



21/04/2015

Sayı/Issue: 14 04 15 SÖ 065/00

İlgi/Subject:

Interest on request, samples were sent to our laboratory for lighting fixtures, physical examination and tests. The following results were obtained.

**Rapor Tarihi-Report Date / Rapor Numarası-Report Number/ Ticari Marka-TradeMark/Model-Type**

21.04.2015 / 15-075 / LUXAR-ODSEL / EP12-102-40F (1200mm EP Serisi T8 Led Tüp)

Numbers in above-mentioned report, the date of the inspection and test reports of the samples will be sent to our letter attached.

Best Regards,

Prof.Dr. Zafer UTLU

Laboratory Manager

EK/EKLER:

(ANNEX/ANNEXES)

Not: Muayene ve Deney amacı ile gönderilen numuneler, firma veya yetkilisi tarafından 30 gün içerisinde alınmadığı takdirde tasfiye edilecektir.

The samples are sent in order to inspection and test, will be liquidated if it will taken back within 30 days by representative of company.

İAÜ Florya Halit Aydın Kampüsü İnönü Cad. No:38 Beşyol mah. Küçükçekmece / İSTANBUL

Tel:(0212) 444 1 428 Dahili : 14630



## MUAYENE VE DENEY RAPORU

### TEST REPORT

IAU
15-075
20.04.2015

**Deneyi Talep Eden** : ODSER ELEKTRONİK SAN. ve TİC. A.Ş.  
(Adı,Adresi,Şehir v.b.) Muradiye Orta Ölçekli Sanayi Bölgesi 16. Sokak No:4 Muradiye / MANİSA  
Customer (Name,Address, City etc.)

**Deney Talep Tarihi /No** : 10.04.2015  
Order Date /No

**Numunenin Kabul Tarihi** : 14.04.2015  
Test Item Receipt Date

**Deneylerin Yapıldığı Tarih** : 14.04-21.04.2015  
Date of Test

**Uygulanan Standart /Metod** : TS EN13032-1:2004 +A1:2012LightandLighting –Measurement and Presentation of  
Applied Standart/Method Photometric Data of Lampsand Luminaires-Part1: Measurementand File

**Raporun Sayfa Sayısı** : 14  
Number of Pages of the report

**Açıklamalar** :

Deney ve/veya ölçüm sonuçları,genişletilmiş ölçüm belirsizlikleri (olması halinde) ve deney metodları bu raporun 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**  
Seal

**Tarih**  
Date

**Deney Sorumlusu**  
Person in charge of tests  
Sercan ÖZKAN  
Lab. Tech.

**Kontrol Eden**  
Reviewer  
Temel SÖNMEZOCAK  
Quality Manager

**Onaylayan**  
Approved By  
Prof.Dr. Zafer UTLU  
Lab. Manager

Bu rapor , hazırlayan laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Bu rapor , sadece deneyiyapılan numune için geçerlidir ve "Ürün Belgesi" yerine geçmez.

This test report shall not be reproduced other than in full except with the written permission of the laboratory .Test reports without signature and seal are not valid. This report represents only tested samples,and shall not be used as product Certificate.

**İSTANBUL AYDIN ÜNİVERSİTESİ AYDINLATMA TEST-ÖLÇÜM ve ANALİZ LABORATUARLARI**

( ISTANBUL AYDIN UNIVERSITY LIGHTING TEST MEASUREMENT AND ANALYSIS LABORATORIES)

**MUAYENE – DENEY SONUÇLARI / TEST RESULTS****FOTOMETRİK ÖLÇÜM SONUÇLARI****PHOTOMETRIC MEASUREMNT RESULTS**

<b>Kullanılan Cihaz/EquipmentUsed.....:</b>	NFMS Goniophotometer LabSphere Sphere System	
<b>Uygulanan Standart-Metot/Applied Standard-Method.....:</b>	TS EN13032-1 ; IES-LM-79	
<b>Deney Ortam Şartları/ExperimentalAmbientConditions.....:</b>	25°C ±3°C, 35%RH±5%RH	
<b>Armatüre Uygulanan Gerilim / AppliedVoltage.....:</b>	220V	
<b>Armatür Markası-Üretici /LuminaireBrand-Producer.....:</b>	ODSEL ELEKTRONİK	
<b>Armatür Kodu-Modeli / LuminaireCode-Model.....:</b>	EP12-102-40F /1200mm EP Serisi T8 Led Tüp	
<b>Armatür Lamba Tipi-açıklama/Lamptype-description of Luminaire.....:</b>	LED	
<b>Armatür Boyutları / Dimensions of LuminaireArea.....:</b>	Uzunluk –Çap / Lenght-dia	1200mm
	Genişlik/width	25mm
	Yükseklik / Height	40mm
<b>Işıyan Alan Boyutu / Dimensions of LuminousArea.....:</b>	Uzunluk –Çap / Lenght-dia	1200mm
	Genişlik/width	25mm
	C0 Yükseklik / Height	--
	C90Yükseklik / Height	--
	C180 Yükseklik / Height	--
	C270 Yükseklik / Height	--

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( İSTANBUL AYDIN UNIVERSITY LIGHTING TEST MEASUREMENT AND ANALYSIS LABORATORIES)

**MUAYENE – DENEY SONUÇLARI / TEST RESULTS****FOTOMETRİK ÖLÇÜM SONUÇLARI / PHOTOMETRIC MEASUREMENT RESULTS**

Armatürde Ölçülen Toplam Güç/Measured Total Power of Luminaire.....:	16W 0,93pf
Armatürün Ölçülen Işık Akısı /MeasuredLuminousFlux of Luminaire.....:	1832 lm
Lamba Katalog Işık Akısı / LampCatalogLuminousFlux.....:	--
Armatür verimliliği (lm/Watt) / Luminousefficacy.....:	114,5 lm/Watt
Armatür Geri Verim (LOR)% / Luminousefficacy %.....:	--

**FOTOMETRİK ÖLÇÜM BELİRSİZLİK TABLOSU / PHOTOMETRIC MEASUREMENT UNCERTAINTY BUDGET**

Deney/Test(Unit)	Ölçüm Belirsizliği/Uncertainty
Radiant Flux (Watt)	1,3%
Luminous flux (Lumen / Lm)	1,08%
Correlated Color Temperature [CCT – Kelvin(K)]	7K
Chromaticity x coord	0,02
Chromaticity y coord	0,02
Chromaticity u' coord	0,02
Chromaticity v' coord	0,02
Color Rendering Index	1,4

**İSTANBUL AYDIN ÜNİVERSİTESİ AYDINLATMA TEST-ÖLÇÜM ve ANALİZ LABORATUARLARI**

( *ISTANBUL AYDIN UNIVERSITY LIGHTING TEST MEASUREMENT AND ANALYSIS LABORATORIES* )

**MUAYENE – DENEY SONUÇLARI / TEST RESULTS**

**Numunenin fotoğrafları / Photos of the Test Sample**

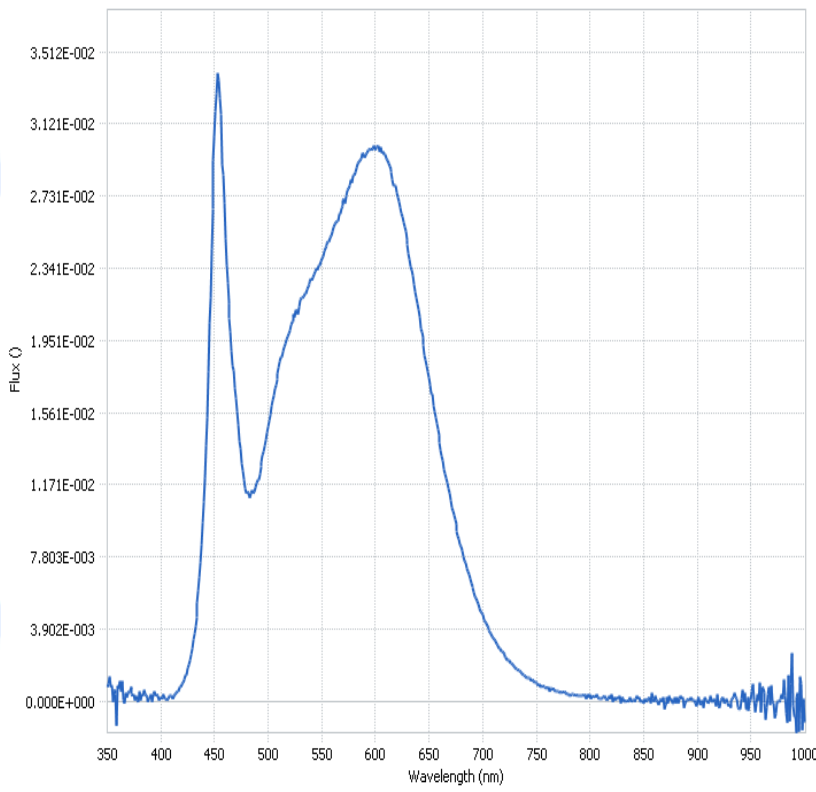


**MUAYENE – DENEY SONUÇLARI / TEST RESULTS****Fotometrik Ölçümler / Photometric measurements**

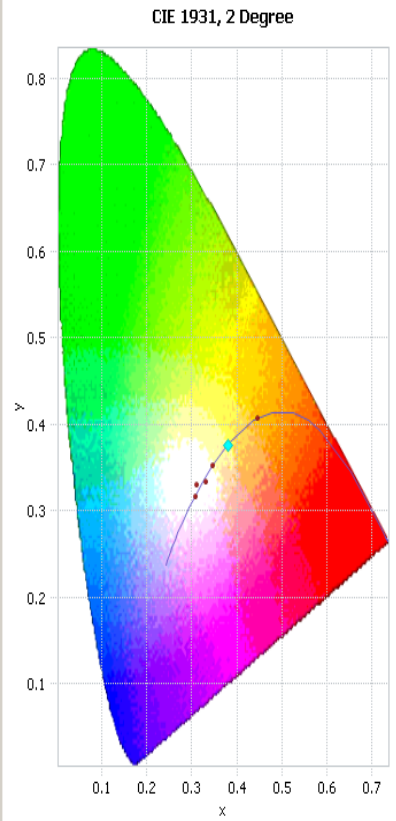
Parameter	Scan 1
Date/Time	15.04.2015 12:06
Radiant Flux (Watts)	5,514
Luminous Flux (lumens)	1832
Scotopic Luminous Flux (lm')	3053
Chromaticity x coord	0,3806
Chromaticity y coord	0,3753
Chromaticity u coord	0,2258
Chromaticity v coord	0,334
Delta uv	0,0008
Chromaticity u' coord	0,2258
Chromaticity v' coord	0,5009
Peak Wavelength (nm)	453,3
Center Wavelength (nm)	456,4
Centroid Wavelength (nm)	565,7
Dominant Wavelength (nm)	579,6
Full Width Half Max Bandwidth (nm)	25,4
Excitation Purity (%)	26,8
Correlated Color Temperature (deg. K)	3981
Luminous Efficacy (lm/W)	109,5
SDCM	50.2 F 6500
Correlation	0,0054
Correlation Coefficient	0,00076854
Color Rendering Index Average (RA)	86,81795164
Color Rendering Index (R1)	86,2
Color Rendering Index (R2)	93,5
Color Rendering Index (R3)	96,5
Color Rendering Index (R4)	84,8
Color Rendering Index (R5)	85,8
Color Rendering Index (R6)	89,8
Color Rendering Index (R7)	87,4
Color Rendering Index (R8)	70,6
Color Rendering Index (R9)	27,4
Color Rendering Index (R10)	83,3
Color Rendering Index (R11)	84,2
Color Rendering Index (R12)	66,1
Color Rendering Index (R13)	88,5
Color Rendering Index (R14)	98,6

MUAYENE – DENEY SONUÇLARI / TEST RESULTS

▼ SPECTRAL FLUX GRAPH:



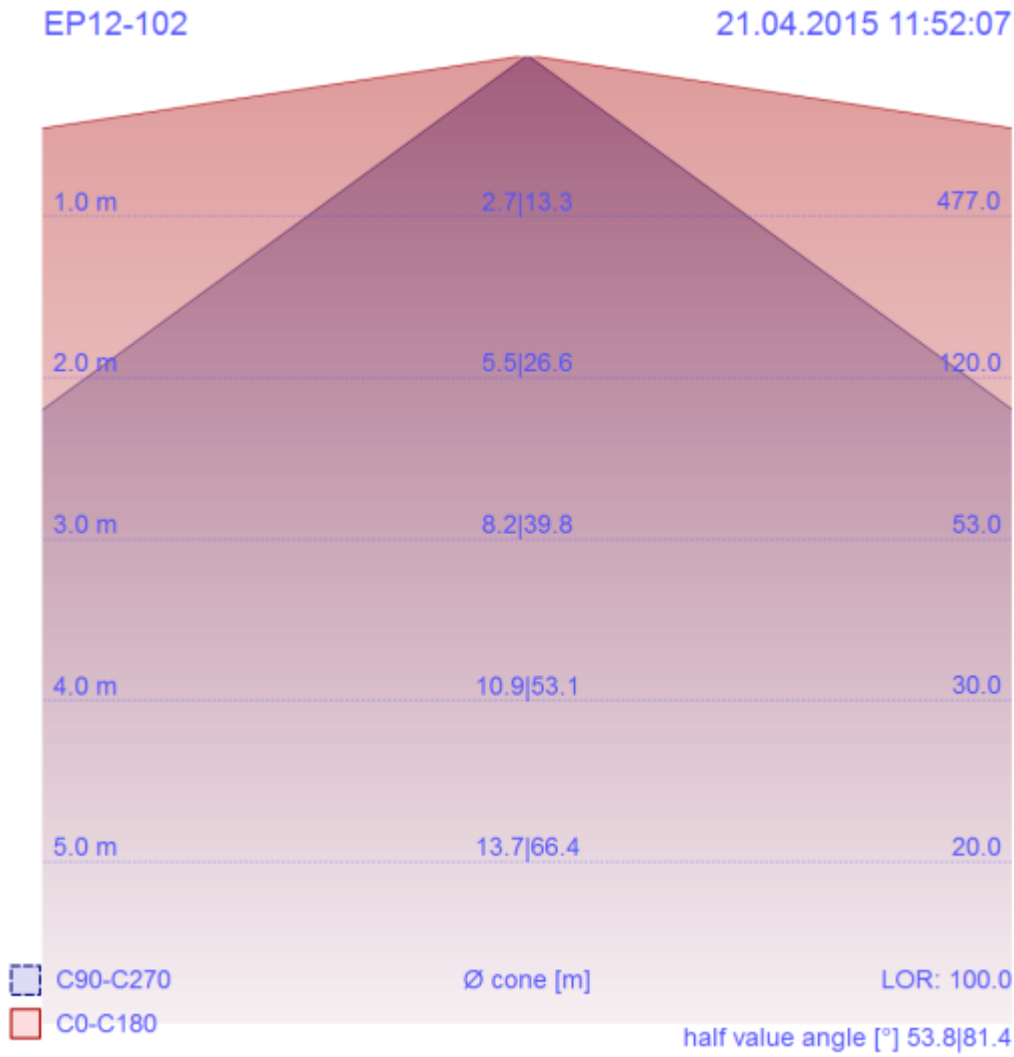
▼ CHROMATICITY DIAGRAM:



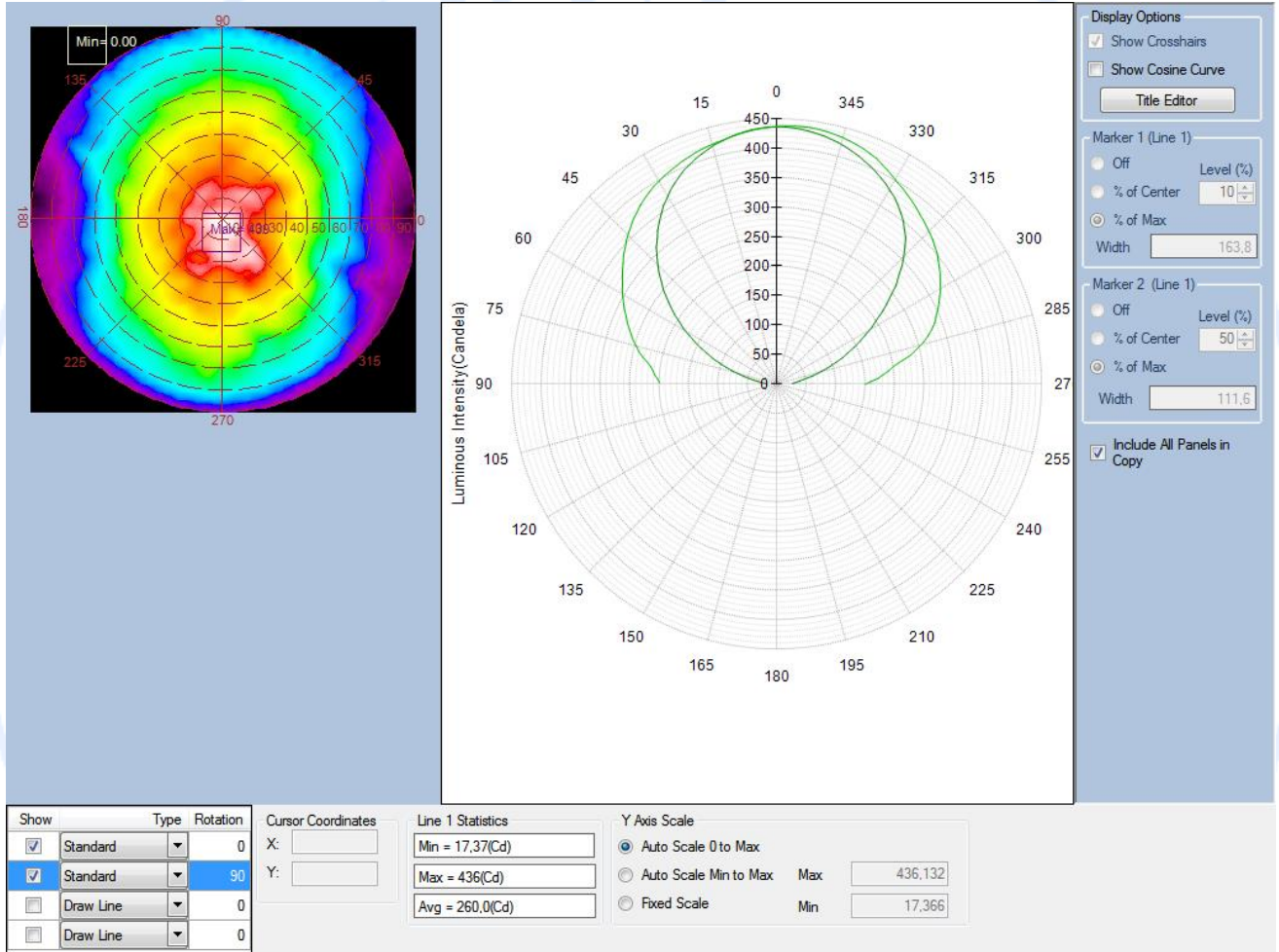
MUAYENE – DENEY SONUÇLARI / TEST RESULTS

FOTOMETRİK ÖLÇÜM SONUÇLARI / PHOTOMETRIC MEASUREMENT RESULTS

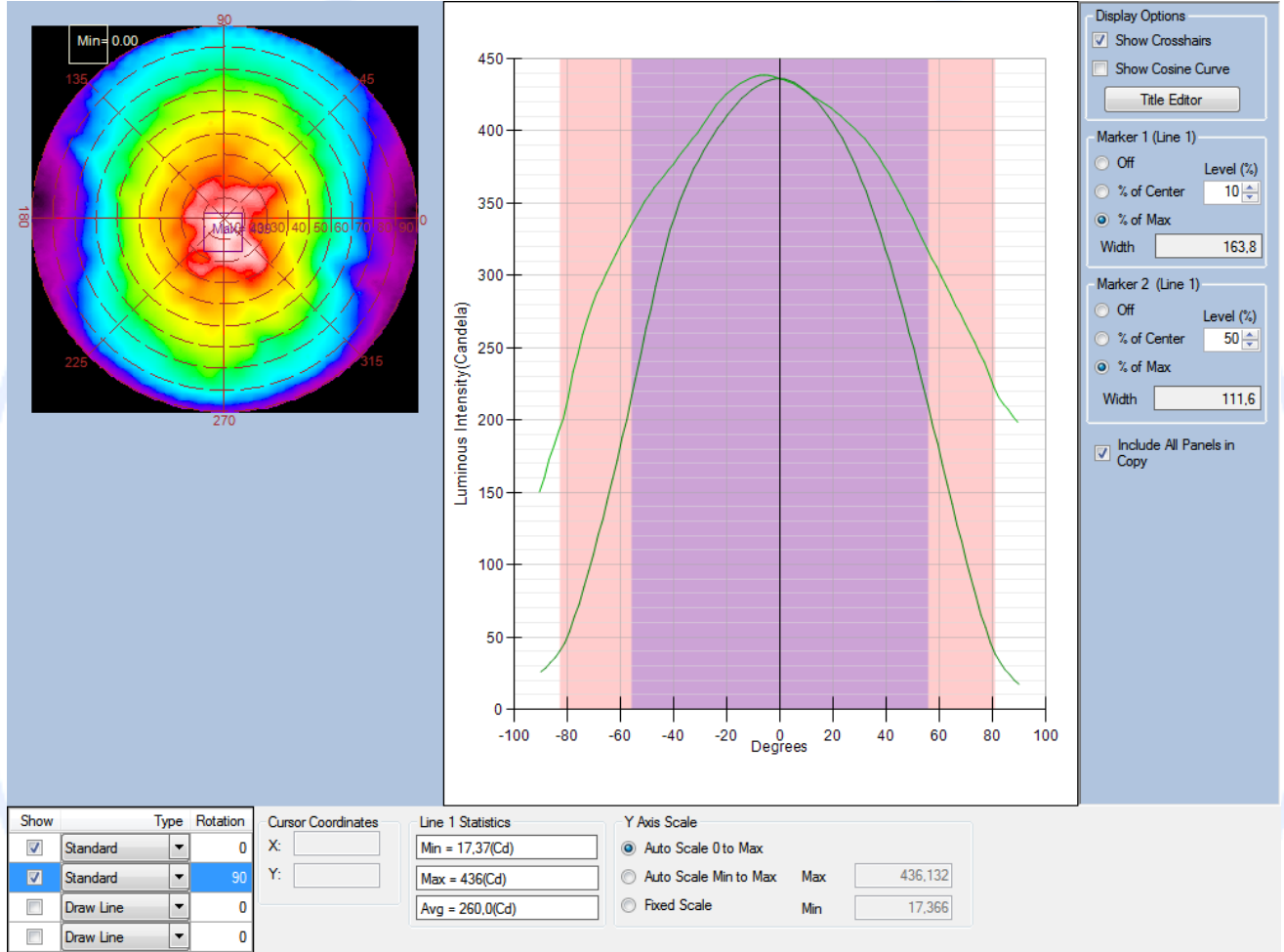
Cone Diagram ;



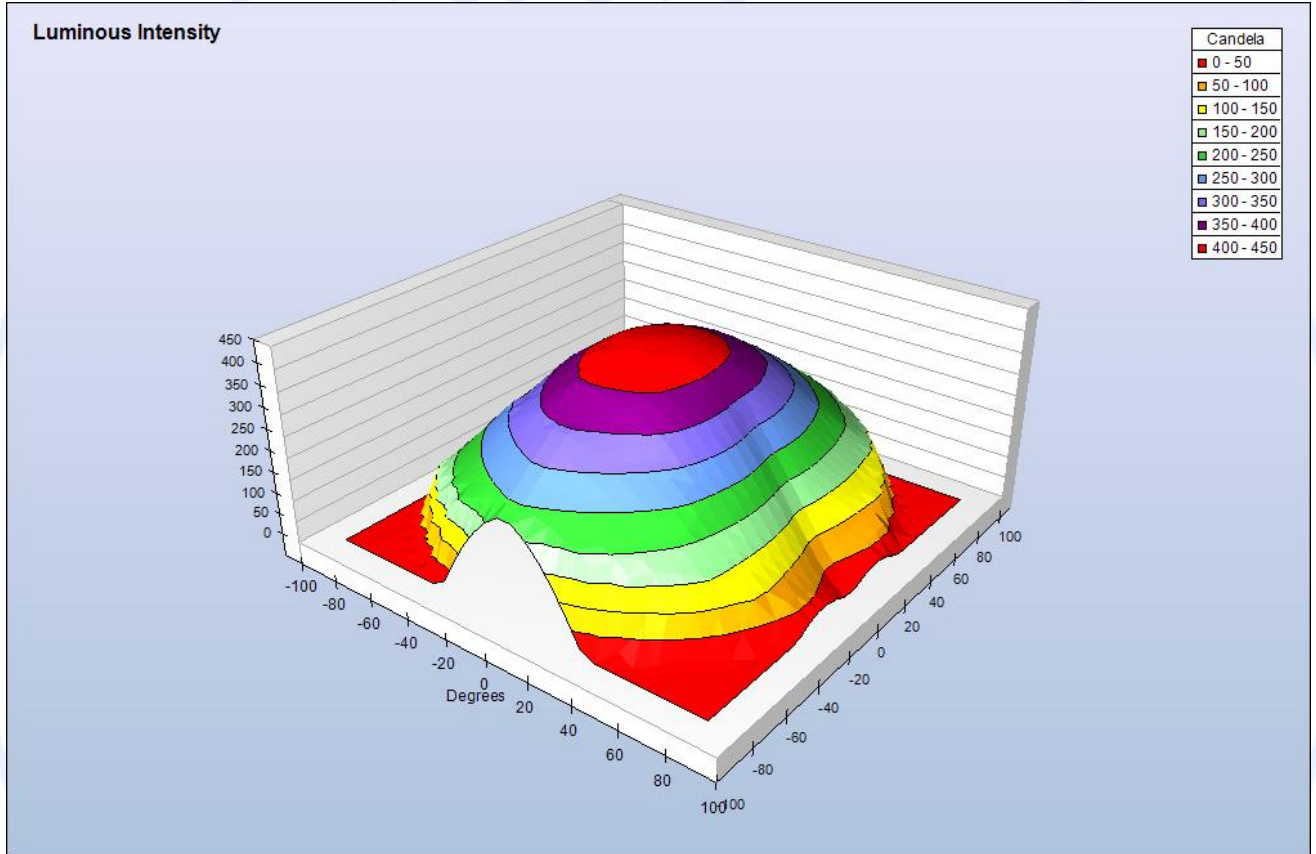
MUAYENE – DENEY SONUÇLARI / TEST RESULTS



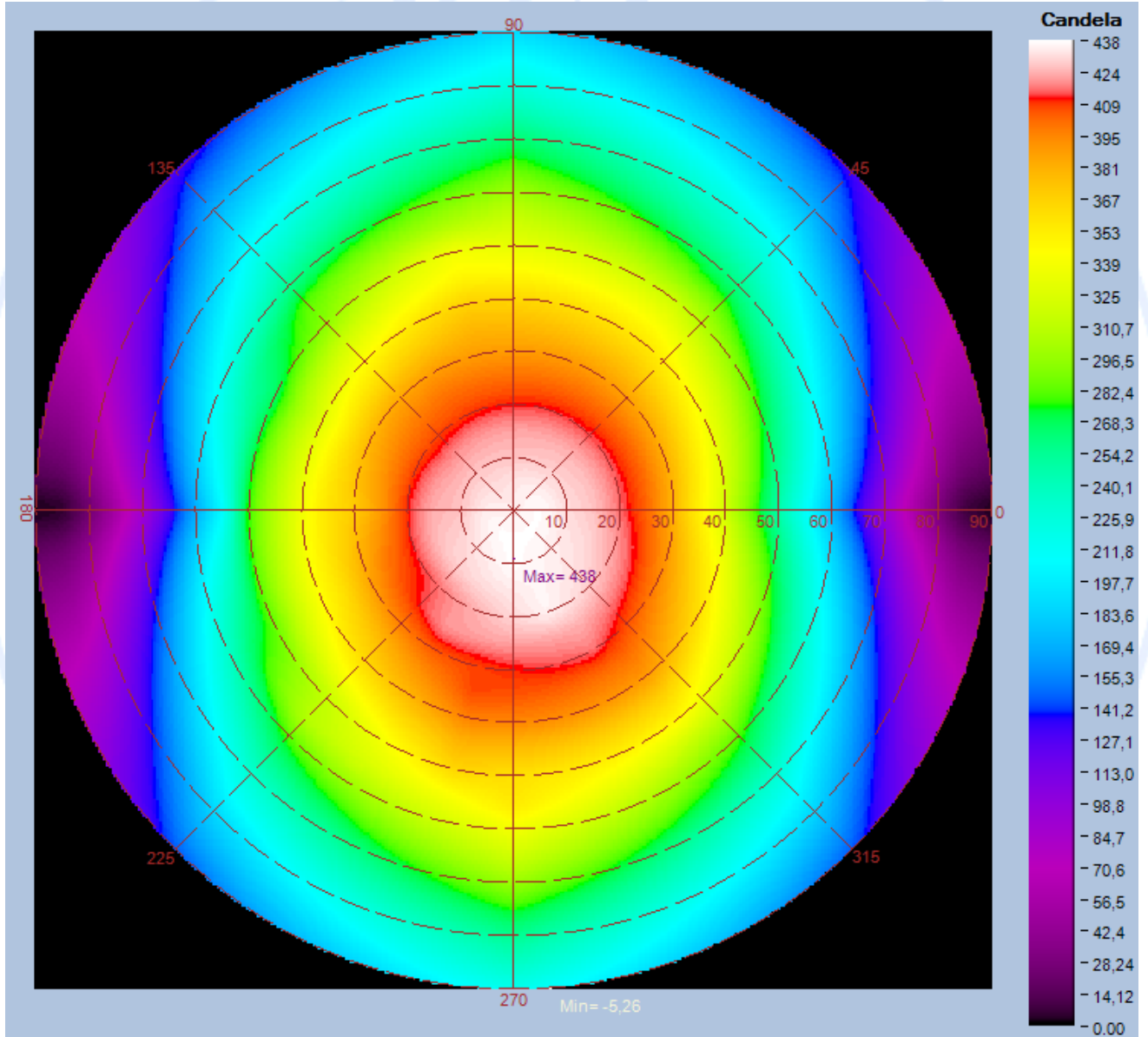
MUAYENE – DENEY SONUÇLARI / TEST RESULTS



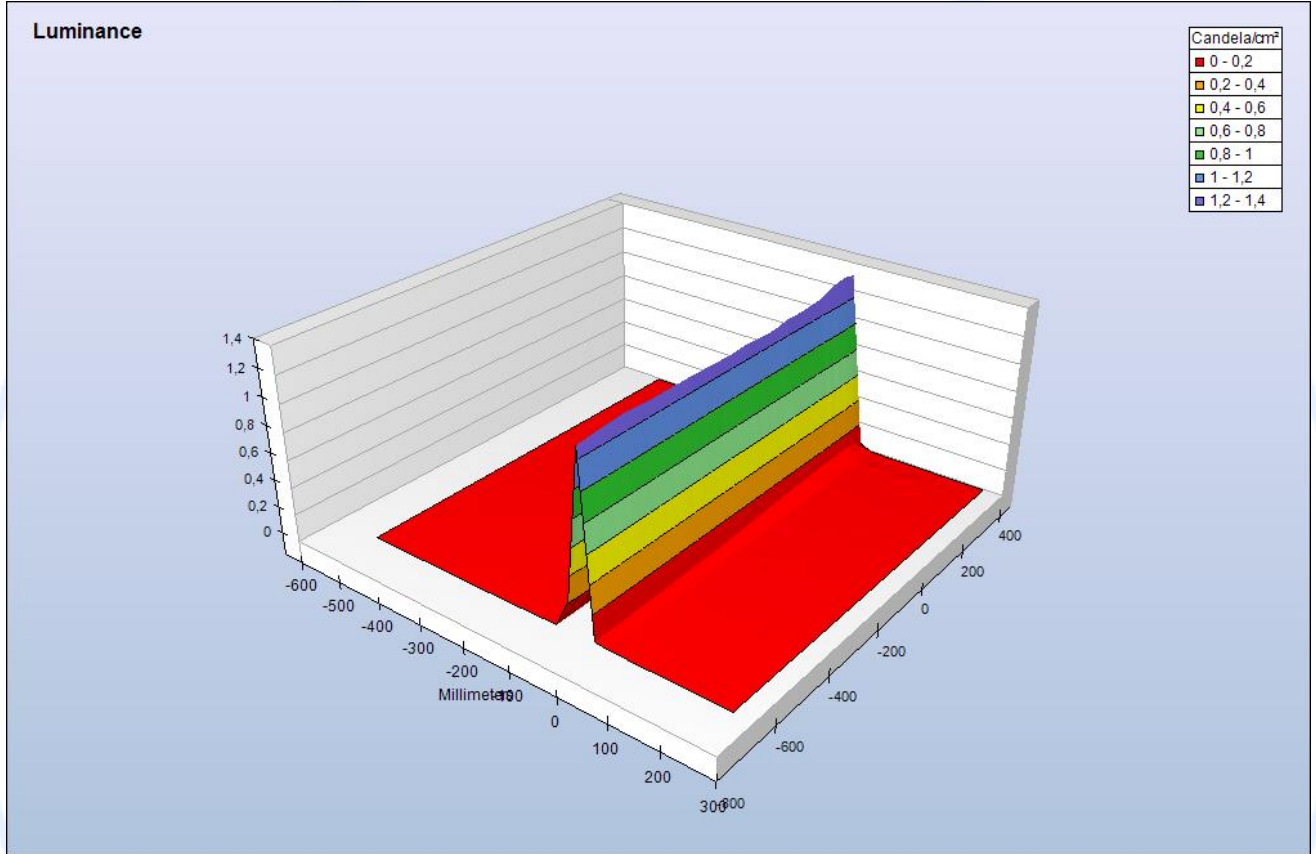
MUAYENE – DENEY SONUÇLARI / TEST RESULTS



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