



E9*150R00/04*1742*00

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COMUNICACIÓN / COMMUNICATION:

Concerniente a / Concerning: ⁽¹⁾ La concesión de homologación / *Approval granted*
La extensión de homologación / *Approval extended*
La denegación de homologación / *Approval refused*
La retirada de homologación / *Approval withdrawn*
El cese definitivo de producción / *Production definitively discontinued*

de un tipo de dispositivo catadióptrico / *of a type of retro-reflective device*
de un tipo de triángulo de preseñalización / *of a type of advance warning triangle*
de un tipo de placa de identificación trasera para vehículos lentos / *of a type of SMV rear marking plate*
de un tipo de placa de identificación trasera, / *of a type of rear marking plate,*
de marcas reflectantes de vehículos largos y pesados y de sus remolques / *of retro-reflective markings of heavy and long vehicles and their trailers*
en aplicación del Reglamento UN N° 150. / *pursuant to UN Regulation No. 150.*

Clase del dispositivo / Cambio de índice /
Class of the device: IIIA *Change index:* ---

N° de homologación / *Approval No.:* E9*150R00/04*1742*00

Identificador Único (Si procede) / *Unique Identifier (UI) (If applicable):* ---

1. Marca de fábrica o comercial del dispositivo catadióptrico o material de marcaje / *Trade name or mark of the retro-reflective device or marking material:* Fristom
2. Nombre del fabricante / *Manufacturer's name:* FRISTOM SPÓLKA Z OGRANICZONA ODPOWIEDZIALNOSCIA SPÓLKA KOMANDYTOWA
 - 2.1. para el tipo de dispositivo catadióptrico / *for the retro-reflecting type of device:* FT-371 LED
 - 2.2. para el triángulo de preseñalización / *for the advance warning triangle:* ---
 - 2.3. para el tipo de placa de identificación trasera para vehículos lentos / *for the SMV rear marking plate type:* ---
 - 2.3.1. Clase de placa de identificación trasera del SMV / *SMV rear marking plate class:* ---
 - 2.4. para el tipo de placa de identificación trasera / *for the rear marking plate type:* ---
 - 2.4.1. Clase de placa de marcaje trasera / *Rear marking plate class:* ---
 - 2.5. Clase del material de marcaje / *Class of the marking material:* ---

⁽¹⁾ Táchese lo que no proceda. / *Strike out what does not apply.*





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3. Nombre y dirección del fabricante / *Manufacturer's name and address:*
FRISTOM SPÓLKA Z OGRANICZONA ODPOWIEDZIALNOSCIA SPÓLKA KOMANDYTOWA
ul. Przemysłowa 5
86-014, Sicienko, BYDGOSZCZ (POLONIA / POLAND)

Nota / *Note:* Este dispositivo puede ser fabricado en cualquiera de las Plantas de Fabricación que consten declaradas en el Anexo I del Certificado Conformidad Producción en vigor emitido por la UCA. / *This device may be manufactured in any of the Manufacturing Plants declared in Annex I of the Conformity Production Certificate in force issued by the UCA.*

4. Si procede, nombre y dirección del representante del fabricante / *If applicable, name and address of manufacturer's representative:* ---
5. Fecha de presentación del material de marcado para los ensayos de homologación / *Date on which the marking material was submitted for approval tests:* 28/11/2022
6. Servicio técnico encargado de realizar el ensayo de homologación / *Technical service responsible for carrying out the approval test:* IDIADA
7. Fecha del informe de ensayo emitido por el servicio técnico / *Date of test report issued by the technical service:* 18/01/2023
8. Número del informe de ensayo emitido por el servicio técnico / *Number of test report issued by the technical service:* PC21110308
9. Breve descripción / *Concise description:*
- ~~Aislado~~ / forma parte de un conjunto de dispositivos ⁽¹⁾ / ~~In isolation~~ / part of an assembly of devices ⁽¹⁾
 - Color de la luz emitida: ~~blanco~~ / rojo / ~~amarillo~~ ⁽⁴⁾ / ~~auto~~ ⁽⁴⁾ / Colour of light emitted: ~~white~~ / red / ~~amber~~ ⁽⁴⁾
 - Montaje como parte integrante de una luz integrada en la carrocería de un vehículo / *Installation as an integral part of a lamp, which is integrated into the body of a vehicle:* ~~sí~~ / yes - no / no ⁽¹⁾
 - Condiciones geométricas de instalación y variaciones relacionadas, en su caso / *Geometrical conditions of installation and relating variations, if any:* ---
 - Solamente para instalación limitada en altura igual o inferior a 750 mm por encima del suelo / *Only for limited mounting height of equal to or less than 750 mm above the ground:* ~~sí~~ / yes - no / no ⁽¹⁾
10. Se concede/~~deniega~~/extiende/~~retira~~ la homologación ⁽¹⁾ / *Approval granted/~~extended~~/~~refused~~/~~withdrawn~~* ⁽¹⁾
11. Motivo(s) de la extensión (si procede) / *Reason(s) for extension (if applicable):* ---
12. Posición de la marca de homologación / *Position of the approval mark:* Ver documentación suministrada por el fabricante / *See documentation supplied by the manufacturer.*

⁽¹⁾ Táchese lo que no proceda. / *Strike out what does not apply.*





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13. Lugar / Place: Madrid

14. Fecha / Date: Ver firma electrónica. / See electronic signature.

15. Firma / Signature:

EL SUBDIRECTOR GENERAL DE CALIDAD Y SEGURIDAD INDUSTRIAL
Resolución P.D. del DIRECTOR GENERAL DE INDUSTRIA Y DE LA PYME de 25-10-2012

16. Se adjunta una lista de los documentos que componen el expediente de homologación, depositados ante la Autoridad de homologación de Tipo que concedió la homologación; puede obtenerse una copia previa solicitud.
/ Annexed is a list of documents making up the approval file, deposited with the Type Approval Authority which granted approval; a copy can be obtained on request.

- Informe del ensayo. / Test report.
- Documentación suministrada por el fabricante. / Documentation supplied by the manufacturer.

⁽¹⁾ Táchese lo que no proceda. / Strike out what does not apply.



Manufacturer:
FRISTOM Spółka z ograniczoną odpowiedzialnością Sp.K.
86-014 Sicienko / Polska
ul. Przemysłowa 5
NIP: 5542926937, KRS: 0000529238
Tel.: +48 52 360 90 51, Fax: +48 52 327 75 41



Drawn by: Michał Dybicz	Date: 18-01-2023	Sheet: 1 of 11
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Type:
FT-371 LED

LED multifunction rear lamp

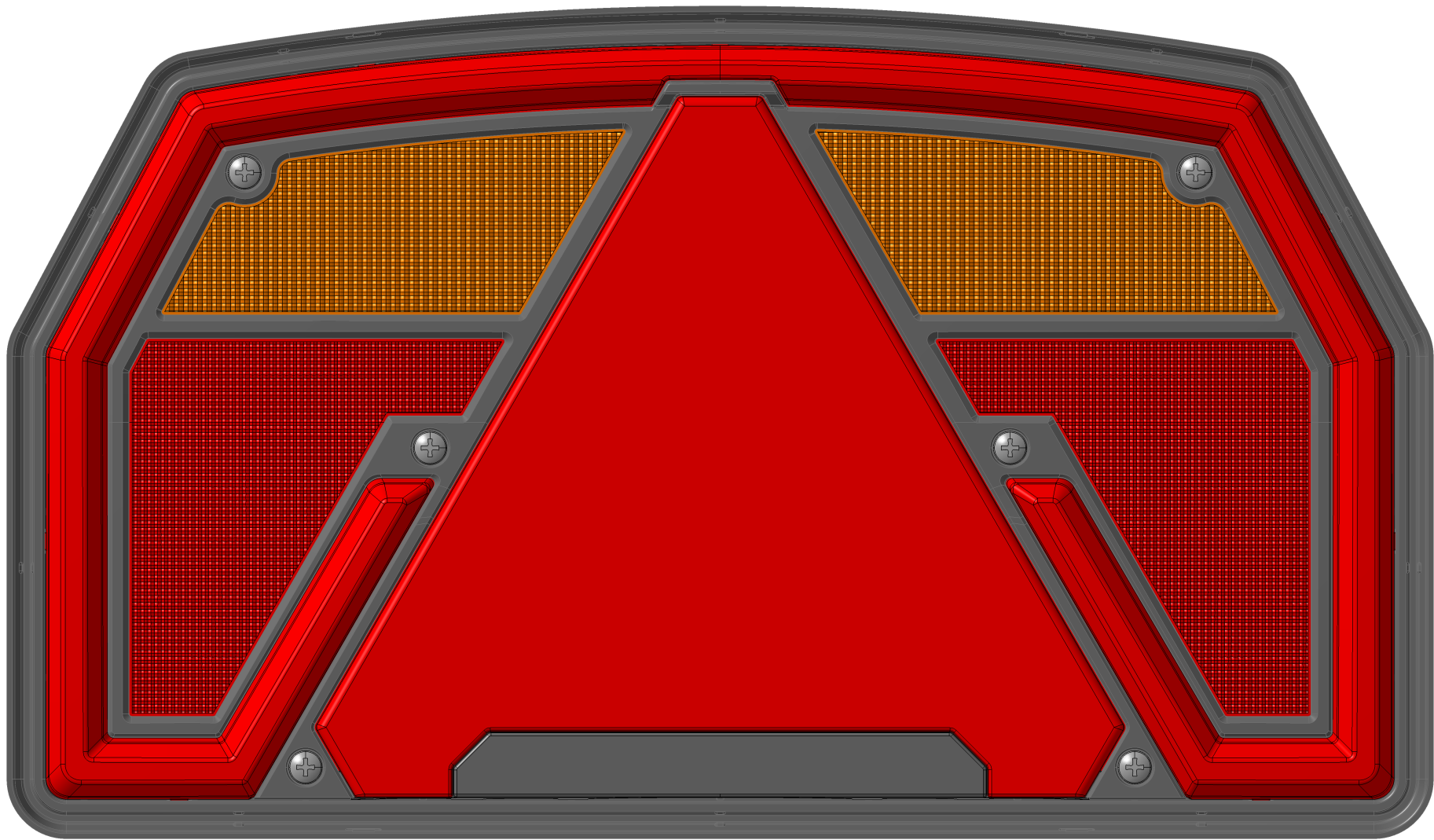
Light source:
LED CHIP SMD chip mounted
L - 6 LED's white light color
2a - 10 LED's amber light color
S1 - 12 LED's red light color
R1 - 40 LED's red light color

Description:
isometric lamp view

This drawing is a part of the application for approval

Material used in manufacturing :

- lampshade PC transparent clear
- housing - ABS black
- S1 lens PMMA transparent red
- R1 lens PMMA or PC transparent red diffusive
- IIIA reflex reflector PMMA red transparent
- 2a lens PMMA transparent amber
- L reflector PC white
- PCB FR4
- potting compound - epoxy resin



İİİÄÄÄ PC21110308

Manufacturer:
FRISTOM Spółka z ograniczoną odpowiedzialnością Sp.K.
86-014 Sicienko / Polska
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NIP: 5542926937, KRS: 0000529238
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Drawn by: Michał Dybicz
Date: 18-01-2023
Sheet: 2 of 11

Type:
FT-371 LED

LED multifunction rear lamp

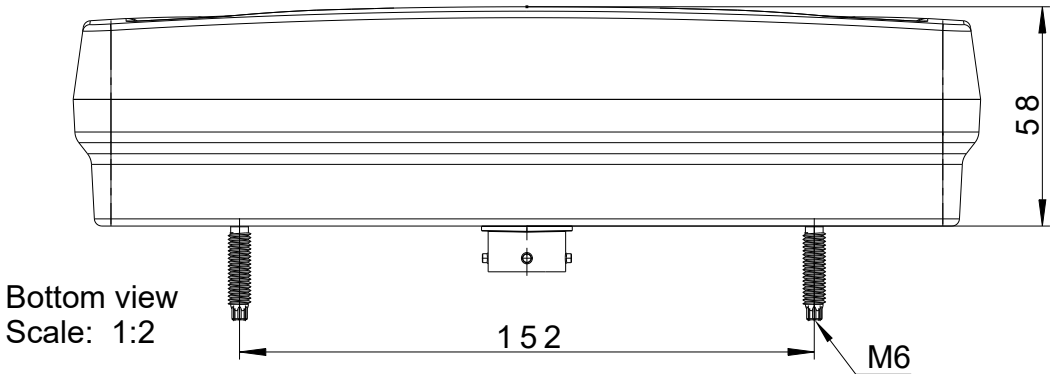
Light source:
LED CHIP SMD chip mounted
L - 6 LED's white light color
2a - 10 LED's amber light color
S1 - 12 LED's red light color
R1 - 40 LED's red light color

Description:
general drawing , light emitting ,reflecting
areas and vehicle assembly

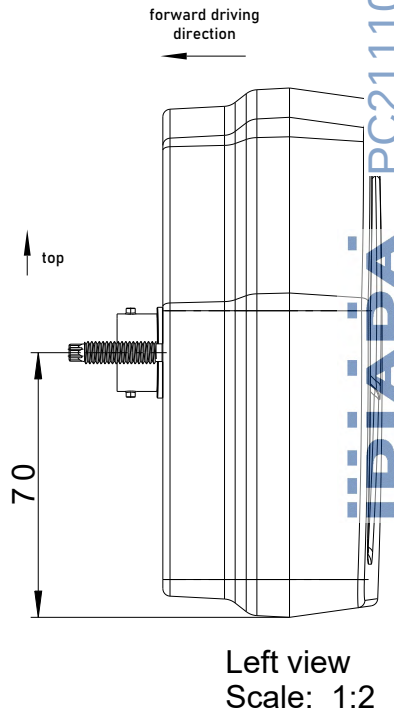
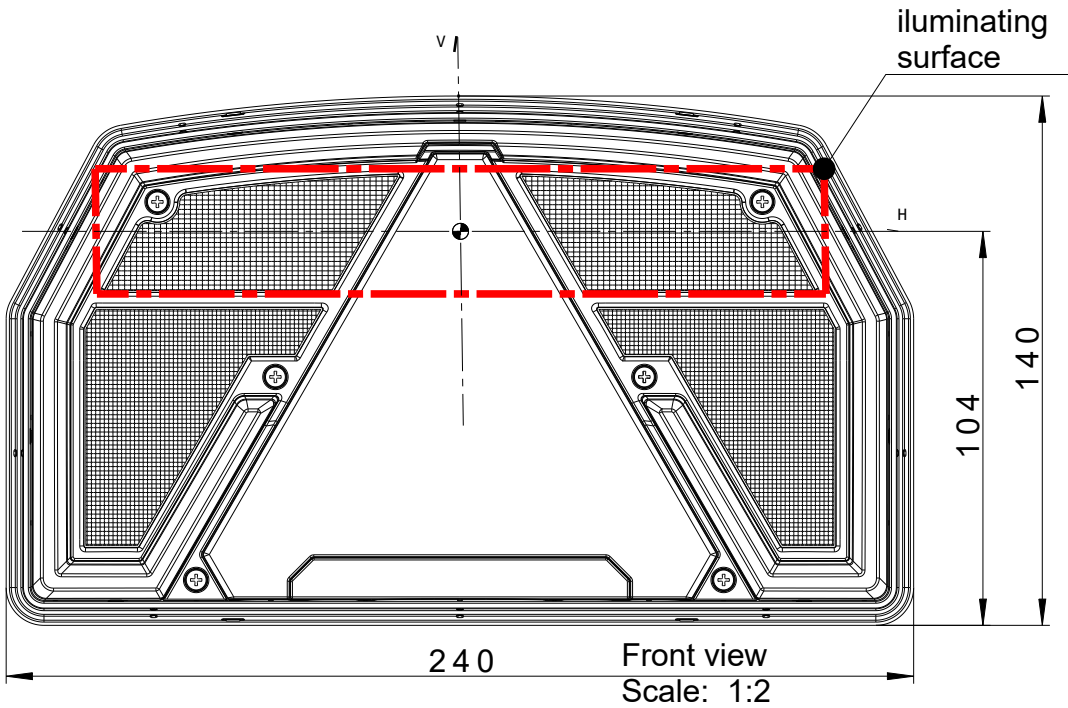
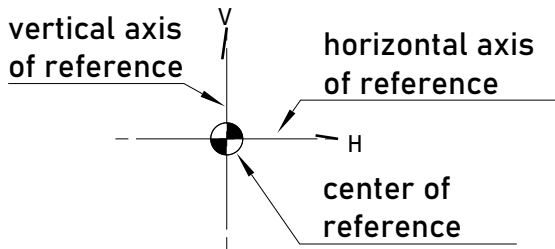
This drawing is a part of the application for approval

Material used in manufacturing :

- lampshade PC transparent clear
- housing - ABS black
- S1 lens PMMA transparent red
- R1 lens PMMA or PC transparent red diffusive
- IIIA reflex reflector PMMA red transparent
- 2a lens PMMA transparent amber
- L reflector PC white
- PCB FR4
- potting compound - epoxy resin



Left or right lamp shown on drawing
Function: rear direction indicator
category 2a



PC21110308

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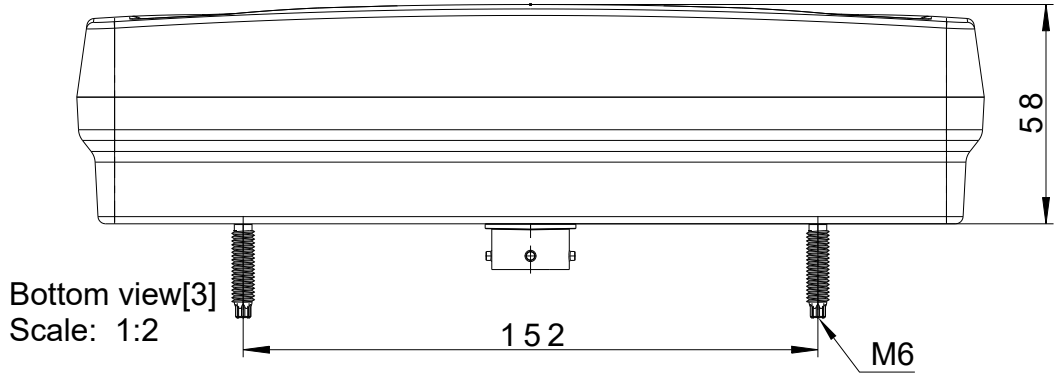


Drawn by: Michał Dybicz	Date: 18-01-2023	Sheet: 3 of 11
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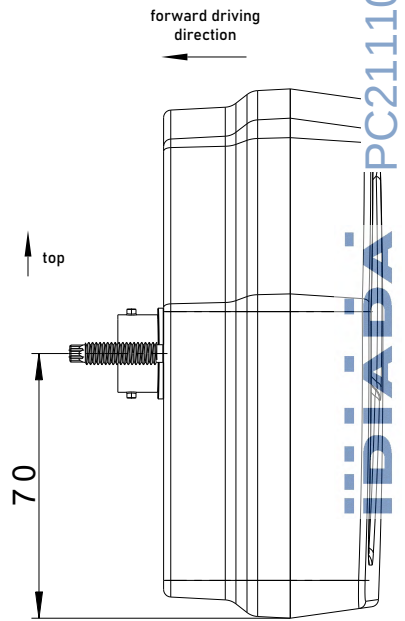
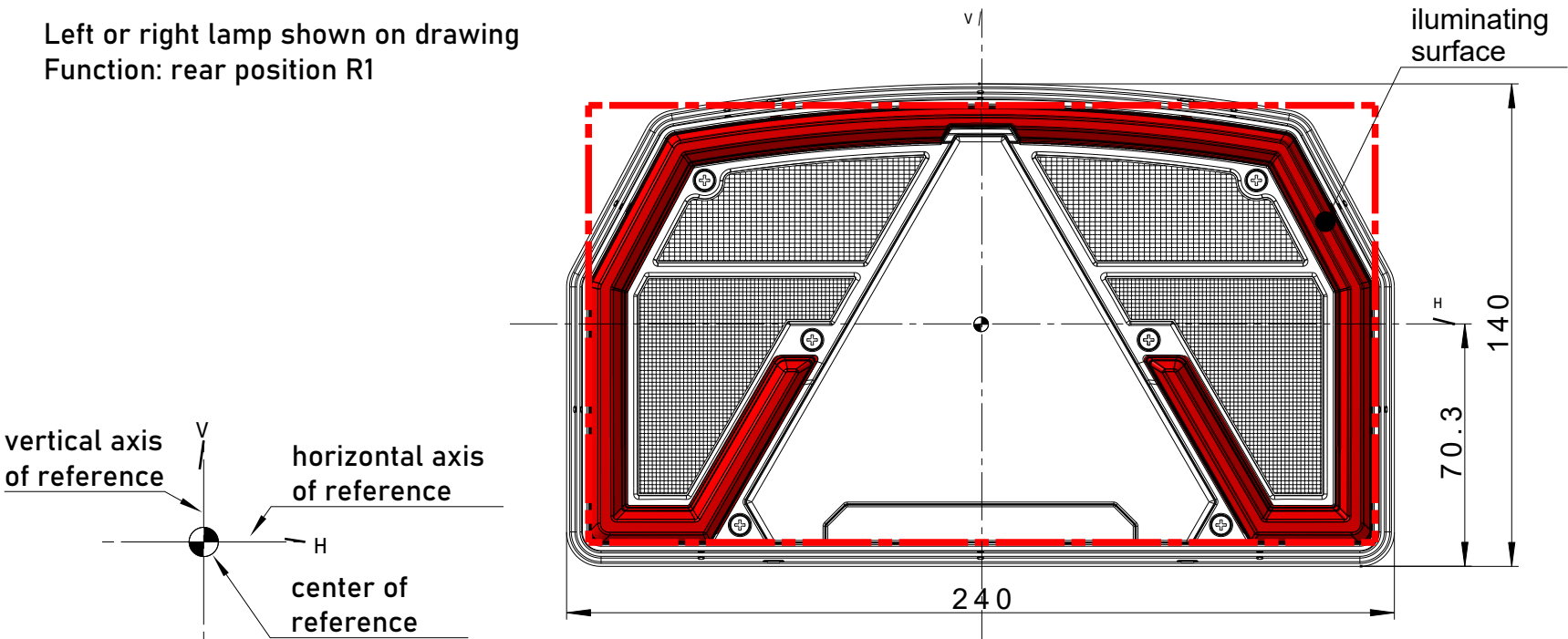
Type: FT-371 LED	
LED multifunction rear lamp	
Light source: LED CHIP SMD chip mounted L - 6 LED's white light color 2a - 10 LED's amber light color S1 - 12 LED's red light color R1 - 40 LED's red light color	Description: general drawing , light emitting ,reflecting areas and vehicle assembly This drawing is a part of the application for approval

Material used in manufacturing :

- lampshade PC transparent clear
- housing - ABS black
- S1 lens PMMA transparent red
- R1 lens PMMA or PC transparent red diffusive
- IIIA reflex reflector PMMA red transparent
- 2a lens PMMA transparent amber
- L reflector PC white
- PCB FR4
- potting compound - epoxy resin



Left or right lamp shown on drawing
Function: rear position R1



PC21110308

Manufacturer:
FRISTOM Spółka z ograniczoną odpowiedzialnością Sp.K.
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Drawn by: Michał Dybicz
Date: 18-01-2023
Sheet: 4 of 11

Type:
FT-371 LED

LED multifunction rear lamp

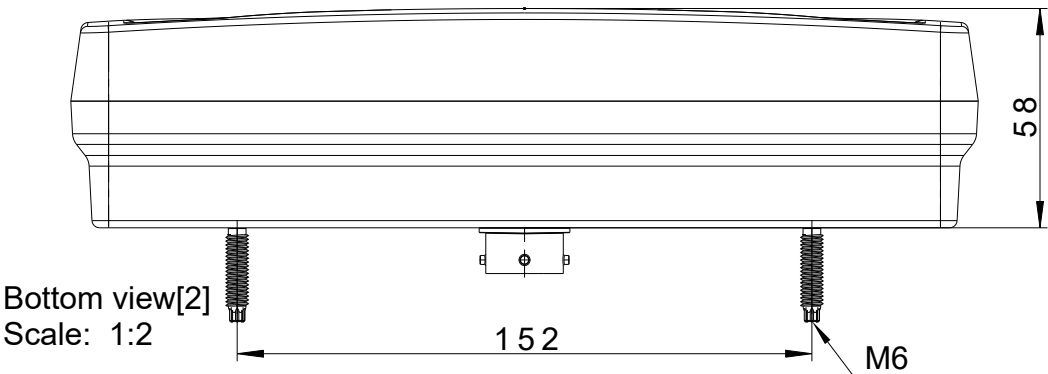
Light source:
LED CHIP SMD chip mounted
L - 6 LED's white light color
2a - 10 LED's amber light color
S1 - 12 LED's red light color
R1 - 40 LED's red light color

Description:
general drawing , light emitting ,reflecting
areas and vehicle assembly

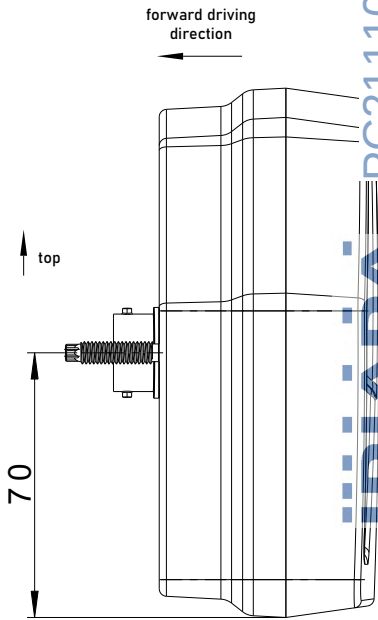
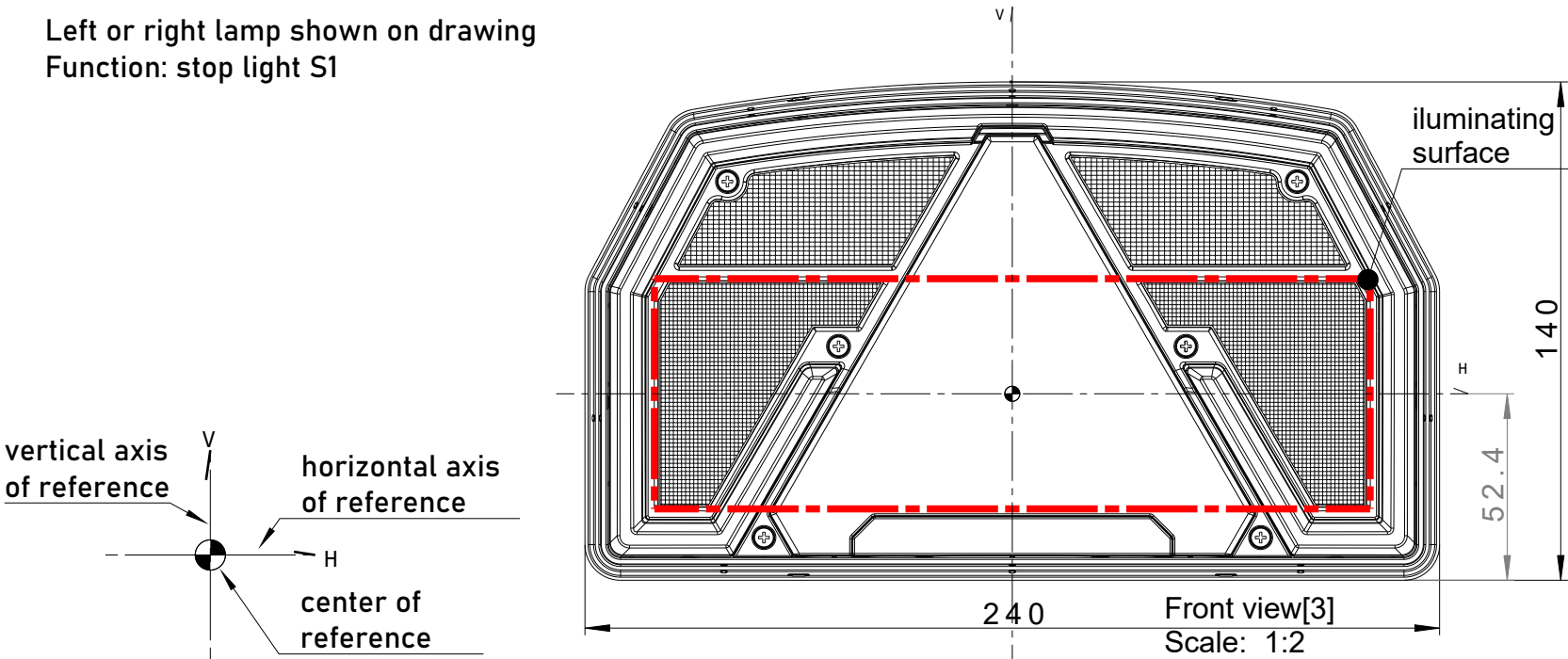
This drawing is a part of the application for approval

Material used in manufacturing :

- lampshade PC transparent clear
- housing - ABS black
- S1 lens PMMA transparent red
- R1 lens PMMA or PC transparent red diffusive
- IIIA reflex reflector PMMA red transparent
- 2a lens PMMA transparent amber
- L reflector PC white
- PCB FR4
- potting compound - epoxy resin



Left or right lamp shown on drawing
Function: stop light S1



Left view[2]
Scale: 1:2

PC21110308

Manufacturer:

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Fristom**Drawn by:**

Michał Dybicz

Date:

18-01-2023

Sheet:

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Type:**FT-371 LED****LED multifunction rear lamp****Light source:**

LED CHIP SMD chip mounted
L - 6 LED's white light color
2a - 10 LED's amber light color
S1 - 12 LED's red light color
R1 - 40 LED's red light color

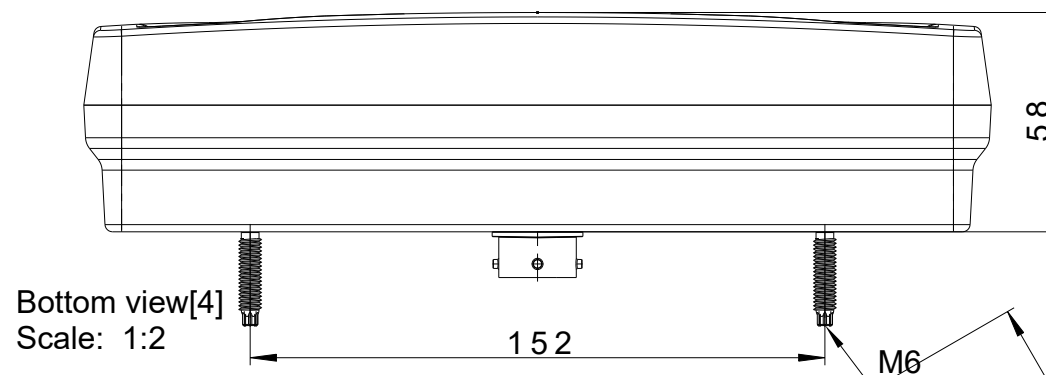
Description:

general drawing , light emitting ,reflecting
areas and vehicle assembly

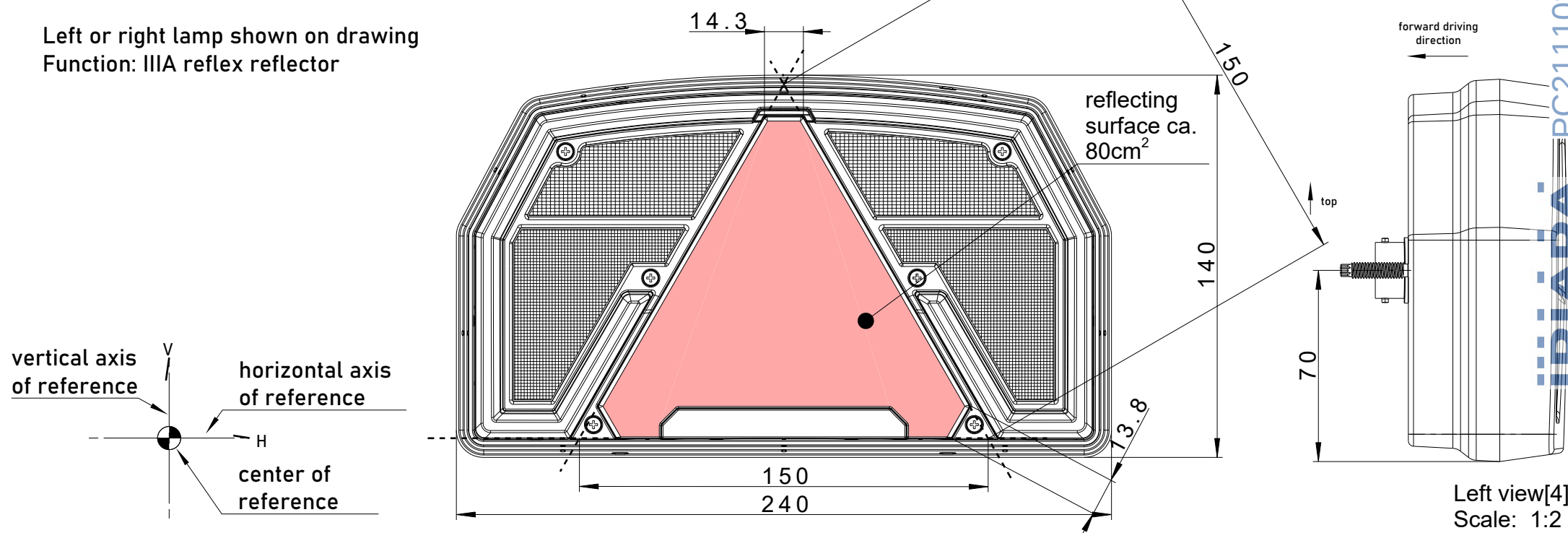
This drawing is a part of the application for approval

Material used in manufacturing :

- lampshade PC transparent clear
- housing - ABS black
- S1 lens PMMA transparent red
- R1 lens PMMA or PC transparent red diffusive
- IIIA reflex reflector PMMA red transparent
- 2a lens PMMA transparent amber
- L reflector PC white
- PCB FR4
- potting compound - epoxy resin



Left or right lamp shown on drawing
Function: IIIA reflex reflector



PC21110308

Manufacturer:
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Drawn by: Michał Dybicz
Date: 18-01-2023
Sheet: 6 of 11

Type:
FT-371 LED

LED multifunction rear lamp

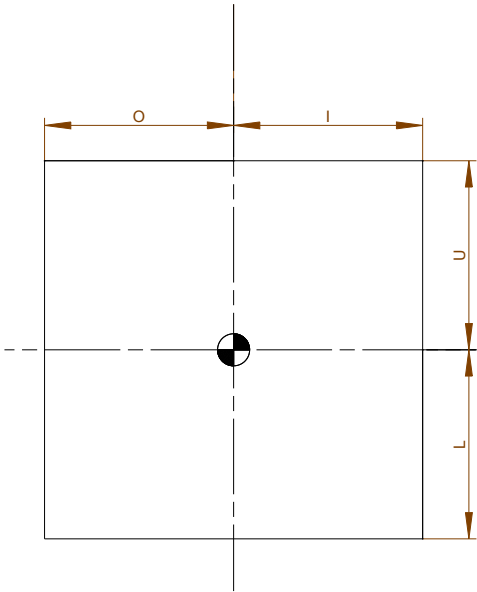
Light source:
LED CHIP SMD chip mounted
L - 6 LED's white light color
2a - 10 LED's amber light color
S1 - 12 LED's red light color
R1 - 40 LED's red light color

Description:
illumination surface

This drawing is a part of the application for approval

Material used in manufacturing :

- lampshade PC transparent clear
- housing - ABS black
- S1 lens PMMA transparent red
- R1 lens PMMA or PC transparent red diffusive
- IIIA reflex reflector PMMA red transparent
- 2a lens PMMA transparent amber
- L reflector PC white
- PCB FR4
- potting compound - epoxy resin



surface dimensions				
function	U (upper limit) [mm]	L (lower limit) [mm]	O (outer limit) [mm]	I (inner limit) [mm]
2a	16,5	16,5	96	96
S1	32	32	100	100
R1	63	63	114	114

Determining the lower , upper and lateral limits of the ilumination surface of the lamp device.
According to European Directive 91/663/EEC , Annex I "Instalation of lighting and light-signalling devices" clause 1.9.2.
According to ECE regulation 48/06 "Instalation of light and light-signalling devices" clause 2.10.3.2.

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Drawn by: Michał Dybicz	Date: 18-01-2023	Sheet: 7 of 11
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Type:
FT-371 LED

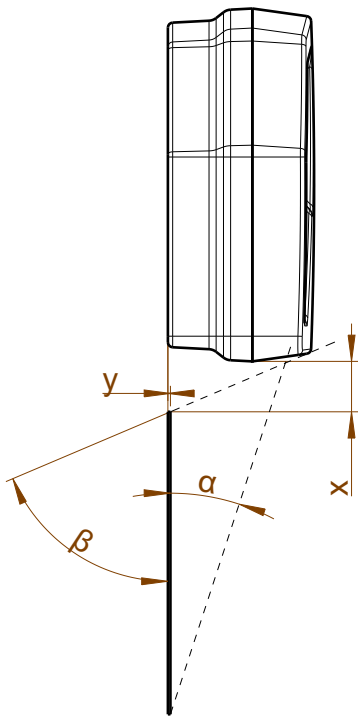
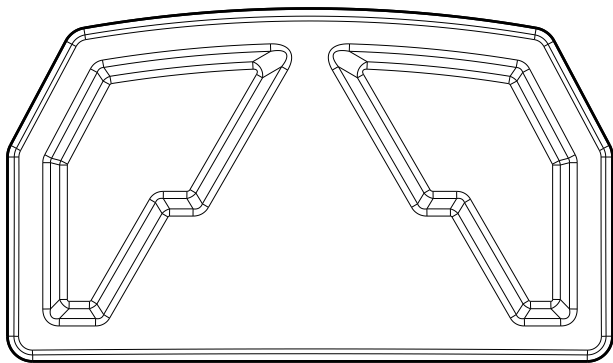
LED multifunction rear lamp

Light source:
LED CHIP SMD chip mounted
L - 6 LED's white light color
2a - 10 LED's amber light color
S1 - 12 LED's red light color
R1 - 40 LED's red light color

Description:
**registration plate light
assembly (category 1b)**
This drawing is a part of the application for approval

Material used in manufacturing :

- lampshade PC transparent clear
- housing - ABS black
- S1 lens PMMA transparent red
- R1 lens PMMA or PC transparent red diffusive
- IIIA reflex reflector PMMA red transparent
- 2a lens PMMA transparent amber
- L reflector PC white
- PCB FR4
- potting compound - epoxy resin



assembly positions for registration plate			
x [mm]	y [mm]	α [deg]	β [deg]
40	10	10,15	56

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Drawn by:	Date:	Sheet:
Michał Dybicz	18-01-2023	8 of 11

Type:
FT-371 LED

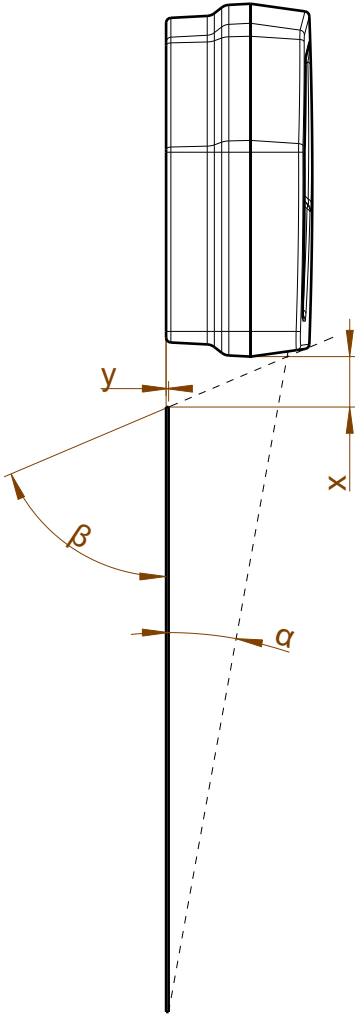
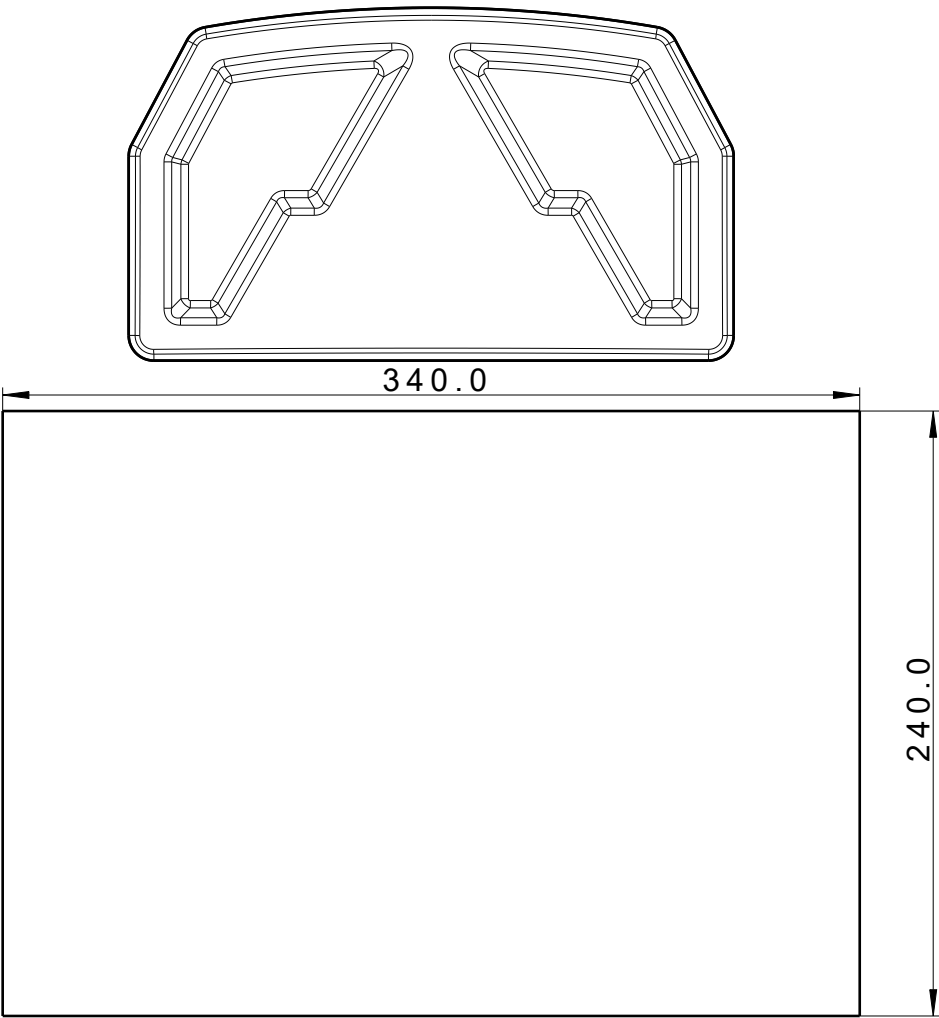
LED multifunction rear lamp

Light source:
LED CHIP SMD chip mounted
L - 6 LED's white light color
2a - 10 LED's amber light color
S1 - 12 LED's red light color
R1 - 40 LED's red light color

Description:
**registration plate light
assembly (category 1a)**
This drawing is a part of the application for approval

Material used in manufacturing :

- lampshade PC transparent clear
- housing - ABS black
- S1 lens PMMA transparent red
- R1 lens PMMA or PC transparent red diffusive
- IIIA reflex reflector PMMA red transparent
- 2a lens PMMA transparent amber
- L reflector PC white
- PCB FR4
- potting compound - epoxy resin



assembly positions for registration plate			
x [mm]	y [mm]	α [deg]	β [deg]
20	0	8,1	67
30	0	8	56

Manufacturer:
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Drawn by: Michał Dybicz
Date: 18-01-2023
Sheet: 9 of 11

Type:
FT-371 LED

LED multifunction rear lamp

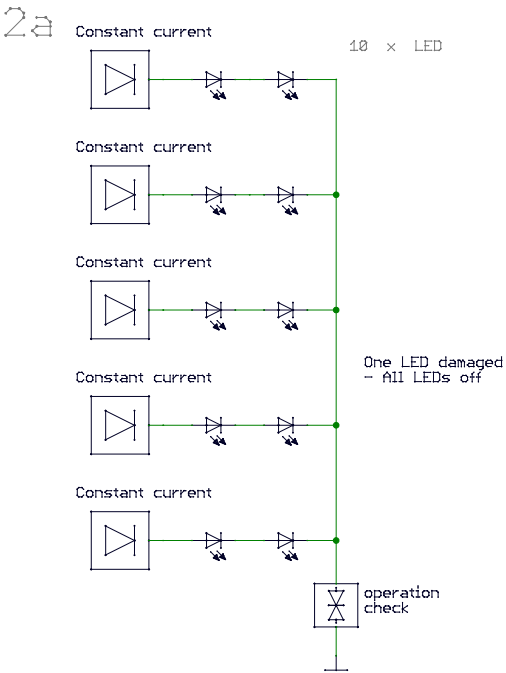
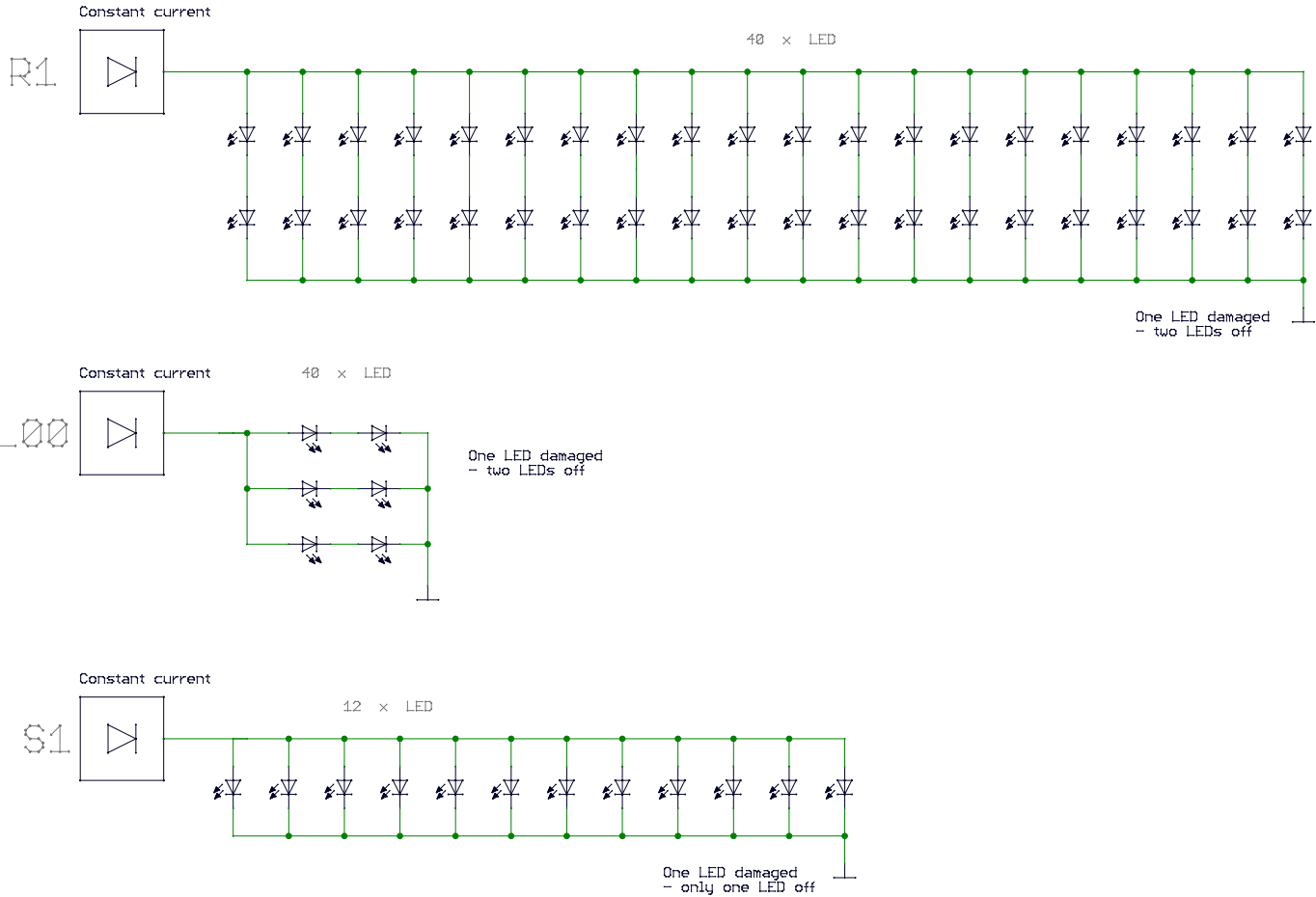
Light source:
LED CHIP SMD chip mounted
L - 6 LED's white light color
2a - 10 LED's amber light color
S1 - 12 LED's red light color
R1 - 40 LED's red light color

Description:
LED connection and failure information

This drawing is a part of the application for approval

Material used in manufacturing :

- lampshade PC transparent clear
- housing - ABS black
- S1 lens PMMA transparent red
- R1 lens PMMA or PC transparent red diffusive
- IIIA reflex reflector PMMA red transparent
- 2a lens PMMA transparent amber
- L reflector PC white
- PCB FR4
- potting compound - epoxy resin



Manufacturer:
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Drawn by: Michał Dybicz
Date: 18-01-2023
Sheet: 10 of 11

Type:
FT-371 LED

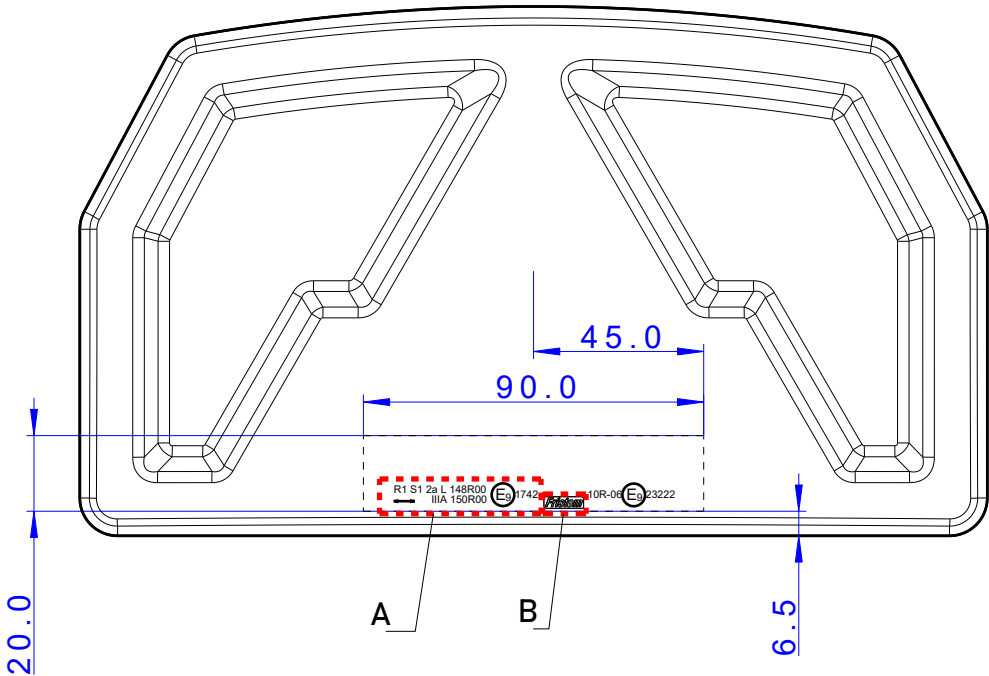
LED multifunction rear lamp

Light source:
LED CHIP SMD chip mounted
L - 6 LED's white light color
2a - 10 LED's amber light color
S1 - 12 LED's red light color
R1 - 40 LED's red light color

Description:
approval , trademark and electrical parameters markings
electrical connection of LED's
This drawing is a part of the application for approval

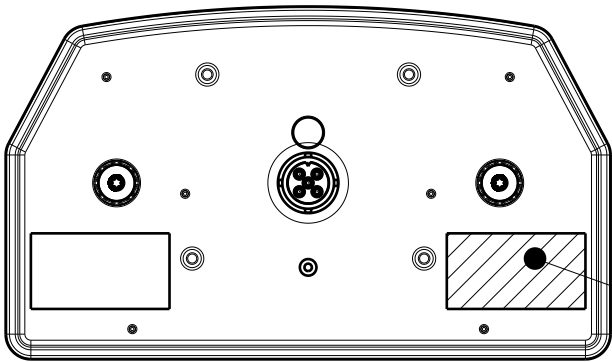
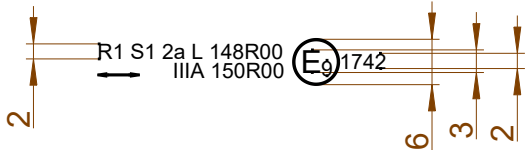
Material used in manufacturing :

- lampshade PC transparent clear
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- S1 lens PMMA transparent red
- R1 lens PMMA or PC transparent red diffusive
- IIIA reflex reflector PMMA red transparent
- 2a lens PMMA transparent amber
- L reflector PC white
- PCB FR4
- potting compound - epoxy resin

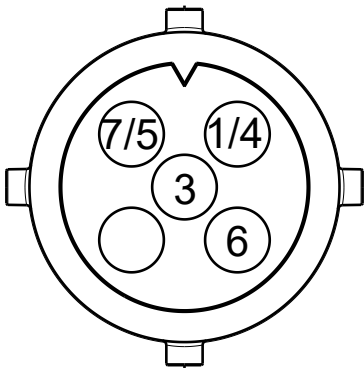


A	trademark location (appears visible under the lampshade)
B	approval numbers

approval marking dimensions



electrical parameters marking



12 V

Function	PIN	Color	Wattage
R1+L	7/5	Brown/Black	6W max
S1	6	Red	6W max
Ground	3	White	
2a	1/4	Green/Yellow	15W max

PC21110308

Manufacturer:

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Drawn by:

Date:

Sheet:

Michał Dybicz

18-01-2023

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Type:

FT-371 LED

LED multifunction rear lamp

Light source:

LED CHIP SMD chip mounted
L - 6 LED's white light color
2a - 10 LED's amber light color
S1 - 12 LED's red light color
R1 - 40 LED's red light color

Description:

trade name variants

This drawing is a part of the application for approval

Material used in manufacturing :

- lampshade PC transparent clear
- housing - ABS black
- S1 lens PMMA transparent red
- R1 lens PMMA or PC transparent red diffusive
- IIIA reflex reflector PMMA red transparent
- 2a lens PMMA transparent amber
- L reflector PC white
- PCB FR4
- potting compound - epoxy resin

Nr	tradename	description
1	FT-371 NT LED	Lampa tylna uniwersalna LED 12-36V, 3-funkcyjna, lewa/prawa bez oświetlenia tablicy rej., przewód o długości 1m.<ang> Universal LED rear lamp 12-36V, 3-functional, left/right without number plate light, 1 m cable.<ang>
	FT-371 NT LED Mxx	Lampa tylna uniwersalna LED 12-36V, 3-funkcyjna, lewa/prawa bez oświetlenia tablicy rej., przewód o długości Mxx.<ang> Universal LED rear lamp 12-36V, 3-functional, left/right without number plate light, Mxx cable.<ang>
2	FT-371 TD LED	Lampa tylna uniwersalna LED 12V, 4-funkcyjna, lewa/prawa z dolnym oświetleniem tab. rej., przewód o długości 1m.<ang> Universal LED rear lamp 12V, 4-functional, left/right with bottom number plate light, 1 m cable.<ang>
	FT-371 TD LED Mxx	Lampa tylna uniwersalna LED 12V, 4-funkcyjna, lewa/prawa z dolnym oświetleniem tab. rej., przewód o długości Mxx.<ang> Universal LED rear lamp 12V, 4-functional, left/right with bottom number plate light, Mxx cable.<ang>
3	FT-370 NT LED BAJONET 5PIN	Lampa tylna uniwersalna LED 12V, 3-funkcyjna, lewa/prawa bez oświetlenia tablicy rej., złącze bajonet 5PIN.<ang> Universal LED rear lamp 12V, 3-functional, left/right without number plate light, bayonet 5PIN connector.<ang>
4	FT-370 TD LED BAJONET 5PIN	Lampa tylna uniwersalna LED 12V, 4-funkcyjna, lewa/prawa z dolnym oświetleniem tab. rej., złącze bajonet 5PIN.<ang> Universal LED rear lamp 12V, 4-functional, left/right with bottom number plate light, bayonet 5PIN connector.<ang>
15	FT-370 NT LED O BAJONET 5PIN	Lampa tylna uniwersalna LED 12V, 3-funkcyjna, lewa/prawa bez oświetlenia tablicy rej., złącze bajonet 5PIN, z systemem kontroli LED.<ang> Universal LED rear lamp 12V, 3-functional, left/right without number plate light, bayonet 5PIN connector, with LED system control.<ang>
16	FT-370 TD LED O BAJONET 5PIN	Lampa tylna uniwersalna LED 12V, 4-funkcyjna, lewa/prawa z dolnym oświetleniem tab. rej., złącze bajonet 5PIN, z systemem kontroli LED.<ang> Universal LED rear lamp 12V, 4-functional, left/right with bottom number plate light, bayonet 5PIN connector, with LED system control.<ang>
23	FT-370 L TB LED O AMP 7PIN 12V	
24	FT-370 P TB LED O AMP 7PIN 12V	

* where "x" is a digit between 0-9