

SERIES LED LIGHTING TYPE „HYDRA TUNNEL”

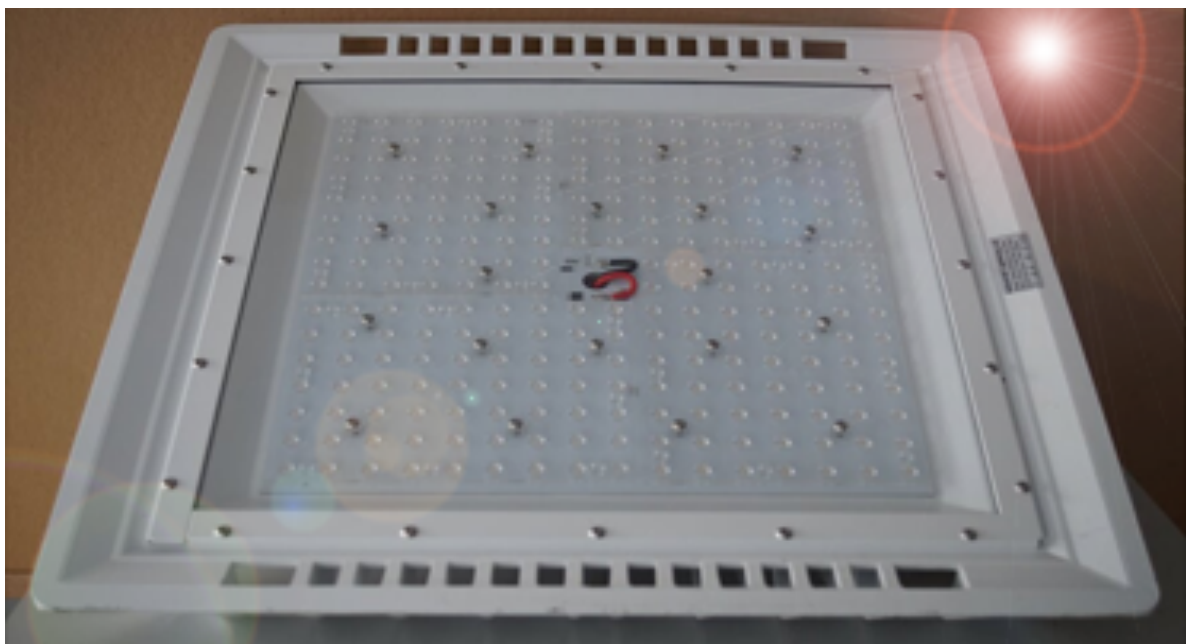
Series include following types of products:

Hydra Tunnel 315W96-230 TF and Hydra Tunnel 315W96-230 T4;

Name of Producer: “INDUSTRIAL LIGHTING” LTD

Purpose:

The Series LED lighting type HYDRA TUNNEL is created as high class lightning designed to satisfy highest requirements for efficiency, durability and quality. In the production of the product are used only high quality elements of European producers, as follows:



LEDs:

Oslo Square – “Osram GmbH” Germany;

Power supply:

OPTOTRONIC® LED OT 200/220-240/5A6 P5 – “Osram GmbH” Germany– 2 pcs.;

Optics and cover:

PMMA –LEDiL Finland;

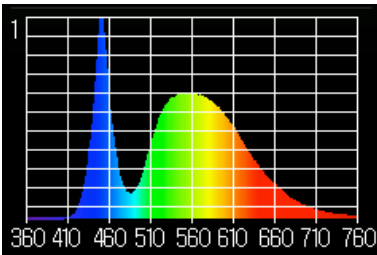
Tempered glass 4mm. ClearVision – Belgium;

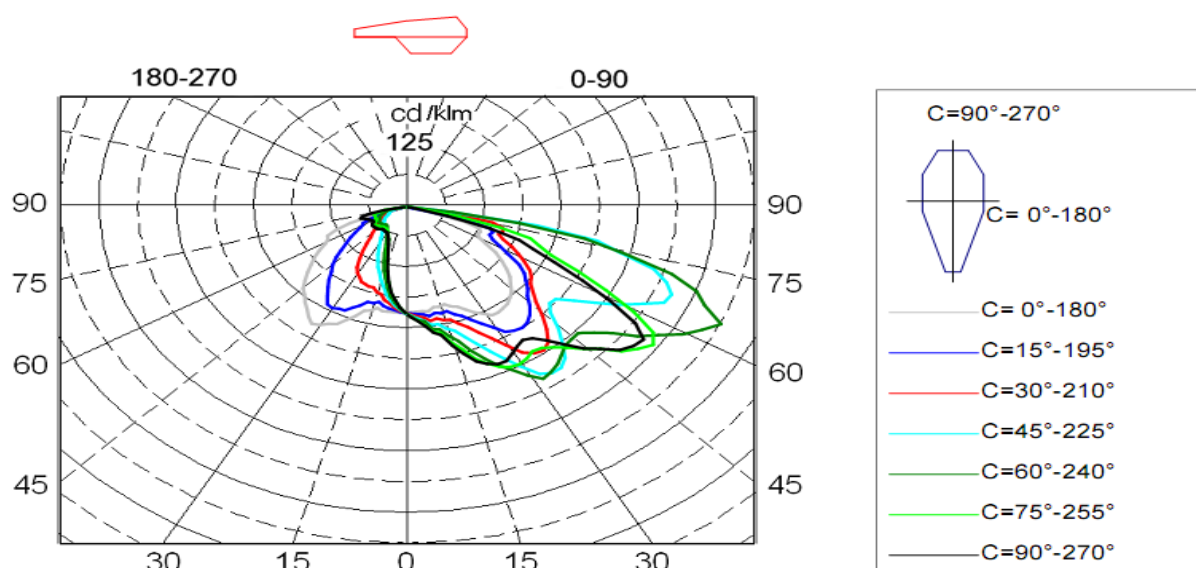
Fasteners:

Only stainless steel according DIN 933;

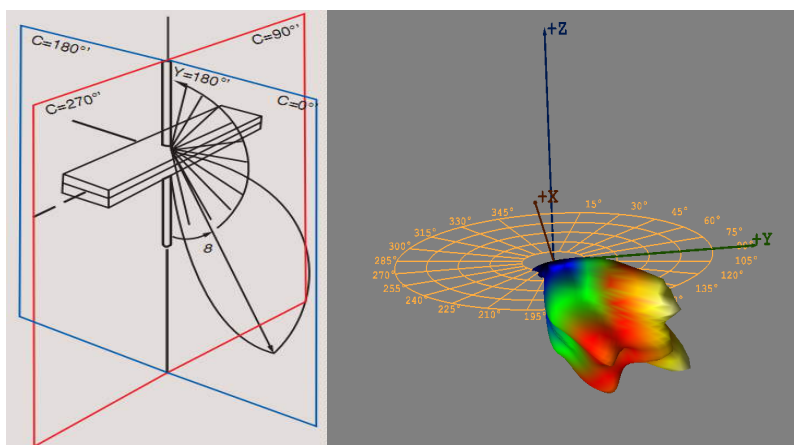
Technical parameters according producers documentation:
LED light for indoor and outdoor use with dimensions 500/500/160mm. and weight of 17kg.

Test results:

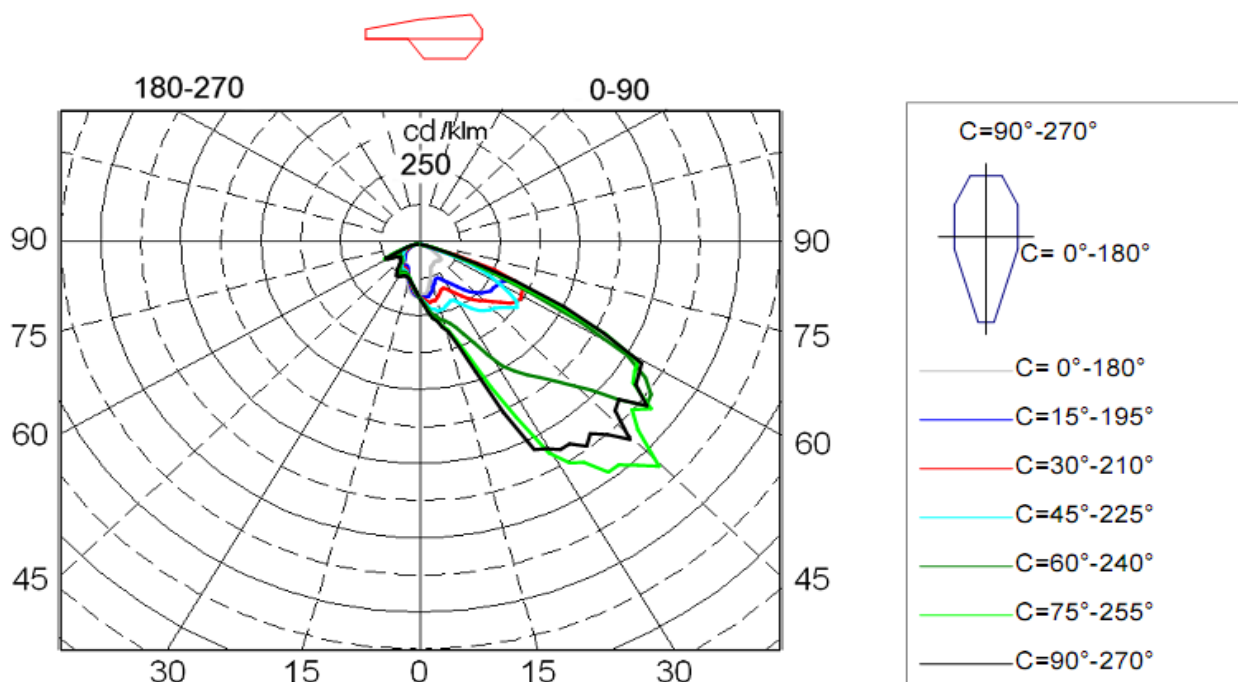
Hydra 315W96-230 TF		 <p>Spectrum of light Kpuls. = 0.1 %</p>
Operating voltage	AC 230 V	
Operating Current	AC 1.38 A	
Wattage including ballast (watts)	315 W	
Power factor	0.99	
Color temperature	3933 K	
Color rendering index CRI	71	
Color coordinates CIE 1931	x=0.3868, y=0.3904	
Color coordinates CIE 1976	u'=0.2239, v'=0.5084	
Luminous flux emitted by a luminaire	39 390lm	
Light output of the luminaire	125.05 lm /W	
Hydra 315W96-230 T4		
Operating voltage	AC 230 V	
Operating Current	AC 1.38 A	
Wattage including ballast (watts)	315 W	
Power factor	0.99	
Color temperature	3933 K	
Color rendering index CRI	71	
Color coordinates CIE 1931	x=0.3868, y=0.3904	
Color coordinates CIE 1976	u'=0.2239, v'=0.5084	
Luminous flux emitted by a luminaire	39 390lm	
Light output of the luminaire	125.05 lm /W	



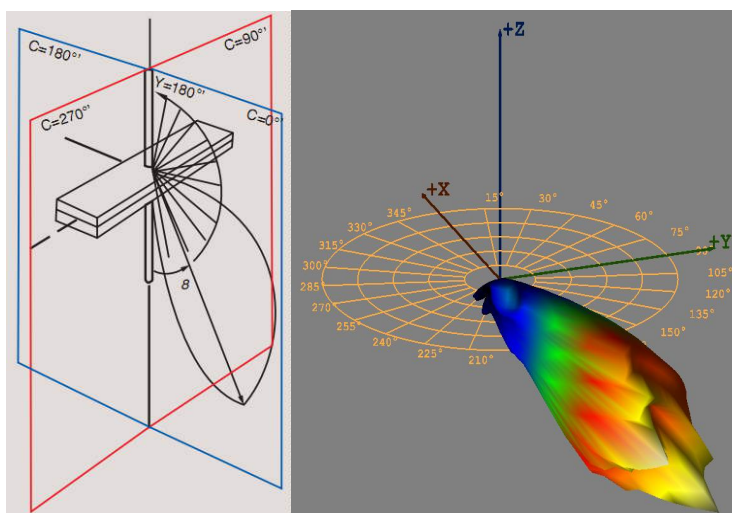
Hydra 315W96-230 T4 Luminaire light distribution of polar coordinates in the conditional flux 1000lm



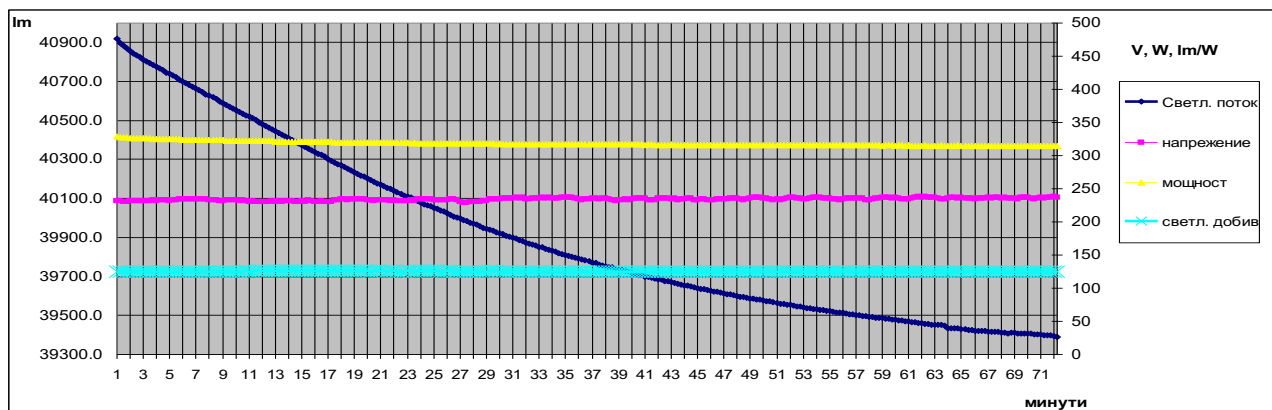
Hydra 315W96-230 T4 Luminaire light distribution of the 3D



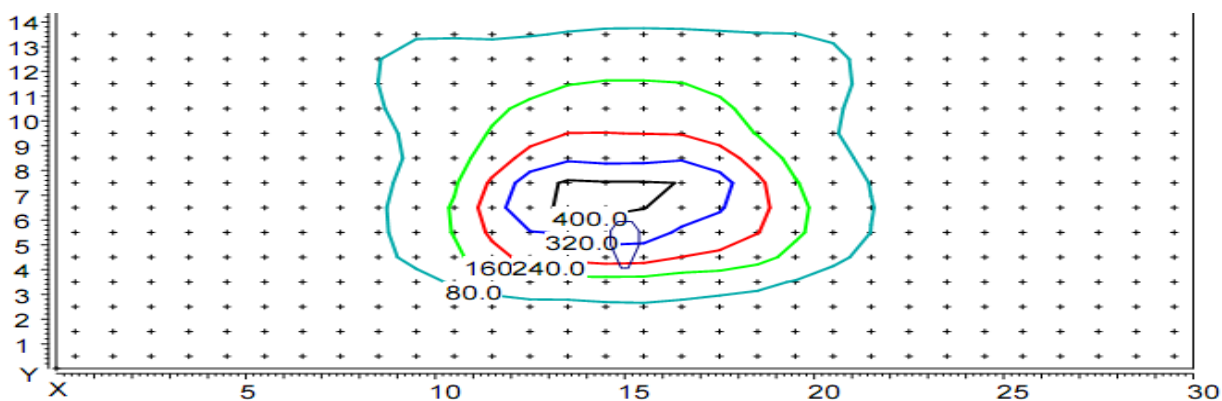
Hydra 315W96-230 TF Luminaire light distribution of polar coordinates in the conditional flux 1000lm.



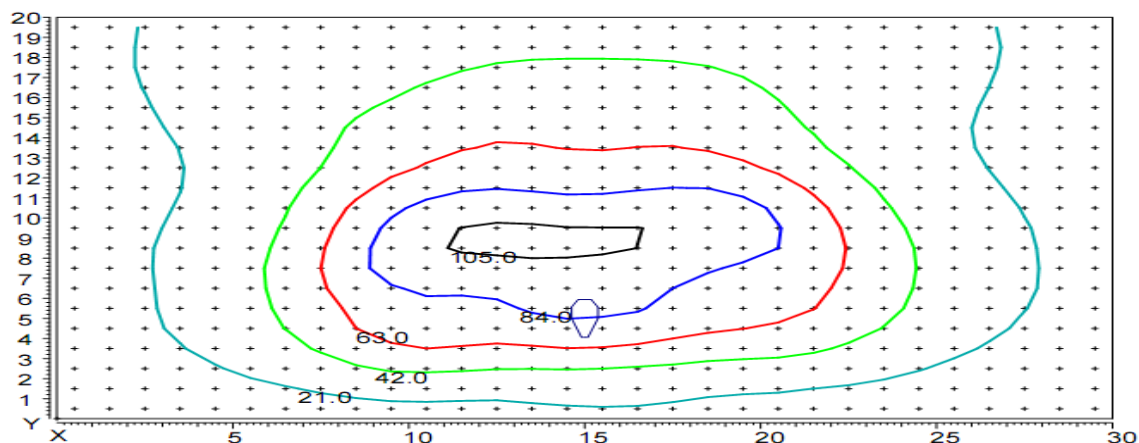
Hydra 315W96-230 TF Luminaire light distribution of the 3D



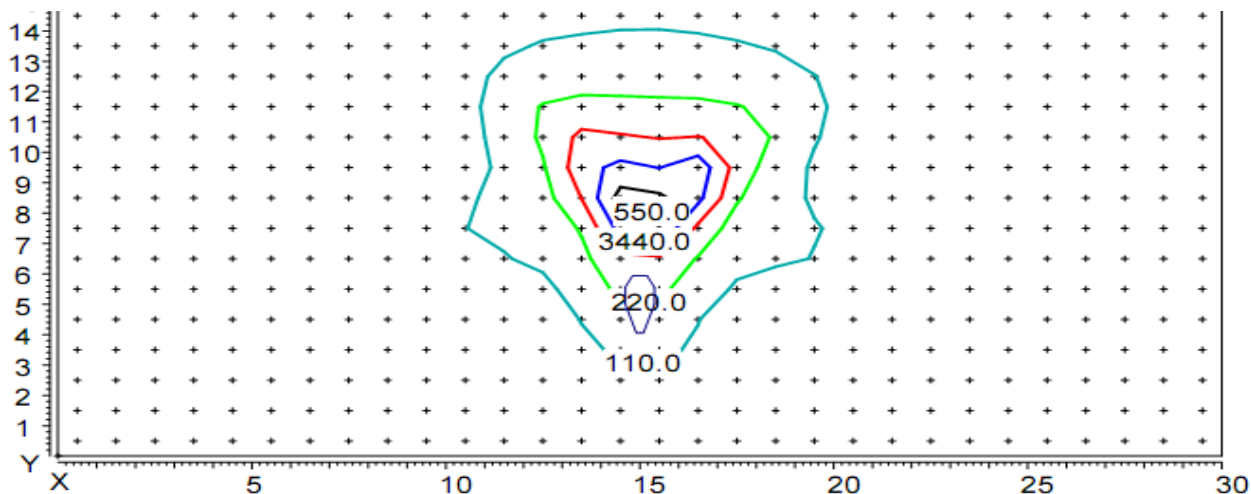
Changing the light flux



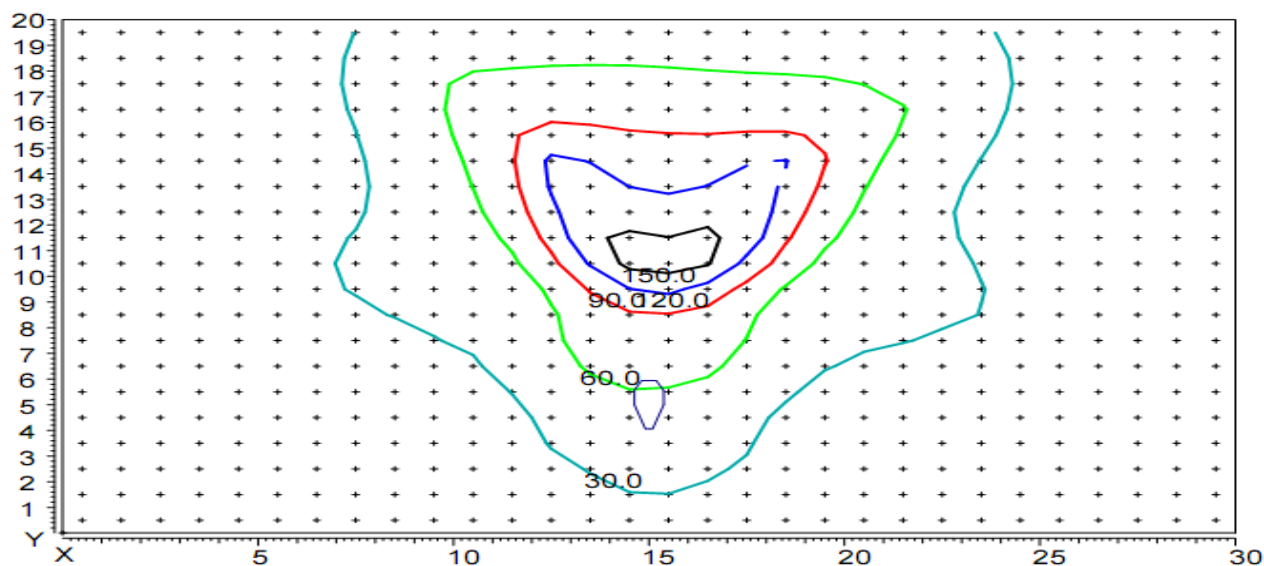
Hydra 315W96-230 T4 Distribution of illumination in height hanging lamp 5 m.
Coordinates of the luminaire X=15m, Y=5m.



Hydra 315W96-230 T4 Distribution of illumination in height hanging lamp 10 m.
Coordinates of the luminaire X=15m, Y=5m.



Hydra 315W96-230 TF Distribution of illumination in height hanging lamp 5 м.
Coordinates of the luminaire X=15m, Y=5m.

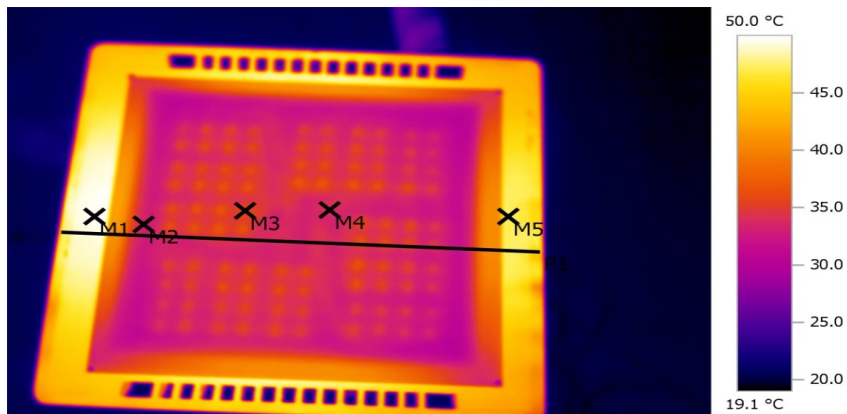


Hydra 315W96-230 TF Distribution of illumination in height hanging lamp 10 м.
Coordinates of the luminaire X=15m, Y=5m.

Temperature measurement

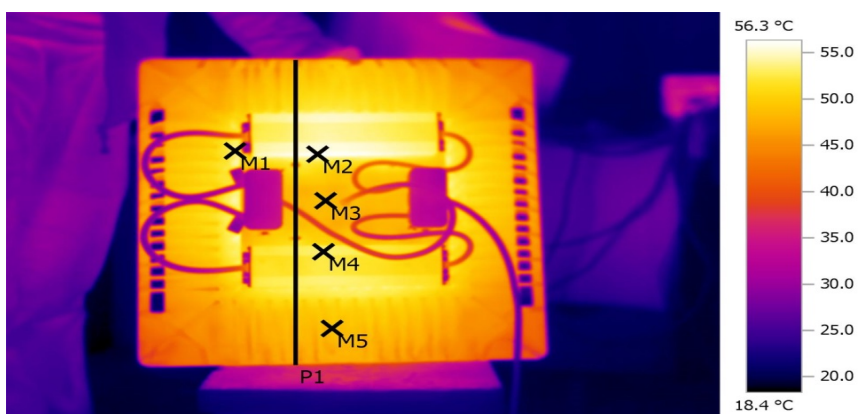
Front View

No	Temp. [°C]	Refl.Temp. [°C]
M1	49.7	25.0
M2	33.3	25.0
M3	36.5	25.0
M4	34.0	25.0
M5	47.4	25.0



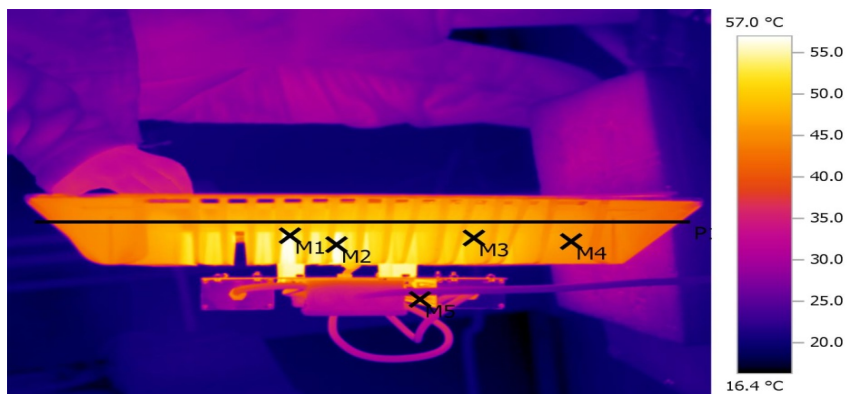
Back View

No	Temp. [°C]	Refl.Temp. [°C]
M1	53.8	25.0
M2	56.2	25.0
M3	48.7	25.0
M3	53.4	25.0
M4	49.2	25.0



Side view

No	Temp. [°C]	Refl.Temp. [°C]
M1	56.8	25.0
M2	56.7	25.0
M3	50.0	25.0
M4	45.7	25.0
M5	45.3	25.0



Part color: RAL 7035 or any other color according to RAL specification by customer requirements. Minimum 100 pcs.

RAL 1000	RAL 1001	RAL 1002	RAL 1003	RAL 1004	RAL 1005	RAL 1006	RAL 1007
RAL 1011	RAL 1012	RAL 1013	RAL 1014	RAL 1015	RAL 1016	RAL 1017	RAL 1018
RAL 1019	RAL 1020	RAL 1021	RAL 1023	RAL 1024	RAL 1027	RAL 1028	RAL 1032
RAL 1033	RAL 1034	RAL 2000	RAL 2001	RAL 2002	RAL 2003	RAL 2004	RAL 2008
RAL 2009	RAL 2010	RAL 2011	RAL 2012	RAL 3000	RAL 3001	RAL 3002	RAL 3003
RAL 3004	RAL 3005	RAL 3007	RAL 3009	RAL 3011	RAL 3012	RAL 3013	RAL 3014
RAL 3015	RAL 3016	RAL 3017	RAL 3018	RAL 3020	RAL 3022	RAL 3027	RAL 3031
RAL 4001	RAL 4002	RAL 4003	RAL 4004	RAL 4005	RAL 4006	RAL 4007	RAL 4008
RAL 4009	RAL 5000	RAL 5001	RAL 5002	RAL 5003	RAL 5004	RAL 5005	RAL 5007
RAL 5008	RAL 5009	RAL 5010	RAL 5011	RAL 5012	RAL 5013	RAL 5014	RAL 5015
RAL 5017	RAL 5018	RAL 5019	RAL 5020	RAL 5021	RAL 5022	RAL 5023	RAL 5024
RAL 6000	RAL 6001	RAL 6002	RAL 6003	RAL 6004	RAL 6005	RAL 6006	RAL 6007
RAL 6008	RAL 6009	RAL 6010	RAL 6011	RAL 6012	RAL 6013	RAL 6014	RAL 6015
RAL 6016	RAL 6017	RAL 6018	RAL 6019	RAL 6020	RAL 6021	RAL 6022	RAL 6024
RAL 6025	RAL 6026	RAL 6027	RAL 6028	RAL 6029	RAL 6032	RAL 6033	RAL 6034
RAL 7000	RAL 7001	RAL 7001	RAL 7002	RAL 7003	RAL 7004	RAL 7005	RAL 7006
RAL 7008	RAL 7009	RAL 7010	RAL 7011	RAL 7012	RAL 7013	RAL 7015	RAL 7016
RAL 7021	RAL 7022	RAL 7023	RAL 7024	RAL 7026	RAL 7030	RAL 7031	RAL 7032
RAL 7033	RAL 7034	RAL 7035	RAL 7036	RAL 7037	RAL 7038	RAL 7039	RAL 7040
RAL 7042	RAL 7043	RAL 7044	RAL 8000	RAL 8001	RAL 8002	RAL 8003	RAL 8004
RAL 8007	RAL 8008	RAL 8011	RAL 8012	RAL 8014	RAL 8015	RAL 8016	RAL 8017
RAL 8019	RAL 8022	RAL 8023	RAL 8024	RAL 8025	RAL 8028	RAL 9001	RAL 9002
RAL 9003	RAL 9004	RAL 9005	RAL 9010	RAL 9011	RAL 9016	RAL 9017	RAL 9018

Die casting Aluminium body produces with aluminium alloy with encenced heat exachange.

Color temperature of LEDs standard production 5000 K.

According to customers requirments temperature can be produce in the range from 2700K to 6500K.

Index of color rendering:

Color rendering of light sources is indicator of their capability to display realistically the colors of certain object. According to CIE (International Lighting Commission) index vary from 0 to 100, where 0 is worst and 100 is best.

Group	Ra	Significance	Typical Application
1A	90..100	Exact color match	Galleries, medical examination, color processing
1B	80...90	Colors can be properly defined	Houses, hotels, offices, schools
2	60...80	Fair color rendering	Industry, office, schools
3	40...60	Color rendering is not a of big significance	Industry, sport arenas
4	20...40	Color rendering is not important	Street lighting

Standard lighting Hydra Tunnel are with index of color rendering CRI min 70. According to customer specification lamp can be produced with LED index CRI min 80.

Optics:

According customer needs as addition of the LEDs, guidance optics with different angles can be mounted.

Operating temperature of the lamp is from -30 °C to +55 °C

Degree of protection IP 66:

The degree of protection of LED lighting bodies, which the corpus provides against penetration of foreign particles, dust, dirt and water.

Luminaires Hydra Tunnel provides:

Complete protection against contact, protection from infiltration of dust and protection against heavy seas, or powerful jets of water.

Degree of protection IK 08:

One of the key parameter of outdoor mounted luminaires is the high resistance of mechanical interference-defined in two digit code IK.

- From 0-lack of protection.
- From 10-protection of interference equivalent of 20J energy.

The degree of IK 10 is equivalent on hits with steel hammer with 1.7kg weight, falling on luminary body from 29.5 centimeters height.

High degree of resistance of mechanical interference is highly important in case where luminaires are used on streets, roads, sidewalks, in general when used in areas with concentrated vandalism activities.

Certification:

Luminaires Hydra Tunnel has full **CE** certification.

Description of the electrical connection assembly

Connection of the product to the electricity network is performed by qualified and pre instructed personal, qualified in the safety procedures. The cable coming out from the power supply on lamp has to be connected to the electricity network 230V-50Hz in the following order-brown cable is connected to L(phase), blue cable is connected to N(zero), yellowgreen cable has to be connected to ground.

Description of the mechanical connection

Installation to be performed only by qualified and pre instructed personnel, trained in safety procedures. Installation is completed by 3 different fixing systems.

Working conditions, transportation and storage:

Storage to be done in covered facilities with air temperature from -30 °C to +55 °C (up to 24 hours to +70 °C) with humidity 80%(with 86-106 Kpa) without the presence of any harmful agents, causing corrosion of the aluminum body. The lamp to be transport in the original packing provided by the producer.

Working condition of the luminary

- Power supply voltage- 90 ~ 305VAC 127 ~ 431VDC
- Temperature interval—40 °C to +80 °C, with air humidity 95%(86-106Kpa)

Quality control:

The device is controlled from the authorities of quality control and reply to the technical requirements. Replacing of components of the luminary has to be performed only with original parts supplied by the producer. Repair is performed only from authorized representative of the producer.

Warranty conditions:

LED luminaries from the series Hydra Tunnel have 60 months warranty from the date of sale. All eventual malfunction during warranty period is 60 months from date of purchase. All eventual malfunction in this period is repaired free of change in the conditions of:

- All conditions for installation, operation, transport and storage of the device.
- There are no signs of attempts of opening the device and/or repair by non-authorized personal of Industrial lighting LTD.

Producer's address:

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1839 Sofia, 15 Kremikovsko shose Str.,

e-mail: office@industrialighting.eu

web site: www.industrialighting.eu