

# Photometric Test Report



## ECLCTPLUS IP PRL14

Waterproofed high quality six colours LED ellipsoidal, Tunable White and colour mixing

## CONTENTS

Table of contents	2
Testing process	3
Color preset Full on	4
Color preset Red	7
Color preset Green	10
Color preset Blue	13
Color temperature 2800K	16
Color temperature 3200K	21
Color temperature 4000K	26
Color temperature 5600K	31
Color temperature 6000K	36

## 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:

5047 lm

Peak candela output:

95312 cd

**PRODUCT NAME:**

ECLCTPLUS IP

**MEASURAMENT CONDITIONS:**

Beam angle:

PRL14

Target:

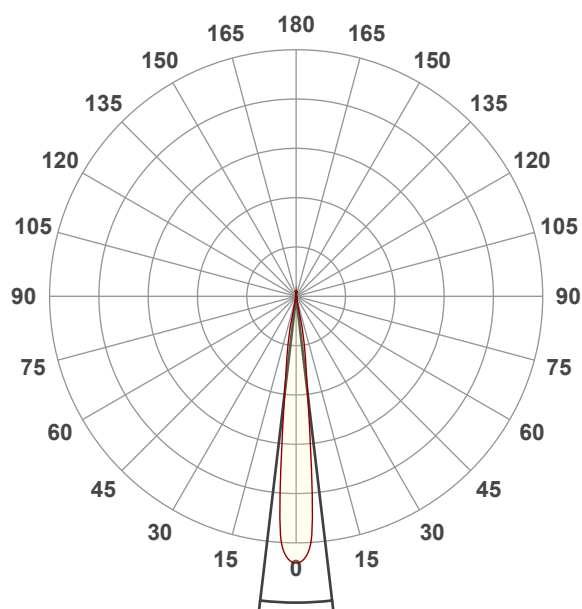
Full On HQ

Operator:

Paolo Carvone

Date and time:

14/07/2020 12:30:27

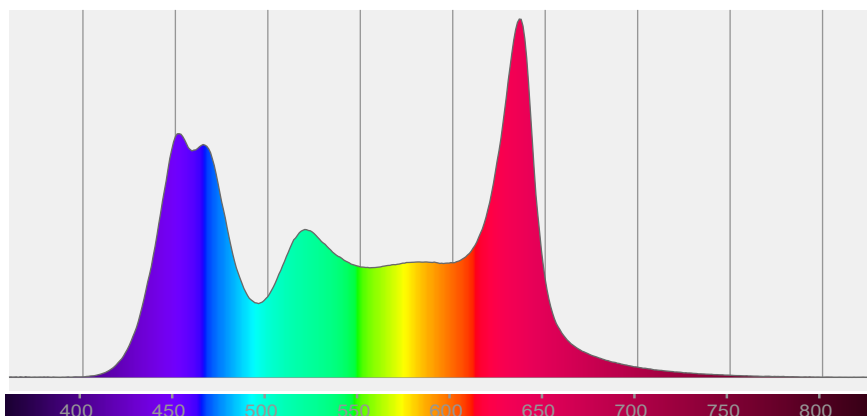


Beam angle 50%: 13,5°

Field angle 10%: 22,4°

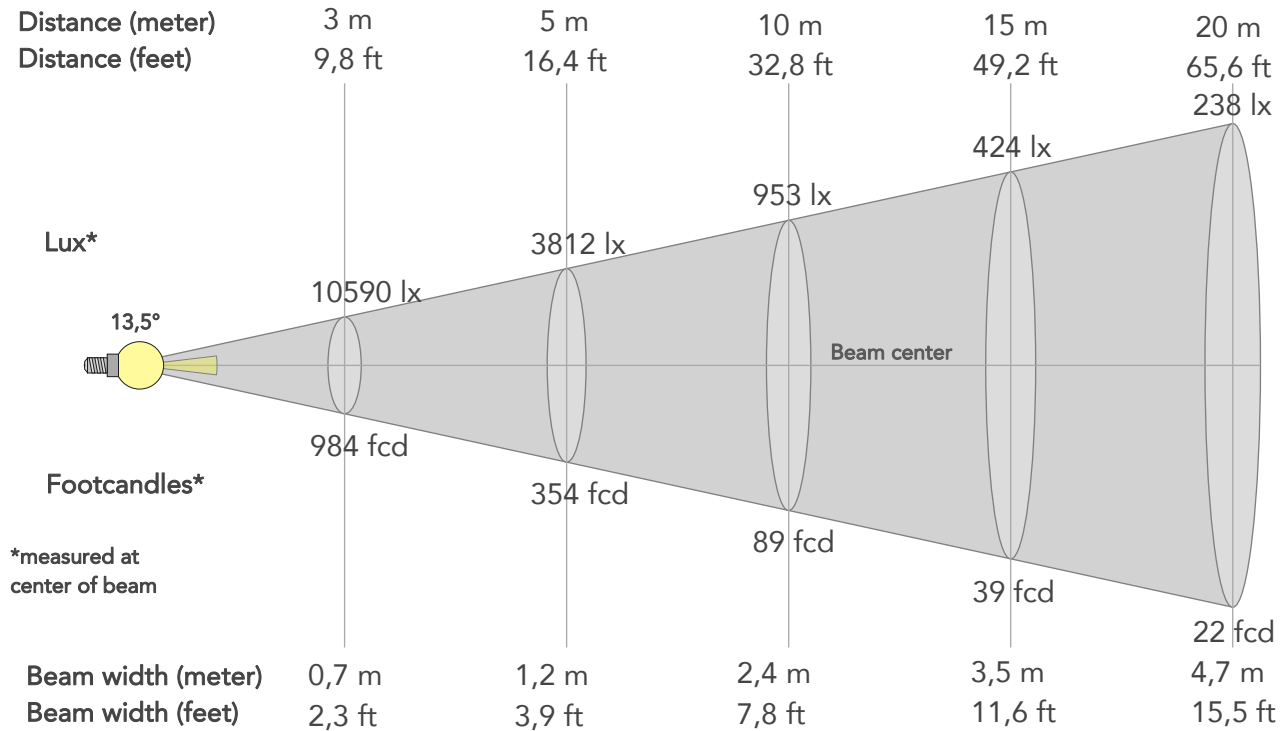
Cut off angle 2.5%: 24,9°

**Spectra**



## BEAM DETAILS

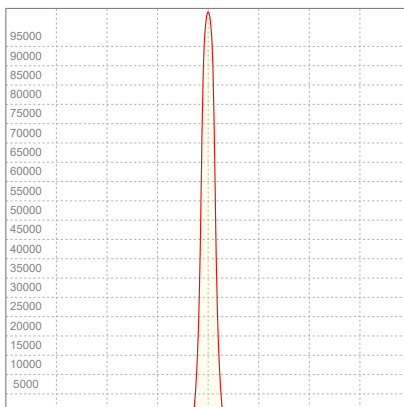
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
13,5°	22,4°	24,9°	100,0%	100,0%



### 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	95312lx	23828lx	10590lx	5957lx	3812lx	1694lx	953lx	424lx	238lx	152lx	106lx	60lx	38lx
Footcand.	8855fcd	2214fcd	984fcd	553fcd	354fcd	157fcd	89fcd	39fcd	22fcd	14fcd	10fcd	6fcd	4fcd
Beam wid.	0,2m	0,5m	0,7m	0,9m	1,2m	1,8m	2,4m	3,5m	4,7m	5,9m	7,1m	9,5m	11,8m
Beam wid.	0,8ft	1,6ft	2,3ft	3,1ft	3,9ft	5,8ft	7,8ft	11,6ft	15,5ft	19,4ft	23,3ft	31ft	38,8ft

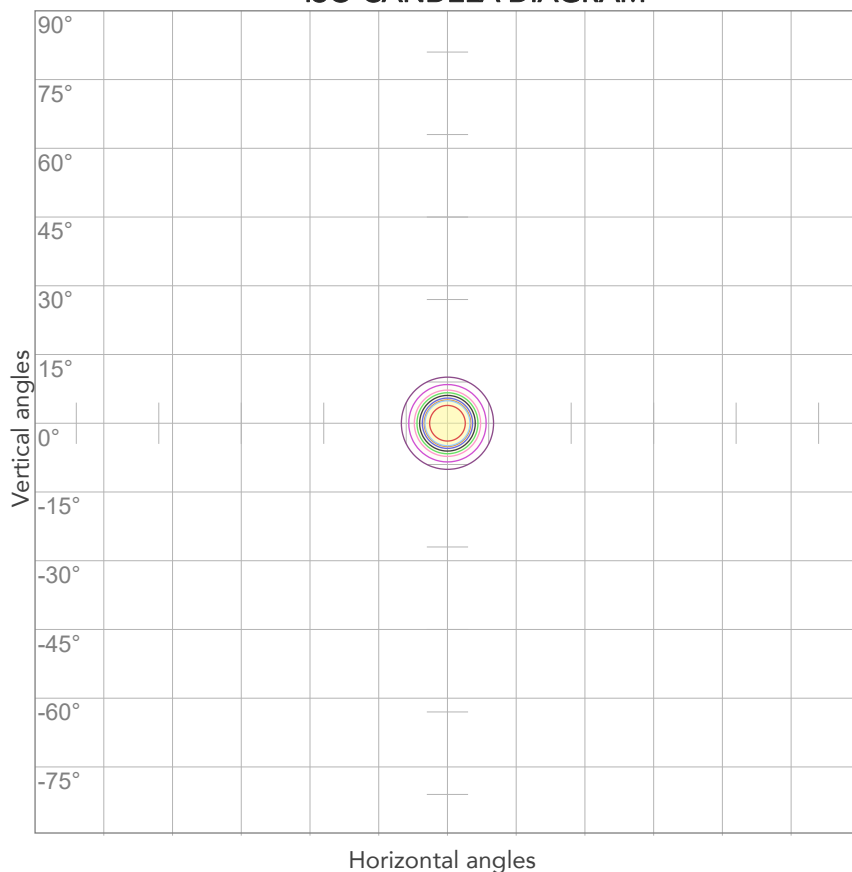
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
224V	1,26A	269,8W	19lm/W
Power FC			
0,96			

## ISO CANDELA DIAGRAM



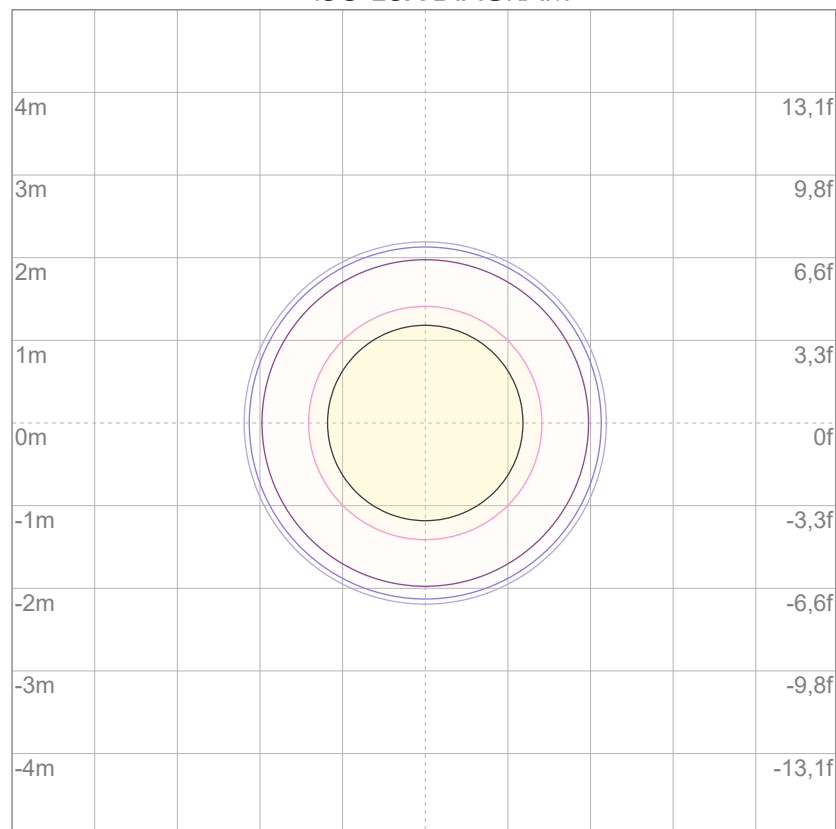
10%	9531 cd
20%	19062 cd
30%	28594 cd
40%	38125 cd
50%	47656 cd
60%	57187 cd
70%	66718 cd
80%	76250 cd

### Conditions:

Number of c-planes: 2

Candela at center: 95312 cd

## ISO LUX DIAGRAM



3%	28,6 lx
5%	47,7 lx
10%	95,3 lx
30%	286 lx
50%	477 lx

### Conditions:

Number of c-planes: 2

Lux at center: 953 lx

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



Total lumen output:

627 lm

Peak candela output:

15331 cd

**PRODUCT NAME:**

ECLCTPLUS IP

**MEASURAMENT CONDITIONS:**

Beam angle:

PRL14

Target:

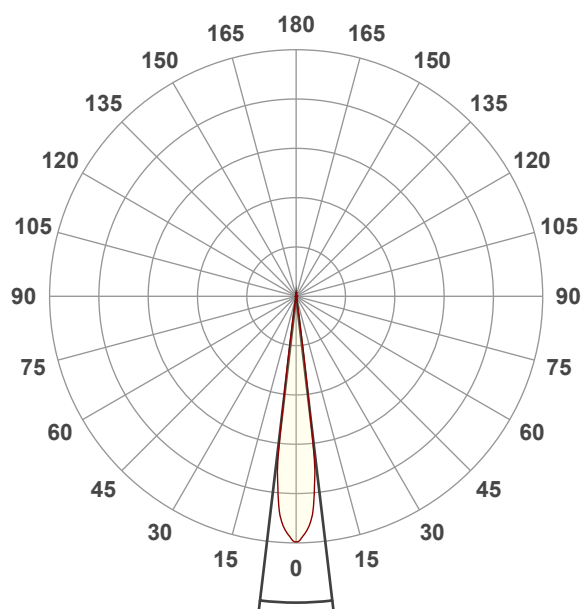
Red HQ

Operator:

Paolo Carvone

Date and time:

14/07/2020 12:35:08

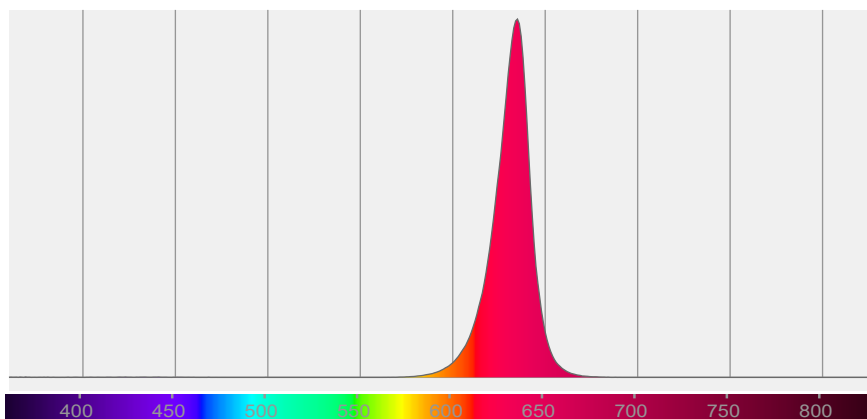


Beam angle 50%: 13,6°

Field angle 10%: 15,9°

Cut off angle 2.5%: 16,6°

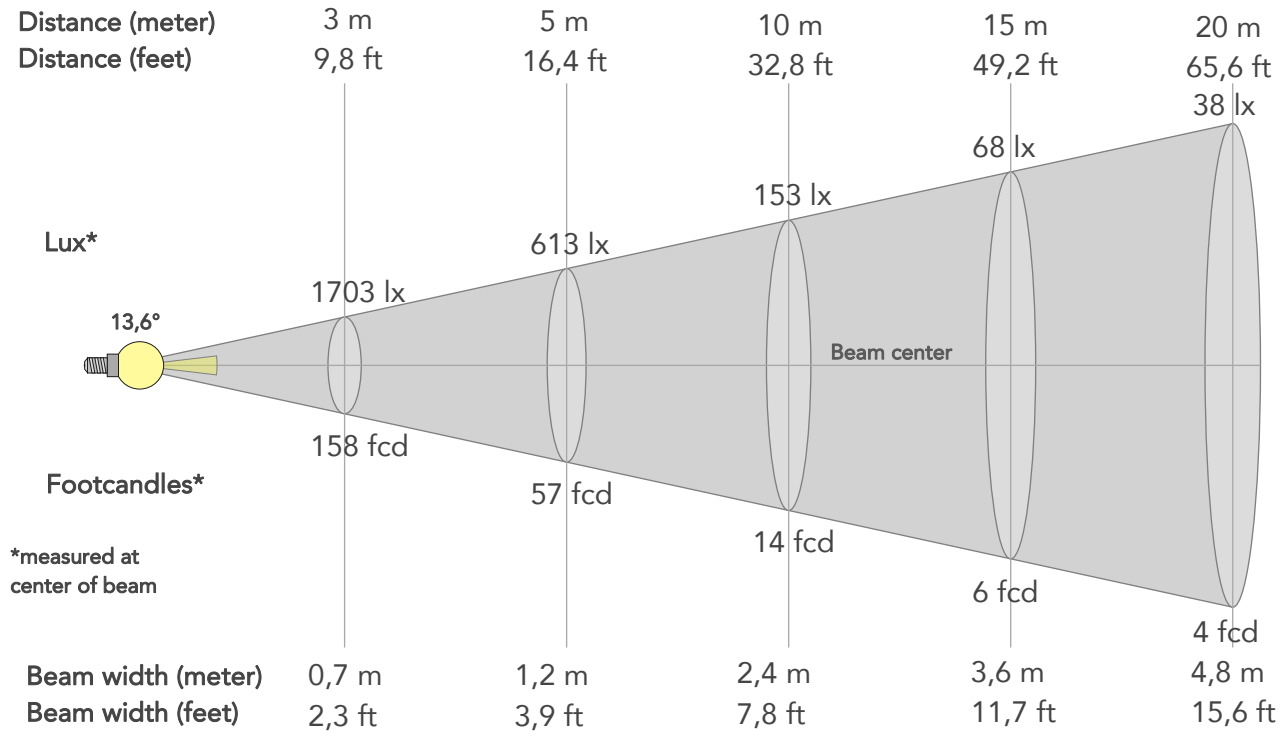
**Spectra**



## BEAM DETAILS



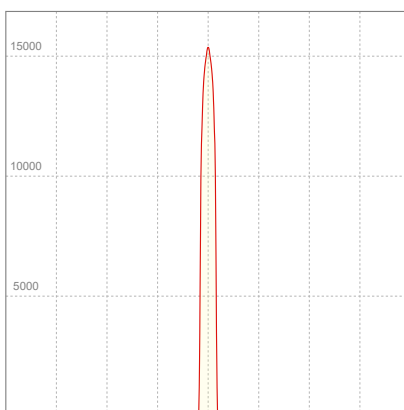
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
13,6°	15,9°	16,6°	99,8%	99,7%



### 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	15331lx	3833lx	1703lx	958lx	613lx	273lx	153lx	68lx	38lx	25lx	17lx	10lx	6lx
Footcand.	1424fcd	356fcd	158fcd	89fcd	57fcd	25fcd	14fcd	6fcd	4fcd	2fcd	2fcd	1fcd	1fcd
Beam wid.	0,2m	0,5m	0,7m	1m	1,2m	1,8m	2,4m	3,6m	4,8m	5,9m	7,1m	9,5m	11,9m
Beam wid.	0,8ft	1,6ft	2,3ft	3,1ft	3,9ft	5,8ft	7,8ft	11,7ft	15,6ft	19,5ft	23,4ft	31,2ft	39ft

### LINEAR DISTRIBUTION DIAGRAM



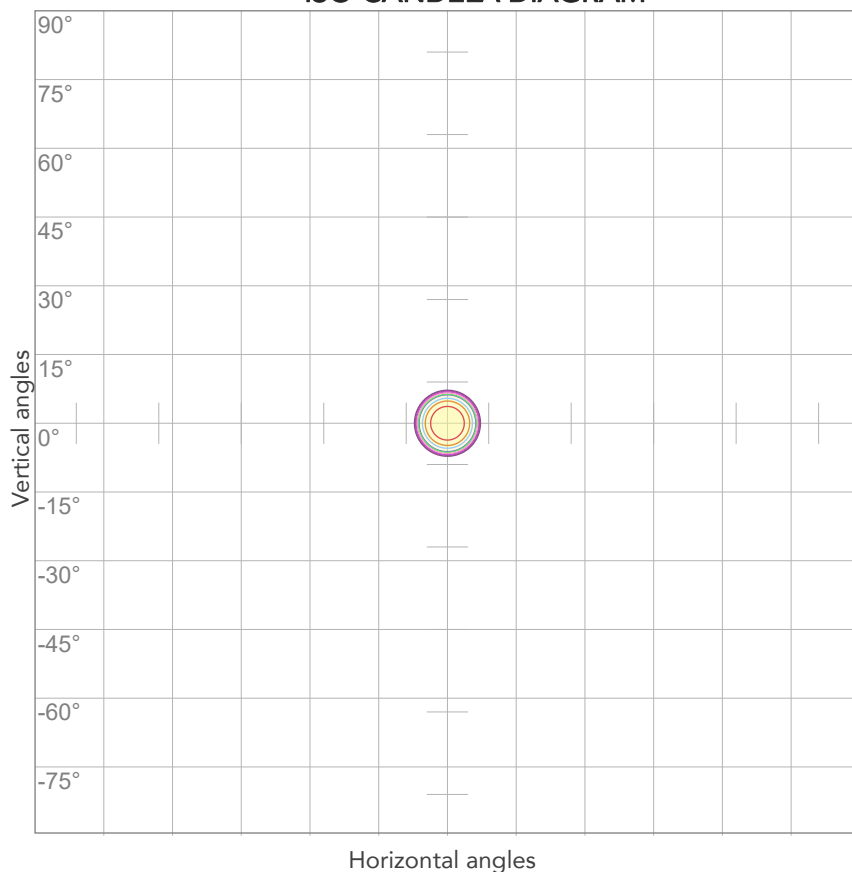
### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
226V	0,307A	49,7W	13lm/W

Power FC
0,72



## ISO CANDELA DIAGRAM



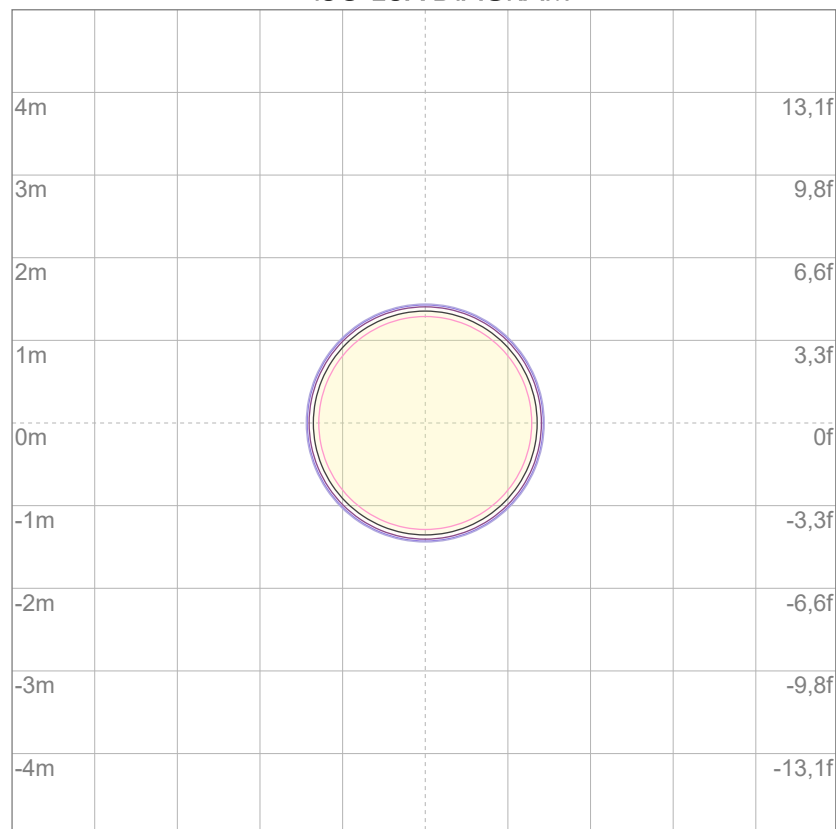
10%	1533 cd
20%	3066 cd
30%	4599 cd
40%	6132 cd
50%	7665 cd
60%	9198 cd
70%	10732 cd
80%	12265 cd

### Conditions:

Number of c-planes: 2

Candela at center: 15331 cd

## ISO LUX DIAGRAM



3%	4,60 lx
5%	7,67 lx
10%	15,3 lx
30%	46,0 lx
50%	76,7 lx

### Conditions:

Number of c-planes: 2

Lux at center: 153 lx

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



Total lumen output:

654 lm

Peak candela output:

15900 cd

**PRODUCT NAME:**

ECLCTPLUS IP

**MEASURAMENT CONDITIONS:**

Beam angle:

PRL14

Target:

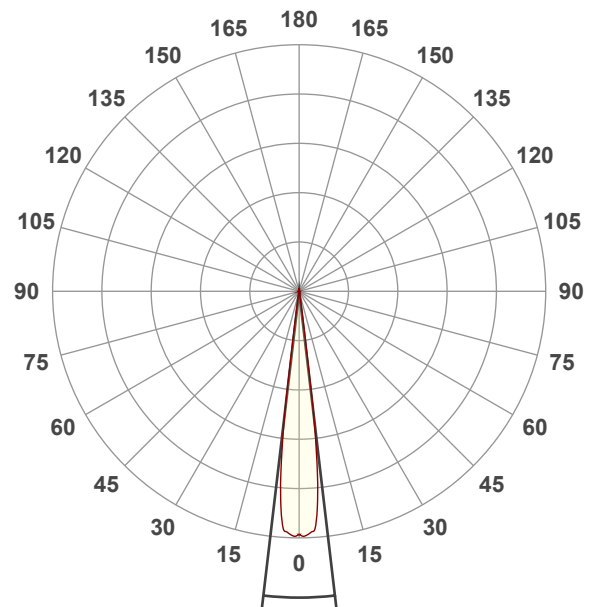
Green HQ

Operator:

Paolo Carvone

Date and time:

14/07/2020 13:06:11

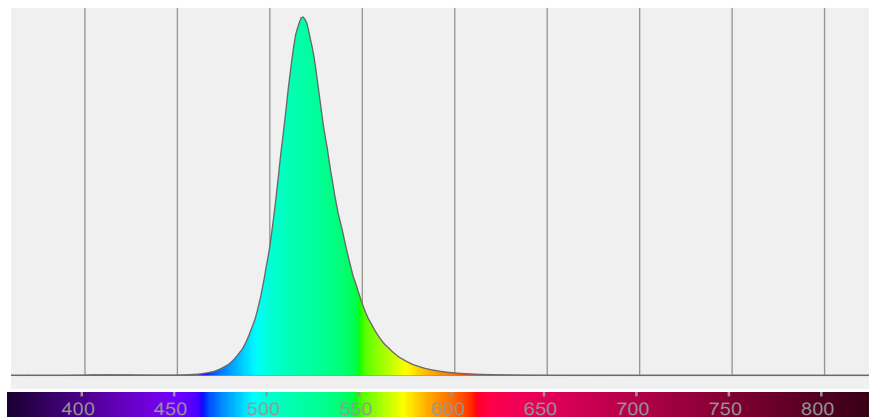


Beam angle 50%: 13,4°

Field angle 10%: 15,8°

Cut off angle 2.5%: 16,8°

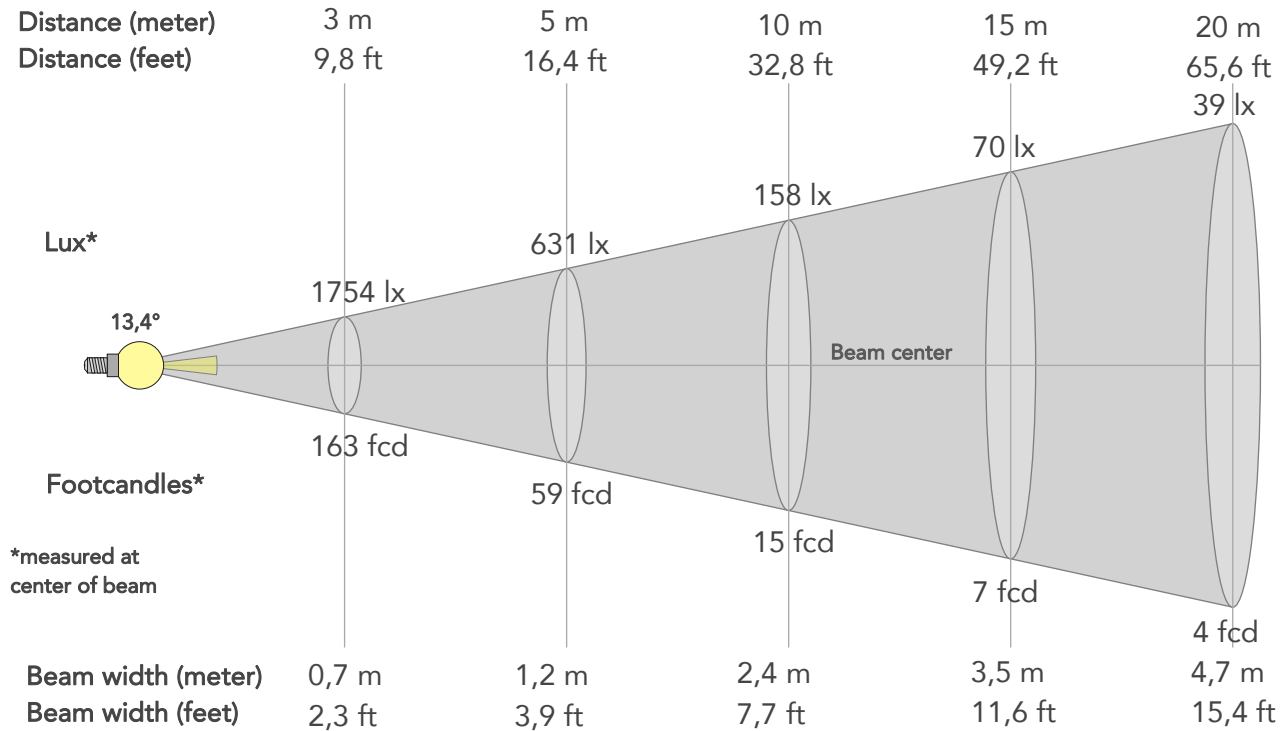
**Spectra**



# BEAM DETAILS



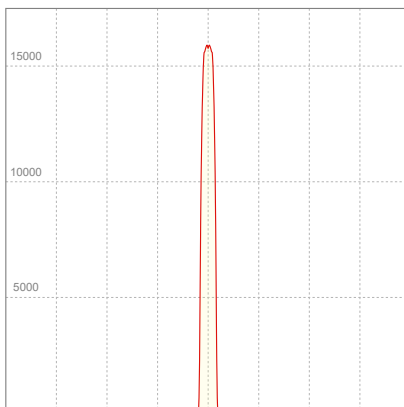
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
13,4°	15,8°	16,8°	100,0%	100,0%



## 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	15787lx	3947lx	1754lx	987lx	631lx	281lx	158lx	70lx	39lx	25lx	18lx	10lx	6lx
Footcand.	1467fcd	367fcd	163fcd	92fcd	59fcd	26fcd	15fcd	7fcd	4fcd	2fcd	2fcd	1fcd	1fcd
Beam wid.	0,2m	0,5m	0,7m	0,9m	1,2m	1,8m	2,4m	3,5m	4,7m	5,9m	7,1m	9,4m	11,8m
Beam wid.	0,8ft	1,6ft	2,3ft	3,1ft	3,9ft	5,8ft	7,7ft	11,6ft	15,4ft	19,3ft	23,1ft	30,9ft	38,6ft

## LINEAR DISTRIBUTION DIAGRAM

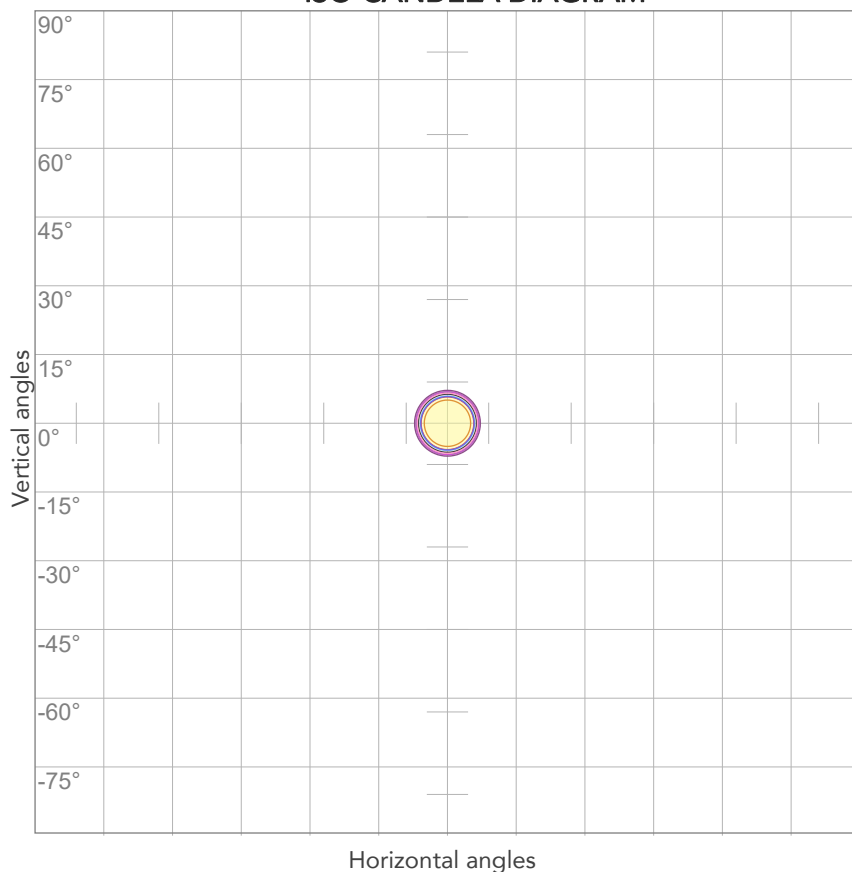


## ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
224V	0,297A	47,2W	14lm/W

Power FC
0,71

## ISO CANDELA DIAGRAM



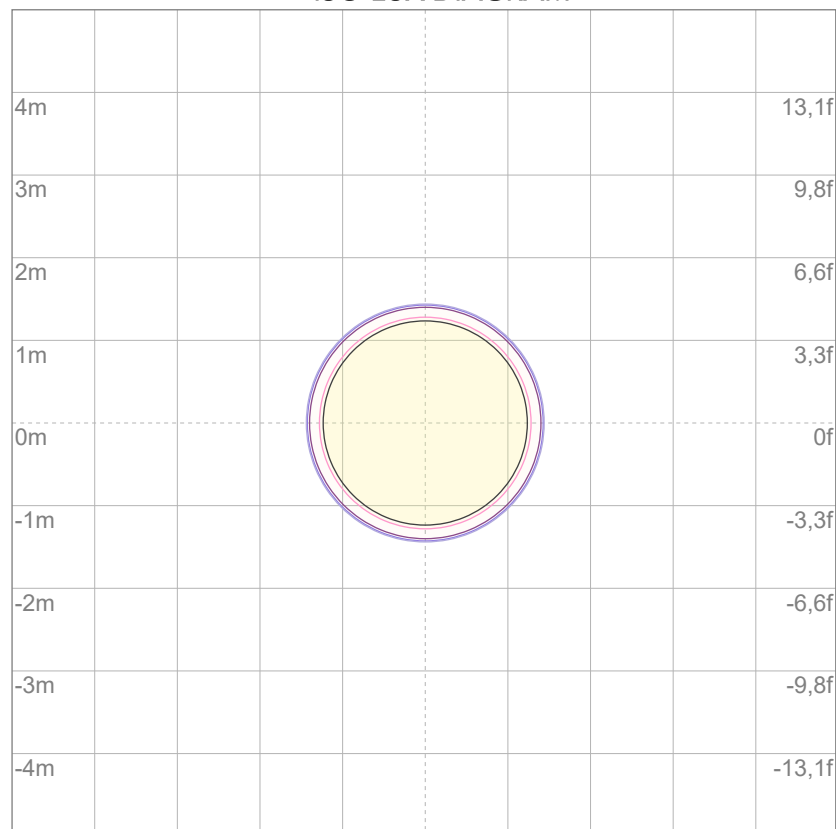
10%	1579 cd
20%	3157 cd
30%	4736 cd
40%	6315 cd
50%	7893 cd
60%	9472 cd
70%	11051 cd
80%	12630 cd

### Conditions:

Number of c-planes: 2

Candela at center: 15787 cd

## ISO LUX DIAGRAM



3%	4,74 lx
5%	7,89 lx
10%	15,8 lx
30%	47,4 lx
50%	78,9 lx

### Conditions:

Number of c-planes: 2

Lux at center: 158 lx

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



Total lumen output:

80,7 lm

Peak candela output:

1856 cd

**PRODUCT NAME:**

ECLCTPLUS IP

**MEASURAMENT CONDITIONS:**

Beam angle:

PRL14

Target:

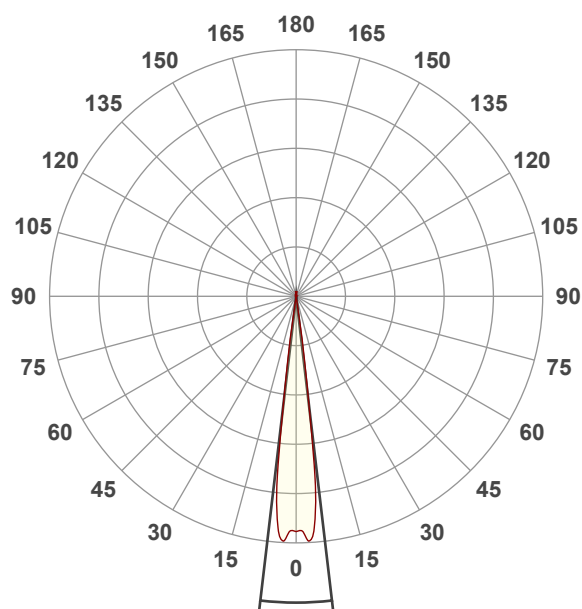
Blue HQ

Operator:

Paolo Carvone

Date and time:

14/07/2020 13:12:33

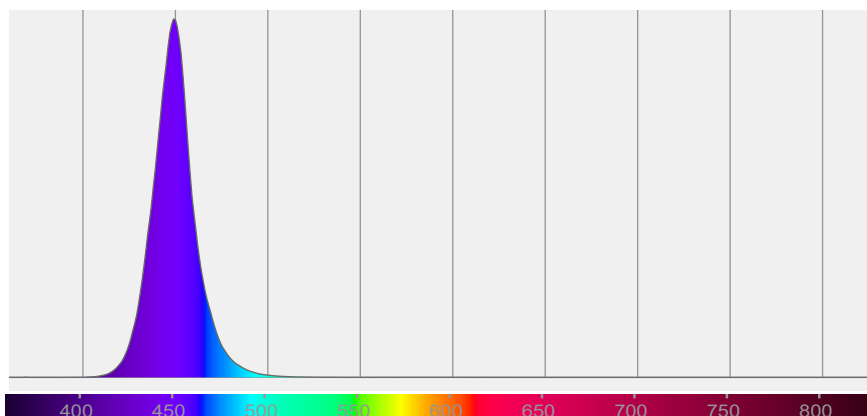


Beam angle 50%: 13,4°

Field angle 10%: 16,7°

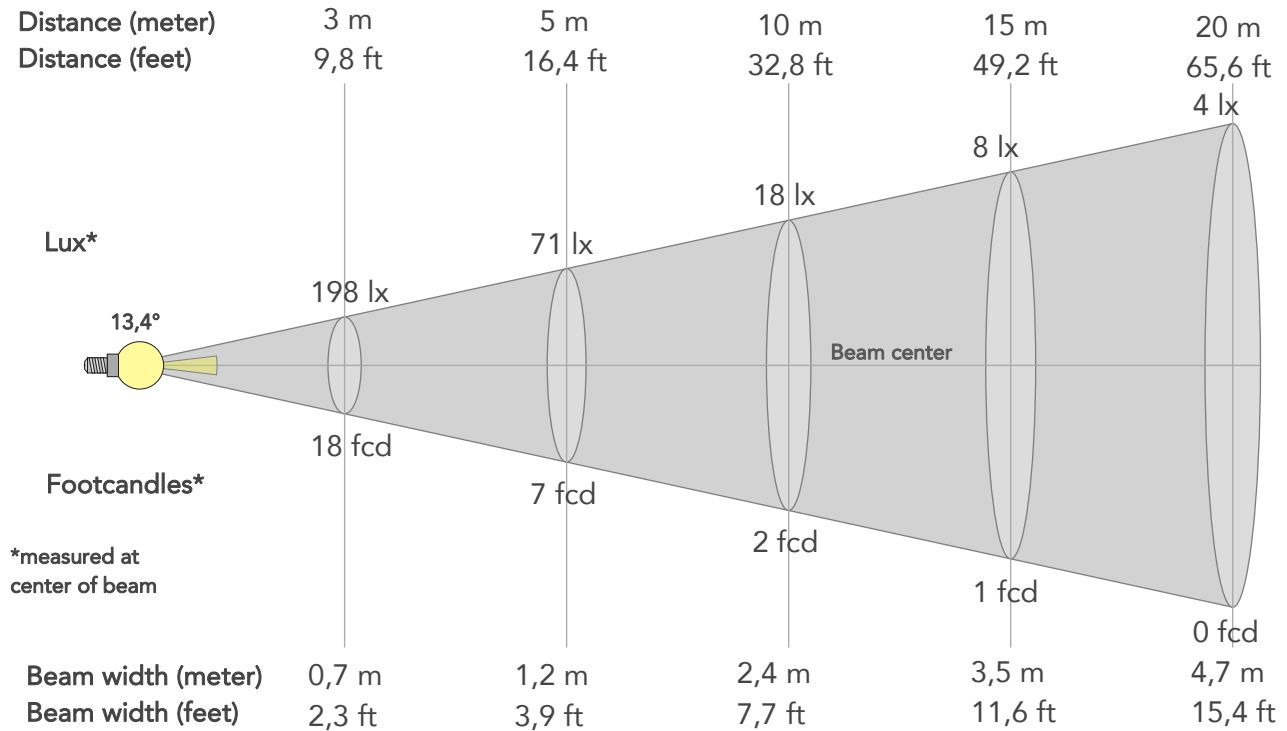
Cut off angle 2.5%: 17,6°

**Spectra**



## BEAM DETAILS

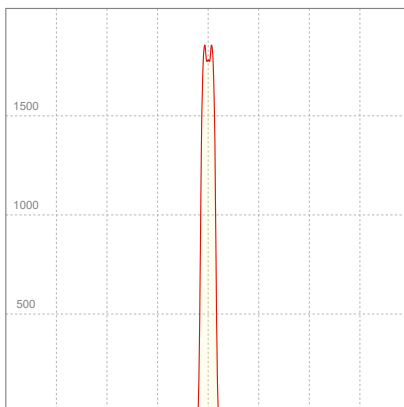
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
13,4°	16,7°	17,6°	99,9%	99,8%



### 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	1782lx	445lx	198lx	111lx	71lx	32lx	18lx	8lx	4lx	3lx	2lx	1lx	1lx
Footcand.	166fcd	41fcd	18fcd	10fcd	7fcd	3fcd	2fcd	1fcd	0fcd	0fcd	0fcd	0fcd	0fcd
Beam wid.	0,2m	0,5m	0,7m	0,9m	1,2m	1,8m	2,4m	3,5m	4,7m	5,9m	7,1m	9,4m	11,8m
Beam wid.	0,8ft	1,6ft	2,3ft	3,1ft	3,9ft	5,8ft	7,7ft	11,6ft	15,4ft	19,3ft	23,2ft	30,9ft	38,6ft

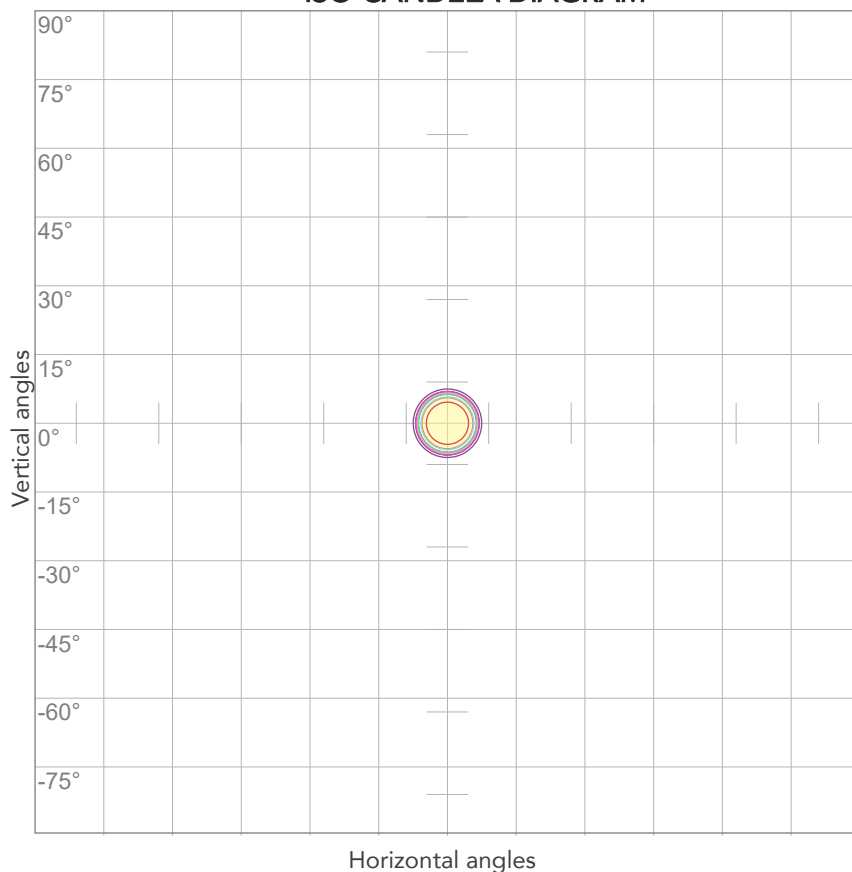
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
224V	0,233A	31,9W	3lm/W
Power FC			
0,61			

## ISO CANDELA DIAGRAM



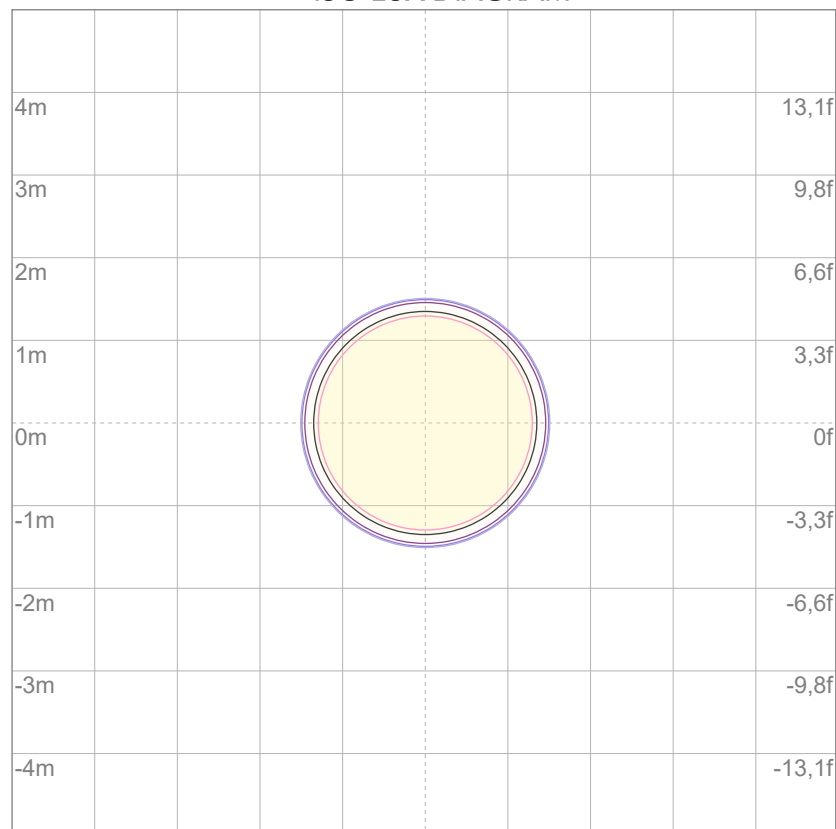
10%	178 cd
20%	356 cd
30%	534 cd
40%	713 cd
50%	891 cd
60%	1069 cd
70%	1247 cd
80%	1425 cd

### Conditions:

Number of c-planes: 2

Candela at center: 1782 cd

## ISO LUX DIAGRAM



3%	0,534 lx
5%	0,891 lx
10%	1,78 lx
30%	5,34 lx
50%	8,91 lx

### Conditions:

Number of c-planes: 2

Lux at center: 17,8 lx

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



Total lumen output:

3504 lm

Peak candela output:

89943 cd

Light quality:

CRI: 91,7

Color temperature:

2831 K

**PRODUCT NAME:**

ECLCTPLUS IP

**MEASURAMENT CONDITIONS:**

Beam angle:

PRL14

Target:

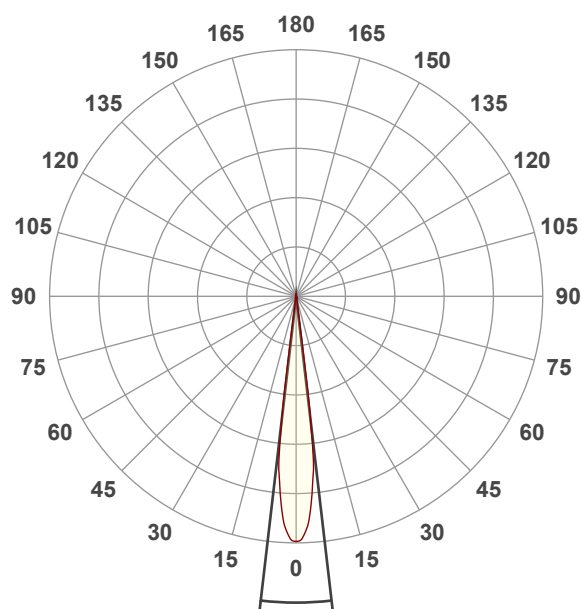
2800K HQ

Operator:

Paolo Carvone

Date and time:

14/07/2020 12:46:17

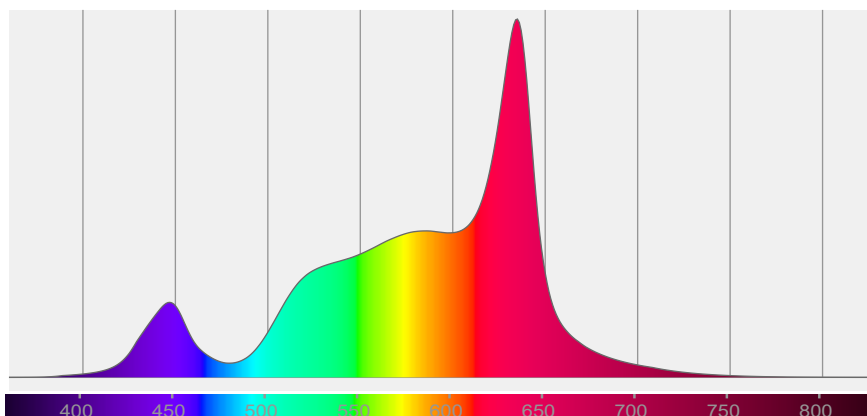


Beam angle 50%: 13,3°

Field angle 10%: 15,7°

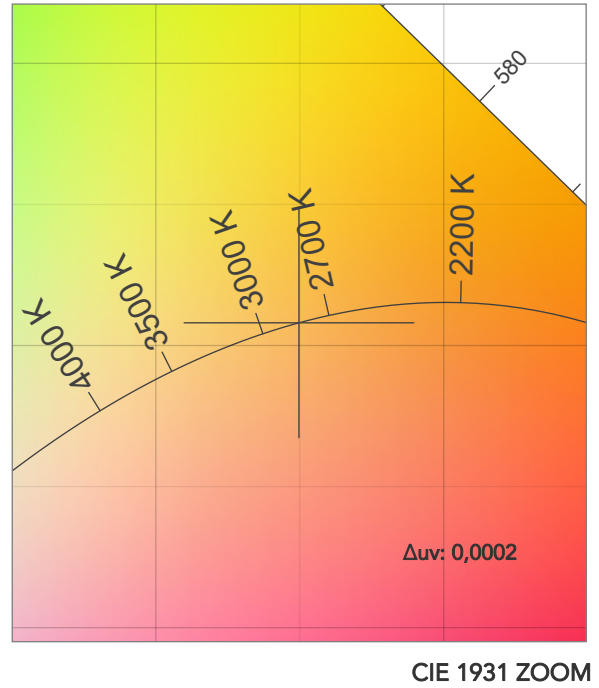
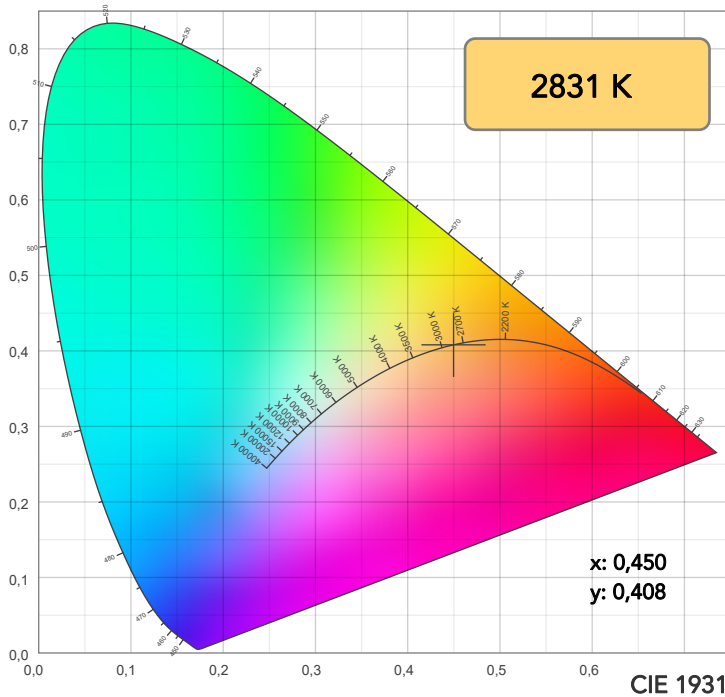
Cut off angle 2.5%: 16,7°

**Spectra**

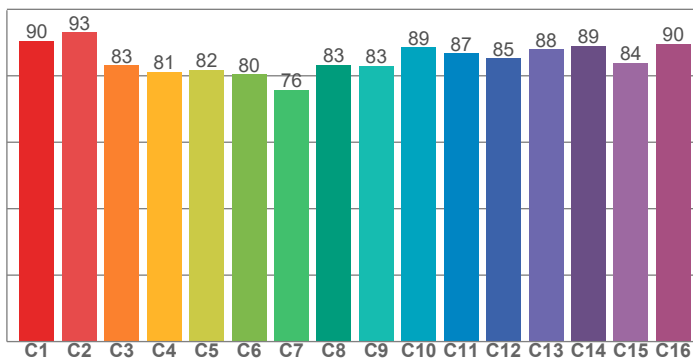




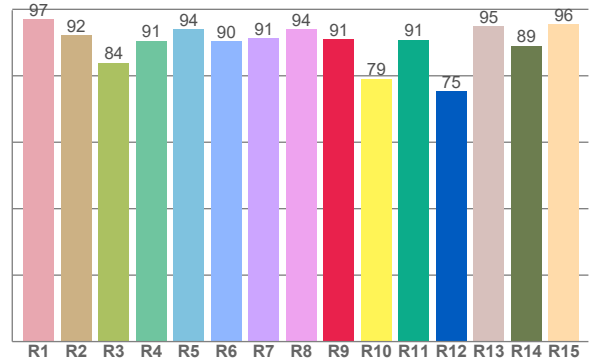
## COLOR DETAILS



TM30: 85,7



CRI: 91,7 (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
97,0	92,3	83,9	90,5	94,0	90,4	91,3	94,1	91,0	79,1	90,8	75,4	94,9	89,1	95,5

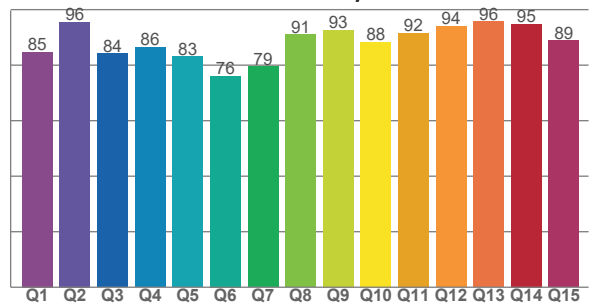
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
90,5	93,1	83,2	81,2	81,8	80,4	75,8	83,3	83,0	88,6	86,8	85,2	88,0	88,9	83,9	89,6

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
84,7	95,6	84,1	86,4	83,2	76,2	79,4	91,1	92,6	88,3	91,5	94,0	95,7	94,9	88,8

CQS: 86,8



## COLOR PARAMETERS

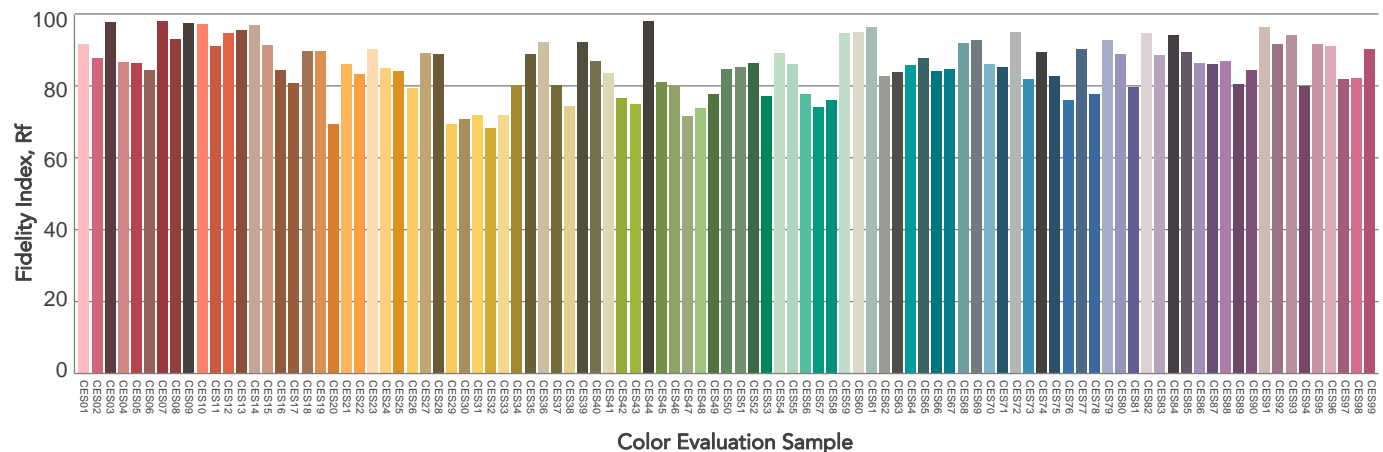
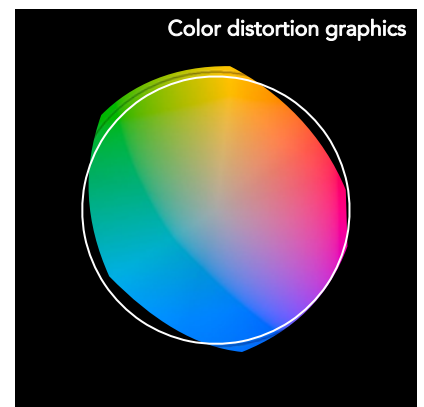
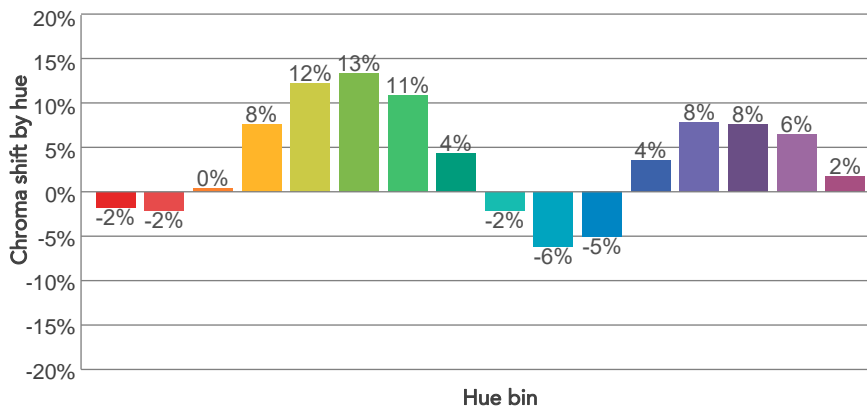
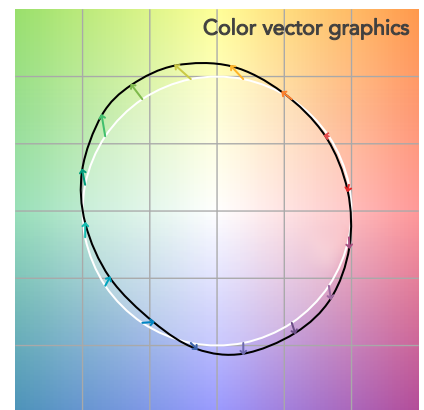
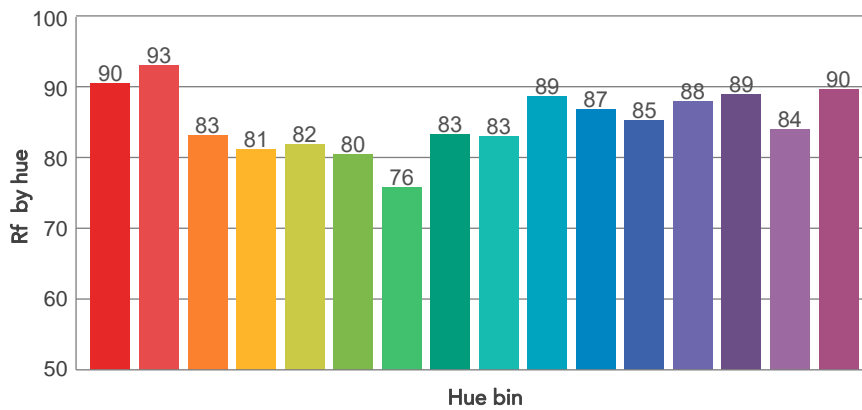
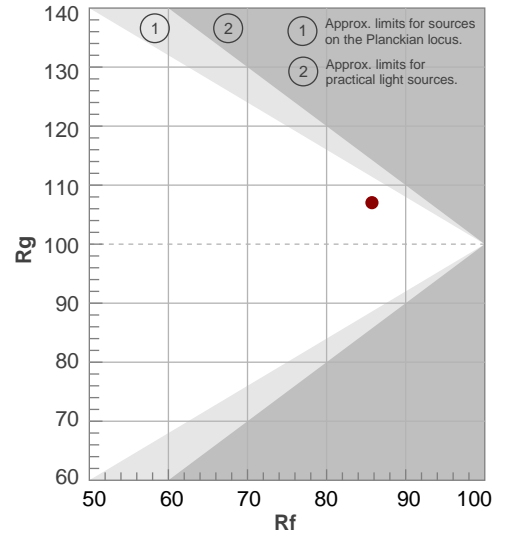
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	$\Delta uv$
2831 K	91,7	91,0	85,7	107,0	86,8	70	0,450	0,408	0,0002

# TM30 DETAILS

**Rf 85,7**  
Fidelity index Rf

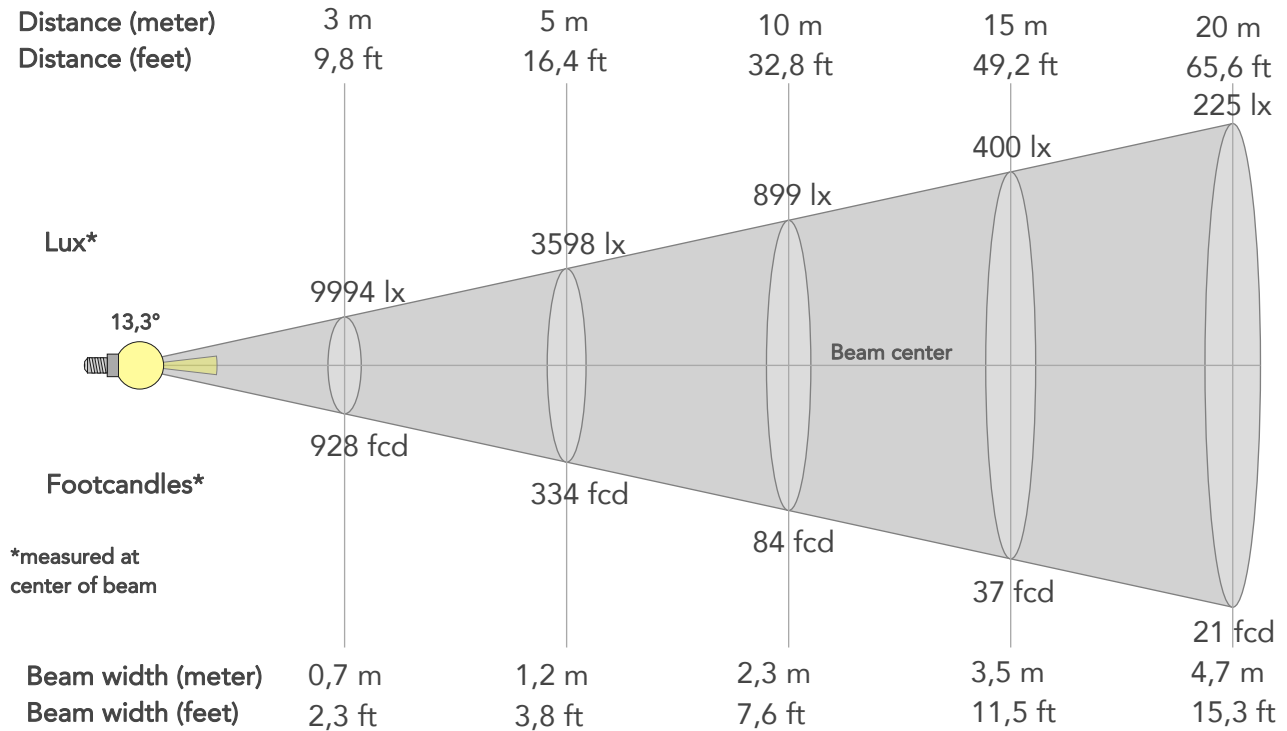
**Rg 107,0**  
Gammut index

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	90	-2%	-4%
2	93	-2%	2%
3	83	0%	9%
4	81	8%	11%
5	82	12%	9%
6	80	13%	1%
7	76	11%	-11%
8	83	4%	-10%
9	83	-2%	-10%
10	89	-6%	-3%
11	87	-5%	6%
12	85	4%	5%
13	88	8%	-2%
14	89	8%	-2%
15	84	6%	-7%
16	90	2%	-7%



## BEAM DETAILS

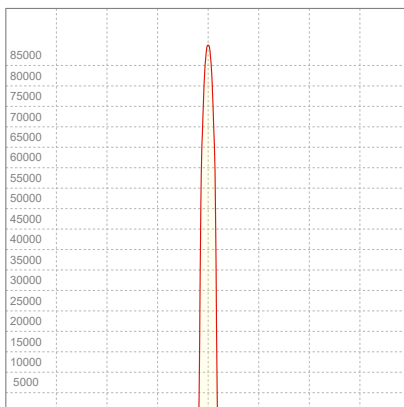
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
13,3°	15,7°	16,7°	100,0%	99,9%



### 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	89943lx	22486lx	9994lx	5621lx	3598lx	1599lx	899lx	400lx	225lx	144lx	100lx	56lx	36lx
Footcand.	8356fcd	2089fcd	928fcd	522fcd	334fcd	149fcd	84fcd	37fcd	21fcd	13fcd	9fcd	5fcd	3fcd
Beam wid.	0,2m	0,5m	0,7m	0,9m	1,2m	1,7m	2,3m	3,5m	4,7m	5,8m	7m	9,3m	11,6m
Beam wid.	0,8ft	1,5ft	2,3ft	3ft	3,8ft	5,7ft	7,6ft	11,5ft	15,3ft	19,1ft	22,9ft	30,5ft	38,2ft

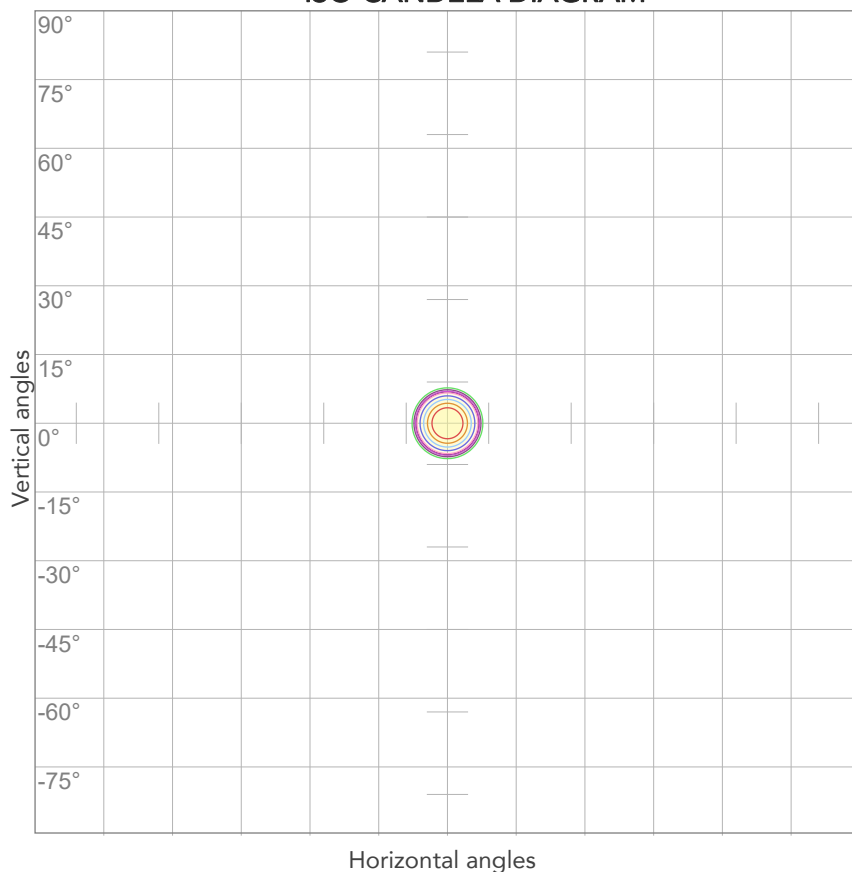
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
225V	0,812A	168,7W	21lm/W

## ISO CANDELA DIAGRAM



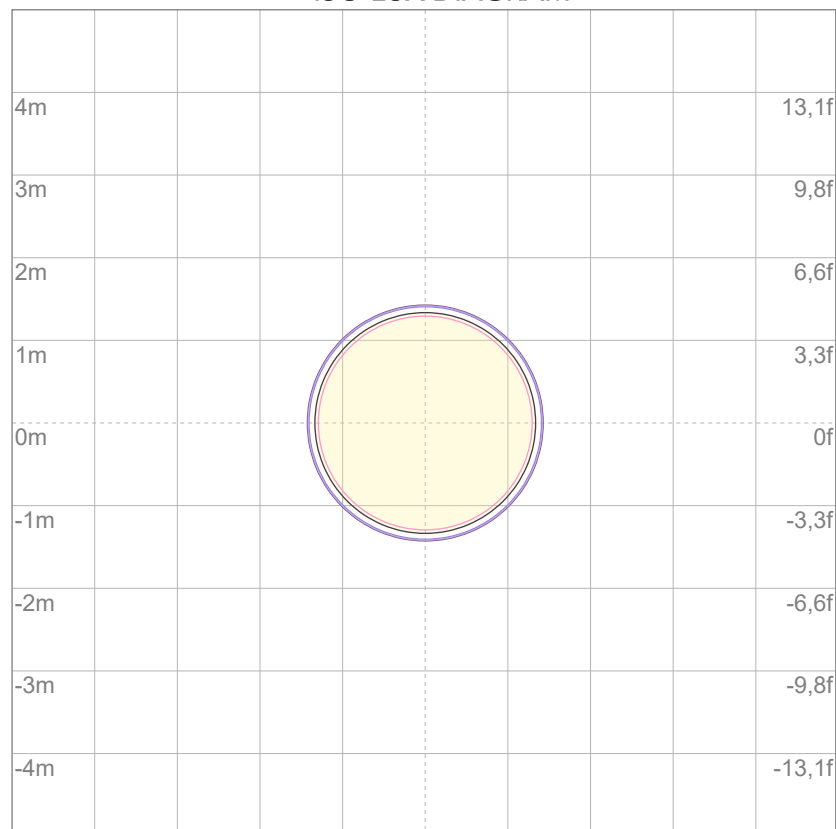
10%	8994 cd
20%	17989 cd
30%	26983 cd
40%	35977 cd
50%	44972 cd
60%	53966 cd
70%	62960 cd
80%	71955 cd

### Conditions:

Number of c-planes: 2

Candela at center: 89943 cd

## ISO LUX DIAGRAM



3%	27,0 lx
5%	45,0 lx
10%	89,9 lx
30%	270 lx
50%	450 lx

### Conditions:

Number of c-planes: 2

Lux at center: 899 lx

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



Total lumen output:

3635 lm

Peak candela output:

92958 cd

Light quality:

CRI: 92,9

Color temperature:

3233 K

PRODUCT NAME:

ECLCTPLUS IP

MEASURAMENT CONDITIONS:

Beam angle:

PRL14

Target:

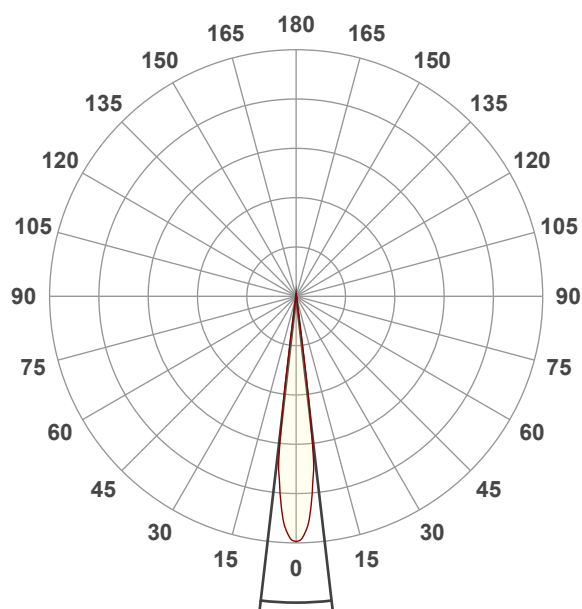
3200K HQ

Operator:

Paolo Carvone

Date and time:

14/07/2020 12:49:00

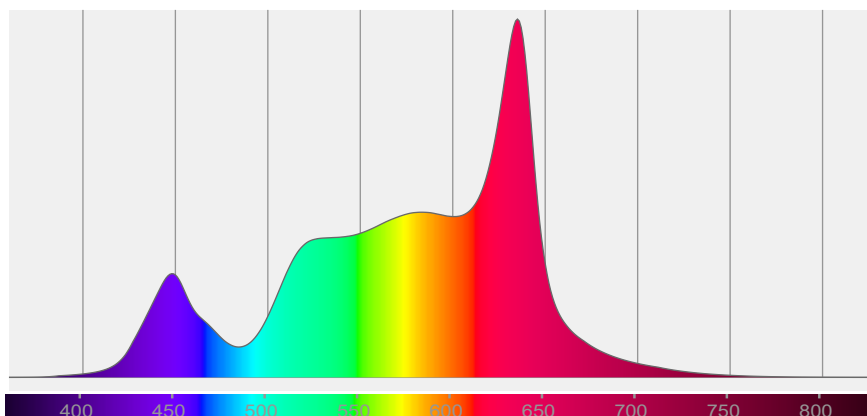


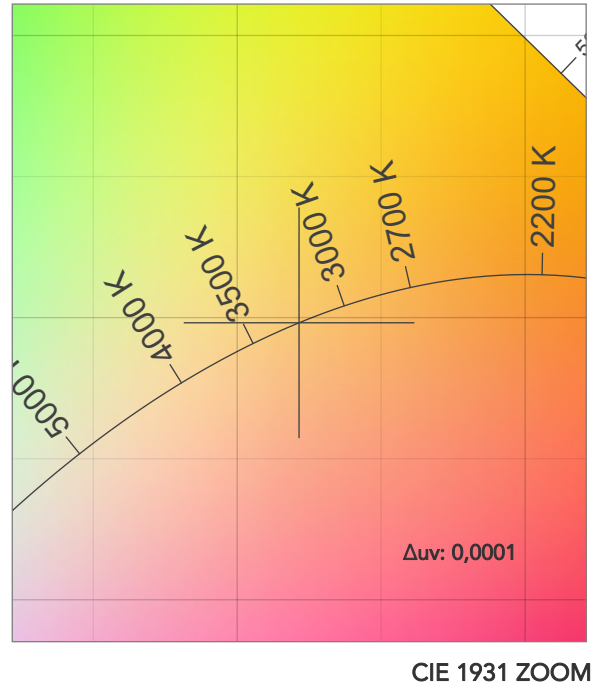
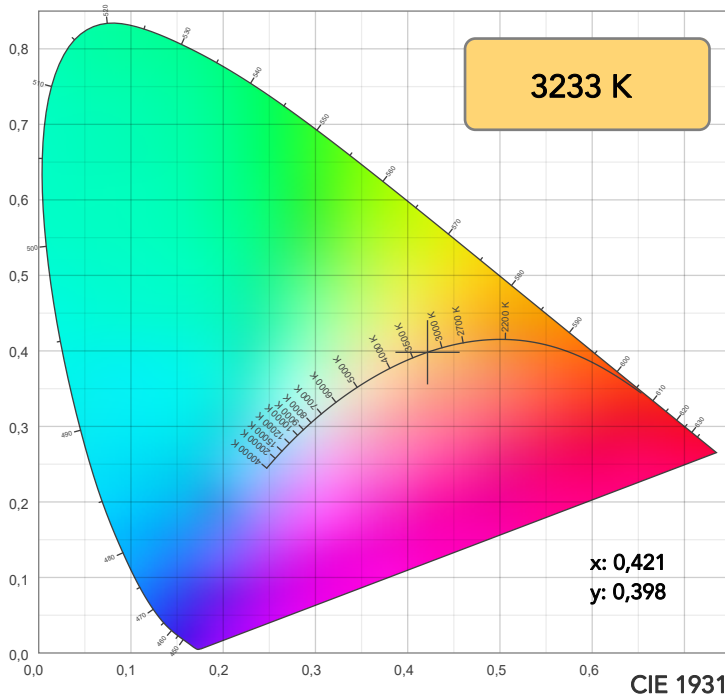
Beam angle 50%: 13,3°

Field angle 10%: 15,8°

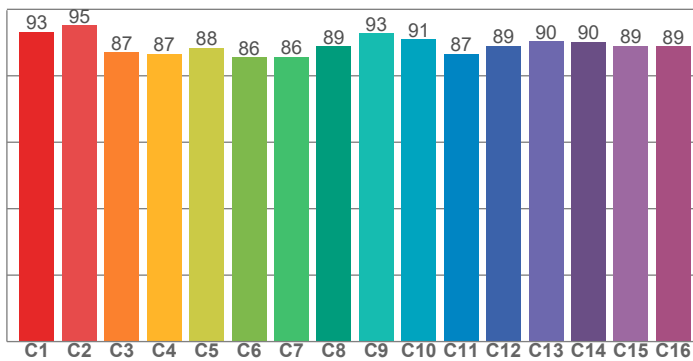
Cut off angle 2.5%: 16,7°

Spectra

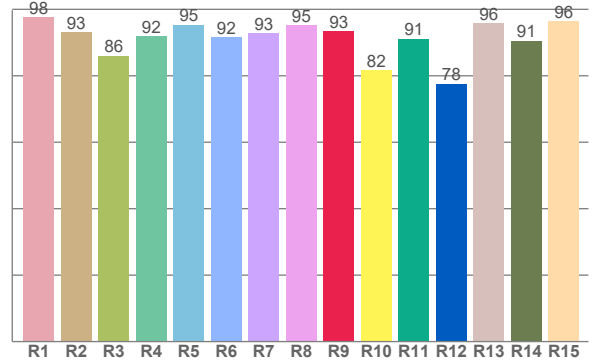




TM30: 89,5



CRI: 92,9 (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
97,6	93,1	86,0	91,9	95,3	91,6	92,7	95,2	93,4	81,6	91,1	77,6	95,8	90,6	96,5

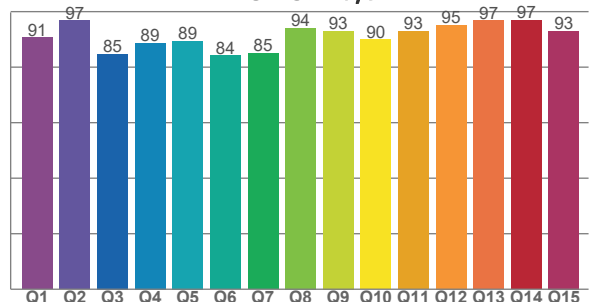
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
93,2	95,1	87,1	86,7	88,4	85,5	85,7	88,9	92,7	91,0	86,6	89,0	90,3	90,1	89,0	88,9

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
90,7	96,8	84,7	88,7	89,4	84,1	85,0	94,1	93,1	89,9	92,9	95,1	96,8	96,9	93,0

CQS: 90,3



## COLOR PARAMETERS

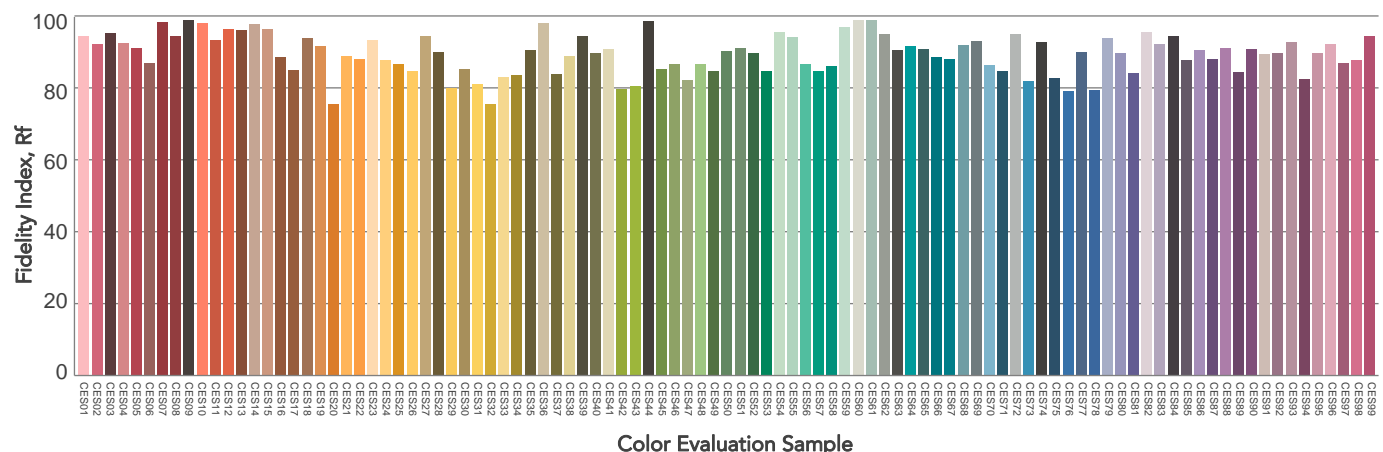
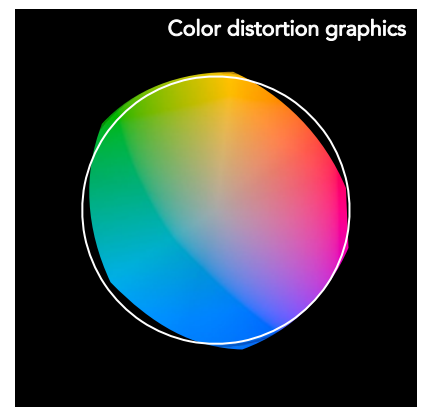
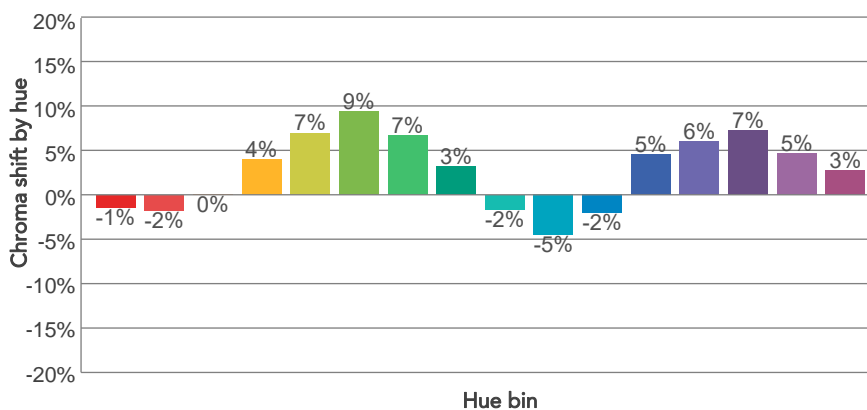
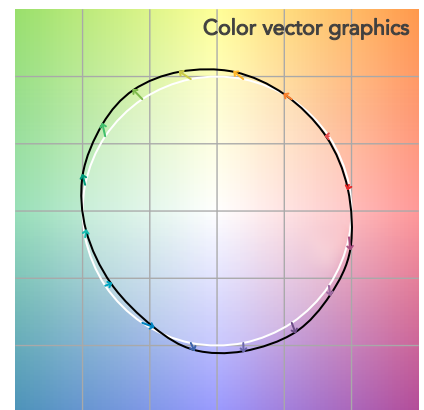
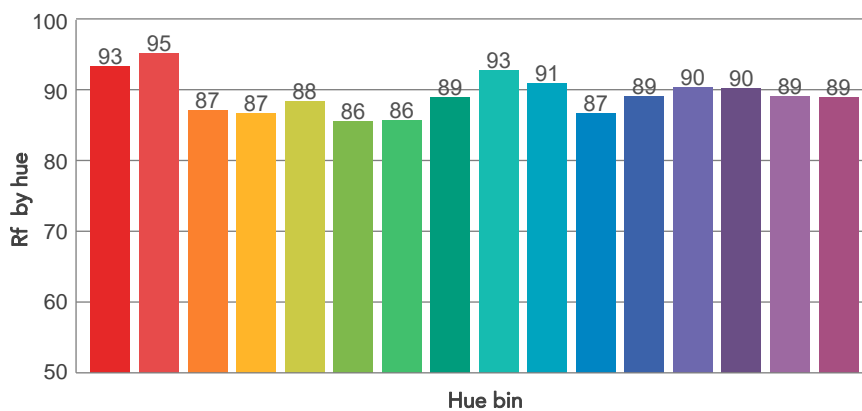
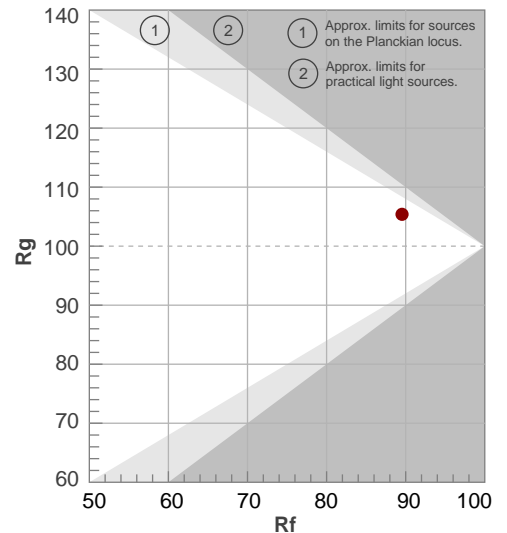
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	$\Delta uv$
3233 K	92,9	93,4	89,5	105,4	90,3	83	0,421	0,398	0,0001

# TM30 DETAILS

**Rf 89,5**  
Fidelity index Rf

**Rg 105,4**  
Gammut index

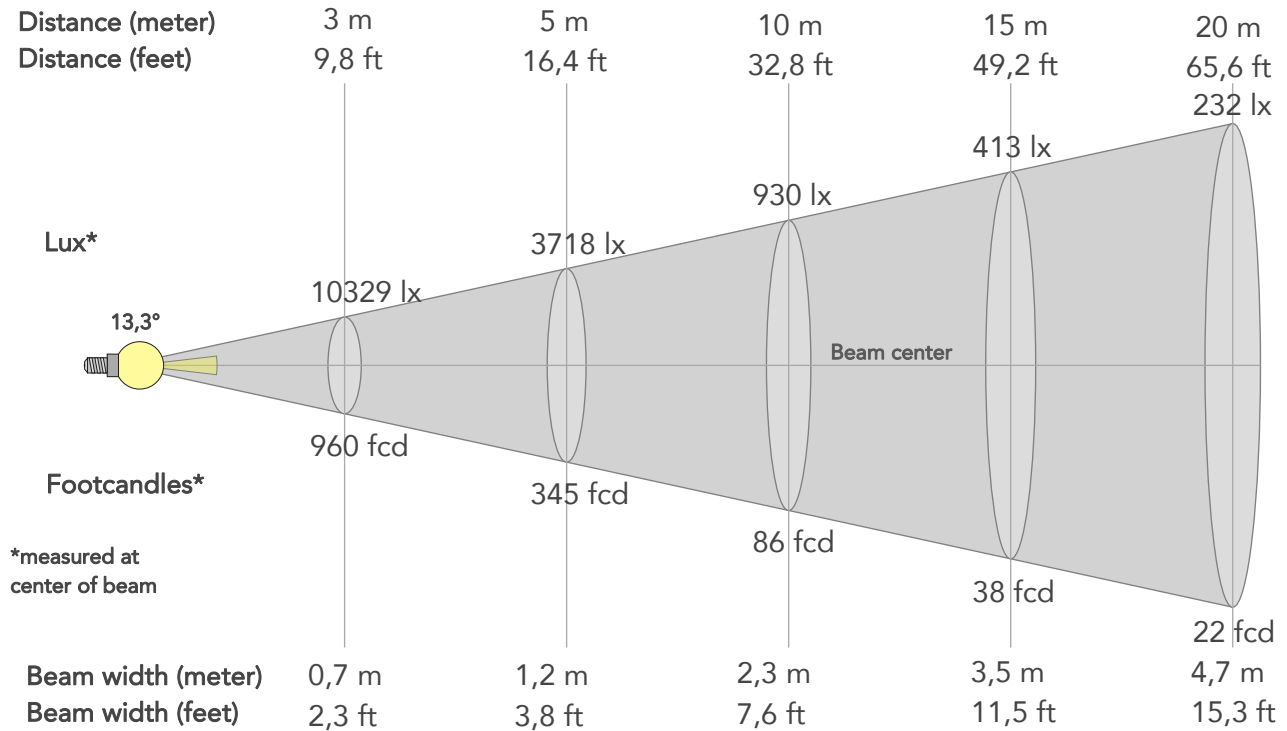
Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	93	-1%	-3%
2	95	-2%	1%
3	87	0%	6%
4	87	4%	8%
5	88	7%	7%
6	86	9%	2%
7	86	7%	-6%
8	89	3%	-7%
9	93	-2%	-5%
10	91	-5%	1%
11	87	-2%	8%
12	89	5%	3%
13	90	6%	-1%
14	90	7%	-2%
15	89	5%	-5%
16	89	3%	-8%



# BEAM DETAILS



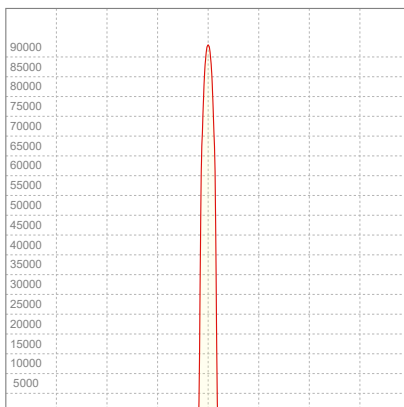
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
13,3°	15,8°	16,7°	100,0%	100,0%



## 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	92958lx	23239lx	10329lx	5810lx	3718lx	1653lx	930lx	413lx	232lx	149lx	103lx	58lx	37lx
Footcand.	8636fcd	2159fcd	960fcd	540fcd	345fcd	154fcd	86fcd	38fcd	22fcd	14fcd	10fcd	5fcd	3fcd
Beam wid.	0,2m	0,5m	0,7m	0,9m	1,2m	1,7m	2,3m	3,5m	4,7m	5,8m	7m	9,3m	11,6m
Beam wid.	0,8ft	1,5ft	2,3ft	3ft	3,8ft	5,7ft	7,6ft	11,5ft	15,3ft	19,1ft	22,9ft	30,5ft	38,2ft

## LINEAR DISTRIBUTION DIAGRAM

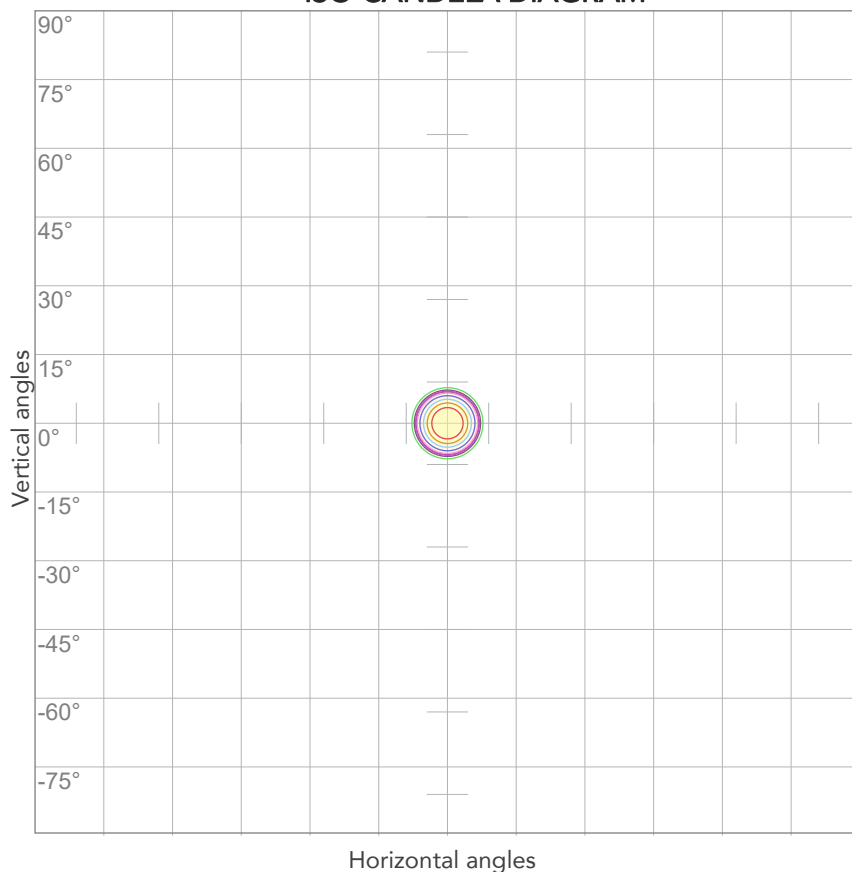


## ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
225V	0,858A	179,9W	20lm/W



## ISO CANDELA DIAGRAM



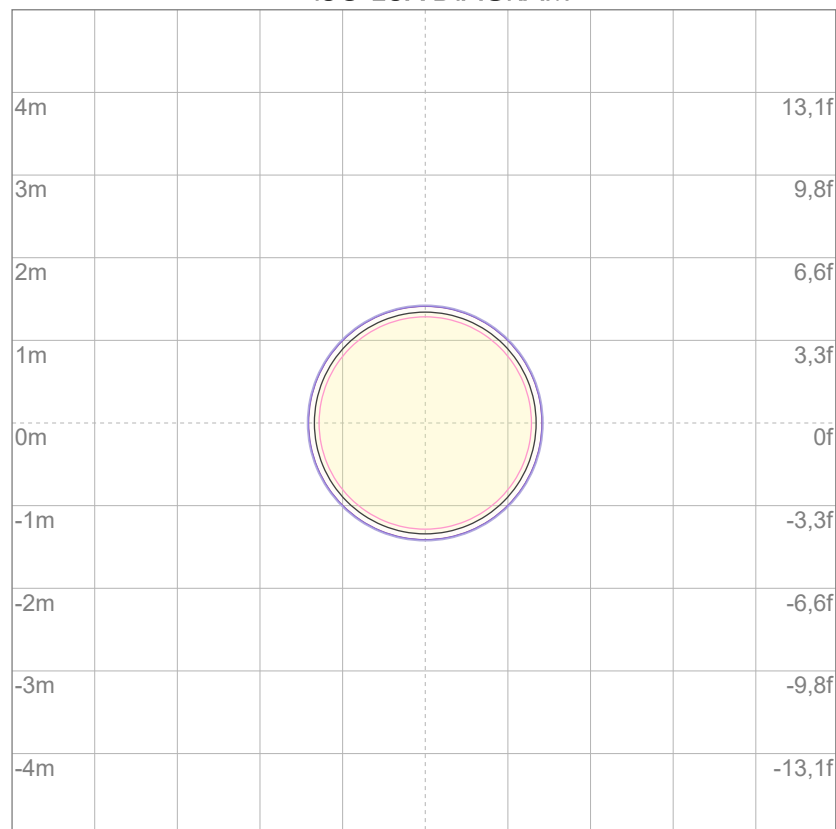
10%	9296 cd
20%	18592 cd
30%	27887 cd
40%	37183 cd
50%	46479 cd
60%	55775 cd
70%	65070 cd
80%	74366 cd

### Conditions:

Number of c-planes: 2

Candela at center: 92958 cd

## ISO LUX DIAGRAM



3%	27,9 lx
5%	46,5 lx
10%	93,0 lx
30%	279 lx
50%	465 lx

### Conditions:

Number of c-planes: 2

Lux at center: 930 lx

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



Total lumen output:

3799 lm

Peak candela output:

96667 cd

Light quality:

CRI: 95,4

Color temperature:

4020 K

**PRODUCT NAME:**

ECLCTPLUS IP

**MEASURAMENT CONDITIONS:**

Beam angle:

PRL14

Target:

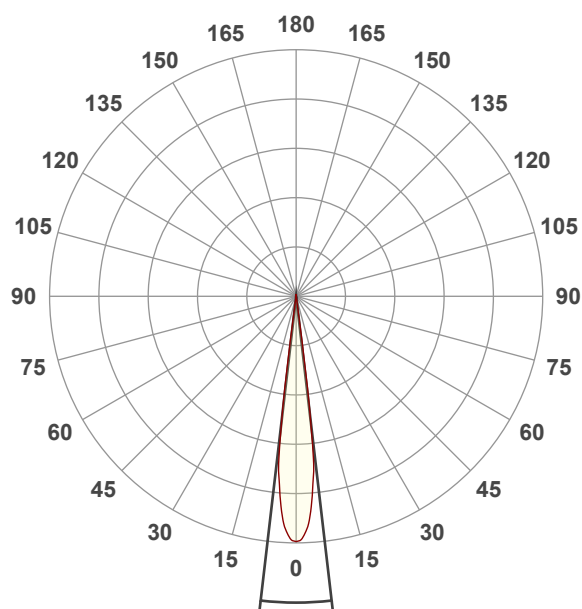
4000K HQ

Operator:

Paolo Carvone

Date and time:

14/07/2020 12:50:41

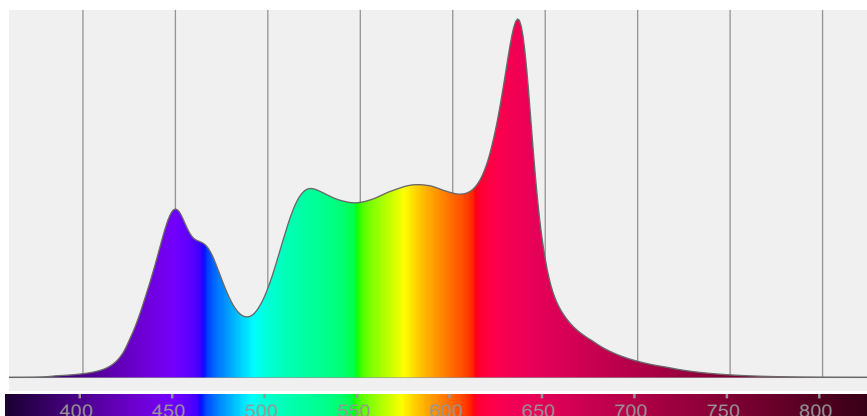


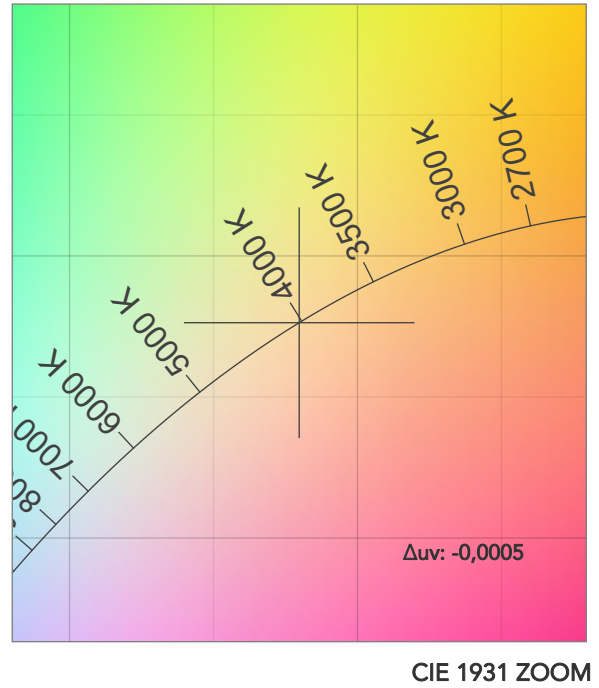
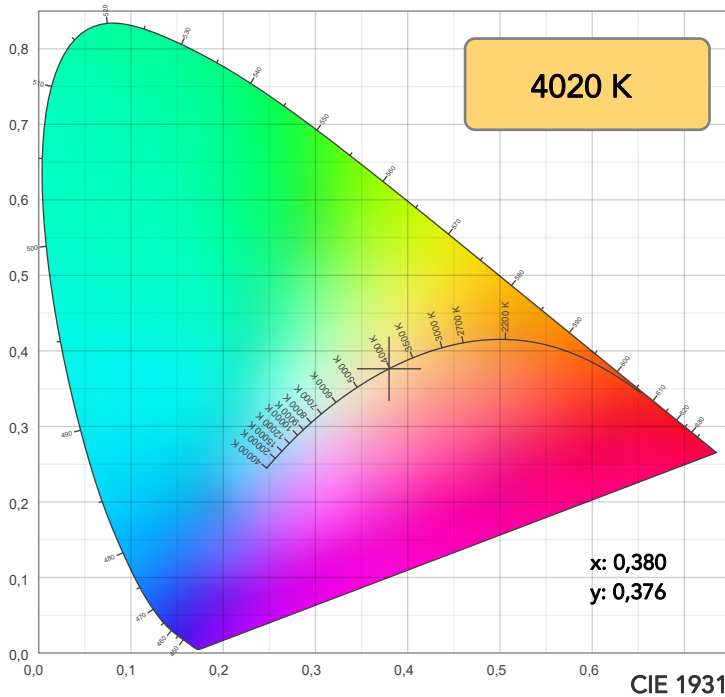
Beam angle 50%: 13,3°

Field angle 10%: 15,8°

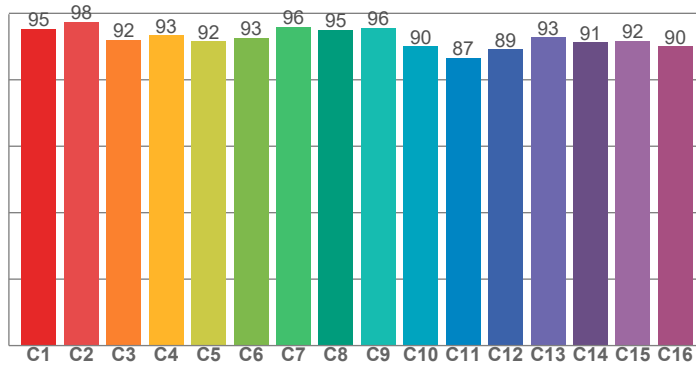
Cut off angle 2.5%: 16,8°

**Spectra**

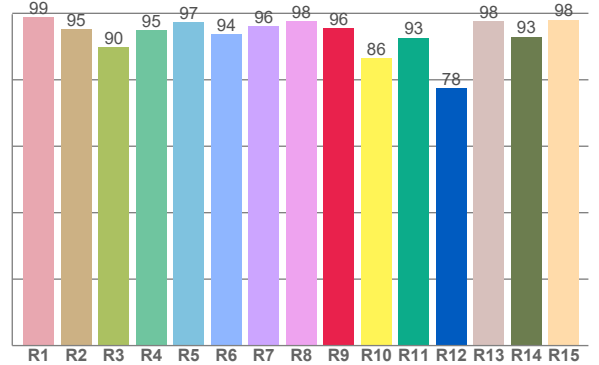




TM30: 92,5



CRI: 95,4 (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
98,8	95,1	89,7	95,0	97,3	93,6	96,0	97,6	95,5	86,5	92,7	77,5	97,6	93,0	98,1

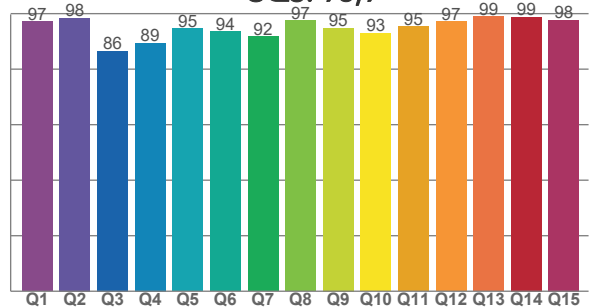
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
95,4	97,5	91,9	93,4	91,6	92,6	95,9	95,0	95,7	90,0	86,6	89,1	92,7	91,3	91,8	90,0

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
97,1	98,5	86,5	89,4	94,7	93,6	91,7	97,4	94,9	92,9	95,3	97,2	98,9	98,9	97,7

CQS: 93,9



## COLOR PARAMETERS

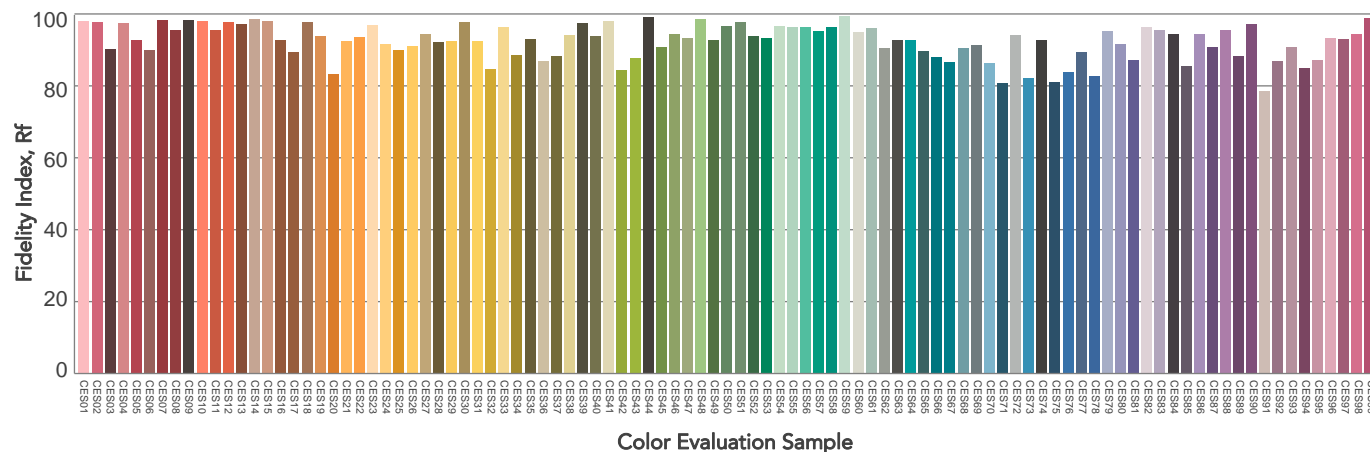
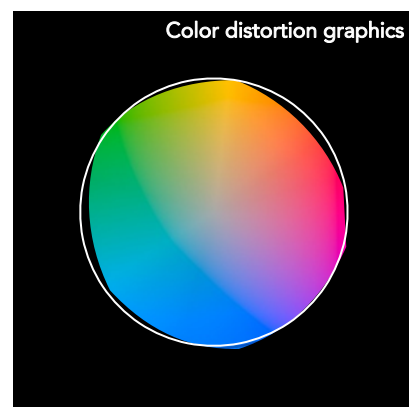
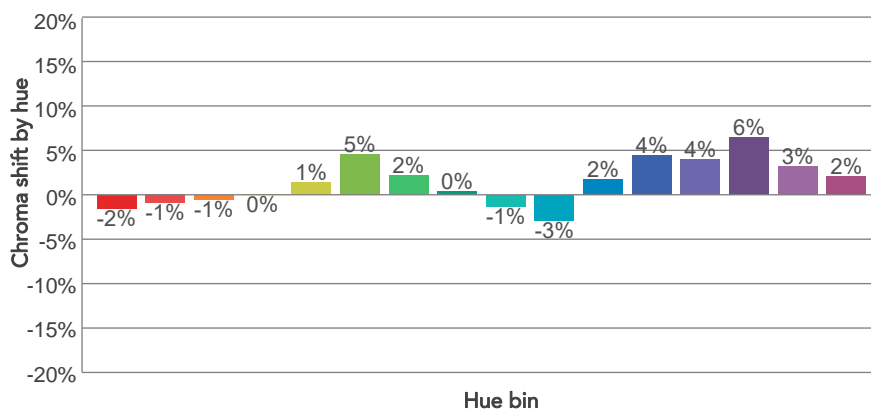
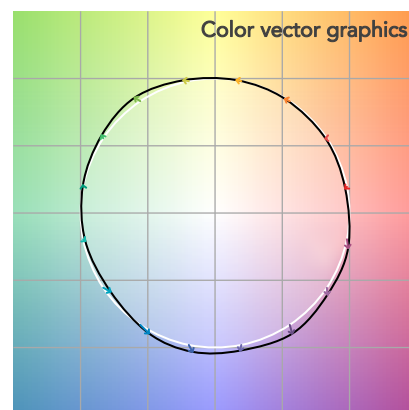
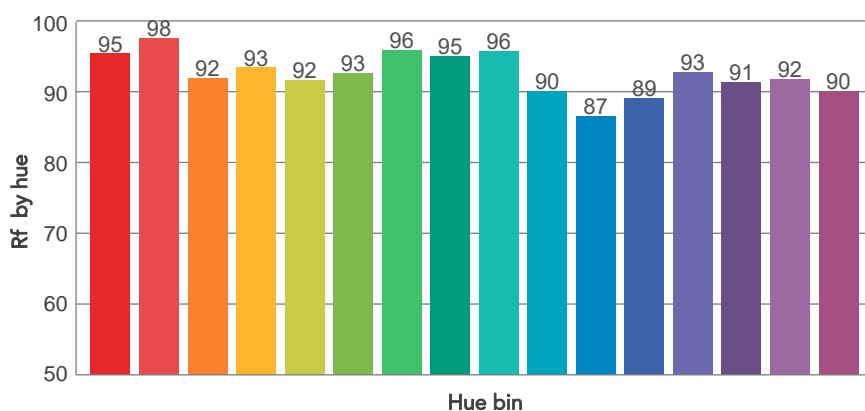
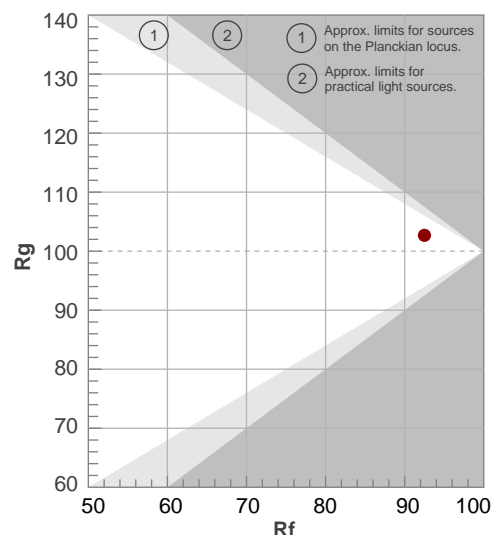
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	$\Delta uv$
4020 K	95,4	95,5	92,5	102,7	93,9	91	0,380	0,376	-0,0005

# TM30 DETAILS

**Rf 92,5**  
Fidelity index Rf

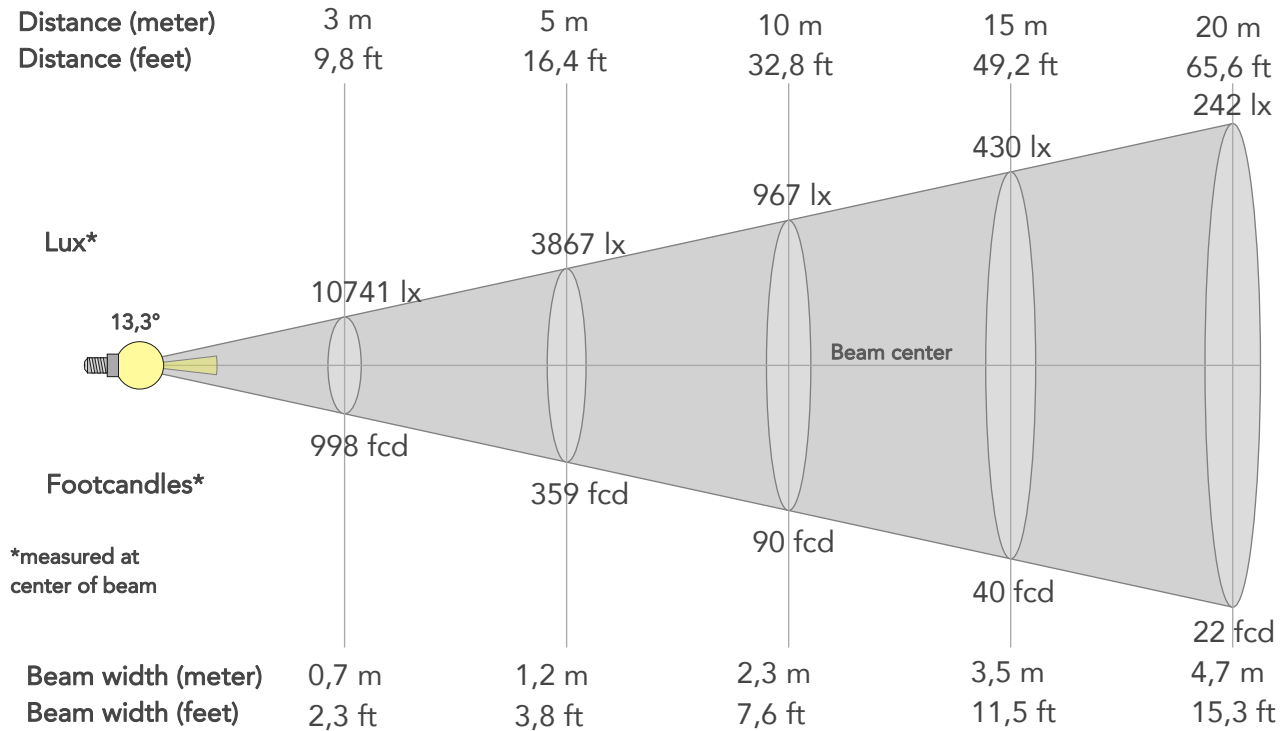
**Rg 102,7**  
Gammut index

		Graphic shifts (%)	
Hue Bin	R <sub>f</sub>	Chroma	Hue
1	95	-2%	-1%
2	98	-1%	0%
3	92	-1%	4%
4	93	0%	4%
5	92	1%	4%
6	93	5%	2%
7	96	2%	-1%
8	95	0%	-1%
9	96	-1%	2%
10	90	-3%	5%
11	87	2%	9%
12	89	4%	4%
13	93	4%	-2%
14	91	6%	-2%
15	92	3%	-4%
16	90	2%	-6%



## BEAM DETAILS

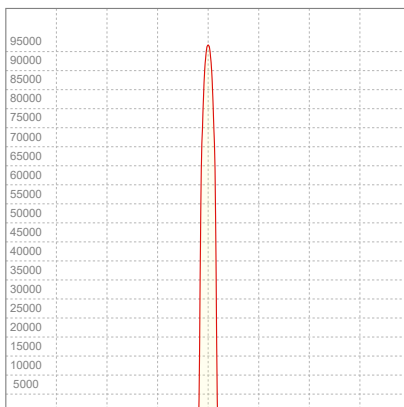
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
13,3°	15,8°	16,8°	100,0%	100,0%



### 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	96667lx	24167lx	10741lx	6042lx	3867lx	1719lx	967lx	430lx	242lx	155lx	107lx	60lx	39lx
Footcand.	8981fcd	2245fcd	998fcd	561fcd	359fcd	160fcd	90fcd	40fcd	22fcd	14fcd	10fcd	6fcd	4fcd
Beam wid.	0,2m	0,5m	0,7m	0,9m	1,2m	1,7m	2,3m	3,5m	4,7m	5,8m	7m	9,3m	11,7m
Beam wid.	0,8ft	1,5ft	2,3ft	3,1ft	3,8ft	5,7ft	7,6ft	11,5ft	15,3ft	19,1ft	22,9ft	30,6ft	38,2ft

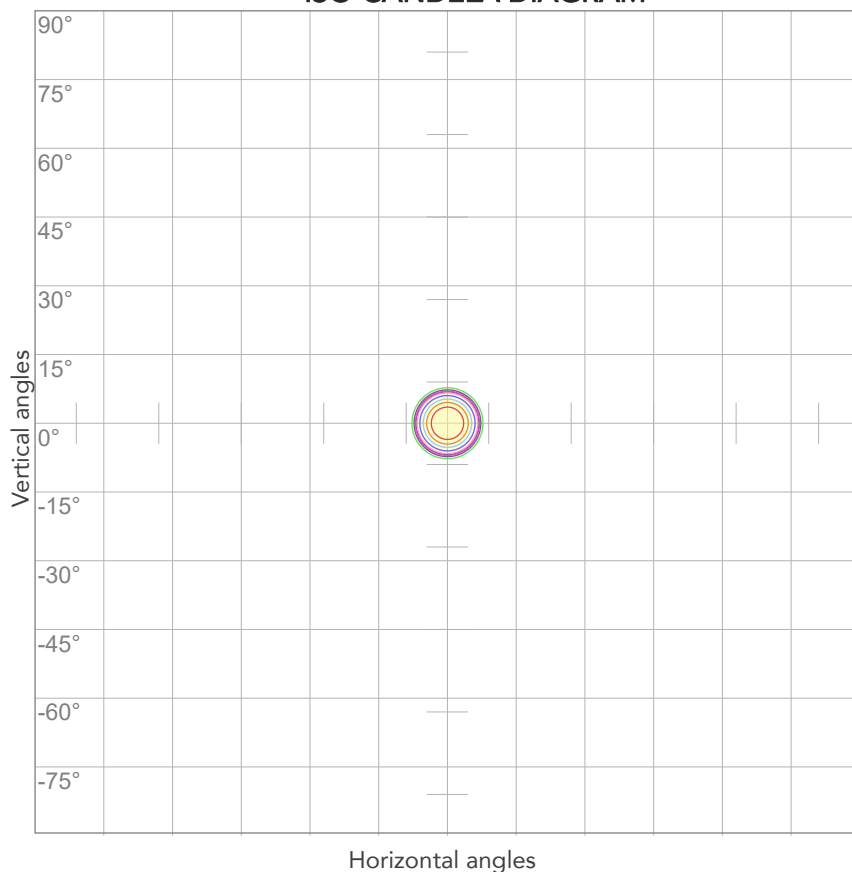
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
225V	0,930A	196,4W	19lm/W

## ISO CANDELA DIAGRAM



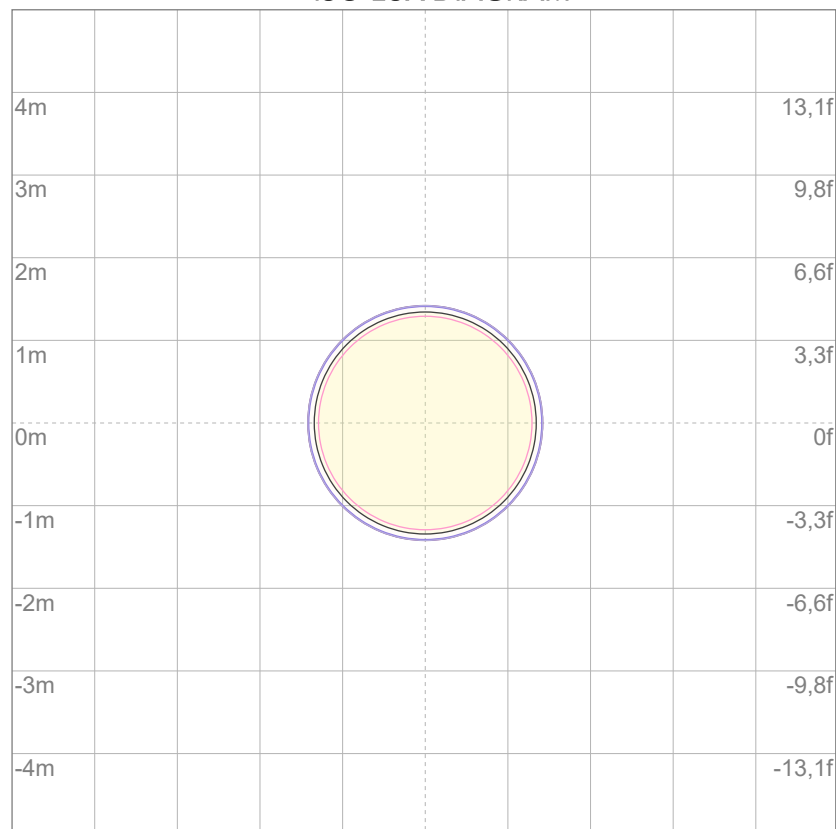
10%	9667 cd
20%	19333 cd
30%	29000 cd
40%	38667 cd
50%	48334 cd
60%	58000 cd
70%	67667 cd
80%	77334 cd

### Conditions:

Number of c-planes: 2

Candela at center: 96667 cd

## ISO LUX DIAGRAM



3%	29,0 lx
5%	48,3 lx
10%	96,7 lx
30%	290 lx
50%	483 lx

### Conditions:

Number of c-planes: 2

Lux at center: 967 lx

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



Total lumen output:

4057 lm

Peak candela output:

103364 cd

Light quality:

CRI: 97,4

Color temperature:

5563 K

**PRODUCT NAME:**

ECLCTPLUS IP

**MEASURAMENT CONDITIONS:**

Beam angle:

PRL14

Target:

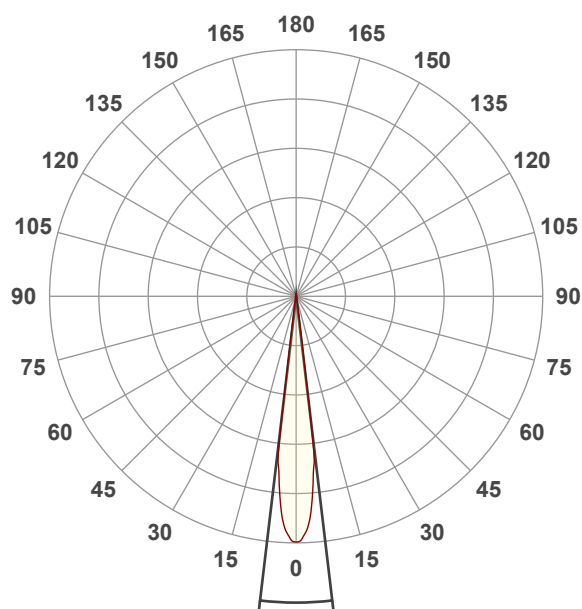
5600K HQ

Operator:

Paolo Carvone

Date and time:

14/07/2020 12:52:08

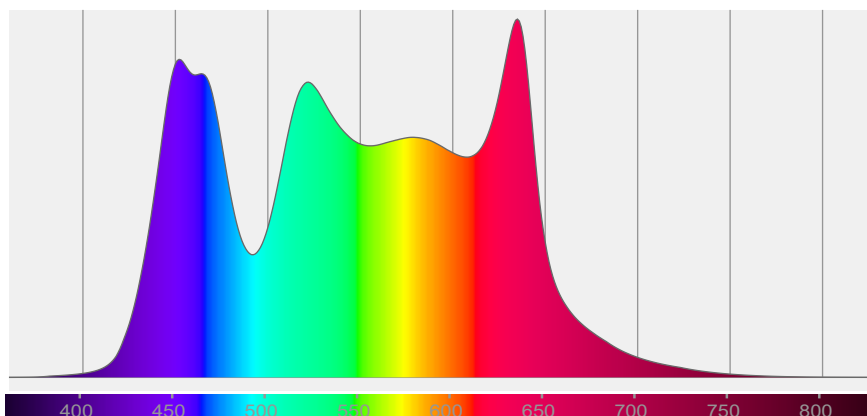


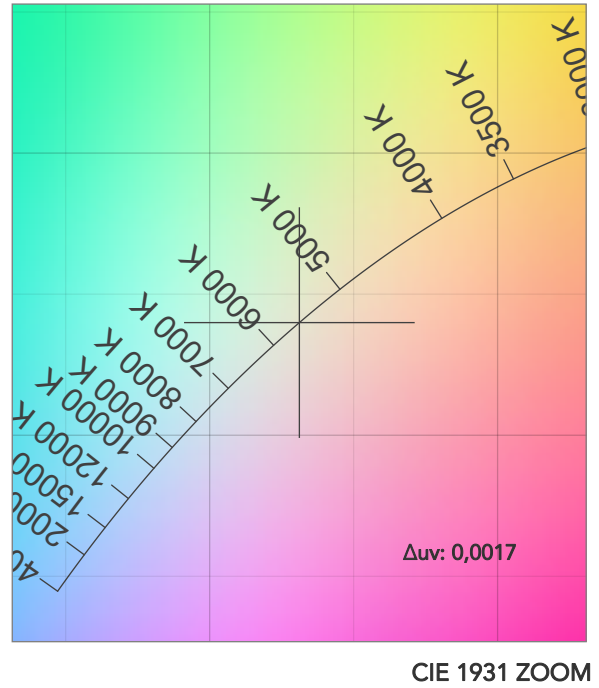
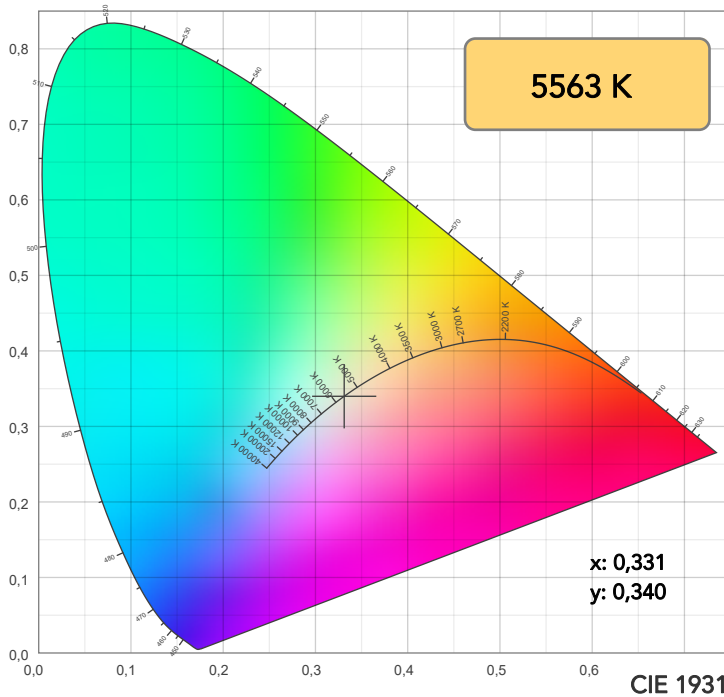
Beam angle 50%: 13,5°

Field angle 10%: 15,5°

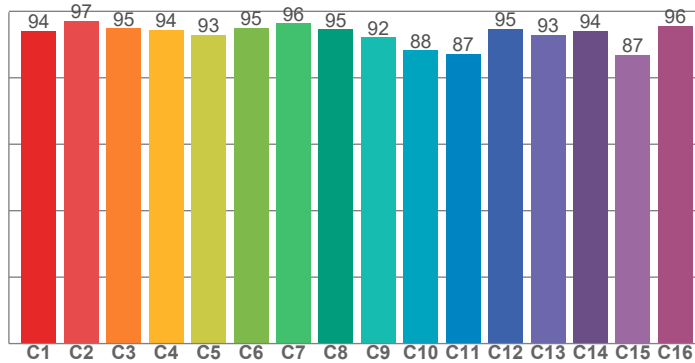
Cut off angle 2.5%: 16,8°

**Spectra**

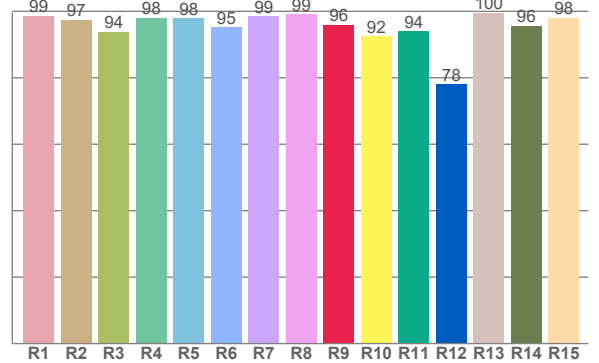




TM30: 93,1



CRI: 97,4 (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
98,7	97,5	93,9	98,1	97,8	95,3	98,5	99,2	95,9	92,4	93,9	78,2	99,6	95,6	98,1

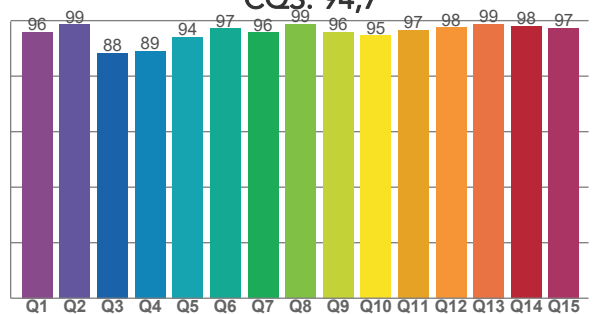
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
94,0	97,1	94,9	94,4	92,9	95,1	96,4	94,5	92,2	88,3	87,1	94,8	92,9	94,1	86,9	95,7

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
95,9	98,6	88,4	89,0	94,0	97,1	95,8	98,7	95,9	94,6	96,6	97,5	98,8	98,0	97,3

CQS: 94,7



## 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
5563 K	97,4	95,9	93,1	100,9	94,7	95	0,331	0,340	0,0017

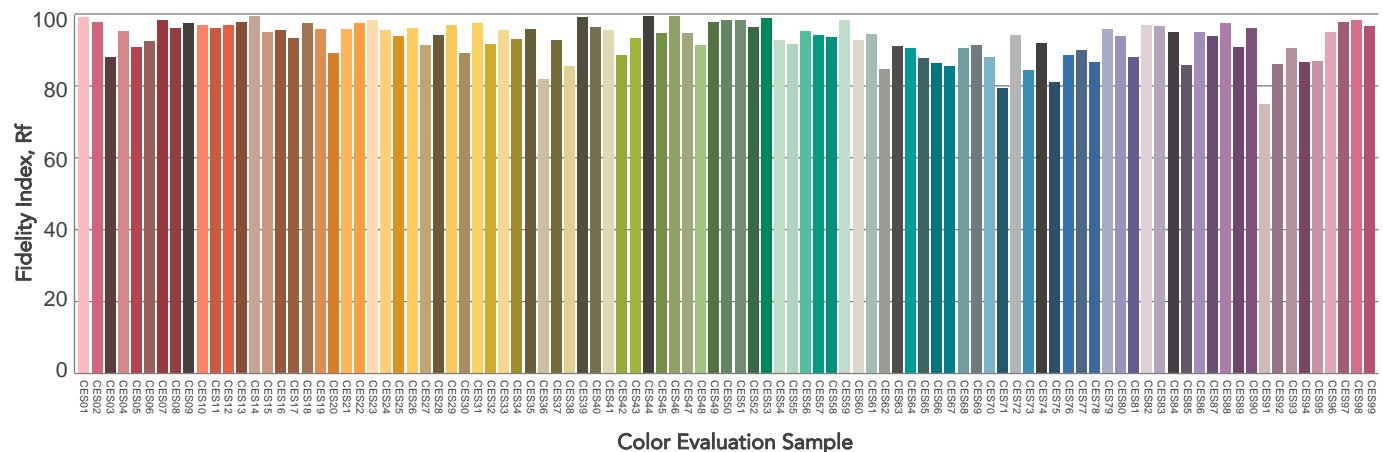
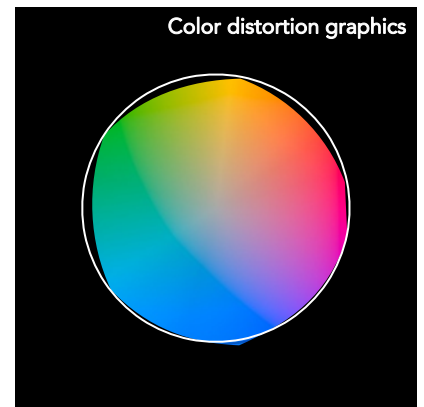
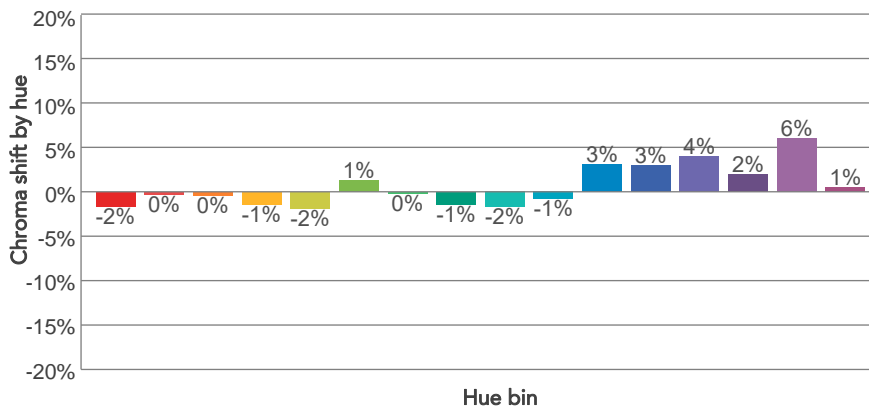
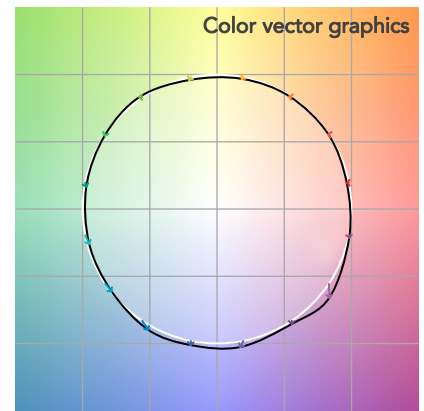
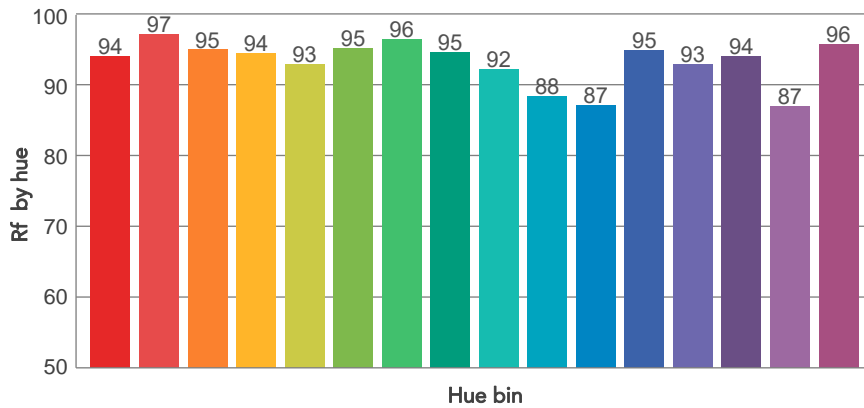
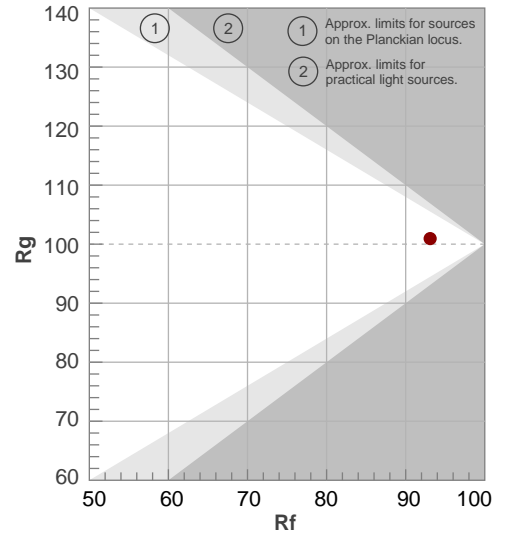


# TM30 DETAILS

**Rf 93,1**  
Fidelity index Rf

**Rg 100,9**  
Gammut index

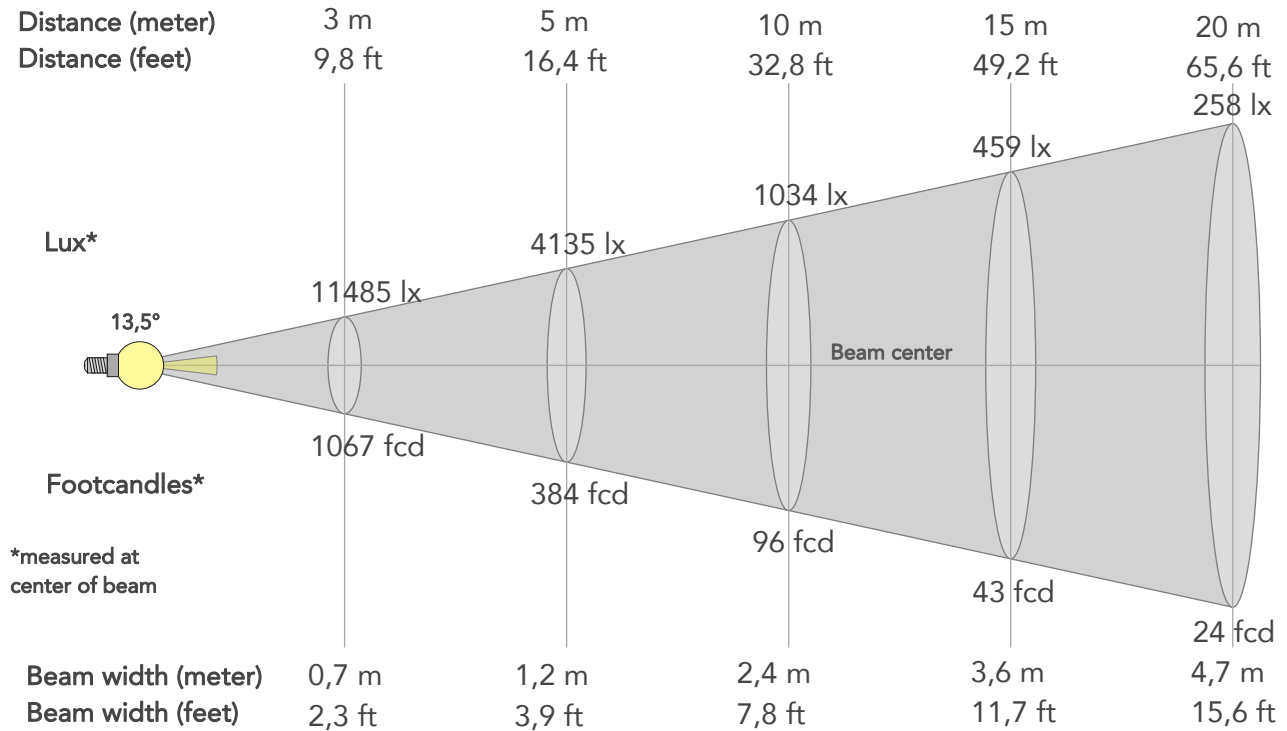
Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	94	-2%	0%
2	97	0%	0%
3	95	0%	2%
4	94	-1%	1%
5	93	-2%	2%
6	95	1%	2%
7	96	0%	1%
8	95	-1%	3%
9	92	-2%	7%
10	88	-1%	7%
11	87	3%	7%
12	95	3%	0%
13	93	4%	-3%
14	94	2%	-1%
15	87	6%	-8%
16	96	1%	-2%



## BEAM DETAILS



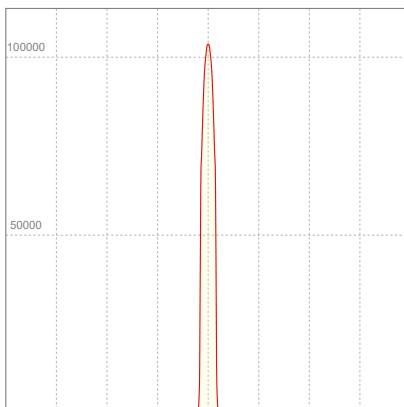
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
13,5°	15,5°	16,8°	100,0%	100,0%



### 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	103364lx	25841lx	11485lx	6460lx	4135lx	1838lx	1034lx	459lx	258lx	165lx	115lx	65lx	41lx
Footcand.	9603fcd	2401fcd	1067fcd	600fcd	384fcd	171fcd	96fcd	43fcd	24fcd	15fcd	11fcd	6fcd	4fcd
Beam wid.	0,2m	0,5m	0,7m	0,9m	1,2m	1,8m	2,4m	3,6m	4,7m	5,9m	7,1m	9,5m	11,9m
Beam wid.	0,8ft	1,6ft	2,3ft	3,1ft	3,9ft	5,8ft	7,8ft	11,7ft	15,6ft	19,5ft	23,4ft	31,1ft	38,9ft

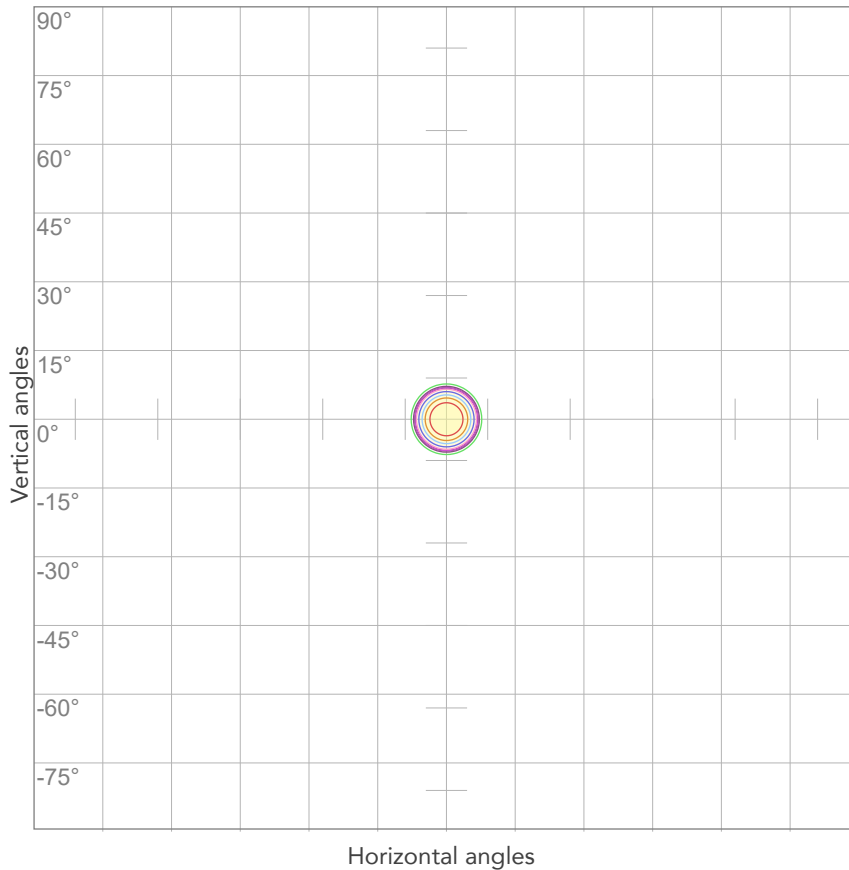
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
224V	1,06A	225,6W	18lm/W

## ISO CANDELA DIAGRAM



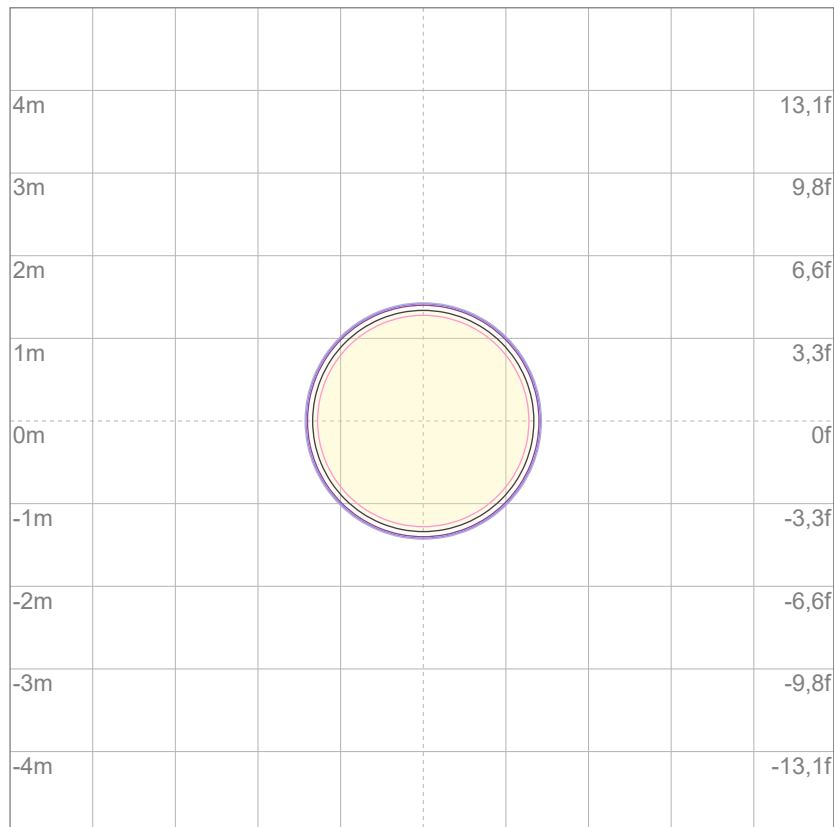
10%	10336 cd
20%	20673 cd
30%	31009 cd
40%	41345 cd
50%	51682 cd
60%	62018 cd
70%	72355 cd
80%	82691 cd

### Conditions:

Number of c-planes: 2

Candela at center: 103364 cd

## ISO LUX DIAGRAM



3%	31,0 lx
5%	51,7 lx
10%	103 lx
30%	310 lx
50%	517 lx

### Conditions:

Number of c-planes: 2

Lux at center: 1034 lx

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



Total lumen output:

4093 lm

Peak candela output:

102671 cd

Light quality:

CRI: 97,5

Color temperature:

6016 K

**PRODUCT NAME:**

ECLCTPLUS IP

**MEASURAMENT CONDITIONS:**

Beam angle:

PRL14

Target:

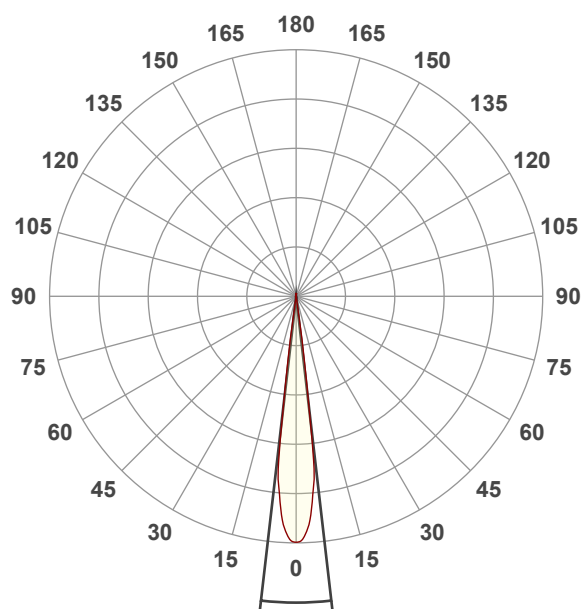
6000K HQ

Operator:

Paolo Carvone

Date and time:

14/07/2020 12:53:51

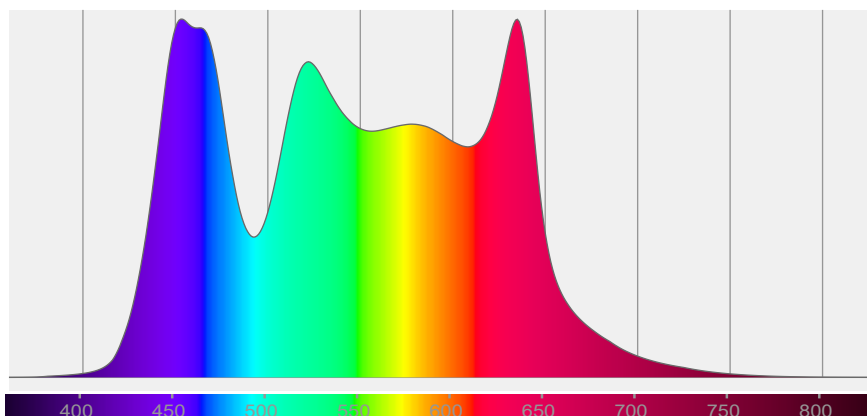


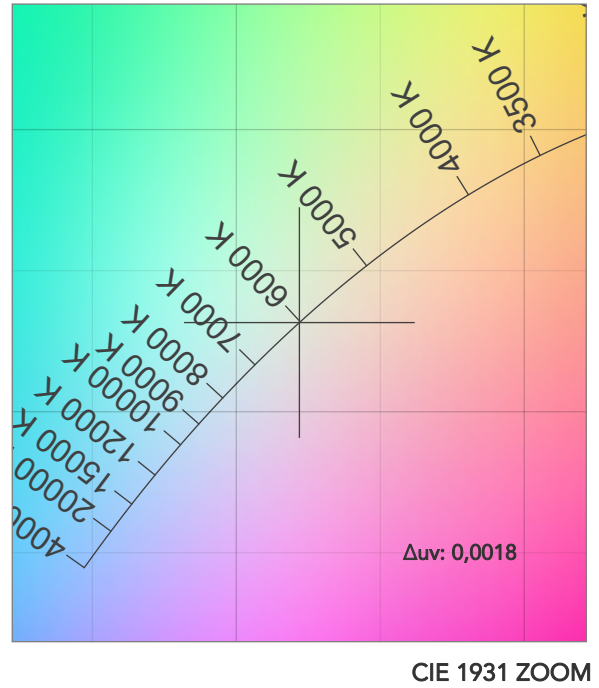
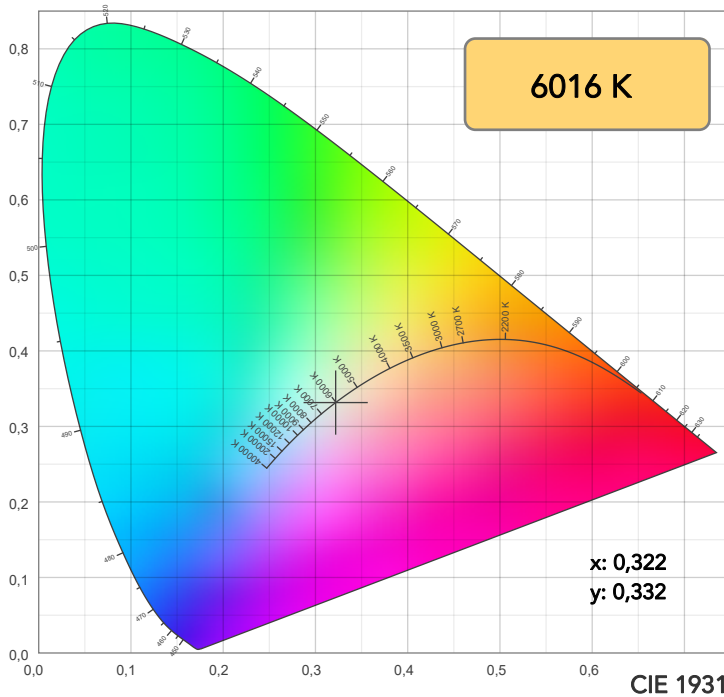
Beam angle 50%: 13,2°

Field angle 10%: 16,3°

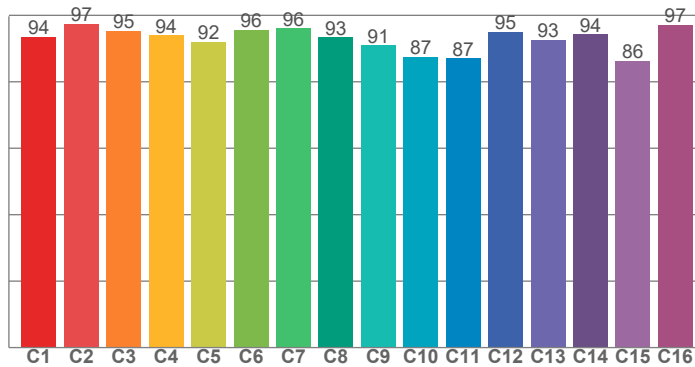
Cut off angle 2.5%: 17,1°

**Spectra**

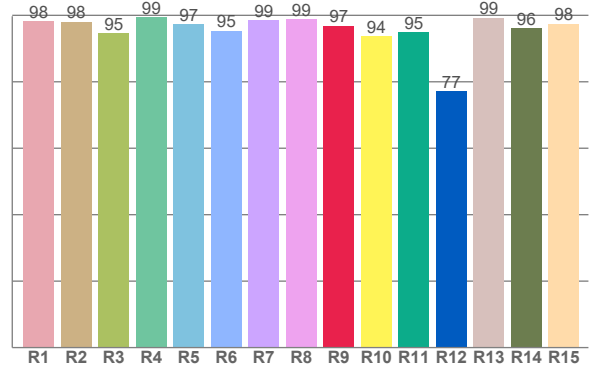




**TM30: 92,8**



**CRI: 97,5 (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
98,2	98,1	94,6	99,4	97,3	95,3	98,5	98,8	96,9	93,8	94,9	77,1	99,3	96,1	97,5

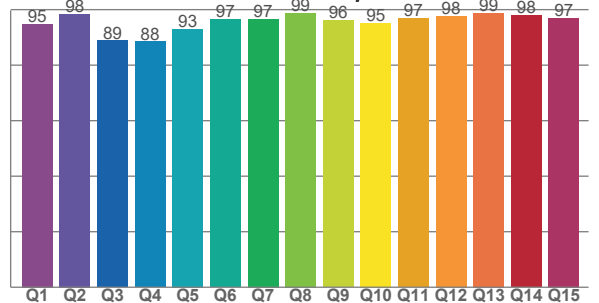
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
93,5	97,4	95,3	94,0	92,1	95,6	96,1	93,4	91,0	87,4	87,1	94,9	92,7	94,3	86,2	97,1

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
94,9	98,4	88,8	88,4	93,1	96,5	96,6	98,8	96,1	95,3	96,9	97,8	98,9	98,0	97,0

**CQS: 94,7**



## COLOR PARAMETERS

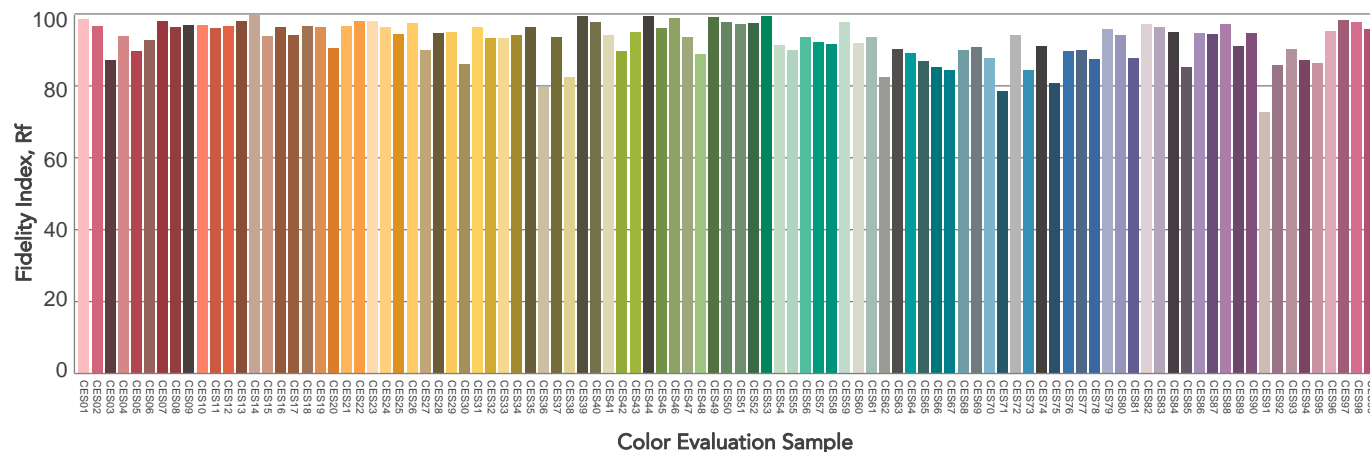
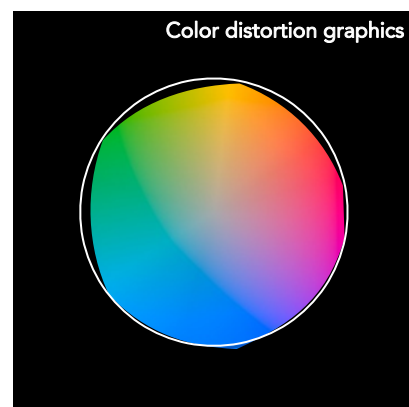
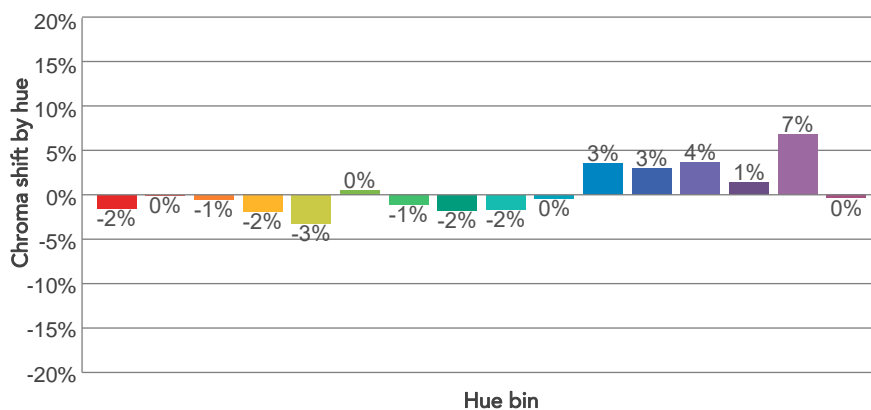
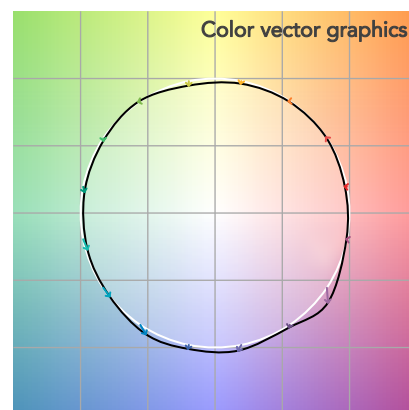
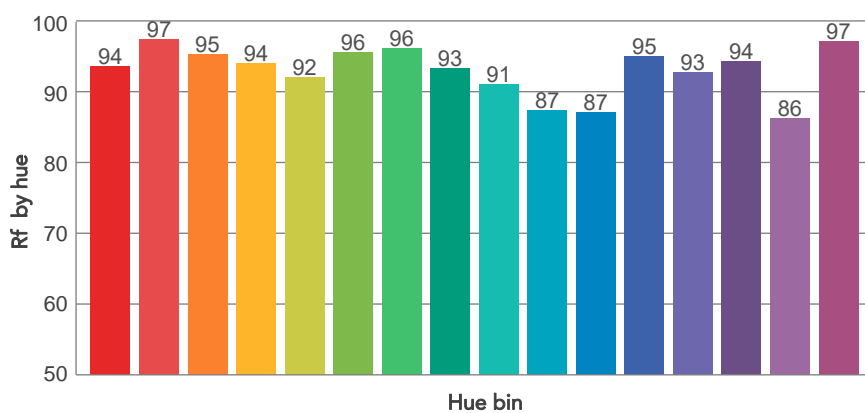
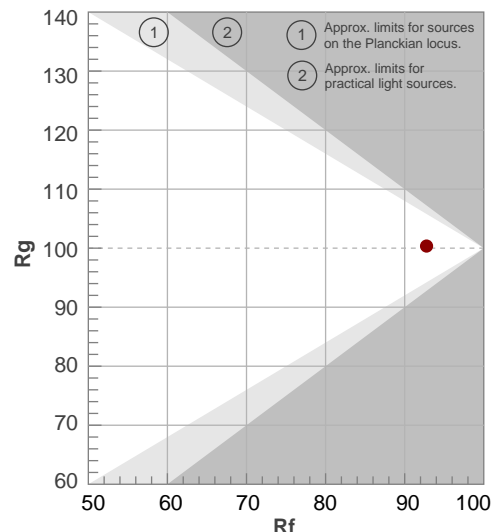
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	$\Delta uv$
6016 K	97,5	96,9	92,8	100,4	94,7	95	0,322	0,332	0,0018

# TM30 DETAILS

**Rf 92,8**  
Fidelity index Rf

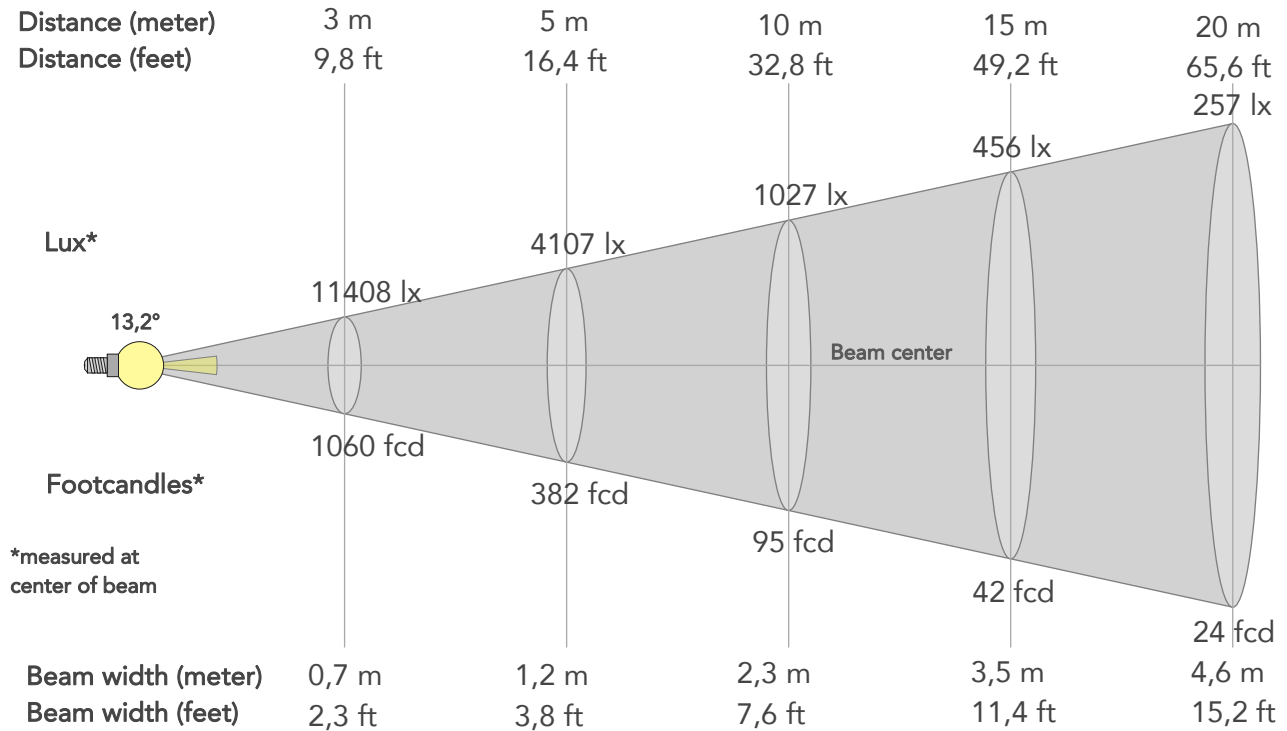
**Rg 100,4**  
Gammut index

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	94	-2%	1%
2	97	0%	1%
3	95	-1%	1%
4	94	-2%	0%
5	92	-3%	1%
6	96	0%	2%
7	96	-1%	1%
8	93	-2%	4%
9	91	-2%	8%
10	87	0%	8%
11	87	3%	7%
12	95	3%	0%
13	93	4%	-3%
14	94	1%	-1%
15	86	7%	-9%
16	97	0%	0%



## BEAM DETAILS

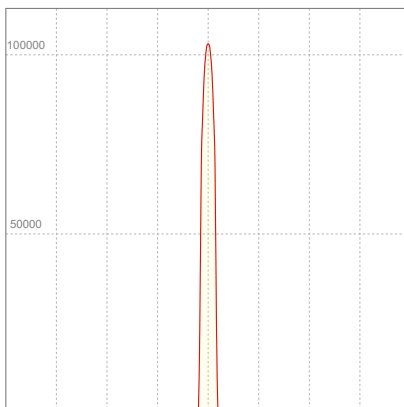
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
13,2°	16,3°	17,1°	100,0%	100,0%



### 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	102671lx	25668lx	11408lx	6417lx	4107lx	1825lx	1027lx	456lx	257lx	164lx	114lx	64lx	41lx
Footcand.	9538fcd	2385fcd	1060fcd	596fcd	382fcd	170fcd	95fcd	42fcd	24fcd	15fcd	11fcd	6fcd	4fcd
Beam wid.	0,2m	0,5m	0,7m	0,9m	1,2m	1,7m	2,3m	3,5m	4,6m	5,8m	6,9m	9,2m	11,6m
Beam wid.	0,8ft	1,5ft	2,3ft	3ft	3,8ft	5,7ft	7,6ft	11,4ft	15,2ft	19ft	22,7ft	30,3ft	37,9ft

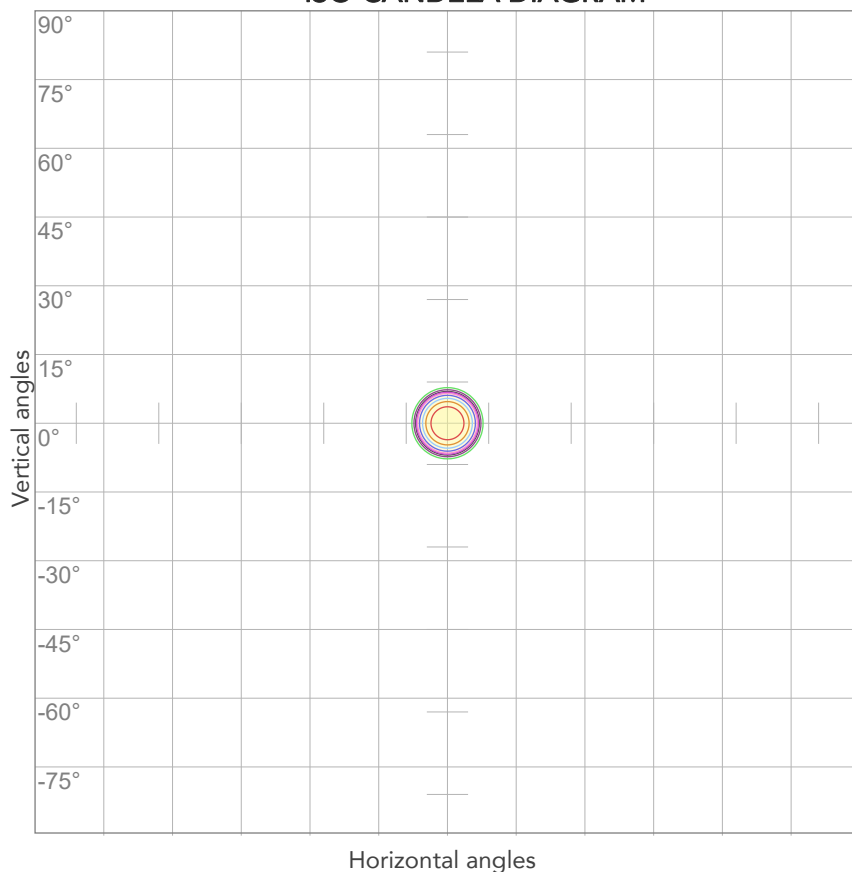
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
225V	1,08A	229,8W	18lm/W

## ISO CANDELA DIAGRAM



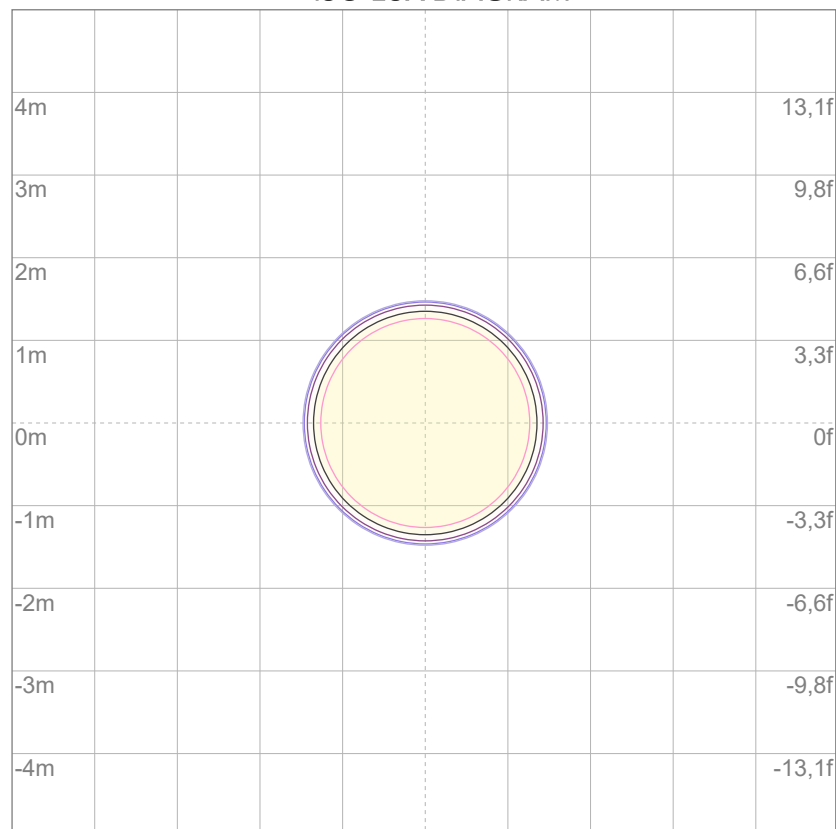
10%	10267 cd
20%	20534 cd
30%	30801 cd
40%	41068 cd
50%	51336 cd
60%	61603 cd
70%	71870 cd
80%	82137 cd

### Conditions:

Number of c-planes: 2

Candela at center: 102671 cd

## ISO LUX DIAGRAM



3%	30,8 lx
5%	51,3 lx
10%	103 lx
30%	308 lx
50%	513 lx

### Conditions:

Number of c-planes: 2

Lux at center: 1027 lx

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