

**Photometric Measurement Report**

Generated by Radiant Vision Systems Light Measurement Platform

Luminaire Model	L DL2401030				
Led & Driver Type	SAMSUNG	26D2	&	TCI	PROFESSIONALE 42
Luminaire Type	DOWNLIGHT				
Luminaire Family	L-UGR				
Holder	BAHO HOLDER				
Reflector / Lens Degree	65				
Brand	LAMP 83				
Date of issue	02.05.2018				

**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:**

Gökhan AKSEL  
Test Technician

**Reviewed By:**

Anıl TOKER  
Physics Engineer

**Approved By:**

Erdoğan EMREM  
R&D Manager

LAMP83 Aydınlatma San. Ve Tic. A.S

Dudullu Organize Sanayi Bölgesi 2. Cadde No:22 PK: 34775 Ümraniye - İstanbul

## Photometric Measurement Report

Generated by Radiant Vision Systems Light Measurement Platform

## Luminaire Spectroradiometric Results

Luminous Flux (lm)	1409
CCT (K)	3,015
Cx	0.4354
Cy	0.4027
CRI	94
Luminous Efficacy (lm/W)	89.383
Angle (°)	65.0

## Luminaire Electric Specifications

Voltage (VAC)	221.4
Current (A)	0.08
Power (W)	15.76368
Power Factor	0.89
LED Voltage(VDC)	33.13
LED Current(mA)	405
LED Power(W)	13.41765

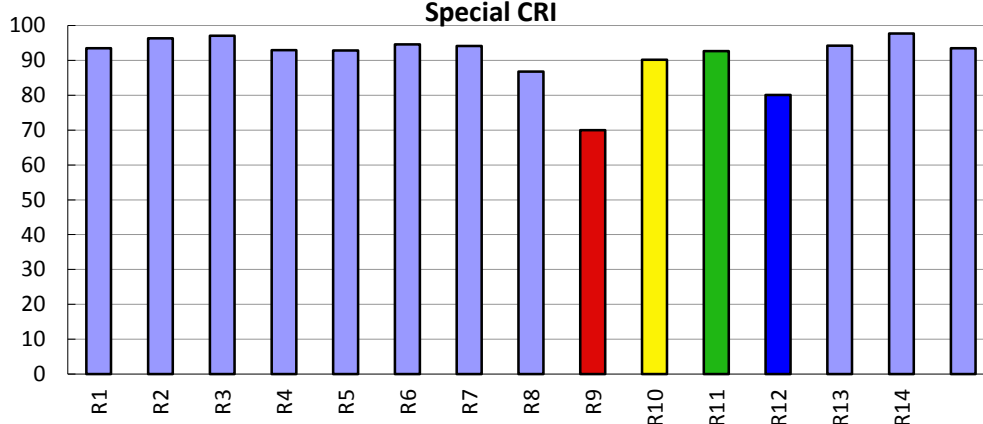
## Measurement Preset Specifications

External ND Filter	YES
ND Filter	ND1
F-Number	8
Exposure Time (ms)	262.7
Distance(mm)	2020

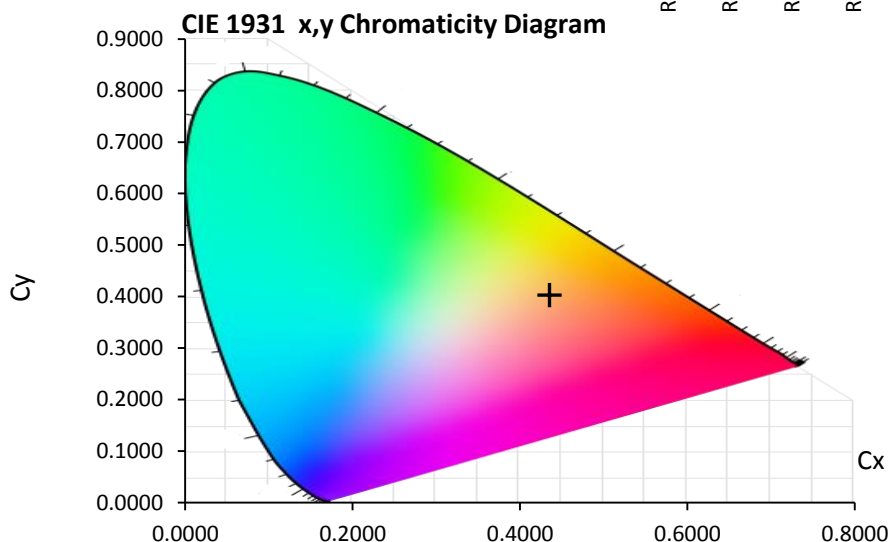
## Rendering Index

CRI	
R1	93.5
R2	96.4
R3	97.1
R4	92.9
R5	92.9
R6	94.6
R7	94.2
R8	86.8
R9	70.0
R10	90.2
R11	92.7
R12	80.1
R13	94.2
R14	97.8
CRI Ra	93.6

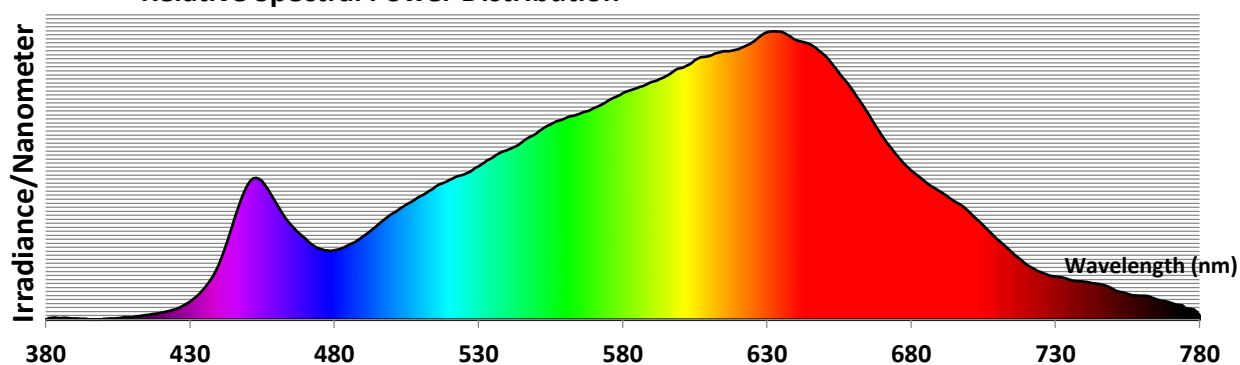
## Special CRI



## CIE 1931 x,y Chromaticity Diagram



## Relative Spectral Power Distribution

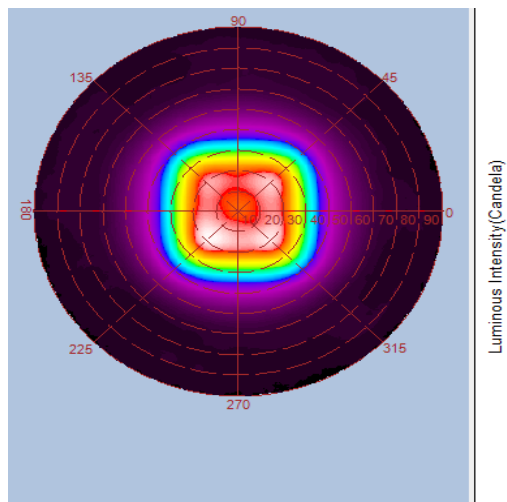


# Photometric Measurement Report

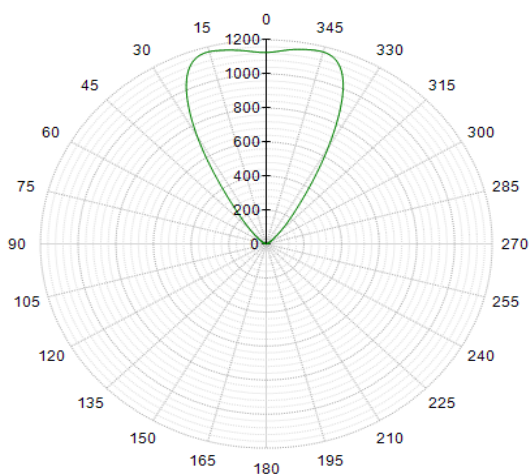
Generated by Radiant Vision Systems Light Measurement Platform

## Intensity Distribution - Polar Curve

Intensity Radar Plot (ray trace to infinity)



Luminous Intensity Distribution



## Cone Diagram

0.5	0.61 0.60	E(0°) E(C90) 31.2° E(C0) 31.0°	4507 1471 1504
1.0	1.21 1.20	E(0°) E(C90) 31.2° E(C0) 31.0°	1127 368 376
1.5	1.82 1.80	E(0°) E(C90) 31.2° E(C0) 31.0°	501 163 167
2.0	2.42 2.40	E(0°) E(C90) 31.2° E(C0) 31.0°	282 92 94
2.5	3.03 3.00	E(0°) E(C90) 31.2° E(C0) 31.0°	180 59 60
3.0	3.63 3.61	E(0°) E(C90) 31.2° E(C0) 31.0°	125 41 42

Distance [m]

Cone Diameter [m]

Illuminance [lx]

— C0 - C180 (Half value angle: 62.0°)

— C90 - C270 (Half value angle: 62.4°)

**Photometric Measurement Report**

Generated by Radiant Vision Systems Light Measurement Platform

**UGR Table****Glare Evaluation According to UGR**

$\rho$ Ceiling		70	70	50	50	30	70	70	50	50	30
$\rho$ Walls		50	30	50	30	30	50	30	50	30	30
$\rho$ 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	17.2	18.0	17.5	18.2	18.4	17.5	18.3	17.8	18.5	18.7
	3H	17.1	17.8	17.4	18.0	18.3	17.5	18.1	17.7	18.4	18.6
	4H	17.1	17.7	17.4	18.0	18.3	17.4	18.1	17.7	18.3	18.6
	6H	17.1	17.7	17.4	18.0	18.2	17.4	18.0	17.8	18.3	18.6
	8H	17.1	17.6	17.4	17.9	18.2	17.4	18.0	17.8	18.3	18.6
	12H	17.1	17.6	17.4	17.9	18.2	17.5	18.0	17.8	18.3	18.6
4H	2H	17.0	17.7	17.3	17.9	18.2	17.3	18.0	17.7	18.2	18.5
	3H	17.0	17.5	17.3	17.8	18.1	17.3	17.8	17.6	18.1	18.4
	4H	17.0	17.4	17.3	17.7	18.1	17.3	17.7	17.7	18.1	18.4
	6H	17.0	17.4	17.4	17.7	18.1	17.3	17.7	17.7	18.1	18.5
	8H	17.0	17.4	17.4	17.7	18.1	17.3	17.7	17.8	18.1	18.5
	12H	17.0	17.3	17.5	17.8	18.2	17.4	17.7	17.8	18.1	18.5
8H	4H	16.9	17.2	17.3	17.6	18.0	17.2	17.5	17.6	17.9	18.3
	6H	16.9	17.2	17.4	17.6	18.1	17.3	17.5	17.7	17.9	18.4
	8H	17.0	17.2	17.5	17.7	18.1	17.3	17.5	17.8	18.0	18.4
	12H	17.1	17.3	17.6	17.7	18.2	17.4	17.5	17.8	18.0	18.5
12H	4H	16.8	17.1	17.3	17.5	18.0	17.2	17.5	17.6	17.9	18.3
	6H	16.9	17.1	17.4	17.6	18.1	17.2	17.5	17.7	17.9	18.4
	8H	17.0	17.2	17.5	17.6	18.1	17.3	17.5	17.8	17.9	18.4
Variation of the observer position for the luminaire distance S											
S = 1.0H		+3.7 / -5.7					+3.5 / -5.4				
S = 1.5H		+6.3 / -6.5					+6.1 / -6.4				
S = 2.0H		+8.3 / -7.0					+8.1 / -7.1				
Standard table		BK00					BK00				
Correction summand		-1.2					-1.0				
Corrected glare indices referring to 1410lm total luminous flux											

**Sample Pictures**