkbox"/> Brown anodising
<input type="checkbox"/> Jet black	<input type="checkbox"/> Black anodising
<input type="checkbox"/> Moss green	