LAMP83

LM2017 475

Photometric Measurement Report

Generated by Radiant Vision Systems Light Measurement Platform

Luminaire Model	L AN4103031 ŞEFFAF				
Led & Driver Type	BRIDGELUX	VERO 10	&	OSRAM	OPTOTRONIC FIT 20 CS
Luminaire Type	ANKASTRE				
Luminaire Family	ART				
Holder	-				
Reflector / Lens Degree	18				
Brand	LAMP 83				
Date of issue	10.10.2017				

Test Standards

EN 13032-1:2012 and EN 13032-4:2013 Light and Lighting. Measurement and presentation of photometric data of lamps and luminaires

IESNA LM-79-08 Approved Method: Electrical and Photometric Measurements of SSL Products(Type-C)

Test and Test Method

The photometric measurements listed in this report are performed by a Radiant Vision Systems PM-NFMS™ near field goniometer system. The NFMS system performs brightness and color measurements as a function of viewing angle. It provides accurate near-field luminance distribution data and generates far field distribution data.

Test Equipment

Name	Serial / Version
The PM-NFMS™ system consists of a PM-Series™ Imaging Colorimeter IC-PMI2	SN# 79046501
NFMS 800 two-axis goniometer	SN# 641502001
SP-1000 spectrometer	SN# 3017942276
PM-NFMS™ software	Version 4.9.9
ProSource™ Software	Version 10.2.2

The measurement data is preserved as a set of images Radiant Source Model™(RSMX). The ProSource™ Software (Version 10.2.2) was been used to convert the RSMX to a ray set(LTD file)

Laboratory Environment and Conditions

The measurement was done in the photometric laboratory of Lamp83 (Istanbul). It is a climate controlled dark room.Also a AC/DC power stabilisation unit is used(Pyramid Plus PPS310,8KW,10kVA,SN# 073010T0066).

Temperature:	25°C	(± 1 °C)
Moisture:	60%	(± 10 %)

The luminaire was thermally stabilized for **at least 45 minutes** on the goniometer. The end of the stabilization period has been reached if in the last 10 minutes the luminance output has not changed by more than ± 0.5%.

Equipment Specifications

Precision: 0.25° (NFMS Goniometer)

Luminance (Y): ± 3% (Imaging Colotimeter IC-PMI2)

Color Accuracy: ± 0.002 Illuminant A type sourc (Spectrometer SP-1000)

Tested By:	Reviewed By:	Approved By:
Gökhan AKSEL Test Technician	Anıl TOKER Physics Engineer	Erdoğan EMREM R&D Manager

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Luminaire Spectroradiometric Results

Luminous Flux (lm)	959
CCT (K)	######
Cx	0.0000
Cy	0.0000
CRI	82
Luminous Efficacy (lm/W)	94.334
Angle (°)	25.0

Luminaire Electric Specifications

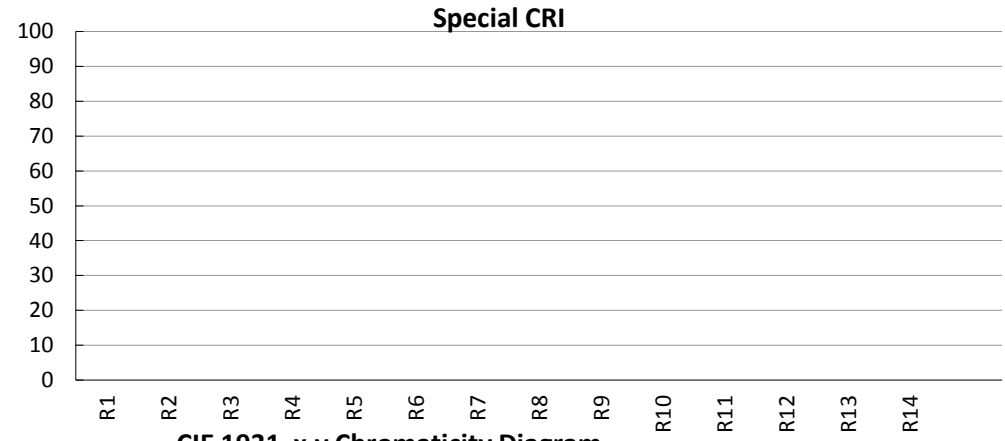
Voltage (VAC)	221
Current (A)	0.05
Power (W)	10.166
Power Factor	0.92
LED Voltage(VDC)	27.13
LED Current(mA)	355
LED Power(W)	9.63115

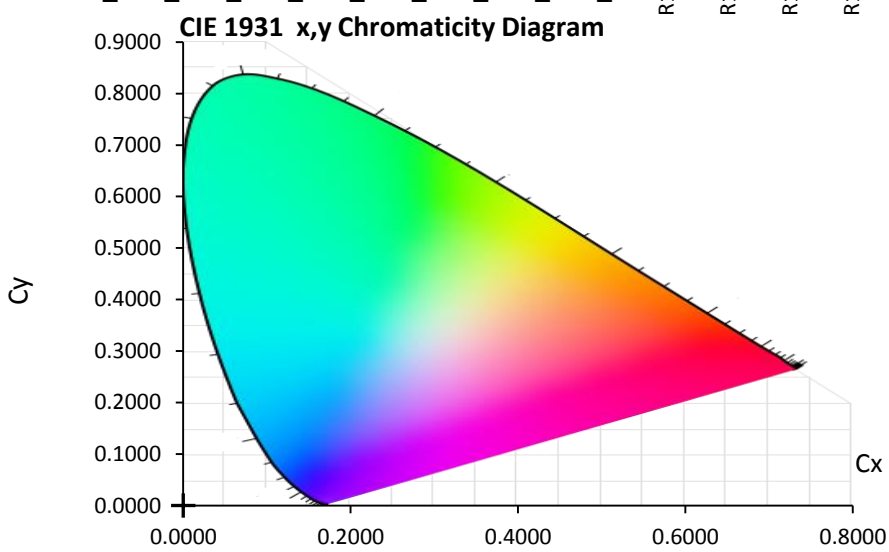
Measurement Preset Specifications

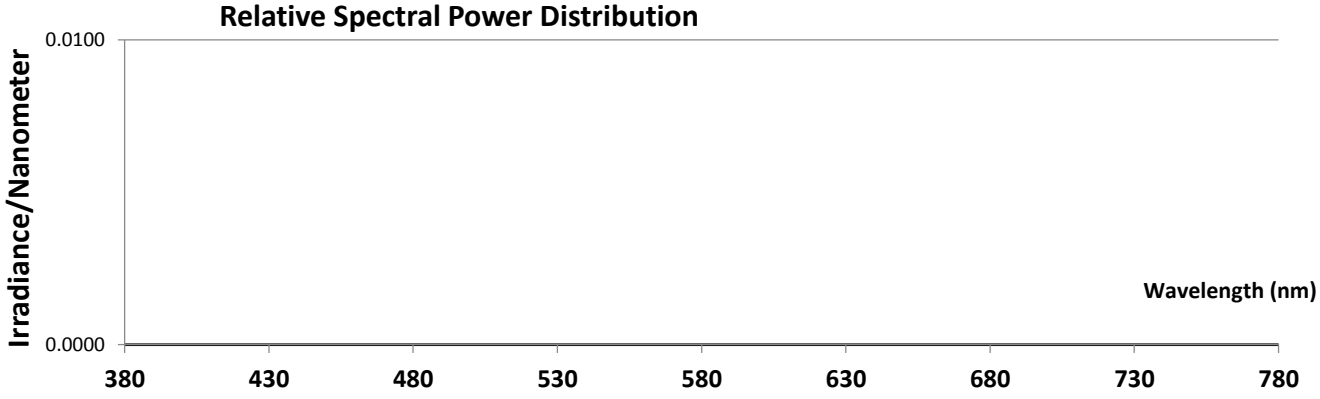
External ND Filter	YES
ND Filter	ND1
F-Number	8
Exposure Time (ms)	125.03
Distance(mm)	2080

Rendering Index

CRI	
R1	#SAYI/0!
R2	#SAYI/0!
R3	#SAYI/0!
R4	#SAYI/0!
R5	#SAYI/0!
R6	#SAYI/0!
R7	#SAYI/0!
R8	#SAYI/0!
R9	#SAYI/0!
R10	#SAYI/0!
R11	#SAYI/0!
R12	#SAYI/0!
R13	#SAYI/0!
R14	#SAYI/0!
CRI Ra	#SAYI/0!







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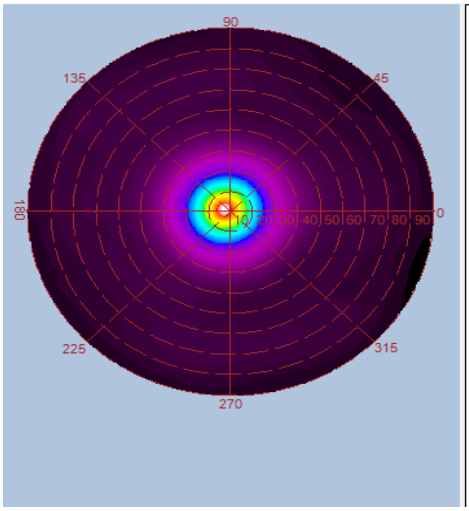
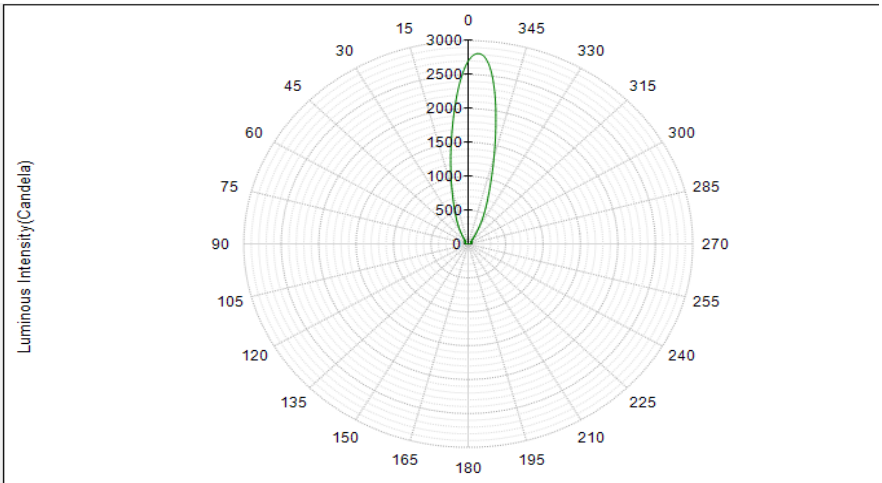
Intensity Distribution - Polar Curve

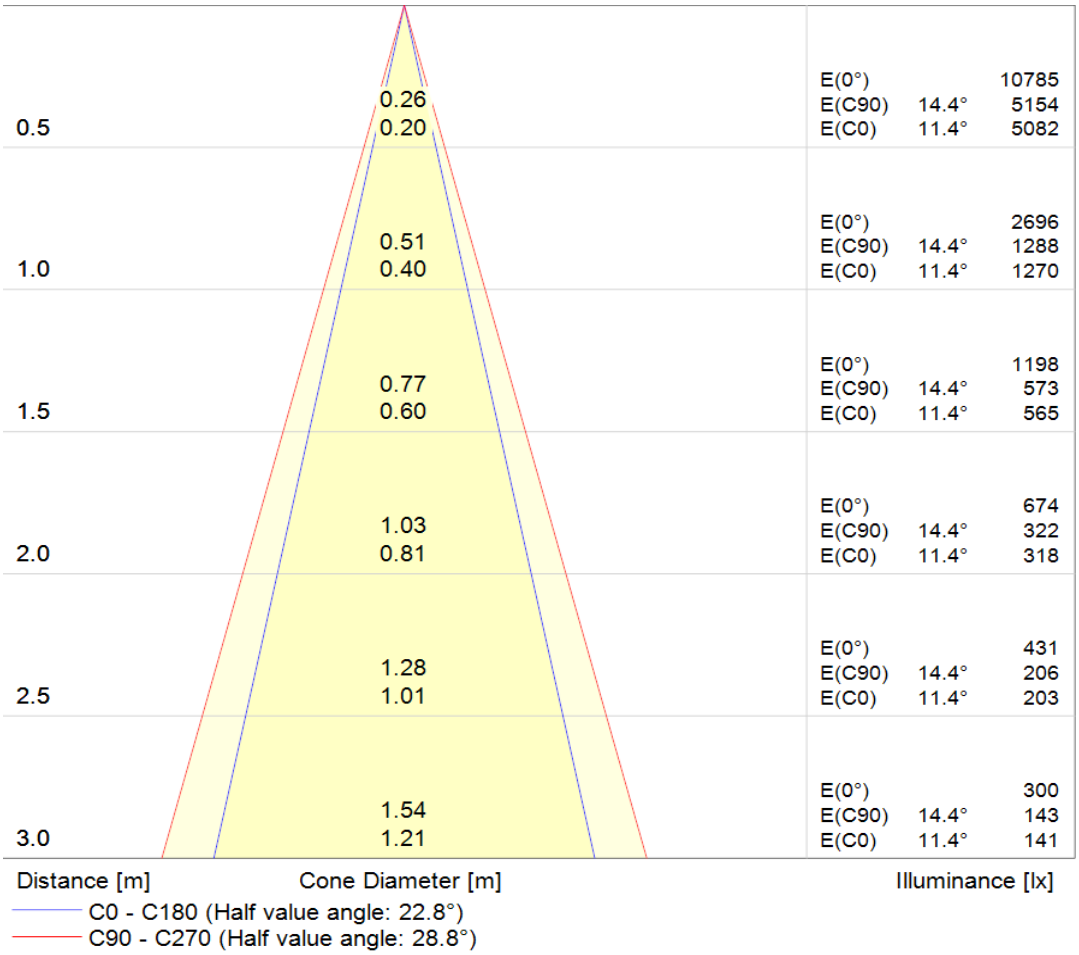
Intensity Radar Plot (ray trace to infinity)



Luminous Intensity Distribution



Cone Diagram



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UGR Table

Glare Evaluation According to UGR

ρ Ceiling		70	70	50	50	30	70	70	50	50	30
ρ Walls		50	30	50	30	30	50	30	50	30	30
ρ Floor		20	20	20	20	20	20	20	20	20	20
Room size X	Y	Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
2H	2H	20.6	21.5	20.9	21.7	21.9	20.8	21.7	21.1	21.9	22.1
	3H	23.2	24.0	23.4	24.2	24.4	22.6	23.4	22.9	23.6	23.9
	4H	24.4	25.2	24.7	25.5	25.7	23.5	24.3	23.9	24.6	24.8
	6H	25.5	26.2	25.8	26.5	26.8	24.4	25.1	24.8	25.4	25.7
	8H	25.8	26.5	26.2	26.8	27.1	24.8	25.5	25.1	25.8	26.1
	12H	26.1	26.8	26.5	27.1	27.4	25.1	25.8	25.5	26.1	26.4
4H	2H	21.3	22.1	21.6	22.3	22.6	21.4	22.2	21.7	22.4	22.7
	3H	24.1	24.7	24.4	25.1	25.4	23.3	24.0	23.7	24.3	24.6
	4H	25.6	26.2	26.0	26.5	26.8	24.4	25.0	24.8	25.3	25.7
	6H	26.8	27.3	27.2	27.7	28.1	25.4	25.9	25.8	26.3	26.7
	8H	27.3	27.7	27.7	28.1	28.5	25.9	26.3	26.3	26.7	27.1
	12H	27.6	28.0	28.1	28.4	28.9	26.3	26.7	26.7	27.1	27.5
8H	4H	25.9	26.3	26.3	26.7	27.1	24.8	25.3	25.2	25.6	26.0
	6H	27.3	27.7	27.8	28.1	28.6	26.0	26.3	26.4	26.7	27.2
	8H	27.9	28.2	28.4	28.7	29.2	26.5	26.8	27.0	27.3	27.7
	12H	28.4	28.7	28.9	29.1	29.6	27.1	27.3	27.5	27.8	28.3
12H	4H	25.9	26.3	26.3	26.7	27.1	24.9	25.3	25.3	25.7	26.1
	6H	27.4	27.7	27.9	28.1	28.6	26.1	26.4	26.6	26.9	27.3
	8H	28.0	28.3	28.5	28.8	29.3	26.7	27.0	27.2	27.4	27.9

Variation of the observerposition for the luminaire distance S

S = 1.0H	+0.1 / -0.1	+0.4 / -0.2
S = 1.5H	+0.2 / -0.3	+0.9 / -0.3
S = 2.0H	+0.3 / -0.5	+1.6 / -0.5
Standard table	BK10	BK08
Correction summand	11.7	10.0

Corrected glare indices referring to 960lm total luminous flux

Sample Pictures