



PTC  
ÜRÜN TEST VE BELGELENDİRME  
SAN. TİC. LTD. ŞTİ



DENEY RAPORU  
TEST REPORT

AB-1374-T
2021-PTC-0761-1
05-21

**Müşteri Adı / Adresi:**  
Customer name / address

NESALED AYDINLATMA SİSTEMLERİ ELEKTRİK ELEKTRONİK TAAH. SAN. VE TİC. LTD. ŞTİ.

Çiftlik Mah. 4137 Sok. No:3A-B-C Gölcük / KOCAELİ

**İstek Numarası**  
Order No.

2021-PTC-0761

**Numunenin adı ve tarifi**  
Name and identity of test item

LED SOKAK ARMATÜRÜ / LED STREET LUMINAIRE

**Numunenin kabul tarihi**  
The date of receipt of test item

19.01.2021

**Açıklamalar**  
Remarks

**Ürün ilgili testlerden geçmiştir, lütfen raporu inceleyiniz.**  
*The product passes related tests, see report below.*

**Deneyin yapıldığı tarih**  
Date of Test

20.01.2021 - 08.02.2021

**Raporun Sayfa Sayısı**  
Number of pages of the Report

41

Deney laboratuvarı olarak faaliyet gösteren PTC Ürün Test ve Belgelendirme San. Tic. Ltd. Şti., TÜRKAK'tan AB-1374-T akreditasyon dosya numarası ile TS EN ISO IEC 17025:2017 standardına göre akredite edilmiştir. PTC Ürün Test ve Belgelendirme San. Tic. Ltd. Şti. accredited by TÜRKAK under registration number AB-1374-T accreditation file no for TS EN ISO IEC 17025:2017 as test laboratory"

Türk Akreditasyon Kurumu(TÜRKAK) deney raporlarının tanınırlığı konusunda Avrupa Akreditasyon Birliği(EA) ile Çok Taraflı Anlaşma ve Uluslararası Laboratuvar Akreditasyon Birliği(ILAC) ile karşılıklı tanıma anlaşması imzalamıştır.

Turkish Accreditation Agency (TURKAK) is a signatory to the European co-operation for Accreditation (EA) Multilateral Agreement (MLA) and to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA) for the recognition of test reports

Deney ve /veya ölçüm sonuçları, genişletilmiş ölçüm belirsizlikleri ( olması halinde ) ve deney metotları bu sertifikanın tamamlayıcı kısmı olan takip eden sayfalarda verilmiştir.

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

**Mühür / Tarih**  
Seal / Date



**Deneyi Yapan Personel**  
Person in Performing the Test

Emine Nur CİDEM

**Deney Sorumlusu**  
Person in Charge of Test

Muhammed Emin COŞKUN

**Laboratuvar Teknik Yöneticisi**  
Laboratory Technical Manager

Murat ÇİTİL

ONAY  
DENEY RAPORU / TEST REPORT

ACCREDITED TEST LABORATORY

PTC Ürün Test ve Belgelendirme San. Tic. Ltd. Şti.

Aydınlı Mah. Patlayıcı Maddeler Yolu Cad. Beyoğlu Sanayi Sitesi. D1 Blok No:26 Tuzla/İstanbul-Türkey  
Tel:+90 216 225 03 41 e-mail:info@ptctesting.com web: www.ptctesting.com

Dok.No: PR.20-RP.05 / Rev.Tarihi: 30.03.2021 / Rev. No: 03

Sayfa/Paçe 1 / 41



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**Deney Standardı / Test Standard:** TS 8700 EN 60598-2-3 Aydınlatma Armatürleri - Bölüm 2-3: Belirli Özellikler - Yol Ve Cadde Aydınlatması İçin / *Luminaires - Part 2-3: Particular Requirements - Luminaires For Road And Street Lighting*

**Akreditasyon Kapsamında Uygulanan Deneyler**  
*List of Tests applied under Accreditation Scope:*

**Akreditasyon Kapsamı Dışında Uygulanan Deneyler**  
*List of Tests not applied under Accreditation Scope:*

- 3.5(3.4) İşaretleme Deneyi / *Durability*
- 3.6(4.12.1) Tork Testi / *Torque Test*
- 3.6(4.13.1) Mekanik Dayanım Darbe Testi / *Impact Test*
- 3.6(4.14.1) Askı ve Sabitleyici Güvenlik Testi /  
*Suspension and Fixing Safety Test*
- 3.6.3.1(-) Statik Yük Deneyi / *Static Load Test*
- 3.6.5.1(-) Küçük Parçalara Ayrılan Cam Testi /  
*Glass test for small pieces*
- 3.7 (11) Yüzeysel Kaçak Yolu Uzunlukları ve Yalıtma Aralıkları / *Creepage Distances And Clearances*
- 3.8(7.2.3) Topraklama Süreklilik Testi /  
*Earth Continuity Test*
- 3.9(14.4.2 ; 14.4.6 ; 14.4.7) Vidalı Bağlantı Uçları Mekanik Dayanım Testi / *Mechanical Strength Test in Screw Terminals*
- 3.10(5.2.10.3) Çekme deneyi / *Pull test*
- 3.10.1 Kablo Çekme deneyi / *Cable Pull test*
- 3.11(8.2.5) Elektrik Çarpmasına Karşı Koruma /  
*Protection Against Electric Shock*
- 3.12(12.3.1) Dayanıklılık Deneyi / *Endurance Test*
- 3.12(12.4.1) Isıl Deney (normal çalışma) /  
*Thermal Test (Normal Operation)*
- 3.13(9.2) IP Testi / *IP Test*
- 3.13(9.3) Nem Deneyi / *Humidity test*
- 3.14(10.2.1) Yalıtım Direnci / *Insulation resistance test*
- 3.14(10.2.2) Elektriksel Dayanım / *Electric strength test*
- 3.14(10.3) Dokunma Akımı / *Touch Current Test*
- 3.15(13.2.1) Bilye Basınç Deneyi / *Ball-Pressure Test*
- 3.15(13.3.1) İğne Alevi Deneyi / *Needle Flame Test*

**DENEY RAPORU / TEST REPORT**

PTC Ürün Test ve Belgelendirme San. Tic. Ltd. Şti.  
Aydınlı Mah. Patlayıcı Maddeler Yolu Cad. Beyoğlu Sanayi Sitesi. D1 Blok No:26 Tuzla/İstanbul-Turkey  
Tel: +90 216 225 03 41 e-mail: info@ptctesting.com web: www.ptctesting.com

**DENEY RAPORU / TEST REPORT**  
**TS EN 60598-1 TS EN 60598-2-3**

<b>Rapor Numarası</b> <i>Report number</i>	: 2021-PTC-0761-1
<b>Veriliş Tarihi</b> <i>Date of issue</i>	: 17.05.2021
<b>Toplam Sayfa Sayısı</b> <i>Total number of pages</i>	: 41
<b>Deneyi Yapan Laboratuvar</b> <i>Testing Laboratory</i>	: PTC ÜRÜN TEST VE BELGELENDİRME
<b>Adres</b> <i>Address</i>	: Aydınli Mah.Patlayıcı Maddeler Yolu Cad. Beyoğlu Sanayi Sitesi D1 Blok No.26 Aydınli-TUZLA/İSTANBUL
<b>Deney Adresi</b> <i>Testing Location</i>	: Aydınli Mah.Patlayıcı Maddeler Yolu Cad. Beyoğlu Sanayi Sitesi D1 Blok No.26 Aydınli-TUZLA/İSTANBUL
<b>Başvuranın Adı</b> <i>Applicant's name</i>	: NESALED AYDINLATMA SİSTEMLERİ ELEKTRİK ELEKTRONİK TAAH. SAN. VE TİC. LTD. ŞTİ.
<b>Adresi</b> <i>Address</i>	: Çiftlik Mah. 4137 Sok. No:3A-B-C Gölcük / KOCAELİ
<b>Deney Ayrıntıları</b> <i>Test Specifications</i>	
<b>Standard</b>	: TS 8700 EN 60598-2-3 ; TS EN 60598-1/Nisan 2015
<b>Deney Prosedürü</b> <i>Test procedure</i>	: Uygunluk Testi / <i>Compliance Test</i>
<b>Standard Dışı Deney Yöntemi</b> <i>Non-standard test method</i>	: -
<b>Deney Raporu Form No</b> <i>Test report form no</i>	: PR.20-RP.03
<b>Deney Rapor Form(ları) Oluşturan</b> <i>Test report form(s) originator</i>	: PTC
<b>Ana TRF</b> <i>Master TRF</i>	: 2018-01
<p>Deney ve/veya ölçüm sonuçları, genişletilmiş ölçüm belirsizlikleri (olması halinde) ve deney metotları bu sertifikanın tamamlayıcı kısmı olan takip eden sayfalarda verilmiştir. Bu rapor laboratuvar gönderilen numunelere uygulanan deney/deneyler sonucu hazırlanmıştır. Müşteriye ait diğer numuneleri kapsamaz.</p> <p><i>The test and/or measurement results, the uncertainties (if applicable) with confidence probability and test methods are given on the following pages which are part of this report. This report was prepared according to test results of specimens sent to laboratory. It doesn't contain other specimens belonging to customer.</i></p>	
<b>Deney Numunesi Açıklaması</b> <i>Test item description</i>	: LED SOKAK ARMATÜRÜ / LED STREET LUMINAIRE
<b>Marka</b> <i>Trade Mark</i>	: NESA
<b>Üretici</b> <i>Manufacturer</i>	: NESALED AYDINLATMA SİSTEMLERİ ELEKTRİK ELEKTRONİK TAAH. SAN. VE TİC. LTD. ŞTİ.
<b>Model/Tip</b> <i>Model /Type reference</i>	: NS-724080
<b>Beyan Değerleri</b> <i>Ratings</i>	: 220-240V AC , 80 W , 50-60Hz , IP66
<p>Bu rapor, Laboratuvarımızın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz. İmzasız ve mühürsüz raporlar geçersizdir.</p> <p><i>This report may not be copied or reproduced in part without the written permission of the Laboratory. Signed and unsealed reports are invalid</i></p>	

**DENEY RAPORU / TEST REPORT**

**Ek Dosya Listesi ( Eklerin içerdiği sayfa sayısı dahil ) :**

List of attachments (including a total number of pages in each attachment) :

**Ek.1 / Attachment.1 - Ölçüm Cihazları / Measuring Equipments**

**Ek.2 / Attachment.2 - Görsel Dökümanlar / Photo Documentation**

**Deney Özeti / Summary of testing :** Uygulanan deneyler aşağıdaki listede verilmiştir. / The applied tests are in the list below

**Gerçekleştirilen testler (test adı ve test maddesi)**

*ITests performed (name of test and test clause):*

- 3.5(3.4) İşaretleme Deneyi / Durability  
3.6(4.12.1) Tork Testi / Torque Test  
3.6(4.13.1) Mekanik Dayanım Darbe Testi / Impact Test  
3.6(4.14.1) Askı ve Sabitleyici Güvenlik Testi/  
Suspension and Fixing Safety Test  
3.6.3.1(-) Statik Yük Deneyi / Static Load Test  
3.6.5.1(-)Küçük Parçalara Ayrılan Cam Testi /  
Glass test for small pieces  
3.7 (11) Yüzeysel Kaçak Yolu Uzunlukları ve Yalıtma  
Aralıkları / Creepage Distances And Clearances  
3.8(7.2.3) Topraklama Süreklilik Testi /  
Earth Continuity Test  
3.9(14.4.2 ; 14.4.6 ; 14.4.7) Vidalı Bağlantı Uçları Mekanik  
Dayanım Testi / Mechanical Strength Test in Screw Terminals  
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3.15(13.2.1) Bilye Basınç Deneyi / Ball-Pressure Test  
3.15(13.3.1) İğne Alevi Deneyi / Needle Flame Test

**Test yeri / Testing location:**

Aydınlı mah.Patlayıcı Maddeler Yolu  
Cad. Beyoğlu Sanayi Sitesi D1 Blok  
No.26 Aydınlı-TUZLA/İSTANBUL

**DENEY RAPORU / TEST REPORT**

Etiket plakasının kopyası / Copy of marking plate:

## LED SOKAK ARMATÜRÜ

ÜRÜN KOD	NS-724080	ÜRETİM TARİHİ	15.10.2020
GÜÇ / POWER	80 W	AÇI	90 DERECE
LÜMEN	9600	PF	> % 94
VOLTAJ	220V-240V	CRI	> % 90
RENK	6500 KELVİN	IP SINIFI	IP 66
GÖVDE	ALÜMİNYUM	AĞIRLIK	6 Kg.

[www.nesaled.com](http://www.nesaled.com)



<b>Deney Numunesinin Ayrıntıları.....:</b> <i>Test item particulars</i>	<b>LED SOKAK ARMATÜRÜ / LED STREET LUMINAIRE</b>
<b>Kurulum ve kullanım sınıflandırması.....:</b> <i>Classification of installation and use</i>	<b>Sınıf I / Class I</b>
<b>Besleme Bağlantısı.....:</b> <i>Supply Connection</i>	<b>Besleme Kablosu / Supply Cord</b>
<b>Olası Deney Durumu Kararları/ Possible test case verdicts:</b>	
- deney durumu deney numunesi için geçerli değildir...: <i>test case does not apply to the test object</i>	N/A
- deney numunesi gereksinimi karşılıyor.....: <i>test object does meet the requirement</i>	P (Pass / Geçti)
- deney numunesi gereksinimi karşılamıyor.....: <i>test object does not meet the requirement</i>	F (Fail / Kaldı)
-deney akreditasyon kapsamında bulunmamaktadır...: <i>test not within the scope of the accreditation</i>	O/S (Out of Scope / Kapsam Dışı)
<b>Deney / Testing .....</b>	
<b>Numunenin Alındığı Tarih/ .....</b> <i>Date of receipt of test item</i>	19.01.2021
<b>Test(ler)in Gerçekleştirilme Tarihi.....:</b> <i>Date (s) of performance of tests</i>	20.01.2021 - 08.02.2021
<b>Genel Açıklamalar / General Remarks</b>	
<p><i>Bu raporda sunulan test sonuçları yalnızca test edilen nesneyle ilgilidir. Bu rapor, yayınlayan test laboratuvarının yazılı onayı olmaksızın tamamen veya kısmen çoğaltılamaz.</i></p> <p><i>"(Bakınız Kutu #)" rapora eklenen ek bilgilere işaret etmektedir.</i></p> <p><i>"Ekli tabloya bakınız", rapora eklenen bir tabloya atıfta bulunmaktadır.</i></p> <p><i>Parantez içerisindeki madde numaraları, ilgili deney standardında geçen maddelere karşılık gelir.</i></p> <p><i>The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory. "(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.</i></p>	
<p><b>Bu rapor boyunca <input type="checkbox"/> nokta / <input checked="" type="checkbox"/> virgül ondalık ayracı olarak kullanılır.</b> <i>Throughout this report <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.</i></p>	
<b>Genel Ürün Bilgileri / General Product Information:</b> Numune 220-240 V AC gerilimle çalışmaktadır. <i>The sample is operating at 220-240 V AC voltage.</i>	

## TS EN 60598-1 &amp; TS EN 60598-2-3

Madde Clause	İstenen Deneyle Test Requirements	Açıklamalar Remarks	Sonuç Verdict
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3.2 (0)	GENERAL TEST REQUIREMENTS		P
3.2 (0.1)	Information for luminaire design considered	Standard Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	-
3.2 (0.3)	More sections applicable	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	-

3.4 (2)	CLASSIFICATION		P
3.4 (2.2)	Type of protection	Class I	P
3.4 (2.3)	Degree of protection	IP 66	P
3.4 (2.4)	Luminaire suitable for direct mounting on normally flammable surfaces	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	-
3.4 (2.5)	Luminaire for normal use	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	-
	Luminaire for rough service	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	-
3.4(-)	Modes of installation of road or street lighting		P
	-on a pipe	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	-
	-On a mast arm	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	-
	-on a post top	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	-
	-on a wall	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	-

3.5 (3)	MARKING		P
3.5 (3.2)	Mandatory markings		P
	Position of the marking		P
	Format of symbols/text		P
3.5 (3.3)	Additional information		P
	Language of instructions		P
3.5 (3.3.1)	Combination luminaires		N/A
3.5 (3.3.2)	Nominal frequency in Hz		N/A
3.5 (3.3.3)	Operating temperature		N/A
3.5 (3.3.4)	Symbol or warning notice		N/A
3.5 (3.3.5)	Wiring diagram		N/A
3.5 (3.3.6)	Special conditions		N/A

## DENEY RAPORU / TEST REPORT

**TS EN 60598-1 & TS EN 60598-2-3**

Madde Clause	İstenen Deneyler Test Requirements	Açıklamalar Remarks	Sonuç Verdict
3.5 (3.3.7)	Metal halide lamp luminaire – warning		N/A
3.5 (3.3.8)	Limitation for semi-luminaires		N/A
3.5 (3.3.9)	Power factor and supply current		N/A
3.5(3.3.10)	Suitability for use indoors		N/A
3.5 (3.3.11)	Luminaires with remote control		N/A
3.5 (3.3.12)	Clip-mounted luminaire – warning		N/A
3.5 (3.3.13)	Specifications of protective shields		N/A
3.5 (3.3.14)	Symbol for nature of supply		N/A
3.5 (3.3.15)	Rated current of socket outlet		N/A
3.5 (3.3.16)	Rough service luminaire		N/A
3.5 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments		N/A
3.5 (3.3.18)	Non-ordinary luminaires with PVC cable		N/A
3.5 (3.3.19)	Protective conductor current in instruction if applicable		N/A
3.5 (3.3.20)	Provided with information if not intended to be mounted within arm's reach		N/A
3.5 (3.3.21)	Non-replaceable and non-user replaceable light sources information provided		N/A
	Cautionary symbol		N/A
3.5 (3.3.22)	Controllable luminaires, classification of insulation provided		N/A
3.5 (3.4)	Test with water		P
	Test with hexane		P
	Legible after test		P
	Label attached		P
3.5 (-)	Additional information in instruction leaflet		N/A
	a) Design attitude		N/A
	b) Weight		N/A
	c) Overall dimensions		N/A
	d) Maximum projected area if applicable		N/A
	e) Cross-sectional area of wires if applicable		N/A
	f) Suitability for indoors use		N/A

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Tel: +90 216 225 03 41 e-mail: info@ptctesting.com web: www.ptctesting.com

**TS EN 60598-1 & TS EN 60598-2-3**

Madde Clause	İstenen Deneyler Test Requirements	Açıklamalar Remarks	Sonuç Verdict
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	g) Dimensions of the compartment		N/A
	h) Torque setting to be applied to bolts or screws		N/A
	i) Maximum mounting height		N/A

<b>3.6 (4)</b>	<b>CONSTRUCTION</b>		P
3.6 (4.2)	Components replaceable without difficulty		N/A
3.6 (4.3)	Wireways smooth and free from sharp edges		P
3.6 (4.4)	Lampholders		N/A
3.6 (4.4.1)	Integral lampholder		N/A
3.6 (4.4.2)	Wiring connection		N/A
3.6 (4.4.3)	Lampholder for end-to-end mounting		N/A
3.6 (4.4.4)	Positioning		N/A
	- pressure test (N)		N/A
	After test the lampholder comply with relevant standard sheets and show no damage		N/A
	After test on single-capped lampholder the lampholder have not moved from its position and show no permanent deformation		N/A
	- bending test (N)		N/A
	After test the lampholder have not moved from its position and show no permanent deformation		N/A
3.6 (4.4.5)	Peak pulse voltage		N/A
3.6 (4.4.6)	Centre contact		N/A
3.6 (4.4.7)	Parts in rough service luminaires resistant to tracking		N/A
3.6 (4.4.8)	Lamp connectors		N/A
3.6 (4.4.9)	Caps and bases correctly used		N/A
3.6 (4.4.10)	Light source for lampholder or connection according IEC 60061 not connected another way		N/A
3.6 (4.5)	Starter holders		N/A
	Starter holder in luminaires other than class II		N/A
	Starter holder class II construction		N/A
3.6 (4.6)	Terminal blocks		P

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Tel:+90 216 225 03 41 e-mail:info@ptctesting.com web: www.ptctesting.com

**TS EN 60598-1 & TS EN 60598-2-3**

Madde Clause	İstenen Deneyler Test Requirements	Açıklamalar Remarks	Sonuç Verdict
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	Tails		N/A
	Unsecured blocks		P
3.6 (4.7)	Terminals and supply connections		P
3.6 (4.7.1)	Contact to metal parts		P
3.6 (4.7.2)	Test 8 mm live conductor		P
	Test 8 mm earth conductor		P
3.6 (4.7.3)	Terminals for supply conductors		P
3.6 (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 15.8.2		N/A
	- electrical test according to 15.9		N/A
	- heat test according to 15.9.2.3 and 15.9.2.4		N/A
3.6 (4.7.4)	Terminals other than supply connection		N/A
3.6 (4.7.5)	Heat-resistant wiring/sleeves		P
3.6 (4.7.6)	Multi-pole plug		N/A
	- test at 30 N		N/A
3.6 (4.8)	Switches		N/A
	- adequate rating		N/A
	- adequate fixing		N/A
	- polarized supply		N/A
	- compliance with IEC 61058-1 for electronic switches		N/A
3.6 (4.9)	Insulating lining and sleeves		P
3.6 (4.9.1)	Retainment		P
	Method of fixing		N/A
3.6 (4.9.2)	Insulated linings and sleeves:		P
	Resistant to a temperature > 20 °C to the wire temperature or		P

**DENEY RAPORU / TEST REPORT**

PTC Ürün Test ve Belgelendirme San. Tic. Ltd. Şti.  
Aydınlı Mah. Patlayıcı Maddeler Yolu Cad. Beyoğlu Sanayi Sitesi. D1 Blok No:26 Tuzla/İstanbul-Turkey  
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**TS EN 60598-1 & TS EN 60598-2-3**

Madde Clause	İstenen Deneyle Test Requirements	Açıklamalar Remarks	Sonuç Verdict
	a) & c) Insulation resistance and electric strength		P
	b) Ageing test. Temperature (°C)		N/A
3.6 (4.10)	Double or reinforced insulation		N/A
3.6 (4.10.1)	No contact, mounting surface – accessible metal parts – wiring of basic insulation		N/A
	Safe installation fixed luminaires		N/A
	Capacitors and switches		N/A
	Interference suppression capacitors according to IEC 60384-14		N/A
3.6 (4.10.2)	Assembly gaps:		N/A
	- not coincidental		N/A
	- no straight access with test probe		N/A
3.6 (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 lampholder		N/A
3.6 (4.11)	Electrical connections and current-carrying parts		P
3.6 (4.11.1)	Contact pressure		N/A
3.6 (4.11.2)	Screws:		N/A
	- self-tapping screws		N/A
	- thread-cutting screws		N/A
3.6 (4.11.3)	Screw locking:		N/A
	- spring washer		N/A
	- rivets		N/A
3.6 (4.11.4)	Material of current-carrying parts		P
3.6 (4.11.5)	No contact to wood or mounting surface		P
3.6 (4.11.6)	Electro-mechanical contact systems		N/A
3.6 (4.12)	Screws and connections (mechanical) and glands		P
3.6 (4.12.1)	Screws not made of soft metal		P
	Screws of insulating material		N/A

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	Torque test: torque (Nm); part		N/A
	Torque test: torque (Nm); part		P
	Torque test: torque (Nm); part		N/A
3.6 (4.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
3.6 (4.12.4)	Locked connections:		P
	- fixed arms; torque (Nm)		P
	- lampholder; torque (Nm)		N/A
	- push-button switches; torque 0,8 Nm		N/A
3.6 (4.12.5)	Screwed glands; force (Nm) .....		N/A
3.6 (4.13)	Mechanical strength		P
3.6 (4.13.1)	Impact tests:		P
	- fragile parts; energy (Nm)	0,5 Nm	P
	- other parts; energy (Nm)	0,7 Nm	P
	a) live parts		P
	b) linings		N/A
	c) protection		P
	d) covers		N/A
3.6 (4.13.3)	Straight test finger		P
3.6 (4.13.4)	Rough service luminaires		N/A
	- IP54 or higher		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
3.6 (4.13.6)	Tumbling barrel		N/A
3.6 (4.14)	Suspensions, fixings and means of adjusting		N/A
3.6 (4.14.1)	Mechanical load:		P
	A) four times the weight		P
	B) torque 2,5 Nm		N/A
	C) bracket arm; bending moment (Nm)		N/A

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Madde Clause	İstenen Deneyler Test Requirements	Açıklamalar Remarks	Sonuç Verdict
	D) load track-mounted luminaires		N/A
	E) clip-mounted luminaires, glass-shelve. Thickness (mm)		N/A
	Metal rod. diameter (mm)		N/A
	Fixed luminaire or independent control gear without fixing devices		N/A
3.6 (4.14.2)	Load to flexible cables		N/A
	Mass (kg)		N/A
	Stress in conductors (N/mm <sup>2</sup> )		N/A
	Mass (kg) of semi-luminaire		N/A
	Bending moment (Nm) of semi-luminaire		N/A
3.6 (4.14.3)	Adjusting devices:		N/A
	- flexing test; number of cycles		N/A
	- strands broken		N/A
	- electric strength test afterwards		N/A
3.6 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		N/A
3.6 (4.14.5)	Guide pulleys		N/A
3.6 (4.14.6)	Strain on socket-outlets		N/A
3.6 (4.15)	Flammable materials		N/A
	- glow-wire test 650°C..... :	See Test Table 3.15 (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
3.6 (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

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**TS EN 60598-1 & TS EN 60598-2-3**

Madde Clause	İstenen Deneyle Test Requirements	Açıklamalar Remarks	Sonuç Verdict
3.6 (4.16)	Luminaires for mounting on normally flammable surfaces		N/A
	No lamp control gear	(compliance with Section 12)	N/A
3.6 (4.16.1)	Lamp control gear spacing:		N/A
	- spacing 35 mm		N/A
	- spacing 10 mm		N/A
3.6 (4.16.2)	Thermal protection:		N/A
	- in lamp control gear		N/A
	- external		N/A
	- fixed position		N/A
	- temperature marked lamp control gear		N/A
3.6 (4.16.3)	Design to satisfy the test of 12.6	(see clause 12.6)	N/A
3.6 (4.17)	Drain holes		N/A
	Clearance at least 5 mm		N/A
3.6 (4.18)	Resistance to corrosion		P
3.6 (4.18.1)	- rust-resistance		P
3.6 (4.18.2)	- season cracking in copper		N/A
3.6 (4.18.3)	- corrosion of aluminium		N/A
3.6 (4.19)	Igniters compatible with ballast		N/A
3.6 (4.20)	Rough service vibration		O/S
3.6 (4.21)	Protective shield		N/A
3.6 (4.21.1)	Shield fitted if tungsten halogen lamps or metal halide lamps		N/A
	Shield of glass if tungsten halogen lamps		N/A
3.6 (4.21.2)	Particles from a shattering lamp not impair safety		N/A
3.6 (4.21.3)	No direct path		N/A
3.6 (4.21.4)	Impact test on shield		N/A
	Glow-wire test on lamp compartment	See Test Table 3.15 (13.3.2)	N/A
3.6 (4.22)	Attachments to lamps not cause overheating or damage		N/A
3.6 (4.23)	Semi-luminaires comply Class II		N/A
3.6 (4.24)	Photobiological hazards		O/S

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Madde Clause	İstenen Deneyle Test Requirements	Açıklamalar Remarks	Sonuç Verdict
3.6 (4.24.1)	No excessive UV radiation if tungsten halogen lamps and metal halide lamps (Annex P)		O/S
3.6 (4.24.2)	Retinal blue light hazard		O/S
	Luminaires with Ethr :		O/S
	a) Fixed luminaires		O/S
	- distance x m, borderline between RG1 and RG2 .. :		O/S
	- marking and instruction according 3.2.23		O/S
	b) Portable and handheld luminaires		O/S
	- marking according 3.2.23 if RG1 exceeded at 200 mm according to IEC/TR 62778		O/S
	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		O/S
3.6 (4.25)	Mechanical hazard		P
	No sharp point or edges		P
3.6 (4.26)	Short-circuit protection		N/A
3.6 (4.26.1)	Adequate means of uninsulated accessible SELV parts		N/A
3.6 (4.26.2)	Short-circuit test with test chain according 4.26.3		N/A
	Test chain not melt through		N/A
	Test sample not exceed values of Table 12.1 and 12.2		N/A
3.6 (4.27)	Terminal blocks with integrated screwless earthing contacts		N/A
	Test according Annex V		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
3.6 (4.28)	Fixing of thermal sensing control		N/A
	Not plug-in or easily replaceable type		N/A
	Reliably kept in position		N/A

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TS EN 60598-1 & TS EN 60598-2-3

Madde Clause	İstenen Deneyle Test Requirements	Açıklamalar Remarks	Sonuç Verdict
	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 (°C)		N/A
	100 cycles between t min and t max		N/A
	Temperature sensing control still in position		N/A
3.6 (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
3.6 (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
	Minimum two fixing means		N/A
3.6 (4.31)	Insulation between circuits		P
	Circuits insulated from LV supply fulfil requirements according 4.31.1 – 4.31.3		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
3.6 (4.31.1)	SELV circuits		P
	Used SELV source		P
	Voltage ≤ ELV		P
	Insulating of SELV circuits from LV supply		P
	Insulating of SELV circuits from other non SELV circuits		P
	Insulating of SELV circuits from FELV		N/A
	Insulating of SELV circuits from other SELV circuits		N/A
	SELV circuits insulated from accessible parts according Table X.1		N/A
	Plugs not able to enter socket-outlets of other voltage systems		N/A

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## TS EN 60598-1 &amp; TS EN 60598-2-3

Madde Clause	İstenen Deneyle Test Requirements	Açıklamalar Remarks	Sonuç Verdict
	Socket outlets does not admit plugs of other voltage systems		N/A
	Plugs and socket-outlets does not have protective conductor contact		N/A
3.6 (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 enter 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
3.6 (4.31.3)	Other circuits		N/A
	Other circuits insulated from accessible parts according Table X.1		N/A
	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 of above		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
3.6 (4.32)	Overtoltage protective devices		N/A
	Comply with IEC 61643-11		N/A
	External to control gear and connected to earth:		N/A
	- only in fixed luminaires		N/A
	- only connected to protective earth		N/A

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**TS EN 60598-1 & TS EN 60598-2-3**

Madde Clause	İstenen Deneyle Test Requirements	Açıklamalar Remarks	Sonuç Verdict
3.6.1 (-)	At least IP X3 or X5 respectively		P
	Column-integrated luminaires:		N/A
	- parts below 2,5 m		N/A
	- parts above 2,5 m		N/A
3.6.2 (-)	Suspension on span wires		N/A
3.6.3 (-)	Means for attaching the luminaire or external parts to its support appropriate to the weight		N/A
3.6.3.1 (-)	Static load test		P
	- drag coefficient		N/A
	- loaded area (m <sup>2</sup> ) .....		N/A
	- used load (N) .....		N/A
	- measured deformation (cm/m) .....		N/A
	- no rotation		N/A
3.6.4 (-)	Adjustable lampholders		N/A
3.6.5 (-)	Luminaires installed above 5 m, glass covers shall be:		P
	a) glass that fractures into small pieces (test according to 3,6,5,1), or		P
	b) glass having a high impact shock resistance (test according to 3,6,5,2), or		N/A
	c) protected by any means to retain glass fragments		N/A
	For tunnel luminaires 3,6,5,1 apply		N/A
	Method of protection declared by the manufacturer		N/A
3.6.5.1 (-)	Glass covers fractures into small pieces		P
	- number of particles is more than 40 .....		P
3.6.5.2 (-)	Glass covers protected by the use of high impact resistant glass		N/A
3.6.5.2.1 (-)	Glass covers have high mechanical strength		N/A
	Test according IEC 62262 with test apparatus according IEC 60068-2-75 with impact energy of 5J		N/A
3.6.5.2.2 (-)	Glass covers not brake into large pieces		N/A
	- test according 3,6,5,1, number of particles is more than 20.....		N/A
3.6.6 (-)	Connection compartment of column-integrated luminaire		N/A
	- provides adequate space		N/A

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	- means for attachment		N/A
3.6.7 (-)	Compliance with .....		N/A
3.6.8 (-)	Doors of column-integrated luminaires:		N/A
	- corrosion resistance		N/A
	- opening only possible for an authorized person		N/A
	- impact test		N/A
3.6.9 (-)	Column-integrated luminaire:		N/A
	- dimension of the entry slot (mm) .....		N/A
	- cable path from the slot to the connection compartment (mm) .....		N/A
	- cable path free from obstruction that might cause abrasion of the cable		N/A

<b>3.7 (11)</b>	<b>CREEPAGE DISTANCES AND CLEARANCES</b>		P
3.7 (11.2)	Creepage distances and clearances	See Table 3.7 (11.2)	P
	Working voltage (V)		P
	Rated pulse voltage (kV)		N/A
	Voltage form	Sinusoidal <input checked="" type="checkbox"/> Non-sinusoidal <input type="checkbox"/>	P
	PTI	< 600 <input checked="" type="checkbox"/> > 600 <input type="checkbox"/>	P
	Impulse withstand category (Normal category II) (Category III Annex U)	Category II <input type="checkbox"/> Category III <input type="checkbox"/>	N/A

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3.8 (7)	PROVISION FOR EARTHING		P
3.8 (7.2.1 + 7.2.3)	Accessible metal parts		P
	Metal parts in contact with supporting surface		P
	Resistance < 0,5 Ω		P
	Self-tapping screws used		N/A
	Thread-forming screws		N/A
	Thread-forming screw used in a groove		N/A
	Earth makes contact first		P
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
	Protective earthing of the luminaire not via built-in control gear		N/A
3.8 (7.2.2 + 7.2.3)	Earth continuity in joints, etc.		P
3.8 (7.2.4)	Locking of clamping means		P
	Compliance with 4.7.3		N/A
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
3.8 (7.2.5)	Earth terminal integral part of connector socket		N/A
3.8 (7.2.6)	Earth terminal adjacent to mains terminals		P
3.8 (7.2.7)	Electrolytic corrosion of the earth terminal		N/A
3.8 (7.2.8)	Material of earth terminal		P
	Contact surface bare metal		P
3.8 (7.2.10)	Class II luminaire for looping-in		N/A
	Double or reinforced insulation to functional earth		N/A
3.8 (7.2.11)	Earthing core coloured green-yellow		P
	Length of earth conductor		P
3.8.1(-)	Attachment prevented from rotation		N/A

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<b>3.9 (14)</b>	<b>SCREW TERMINALS</b>		P
	Separately approved; component list	(see Annex 1)	N/A
	Part of the luminaire	(see Annex 3)	P

<b>3.9(15)</b>	<b>SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS</b>		N/A
	Separately approved; component list	(see Annex 1)	N/A
	Part of the luminaire	(see Annex 4)	N/A

<b>3.10 (5)</b>	<b>EXTERNAL AND INTERNAL WIRING</b>		P
3.10 (5.2)	Supply connection and external wiring		P
3.10 (5.2.1)	Means of connection..... :		P
	Outdoor luminaire has not PVC insulated external wiring if not class III or SELV $\leq 25$ V a.c./60 V d.c. or protected from outdoor environment		P
3.10 (5.2.2)	Type of cable .....		P
	Nominal cross-sectional area (mm <sup>2</sup> ) .....		P
	Cables equal to IEC 60227 or IEC 60245		N/A
3.10 (5.2.3)	Type of attachment, X, Y or Z		P
3.10 (5.2.5)	Type Z not connected to screws		N/A
3.10 (5.2.6)	Cable entries:		P
	- suitable for introduction		N/A
	- adequate degree of protection		N/A
3.10 (5.2.7)	Cable entries through rigid material have rounded edges		N/A
3.10 (5.2.8)	Insulating bushings:		N/A
	- suitably fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- tubes or guards made of insulating material		N/A
3.10 (5.2.9)	Locking of screwed bushings		N/A
3.10 (5.2.10)	Cord anchorage:		P

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	- covering protected from abrasion		P
	- clear how to be effective		P
	- no mechanical or thermal stress		P
	- no tying of cables into knots etc.		N/A
	- insulating material or lining		N/A
3.10 (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
3.10 (5.2.10.2)	Adequate cord anchorage for type Y and type Z attachment		N/A
3.10 (5.2.10.3)	Tests:		P
	- impossible to push cable; unsafe		P
	- pull test: 25 times; pull (N) .....		P
	- torque test: torque (Nm).....		P
	- displacement $\leq$ 2 mm		P
	- no movement of conductors		P
	- no damage of cable or cord		P
	- function independent of electrical connection		N/A
3.10 (5.2.11)	External wiring passing into luminaire		P
3.10 (5.2.12)	Looping-in terminals		N/A
3.10 (5.2.13)	Wire ends not tinned		P

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Madde Clause	İstenen Deneyle Test Requirements	Açıklamalar Remarks	Sonuç Verdict
	Wire ends tinned: no cold flow		N/A
3.10 (5.2.14)	Mains plug same protection		N/A
	Class III luminaire plug		N/A
	No unsafe compatibility		N/A
3.10 (5.2.16)	Appliance inlets (IEC 60320)		N/A
	Installation couplers (IEC 61535)		N/A
	Other appliance inlet or connector according relevant IEC standard		N/A
3.10 (5.2.17)	No standardized interconnecting cables properly assembled		N/A
3.10 (5.2.18)	Used plug in accordance with		N/A
	- IEC 60083		N/A
	- other standard		N/A
3.10 (5.3)	Internal wiring		P
3.10 (5.3.1)	Internal wiring of suitable size and type		P
	Through wiring		P
	- not delivered / mounting instruction		N/A
	- factory assembled		P
	- socket outlet loaded (A) .....		N/A
	- temperatures.....	(see Annex 2)	N/A
	Green-yellow for earth only		P
3.10 (5.3.1.1)	Internal wiring connected directly to fixed wiring		P
	Cross-sectional area (mm <sup>2</sup> )		P
	Insulation thickness		N/A
	Extra insulation added where necessary		N/A
3.10 (5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limiting device		P
	Adequate cross-sectional area and insulation thickness		P

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## TS EN 60598-1 &amp; TS EN 60598-2-3

Madde Clause	İstenen Deneyle Test Requirements	Açıklamalar Remarks	Sonuç Verdict
3.10 (5.3.1.3)	Double or reinforced insulation for class II		N/A
3.10 (5.3.1.4)	Conductors without insulation		N/A
3.10 (5.3.1.5)	SELV current-carrying parts		P
3.10 (5.3.1.6)	Insulation thickness other than PVC or rubber		N/A
3.10 (5.3.2)	Sharp edges etc.		P
	No moving parts of switches etc.		N/A
	Joints, raising/lowering devices		N/A
	Telescopic tubes etc.		N/A
	No twisting over 360°		N/A
3.10 (5.3.3)	Insulating bushings:		N/A
	- suitable fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- cables with protective sheath		N/A
3.10 (5.3.4)	Joints and junctions effectively insulated		P
3.10 (5.3.5)	Strain on internal wiring		N/A
3.10 (5.3.6)	Wire carriers		P
3.10 (5.3.7)	Wire ends not tinned		P
	Wire ends tinned: no cold flow		N/A
3.10.1 (-)	Cord anchorage if applicable		N/A
	- pull test: 25 times; pull (N) ..... :		N/A
	- torque test: torque (Nm) ..... :		N/A

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Madde Clause	İstenen Deneyle Test Requirements	Açıklamalar Remarks	Sonuç Verdict
<b>3.11 (8)</b>	<b>PROTECTION AGAINST ELECTRIC SHOCK</b>		P
3.11 (8.2.1)	Live parts not accessible		P
	Basic insulated parts not used on the outer surface without appropriate protection		P
	Basic insulated parts not accessible with standard test finger on portable, settable and adjustable luminaires		N/A
	Basic insulated parts not accessible with Ø 50 mm probe from outside, other types of luminaires		P
	Lamp and starterholders 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		N/A
	Insulation lacquer not reliable		N/A
	Double-ended high pressure discharge lamp		N/A
	Relevant warning according to 3.2.18 fitted to the luminaire		N/A
3.11 (8.2.2)	Portable luminaire adjusted in most unfavorable position		N/A
3.11 (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
3.11 (8.2.3.b)	BC lampholder of metal in class I luminaires shall be earthed		N/A
3.11 (8.2.3.c)	SELV circuits with exposed current carrying parts:		N/A
	Ordinary luminaire:		N/A
	- touch current .....		N/A

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Madde Clause	İstenen Deneyle Test Requirements	Açıklamalar Remarks	Sonuç Verdict
	- no-load voltage .....		N/A
	Other than ordinary luminaire:		N/A
	- nominal voltage .....		N/A
3.11 (8.2.4)	Portable luminaire have protection independent of supporting surface		N/A
3.11 (8.2.5)	Compliance with the standard test finger or relevant probe		P
3.11 (8.2.6)	Covers reliably secured		N/A
3.11 (8.2.7)	Discharging of capacitors $\geq 0,5 \mu\text{F}$		N/A
	Portable plug connected luminaire with capacitor		N/A
	Other plug connected luminaire with capacitor		N/A
	Discharge device on or within capacitor		N/A
	Discharge device mounted separately		N/A

<b>3.12 (12)</b>	<b>ENDURANCE TEST AND THERMAL TEST</b>		<b>P</b>
3.12 (12.3)	Endurance test:		P
	- mounting-position .....		P
	- test temperature ( $^{\circ}\text{C}$ ) .....	35 $^{\circ}\text{C}$	P
	- total duration (h).....	240h	P
	- supply voltage: Un factor; calculated voltage(V)	264 V	P
	- lamp used .....		N/A
3.12 (12.3.2)	After endurance test:		P
	- no part unserviceable		P
	- luminaire not unsafe		P
	- no damage to track system		N/A
	- marking legible		P
	- no cracks, deformation etc.		P
3.12 (12.4)	Thermal test (normal operation)	(see Annex 2)	P
3.12 (12.5)	Thermal test (abnormal operation)	(see Annex 2)	N/A
3.12 (12.6)	Thermal test (failed lamp control gear condition):		N/A

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Madde Clause	İstenen Deneyle Test Requirements	Açıklamalar Remarks	Sonuç Verdict
3.12 (12.6.1)	Through wiring or looping-in wiring loaded by a current of (A) .....		N/A
	- case of abnormal conditions .....		N/A
	- electronic lamp control gear		N/A
	- measured winding temperature (°C): at 1,1 Un		N/A
	- measured mounting surface temperature (°C) at 1,1 Un		N/A
	- calculated mounting surface temperature (°C)		N/A
	- track-mounted luminaires		N/A
3.12 (12.6.2)	Temperature sensing control		N/A
	- case of abnormal conditions .....		N/A
	- 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
3.12 (12.7)	Thermal test (failed lamp control gear in plastic luminaires):		N/A
3.12 (12.7.1)	Luminaire without temperature sensing control		N/A
3.12 (12.7.1.1)	Luminaire with fluorescent lamp ≤ 70W		N/A
	Test method 12.7.1.1 or Annex W .....		N/A
	Test according to 12.7.1.1:		N/A
	- case of abnormal conditions .....		N/A
	- Ballast failure at supply voltage (V) .....		N/A
	- 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 .....		N/A
	- measured winding temperature (°C): at 1,1 Un:		N/A

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Madde Clause	İstenen Deneyler Test Requirements	Açıklamalar Remarks	Sonuç Verdict
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un .....		N/A
	- calculated temperature of fixing point/exposed part (°C).....		N/A
	Ball-pressure test .....	See Table 3.15 (13.2.1)	N/A
3.12 (12.7.1.2)	Luminaire with discharge lamp, fluorescent lamp > 70W, transformer > 10 VA		N/A
	- case of abnormal conditions .....		N/A
	- measured winding temperature (°C): at 1,1 Un		N/A
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un .....		N/A
	- calculated temperature of fixing point/exposed part (°C).....		N/A
	Ball-pressure test:	See Table 3.15 (13.2.1)	N/A
3.12 (12.7.1.3)	Luminaire with short circuit proof transformers ≤ 10 VA		N/A
	- case of abnormal conditions .....		N/A
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
3.12 (12.7.2)	Luminaire with temperature sensing control		
	- thermal link.....	Yes <input type="checkbox"/> No <input type="checkbox"/>	N/A
	- manual reset cut-out .....	Yes <input type="checkbox"/> No <input type="checkbox"/>	N/A
	- auto reset cut-out.....	Yes <input type="checkbox"/> No <input type="checkbox"/>	N/A
	- case of abnormal conditions .....		N/A
	- highest measured temperature of fixing point/exposed part (°C).....		N/A
	Ball-pressure test::	See Table 3.15 (13.2.1)	N/A
3.12.1 (-)	Temperature reduction if for outdoor use only		N/A
3.12.2 (-)	If IP > IP 20 relevant test of (12,4), (12,5) and (12,6) after (9,2) before (9,3) specified in 3,13		P
3.12.3 (-)	Glass covers used within the thermal limits declared by the glass manufacturer		N/A

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Madde Clause	İstenen Deneyler Test Requirements	Açıklamalar Remarks	Sonuç Verdict
<b>3.13 (9)</b>	<b>RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE</b>		<b>P</b>
3.13 (9.2)	Tests for ingress of dust, solid objects and moisture:		<b>P</b>
	- classification according to IP .....	IP66	<b>P</b>
	- mounting position during test.....		<b>P</b>
	- fixing screws tightened; torque (Nm) .....		<b>P</b>
	- tests according to clauses .....		<b>P</b>
	- electric strength test afterwards		<b>P</b>
	a) no deposit in dust-proof luminaire		<b>N/A</b>
	b) no falcum in dust-tight luminaire		<b>P</b>
	c) no trace of water on current-carrying parts or on insulation where it could become a hazard		<b>P</b>
	d) i) For luminaires without drain holes – no water entry		<b>P</b>
	d) ii) For luminaires with drain holes – no hazardous water entry		<b>N/A</b>
	e) no water in watertight luminaire		<b>P</b>
	f) no contact with live parts (IP 2X)		<b>N/A</b>
	f) no entry into enclosure (IP 3X and IP 4X)		<b>N/A</b>
	f) no contact with live parts (IP3X and IP4X)		<b>N/A</b>
	g) no trace of water on part of lamp requiring protection from splashing water		<b>N/A</b>
	h) no damage of protective shield or glass envelope		<b>N/A</b>
3.13 (9.3)	Humidity test 48 h		<b>P</b>
3.13.1 (-)	If IP > IP 20 the order of the test specified in clause 3.12		<b>P</b>

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Madde Clause	İstenen Deneyle Test Requirements	Açıklamalar Remarks	Sonuç Verdict
<b>3.14 (10)</b>	<b>INSULATION RESISTANCE AND ELECTRIC STRENGTH</b>		<b>P</b>
3.14 (10.2.1)	Insulation resistance test		P
	Cable or cord covered by metal foil or replaced by a metal rod of mm Ø .....		P
	Insulation resistance (MΩ) .....		P
	SELV		P
	- between current-carrying parts of different polarity :		P
	- between current-carrying parts and mounting surface .....		P
	- between current-carrying parts and metal parts of the luminaire..... :		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		P
	- between live parts of different polarity .....		P
	- between live parts and mounting surface .....		P
	- between live parts and metal parts..... :		P
	- between live parts of different polarity through action of a 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
3.14 (10.2.2)	Electric strength test		P
	Dummy lamp		N/A
	Luminaires with ignitors after 24 h test		N/A
	Luminaires with manual ignitors		N/A
	Test voltage (V)..... :	1480V	P
	SELV		P
	- between current-carrying parts of different polarity :		N/A

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Madde Clause	İstenen Deneyle Test Requirements	Açıklamalar Remarks	Sonuç Verdict
	- between current-carrying parts and mounting surface .....		P
	- between current-carrying parts and metal parts of the luminaire		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		P
	- between live parts of different polarity		N/A
	- between live parts and mounting surface		P
	- between live parts and metal parts		P
	- between live parts of different polarity through action of a 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
3.14 (10.3)	Touch current or protective conductor current (mA) :	0,01 mA	P

<b>3.15 (13)</b>	<b>RESISTANCE TO HEAT, FIRE AND TRACKING</b>		P
3.15 (13.2.1)	Ball-pressure test	See Test Table 3.15 (13.2.1)	P
3.15 (13.3.1)	Needle-flame test (10 s)..... :	See Test Table 3.15 (13.3.1)	P
3.15 (13.3.2)	Glow-wire test (650°C)..... :	See Test Table 3.15 (13.3.2)	N/A
3.15 (13.4)	Proof tracking test (IEC 60112) .....	See Test Table 3.15 (13.4)	N/A

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Madde Clause	İstenen Deneyler Test Requirements	Açıklamalar Remarks	Sonuç Verdict
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3.7 (11.2)	TABLES: / Creepage distances and clearances						P
<b>Table 11.1</b>	<b>a.a (50/60 Hz) Minimum distances (mm) for a.c. (50/60 Hz) sinusoidal voltages</b>						
RMS working voltage (V) not exceeding	50	150	250	500	750	1000	
<i>Creepage distances</i>							
Required basic insulation, PTI ≥ 600	0,6	0,8	1,5	3	4	5,5	
Measured							
Required basic insulation, PTI < 600	1,2	1,6	2,5	5	8	10	
Measured			13,5				
Required 32supplementary insulation, PTI ≥ 600	-	0,8	1,5	3	4	5,5	
Measured							
Required 32supplementary insulation, PTI < 600	-	1,6	2,5	5	8	10	
Measured							
Required reinforced insulation	-	3,2	5	6	8	11	
Measured							
<i>Clearances</i>							
Required basic insulation	0,2	0,8	1,5	3	4	5,5	
Measured			7				
Required supplementary insulation,	-	0,8	1,5	3	4	5,5	
Measured							
Required reinforced insulation	-	1,6	3	6	8	11	
Measured							
<b>Table 11.2</b>	<i>Minimum distances (mm) for non-sinusoidal pulse voltages</i>						
Rated pulse voltage (peak kV)	2,0	2,5	3,0	4,0	5,0	6,0	8,0
Required clearances	1,0	1,5	2	3	4	5,5	8
Measured							
Rated pulse voltage (peak kV)	10	12	15	20	25	30	40
Required clearances	11	14	18	25	33	40	60

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Madde Clause	İstenen Deneyle Test Requirements	Açıklamalar Remarks	Sonuç Verdict
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Measured							
Rated pulse voltage (peak kV)	50	60	80	100	-	-	-
Required clearances	75	90	130	170	-	-	-
Measured							

3.15 (13.2.1)	TABLE: Ball Pressure Test of Thermoplastics			P
Allowed impression diameter (mm) .....	2			
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm) <2mm	
Plastic Part	-	125°	1,3	
Supplementary information: -				

3.15 (13.3.1)	TABLE: Needle-flame test (IEC 60695-11-5)				P
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
Plastic Part	-	10	No	17	P
Supplementary information: NFT not relevant (or applicable) for Parts of material classified as V-0 or V-1 NFT not relevant (or applicable) for Base material of PCBs classified as V-0 or if relevant VTM-0					

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Madde Clause	İstenen Deneyle Test Requirements	Açıklamalar Remarks	Sonuç Verdict
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3.15 (13.3.2)	<b>TABLE: Glow-wire test (IEC 60695-2-11)</b>				N/A
<b>Glow wire temperature .....</b>					
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
Any flame or glowing of the sample extinguished within 30 s of withdrawing the glow-wire, and any burning or molten drop did not ignite the underlying parts (Yes/No).....:					No
Supplementary information: -					

3.15 (13.4)	<b>TABLE: Proof tracking test (IEC 60112)</b>				N/A
<b>Test voltage PTI .....</b>					
Object/ Part No. / Material	Manufacturer/ trademark	Withstand 50 drops without failure on three places or on three specimens			Verdict
Supplementary information:					

<b>ANNEX 1</b>	<b>TABLE: Critical components information</b>				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conform ity <sup>1)</sup>
Cable	Erkan Kablo	H05VV-F	3x0,75mm	TS EN 50525-2-11	CE
Driver	Inventronics	EDC-0755105SV	In:220-240V AC Out:36-107V DC	TS EN 61347-2-13	CE
Supplementary information:					

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Madde Clause	İstenen Deneyler Test Requirements	Açıklamalar Remarks	Sonuç Verdict
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ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12					P	
	Type reference .....					-	
	Lamp used .....					-	
	Lamp control gear used .....					-	
	Mounting position of luminaire .....					-	
	Supply wattage (W).....					-	
	Supply current (A) .....					-	
	Calculated power factor:					-	
	Table: measured temperatures corrected for ta = 23,6 °C:						
	- abnormal operating mode.....					-	
	- test 1: rated voltage .....					-	
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....					-	
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage					-	
	- test 4: 1,1 times rated voltage or 1,05 times rated wattage					-	
	Through wiring or looping-in wiring loaded by a current of A during the test:					-	
<b>Temperature measurements, (°C)</b>							
Part	Clause 12.4 – normal					Clause 12.5 – abnormal	
	ambient	test 1	test 2	test 3	limit	test 4	limit
Driver	23,6 °C		42,2 °C		90 °C		
Cable	23,6 °C		24,6 °C		90 °C		
Terminal	23,6 °C		31,2 °C		-		
Metal Surface	23,6 °C		36,1 °C		-		
Glass Surface	23,6 °C		40,9 °C		-		
Led	23,6 °C		103,7 °C		-		
Supplementary information:							

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

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Madde Clause	İstenen Deneyler Test Requirements	Açıklamalar Remarks	Sonuç Verdict
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<b>ANNEX 4</b>	<b>Screwless terminals (part of the luminaire)</b>		N/A
<b>(15)</b>	<b>SCREWLESS TERMINALS</b>		N/A
(15.2)	Type of terminal .....		N/A
	Rated current (A) .....		N/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
(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
(15.5.1)	Terminals internal wiring		N/A
(15.5.1.1)	Pull test spring-type terminals (4 N, 4 samples):		N/A
(15.5.1.2)	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:		N/A
	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

**DENEY RAPORU / TEST REPORT**

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TS EN 60598-1 & TS EN 60598-2-3

Madde Clause	İstenen Deneyler Test Requirements	Açıklamalar Remarks	Sonuç Verdict
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(15.6)	Terminals external wiring		N/A
	Terminal size and rating		N/A
(15.6.2.1)	Pull test spring-type terminals or welded connections (4 samples); pull (N) .....		N/A
	Pull test pin or tab terminals (4 samples); pull (N) .....		N/A

(15.6.3.1)	TABLE: Contact resistance test										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										

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## EK DOSYA 1 / ATTACHMENT 1

## Ölçüm Cihazları / Measuring Equipments

Cihaz Adı Device name	Model Tipi Model Type	Üretici Manufacturer	Son Kalb. Tarihi Last Cal. Date	Gelecek Kalb. Tarihi Future Cal. Date	Test Maddesi Test Item
AC Güç Kaynağı / AC Power Supply	-	Baysallar	23.12.2020	23.12.2021	3.12(12.3.1) and 3.12(12.4)
Multitester	M12094	Metrel	09.07.2020	09.07.2021	3.14(10.2.1),3.14(10.2.2) ve 3.14(10.3)
IP Toz Kabini/IP Dust Cabinet	-	-	-	-	3.13(9.2.0)
IP-X6 Nozul/IP-X6 Nozzle	MTSN-2	Multitech	08.08.2019	08.08.2022	3.13(9.2.3)
Klimatik Test Kabini / Climatic Test Cabinet	TK 252	Nüve	16.03.2021	16.03.2022	3.13(9.3.1)
Toprak Süreklilik Test Cihazı / Ground Resistance Tester	MT72BX	Multitech	16.03.2021	16.03.2022	3.8(7.2.3)
Yüksek Gerilim Test Cihazı / High Voltage Test Device	MT-78X	Multitech	26.02.2021	26.02.2022	3.14(10.2.1)
Yaylı Darbe Çekicileri / Spring impact Hammers	MT-SH-X	Multitech	17.07.2018	17.07.2021	3.6(4.13.1)
Dijital Kumpas / Digital Caliper	MC090-51	TorQ	17.07.2020	17.07.2021	-
Torkmetre / Torkmeter	TS120HX		16.07.2020	16.07.2021	3.6(4.12.1)
Kuvvet Ölçer/ Force Meter	FK 500	Sauter	08.02.2021	08.02.2022	3.10(5.2.10.3)
Gerilim Atlama Mesafesi Test Kartı / Clearance and Creepage Test Card	FU-CK5	-	25.02.2019	25.02.2022	3.7(11)
IP Elektriksel Temas Devresi / IP Electrical Touch Circuit	-	Teknik Med. ve Mekat. Teknolojileri	16.03.2021	16.03.2022	3.11(8.2.5)
32 Kanallı Tarayıcı Sıcaklık Ölçer/ 32 Channel Scanner Temperature Meter	MT-32U	Multitech	16.03.2021	16.03.2022	3.12(12.4.1)
Rüzgara Dayanıklı Kabin	-	-	-	-	3.12(12.4)
Terazi/Scales	DS-150-D	Densi	06.03.2019	-	
Petrol Eteri/Petroleum Ether	ASO-46-L50	Liva	-	-	3.5(3.4)
Sterilizatör / Sterilizer		Nüve	16.03.2021	16.03.2022	3.15(13.2.1)
Bilye Basıncı Test Aparatı	-	Medikal Mek.	07.03.2019	07.03.2022	3.15(13.2.1)
İğne Alevi Cihazı / Needle Flame Device	-	Multitech	16.03.2021	16.03.2022	3.15(13.3.1)

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EK DOSYA 2 / ATTACHMENT 2

Görsel Dökümanlar / Photo Documentation



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