

"New Generation"

120° Light Spectrum

ECOSlimLED Bulbs for PAR56 Replacement - Single Color

"ECOSlimLED" Underwater Light Bulb - Replacement - Single Color.

Polycarbonate light body complete with 72 SMD LED, epoxy PCB.

2 x 0,75 cable of 1,5 m length 120° IP68. Complete with adapter set. **2-year leakage warranty.** Can be used for the replacement of any existing PAR56 bulb on the market. 50.000 hours of life. **Max. operating temperature 30°.**



Description	Code	Pieces/box	Weight Kg	Volume m ³
• White	051130ER	1		
• Daylight	051131ER	1		
• Turquoise	051132ER	1		
• Blue	051133ER	1		
• Red	051134ER	1		
• Green	051135ER	1		

"ECOSLIMLED" BULBS				
Color	# of LED	AC 12 V Power (W)	Light Intensity (lux = lm/m ²)	Light Angle
White	72	24	1614	120°
Daylight	72	24	1614	120°
Turquoise	72	20	671	120°
Blue	72	20	671	120°
Red	72	20	671	120°
Green	72	20	671	120°

PAR56 LED Bulbs - Single Color - with SMD LED

120° Light Spectrum

Single Color PAR56 with 63 SMD LED - 120°.

Polycarbonate body, AC-DC 11-14 V. 50.000 hours long life.

2-year leakage warranty.



Description	Code	Pieces/box	Weight Kg	Volume m ³
• White	0531101	1		
• Daylight	0531102	1		
• Turquoise	0531103	1		
• Blue	0531104	1		
• Red	0531105	1		
• Green	0531106	1		

63 "SMD" LED BULBS				
Color	# of LED	AC 12 V Power (W)	Light Intensity (lux = lm/m ²)	Light Angle
White	63	20	1511	120°
Daylight	63	20	1511	120°
Turquoise	63	16	550	120°
Blue	63	16	550	120°
Red	63	16	550	120°
Green	63	16	550	120°

Single Color PAR56 with 252, SMD LED - 120°.

Polycarbonate body, AC-DC 11-14 V. 50.000 hours long life.

Description	Code	Pieces/box	Weight Kg	Volume m ³
• White	0531111	1		
• Daylight	0531112	1		
• Turquoise	0531113	1		
• Blue	0531114	1		
• Red	0531115	1		
• Green	0531116	1		

252 "SMD" LED BULBS				
Color	# of LED	AC 12 V Power (W)	Light Intensity (lux = lm/m ²)	Light Angle
White	252	40	3059	120°
Daylight	252	40	3059	120°
Turquoise	252	31	900	120°
Blue	252	31	900	120°
Red	252	31	900	120°
Green	252	31	900	120°

Note: Bulbs with "Flat Transparent Glass" fronts are available, please add F to the end of the above product codes.

We reserve our right to change all or part of the features of the articles or contents of this document, without prior notice.

PAR56 LED BULBS

PAR56 LED AMPULLER



INSTALLATION AND MAINTENANCE MANUAL
KURULUM VE BAKIM TALİMATI

Version: 2.0



ENGLISH



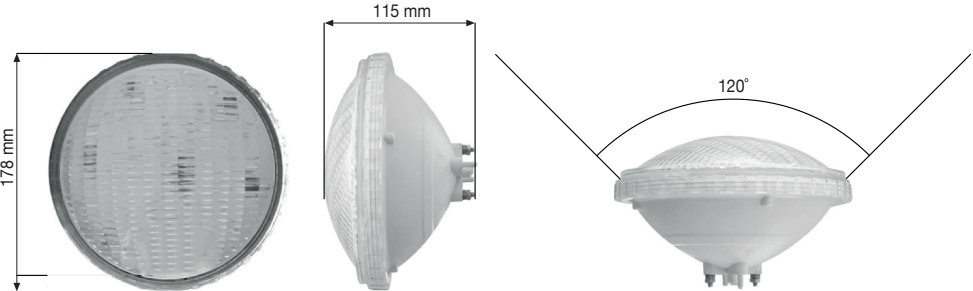
This guide; It contains basic information about the security measures to be applied for installation and use. Therefore, the person and user to install; should read these instructions carefully before installation and operation. Keep this manual for future reference.



The light should never be operated without a transformer.
No voltage above 12 V $\pm$ 2 V should definitely go to the light.

1. GENERAL FEATURES

- It has a special, elegant, stylish and patented design.
- Compatible with all PAR56 lamp sleeves on the market.
- It gives instant beam thanks to the LEDs used in the light.
- Light scattering angle is 120°.
- The light complies with IP68 protection degree at 2 m nominal depth.
- Diffuser glass is made of polycarbonate.
- Body part consists aluminum or white polycarbonate.
- The light operating voltage is very low (12V AC/DC), making it a Class III electrical device.



Description and Safe

SMD 63 White	POWER 18 White	POWER 18 White	OSRAM 9 White
SMD 63 Daylight	POWER 18 Daylight	POWER 18 Daylight	OSRAM 9 Daylight
SMD 63 Turquoise	POWER 18 Turquoise	POWER 18 Turquoise	OSRAM 9 Turquoise
SMD 63 Blue	POWER 18 Blue	POWER 18 Blue	OSRAM 9 Blue
SMD 63 Red	POWER 18 Red	POWER 18 Red	OSRAM 9 Red
SMD 63 Green	POWER 18 Green	POWER 18 Green	OSRAM 9 Green
SMD 54 RGB	POWER 18 RGB	POWER 18 RGB	OSRAM 9 RGB
Built-in Control	Built-in Control	Built-in Control	Built-in Control
SMD 54 RGB	POWER 18 RGB	POWER 18 RGB	OSRAM 9 RGB
Central Control	Central Control	Central Control	Central Control
SMD 252 White	POWER 27 White	POWER 27 White	
SMD 252 Daylight	POWER 27 Daylight	POWER 27 Daylight	
SMD 252 Turquoise	POWER 27 Turquoise	POWER 27 Turquoise	
SMD 252 Blue	POWER 27 Blue	POWER 27 Blue	
SMD 252 Red	POWER 27 Red	POWER 27 Red	
SMD 252 Green	POWER 27 Green	POWER 27 Green	
SMD 252 RGB	POWER 27 RGB	POWER 27 RGB	
Built-in Control	Built-in Control	Built-in Control	
SMD 252 RGB	POWER 27 RGB	POWER 27 RGB	
Central Control	Central Control	Central Control	



Ambient temperature should be maximum 30°C.
Changes in ambient temperature and product temperature alter current and light intensity values.

2. INSTALLATION - USE

2.1. Safety Warnings

- The people who are in charge of assembly should have the required qualifications for this type of work.
- Avoid making contact with the electric voltage.
- Comply with the current standards regarding accident prevention.
In this regard, the IEC 364-7-702 standards must be observed:
WIRING IN BUILDINGS. SPECIAL WIRING. SWIMMING POOLS.
- Any operation related to the maintenance or replacement of parts should be performed with the light's electricity disconnected from the main power.
- Any electrical material should not be touched with wet hands and feet.

2.2. Mounting

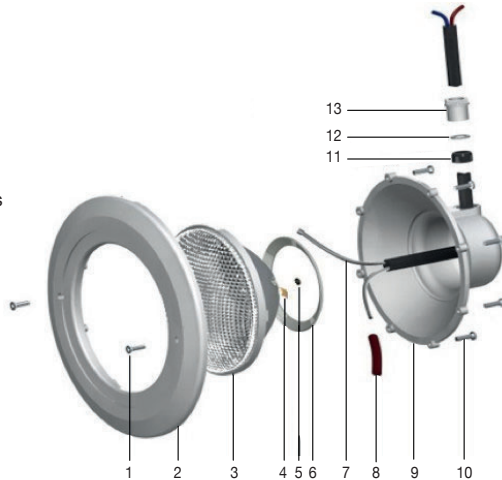


The people who are in charge of assembly should have the required qualifications for this type of work. Before starting the installation, make sure that the disconnect the line from the lamps. RGB lights must be connected to a single source of suitable capacity.



Ambient temperature should be max. 30°C. Changes in ambient temperature and product temperature alter current and light intensity values.

1. Locking Screw
2. Light Face Ring
3. Par56 Lamp
4. Cable Connection Terminals
5. Bulb Screw
6. O-Ring For Bulb Cover
7. Cable
8. Wire Protector
9. Bulb Cover
10. Screws
11. Cable Choke Gasket
12. Plastic Washer
13. Nut For Cable Outlet



- Energy cable; The cable nut is inserted into the lamp cover by passing it through the cable clamping washer and the cable gasket.
- The outer insulation of the cable is opened and silicone cable sleeving is inserted into the cable cores.
- Cable cores are opened in such a way that the ends of the lugs are connected and lugs are attached to the ends of the cores.
- Cable cores are tightly connected to the lamp's cable connection terminals by passing through the silicone lamp cover gasket.
- Connected terminals and cable are insulated with silicone cable sleeving.
- After testing and verifying the correctness of the wiring, the silicone lamp cover gasket and lamp are properly seated.
- The lamp cover is screwed to the lamp outer frame with lamp cover screws.
- The gap of the cable inside the lamp cover is taken. The cable nut is tightened by putting the cable choke gasket and cable clamping washer into place. The tightened nut will press on the cable clamping washer and the cable choke gasket, causing the gasket to strangle the cable.
- The insulated lamp is placed inside the sleeve and the lamp is fixed to the sleeve with locking screws.
- Make sure that the energy cable of the lamp is connected to the appropriate voltage line (12V AC/DC).

2.3. Use and Color Changing

The light is energized (12V AC/DC) after making sure that the assembly and electrical connection processes are done correctly. There is no color changing and color transition feature in single color lights. Color change and transition (within 3 seconds) in RGB lights is provided by that the energy is cut-off and given back. Different colors and animations are performed by repeating this process. Thanks to GEMAŞ 2T RGB Light Control units are designed for this process, it can be done very easily with a remote control.

2.3.1. Lighting Pattern List

RGB Lamp has 13 different light patterns	
● Red ● Green ● Blue ● Red and Green ● Red and Blue ● Blue and Green ● Red Green Blue	
● Light Conversion ● 256 Color Tone Changing ● Flashing ● Seven Intermediate Color Tones	
● Sixteen Color Change ● Single Color Change	

2.3.2. Multiple Light Synchronization

Check the lights after connecting and activating all RGB lights. Make sure all lights work in different colors. Turn off the power and turn it on after 4 - 7 seconds. After this process, all RGB lights will turn to the first light pattern (RED). By using the color changing function (by cutting the energy and re-energizing within 3 seconds), you can use all RGB lights in any color or animation you desire.

3. MAINTENANCE

There is no need for any maintenance for this lamp. If there is a deterioration, it must be replaced. Make sure the lamp is de-energized before any operation. Make sure that the new lamp is the same model and feature as the replaced lamp.

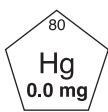
4. GUARANTEE

The manufacturer warrants this light against manufacturing defects and material defects for a period of 2 years from the date of purchase. This warranty does not cover damage caused by misuse, accidental damage, failures arising from the installation of unauthorized persons and does not assume direct liability. Material and workmanship defects do not include the following items:

- In the lamp with less than 252 LEDs, 3 or less LEDs are off.
- In the lamp with more than 252 LEDs, 6 or less LEDs are off.



Instant On





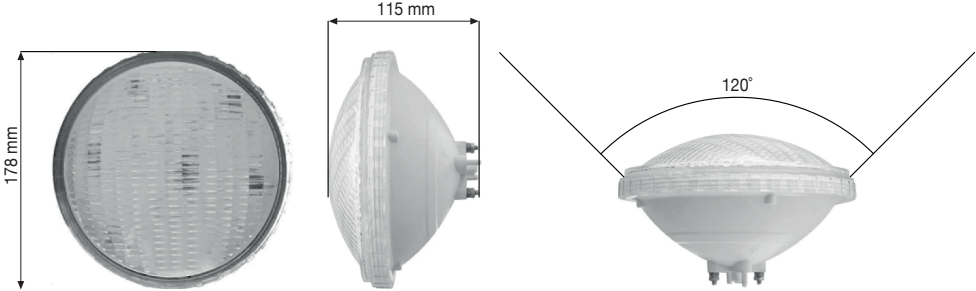
Bu kılavuz; kurulum ve kullanım için uygulanacak güvenlik önlemlerine ilişkin temel bilgileri içerir. Bu nedenle kurulumu yapacak kişi ve kullanıcı; kurulum ve kullanım öncesi bu talimatları dikkatlice okumalıdır. Bu kılavuzu ileride başvurmak üzere saklayınız.



Lamba kesinlikle transformatör olmadan çalıştırılmamalıdır.
Lambaya kesinlikle 12 V $\pm$ 2 V üzeri voltaj gitmemelidir.

1. GENEL ÖZELLİKLER

- Özel, zarif ve şık bir tasarıma sahiptir.
- Piyasadaki tüm PAR56 lamba kovanları ile uyumludur.
- Lamba içerisinde kullanılan LED'ler sayesinde anında ışık verir.
- Işık dağılma açısı 120°'dir.
- Lamba, 2 m nominal derinlikte IP68 koruma derecesine uygundur.
- Difüzör camı polikarbonattan üretilmiştir.
- Gövde kısmı alüminyum veya beyaz polikarbonattan oluşmaktadır.
- Lamba çalışma voltajı, çok düşük olduğundan (12V AC/DC) Sınıf III kapsamında elektrikli bir cihazdır.



Ürün Tanımı ve Malzemesi

SMD 63 Beyaz	POWER 18 Beyaz	POWER 18 Beyaz	OSRAM 9 Beyaz
SMD 63 Güneşiği	POWER 18 Güneşiği	POWER 18 Güneşiği	OSRAM 9 Güneşiği
SMD 63 Turkuaz	POWER 18 Turquoise	POWER 18 Turquoise	OSRAM 9 Turquoise
SMD 63 Mavi	POWER 18 Mavi	POWER 18 Mavi	OSRAM 9 Mavi
SMD 63 Kırmızı	POWER 18 Kırmızı	POWER 18 Kırmızı	OSRAM 9 Kırmızı
SMD 63 Yeşil	POWER 18 Yeşil	POWER 18 Yeşil	OSRAM 9 Yeşil
SMD 54 RGB	POWER 18 RGB	POWER 18 RGB	OSRAM 9 RGB
Kendinden Entegreli	Kendinden Entegreli	Kendinden Entegreli	Kendinden Entegreli
SMD 54 RGB	POWER 18 RGB	POWER 18 RGB	OSRAM 9 RGB
Merkezi Entegreli	Merkezi Entegreli	Merkezi Entegreli	Merkezi Entegreli
SMD 252 Beyaz	POWER 27 Beyaz	POWER 27 Beyaz	
SMD 252 Güneşiği	POWER 27 Güneşiği	POWER 27 Güneşiği	
SMD 252 Turkuaz	POWER 27 Turkuaz	POWER 27 Turkuaz	
SMD 252 Mavi	POWER 27 Mavi	POWER 27 Mavi	
SMD 252 Kırmızı	POWER 27 Kırmızı	POWER 27 Kırmızı	
SMD 252 Yeşil	POWER 27 Yeşil	POWER 27 Yeşil	
SMD 252 RGB	POWER 27 RGB	POWER 27 RGB	
Kendinden Entegreli	Kendinden Entegreli	Kendinden Entegreli	
SMD 252 RGB	POWER 27 RGB	POWER 27 RGB	
Merkezi Entegreli	Merkezi Entegreli	Merkezi Entegreli	



Ortam sıcaklığı maksimum 30°C olmalıdır.
Ortam sıcaklığı ve ürün sıcaklığındaki değişiklik akım ve ışık şiddeti değerlerini değiştirmektedir.

2.3. Kullanım ve Renk Değiştirme

Montaj ve elektriksel bağlantı işleminin doğru yapıldığına emin olduktan sonra lambaya enerji verilir (12 VAC/DC). Tek renk lambalarda renk değiştirme ve renk geçişi özelliği bulunmamaktadır. RGB lambalarda renk değiştirme ve geçişi (3 saniye içerisinde) enerjinin kesilip tekrar enerji verilmesiyle sağlanır. Bu işlem tekrarlanarak farklı renkler ve animasyonlar gerçekleştirilir. Bu işlem için tasarlanmış GEMAŞ 2T RGB Lamba Kontrol üniteleri sayesinde çok rahat bir şekilde ve uzaktan kumanda ile yapılabilmektedir.

2.3.1. Işık Model Listesi

RGB Lamba 13 farklı ışık modeline sahiptir:	
● Kırmızı ● Yeşil ● Mavi ● Kırmızı ve Yeşil ● Kırmızı ve Mavi ● Mavi ve Yeşil ● Kırmızı Yeşil Mavi	
● Işık Dönüştürme ● 256 Renk Tonu Değiştirme ● Yanıp Sönme ● Yedi Ara Renk Tonu	
● On Altı Renk Değişimi ● Tek Renk Değiştirme	

2.3.2. Çoklu Lamba Senkronizasyonu

Tüm RGB lambaları bağlayıp devreye aldıktan sonra lambaları kontrol edin. Tüm lambaların farklı renklerde de olsa çalıştığından emin olun. Enerjiyi kapatın ve 4 - 7 saniye sonra tekrar enerjiyi açın. Bu işlem sonrası tüm RGB lambalar ilk ışık modeline (KIRMIZI) dönecektir. Renk değiştirme fonksiyonunu kullanarak (3 saniye içerisinde enerjinin kesilip tekrar enerji verilmesiyle), tüm RGB lambaları istenilen renk veya animasyonda kullanabilirsiniz.

3. BAKIM

Bu lamba için herhangi bir bakıma gerek yoktur. Eğer bir bozulma olursa değişimi gerekmektedir. Herhangi işlemten önce lambanın enerjisinin kesik olduğundan emin olun. Yeni lambanın değiştirilen lamba ile aynı model ve özellikte olduğundan emin olun.

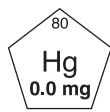
4. GARANTİ

Üretici bu lambayı satın alma tarihinden itibaren 2 yıl boyunca imalat hatalarına ve malzeme bozulmalarına karşı garanti eder. Bu garanti hatalı kullanım nedeniyle oluşan hasarı, kazara olan hasarı, yetkisiz kimselerin montajından kaynaklı arızaları kapsamaz ve doğrudan sorumluluk üstlenmez. Malzeme ve işçilik hataları aşağıdaki maddeleri içermez:

- 252 LED'den daha az olan lambada 3 ve daha az LED'in sönük olması.
- 252 LED'den daha fazla olan lambada 6 ve daha az LED'in sönük olması.



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- We reserve to change all of the articles or contents of this document, without prior notice.
- Firmamız bu belgenin içeriğinde haber vermeksizin deęişlikler yapabilir.

Underwater Lights For Pools

PAR56 LED BULBS



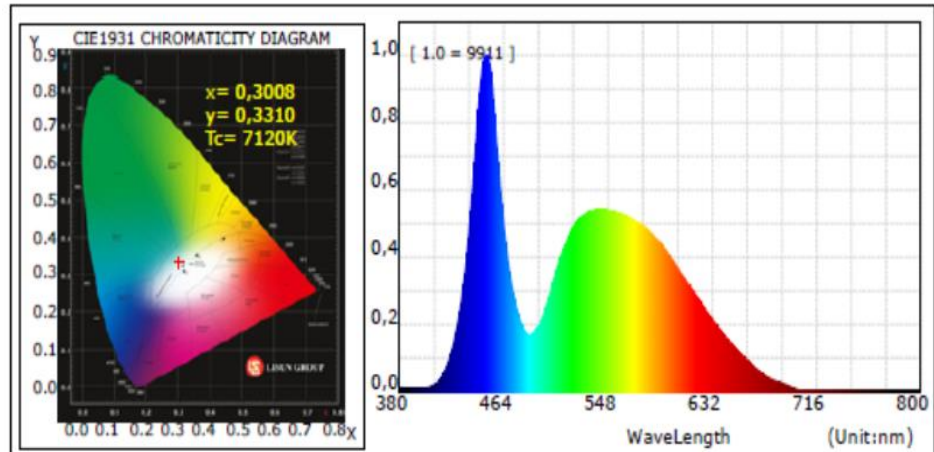
The lamp has Polycarbonate body. All the light circuits have Automatic Current Control against overheat to ensure long life. Mechanical sealing without any chemical adhesives. For built-in PCB models RGB 13, for central PCB models RGB 16 different lighting patterns.

Description	Code	Power (Max.)	Luminous Flux (Lumen)	Correlated Colour Temp. (K)
White	0531101	20W	1511	7120
Daylight	0531102	20W	1511	7120
Turquoise	0531103	16W	550	16960
Blue	0531104	16W	550	16960
Red	0531105	16W	550	16960
Green	0531106	16W	550	16960
RGB-Built in	0531201	16W	550	16960
RGB-C.Control	0531202	16W	550	16960

Electrical Measurements

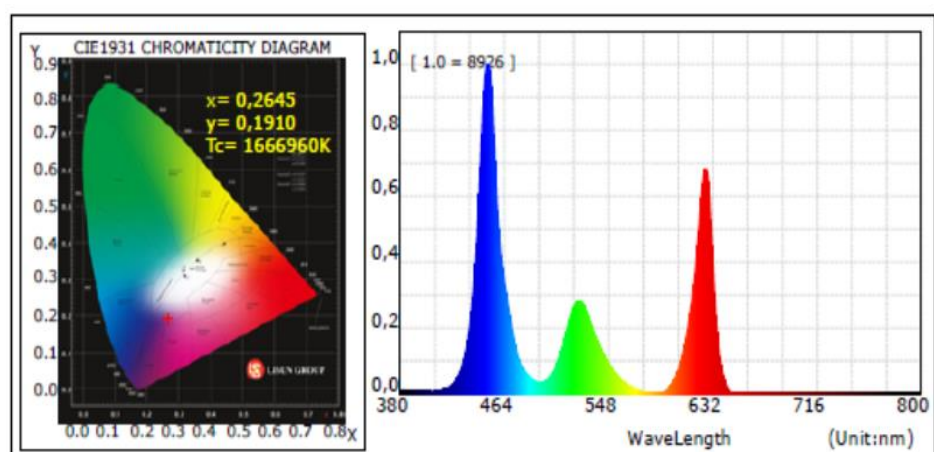
Par56 SMD 63 for White and Daylight Electrical Measurement

Input Power (W)	20 W
Input Voltage (V)	12 V AC
Input Current (A)	2.213 A
Power Factor (PF)	0.768
Input Frequency (Hz)	50 Hz
Ambient Temperature/Relative Humidity	25,1 °C 48% Rh
Stabilization Time	60 min. ±5 min.
Total Luminous Flux	1404.8 lm
Max. Light Intensity	516.91 cd
Luminaire Efficacy	60.09 lm/W

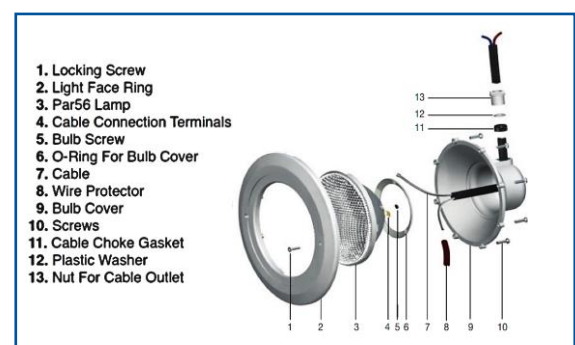
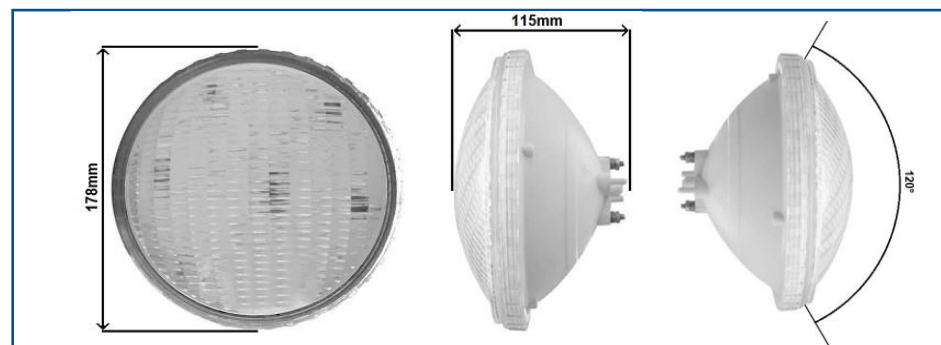


Par56 SMD 63 for Single color and RGB Electrical Measurement

Input Power (W)	16 W
Input Voltage (V)	12 V AC
Input Current (A)	1.591 A
Power Factor (PF)	0.817
Input Frequency (Hz)	50 Hz
Ambient Temperature/Relative Humidity	25,1 °C 48% Rh
Stabilization Time	60 min. ±5 min.
Total Luminous Flux	459.5 lm
Max. Light Intensity	174.51 cd
Luminaire Efficacy	29.69 lm/W



TECHNICAL SPECIFICATIONS



0531101

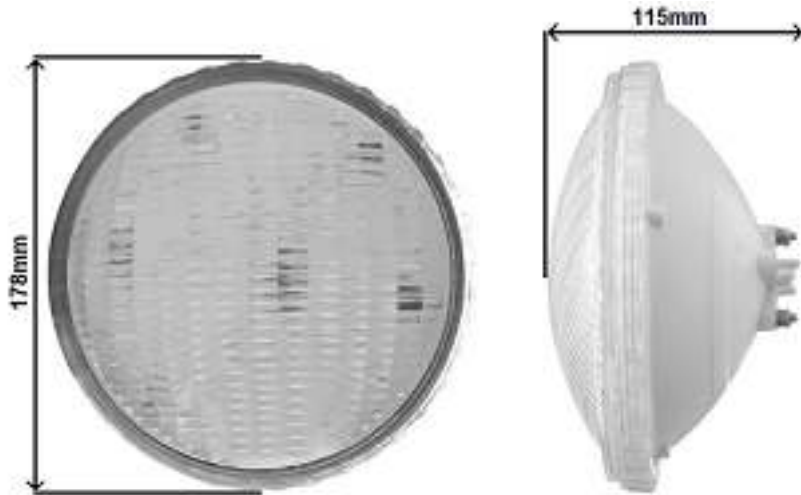
“Single Color Par 56” Underwater Lights

PRODUCT FEATURES

Compatible with all PAR56 lamp sleeves on the market.
 It gives instant beam thanks to the LEDs used in the light.
 The light complies with IP68 protection degree at 2 m nominal depth.
 Diffuser glass is made of polycarbonate.
 Body part consists aluminum or white polycarbonate.
 The light operating voltage is very low (12V AC/DC), making it a Class III electrical device.
 Frame made of ABS plastic and Niche in white plastic.



VOLTAGE (V)	POWER (W)	CCT (K) Min	CCT (K) Typ	CCT (K) Max	Φ (lm) Min	Useful (lm flux)	CRI (Ra)	Light Intensity (cd)
12V AC/DC	20.4	6000	6500	7120	1404.8	1511	71,9	516.91 cd



Note:

1. $2\theta_{1/2}$ is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
2. The above luminous flux measurement allowance tolerance is $\pm 5\%$.
3. The above Color Rendering Index measurement allowance tolerance is -2
4. The above color coordinates measurement allowance tolerance is ± 0.003 .



International Inspection & Certification Body

UYGUNLUK ONAYI ATTESTATION OF COMPLIANCE

2014/35/AB Belirli Gerilim Sınırları Dahilinde Kullanılmak Üzere Tasarlanmış Elektrikli Teçhizat İle İlgili Yönetmeliği'ne Göre

2014/35/EU Electrical Equipment Designed For Use Within Certain Voltage Limits Directive

Sertifika Numarası

Certificate Number

: FMK.19/AC.C0073.01.01

Belgelendirme Kuruluşu

Certification Body

: Femko Uluslararası Teknik Kontrol Eğitim Belgelendirme Ltd. Şti.
Kazımdırık Mah. 372/7 Sok. No:8 Bornova -İzmir / Türkiye

Sertifika Sahibi ve Adresi

Certificate Holder and Address

: Gemaş Genel Mühendislik Mekanik Sanayi Ve Ticaret A.Ş.
İTOB Organize Sanayi Bölgesi 10001 Sok.No:28 Menderes/İZMİR

Test Numunesinin Üreticisi

Manufacturer of The Test Sample

Ürün Ticari Markası

Product Commercial Brand

: Gemaş Genel Mühendislik Mekanik Sanayi Ve Ticaret A.Ş.
İTOB Organize Sanayi Bölgesi 10001 Sok.No:28 Menderes/İZMİR

Ürün

Product

: Havuz Armatörü

Tip ve Model

Type and model

: 0531101/0531102/0531103/0531104/0531105/0531106/0531111/0531114/
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DENEY RAPORU
TEST REPORT

AB-1374-T

2022-PTC-1395-13

03-22

Müşteri Adı / Adresi:
Customer name / address

GEMAŞ GENEL MÜHENDİSLİK MEKANİK SAN. TİC. A.Ş.
İTOB Organize Sanayi Bölgesi 10001 Sokak No:28 Menderes / İZMİR

İstek Numarası
Order No.

2022-PTC-1395

Numunenin adı ve tarifi
Name and identity of test item

AYDINLATMA ARMATÜRÜ

Numunenin kabul tarihi
The date of receipt of test item

03.02.2022

Açıklamalar
Remarks

DGC'ye ANSI IES LM 79-19 standard uyarınca fotometrik ölçümler yapılmıştır.
Photometric measurements were made to the DGC in accordance with the ANSI IES LM 79-19 standard.

Deneyin yapıldığı tarih
Date of Test

10.02.2022

Raporun Sayfa Sayısı
Number of pages of the Report

7

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 tanınırılığı 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. Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz. İmzasız ve mühürlü raporlar geçersizdir.

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Mühür
Seal

Tarih
Date

Deneyi Yapan Personel
Person in Performing the Test

Laboratuvar Teknik Yöneticisi
Laboratory Technical Manager

14.03.2022



İÇİNDEKİLER(CONTENTS)

1. **DGC, Çevre Şartları ve Sembollerin Tanımları** (*Description of the EUT, Environmental Conditions and Symbol Definitions*)
2. **Deney Standartları** (*Test Standards*)
3. **Deney Ekipmanları** (*Test Equipments*)
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TEST REPORT

DGC Tanımı, Çevre Şartları ve Sembollerin Tanımları*(Description of the EUT, Environmental Conditions and Symbol Definitions)*

Markası / Brand	: GEMAŞ
Modeli / Model	: PAR56 63 WHITE
Seri Numarası / Serial Number	: 0531101
Beyan Giriş Gücü / Rated Power	: 20 W
Beyan Gerilimi / Rated Voltage	: 12 V AC/DC
Sembollerin Tanımı / Definitions of Symbols	DGC= Deneyden Geçen Cihaz EUT=Equipment Under Test
Led Markası / Led Brand	: -
Led Modeli / Led Model	: -
Led Seri Numarası / Serial Number	: -

Deney Standartları (Test Standards)

Deneyler aşağıdaki standartlara göre yapılmıştır. (The tests were performed according to following standard).

Standart / Standard

ANSI IES LM-79-19 Electrical and Photometric Measurements of Solid-State Lighting Products.

Ölçüm Cihazları / Measuring Equipments

Cihaz Adı <i>Device name</i>	Model Tipi <i>Model Type</i>	Üretici <i>Manufacturer</i>	Kalibrasyon Tarihi <i>Cal Date</i>	Son Kalb. Tarihi <i>Last Cal. Date</i>
Goniophotometer	LSG-1700B	LISUN GROUP	19.01.2022	13.01.2023
AC Power Supply	9388	LISUN GROUP	13.01.2022	13.01.2023
Powermeter	WXYZQ50025	LISUN GROUP	13.01.2022	13.01.2023
Standart Lamp	CAL001A01135	LISUN GROUP	24.01.2022	28.01.2023
Integrating sphere	IS1.5MA	LISUN GROUP	-	-

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: +90 216 393 3232 e-mail: info@ptctesting.com web: www.ptctesting.com

Dok.No: PR.20-RP.37 / Rev.Tarihi: 30.03.2021 / Rev. No: 01

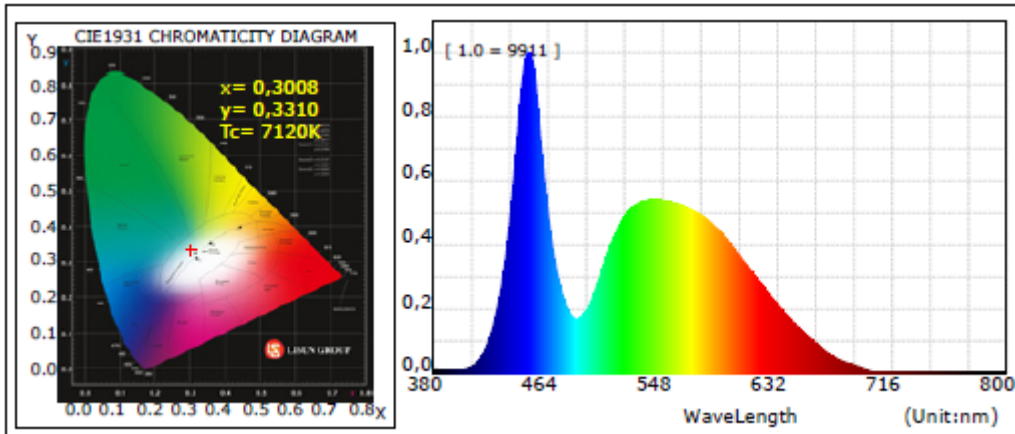
Deney Sonuçları (Test Results)

Elektriksel Ölçümler (Electrical Measurements)

Ölçülen Güç (W) (Input Power)	20.40 W
Ölçülen Gerilim (V) (Input Voltage)	12 V AC
Ölçülen Akım (A) (Input Current)	2.213 A
Güç Faktörü (PF) (Power Factor)	0.768
Ölçülen Frekans (Hz) (Input Frequency)	50 Hz
Ortam Sıcaklığı / Bağıl Nem (Ambient Temperature / Relative Humidity)	25,1 °C 48% Rh
Stabilizasyon Süresi (Stabilization Time)	60 dk ±5dk

Fotometrik Ölçüm Sonuçları (Photometric Measurement Results)

Toplam Işık Akısı (Total Luminous Flux) (lm)	1404.8 lm
Maksimum Işık Şiddeti (Max. Light Intensity) (cd)	516.91 cd
Armatür Etkinliği (Luminaire Efficacy) (lm/W)	60.09 lm/W

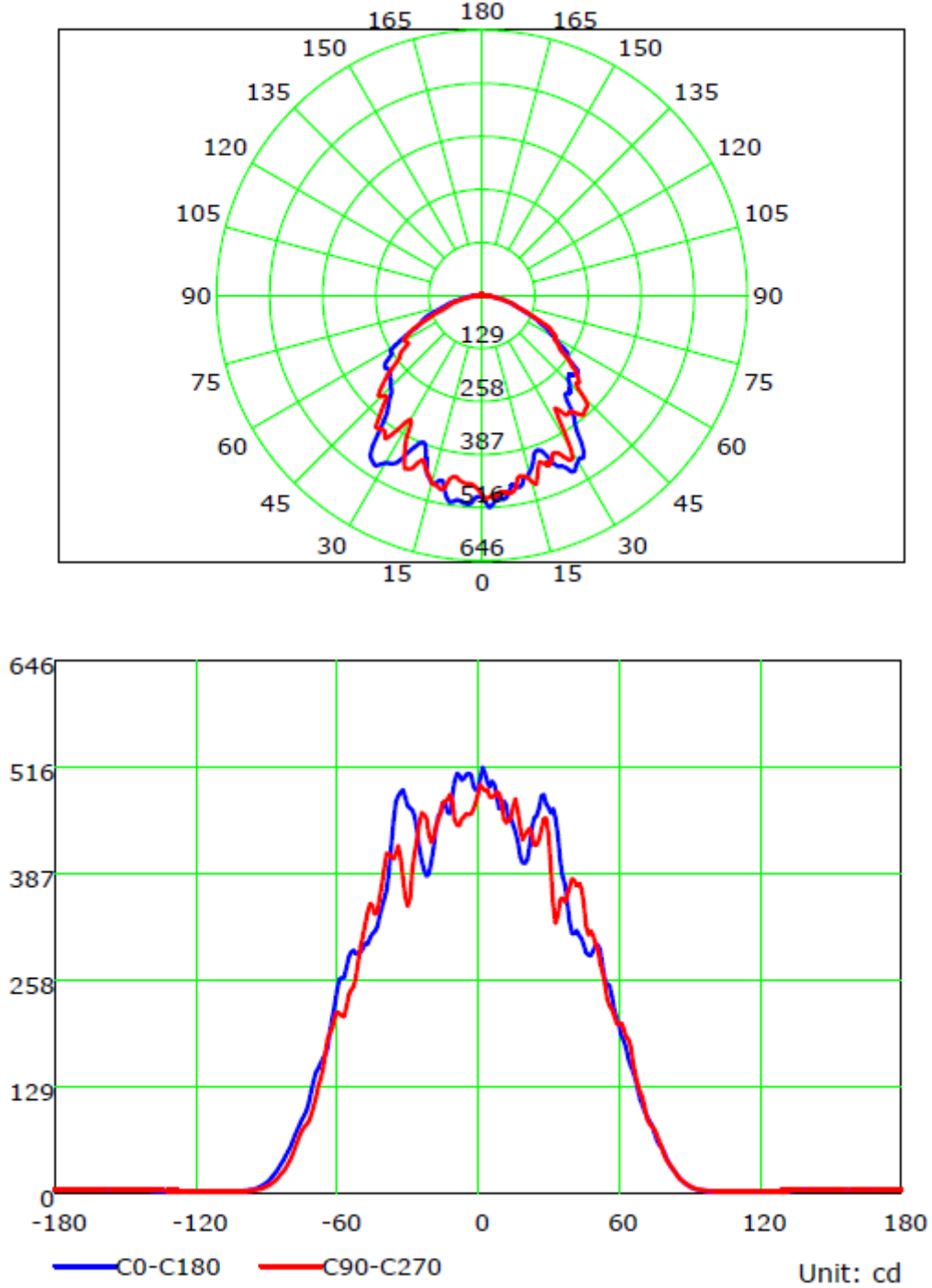


TEST REPORT

Date/Time	10.02.2022 09:00
Chromaticity x coord	0,3008
Chromaticity y coord	0,3310
Chromaticity u coord	0,1889
Chromaticity v coord	0,3118
Chromaticity u' coord	0,1889
Chromaticity v' coord	0,4676
Peak Wavelength (nm)	449,9
Half Wavelength (nm)	27,0
Dominant Wavelength (nm)	490,8
Color Purity (%)	11,157
Correlated Color Temperature (deg. K)	7120
SDCM	9,25
Color Rendering Index Average (RA)	71,9
Color Fidelity Index (RF)	70,4
Color Gamut Index (RG)	95,0
Color Rendering Index (R1)	67
Color Rendering Index (R2)	76
Color Rendering Index (R3)	82
Color Rendering Index (R4)	71
Color Rendering Index (R5)	69
Color Rendering Index (R6)	68
Color Rendering Index (R7)	84
Color Rendering Index (R8)	58
Color Rendering Index (R9)	-47
Color Rendering Index (R10)	43
Color Rendering Index (R11)	67
Color Rendering Index (R12)	38
Color Rendering Index (R13)	69
Color Rendering Index (R14)	90
Color Rendering Index (R15)	60

TEST REPORT

Luminous Intensity Distribution Curve



TEST REPORT

ATTACHMENT

Photo Documentation



TEST REPORT