



# Ente Certificazione Macchine

Via Cà Bella, 243 40053 Valsamoggia Località Castello di Serravalle  
(Bo) Italy

Turkish Branch: Testroof Engineering and Certification Co., Ltd.



Technical Requirement Assessment No.: 16-0176/02

Page 10/27

Clause	Requirement - Test	Result - Remark	Verdict
	- fixed position	Yes	P
	- temperature marked lamp control gear		N
1.6 (4.16.3)	Design to satisfy the test of 12.6		N
1.6 (4.17)	Drain holes	No drain holes	N
	Clearance at least 5 mm		N
1.6 (4.18)	Resistance to corrosion:		P
1.6 (4.18.1)	- rust-resistance	Painted with rust-resistance material	P
1.6 (4.18.2)	- season cracking in copper		P
1.6 (4.18.3)	- corrosion of aluminium	No aluminium used	N
1.6 (4.19)	Ignitors compatible with ballast	No ignitors used	N
1.6 (4.20)	Rough service vibration .....	Not such appliance	N
1.6 (4.21)	Protective shield		N
1.6 (4.21.1)	Shield fitted		N
	Shield of glass if tungsten halogen lamps		N
1.6 (4.21.2)	Particles from a shattering lamp not impair safety		N
1.6 (4.21.3)	No direct path		N
1.6 (4.21.4)	Impact test on shield		N
	Glow-wire test on lamp compartment		N
1.6 (4.22)	Attachments to lamps	No such attachments	N
1.6 (4.23)	Semi-luminaires comply with Class II	Not such appliance	N
1.6 (4.24)	UV radiation for tungsten halogen lamps and metal halide lamps (Annex P)	No such appliance	N
1.6 (4.25)	No sharp point edges	No sharp points or edges	P
1.6 (4.26)	Short-circuit protection	No SELV parts	N
1.6 (4.26.1)	Uninsulated accessible SELV parts		N
1.6 (4.26.2)	Short circuit test		N
1.6 (4.26.3)	Test chain according to figure 29		N

Date/ Engineer:

Eng. E CENGİZ  
2016-06-24

Control:

Eng. M. KOGALIS  
2016-06-24



# Ente Certificazione Macchine

Via Cà Bella, 243 40053 Valsamoggia Località Castello di Serravalle  
(Bo) Italy

Turkish Branch: Testroof Engineering and Certification Co., Ltd.



Technical Requirement Assessment No.: 16-0176/02

Page 11/27

Clause	Requirement - Test	Result - Remark	Verdict
1.7 (11)	<b>CREEPAGE DISTANCES AND CLEARANCES</b>		<b>P</b>
	Working voltage (V) .....	AC200-240V	P
	Voltage form	Sinusoidal [ V ] Non-sinusoidal [ ]	P
	PTI	<600 [ V ] >600 [ ]	P
	Impulse withstand category (normal category II) (category III annex U)	Category II	P
	Rated pulse voltage (kV) :	<2.0kV	P
	(1) Current-carrying parts of different polarity: cr (mm); cl (mm) :	cl>5.0mm. limit: 1.5mm cr>5.2mm, limit: 2.5mm	P
	(2) Current-carrying parts and accessible parts:cr (mm); cl (mm) :	cl>5.0mm. limit: 1.5mm cr>5.2mm, limit: 2.5mm	P
	(3) Parts becoming live due to breakdown of basic insulation and metal parts: cr (mm); cl (mm) :		N
	(4) Outer surface of cable where it is clamp and metal parts: cr (mm); cl (mm)		N
	(5)not used		N
	(6) Current-carrying parts and supporting surface: cr (mm); cl (mm) :	cl>5.0mm. limit: 1.5mm cr>5.2mm, limit: 2.5mm	P
1.8 (7)	PROVISION FOR EARTHING	Class II	N
1.8 (7.2.1 + 7.2.3)	Accessible Metal parts		N
	Metal parts in contact with supporting surface		N
	Resistance < 0.5 o		N
	Self-tapping screws used		N
	Thread-forming screws		N
	Thread-forming screws used in a groove		N
	Earth marks contact first		N

Date/ Engineer:

Eng. E CENGİZ  
2016-06-24

Control:

Eng. M. KOCAS  
2016-06-24



# Ente Certificazione Macchine

Via Cà Bella, 243 40053 Valsamoggia Località Castello di Serravalle  
(Bo) Italy

Turkish Branch: Testroof Engineering and Certification Co., Ltd.



Technical Requirement Assessment No.: 16-0176/02

Page 12/27

Clause	Requirement - Test	Result - Remark	Verdict
1.8 (7.2.2 +7.2.3)	Earth continuity in joints etc.		N
1.8 (7.2.4)	Locking of clamping means		N
	Compliance with 4.7.3		N
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N
1.8 (7.2.5)	Earth terminal integral part of Connector socket		N
1.8 (7.2.6)	Earth terminal adjacent to mains terminals		N
1.8 (7.2.7)	Electrolytic Corrosion of the earth terminal		N
1.8 (7.2.8)	Material of earth terminal		N
	Contact surface bare metal		N
1.8 (7.2.10)	Class II luminaire for looping-in		P
	Double or reinforced insulation to functional earth		N
1.8 (7.2.11)	Earthing core coloured green-yellow		N
	Length of earth conductor		N
<b>1.9 (14)</b>	<b>SCREW TERMINALS</b>		
	Separately approved: component list	See annex 1	P
	Part of the luminaire	See annex 3	N
<b>1.9 (15)</b>	<b>SCREWLESS TERMINALS and electrical connections</b>		<b>N</b>
	Separately approved: component list	See annex 1	P
	Part of the luminaire	See annex 4	N
<b>1.10 (5)</b>	<b>EXTERNAL AND INTERNAL WIRING</b>		<b>P</b>
1.10 (5.2)	Supply connection and external wiring		P
1.10 (5.2.1)	Means of connection .....	Power cords	P
1.10 (5.2.2)	Type of cable .....	H05V-K	P

Date/ Engineer:

Eng. E CENGİZ  
2016-06-24

Control:

Eng. M. KOCAS  
2016-06/24



# Ente Certificazione Macchine

Via Cà Bella, 243 40053 Valsamoggia Località Castello di Serravalle  
(Bo) Italy

Turkish Branch: Testroof Engineering and Certification Co., Ltd.



Technical Requirement Assessment No.: 16-0176/02

Page 13/27

Clause	Requirement - Test	Result - Remark	Verdict
	Nominal cross-section area (mm <sup>2</sup> )	0.50 mm <sup>2</sup>	P
	Cables equal to IEC 60227 and IEC 60245	IEC 60227	P
1.10 (5.2.3)	Type of attachment, X, Y or Z	Type Z	P
1.10 (5.2.5)	Type Z not connected to screws		P
1.10 (5.2.6)	Cable entries		P
	- suitable for introduction		P
	- adequate degree of protection		P
1.10 (5.2.7)	Cable entries through rigid material have rounded edges		P
1.10 (5.2.8)	Insulating bushings:	No such part	N
	- suitably fixed		N
	- material in bushings		N
	- material not likely to deteriorate		N
	- tubes or guard made of insulating material	No such component	N
1.10 (5.2.9)	Locking of screw bushings	No such component	N
1.10 (5.2.10)	Cord anchorage:		P
	- covering protected from abrasion		P
	- clear how to be effective		P
	- no mechanical or thermal stress		P
	- no tying of cables into knots etc.		P
	- insulating material or lining		N
1.10 (5.2.10.1)	Cord anchorage for type X attachment cord	Not such construction	N
	a) at least one part fixed		N
	b) types of cable		N
	c) no damaging of the cable		N
	d) whole cable can be mounted		N
	e) no touching of clamping screws		N
	f) metal screw not directly on cable		N
	g) replacement without special tool		N

Date/ Engineer:

Eng. E CENGİZ  
2016-06-24

Control:

Eng. M. KOCA  
2016-06-24



# Ente Certificazione Macchine

Via Cà Bella, 243 40053 Valsamoggia Località Castello di Serravalle  
(Bo) Italy

Turkish Branch: Testroof Engineering and Certification Co., Ltd.



Technical Requirement Assessment No.: 16-0176/02

Page 14/27

Clause	Requirement - Test	Result - Remark	Verdict
	Glands not used as anchorage		N
	Labyrinth type anchorage		N
1.10 (5.2.10.2)	Adequate cord anchorages for type Y and type Z attachments	Type Z	P
1.10 (5.2.10.3)	Tests:		P
	- impossible to push cable; unsafe		P
	- pull test: 25 times; pull (N)	60N	P
	- torque test: torque (Nm)	0.25Nm	P
	- displacement < 2 mm	0.8mm	P
	- no movement of conductors		P
	- no damage of cable or cord		P
1.10 (5.2.11)	External wiring passing into luminaire		N
1.10 (5.2.12)	Looping-in terminals		P
1.10 (5.2.13)	Wire ends not tinned		N
	Wire ends tinned: no cold flow		N
1.10 (5.2.14)	Mains plug same protection		N
	Class III luminaire plug		N
1.10 (5.2.16)	Appliance inlets (IEC 60320)	No appliance inlet	N
	Appliance couplers of class II type		P
1.10 (5.2.17)	No standardized in interconnecting cables assembled	No such parts	N
1.10 (5.2.18)	Used plug in accordance with		N
	-IEC60083	IEC 60083	N
	- other standard		N
1.10 (5.3)	Internal wiring		P
1.10 (5.3.1)	Internal wiring of suitable size and type	Yes	P
	Through wiring		N
	- not delivered/ mounting instruction		N
	- factory assembled		N
	- socket outlet loaded (A) :		N
	- temperatures :		N

Date/ Engineer:

Eng. E. CENGİZ  
2016-06-24

Control:

Eng. M. KOÇAK  
2016-06-24



# Ente Certificazione Macchine

Via Cà Bella, 243 40053 Valsamoggia Località Castello di Serravalle  
(Bo) Italy

Turkish Branch: Testroof Engineering and Certification Co., Ltd.



Technical Requirement Assessment No.: 16-0176/02

Page 15/27

Clause	Requirement - Test	Result - Remark	Verdict
	Green-yellow for earth only		N
1.10 (5.3.1.1)	Internal wiring connected directly to fixed wiring		P
	Cross-Sectional area (mm )	>1,5 mm <sup>2</sup>	P
	Insulation thickness	>1,5mm <sup>2</sup>	P
	Extra insulation added where necessary		N
1.10 (5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limited device		N
	Adequate cross-section area and insulation thickness		N
1.10 (5.3.1.3)	Double or reinforced insulation for class II		P
1.10 (5.3.1.4)	Conductors without insulation		N
1.10 (5.3.1.5)	SELV current-carrying parts		P
1.10 (5.3.1.6)	Insulation thickness other than PVC or rubber		N
1.10 (5.3.2)	Sharp edges etc.		P
	No moving parts of switches etc.		P
	Joints, raising/lowering devices		P
	Telescopic tubes etc.		N
	No twisting over 3600		N
1.10 (5.3.3)	Insulating bushings		P
	- suitable fixed		P
	- material in bushings		P
	- material not likely to deteriorate		N
	- cables with protective sheath		P
1.10 (5.3.4)	Joints and Junctions effectively insulated		P
1.10 (5.3.5)	Strain on internal wiring		P
1.10 (5.3.6)	Wire carriers		P
1.10 (5.3.7)	Wire ends not tinned		N
	Wire ends tinned: no cold flow		N
<b>1.11 (8)</b>	<b>PROTECTION AGAINST ELECTRIC SHOCK</b>		<b>P</b>
1.11 (8.2.1)	Live parts not accessible with standard test finger	Live parts enclosed by plastic enclosure	P

Date/ Engineer:

Eng. E GENGIZ  
2016-06-24

Control:

Eng. M. KOCAS  
2016-06-24



# Ente Certificazione Macchine

Via Cà Bella, 243 40053 Valsamoggia Località Castello di Serravalle  
(Bo) Italy  
Turkish Branch: Testroof Engineering and Certification Co., Ltd.



Technical Requirement Assessment No.: 16-0176/02

Page 16/27

Clause	Requirement - Test	Result - Remark	Verdict
	Basic insulated parts not used on the outer surface without appropriate protection		P
	Basic insulated parts not accessible with standard test finger on portable and adjustable luminaires		P
	Basic insulated parts not accessible with 050mm probe from outside, within arms reach, on wall-mounted luminaires		P
	Lamp and stallholders in portable and adjustable luminaires comply with double or reinforced insulation requirements		N
	Basic insulation only accessible under lamp or starter replacement		N
	Double-ended tungsten filament lamp		N
	Insulation lacquer not reliable		P
	Double-ended high pressure discharge lamp		N
	Relevant warning according to 3.2.18 fitted to the luminaire		P
1.11 (8.2.2)	Portable luminaire adjusted in most unfavourable position	Fixed luminaire	N
1.11 (8.2.3 a)	Class II luminaire:		P
	- basic insulated metal parts not accessible during starter or lamp replacement		N
	- basic insulated not accessible other than during starter or lamp replacement		P
	- glass protective shields not used as supplementary insulation		P
1.11 (8.2.3b)	BC lampholder of metal in class I luminaires shall be earthed		N
1.11 (8.2.3c)	Class III luminaires with expose SELV parts:		N
	Ordinary luminaire :		N
	- touch current		N
	- no-load voltage		N
	- other than ordinary luminaire:		N

Date/ Engineer:

Eng. E CENGİZ  
2016-06-24

Control:

Eng. M. KOCAS  
2016-06-24



# Ente Certificazione Macchine

Via Cà Bella, 243 40053 Valsamoggia Località Castello di Serravalle  
(Bo) Italy

Turkish Branch: Testroof Engineering and Certification Co., Ltd.



Technical Requirement Assessment No.: 16-0176/02

Page 17/27

Clause	Requirement - Test	Result - Remark	Verdict
	- nominal voltage		N
1.11 (8.2.4)	Portable luminaire:	Fixed luminaire	N
	- protection independent of supporting surface		N
	- terminal block completely covered		N
1.11 (8.2.5)	Compliance with the standard test finger or relevant probe		P
1.11 (8.2.6)	Covers reliably secured		P
1.11 (8.2.7)	Discharging of capacitors >0,5 qF		P
	Portable plug connected luminaire with capacitor		N
	Discharge device on or within capacitor		N
	Discharge device mounted separately		N
1.11.1 (-)	Protective parts for lamp caps not removable by hand in hand-held inspection luminaires		N
1.11.2 (-)	Fixing of parts within 2 m from floor		P
<b>1.12 (12)</b>	<b>ENDURANCE TEST AND THERMAL TEST</b>		N
1.12 (12.3)	Endurance test:		N
	- mounting-position .....		N
	- test temperature (°C) .....		N
	- total duration (h) .....		N
	- supply voltage: Un factor; calculated voltage (V) .....		N
	- lamp used .....		N
1.12 (12.3.2)	After endurance test:		N
	- no part unserviceable		N

Date/ Engineer:

Eng. E CENGİZ  
2016-06-24

Control:

Eng. M. KOCAS  
2016-06-24





# Ente Certificazione Macchine

Via Cà Bella, 243 40053 Valsamoggia Località Castello di Serravalle  
(Bo) Italy

Turkish Branch: Testroof Engineering and Certification Co., Ltd.



Technical Requirement Assessment No.: 16-0176/02

Page 18/27

Clause	Requirement - Test	Result - Remark	Verdict
	- luminaire not unsafe		N
	- no damage to track system		N
	- marking legible		N
	- no cracks, deformation etc.		N
1.12 (12.4)	Thermal test (normal operation)	Not Exceeded Limits	P
1.12 (12.5)	Thermal test (abnormal operation)	Not Exceeded Limits	P
	Short-circuit of starter contacts		N
	Lamps removed and not replaced	Pass	P
1.12 (12.6)	Thermal test (failed lamp control gear condition):	Fuse	P
1.12 (12.6.1)	Through wiring or looping-in wiring loaded by a current of (A)		N
	- case of abnormal conditions :		N
	- electronic ballast		N
	- measured winding temperature (°C): at 1,1 Un		N
	- measured mounting surface temperature (°C): at 1,1 Un :		N
	- calculated mounting surface temperature(°C)		N
	- track-mounted luminaires		N
1.12 (12.6.2)	Temperature sensing control:		
	- manual reset cut-out		N
	- auto reset cut-out		N
	- track-mounted luminaires		N
1.12 (12.7)	Thermal test (failed ballast or transformer in plastic luminaires):		
1.12 (12.7.1)	Luminaire without temperature sensing control		N
1.12 (12.7.1.1)	Luminaire with fluorescent lamp < 70W		N
	Test method 12.7.1.1 or Annex V		N
	Test according to 12.7.1.1:		N
	- case of abnormal conditions		N
	- Ballast failure at supply voltage (V)		N
	- Components retained in place after the test		N
	- Test with standard test finger after the test		N

Date/ Engineer:

Eng. E CENGİZ  
2016-06-24

Control:

Eng. M. KOCASU  
2016-06-24



# Ente Certificazione Macchine

Via Cà Bella, 243 40053 Valsamoggia Località Castello di Serravalle  
(Bo) Italy  
Turkish Branch: Testroof Engineering and Certification Co., Ltd.



Technical Requirement Assessment No.: 16-0176/02

Page 19/27

Clause	Requirement - Test	Result - Remark	Verdict
	Test according to Annex V:		
	- case of abnormal conditions		N
	- measured winding temperature (°C): at 1,1 Un.. :		N
	- measured temperature of fixing point/exposed part (C): at 1,1Un :		N
	- calculated temperature of fixing point/exposed part (C) :		N
	Ball-pressure test:		
	- part tested; temperature (C).....:		N
	- part tested; temperature (C).....:		N
1.12 (12.7.1.2)	Luminaire with discharge lamp, fluorescent lamp > 70W, transformer > 10 VA		
	- case of abnormal conditions		N
	- measured winding temperature (C): at 1,1 Un.. :		N
	- measured temperature of fixing point/exposed part (C): at 1,1 Un :		N
	- calculated temperature of fixing point/exposed part (C) .... :		N
	Ball-pressure test:		N
	- part tested; temperature (C)..... :		N
	- part tested; temperature (C).....:		N
1.12 (12.7.1.3)	Luminaire with short circuit proof transformers < 10 VA		P
	- case of abnormal conditions		P
	- Components retained in place after the test		P
	- Test with standard test finger after the test	No Touch	P
1.12 (12.7.2)	Luminaire with temperature sensing control		N
	- thermal link		N
	- manual reset cut-out		N
	- auto reset cut-out		N
	- case of abnormal conditions		N
	- highest measured temperature of fixing point/exposed part (C)::		N
	Ball-pressure test:		N

Date/ Engineer:

Eng. E CENGIZ  
2016-06-24

Control:

Eng. M. KOCAS  
2016-06-24



# Ente Certificazione Macchine

Via Cà Bella, 243 40053 Valsamoggia Località Castello di Serravalle  
(Bo) Italy

Turkish Branch: Testroof Engineering and Certification Co., Ltd.



Technical Requirement Assessment No.: 16-0176/02

Page 20/27

Clause	Requirement - Test	Result - Remark	Verdict
	- part tested; temperature (C).....:		N
	- part tested; temperature (C).....:		N
<b>1.13 (9)</b>	<b>RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE</b>		
1.12 (9.2)	Tests for ingress of dust, solid objects and moisture:		P
	- classification according to IP .....	IP20	P
	- mounting position during test .....		N
	- fixing screws tightened; torque (Nm).....:		N
	- tests according to clauses .....		N
	- electric strength		N
	a) no deposit in dust-proof luminaire		N
	b) no talcum in dust-tight luminaire		N
	c) no trace of water on current-carrying parts or SELV parts or where it could become a hazard		N
	d) i) For luminaires without drain holes - no water entry		N
	d) ii) For luminaires with drain holes - no hazardous water entry		N
	e) no water in watertight luminaire		N
	f) no contact with live parts (IP 2X)	Test Finger	P
	f) no entry into enclosure (IP 3X and IP 4X)		N
	f) no contact with live parts (IP3X and IP4X)		N
	g) no trace of water on part of lamp requiring protection from splashing water		N
	h) no damage of protective shield or glass envelope		N
1.13 (9.3)	Humidity test 48h		N
1.13.1 (-)	Parts removed before humidity treatment		-
<b>1.14 (10)</b>	<b>INSULATION RESISTANCE AND ELECTRIC STRENGTH</b>		P
1.14 (10.2.1)	Insulation resistance test:		P
	Cable or cord covered by metal foil or replaced by a metal rod of mm 0 : > 999,9 MOhms		P

Date/ Engineer:

Eng. E CENGİZ  
2016-06-24

Control:

Eng. M. KOCAS  
2016-06-24



# Ente Certificazione Macchine

Via Cà Bella, 243 40053 Valsamoggia Località Castello di Serravalle  
(Bo) Italy

Turkish Branch: Testroof Engineering and Certification Co., Ltd.



Technical Requirement Assessment No.: 16-0176/02

Page 21/27

Clause	Requirement - Test	Result - Remark	Verdict
	Insulation resistance:	> 999,9 MOhms	P
	SELV:		--
	- between current-carrying parts of different polarity ..... :	> 999,9 MOhms	P
	- between current-carrying parts and mounting surface :	> 999,9 MOhms	P
	- between current-carrying parts and metal parts of the luminaire :	> 999,9 MOhms	P
	Other than SELV:		--
	- between live parts of different polarity .... :	>999,9MOhms, limits: 2 MOhms	P
	- between live parts and mounting surface :	>999,9MOhms, limits: 2 MOhms	P
	- between live parts and metal parts .....:	>999,9MOhms, limits: 2 MOhms	P
	- between live parts of different polarity through action of a switch :	>999,9MOhms, limits: 2 MOhms	P
1.14 (10.2.2)	Electric strength test:	Pass	P
	Dummy lamp		N
	Luminaires with ignitors after 24 h test		N
	Luminaires with manual ignitors		N
	Test voltage (V):	2920 VAC	P
	SELV:		--
	- between current-carrying parts of different polarity .....:	Pass	P
	- between current-carrying parts and mounting surface :	Pass	P
	- between current-carrying parts and metal parts of the luminaire :		N
	Other than SELV:		--
	- between live parts of different polarity .... :		N
	- between live parts and mounting surface :		N
	- between live parts and metal parts .....:		P
1.14 (10.3)	Touch current (mA) ..... :	0.158 A	P
<b>1.15 (13)</b>	<b>RESISTANCE TO HEAT, FIRE AND TRACKING</b>		N
1.15 (13.2.1)	Ball-pressure test:		N
	- part tested; temperature (°C) ..... :		N

Date/ Engineer:

Eng. E CENGİZ  
2016-06-24

Control:

Eng. M. TOÇAS  
2016-06-24



# Ente Certificazione Macchine

Via Cà Bella, 243 40053 Valsamoggia Località Castello di Serravalle  
(Bo) Italy  
Turkish Branch: Testroof Engineering and Certification Co., Ltd.



Technical Requirement Assessment No.: 16-0176/02

Page 22/27

Clause	Requirement - Test	Result - Remark	Verdict
	- part tested; temperature (°C) .....		N
1.15 (13.3.1)	Needle flame test (10 s):		N
	- part tested .....		N
	- part tested .....		N
1.15 (13.3.2)	Glow-wire test (650 °C):		N
	- part tested .....		N
	<b>CENELEC COMMON MODIFICATIONS (EN)</b>		--
<b>1.5 (3)</b>	<b>MARKING</b>		--
1.5.(3.3.301)	Adequate warning on the package		—
<b>1.10 (5)</b>	<b>EXTERNAL AND INTERNAL WIRING</b>		—
1.10 (5.2.1)	Connecting leads		N
	- without a means for connection to the supply		N
	- terminal block specified		N
	- relevant information provided		N
	- compliance with 4.6, 4.7.1, 4.7.2, 4.10.1, 11.2,12 and 13.2 of Part 1		N
1.10 (5.2.2)	Cables equal to HD21 S2 or HD22 S2		N
<b>ZB</b>	<b>ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)</b>		N
(3.3)	DK: power supply cord with label		N
	IT: warning label on Class 0 luminaire		N
(4.5.1)	DK: socket-outlets		N
(5.2.1)	CY, DK, FI, SE, GB: type of plug		N
<b>ZC</b>	<b>ANNEX ZC, NATIONAL DEVIATIONS (EN)</b>		N
(4&5)	FR: Shuttered socket-outlets 10/16A		N
(13.3)	GB: Requirements according to United Kingdom Building Regulation		N
(13.3.2)	FR: Glow-wire test 850 °C alt. 750 °C for luminaires in premises open to public or 960°C for luminaires in emergency exits		N

Date/ Engineer:

Eng. E CENGIZ  
2016-06-24

Control:

Eng. M. KOCAS  
2016-06-24



# Ente Certificazione Macchine

Via Cà Bella, 243 40053 Valsamoggia Località Castello di Serravalle  
(Bo) Italy

Turkish Branch: Testroof Engineering and Certification Co., Ltd.



Technical Requirement Assessment No.: 16-0176/02

Page 23/27

Clause	Requirement - Test		Result - Remark			Verdict
	<b>ANNEX 1: components</b>					<b>P</b>
object/part No.	Code	manufacturer/trade mark	type/model	technical data	standard	mark(s) of conformity
Power cords	A	Optional	Optional	300V, 2x0,50mm <sup>2</sup>	HD Documents	CE
Internal wiring	B	Optional	Optional	20AWG, 80 C, 300V	HD Documents	CE
Motion Sensor	C	Femto	FHS-01	(0,8-1,1) x 220V AC 50/60Hz, 7A 250VA	HD Documents	CE
Fuse	D	Optional	Optional	1A, 2A, 4A, 8A, 6A, 10A	EN 60127	CE

Date/ Engineer:

Eng. E CENGİZ  
2016-06-24

Control:

Eng. M. KOCAS  
2016-06-24



# Ente Certificazione Macchine

Via Cà Bella, 243 40053 Valsamoggia Località Castello di Serravalle  
(Bo) Italy

Turkish Branch: Testroof Engineering and Certification Co., Ltd.



Technical Requirement Assessment No.: 16-0176/02

Page 24/27

Clause	Requirement - Test	Result - Remark	Verdict			
	<b>ANNEX 2: temperature measurements, thermal tests of Section 12</b>		<b>P</b>			
	Type reference .....		P			
	Lamp used .....	LED lamp	P			
	Lamp control gear used .....	Optinal	P			
	Mounting position of luminaire .....	See product manual	P			
	Supply wattage (W) .....	9.1 W	P			
	Supply current (A) .....	0.15- 0.16 A	P			
	Calculated power factor .....	0,24 PF	P			
	Table: measured temperatures corrected for ta = 25C:		P			
	- abnormal operating mode .....	N.A.	P			
	- test 1: rated voltage .....	240V	P			
	- test 2: 1,06 times rated voltage or 1,05 times Rated wattage .....	240x1.06V	P			
	- test 3: Load on wiring to socket-outlet, 1.06 times voltage or 1.05 times wattage .....		N			
	- test 4: 1,1 times rated voltage or 1,05 times rated wattage .....		N			
	Through wiring or looping-in wiring loaded by acurrent of A during the test :		N			
Temperature( C) of part	Clause 12.4 - normal				Clause 12.5 - abnormal	
	Test 1	Test 2	Test 3	Limits(°C)	Test 4	Limit (C)
Internal wire	49,7	47,5	49,9	90	50,3	90
Adapter enclosure	69,1	70,6	69,9	90	71,4	90
Plastic Surface of LEDs	51,7	60,8	61,6	90	60,5	90
Ambient	25,3	25,2	25,4	--	25,0	--

Date/ Engineer:

Eng. E CENGİZ  
2016-06-24

Control:

Eng. M. KOCAS  
2016-06-24



## Ente Certificazione Macchine

Via Cà Bella, 243 40053 Valsamoggia Località Castello di Serravalle  
(Bo) Italy

Turkish Branch: Testroof Engineering and Certification Co., Ltd.



Technical Requirement Assessment No.: 16-0176/02

Page 25/27

Clause	Requirement - Test	Result - Remark	Verdict
	<b>ANNEX 3: screw terminals (part of the luminaire)</b>		--
<b>(14)</b>	<b>SCREW TERMINALS</b>		--
(14.2)	Type of terminal .....		--
	Rated current (A).....		--
(14.3.2.1)	One or more conductors		N
(14.3.2.2)	Special preparation		N
(14.3.2.3)	Terminal size		N
	Cross-sectional area (mm <sup>2</sup> ).....		N
(14.3.3)	Conductor space (mm).....		N
(14.4)	Mechanical tests		N
(14.4.1)	Minimum distance		N
(14.4.2)	Cannot slip out		N
(14.4.3)	Special preparation		N
(14.4.4)	Nominal diameter of thread (metric ISO thread) :		N
	External wiring		N
	No soft metal		N
(14.4.5)	Corrosion		N
(14.4.6)	Nominal diameter of thread (mm) :		N
	Torque (Nm) :		N
(14.4.7)	Between metal surfaces		N
	Lug terminal		N
	Mantle terminal		N
	Pull test; pull (N) :		N
(14.4.8)	Without undue damage		N

Date/ Engineer:

Eng. E CENGİZ  
2016-06-24

Control:

Eng. M. KOCAS  
2016-06-24





# Ente Certificazione Macchine

Via Cà Bella, 243 40053 Valsamoggia Località Castello di Serravalle  
(Bo) Italy

Turkish Branch: Testroof Engineering and Certification Co., Ltd.



Technical Requirement Assessment No.: 16-0176/02

Page 26/27

Clause	Requirement - Test	Result - Remark	Verdict
	<b>ANNEX 4: screwless terminals (part of the luminaire)</b>		--
<b>(15)</b>	<b>SCREWLESS TERMINALS</b>		--
(15.2)	Type of terminal.....:	Permanent	—
	Rated current (A).....:	12,5 A	—
(15.3.1)	Material	Copper	P
(15.3.2)	Clamping	Soldering	P
(15.3.3)	Stop	Yes	P
(15.3.4)	Unprepared conductors	No	P
(15.3.5)	Pressure on insulating material	No	P
(15.3.6)	Clear connection method	Yes	P
(15.3.7)	Clamping independently	Yes	P
(15.3.8)	Fixed in position	Yes	P
(15.3.10)	Conductor size	1,5 mm <sup>2</sup>	P
	Type of conductor	Copper wire	P
(15.5.1)	Terminals internal wiring	Yes	P
(15.5.1.1)	Pull test spring-type terminals (4 N, 4 samples)	No Damage	P
(15.5.1.2)	Pull test pin or tab terminals (4 N, 4 samples)	No Damage	P
	Insertion force not exceeding 50 N		N
(15.5.2)	Permanent connections: pull-off test (20 N)	No Damage	P
(15.6)	Electrical tests		P
	Voltage drop (mV) after 1 h (4 samples).....:	See Below	P
	Voltage drop of two inseparable joints	See Below	P
	Number of cycles.....:	25	N
	Voltage drop (mV) after 10th alt. 25th cycle (4 samples) ..:	See Below	N
	Voltage drop (mV) after 50th alt. 100th cycle (4 samples).....:	N/A	N
	After ageing, voltage drop (mV) after 10th alt. 25th cycle (4 samples) :	See Below	P
	After ageing, voltage drop (mV) after 50th alt. 100th cycle (4 samples) :	N/A	N

Date/ Engineer:

Eng. E CENGİZ  
2016-06-24

Control:

Eng. M. KOCA  
2016-06-24



# Ente Certificazione Macchine

Via Cà Bella, 243 40053 Valsamoggia Località Castello di Serravalle  
(Bo) Italy

Turkish Branch: Testroof Engineering and Certification Co., Ltd.



Technical Requirement Assessment No.: 16-0176/02

Page 27/27

Clause	Requirement - Test	Result - Remark	Verdict							
(15.7)	Terminals external wiring		P							
	Terminal size and rating		P							
(15.8.1)	Pull test spring-type terminals (4 samples); pull (N)	No Damage	P							
	Pull test pin or tab terminals (4 samples); pull (N)	No Damage	P							
(15.9)	Contact resistance test		P							
	Voltage drop (mV) after 1 h		N							
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)	6,7	6,6	8,0	10,3	11,6	4,7	6,7	4,8	4,9	5,8
	Voltage drop of two inseparable joints					12,6				
	Voltage drop after 10th alt. 25th cycle									
	Max. allowed voltage drop (r V) 15mV :									
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)	7,2	6,7	8,1	10,6	11,9	5,3	7,9	5,7	5,7	6,8
	Voltage drop after 50th alt. 100th cycle									
	Max. allowed voltage drop (m 22,5mV)..... :									
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Continued ageing: voltage drop after 10th alt. 25th cycle									
	Max. allowed voltage drop (m nV)..... :									
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Continued ageing: voltage drop after 50th alt. 100th cycle									
	Max. allowed voltage drop (m nV)..... :									
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Date/ Engineer:

Eng. E. CENGİZ  
2016-06-24

Control:

Eng. M. KOCAS  
2016-06-24



## Ente Certificazione Macchine

Via Cà Bella, 243 40053 Valsamoggia Località Castello di  
Serravalle (Bo) Italy

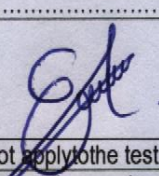
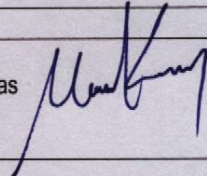
Turkish Branch: Testroof Engineering and Certification Co.,  
Ltd.



### Technical Requirement Assesment

EN 60598-1, EN 60598-2-1

### Luminaires - Part 2: Particular requirements - Section 1: Fixed general purpose luminaires

Report reference No.....	16-0176/02		
Date of issue.....	24.06.2016		
Testing laboratory.....	Testroof Engineering and Certification Co, Ltd.		
Address.....	İnönü, Kayışdağı Cad. No:150-3, 34755 Ataşehir/İstanbul		
Testing location.....	As above		
Applicant.....	TTAF ELEKTRONİK SAN. VE TİC. LTD. ŞTİ.		
Address.....	Kavaklı Mah. İstanbul Cad. No:21 Beylikdüzü/İstanbul/TURKEY		
Standard.....	EN 60598-1:2015/AC:2016 EN 60598-2-1:1989		
Number of pages (Report).....	27		
Type of test object.....	Luminaire Series with Motion Sensor		
Model and/or type reference.....	ESA-01012U		
Manufacturer.....	The same as applicant		
Compiled by.....			
Signature Eng. E. Cengiz		Signature Eng. M. Kocas	
test case does not apply to the test object.....	N/A		
test object does meet the requirement.....	P(ass)		
test object does not meet the requirement.....	F(ail)		

General Remarks

"(see remark #)" refers to a remark appended to the report.

"(see appended table)" refers to a table appended to the report.

Through out this report a comma is used as the decimal separator.

This report shall not be reproduced except in full without the written approval of the testing laboratory.



## Ente Certificazione Macchine

Via Cà Bella, 243 40053 Valsamoggia Località Castello di  
Serravalle (Bo) Italy

Turkish Branch: Testroof Engineering and Certification Co.,  
Ltd.



Technical Requirement Assessment No.: 16-0176/02

Page 2/27

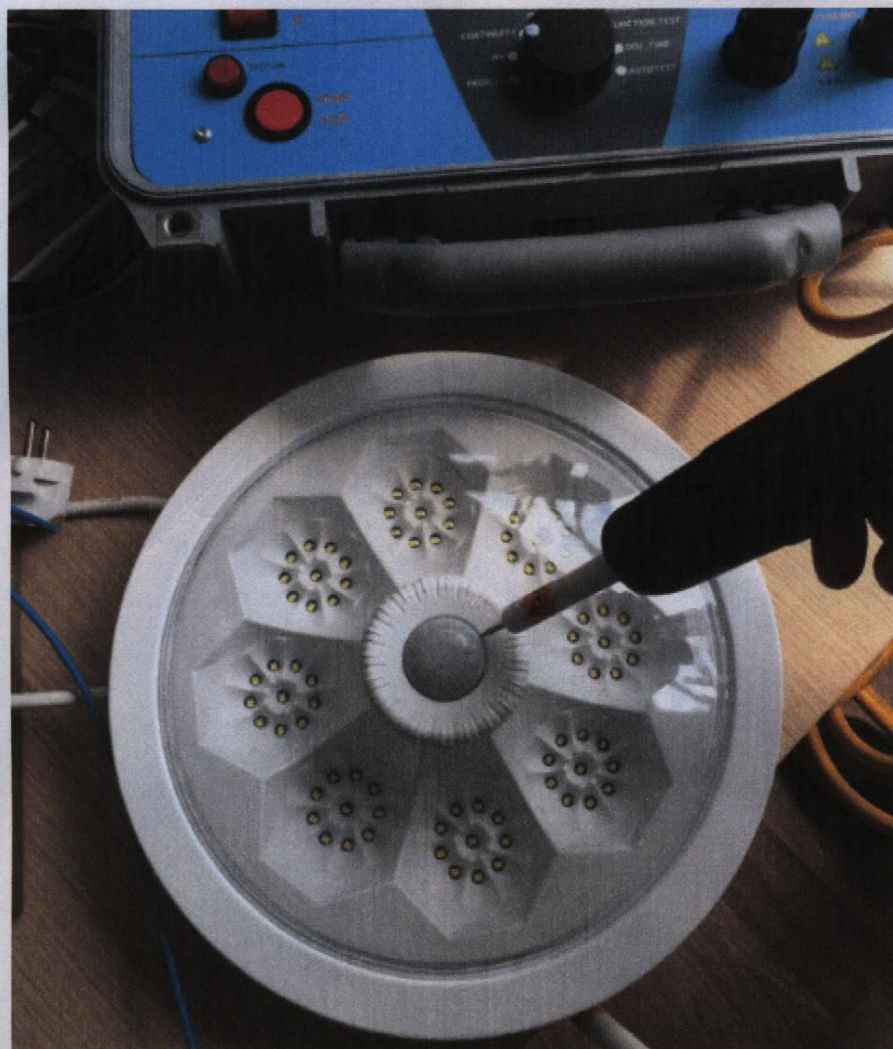
### GENERAL PRODUCT INFORMATION:

#### Report Summary

All applicable tests according to the referenced standard(s) have been carried out.

#### Product Description

Luminaire Series with Motion Sensor





# Ente Certificazione Macchine

Via Cà Bella, 243 40053 Valsamoggia Località Castello di Serravalle  
(Bo) Italy

Turkish Branch: Testroof Engineering and Certification Co., Ltd.



Technical Requirement Assessment No.: 16-0176/02

Page 3/27

Clause	Requirement - Test	Result - Remark	Verdict
<b>1.2 (0)</b>	<b>General test requirements</b>		<b>P</b>
1.2 (0.1)	Information for luminaires design considered	Yes [ x ] No [ ]	P
1.2 (0.3)	More sections applicable	AC200-240 V	P

<b>1.4 (2)</b>	<b>CLASSIFICATION</b>		<b>P</b>
1.4 (2.2)	Type of protection .....	Class II	P
1.4 (2.3)	Degree of protection .....	IP20	P
1.4 (2.4)	Luminaire suitable for direct mounting on normally flammable surfaces :	Fixed luminaries	N
	Luminaire not suitable for direct mounting on normally flammable surfaces :	Yes	P
1.4 (2.5)	Luminaire for normal use.....	Yes	P
	Luminaire for rough service .....	No	N

<b>1.5 (3)</b>	<b>MARKING</b>		<b>P</b>
1.5 (3.2)	Markings on luminaires	√	P
	Position of the marking	On the product	P
	Format of symbols/text	The height of symbols more than 5mm, text more than 2mm	P
1.5 (3.3)	Additional information		P
	Language of instructions	In English	P
1.5 (3.3.1)	Combination luminaires	√	P
1.5 (3.3.2)	Nominal frequency in Hz	50-60Hz	P
1.5 (3.3.3)	Operating temperature	Operating temperature is 25°C	P
1.5 (3.3.4)	Symbol or warning notice	Voltage Warning	P
1.5 (3.3.5)	Wiring diagram	√	P
1.5 (3.3.6)	Special conditions	No such special conditions	N
1.5 (3.3.7)	Metal halid lamp luminaire - warning		N
1.5 (3.3.8)	Limitation for semi-luminaires		N
1.5 (3.3.9)	Power factor and supply current	Power factor: 0.24	P
1.5 (3.3.10)	Suitability for use indoors	Use indoor & outdoor	P
1.5 (3.3.11)	Luminaires with remote control	Not such construction	N

Date/ Engineer:

Eng. E CENGİZ  
2016-06-24

Control:

Eng. M. KOCAŞ  
2016-06-24