

22/05/2015

Sayı/Issue: 05 06 15 SÖ 074/00

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

22.06.2015 / 15-124 / ODSEL ELEKTRONİK / AAAA-140-CB30TNN-BBB

AAAA: Ürün Serisi

6101, 6103, 9101, 9102, 9104, 9303, 9700, 9701, 9707

BBB: Işık Dağılımı

015, 024, 036, 048, 120(reflektörsüz)

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 30days 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
15-124
22.06.2015

Deneyi Talep Eden

: ODSEL LEKTRONİK SAN. Ve TİC. A.Ş.

(Adı,Adresi,Şehir v.b.)

Orta Ölçekli Sanayi Bölgesi, 14.Sokak No:4 Muradiye 45140 Manisa / TÜRKİYE

Customer (Name,Address, City etc.)

Deney Talep Tarihi /No

: 05.06.2015

Order Date /No

Numunenin Kabul Tarihi

: 05.06.2015

Test Item Receipt Date

Deneylerin Yapıldığı Tarih

: 22.05.2015

Date of Test

Uygulanan Standart /Metod

: TS EN13032-1:2004 +A1:2012LightandLighting –Measurement and Presentation of Photometric Data of Lampsand Luminaires-Part1: Measurementand File

Applied Standart/Method

Raporun Sayfa Sayısı

: 58

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

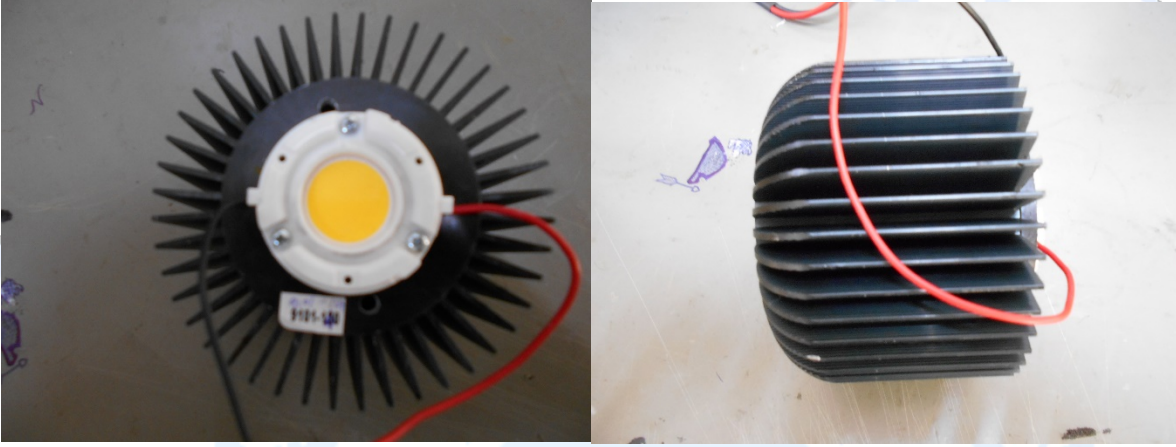
Lab. Manager

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 fill 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.

MUAYENE – DENEY SONUÇLARI / TEST RESULTS

Numunenin fotoğrafları / Photos of the Test Sample



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 MEASUREMEN RESULTS**

Kullanılan Cihaz/EquipmentUsed.....:	NFMS Goniophotometer LabSphere Sphere System
Uygulanan Standart-Metot/Applied Standard-Method.....:	TS EN13032-1:2004 +A1:2012LightandLighting – Measurementand Presentation of Photometric Data of Lampsand Luminaires-Part1: Measurementand File.
Deney Ortam Şartları/ExperimentalAmbientConditions.....:	25°C ±5°C, 35%RH±5%RH
Armatüre Uygulanan Gerilim / AppliedVoltage.....:	220V
Armatür Markası-Üretici /LuminaireBrand-Producer.....:	ODSEL LEKTRONİK
Armatür Kodu-Modeli / LuminaireCode-Model.....:	6101-140-CB830TNN-120, 6103-140-CB830TNN-120 9101-140-CB830TNN-120, 9102-140-CB830TNN-120 9104-140-CB830TNN-120, 9303-140-CB830TNN-120 9700-140-CB830TNN-120, 9701-140-CB830TNN-120 9707-140-CB830TNN-120
Armatür Lamba Tipi-açıklama/Lamptype-description of Luminaire.....:	LED SPOT

İSTANBUL AYDIN ÜNİVERSİTESİ AYDINLATMA TEST-ÖLÇÜM ve ANALİZ LABORATUARLARI

(ISTANBUL AYDIN UNIVERSITY LIGHTING TEST MEASUREMENT AND ANALYSIS LABORATORIES)

MUAYENE – DENEY SONUÇLARI / TEST RESULTS

Armatürde Ölçülen Toplam Güç/Measured Total Power of Luminaire.....:	38 W
Armatürün Ölçülen Işık Akısı /Measured Luminous Flux of Luminaire.....:	4667 lm (Effective Value)
Lamba Katalog Işık Akısı / Lamp Catalog Luminous Flux.....:	--
Armatür verimliliği (lm/Watt) / Luminous efficacy.....:	122,81 lm/Watt
Armatür Geri Verim (LOR)% / Luminous efficacy %.....:	--

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)

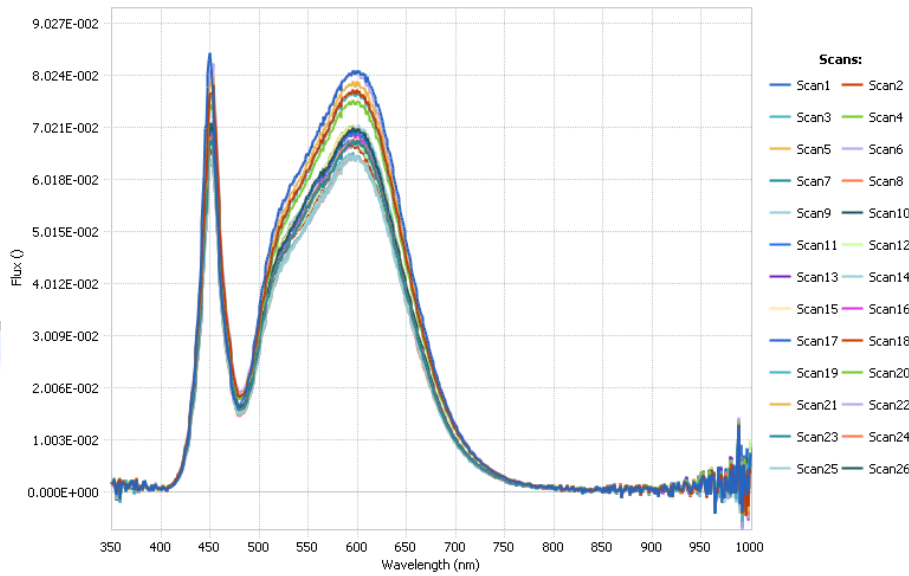
MUAYENE – DENEY SONUÇLARI / TEST RESULTS

FotometrikÖlçümler / Photometric measurements

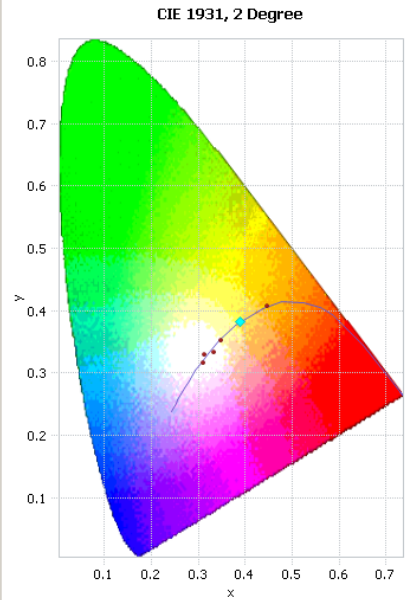
Parameter	Scan 6
Date/Time	10.06.2015
Radiant Flux (Watts)	11:28
Luminous Flux (lumens)	14,66
Scotopic Luminous Flux (lm')	4667,00
Chromaticity x coord	7527,00
Chromaticity y coord	0,3885
Chromaticity u coord	0,38
Chromaticity v coord	0,2291
Delta uv	0,3361
Chromaticity u' coord	0,001
Chromaticity v' coord	0,2291
Peak Wavelength (nm)	0,5042
Center Wavelength (nm)	452,3
Centroid Wavelength (nm)	451,9
Dominant Wavelength (nm)	572,3
Full Width Half Max Bandwidth (nm)	580,1
Excitation Purity (%)	23,4
Correlated Color Temperature (deg. K)	30,6
Correlation	3811
Correlation Coefficient	0,0054
Color Rendering Index Average (RA)	0,000730717
Color Rendering Index (R1)	83,57751
Color Rendering Index (R2)	82,5
Color Rendering Index (R3)	88,7
Color Rendering Index (R4)	93
Color Rendering Index (R5)	83,1
Color Rendering Index (R6)	82,1
Color Rendering Index (R7)	84,1
Color Rendering Index (R8)	87,2
Color Rendering Index (R9)	68
Color Rendering Index (R10)	18
Color Rendering Index (R11)	72,6
Color Rendering Index (R12)	81,8
Color Rendering Index (R13)	62,2
Color Rendering Index (R14)	83,8
Color Rendering Index (R14)	95,9

İSTANBUL AYDIN ÜNİVERSİTESİ AYDINLATMA TEST-ÖLÇÜM ve ANALİZ LABORATUARLARI**(İSTANBUL AYDIN UNIVERSITY LIGHTING TEST MEASUREMENT AND ANALYSIS LABORATORIES)****MUAYENE – DENEY SONUÇLARI / TEST RESULTS**

▼ SPECTRAL FLUX GRAPH:

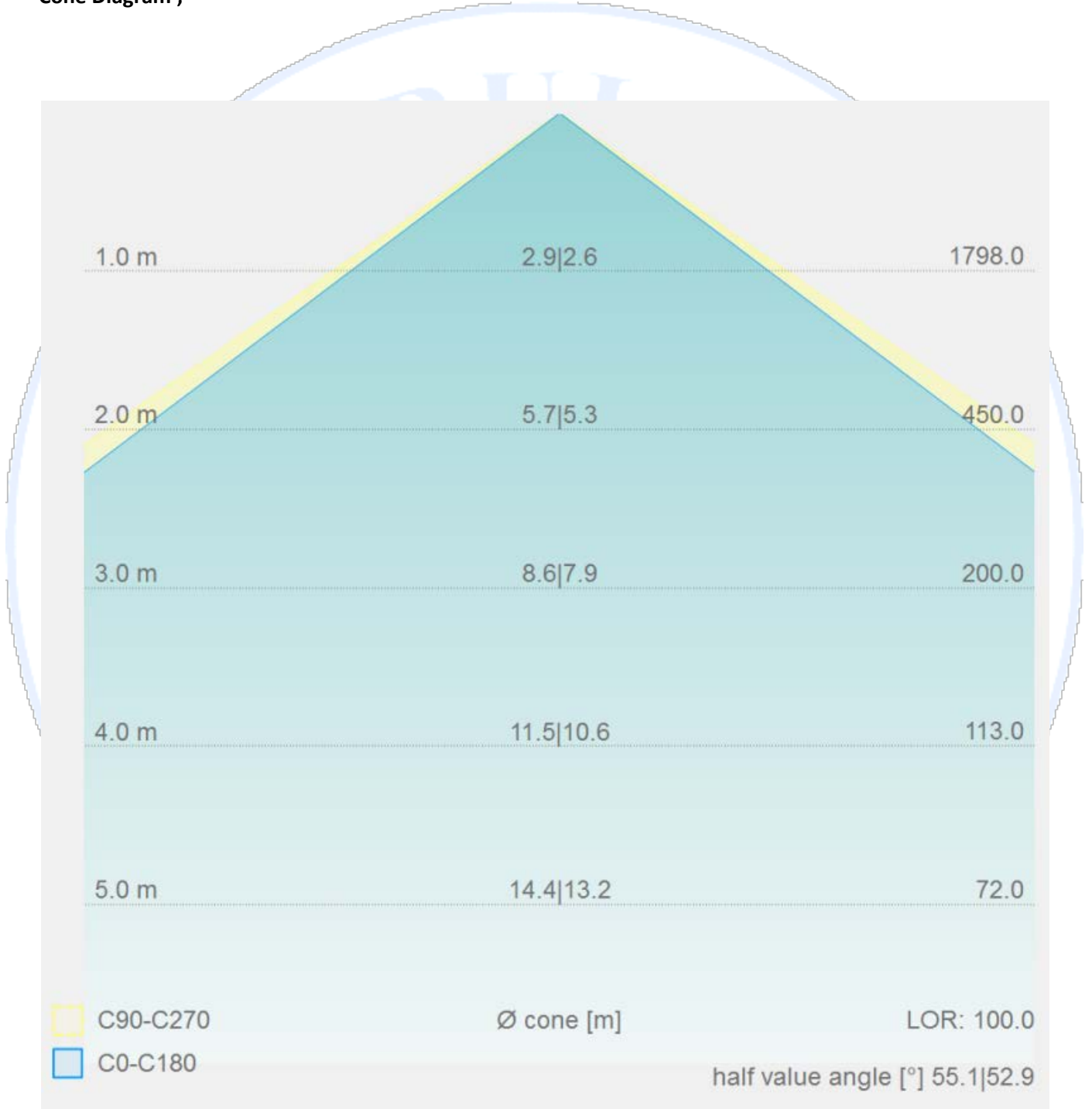


▼ CHROMATICITY DIAGRAM:

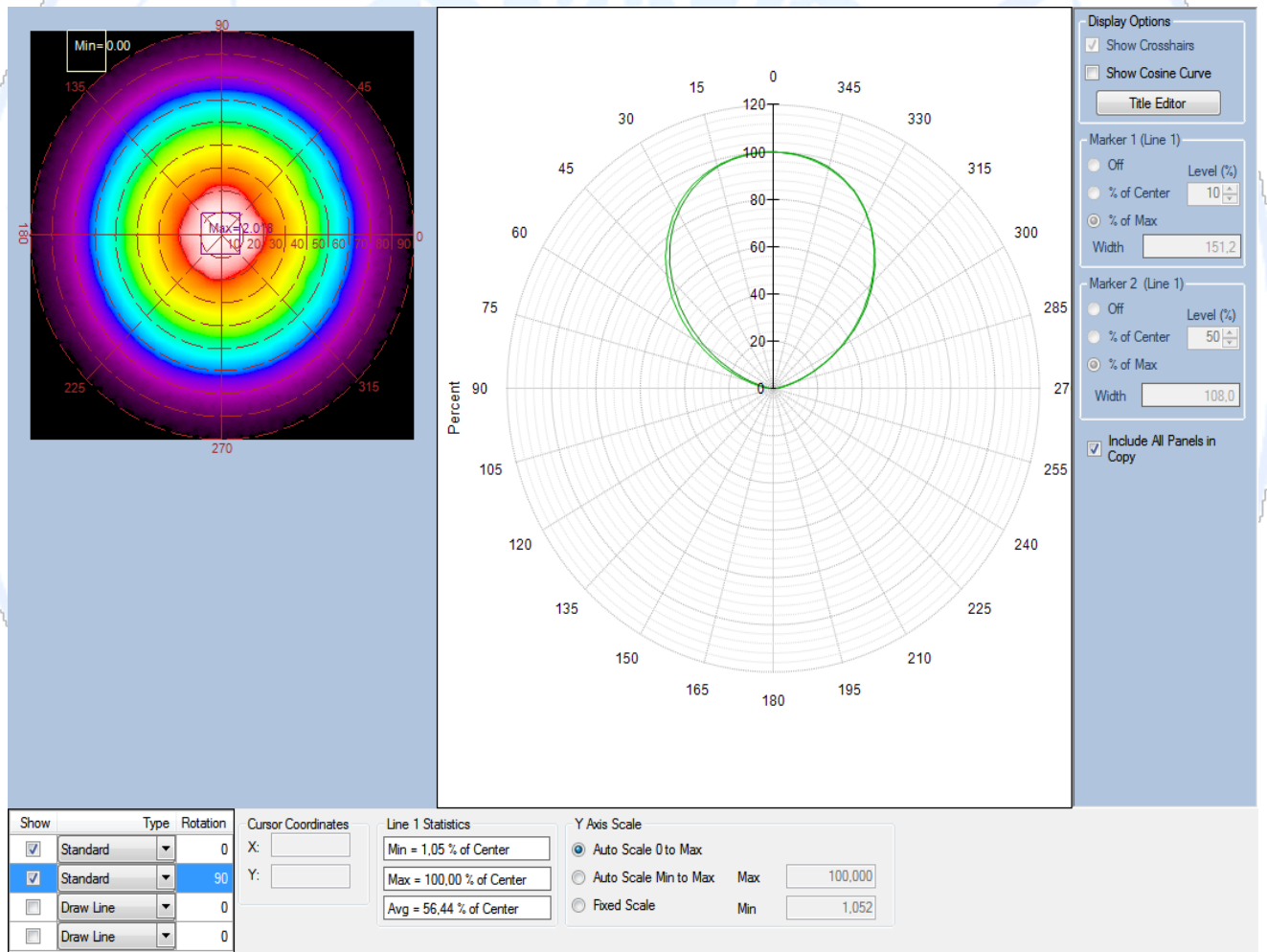


MUAYENE – DENEY SONUÇLARI / TEST RESULTS

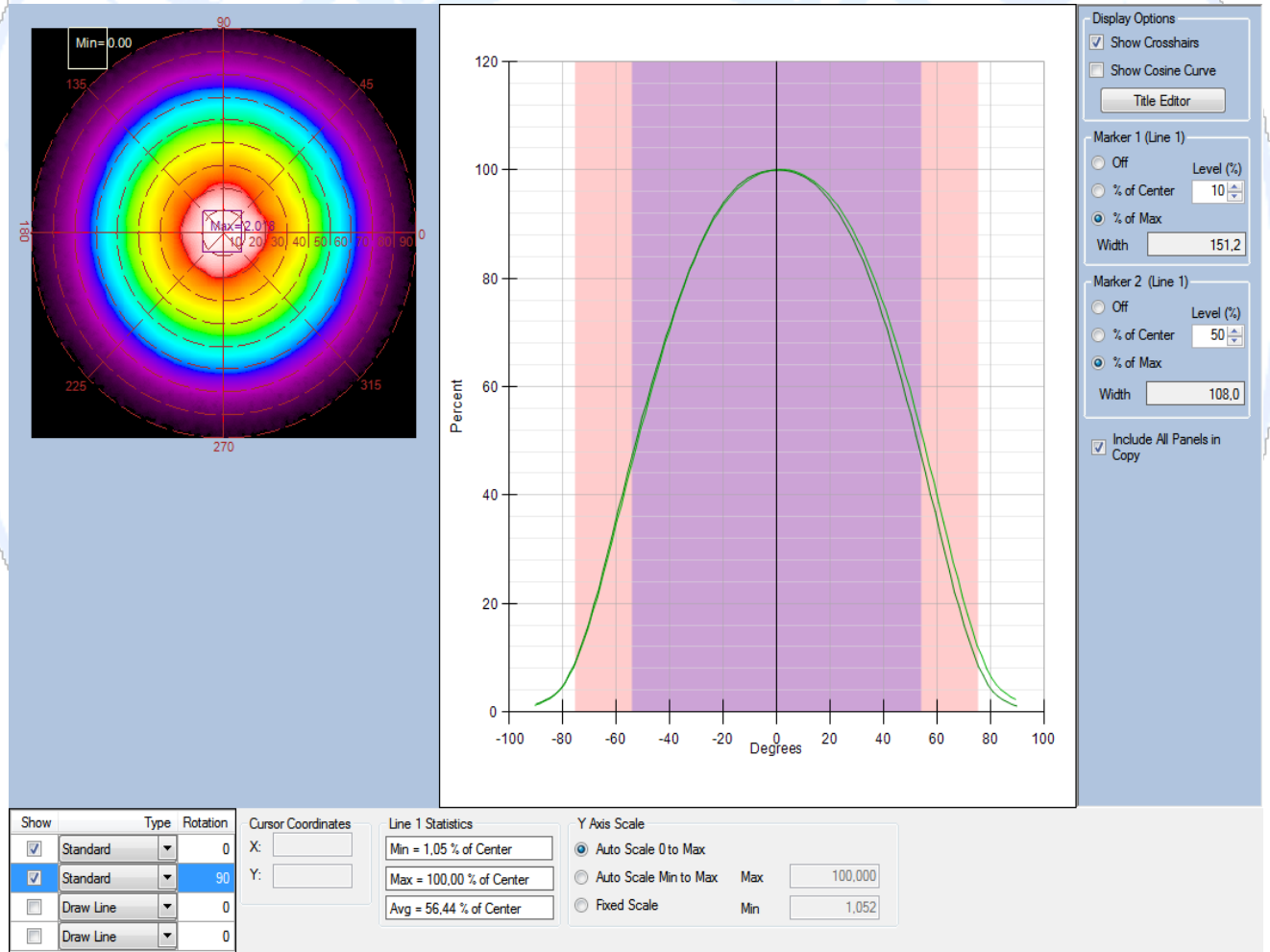
Cone Diagram ;



MUAYENE – DENEY SONUÇLARI / TEST RESULTS



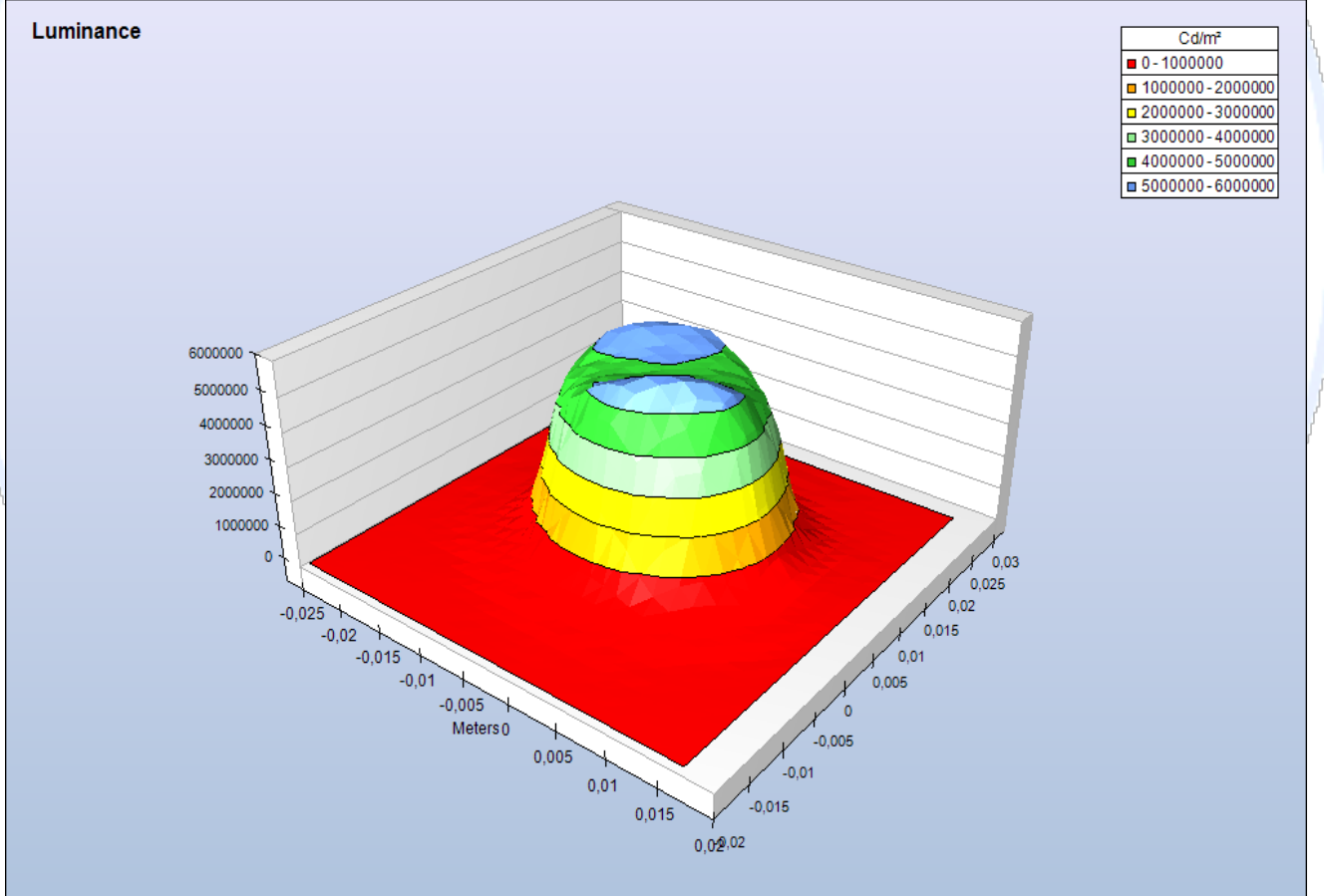
MUAYENE – DENEY SONUÇLARI / TEST RESULTS



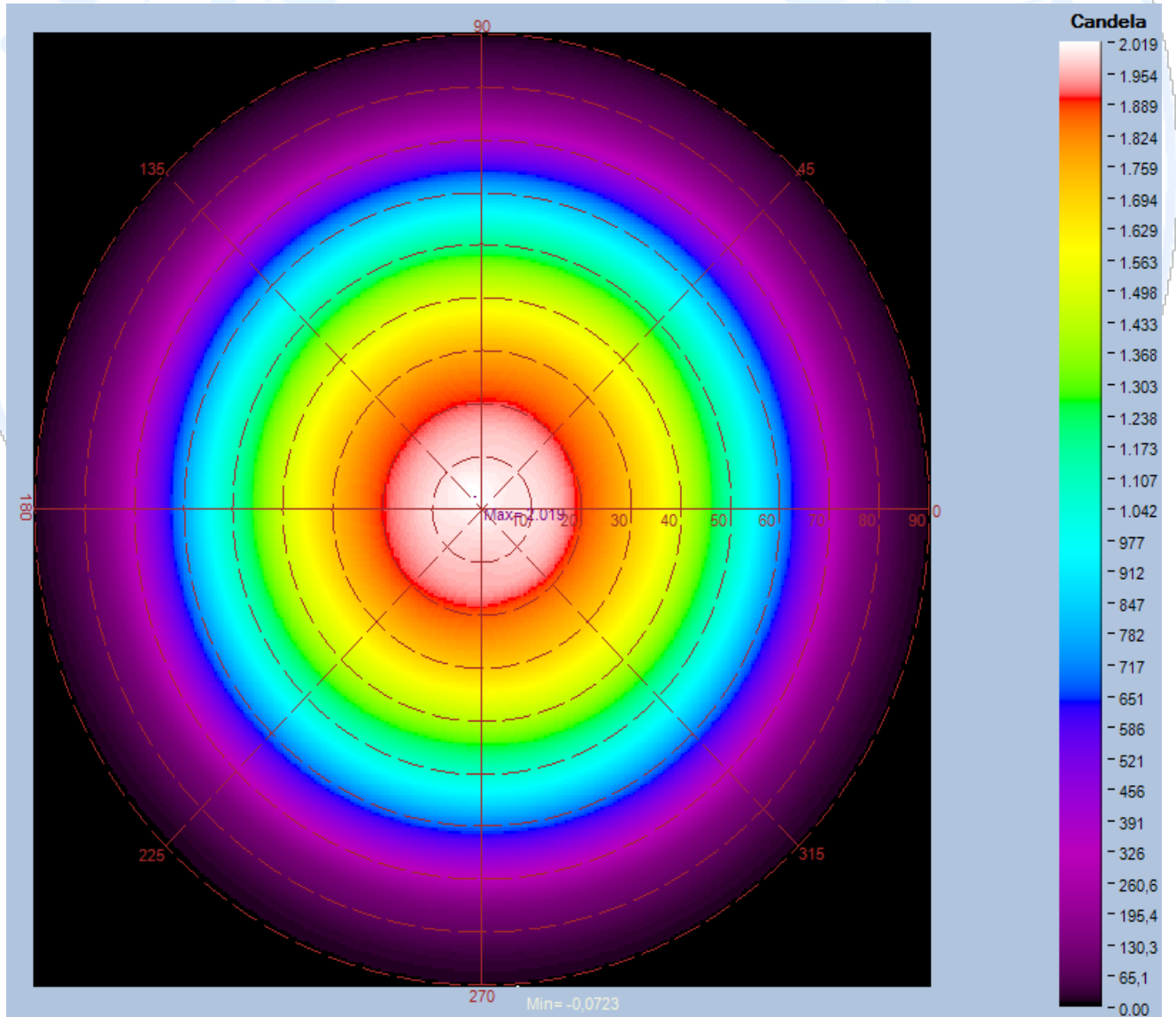
İSTANBUL AYDIN ÜNİVERSİTESİ AYDINLATMA TEST-ÖLÇÜM ve ANALİZ LABORATUARLARI

(ISTANBUL AYDIN UNIVERSITY LIGHTING TEST MEASUREMENT AND ANALYSIS LABORATORIES)

MUAYENE – DENEY SONUÇLARI / TEST RESULTS



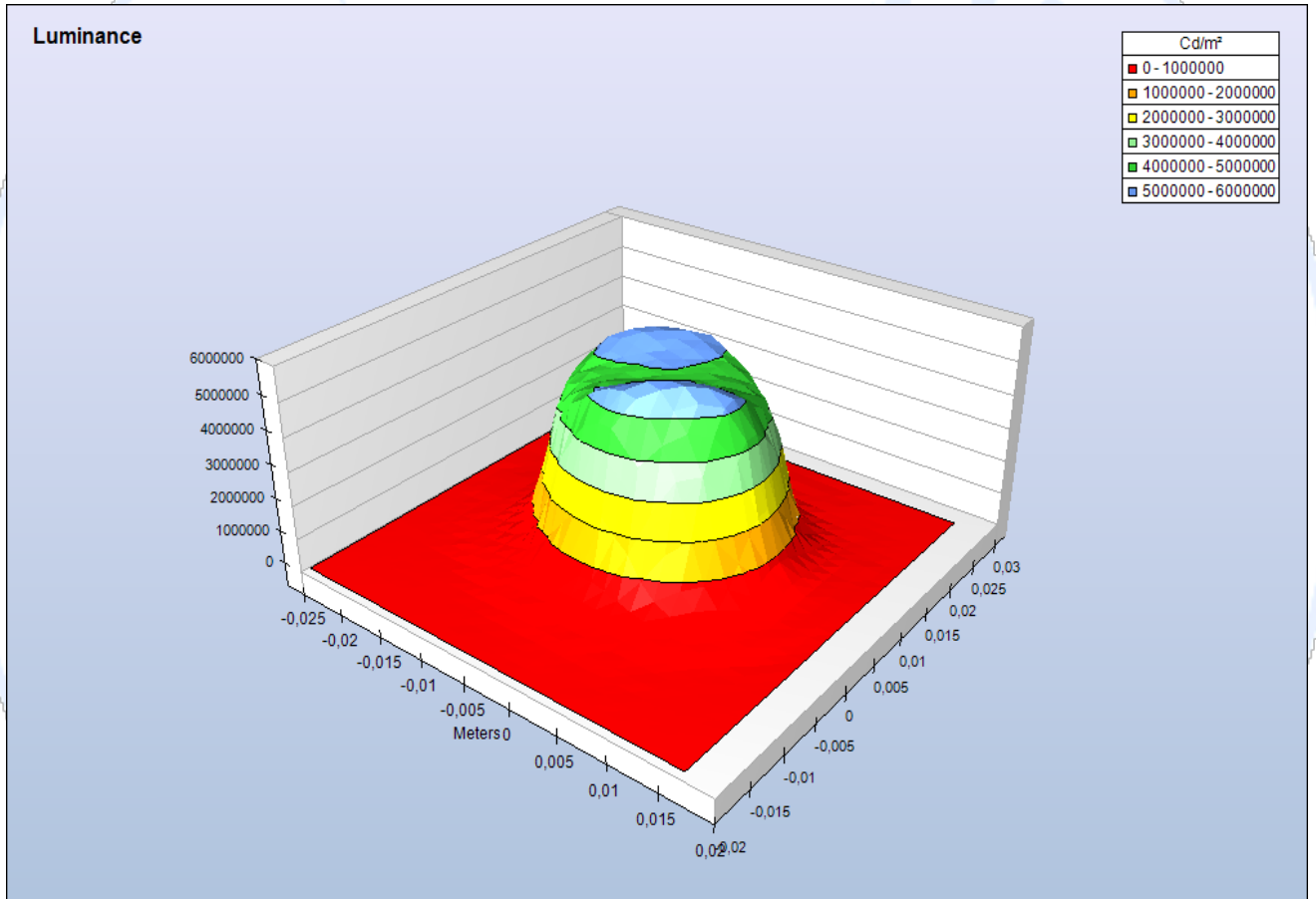
MUAYENE – DENEY SONUÇLARI / TEST RESULTS



İSTANBUL AYDIN ÜNİVERSİTESİ AYDINLATMA TEST-ÖLÇÜM ve ANALİZ LABORATUARLARI

(ISTANBUL AYDIN UNIVERSITY LIGHTING TEST MEASUREMENT AND ANALYSIS LABORATORIES)

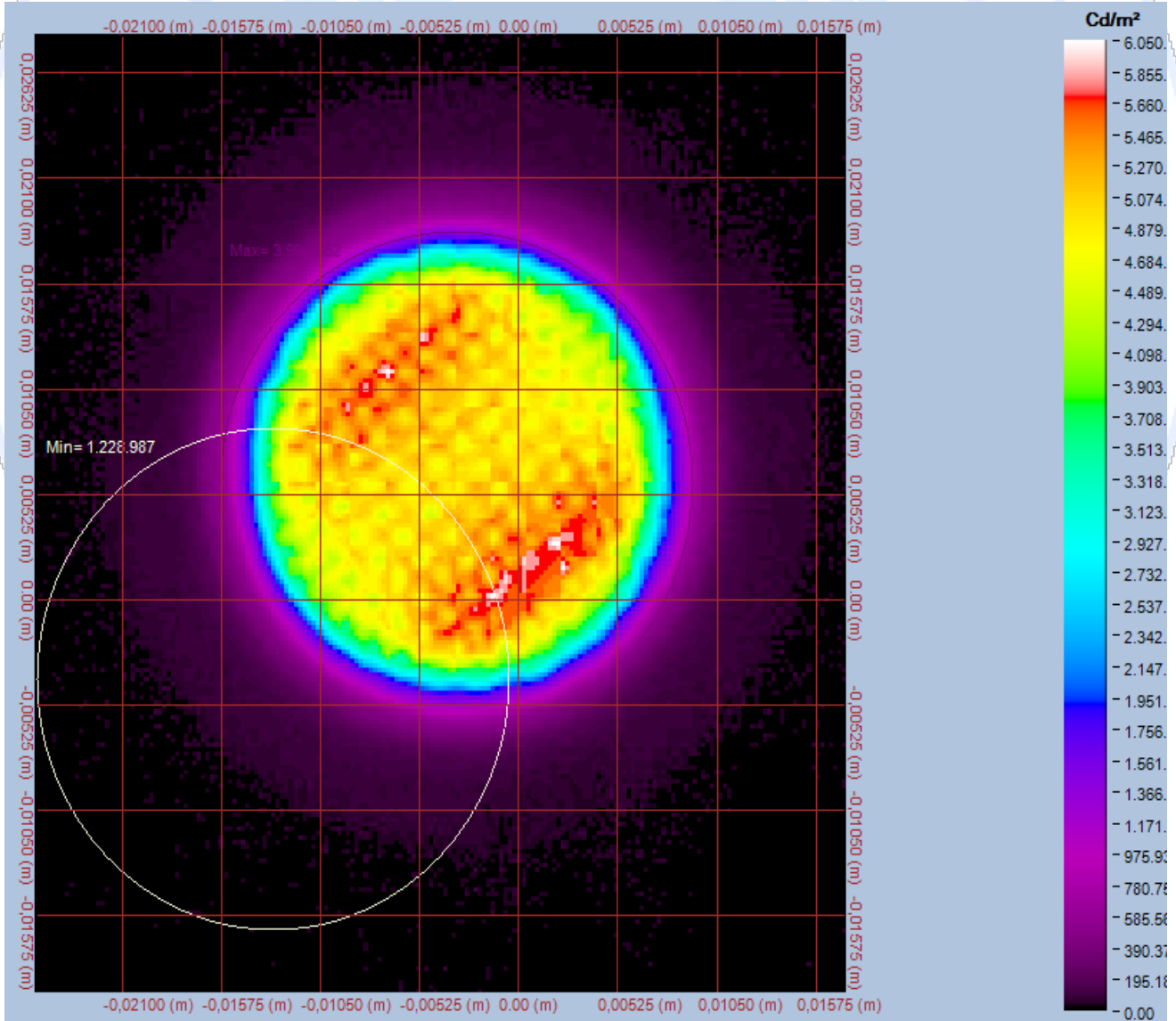
MUAYENE – DENEY SONUÇLARI / TEST RESULTS



İSTANBUL AYDIN ÜNİVERSİTESİ AYDINLATMA TEST-ÖLÇÜM ve ANALİZ LABORATUARLARI

(ISTANBUL AYDIN UNIVERSITY LIGHTING TEST MEASUREMENT AND ANALYSIS LABORATORIES)

MUAYENE – DENEY SONUÇLARI / TEST RESULTS



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 MEASUREMEN RESULTS

Kullanılan Cihaz/EquipmentUsed.....:	NFMS Goniophotometer LabSphere Sphere System
Uygulanan Standart-Metot/Applied Standard-Method.....:	TS EN13032-1:2004 +A1:2012LightandLighting – Measurementand Presentation of Photometric Data of Lampsand Luminaires-Part1: Measurementand File.
Deney Ortam Şartları/ExperimentalAmbientConditions.....:	25°C ±5°C, 35%RH±5%RH
Armatüre Uygulanan Gerilim / AppliedVoltage.....:	220V
Armatür Markası-Üretici /LuminaireBrand-Producer.....:	ODSEL ELEKTRONİK
Armatür Kodu-Modeli / LuminaireCode-Model.....:	6101-140-CB830TNN-048, 6103-140-CB830TNN-048 9101-140-CB830TNN-048, 9102-140-CB830TNN-048 9104-140-CB830TNN-048, 9303-140-CB830TNN-048 9700-140-CB830TNN-048, 9701-140-CB830TNN-048 9707-140-CB830TNN-048
Armatür Lamba Tipi-açıklama/Lamptype-description of Luminaire.....:	LED SPOT

İSTANBUL AYDIN ÜNİVERSİTESİ AYDINLATMA TEST-ÖLÇÜM ve ANALİZ LABORATUARLARI

(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.....:	38 W
Armatürün Ölçülen Işık Akısı /MeasuredLuminousFlux of Luminaire.....:	4032 lm (Effective Value)
Lamba Katalog Işık Akısı / LampCatalogLuminousFlux.....:	--
Armatür verimliliği (lm/Watt) / Luminousefficacy.....:	106,1 lm/Watt
Armatür Geri Verim (LOR)% / Luminousefficacy %.....:	--

FOTOMETRİK ÖLÇÜM BELİRSİZLİK TABLOSU / PHOTOMETRIC MEASUREMENT UNCERTAINTY BUDGET

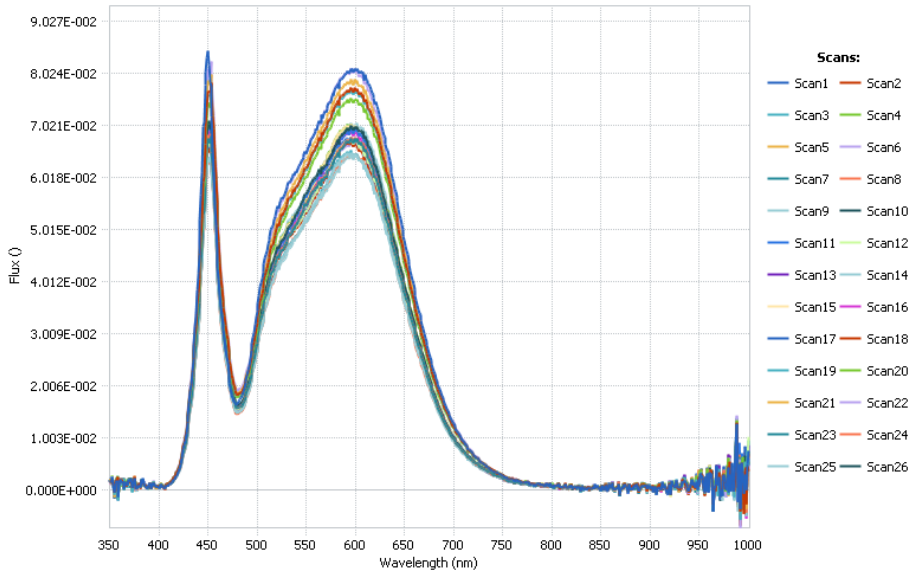
Deney/Test(Unit)	Ölçüm Belirsizliği/Uncertainty
Radiant Flux (Watt)	1,3%
Luminous flux (Lumen / Lm)	1,08%
Correlated Color Temperature [CCT – Kelvin(K)]	7K
Chromaticity x coord	0,02
Chromaticity y coord	0,02
Chromaticity u' coord	0,02
Chromaticity v' coord	0,02
Color Rendering Index	1,4

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

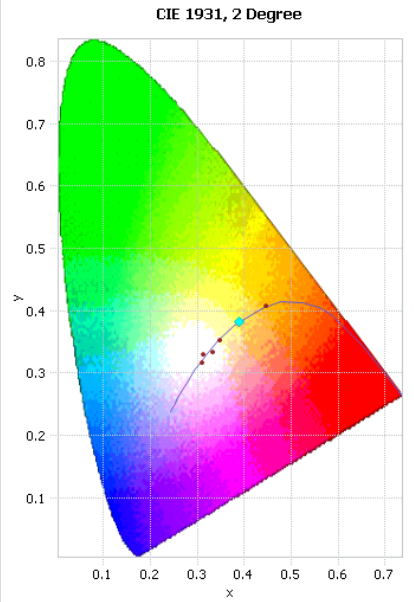
Parameter	Scan 10
Date/Time	10.06.2015
Radiant Flux (Watts)	11:34
Luminous Flux (lumens)	12,60
Scotopic Luminous Flux (lm')	4032,00
Chromaticity x coord	6527,00
Chromaticity y coord	0,3873
Chromaticity u coord	0,3808
Chromaticity v coord	0,228
Delta uv	0,3363
Chromaticity u' coord	0,0003
Chromaticity v' coord	0,228
Peak Wavelength (nm)	0,5044
Center Wavelength (nm)	450,7
Centroid Wavelength (nm)	451,7
Dominant Wavelength (nm)	572,1
Full Width Half Max Bandwidth (nm)	579,7
Excitation Purity (%)	23,1
Correlated Color Temperature (deg. K)	30,5
Correlation	3846
Correlation Coefficient	0,0054
Color Rendering Index Average (RA)	0,000149258
Color Rendering Index (R1)	83,1274489
Color Rendering Index (R2)	82
Color Rendering Index (R3)	88,3
Color Rendering Index (R4)	92,8
Color Rendering Index (R5)	82,8
Color Rendering Index (R6)	81,5
Color Rendering Index (R7)	83,6
Color Rendering Index (R8)	87
Color Rendering Index (R9)	67
Color Rendering Index (R10)	14,8
Color Rendering Index (R11)	71,7
Color Rendering Index (R12)	81,4
Color Rendering Index (R13)	61,3
Color Rendering Index (R14)	83,3
Color Rendering Index (R14)	95,8

MUAYENE – DENEY SONUÇLARI / TEST RESULTS

▼ SPECTRAL FLUX GRAPH:

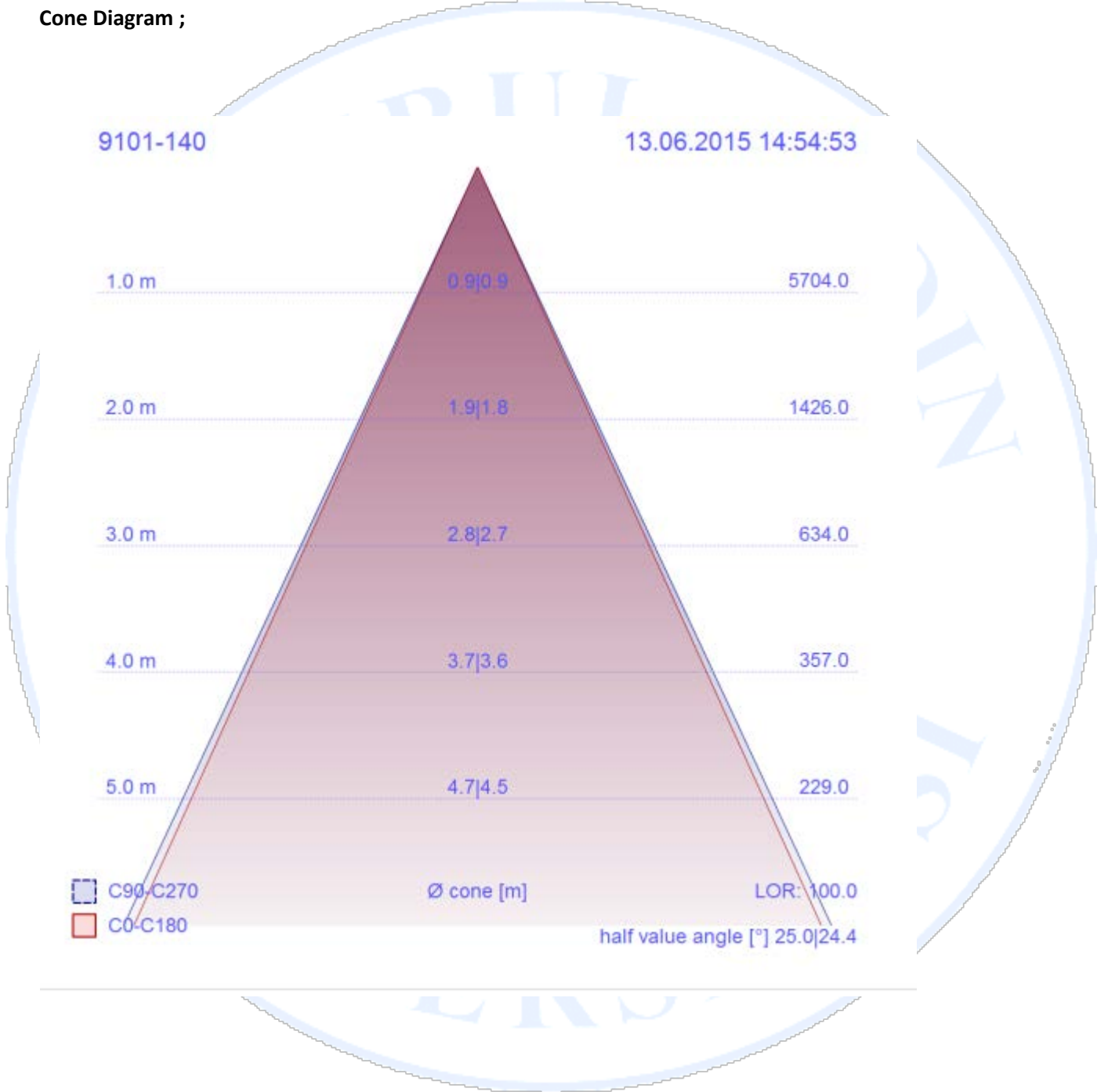


▼ CHROMATICITY DIAGRAM:

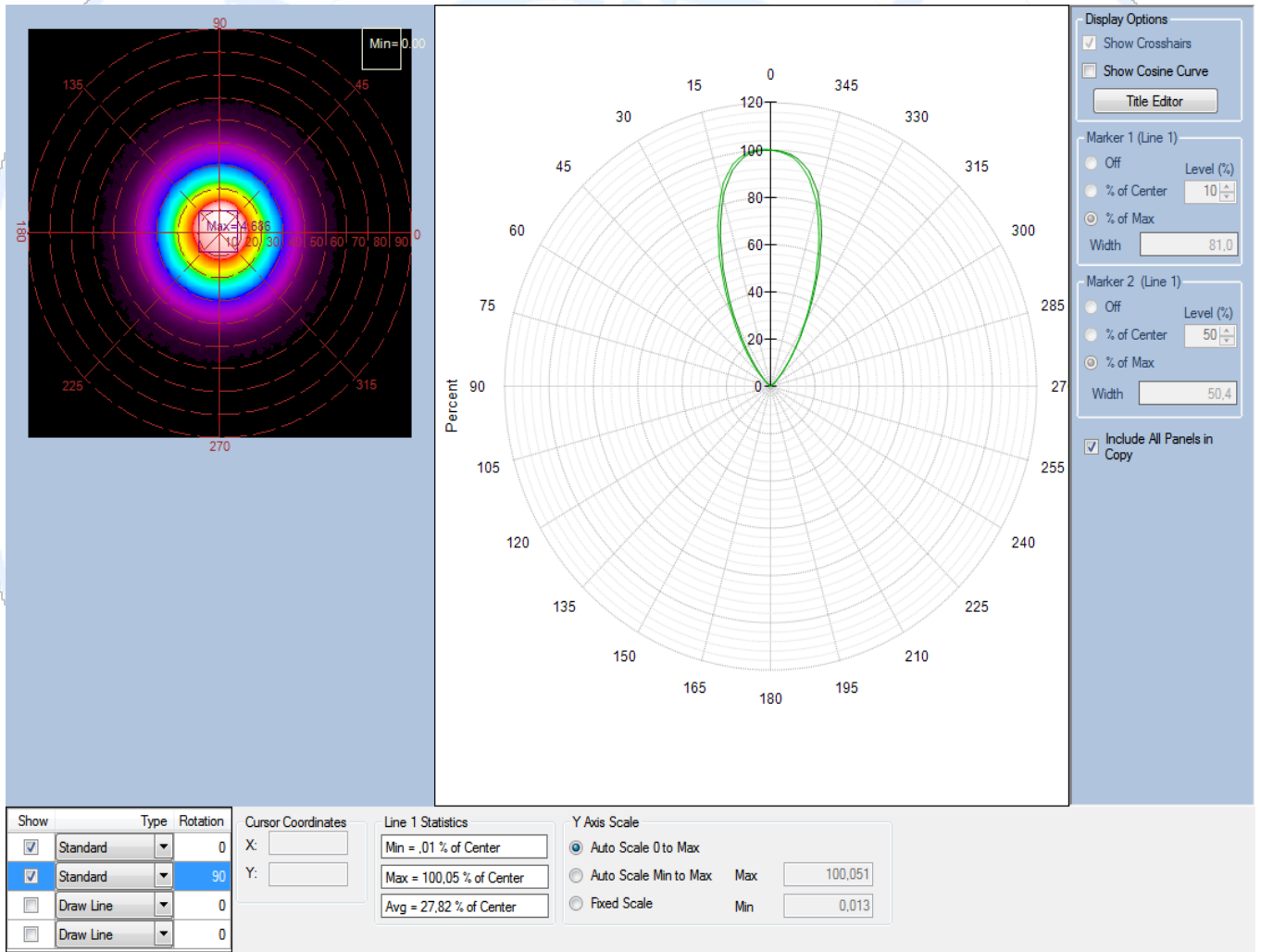


MUAYENE – DENEY SONUÇLARI / TEST RESULTS

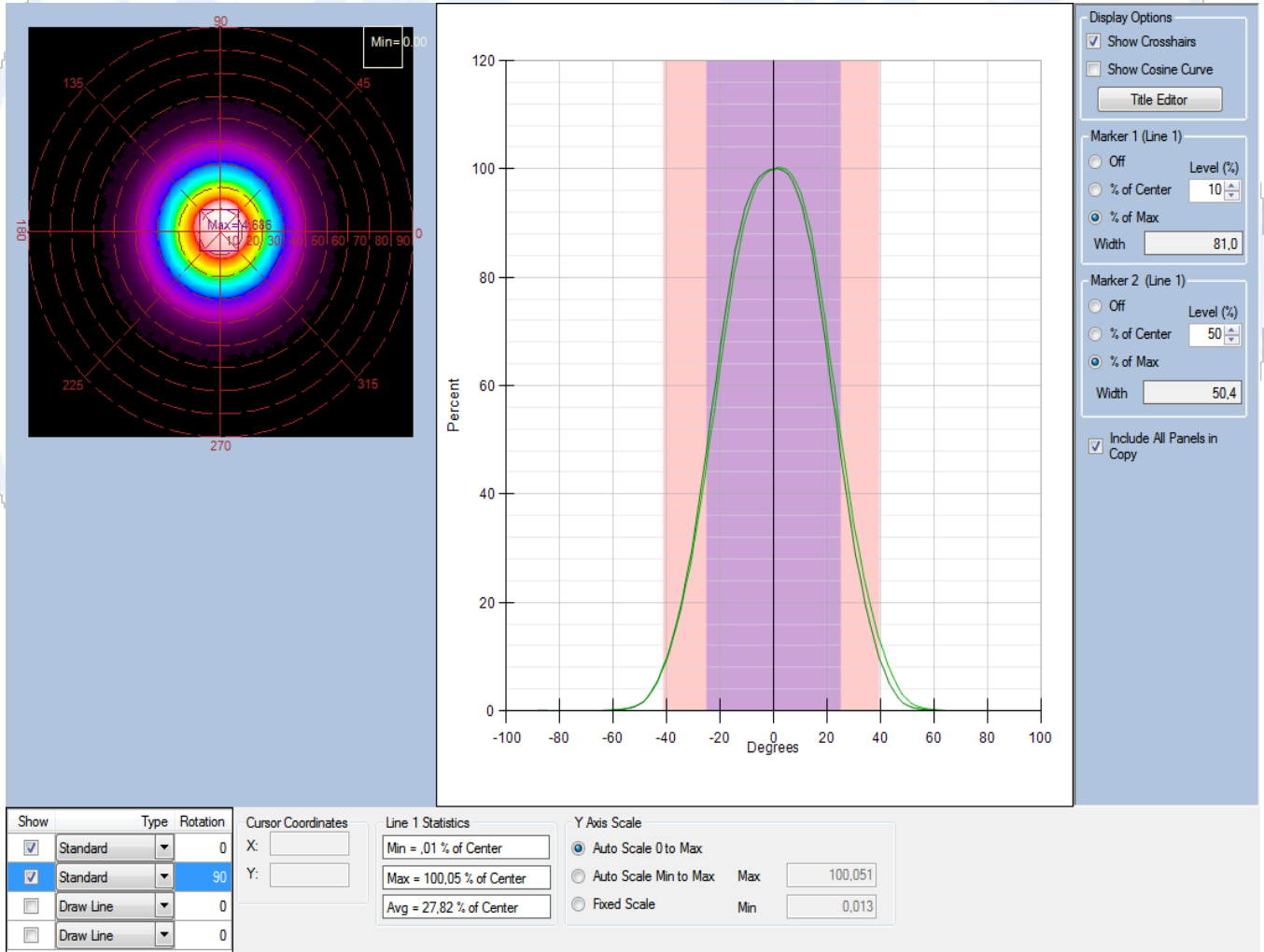
Cone Diagram ;



MUAYENE – DENEY SONUÇLARI / TEST RESULTS



MUAYENE – DENEY SONUÇLARI / TEST RESULTS

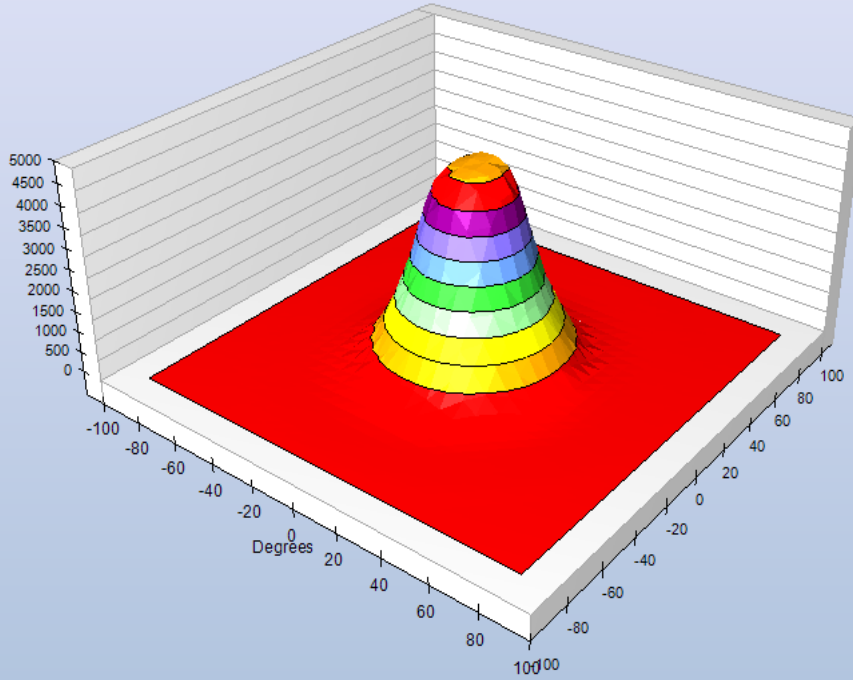


İSTANBUL AYDIN ÜNİVERSİTESİ AYDINLATMA TEST-ÖLÇÜM ve ANALİZ LABORATUARLARI

(ISTANBUL AYDIN UNIVERSITY LIGHTING TEST MEASUREMENT AND ANALYSIS LABORATORIES)

MUAYENE – DENEY SONUÇLARI / TEST RESULTS

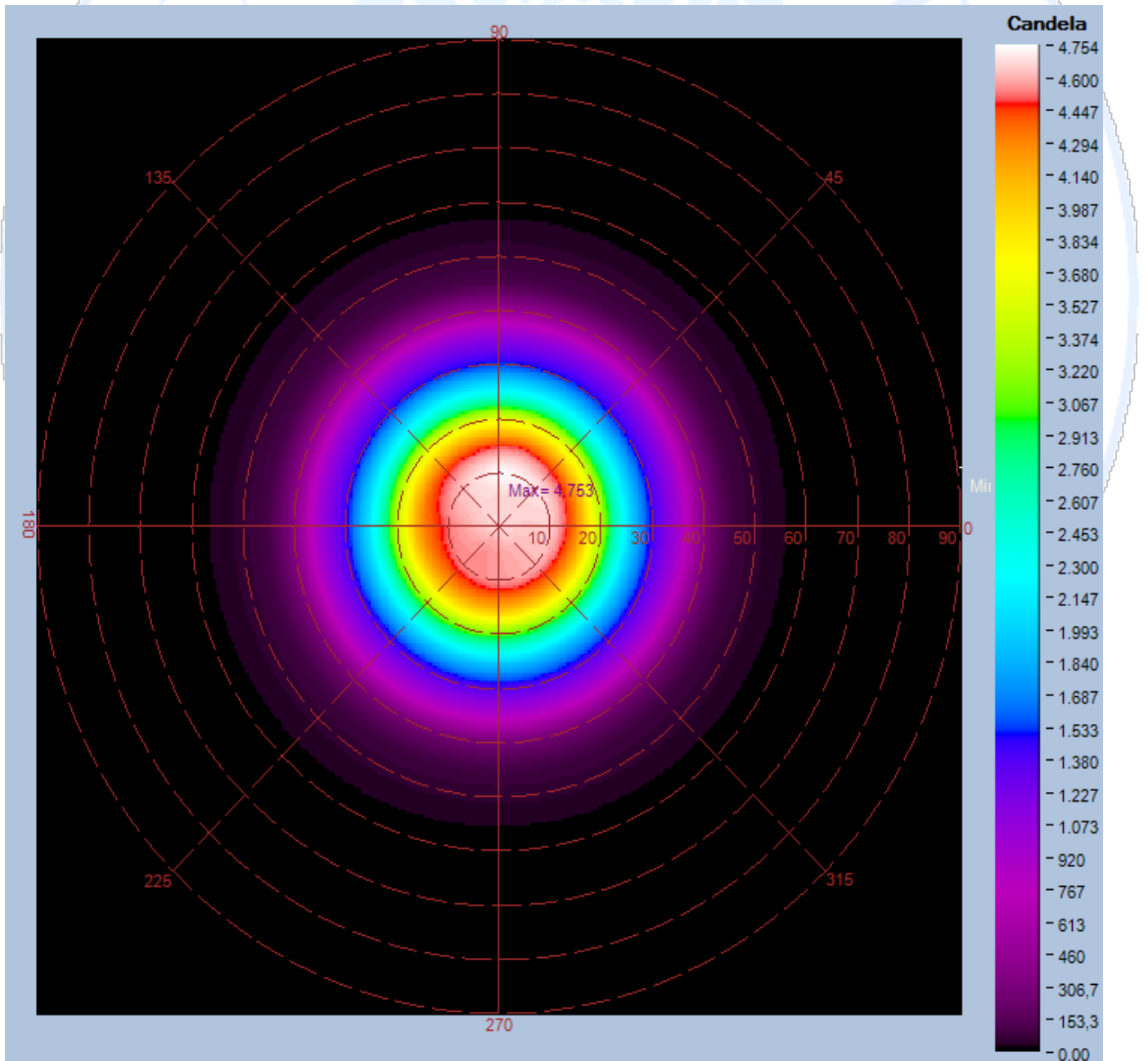
Luminous Intensity



İSTANBUL AYDIN ÜNİVERSİTESİ AYDINLATMA TEST-ÖLÇÜM ve ANALİZ LABORATUARLARI

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MUAYENE – DENEY SONUÇLARI / TEST RESULTS

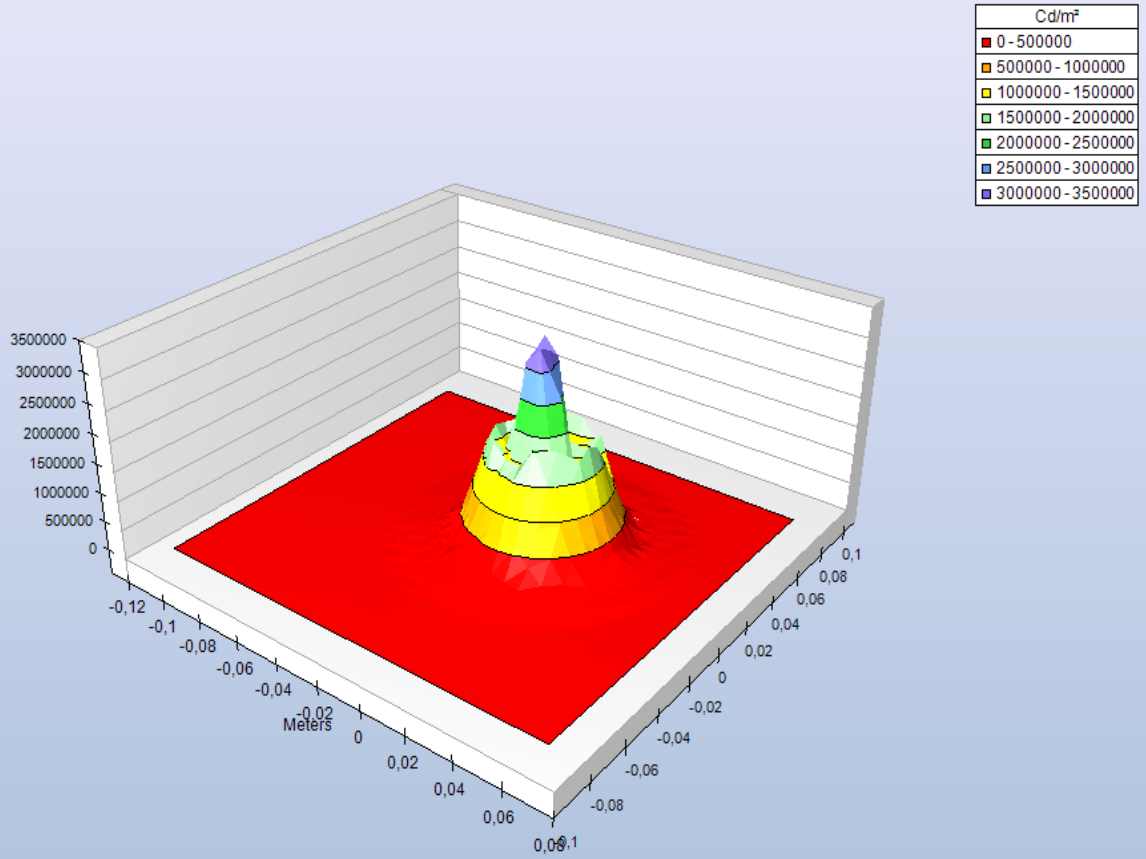


İSTANBUL AYDIN ÜNİVERSİTESİ AYDINLATMA TEST-ÖLÇÜM ve ANALİZ LABORATUARLARI

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MUAYENE – DENEY SONUÇLARI / TEST RESULTS

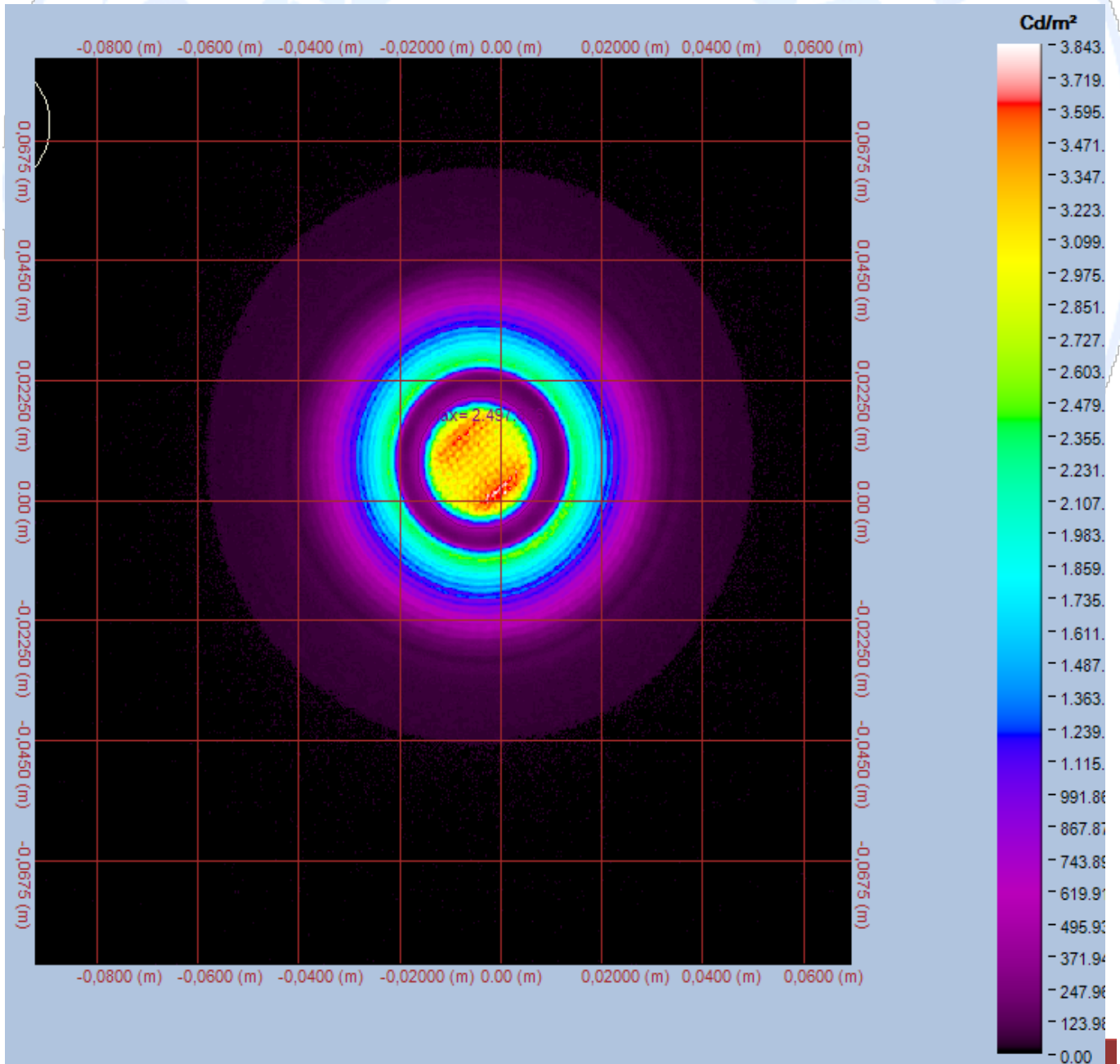
Luminance



İSTANBUL AYDIN ÜNİVERSİTESİ AYDINLATMA TEST-ÖLÇÜM ve ANALİZ LABORATUARLARI

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MUAYENE – DENEY SONUÇLARI / TEST RESULTS



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 MEASUREMEN RESULTS**

Kullanılan Cihaz/EquipmentUsed.....:	NFMS Goniophotometer LabSphere Sphere System
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Deney Ortam Şartları/ExperimentalAmbientConditions.....:	25°C ±5°C, 35%RH±5%RH
Armatüre Uygulanan Gerilim / AppliedVoltage.....:	220V
Armatür Markası-Üretici /LuminaireBrand-Producer.....:	ODSEL LEKTRONİK
Armatür Kodu-Modeli / LuminaireCode-Model.....:	6101-140-CB830TNN-036, 6103-140-CB830TNN-036 9101-140-CB830TNN-036, 9102-140-CB830TNN-036 9104-140-CB830TNN-036, 9303-140-CB830TNN-036 9700-140-CB830TNN-036, 9701-140-CB830TNN-036 9707-140-CB830TNN-036
Armatür Lamba Tipi-açıklama/Lamptype-description of Luminaire.....:	LED SPOT

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 MEASUREMENT RESULTS**

Armatürde Ölçülen Toplam Güç/Measured Total Power of Luminaire.....:	38 W
Armatürün Ölçülen Işık Akısı /MeasuredLuminousFlux of Luminaire.....:	4030 lm (Effective Value)
Lamba Katalog Işık Akısı / LampCatalogLuminousFlux.....:	--
Armatür verimliliği (lm/Watt) / Luminousefficacy.....:	106,05 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)

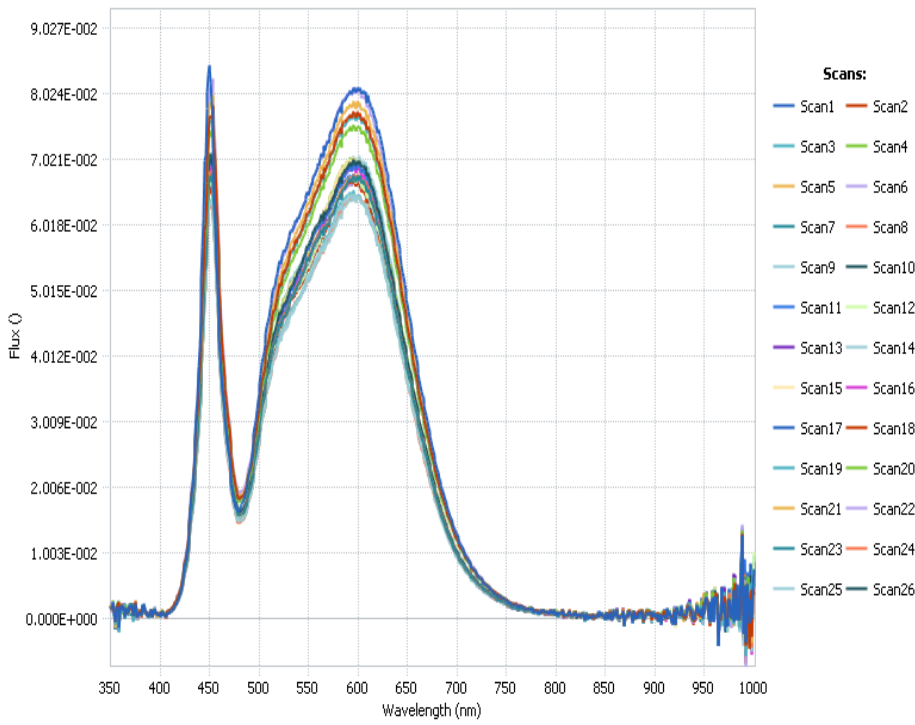
MUAYENE – DENEY SONUÇLARI / TEST RESULTS

Fotometrik Ölçümler / Photometric measurements

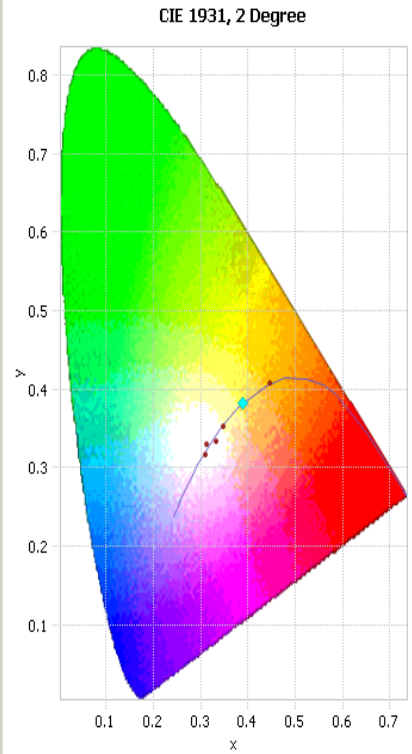
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Radiant Flux (Watts)	12,56
Luminous Flux (lumens)	4030,00
Scotopic Luminous Flux (lm')	6491,00
Chromaticity x coord	0,3882
Chromaticity y coord	0,3821
Chromaticity u coord	0,2281
Chromaticity v coord	0,3367
Delta uv	0,0001
Chromaticity u' coord	0,2281
Chromaticity v' coord	0,5051
Peak Wavelength (nm)	595,2
Center Wavelength (nm)	580,7
Centroid Wavelength (nm)	572,2
Dominant Wavelength (nm)	579,5
Full Width Half Max Bandwidth (nm)	150,1
Excitation Purity (%)	31,2
Correlated Color Temperature (deg. K)	3833
Correlation	0,0054
Correlation Coefficient	0,000330184
Color Rendering Index Average (RA)	82,73254045
Color Rendering Index (R1)	81,2
Color Rendering Index (R2)	88
Color Rendering Index (R3)	93,1
Color Rendering Index (R4)	82,3
Color Rendering Index (R5)	81
Color Rendering Index (R6)	83,3
Color Rendering Index (R7)	86,8
Color Rendering Index (R8)	66,3
Color Rendering Index (R9)	13
Color Rendering Index (R10)	71,3
Color Rendering Index (R11)	81
Color Rendering Index (R12)	60,8
Color Rendering Index (R13)	82,7
Color Rendering Index (R14)	96

MUAYENE – DENEY SONUÇLARI / TEST RESULTS

▼ SPECTRAL FLUX GRAPH:

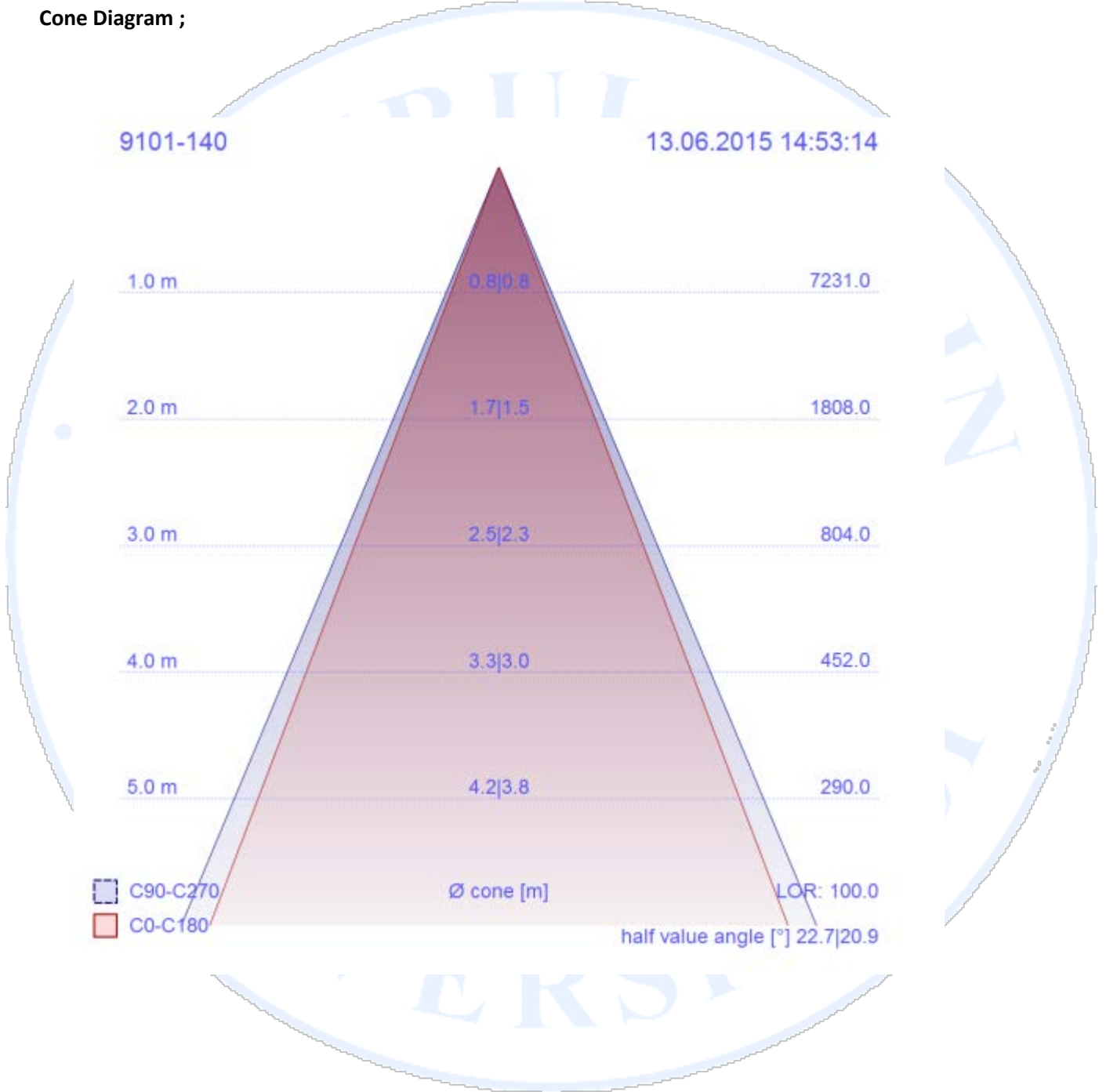


▼ CHROMATICITY DIAGRAM:

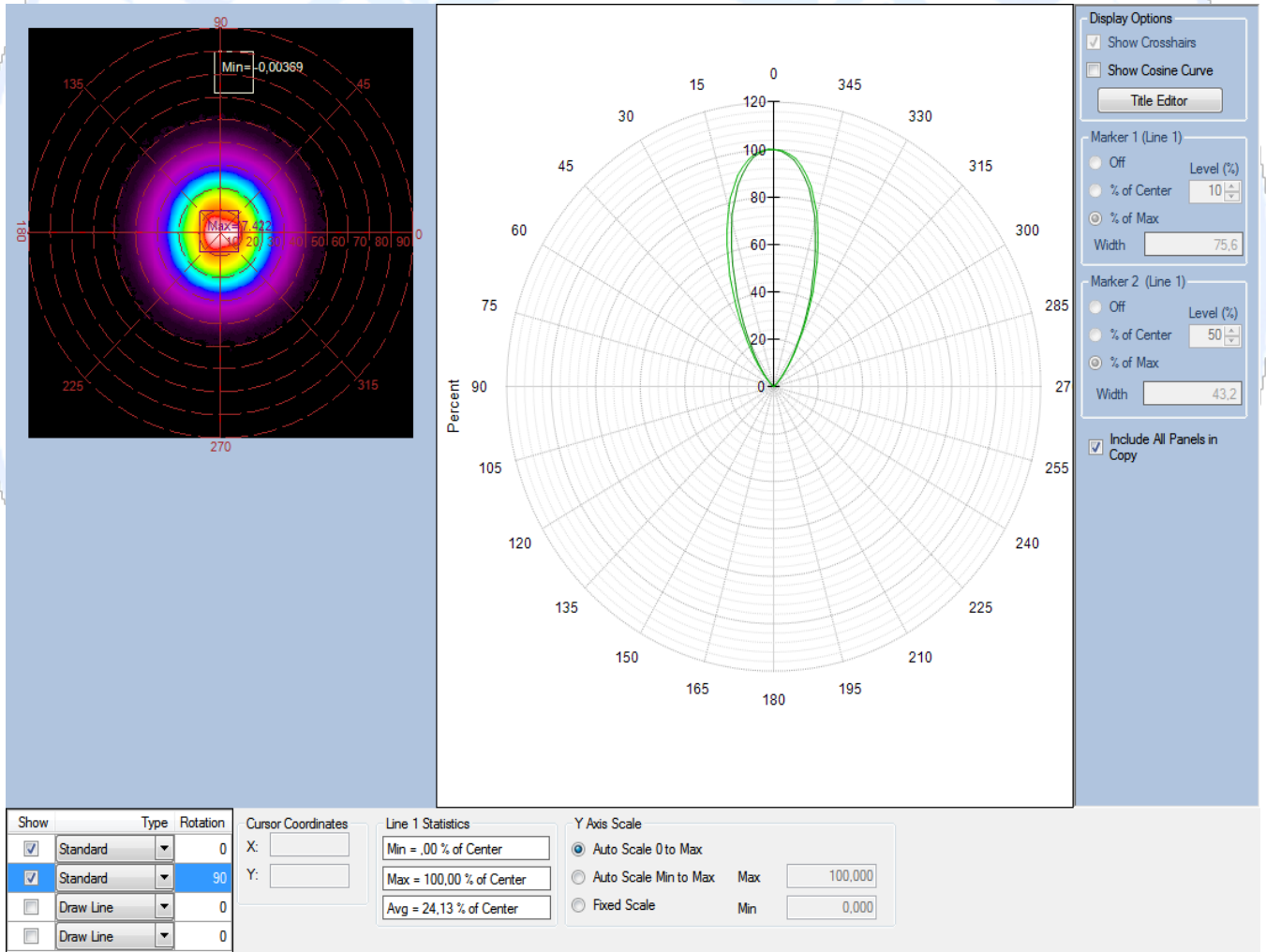


MUAYENE – DENEY SONUÇLARI / TEST RESULTS

Cone Diagram ;

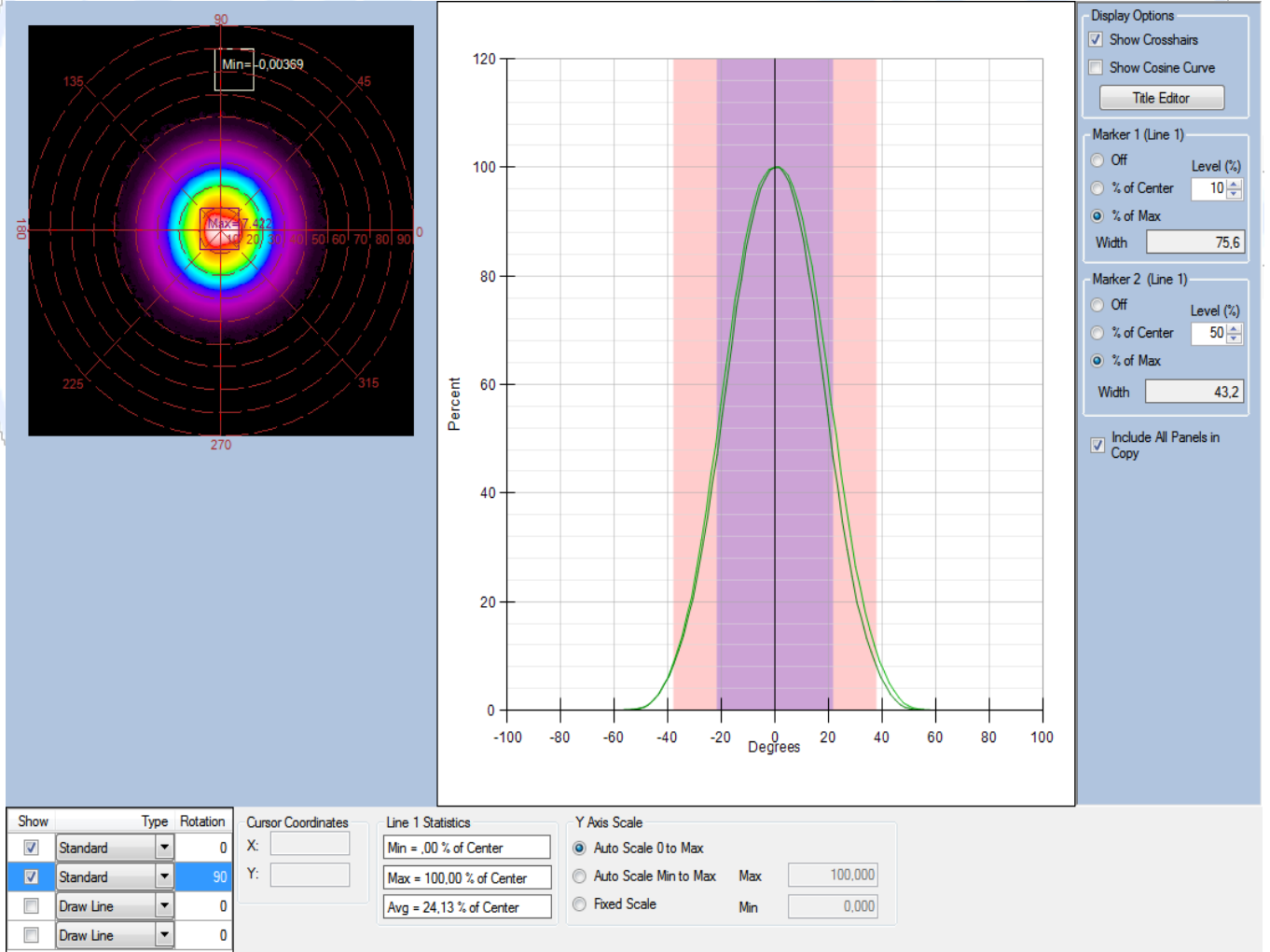


MUAYENE – DENEY SONUÇLARI / TEST RESULTS



İSTANBUL AYDIN ÜNİVERSİTESİ AYDINLATMA TEST-ÖLÇÜM ve ANALİZ LABORATUARLARI
(ISTANBUL AYDIN UNIVERSITY LIGHTING TEST MEASUREMENT AND ANALYSIS LABORATORIES)

MUAYENE – DENEY SONUÇLARI / TEST RESULTS

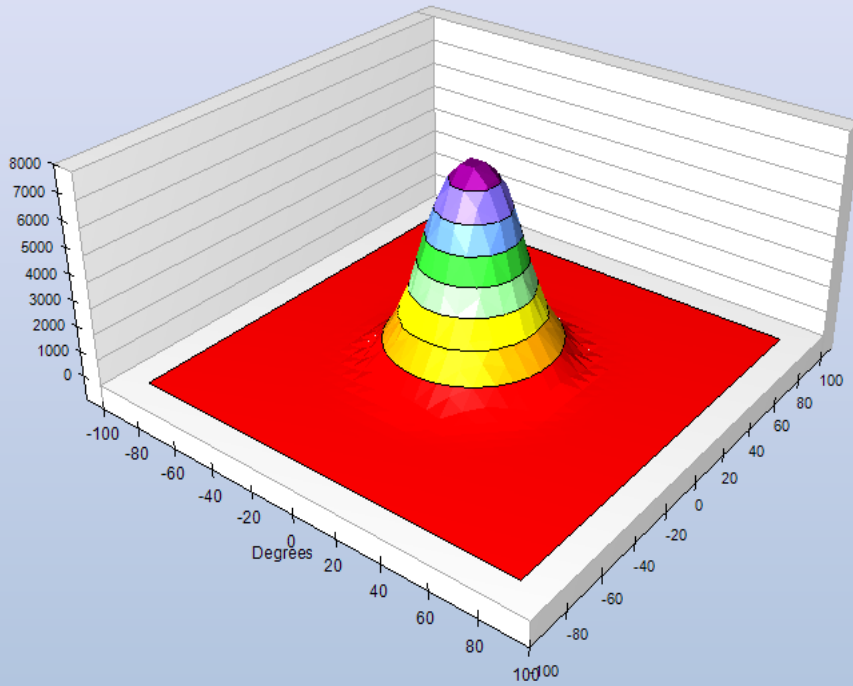


İSTANBUL AYDIN ÜNİVERSİTESİ AYDINLATMA TEST-ÖLÇÜM ve ANALİZ LABORATUARLARI

(ISTANBUL AYDIN UNIVERSITY LIGHTING TEST MEASUREMENT AND ANALYSIS LABORATORIES)

MUAYENE – DENEY SONUÇLARI / TEST RESULTS

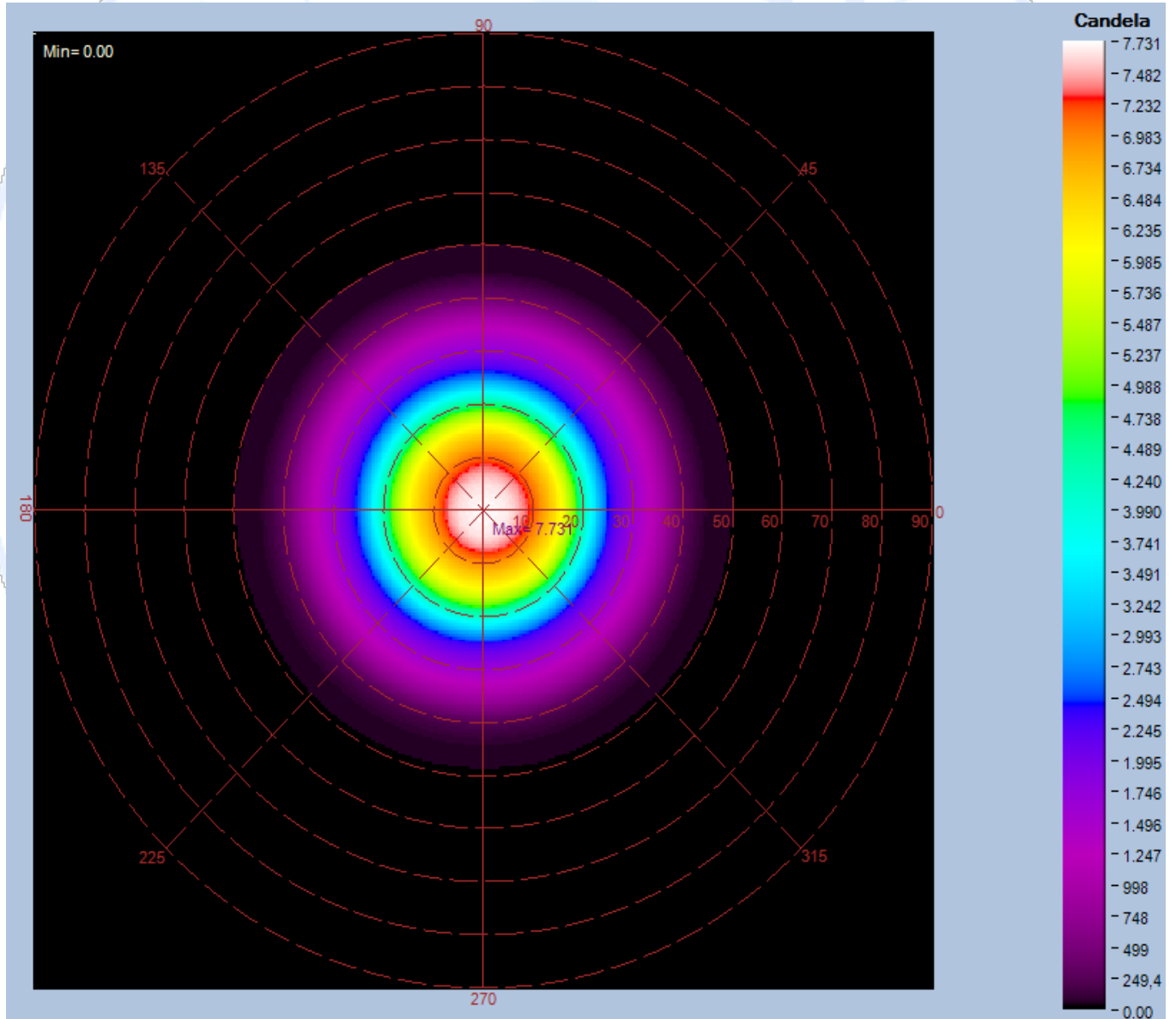
Luminous Intensity



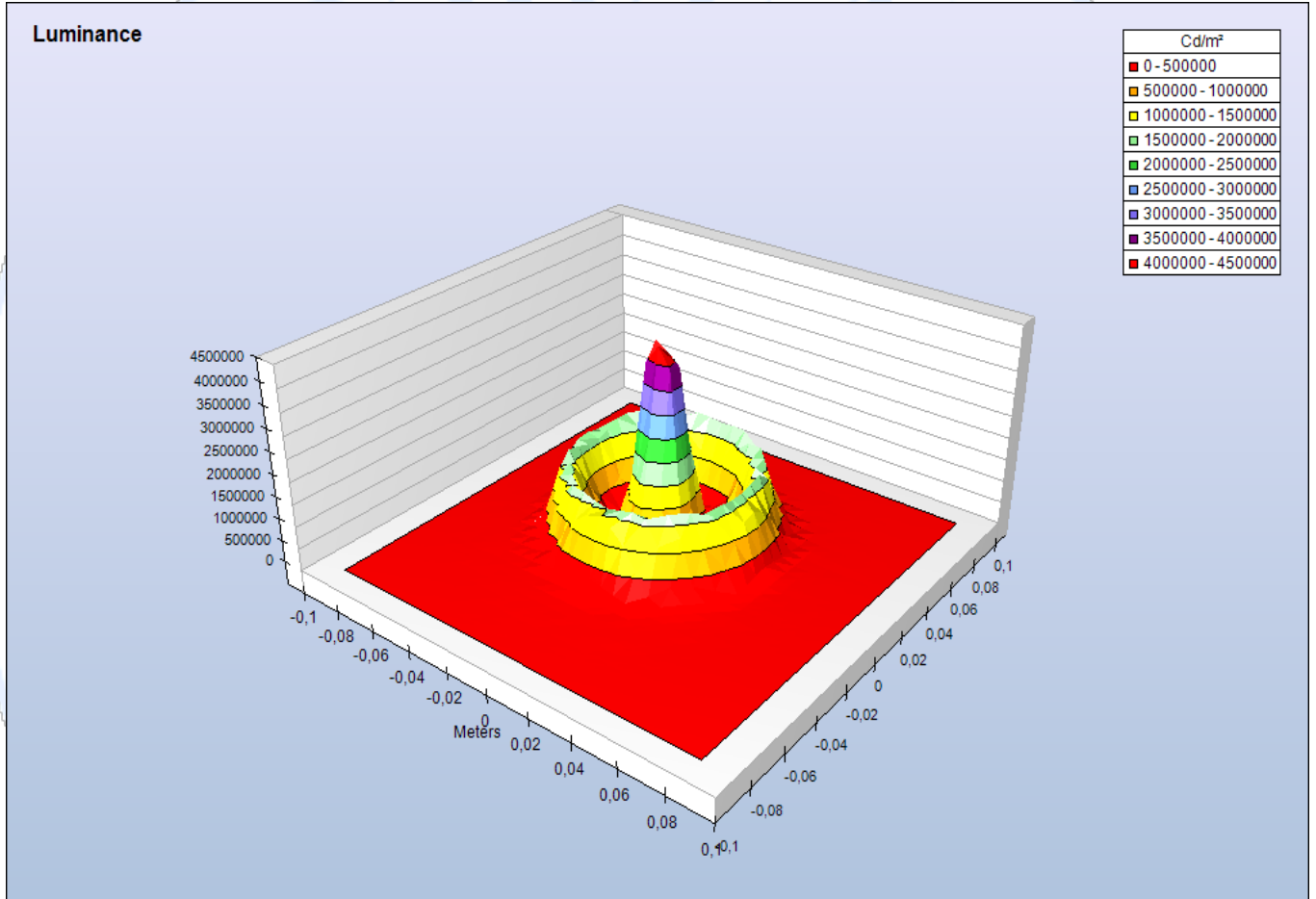
İSTANBUL AYDIN ÜNİVERSİTESİ AYDINLATMA TEST-ÖLÇÜM ve ANALİZ LABORATUARLARI

(ISTANBUL AYDIN UNIVERSITY LIGHTING TEST MEASUREMENT AND ANALYSIS LABORATORIES)

MUAYENE – DENEY SONUÇLARI / TEST RESULTS



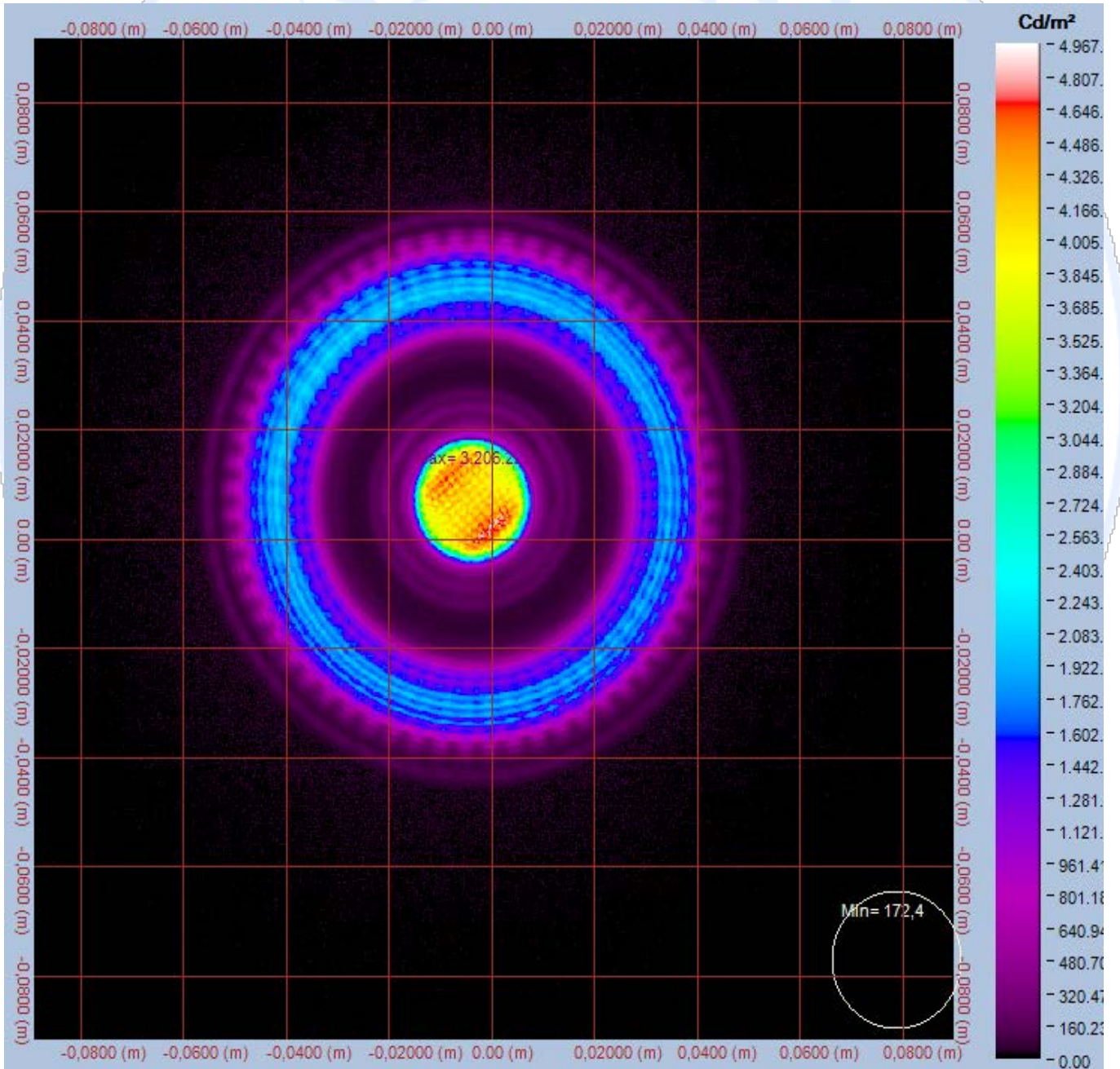
MUAYENE – DENEY SONUÇLARI / TEST RESULTS



İSTANBUL AYDIN ÜNİVERSİTESİ AYDINLATMA TEST-ÖLÇÜM ve ANALİZ LABORATUARLARI

(ISTANBUL AYDIN UNIVERSITY LIGHTING TEST MEASUREMENT AND ANALYSIS LABORATORIES)

MUAYENE – DENEY SONUÇLARI / TEST RESULTS



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**

Kullanılan Cihaz/EquipmentUsed.....:	NFMS Goniophotometer LabSphere Sphere System
Uygulanan Standart-Metot/Applied Standard-Method.....:	TS EN13032-1:2004 +A1:2012LightandLighting – Measurementand Presentation of Photometric Data of Lampsand Luminaires-Part1: Measurementand File.
Deney Ortam Şartları/ExperimentalAmbientConditions.....:	25°C ±5°C, 35%RH±5%RH
Armatüre Uygulanan Gerilim / AppliedVoltage.....:	220V
Armatür Markası-Üretici /LuminaireBrand-Producer.....:	ODSEL ELEKTRONİK
Armatür Kodu-Modeli / LuminaireCode-Model.....:	6101-140-CB830TNN-024, 6103-140-CB830TNN-024 9101-140-CB830TNN-024, 9102-140-CB830TNN-024 9104-140-CB830TNN-024, 9303-140-CB830TNN-024 9700-140-CB830TNN-024, 9701-140-CB830TNN-024 9707-140-CB830TNN-024
Armatür Lamba Tipi-açıklama/Lamptype-description of Luminaire.....:	LED SPOT

İSTANBUL AYDIN ÜNİVERSİTESİ AYDINLATMA TEST-ÖLÇÜM ve ANALİZ LABORATUARLARI

(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.....:	38 W
Armatürün Ölçülen Işık Akısı /MeasuredLuminousFlux of Luminaire.....:	4035 lm (Effective Value)
Lamba Katalog Işık Akısı / LampCatalogLuminousFlux.....:	--
Armatür verimliliği (lm/Watt) / Luminousefficacy.....:	106,18 lm/Watt
Armatür Geri Verim (LOR)% / Luminousefficacy %.....:	--

FOTOMETRİK ÖLÇÜM BELİRSİZLİK TABLOSU / PHOTOMETRIC MEASUREMENT UNCERTAINTY BUDGET

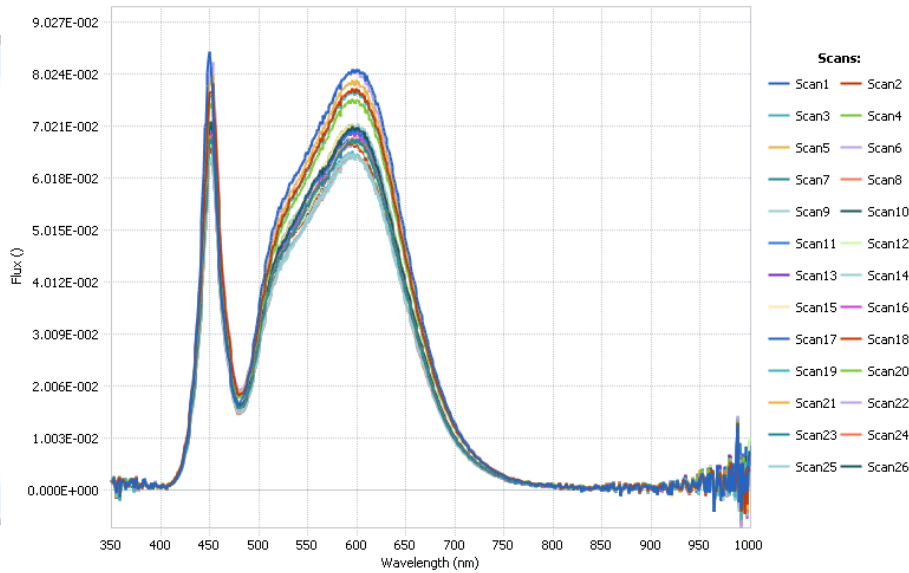
Deney/Test(Unit)	Ölçüm Belirsizliği/Uncertainty
Radiant Flux (Watt)	1,3%
Luminous flux (Lumen / Lm)	1,08%
Correlated Color Temperature [CCT – Kelvin(K)]	7K
Chromaticity x coord	0,02
Chromaticity y coord	0,02
Chromaticity u' coord	0,02
Chromaticity v' coord	0,02
Color Rendering Index	1,4

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

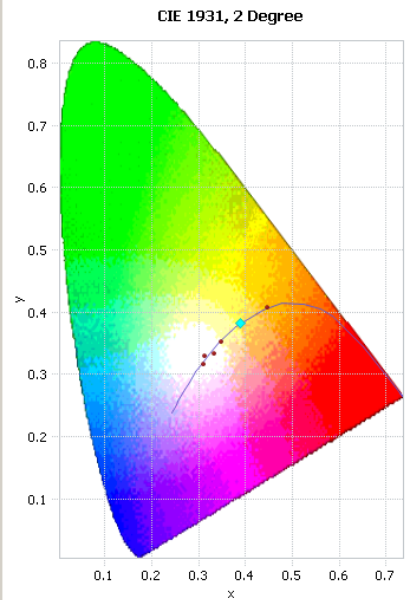
Parameter	Scan 15
Date/Time	10.06.2015 11:41
Radiant Flux (Watts)	12,55
Luminous Flux (lumens)	4035,00
Scotopic Luminous Flux (lm')	6511,00
Chromaticity x coord	0,3878
Chromaticity y coord	0,3815
Chromaticity u coord	0,2281
Chromaticity v coord	0,3365
Delta uv	0,0001
Chromaticity u' coord	0,2281
Chromaticity v' coord	0,5047
Peak Wavelength (nm)	452
Center Wavelength (nm)	451,8
Centroid Wavelength (nm)	571,4
Dominant Wavelength (nm)	579,6
Full Width Half Max Bandwidth (nm)	22,7
Excitation Purity (%)	30,9
Correlated Color Temperature (deg. K)	3838
Correlation	0,0054
Correlation Coefficient	0,000172853
Color Rendering Index Average (RA)	82,78276426
Color Rendering Index (R1)	81,4
Color Rendering Index (R2)	88,1
Color Rendering Index (R3)	93,1
Color Rendering Index (R4)	82,3
Color Rendering Index (R5)	81,1
Color Rendering Index (R6)	83,4
Color Rendering Index (R7)	86,7
Color Rendering Index (R8)	66,2
Color Rendering Index (R9)	12,7
Color Rendering Index (R10)	71,5
Color Rendering Index (R11)	81,1
Color Rendering Index (R12)	61
Color Rendering Index (R13)	82,8
Color Rendering Index (R14)	96,1

MUAYENE – DENEY SONUÇLARI / TEST RESULTS

▼ SPECTRAL FLUX GRAPH:

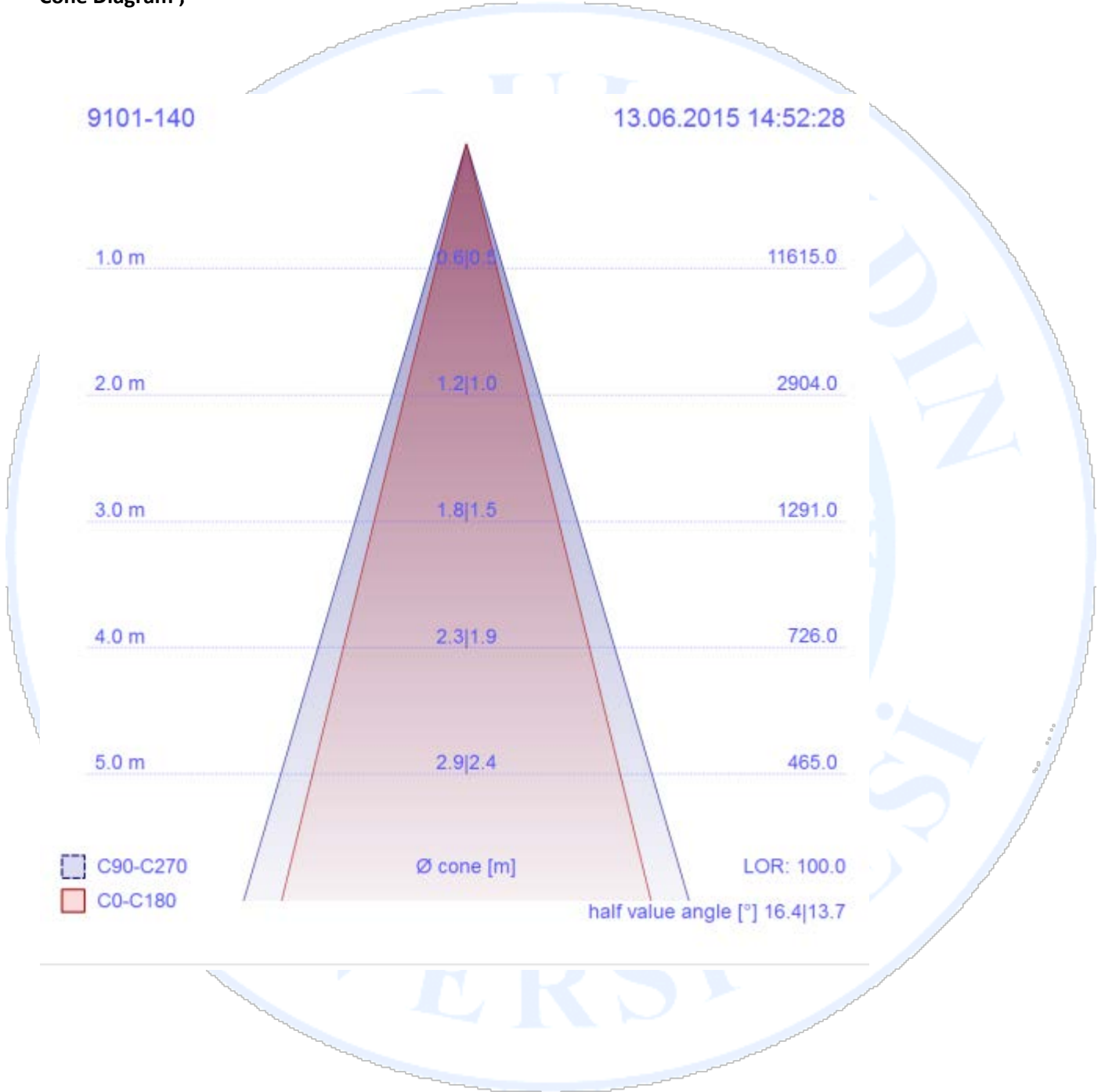


▼ CHROMATICITY DIAGRAM:

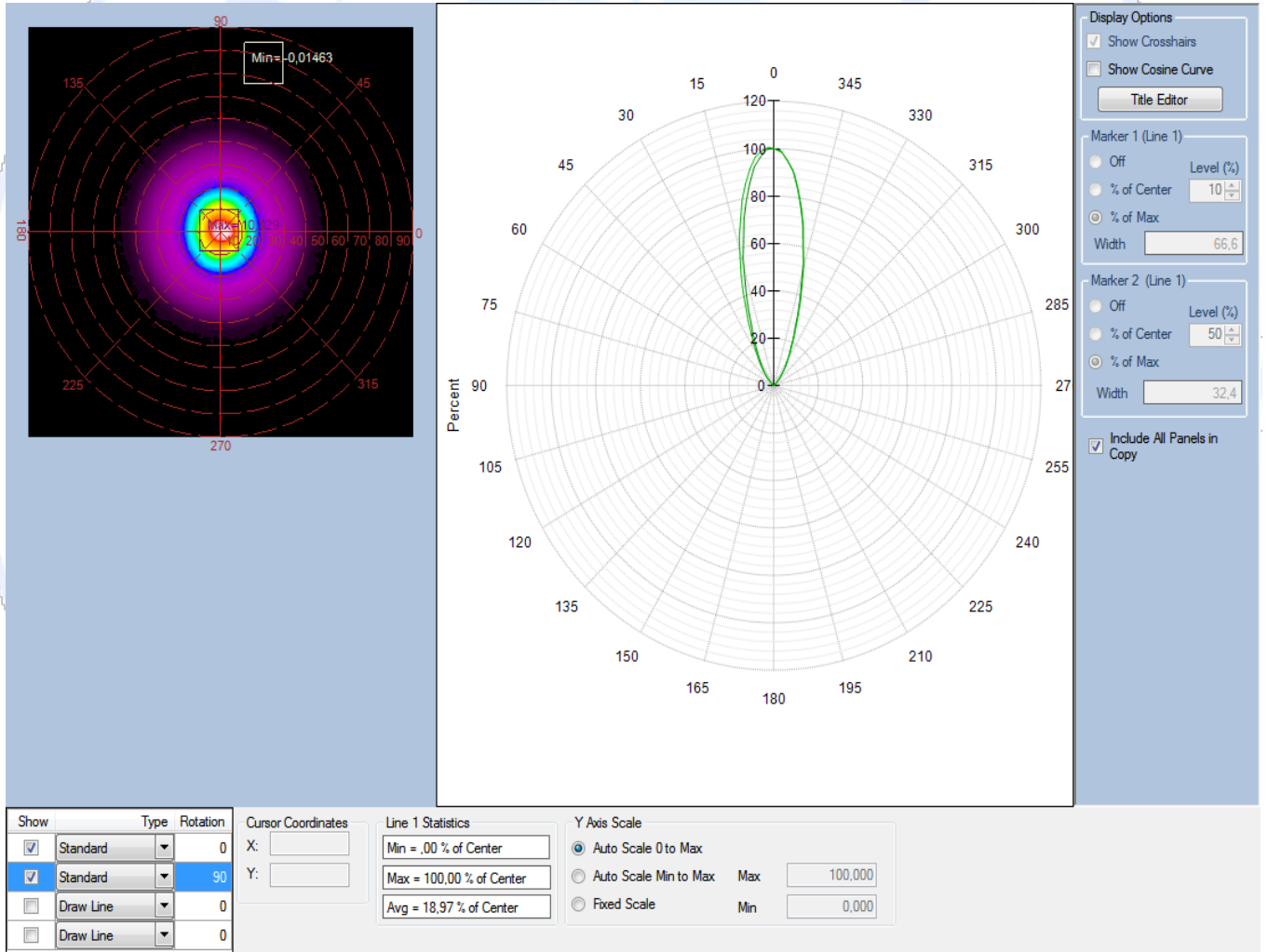


MUAYENE – DENEY SONUÇLARI / TEST RESULTS

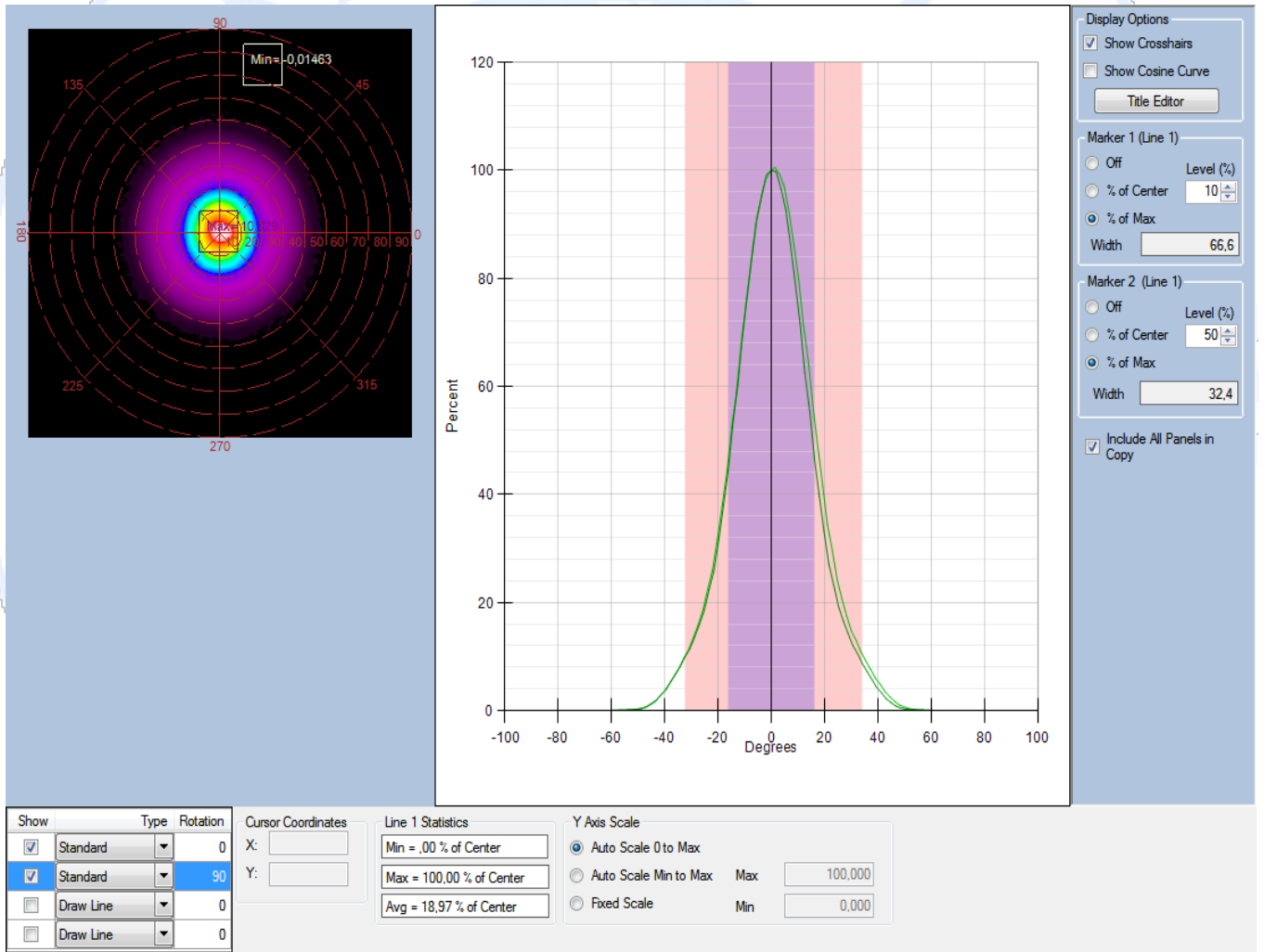
Cone Diagram ;



MUAYENE – DENEY SONUÇLARI / TEST RESULTS

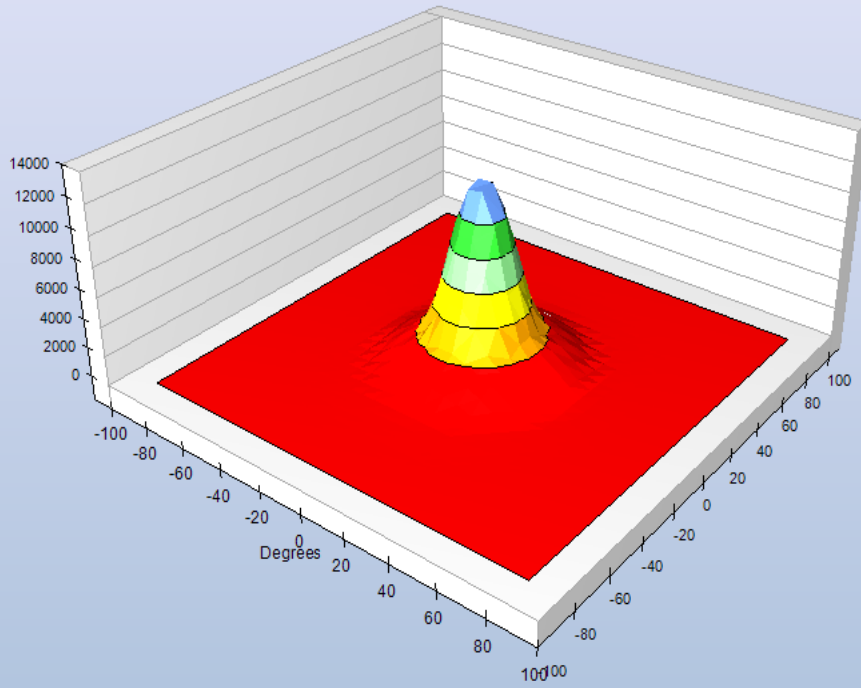


MUAYENE – DENEY SONUÇLARI / TEST RESULTS

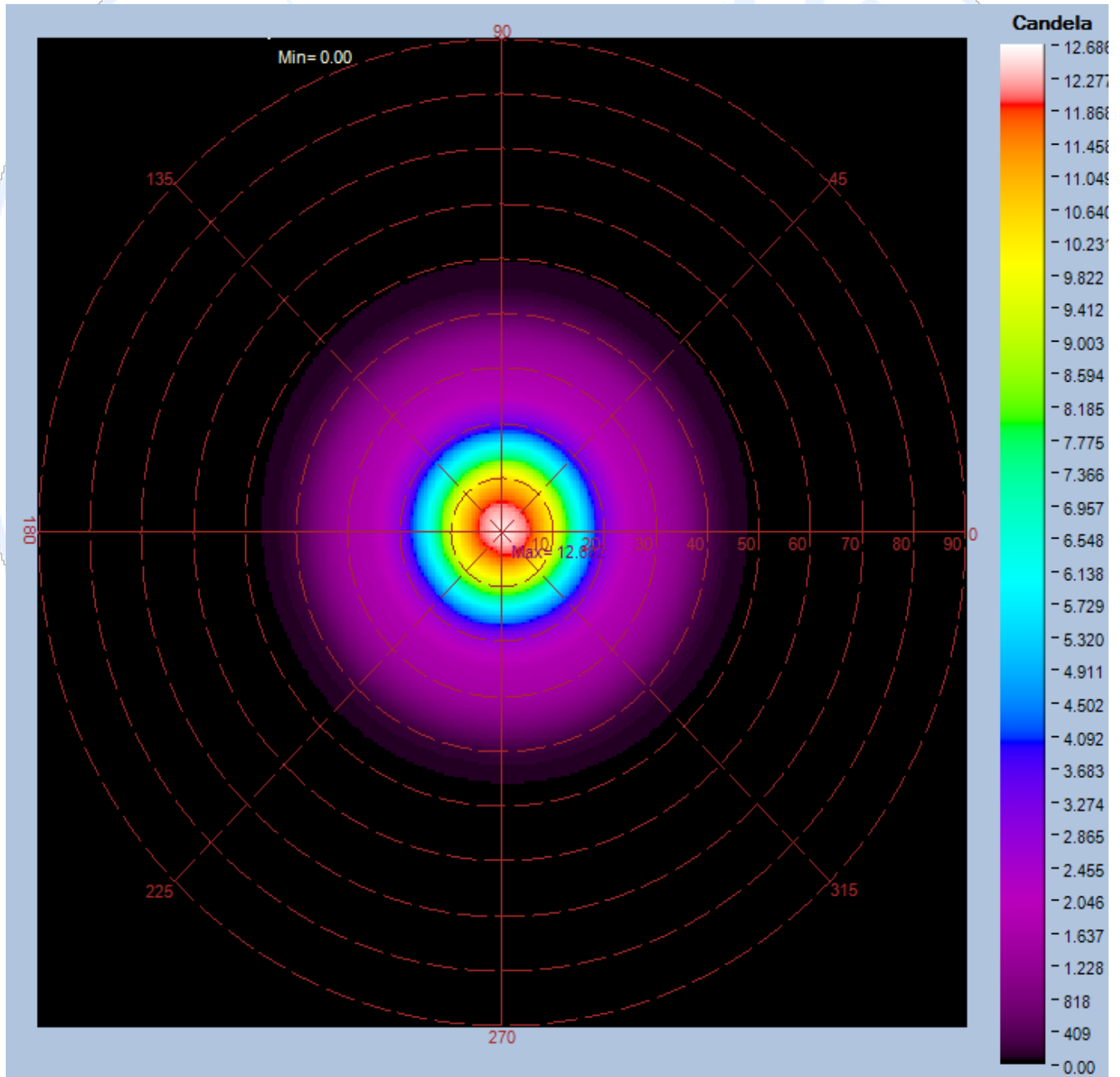


MUAYENE – DENEY SONUÇLARI / TEST RESULTS

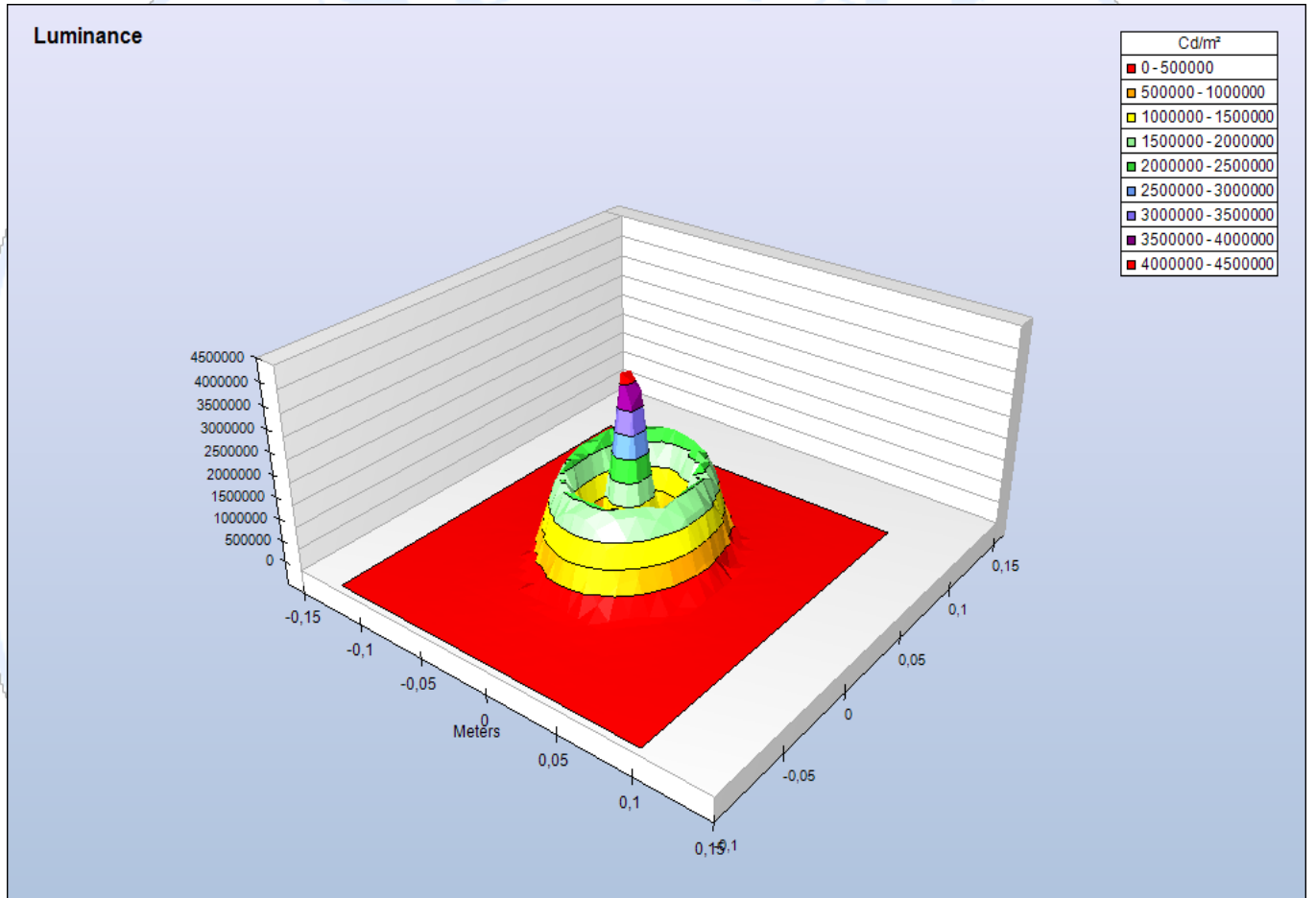
Luminous Intensity



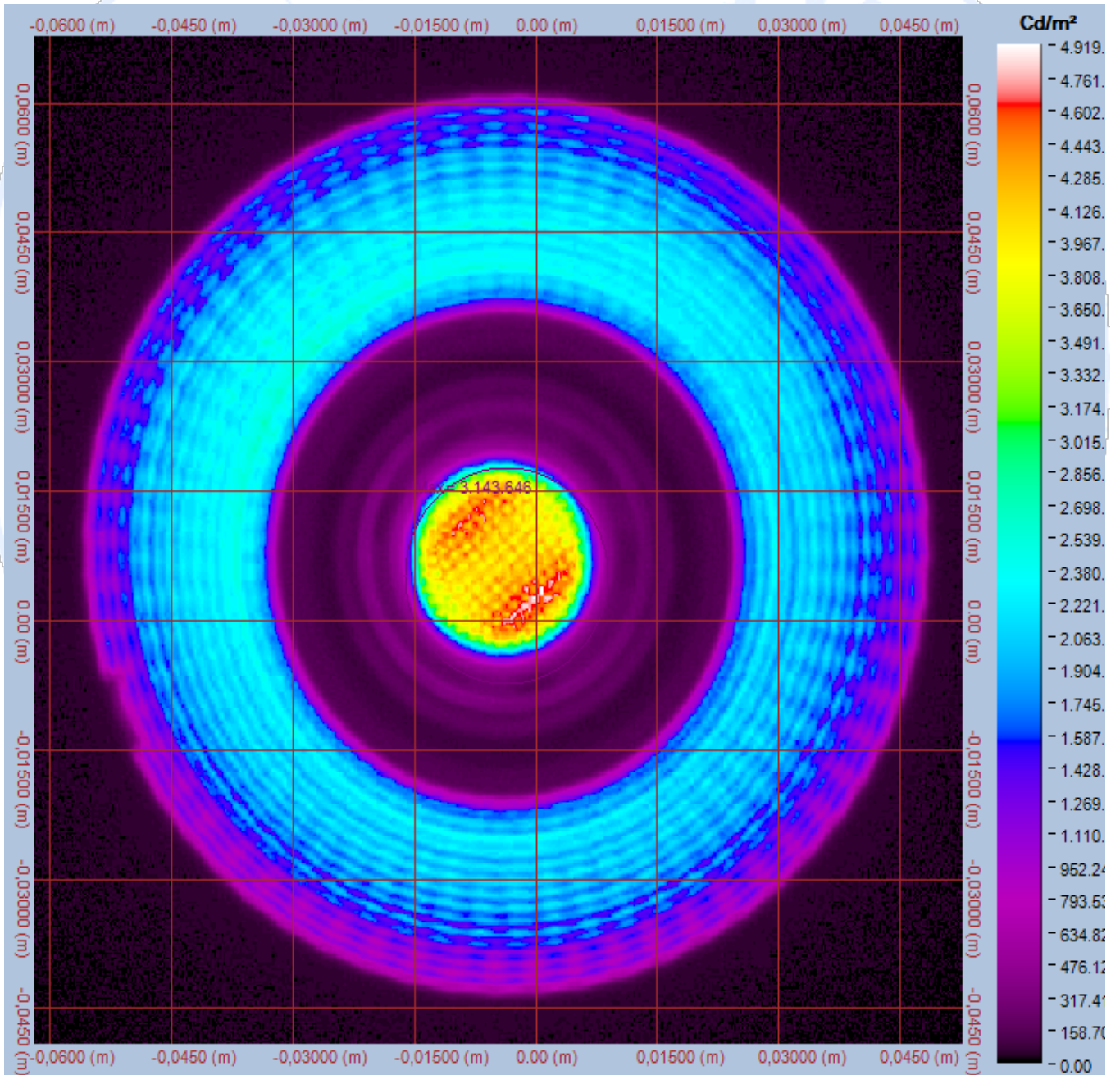
MUAYENE – DENEY SONUÇLARI / TEST RESULTS



MUAYENE – DENEY SONUÇLARI / TEST RESULTS



MUAYENE – DENEY SONUÇLARI / TEST RESULTS



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 MEASUREMEN RESULTS**

Kullanılan Cihaz/EquipmentUsed.....:	NFMS Goniophotometer LabSphere Sphere System
Uygulanan Standart-Metot/Applied Standard-Method.....:	TS EN13032-1:2004 +A1:2012LightandLighting – Measurementand Presentation of Photometric Data of Lampsand Luminaires-Part1: Measurementand File.
Deney Ortam Şartları/ExperimentalAmbientConditions.....:	25°C ±5°C, 35%RH±5%RH
Armatüre Uygulanan Gerilim / AppliedVoltage.....:	220V
Armatür Markası-Üretici /LuminaireBrand-Producer.....:	ODSEL LEKTRONİK
Armatür Kodu-Modeli / LuminaireCode-Model.....:	6101-140-CB830TNN-015, 6103-140-CB830TNN-015 9101-140-CB830TNN-015, 9102-140-CB830TNN-015 9104-140-CB830TNN-015, 9303-140-CB830TNN-015 9700-140-CB830TNN-015, 9701-140-CB830TNN-015 9707-140-CB830TNN-015
Armatür Lamba Tipi-açıklama/Lamptype-description of Luminaire.....:	LED SPOT

İSTANBUL AYDIN ÜNİVERSİTESİ AYDINLATMA TEST-ÖLÇÜM ve ANALİZ LABORATUARLARI

(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.....:	38 W
Armatürün Ölçülen Işık Akısı /MeasuredLuminousFlux of Luminaire.....:	4063 lm (Effective Value)
Lamba Katalog Işık Akısı / LampCatalogLuminousFlux.....:	--
Armatür verimliliği (lm/Watt) / Luminousefficacy.....:	106,92 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)

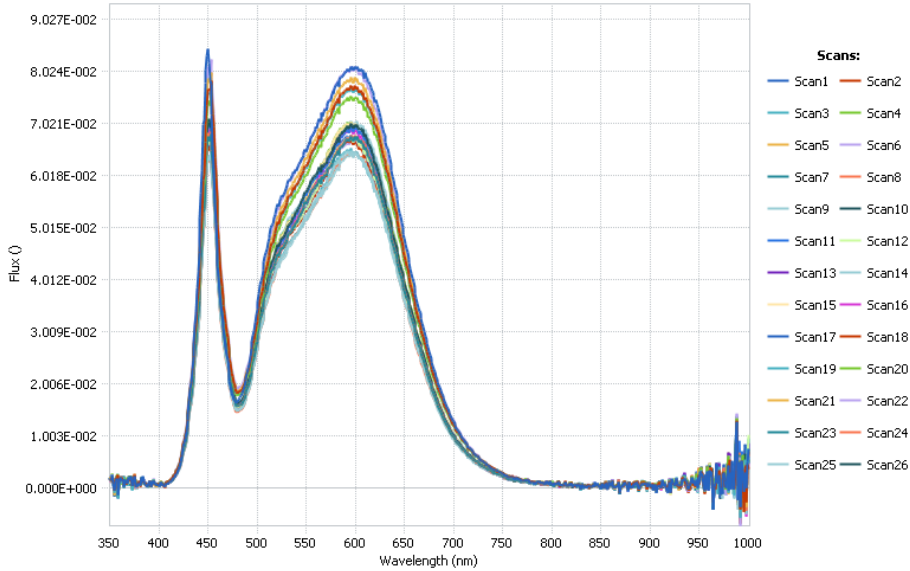
MUAYENE – DENEY SONUÇLARI / TEST RESULTS

Fotometrik Ölçümler / Photometric measurements

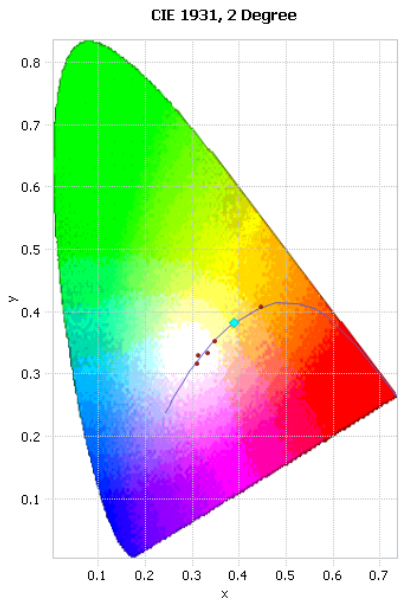
Parameter	Scan 25
Date/Time	10.06.2015 11:50
Radiant Flux (Watts)	12,69
Luminous Flux (lumens)	4063,00
Scotopic Luminous Flux (lm')	6536,00
Chromaticity x coord	0,3889
Chromaticity y coord	0,3818
Chromaticity u coord	0,2286
Chromaticity v coord	0,3367
Delta uv	0,0003
Chromaticity u' coord	0,2286
Chromaticity v' coord	0,5051
Peak Wavelength (nm)	450,7
Center Wavelength (nm)	451,6
Centroid Wavelength (nm)	573,1
Dominant Wavelength (nm)	579,8
Full Width Half Max Bandwidth (nm)	22,7
Excitation Purity (%)	31,3
Correlated Color Temperature (deg. K)	3813
Correlation	0,0054
Correlation Coefficient	0,000150758
Color Rendering Index Average (RA)	83,21533365
Color Rendering Index (R1)	82,1
Color Rendering Index (R2)	88,4
Color Rendering Index (R3)	92,9
Color Rendering Index (R4)	83
Color Rendering Index (R5)	81,6
Color Rendering Index (R6)	83,8
Color Rendering Index (R7)	87
Color Rendering Index (R8)	67
Color Rendering Index (R9)	15
Color Rendering Index (R10)	71,9
Color Rendering Index (R11)	81,7
Color Rendering Index (R12)	61,4
Color Rendering Index (R13)	83,4
Color Rendering Index (R14)	95,9

MUAYENE – DENEY SONUÇLARI / TEST RESULTS

▼ SPECTRAL FLUX GRAPH:

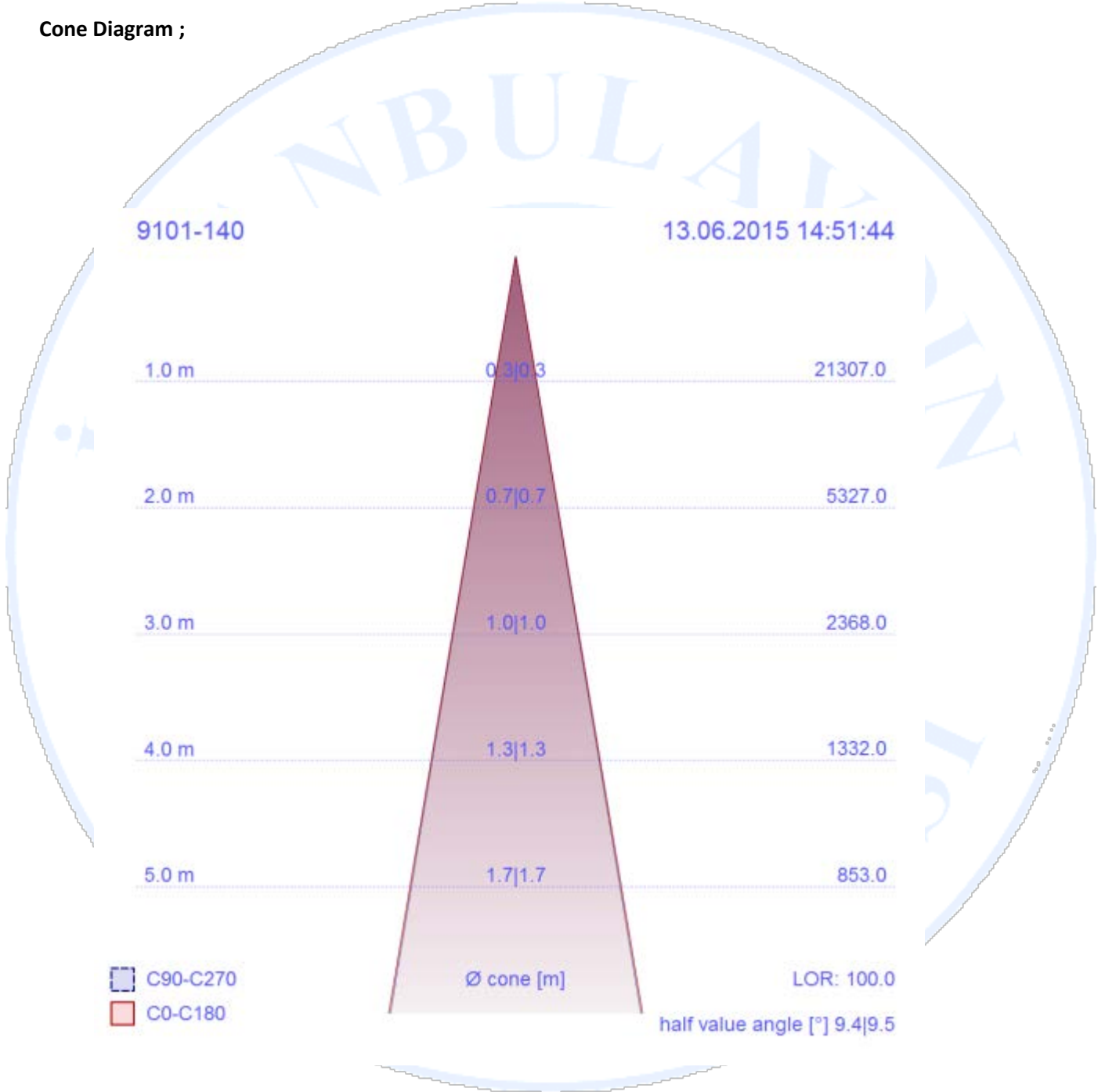


▼ CHROMATICITY DIAGRAM:

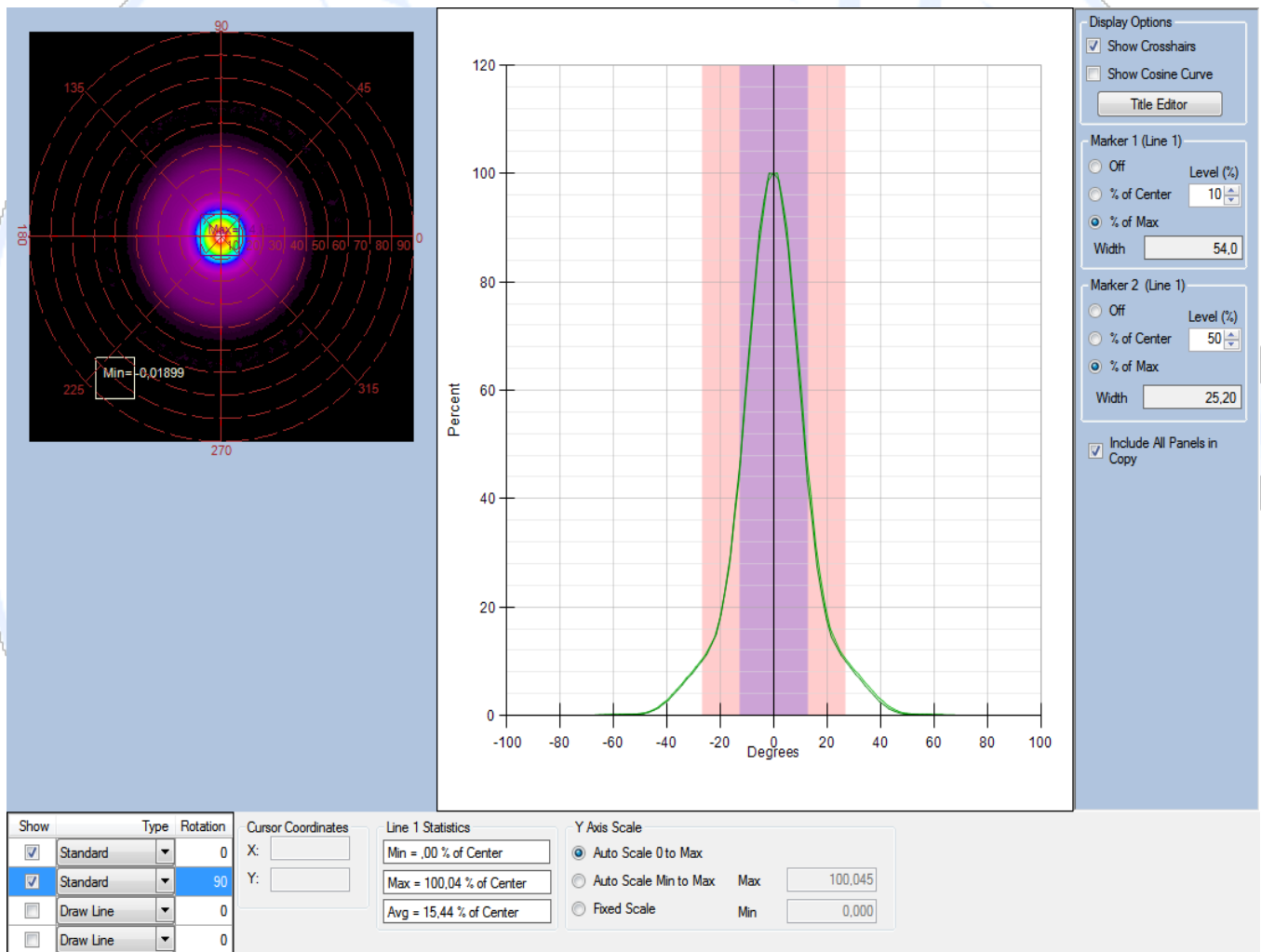


MUAYENE – DENEY SONUÇLARI / TEST RESULTS

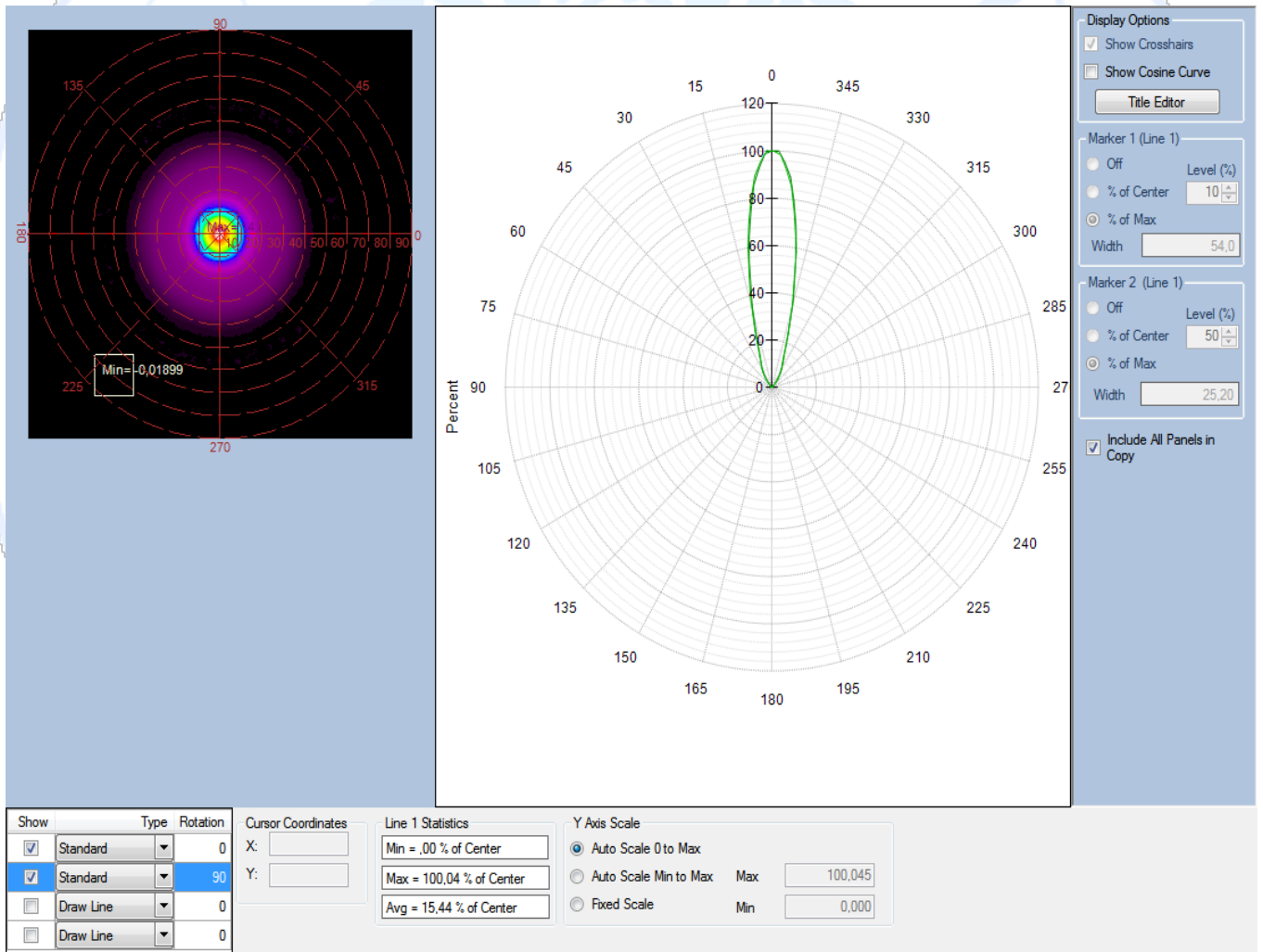
Cone Diagram ;



MUAYENE – DENEY SONUÇLARI / TEST RESULTS

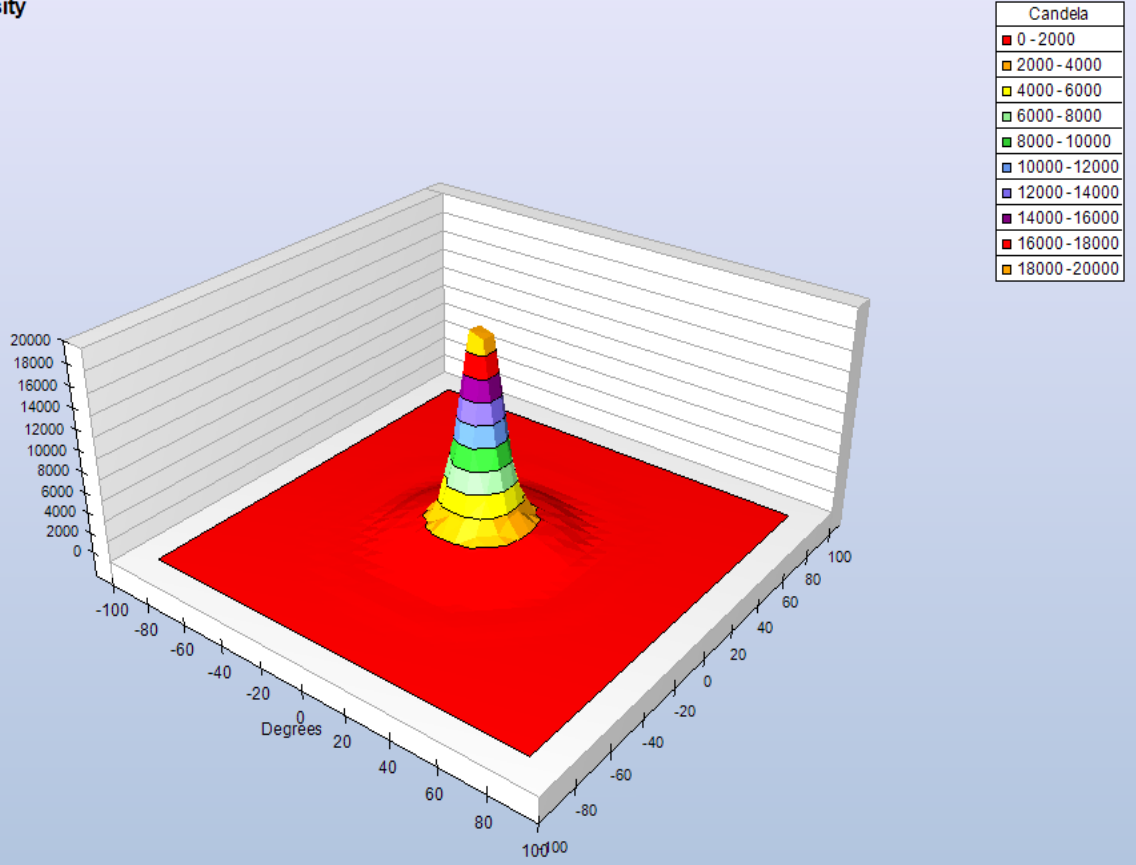


MUAYENE – DENEY SONUÇLARI / TEST RESULTS

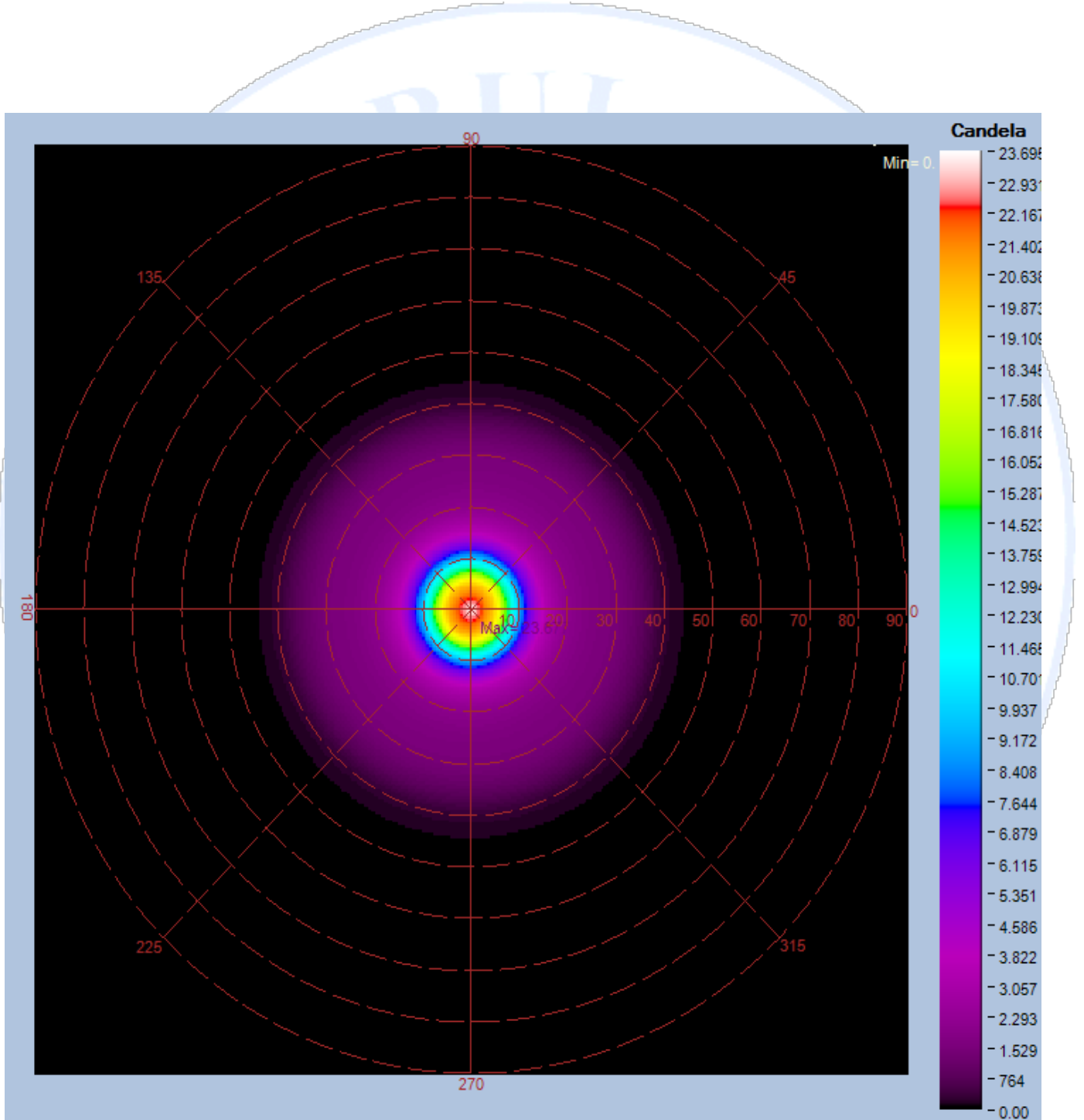


MUAYENE – DENEY SONUÇLARI / TEST RESULTS

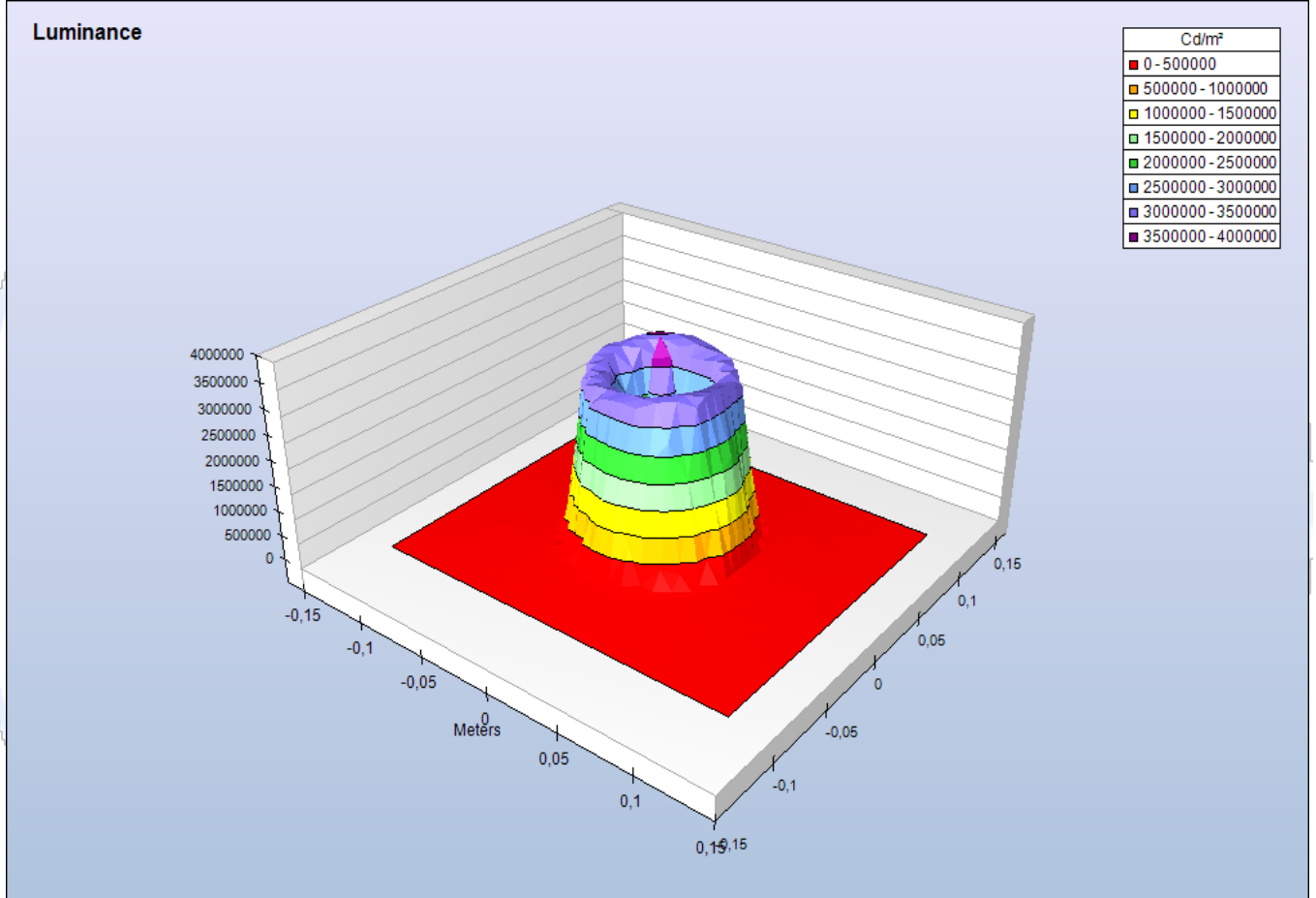
Luminous Intensity



MUAYENE – DENEY SONUÇLARI / TEST RESULTS



MUAYENE – DENEY SONUÇLARI / TEST RESULTS



İSTANBUL AYDIN ÜNİVERSİTESİ AYDINLATMA TEST-ÖLÇÜM ve ANALİZ LABORATUARLARI

(ISTANBUL AYDIN UNIVERSITY LIGHTING TEST MEASUREMENT AND ANALYSIS LABORATORIES)

MUAYENE – DENEY SONUÇLARI / TEST RESULTS

