



Test Laboratuvarları

LVT Test Laboratuvarları Ltd. Şti.

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AB-0341-T
24-42-R0-N1-1
02-24

DENEY RAPORU

Test Report

1/52

Müşteri Client	: BSI AYDINLATMA SAN. Ve TİC A.Ş.
Adres Address	: BAŞKENT OSB, 20. CADDE B/3 BLOK NO:4 MALİKÖY, SİNCAN, ANKARA / TÜRKİYE
İmalatçı Manufacturer	: BSI AYDINLATMA SAN. Ve TİC A.Ş.
Teklif Numarası Order No	: 24-42-R0
Deney Numunesi Test Sample	: DEKORATİF LED AYDINLATMA ARMATÜRÜ (MODEL: iDisc)
Marka Trade Mark	: BSI
Deney Metodu Test Method	: TS EN IEC 60598-2-1:2021, IEC 60598-2-1:2020
Deney Tarihi Date of Test	: 10.01.2024 – 15.02.2024
Toplam Sayfa Sayısı Total Number of Pages	: 52
Basım Tarihi Date of Issue	: 22.02.2024

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The test and / or measurements results, the uncertainties (if required) with confidence probability and test methods are given on the following pages which are part of this report.

Mühür
Seal

Deney Sorumlusu
Person in Charge of Test

Bölüm Müdürü
Department Manager



Enes Emre ERGUN

Ata Gürül APŞANLI



E. Emre Ergun

Ata Gürül Apşanlı

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FRT.51/Rev08/0922

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1. **Numunelerin Tanımı** : **Dekoratif LED Aydınlatma Armatürü**
Definition of the Samples *Decorative Fixed LED Luminaire*

1.1 iDisc

(24-42-R0-N1)

Numune Kabul Tarihi	: 09.01.2024
<i>Receivnig Date</i>	
Numune Seri No	: Test Sample
<i>Serial No</i>	
Tip	: iDisc
<i>Type</i>	
Kutup Sayısı	: L, N, PE
<i>Number of Poles</i>	
Beyan Gerilimi	U_n : 220 – 240 V _{AC}
<i>Rated Voltage</i>	
Beyan Akımı	I_n : -
<i>Rated Current</i>	
Beyan Güç	P_n : 5 W
<i>Rated Power</i>	
Beyan Frekans	f_n : 50 – 60 Hz
<i>Rated Frequency</i>	
Beyan Koruma Derecesi	IP : 67
<i>Rated Degree of Protection</i>	
Numune Boyutları	mm : Firma Dokümanlarına Bakınız
<i>Dimensions of the Sample</i>	<i>See Documentation of Client</i>
Numune Ağırlığı	kg : 0.56
<i>Weight of the Sample</i>	
Sınıf	: I
<i>Class</i>	
Cihaz – Malzeme Listesi	: Kritik Komponent Listesine Bakınız
<i>Device – Component List</i>	<i>See Critical Component List</i>

2. **Deney Sonuçları**
Test Results

: Deney sonuçları, müşteri tarafından laboratuvara teslim edilen ve sadece deneyi yapılan numuneye aittir.
The test results only belong to the tested sample(s) delivered to the laboratory by client.

Numune <i>Sample</i>	Uygulanan Deney <i>Applied Test</i>	Sonuç <i>Result</i>
Dekoratif LED Aydınlatma Armatürü <i>Decorative Fixed LED Luminaire</i>	TS EN IEC 60598-2-1:2021 <i>IEC 60598-2-1:2020</i>	Olumlu <i>Passed</i>

3. **Çevre Şartları**
Environmental Conditions

3.1 Ortam Sıcaklığı <i>Ambient Temperature</i>	: (25±3) °C
3.2 Ortam Nemi <i>Ambient Moisture</i>	: (42±3) %Rh

4. **Deney Metodundan Sapma, Ekleme ve Çıkarmalar**
Deviations, Additions & Cutbacks from the Test Method

: Deneyler; standart deney metoduna göre uygulanmıştır.
Tests were made according to the clauses of the relevant standards.

5. **Şartnamelere Uygunluk (Gerekli Hallerde)**
Conformity to Specifications (If Necessary)

: -

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6. **Dağıtım Bilgileri**
Distribution Information : BSI AYDINLATMA SAN. Ve TİC A.Ş.

7. **Açıklama**
Explanation : -

8. **Ölçüm Belirsizliği**
Uncertainty of Measurement : -





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Aydınlatma Armatürleri Güvenlik Deneyleri
Genel Amaçlı, Sabit Aydınlatma Armatürleri
Luminaires Safety Tests
Fixed General Purpose Luminaires

9. Deney Uygulamaları:
Test Applications

TEST REPORT IEC 60598-2-1 Luminaires Part 2: Particular requirements Section 1: Fixed general purpose luminaires
Test specification: Standard : IEC 60598-2-1:2020 used in conjunction with IEC 60598-1:2020 Test procedure..... : Type Test Non-standard test method : N/A
TRF template used : IECEE OD-2020-H1:2020, Ed.1.3 Test Report Form No...... : IEC60598_2_1I Test Report Form(s) Originator.... : Intertek Semko AB Master TRF : Dated 2022-08-26 Copyright © 2021 IEC System of Conformity Assessment Schemes for Electrotechnical Equipment and Components (IECEE System). All rights reserved. This publication may be reproduced in whole or in part for non-commercial purposes as long as the IECEE is acknowledged as copyright owner and source of the material. IECEE takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context. If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed. This report is not valid as a CB Test Report unless signed by an approved IECEE Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02. General disclaimer: The test results presented in this report relate only to the object tested. This report shall not be reproduced other than in full except with the permission of the laboratory. Testing reports without signature and seal are not valid.



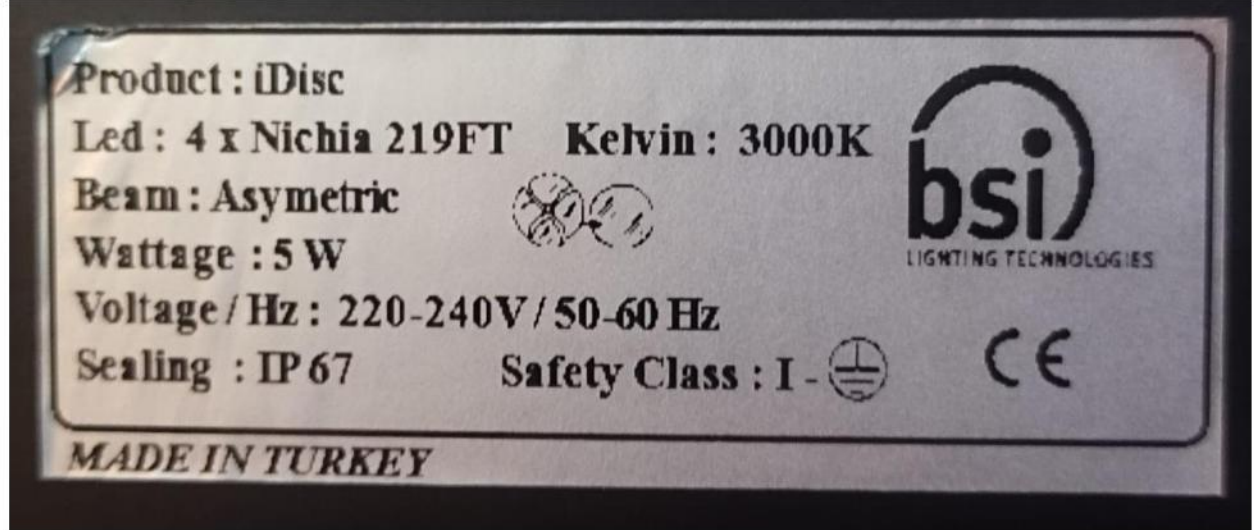


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Copy of marking plate:

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Test item particulars
Classification of installation and use : Class I and outdoor use
Supply Connection : Permanently supply connection / Through Cable :
Possible test case verdicts: - test case does not apply to the test object : N/A - test object does meet the requirement : P (Pass) - test object does not meet the requirement : F (Fail)
Testing
Date of receipt of test item : 09.01.2024
Date (s) of performance of tests : 10.01.2024 – 15.02.2024
General remarks: "(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. Throughout this report a ☐ comma / ☒ point is used as the decimal separator. Clause numbers between brackets refer to clauses in IEC 60598-1
General product information and other remarks: Decorative Fixed LED Luminaire (Model: iDisc)





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P:Passed, F:Fail, N/A:Not Applicable

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.4 (0)	GENERAL TEST REQUIREMENTS		P
1.4 (0.3)	More sections applicable	Yes ☐ No ☒ Section/s:	—
1.4 (0.5)	Components	(see Annex 1)	—
1.4 (0.7)	Information for luminaire design in light sources standards		—
1.4 (0.7.2)	Light source safety standard		—
	Luminaire design in the light source safety standard	Not declared.	N/A
1.5 (2)	CLASSIFICATION OF LUMINAIRES		P
1.5 (2.2)	Type of protection	Class I	P
1.5 (2.3)	Degree of protection	IP 67	—
1.5 (2.4)	Luminaire suitable for direct mounting on normally flammable surfaces	Yes ☒ No ☐	—
1.5 (2.5)	Luminaire for normal use	Yes ☒ No ☐	—
	Luminaire for rough service	Yes ☐ No ☒	—
1.6 (3)	MARKING		P
1.6 (3.2)	Mandatory markings	The label does have rated voltage, earth symbol, model number, maximum rated power, nominal frequency. See label.	P
	Position of the marking	Labels and markings are visible during and after assembly.	P
	Format of symbols/text	Symbols and markings conform to standard IEC 60598-1:2020	P
1.6 (3.3)	Additional information		P
	Language of instructions	Turkish provided.	P
1.6 (3.3.1)	Combination luminaires	The luminaire is not combination luminaire.	N/A
1.6 (3.3.2)	Nominal frequency in Hz	50 – 60 Hz.	P
1.6 (3.3.3)	Operating temperature	Not declared.	N/A
1.6 (3.3.5)	Wiring diagram	The luminaire is supplied installed. Technical personnel make the connection. It can be connected directly to the mains.	N/A
1.6 (3.3.6)	Special conditions	No special conditions.	N/A





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Luminaires Safety Tests
Fixed General Purpose Luminaires

1.6 (3.3.7)	Metal halide lamp luminaire – warning	The luminaire does not have metal halide lamp.	N/A
1.6 (3.3.8)	Limitation for semi-luminaires	The luminaire is not semi-luminaire.	N/A
1.6 (3.3.9)	Power factor and supply current	0.4 / 0.05 A	P
1.6 (3.3.10)	Suitability for use indoors		N/A
1.6 (3.3.11)	Luminaires with remote control	The luminaire does not have remotely controlled.	N/A
1.6 (3.3.12)	Clip-mounted luminaire – warning	The luminaire is not clip-mounted luminaire.	N/A
1.6 (3.3.13)	Specifications of protective shields	The luminaire does not have protective shield.	N/A
1.6 (3.3.14)	Symbol for nature of supply	For alternating current, the rated frequency in hertz is sufficient to identify the type of current.	N/A
1.6 (3.3.15)	Rated current of socket outlet	The luminaire does not have socket outlet.	N/A
1.6 (3.3.16)	Rough service luminaire	The luminaire is not intended for rough service.	N/A
1.6 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments	Type Y attachment.	P
1.6 (3.3.18)	Non-ordinary luminaires with PVC cable		N/A
1.6 (3.3.19)	Protective conductor current in instruction if applicable		N/A
1.6 (3.3.20)	Provided with information if not intended to be mounted within arm's reach		N/A
1.6 (3.3.21)	Non replaceable and non-user replaceable light sources information provided		P
1.6 (3.3.22)	Controllable luminaires, classification of insulation provided	The luminaire is not controllable luminaire.	N/A
1.6 (3.3.23)	Luminaires without control gear provided with necessary information for selection of appropriate component		N/A
1.6 (3.3.24)	If not supplied with terminal block, information on the packaging		P
1.6 (3.3.25)	Luminaires employing light sources emitting UV on mains wiring, information provided	No employing light sources that emit UV.	N/A
1.6 (3.3.26)	Wall mounted luminaire using external flexible cable or cord longer than 0.3 m, information provided		N/A
1.6 (3.4)	Test with water	Tried to remove the marking by rubbing lightly for 15 s with a piece of cloth soaked with water.	P
	Test with hexane	The marking was rubbed with Petroleum Ether for another 15 seconds using a cloth.	P





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Luminaires Safety Tests
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	Legible after test	The label can be read after test.	P
	Label attached	Label is firmly attached.	P

1.7 (4)	CONSTRUCTION		P
1.7 (4.2)	Components replaceable without difficulty	Luminaires incorporating components or parts intended to be replaceable are so designed that there is sufficient space to permit replacement of such components or parts without difficulty and without impairing safety.	P
1.7 (4.3)	Wireways smooth and free from sharp edges	Wireways are smooth and free from sharp edges, burrs, flashes and the like, which might cause abrasion of the insulation of the wiring. Parts such as metal set screws is not protrude into wireways.	P
1.7 (4.4)	Lamp holders		N/A
1.7 (4.4.1)	Integral lamp holder	The luminaire does not have lampholder.	N/A
1.7 (4.4.2)	Wiring connection		N/A
1.7 (4.4.3)	Lamp holder for end-to-end mounting	No tubular fluorescent lamps.	N/A
1.7 (4.4.4)	Positioning	No user-replaced lampholder.	N/A
	- pressure test (N)	-	—
	After test the lamp holder comply with relevant standard sheets and show no damage		N/A
	After test on single-capped lamp holder the lamp holder has not moved from its position and show no permanent deformation		N/A
	- bending test (N)		—
	After test the lamp holder has not moved from its position and show no permanent deformation		N/A
1.7 (4.4.5)	Peak pulse voltage	The luminaire does not have ignitor.	N/A
1.7 (4.4.6)	Centre contact	The luminaire is not luminaire with ignitors incorporating Edison screw lampholders.	N/A
1.7 (4.4.7)	Parts in rough service luminaires resistant to tracking	The luminaire is not intended for rough service.	N/A
1.7 (4.4.8)	Lamp connectors		N/A
1.7 (4.4.9)	Caps and bases correctly used	The luminaire does not have ELV lamp.	N/A





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1.7 (4.4.10)	Light source for lamp holder or connection according IEC 60061 not connected another way	No such part.	N/A
1.7 (4.5)	Starter holders		N/A
	Starter holder in luminaires other than class II	The luminaire does not have starter holder.	N/A
	Starter holder class II construction		N/A
1.7 (4.6)	Terminal blocks		N/A
	Tails		N/A
	Unsecured blocks		N/A
1.7 (4.7)	Terminals and supply connections		N/A
1.7 (4.7.1)	Contact to metal parts	The luminaire is not portable luminaire of class I or II or in fixed luminaire of class I or II that are frequently adjusted.	N/A
1.7 (4.7.2)	Test 8 mm live conductor		N/A
	Test 8 mm earth conductor		N/A
1.7 (4.7.3)	Terminals for supply conductors		N/A
1.7 (4.7.3.1)	Welded method and material		N/A
	- stranded or solid conductor		N/A
	- spot welding		N/A
	- welding between wires		N/A
	- Type Z attachment		N/A
	- mechanical test according to 15.6.2		N/A
	- electrical test according to 15.6.3		N/A
	- heat test according to 15.6.3.2.3 and 15.6.3.2.4		N/A
1.7 (4.7.4)	Terminals other than supply connection		N/A
1.7 (4.7.5)	Heat-resistant wiring/sleeves		N/A
1.7 (4.7.6)	Multi-pole plug	The luminaire does not have multi-pole plug.	N/A
	- test at 30 N		N/A
1.7 (4.8)	Switches		N/A
	- adequate rating	The luminaire does not have switch.	N/A
	- adequate fixing		N/A
	- polarized supply		N/A
	- compliance with IEC 61058-1 for electronic switches		N/A
1.7 (4.9)	Insulating lining and sleeves		N/A
1.7 (4.9.1)	Retainment		N/A





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Luminaires Safety Tests
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	Method of fixing		N/A
1.7 (4.9.2)	Insulated linings and sleeves:		N/A
	Resistant to a temperature > 20 °C to the wire temperature or		N/A
	a) & c) Insulation resistance and electric strength		N/A
	b) Ageing test. Temperature (°C)		N/A
1.7 (4.10)	Double or reinforced insulation		N/A
1.7 (4.10.1)	No contact, mounting surface – accessible metal parts – wiring of basic insulation	The luminaire is Class I luminaire.	N/A
	Safe installation fixed luminaires		N/A
	Capacitors and switches		N/A
1.7 (4.10.2)	Assembly gaps:		N/A
	- not coincidental		N/A
	- no straight access with test probe		N/A
1.7 (4.10.3)	Retention of insulation:		N/A
	- fixed		N/A
	- unable to be replaced; luminaire inoperative		N/A
	- sleeves retained in position		N/A
	- lining in lamp holder		N/A
1.7 (4.10.4)	Protective impedance device		N/A
	Basic and supplementary insulation bridged by resistor(s) or appropriate capacitor		N/A
	Double or reinforced insulation bridged by at least two separate resistors in series or appropriate capacitor(s)		N/A
	Capacitors comply with IEC 60384-14		N/A
	Resistors comply with test (a) in 14.2 of IEC 60065		N/A
1.7 (4.11)	Electrical connections and current-carrying parts		P
1.7 (4.11.1)	Contact pressure	Metallic parts have sufficient flexibility.	P
1.7 (4.11.2)	Screws:		N/A
	- self-tapping screws	Screws are not used in current-carrying parts. Screws are only used in mechanical connections and earth connection.	N/A
	- thread-cutting screws		N/A
1.7 (4.11.3)	Screw locking:		P
	- spring washer		P
	- rivets	No rivet.	N/A





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1.7 (4.11.4)	Material of current-carrying parts	Only cables are defined as the current-carrying part. Cables are certified. See documentation of client.	P
1.7 (4.11.5)	No contact to wood or mounting surface	Current-carrying parts are not in direct contact with the mounting surface or wood.	P
1.7 (4.11.6)	Electro-mechanical contact systems	The luminaire does not have electro-mechanical contact system.	N/A
1.7 (4.12)	Screws and connections (mechanical) and glands		P
1.7 (4.12.1)	Screws not made of soft metal	Screws and mechanical connections, the failure of which might cause the luminaire to become unsafe, is withstand the mechanical stresses occurring in normal use. Screws are only used in mechanical connections. It is in a structure to withstand mechanical hazards that may occur. Screws are not made of a material which is soft or liable to creep.	P
	Screws of insulating material		N/A
	Torque test: torque (Nm); part	1.2 Nm	P
	Torque test: torque (Nm); part	0.5 Nm	P
	Torque test: torque (Nm); part		N/A
1.7 (4.12.2)	Screws with diameter < 3 mm screwed into metal		P
1.7 (4.12.4)	Locked connections:		N/A
	- fixed arms; torque (Nm).....	Screwed and other fixed connections between different parts of luminaires are made in such a way that they do not work loose through such torsion, bending stresses, vibration, etc., as may occur in normal use.	N/A
	- lamp holder; torque (Nm)		N/A
	- push-button switches; torque 0,8 Nm.....	The luminaire does not have push-button switch.	N/A
1.7 (4.12.5)	Screwed glands; force (Nm)	No such part.	N/A
1.7 (4.13)	Mechanical strength		P
1.7 (4.13.1)	Impact tests:		P
	- fragile parts; energy (Nm).....	0.2	P
	- other parts; energy (Nm)	0.35	P





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Luminaires Safety Tests
Fixed General Purpose Luminaires

	1) live parts	Live parts are not have become accessible.	P
	2) linings	The effectiveness of the insulation is not impaired.	P
	3) protection	The sample is continue to afford the degree of protection against ingress of moisture, in accordance with its classification.	P
	4) covers	The luminaire does not have cover.	N/A
1.7 (4.13.2)	Metal parts have adequate mechanical strength	Metal parts enclosing live parts does have adequate mechanical strength.	P
1.7 (4.13.3)	Straight test finger	A straight unjointed test finger is use, with the same dimensions as the standard test finger specified in IEC 60529. The finger is press against the surface with a force of 30 N. During the test, metal parts are not touch live parts. After the test, the luminaire is continue to meet the requirements of Section 11.	P
1.7 (4.13.4)	Rough service luminaires		N/A
	- IP54 or higher	The luminaire is not rough service luminaire.	N/A
	a) fixed		N/A
	b) hand-held		N/A
	c) delivered with a stand		N/A
	d) for temporary installations and suitable for mounting on a stand		N/A
1.7 (4.13.6)	Tumbling barrel	The luminaire does not have a Plug-in independent control device and is not connected to the mains socket outlet.	N/A
1.7 (4.14)	Suspensions, fixings and means of adjusting		N/A
1.7 (4.14.1)	Mechanical load:		N/A
	A) four times the weight	It is mounted on the ground. It does not have a hanger. See installation guide	N/A
	B) torque 2,5 Nm	The luminaire is not rigid suspension luminaire.	N/A
	C) bracket arm; bending moment (Nm).....:	The luminaire is not rigid suspension bracket.	N/A





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	D) load track-mounted luminaires	The luminaire is not track-mounted luminaire.	N/A
	E) clip-mounted luminaires, glass-shelve. Thickness (mm)	The luminaire is not clip-mounted luminaire.	N/A
	Metal rod. diameter (mm)		N/A
	Fixed luminaire or independent control gear without fixing devices		N/A
1.7 (4.14.2)	Load to flexible cables		N/A
	Mass (kg)	There are lampholder installed on flexible cables. Their weight is less than 5 kg.	—
	Stress in conductors (N/mm ²)		N/A
	Mass (kg) of semi-luminaire		N/A
	Bending moment (Nm) of semi-luminaire		N/A
1.7 (4.14.3)	Adjusting devices:		N/A
	- flexing test; number of cycles	The luminaire does not have adjusting device.	N/A
	- strands broken.....		N/A
	- electric strength test afterwards		N/A
1.7 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors	The luminaire does not have telescopic tube.	N/A
1.7 (4.14.5)	Guide pulleys	No guide pulley.	N/A
1.7 (4.14.6)	Strain on socket-outlets		N/A
1.7 (4.15)	Flammable materials		N/A
	- glow-wire test 650°C	See Test Table 1.15 (13.3.2)	N/A
	- spacing ≥30 mm		N/A
	- screen withstanding test of 13.3.1		N/A
	- screen dimensions		N/A
	- no fiercely burning material		N/A
	- thermal protection		N/A
	- electronic circuits exempted		N/A
1.7 (4.15.2)	Luminaires made of thermoplastic material with lamp control gear		N/A
	a) construction		N/A
	b) temperature sensing control		N/A
	c) surface temperature		N/A
1.7 (4.16)	Luminaires for mounting on normally flammable surfaces		P
	No lamp control gear	(compliance with Section 12)	N/A





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Luminaires Safety Tests
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	Provided with adaptor for a track meet the requirements for direct mounting on normally flammable surfaces		N/A
1.7 (4.16.1)	Lamp control gear spacing:		N/A
	- spacing 35 mm	.	N/A
	- spacing 10 mm		N/A
1.7 (4.16.2)	Thermal protection:		P
	- in lamp control gear	See photos.	P
	- external		N/A
	- fixed position		N/A
	- temperature marked lamp control gear		N/A
1.7 (4.16.3)	Design to satisfy the test of 12.6	(see clause 12.6)	N/A
1.7 (4.17)	Drain holes		N/A
	Clearance at least 5 mm	The luminaire does not have drain hole.	N/A
1.7 (4.18)	Resistance to corrosion		P
1.7 (4.18.1)	- rust-resistance	All grease is removed from the parts to be tested. The parts are then immersed for 10 min in a 10 % solution of ammonium chloride in water at a temperature of 20 °C ± 5 °C. Without drying, but after shaking off any drops, the parts are placed for 10 min in a box containing air saturated with moisture at a temperature of 20 °C ± 5 °C. After the parts have been dried for 10 min in a heating cabinet at a temperature of 100 °C ± 5 °C, their surfaces shall show no signs of rust.	P
1.7 (4.18.2)	- season cracking in copper		P
1.7 (4.18.3)	- corrosion of aluminium		P
1.7 (4.19)	Igniters compatible with ballast		N/A
1.7 (4.20)	Rough service vibration	The luminaire is not rough service luminaire.	N/A
1.7 (4.21)	Protective shield		N/A
1.7 (4.21.1)	Shield fitted if tungsten halogen lamps or metal halide lamps	The luminaire does not have protective shield.	N/A
	Shield of glass if tungsten halogen lamps		N/A
1.7 (4.21.2)	Particles from a shattering lamp not impair safety		N/A
1.7 (4.21.3)	No direct path		N/A
1.7 (4.21.4)	Impact test on shield		N/A





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	Glow-wire test on lamp compartment..... :	See Test Table 1.15 (13.3.2)	N/A
1.7 (4.22)	Attachments to lamps not cause overheating or damage	The luminaire does not have any attachments.	N/A
1.7 (4.23)	Semi-luminaires comply Class II	The luminaire is not semi-luminaire.	N/A
*1.7 (4.24)	Photobiological hazards		*N/A
*1.7 (4.24.1)	No excessive UV radiation if tungsten halogen lamps and metal halide lamps (Annex P)		*N/A
*1.7 (4.24.2)	Retinal blue light hazard		*N/A
	Class of risk group assessed according to IEC/TR 62778		—
	Luminaires with E_{thr} :		*N/A
	a) Fixed luminaires		*N/A
	- distance x m, borderline between RG1 and RG2 .. :		*N/A
	- marking and instruction according 3.2.23		*N/A
	b) Portable and handheld luminaires		*N/A
	- marking according 3.2.23 if RG1 exceeded at 200 mm according to IEC/TR 62778		*N/A
	Portable luminaires for children IEC 60598-2-10 and Mains socket outlet nightlights IEC 60598-2-12 not exceed RG1 at 200 mm according to IEC/62778		*N/A
1.7 (4.25)	Mechanical hazard		P
	No sharp point or edges	Luminaire is no sharp points or edges that could, during installation, normal use, or maintenance, create a hazard for the user.	P
1.7 (4.26)	Short-circuit protection		N/A
1.7 (4.26.1)	Adequate means of uninsulated accessible SELV / PELV parts	The luminaire does not have uninsulated accessible SELV or PELV parts.	N/A
1.7 (4.26.2)	Short-circuit test with test chain according 4.26.3:		N/A
	Supply source ES1 PSE		N/A
	Test chain not melt through		N/A
	Test sample not exceed values of Table 12.1 and 12.2		N/A

* Deney/Deneyler akreditasyon kapsamı dahilinde değildir.

* The test/tests are not within the scope of accreditation.





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1.7 (4.27)	Terminal blocks with integrated screwless protective earthing contacts		N/A
	Test according Annex V	No such part. Earth connection to the body and housing of the luminaire is made with screws.	N/A
	Pull test of terminal fixing (20 N)		N/A
	After test, resistance < 0,05 Ω		N/A
	Pull test of mechanical connection (50 N)		N/A
	After test, resistance < 0,05 Ω		N/A
	Voltage drop test, resistance < 0,05 Ω		N/A
1.7 (4.28)	Fixing of thermal sensing control		N/A
	Not plug-in or easily replaceable type	The luminaire does not have thermal sensing control.	N/A
	Reliably kept in position		N/A
	No adhesive fixing if UV radiations from a lamp can degrade the fixing		N/A
	Not outside the luminaire enclosure		N/A
	Test of adhesive fixing:		N/A
	Max. temperature on adhesive material ($^{\circ}\text{C}$)		—
	100 cycles between $t_{\min}$ and $t_{\max}$		N/A
	Temperature sensing control still in position		N/A
1.7 (4.29)	Luminaires with non-replaceable light source		N/A
	Not possible to replace light source		N/A
	Live part not accessible after parts have been opened by hand or tools		N/A
1.7 (4.30)	Luminaires with non-user replaceable light source		P
	If protective cover provide protection against electric shock and marked with “caution, electric shock risk” symbol:		N/A
	At least one fixing means requiring use of tool		P
1.7 (4.31)	Insulation between circuits		P
	Circuits insulated from LV supply fulfil requirements according 4.31.1 – 4.31.3	A LED driver conforming to the 61347 standard is used in the luminaire. Relevant insulations are evaluated within the scope of this standard.	P
	Controllable luminaires requiring same level of insulation for all components, the insulation between control terminals and LV supply fulfil requirements according 4.31.1 – 4.31.3		N/A
1.7 (4.31.1)	SELV or PELV circuits		N/A
	Used SELV/PELV source		N/A





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Fixed General Purpose Luminaires

	Voltage $\leq$ ELV		N/A
	Insulating of SELV/PELV circuits from LV supply		N/A
	Insulating of SELV/PELV circuits from other non SELV/PELV circuits		N/A
	Insulating of SELV/PELV circuits from FELV		N/A
	Insulating of SELV/PELV circuits from other SELV/PELV circuits		N/A
	SELV/PELV circuits insulated from accessible parts according Table X.1		N/A
	Plugs not able to make any electrical contact with socket-outlets of other voltage systems		N/A
	Socket outlets does not admit plugs of other voltage systems		N/A
	Plugs and socket-outlets does not have protective conductor contact		N/A
1.7 (4.31.2)	FELV circuits		N/A
	Used FELV source		N/A
	Voltage $\leq$ ELV		N/A
	Insulating of FELV circuits from LV supply		N/A
	FELV circuits insulated from accessible parts according Table X.1		N/A
	Plugs not able to make any electrical contact with socket-outlets of other voltage systems		N/A
	Socket outlets does not admit plugs of other voltage systems		N/A
	Socket-outlets does not have protective conductor contact		N/A
1.7 (4.31.3)	Other circuits		P
	Other circuits insulated from accessible parts according Table X.1		P
	Class II construction with equipotential bonding for protection against indirect contacts with live parts:		N/A
	- conductive parts are connected together		N/A
	- test according 7.2.3		N/A
	- conductive part not cause an electric shock in case of an insulation fault		N/A
	- equipotential bonding in master/slave applications		N/A
	- master luminaire provided with terminal for accessible conductive parts of slave luminaires		N/A
	- slave luminaire constructed as class I		N/A
1.7 (4.32)	Overvoltage protective devices		N/A





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Luminaires Safety Tests
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	Comply with IEC 61643-11	The luminaire does not have overvoltage protective device.	N/A
	External to controlgear and connected to earth:		N/A
	- only in fixed luminaires		N/A
	- only connected to protective earth		N/A
1.6 (4.33)	Luminaire powered via information technology communication cabling		N/A
	Requirements for Class III luminaire		N/A
	Rated voltage within the range of ES1 and does not exceed maximum voltage of used connector		N/A
	Luminaire does not create any hazard from overvoltage	(see Annex 2)	N/A
1.6 (4.34)	Electromagnetic fields (EMF)		N/A
	No harmful electromagnetic fields		N/A
1.6 (4.35)	Protection against moving fan blades		N/A
	Test with a standard test finger		N/A
	Test with test probe acc. to Figure 13 (IEC 61032) for portable luminaire		N/A
	Blades rounded with radius ≥ 0.5 mm and:		N/A
	-hardness less than D60 Shore		N/A
	-peripheral speed less than 15 m/s		N/A
	-input power of fan ≤ 2 W at rated voltage		N/A
1.6 (4.36)	Track-mounted luminaires		N/A
	Test in accordance with Annex A of IEC60570:2003/AMD2:2019		N/A

1.8 (11)	CREEPAGE DISTANCES AND CLEARANCES		P
1.8 (11.2.1)	Impulse withstand category (Normal category II)	Category II ☒ Category III ☐	—
	Category III according Annex U	Category II.	N/A
	Protected against pollution, reduced creepage and clearance according Annex P of IEC 61347-1		N/A
1.8 (11.2.2)	Creepage distances for frequency up to 30 kHz	See Test Table 1.7 (11.2) I	P
	Creepage distances for frequency over 30 kHz:		N/A
	- Controlgear marked with $\hat{U}_{OUT}$ and f_{OUT} according IEC 61347-1, clause 7.1, item w	See Test Table 1.7 (11.2) II	N/A
	- Requirements according IEC 60664-4 for controlgear not covered by IEC 61347	See Test Table 1.7 (11.2) II	N/A
1.8 (11.2.3)	Clearances for frequency up to 30 kHz	See Test Table 1.7 (11.2) I	P
	Clearances distances for frequency over 30 kHz:		N/A
	- Controlgear marked with U_P	See Test Table 1.7 (11.2) II	N/A





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Luminaires Safety Tests
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	- Requirements according IEC 60664-4 for controlgear not covered by IEC 61347	See Test Table 1.7 (11.2) II	N/A
--	---	---	-----

1.9 (7)	PROVISION FOR EARTHING		P
1.9 (7.2.1 + 7.2.3)	Accessible metal parts	Metal parts of Class I luminaires that are accessible when the luminaire is installed or opened for cleaning and that may become live in the event of an insulation fault are permanently connected to a protective earth terminal or protective earth contact.	P
	Metal parts in contact with supporting surface		P
	Resistance < 0,5 Ω	Max Resistance: 0.032 Ω .	P
	Self-tapping screws used		P
	Thread-forming screws		N/A
	Thread-forming screw used in a groove		N/A
	Protective earth makes contact first		N/A
	Terminal blocks with integrated screwless protective earthing contacts tested according Annex V		N/A
	Protective earthing of the luminaire not via built-in control gear		P
1.9 (7.2.2 + 7.2.3)	Protective earth continuity in joints, etc.		N/A
1.9 (7.2.4)	Locking of clamping means		P
	Compliance with 4.7.3	The connection is adequately locked against accidental loosening. It is not possible to loosen the clamping means by hand. It is not possible to loosen the clamping means unintentionally. Protective earthing terminal is comply with the requirements of 4.7.3.	P
1.9 (7.2.5)	Protective earth terminal integral part of connector socket	The connector used is certified. See documantation of client.	N/A
1.9 (7.2.6)	Protective earth terminal adjacent to mains terminals		P
1.9 (7.2.7)	Electrolytic corrosion of the protective earth terminal	Checked by the test in clause 4.18.	P
1.9 (7.2.8)	Material of protective earth terminal		P
	Contact surface bare metal		P
1.9 (7.2.10)	Class II luminaire for looping-in	The luminaire is Class I.	N/A
	Double or reinforced insulation to functional earth		N/A





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1.9 (7.2.11)	Protective earthing core coloured green-yellow	The luminaire does not have supply cord. The earth wire used in the internal wiring is green-yellow. The colour of the earth cable is yellow and green.	N/A
	Length of earth conductor		N/A
1.9 (7.2.12)	PELV circuit connected to protective earth for functional purpose	The luminaire does not have PELV circuit.	N/A

1.10 (14)	SCREW TERMINALS		N/A
	Separately approved; component list	(see Annex 1)	N/A
	Part of the luminaire	(see Annex 3)	N/A

1.10 (15)	SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS		N/A
	Separately approved; component list	(see Annex 1)	N/A
	Part of the luminaire	(see Annex 4)	N/A

1.11 (5)	EXTERNAL AND INTERNAL WIRING		P
1.11 (5.2)	Supply connection and external wiring		P
1.11 (5.2.1)	Means of connection		P
	Outdoor luminaire has not PVC insulated external wiring if not Class III or SELV/PELV circuits ≤ 25 V AC/60 V DC/25 V peak interrupted DC voltage with frequency 10Hz -200 Hz or protected from outdoor environment	The luminaire is indoor luminaire.	N/A
1.11 (5.2.2)	Type of cable	Supply cord is not provided.	N/A
	Nominal cross-sectional area (mm ²).....		N/A
	Cables equal to IEC 60227 or IEC 60245		N/A
1.11 (5.2.3)	Type of attachment, X, Y or Z	Supply cord is not supplied.	N/A
1.11 (5.2.5)	Type Z not connected to screws		N/A
1.11 (5.2.6)	Cable entries:		P
	- suitable for introduction		P
	- adequate degree of protection		P
1.11 (5.2.7)	Cable entries through rigid material have rounded edges		P
1.11 (5.2.8)	Insulating bushings:		N/A
	- suitably fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A





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	- tubes or guards made of insulating material		N/A
1.11 (5.2.9)	Locking of screwed bushings		N/A
1.11 (5.2.10)	Cord anchorage:		N/A
	- covering protected from abrasion		N/A
	- clear how to be effective		N/A
	- no mechanical or thermal stress		N/A
	- no tying of cables into knots etc.		N/A
	- insulating material or lining		N/A
1.11 (5.2.10.1)	Cord anchorage for type X attachment:		N/A
	a) at least one part fixed		N/A
	b) types of cable		N/A
	c) no damaging of the cable		N/A
	d) whole cable can be mounted		N/A
	e) no touching of clamping screws		N/A
	f) metal screw not directly on cable		N/A
	g) replacement without special tool		N/A
	Glands not used as anchorage		N/A
	Labyrinth type anchorages		N/A
1.11 (5.2.10.2)	Adequate cord anchorage for type Y and type Z attachment		N/A
1.11 (5.2.10.3)	Tests:		N/A
	- impossible to push cable; unsafe		N/A
	- pull test: 25 times; pull (N).....:		N/A
	- torque test: torque (Nm)		N/A
	- displacement ≤ 2 mm		N/A
	- no movement of conductors		N/A
	- no damage of cable or cord		N/A
	- function independent of electrical connection		N/A
1.11 (5.2.10.4)	Luminaire with/ designed for use with supply cord with maximum current of 2A:		N/A
	- Ordinary Class III luminaire supplied with SELV $\leq 25V$ RMS/60V DC		N/A
	- Ordinary Class III luminaire supplied with PELV $\leq 12V$ RMS/30V DC		N/A





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	- Other than ordinary Class III luminaire supplied with voltage $\leq 12V$ RMS/30V DC		N/A
	Pull test of 30N		N/A
1.11 (5.2.11)	External wiring passing into luminaire		N/A
1.11 (5.2.12)	Looping-in terminals		N/A
1.11 (5.2.13)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		N/A
1.11 (5.2.14)	Mains plug same protection		N/A
	Class III luminaire plug		N/A
	No unsafe compatibility		N/A
1.11 (5.2.15)	Connectors for Class III luminaires (IEC 60603 or IEC 62680)		N/A
1.11 (5.2.16)	Appliance inlets (IEC 60320)		N/A
	Installation couplers (IEC 61535)		N/A
	Appliance inlet or connector systems (IEC 61984)		N/A
1.11 (5.2.17)	No standardized interconnecting cables properly assembled		N/A
1.11 (5.2.18)	Used plug in accordance with		N/A
	- IEC 60083		N/A
	- other standard		N/A
1.11 (5.3)	Internal wiring		P
1.11 (5.3.1)	Internal wiring of suitable size and type	Internal wiring is made with conductors of a suitable size and type to handle the power occurring during normal use. The insulation of the wiring is made of a material capable of withstanding the voltage and the maximum temperature to which it is subjected, without affecting the safety when properly installed and connected to the mains.	P
	Through wiring		P
	- not delivered/ mounting instruction		P
	- factory assembled		P
	- socket outlet loaded (A).....:	The luminaire does not have socket outlet.	N/A





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	- temperatures	(see Annex 2)	P
	Green-yellow for protective earth only		P
1.11 (5.3.1.1)	Internal wiring connected directly to fixed wiring		P
	Cross-sectional area (mm ²)		P
	Insulation thickness (mm)		P
	Extra insulation added where necessary		N/A
1.11 (5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limiting device		N/A
	Cross-sectional area (mm ²)	No such part.	N/A
1.11 (5.3.1.3)	Double or reinforced insulation for class II		N/A
1.11 (5.3.1.4)	Conductors without insulation	The luminaire does not have non insulated conductor.	N/A
1.11 (5.3.1.5)	SELV/PELV current-carrying parts		N/A
1.11 (5.3.1.6)	Insulation thickness other than PVC or rubber	The cable used is PVC.	N/A
1.11 (5.3.2)	Sharp edges etc.	Internal wiring is so situated or protected that it cannot be damaged by sharp edges, rivets, screws and similar components, or by moving parts of switches, joints, raising and lowering devices, telescopic tubes and similar parts. Wiring is not twisted along the longitudinal axis of the cable through an angle exceeding 360°.	P
	No moving parts of switches etc.	The luminaire does not have switch.	N/A
	Joints, raising/lowering devices		P
	Telescopic tubes etc.	No such part.	N/A
	No twisting over 360°	Wiring is not twisted along the longitudinal axis of the cable through an angle exceeding 360°.	P
1.11 (5.3.3)	Insulating bushings:		N/A
	- suitable fixed	The luminaire does not have insulating bushing.	N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- cables with protective sheath		N/A





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1.11 (5.3.4)	Joints and junctions effectively insulated		N/A
1.11 (5.3.5)	Strain on internal wiring		N/A
1.11 (5.3.6)	Wire carriers		N/A
1.11 (5.3.7)	Wire ends not tinned		P
	Wire ends tinned: no cold flow		P
1.11 (5.4)	Test to determine suitability of conductors having a reduced cross-sectional area		N/A
	Under test the temperature of the luminaire wiring insulation not exceed the limits stated in Table 12.2	(see Annex 2) The luminaire does not have conductors having a reduced cross-sectional area.	N/A
	No damage to luminaire wiring after test		N/A

1.12 (8)	PROTECTION AGAINST ELECTRIC SHOCK		P
1.12 (8.2.1)	Live parts not accessible	Luminaire was so constructed that their live parts are not accessible when the luminaire has been installed and wired as in normal use, and when it is opened as necessary for replacing replaceable light sources or (replaceable) starters, even if the operation cannot be achieved by hand. According to the manufacturer statement, the connectors cannot be opened without tools.	P
	Basic insulated parts not used on the outer surface without appropriate protection	Basic insulated parts was not used on the outer surface of the luminaire without appropriate protection against accidental contact.	P
	Basic insulated parts not accessible with standard test finger on portable, settable and adjustable luminaires	The luminaire is fixed luminaire.	N/A
	Basic insulated parts not accessible with Ø 50 mm probe from outside, other types of luminaires	There are no access to basic insulated parts from the outside of the luminaire by means of a Ø,50 mm probe according to Figure 1 in IEC 61032:1997.	P
	Lamp and starter holders in portable and adjustable luminaires comply with double or reinforced insulation requirements		N/A
	Basic insulation only accessible under lamp or starter replacement		N/A
	Protection in any position		P
	Double-ended tungsten filament lamp	No double-ended tungsten filament lamp.	N/A





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 Fixed General Purpose Luminaires

	Insulation lacquer not reliable		N/A
	Double-ended high-pressure discharge lamp	No such lamp.	N/A
	Relevant warning according to 3.2.18 fitted to the luminaire		N/A
1.12 (8.2.2)	Portable luminaire adjusted in most unfavourable position	The luminaire is fixed luminaire.	N/A
1.12 (8.2.3.a)	Class II luminaire:		N/A
	- basic insulated metal parts not accessible during starter or lamp replacement		N/A
	- basic insulation not accessible other than during starter or lamp replacement		N/A
	- glass protective shields not used as supplementary insulation		N/A
1.12 (8.2.3.b)	BC lamp holder of metal in class I luminaires shall be connected to protective earth		N/A
1.12 (8.2.3.c)	SELV circuits with exposed current carrying parts:		N/A
	Ordinary luminaire:		N/A
	- voltage under load/ no-load AC (V)		N/A
	- voltage under load/ no-load DC (V).....		N/A
	- interrupted DC voltage (V)		N/A
	- touch current if applicable (mA)		N/A
	One conductive part insulated if required		N/A
	Other than ordinary luminaire:		N/A
	- voltage under load/ no-load AC (V)		N/A
	- voltage under load/ no-load DC (V).....		N/A
	- interrupted DC voltage (V)		N/A
	Class III luminaire only for connection to SELV		N/A
	Class III luminaire not provided with means for protective earthing		N/A
1.12 (8.2.3.d)	PELV circuits with exposed current carrying parts:		N/A
	Ordinary luminaire:		N/A
	- voltage under load/ no-load AC (V)		N/A
	- voltage under load/ no-load DC (V).....		N/A
	Other than ordinary luminaire:		N/A
	- voltage under load/ no-load AC (V)		N/A
	- voltage under load/ no-load DC (V).....		N/A
	One pole insulated if required		N/A





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1.12 (8.2.4)	Portable luminaire has protection independent of supporting surface		N/A
1.12 (8.2.5)	Compliance with the standard test finger or relevant probe		N/A
1.12 (8.2.6)	Covers reliably secured		N/A
1.12 (8.2.7)	Luminaire other than below with capacitor > 0,5 μ F not exceed 50 V 1 min after disconnection		N/A
	Portable luminaire with capacitor > 0,1 μ F (0.25) not exceed 34 V 1 s after disconnection		N/A
	Other luminaires with capacitor > 0,1 μ F (0.25) with plug and track adaptors not exceed 60 V 5 s after disconnection		N/A

1.13 (12)	ENDURANCE TEST AND THERMAL TEST		P
1.13 (-)	If IP > IP 20 relevant test of (12.4), (12.5), (12.6) and (12.7) after (9.2) before (9.3) as specified in 1.14		—
1.13 (12.2)	Selection of lamps and ballasts		—
	Lamp used according Annex B	(Lamp used see Annex 2)	—
	Control gear if separate and not supplied	(Control gear used see Annex 2)	—
1.13 (12.3)	Endurance test		P
	a) mounting-position	Working position.	—
	b) test temperature (°C).....	35±2 °C.	—
	c) total duration (h)	240 h.	—
	d) supply voltage (V).....	264 V _{AC} .	—
	d) if not equipped with control gear, constant voltage/current (V) or (A)	-	—
1.13 (12.3.1d)	d) Class III luminaires powered via information technology communication cable:		N/A
	- voltage under normal operation (V).....	The luminaire is not powered via information technology communication cable and the luminaire is Class I luminaire.	—
	- voltage under abnormal operation (V).....		—
	e) luminaire ceases to operate		—
	f) luminaire with constant light output function		N/A
1.13 (12.3.2)	After endurance test:		P
	- no part unserviceable		P
	- luminaire not unsafe		P





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	- no damage to track system	The luminaire does not have track system.	N/A
	- marking legible		P
	- no cracks, deformation etc.		P
1.13 (12.4)	Thermal test (normal operation)	(see Annex 2)	P
1.13 (12.5)	Thermal test (abnormal operation)	(see Annex 2)	N/A
1.13 (12.6)	Thermal test (failed lamp control gear condition):		N/A
1.13 (12.6.1)	Through wiring or looping-in wiring loaded by a current of (A)		—
	- case of abnormal conditions.....		—
	- electronic lamp control gear		N/A
	- measured winding temperature (°C): at 1,1 Un		—
	- measured mounting surface temperature (°C) at 1,1 Un		N/A
	- calculated mounting surface temperature (°C)		N/A
	- track-mounted luminaires		N/A
1.13 (12.6.2)	Temperature sensing control		N/A
	- case of abnormal conditions.....		—
	- thermal link		N/A
	- manual reset cut-out		N/A
	- auto reset cut-out		N/A
	- measured mounting surface temperature (°C)		N/A
	- track-mounted luminaires		N/A
1.13 (12.7)	Thermal test (failed lamp control gear in plastic luminaires):		N/A
1.13 (12.7.1)	Luminaire without temperature sensing control		N/A
1.13 (12.7.1.1)	Luminaire with fluorescent lamp ≤ 70W		N/A
	Test method 12.7.1.1 or Annex W		—
	Test according to 12.7.1.1:		N/A
	- case of abnormal conditions.....		—
	- Ballast failure at supply voltage (V)		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
	Test according to Annex W:		N/A
	- case of abnormal conditions.....		—
	- measured winding temperature (°C): at 1,1 Un.....		—





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	- measured temperature of fixing point/exposed part (°C): at 1,1 Un.....:		—
	- calculated temperature of fixing point/exposed part (°C)		—
	Ball-pressure test.....:	See Test Table 1.15 (13.2.1)	N/A
1.13 (12.7.1.2)	Luminaire with discharge lamp, fluorescent lamp > 70W, transformer > 10 VA		N/A
	- case of abnormal conditions.....:		—
	- measured winding temperature (°C): at 1,1 Un.....:		—
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un.....:		—
	- calculated temperature of fixing point/exposed part (°C)		—
	Ball-pressure test.....:	See Test Table 1.15 (13.2.1)	N/A
1.13 (12.7.1.3)	Luminaire with short circuit proof transformers ≤ 10 VA		N/A
	- case of abnormal conditions.....:		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
1.13 (12.7.2)	Luminaire with temperature sensing control		N/A
	- thermal link	Yes ☐ No ☐	—
	- manual reset cut-out.....:	Yes ☐ No ☐	—
	- auto reset cut-out.....:	Yes ☐ No ☐	—
	- case of abnormal conditions.....:		—
	- highest measured temperature of fixing point/ exposed part (°C):		—
	Ball-pressure test:.....:	See Test Table 1.15 (13.2.1)	N/A

1.14 (9)	RESISTANCE TO DUST AND MOISTURE		P
1.14 (-)	If IP > IP 20 the order of tests as specified in clause 1.12		P
1.14 (9.2)	Tests for ingress of dust, solid objects and moisture:		P
	- classification according to IP	IP 67.	—
	- mounting position during test	Normal use.	—
	- fixing screws tightened; torque (Nm).....:	2/3 torque force for screw.	—
	- tests according to clauses	9.2.2 and 9.2.8	—
	- electric strength test afterwards		P
	a) no deposit in dust-proof luminaire		N/A





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	b) no talcum in dust-tight luminaire	IP6X.	P
	c) no trace of water on current-carrying parts or on insulation where it could become a hazard		N/A
	c.1) For luminaires without drain holes – no water entry		N/A
	c.2) For luminaires with drain holes – no hazardous water entry		N/A
	d) no water in watertight, pressure watertight, high pressure and temperature water jet-proof or high pressure and cold water jet-proof luminaire	IPX7.	P
	e) no contact with live parts (IP 2X)		N/A
	e) no entry into enclosure (IP 3X and IP 4X)		N/A
	e) no contact with live parts through drain holes and ventilation slots (IP3X and IP4X)		N/A
	f) no trace of water on part of lamp requiring protection from splashing water		N/A
	g) no damage of protective shield or glass envelope		N/A
1.14 (9.3)	Humidity test 48 h	%93 Rh, 25 °C.	P

1.15 (10)	INSULATION RESISTANCE AND ELECTRIC STRENGTH		P
1.15 (10.2.1)	Insulation resistance test	The insulation resistance is measured with a DC voltage of approximately 500 V and 100 V, 1 min after the application of the voltage.	P
	Cable or cord covered by metal foil or replaced by a metal rod of mm Ø	Covered by metal foil, test voltage is applied for 1 minute.	—
	Insulation resistance (MΩ):		P
	SELV/PELV:		P
	- between current-carrying parts of different polarity :	LED driver has certificate.	N/A
	- between current-carrying parts and mounting surface	100V, >999.9 MΩ	P
	- between current-carrying parts and metal parts of the luminaire	100V, >999.9 MΩ	P
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts		N/A
	- Insulation bushings as described in Section 5		N/A
	Other than SELV/PELV:		P
	- between live parts of different polarity	LED driver has certificate	N/A
	- between live parts and mounting surface	500V, >999.9 MΩ	P
	- between live parts and metal parts	500V, >999.9 MΩ	P





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	- between live parts of different polarity through action of a switch	The luminaire does not have switch.	N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts		N/A
	- Insulation bushings as described in Section 5	The luminaire does not have bushing.	N/A
1.15 (10.2.2)	Electric strength test		P
	Dummy lamp	No dummy lamp.	N/A
	Luminaires with ignitors after 24 h test	The luminaire does not have ignitor.	N/A
	Luminaires with manual ignitors		N/A
	Test voltage (V):		P
	SELV/PELV:		P
	- between current-carrying parts of different polarity :		N/A
	- between current-carrying parts and mounting surface	500 V applied.	P
	- between current-carrying parts and metal parts of the luminaire	500 V applied.	P
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts		N/A
	- Insulation bushings as described in Section 5		N/A
	Other than SELV/PELV:		P
	- between live parts of different polarity	The luminaire does not have different polarity.	P
	- between live parts and mounting surface	1480V applied.	P
	- between live parts and metal parts	1480V applied.	P
	- between live parts of different polarity through action of a switch	The luminaire does not have switch.	N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts		N/A
	- Insulation bushings as described in Section 5		N/A
1.15 (10.3)	Touch current (mA)	Max: 0.031 mA.	P
	Protective conductor current (mA)		P





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1.16 (13)	RESISTANCE TO HEAT, FIRE AND TRACKING		N/A
1.16 (13.2.1)	Ball-pressure test.....:	See Test Table 1.16 (13.2.1)	N/A
1.16 (13.3.1)	Needle-flame test (10 s)	See Test Table 1.16 (13.3.1)	N/A
1.16 (13.3.2)	Glow-wire test (650°C)	See Test Table 1.16 (13.3.2)	N/A
1.16 (13.4)	Proof tracking test (IEC 60112)	See Test Table 1.16 (13.4)	N/A

1.8 (11.2)	TABLE I: Creepage distances and clearances						P
	Minimum distances (mm) for a.c. up to 30 kHz sinusoidal voltages						P
	Applicable part of IEC 60598-1 Table 11.1.A*, 11.1.B* and 11.2*						P
	Insulation type **	Measured clearance	Required		Measured creepage	Required	
			clearance	*Table		creepage	*Table
Distance 1:	R	12.43	3	11.1.B	12.43	5	11.1.A
Working voltage (V)					220 – 240 V _{AC}		—
PTI.....					< 600 ☒ ≥ 600 ☐		—
Pulse voltage or U _P if applicable (kV)					-		—
Supplementary information: Driver (L – N)							
Distance 2:	B	4.61	1.2	11.1.B	4.61	0.2	11.1.A
Working voltage (V)					3 – 12 V _{DC}		—
PTI.....					< 600 ☒ ≥ 600 ☐		—
Pulse voltage or U _P if applicable (kV)					-		—
Supplementary information: LED (+ – -)							
Distance 3:							
Working voltage (V)							—
PTI.....					< 600 ☐ ≥ 600 ☐		—
Pulse voltage or U _P if applicable (kV)							—
Supplementary information:							

** Insulation type: B – Basic; S – Supplementary; R – Reinforced. See also IEC 60598-1 Annex M.





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1.8 (11.2)	TABLE II: Creepage distances and clearances							N/A
Minimum distances (mm) for a.c. higher than 30 kHz sinusoidal voltages								
Applicable part of IEC 61347-1 Table 7 and 8* or IEC 60664-4 Table 1 and 2								
Distances	Insulation type **	Measured clearance	Required		Measured creepage	Required		
			clearance	*Table		creepage	*Table	
Distance 1:								
Working voltage (V)							—	
Frequency if applicable (kHz)							—	
PTI.....					< 600 ☐ ≥ 600 ☐		—	
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV)							—	
Supplementary information:								
Distance 2:								
Working voltage (V)							—	
Frequency if applicable (kHz)							—	
PTI.....					< 600 ☐ ≥ 600 ☐		—	
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV)							—	
Supplementary information:								
Distance 3:								
Working voltage (V)							—	
Frequency if applicable (kHz)							—	
PTI.....					< 600 ☐ ≥ 600 ☐		—	
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV)							—	
Supplementary information:								

** Insulation type: B – Basic; S – Supplementary; R – Reinforced. See also IEC 60598-1 Annex M.

1.16 (13.2.1)	TABLE: Ball Pressure Test of Thermoplastics			N/A
Allowed impression diameter (mm)		2		—
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)	
Supplementary information: The only plastic part is the driver enclosure. Driver has certified.				





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1.16 (13.3.1)	TABLE: Needle-flame test					N/A
Object/ Part No./ Material	Manufacturer/ trademark	Duration of application of test flame (ta); (s)	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict	
Supplementary information: The only plastic part is the driver enclosure. Driver has certified.						

1.16 (13.3.2)	TABLE: Resistance to heat and fire - Glow wire tests						N/A
Object/ Part No./ Material	Manufacturer/ trademark	Glow wire test (°C)					Verdict
		650		750		850	
		te	ti	te	ti		
Ignition of the specified layer placed underneath the test specimen (Yes/No)..... :							
Supplementary information: The only plastic part is the driver enclosure. Driver has certified.							

1.16 (13.4)	TABLE: Proof tracking test				N/A
Test voltage PTI :		175 V			—
Object/ Part No./ Material	Manufacturer/ trademark	Withstand 50 drops without failure on three places or on three specimens			Verdict
Supplementary information: PTI<600 is accepted. It fulfils the requirements in the tests under these conditions.					





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ANNEX 1		TABLE: Critical components information					P
Object / part No.	Code	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾	
LED	C	NICHIA	NVSW219FT	700 mA 6 V _{DC}	IEC 60825- 1:2001 IEC 62471:2006	Data Sheet	
Cable	C	HANOĞLU	H03VV-F	0.75 mm ²	TS EN 50525-2- 11	CE	
LED Driver	C	TEXRUN	MLA4-350-IPC	Input: 100 – 340 V _{AC} , 50/60 Hz 0.2A Output: 2.8 - 12 V _{DC} , 350 mA 4W t _c : 85°C, t _a : 40°C	EN 61347-1 / EN61347-2-13 / EN60598-1 / EN60598-2-6	Data Sheet	
Lens	C	DARKOO	DK-360-LENS- CT-V1	PMMA	-	-	

Supplementary information:

¹⁾ Provided evidence ensures the agreed level of compliance. See OD-CB2039.

The codes above have the following meaning:

- A - The component is replaceable with another one, also certified, with equivalent characteristics
- B - The component is replaceable if authorised by the test house
- C - Integrated component tested together with the appliance
- D - Alternative component





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ANNEX 2	TABLE: Thermal tests of Section 12			P			
	Type reference	iDisc		—			
	Lamp used	LED / NICHIA / NVSW219FT		—			
	Lamp control gear used	TEXRUN / MLA4-350-IPC		—			
	Mounting position of luminaire	Normal use position.		—			
	Supply wattage (W)	5 W.		—			
	Supply current (A)	0.052 A.		—			
	Temperatures in test 1 - 4 below are corrected for t_a (°C)	-		—			
	- abnormal operating mode	-		—			
1.13 (12.4)	- test 1: rated voltage	220 – 240 V _{AC} .		—			
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current	255 V _{AC} .		—			
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage	-		—			
	Through wiring or looping-in wiring loaded by a current of A during the test			—			
1.13 (12.5)	- test 4: 1,1 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current or 130/150% of rated input voltage			—			
Temperature measurements (°C)							
Part	Ambient	Cl. 12.4 – normal				Cl. 12.5 – abnormal	
		test 1	test 2	test 3	limit	test 4	limit
LED Driver	20.2 – 21.1 – 21.0	48.2 – 49.2	49.0	-	80	-	-
Mounting Enclosure	20.2 – 21.1 – 21.0	32.1 – 32.6	31.4	-	90	-	-
Lens	20.2 – 21.1 – 21.0	31.0 – 32.4	31.0	-	Information	-	-
Internal Cable	20.2 – 21.1 – 21.0	21.9 – 22.9	23.6	-	90	-	-
Supplementary information:							





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

ANNEX 4	Screwless terminals (part of the luminaire)		N/A
(15)	SCREWLESS TERMINALS		N/A
(15.2)	Type of terminal		—
	Rated current (A)		—
(15.3.1)	Material		N/A
(15.3.2)	Clamping		N/A
(15.3.3)	Stop		N/A
(15.3.4)	Unprepared conductors		N/A
(15.3.5)	Pressure on insulating material		N/A
(15.3.6)	Clear connection method		N/A





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(15.3.7)	Clamping independently		N/A
(15.3.8)	Fixed in position		N/A
(15.3.10)	Conductor size		N/A
	Type of conductor		N/A
(15.5)	Terminals and connections for internal wiring		N/A
(15.5.1)	Mechanical tests		N/A
(15.5.1.1.1)	Pull test spring-type terminals (4 N, 4 samples).....:		N/A
(15.5.1.1.2)	Pull test pin or tab terminals (4 N, 4 samples).....:		N/A
	Insertion force not exceeding 50 N		N/A
(15.5.1.2)	Permanent connections: pull-off test (20 N)		N/A
(15.5.2)	Electrical tests		N/A
	Voltage drop (mV) after 1 h (4 samples)		N/A
	Voltage drop of two inseparable joints		N/A
	Number of cycles:		—
	Voltage drop (mV) after 10th alt. 25th cycle (4 samples)		N/A
	Voltage drop (mV) after 50th alt. 100th cycle (4 samples)		N/A
	After ageing, voltage drop (mV) after 10th alt. 25th cycle (4 samples).....:		N/A
	After ageing, voltage drop (mV) after 50th alt. 100th cycle (4 samples).....:		N/A
(15.6)	Terminals and connections for external wiring		N/A
(15.6.1)	Conductors		N/A
	Terminal size and rating		N/A
15.6.2	Mechanical tests		N/A
(15.6.2.1)	Pull test spring-type terminals or welded connections (4 samples); pull (N)		N/A
(15.6.2.2)	Pull test pin or tab terminals (4 samples); pull (N)		N/A
(15.6.3)	Electrical tests		N/A
	Tests according 15.6.3.1 + 15.6.3.2 in IEC 60598-1		N/A





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(15.6.3.1) (15.6.3.2)	TABLE: Contact resistance test / Heating tests									N/A
	Voltage drop (mV) after 1 h									—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
	Voltage drop of two inseparable joints									
	Voltage drop after 10th alt. 25th cycle									
	Max. allowed voltage drop (mV) :									—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
	Voltage drop after 50th alt. 100th cycle									
	Max. allowed voltage drop (mV) :									—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
	Continued ageing: voltage drop after 10th alt. 25th cycle									
	Max. allowed voltage drop (mV) :									—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
	Continued ageing: voltage drop after 50th alt. 100th cycle									
	Max. allowed voltage drop (mV) :									—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
Supplementary information:										





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10. Deney ve Ölçüm Bilgileri:
Test and Measuring Arrangement

Cihaz Device	İmalatçı Manufacturer	Seri No. / Kod Serial No / Code	Sertifika No Certificate No	Kalibrasyon Tarihi Calibration Date
Humidity Temperature Meter	CEM	LD222	2336849	July/2024
Multimeter	FLUKE	LD377	2304055	July/2024
Humidity Cabinet	NÜKLEON	LD140	23/1219 and 23/1220	July/2024
Perforated Metal Housing	LVT	LD461	-	No Need Calibration
Variac	VARSAN	LD403	2305891	October/2024
Digital Scale	YILDIRIM TARTI	LD291	2349273	September/2024
Torquemeter	BRITTOOL / AVT 300A	LD14	2336820	July/2024
Torque Screwdriver	NETRATEK/5-10 N.m	LD396	2338990	August/2026
Torque Screwdriver	NETRATEK/1-6 N.m	LD397	2338989	August/2026
Digital Caliper	STAINLESS HARDENED	LD390	2338980	August/2024
Test Finger	-	LD130	22M04234	May/2025
Test Finger	-	LD131	2336845	July/2026
Test Probe	-	LD132	22M04235	May/2025
Digital Newtonmeter	PCE-FM200	LD248	2333231	July/2026
Temperature Rise Data Logger	ELİMKO	LD80	4131002	September/2024
CE MULTITESTER	METREL	LD384	2303974	July/2024
Power Measurement	ROSYXANDY / ELETECPRO	LD381	2304360	August/2024
Osilloscope	HANTEK / DSO4204B	LD374	2304621	August/2024
Spring Hammer Hammer (0,2J)	-	LD142	2325963	May/2025
Spring Hammer Hammer (0,35J)	-	LD143	2325967	May/2025
Etüv	ELEKTRO-MAG / M 5040 P	LD444	2362570	November/2024
Digital Newtonmeter	PCE-FM200	LD248	2333231	July/2024
Test Probe	LVT	LD132	22M04235	May/2025
IP Dusting Cabinet	LVT	LD100	-	No Need Calibration
Rope Immersion Test Cabinet	LVT	LD117	-	No Need Calibration
TOUCH CURRENT MEASURING CIRCUIT (FIGURE 5)	SINUO TESTTING EQUIPMENT / SN2210-54	LD440	E23111933	December/2025
TOUCH CURRENT MEASURING CIRCUIT (FIGURE 4)	SINUO TESTTING EQUIPMENT / SN2210-54A	LD441	E23111932	December/2025



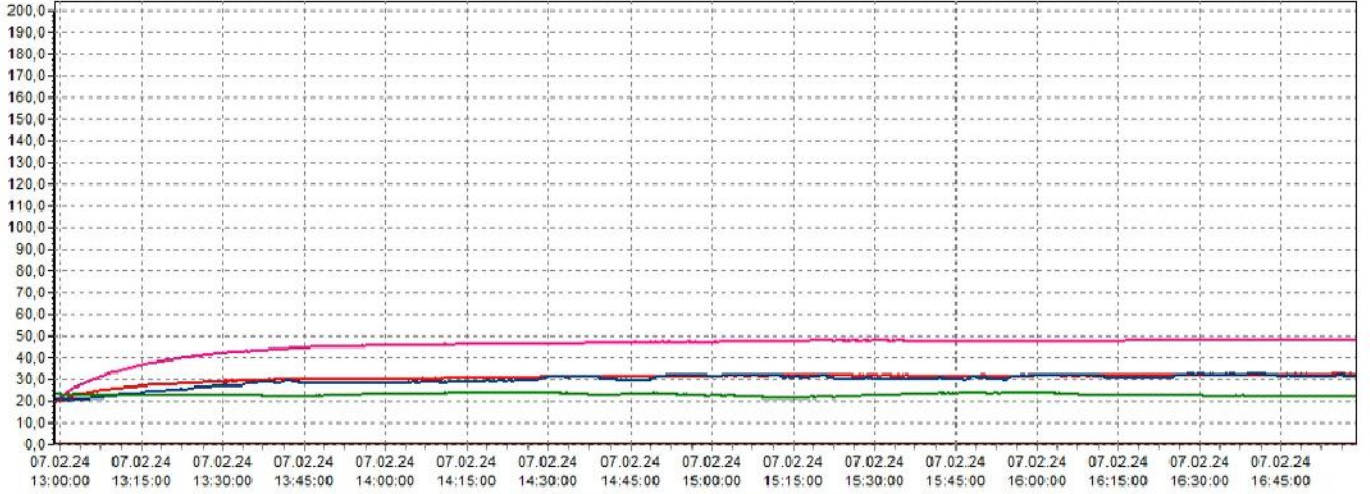


Test Laboratuvarları

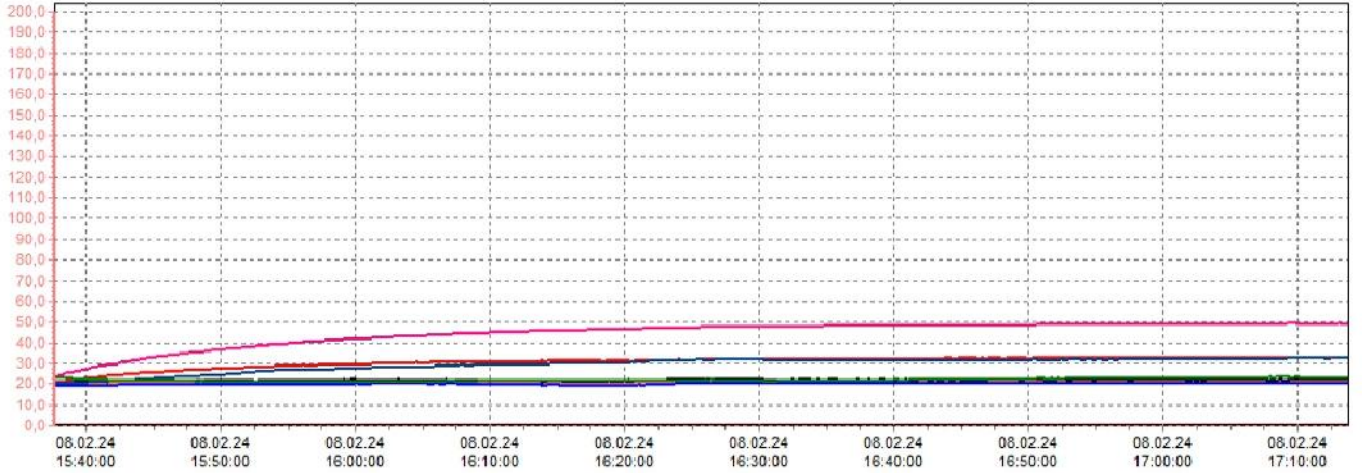
Aydınlatma Armatürleri Güvenlik Deneyleri
Genel Amaçlı, Sabit Aydınlatma Armatürleri
Luminaires Safety Tests
Fixed General Purpose Luminaires

11. Deney Osilogramları:

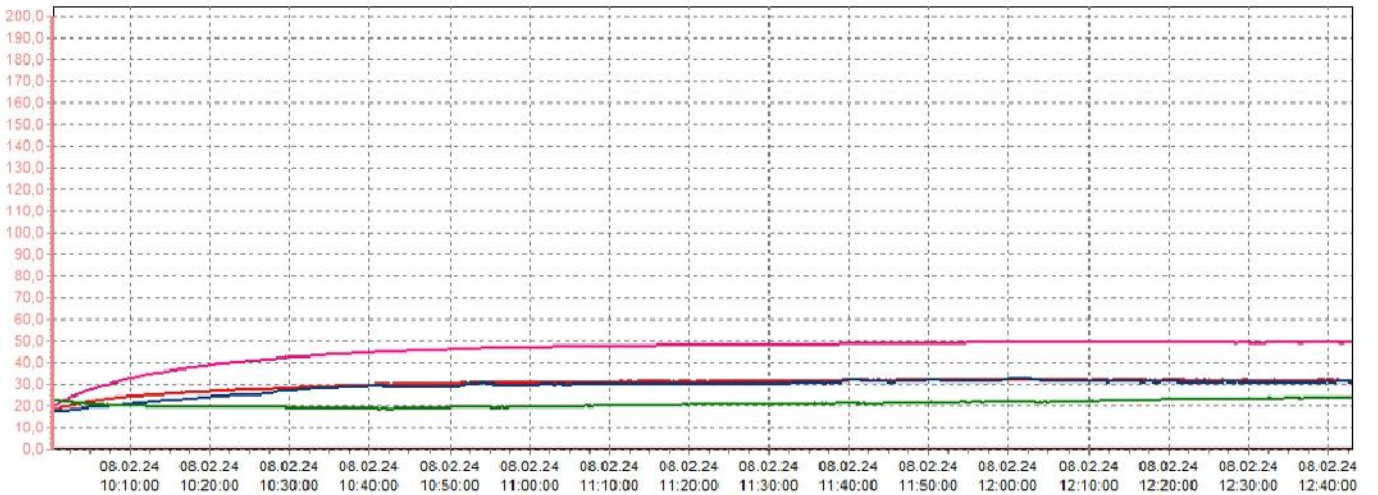
Test Oscillograms



220 V_{AC} Temperature Rise Test



240 V_{AC} Temperature Rise Test



255 V_{AC} Temperature Rise Test



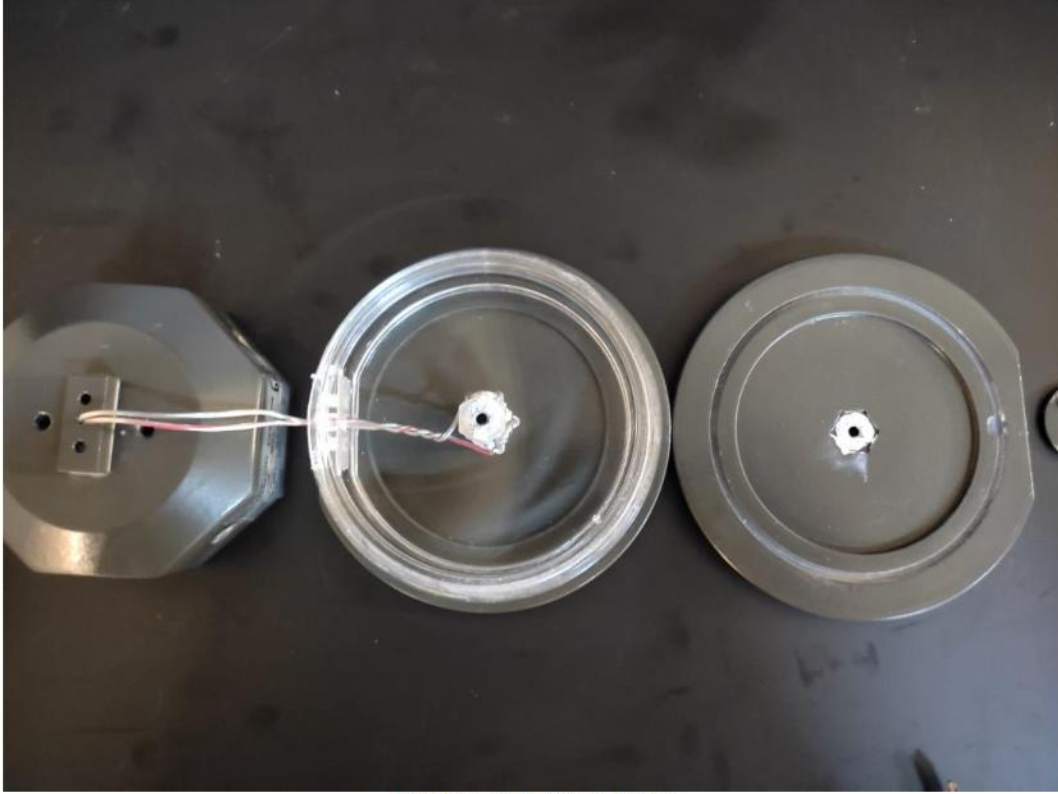
12. Deney Fotoğrafları:
Test Photographs



Photograph 1: General View



Photograph 2: General View

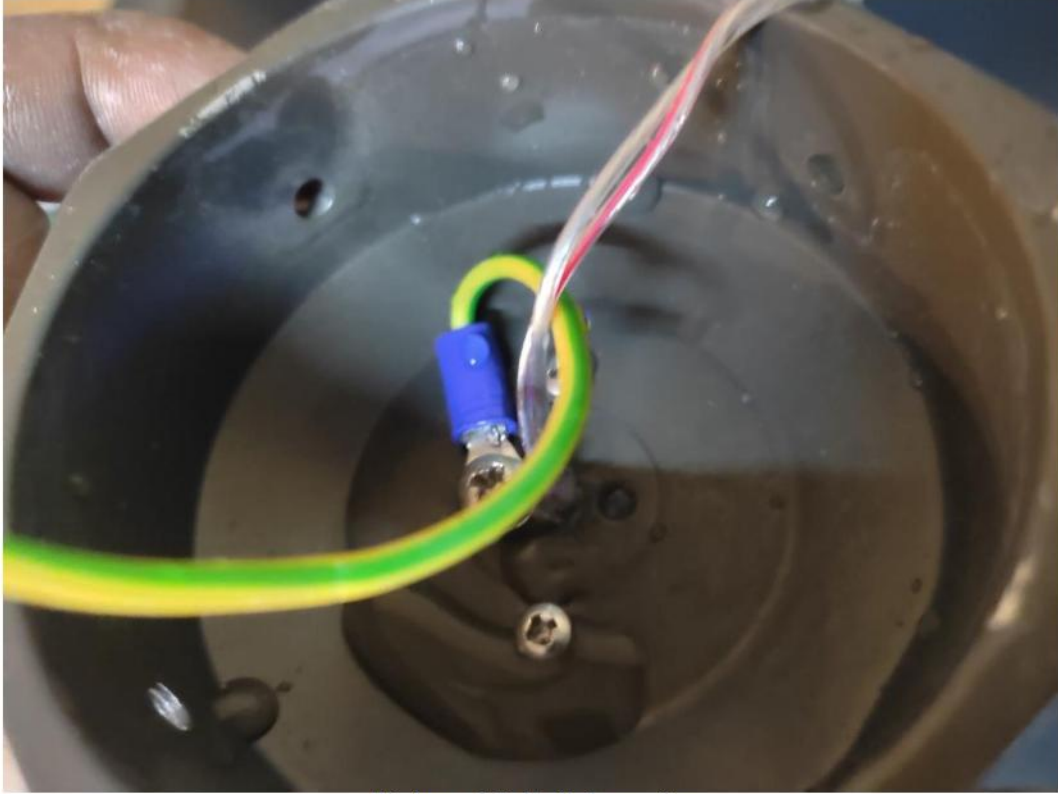


Photograph 3: General View



Photograph 4: LED Driver

Aydınlatma Armatürleri Güvenlik Deneyleri
Genel Amaçlı, Sabit Aydınlatma Armatürleri
Luminaires Safety Tests
Fixed General Purpose Luminaires



Photograph 5: Earth Connection



Photograph 6: LED



Luminaires Safety Tests

Fixed General Purpose Luminaires

Documentation of Client

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Test Laboratuvarları

Aydınlatma Armatürleri Güvenlik Deneyleri Genel Amaçlı, Sabit Aydınlatma Armatürleri

Luminaries Safety Tests
Fixed General Purpose Luminaires



MLA4-350P-IPC / Datasheet

ELECTRICAL SPECIFICATIONS

	Item	Technical Norm
INPUT	Max. Output Wattage	4W
	Rated Input Voltage	100 - 240 VAC
	Range Of Input Voltage	90 - 264VAC
	Frequency (hz)	50/60Hz
	Current	0.2A MAX. @Full Load,
	Start-up Time	<1S for ERP @Full Load
	Unload Power Consumption	≤0.5W
OUTPUT	Unload Voltage	22VDC max
	Load Voltage Rang	2.8 - 12VDC
	Constant Current	350mA
	Constant Accuracy	±10% @100 - 240VAC
	Constant Regulation	≤10%@Full Load
	Hold-up Time	NA
	Efficiency In Full Load	NA
DIMMING	Ripple	<300mVp-p @Full Load ,100-240VAC
	Dimmable Or Not	NA
	Dimmable Or Not	NA
	Dimming Current Range	NA
PROTECTION	Over Load Protection	Protection Type: Auto Restore
	Over Voltage Protection	Protection Type: Auto Restore
	Short Circuit Protection	Protection Type: Auto Restore
	Over Temperature Protection	Protection Type: Auto Restore
HI-POT	Input - Output (V.AC)	3000V/5mA/1 min
	Input - FG (V.AC)	NA
	Output - FG (V.AC)	NA
	Leakage Current	<0.5mA
ISOLATION RESISTANCE	Input - Output (V.AC)	≥10MΩ@500VDC
	Input - FG (V.AC)	NA
	Output - FG (V.AC)	NA
ENVIRONMENT LIFE SPAN	tc	85°C
	Storage Temperature	-40°C...+80°C
	Humidity	20%-90%RH
	Life time	> 30,000h @50°C
FEATURE	HSF requirement	RoHS
	Dimension (LxWxH)	55x29.5x22 (LxWxH)mm
SEFETY & EMC	Approval	CE
	Safety Standards	EN 61347-1 / EN61347-2-13 / EN60598-1 / EN60598-2-6
	EMI	EN55015 / EN61000-3-2 / Class C EN61000-3-3
		EN61547; EN61000-4-2 8KV; 4KV;
	EMS	Performance Criteria B EN61000-4-5 1000V; Performance Criteria C

Note: All parameters NOT specially mentioned are measured at rated input or max rated input, and 25°C ambient temperature





Test Laboratuvarları

Aydınlatma Armatürleri Güvenlik Deneyleri
Genel Amaçlı, Sabit Aydınlatma Armatürleri
Luminaires Safety Tests
Fixed General Purpose Luminaires



HANOĞLU®
KABLO SAN. ve TİC. LTD. ŞTİ.

15 /04/ 2019

HNK.12.CE1/2



UYGUNLUK DEKLARASYONU

HANOĞLU KABLO SANAYİ TİCARET ve LİMİTED ŞİRKETİ

Perpa Ticaret Merkezi A Blok Kat:5 no:113 Şişli , İSTANBUL / TÜRKİYE

Aşağıda tipi belirtilen 'ALÇAK GERİLİM ENERJİ KABLOLARI' piyasaya firmamızca tescilli "HANOĞLU KABLO" markalı olarak TS EN 50525-2-11 , TS EN 50525-2-31 standartlarında ve 2006/95/AT sayılı AB direktifine uygun olarak üretildiğini beyan ederiz.

- H05V-U
- H03VVH2-F
- H05V-K
- H03VV-F
- H03VH-H
- H05VH-H

Yüksel Han

KABLO SAN. ve TİC. LTD. ŞTİ.
Perpa Ticaret Merkezi A Blok Kat:5 No:113
Şişli - İSTANBUL
Sicil No: 457 006 2721

Perpa Tic. Merkezi A-Blok Kat: 5 No: 113 Okmeydanı - Şişli / İstanbul Tel: (0212) 320 32 58 (0212) 320 62 58 Fax: (0212) 320 27 95

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Test Laboratuvarları

Aydınlatma Armatürleri Güvenlik Deneyleri
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NICHIA STS-DA1-5639 <Cat.No.190423>

NICHIA CORPORATION

SPECIFICATIONS FOR WHITE LED

NVSW219FT

- Pb-free Reflow Soldering Application
- Built-in ESD Protection Device
- RoHS Compliant





PRODUCT FEATURES:

Offers several application possibilities, directing the beam in different inclinations and axes, allowing the fixture to adapt very well to the architectural scene.

Designed to last in extremely harsh environments.

RECOMMENDATIONS FOR THE USER:

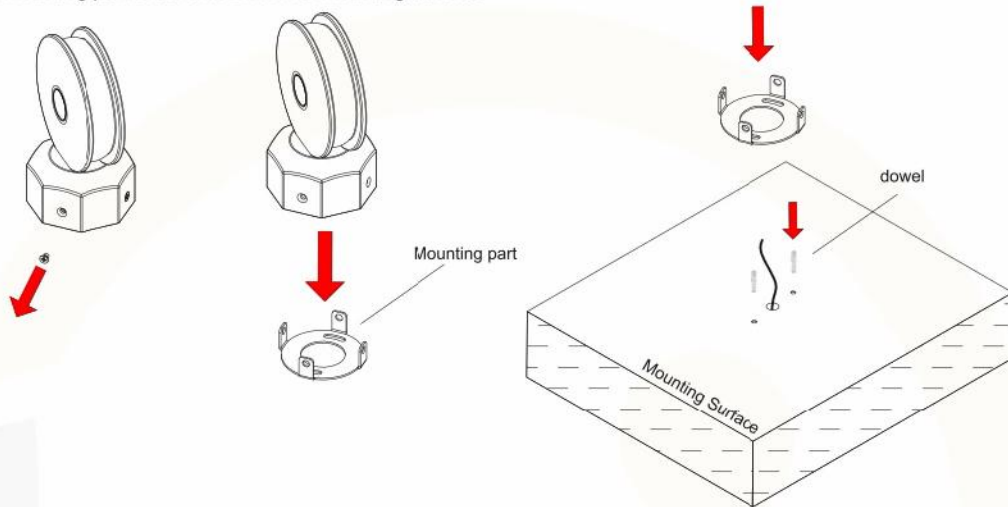
- 1) Before the installation, make sure that there is no voltage.
- 2) Do not touch the fitting when it is working on / switched on
- 3) Do not look at the fitting directly or from a short distance.
- 4) Disconnect / switch off the fitting before changing the lamps

NOTES:

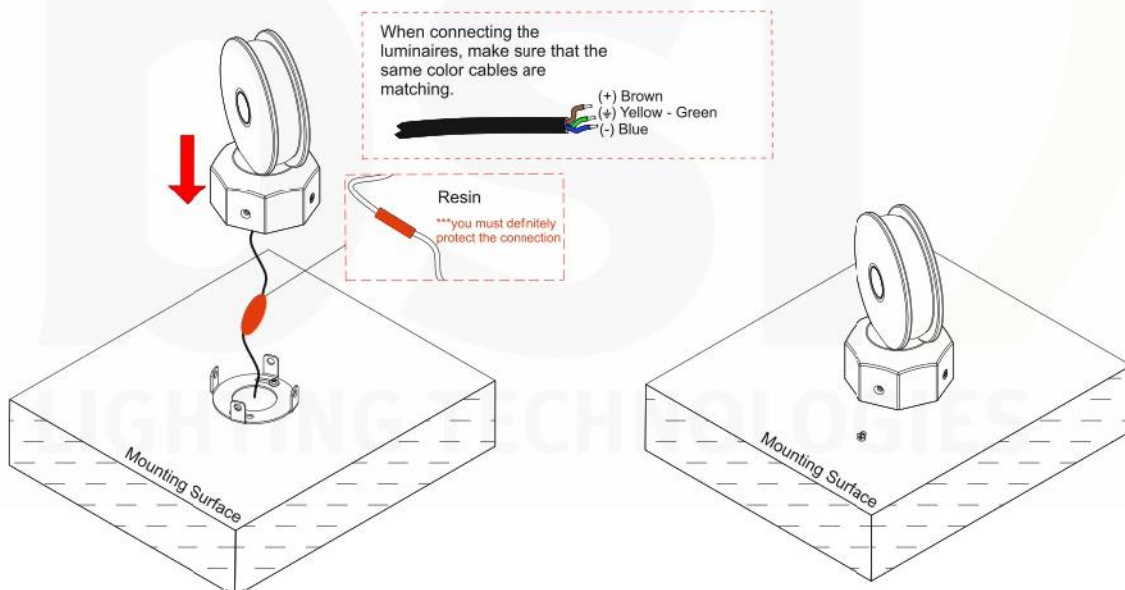
- Technical amendments are reserved.
- CE – Conformity mark
- The manufacturer is then discharged from liability when damage is caused by improper use or installation.
- Clean luminaire regularly with solvent-free cleansers from dirt and deposits. Do not use high pressure cleaners.

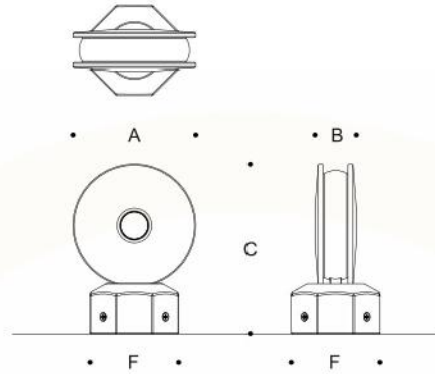
iDISC INSTALLATION GUIDE

- 1) -The screws on the luminaire are removed.
-The mounting part is removed from the luminaire.
-Holes are drilled on the mounting surface, corresponding to the holes of the mounting part, and dowels are driven into the holes.
-The mounting part is screwed into the mounting surface.



- 2) -Electrical connection is done and the luminaire is placed.
-The luminaire is screwed back into the mounting part.





CODE	POWER CONSUMPTION	COLOUR TEMPERATURE	A (mm)	B (mm)	C (mm)	F (mm)
WA4670	5W	3000K / 4000K	110	37	152	80

LED Type	High efficiency LEDs, available in 2700K, 3000K, 4000K, 5000K, 6500K CCT tolerance within a 3-step MacAdams ellipse and LM80 compliant.
Nominal Voltage	220V-240V AC, 50/60Hz
Current	0.05A
Cosφ	0,4
Color Rendering Index	CRI> 80 standard and CRI>90 on request.
Optics	360°
Materials	Aluminum body, silicone gasket, narrow angle circular lens.
Optional Coating	Marine grade.
LED Specification	L90B50 > 100000 hours life time.
Energy Efficiency Class (EEC)	A++
Power Factor	>0.95
Protection Class	IP66
Impact Resistance	IK08
Insulation Class	Class I
Conformity	Complies with European Standards EN 60598 and CE certified.

- Suitable for use outdoor.
- Only to be installed outside arms reach.
- The light source contained in this luminaire shall only be replaced by the manufacturer or his service agent or a similar qualified person.
- If the external flexible cable or cord of this luminaire is damaged, it shall be exclusively replaced by the manufacturer or his service agent or a similar qualified person in order to avoid a hazard.
- Terminal block not included. Installation must be performed by a qualified person.