



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 / 15-123 / ODSER ELEKTRONİK / AAAA-119-CB30TNN-BBB

AAAA: Ürün Serisi

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

BBB: Işık Dağılımı

015, 024, 036, 048, 120(reflektörsüz)

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.



İSTANBUL AYDIN ÜNİVERSİTESİ AYDINLATMA TEST-ÖLÇÜM ve ANALİZ LABORATUARLARI

(ISTANBUL AYDIN UNIVERSITY LIGHTING TEST MEASUREMENT AND ANALYSIS LABORATORIES)

Adres/Adress: İnönü Cad. No:38 Sefaköy-Küçükçekmece / İSTANBUL Tel : (0212) 444 1 428



Test
TS EN ISO/IEC 17025
AB-0815-T

MUAYENE VE DENEY RAPORU

TEST REPORT

IAU
15-123
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,Adress, 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

: 42

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 mühürlü 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 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.....:	6101-119-CB830TNN-120, 6103-119-CB830TNN-120 9101-119-CB830TNN-120, 9102-119-CB830TNN-120 9104-119-CB830TNN-120, 9303-119-CB830TNN-120 9700-119-CB830TNN-120, 9701-119-CB830TNN-120 9707-119-CB830TNN-120
Armatür Lamba Tipi-açıklama/Lamptype-description of Luminaire.....:	LED

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.....:	18 W
Armatürün Ölçülen Işık Akısı /Measured Luminous Flux of Luminaire.....:	2257 lm (Effective Value)
Lamba Katalog Işık Akısı / Lamp Catalog Luminous Flux.....:	--
Armatür verimliliği (lm/Watt) / Luminous efficacy.....:	125,38 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

(İSTANBUL AYDIN UNIVERSITY LIGHTING TEST MEASUREMENT AND ANALYSIS LABORATORIES)

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)

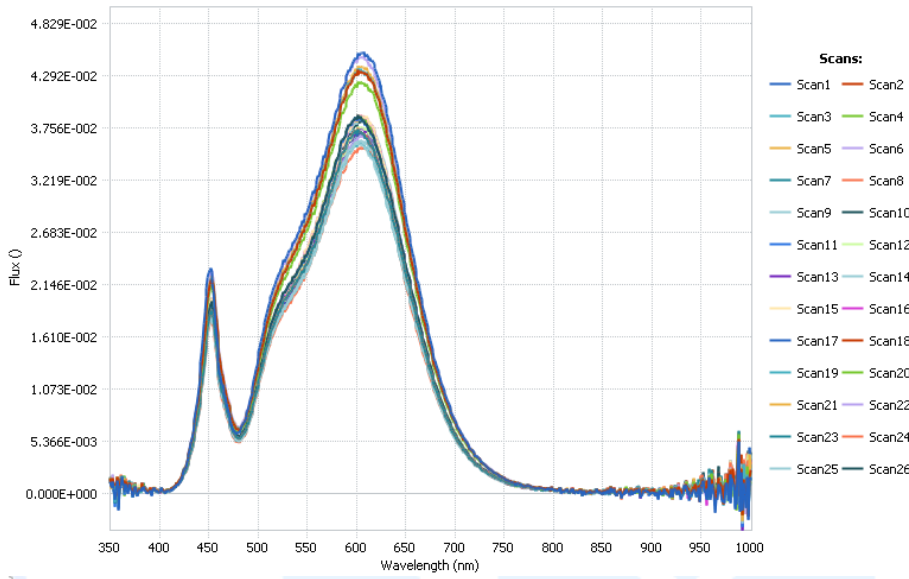
MUAYENE – DENEY SONUÇLARI / TEST RESULTS

Fotometrik Ölçümler / Photometric measurements

Parameter	Scan 6
Date/Time	12.06.2015 13:45
Radiant Flux (Watts)	6,99
Luminous Flux (lumens)	2257,00
Scotopic Luminous Flux (lm')	2965,00
Chromaticity x coord	0,4387
Chromaticity y coord	0,4089
Chromaticity u coord	0,2496
Chromaticity v coord	0,349
Delta uv	0,0016
Chromaticity u' coord	0,2496
Chromaticity v' coord	0,5235
Peak Wavelength (nm)	603,6
Center Wavelength (nm)	591,2
Centroid Wavelength (nm)	587,1
Dominant Wavelength (nm)	582,2
Full Width Half Max Bandwidth (nm)	138
Excitation Purity (%)	54,4
Correlated Color Temperature (deg. K)	3008
Correlation	0,0054
Correlation Coefficient	0,001693424
Color Rendering Index Average (RA)	82,77798317
Color Rendering Index (R1)	81
Color Rendering Index (R2)	89,2
Color Rendering Index (R3)	96,4
Color Rendering Index (R4)	81,6
Color Rendering Index (R5)	80,5
Color Rendering Index (R6)	86,4
Color Rendering Index (R7)	85,1
Color Rendering Index (R8)	62
Color Rendering Index (R9)	11,4
Color Rendering Index (R10)	75
Color Rendering Index (R11)	80,7
Color Rendering Index (R12)	66,5
Color Rendering Index (R13)	82,7
Color Rendering Index (R14)	97,9

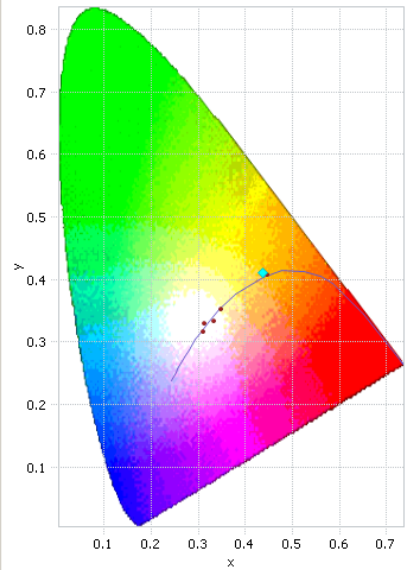
MUAYENE – DENEY SONUÇLARI / TEST RESULTS

▼ SPECTRAL FLUX GRAPH:



▼ CHROMATICITY DIAGRAM:

CIE 1931, 2 Degree

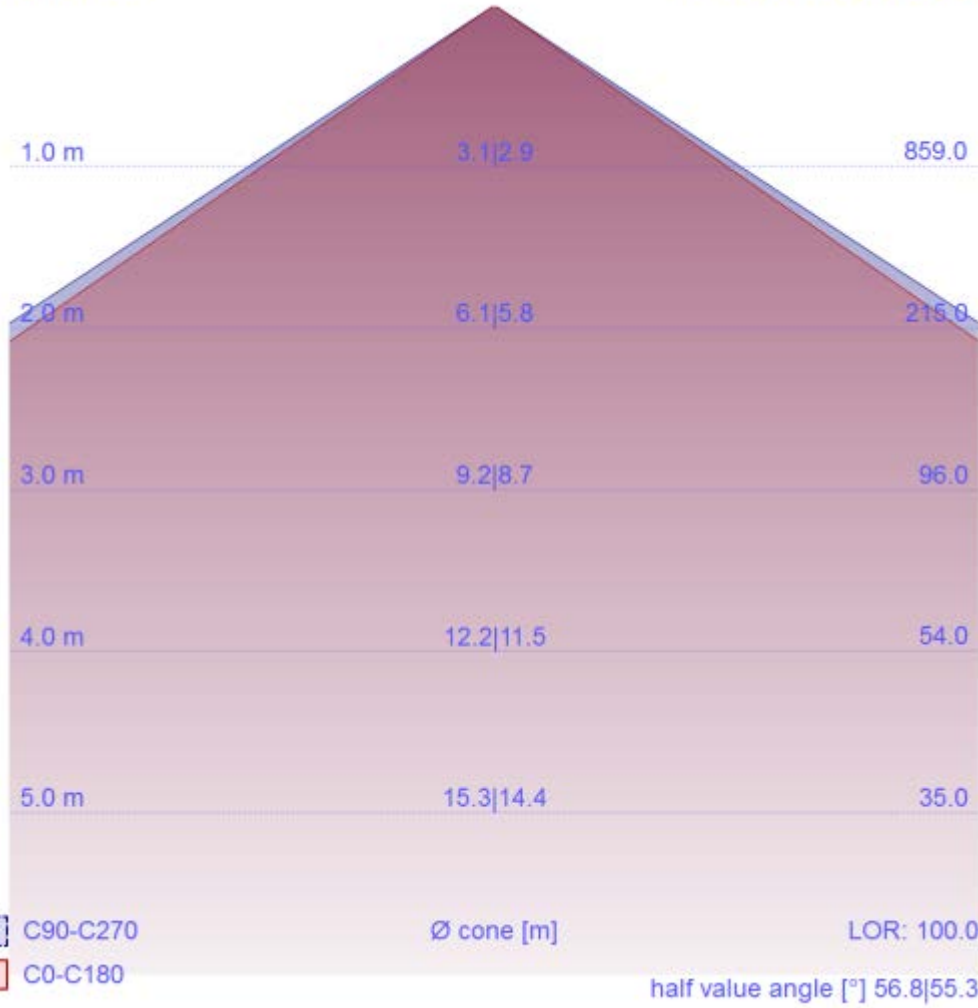


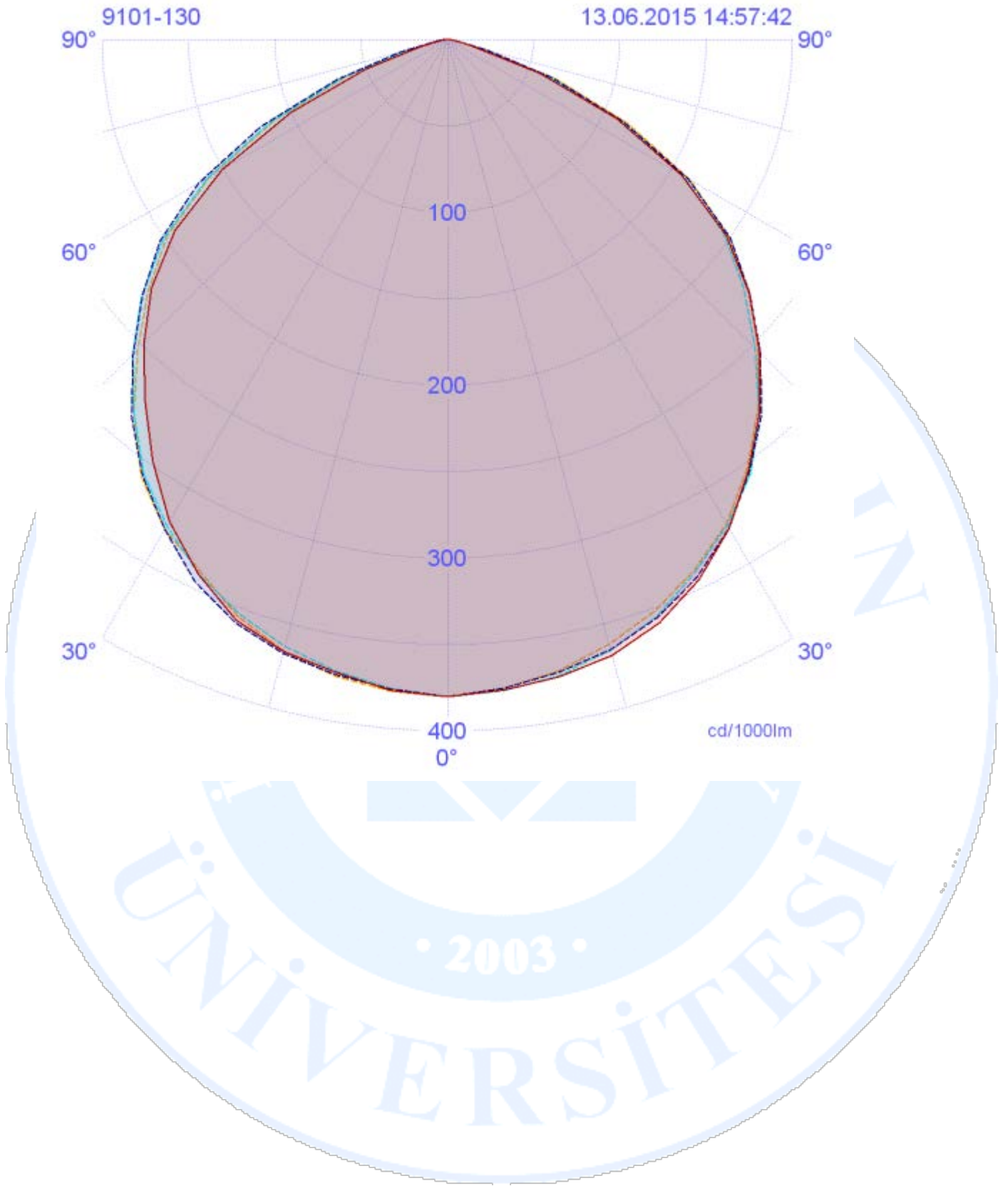
MUAYENE – DENEY SONUÇLARI / TEST RESULTS

Cone Diagram ;

9101-130

13.06.2015 14:57:42





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 LEKTRONİK
Armatür Kodu-Modeli / LuminaireCode-Model.....:	6101-119-CB830TNN-048, 6103-119-CB830TNN-048 9101-119-CB830TNN-048, 9102-119-CB830TNN-048 9104-119-CB830TNN-048, 9303-119-CB830TNN-048 9700-119-CB830TNN-048, 9701-119-CB830TNN-048 9707-119-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.....:	18 W
Armatürün Ölçülen Işık Akısı /MeasuredLuminousFlux of Luminaire.....:	1942 lm(Effective Value)
Lamba Katalog Işık Akısı / LampCatalogLuminousFlux.....:	--
Armatür verimliliği (lm/Watt) / Luminousefficacy.....:	107,87 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

Numunenin fotoğrafları / Photos of the Test Sample



İSTANBUL AYDIN ÜNİVERSİTESİ AYDINLATMA TEST-ÖLÇÜM ve ANALİZ LABORATUARLARI

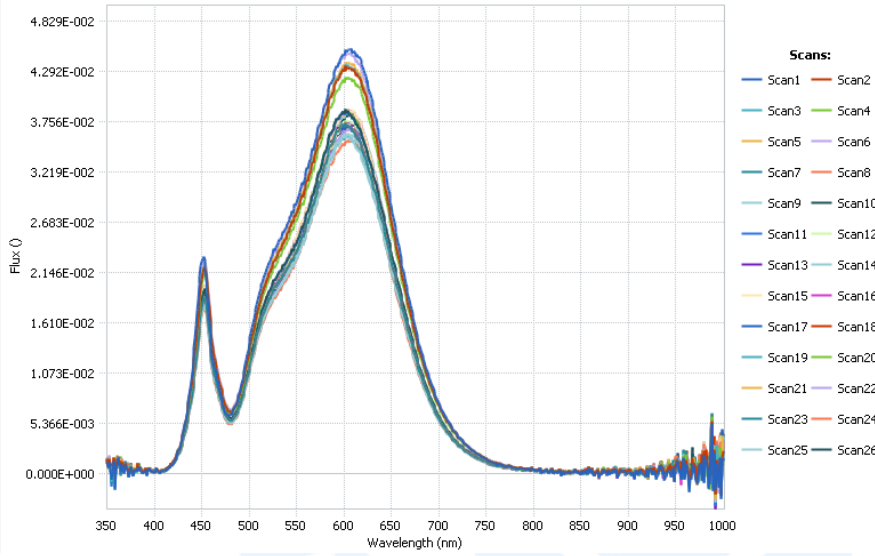
(ISTANBUL AYDIN UNIVERSITY LIGHTING TEST MEASUREMENT AND ANALYSIS LABORATORIES)

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

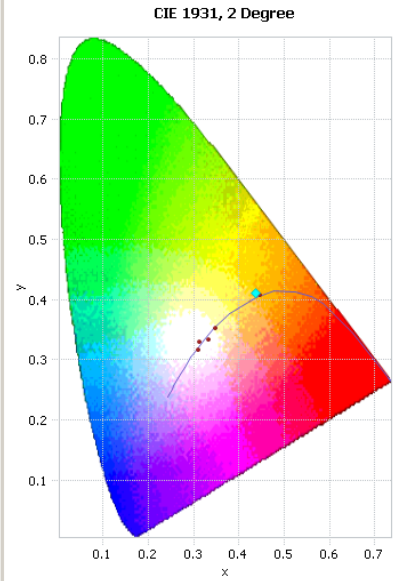
Parameter	Scan 11
	12.06.2015
Date/Time	13:48
Radiant Flux (Watts)	5,95
Luminous Flux (lumens)	1942,00
Scotopic Luminous Flux (lm')	2561,00
Chromaticity x coord	0,4375
Chromaticity y coord	0,4101
Chromaticity u coord	0,2483
Chromaticity v coord	0,3492
Delta uv	0,0023
Chromaticity u' coord	0,2483
Chromaticity v' coord	0,5238
Peak Wavelength (nm)	599,8
Center Wavelength (nm)	590,1
Centroid Wavelength (nm)	586,3
Dominant Wavelength (nm)	581,9
Full Width Half Max Bandwidth (nm)	138,9
Excitation Purity (%)	54,4
Correlated Color Temperature (deg. K)	3037
Correlation	0,0054
Correlation Coefficient	0,002329554
Color Rendering Index Average (RA)	82,02700861
Color Rendering Index (R1)	79,9
Color Rendering Index (R2)	88,6
Color Rendering Index (R3)	96,6
Color Rendering Index (R4)	80,8
Color Rendering Index (R5)	79,6
Color Rendering Index (R6)	85,7
Color Rendering Index (R7)	84,6
Color Rendering Index (R8)	60,3
Color Rendering Index (R9)	6,9
Color Rendering Index (R10)	74
Color Rendering Index (R11)	80
Color Rendering Index (R12)	65,3
Color Rendering Index (R13)	81,7
Color Rendering Index (R14)	98,1

MUAYENE – DENEY SONUÇLARI / TEST RESULTS

▼ SPECTRAL FLUX GRAPH:

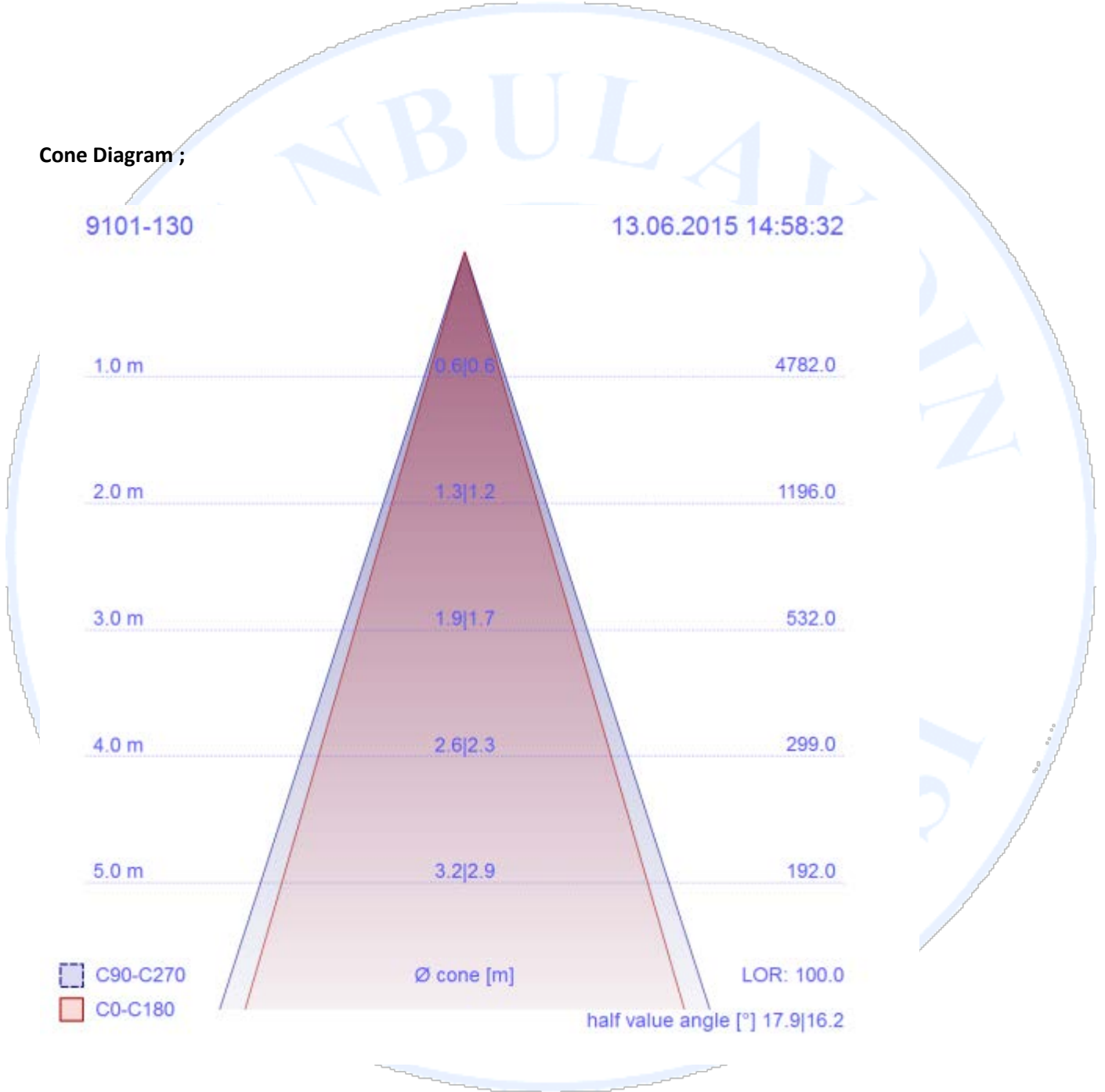


▼ CHROMATICITY DIAGRAM:

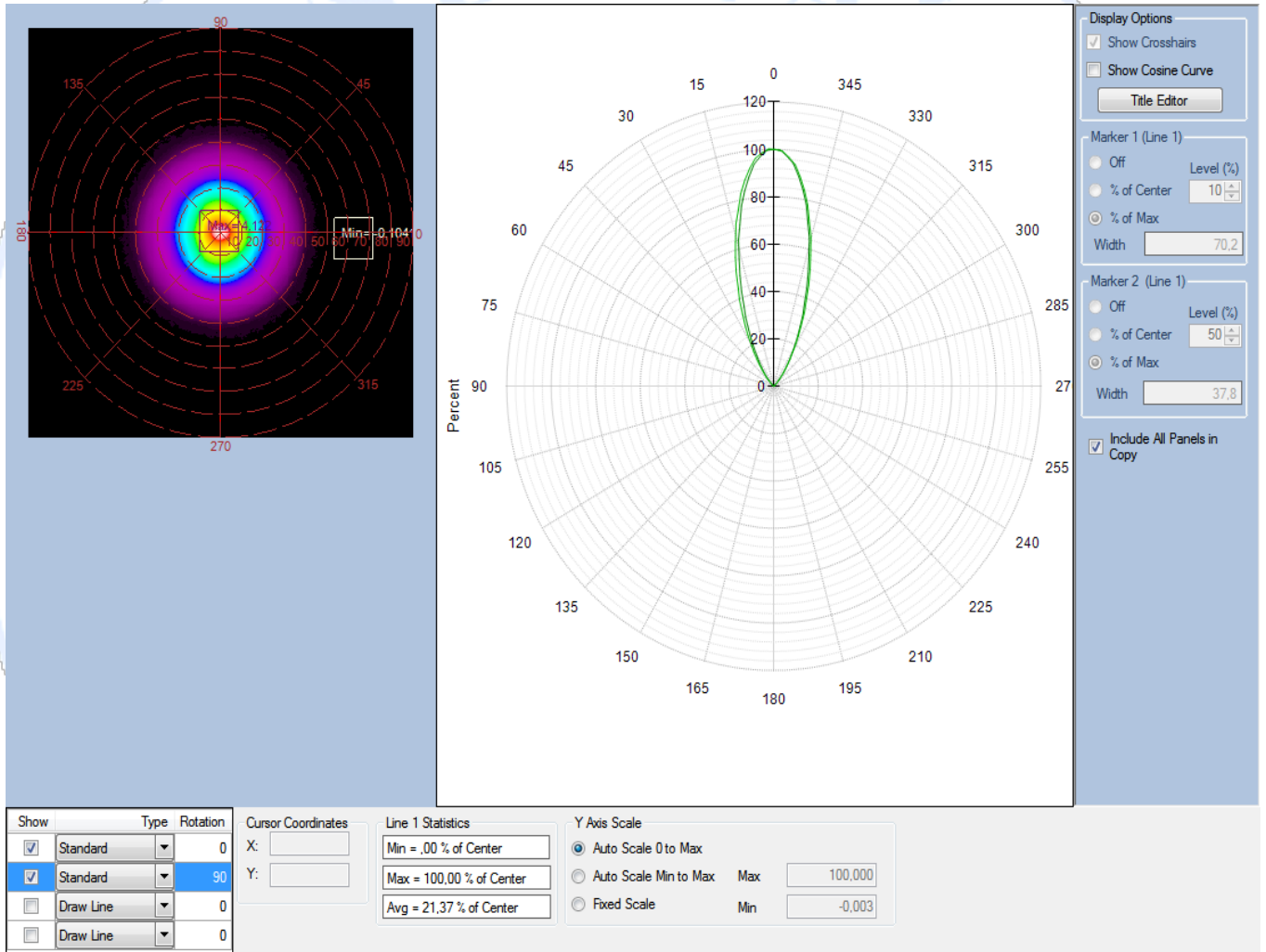


MUAYENE – DENEY SONUÇLARI / TEST RESULTS

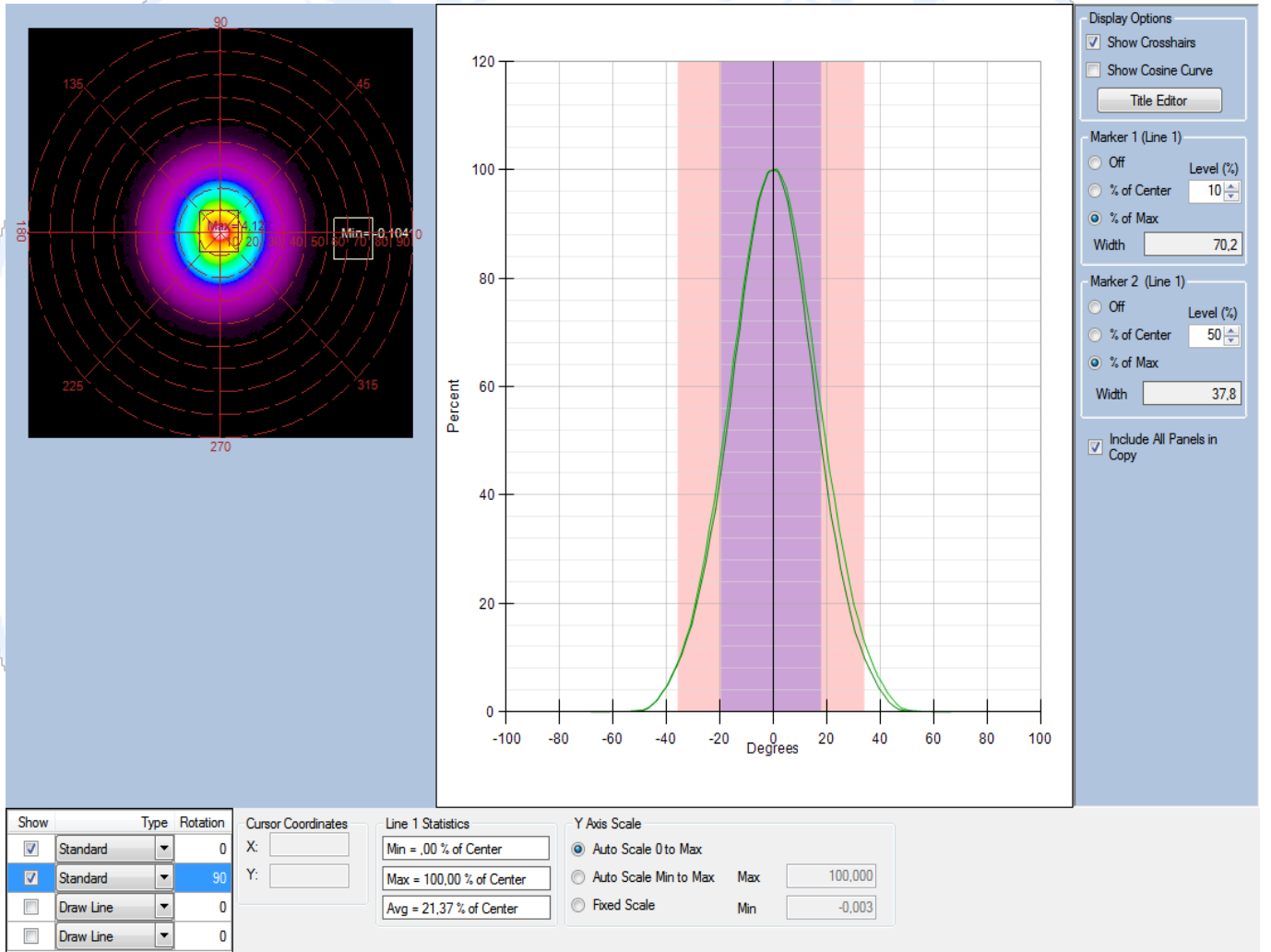
Cone Diagram ;



MUAYENE – DENEY SONUÇLARI / TEST RESULTS



MUAYENE – DENEY SONUÇLARI / TEST RESULTS

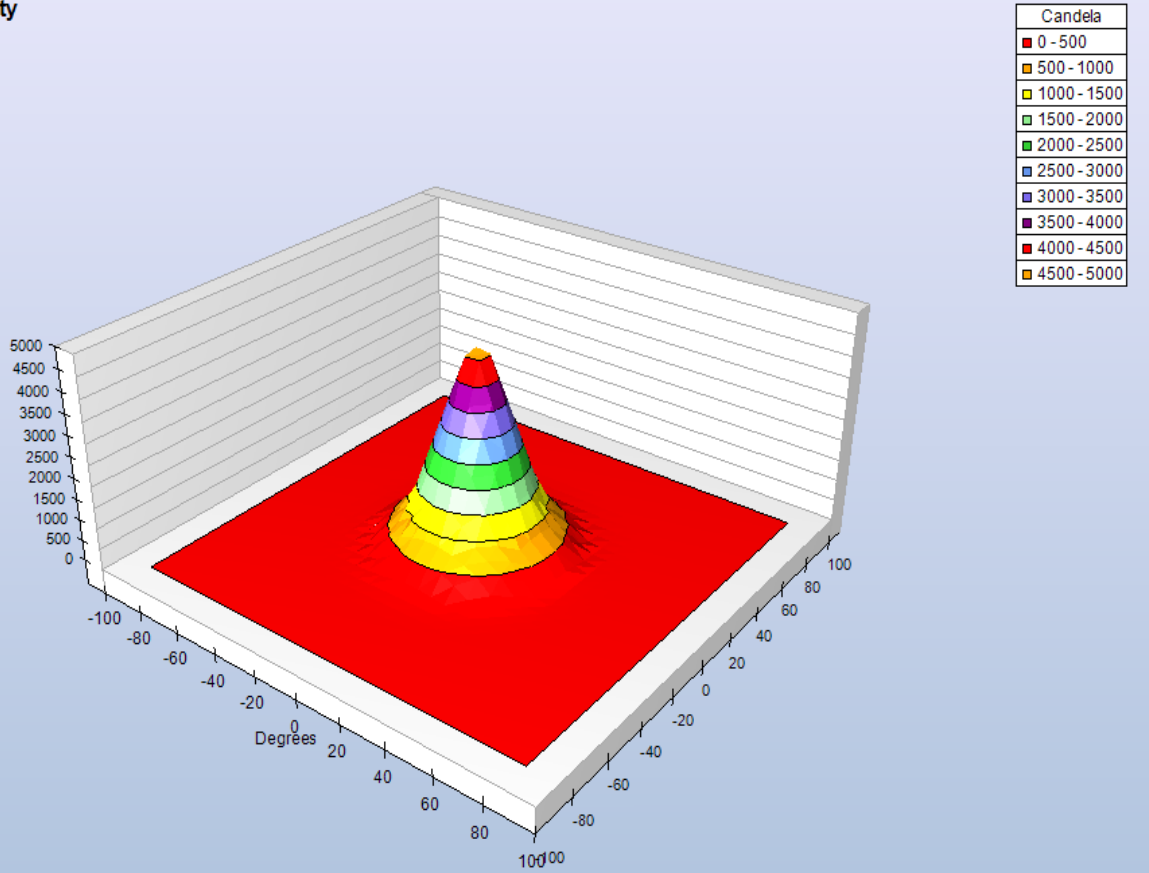


İSTANBUL AYDIN ÜNİVERSİTESİ AYDINLATMA TEST-ÖLÇÜM ve ANALİZ LABORATUARLARI

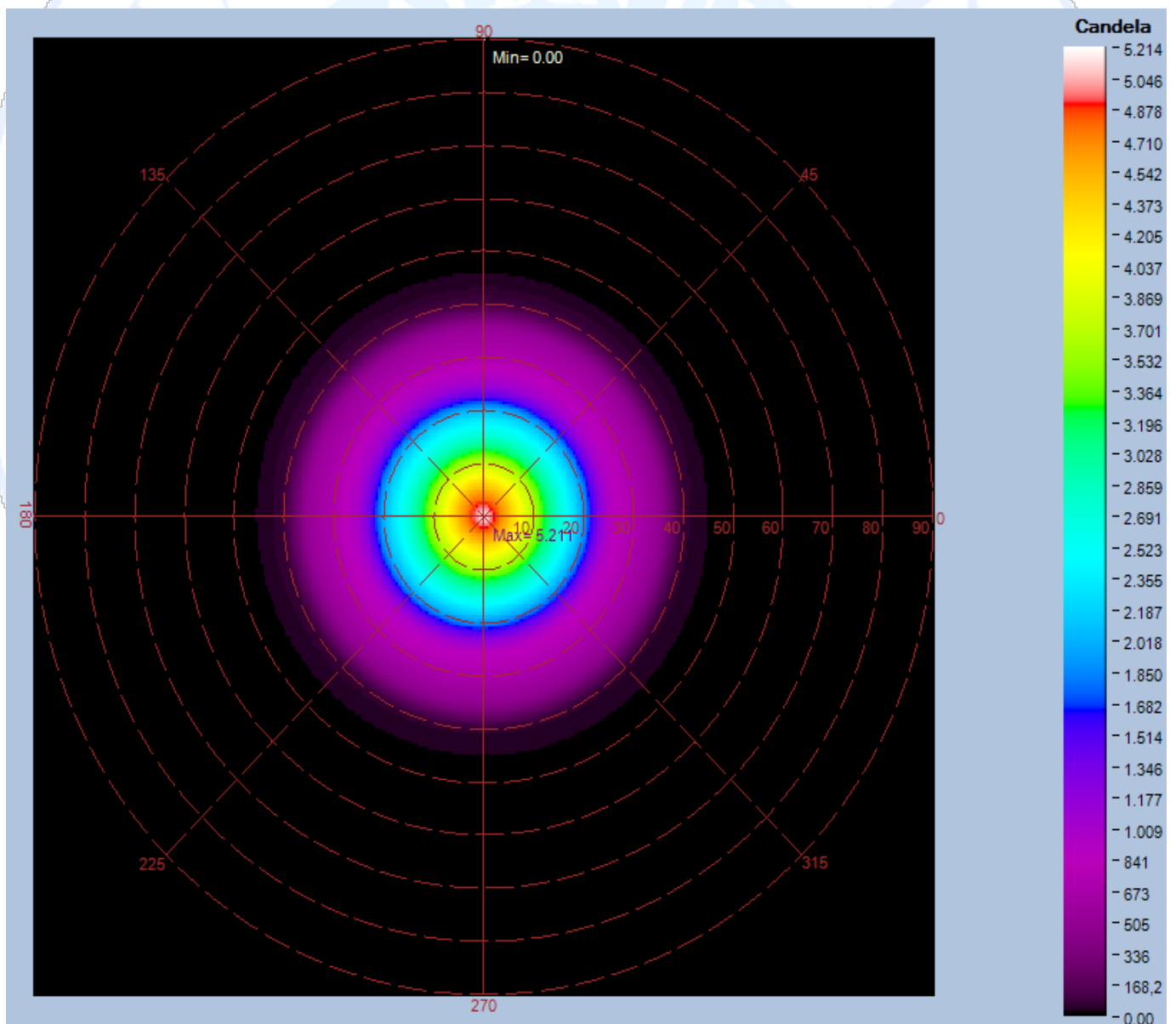
(ISTANBUL AYDIN UNIVERSITY LIGHTING TEST MEASUREMENT AND ANALYSIS LABORATORIES)

MUAYENE – DENEY SONUÇLARI / TEST RESULTS

Luminous Intensity



MUAYENE – DENEY SONUÇLARI / TEST RESULTS

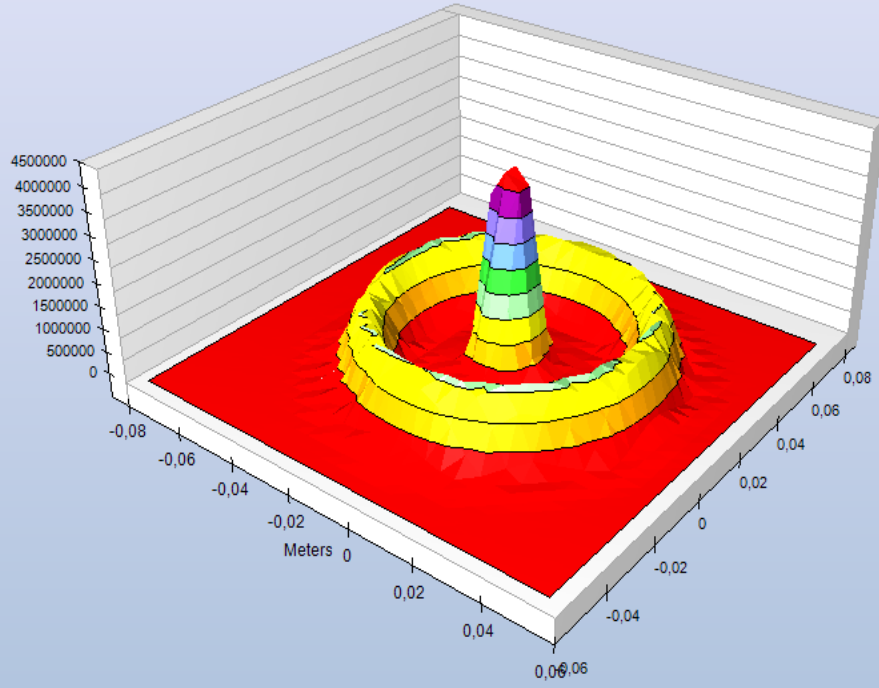


İSTANBUL AYDIN ÜNİVERSİTESİ AYDINLATMA TEST-ÖLÇÜM ve ANALİZ LABORATUARLARI

(ISTANBUL AYDIN UNIVERSITY LIGHTING TEST MEASUREMENT AND ANALYSIS LABORATOIES)

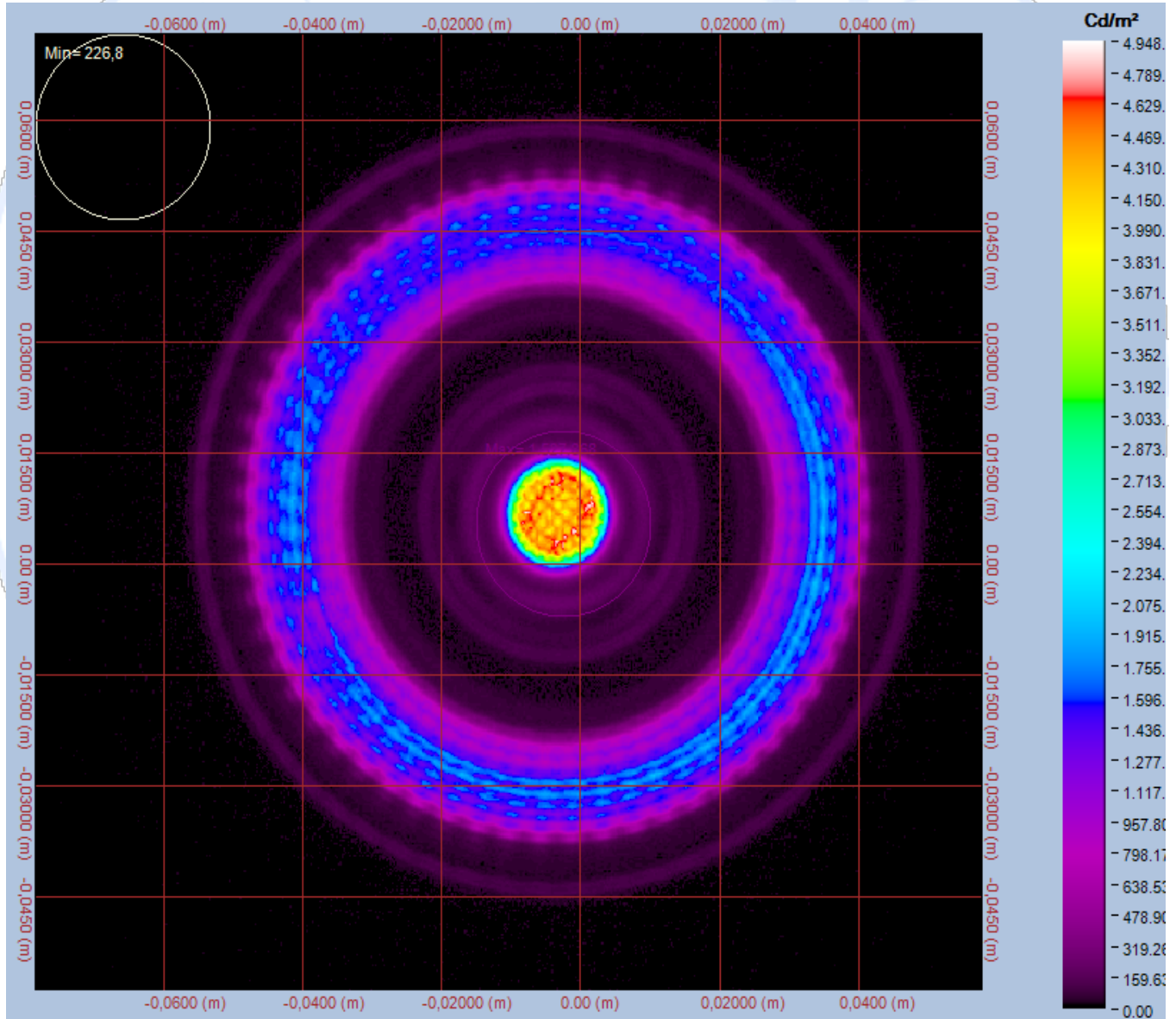
MUAYENE – DENEY SONUÇLARI / TEST RESULTS

Luminance



Cd/m^2
0 - 500000
500000 - 1000000
1000000 - 1500000
1500000 - 2000000
2000000 - 2500000
2500000 - 3000000
3000000 - 3500000
3500000 - 4000000
4000000 - 4500000

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 MEASUREMENT 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.....:	6101-119-CB830TNN-036, 6103-119-CB830TNN-036 9101-119-CB830TNN-036, 9102-119-CB830TNN-036 9104-119-CB830TNN-036, 9303-119-CB830TNN-036 9700-119-CB830TNN-036, 9701-119-CB830TNN-036 9707-119-CB830TNN-036
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.....:	18 W
Armatürün Ölçülen Işık Akısı /MeasuredLuminousFlux of Luminaire.....:	1953 lm (Effective Value)
Lamba Katalog Işık Akısı / LampCatalogLuminousFlux.....:	--
Armatür verimliliği (lm/Watt) / Luminousefficacy.....:	108,5 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

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)

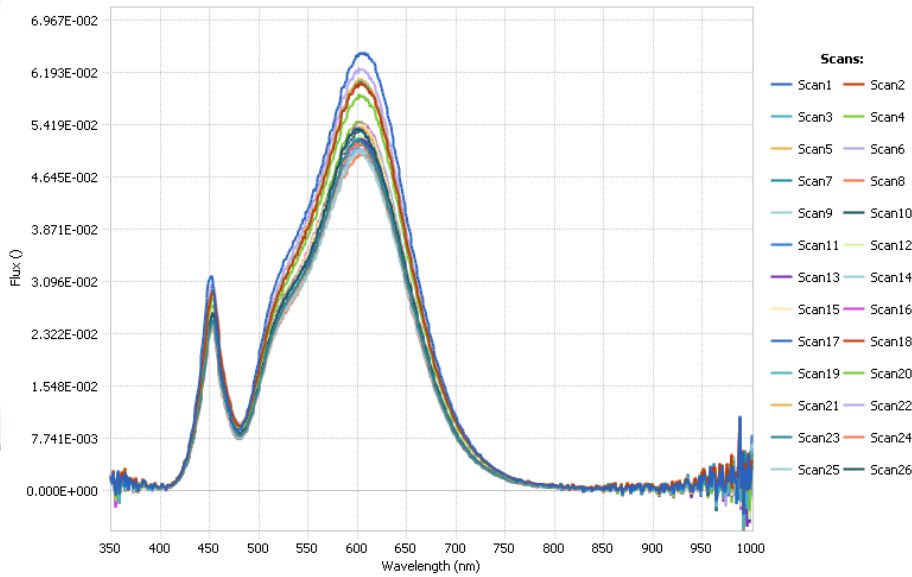
MUAYENE – DENEY SONUÇLARI / TEST RESULTS

Fotometrik Ölçümler / Photometric measurements

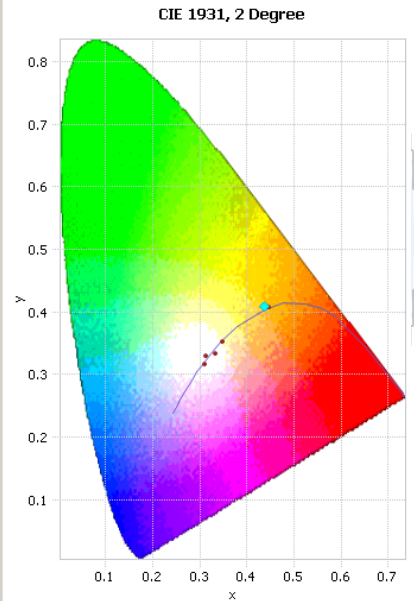
Parameter	Scan 16
	12.06.2015
Date/Time	13:52
Radiant Flux (Watts)	6,01
Luminous Flux (lumens)	1953,00
Scotopic Luminous Flux (lm')	2582,00
Chromaticity x coord	0,4372
Chromaticity y coord	0,4096
Chromaticity u coord	0,2484
Chromaticity v coord	0,3491
Delta uv	0,0021
Chromaticity u' coord	0,2484
Chromaticity v' coord	0,5236
Peak Wavelength (nm)	603,1
Center Wavelength (nm)	589,9
Centroid Wavelength (nm)	586,8
Dominant Wavelength (nm)	581,9
Full Width Half Max Bandwidth (nm)	138,6
Excitation Purity (%)	54,2
Correlated Color Temperature (deg. K)	3038
Correlation	0,0054
Correlation Coefficient	0,002161895
Color Rendering Index Average (RA)	82,5247211
Color Rendering Index (R1)	80,7
Color Rendering Index (R2)	88,9
Color Rendering Index (R3)	96,3
Color Rendering Index (R4)	81,5
Color Rendering Index (R5)	80,2
Color Rendering Index (R6)	86
Color Rendering Index (R7)	85,1
Color Rendering Index (R8)	61,4
Color Rendering Index (R9)	9,4
Color Rendering Index (R10)	74,3
Color Rendering Index (R11)	80,6
Color Rendering Index (R12)	65,7
Color Rendering Index (R13)	82,4
Color Rendering Index (R14)	97,8

MUAYENE – DENEY SONUÇLARI / TEST RESULTS

▼ SPECTRAL FLUX GRAPH:

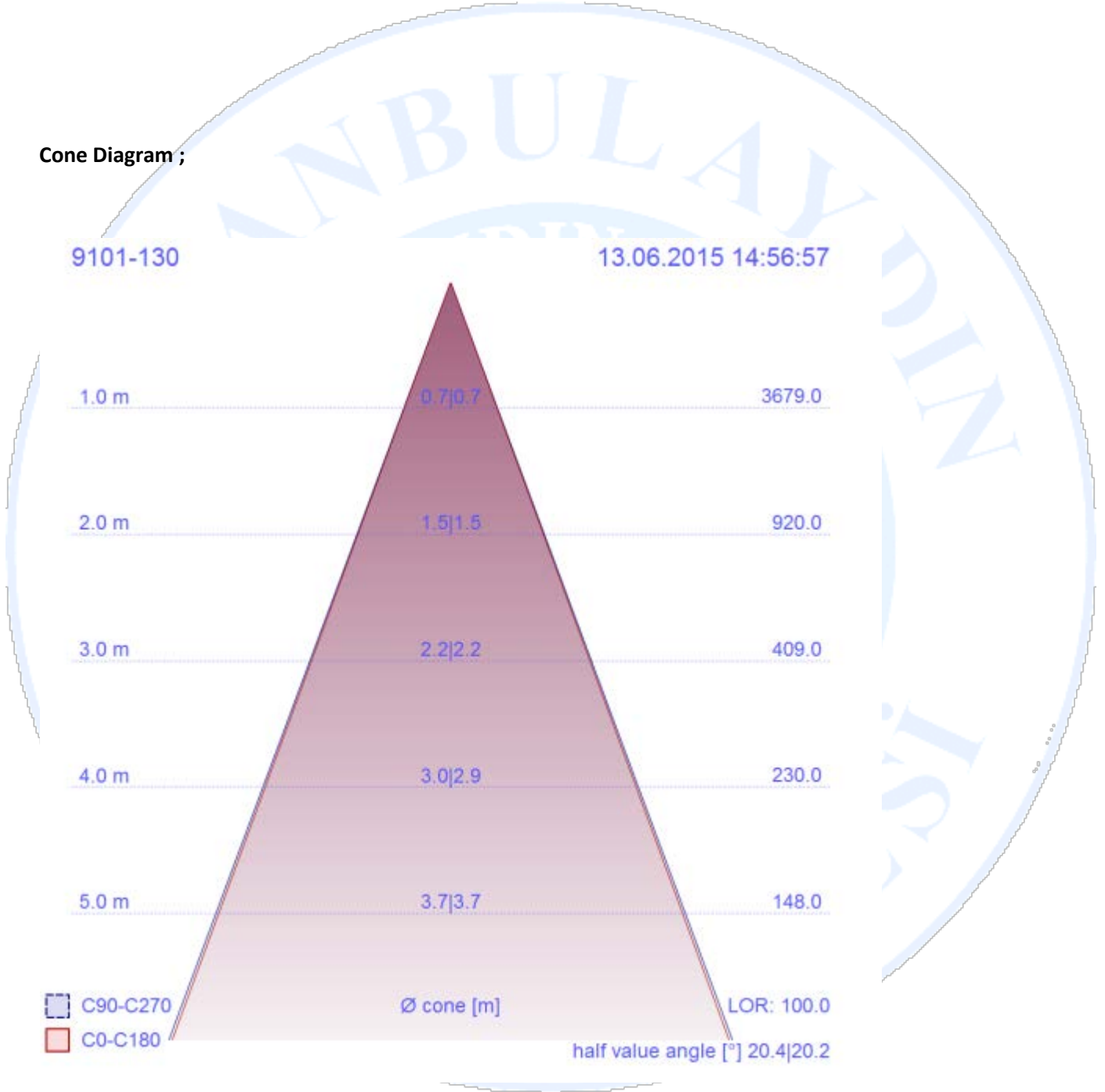


▼ CHROMATICITY DIAGRAM:

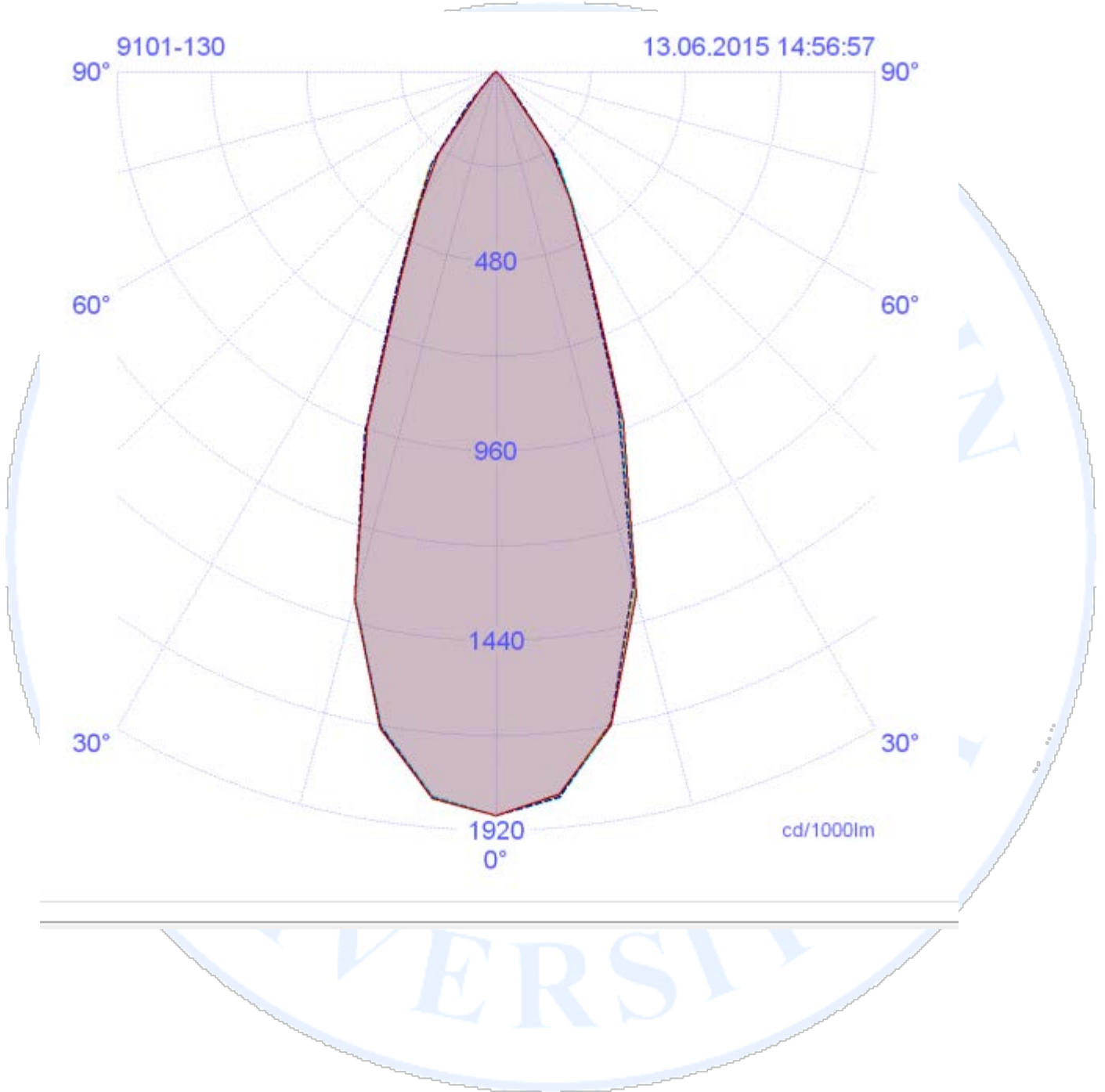


MUAYENE – DENEY SONUÇLARI / TEST RESULTS

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**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.....:	6101-119-CB830TNN-024, 6103-119-CB830TNN-024 9101-119-CB830TNN-024, 9102-119-CB830TNN-024 9104-119-CB830TNN-024, 9303-119-CB830TNN-024 9700-119-CB830TNN-024, 9701-119-CB830TNN-024 9707-119-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.....:	18 W
Armatürün Ölçülen Işık Akısı /MeasuredLuminousFlux of Luminaire.....:	1950 lm (Effective Value)
Lamba Katalog Işık Akısı / LampCatalogLuminousFlux.....:	--
Armatür verimliliği (lm/Watt) / Luminousefficacy.....:	108,33 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

Numunenin fotoğrafları / Photos of the Test Sample



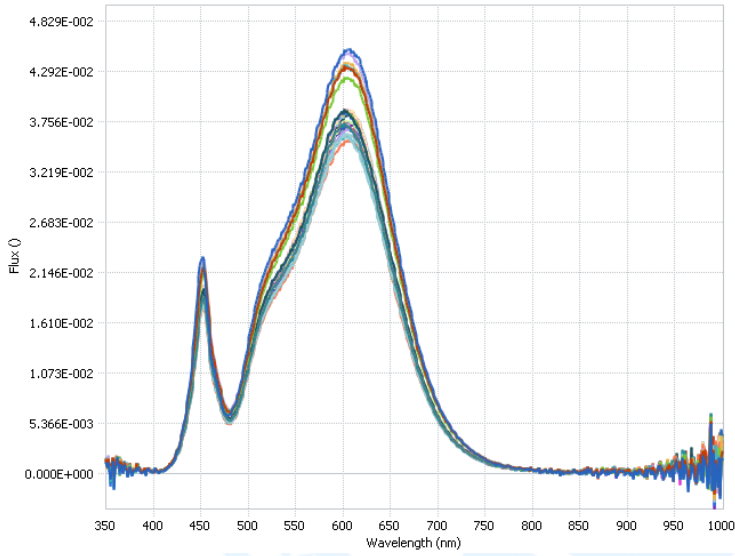
MUAYENE – DENEY SONUÇLARI / TEST RESULTS

Fotometrik Ölçümler / Photometric measurements

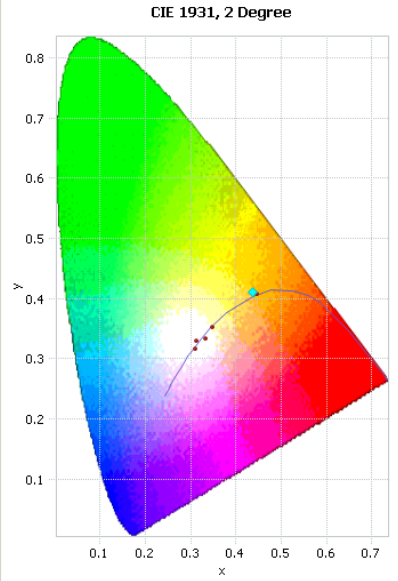
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Radiant Flux (Watts)	6,00
Luminous Flux (lumens)	1950,00
Scotopic Luminous Flux (lm')	2579,00
Chromaticity x coord	0,4371
Chromaticity y coord	0,4097
Chromaticity u coord	0,2483
Chromaticity v coord	0,3491
Delta uv	0,0022
Chromaticity u' coord	0,2483
Chromaticity v' coord	0,5236
Peak Wavelength (nm)	602,3
Center Wavelength (nm)	590
Centroid Wavelength (nm)	586,2
Dominant Wavelength (nm)	581,9
Full Width Half Max Bandwidth (nm)	138,5
Excitation Purity (%)	54,2
Correlated Color Temperature (deg. K)	3041
Correlation	0,0054
Correlation Coefficient	0,002222311
Color Rendering Index Average (RA)	82,10807986
Color Rendering Index (R1)	80
Color Rendering Index (R2)	88,7
Color Rendering Index (R3)	96,5
Color Rendering Index (R4)	80,9
Color Rendering Index (R5)	79,7
Color Rendering Index (R6)	85,7
Color Rendering Index (R7)	84,7
Color Rendering Index (R8)	60,5
Color Rendering Index (R9)	7,4
Color Rendering Index (R10)	74,1
Color Rendering Index (R11)	80
Color Rendering Index (R12)	65,4
Color Rendering Index (R13)	81,8
Color Rendering Index (R14)	98

MUAYENE – DENEY SONUÇLARI / TEST RESULTS

▼ SPECTRAL FLUX GRAPH:

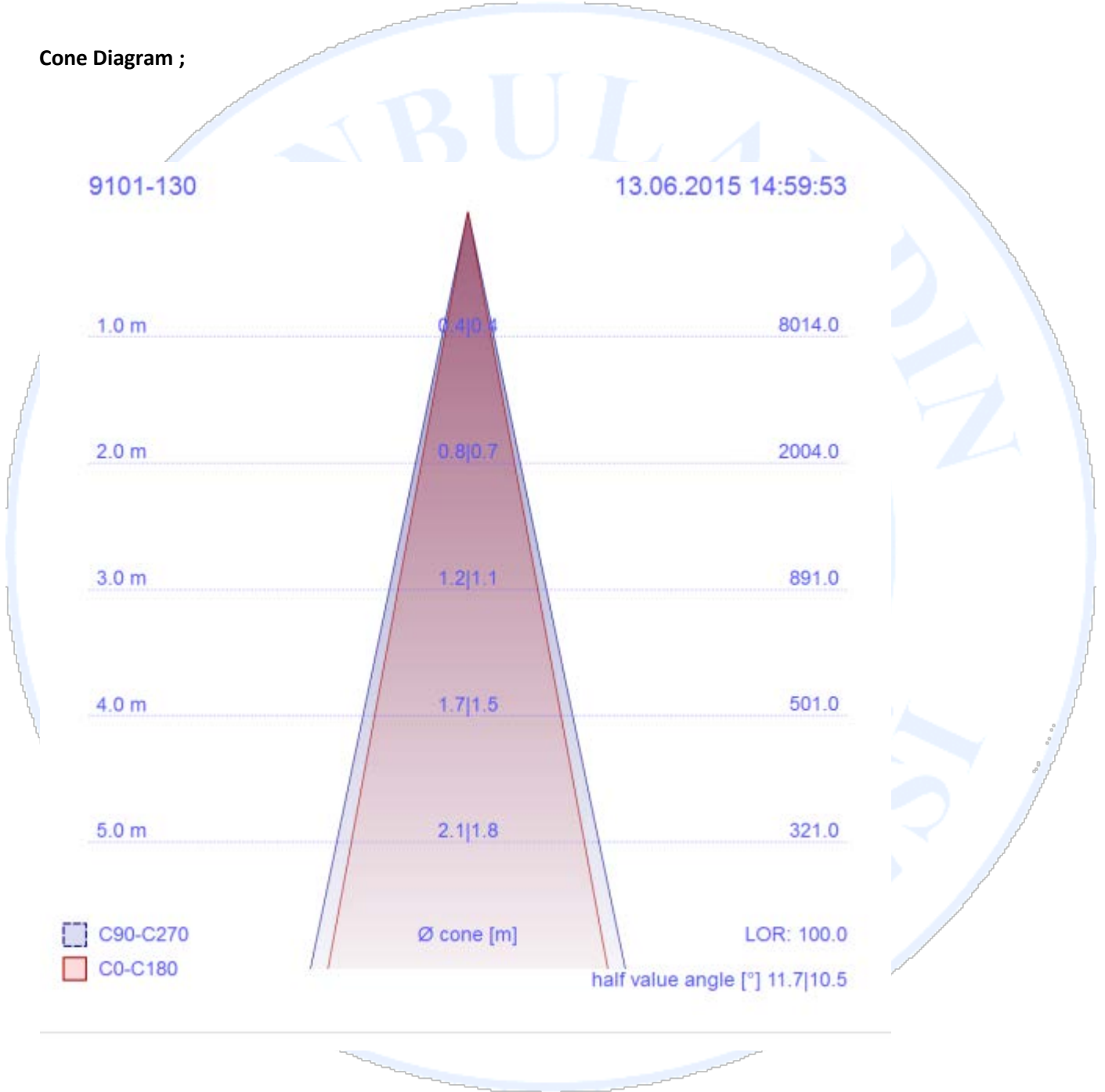


▼ CHROMATICITY DIAGRAM:

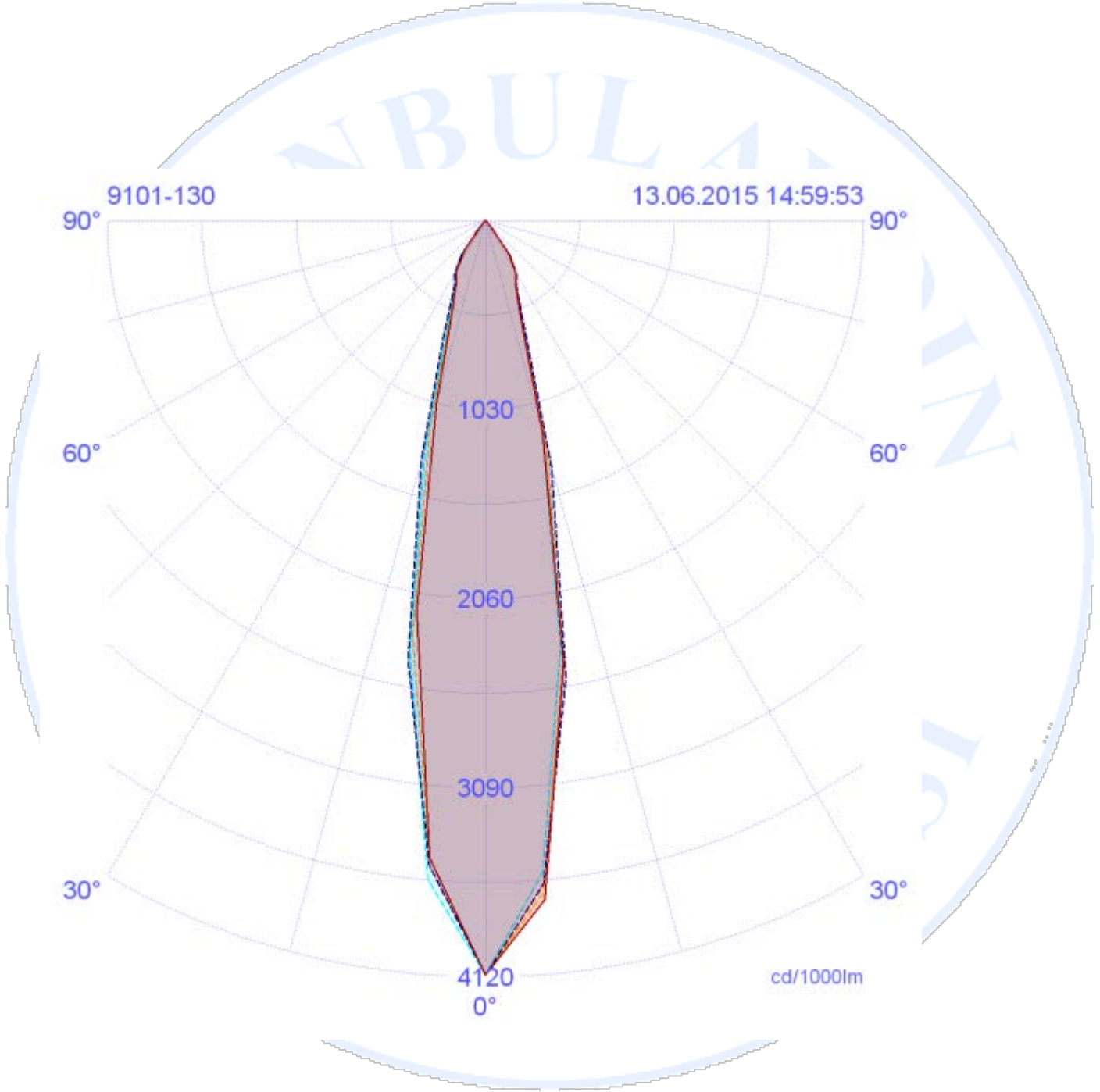


MUAYENE – DENEY SONUÇLARI / TEST RESULTS

Cone Diagram ;



MUAYENE – DENEY SONUÇLARI / TEST RESULTS



FOTOMETRİK ÖLÇÜM SONUÇLARI
PHOTOMETRIC MEASUREMENT 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.....:	6101-119-CB830TNN-015, 6103-119-CB830TNN-015 9101-119-CB830TNN-015, 9102-119-CB830TNN-015 9104-119-CB830TNN-015, 9303-119-CB830TNN-015 9700-119-CB830TNN-015, 9701-119-CB830TNN-015 9707-119-CB830TNN-015
Armatür Lamba Tipi-açıklama/Lamptype-description of Luminaire.....:	LED SPOT

İSTANBUL AYDIN ÜNİVERSİTESİ AYDINLATMA TEST-ÖLÇÜM ve ANALİZ LABORATUARLARI

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MUAYENE – DENEY SONUÇLARI / TEST RESULTS

Armatürde Ölçülen Toplam Güç/Measured Total Power of Luminaire.....:	18 W
Armatürün Ölçülen Işık Akısı /MeasuredLuminousFlux of Luminaire.....:	1947 lm (Effective Value)
Lamba Katalog Işık Akısı / LampCatalogLuminousFlux.....:	--
Armatür verimliliği (lm/Watt) / Luminousefficacy.....:	108,16 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

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MUAYENE – DENEY SONUÇLARI / TEST RESULTS

Numunenin fotoğrafları / Photos of the Test Sample



İSTANBUL AYDIN ÜNİVERSİTESİ AYDINLATMA TEST-ÖLÇÜM ve ANALİZ LABORATUARLARI

(İSTANBUL AYDIN UNIVERSITY LIGHTING TEST MEASUREMENT AND ANALYSIS LABORATORIES)

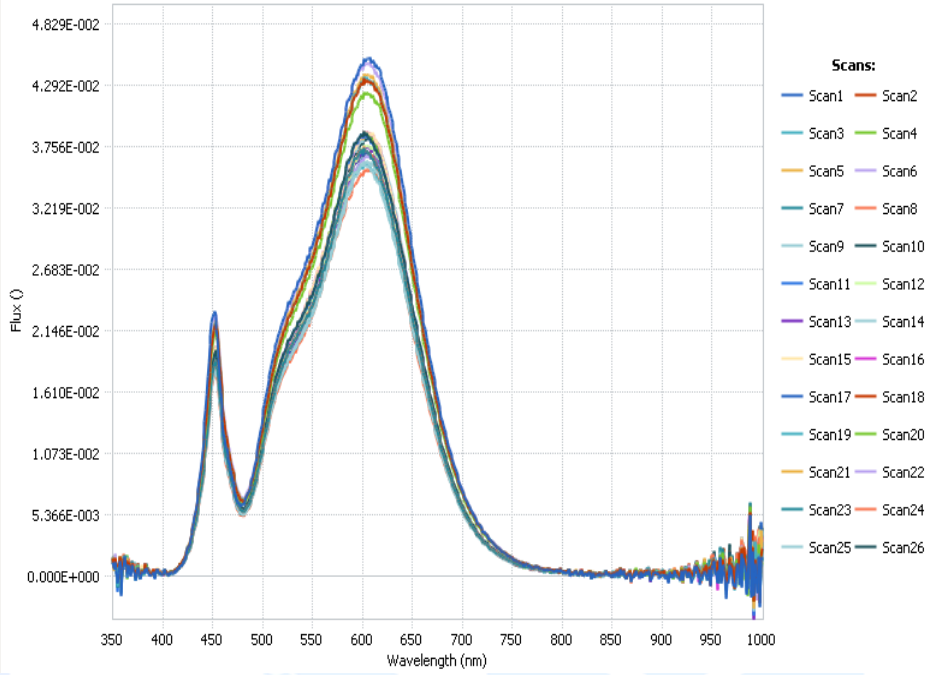
MUAYENE – DENEY SONUÇLARI / TEST RESULTS

Fotometrik Ölçümler / Photometric measurements

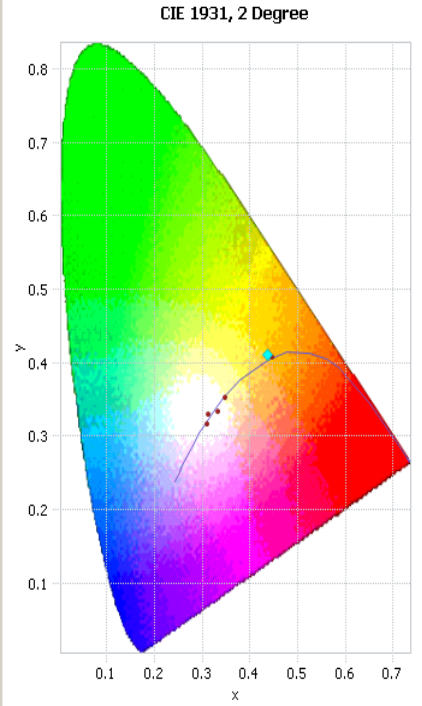
Parameter	Scan 25
Date/Time	12.06.2015 13:59
Radiant Flux (Watts)	6,02
Luminous Flux (lumens)	1947,00
Scotopic Luminous Flux (lm')	2559,00
Chromaticity x coord	0,4384
Chromaticity y coord	0,41
Chromaticity u coord	0,2489
Chromaticity v coord	0,3493
Delta uv	0,0021
Chromaticity u' coord	0,2489
Chromaticity v' coord	0,5239
Peak Wavelength (nm)	604,1
Center Wavelength (nm)	589,8
Centroid Wavelength (nm)	588,3
Dominant Wavelength (nm)	582
Full Width Half Max Bandwidth (nm)	138,3
Excitation Purity (%)	54,7
Correlated Color Temperature (deg. K)	3022
Correlation	0,0054
Correlation Coefficient	0,002166504
Color Rendering Index Average (RA)	82,44215841
Color Rendering Index (R1)	80,5
Color Rendering Index (R2)	88,8
Color Rendering Index (R3)	96,4
Color Rendering Index (R4)	81,3
Color Rendering Index (R5)	80
Color Rendering Index (R6)	85,9
Color Rendering Index (R7)	85,1
Color Rendering Index (R8)	61,5
Color Rendering Index (R9)	9,7
Color Rendering Index (R10)	74,2
Color Rendering Index (R11)	80,3
Color Rendering Index (R12)	65,6
Color Rendering Index (R13)	82,2
Color Rendering Index (R14)	97,8

MUAYENE – DENEY SONUÇLARI / TEST RESULTS

▼ SPECTRAL FLUX GRAPH:

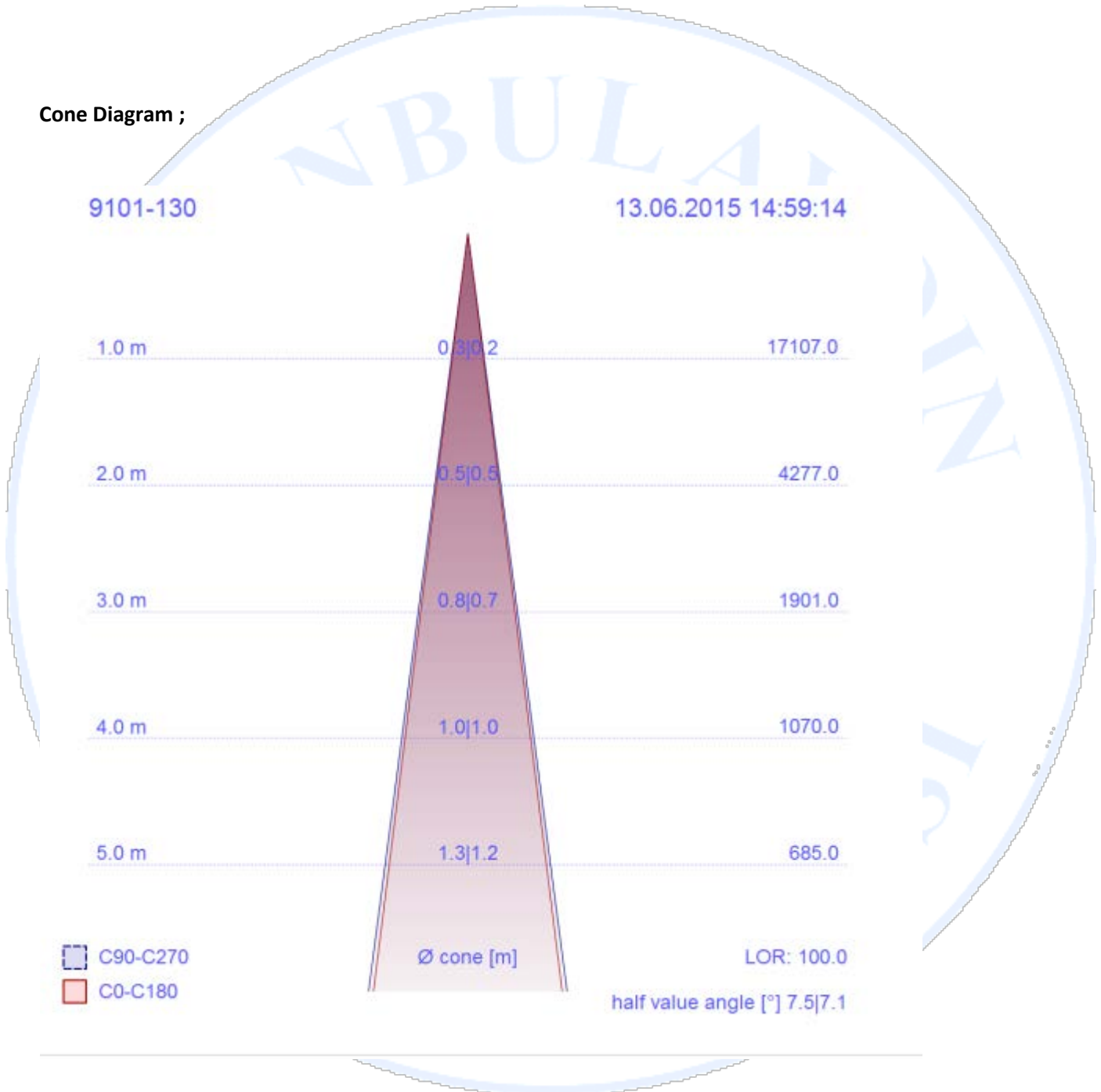


▼ CHROMATICITY DIAGRAM:



MUAYENE – DENEY SONUÇLARI / TEST RESULTS

Cone Diagram ;



MUAYENE – DENEY SONUÇLARI / TEST RESULTS

