LAMP83

LM2018 013

Photometric Measurement Report

Generated by Radiant Vision Systems Light Measurement Platform

Luminaire Model	L AN4203031 ŞEFFAF				
Led & Driver Type	BRIDGELUX	VERO 10	&	TCI	UNIVERSAL 20
Luminaire Type	ANKASTRE				
Luminaire Family	SIGHT				
Holder	0				
Reflector / Lens Degree	35				
Brand	LAMP 83				
Date of issue	10.01.2018				

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	Anıl TOKER	Erdoğan EMREM
Test Technician	Physics Engineer	R&D Manager

LAMP83 Aydinlatma San. Ve Tic. A.S

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Luminaire Spectroradiometric Results

Luminous Flux (lm)	719
CCT (K)	3,022
Illuminance	448
Cx	0.4339
Cy	0.4004
CRI	83
Luminous Efficacy (lm/W)	58.8
Angle (°)	35.5

Luminaire Electric Specifications

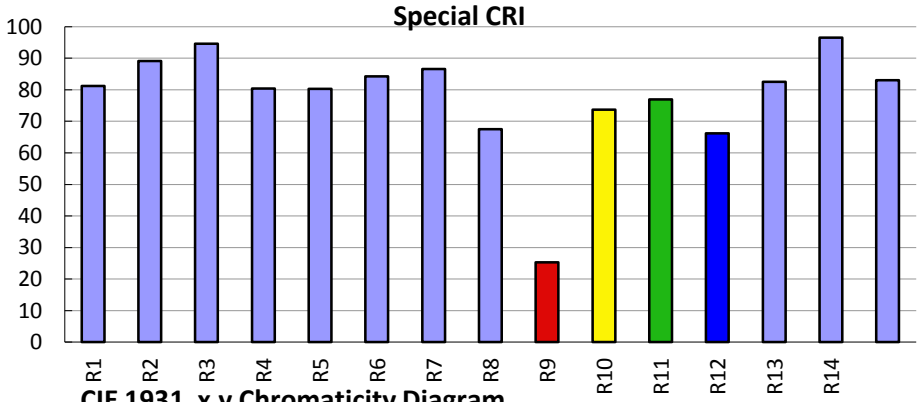
Voltage (VAC)	221.4
Current (A)	0.06
Power (W)	12.22128
Power Factor	0.92
LED Voltage(VDC)	25.7
LED Current(mA)	360
LED Power(W)	9.252

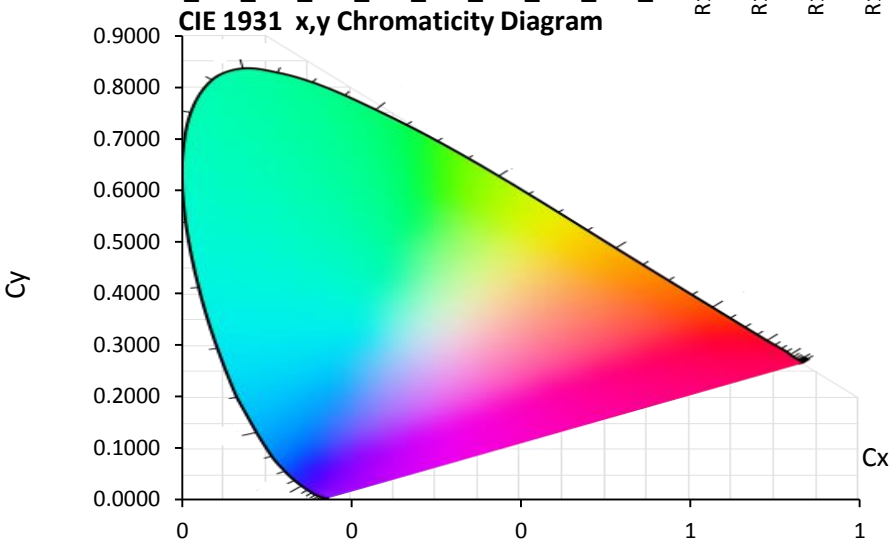
Measurement Preset Specifications

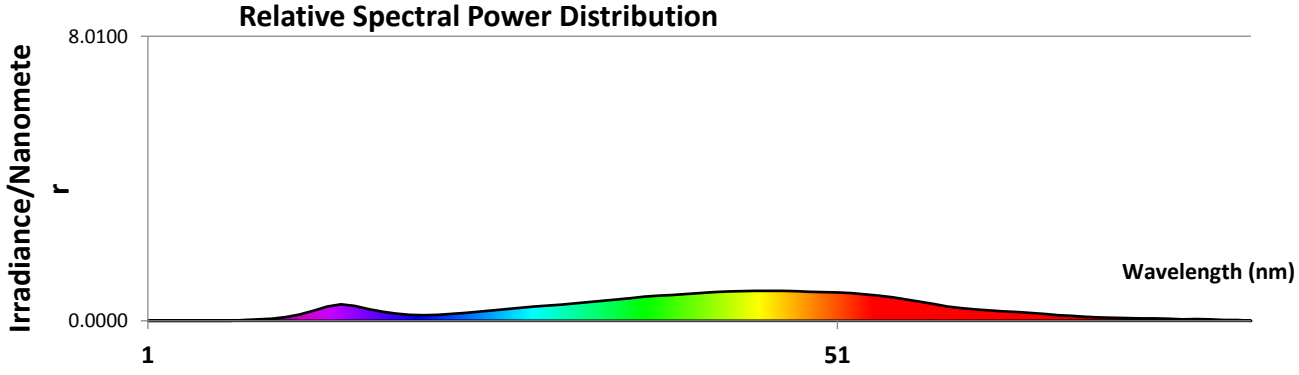
External ND Filter	YES
ND Filter	ND1
F-Number	8
Exposure Time (ms)	171.38
Distance(mm)	2075

Rendering Index

CRI	
R1	81.2
R2	89.1
R3	94.6
R4	80.4
R5	80.3
R6	84.3
R7	86.6
R8	67.6
R9	25.3
R10	73.7
R11	77.0
R12	66.1
R13	82.6
R14	96.6
CRI Ra	83.0







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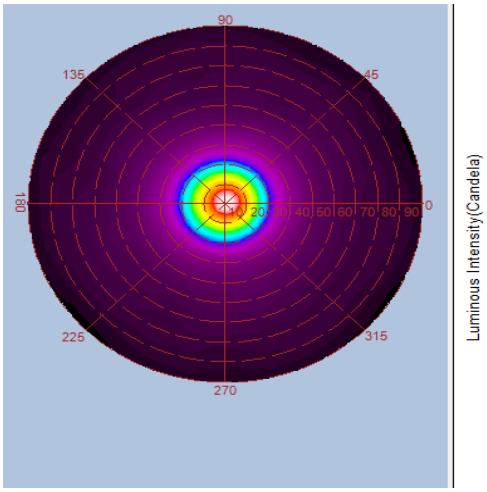
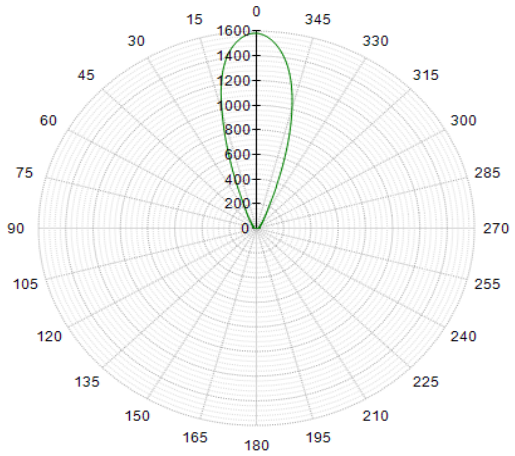
Intensity Distribution - Polar Curve

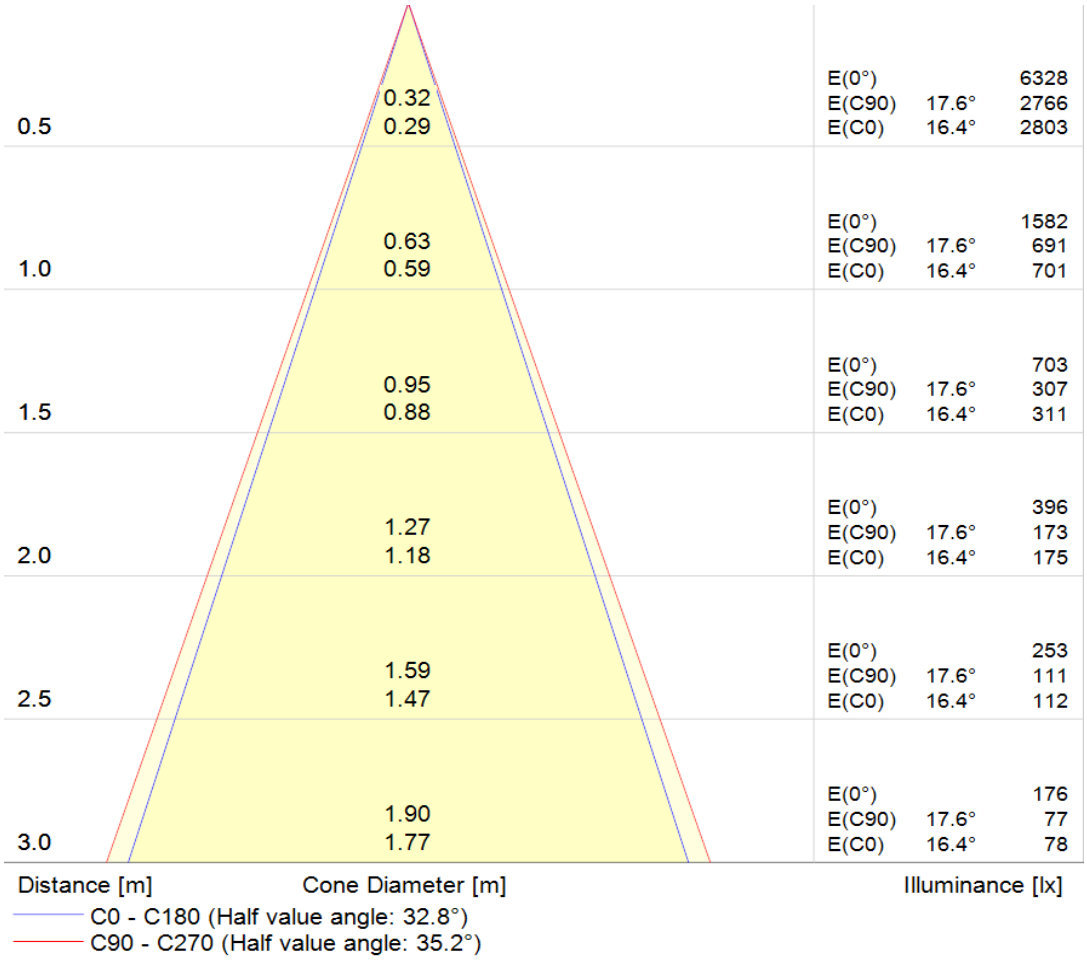
Intensity Radar Plot (ray trace to infinity)



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	15.4	16.3	15.6	16.5	16.7	16.2	17.0	16.4	17.2	17.4
	3H	16.6	17.4	16.9	17.7	17.9	17.5	18.3	17.8	18.6	18.8
	4H	17.2	18.0	17.5	18.2	18.5	18.2	19.0	18.5	19.2	19.5
	6H	17.8	18.5	18.1	18.8	19.0	18.8	19.5	19.1	19.8	20.0
	8H	18.0	18.7	18.3	19.0	19.3	19.0	19.7	19.3	20.0	20.3
	12H	18.2	18.8	18.5	19.1	19.5	19.2	19.8	19.5	20.1	20.4
4H	2H	16.0	16.8	16.3	17.0	17.3	16.7	17.4	17.0	17.7	17.9
	3H	17.5	18.1	17.8	18.4	18.7	18.3	18.9	18.7	19.3	19.6
	4H	18.2	18.8	18.6	19.1	19.5	19.1	19.7	19.5	20.0	20.4
	6H	19.0	19.4	19.4	19.8	20.2	19.8	20.3	20.2	20.7	21.1
	8H	19.3	19.7	19.7	20.1	20.5	20.1	20.6	20.5	20.9	21.3
	12H	19.6	19.9	20.0	20.3	20.8	20.3	20.7	20.8	21.1	21.6
8H	4H	18.6	19.0	19.0	19.4	19.8	19.3	19.8	19.8	20.2	20.6
	6H	19.5	19.8	19.9	20.2	20.7	20.2	20.5	20.6	21.0	21.4
	8H	19.9	20.2	20.4	20.7	21.1	20.6	20.9	21.0	21.3	21.8
	12H	20.3	20.6	20.8	21.0	21.5	20.9	21.2	21.4	21.6	22.1
12H	4H	18.6	19.0	19.0	19.4	19.8	19.4	19.7	19.8	20.2	20.6
	6H	19.5	19.8	20.0	20.3	20.8	20.2	20.5	20.7	21.0	21.4
	8H	20.0	20.3	20.5	20.7	21.2	20.6	20.9	21.1	21.4	21.9

Variation of the observerposition for the luminaire distance S

S = 1.0H	+0.2 / -0.2	+0.3 / -0.3
S = 1.5H	+0.5 / -0.4	+0.7 / -0.5
S = 2.0H	+0.9 / -0.7	+1.3 / -0.8
Standard table	BK06	BK06
Correction summand	2.3	3.1

Corrected glare indices referring to 719lm total luminous flux

Sample Pictures