



# Photometric Test Report



## STUDIOCOBTU

100W Tungsten White COB PAR  
with parabolic reflector

## CONTENTS

Table of contents	2
Testing process	3
Color preset Full on	
Beam angle Wide	4
Beam angle Medium	9
Beam angle Narrow	14

## TESTING PROCESS

Prolights has its own optical testing laboratory in order to provide accurate photometric reports for its lighting products. The testing laboratory contains certain variety of precise lighting measurement systems that ensure an optimal reading of all the characteristic parameters of the lighting devices. All measurements are made at a controlled room temperature of 20°C without any external light sources. This photometric report is obtained through the data measured by a high precision measurement system and analyzed by a dedicate software.

### Prolights measurement instrument

Prolights measurement instrument is a complete measurement system for any light source. It's equipped with two-axis goniometer, that enables to measure the full 3D distribution field of the light source. This instrument measures the light intensity, the beam angle and the most significative colors parameters, like color temperature, spectral distribution, CRI, CQS, TM-30 with a very high accuracy rate.

**Please Note:** All measurements are made with light source at operating temperature. Before starting the measurement, the instrument analyzes the process of the light source during the heating phase. The measuring process of all the parameters begins only when the light emission is stable, that is with a variation of less than 0.5% in a 15 minutes time frame.

### Prolights measurement software

The software provides user friendly interface for the operator who does the measurements, and it also analyzes and processes all the collected data by the instrument. With this software it is possible to see the measured data in real-time and it is possible to examine all the measured data and graphics afterwards as well. All information is collected in a specific Prolights template, and the software creates also IES and LDT files, which are widely used to transfer the photometric data, and to develop lighting system.

Additionally, the fixtures are rechecked using various hand-held instruments like Sekonic C-700 and Gossen Mavospec Base, this is done to ensure, that the data in the photometric report are as accurate as possible.



Total lumen output:

6697 lm

Peak candela output:

5997 cd

Light quality:

CRI: 92,0

Color temperature:

3157 K

**PRODUCT NAME:**

STUDIOCOBTU

**MEASURAMENT CONDITIONS:**

Beam angle:

Wide Optic

Target:

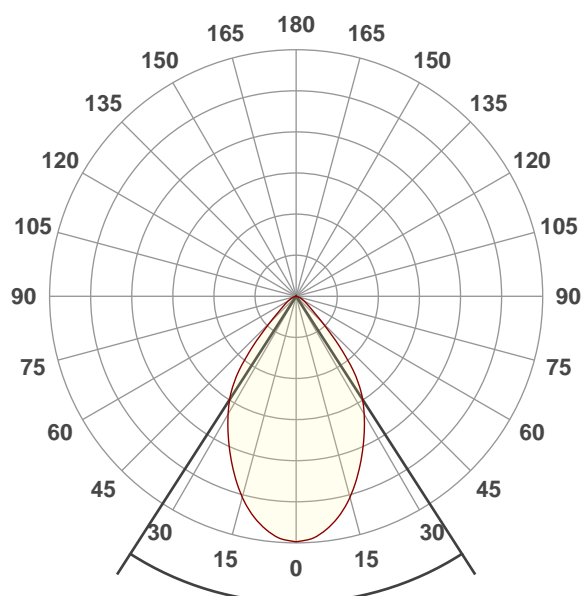
Full

Operator:

Paolo Carvone

Date and time:

23/04/2021 13:29:45

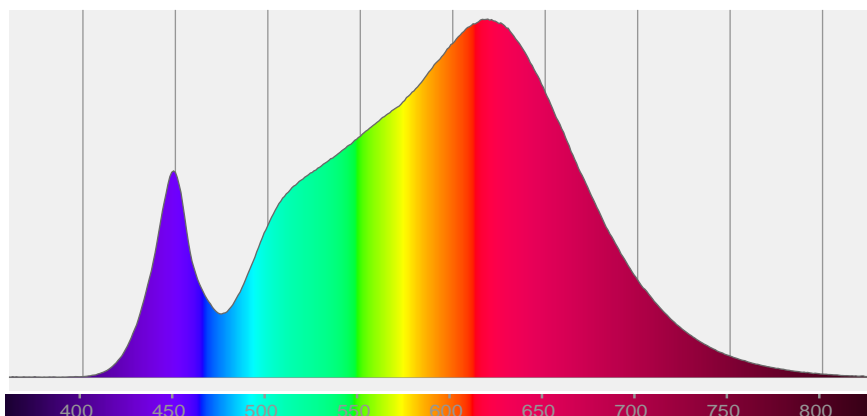


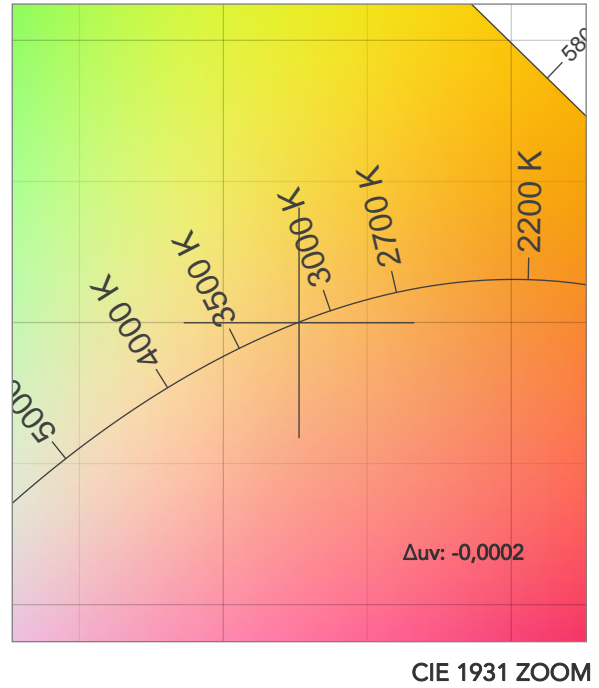
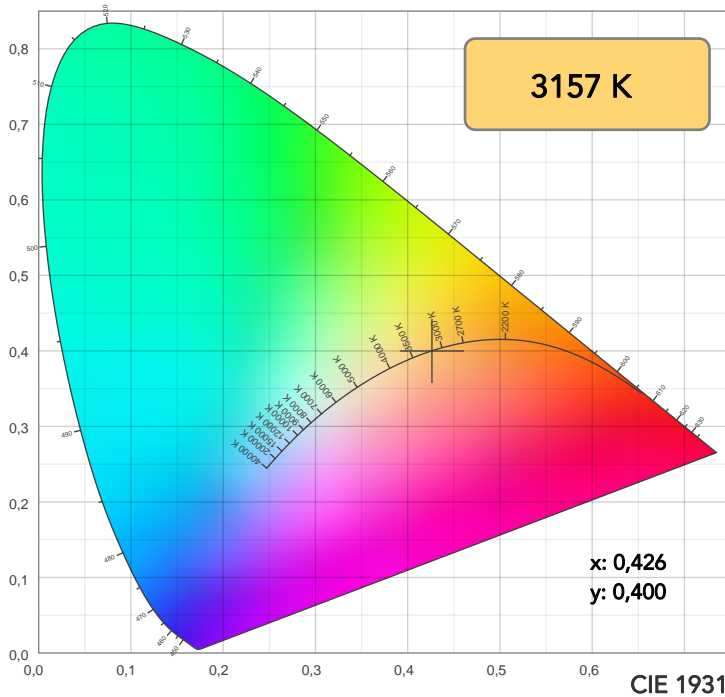
Beam angle 50%: 65,5°

Field angle 10%: 96,4°

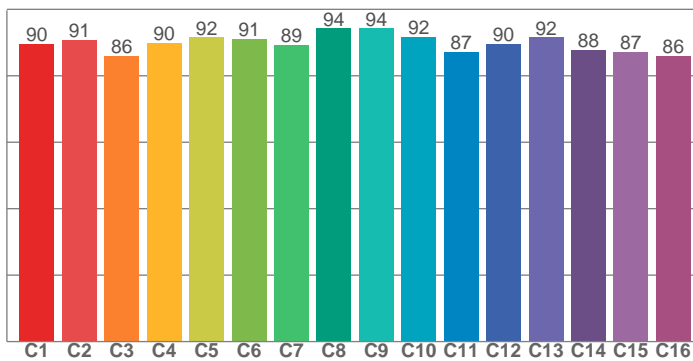
Cut off angle 2.5%: 130°

**Spectra**

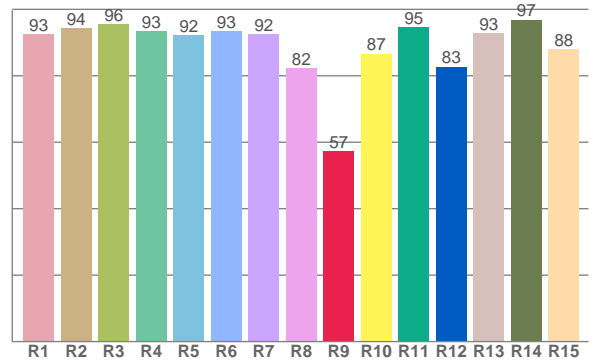




TM30: 90,0



CRI: 92,0 (R1-R8)



CRI R values, only R1-R8 are used to calculate final CRI value

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
92,5	94,4	95,5	93,4	92,3	93,4	92,4	82,4	57,3	86,7	94,7	82,8	92,9	96,9	88,1

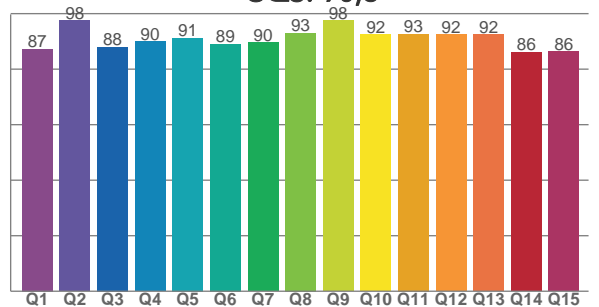
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
89,7	90,7	86,0	89,9	91,5	91,1	89,3	94,3	94,3	91,7	87,2	89,6	91,6	87,8	87,3	85,9

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
87,3	97,5	88,0	89,9	91,2	89,1	89,5	93,0	97,6	92,5	92,6	92,4	92,4	86,1	86,3

CQS: 90,3



## COLOR PARAMETERS

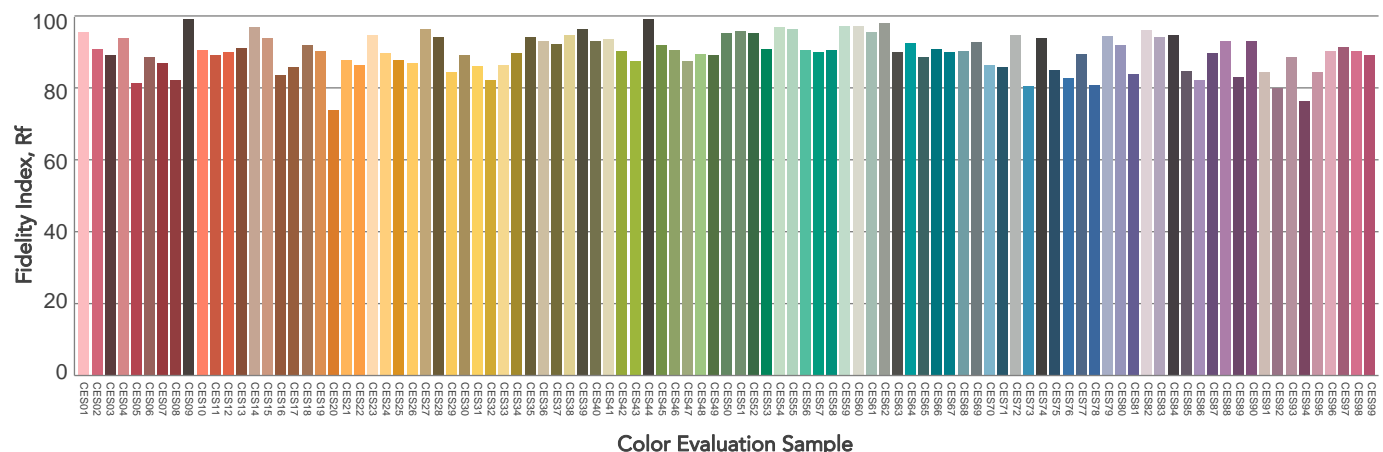
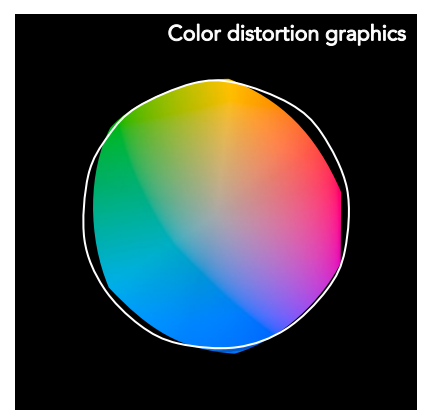
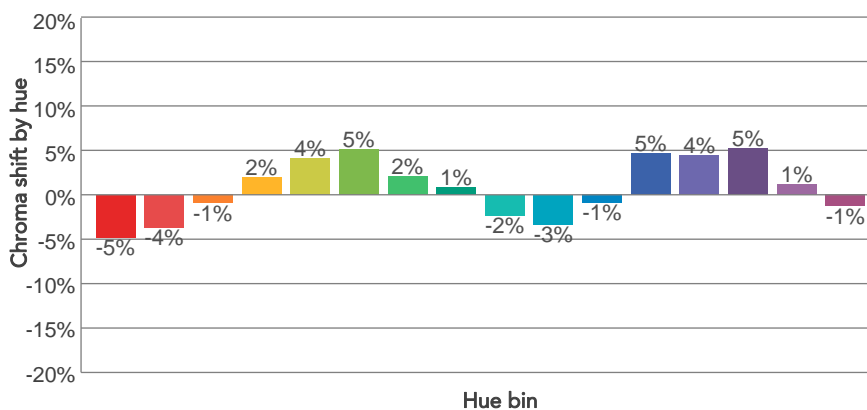
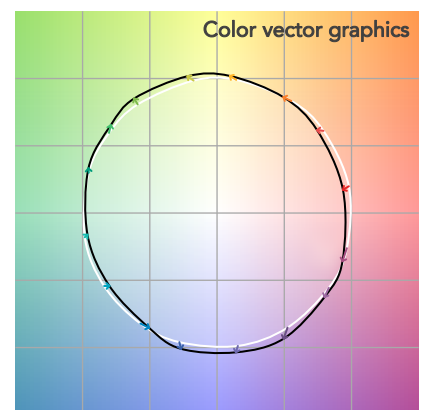
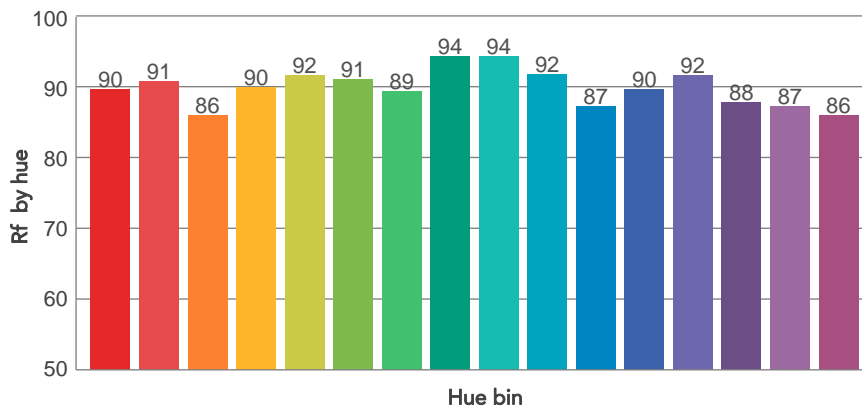
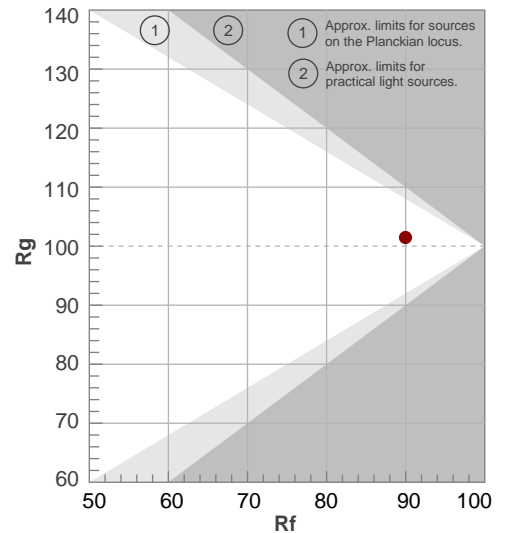
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
3157 K	92,0	57,3	90,0	101,5	90,3	88	0,426	0,400	-0,0002

# TM30 DETAILS

**Rf 90,0**  
Fidelity index Rf

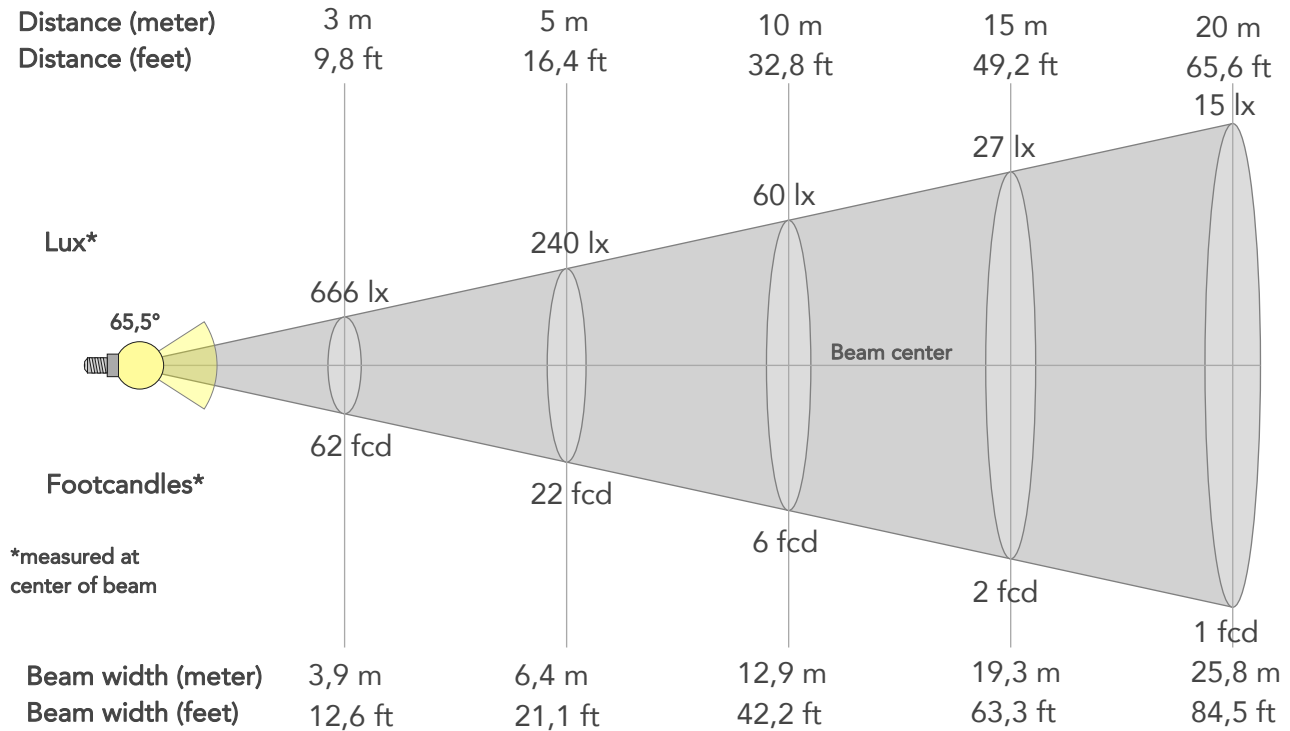
**Rg 101,5**  
Gammut index

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	90	-5%	-2%
2	91	-4%	3%
3	86	-1%	7%
4	90	2%	5%
5	92	4%	4%
6	91	5%	0%
7	89	2%	-6%
8	94	1%	-3%
9	94	-2%	-1%
10	92	-3%	2%
11	87	-1%	7%
12	90	5%	2%
13	92	4%	-2%
14	88	5%	-7%
15	87	1%	-7%
16	86	-1%	-10%



## BEAM DETAILS

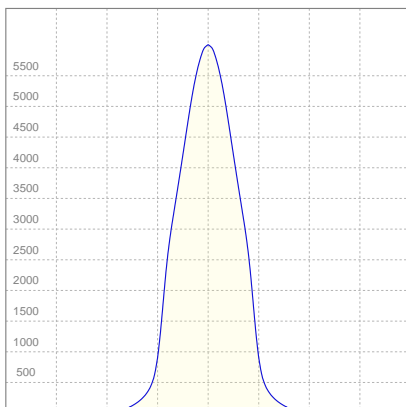
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
65,5°	96,4°	130°	96,6%	88,1%



### BEAM INTENSITIES AND WIDTHS

Distance	1m	2m	3m	4m	5m	7,5m	10m	15m	20m	25m	30m	40m	50m
Distance	3,3ft	6,6ft	9,8ft	13,1ft	16,4ft	24,6ft	32,8ft	49,2ft	65,6ft	82ft	98,4ft	131,2ft	164ft
Lux	5997lx	1499lx	666lx	375lx	240lx	107lx	60lx	27lx	15lx	10lx	7lx	4lx	2lx
Footcand.	557fcd	139fcd	62fcd	35fcd	22fcd	10fcd	6fcd	2fcd	1fcd	1fcd	1fcd	0fcd	0fcd
Beam wid.	1,3m	2,6m	3,9m	5,2m	6,4m	9,7m	12,9m	19,3m	25,8m	32,2m	38,6m	51,5m	64,4m
Beam wid.	4,2ft	8,5ft	12,6ft	16,9ft	21,1ft	31,7ft	42,2ft	63,3ft	84,5ft	105,6ft	126,7ft	168,9ft	211,2ft

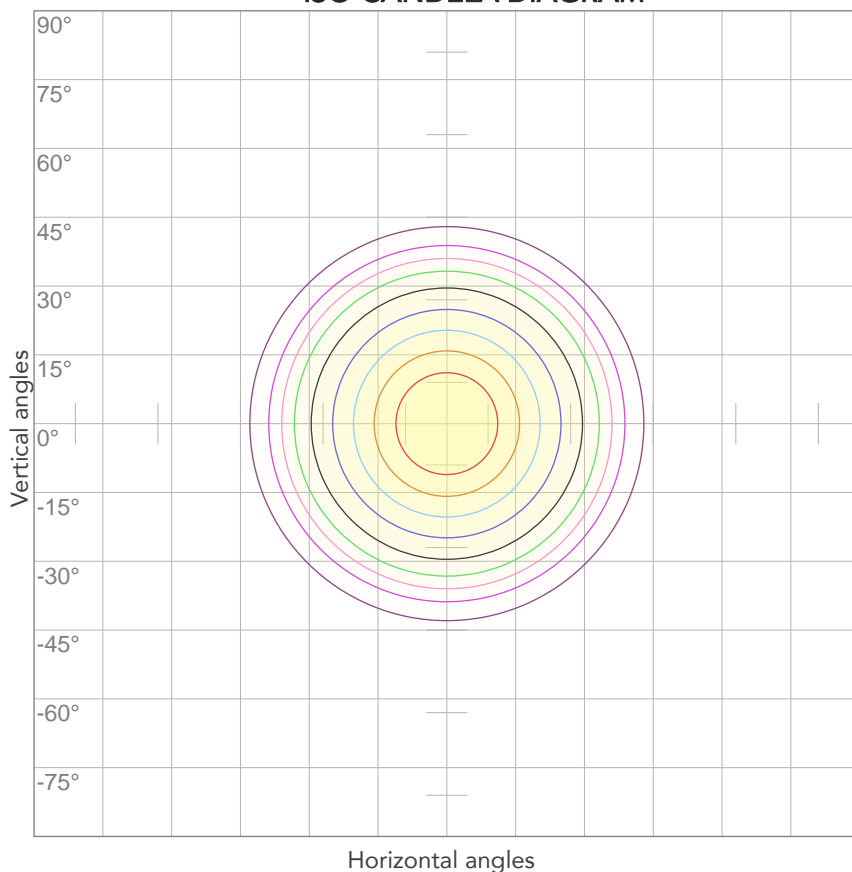
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
226V	0,511A	108,1W	62lm/W
Power Fc			
0,94			

## ISO CANDELA DIAGRAM



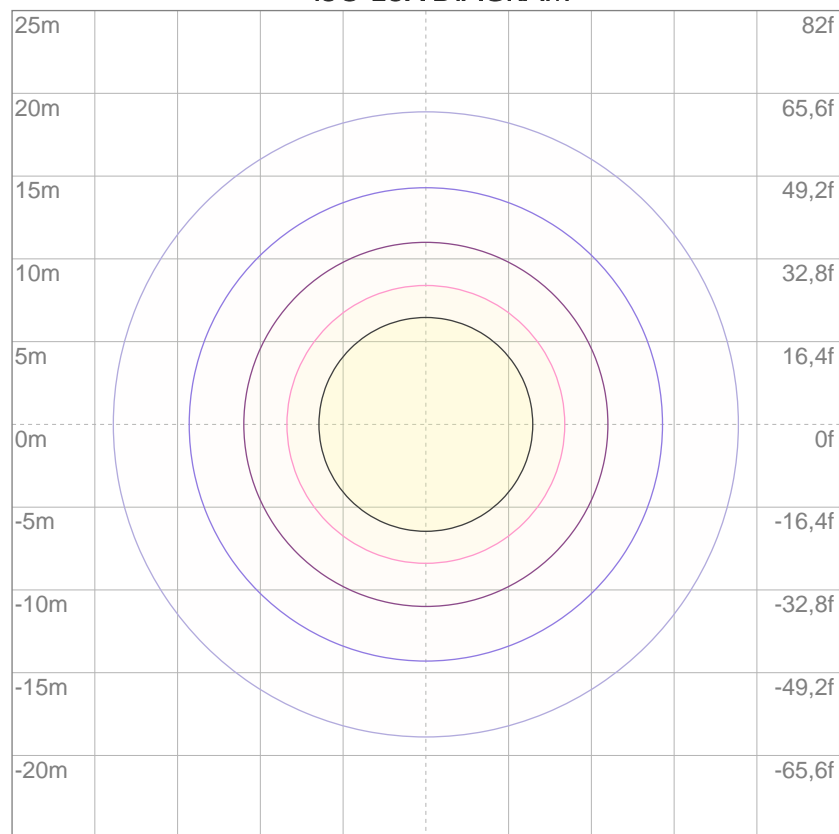
10%	600 cd
20%	1199 cd
30%	1799 cd
40%	2399 cd
50%	2999 cd
60%	3598 cd
70%	4198 cd
80%	4798 cd

### Conditions:

Number of c-planes: 2

Candela at center: 5997 cd

## ISO LUX DIAGRAM



3%	1,80 lx
5%	3,00 lx
10%	6,00 lx
30%	18,0 lx
50%	30,0 lx

### Conditions:

Number of c-planes: 2

Lux at center: 60,0 lx

*Lux distribution on a surface when lamp is mounted at 10 meters from the surface.*





Total lumen output:

6085 lm

Peak candela output:

13857 cd

Light quality:

CRI: 92,4

Color temperature:

3144 K

**PRODUCT NAME:**

STUDIOCOBTU

**MEASURAMENT CONDITIONS:**

Beam angle:

Medium Optic

Target:

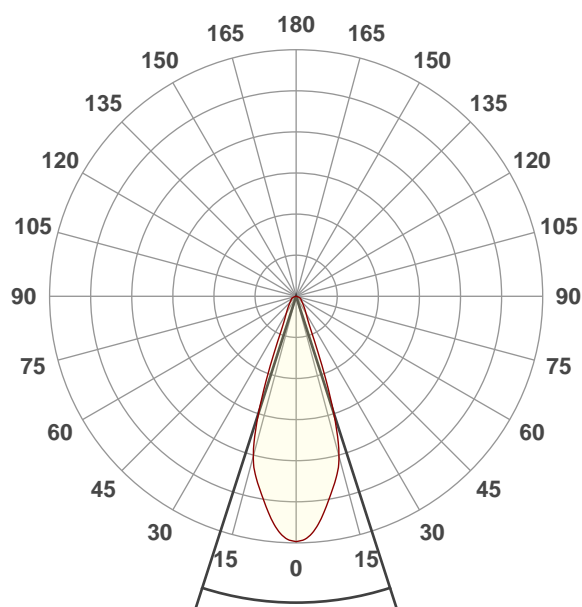
Full

Operator:

Paolo Carvone

Date and time:

23/04/2021 14:19:29

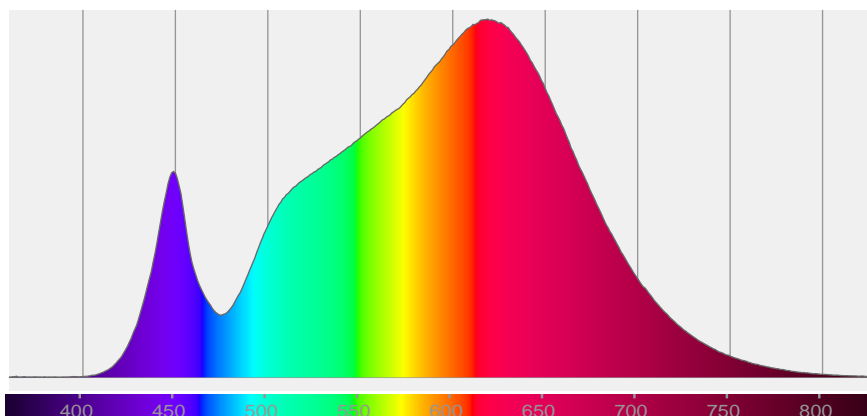


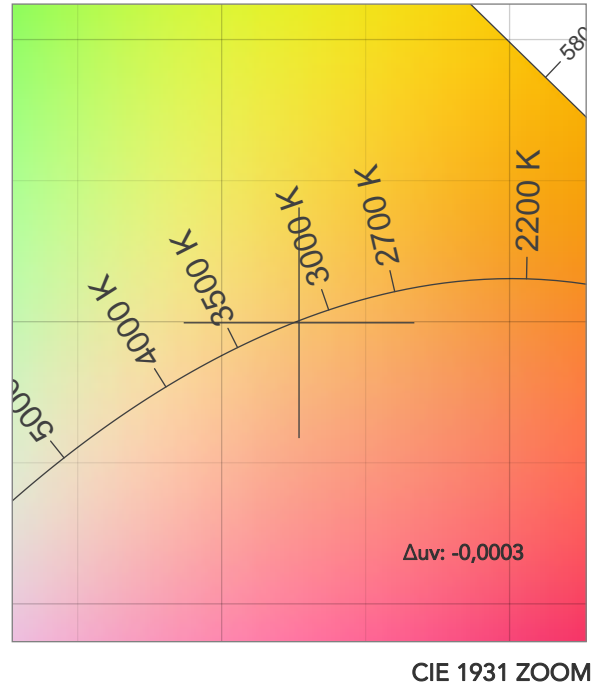
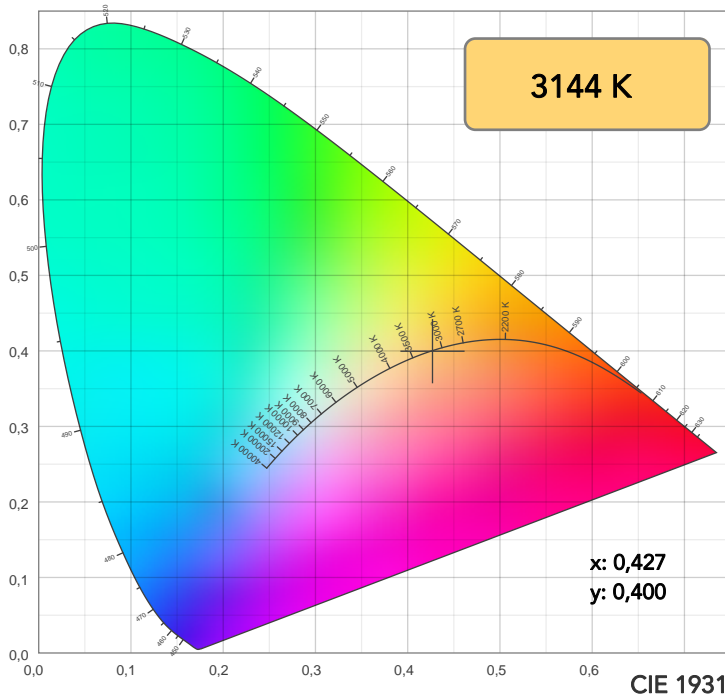
Beam angle 50%: 35,7°

Field angle 10%: 54,4°

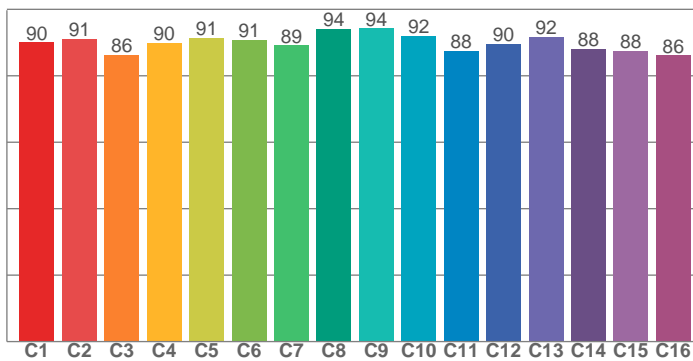
Cut off angle 2.5%: 109,7°

**Spectra**

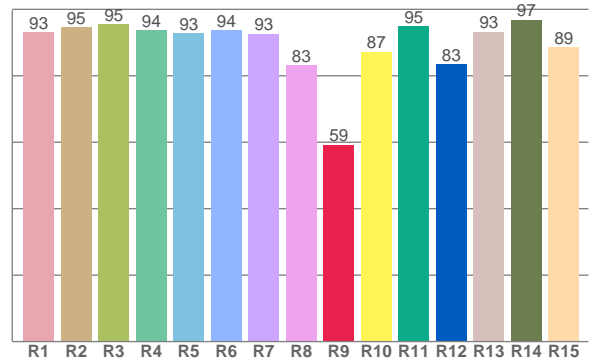




**TM30: 90,1**



**CRI: 92,4 (R1-R8)**



CRI R values, only R1-R8 are used to calculate final CRI value

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
93,0	94,6	95,5	93,7	92,7	93,7	92,6	83,1	59,2	87,2	94,9	83,4	93,3	96,9	88,7

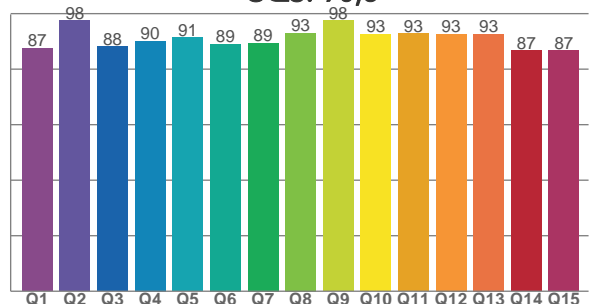
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
90,0	91,1	86,2	89,9	91,4	90,9	89,2	94,1	94,3	92,0	87,5	89,7	91,6	88,1	87,5	86,2

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
87,5	97,5	88,1	90,2	91,3	89,0	89,5	93,0	97,6	92,5	92,8	92,6	92,7	86,6	86,7

**CQS: 90,5**



## COLOR PARAMETERS

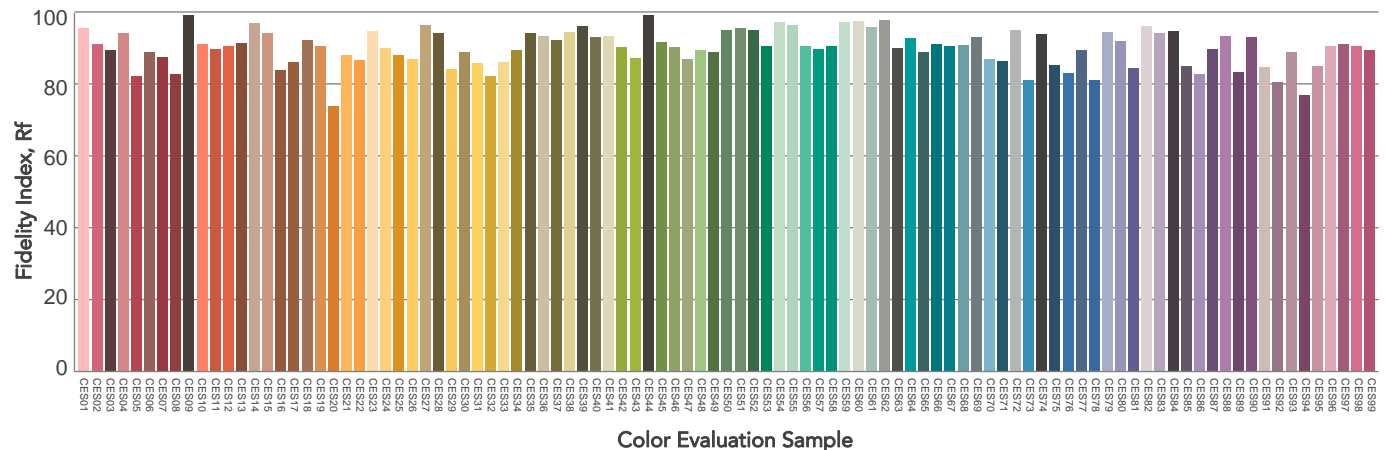
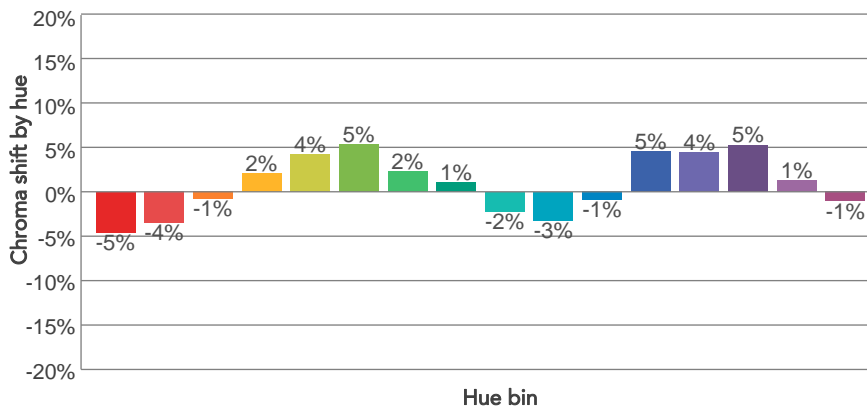
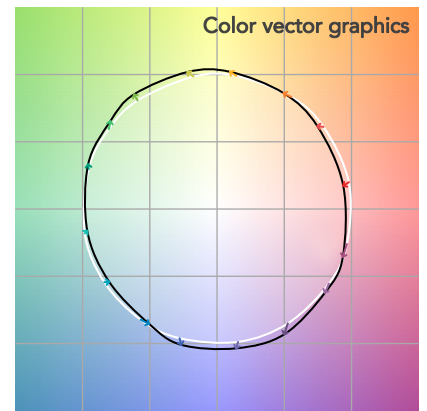
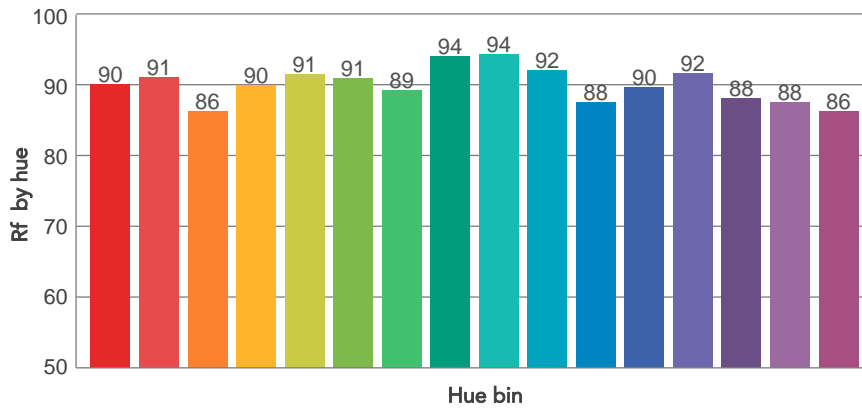
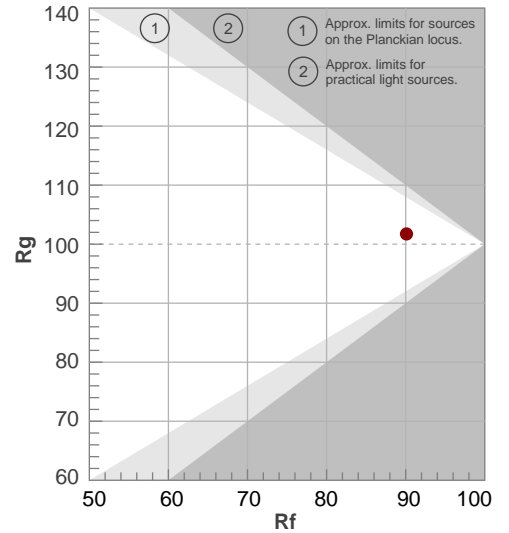
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	$\Delta uv$
3144 K	92,4	59,2	90,1	101,7	90,5	88	0,427	0,400	-0,0003

# TM30 DETAILS

**Rf 90,1**  
Fidelity index Rf

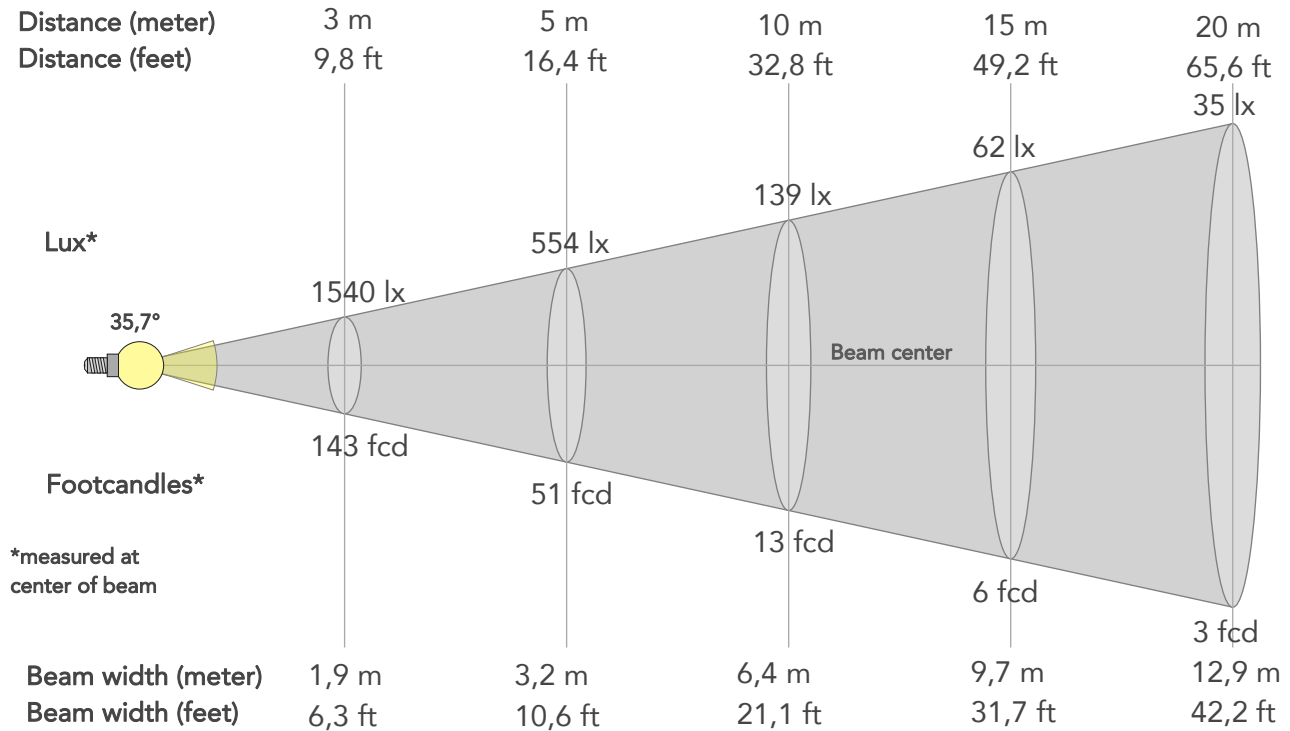
**Rg 101,7**  
Gammut index

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	90	-5%	-2%
2	91	-4%	3%
3	86	-1%	6%
4	90	2%	5%
5	91	4%	4%
6	91	5%	0%
7	89	2%	-6%
8	94	1%	-3%
9	94	-2%	-2%
10	92	-3%	2%
11	88	-1%	7%
12	90	5%	2%
13	92	4%	-2%
14	88	5%	-7%
15	88	1%	-7%
16	86	-1%	-10%



## BEAM DETAILS

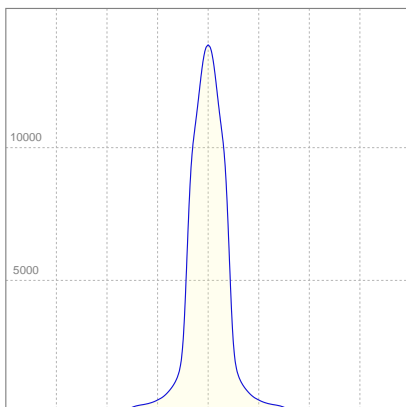
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
35,7°	54,4°	109,7°	94,1%	86,1%



### BEAM INTENSITIES AND WIDTHS

Distance	1m	2m	3m	4m	5m	7,5m	10m	15m	20m	25m	30m	40m	50m
Distance	3,3ft	6,6ft	9,8ft	13,1ft	16,4ft	24,6ft	32,8ft	49,2ft	65,6ft	82ft	98,4ft	131,2ft	164ft
Lux	13857lx	3464lx	1540lx	866lx	554lx	246lx	139lx	62lx	35lx	22lx	15lx	9lx	6lx
Footcand.	1287fcd	322fcd	143fcd	80fcd	51fcd	23fcd	13fcd	6fcd	3fcd	2fcd	1fcd	1fcd	1fcd
Beam wid.	0,6m	1,3m	1,9m	2,6m	3,2m	4,8m	6,4m	9,7m	12,9m	16,1m	19,3m	25,8m	32,2m
Beam wid.	2,1ft	4,3ft	6,3ft	8,4ft	10,6ft	15,8ft	21,1ft	31,7ft	42,2ft	52,8ft	63,4ft	84,5ft	105,6ft

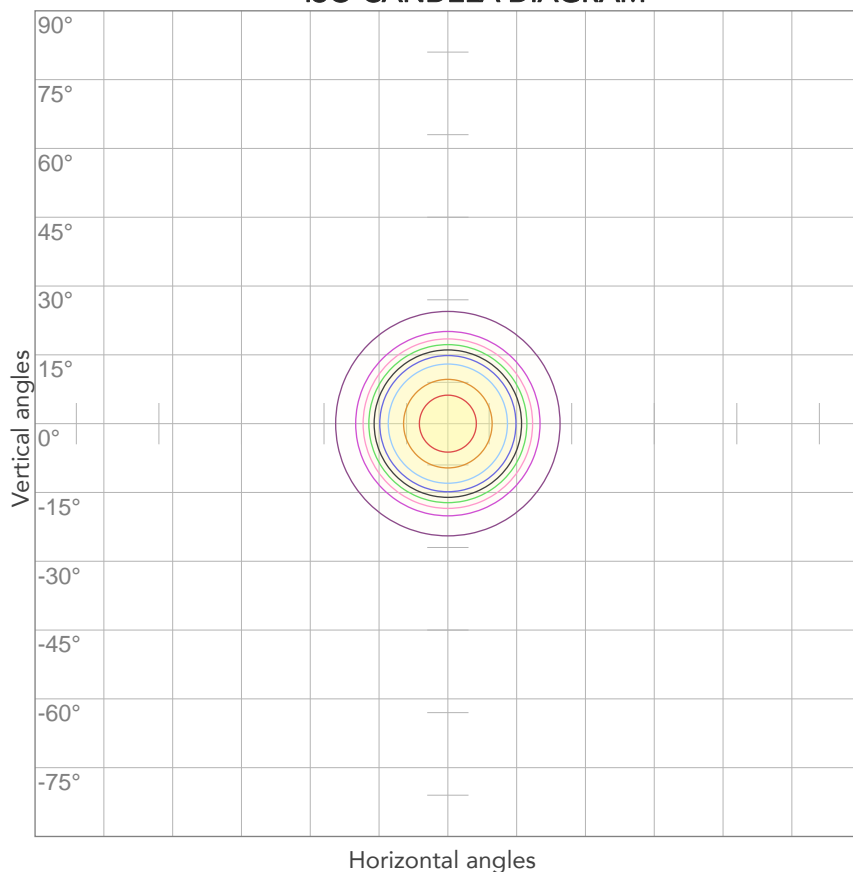
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
227V	0,506A	107,6W	57lm/W
Power Fc			
0,94			

## ISO CANDELA DIAGRAM



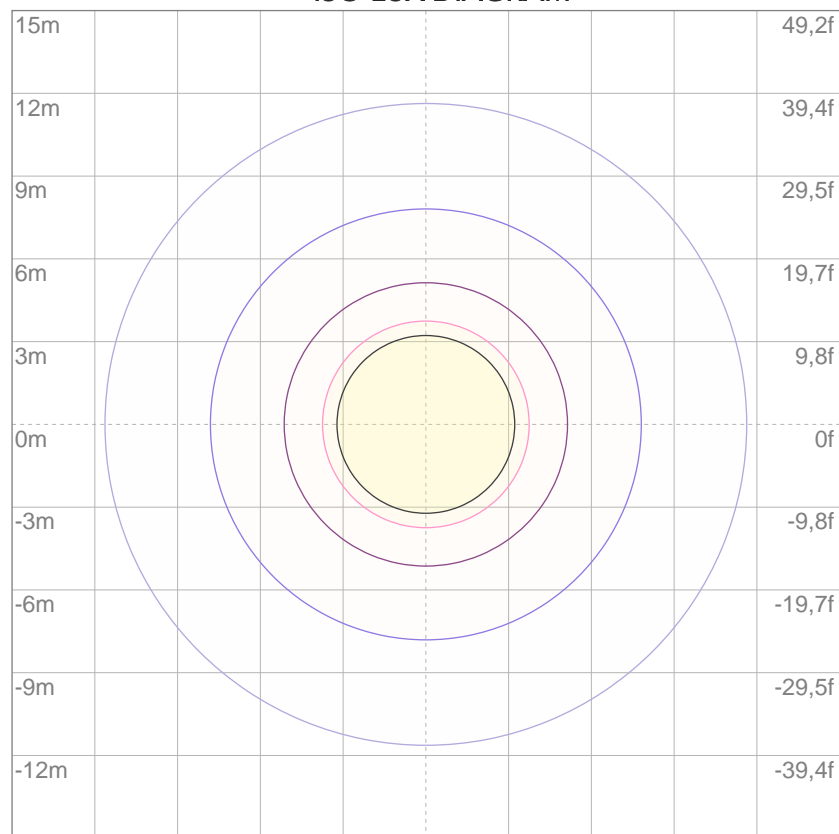
10%	1386 cd
20%	2771 cd
30%	4157 cd
40%	5543 cd
50%	6928 cd
60%	8314 cd
70%	9700 cd
80%	11086 cd

### Conditions:

Number of c-planes: 2

Candela at center: 13857 cd

## ISO LUX DIAGRAM



3%	4,16 lx
5%	6,93 lx
10%	13,9 lx
30%	41,6 lx
50%	69,3 lx

### Conditions:

Number of c-planes: 2

Lux at center: 139 lx

*Lux distribution on a surface when lamp is mounted at 10 meters from the surface.*



Total lumen output:

5426 lm

Peak candela output:

50947 cd

Light quality:

CRI: 91,9

Color temperature:

3106 K

**PRODUCT NAME:**

STUDIOCOBTU

**MEASURAMENT CONDITIONS:**

Beam angle:

Narrow Optic

Target:

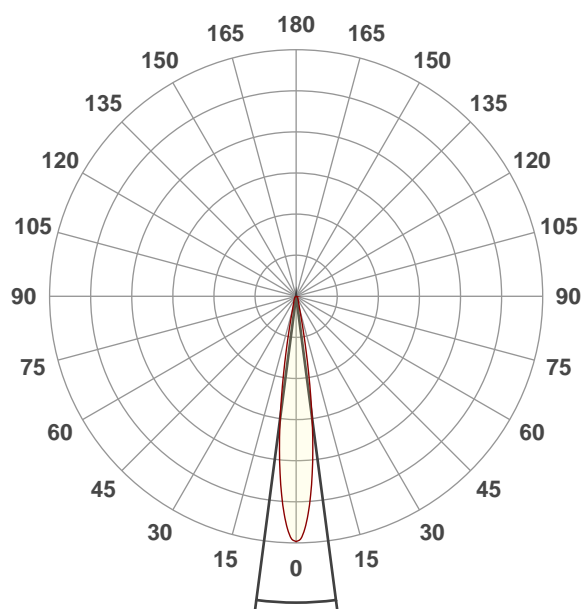
Full

Operator:

Paolo Carvone

Date and time:

23/04/2021 13:26:01

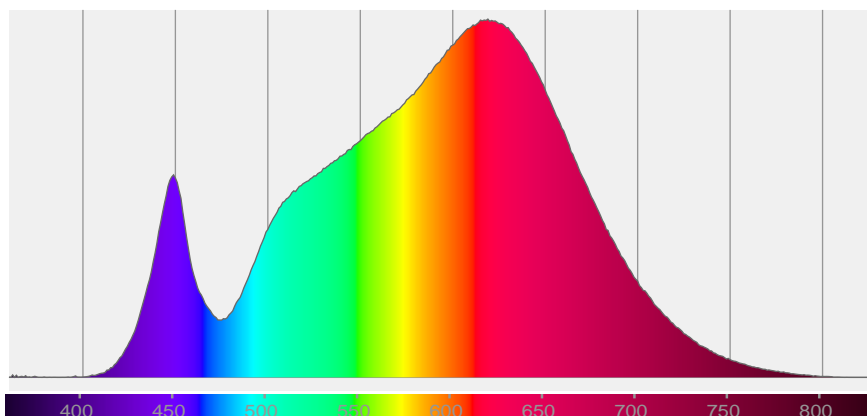


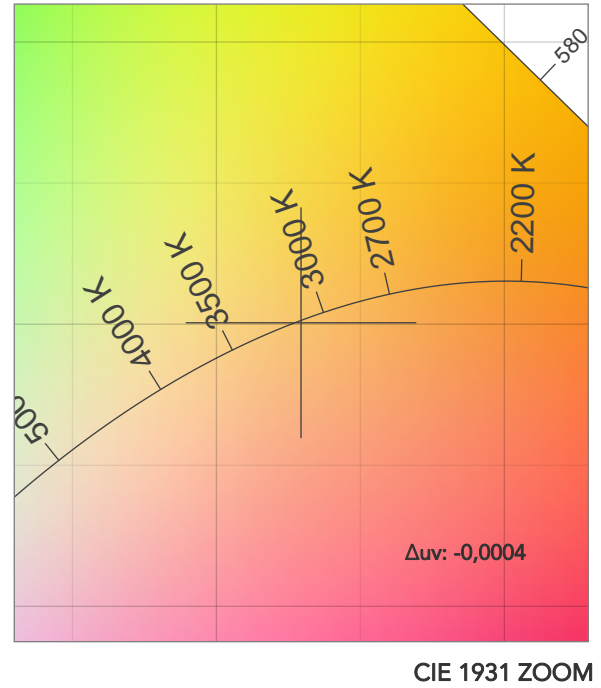
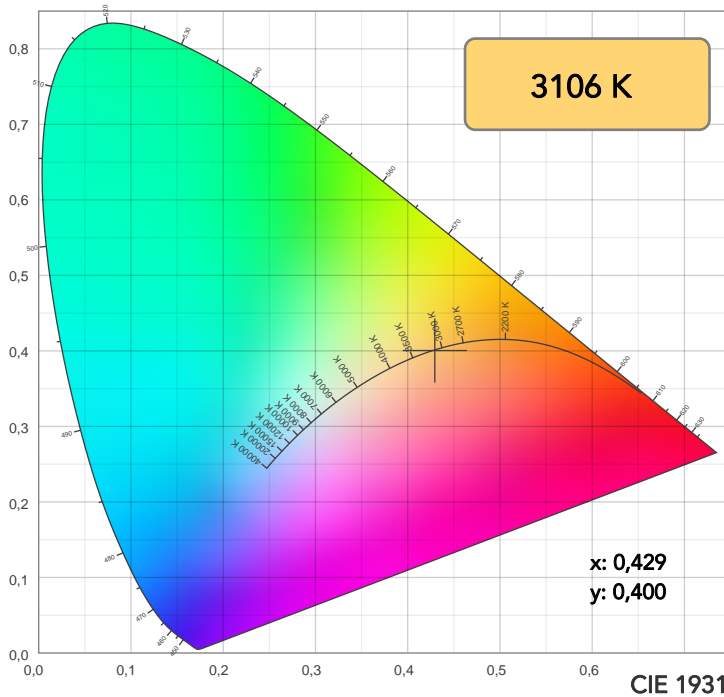
Beam angle 50%: 14,9°

Field angle 10%: 25,8°

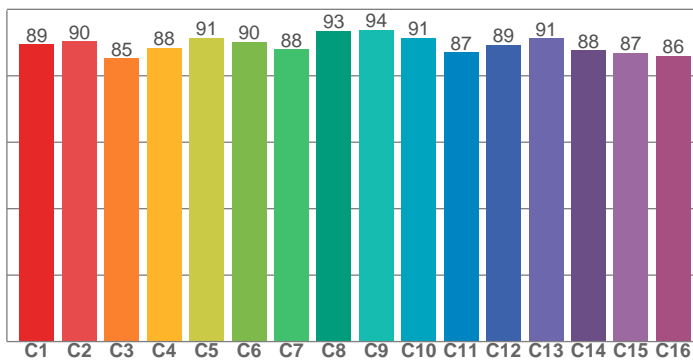
Cut off angle 2.5%: 46,2°

**Spectra**

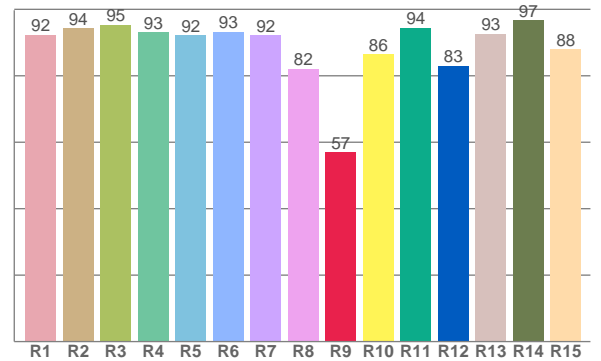




TM30: 89,5



CRI: 91,9 (R1-R8)



CRI R values, only R1-R8 are used to calculate final CRI value

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
92,4	94,3	95,4	93,1	92,1	93,3	92,2	82,1	57,1	86,4	94,5	83,0	92,7	96,8	87,9

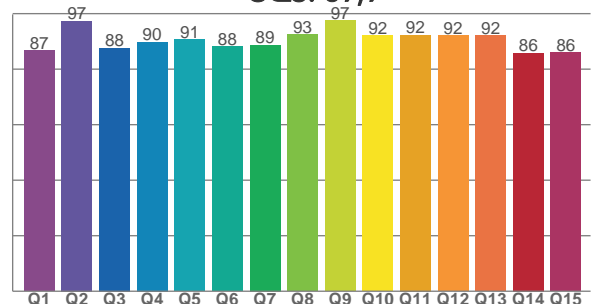
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
89,4	90,4	85,2	88,5	91,5	90,2	87,9	93,4	93,7	91,4	87,1	89,3	91,3	87,7	86,8	86,0

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
86,6	97,4	87,7	89,7	90,6	88,2	88,8	92,5	97,5	92,1	92,3	92,0	92,1	85,9	85,9

CQS: 89,9



## COLOR PARAMETERS

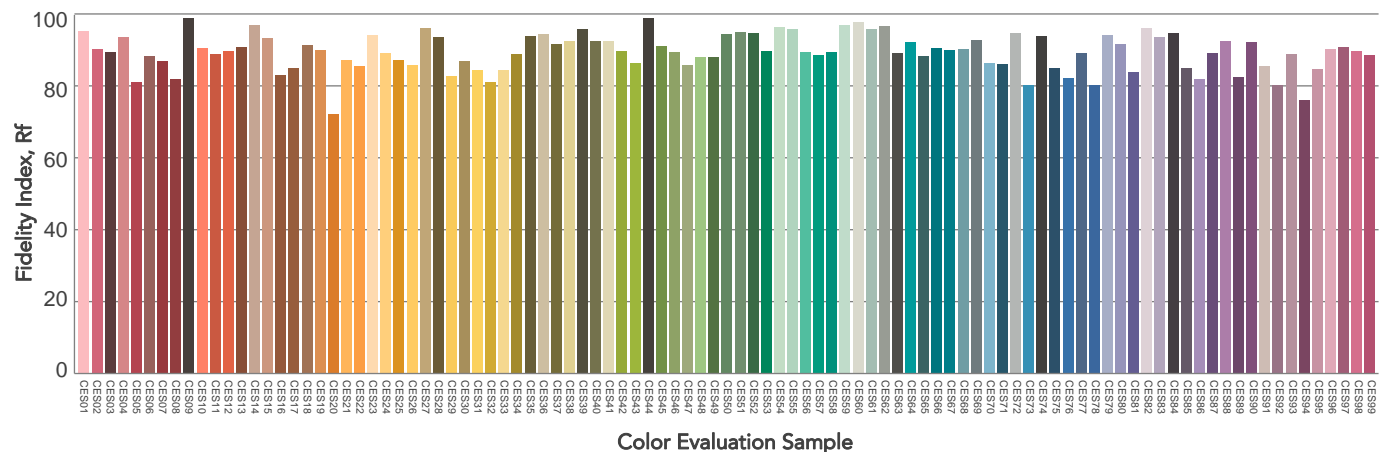
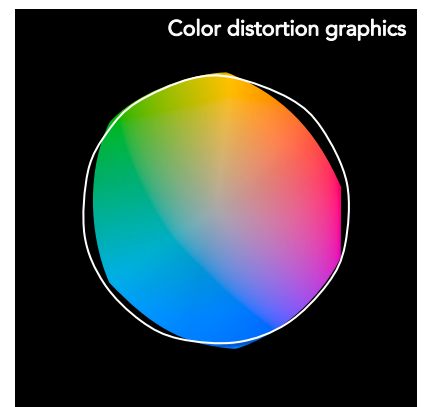
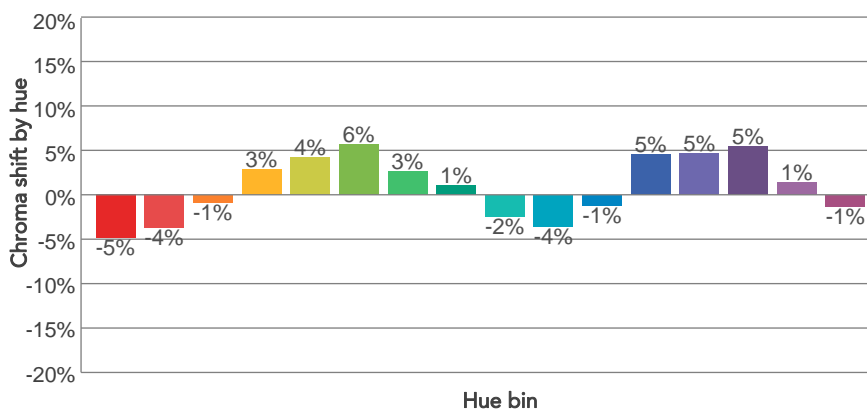
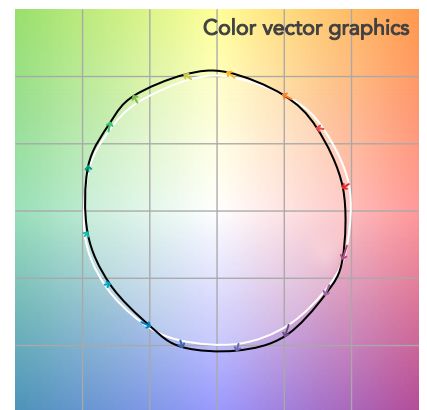
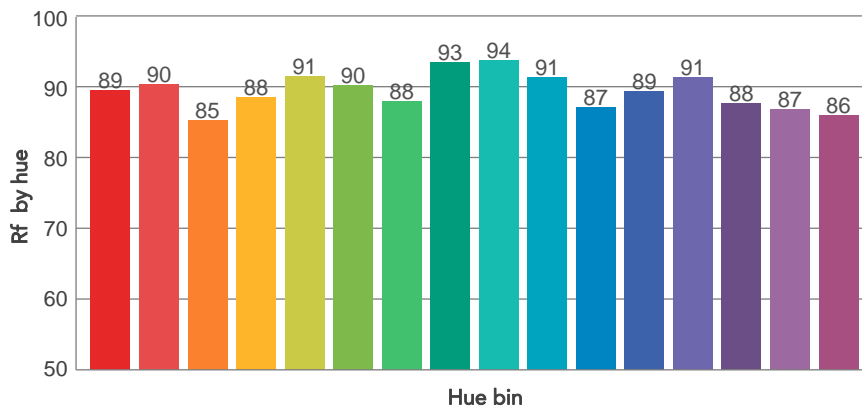
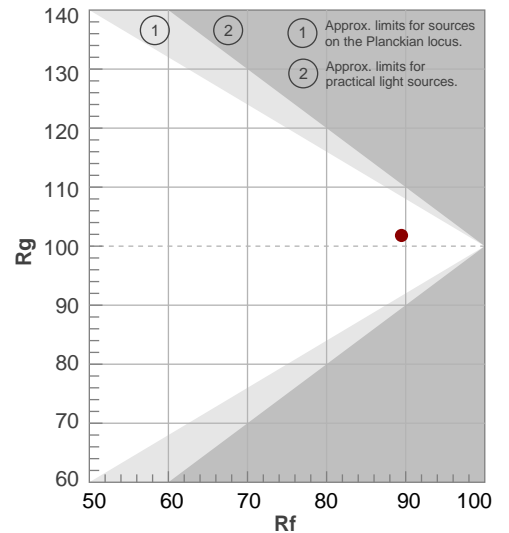
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	$\Delta uv$
3106 K	91,9	57,1	89,5	101,8	89,9	86	0,429	0,400	-0,0004

# TM30 DETAILS

**Rf 89,5**  
Fidelity index Rf

**Rg 101,8**  
Gammut index

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	89	-5%	-2%
2	90	-4%	3%
3	85	-1%	7%
4	88	3%	6%
5	91	4%	4%
6	90	6%	0%
7	88	3%	-6%
8	93	1%	-4%
9	94	-2%	-2%
10	91	-4%	2%
11	87	-1%	7%
12	89	5%	2%
13	91	5%	-2%
14	88	5%	-7%
15	87	1%	-8%
16	86	-1%	-10%

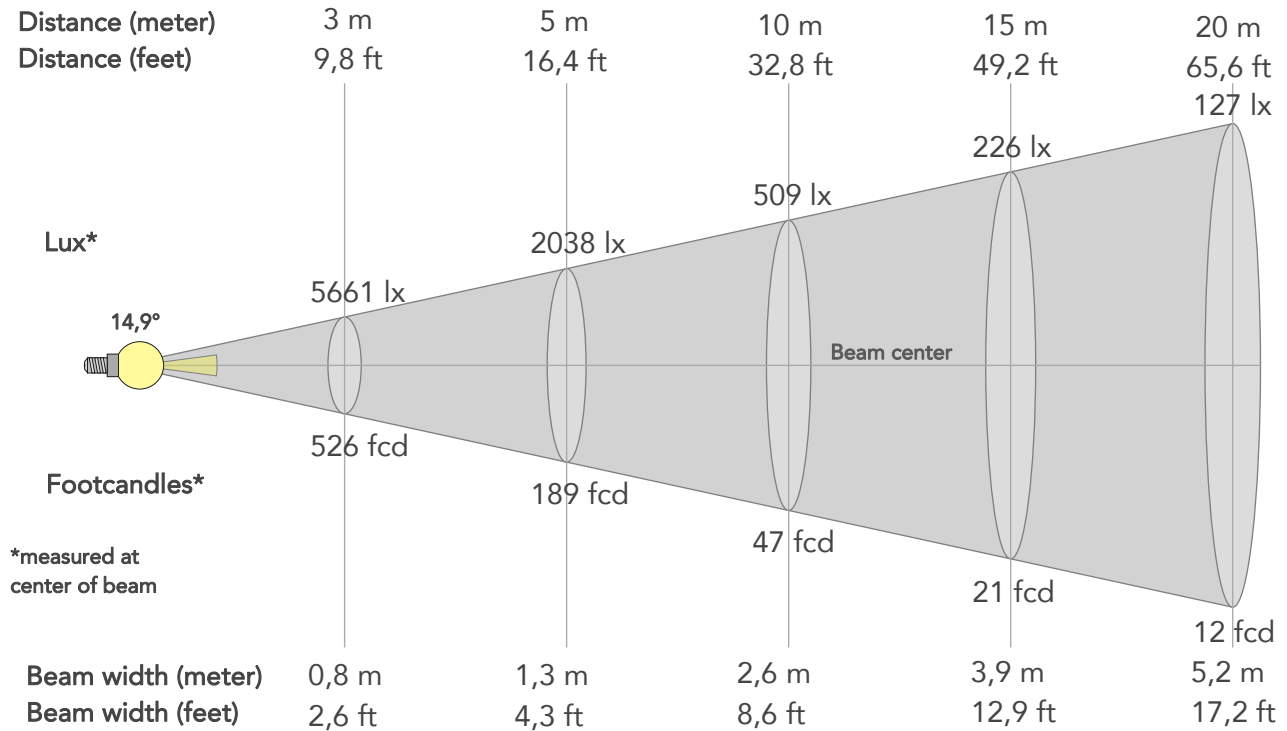




## BEAM DETAILS



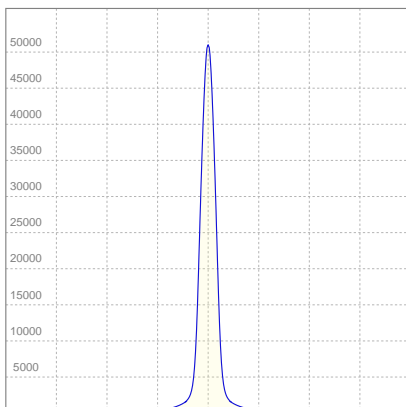
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
14,9°	25,8°	46,2°	98,4%	91,3%



### BEAM INTENSITIES AND WIDTHS

Distance	1m	2m	3m	4m	5m	7,5m	10m	15m	20m	25m	30m	40m	50m
Distance	3,3ft	6,6ft	9,8ft	13,1ft	16,4ft	24,6ft	32,8ft	49,2ft	65,6ft	82ft	98,4ft	131,2ft	164ft
Lux	50947lx	12737lx	5661lx	3184lx	2038lx	906lx	509lx	226lx	127lx	82lx	57lx	32lx	20lx
Footcand.	4733fcd	1183fcd	526fcd	296fcd	189fcd	84fcd	47fcd	21fcd	12fcd	8fcd	5fcd	3fcd	2fcd
Beam wid.	0,3m	0,5m	0,8m	1m	1,3m	2m	2,6m	3,9m	5,2m	6,6m	7,9m	10,5m	13,1m
Beam wid.	0,9ft	1,7ft	2,6ft	3,4ft	4,3ft	6,4ft	8,6ft	12,9ft	17,2ft	21,5ft	25,8ft	34,4ft	43ft

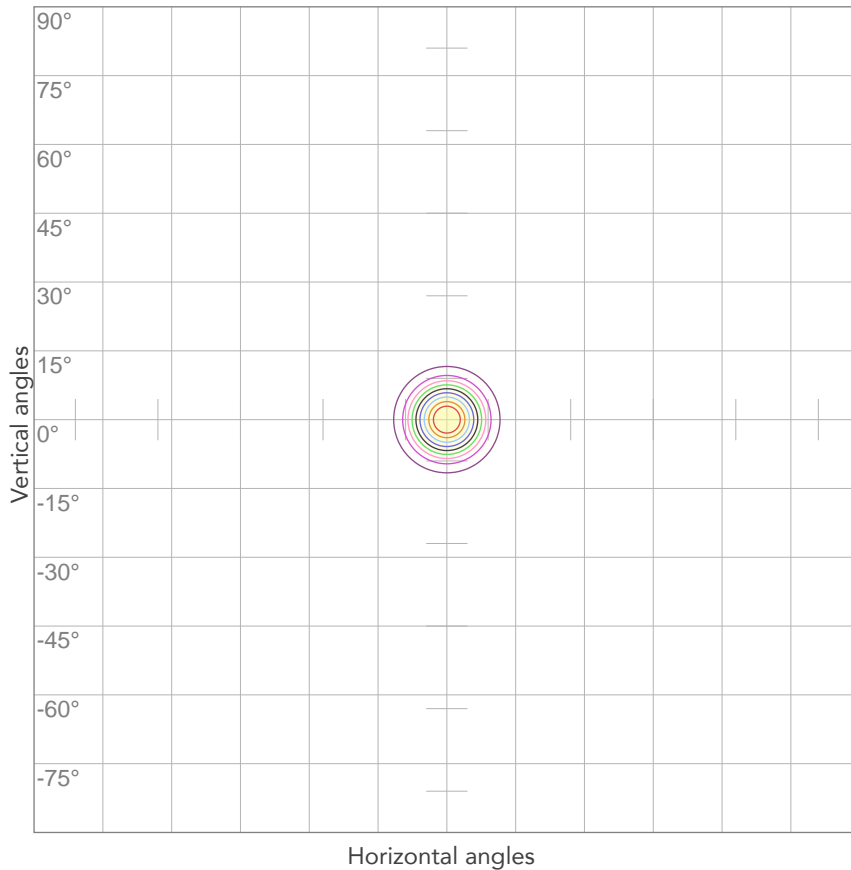
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
226V	0,517A	109,4W	50lm/W
Power Fc			
0,94			

## ISO CANDELA DIAGRAM



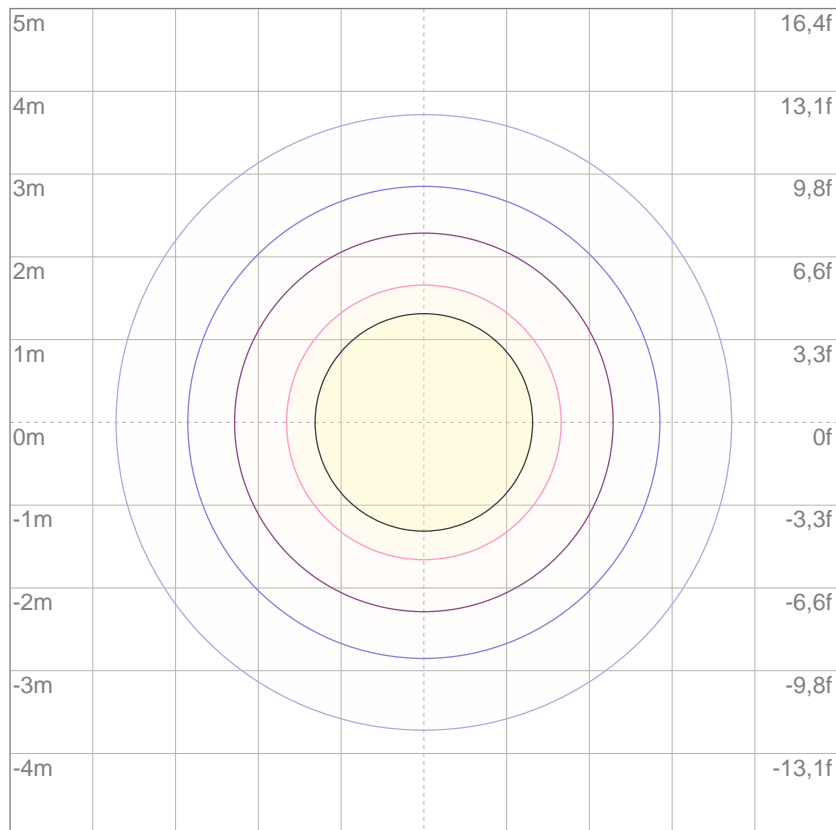
10%	5095 cd
20%	10189 cd
30%	15284 cd
40%	20379 cd
50%	25474 cd
60%	30568 cd
70%	35663 cd
80%	40758 cd

### Conditions:

Number of c-planes: 2

Candela at center: 50947 cd

## ISO LUX DIAGRAM



3%	15,3 lx
5%	25,5 lx
10%	50,9 lx
30%	153 lx
50%	255 lx

### Conditions:

Number of c-planes: 2

Lux at center: 509 lx

*Lux distribution on a surface when lamp is mounted at 10 meters from the surface.*