



E9\*38R00/19\*23098\*03

Página / Page 1/3



COMUNICACIÓN / COMMUNICATION:

Concerniente a <sup>(1)</sup>: ~~LA CONCESIÓN DE HOMOLOGACIÓN~~  
~~LA EXTENSIÓN DE HOMOLOGACIÓN~~  
~~LA DENEGACIÓN DE HOMOLOGACIÓN~~  
~~LA RETIRADA DE HOMOLOGACIÓN~~  
~~EL CESE DEFINITIVO DE PRODUCCIÓN~~

Concerning <sup>(1)</sup>: ~~APPROVAL GRANTED~~  
~~APPROVAL EXTENDED~~  
~~APPROVAL REFUSED~~  
~~APPROVAL WITHDRAWN~~  
~~PRODUCTION DEFINITELY DISCONTINUED~~

de un tipo de luz antiniebla trasera para vehículos a motor y sus remolques en aplicación del Reglamento N° 38.  
of a type of rear fog lamps for power-driven vehicles and their trailers pursuant to Regulation No.38.

N° de homologación / Approval No.: E9\*38R00/19\*23098\*03

Extensión N° / Extension No.: 3

1. Marca de fábrica o comercial del dispositivo / Trade name or mark of the device: FRISTOM
  2. Designación del tipo de dispositivo dado por el fabricante / Manufacturer's name for the type of device:  
FT-270 LED
  3. Nombre y dirección del fabricante / Manufacturer's name and address:  
FRISTOM SPÓLKA Z OGRANICZONA  
ODPOWIEDZIALNOSCIA SPÓLKA  
KOMANDYTOWA  
UL. PRZEMYSŁOWA 5, 86-014  
85416 SICIENKO  
SICIENKO (POLONIA)
- 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. En su caso, nombre y dirección del representante del fabricante / If applicable, name and address of manufacturer's representative: ---
  5. Dispositivo presentado a homologación el / Submitted for approval on: 07/04/2021
  6. Servicio técnico encargado de los ensayos de homologación / Technical service responsible for conducting approval test: IDIADA
  7. Fecha del informe emitido por dicho servicio / Date of report issued by that service: 27/04/2021
  8. Número del informe emitido por dicho servicio / Number of report issued by that service: PC19060175, PC19090222, PC20020154, PC20050210, **PC21050058**

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





E9\*38R00/19\*23098\*03

Página / Page 2/3



9. Breve descripción / Concise description:

- Número, categoría(s) y tipo de la(s) fuente(s) luminosa(s) / *Number, category and kind of light source(s)*:
    - 8 x LED's
  - Voltaje y potencia / *Voltage and wattage*: 12V, 5W
  - Código de identificación específico del módulo de fuente de luz / *Light source module specific identification code*: ---
  - Condiciones geométricas de instalación y variaciones relacionadas, en su caso / *Geometrical conditions of installation and relating variations, if any*: ---
  - Aplicación de una guía de control electrónica/control de intensidad variable de la fuente luminosa / *Application of an electronic light source control gear/variable intensity control*: ---
    - a) formando parte de la luz / *being part of the lamp*: ~~si~~ / ~~yes~~ - no / no <sup>(1)</sup>
    - b) no formando parte de la luz / *being not part of the lamp*: ~~si~~ / ~~yes~~ - no / no <sup>(1)</sup>
  - Tensión(es) de entrada suministrada(s) por la guía de control electrónica/control de intensidad variable de la(s) fuente(s) luminosa(s) / *Input voltage(s) supplied by an electronic light source control gear/variable intensity control*: ---
  - Fabricante de la guía de control electrónica/control de intensidad variable de la(s) fuente(s) luminosa(s) y número de identificación (cuando la guía de control de la fuente luminosa forma parte de la luz pero no está incluida en el cuerpo de la luz) / *Electronic light source control gear/variable intensity control manufacturer and identification number (when the light source control gear is part of the lamp but is not included into the lamp body)*: ---
  - Intensidad luminosa variable / *Variable luminous intensity*: ~~si~~ / ~~yes~~ - no / no <sup>(1)</sup>
  - La luz es sólo para uso en un vehículo equipado con un testigo que indique el fallo / *The lamp is only for use on a vehicle fitted with a tell-tale indicating failure*: ~~si~~ / ~~yes~~ - no / no <sup>(1)</sup>
10. Posición de la marca de homologación / *Position of the approval mark*: Ver documentación suministrada por el fabricante / *See documentation supplied by the manufacturer.*
11. Motivos de la extensión (en su caso) / *Reason(s) of extension (if applicable)*:
- a) Dimensiones físicas del reflector de categoría IIIA se corrigen de acuerdo a: / *Physical dimensions of reflex reflector cat. IIIA have been corrected according to*: R003 - E/CE/324/Add.2/Rev.4 E/CE/TRANS/505/Add.2/Rev.4 Annex 5-par 2.6
  - b) Se añade esquema de conexiones LED / *Scheme of LED connections has been added*

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







MINISTERIO  
DE INDUSTRIA, COMERCIO Y  
TURISMO

DIRECCIÓN GENERAL DE INDUSTRIA Y  
DE LA PEQUEÑA Y MEDIANA EMPRESA

SUBDIRECCIÓN GENERAL DE  
CALIDAD Y SEGURIDAD INDUSTRIAL

E9\*38R00/19\*23098\*03

Página / Page 3/3



12. Se ~~concede~~/deniega/extiende/~~retira~~ la homologación <sup>(1)</sup> / ~~Approval granted/refused/extended/withdrawn~~ <sup>(1)</sup>

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 la lista de apartados que constituyen el expediente de homologación depositado en el servicio administrativo que ha concedido la homologación y que pueden ser obtenidos a petición. / The list of documents deposited with the Administrative Service which has granted approval is annexed to this communication and may 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





**INFORME N° / REPORT No. PC21050058**

RELATIVO A LA EXTENSIÓN DE HOMOLOGACIÓN DE LAS LUCES ANTINEBLA TRASERAS PARA  
LOS VEHÍCULOS A MOTOR Y SUS REMOLQUES SEGÚN LAS PRESCRIPCIONES DEL  
REGLAMENTO ECE 38.00 / *CONCERNING THE APPROVAL EXTENDED OF REAR FOG LAMPS FOR  
POWER-DRIVEN VEHICLES AND THEIR TRAILERS ACCORDING TO REGULATION 38.00 ECE*

**EXTENSIÓN III/ EXTENSION III**

Nombre y dirección del fabricante /  
*Manufacturer's name and address* : FRISTOM SPÓLKA Z OGRANICZONA  
ODPOWIEDZIALNOSCIA SPÓLKA  
KOMANDYTOWA  
UL. PRZEMYSŁOWA 5, 86-014  
85416 SICIENKO  
SICIENKO (POLONIA)

Marca comercial / *Trade mark* : FRISTOM

Tipo / *Type* : FT-270 LED

Lugar y fecha de emisión del informe /  
*Place and date of test report issue* : L'Albornar, Santa Oliva (Tarragona)  
27/04/2021

**CONCLUSIONES / CONCLUSIONS:** Las modificaciones introducidas, que se detallan en el Anexo a este Informe, son objeto de extensión de homologación respecto al tipo homologado por este servicio (Informe PC19060175, PC19090222, PC20020154, PC20050210) **CUMPLE** las prescripciones relativas a la homologación de las luces antiniebla traseras de categoría F1 en aplicación del Reglamento ECE 38.00 según se detalla en el anexo que se adjunta a este informe. / *Modifications introduced, as detailed in the Annex attached to this report, are extension of homologation with respect to formerly certified type performed by this technical department (Test Report No. PC19060175, PC19090222, PC20020154, PC20050210) FULFILLS the prescriptions with regard to the approval of rear fog lamps of category F1 in application to Regulation 38.00 ECE as detailed in the annex to this report.*

Realizado por / *Performed by:*



Joan Fonts Sala  
INGENIERO DE ENSAYOS  
TEST ENGINEER

V. B° / *Revised by:*



Ramon Santafè Guiu  
JEFE DE DEPARTAMENTO  
DEPARTMENT MANAGER



**ANEXO AL INFORME  
ANNEX TO THE REPORT**

RELATIVO A LA EXTENSIÓN DE HOMOLOGACIÓN DE LAS LUCES ANTINEBLA TRASERAS PARA  
LOS VEHÍCULOS A MOTOR Y SUS REMOLQUES SEGÚN LAS PRESCRIPCIONES DEL  
REGLAMENTO ECE 38.00 / *CONCERNING THE APPROVAL EXTENDED OF REAR FOG LAMPS FOR  
POWER-DRIVEN VEHICLES AND THEIR TRAILERS ACCORDING TO REGULATION 38.00 ECE*

Nombre y dirección del fabricante / <i>Manufacturer's name and address</i>	:	FRISTOM SPÓLKA Z OGRANICZONA ODPOWIEDZIALNOSCIA SPÓLKA KOMANDYTOWA UL. PRZEMYSŁOWA 5, 86-014 85416 SICIENKO SICIENKO (POLONIA)
Marca comercial / <i>Trade mark</i>	:	FRISTOM
Tipo / <i>Type</i>	:	FT-270 LED
Identificación de las muestras / <i>Sample identification</i>	:	HTC-2104/0194
Luz / <i>Lamp</i>	:	Simple / <i>Single</i> (2.16.1 (a) R.48)
Número y categoría(s) de la(s) fuente(s) luminosa(s) / <i>Light source(s) number and category(ies)</i>	:	8xLEDs
Módulo de fuente luminosa / <i>Light source module *</i>	:	<del>Si</del> / <i>Yes</i> – No / <i>No</i>
Código específico de identificación del módulo de fuente luminosa / <i>Light source module specific identification code:</i>		----

Validate this report with the security code «VIBDAEW3» at: <https://extranet.idiada.com/hom-cve>  
Verifique el informe con código de seguridad «VIBDAEW3» en: <https://extranet.idiada.com/hom-cve>

\* Táchese lo que no proceda / *Strike out what does not apply*

- \* LOS RESULTADOS PRESENTADOS SE REFIEREN ÚNICAMENTE A LA MUESTRA ENSAYADA.  
*THE PRESENTED RESULTS REFER ONLY TO THE TESTED SAMPLE*
- \* QUEDA TERMINANTEMENTE PROHIBIDA LA REPRODUCCIÓN PARCIAL DE ESTE INFORME SIN PERMISO EXPRESO DE IDIADA.  
*THE PARTIAL REPRODUCTION OF THIS REPORT WITHOUT THE PERMISSION OF IDIADA IS COMPLETELY FORBIDDEN*




**MOTIVO DE EXTENSIÓN/ REASON OF EXTENSION:**

- a) Dimensiones físicas del reflector de categoría IIIA se corrigen de acuerdo a: / *Phyycal dimensions of réflex reflector cat. IIIA han been corrected according to:* R003 – E/ECE/324/Add.2/Rev.4 E/ECE/TRANS/505/Add.2/Rev.4 Annex 5-par 2.6
- b) Se añade esquema de conexiones LED / *Scheme of LED connections has been added*

Validate this report with the security code «VIBDAEW3» at: <https://extranet.idiada.com/hom-cva>  
Verifique el informe con código de seguridad «VIBDAEW3» en: <https://extranet.idiada.com/hom-cva>

Lugar / Place: L'Albornar, E-43710 Santa Oliva (Tarragona)  
Fecha / Date: 27/04/2021



Joan Fonts Sala  
INGENIERO DE ENSAYOS  
TEST ENGINEER

IDIADA PC21050058

- \* LOS RESULTADOS PRESENTADOS SE REFIEREN ÚNICAMENTE A LA MUESTRA ENSAYADA.  
*THE PRESENTED RESULTS REFER ONLY TO THE TESTED SAMPLE*
- \* QUEDA TERMINANTEMENTE PROHIBIDA LA REPRODUCCIÓN PARCIAL DE ESTE INFORME SIN PERMISO EXPRESO DE IDIADA.  
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DOCUMENTACIÓN TÉCNICA /  
*TECHNICAL DOCUMENTATION*

## INFORMATION FOLDER:

DATE: 16.04.2021

### 1. Specification data

Type	FT-270 LED	
Trade name or mark	Fristom	
Variants	See drawing	
Function	rear position R1 ; stop light S1 ; retro reflex reflector cat IIIA , rear fog light F1 ,registration plate light L, reversing light AR, rear direction indicator light 2a	
Color	red light color , white light color , amber light color	
Rated	Voltage	12V
	Wattage	R1=4W ; R1+L=5W ; S1=5W ; F1=5W ; AR=4W ; 2a=15W
Applicable Regulation		R03;R04;R06;R07;R23;R38
Light Source and connection		R1 - 4 LED's serial connected in 2 parallel sections S1 - all 8 LED's series-parallel connected 2a - 3 LED's serial connected in 2 parallel sections F1 - all 8 LED's series-parallel connected AR- all 6 LED's series-parallel connected L - 3 LED's serial connected
Location of marking	Light Source marks	See the drawing
	Trade mark	Marked on reflex reflector visible under lampshade
	Approval mark	Marked on the lampshade

### 2. Construction and material

Construction	Material	Remarks
Lenses	Defined on the technical drawing	--
Reflectors	Defined on the technical drawing	--
Bases	Defined on the technical drawing	--

### 2. Name and address of manufacturer:

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

### 4. REASON OF THE APPROVAL EXTENSION:

- a) Physycal dimensions of reflex reflector cat. IIIA has been corrected according:  
R003 - E/ECE/324/Add.2/Rev.4 E/ECE/TRANS/505/Add.2/Rev.4 Annex 5 – par 2.6
- b) schemes of LED connections has been added

**NOTE :** APPROVAL MARKINGS ARE SHOWN IN THE ATTACHED DRAWING.  
THIS INFORMATION FOLDER CONSISTS OF 1 PAGES

**FRISTOM**  
Spółka z ograniczoną odpowiedzialnością Sp. k.  
86-014 SICIENKO, ul. Przemysłowa 5  
tel. 52 360 90 50  
[www.fristom.com.pl](http://www.fristom.com.pl)  
NIP 5542926937 REGON 341640907  
MICHAŁ DYBISZ

IDIADA PC21050058



## Manufacturer

FRISTOM Spółka z ograniczoną odpowiedzialnością Sp. K.  
88-014 Sielenko / Polska  
ul. Przemysłowa 5  
NIP: 5542826937, KRS: 0000529238  
Tel.: +48 52 360 90 51, Fax: +48 52 327 75 41



Drawn by: **Date:**

Michał Dybicz 13-04-2020

sheet Nr.

1/13

## Type

# FT-270 LED - rear multifunction lamp for trailers EXT03

## Light source

LED chip SMD chip mounted  
AR - 6 LED's - white light color  
F1 - 8 LED's - red light color  
R1 - 8 LED's - red light color  
S1 - 8 LED's - red light color  
2a - 6 LED's - white light color  
L - 3 LED's - white light color

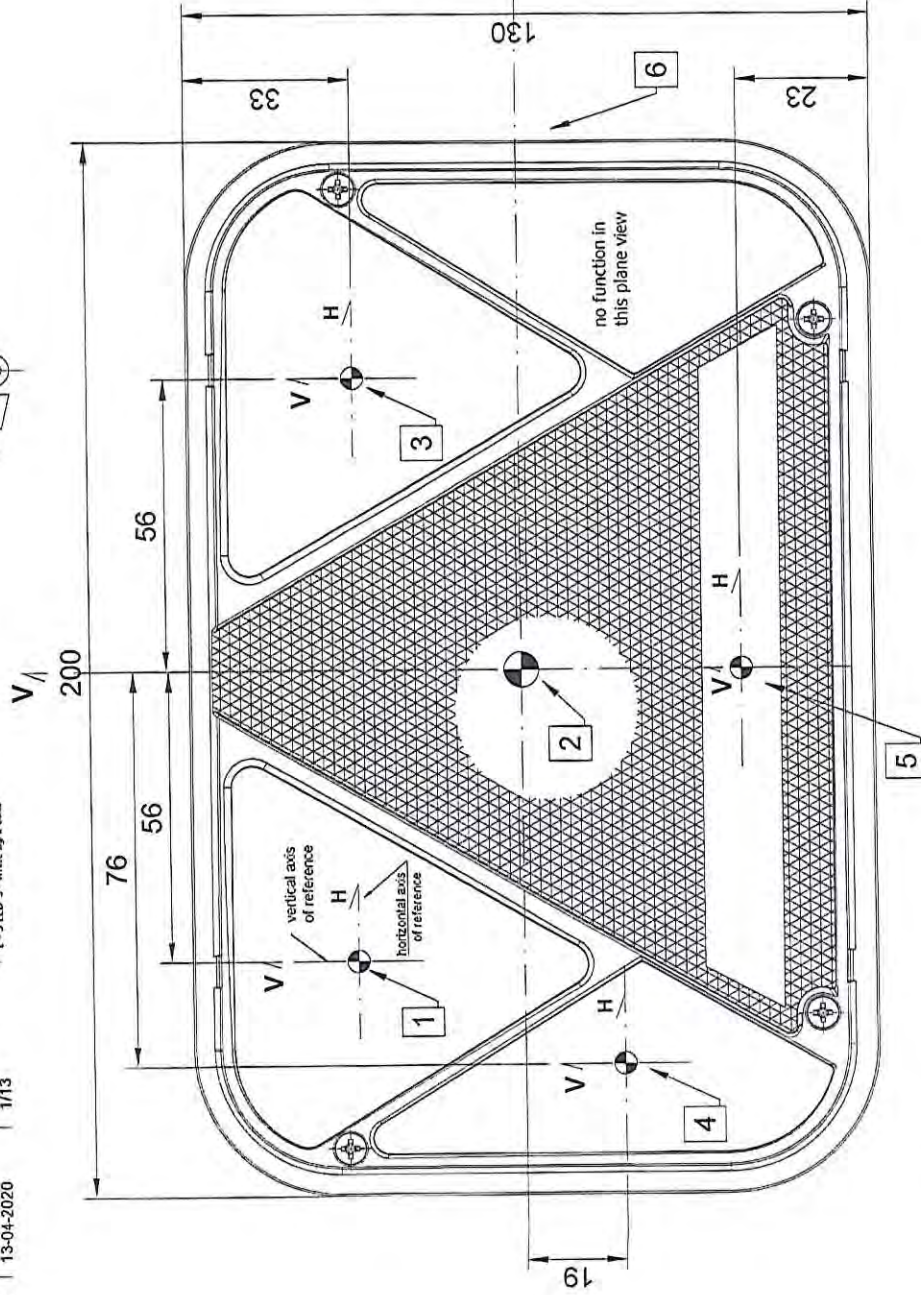
## sheet description

general drawing / lamp functions / assembly on vehicle  
This drawing is a part of the application for approval



## Material used in manufacturing :

- linsshade PC transparent clear
- colimator AR PMMA transparent clear
- colimator F1 PMMA transparent red
- housing ABS black
- frame ABS black
- lens 2a PMMA transparent amber
- IIIA reflector and R1 lens PMMA transparent red
- registration plate reflector ABS black vacuum metallized
- PCB FR4
- AR - 6 LED's - white light color
- F1 - 8 LED's - red light color
- R1 - 8 LED's - red light color
- S1 - 8 LED's - red light color
- 2a - 6 LED's - white light color
- L - 3 LED's - white light color
- potting compound epoxy resin



- 1 - center of reference direction indicator 2a
- 2 - center of reference reflex reflector cat IIIA
- 3 - center of reference rear fog or reversing light (F1 or AR)
- 4 - center of reference stop light cat S1
- 5 - center of reference rear position light cat R1
- 6 - registration plate light

note: FT-270 LED left lamp view (right lamp is a mirror)  
only horizontal assembly

## FRISTOM

Spółka z ograniczoną odpowiedzialnością Sp. K.  
88-014 Sielenko, ul. Przemysłowa 5  
tel. 52 360 90 50

[www.fristom.com.pl](http://www.fristom.com.pl)

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MICHAŁ DYBICZ

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# Manufacturer

FRISTOM Spółka z ograniczoną odpowiedzialnością Sp. K.  
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Drawn by: Date:

Michał Dybicz 13-04-2020

sheet Nr.

2/13

## Type

FT- 270 LED - rear multifunction lamp for trailers EXT03

## light source

LED ORP SMD chip mounted  
AR - 6 LED's - white light color  
FL - 8 LED's - red light color  
RL - 8 LED's - red light color  
SL - 8 LED's - red light color  
Za - 6 LED's - red light color  
L - 3 LED's - white light color

## sheet description

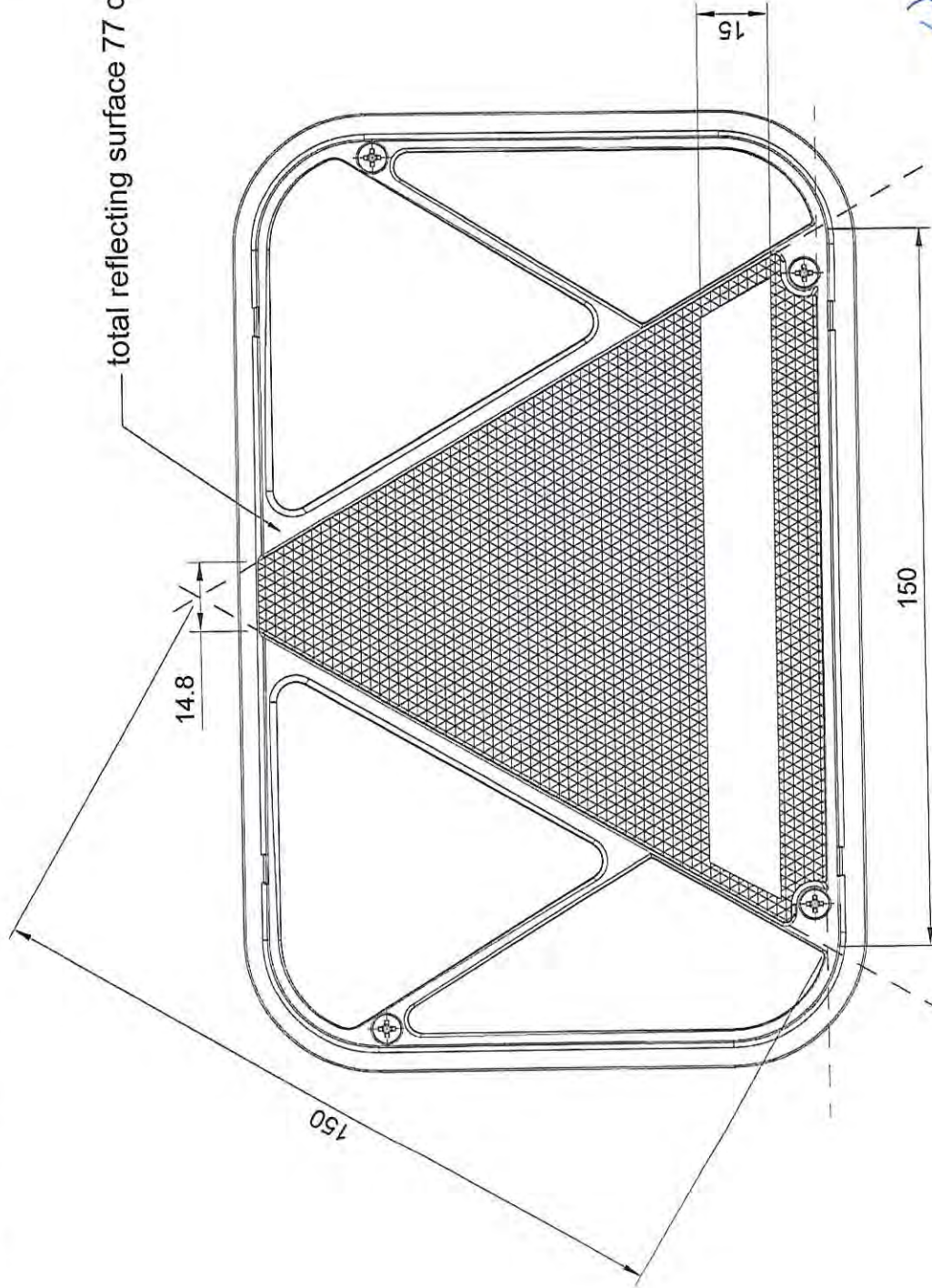
reflex reflector cat. IIIA dimension and surface  
This drawing is a part of the application for approval



## Material used in manufacturing :

- lampshade PC transparent clear
- colimator AR PMMA transparent clear
- colimator FL PMMA transparent red
- housing ABS black
- frame ABS black
- lens Za PMMA transparent amber
- IIIA reflector and RL lens PMMA transparent red
- registration plate reflector ABS black vacuum metalized
- PCB FR4
- AR - 6 LED's - white light color
- FL - 8 LED's - red light color
- RL - 8 LED's - red light color
- SL - 8 LED's - red light color
- Za - 6 LED's - amber light color
- L - 3 LED's - white light color
- potting compound epoxy resin

total reflecting surface 77 cm<sup>2</sup>



FRISTOM

Spółka z ograniczoną odpowiedzialnością Sp. k.  
86-014 SICIENKO, ul. Przemysłowa 5

tel. 52 360 90 50

www.fristom.com.pl

REGON 341640907

MICHAŁ DYBICZ

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# Manufacturer

FRISTOM Spółka z ograniczoną odpowiedzialnością Sp. K.  
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Drawn by: **Date:** 13-04-2020

Michał Dybicz

sheet Nr.

3/13

## Type

FT- 270 LED - rear multifunction lamp for trailers EXT03

## light source

LED chip SMD mounted  
AR - 6 LED's - white light color  
FI - 8 LED's - red light color  
R1 - 8 LED's - red light color  
S1 - 8 LED's - red light color  
Za - 6 LED's - amber light color  
L - 3 LED's - white light color

## sheet description

vehicle assembly

This drawing is a part of the application for approval

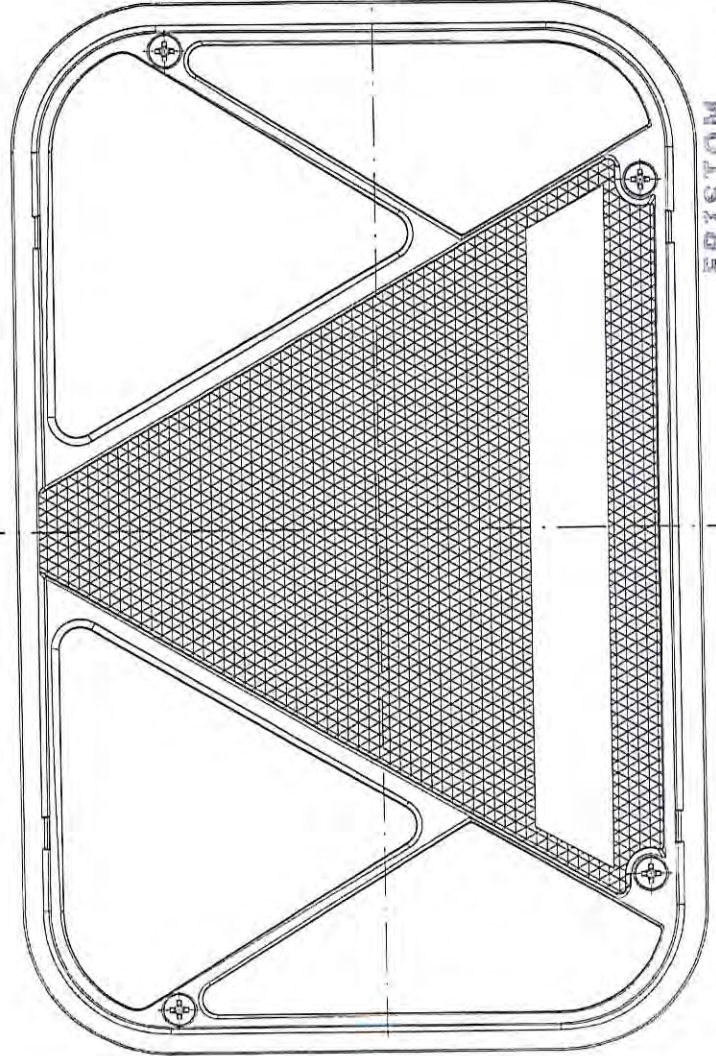


## Material used in manufacturing :

- lampshade PC transparent clear
- colimator AR PMMA transparent clear
- colimator FI PMMA transparent red
- housing ABS black
- frame ABS black
- lens Za PMMA transparent amber
- registration plate reflector ABS black vacuum metallized
- PCB FR4
- AR - 6 LED's - white light color
- FI - 8 LED's - red light color
- R1 - 8 LED's - red light color
- S1 - 8 LED's - red light color
- Za - 6 LED's - amber light color
- L - 3 LED's - white light color
- potting compound epoxy resin

V / top of vehicle

forward driving direction



**FRISTOM**  
Spółka z ograniczoną odpowiedzialnością Sp. K.  
85-014 ŚCIEŻKOWO, ul. Przemysłowa 5  
tel. 52 360 90 50  
[www.fristom.com.pl](http://www.fristom.com.pl)

(NIP) 5542926937 REGON 341640907  
*Dyba*  
MICHAŁ DYBICZ

**iDiADA** PC21050058



# Manufacturer

FRISTOM Spółka z ograniczoną odpowiedzialnością Sp. K.  
65-014 Ścieńko / Polska  
ul. Przemysłowa 5  
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Drawn by: **Date:** **28-05-2020**

Michał Dybicz

sheet Nr.

4/13

## Type

FT- 270 LED - rear multifunction lamp for trailers EXT03

## Material used in manufacturing :

- lensshade PC transparent clear
- colimator AR PMMA transparent clear
- colimator FI PMMA transparent red
- housing ABS black
- frame ABS black
- lens 2a PMMA transparent amber
- IIIA reflector and R1 lens PMMA transparent red
- registration plate reflector ABS black vacuum metallized
- PCB FR4
- AR - 6 LED's - white light color
- FI - 8 LED's - red light color
- R1 - 8 LED's - red light color
- S1 - 8 LED's - red light color
- 2a - 6 LED's - amber light color
- L - 3 LED's - white light color
- potting compound epoxy resin

## sheet description

### LED connections

This drawing is a part of the application for approval

## light source

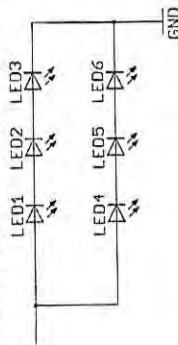
LED CHIP SMD chip mounted  
AR - 6 LED's - white light color  
FI - 8 LED's - red light color  
R1 - 8 LED's - red light color  
S1 - 8 LED's - red light color  
2a - 6 LED's - amber light color  
L - 3 LED's - white light color

## electrical parameters

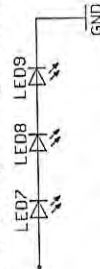
- stop - 5W
- rear fog - 5W
- reversing - 4W
- rear position + reg. plate - 5W
- rear position only - 4W
- direction indicator - 15W

note:  
schemes  
shown are  
simplified

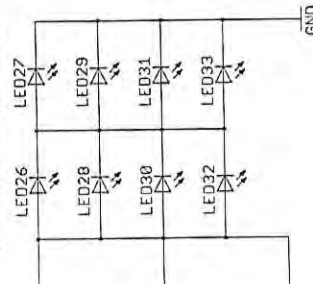
direction indicator amber light colour LED's



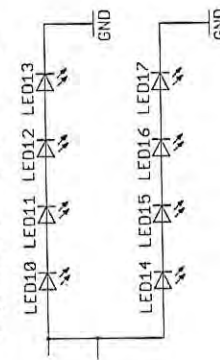
registration plate light white light colour LED's



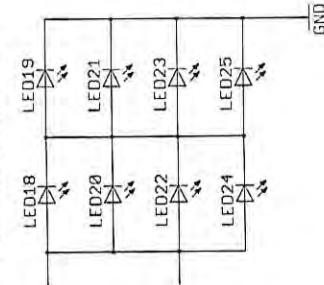
rear fog light red light colour LED's



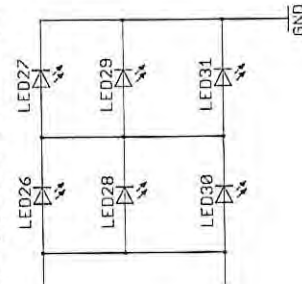
rear position light red light colour LED's



stop light red light colour LED's



reversing light white light colour LED's



FRISTOM

Spółka z ograniczoną odpowiedzialnością Sp. k.  
86-014 ŚCIEŃKO, ul. Przemysłowa 5

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REGON 341640907

IDIADA

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# Manufacturer

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Tel.: +48 52 360 90 51, Fax: +48 52 327 75 41



Drawn by: **Date:**

Michał Dybicz 13-04-2020

sheet Nr.

5/13

## Type

FT- 270 LED - rear multifunction lamp for trailers EXT03

## light source

LED chip SMD mounted  
AR - 6 LED's - white light color  
F1 - 8 LED's - red light color  
R1 - 8 LED's - red light color  
S1 - 8 LED's - red light color  
2a - 6 LED's - amber light color  
L - 3 LED's - white light color

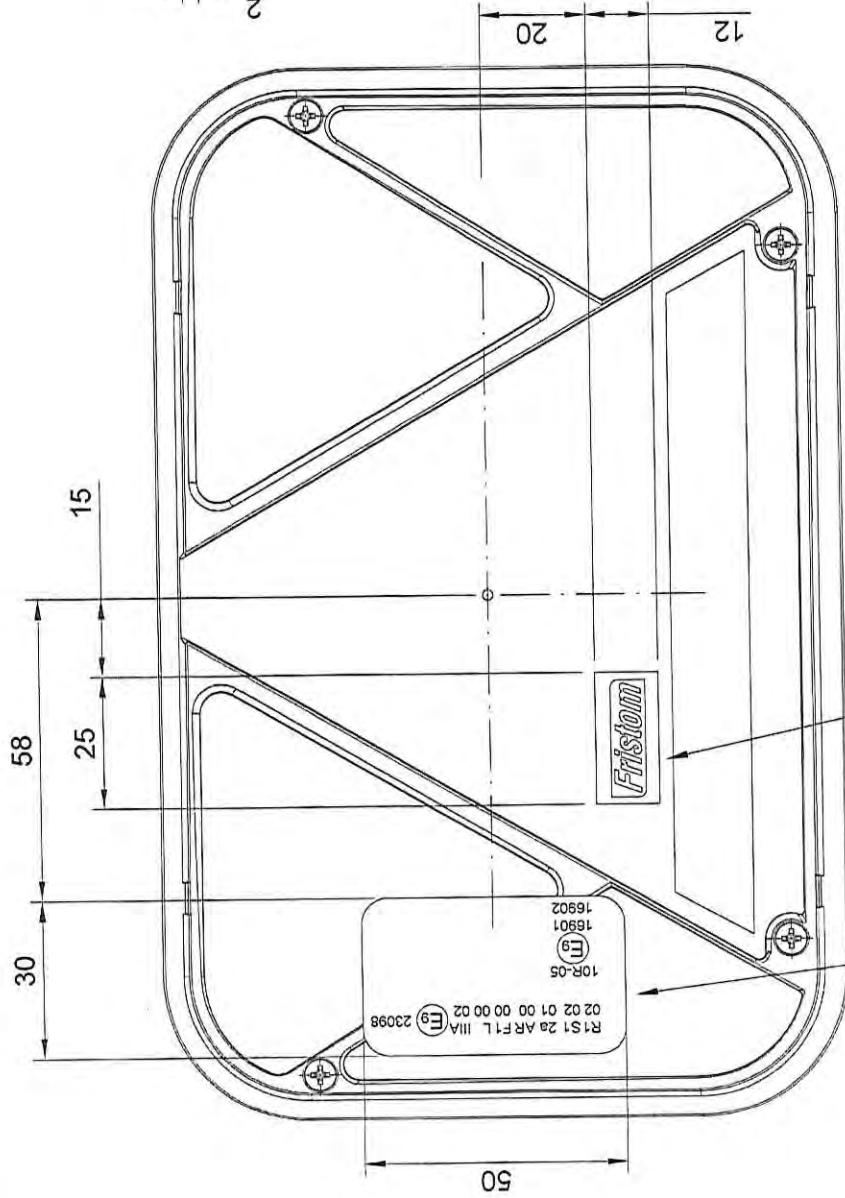
## sheet description

marking of trademark and approvals

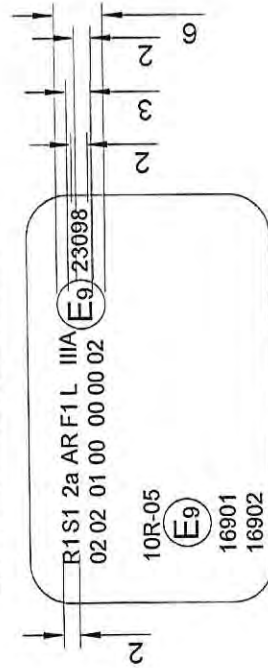
This drawing is a part of the application for approval

## Material used in manufacturing :

- lensshade PC transparent clear
- colimator AR PMMA transparent clear
- colimator F1 PMMA transparent red
- housing ABS black
- frame ABS black
- lens 2a PMMA transparent amber
- registration plate reflector ABS black vacuum metallized
- PCB FR4
- AR - 6 LED's - white light color
- F1 - 8 LED's - red light color
- R1 - 8 LED's - red light color
- S1 - 8 LED's - red light color
- 2a - 6 LED's - amber light color
- L - 3 LED's - white light color
- potting compound epoxy resin



## approval marking dimensions:



place for trademark  
place for approval markings

**IDIADA** PC21050058

## FRISTOM

Spółka z ograniczoną odpowiedzialnością Sp. k.  
86-014 ŚCIEŃKO, ul. Przemysłowa 5  
tel. 52 360 90 50

www.fristom.com.pl

NIP: 5542926937 REGON: 341640907

MICHAŁ DYBICZ

Manufacturer

FRISTOM Spółka z ograniczoną odpowiedzialnością Sp. K.  
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Drawn by: Date: sheet Nr.

Michał Dybicz 13-04-2020 6/13

Type

FT- 270 LED - rear multifunction lamp for trailers EXT03

light source

LED chip SMD chip mounted  
AR - 6 LED's - white light color  
F1 - 8 LED's - white light color  
R1 - 8 LED's - red light color  
S1 - 8 LED's - red light color  
Za - 6 LED's - amber light color  
L - 3 LED's - white light color

sheet description

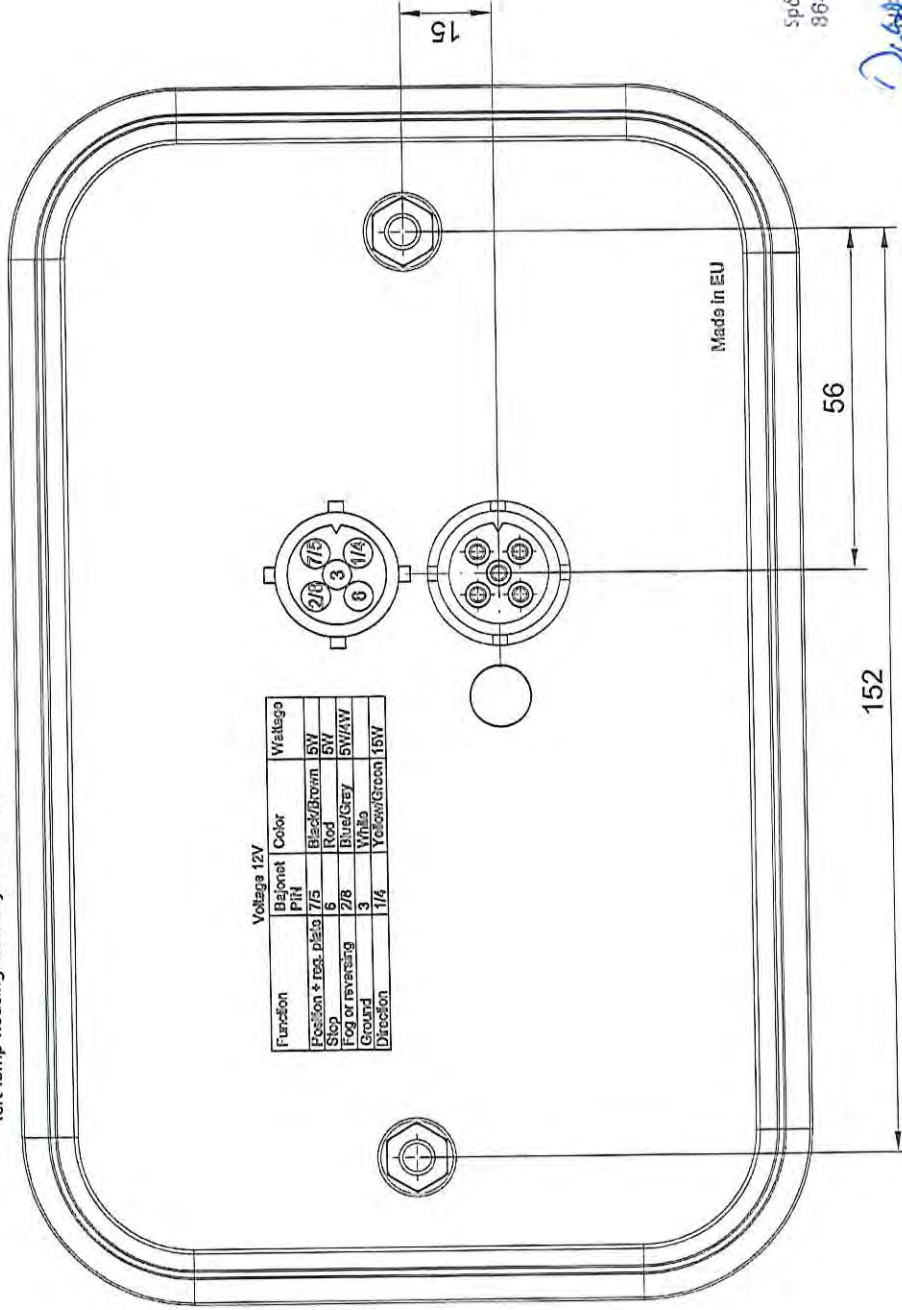
electrical parameters marking on housing

This drawing is a part of the application for approval

Material used in manufacturing :

- lensshade PC transparent clear
- connector AR PMMA transparent clear
- connector F1 PMMA transparent red
- housing ABS black
- frame ABS black
- lens Za PMMA transparent amber
- registration plate reflector ABS black vacuum metalized
- PCB FR4
- AR - 6 LED's - white light color
- F1 - 8 LED's - red light color
- R1 - 8 LED's - red light color
- S1 - 8 LED's - red light color
- Za - 6 LED's - amber light color
- L - 3 LED's - white light color
- potting compound epoxy resin

left lamp housing view bajonet version



Function	Bajonet Pin	Color	Wattage
Position + rev. plate	7/5	Black/Brown	5W
Stop	6	Red	5W
Foot or reversing	2/8	Blue/Grey	5W/4W
Ground	3	White	
Direction	1/4	Yellow/Green	15W

FRISTOM  
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IDIADA PC21050058



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Drawn by: Date:

Michał Dybicz 13-04-2020

sheet Nr.

7/13

Type

FT- 270 LED - rear multifunction lamp for trailers EXT03

light source

LED chip SMD chip mounted  
AR - 6 LED's - white light color  
FI - 8 LED's - red light color  
RI - 8 LED's - red light color  
SI - 8 LED's - red light color  
Za - 6 LED's - amber light color  
L - 3 LED's - white light color

sheet description

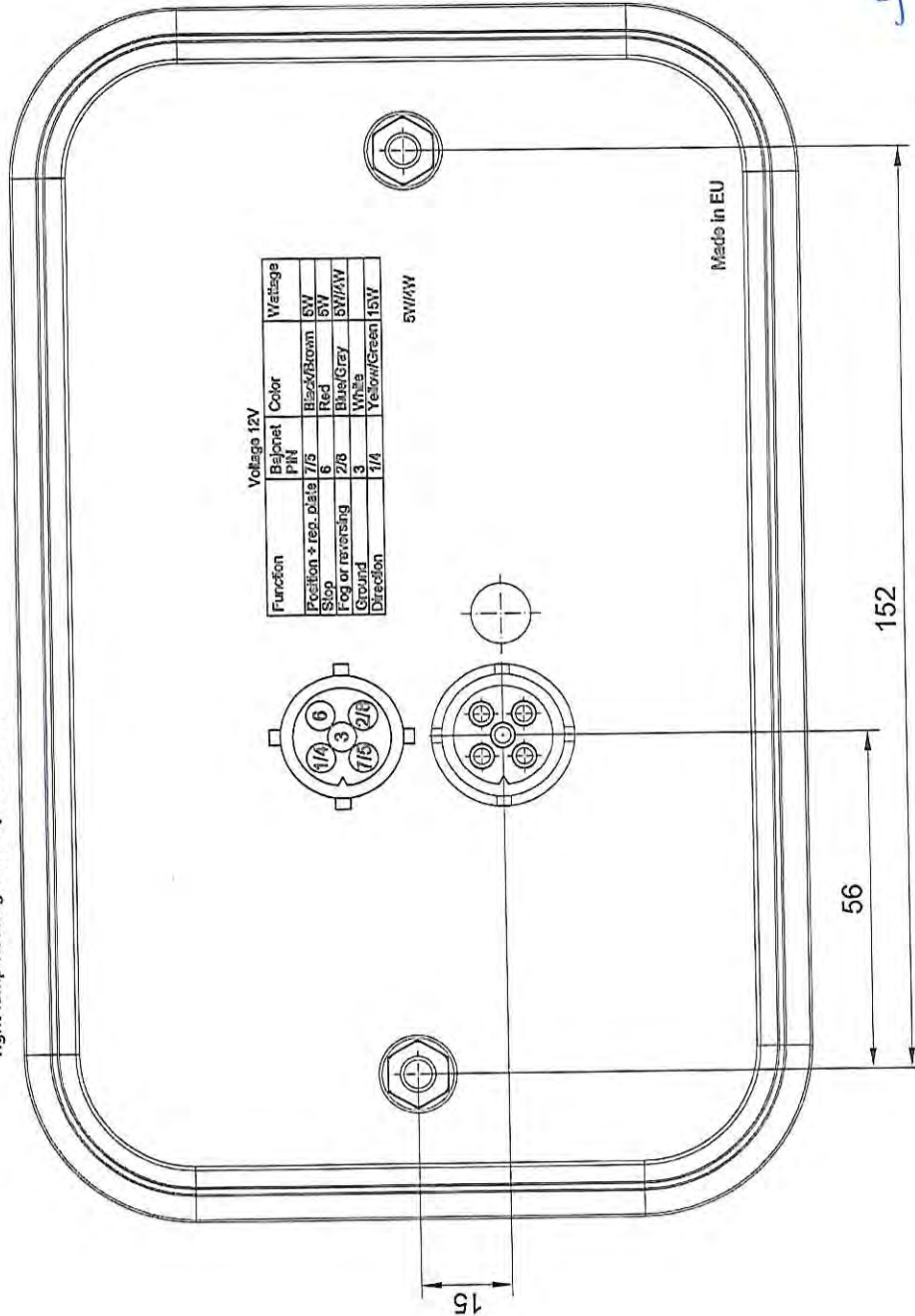
electrical parameters marking on housing

This drawing is a part of the application for approval

Material used in manufacturing :

- lensshade PC transparent clear
- colimator AR PMMA transparent clear
- colimator FI PMMA transparent red
- housing ABS black
- frame ABS black
- lens Za PMMA transparent amber
- registration plate reflector ABS black vacuum metallized
- PCB FR4
- AR - 6 LED's - white light color
- FI - 8 LED's - red light color
- RI - 8 LED's - red light color
- SI - 8 LED's - red light color
- Za - 6 LED's - amber light color
- L - 3 LED's - white light color
- potting compound epoxy resin

right lamp housing view bajonet version



IDIADA PC21050058

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Drawn by: **Date:** 13-04-2020

Michał Dybicz

sheet Nr.

8/13

## Type

FT-270 LED - rear multifunction lamp for trailers EXT03

## light source

LED chip SMD chip mounted  
AR - 6 LED's - white light color  
F1 - 8 LED's - white light color  
R1 - 8 LED's - red light color  
S1 - 8 LED's - red light color  
Za - 6 LED's - amber light color  
L - 3 LED's - white light color

## sheet description

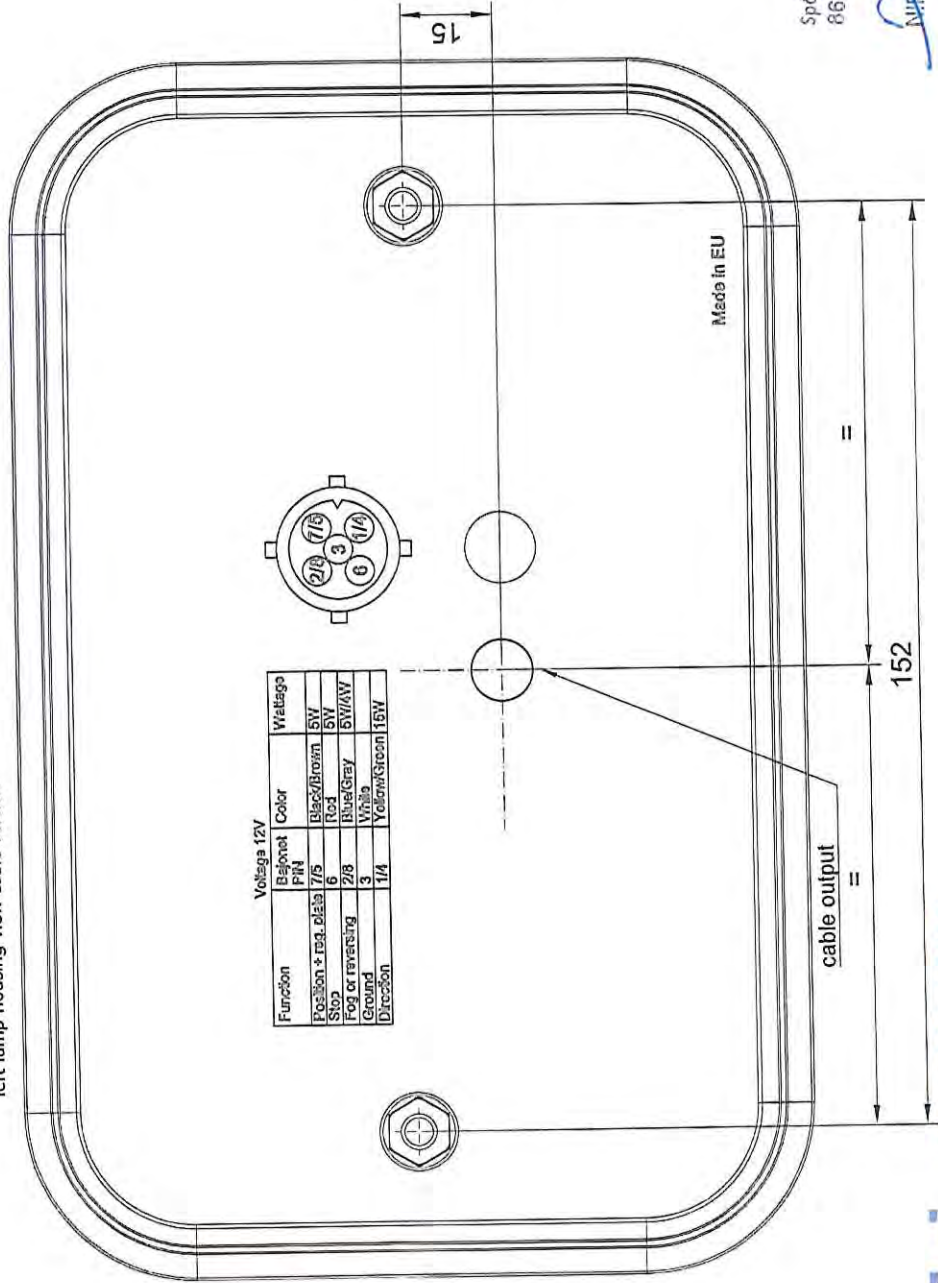
electrical parameters marking on housing

This drawing is a part of the application for approval

## Material used in manufacturing :

- lensshade PC transparent clear
- colimator AR PMMA transparent clear
- colimator F1 PMMA transparent red
- housing ABS black
- frame ABS black
- lens Za PMMA transparent amber
- IIIA reflector and R1 lens PMMA transparent red
- registration plate reflector ABS black vacuum metallized
- PCB FR4
- AR - 6 LED's - white light color
- F1 - 8 LED's - white light color
- R1 - 8 LED's - red light color
- S1 - 8 LED's - red light color
- Za - 6 LED's - amber light color
- L - 3 LED's - white light color
- potting compound epoxy resin

left lamp housing view cable version



Function	Bayonet PIN	Color	Wattage
Position + rev. plate	7/5	Black/Brown	5W
Stop	6	Red	5W
Fog or reversing	2/8	Blue/Gray	5W/4W
Ground	3	White	
Direction	1/4	Yellow/Green	15W

**IDIADA** PC21050058

**FRISTOM**

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Drawn by: **Date:** 13-04-2020

Michał Dybicz

sheet Nr.

9/13

## Type

FT- 270 LED - rear multifunction lamp for trailers EXT03

## light source

LED chip SMD chip mounted  
AR - 6 LED's - white light color  
F1 - 8 LED's - red light color  
F1 - 8 LED's - red light color  
S1 - 8 LED's - red light color  
S1 - 8 LED's - red light color  
Za - 6 LED's - amber light color  
L - 3 LED's - white light color

## sheet description

electrical parameters marking on housing

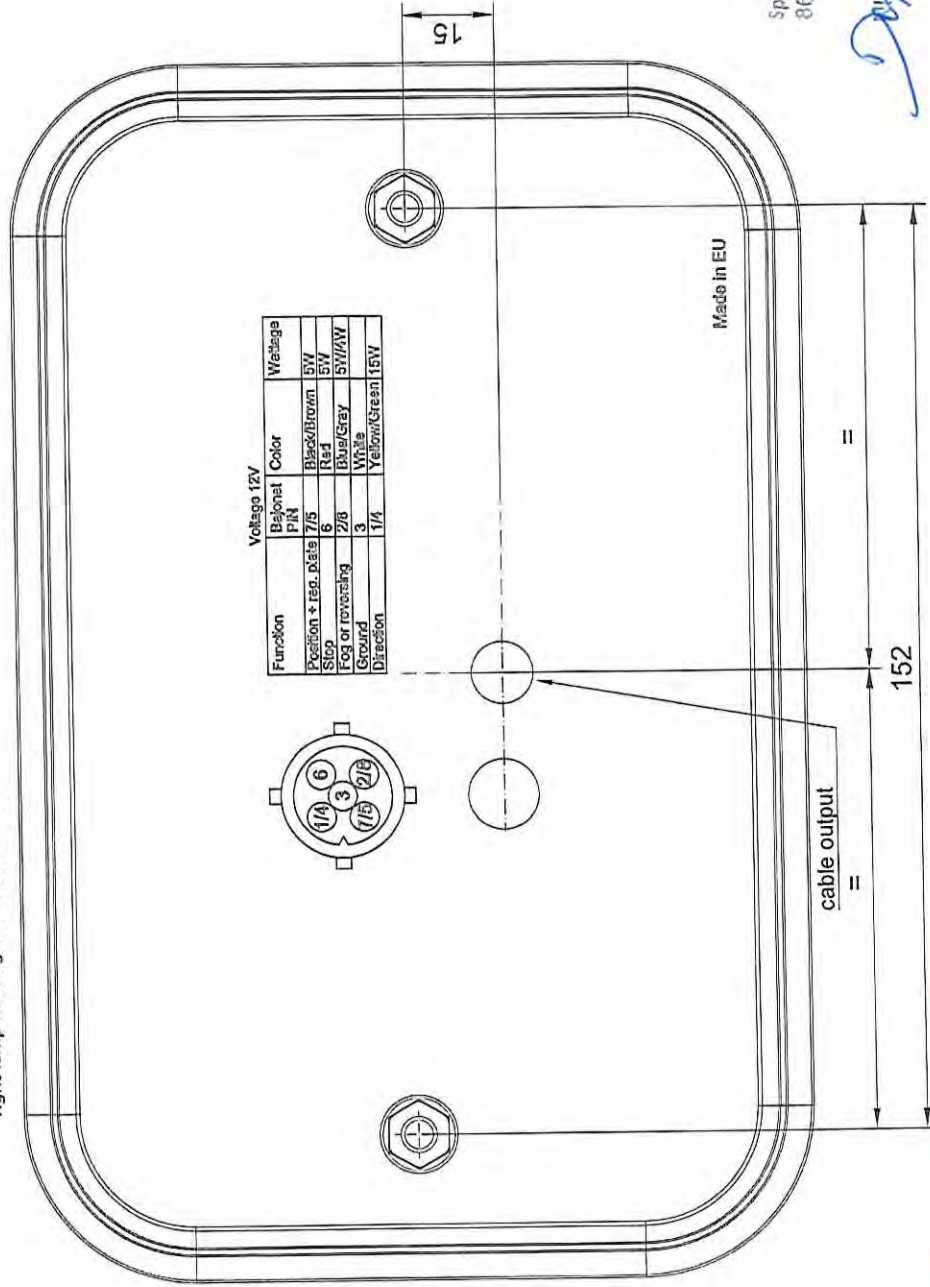
This drawing is a part of the application for approval

## Material used in

## manufacturing :

- lampshade PC transparent clear
- connector AR PMMA transparent clear
- connector F1 PMMA transparent red
- housing ABS black
- frame ABS black
- lens Za PMMA transparent amber
- IIIA reflector and R1 lens PMMA transparent red
- registration plate reflector ABS black vacuum metallized
- PCB FR4
- AR - 6 LED's - white light color
- F1 - 8 LED's - red light color
- R1 - 8 LED's - red light color
- S1 - 8 LED's - red light color
- Za - 6 LED's - amber light color
- L - 3 LED's - white light color
- potting compound epoxy resin

right lamp housing view cable version



Function	Baseball PIN	Color	Wielkość
Position + sep. plate	7/15	Black/White	5W
Stop	6	Red	5W
Fog or reversing	2/8	Blue/Gray	5W/4W
Ground	3	White	
Direction	1/4	Yellow/Green	15W

**FRISTOM**

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REGON 341640907

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**IDIADA** PC21050058



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Drawn by: Date: 13-04-2020

Michał Dybicz

sheet Nr. 10/13

## Type

FT- 270 LED - rear multifunction lamp for trailers EXT03

### light source

LED chip SMD chip mounted  
AR - 6 LED's - white light color  
R1 - 8 LED's - red light color  
S1 - 8 LED's - red light color  
Za - 6 LED's - amber light color  
L - 3 LED's - white light color

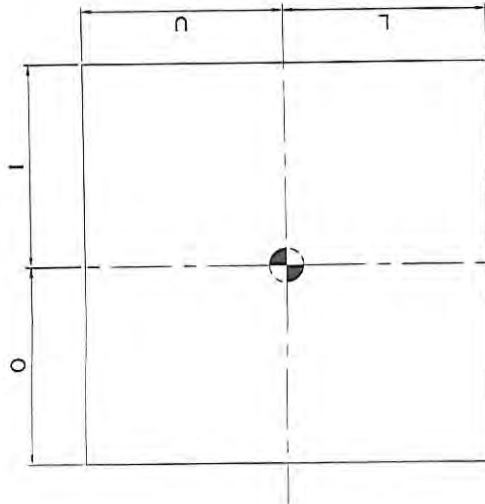
### sheet description

lighting surface

This drawing is a part of the application for approval

## Material used in manufacturing :

- binyshade PC transparent clear
- combator AR PMMA transparent clear
- combator R1 PMMA transparent red
- housing ABS black
- frame ABS black
- lens Za PMMA transparent amber
- IIIA reflector and R1 lens PMMA transparent red
- registration plate reflector ABS black vacuum metallized
- PCB FR4
- AR - 6 LED's - white light color
- R1 - 8 LED's - red light color
- S1 - 8 LED's - red light color
- Za - 6 LED's - amber light color
- L - 3 LED's - white light color
- potting compound epoxy resin



## lighting surface

function	U <sub>(upper limit)</sub> [mm]	L <sub>(lower limit)</sub> [mm]	O <sub>(outer limit)</sub> [mm]	I <sub>(inner limit)</sub> [mm]
reversing AR	23	23	25	25
rear fog F1	23	23	25	25
rear position R1	7,5	7,5	66	66
stop S1	44	44	18,5	18,5
direction indicator 2a	33	33	36	36

Determining the lower , upper and lateral limits of the illumination surface of the lamp device.

According to European Directive 91/663/EEC , Annex I "Installation of lighting and light-signalling devices" clause 1.9.2.

According to ECE regulation 48/06 "Installation of light and light-signalling devices" clause 2.10.3.2.

FRISTOM

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Tel.: +48 52 360 90 51, Fax: +48 52 327 75 41



Drawn by: Date: sheet Nr.

Michał Dybicz 13-04-2020 11/13

## Type

# FT-270 LED - rear multifunction lamp for trailers EXT03

## Material used in manufacturing :

- lampshade PC transparent clear
- colimator AR PMMA transparent clear
- colimator F1 PMMA transparent red
- housing ABS black
- frame ABS black
- lens Za PMMA transparent amber
- IIIA reflector and R1 lens PMMA transparent red
- registration plate reflector ABS black vacuum metallized
- PCB FR4
- AR - 6 LED's - white light color
- F1 - 8 LED's - red light color
- R1 - 8 LED's - red light color
- S1 - 8 LED's - red light color
- 2a - 6 LED's - amber light color
- L - 3 LED's - white light color
- potting compound epoxy resin

## sheet description

variant tradenames (sheet 1/2)

This drawing is a part of the application for approval

## light source

LED chip SMD chip mounted  
AR - 6 LED's - white light color  
F1 - 8 LED's - red light color  
R1 - 8 LED's - red light color  
S1 - 8 LED's - red light color  
2a - 6 LED's - amber light color  
L - 3 LED's - white light color

## ITEM

FT-270 L NT LED COF	FT-270 L NT LED COF Universal LED left rear lamp with reflective triangle, 12V, 5-functional, STOP/ POSITION/ INDICATOR/ REVERSING without number plate light, 1 m cable.
FT-270 L NT LED COF Mxx	FT-270 L NT LED COF Universal LED left rear lamp with reflective triangle, 12V, 5-functional, STOP/ POSITION/ INDICATOR/ REVERSING without number plate light, Mxx cable.
FT-270 L NT LED COF BAJONET SPIN	FT-270 L NT LED COF BAJONET SPIN Universal LED left rear lamp with reflective triangle, 12V, 5-functional, STOP/ POSITION/ INDICATOR/ REVERSING without number plate light, 5 PIN Bayonet connector.
FT-270 L NT LED O COF BAJONET SPIN	FT-270 L NT LED O COF BAJONET SPIN Universal LED left rear lamp with reflective triangle, charged, 12V, 5-functional, STOP/ POSITION/ INDICATOR/ REVERSING without number plate light, 5 PIN Bayonet connector.
FT-270 L NT LED PM	FT-270 L NT LED PM Universal LED left rear lamp with reflective triangle, 12V, 5-functional, STOP/ POSITION/ INDICATOR/ FOG without number plate light, 1 m cable.
FT-270 L NT LED PM Mxx	FT-270 L NT LED PM Universal LED left rear lamp with reflective triangle, 12V, 5-functional, STOP/ POSITION/ INDICATOR/ FOG without number plate light, Mxx cable.
FT-270 L NT LED PM BAJONET SPIN	FT-270 L NT LED PM BAJONET SPIN Universal LED left rear lamp with reflective triangle, 12V, 5-functional, STOP/ POSITION/ INDICATOR/ FOG without number plate light, 5 PIN Bayonet connector.
FT-270 L NT LED O PM BAJONET SPIN	FT-270 L NT LED O PM BAJONET SPIN Universal LED left rear lamp with reflective triangle, charged, 12V, 5-functional, STOP/ POSITION/ INDICATOR/ FOG without number plate light, 5 PIN Bayonet connector.
FT-270 L TB LED COF	FT-270 L TB LED COF Universal LED left rear lamp with reflective triangle 12V, 6-functional, STOP/ POSITION/ INDICATOR/ REVERSING with side number plate light, 1 m cable.
FT-270 L TB LED COF Mxx	FT-270 L TB LED COF Universal LED left rear lamp with reflective triangle 12V, 6-functional, STOP/ POSITION/ INDICATOR/ REVERSING with side number plate light, Mxx cable.
FT-270 L TB LED COF BAJONET SPIN	FT-270 L TB LED COF BAJONET SPIN Universal LED left rear lamp with reflective triangle 12V, 6-functional, STOP/ POSITION/ INDICATOR/ REVERSING with side number plate light, 5 PIN Bayonet connector.
FT-270 L TB LED O COF BAJONET SPIN	FT-270 L TB LED O COF BAJONET SPIN Universal LED left rear lamp with reflective triangle, charged, 12V, 6-functional, STOP/ POSITION/ INDICATOR/ REVERSING with side number plate light, 5 PIN Bayonet connector.
FT-270 L TB LED PM	FT-270 L TB LED PM Universal LED left rear lamp with reflective triangle, 12V, 6-functional, STOP/ POSITION/ INDICATOR/ FOG with side number plate light, 1 m cable.
FT-270 L TB LED PM Mxx	FT-270 L TB LED PM Universal LED left rear lamp with reflective triangle, 12V, 6-functional, STOP/ POSITION/ INDICATOR/ FOG with side number plate light, Mxx cable.
FT-270 L TB LED PM BAJONET SPIN	FT-270 L TB LED PM BAJONET SPIN Universal LED left rear lamp with reflective triangle, 12V, 6-functional, STOP/ POSITION/ INDICATOR/ FOG with side number plate light, 5 PIN Bayonet connector.
FT-270 L TB LED O PM BAJONET SPIN	FT-270 L TB LED O PM BAJONET SPIN Universal LED left rear lamp with reflective triangle, charged, 12V, 6-functional, STOP/ POSITION/ INDICATOR/ FOG with side number plate light, 5 PIN Bayonet connector.

Where x is number for 0 till 9

## FRISTOM

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PC21050058

MICHAŁ DYBICZ



# Manufacturer

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Drawn by: **Date:** **sheet Nr.**

Michał Dybicz 13-04-2020 12/13

## Type

## FT-270 LED - rear multifunction lamp for trailers EXT03

### light source

LED Chip SMD dip mounted  
AS - 6 LED's - white light color  
F1 - 8 LED's - red light color  
R1 - 8 LED's - red light color  
S1 - 8 LED's - red light color  
Za - 6 LED's - amber light color  
L - 3 LED's - white light color

### sheet description

variant tradenames (sheet 2/2)

This drawing is a part of the application for approval

## Material used in manufacturing :

- lensshade PC transparent clear
- reflector AR PMMA transparent clear
- collimator FI PMMA transparent red
- housing ABS black
- frame ABS black
- lens Za PMMA transparent amber
- IIIA reflector and R1 lens PMMA transparent red
- registration plate reflector ABS black vacuum installed
- PCB FR4
- AR - 6 LED's - white light color
- F1 - 8 LED's - red light color
- R1 - 8 LED's - red light color
- S1 - 8 LED's - red light color
- Za - 6 LED's - amber light color
- L - 3 LED's - white light color
- potting compound epoxy resin

FT 270 P NT LED COF	FT 270 P NT LED COF Universal LED right rear lamp with reflective triangle, 12V, 5 functional, STOP/ POSITION/ INDICATOR/ REVERSING without number plate light, 1 m cable.
FT 270 P NT LED COF Mxx	FT 270 P NT LED COF Universal LED right rear lamp with reflective triangle, 12V, 5 functional, STOP/ POSITION/ INDICATOR/ REVERSING without number plate light, Mxx cable.
FT 270 P NT LED COF BAJONET SPIN	FT 270 P NT LED COF BAJONET SPIN Universal LED right rear lamp with reflective triangle, 12V, 5 functional, STOP/ POSITION/ INDICATOR/ REVERSING without number plate light, 5 PIN Bayonet connector.
FT 270 P NT LED O COF BAJONET SPIN	FT 270 P NT LED O COF BAJONET SPIN Universal LED right rear lamp with reflective triangle, charged, 12V, 5 functional, STOP/ POSITION/ INDICATOR/ REVERSING without number plate light, 5 PIN Bayonet connector.
FT 270 P NT LED PM	FT 270 P NT LED PM Universal LED right rear lamp with reflective triangle, 12V, 5 functional, STOP/ POSITION/ INDICATOR/ FOG without number plate light, 1 m cable.
FT 270 P NT LED PM Mxx	FT 270 P NT LED PM Universal LED right rear lamp with reflective triangle, 12V, 5 functional, STOP/ POSITION/ INDICATOR/ FOG without number plate light, Mxx cable.
FT 270 P NT LED PM BAJONET SPIN	FT 270 P NT LED PM BAJONET SPIN Universal LED right rear lamp with reflective triangle, 12V, 5 functional, STOP/ POSITION/ INDICATOR/ FOG without number plate light, 5 PIN Bayonet connector.
FT 270 P NT LED O PM BAJONET SPIN	FT 270 P NT LED O PM BAJONET SPIN Universal LED right rear lamp with reflective triangle, charged, 12V, 5 functional, STOP/ POSITION/ INDICATOR/ FOG without number plate light, 5 PIN Bayonet connector.
FT 270 P TB LED COF	FT 270 P TB LED COF Universal LED right rear lamp with reflective triangle 12V, 6 functional, STOP/ POSITION/ INDICATOR/ REVERSING with side number plate light, 1 m cable.
FT 270 P TB LED COF Mxx	FT 270 P TB LED COF Universal LED right rear lamp with reflective triangle 12V, 6 functional, STOP/ POSITION/ INDICATOR/ REVERSING with side number plate light, Mxx cable.
FT 270 P TB LED COF BAJONET SPIN	FT 270 P TB LED COF BAJONET SPIN Universal LED right rear lamp with reflective triangle 12V, 6 functional, STOP/ POSITION/ INDICATOR/ REVERSING with side number plate light, 5 PIN Bayonet connector.
FT 270 P TB LED O COF BAJONET SPIN	FT 270 P TB LED O COF BAJONET SPIN Universal LED right rear lamp with reflective triangle, charged, 12V, 6 functional, STOP/ POSITION/ INDICATOR/ REVERSING with side number plate light, 5 PIN Bayonet connector.
FT 270 P TB LED PM	FT 270 P TB LED PM Universal LED right rear lamp with reflective triangle, 12V, 6 functional, STOP/ POSITION/ INDICATOR/ FOG with side number plate light, 1 m cable.
FT 270 P TB LED PM Mxx	FT 270 P TB LED PM Universal LED right rear lamp with reflective triangle, 12V, 6 functional, STOP/ POSITION/ INDICATOR/ FOG with side number plate light, Mxx cable.
FT 270 P TB LED PM BAJONET SPIN	FT 270 P TB LED PM BAJONET SPIN Universal LED right rear lamp with reflective triangle, 12V, 6 functional, STOP/ POSITION/ INDICATOR/ FOG with side number plate light, 5 PIN Bayonet connector.
FT 270 P TB LED O PM BAJONET SPIN	FT 270 P TB LED O PM BAJONET SPIN Universal LED right rear lamp with reflective triangle, charged, 12V, 6 functional, STOP/ POSITION/ INDICATOR/ FOG with side number plate light, 5 PIN Bayonet connector.

Where x is number for 0 till 9

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MICHAŁ DYBICZ

PC21050058



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Drawn by: Date:

Michał Dybicz 13-04-2020

sheet Nr.

13/13

Type

FT- 270 LED - rear multifunction lamp for trailers EXT03

Material used in manufacturing :

- lampshade PC transparent clear
- collimator AR PMMA transparent clear
- collimator FI PMMA transparent red
- housing ABS black
- frame ABS black
- lens Za PMMA transparent amber
- registration plate reflector ABS black vacuum metallized
- PCB FR4
- AR - 6 LED's - white light color
- FI - 8 LED's - red light color
- RI - 8 LED's - red light color
- SI - 8 LED's - red light color
- Za - 6 LED's - amber light color
- L - 3 LED's - white light color
- potting compound epoxy resin

sheet description

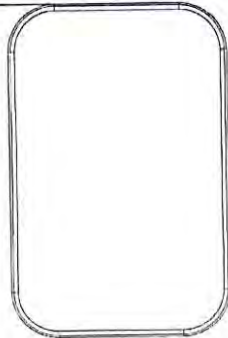
positioning of registration plate light

This drawing is a part of the application for approval

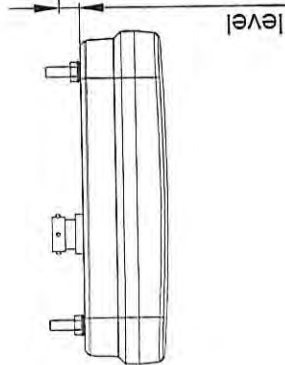
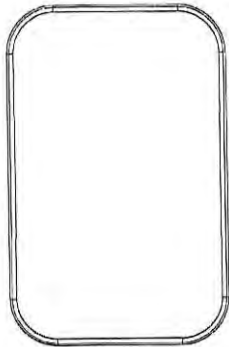
light source

LED CHIP SMD chip mounted  
AR - 6 LED's - white light color  
FI - 8 LED's - red light color  
RI - 8 LED's - red light color  
SI - 8 LED's - red light color  
Za - 6 LED's - amber light color  
L - 3 LED's - white light color

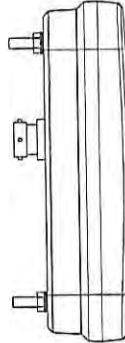
distance



registration plate 520x120



level



lamp level [mm]	distance [mm]
4	26
8	50
14	100
28	200

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