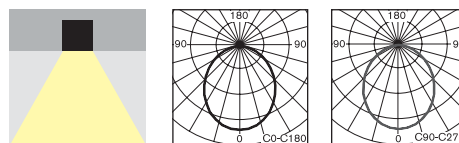


# ÖBB DESIRO ML / SIEMENS



- DESIROLUX-LED is customized lighting system designed for **SIEMENS-ÖBB DESIRO ML project**. It is modular lighting system designed for direct illumination
- Controlled by SIBAS Siemens Control Unit (Stepless Dimming and 4 levels of Emergency Lighting)
- Thanks to the variable lengths it is possible to create continuous lighting band along the entire vehicle length.
- The complete system includes also speakers.
- All fixtures are equipped by SEC LED modules based on OSRAM MidPower LongLife LEDs.
- Thanks to this both the maintenance and service costs are reduced.
- Easy and fast LED stripe replacement (<1min)

- DESIROLUX is zákaznícky svetelný systém navrhnutý pre SIEMENS-ÖBB DESIRO MLprojekt. Jedná sa o modulárny systém pre priame osvetlenie
- Napojené na centrálnu riadiacu jednotku SIEMENS SIBAS na plynulé riadenie stmievania a 4 úrovne núdzového osvetlenia
- Vďaka modulom rôznej dĺžky (vrátane reproduktorov a koncových dielov) je možné vytvoriť "inline" systém po celej dĺžke vagóna
- Svetidlá sú vybavené dlhoživotnými HighPower LED OSRAM, čím sa výrazne zredukovali náklady na údržbu a servisné zásahy
- Rýchla a jednoduchá výmena LED pásu (<1min)



## STANDARD ACCESSORIES

## STANDARDNÁ VÝBAVA

- MidPower 3000K/4000K LEDs OSRAM DURIS P5 type serie
- LED Binning < 3 MacAdam Steps
- SEC LED electronic ballast with Dimming Function
- Central Control
- Service friendly LED modules locking system (screwless)
- AL sheet base painted in RAL9003
- Diffuser made of semi-opal milky colour PC complying and EN45545 and DIN5510 S4/SR2/ST2
- Halogen-free "INLINE" wiring
- WAGO I/O connectors

- MidPower LED OSRAM DURIS P5 3000K/4000K
- LED Binning < 3 MacAdam Steps
- SEC LED stmievateľný elektronický predradník
- Central Control
- bez-skrutkové uchytenie LED modulov, výmena <1min
- základňa svetidla vyrobená z AL, lakovaná v RAL9003
- difúzor svetidla vyrobený z poloopáľového PC spĺňajúci EN45545 a DIN5510 S4/SR2/ST2
- Halogénovo bezpečné vodiče, priebežná kabeláž
- WAGO I/O konektory

## OPTIONS

## PRÍPLATKY

- Alternative colour surface treatment
- Alternative customised dimensions
- Alternative LED light colour
- Central diagnostics and communication (refer also to pages No.47-51)

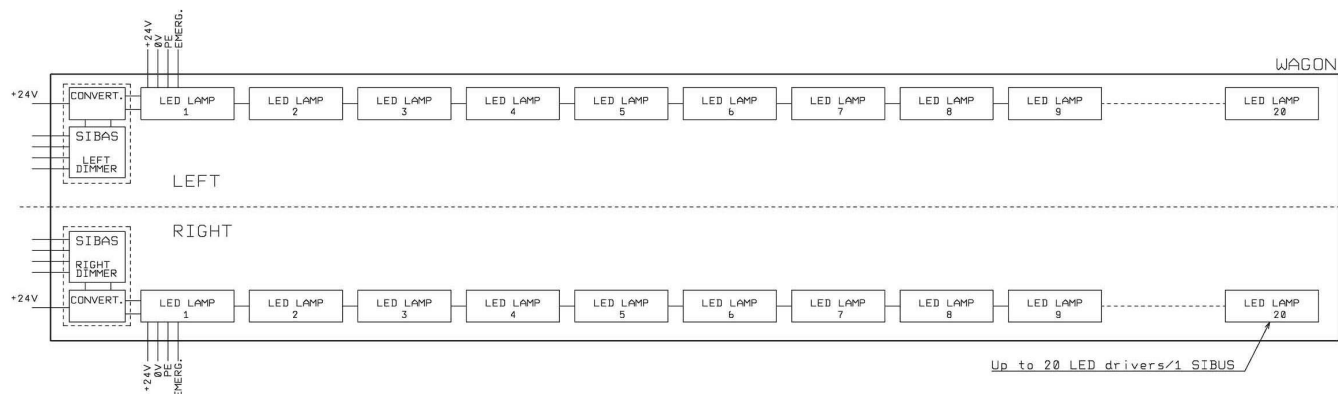
- Alternatívna farba svetla pre LED
- Alternatívna farba povrchu
- Alternatívne rozmery modulov
- Centrálna diagnostika a komunikácia (pozri aj str.47-51)

## DESIROLUX-LED (291-B)

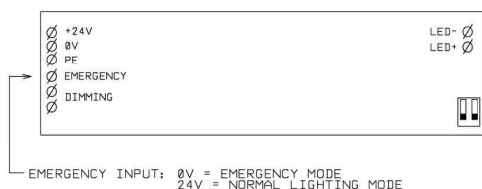
Type / Typ	LENGTH mm	Power Supply	Light Source	Dimming	AutoTest	CentralControl
DESIROLUX 126xLED + Speaker	2380 mm	DC 110V	126xLED 3000K / 4000K	YES	OPTION	YES
DESIROLUX 70xLED + Speaker	1364 mm	DC 110V	70xLED 3000K / 4000K	YES	OPTION	YES
DESIROLUX 63xLED + Speaker	1324,6 mm	DC 110V	63xLED 4000K	YES	OPTION	YES
DESIROLUX 77xLED	1348 mm	DC 110V	77xLED 3000K	YES	OPTION	YES
DESIROLUX 56xLED	1006 mm	DC 110V	56xLED 3000K / 4000K	YES	OPTION	YES
DESIROLUX 49xLED	917 mm	DC 110V	49xLED 3000K	YES	OPTION	YES
DESIROLUX 35xLED	650 mm	DC 110V	35xLED 3000K	YES	OPTION	YES
DESIROLUX-LED - CUSTOMISED	CUSTOMISED	CUSTOMISED	CUSTOMISED	OPTION	OPTION	OPTION

**ÖBB DESIRO ML / SIEMENS**

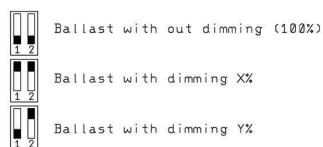
Electrical diagram for Stepless dimmable LED lighting fixtures controlled by 1-10V control signal and EMERGENCY control input signal  
 Schéma zapojenia plynule stmievateľného svetelného systému riadeného signálom 1-10V a EMERGENCY vstupným signálom



## LED DRIVER DETAIL:



## DIP SWITCH DETAIL FOR EMERGENCY MODE:



CONVERT. SIGNAL CONVERTER 0-20mA/SEC STANDARD FOR DIMMING

X%= customised emergency lighting output level set-up in order to achieve eg 5lux on the floor  
 Y%= customised emergency lighting output level set-up in order to achieve eg 40lux in threshold door area

X%= nastavenie výkonu tak, aby sa dosiahlo napr. 5lx na podlahe  
 Y%= nastavenie výkonu tak, aby sa dosiahlo napr. 40lx v priestore dveri



**SIEMENS**

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**SIEMENS**



A photograph of a train carriage interior. The focus is on a row of red upholstered seats. Above the seats, a Siemens LED recessed luminaire is visible, emitting a bright light. The ceiling is white with a grid pattern. In the background, a person is walking away from the camera, and a digital display board is visible. The overall atmosphere is clean and modern.

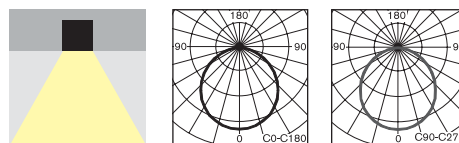
SIEMENS

LED Recessed Luminaires for direct lighting

**ÖBB DESIRO - SIEMENS**



## AM08 DESIRO ML / SIEMENS



- DESIROLUX is customized lighting system designed for **SIEMENS-DESIRO ML project (Belgium Railways)**. It is modular lighting system designed for direct illumination.
- Thanks to the variable lengths it is possible to create continuous lighting band along the entire vehicle length.
- The complete system includes the speakers and blind pieces.
- All fixtures are equipped by **LONG LIFE PHILIPS XTRA FLUORESCENT TUBES** in order reduce the maintenance costs (50.000h Lifetime).
- DESIROLUX is zákaznický svetelný systém navrhnutý pre SIEMENS-DESIRO ML projekt (Belgické dráhy, projekt AM08). Jedná sa o modulárny systém pre priame osvetlenie
- Vďaka modulom rôznej dĺžky (vrátane reproduktorov a koncových dielov) je možné vytvoriť inline systém po celej dĺžke vagóna
- Svetidlá sú vybavené dlhoživotnými žiarivkami PHILIPS Xtra, čím sa výrazne zredukovali náklady na servisné zásahy (50000h životnosť)



### STANDARD ACCESSORIES

### STANDARDNÁ VÝBAVA

- AL sheet base finished in white polyester powder coat RAL9003
- Diffuser is made of PC (complying DIN5510 S4/SR2/ST2)
- Halogen-free "INLINE" wiring
- WAGO I/O connectors

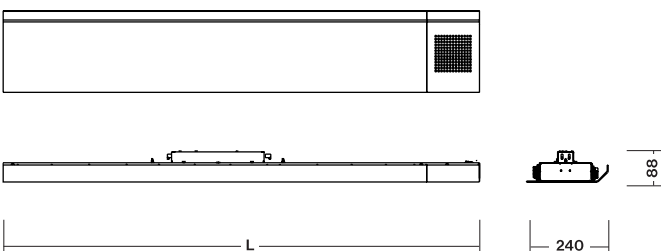
- Hliníkový reflektor lakovaný v RAL9003
- PC difúzor svetidla (splňajúci DIN5510 S4/SR2/ST2)
- Halogénovo bezpečné vodiče, priebežná kabeláž
- WAGO I/O konektory

### OPTIONS

### PRÍPLATKY

- Alternative colour surface treatment
- Alternative customised dimensions
- Dimming function 30%-100% (refer also to pages No.47-51)
- Central diagnostics and communication (refer also to pages No.47-51)

- Alternatívna farba povrchu
- Alternatívne rozmery modulov
- Stmievanie 30%-100% (pozri aj str.47-51)
- Centrálna diagnostika a komunikácia (pozri aj str.47-51)



## DESIROLUX (194-B)

Type / Typ	LENGTH mm	Power Supply	Light Source	Dimming	AutoTest	CentralControl
DESIROLUX 36W + Speaker	1374 mm	DC 24V, 110V	T8 36W LongLife	OPTION	OPTION	OPTION
DESIROLUX 36W + 2xSpeakers	1400 mm	DC 24V, 110V	T8 36W LongLife	OPTION	OPTION	OPTION
DESIROLUX 36W-1m + Speaker	1148 mm	DC 24V, 110V	T8 36W-1m LongLife	OPTION	OPTION	OPTION
DESIROLUX 36W	1235 mm	DC 24V, 110V	T8 36W LongLife	OPTION	OPTION	OPTION
DESIROLUX 36W-1m	1006 mm	DC 24V, 110V	T8 36W-1m LongLife	OPTION	OPTION	OPTION
DESIROLUX- CUSTOMISED	CUSTOMISED	CUSTOMISED	CUSTOMISED	OPTION	OPTION	OPTION



**SIEMENS**





**SIEMENS**



Recessed Luminaires for direct lighting

## **AM08 DESIRO ML / SIEMENS**



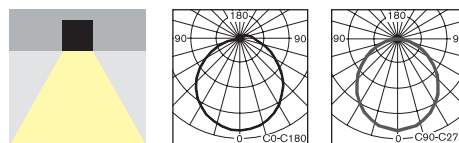


**TALENT2 / BOMBARDIER**

LIGHTING FIXTURE



AIR VENTILATION GRID MADE OF EXTRUDED AL PROFILE



- TALENTLUX is customized lighting system designed for **BOMBARDIER-TALENT2 platform project (DB + Private Operators)**. It is modular lighting system designed for direct illumination.
- Thanks to the variable lengths it is possible to create continuous lighting band along the entire vehicle length.
- The complete system includes the speakers and blind pieces.
- SEC scope of supply includes also AL Air Ventilation Grid

- TALENTLUX is zákaznický svetelný systém navrhnutý pre BOMBARDIER-TALENT2 platformu (DB + súkromní operátori). Jedná sa o modulárny systém pre priame osvetlenie
- vďaka modulom rôznej dĺžky (vrátane reproduktorov a koncových dielov) je možné vytvoriť inline systém po celej dĺžke vagóna
- SEC dodáva aj AL profil, ktorý je súčasťou stropu a slúži na krytie ventilácie

**STANDARD ACCESSORIES****ŠTANDARDNÁ VÝBAVA**

- AL sheet base finished in white polyester powder coat RAL9003
- Diffuser is made of PC (complying EN45545 and DIN5510 S4/SR2/ST2 )
- Halogen-free "INLINE" wiring
- WAGO I/O connectors
- Air Ventilation Grid made of anodised AL profile

- Hliníkový reflektor lakovaný v RAL9003
- PC difúzor svetidla (splňajúci EN45545 a DIN5510 S4/SR2/ST2)
- Halogénovo bezpečné vodiče, priebežná kabeláž
- WAGO I/O konektory
- kryt ventilácie vyrobený z eloxovaného AL profilu

**OPTIONS****PRÍPLATKY**

- Alternative colour surface treatment
- Alternative customised dimensions
- Alternative LED light source
- Dimming function 30%-100% (refer also to pages No.47-51)
- Central diagnostics and communication (refer also to pages No.47-51)

- Alternatívna farba povrchu
- Alternatívne rozmery modulov
- LED ako alternatívny svetelný zdroj
- Stmievanie 30%-100% (pozri aj str.47-51)
- Centrálna diagnostika a komunikácia (pozri aj str.47-51)



110V

T8

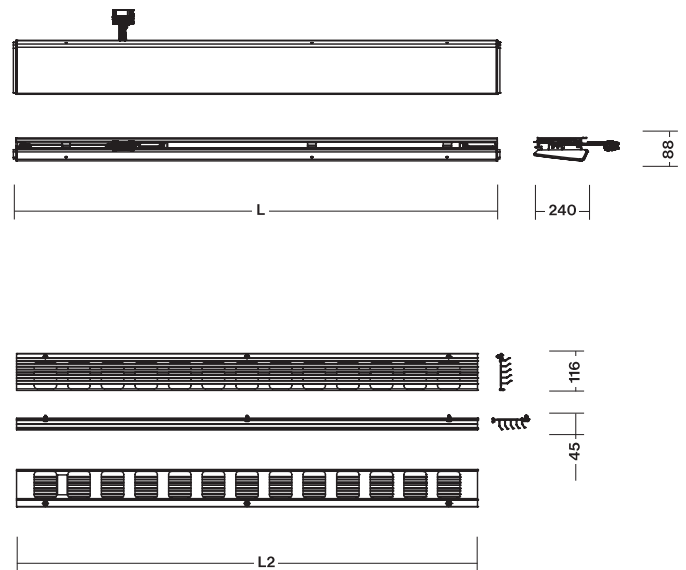
**LIGHTING MODULE (287-B)**

Type / Typ	LENGTH L mm	Power Supply	Light Source	Dimming	AutoTest	CentralControl
LIGHTING UNIT 1730dx/sx	1730 mm	DC 110V	T8 36W	OPTION	YES	OPTION
LIGHTING UNIT 2430dx/sx	2430 mm	DC 110V	T8 36W+18W	OPTION	YES	OPTION
LIGHTING UNIT 2530dx/sx	2530 mm	DC 110V	T8 36W+18W	OPTION	YES	OPTION
LIGHTING UNIT 1440-1/-2	1440 mm	DC 110V	T8 30W	OPTION	YES	OPTION
LIGHTING UNIT 2720-1	2720 mm	DC 110V	T8 36W+30W	OPTION	YES	OPTION

**AL AIR GRID (287-B)**

Type / Typ	LENGTH L2 mm	Power Supply	Light Source	Dimming	AutoTest	CentralControl
AIR GRID 1730	1730 mm	-	-	-	-	-
AIR GRID 2430	2430 mm	-	-	-	-	-
AIR GRID 2530	2530 mm	-	-	-	-	-
AIR GRID 2720	2720 mm	-	-	-	-	-

## DB TALENT2 / BOMBARDIER



DB Talent2 Train



**BOMBARDIER**





SEC Luminaires for direct illumination

**TALENT2 - BOMBARDIER**

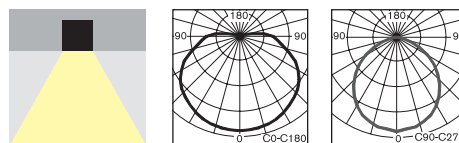




**BOMBARDIER**



## 7Ev / ŠKODA Transportation



- The semi-recessed VEKTOR modular lighting system has been designed for powerful direct illumination. It provides both soft and comfortable light.
- Thanks to the variable lengths it is possible to create continuous lighting band along the entire vehicle length.  
The lighting system includes the speakers.
- Electronic ballast meets the latest EN50311 requirements

- VEKTOR je modulárny polozapustený systém pre priame osvetlenie
- Vďaka modulom rôznej dĺžky (vrátane reproduktorov a koncových dielov) je možné vytvoriť inline systém po celej dĺžke vagóna
- Elektronické predradníky spĺňajú EN50311

### STANDARD ACCESSORIES

### ŠTANDARDNÁ VÝBAVA

- AL sheet base finished in white polyester powder coat RAL9003
- Diffuser is made of PC (complying EN45545 and DIN5510 S4/SR2/ST2)
- Halogen-free wiring RADOX GWK (H+S)
- WAGO input terminal block

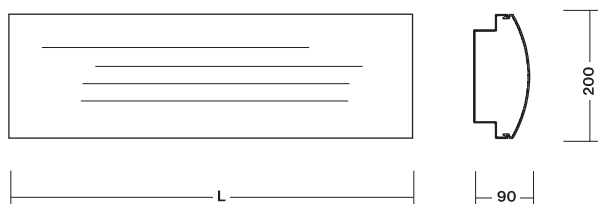
- Hliníkový reflektor lakovaný v RAL9003
- PC difúzor svetidla (splňajúci EN45545 a DIN5510 S4/SR2/ST2)
- Halogénovo bezpečné vodiče RADOX (H+S)
- WAGO prípojná svorka

### OPTIONS

### PRÍPLATKY

- Alternative LED light source
- Alternative colour surface treatment
- Alternative customised dimensions
- Dimming function 30%-100% (refer also to pages No.47-51)
- Central diagnostics and communication (refer also to pages No.47-51)
- "INLINE" wiring
- WAGO I/O connectors

- LED ako alternatívny svetelný zdroj
- Alternatívna farba povrchu
- Alternatívne rozmery modulov
- Stmievanie 30%-100% (pozri aj str.47-51)
- Centrálna diagnostika a komunikácia (pozri aj str.47-51)
- Priebežná kabeláž
- WAGO I/O konektory



## VEKTOR (108-B)

Type / Typ	LENGTH mm	Power Supply	Light Source	Dimming	AutoTest	CentralControl
VEKTOR 36W	1698 mm	DC 24V, 110V	T8 36W	YES	YES	OPTION
VEKTOR 36W + Speaker	1698 mm	DC 24V, 110V	T8 36W	YES	YES	OPTION
VEKTOR 36W + 18W	2448 mm	DC 24V, 110V	T8 36W + T8 18W	YES	YES	OPTION
VEKTOR 36W + 18W + Speaker	2448 mm	DC 24V, 110V	T8 36W + T8 18W	YES	YES	OPTION
VEKTOR 36W + 18W	2048 mm	DC 24V, 110V	T8 36W + T8 18W	YES	YES	OPTION
VEKTOR 18W	962 mm	DC 24V, 110V	T8 18W	YES	YES	OPTION
VEKTOR CUSTOMISED	CUSTOMISED	CUSTOMISED	CUSTOMISED	OPTION	OPTION	OPTION







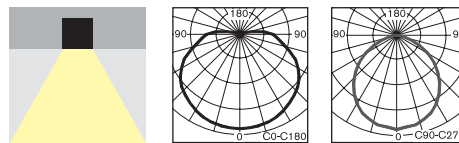








# INSPIRO-LED



- INSPIRO modular LED lighting system has been designed for powerful direct illumination with recessed mounting installation into a ceiling. It provides all energy saving, soft and comfortable LED illumination. Thanks to the combination of both LEDs layout and the special PC diffuser the high lighting uniformity on the cover is achieved - without any neither dark areas nor visible LED SPOTS.
- Thanks to the variable lengths it is possible to create continuous lighting band along the entire vehicle length. The lighting system can include also the speakers.
- The length of the individual modules can be manufactured according to customer specification
- INSPIRO je modulárny LED svetelný systém určený pre priame osvetlenie so zapustenou montážou do stropu. Poskytuje úsporné a komfortné LED osvetlenie. Vďaka kombinácii rozmiestnenia LED modulov a špeciálneho PC difúzora je dosahovaná vysoká rovnomernosť osvetlenia krytu bez tmavých miest a LED bodových efektov
- Vďaka modulom rôznej dĺžky (vrátane reproduktorov a koncových dielov) je možné vytvoriť "inline" systém po celej dĺžke vagóna
- Dĺžky jednotlivých modulov vieme navrhnuť a vyrobiť podľa špecifikácie odberateľa



## STANDARD ACCESSORIES

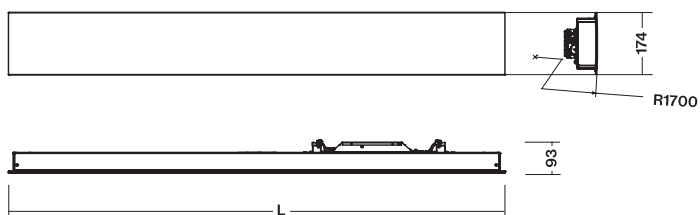
## ŠTANDARDNÁ VÝBAVA

- MidPower 3000K/4000K LEDs OSRAM DURIS S5 type serie with the efficiency up to 200lm/W
- LED Binning < 3 MacAdam Steps
- AL sheet base finished in white polyester powder coat RAL9003
- Diffuser is made of PC (complying EN45545)
- Halogen-free wiring RADOX GWK (H+S)
- WAGO input terminal block
- MidPower LED OSRAM DURIS S5 3000K/4000K s účinnosťou až do 200lm/W
- LED Binning < 3 MacAdam Steps
- Hliníkový reflektor lakovaný v RAL9003
- PC difúzor svietidla (splňajúci EN45545)
- Halogénovo bezpečné vodiče RADOX (H+S)
- WAGO prípojná svorka

## OPTIONS

## PRÍPLATKY

- Alternative customised dimensions
- Dimming function 10%-100% (refer also to pages No.47-51)
- Central diagnostics and communication (refer also to pages No.47-51)
- "INLINE" wiring
- WAGO I/O connectors
- Speakers
- Alternatívne rozmery modulov podľa špecifikácie odberateľa
- Stmievanie 10%-100% (pozri aj str.47-51)
- Centrálna diagnostika a komunikácia (pozri aj str.47-51)
- Priebežná kabeláž
- WAGO I/O konektory
- Zabudované reproduktory



## INSPIRO LED

Type / Typ	LENGTH mm	Power Supply	Light Source	Dimming	AutoTest	CentralControl
INSPIRO LED	CUSTOMISED	DC 24V, 72V, 110V	OSRAM LED	OPTION	OPTION	OPTION
INSPIRO LED + Speaker	CUSTOMISED	DC 24V, 72V, 110V	OSRAM LED	OPTION	OPTION	OPTION
INSPIRO CUSTOMISED	CUSTOMISED	CUSTOMISED	CUSTOMISED	OPTION	OPTION	OPTION





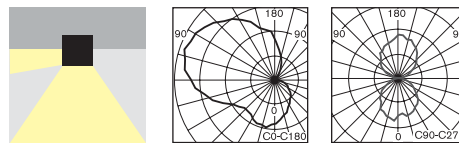
INSPIRO Lighting system is equipped with the high efficient LEDs (up to 200lm/W)

INSPIRO Lighting system application example





## EMU Coradia Continnetal XCC EMS / ALSTOM



- Modular side edge ceiling lighting system with combination of both direct and indirect illumination. It provides both soft and comfortable light.
- Thanks to the variable lengths it is possible to create continuous lighting band along the entire vehicle length.
- Electronic ballast meets the latest EN50311 requirements

- Modulárny stropný líniový svetelný systém s kombináciou priameho a nepriameho osvetlenia. Poskytuje príjemné a komfortné osvetlenie.
- Vďaka modulom rôznej dĺžky (vrátane koncových dielov) je možné vytvoriť líniový systém po celej dĺžke vagóna
- Elektronické predradníky spĺňajú EN50311

### STANDARD ACCESSORIES

### ŠTANDARDNÁ VÝBAVA

- AL sheet base finished in white polyester powder coat RAL9003
- Diffuser is made of PC (complying fire+smoke standard EN45545)
- Halogen-free wiring RADOX GKW (H+S)
- WAGO input terminal block
- MidPower 3000K/4000K LEDs 160lm/W OSRAM DURIS S5 type serie
- LED Binning < 3 MacAdam Steps

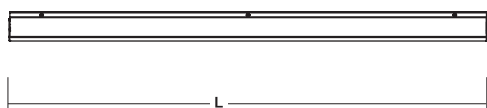
- Hliníkový reflektor lakovaný v RAL9003
- PC difúzor svetidla (splňajúci EN45545)
- Halogénovo bezpečné vodiče RADOX (H+S)
- WAGO pripojná svorka
- MidPower LED 160lm/W OSRAM DURIS S5 3000K/4000K
- LED Binning < 3 MacAdam Steps

### OPTIONS

### PRÍPLATKY

- Alternative colour surface treatment
- Alternative customised dimensions
- Dimming function 10%-100% (refer also to pages No.47-51)
- Central diagnostics and communication (refer also to pages No.47-51)
- "INLINE" wiring
- WAGO I/O connectors

- Alternatívna farba povrchu
- Alternatívne rozmery modulov
- Strmievanie 10%-100% (pozri aj str.47-51)
- Centrálna diagnostika a komunikácia (pozri aj str.47-51)
- Prieběžná kabeláž
- WAGO I/O konektory



XCC (302-B)						
Type / Typ	LENGTH mm	Power Supply	Light Source	Dimming	AutoTest	CentralControl
XCC LED	1440 mm	DC 24V, 110V	LED 3000K 160lm/W	YES	OPTION	OPTION
XCC LED	1619 mm	DC 24V, 110V	LED 3000K 160lm/W	YES	OPTION	OPTION
XCC 28W/T5	1440 mm	DC 24V, 110V	28W T5	YES	YES	OPTION
XCC 35W/T5	1619 mm	DC 24V, 110V	35W T5	YES	YES	OPTION
XCC CUSTOMISED	CUSTOMISED	CUSTOMISED	CUSTOMISED	OPTION	OPTION	OPTION



## EMU Coradia Continnetal XCC EMS / ALSTOM

ALSTOM XCC Train



**ALSTOM**





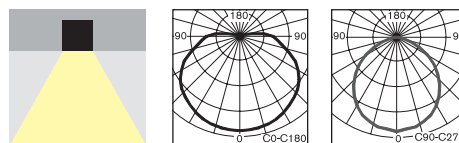




SEC direct & indirect lighting

**EMU CORADIA CONTINENTAL XCC - ALSTOM**



**DM861 / ŽOS Vrútky**

- The semi-recessed DMU-LUX modular lighting system has been designed for direct illumination of the interior of DMU861 project. It provides a soft and comfortable light.
- Thanks to the variable lengths it is possible to create continuous lighting band along the entire vehicle length.  
There are also speaker integrated in the lighting modules.
- Emergency lighting mode is ensured by SETTING function (dimming 50%).
- Electronic ballast meets the latest EN50311 requirements

- DMU-LUX je modulárny polozapustený systém pre priame osvetlenie
- Vďaka modulom rôznej dĺžky (vrátane reproduktorov a koncových dielov) je možné vytvoriť inline systém po celej dĺžke vagóna. Svetidlá obsahujú stmievateľné elektronické predradníky (splňajú EN50311) pre núdzové alebo tlmené osvetlenie (50% výkonu - Setting funkcia).

**STANDARD ACCESSORIES****STANDARDNÁ VÝBAVA**

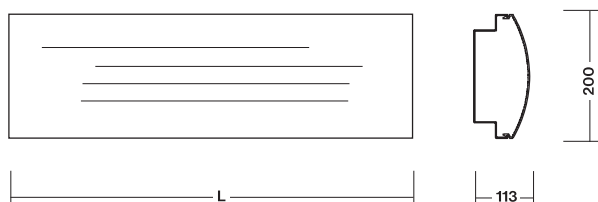
- AL sheet base finished in white polyester powder coat RAL9003
- Diffuser is made of PC (complying DIN5510 S4/SR2/ST2)
- Halogen-free wiring RADOX GWK (H+S)
- WAGO input terminal block
- Dimming function SETTING 50%/100% (refer also to pages No.47-51)

- Hliníkový reflektor lakovaný v RAL9003
- PC difúzor svetidla (splňajúci DIN5510 S4/SR2/ST2)
- Halogénovo bezpečné vodiče RADOX (H+S)
- WAGO prípojná svorka
- Stmievanie SETTING 50%/100% (pozri aj str.47-51)

**OPTIONS****PRÍPLATKY**

- Alternative LED light source
- Alternative colour surface treatment
- Alternative customised dimensions
- Central diagnostics and communication (refer also to pages No.47-51)
- "INLINE" wiring
- WAGO I/O connectors

- LED ako alternatívny svetelný zdroj
- Alternatívna farba povrchu
- Alternatívne rozmery modulov
- Centrálna diagnostika a komunikácia (pozri aj str.47-51)
- Pribežná kabeláž
- WAGO I/O konektory

**DMULUX (251-B)**

Type / Typ	LENGTH mm	Power Supply	Light Source	Dimming	AutoTest	CentralControl
DMULUX 2x18W Setting 50%	1696 mm	DC 24V, 110V	T8 2x18W	YES	YES	OPTION
DMULUX 2x18W Setting 50%+Speaker	1696 mm	DC 24V, 110V	T8 2x18W	YES	YES	OPTION
DMULUX 2x18W Setting 50%	1728 mm	DC 24V, 110V	T8 2x18W	YES	YES	OPTION
DMULUX 2x18W Setting 50%+Speaker	1728 mm	DC 24V, 110V	T8 2x18W	YES	YES	OPTION
DMULUX 2x18W Setting 50%	2130 mm	DC 24V, 110V	T8 2x18W	YES	YES	OPTION
DMULUX 2x18W Setting 50%+Speaker	2130 mm	DC 24V, 110V	T8 2x18W	YES	YES	OPTION
DMULUX CUSTOMISED	CUSTOMISED	CUSTOMISED	CUSTOMISED	OPTION	OPTION	OPTION









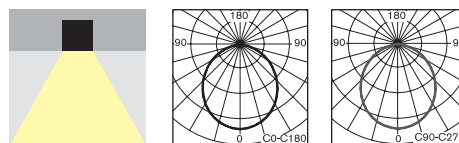
**ŽOS VRÚTKY**







## r.671 / ŠKODA Vagónka



- The FONTALUX recessed lighting fixtures family has been designed for modular (same design, variable sizes are possible) direct illumination for ŠKODA Vagonka double decker trains.
- It provides a highly efficient soft and comfortable illumination. Emergency lighting mode is ensured by SETTING function (dimming 50%).

- Svetidlá FONTALUX sú určené pre zapustenú montáž do stropu.
- Sú vyrábané vo viacerých rozmeroch s PC opálovým krytom.
- Sú určené ako individuálne svetidlá pre osvetlenie interiéru dvojposchodových súprav ŠKODA Vagónka
- Svetidlá obsahujú stmievateľné elektronické predradníky pre núdzové alebo tlmené osvetlenie (50% výkonu - Setting funkcia).

### STANDARD ACCESSORIES

### STANDARDNÁ VÝBAVA

- Metal sheet base finished in white polyester powder coat RAL9003
- Diffuser is made of PC (complying DIN5510 S4/SR2/ST2)
- Halogen-free wiring RADOX GWK (H+S)
- WAGO input terminal block
- Dimming SETTING function 30%-100% (refer also to pages No.47-51)

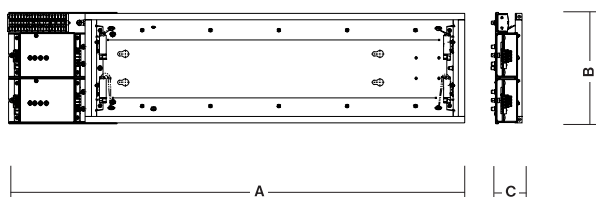
- Teleso z lakovaného plechu v RAL9003
- PC difúzor svetidla (splňajúci DIN5510 S4/SR2/ST2)
- Halogénovo bezpečné vodiče RADOX (H+S)
- WAGO prípojná svorka
- Stmievanie SETTING 30%-100% (pozri aj str.47-51)

### OPTIONS

### PRÍPLATKY

- Alternative LED light source
- Alternative colour surface treatment
- Alternative customised dimensions
- Central diagnostics and communication (refer also to pages No.47-51)
- "INLINE" wiring
- WAGO I/O connectors

- LED ako alternatívny svetelný zdroj
- Alternatívna farba povrchu
- Alternatívne rozmery modulov
- Centrálna diagnostika a komunikácia (pozri aj str.47-51)
- Prieběžná kabeláž
- WAGO I/O konektory



## FONTALUX (192-B)

Type / Typ	Dimensions mm	Power Supply	Light Source	Dimming	AutoTest	CentralControl
FONTALUX 18W Setting	730 x 140 x 70 mm	DC 24V, 110V	T8 2x18W	YES	YES	OPTION
FONTALUX 2X18W Setting	800 x 192 x 54 mm	DC 24V, 110V	T8 2x18W	YES	YES	OPTION
FONTALUX CUSTOMISED	CUSTOMISED	CUSTOMISED	CUSTOMISED	OPTION	OPTION	OPTION





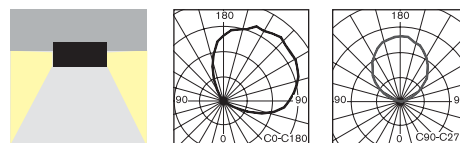






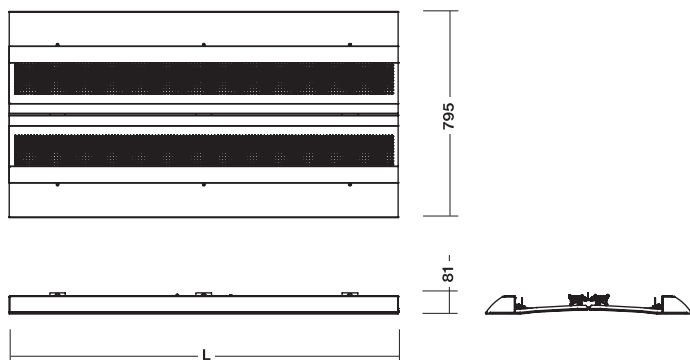




**ČD / Bhmpz**

- SEC offers you the possibility to design and manufacture complex customised ceiling parts including all direct lighting, indirect lighting and speakers (please refer also to page No.36)
- Bhmpz project is the example of the complex "PLUG&PLAY" solution which saves a lot of installation time and costs on a train manufacturer side
- it minimise the effort during the installation on a train because the whole product is delivered from SEC as a premounted kit which ensures that parts perfectly fit together
- Thanks to the variable lengths it is possible to create continuous lighting band along the entire vehicle length.
- The lighting system includes also the speakers

- SEC vám prináša možnosť návrhu, výroby a dodávky komplexného stropného "panelu" s integrovaným osvetlením a reproduktormi (pozri aj str.36)
- Projekt BHMPZ je príklad komplexného "PLUG&PLAY" riešenia, ktoré prináša významné úspory času a nákladov na strane výrobcu koľajového vozidla
- Toto riešenie minimalizuje požiadavky na montážnych pracovníkov výrobcu vozidla, nakoľko je celý diel dodaný zo SEC ako kompletná zostava, čo zaručuje, že všetky komponenty a diely perfektne zapadajú do seba
- Koncept osvetlenia je založený na kombinácii centrálného tunelu a dvoch postranných pásov svetidiel, vďaka čomu sme dosiahli rovnomerné a príjemné osvetlenie interiéru
- Vďaka modulom rôznej dĺžky je možné vytvoriť inline systém po celej dĺžke vagóna

**STANDARD ACCESSORIES****ŠTANDARDNÁ VÝBAVA**

- AL sheet base ceiling panels
- Indirect of direct lighting included
- Diffuser is made of PC (complying with fire+smoke EN45545)
- Halogen-free wiring RADOX GKW
- WAGO terminal block

- Teleso z lakovaného AL plechu
- Integrované priame alebo nepriame osvetlenie
- PC difúzor svetidla (spĺňajúci DIN5510 S4/SR2/ST2)
- Halogénovo bezpečné vodiče RADOX (H+S)
- WAGO prípojná svorka

**OPTIONS****PRÍPLATKY**

- Alternative LED light source
- Alternative colour surface treatment
- Alternative customised dimensions
- Central diagnostics and communication (refer also to pages No.47-51)
- "INLINE" wiring
- WAGO I/O connectors
- Speakers
- Dimming function (refer also to pages No.47-51)

- LED ako alternatívny svetelný zdroj
- Alternatívna farba povrchu
- Alternatívne rozmery modulov
- Centrálna diagnostika a komunikácia (pozri aj str.47-51)
- Priebežná kabeláž
- WAGO I/O konektory
- Stmievanie (pozri aj str.47-51)

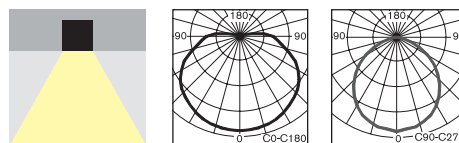
**CEILING & LIGHTING (307-B)**

Type / Typ	Length mm	Power Supply	Light Source	Dimming	AutoTest	CentralControl
MODULE 2x28WT5 or LED /24VDC	1200 mm	DC 24V	T5 2x28W or LED	OPTION	YES	OPTION
MODULE 2x35WT5 or LED /24VDC	1500mm	DC 24V	T5 2x35W or LED	OPTION	YES	OPTION
CUSTOMISED MODULE	CUSTOMISED	CUSTOMISED	CUSTOMISED	OPTION	OPTION	OPTION







**r.961 / PARS Nova**

- The semi-recessed VEKTOR modular lighting system has been designed for direct illumination of the interior of r.961 PARS Nova project. It provides a soft and comfortable light.
- Thanks to the variable lengths it is possible to create continuous lighting band along the entire vehicle length.  
There are also speaker integrated in the lighting modules.  
Emergency lighting mode is ensured by SETTING function (dimming 50%).
- Electronic ballast meets the latest EN50311 requirements

- VEKTOR je modulárny polozapustený systém pre priame osvetlenie
- Vďaka modulom rôznej dĺžky (vrátane reproduktorov a koncových dielov) je možné vytvoriť inline systém po celej dĺžke vagóna. Svietidlá obsahujú stmievateľné elektronické predradníky (splňajú EN50311) pre núdzové alebo tlmené osvetlenie (50% výkonu - Setting funkcia).

**STANDARD ACCESSORIES****STANDARDNÁ VÝBAVA**

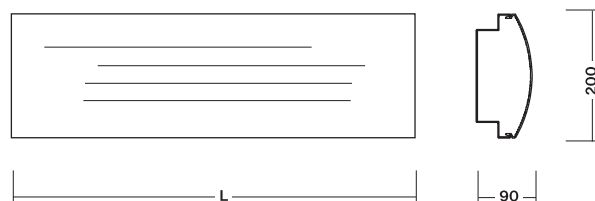
- AL sheet base finished in white polyester powder coat RAL9003
- Diffuser is made of PC (complying DIN5510 S4/SR2/ST2)
- Halogen-free wiring RADOX GWK (H+S)
- WAGO input terminal block
- Dimming SETTING function 50%/100% (refer also to pages No.47-51)

- Hliníkový reflektor lakovaný v RAL9003
- PC difúzor svietidla (splňajúci DIN5510 S4/SR2/ST2)
- Halogénovo bezpečné vodiče RADOX (H+S)
- WAGO prípojná svorka
- Stmievanie SETTING 50%/100% (pozri aj str.47-51)

**OPTIONS****PRÍPLATKY**

- Alternative LED light source
- Alternative colour surface treatment
- Alternative customised dimensions
- Central diagnostics and communication (refer also to pages No.47-51)
- "INLINE" wiring
- WAGO I/O connectors

- LED ako alternatívny svetelný zdroj
- Alternatívna farba povrchu
- Alternatívne rozmery modulov
- Centrálna diagnostika a komunikácia (pozri aj str.47-51)
- Prieběžná kabeláž
- WAGO I/O konektory

**VEKTOR (108-B)**

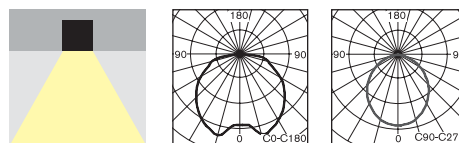
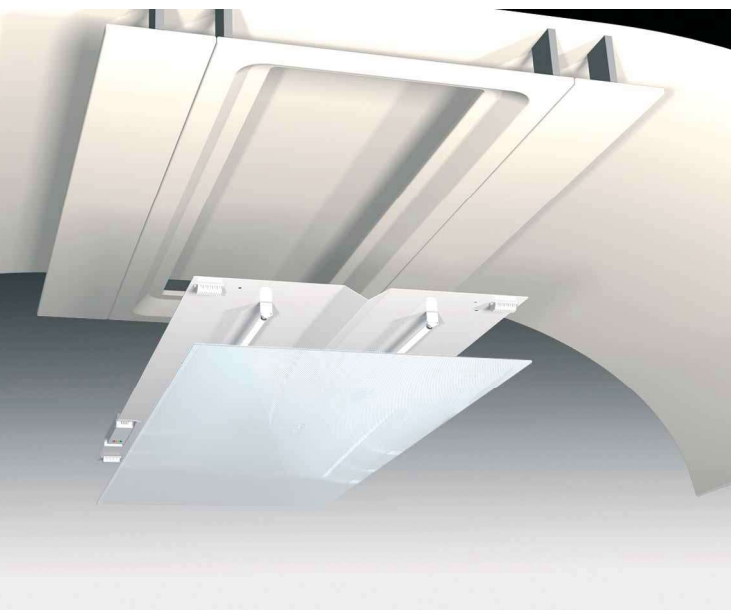
Type / Typ	LENGTH mm	Power Supply	Light Source	Dimming	AutoTest	CentralControl
VEKTOR 2x18W Setting 50%	1735 mm	DC 24V, 110V	T8 2x18W	YES	YES	OPTION
VEKTOR 2x18W Setting 50%	1085 mm	DC 24V, 110V	T8 2x18W	YES	YES	OPTION
VEKTOR CUSTOMISED	CUSTOMISED	CUSTOMISED	CUSTOMISED	OPTION	OPTION	OPTION







## ŽOS Trnava / MOVO Plzeň



- ZOS lighting fixtures have been designed as a customised lighting system for 1st-class carriages. The whole concept has been based on combination of both central lighting modules and two side recessed inline lighting fixtures. Thanks to this combination we have reached smooth and uniform illumination. All lighting fixtures are equipped with T5 fluorescent tubes.
- Thanks to the variable lengths it is possible to create continuous lighting band along the entire vehicle length.
- The lighting system includes also the speakers (see next fixture).
- Electronic ballast meets the latest requirements of EN 50311
- Svetidlá ZOS boli projektované a vyrobené pre ŽOS Trnava/MOVO Plzeň pre projekt osobných vagónov 1. triedy pre ŽSR / ČD. Koncept osvetlenia je založený na kombinácii centrálného tunelu a dvoch postranných pásov svetidiel obsahujúcich aj reproduktory (pozri aj typ o stranu ďalej), vďaka čomu sme dosiahli rovnomerné a príjemné osvetlenie. Všetky svetidlá sú vybavené progresívnymi žiarivkami T5.
- Vďaka modulom rôznej dĺžky (vrátane reproduktorov) je možné vytvoriť inline systém po celej dĺžke vagóna
- Elektronické predradníky spĺňajú EN50311



### STANDARD ACCESSORIES

### ŠTANDARDNÁ VÝBAVA

- AL sheet base finished in white polyester powder coat RAL9003
- Diffuser is made of PC (complying DIN5510 S4/SR2/ST2)
- Halogen-free wiring RADOX GKW (H+S)
- WAGO input terminal block

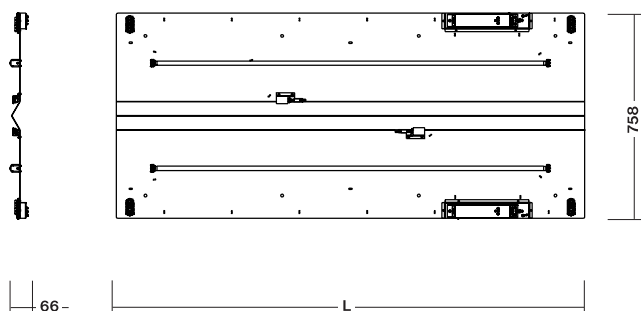
- Teleso z lakovaného AL plechu v RAL9003
- PC difúzor svetidla (splňajúci DIN5510 S4/SR2/ST2)
- Halogénovo bezpečné vodiče RADOX (H+S)
- WAGO prípojná svorka

### OPTIONS

### PRÍPLATKY

- Alternative LED light source
- Alternative colour surface treatment
- Alternative customised dimensions
- Central diagnostics and communication (refer also to pages No.47-51)
- "INLINE" wiring
- WAGO I/O connectors
- Dimming function 30%-100% (refer also to pages No.47-51)

- LED ako alternatívny svetelný zdroj
- Alternatívna farba povrchu
- Alternatívne rozmery modulov
- Centrálna diagnostika a komunikácia (pozri aj str.47-51)
- Priebežná kabeláž
- WAGO I/O konektory
- Stmievanie 30%-100% (pozri aj str.47-51)



## ŽOS Trnava / MOVO Plzeň (236-B)

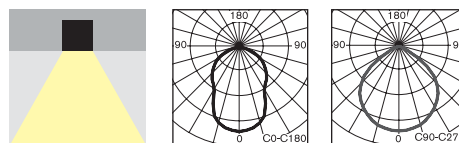
Type / Typ	Length mm	Power Supply	Light Source	Dimming	AutoTest	CentralControl
ZOS 2x35W/24V DC (236-B-01-01)	1730 mm	DC 24V	T5 2x35W	OPTION	YES	OPTION
ZOS 2x35W/24V DC (236-B-08-01)	1680mm	DC 24V	T5 2x35W	OPTION	YES	OPTION
ZOS 2x35W/24V DC (236-B-09-01)	1620 mm	DC 24V	T5 2x35W	OPTION	YES	OPTION
ZOS 2x28W/24V DC (236-B-16-01)	1371mm	DC 24V	T5 2x35W	OPTION	YES	OPTION
ZOS CUSTOMISED	CUSTOMISED	CUSTOMISED	CUSTOMISED	OPTION	OPTION	OPTION







## ŽOS Trnava / MOVO Plzeň



- ZOS lighting fixtures have been designed as a customised lighting system for 1st-class carriages. The whole concept has been based on combination of both central lighting modules and two side recessed inline lighting fixtures.  
Thanks to this combination we have reached smooth and uniform illumination. All lighting fixtures are equipped with T5 fluorescent tubes.
- Thanks to the variable lengths it is possible to create continuous lighting band along the entire vehicle length.
- The lighting system includes also the speakers.
- Electronic ballast meets the latest requirements of EN 50311
- Svietidlá ZOS boli projektované a vyrobené pre ŽOS Trnava/MOVO Plzeň pre projekt osobných vagónov 1. triedy pre ŽSR / ČD. Koncept osvetlenia je založený na kombinácii centrálného tunelu a dvoch postranných pásov svietidiel obsahujúcich aj reproduktory, vďaka čomu sme dosiahli rovnomerné a príjemné osvetlenie. Všetky svietidlá sú vybavené progresívnymi žiarivkami T5.
- Vďaka modulom rôznej dĺžky (vrátane reproduktorov) je možné vytvoriť inline systém po celej dĺžke vagóna
- Elektronické predradníky spĺňajú EN50311



### STANDARD ACCESSORIES

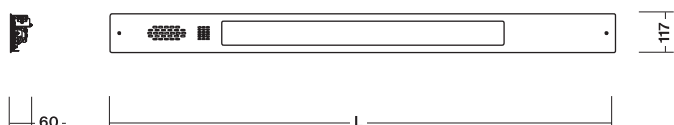
### ŠTANDARDNÁ VÝBAVA

- AL sheet base finished in white polyester powder coat RAL9003
- Diffuser is made of PC (complying DIN5510 S4/SR2/ST2)
- Halogen-free wiring RADOX GKW (H+S)
- WAGO input terminal block
- Teleso z lakovaného AL plechu v RAL9003
- PC difúzor svietidla (splňajúci DIN5510 S4/SR2/ST2)
- Halogénovo bezpečné vodiče RADOX (H+S)
- WAGO prípojná svorka

### OPTIONS

### PRÍPLATKY

- Alternative LED light source
- Alternative colour surface treatment
- Alternative customised dimensions
- Central diagnostics and communication (refer also to pages No.47-51)
- "INLINE" wiring
- WAGO I/O connectors
- Dimming function SETTING 30%-100% (refer also to pages No.47-51)
- LED ako alternatívny svetelný zdroj
- Alternatívna farba povrchu
- Alternatívne rozmery modulov
- Centrálna diagnostika a komunikácia (pozri aj str.47-51)
- Priebežná kabeláž
- WAGO I/O konektory
- Stmievanie SETTING 30%-100% (pozri aj str.47-51)



## ŽOS Trnava / MOVO Plzeň (236-B)

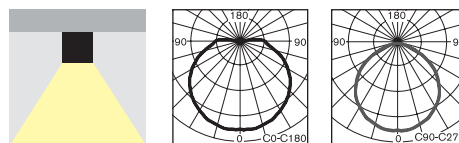
Type / Typ	Length mm	Power Supply	Light Source	Dimming	AutoTest	CentralControl
ZOS 1x21W/24V DC (236-B-07-01)	1519 mm	DC 24V	T5 1x21W	OPTION	YES	OPTION
ZOS 1x14W/24V DC (236-B-17-01)	1214mm	DC 24V	T5 1x14W	OPTION	YES	OPTION
ZOS CUSTOMISED	CUSTOMISED	CUSTOMISED	CUSTOMISED	OPTION	OPTION	OPTION





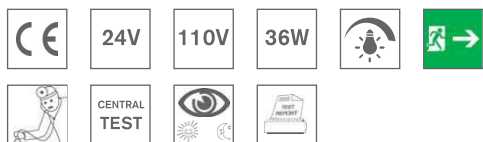


## ASTRA Vagone



- ASTRALUX is modular surface mounted lighting system designed for direct illumination
- It provides powerful and comfortable light.
- Thanks to the variable lengths it is possible to create continuous lighting band along the entire vehicle length.
- The lighting system includes the speakers and blind modules.
- Electronic ballast meets the latest requirements of EN 50311

- ASTRALUX je modulárny systém pre priame osvetlenie interiéru, s montážou na povrch
- Vďaka modulom rôznej dĺžky (vrátane reproduktorov a koncových dielov) je možné vytvoriť inline systém po celej dĺžke vagóna
- Elektronické predradníky spĺňajú EN50311

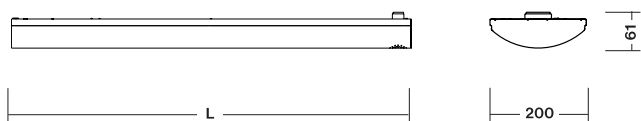


### STANDARD ACCESSORIES

### ŠTANDARDNÁ VÝBAVA

- Metal base finished in white polyester powder coat RAL9006
- Diffuser is made of PC (complying DIN5510 S4/SR2/ST2)
- Halogen-free wiring RADOX GWK (H+S)
- WAGO input terminal block

- Teleso z lakovaného plechu v RAL9006
- PC difúzor svetidla (spĺňajúci DIN5510 S4/SR2/ST2)
- Halogénovo bezpečné vodiče RADOX (H+S)
- WAGO prípojná svorka



### OPTIONS

### PRÍPLATKY

- Alternative LED light source
- Alternative colour surface treatment
- Alternative customised dimensions
- Central diagnostics and communication (refer a\* "INLINE" wiring)
- WAGO I/O connectors
- Dimming function 30%-100% (refer also to pages No.47-51)

- LED ako alternatívny svetelný zdroj
- Alternatívna farba povrchu
- Alternatívne rozmery modulov
- Centrálna diagnostika a komunikácia (pozri aj str.47-51)
- Prieběžná kabeláž
- WAGO I/O konektory
- Stmievanie 30%-100% (pozri aj str.47-51)

## ASTRALUX (179-B)

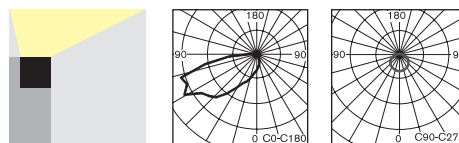
Type / Typ	Length mm	Power Supply	Light Source	Dimming	AutoTest	CentralControl
ASTRALUX 36W	1903 mm	DC 24V	T8 36W	OPTION	YES	OPTION
ASTRALUX 36W	1735 mm	DC 24V	T8 36W	OPTION	YES	OPTION
ASTRALUX 36W + Speaker	1903 mm	DC 24V	T8 36W	OPTION	YES	OPTION
ASTRALUX 36W + Speaker	1735 mm	DC 24V	T8 36W	OPTION	YES	OPTION
ASTRALUX CUSTOMISED	CUSTOMISED	CUSTOMISED	CUSTOMISED	OPTION	OPTION	OPTION







## ŽOS Vrútky



- OPTILUX lighting fixture has been developed for indirect illumination built in a luggage rack
- Thanks to the variable lengths it is possible to create continuous lighting band along the entire vehicle length.
- Electronic ballast meets the latest EN requirements

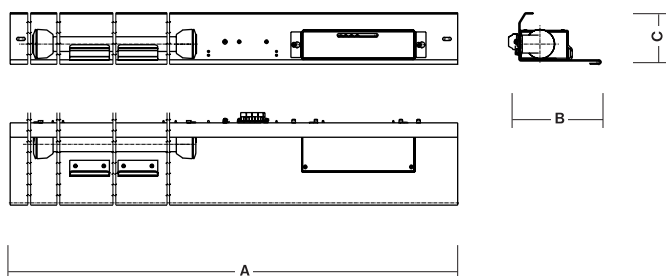
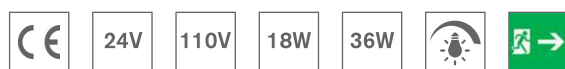
- OPTILUX je modulárny svetelný systém pre nepriame osvetlenie navrhnutý pre montáž do batožinových nosičov
- Vďaka modulom rôznej dĺžky je možné vytvoriť inline svetelný systém po celej dĺžke vagóna
- Elektronické predradníky spĺňajú EN50311

### STANDARD ACCESSORIES

### ŠTANDARDNÁ VÝBAVA

- AL base finished in white polyester powder coat RAL9003
- Halogen-free wiring RADOX GKW (H+S)
- WAGO input terminal block
- Dimming function 30%-100% Setting (refer also to pages No.47-51)

- Teleso z AL lakovaného plechu v RAL9003
- Halogénovo bezpečné vodiče RADOX (H+S)
- WAGO prípojná svorka
- Stmievanie 30%-100% Setting (pozri aj str.47-51)



### OPTIONS

### PRÍPLATKY

- Alternative LED light source
- Alternative colour surface treatment
- Alternative customised dimensions
- "INLINE" wiring
- WAGO I/O connectors
- Dimming function 30%-100% Setting (refer also to pages No.47-51)
- Central diagnostics and communication

- LED ako alternatívny svetelný zdroj
- Alternatívna farba povrchu
- Alternatívne rozmery modulov
- Priebežná kabeláž
- WAGO I/O konektory
- Stmievanie 30%-100% Setting (pozri aj str.47-51)
- Centrálna diagnostika a komunikácia

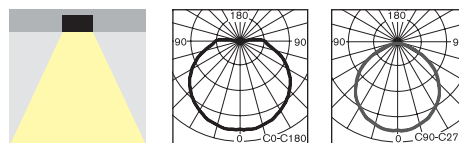
## OPTILUX (101-B)

Type / Typ	Dimensions mm	Power Supply	Light Source	Dimming	AutoTest	CentralControl
OPTILUX 36W Setting 50%	1312 x 183 x 91 mm	DC 24V, 110V	T8 36W	50%/100%	YES	YES
OPTILUX 18W+36W Setting 50%	2112 x 183 x 91 mm	DC 24V	T8 36W + 18W	50%/100%	YES	YES
OPTILUX 18W+15W	1440 x 183 x 82 mm	110V	T8 18W	OPTION	YES	YES
OPTILUX 36W+15W	2028 x 183 x 82 mm	110V	T8 36W	OPTION	YES	OPTION
OPTILUX CUSTOMISED	CUSTOMISED	CUSTOMISED	CUSTOMISED	OPTION	OPTION	OPTION







**Metro Norimberg / SIEMENS**

- It is design study of the lighting fixtures for the project Metro Norimberg (SIEMENS) which will be in serial production starting year 2017.
- It is based on recessed mounted modular LED lighting system including linear and arc shaped fixtures for direct illumination of the passenger area
- Thanks to the variable lengths it is possible to create continuous lighting band along the entire vehicle length.
- The lighting system includes the speakers.

- Dizajnová štúdia svetidiel pre Metro Norimberg projekt (SIEMENS), ktorý bude vo výrobe od roku 2017
- Pozostáva z LED svetidiel so zapustenou montážou do stropu, pre priame osvetlenie pasažierskeho priestoru
- Vďaka variabilnej dĺžke a dvoch rôznych tarov (lineárny a kruhový) je možné vytvoriť svetelný systém po celej dĺžke vagóna.
- Systém obsahuje aj reproduktory.

**STANDARD ACCESSORIES****ŠTANDARDNÁ VÝBAVA**

- MidPower 3000K/4000K LEDs 160lm/W OSRAM DURIS S5 type serie
- LED Binning < 3 MacAdam Steps
- PC diffuser with perfect diffusion and lighting uniformity feature, complying fire-smoke EN45545
- Halogen-free wiring RADOX GWK (H+S)
- WAGO input terminal block
- Speaker

- MidPower LED 160lm/W OSRAM DURIS S5 3000K/4000K
- LED Binning < 3 MacAdam Steps
- PC kryt svetidla zabezpečujúci perfektnú distribúciu svetla, spĺňajúci EN45545
- Halogénovo bezpečné vodiče RADOX (H+S)
- WAGO prípojná svorka
- Reprodukter

**OPTIONS****PRÍPLATKY**

- Alternative LED light source
- Alternative colour surface treatment
- Alternative customised dimensions
- "INLINE" wiring
- WAGO I/O connectors
- Dimming function 10%-100% (refer also to pages No.47-51)

- LED ako alternatívny svetelný zdroj
- Alternatívna farba povrchu
- Alternatívne rozmery modulov
- Prieběžná kabeláž
- WAGO I/O konektory
- Stmívanie 10%-100% (pozri aj str.47-51)

**LED METRO NORIMBERG**

Type / Typ	Length mm	Power Supply	Light Source	Dimming	AutoTest	CentralControl
LED Linear Modules	TBD	DC 110V	LED 3000K OSRAM	YES	OPTION	OPTION
LED Arc Shaped Modules	TBD	DC 110V	LED 3000K OSRAM	YES	OPTION	OPTION





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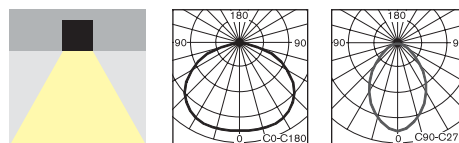


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**SIEMENS**



## Metro Barcelona / ALSTOM



- The semi-recessed BARCELUX modular lighting system has been designed for direct illumination of the interior of Metro Barcelona ALSTOM train cars
- Thanks to the variable lengths it is possible to create continuous lighting band along the entire vehicle length.
- Electronic ballast meets the latest EN50311 requirements

- BARCELUX je modulárny polozapustený systém pre priame osvetlenie pre ALSTOM Metro Barcelona projekt
- Vďaka modulom rôznej dĺžky je možné vytvoriť inline systém po celej dĺžke vagóna
- Elektronické predradníky spĺňajú EN50311

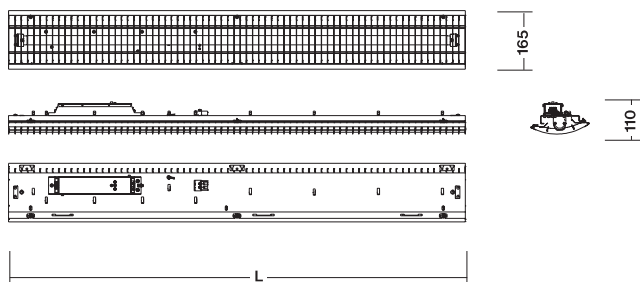


### STANDARD ACCESSORIES

### ŠTANDARDNÁ VÝBAVA

- AL sheet base finished in white polyester AntiGraffiti powder coat
- Halogen-free wiring RADOX GKW (H+S)
- WAGO input terminal block

- Teleso z lakovaného AL plechu (AntiGraffiti biela farba)
- Halogénovo bezpečné vodiče RADOX (H+S)
- WAGO prípojná svorka



### OPTIONS

### PRÍPLATKY

- Alternative LED light source
- Alternative colour surface treatment
- Alternative customised dimensions
- Central diagnostics and communication (refer also to pages No.47-51)
- "INLINE" wiring
- WAGO I/O connectors
- Dimming function 30%-100% (refer also to pages No.47-51)

- LED ako alternatívny svetelný zdroj
- Alternatívna farba povrchu
- Alternatívne rozmery modulov
- Centrálne diagnostika a komunikácia (pozri aj str.47-51)
- Prieběžná kabeláž
- WAGO I/O konektory
- Stmívanie 30%-100% (pozri aj str.47-51)

## BARCELUX (154-B)

Type / Typ	Length mm	Power Supply	Light Source	Dimming	AutoTest	CentralControl
BARCELUX 36W	1284 mm	DC 72V	T8 36W	OPTION	YES	OPTION
BARCELUX 15W	620 mm	DC 72V	T8 15W	OPTION	YES	OPTION
BARCELUX 2x15W	1015 mm	DC 72V	T8 2x15W	OPTION	YES	OPTION
BARCELUX CUSTOMISED	CUSTOMISED	CUSTOMISED	CUSTOMISED	OPTION	OPTION	OPTION



Metro Barcelona ALSTOM Train



**ALSTOM**





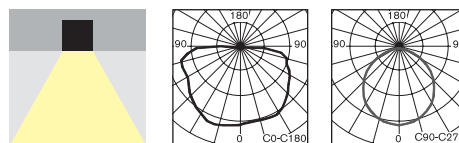




**ALSTOM**



## Metro Prague / SIEMENS



- METROLUX lighting fixture has been developed for inline lighting system FOR SIEMENS Metro Prague cars. In addition whole system is covered by grid ceiling panels.
- Electronic ballast meets the latest EN requirements

- METROLUX je modulárny svetelný systém pre priame osvetlenie pôvodne navrhnutý pre Metro Praha vozy SIEMENS
- Vďaka modulom rôznej dĺžky je možné vytvoriť inline svetelný systém po celej dĺžke vagóna.

### STANDARD ACCESSORIES

### ŠTANDARDNÁ VÝBAVA

- AL sheet base finished in white polyester powder coat RAL9003
- Halogen-free wiring RADOX GKW (H+S)
- WAGO input terminal block

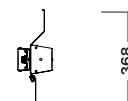
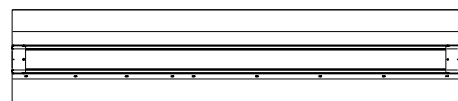
- Teleso z lakovaného AL plechu v RAL9003
- Halogénovo bezpečné vodiče RADOX (H+S)
- WAGO prípojná svorka

### OPTIONS

### PRÍPLATKY

- Alternative LED light source
- Alternative colour surface treatment
- Alternative customised dimensions
- "INLINE" wiring
- WAGO I/O connectors

- LED ako alternatívny svetelný zdroj
- Alternatívna farba povrchu
- Alternatívne rozmery modulov
- Prieběžná kabeláž
- WAGO I/O konektory



## METROLUX (106-B)

Type / Typ	Length mm	Power Supply	Light Source	Dimming	AutoTest	CentralControl
METROLUX 36W	1270 mm	DC 110V	T8 36W	OPTION	YES	OPTION
METROLUX CUSTOMISED	CUSTOMISED	CUSTOMISED	CUSTOMISED	OPTION	OPTION	OPTION

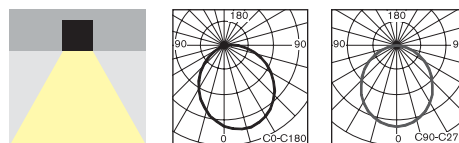




**SIEMENS**



## Metro Budapest & Istanbul / ALSTOM



- The BUDALUX lighting modules have been designed for direct illumination of the interior of Metro ALSTOM trains. Its design is based on progressive T5 fluorescent tube technology.
- Thanks to the variable lengths it is possible to create continuous lighting band along the entire vehicle length.
- Electronic ballast meets the latest EN50311 requirements
- Svietidlá BUDALUX sú určené priame osvetlenie metro vagónov ALSTOM. Sú pre montáž do AL stropného profilu. Sú vyrábané vo viacerých rozmeroch s PC opálovým krytom.
- Vďaka modulom rôznej dĺžky je možné vytvoriť inline svetelný systém po celej dĺžke vagóna.
- Elektronické predradníky spĺňajú EN50311



### STANDARD ACCESSORIES

### ŠTANDARDNÁ VÝBAVA

- AL sheet base finished in white polyester powder coat RAL9003
- Halogen-free wiring RADOX GKW (H+S)
- "INLINE" wiring
- WAGO I/O connectors

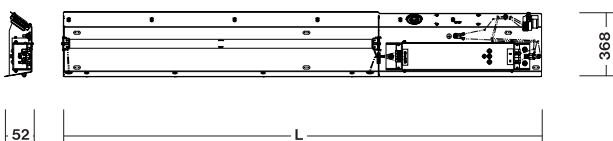
- Teleso z lakovaného AL plechu v RAL9003
- Halogénovo bezpečné vodiče RADOX (H+S)
- Prieběžná kabeláž
- WAGO I/O konektory

### OPTIONS

### PRIPLATKY

- Alternative LED light source
- Alternative colour surface treatment
- Alternative customised dimensions
- Central diagnostics and communication (refer also to pages No.47-51)
- Dimming function 30%-100% (refer also to pages No.47-51)

- LED ako alternatívny svetelný zdroj
- Alternatívna farba povrchu
- Alternatívne rozmery modulov
- Centrálna diagnostika a komunikácia (pozri aj str.47-51)
- Stmievanie 30%-100% (pozri aj str.47-51)



## BUDALUX (214-B)

Type / Typ	Length mm	Power Supply	Light Source	Dimming	AutoTest	CentralControl
BUDALUX 14W T5	868 mm	DC 110V	T5 14W	OPTION	YES	OPTION
BUDALUX 28W T5	1465 mm	DC 110V	T5 28W	OPTION	YES	OPTION
BUDALUX 35W T5	1765 mm	DC 110V	T5 35W	OPTION	YES	OPTION
BUDALUX CUSTOMISED	CUSTOMISED	CUSTOMISED	CUSTOMISED	OPTION	OPTION	OPTION



Recessed Luminaires for direct lighting

## Metro Budapest & Istanbul / ALSTOM







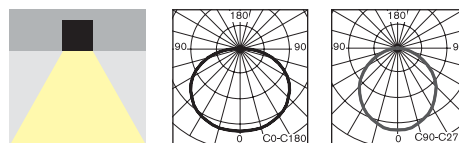




**ALSTOM**



## Metro BANGKOK / SIEMENS



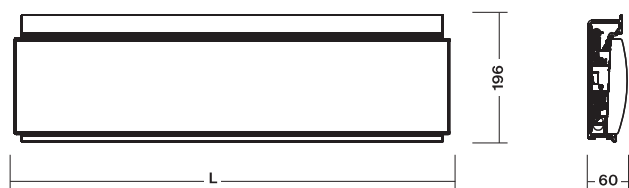
- The lighting modules have been designed for direct illumination of the interior of SIEMENS Metro BANGKOK trains. Its design is based on T8 36W fluorescent tubes.
- Thanks to the variable lengths it is possible to create continuous lighting band along the entire vehicle length. There are also speakers integrated.
- Electronic ballast meets the latest EN50311 requirements
- Svetidlá sú určené pre líniovú montáž po celej dĺžke vagóna pre projekt Metro BANGKOK pre vozidlá SIEMENS.
- Svetidlá sú vyrábané vo viacerých dĺžkach, vďaka čomu bolo možné vytvoriť svetelnú líniu po celej dĺžke vozidla.
- Reprodukory sú priamo integrované v svetelných moduloch.



### STANDARD ACCESSORIES

### ŠTANDARDNÁ VÝBAVA

- AL extruded profile base finished in white polyester powder coat RAL9002
- Diffuser is made of PC (complying EN45545 and DIN5510 S4/SR2/ST2)
- Halogen-free wiring RADOX GWK (H+S)
- "INLINE" wiring
- WAGO I/O connectors
- Teleso z extrúdaného AL profilu vo farbe RAL9002
- PC difúzor svetidla (spĺňajúci EN45545 a DIN5510 S4/SR2/ST2)
- Halogénovo bezpečné vodiče RADOX (H+S)
- Prieběžná kabeláž
- WAGO I/O konektory



### OPTIONS

### PRÍPLATKY

- Alternative LED light source
- Alternative colour surface treatment
- Alternative customised dimensions
- Central diagnostics and communication (refer also to pages No.47-51)
- Dimming function 30%-100% (refer also to pages No.47-51)
- LED ako alternatívny svetelný zdroj
- Alternatívna farba povrchu
- Alternatívne rozmery modulov
- Centrálna diagnostika a komunikácia (pozri aj str.47-51)
- Stmievanie 30%-100% (pozri aj str.47-51)

## BANGKOK Lighting Modules (279-B)

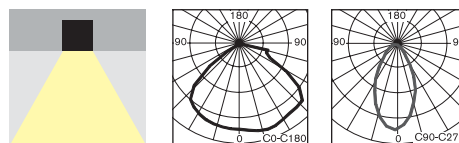
Type / Typ	Length mm	Power Supply	Light Source	Dimming	AutoTest	CentralControl
MODULE-I 2x36W 3032mm	3032 mm	DC 110V	T8 2x36W	OPTION	YES	OPTION
MODULE-I 1x36W + Speaker 2339mm	2339 mm	DC 110V	T8 36W	OPTION	YES	OPTION
MODULE-I CUSTOMISED	CUSTOMISED	CUSTOMISED	CUSTOMISED	OPTION	OPTION	OPTION







## Metro St.Petersburg 18T / ŠKODA Transportation



- The semi-recessed FINLUX modular lighting system has been designed for direct illumination of the interior of metro St.Petersburg ŠKODA-TRANSPORTATION cars
- Thanks to the variable lengths it is possible to create continuous lighting band along the entire vehicle length. The peakers are optional.
- Electronic ballast meets the latest EN50311 requirements
- FINLUX je modulárny polozapustený systém pre priame osvetlenie pôvodne navrhnutý pre metro Petrohrad - ŠKODA Transportation vozidlá
- Vďaka modulom rôznej dĺžky je možné vytvoriť inline svetelný systém po celej dĺžke vagóna. Systém môže obsahovať aj reproduktory.
- Elektronické predradníky spĺňajú EN50311

### STANDARD ACCESSORIES

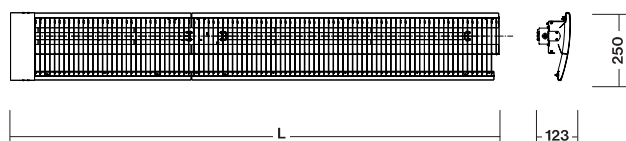
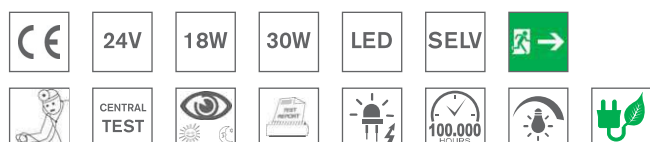
### ŠTANDARDNÁ VÝBAVA

- MidPower 4000K LEDs 111lm/W OSRAM DURIS P5 type serie (2bin selection)
- AL base finished in white polyester powder coat RAL9006
- Halogen-free wiring RADOX GWK (H+S)
- WAGO prípojná svorka
- Dimming function 30%-100% (only for LED versions)
- MidPower LED 111lm/W OSRAM DURIS P5 4000K (2-binová selekcia)
- Teleso z hliníkového plechu vo farbe RAL9006
- Halogénovo bezpečné vodiče RADOX (H+S)
- WAGO terminal block
- Stmievanie 30%-100% (len pre LED verzie)

### OPTIONS

### PRIPLATKY

- Alternative LED light source
- Alternative colour surface treatment
- Alternative customised dimensions
- Dimming function 30%-100% (refer also to pages No.47-51)
- "INLINE" wiring
- WAGO I/O connectors
- LED ako alternatívny svetelný zdroj
- Alternatívna farba povrchu
- Alternatívne rozmery modulov
- Stmievanie 30%-100% (pozri aj str.47-51)
- Priebežná kabeláž
- WAGO I/O konektory

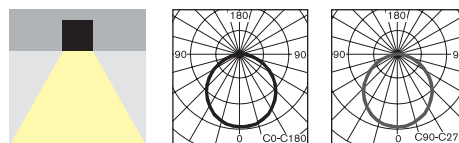


FINLUX (219-B)						
Type / Typ	Length mm	Power Supply	Light Source	Dimming	AutoTest	CentralControl
FINLUX 2x30W T8	2304 mm	DC 110V	T8 2x30W	OPTION	YES	OPTION
FINLUX 30W T8	1830 mm	DC 110V	T8 30W	OPTION	YES	OPTION
FINLUX 18W	803 mm	DC 110V	T8 18W	OPTION	YES	OPTION
FINLUX 42xLED	806 mm	DC 110V	42x Power LED OSRAM	30%/100%	OPTION	OPTION
FINLUX 105xLED	1800 mm	DC 110V	105x Power LED OSRAM	30%/100%	OPTION	OPTION
FINLUX 133xLED	2300 mm	DC 110V	133x Power LED OSRAM	30%/100%	OPTION	OPTION
FINLUX CUSTOMISED	CUSTOMISED	CUSTOMISED	CUSTOMISED	OPTION	OPTION	OPTION







**VAL208 / SIEMENS**

- VALUX is a customized lighting system designed for **SIEMENS- VAL208 project**. It is a modular lighting system designed for direct illumination of the interior of public transport vehicles. It provides soft and comfortable light.
- Thanks to the variable lengths it is possible to create continuous lighting band along the entire vehicle length.
- The system contains also speakers and blind pieces.
- Electronic ballast meets the latest requirements of EN50311

- VALUX is zákaznicky svetelný systém navrhnutý pre SIEMENS- VAL208 projekt. Jedná sa o modulárny systém pre priame osvetlenie interiéru.
- Vďaka modulom rôznej dĺžky (vrátane reproduktorov a koncových dielov) je možné vytvoriť inline systém po celej dĺžke vagóna.
- Elektronické predradníky spĺňajú EN50311

**STANDARD ACCESSORIES****STANDARDNÁ VÝBAVA**

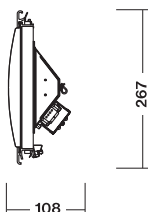
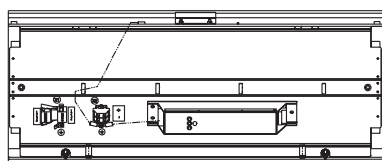
- AL sheet base finished in white polyester powder coat RAL9003
- Diffuser frame made of extruded AL profile
- Diffuser is made of PC (complying NFF 16101 or EN45545)
- Halogen-free wiring RADOX GWK (H+S)
- WAGO input terminal block

- Hliníkový reflektor lakovaný v RAL9003
- Rám krytu svetidla extrúdaný AL profil
- PC difúzor svetidla (spĺňajúci NFF 16101 alebo EN45545)
- Halogénovo bezpečné vodiče RADOX (H+S)
- WAGO prípojná svorka

**OPTIONS****PRÍPLATKY**

- Alternative LED light source
- Alternative colour surface treatment
- Alternative customised dimensions
- Dimming function 30%-100% (refer also to pages No.47-51)
- Central diagnostics and communication (refer also to pages No.47-51)
- "INLINE" wiring
- WAGO I/O connectors

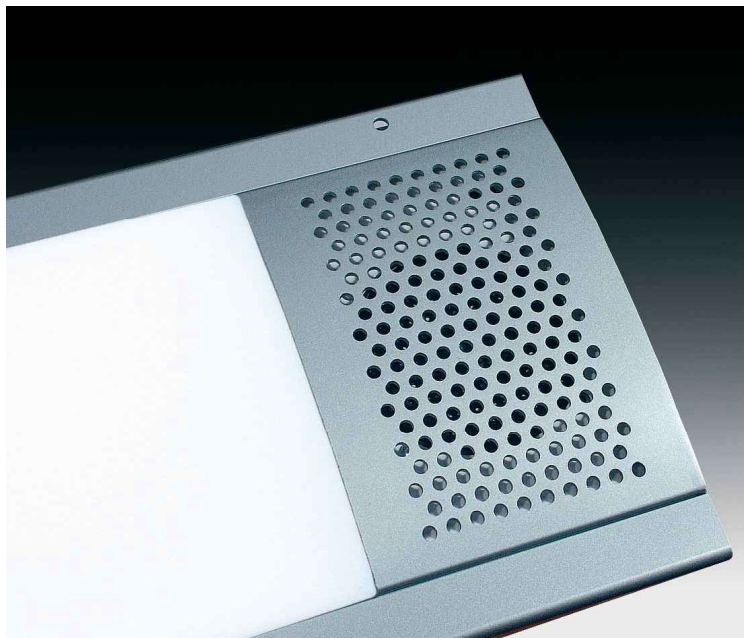
- LED ako alternatívny svetelný zdroj
- Alternatívna farba povrchu
- Alternatívne rozmery modulov
- Stmievanie 30%-100% (pozri aj str.47-51)
- Centrálna diagnostika a komunikácia (pozri aj str.47-51)
- Priebežná kabeláž
- WAGO konektory



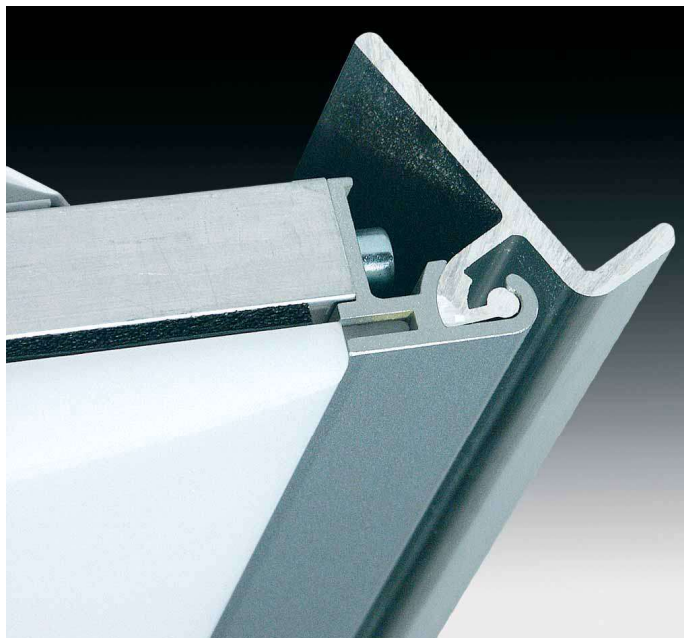
<b>VALUX (114-B)</b>						
Type / Typ	LENGTH mm	Power Supply	Light Source	Dimming	AutoTest	CentralControl
VALUX 18W	1698 mm	DC 24V, 72V, 110V	T8 36W	OPTION	YES	OPTION
VALUX 36W	1698 mm	DC 24V, 72V, 110V	T8 36W	OPTION	YES	OPTION
VALUX 36W + 18W + Speaker	2448 mm	DC 24V, 72V, 110V	T8 36W + 18W	OPTION	YES	OPTION
VALUX CUSTOMISED	CUSTOMISED	CUSTOMISED	CUSTOMISED	OPTION	OPTION	OPTION



Speaker Cover Detail (painted PC)



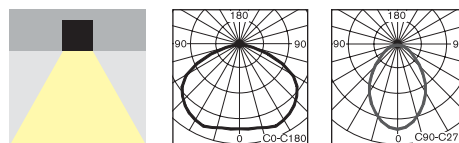
AL Profile Hinge Detail



**SIEMENS**



## Metro-Tram Wien / BOMBARDIER



- The semi-recessed WIELUX modular lighting system has been designed for direct illumination of the interior of BOMBARDIER cars for Wien city.
- Thanks to the variable lengths it is possible to create continuous lighting band along the entire vehicle length.  
Speakers are optional.
- Electronic ballast meets the latest EN50311 requirements

- WIELUX je modulárny polozapustený systém pre priame osvetlenie pôvodne navrhnutý pre BOMBARDIER vozy pre mesto Viedeň
- Vďaka modulom rôznej dĺžky je možné vytvoriť inline systém po celej dĺžke vagóna. Možné doplniť o reproduktory.
- Elektronické predradníky spĺňajú EN50311



### STANDARD ACCESSORIES

### ŠTANDARDNÁ VÝBAVA

- AL sheet base finished in white polyester powder coat RAL9003
- Halogen-free wiring RADOX GWK (H+S)
- WAGO input terminal block

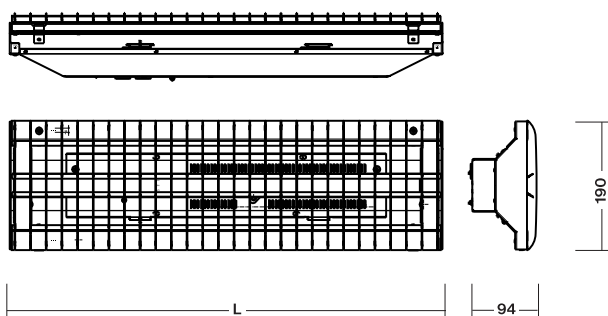
- Teleso z lakovaného AL plechu v RAL9003
- Halogénovo bezpečné vodiče RADOX (H+S)
- WAGO prípojná svorka

### OPTIONS

### PRÍPLATKY

- Alternative LED light source
- Alternative colour surface treatment
- Alternative customised dimensions
- Central diagnostics and communication (refer also to pages No.47-51)
- "INLINE" wiring
- WAGO I/O connectors
- Dimming function 30%-100% (refer also to pages No.47-51)

- LED ako alternatívny svetelný zdroj
- Alternatívna farba povrchu
- Alternatívne rozmery modulov
- Centrálna diagnostika a komunikácia (pozri aj str.47-51)
- Priebežná kabeláž
- WAGO I/O konektory
- Stmievanie 30%-100% (pozri aj str.47-51)



## WIELUX (180-B)

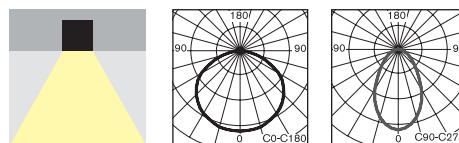
Type / Typ	Length mm	Power Supply	Light Source	Dimming	AutoTest	CentralControl
WIELUX 36W	1266 mm	DC 24V	T8 36W	OPTION	YES	OPTION
WIELUX 18W	636 mm	DC 24V	T8 18W	OPTION	YES	OPTION
WIELUX CUSTOMISED	CUSTOMISED	CUSTOMISED	CUSTOMISED	OPTION	OPTION	OPTION



## Metro-Tram Wien / BOMBARDIER





**Metro-Tram Frankfurt / BOMBARDIER**

- The semi-recessed FRANKLUX modular lighting system has been designed for direct illumination of the interior for FLEXITY BOMBARDIER train cars
- Thanks to the variable lengths it is possible to create continuous lighting band along the entire vehicle length.  
The lighting system includes the speakers.
- Electronic ballast meets the latest EN50311 requirements
- FRANKLUX je modulárny polozapustený systém pre priame osvetlenie pôvodne navrhnutý pre BOMBARDIER, projekt FLEXITY
- Vďaka modulom rôznej dĺžky je možné vytvoriť inline svetelný systém po celej dĺžke vagóna. Systém obsahuje aj reproduktory.
- Elektronické predradníky spĺňajú EN50311

**STANDARD ACCESSORIES****ŠTANDARDNÁ VÝBAVA**

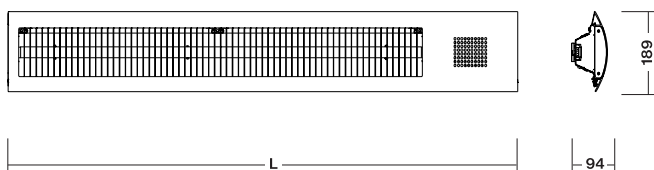
- AL sheet base finished in white polyester powder coat RAL9003
- Halogen-free wiring RADOX GW (H+S)
- WAGO input terminal block
- Speaker included

- Teleso z lakovaného AL plechu v RAL9003
- Halogénovo bezpečné vodiče RADOX (H+S)
- WAGO pripojná svorka
- Reproduktory

**OPTIONS****PRÍPLATKY**

- Alternative LED light source
- Alternative colour surface treatment
- Alternative customised dimensions
- Central diagnostics and communication (refer also to pages No.47-51)
- "INLINE" wiring
- WAGO I/O connectors
- Dimming function 30%-100% (refer also to pages No.47-51)

- LED ako alternatívny svetelný zdroj
- Alternatívna farba povrchu
- Alternatívne rozmery modulov
- Centrálna diagnostika a komunikácia (pozri aj str.47-51)
- Prieběžná kabeláž
- WAGO I/O konektory
- Stmievanie 30%-100% (pozri aj str.47-51)

**FRANKLUX (189-B)**

Type / Typ	Length mm	Power Supply	Light Source	Dimming	AutoTest	CentralControl
FRANKLUX 36W	1250 mm	DC 24V	T8 36W	OPTION	YES	OPTION
FRANKLUX 36W	1500 mm	DC 24V	T8 36W	OPTION	YES	OPTION
FRANKLUX 36W + Speaker	1500 mm	DC 24V	T8 36W	OPTION	YES	OPTION
FRANKLUX CUSTOMISED	CUSTOMISED	CUSTOMISED	CUSTOMISED	OPTION	OPTION	OPTION



## Metro-Tram Frankfurt / BOMBARDIER



**BOMBARDIER**





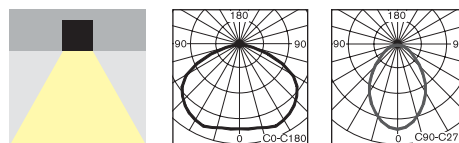
**BOMBARDIER**







## Tram MANCHESTER / BOMBARDIER



- The semi-recessed WIELUX modular lighting system has been designed for direct illumination of the interior of BOMBARDIER tram cars for Manchester City.
- Thanks to the variable lengths it is possible to create continuous lighting band along the entire vehicle length.
- Electronic ballast meets the latest EN50311 requirements

- WIELUX je modulárny polozapustený systém pre priame osvetlenie pôvodne navrhnutý pre BOMBARDIER električky Manchester projekt.
- Vďaka modulom rôznej dĺžky je možné vytvoriť inline systém po celej dĺžke vagóna.
- Elektronické predradníky spĺňajú EN50311



### STANDARD ACCESSORIES

### ŠTANDARDNÁ VÝBAVA

- AL sheet base finished in white polyester powder coat RAL9003
- Speaker included (valid only for 36W version)
- Halogen-free wiring RADOX GKW (H+S)
- WAGO input terminal block

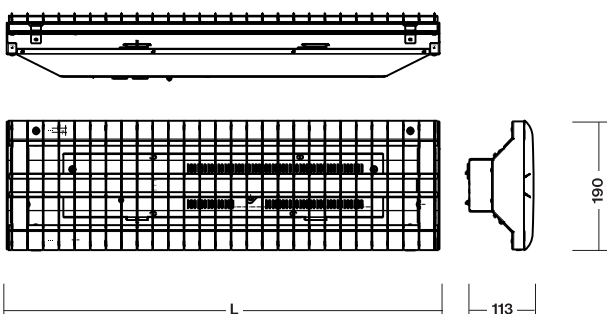
- Teleso z lakovaného AL plechu v RAL9003
- Halogénovo bezpečné vodiče RADOX (H+S)
- WAGO prípojná svorka
- Reproduktor (len pre verziu 36W)

### OPTIONS

### PRÍPLATKY

- Alternative LED light source
- Alternative colour surface treatment
- Alternative customised dimensions
- Central diagnostics and communication (refer also to pages No.47-51)
- "INLINE" wiring
- WAGO I/O connectors
- Dimming function 30%-100% (refer also to pages No.47-51)

- LED ako alternatívny svetelný zdroj
- Alternatívna farba povrchu
- Alternatívne rozmery modulov
- Centrálna diagnostika a komunikácia (pozri aj str.47-51)
- Priebežná kabeláž
- WAGO I/O konektory
- Stmievanie 30%-100% (pozri aj str.47-51)



## WIELUX (180-B)

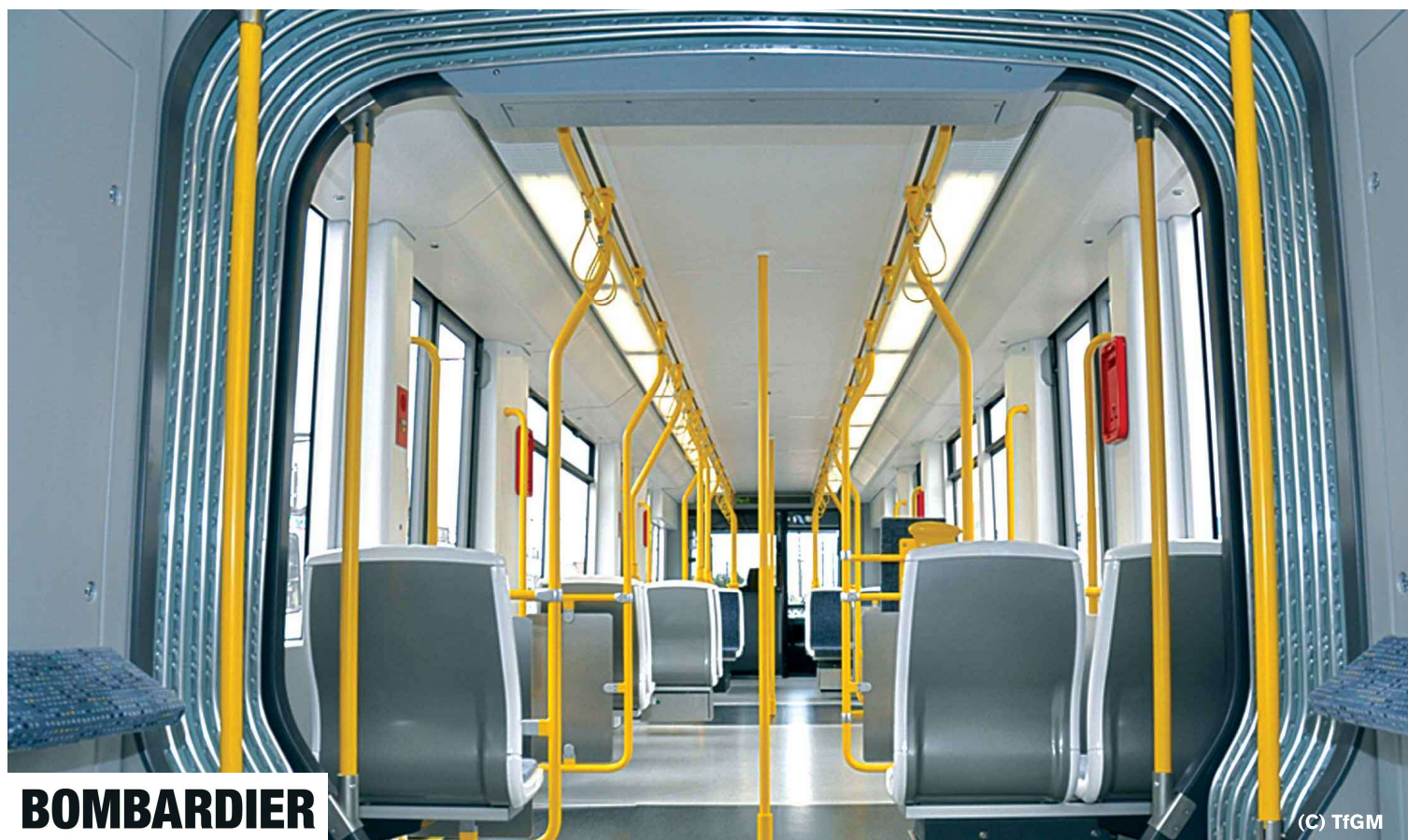
Type / Typ	Length mm	Power Supply	Light Source	Dimming	AutoTest	CentralControl
WIELUX 36W + REPRO	1246 mm	DC 24V	T8 36W	OPTION	YES	OPTION
WIELUX 18W	636 mm	DC 24V	T8 18W	OPTION	YES	OPTION
WIELUX CUSTOMISED	CUSTOMISED	CUSTOMISED	CUSTOMISED	OPTION	OPTION	OPTION



## Tram MANCHESTER / BOMBARDIER



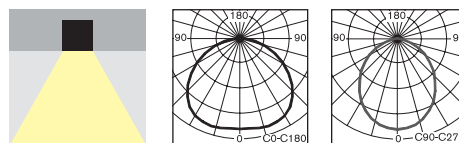
(C) TfGM



(C) TfGM



## FLEXITY2 / BOMBARDIER



- FLEXILUX lighting fixtures have been designed for BOMBARDIER tram application for FLEXITY2 platform project.
- Thanks to the variable lengths it is possible to create continuous lighting band along the entire vehicle length. Speakers are included.
- Electronic ballast meets the latest EN50311 requirements

- Svetidlá FLEXILUX boli konštruované a vyrobené pre projekt električiek platforma FLEXITY2 - BOMBARDIER. Je to modulárny polozapustený systém pre priame osvetlenie. Reprodukory sú zabudované vo svetidle.
- Vďaka modulom rôznej dĺžky je možné vytvoriť líniový svetelný systém po celej dĺžke vagóna.
- Elektronické predradníky spĺňajú EN50311

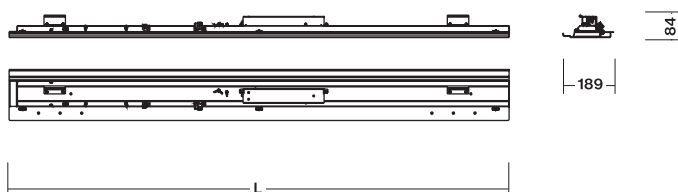


### STANDARD ACCESSORIES

### STANDARDNÁ VÝBAVA

- Extruded AL profile body finished in white polyester powder coat RAL9003
- Diffuser is made of PC (complying EN45545 and DIN5510 S4/SR2/ST2)
- Halogen-free wiring RADOX GKW (H+S)
- WAGO terminal block

- Teleso z lakovaného AL plechu v RAL9003
- PC difúzor svetidla (splňajúci EN45545 a DIN5510 S4/SR2/ST2)
- Halogénovo bezpečné vodiče RADOX (H+S)
- WAGO prípojná svorkovnica



### OPTIONS

### PRÍPLATKY

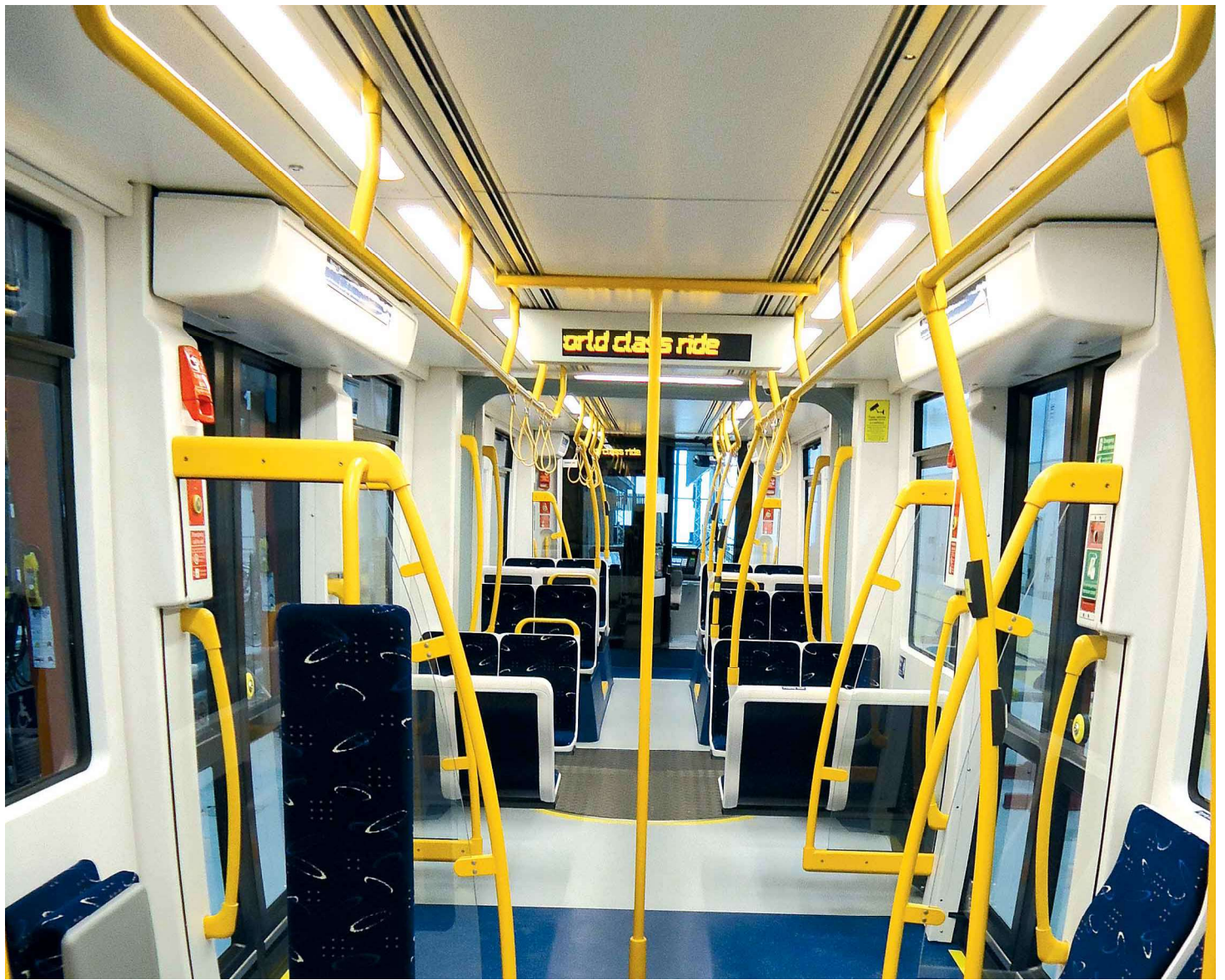
- Alternative LED light source
- Alternative colour surface treatment
- Alternative customised dimensions
- Central diagnostics and communication (refer also to pages No.47-51)
- Dimming function 30%-100% (refer also to pages No.47-51)
- "INLINE" wiring
- WAGO I/O connectors

- LED ako alternatívny svetelný zdroj
- Alternatívna farba povrchu
- Alternatívne rozmery modulov
- Centrálna diagnostika a komunikácia (pozri aj str.47-51)
- Stmievanie 30%-100% (pozri aj str.47-51)
- Pribežná kabeláž
- WAGO I/O konektory

## FLEXILUX (242-B)

Type / Typ	Length mm	Power Supply	Light Source	Dimming	AutoTest	CentralControl
FLEXILUX 21W T5	930 mm	DC 24V	T5 21W	OPTION	YES	OPTION
FLEXILUX 35W T5	1760 mm	DC 24V	T5 35W	OPTION	YES	OPTION
FLEXILUX 35W T5 + Speaker	1857 mm	DC 24V	T5 35W	OPTION	YES	OPTION
FLEXILUX CUSTOMISED	CUSTOMISED	CUSTOMISED	CUSTOMISED	OPTION	OPTION	OPTION





**FLEXITY2 Blackpool**



**BOMBARDIER**





## FLEXITY2 Karlsruhe



**BOMBARDIER**



**FLEXITY2 Melbourne**



**BOMBARDIER**







**BOMBARDIER**



Recessed Luminaires for direct lighting

## **FLEXITY2 Goldcoast / BOMBARDIER**





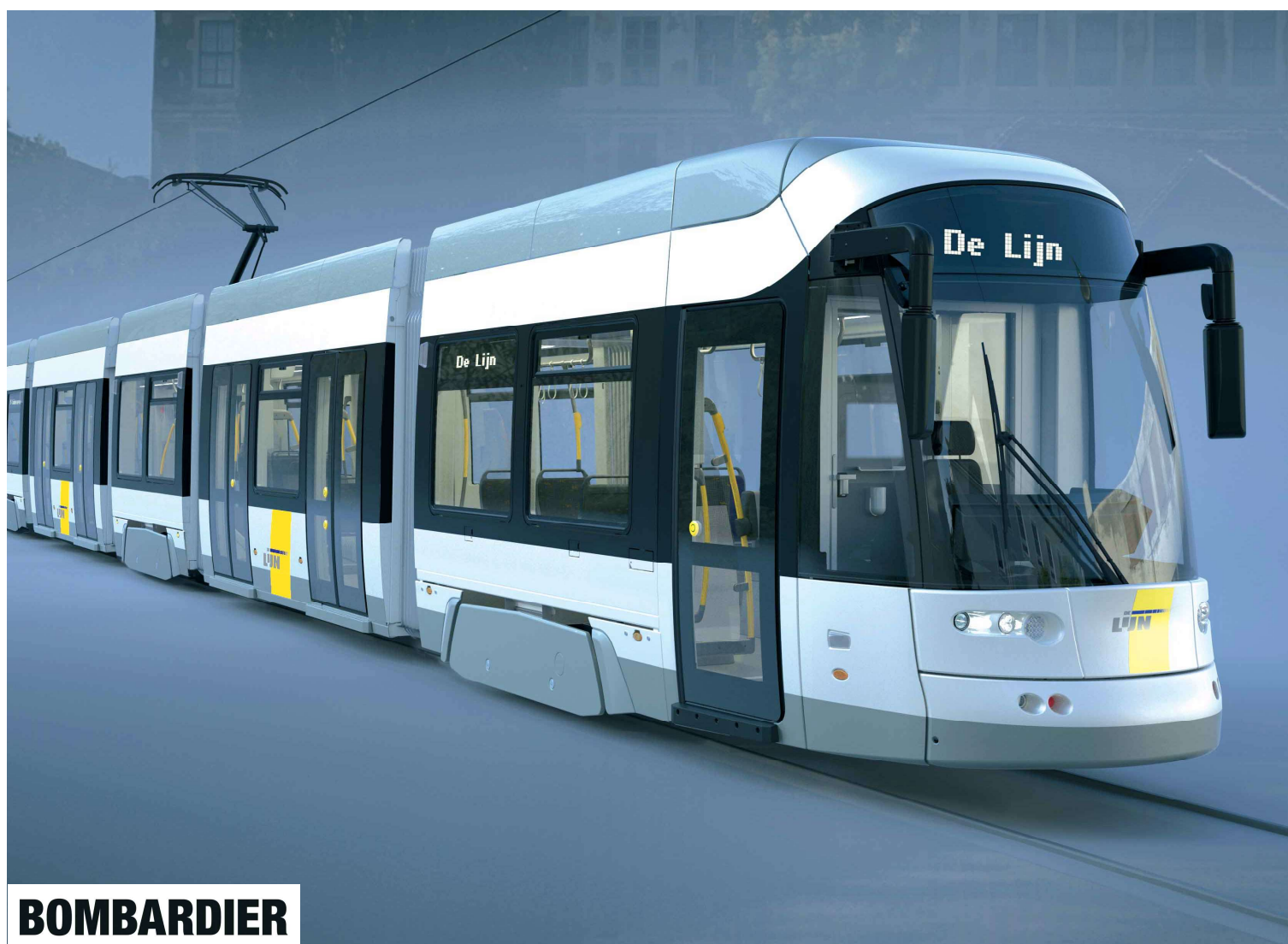
## **FLEXITY2 - Basel / BOMBARDIER**

**BOMBARDIER**





## FLEXITY2 - De Lijn / BOMBARDIER



**BOMBARDIER**



Recessed Luminaires for direct lighting

## **FLEXITY2 Basel / BOMBARDIER**



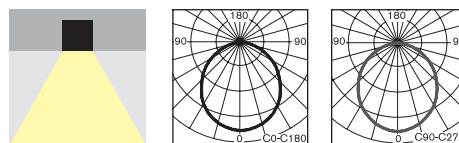




**BOMBARDIER**



## 26T / ŠKODA Transportation



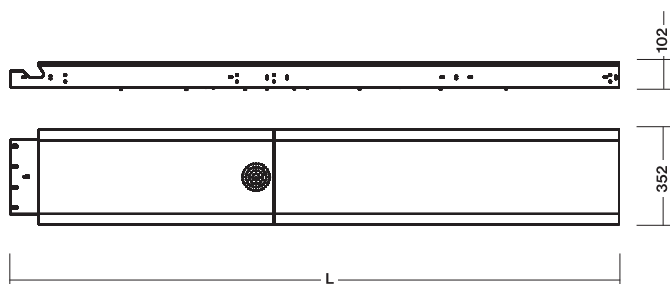
- All SEC-280-B lighting fixtures have been designed for SKODA Transportation 26T tram vehicle. The pictures on the next page are showing 26T tram version for city Miskolc project.
- Thanks to the variable lengths it is possible to create continuous lighting band along the entire vehicle length. The system includes also the speakers.
- Electronic ballast meets the latest EN50311 requirements
- Svetidlá SEC typovej rady 280-B boli konštruované a vyrobené pre projekt električky 26T pre ŠKODA Transportation.
- Na obrázkoch na nasledovnej strane je verzia 26T pre mesto Miskolc
- Vďaka modulom rôznej dĺžky je možné vytvoriť líniový svetelný systém po celej dĺžke vozidla. Systém obsahuje aj reproduktory.
- Elektronické predradníky spĺňajú EN50311



### STANDARD ACCESSORIES

### STANDARDNÁ VÝBAVA

- AL body finished in white polyester powder coat RAL9003
- Diffuser is made of PC (complying EN45545 and DIN5510 S4/SR2/ST2)
- Halogen-free wiring RADOX GWK (H+S)
- "INLINE" wiring
- WAGO I/O connectors
- Dimming function SETTING 30%/100% (refer also to pages No.47-51)
- Teleso z lakovaného AL plechu v RAL9003
- PC difúzor svetidla (splňajúci EN45545 a DIN5510 S4/SR2/ST2)
- Halogénovo bezpečné vodiče RADOX (H+S)
- Pribežná kabeláž
- WAGO I/O konektory
- Stmievanie SETTING 30%/100% (pozri aj str.47-51)



### OPTIONS

### PRÍPLATKY

- Alternative LED light source
- Alternative colour surface treatment
- Alternative customised dimensions
- Central diagnostics and communication (refer also to pages No.47-51)
- LED ako alternatívny svetelný zdroj
- Alternatívna farba povrchu
- Alternatívne rozmery modulov
- Centrálna diagnostika a komunikácia (pozri aj str.47-51)

## 26T LIGHTING MODULES (280-B)

Type / Typ	Length mm	Power Supply	Light Source	Dimming	AutoTest	CentralControl
MODULE 2x18W+2x36W+Speaker	2250 mm	DC 24V	T8 2x18W+2x36W	YES	YES	OPTION
MODULE 2x36W	1488 mm	DC 24V	T8 2x36W	YES	YES	OPTION
MODULE 2x18W	965 mm	DC 24V	T8 2x18W	YES	YES	OPTION
MODULE 2x21W T5	873 mm	DC 24V	T5 21W	YES	YES	OPTION
CUSTOMISED MODULE	CUSTOMISED	CUSTOMISED	CUSTOMISED	OPTION	OPTION	OPTION

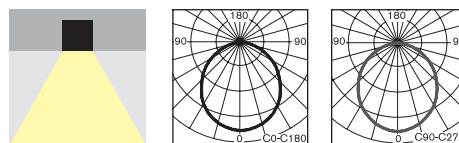


## 26T / ŠKODA Transportation





## 29T-30T / ŠKODA Transportation



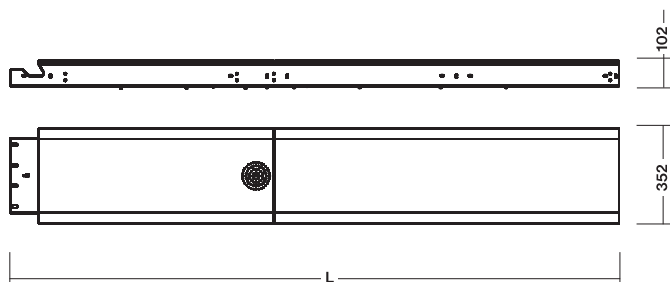
- All SEC-280-B lighting fixtures have been designed for ŠKODA Transportation 29T/30T tram vehicles. The pictures on the next page are showing 29T/30T tram version for city Bratislava project.
- Thanks to the variable lengths it is possible to create continuous lighting band along the entire vehicle length. The system includes also the speakers.
- Electronic ballast meets the latest EN50311 requirements
- Svetidlá SEC typovej rady 280-B boli konštruované a vyrobené pre projekt električky 29T/30T pre ŠKODA Transportation.
- Na obrázkoch na nasledovnej strane je verzia 26T pre mesto Bratislava
- Vďaka modulom rôznej dĺžky je možné vytvoriť líniový svetelný systém po celej dĺžke vozidla. Systém obsahuje aj reproduktory.
- Elektronické predradníky spĺňajú EN50311



### STANDARD ACCESSORIES

### STANDARDNÁ VÝBAVA

- AL body finished in white polyester powder coat RAL9003
- Diffuser is made of PC (complying EN45545 and DIN5510 S4/SR2/ST2)
- Halogen-free wiring RADOX GWK (H+S)
- "INLINE" wiring
- WAGO I/O connectors
- Dimming function SETTING 30%/100% (refer also to pages No.47-51)
- Teleso z lakovaného AL plechu v RAL9003
- PC difúzor svetidla (splňajúci EN45545 a DIN5510 S4/SR2/ST2)
- Halogénovo bezpečné vodiče RADOX (H+S)
- Pribežná kabeláž
- WAGO I/O konektory
- Stmievanie SETTING 30%/100% (pozri aj str.47-51)



### OPTIONS

### PRÍPLATKY

- Alternative LED light source
- Alternative colour surface treatment
- Alternative customised dimensions
- Central diagnostics and communication (refer also to pages No.47-51)
- LED ako alternatívny svetelný zdroj
- Alternatívna farba povrchu
- Alternatívne rozmery modulov
- Centrálna diagnostika a komunikácia (pozri aj str.47-51)

## 29T-30T LIGHTING MODULES (280-B)

Type / Typ	Length mm	Power Supply	Light Source	Dimming	AutoTest	CentralControl
MODULE 2x18W+2x36W+Speaker	2037 mm	DC 24V	T8 2x18W+2x36W	YES	YES	OPTION
MODULE 2x18W+2x36W+Speaker	2182 mm	DC 24V	T8 2x18W+2x36W	YES	YES	OPTION
MODULE 2x36W	1525 mm	DC 24V	T8 2x36W	YES	YES	OPTION
MODULE 2x18W	833 mm	DC 24V	T8 2x18W	YES	YES	OPTION
CUSTOMISED MODULE	CUSTOMISED	CUSTOMISED	CUSTOMISED	OPTION	OPTION	OPTION



## 30T / ŠKODA Transportation

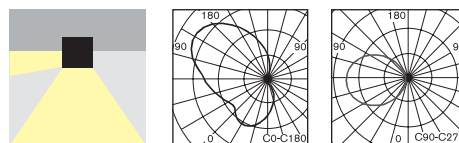


ŠKODA 30T BRATISLAVA





## CITADIS TTNG / ALSTOM



- SEC TTNG modular lighting system has been designed for combination of both direct and indirect illumination of the interior of tram vehicles. Originally it has been designed for ALSTOM CITADIS TTNG.
- Thanks to the variable lengths it is possible to create continuous lighting band along the entire vehicle length.

- SEC TTNG je modulárny svetelný systém s kombináciou priameho a nepriameho osvetlenia (pôvodne navrhnutý pre električky ALSTOM - projekt CITADIS TTNG)
- Vďaka modulom rôznej dĺžky je možné vytvoriť inline svetelný systém po celej dĺžke vagóna.

### STANDARD ACCESSORIES

### ŠTANDARDNÁ VÝBAVA

- Equipped with SEC LED strips based on high efficient (160lm/W) OSRAM DURIS E5 LEDs 3000K
- LED Binning < 3 MacAdam Steps
- AL body finished in white polyester powder coat RAL9003
- Diffuser is made of PC (complying EN45545 and DIN5510 S4/SR2/ST2)
- Halogen-free wiring RADOX GWK (H+S)
- "INLINE" wiring
- WAGO I/O connectors
- Dimming SETTING function 22%/100% (refer also to pages No.47-51)

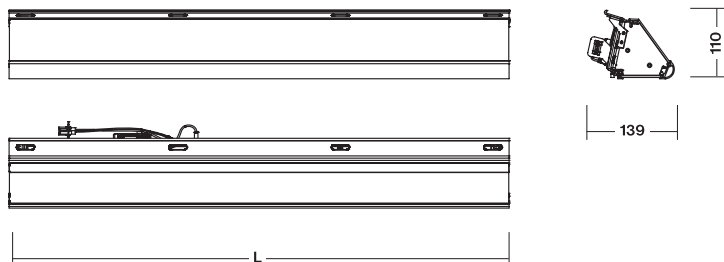
- Vabavené SEC LED modulmi na báze vysoko účinných OSRAM LED DURIS E5 3000K (160lm/W)
- LED Binning < 3 MacAdam Steps
- Teleso z lakovaného AL plechu v RAL9003
- PC difúzor svetidla (splňajúci EN45545 a DIN5510 S4/SR2/ST2)
- Halogénovo bezpečné vodiče RADOX (H+S)
- Prieběžná kabeláž
- WAGO I/O konektory
- Stmievanie SETTING 22%/100% (pozri aj str.47-51)

### OPTIONS

### PRÍPLATKY

- Alternative colour surface treatment
- Alternative customised dimmensions
- Central diagnostics and communication (refer also to pages No.47-51)

- Alternatívna farba povrchu
- Alternatívne rozmery modulov
- Centrálna diagnostika a komunikácia (pozri aj str.47-51)



## TTNG (303-B)

Type / Typ	Length mm	Power Supply	Light Source	Dimming	AutoTest	CentralControl
TTNG LED 800	800 mm	DC 24V	OSRAM LED E5/3000K	22%/100%	OPTION	OPTION
TTNG LED 1244	1244 mm	DC 24V	OSRAM LED E5/3000K	22%/100%	OPTION	OPTION
TTNG LED 1640	1640 mm	DC 24V	OSRAM LED E5/3000K	22%/100%	OPTION	OPTION
TTNG LED 2095	2095 mm	DC 24V	OSRAM LED E5/3000K	22%/100%	OPTION	OPTION
TTNG LED 2395	2395 mm	DC 24V	OSRAM LED E5/3000K	22%/50%/100%	OPTION	OPTION
TTNG CUSTOMISED MODULE	CUSTOMISED	CUSTOMISED	CUSTOMISED	OPTION	OPTION	OPTION



