

# Photometric Test Report



## Stark 1000

19x40 W high power LED wash/beam light  
with pixel mapping

## CONTENTS

Table of contents	2
Testing process	4
Color preset Full on	
Beam angle Max Zoom	5
Beam angle Med Zoom	8
Beam angle Min Zoom	11
Color preset Red	
Beam angle Max Zoom	14
Beam angle Med Zoom	17
Beam angle Min Zoom	20
Color preset Green	
Beam angle Max Zoom	23
Beam angle Med Zoom	26
Beam angle Min Zoom	29
Color preset Blue	
Beam angle Max Zoom	32
Beam angle Med Zoom	35
Beam angle Min Zoom	38
Color preset White	
Beam angle Max Zoom	41
Beam angle Med Zoom	44
Beam angle Min Zoom	47
Color preset 2800K	
Beam angle Max Zoom	50
Beam angle Med Zoom	55
Beam angle Min Zoom	60
Color preset 3200K	
Beam angle Max Zoom	65
Beam angle Med Zoom	70
Beam angle Min Zoom	75

**Color temperature 4000K**

Beam angle Max Zoom 80

Beam angle Med Zoom 85

Beam angle Min Zoom 90

**Color temperature 5600K**

Beam angle Max Zoom 95

Beam angle Med Zoom 100

Beam angle Min Zoom 105

**Color temperature 6000K**

Beam angle Max Zoom 110

Beam angle Med Zoom 115

Beam angle Min Zoom 120

## 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:

6893 lm

Peak candela output:

47374 cd

## PRODUCT NAME:

Stark 1000

## MEASURAMENT CONDITIONS:

Beam angle:

Max Zoom

Target:

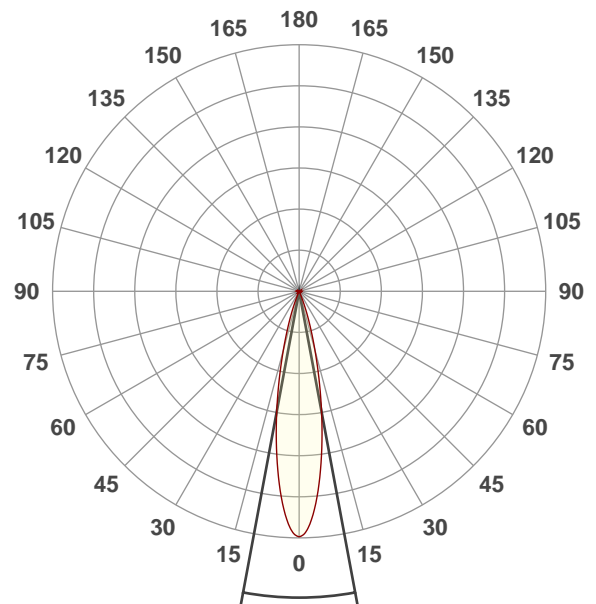
Full on

Operator:

Paolo Carvone

Date and time:

18/12/2019 14:53:47

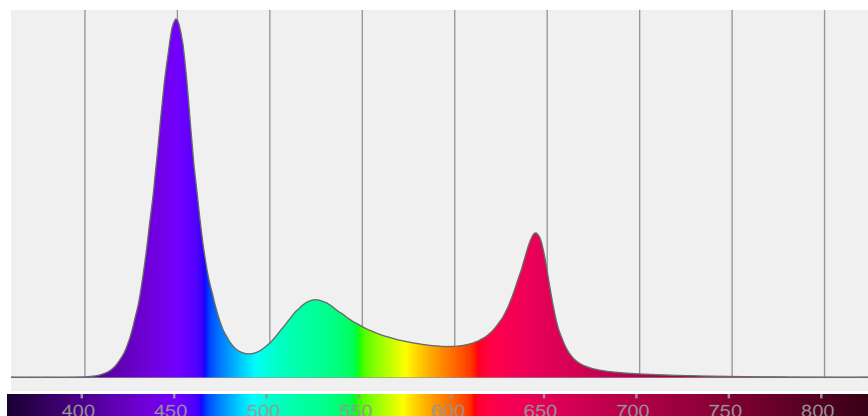


Beam angle 50%: 21,1°

Field angle 10%: 38,1°

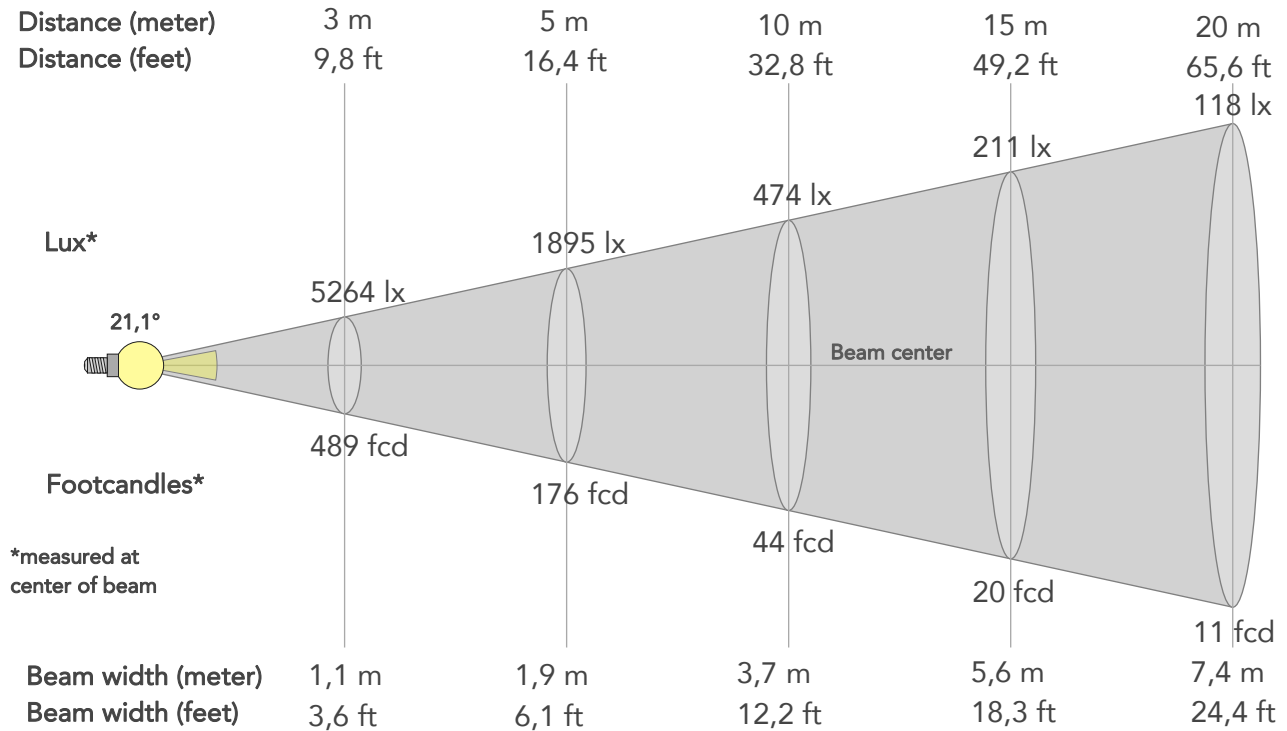
Cut off angle 2.5%: 44,8°

## Spectra



## BEAM DETAILS

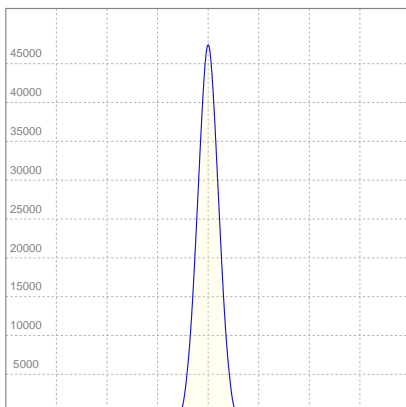
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
21,1°	38,1°	44,8°	100,0%	100,0%



### 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	47374lx	11843lx	5264lx	2961lx	1895lx	842lx	474lx	211lx	118lx	76lx	53lx	30lx	19lx
Footcand.	4401fcd	1100fcd	489fcd	275fcd	176fcd	78fcd	44fcd	20fcd	11fcd	7fcd	5fcd	3fcd	2fcd
Beam wid.	0,4m	0,7m	1,1m	1,5m	1,9m	2,8m	3,7m	5,6m	7,4m	9,3m	11,2m	14,9m	18,6m
Beam wid.	1,2ft	2,5ft	3,6ft	4,9ft	6,1ft	9,2ft	12,2ft	18,3ft	24,4ft	30,5ft	36,6ft	48,8ft	61ft

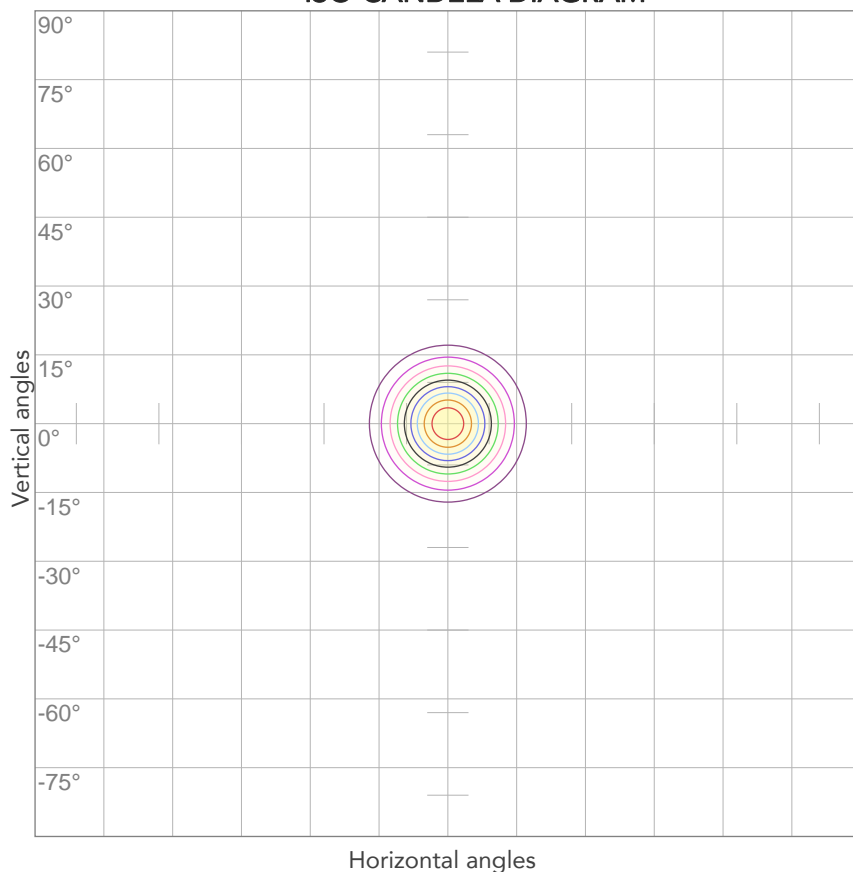
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
225V	2,52A	543,7W	13lm/W
Power FC			
0,96			

## ISO CANDELA DIAGRAM



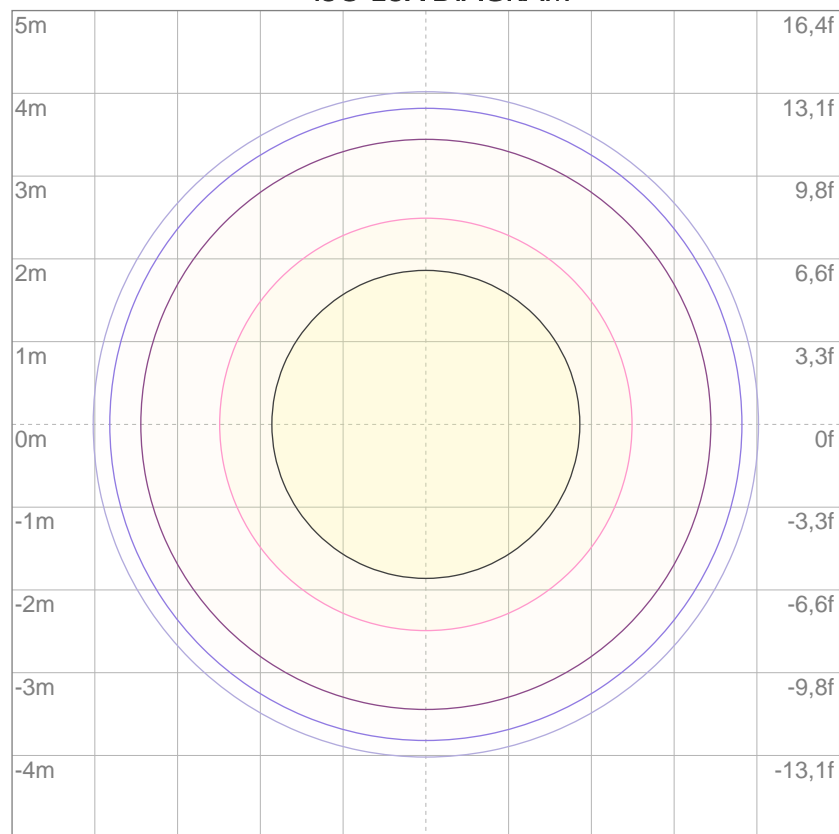
10%	4737 cd
20%	9475 cd
30%	14212 cd
40%	18950 cd
50%	23687 cd
60%	28424 cd
70%	33162 cd
80%	37899 cd

### Conditions:

Number of c-planes: 2

Candela at center: 47374 cd

## ISO LUX DIAGRAM



3%	14,2 lx
5%	23,7 lx
10%	47,4 lx
30%	142 lx
50%	237 lx

### Conditions:

Number of c-planes: 2

Lux at center: 474 lx

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



Total lumen output:

7911 lm

Peak candela output:

154950 cd

## PRODUCT NAME:

Stark 1000

## MEASURAMENT CONDITIONS:

Beam angle:

Med Zoom

Target:

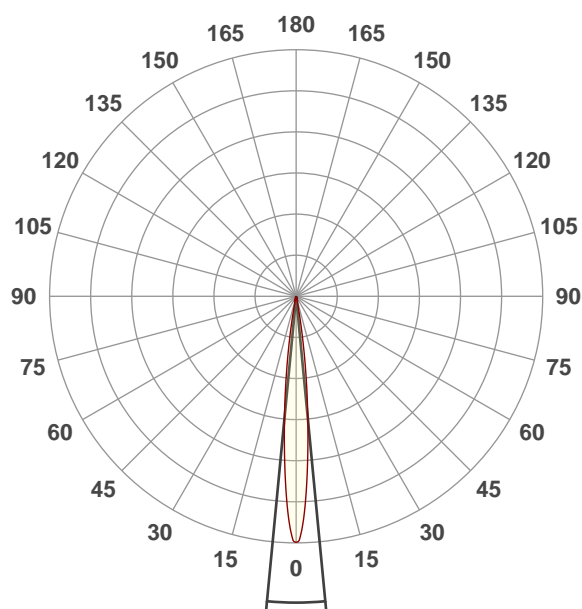
Full on

Operator:

Paolo Carvone

Date and time:

18/12/2019 16:57:57

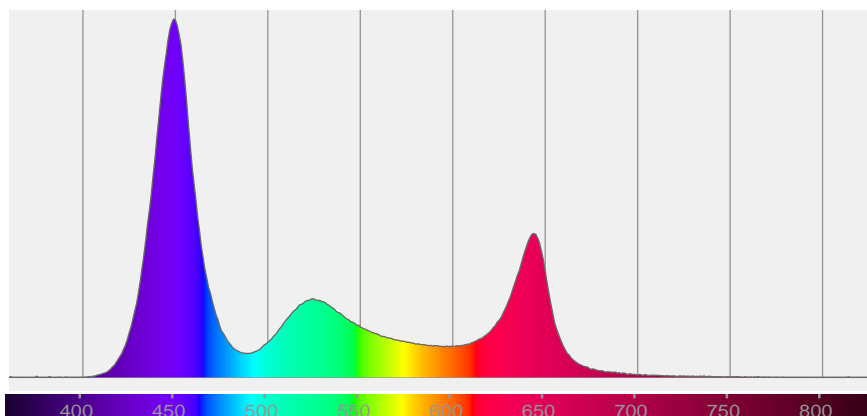


Beam angle 50%: 10,9°

Field angle 10%: 19,6°

Cut off angle 2.5%: 23,4°

## Spectra

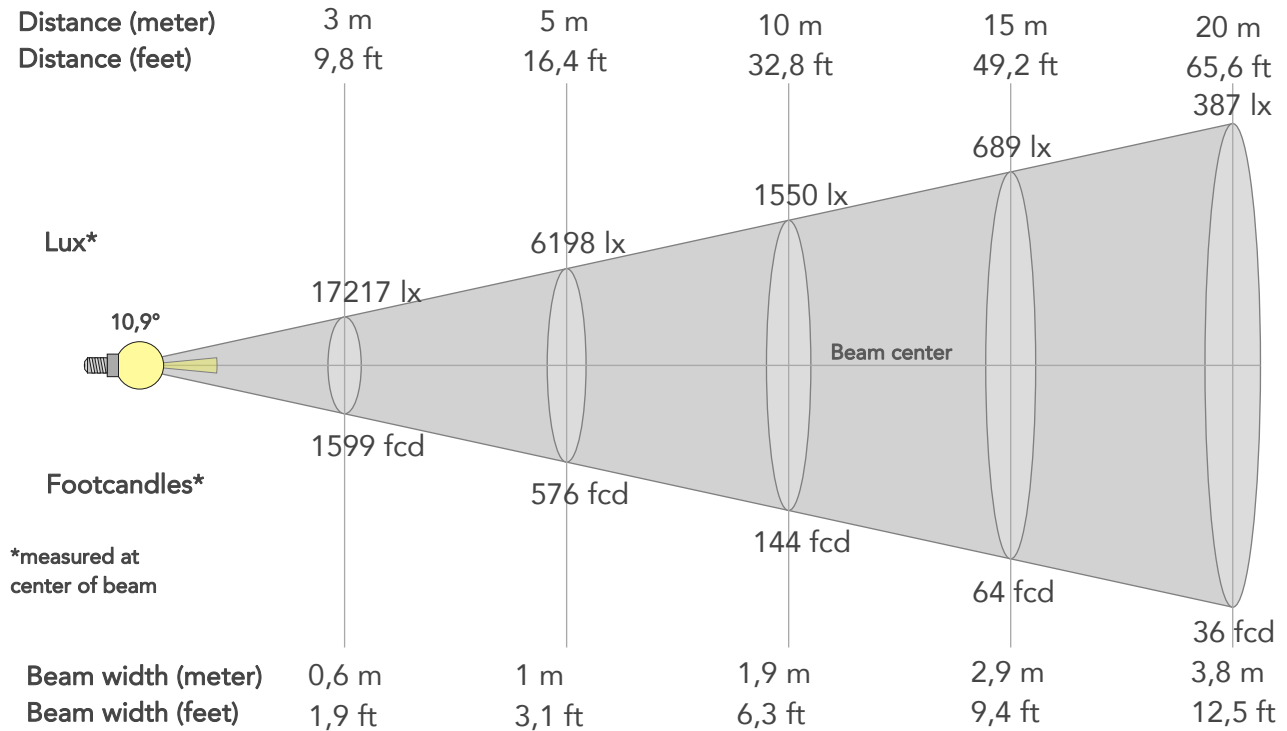




## BEAM DETAILS



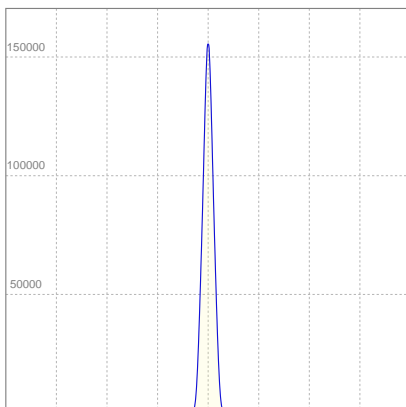
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
10,9°	19,6°	23,4°	87,2%	83,3%



### 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	154950lx	38738lx	17217lx	9684lx	6198lx	2755lx	1550lx	689lx	387lx	248lx	172lx	97lx	62lx
Footcand.	14395fcd	3599fcd	1599fcd	900fcd	576fcd	256fcd	144fcd	64fcd	36fcd	23fcd	16fcd	9fcd	6fcd
Beam wid.	0,2m	0,4m	0,6m	0,8m	1m	1,4m	1,9m	2,9m	3,8m	4,8m	5,7m	7,6m	9,6m
Beam wid.	0,6ft	1,3ft	1,9ft	2,5ft	3,1ft	4,7ft	6,3ft	9,4ft	12,5ft	15,7ft	18,8ft	25,1ft	31,4ft

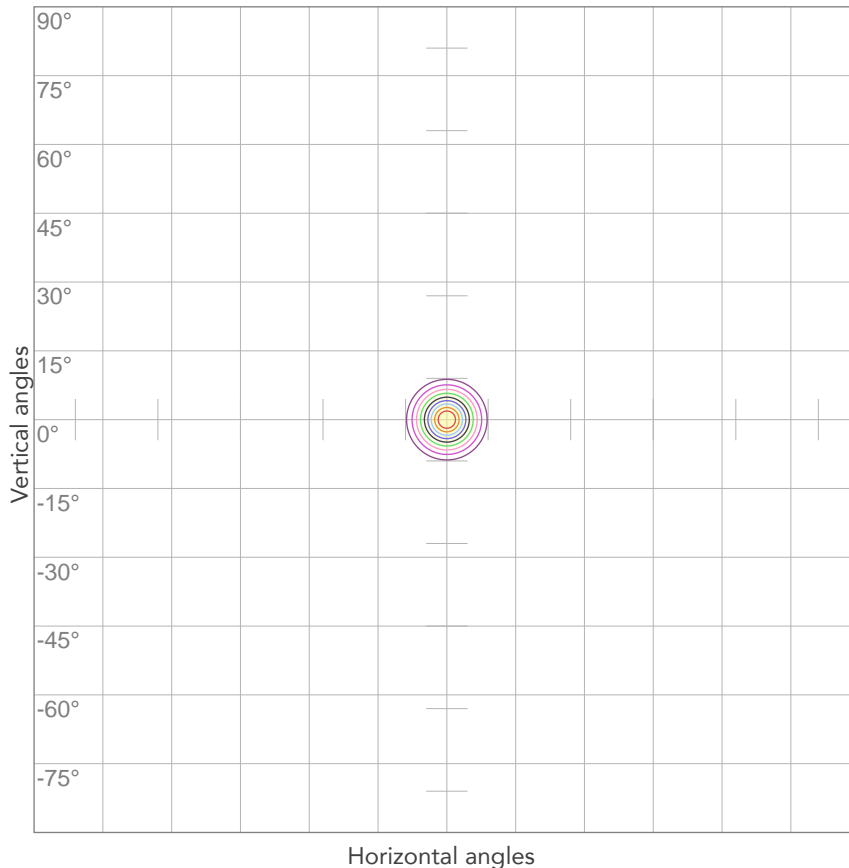
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
221V	2,56A	542,6W	15lm/W
Power FC			
0,96			

## ISO CANDELA DIAGRAM



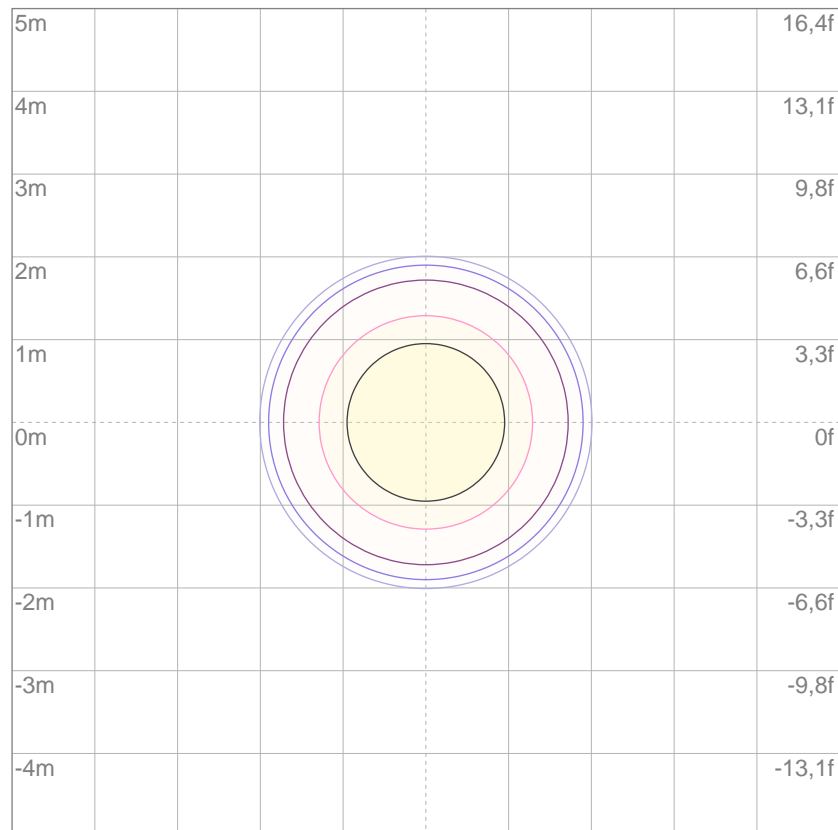
10%	15495 cd
20%	30990 cd
30%	46485 cd
40%	61980 cd
50%	77475 cd
60%	92970 cd
70%	108465 cd
80%	123960 cd

### Conditions:

Number of c-planes: 2

Candela at center: 154950 cd

## ISO LUX DIAGRAM



3%	46,5 lx
5%	77,5 lx
10%	155 lx
30%	465 lx
50%	775 lx

### Conditions:

Number of c-planes: 2

Lux at center: 1550 lx

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



Total lumen output:

6420 lm

Peak candela output:

954370 cd

## PRODUCT NAME:

Stark 1000

## MEASURAMENT CONDITIONS:

Beam angle:

Min Zoom

Target:

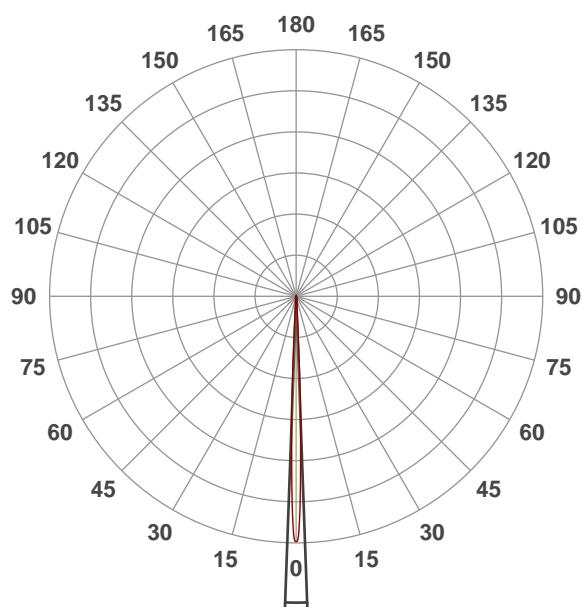
Full on

Operator:

Paolo Carvone

Date and time:

18/12/2019 16:15:01

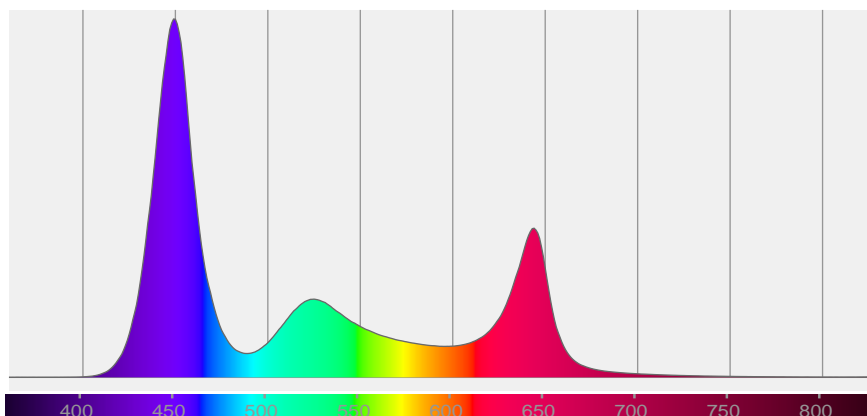


Beam angle 50%: 4,1°

Field angle 10%: 6,7°

Cut off angle 2.5%: 7,7°

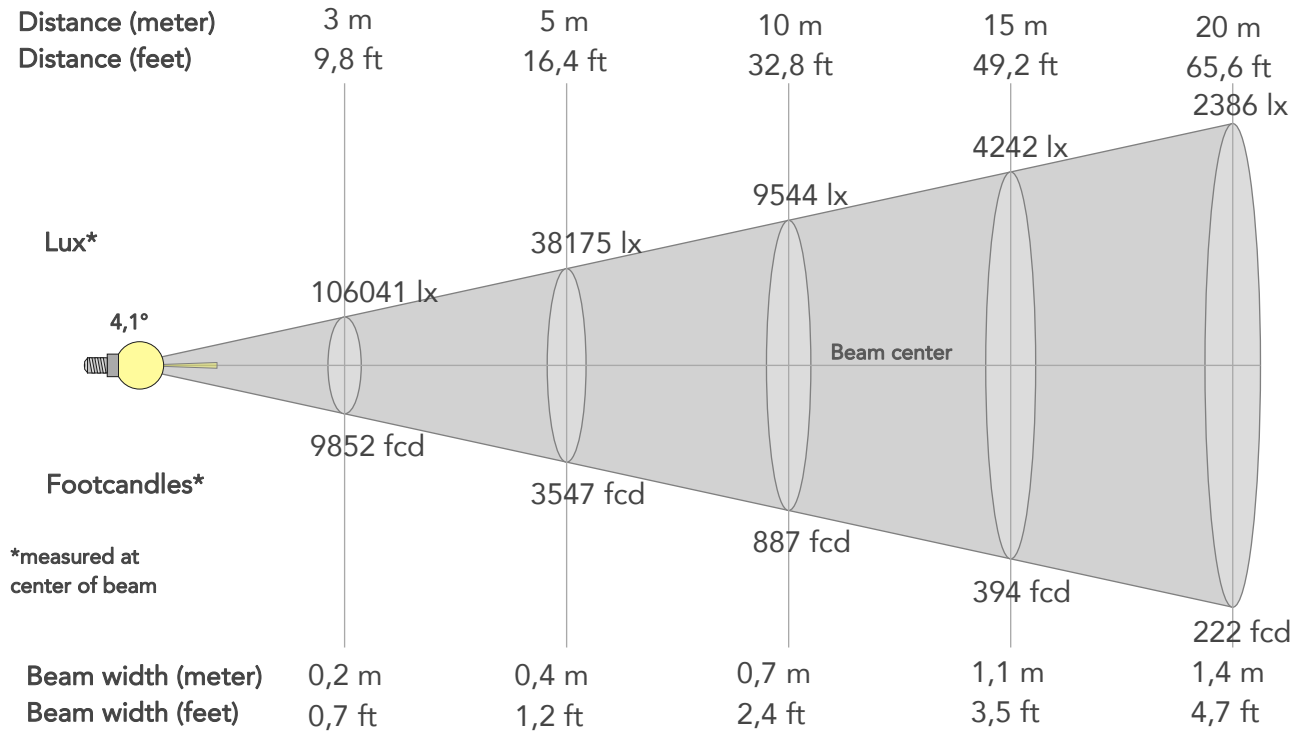
## Spectra



## BEAM DETAILS



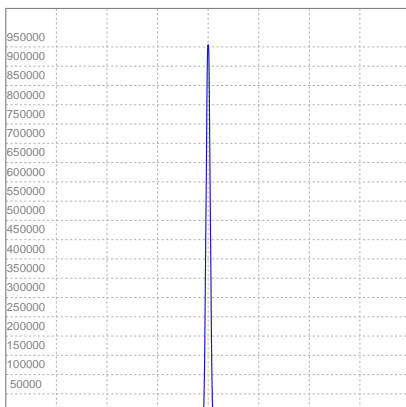
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
4,1°	6,7°	7,7°	86,3%	81,3%



### 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
<b>Lux</b>	954370lx	238592lx	106041lx	59648lx	38175lx	16967lx	9544lx	4242lx	2386lx	1527lx	1060lx	596lx	382lx
<b>Footcand.</b>	88664fcd	22166fcd	9852fcd	5541fcd	3547fcd	1576fcd	887fcd	394fcd	222fcd	142fcd	99fcd	55fcd	35fcd
<b>Beam wid.</b>	0,1m	0,1m	0,2m	0,3m	0,4m	0,5m	0,7m	1,1m	1,4m	1,8m	2,2m	2,9m	3,6m
<b>Beam wid.</b>	0,2ft	0,5ft	0,7ft	0,9ft	1,2ft	1,8ft	2,4ft	3,5ft	4,7ft	5,9ft	7,1ft	9,4ft	11,8ft

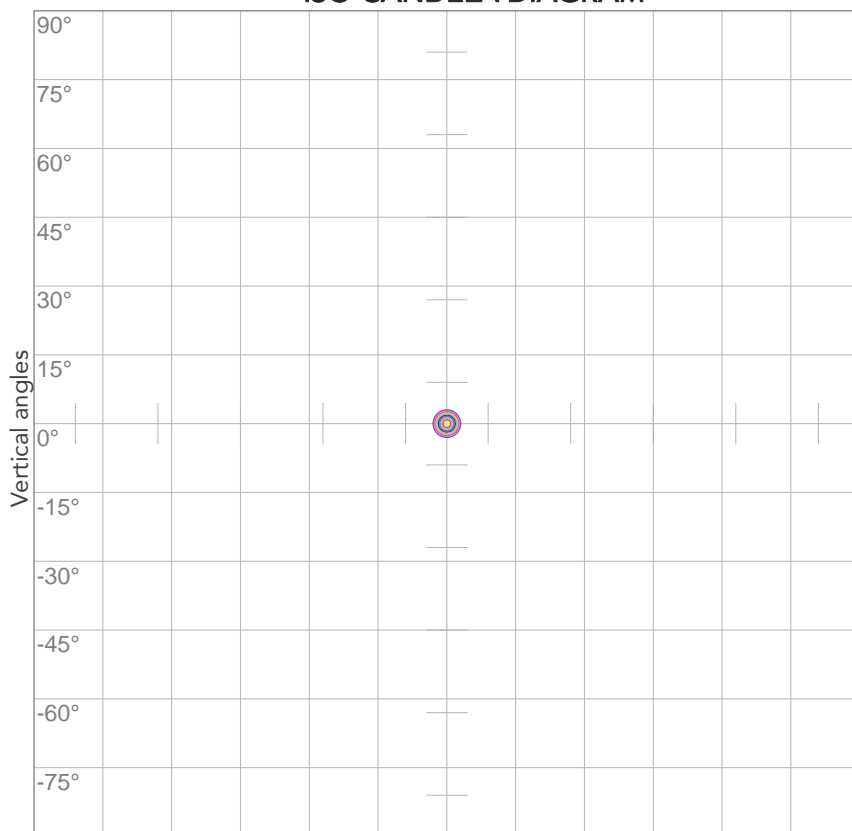
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
222V	2,54A	541,9W	12lm/W
<b>Power FC</b>			
0,96			

## ISO CANDELA DIAGRAM



Horizontal angles

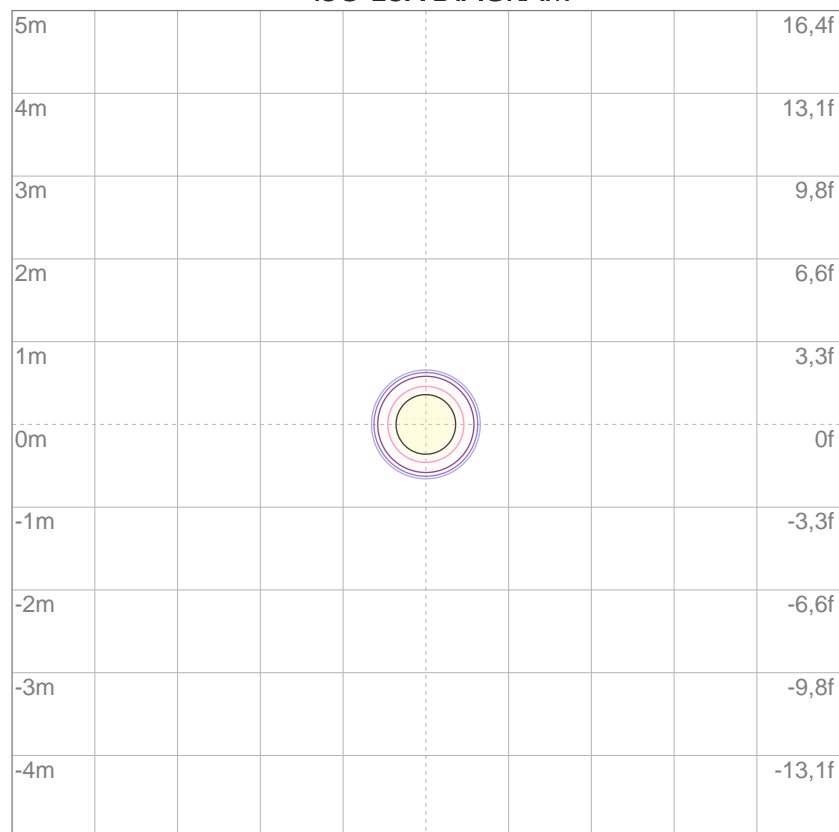
10%	95437 cd
20%	190874 cd
30%	286311 cd
40%	381748 cd
50%	477185 cd
60%	572622 cd
70%	668059 cd
80%	763496 cd

### Conditions:

Number of c-planes: 2

Candela at center: 954370 cd

## ISO LUX DIAGRAM



Mounting height: 10 meters (33 feet)

3%	286 lx
5%	477 lx
10%	954 lx
30%	2863 lx
50%	4772 lx

### Conditions:

Number of c-planes: 2

Lux at center: 9544 lx

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



Total lumen output:

1262 lm

Peak candela output:

8915 cd

## PRODUCT NAME:

Stark 1000

## MEASURAMENT CONDITIONS:

Beam angle:

Max Zoom

Target:

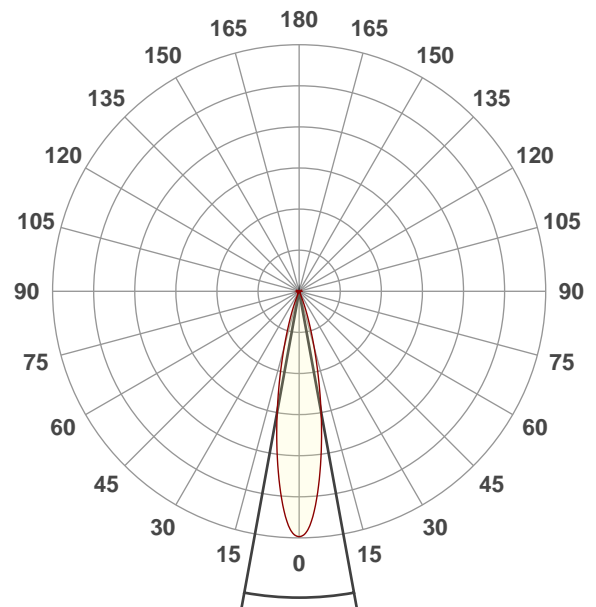
Red

Operator:

Paolo Carvone

Date and time:

18/12/2019 15:07:29

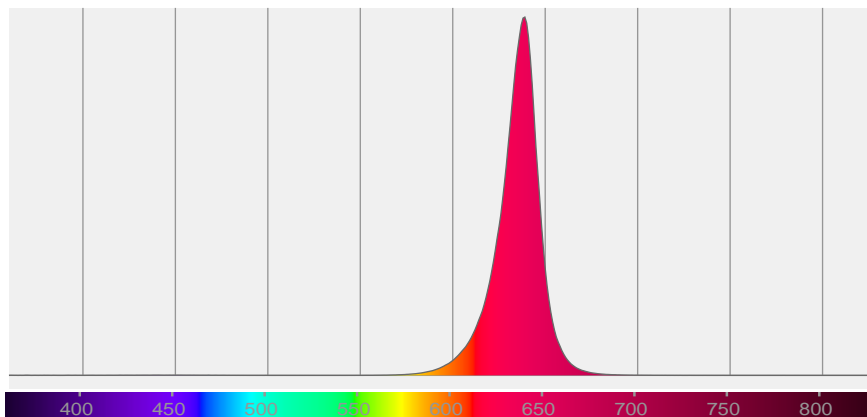


Beam angle 50%: 20,6°

Field angle 10%: 37,6°

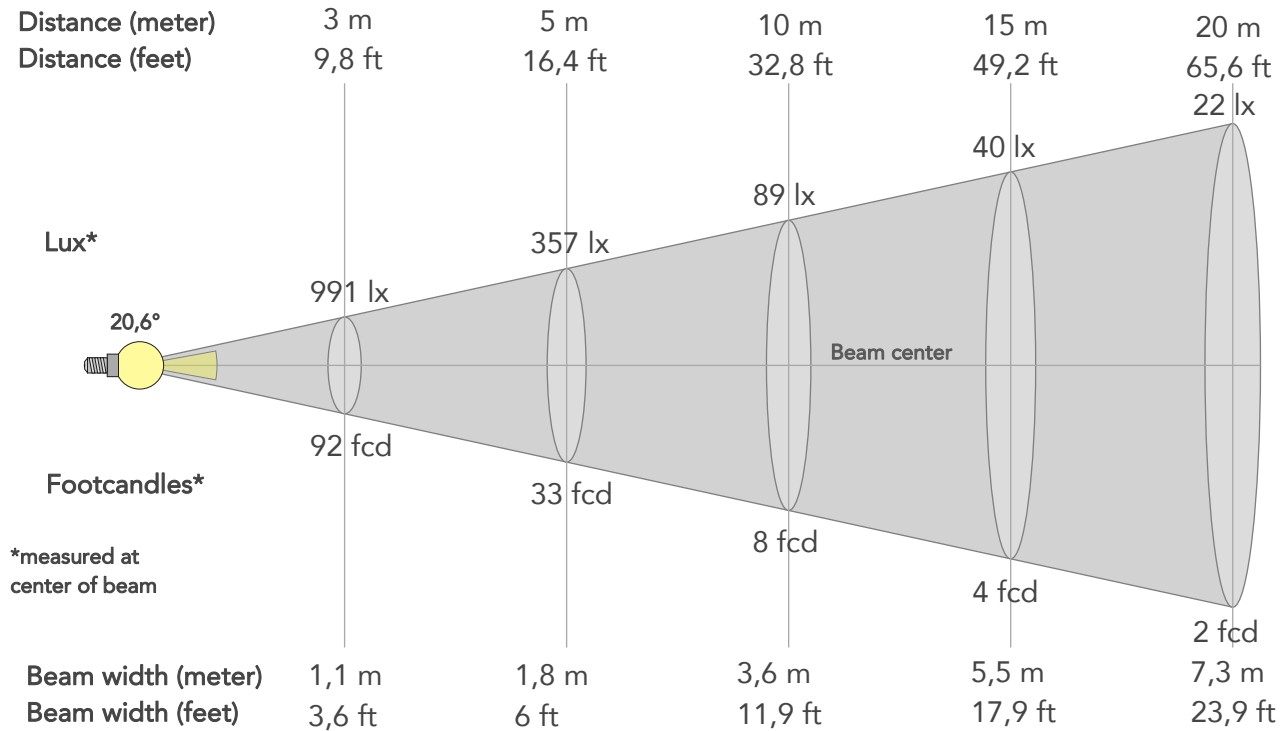
Cut off angle 2.5%: 44,7°

## Spectra



## BEAM DETAILS

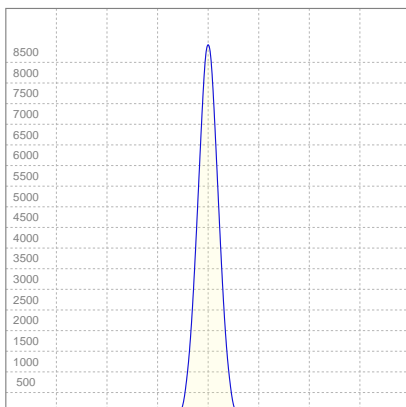
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
20,6°	37,6°	44,7°	100,0%	99,9%



### 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	8915lx	2229lx	991lx	557lx	357lx	158lx	89lx	40lx	22lx	14lx	10lx	6lx	4lx
Footcand.	828fcd	207fcd	92fcd	52fcd	33fcd	15fcd	8fcd	4fcd	2fcd	1fcd	1fcd	1fcd	0fcd
Beam wid.	0,4m	0,7m	1,1m	1,5m	1,8m	2,7m	3,6m	5,5m	7,3m	9,1m	10,9m	14,6m	18,2m
Beam wid.	1,2ft	2,4ft	3,6ft	4,8ft	6ft	9ft	11,9ft	17,9ft	23,9ft	29,8ft	35,8ft	47,8ft	59,7ft

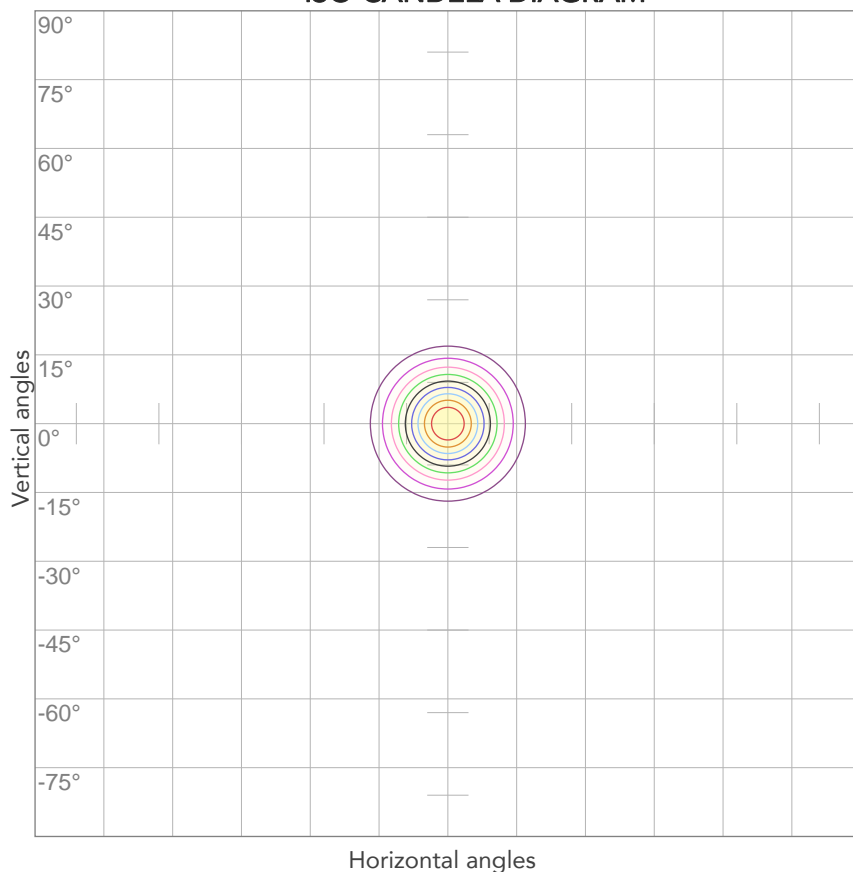
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
226V	0,756A	149,7W	8lm/W
Power FC			
0,88			

## ISO CANDELA DIAGRAM



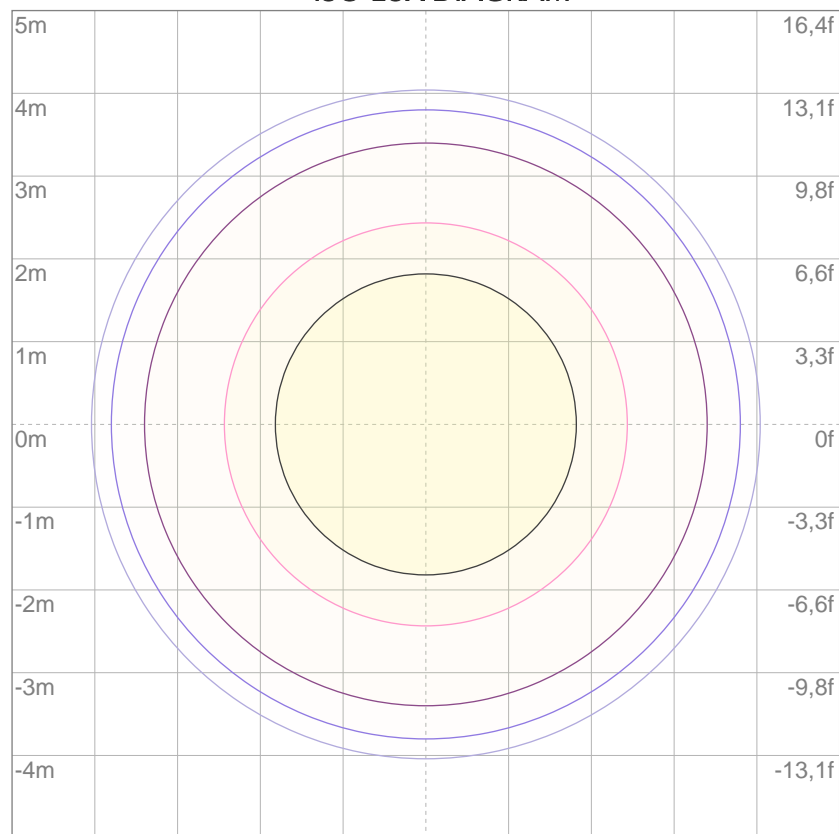
10%	891 cd
20%	1783 cd
30%	2674 cd
40%	3566 cd
50%	4457 cd
60%	5349 cd
70%	6240 cd
80%	7132 cd

### Conditions:

Number of c-planes: 2

Candela at center: 8915 cd

## ISO LUX DIAGRAM



3%	2,67 lx
5%	4,46 lx
10%	8,91 lx
30%	26,7 lx
50%	44,6 lx

### Conditions:

Number of c-planes: 2

Lux at center: 89,1 lx

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





Total lumen output:

1791 lm

Peak candela output:

28569 cd

## PRODUCT NAME:

Stark 1000

## MEASURAMENT CONDITIONS:

Beam angle:

Med Zoom

Target:

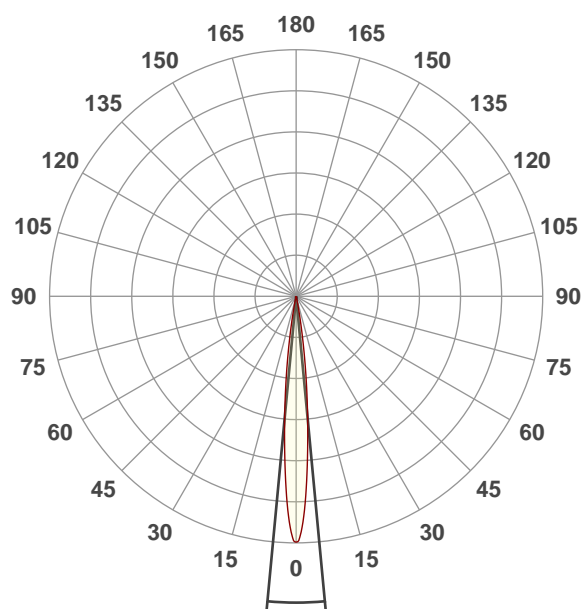
Red

Operator:

Paolo Carvone

Date and time:

18/12/2019 17:02:13

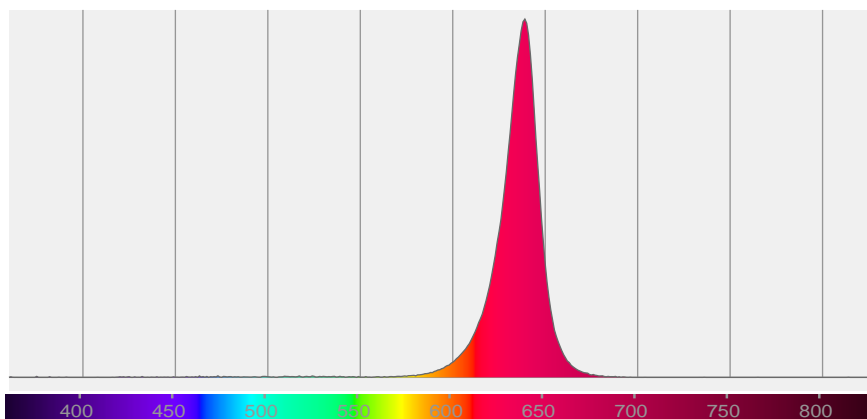


Beam angle 50%: 10,8°

Field angle 10%: 19,7°

Cut off angle 2.5%: 23,8°

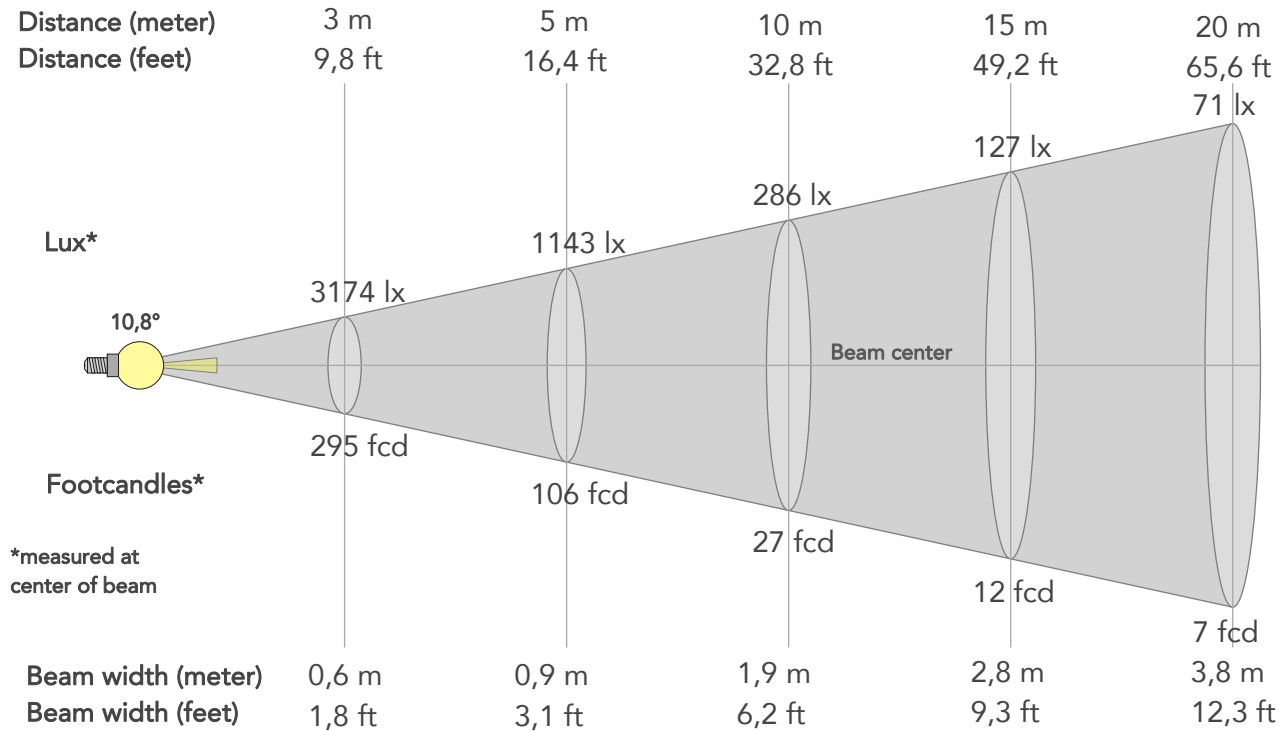
## Spectra



## BEAM DETAILS



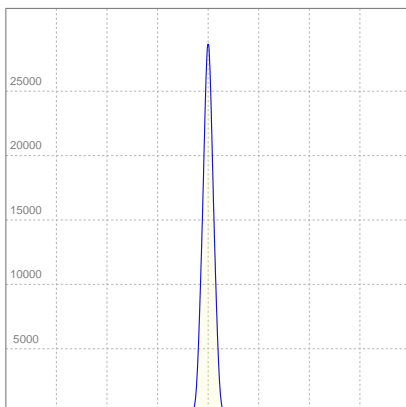
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
10,8°	19,7°	23,8°	78,9%	72,5%



### 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	28569lx	7142lx	3174lx	1786lx	1143lx	508lx	286lx	127lx	71lx	46lx	32lx	18lx	11lx
Footcand.	2654fcd	664fcd	295fcd	166fcd	106fcd	47fcd	27fcd	12fcd	7fcd	4fcd	3fcd	2fcd	1fcd
Beam wid.	0,2m	0,4m	0,6m	0,8m	0,9m	1,4m	1,9m	2,8m	3,8m	4,7m	5,6m	7,5m	9,4m
Beam wid.	0,6ft	1,2ft	1,8ft	2,5ft	3,1ft	4,6ft	6,2ft	9,3ft	12,3ft	15,4ft	18,5ft	24,7ft	30,9ft

### LINEAR DISTRIBUTION DIAGRAM

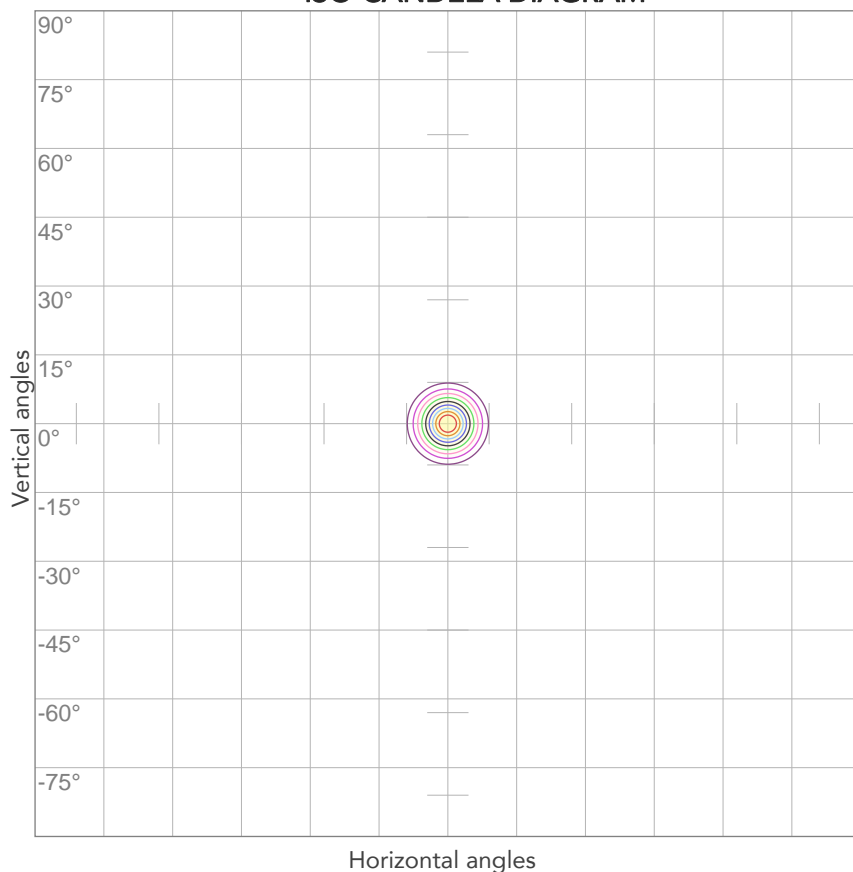


### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
224V	0,757A	149,2W	12lm/W

Power FC
0,88

## ISO CANDELA DIAGRAM



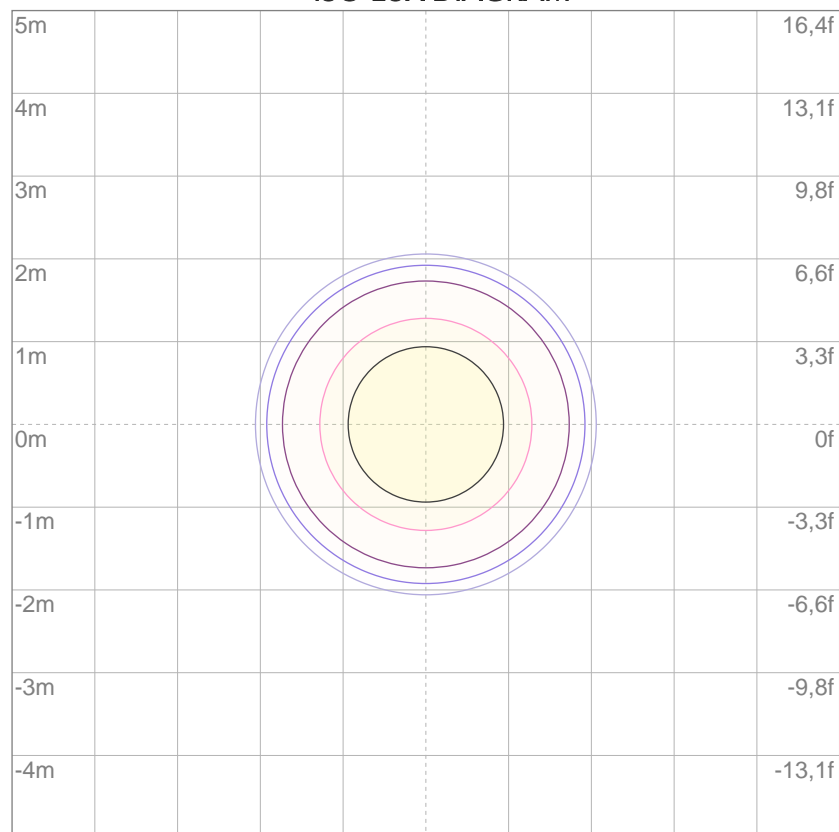
10%	2857 cd
20%	5714 cd
30%	8571 cd
40%	11427 cd
50%	14284 cd
60%	17141 cd
70%	19998 cd
80%	22855 cd

### Conditions:

Number of c-planes: 2

Candela at center: 28569 cd

## ISO LUX DIAGRAM



3%	8,57 lx
5%	14,3 lx
10%	28,6 lx
30%	85,7 lx
50%	143 lx

### Conditions:

Number of c-planes: 2

Lux at center: 286 lx

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



Total lumen output:

1047 lm

Peak candela output:

175277 cd

## PRODUCT NAME:

Stark 1000

## MEASURAMENT CONDITIONS:

Beam angle:

Min Zoom

Target:

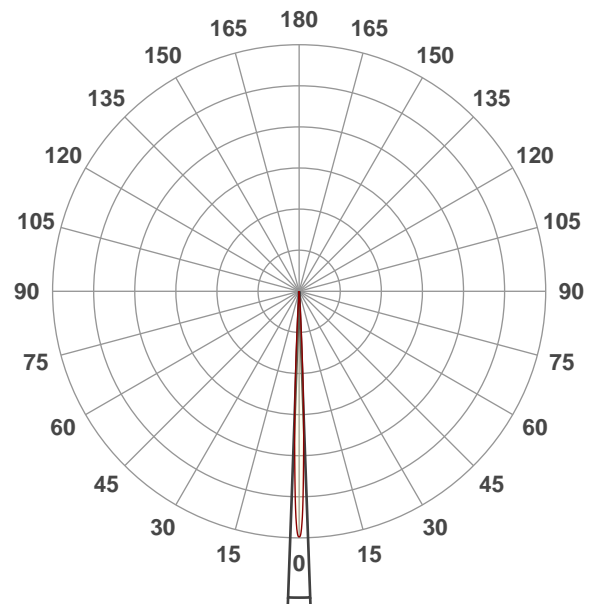
Red

Operator:

Paolo Carvone

Date and time:

18/12/2019 16:18:06

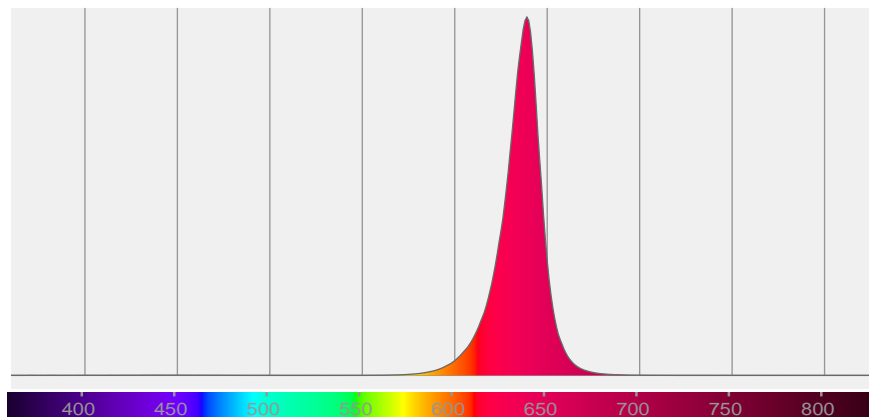


Beam angle 50%: 4,1°

Field angle 10%: 6,7°

Cut off angle 2.5%: 7,6°

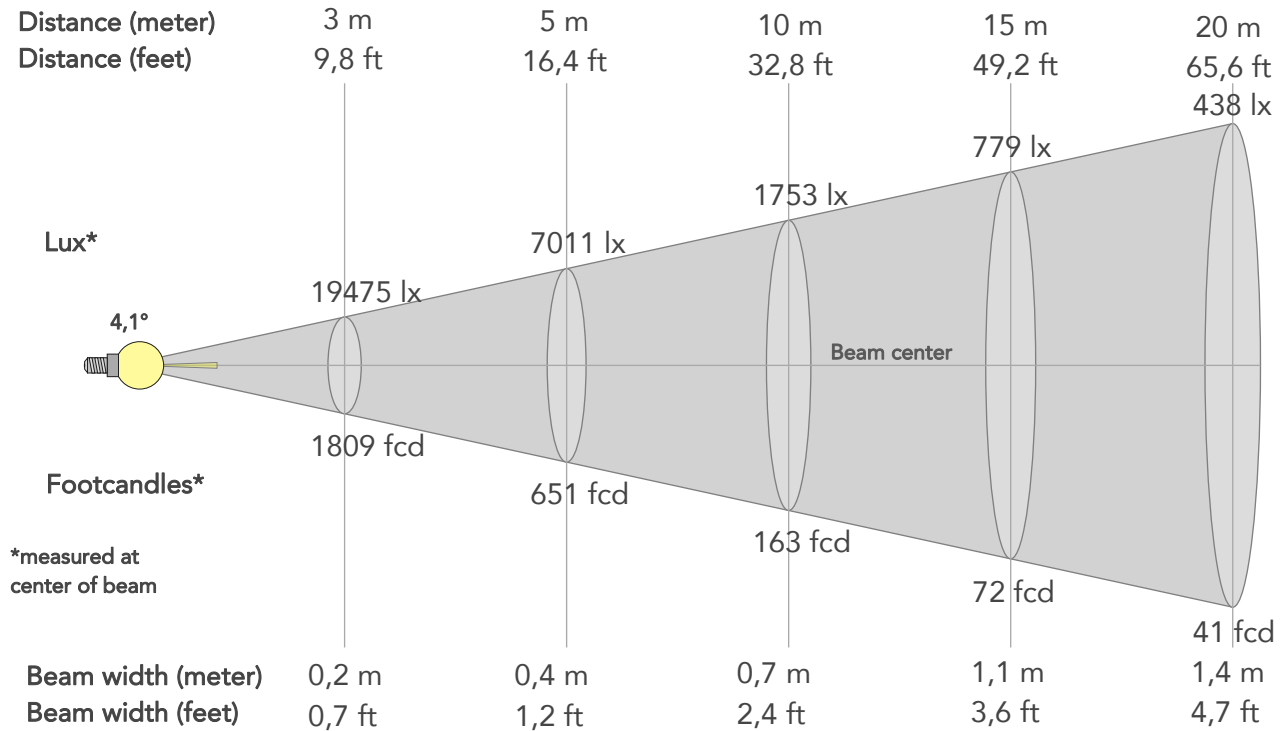
## Spectra



## BEAM DETAILS



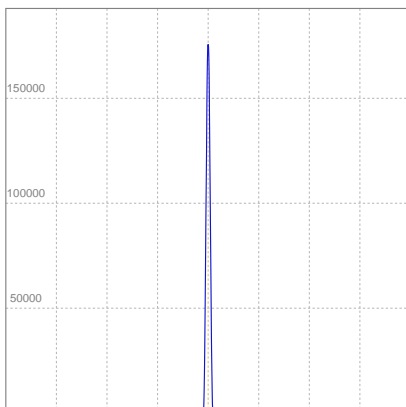
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
4,1°	6,7°	7,6°	91,1%	87,8%



### 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	175277lx	43819lx	19475lx	10955lx	7011lx	3116lx	1753lx	779lx	438lx	280lx	195lx	110lx	70lx
Footcand.	16284fcd	4071fcd	1809fcd	1018fcd	651fcd	289fcd	163fcd	72fcd	41fcd	26fcd	18fcd	10fcd	7fcd
Beam wid.	0,1m	0,1m	0,2m	0,3m	0,4m	0,5m	0,7m	1,1m	1,4m	1,8m	2,2m	2,9m	3,6m
Beam wid.	0,2ft	0,5ft	0,7ft	0,9ft	1,2ft	1,8ft	2,4ft	3,6ft	4,7ft	5,9ft	7,1ft	9,5ft	11,8ft

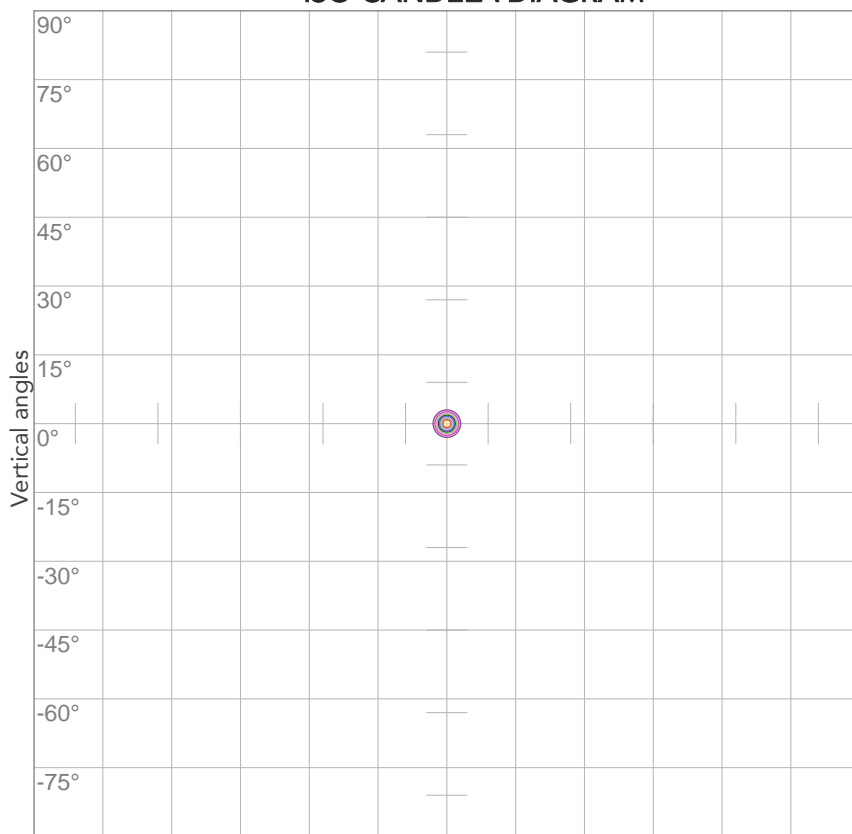
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
224V	0,754A	148,5W	7lm/W
Power FC			
0,88			

## ISO CANDELA DIAGRAM



Horizontal angles

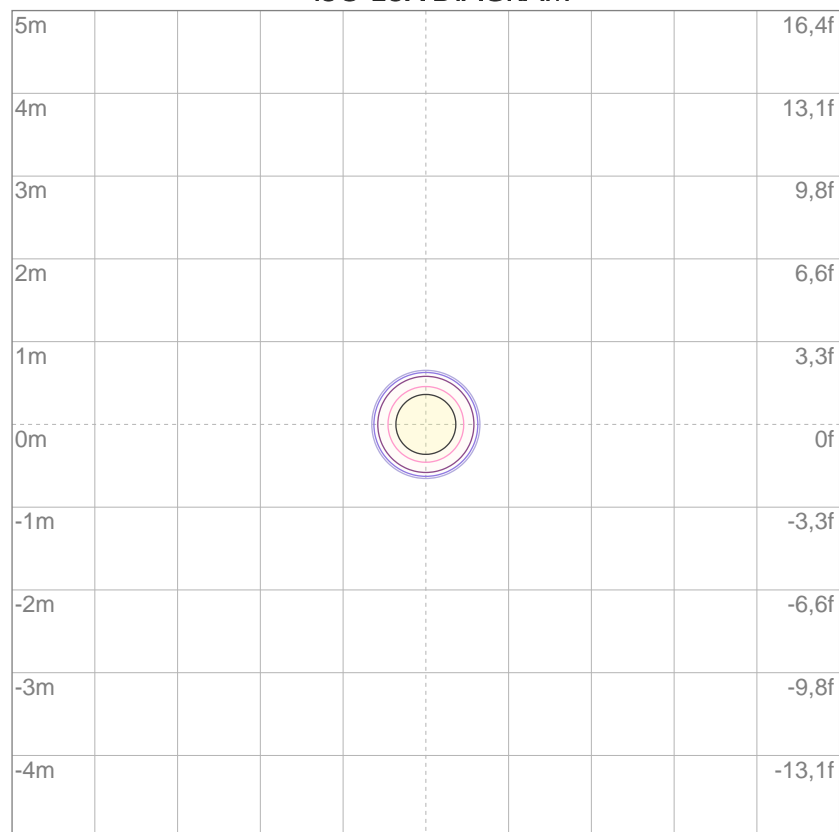
10%	17528 cd
20%	35055 cd
30%	52583 cd
40%	70111 cd
50%	87639 cd
60%	105166 cd
70%	122694 cd
80%	140222 cd

### Conditions:

Number of c-planes: 2

Candela at center: 175277 cd

## ISO LUX DIAGRAM



Mounting height: 10 meters (33 feet)

3%	52,6 lx
5%	87,6 lx
10%	175 lx
30%	526 lx
50%	876 lx

### Conditions:

Number of c-planes: 2

Lux at center: 1753 lx

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



Total lumen output:

2129 lm

Peak candela output:

15045 cd

## PRODUCT NAME:

Stark 1000

## MEASURAMENT CONDITIONS:

Beam angle:

Max Zoom

Target:

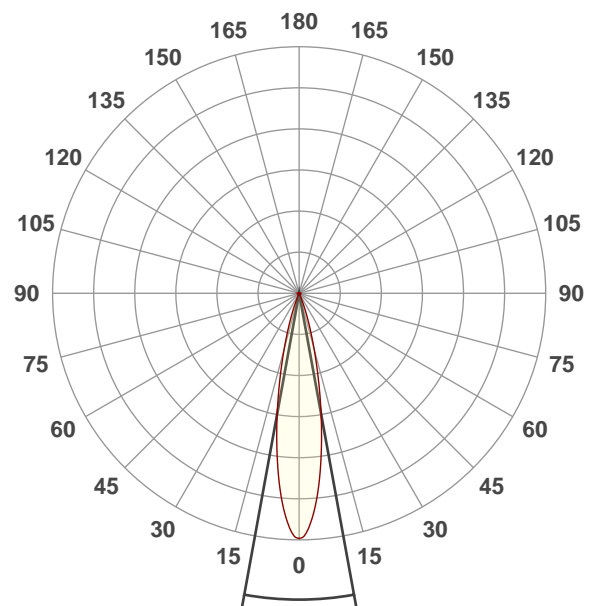
Green

Operator:

Paolo Carvone

Date and time:

18/12/2019 15:10:34

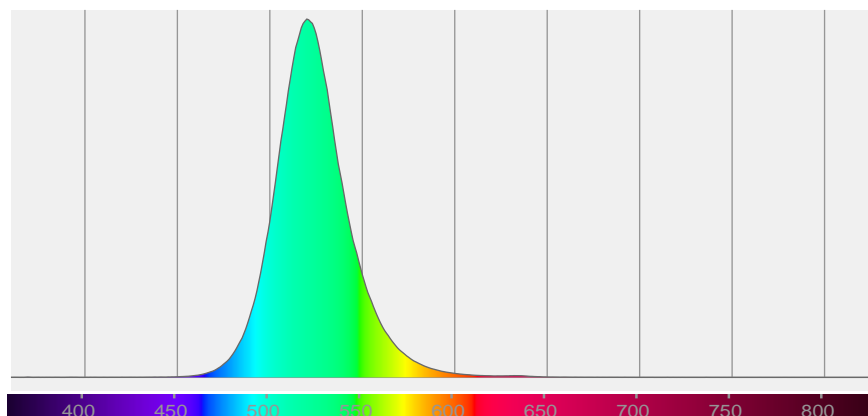


Beam angle 50%: 20,6°

Field angle 10%: 37,7°

Cut off angle 2.5%: 44,7°

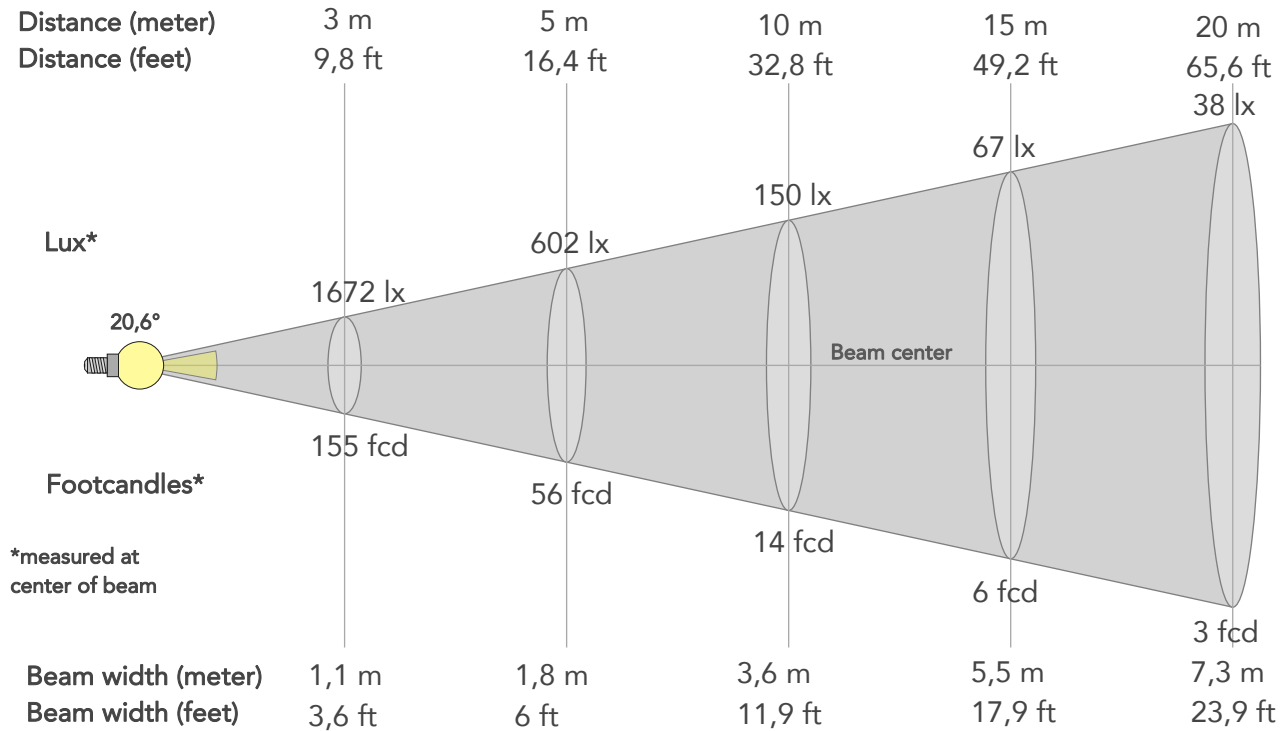
## Spectra



# BEAM DETAILS



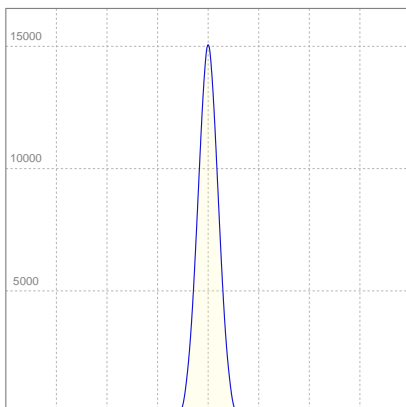
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
20,6°	37,7°	44,7°	100,0%	99,9%



## 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	15045lx	3761lx	1672lx	940lx	602lx	267lx	150lx	67lx	38lx	24lx	17lx	9lx	6lx
Footcand.	1398fcd	349fcd	155fcd	87fcd	56fcd	25fcd	14fcd	6fcd	3fcd	2fcd	2fcd	1fcd	1fcd
Beam wid.	0,4m	0,7m	1,1m	1,5m	1,8m	2,7m	3,6m	5,5m	7,3m	9,1m	10,9m	14,6m	18,2m
Beam wid.	1,2ft	2,4ft	3,6ft	4,8ft	6ft	9ft	11,9ft	17,9ft	23,9ft	29,9ft	35,8ft	47,8ft	59,7ft

## LINEAR DISTRIBUTION DIAGRAM



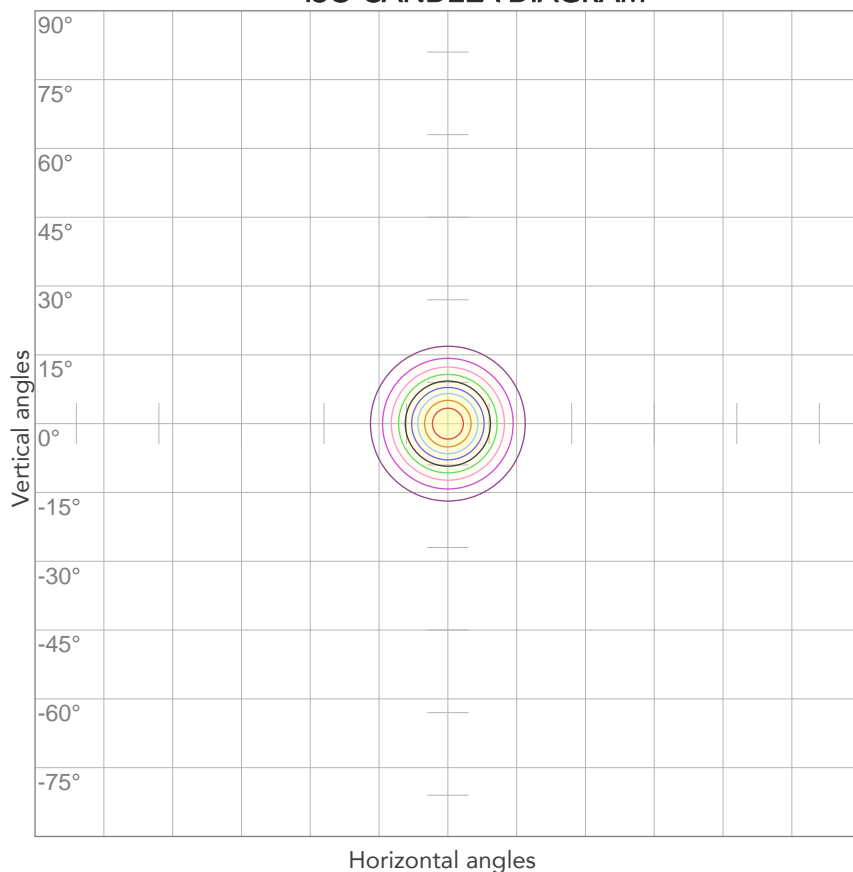
## ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
226V	0,823A	165,6W	13lm/W

Power FC
0,89



## ISO CANDELA DIAGRAM



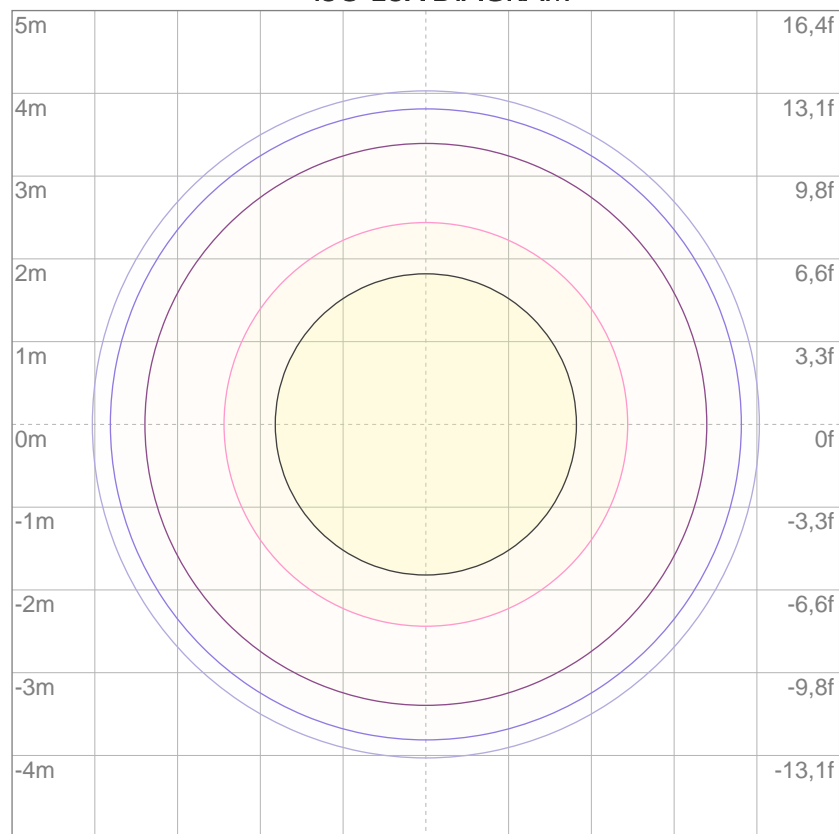
10%	1504 cd
20%	3009 cd
30%	4513 cd
40%	6018 cd
50%	7522 cd
60%	9027 cd
70%	10531 cd
80%	12036 cd

### Conditions:

Number of c-planes: 2

Candela at center: 15045 cd

## ISO LUX DIAGRAM



3%	4,51 lx
5%	7,52 lx
10%	15,0 lx
30%	45,1 lx
50%	75,2 lx

### Conditions:

Number of c-planes: 2

Lux at center: 150 lx

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



Total lumen output:

2454 lm

Peak candela output:

49309 cd

## PRODUCT NAME:

Stark 1000

## MEASURAMENT CONDITIONS:

Beam angle:

Med Zoom

Target:

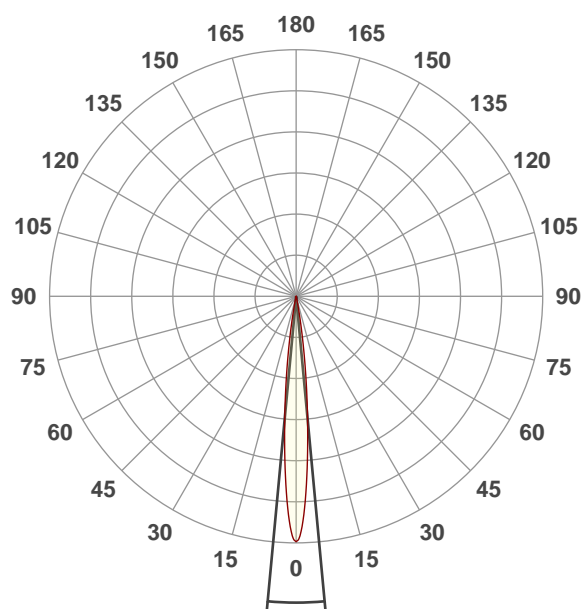
Green

Operator:

Paolo Carvone

Date and time:

18/12/2019 17:04:37

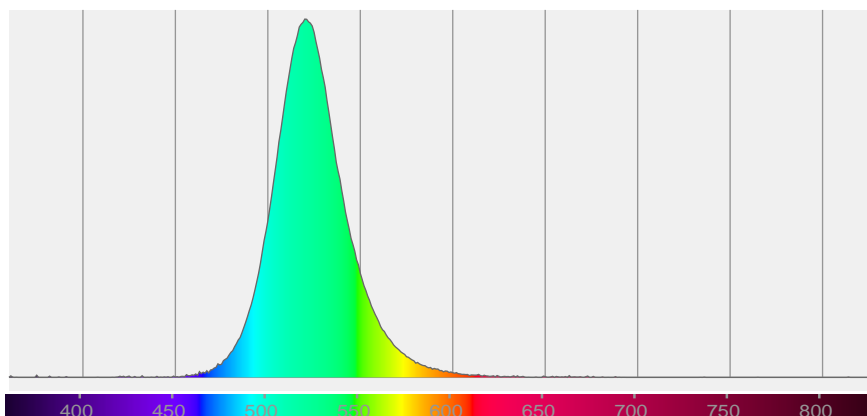


Beam angle 50%: 10,7°

Field angle 10%: 19,4°

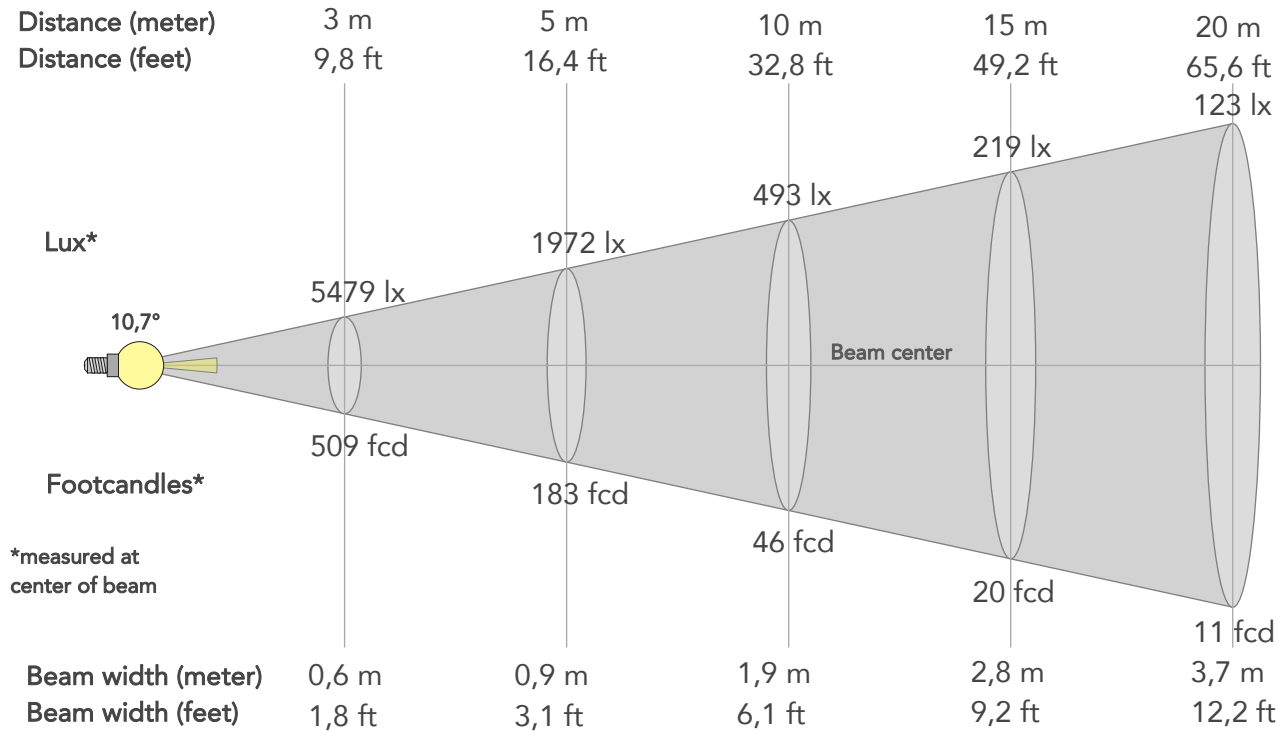
Cut off angle 2.5%: 23,2°

## Spectra



## BEAM DETAILS

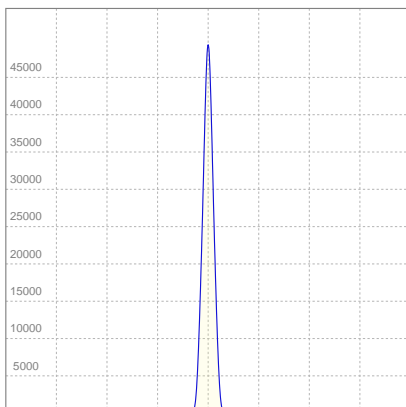
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
10,7°	19,4°	23,2°	86,9%	82,9%



### 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	49309lx	12327lx	5479lx	3082lx	1972lx	877lx	493lx	219lx	123lx	79lx	55lx	31lx	20lx
Footcand.	4581fcd	1145fcd	509fcd	286fcd	183fcd	81fcd	46fcd	20fcd	11fcd	7fcd	5fcd	3fcd	2fcd
Beam wid.	0,2m	0,4m	0,6m	0,7m	0,9m	1,4m	1,9m	2,8m	3,7m	4,7m	5,6m	7,5m	9,3m
Beam wid.	0,6ft	1,2ft	1,8ft	2,4ft	3,1ft	4,6ft	6,1ft	9,2ft	12,2ft	15,3ft	18,4ft	24,5ft	30,6ft

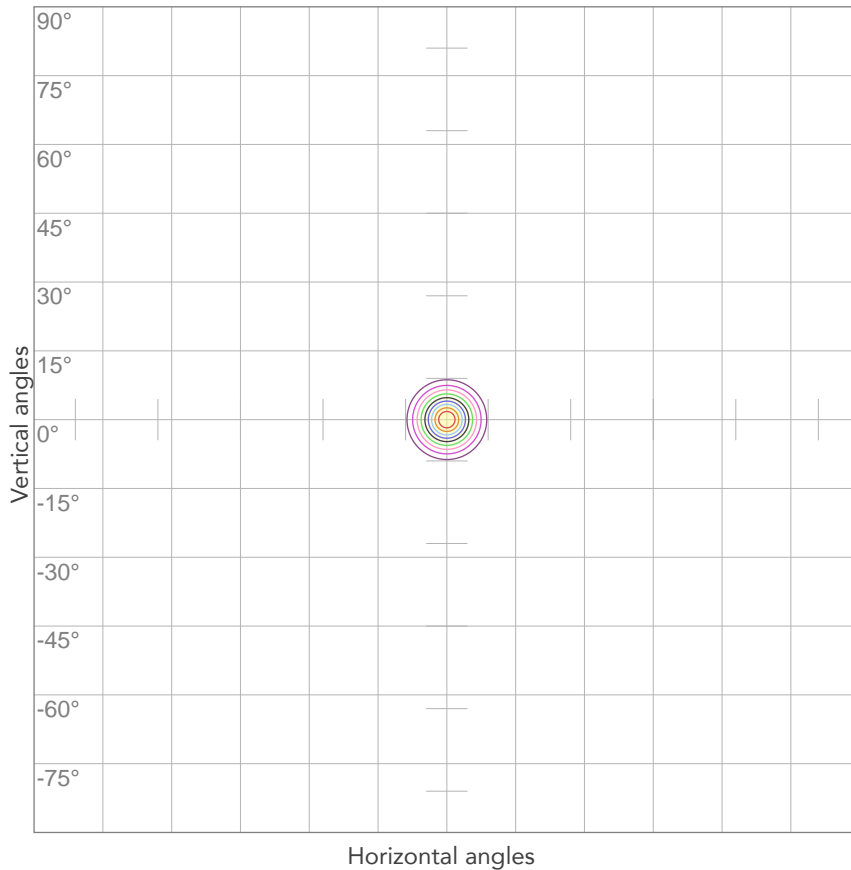
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
224V	0,822A	164,4W	15lm/W
Power FC			
0,89			

## ISO CANDELA DIAGRAM



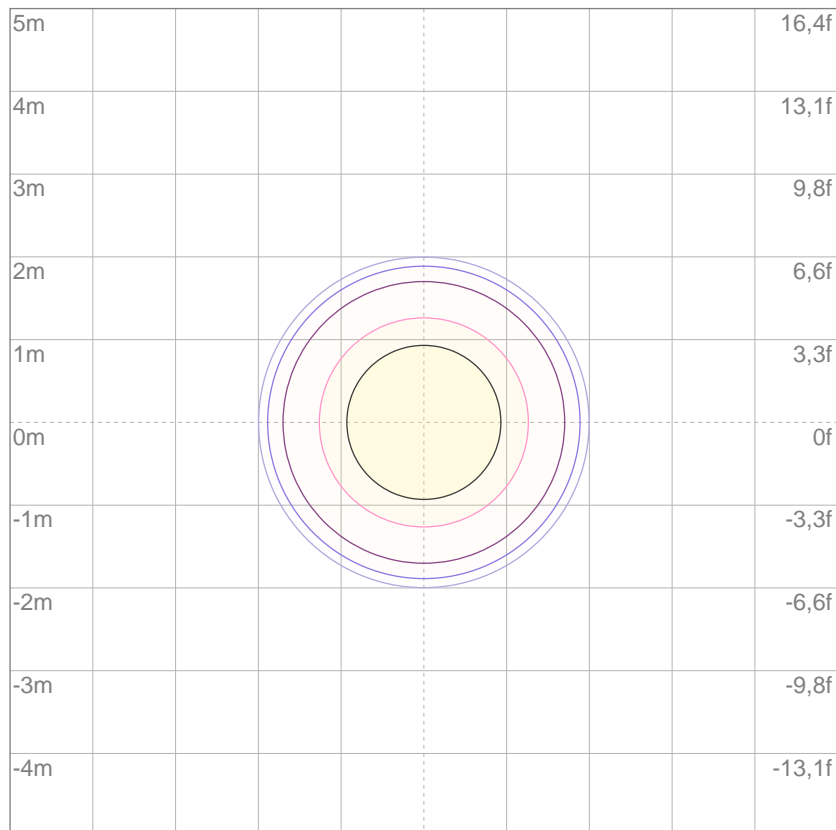
10%	4931 cd
20%	9862 cd
30%	14793 cd
40%	19724 cd
50%	24655 cd
60%	29586 cd
70%	34516 cd
80%	39447 cd

### Conditions:

Number of c-planes: 2

Candela at center: 49309 cd

## ISO LUX DIAGRAM



3%	14,8 lx
5%	24,7 lx
10%	49,3 lx
30%	148 lx
50%	247 lx

### Conditions:

Number of c-planes: 2

Lux at center: 493 lx

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



Total lumen output:

3314 lm

Peak candela output:

302265 cd

## PRODUCT NAME:

Stark 1000

## MEASURAMENT CONDITIONS:

Beam angle:

Min Zoom

Target:

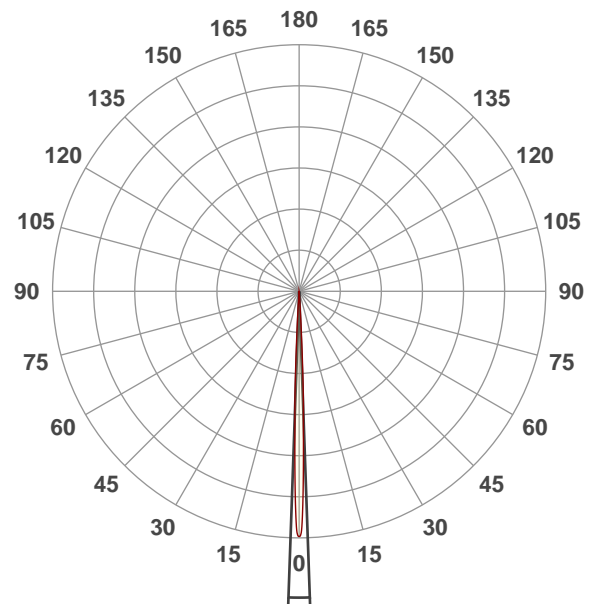
Green

Operator:

Paolo Carvone

Date and time:

18/12/2019 16:25:54

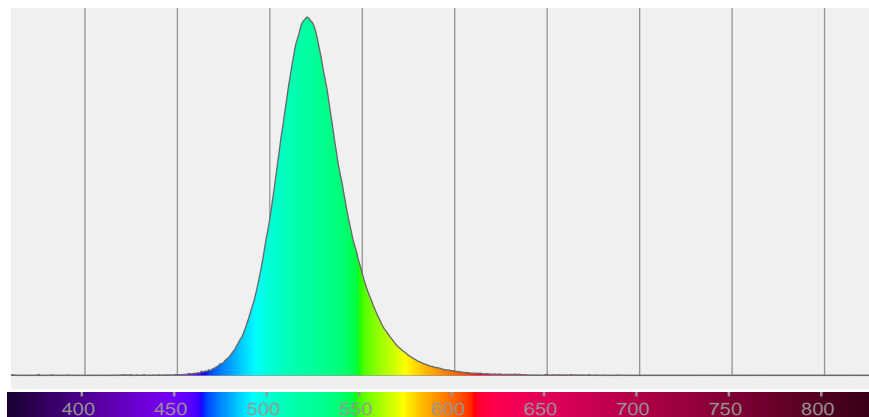


Beam angle 50%: 4°

Field angle 10%: 6,7°

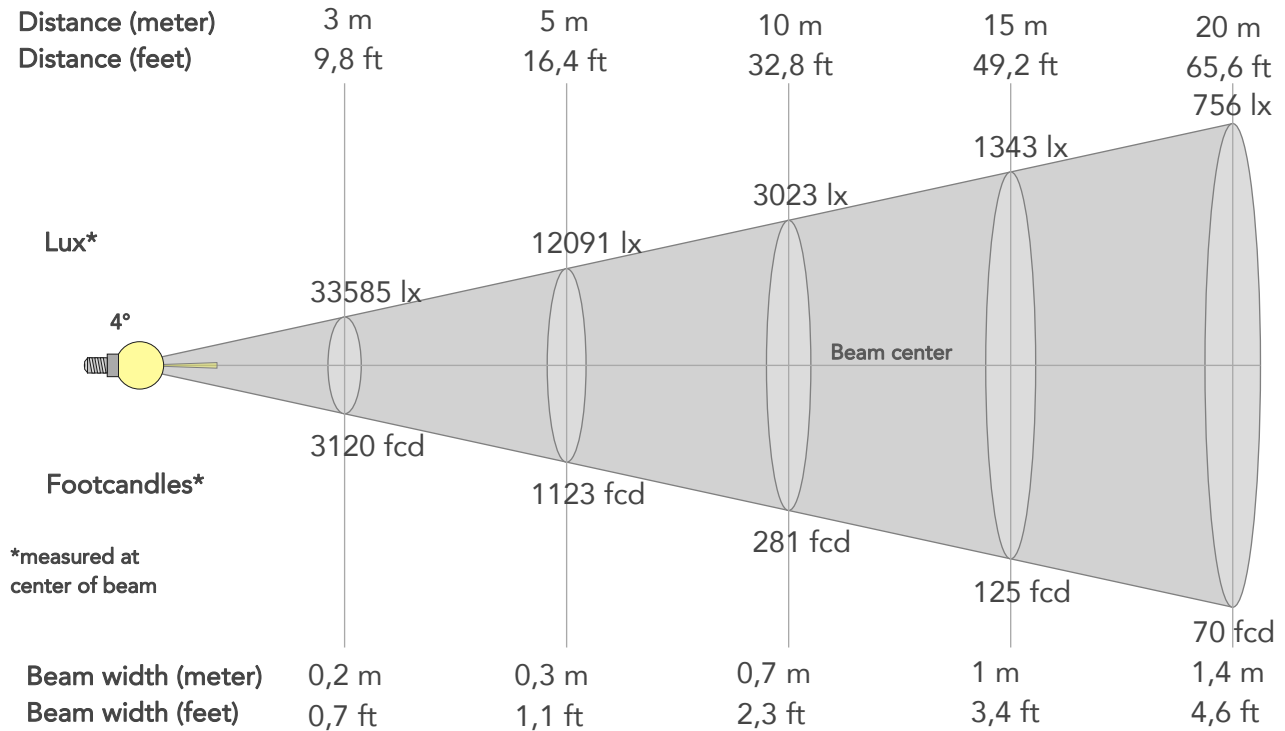
Cut off angle 2.5%: 7,8°

## Spectra



## BEAM DETAILS

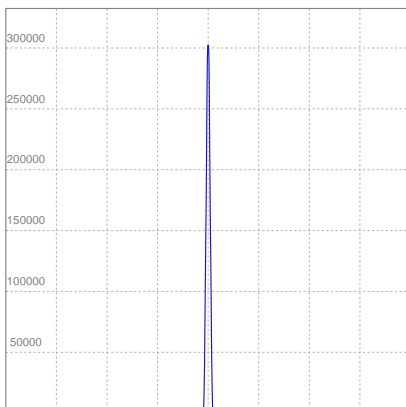
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
4°	6,7°	7,8°	71,2%	60,6%



### 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	302265lx	75566lx	33585lx	18892lx	12091lx	5374lx	3023lx	1343lx	756lx	484lx	336lx	189lx	121lx
Footcand.	28081fcd	7020fcd	3120fcd	1755fcd	1123fcd	499fcd	281fcd	125fcd	70fcd	45fcd	31fcd	18fcd	11fcd
Beam wid.	0,1m	0,1m	0,2m	0,3m	0,3m	0,5m	0,7m	1m	1,4m	1,7m	2,1m	2,8m	3,5m
Beam wid.	0,2ft	0,5ft	0,7ft	0,9ft	1,1ft	1,7ft	2,3ft	3,4ft	4,6ft	5,7ft	6,9ft	9,2ft	11,4ft

### LINEAR DISTRIBUTION DIAGRAM

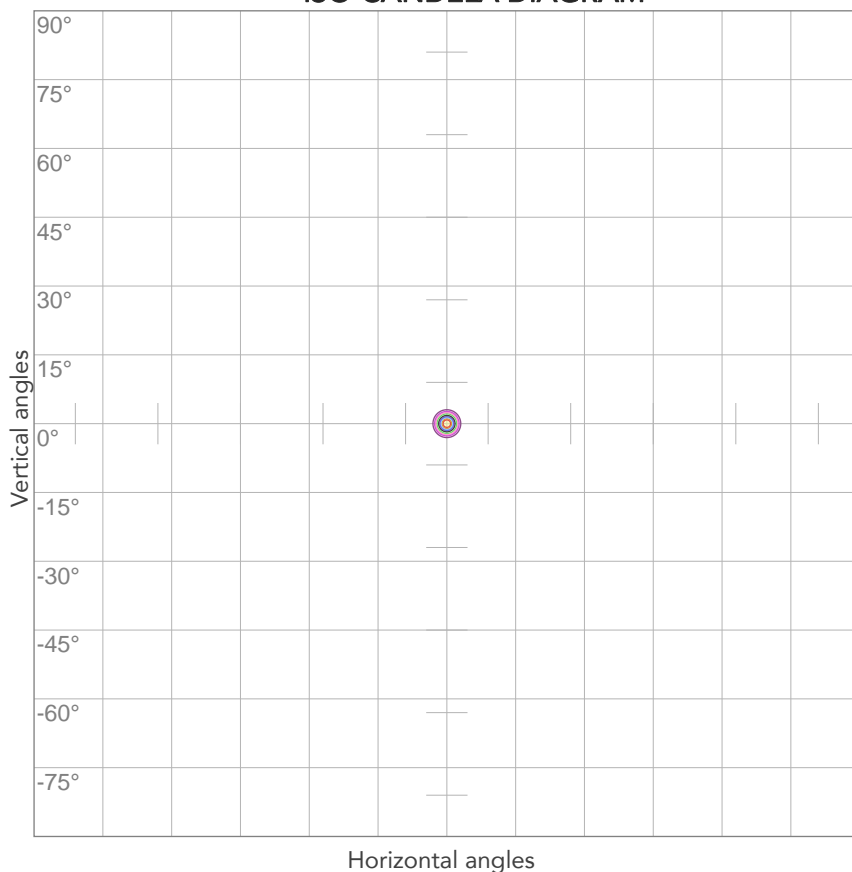


### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
224V	0,829A	165,9W	20lm/W

Power FC
0,89

## ISO CANDELA DIAGRAM



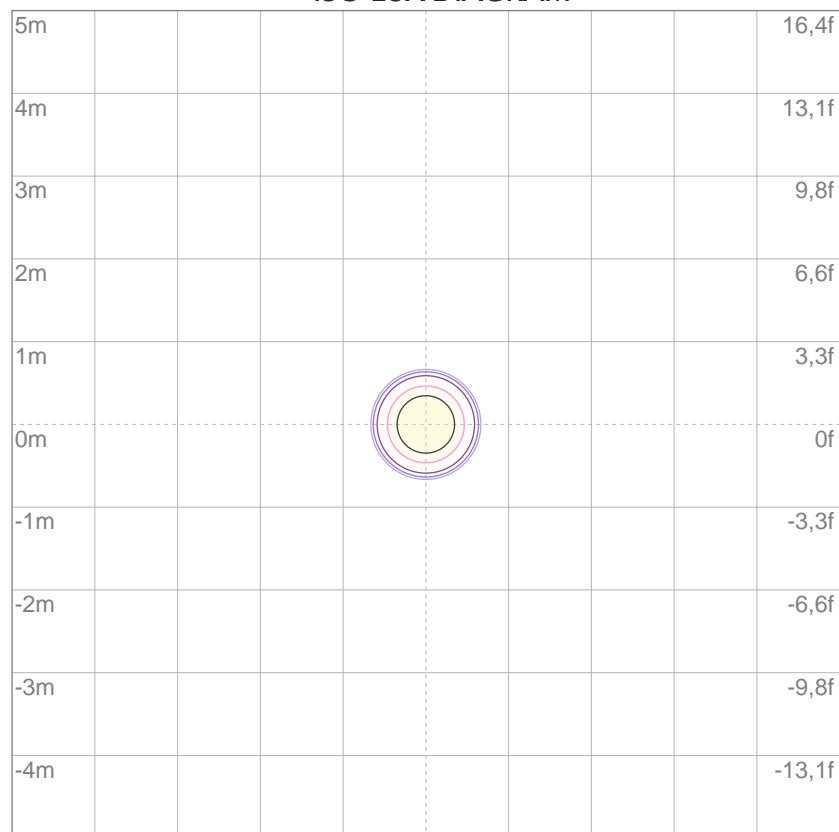
10%	30226 cd
20%	60453 cd
30%	90679 cd
40%	120906 cd
50%	151132 cd
60%	181359 cd
70%	211585 cd
80%	241812 cd

### Conditions:

Number of c-planes: 2

Candela at center: 302265 cd

## ISO LUX DIAGRAM



3%	90,7 lx
5%	151 lx
10%	302 lx
30%	907 lx
50%	1511 lx

### Conditions:

Number of c-planes: 2

Lux at center: 3023 lx

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

Mounting height: 10 meters (33 feet)



Total lumen output:

569 lm

Peak candela output:

4088 cd

## PRODUCT NAME:

Stark 1000

## MEASURAMENT CONDITIONS:

Beam angle:

Max Zoom

Target:

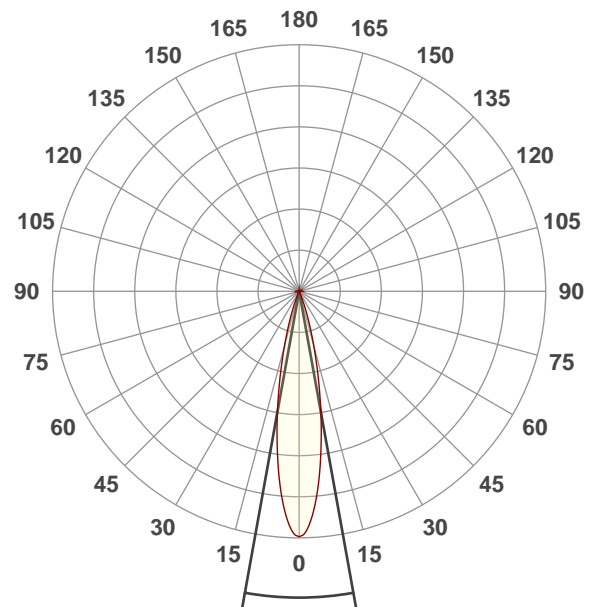
Blue

Operator:

Paolo Carvone

Date and time:

18/12/2019 15:18:02

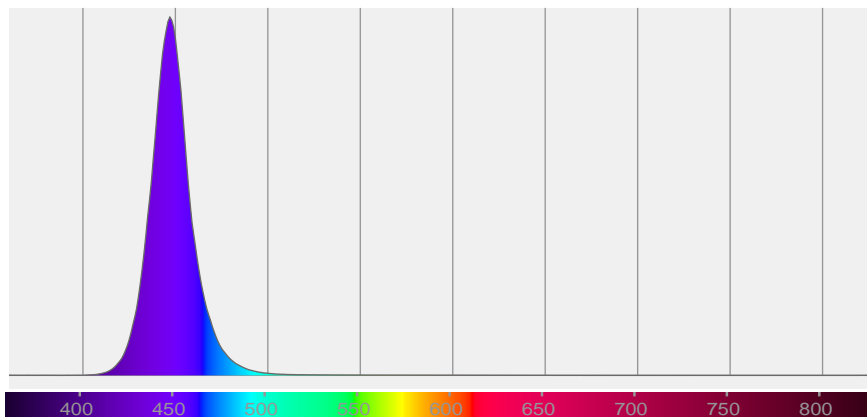


Beam angle 50%: 20,4°

Field angle 10%: 37,3°

Cut off angle 2.5%: 44,3°

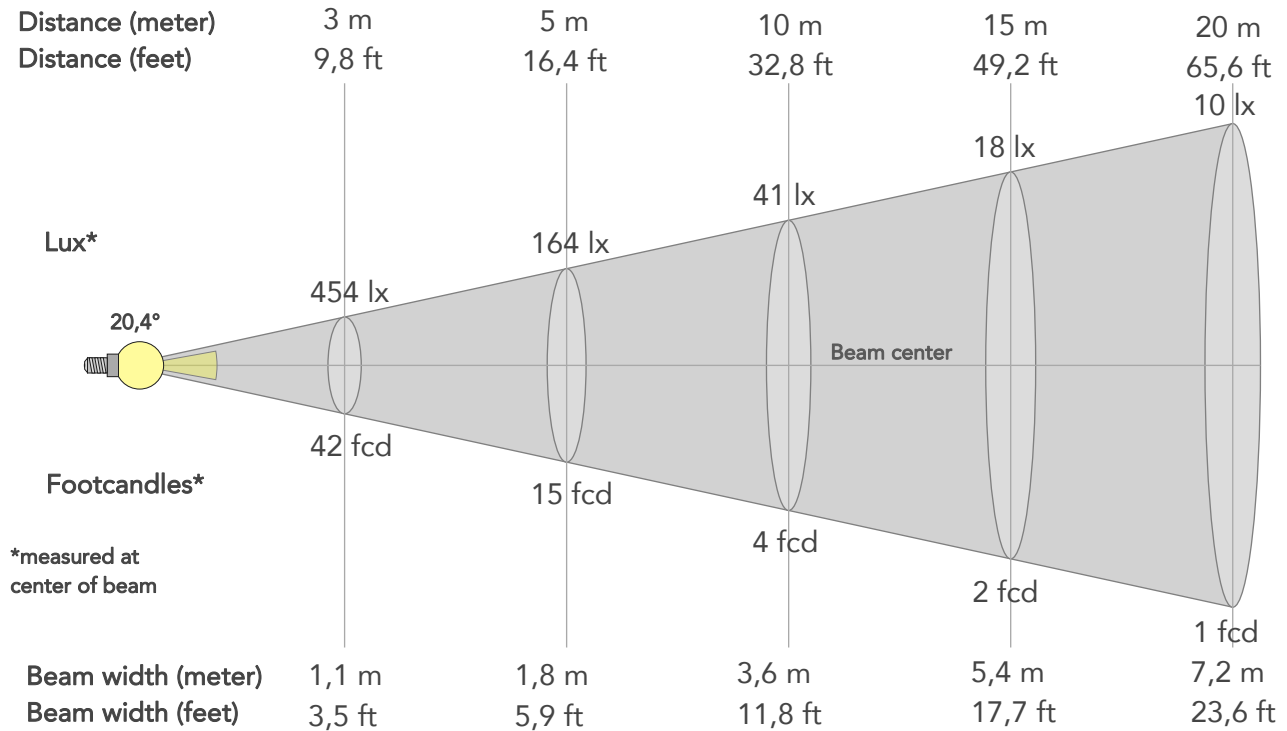
## Spectra





## BEAM DETAILS

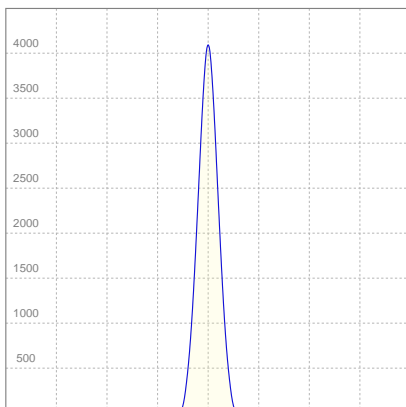
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
20,4°	37,3°	44,3°	99,9%	99,8%



### 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	4088lx	1022lx	454lx	256lx	164lx	73lx	41lx	18lx	10lx	7lx	5lx	3lx	2lx
Footcand.	380fcd	95fcd	42fcd	24fcd	15fcd	7fcd	4fcd	2fcd	1fcd	1fcd	0fcd	0fcd	0fcd
Beam wid.	0,4m	0,7m	1,1m	1,4m	1,8m	2,7m	3,6m	5,4m	7,2m	9m	10,8m	14,4m	18m
Beam wid.	1,2ft	2,4ft	3,5ft	4,7ft	5,9ft	8,9ft	11,8ft	17,7ft	23,6ft	29,5ft	35,4ft	47,2ft	59ft

### LINEAR DISTRIBUTION DIAGRAM

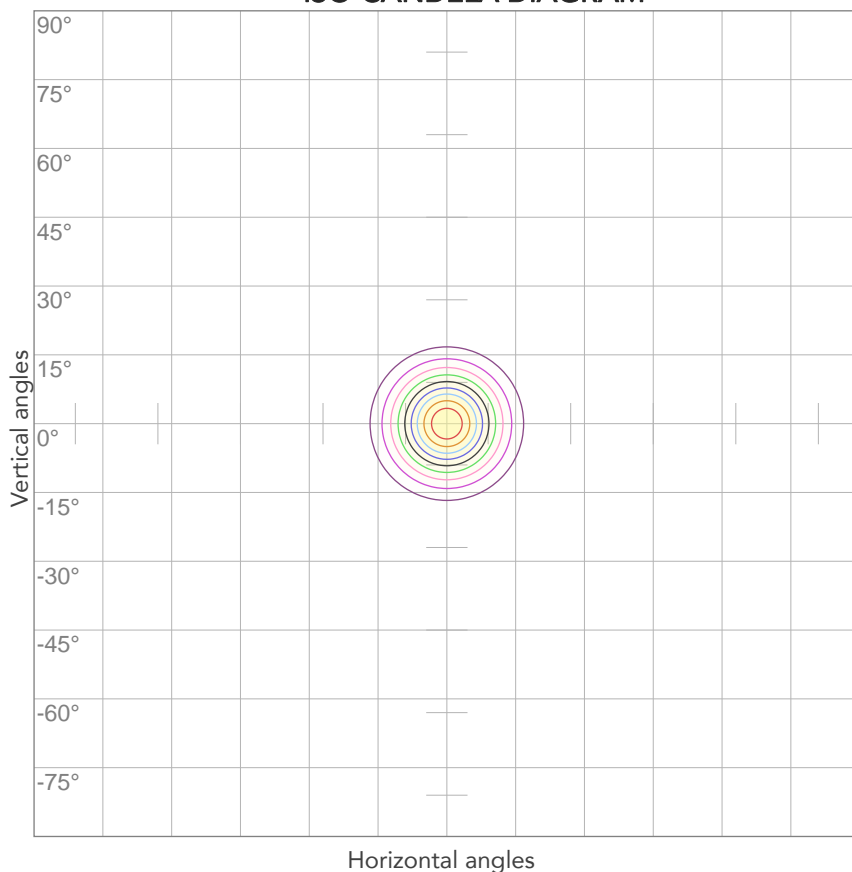


### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
225V	0,764A	151,4W	4lm/W

Power FC
0,88

## ISO CANDELA DIAGRAM



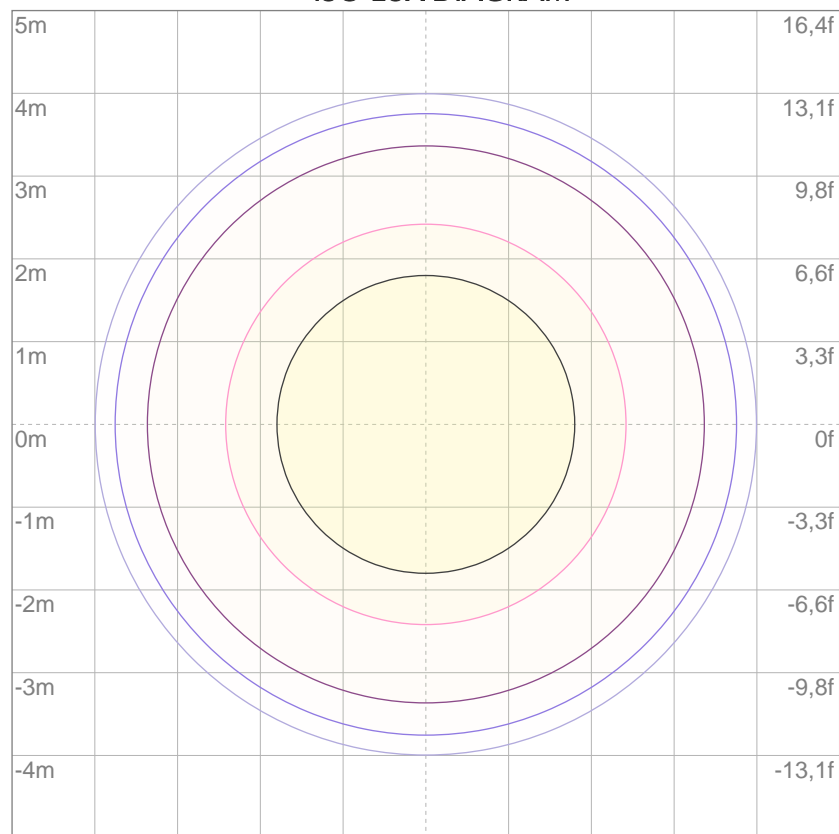
10%	409 cd
20%	818 cd
30%	1227 cd
40%	1635 cd
50%	2044 cd
60%	2453 cd
70%	2862 cd
80%	3271 cd

### Conditions:

Number of c-planes: 2

Candela at center: 4088 cd

## ISO LUX DIAGRAM



3%	1,23 lx
5%	2,04 lx
10%	4,09 lx
30%	12,3 lx
50%	20,4 lx

### Conditions:

Number of c-planes: 2

Lux at center: 40,9 lx

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



Total lumen output:

2152 lm

Peak candela output:

14194 cd

## PRODUCT NAME:

Stark 1000

## MEASURAMENT CONDITIONS:

Beam angle:

Med Zoom

Target:

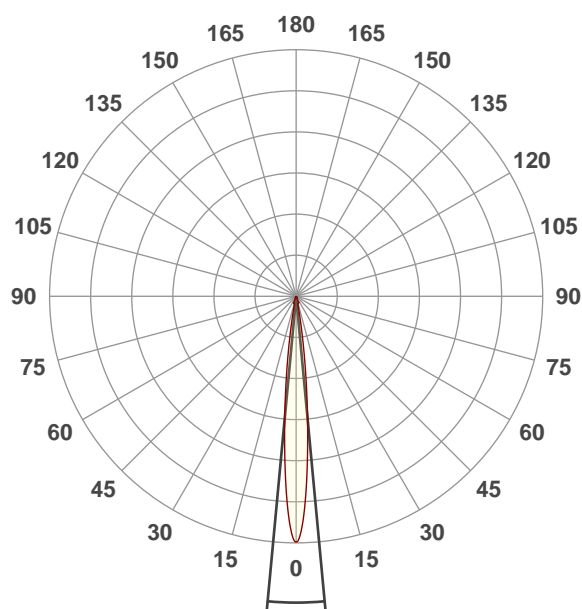
Blue

Operator:

Paolo Carvone

Date and time:

18/12/2019 17:06:47

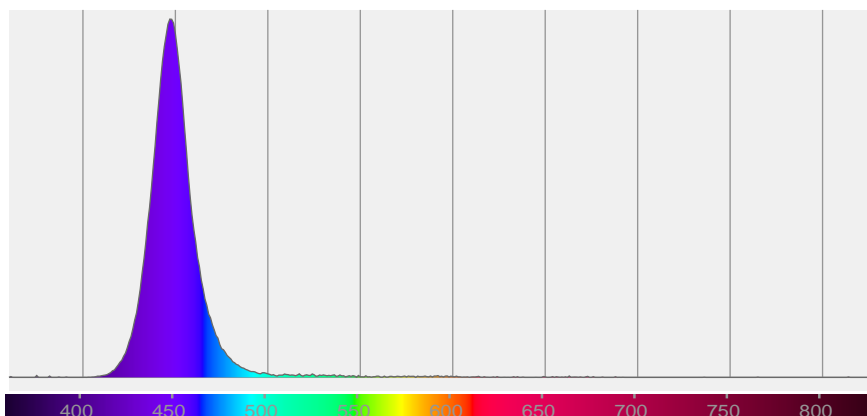


Beam angle 50%: 10,7°

Field angle 10%: 19,9°

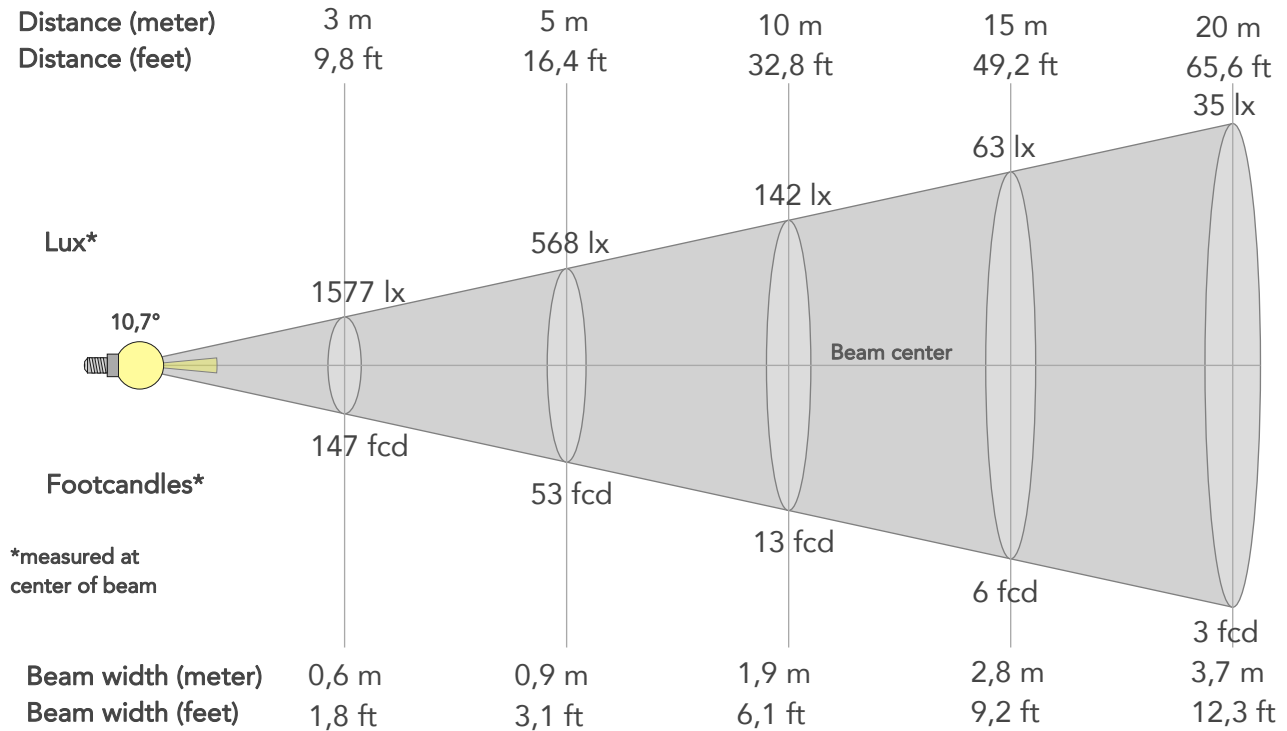
Cut off angle 2.5%: 43,8°

## Spectra



## BEAM DETAILS

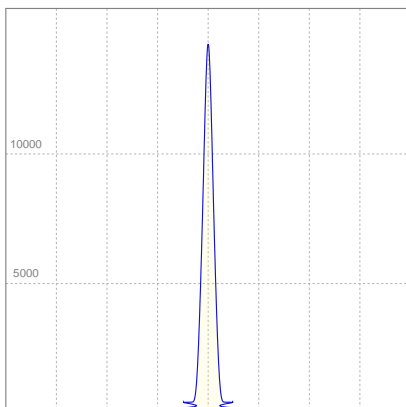
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
10,7°	19,9°	43,8°	58,2%	45,6%



### 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	14194lx	3549lx	1577lx	887lx	568lx	252lx	142lx	63lx	35lx	23lx	16lx	9lx	6lx
Footcand.	1319fcd	330fcd	147fcd	82fcd	53fcd	23fcd	13fcd	6fcd	3fcd	2fcd	1fcd	1fcd	1fcd
Beam wid.	0,2m	0,4m	0,6m	0,7m	0,9m	1,4m	1,9m	2,8m	3,7m	4,7m	5,6m	7,5m	9,3m
Beam wid.	0,6ft	1,2ft	1,8ft	2,4ft	3,1ft	4,6ft	6,1ft	9,2ft	12,3ft	15,3ft	18,4ft	24,5ft	30,7ft

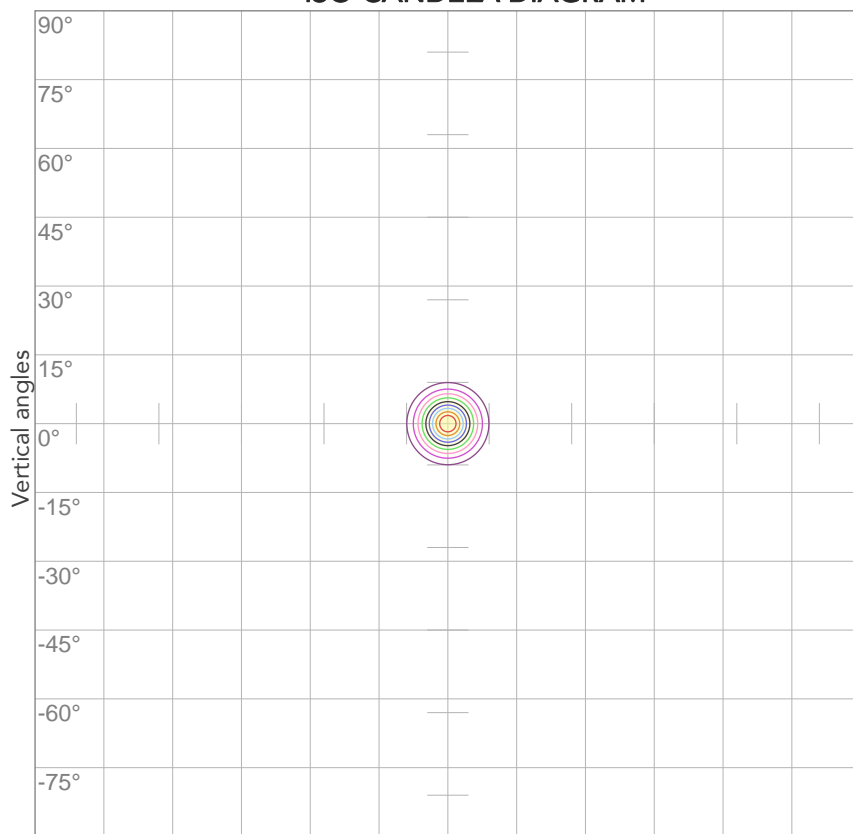
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
224V	0,760A	149,6W	14lm/W
Power FC			
0,88			

## ISO CANDELA DIAGRAM



Horizontal angles

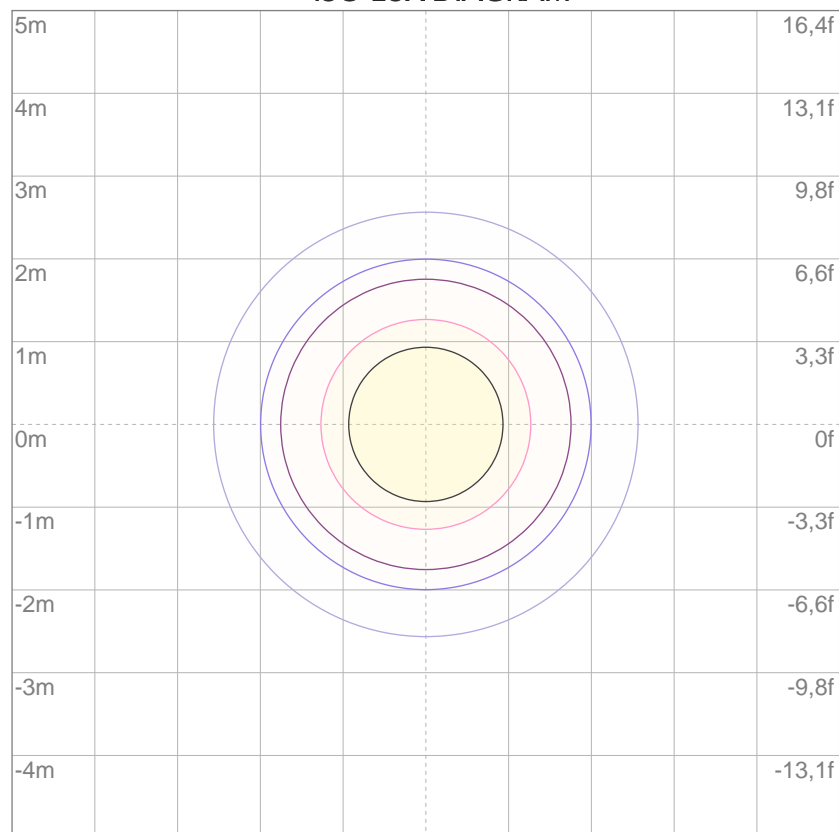
10%	1419 cd
20%	2839 cd
30%	4258 cd
40%	5678 cd
50%	7097 cd
60%	8517 cd
70%	9936 cd
80%	11355 cd

### Conditions:

Number of c-planes: 2

Candela at center: 14194 cd

## ISO LUX DIAGRAM



Mounting height: 10 meters (33 feet)

3%	4,26 lx
5%	7,10 lx
10%	14,2 lx
30%	42,6 lx
50%	71,0 lx

### Conditions:

Number of c-planes: 2

Lux at center: 142 lx

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



Total lumen output:

5402 lm

Peak candela output:

80518 cd

## PRODUCT NAME:

Stark 1000

## MEASURAMENT CONDITIONS:

Beam angle:

Min Zoom

Target:

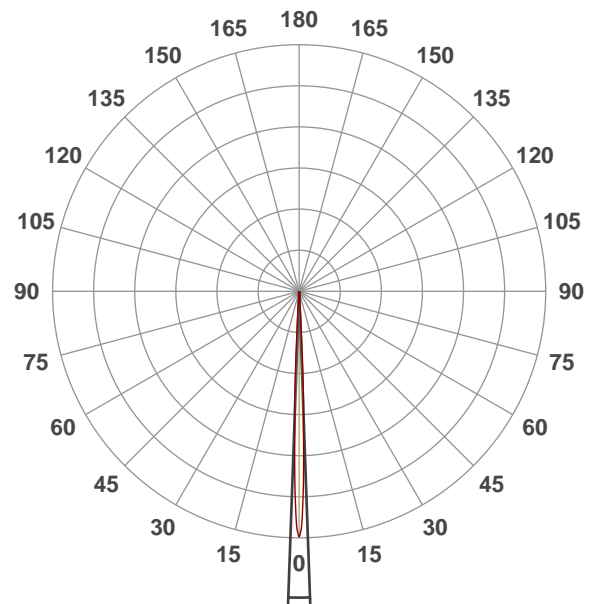
Blue

Operator:

Paolo Carvone

Date and time:

18/12/2019 16:27:43

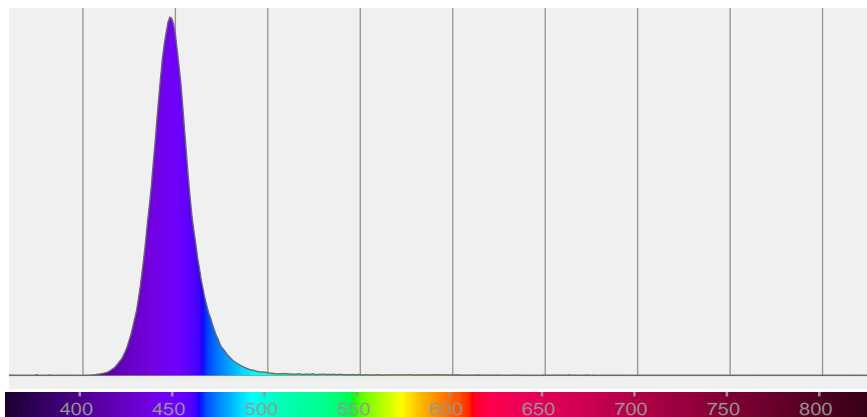


Beam angle 50%: 4,1°

Field angle 10%: 6,9°

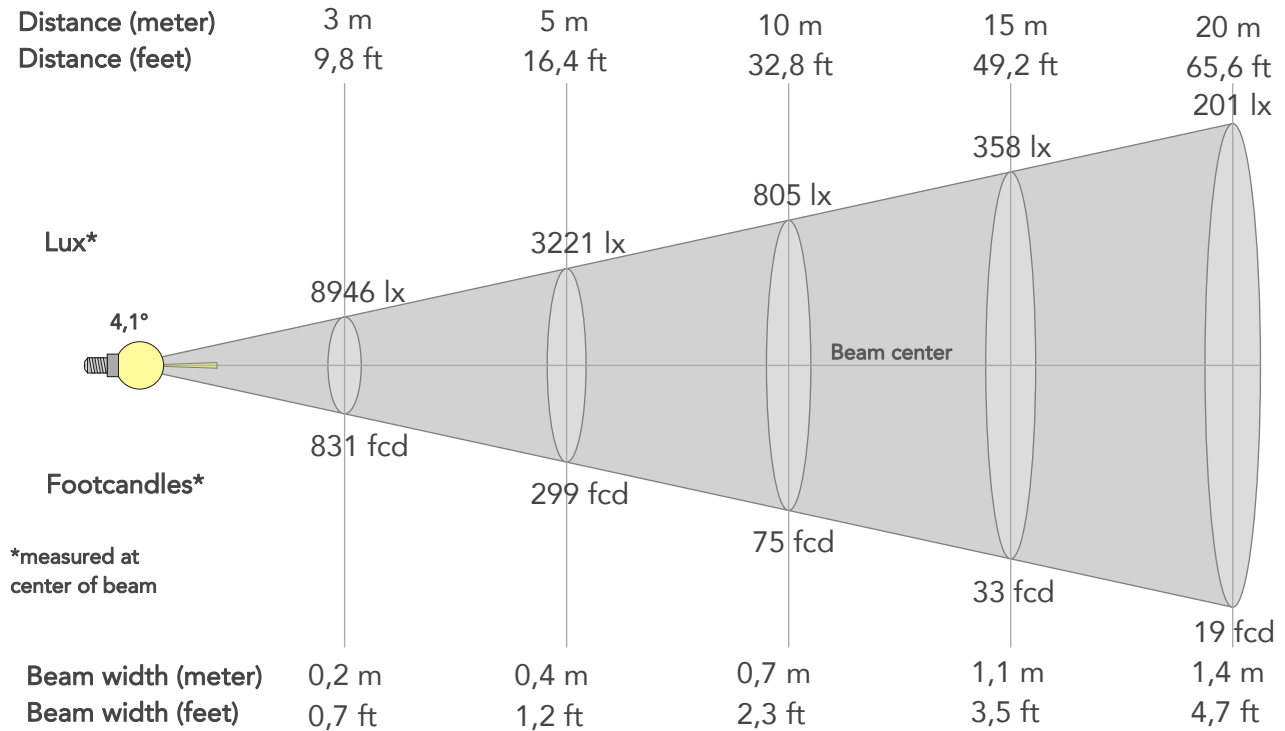
Cut off angle 2.5%: 8,5°

## Spectra



## BEAM DETAILS

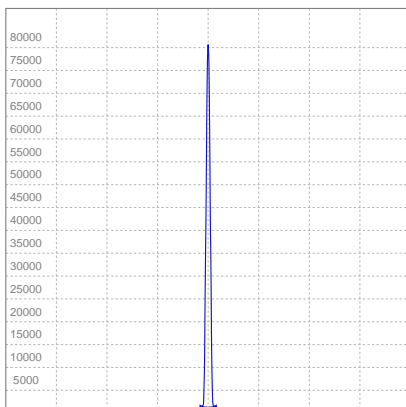
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
4,1°	6,9°	8,5°	51,4%	33,4%



### 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	80518lx	20130lx	8946lx	5032lx	3221lx	1431lx	805lx	358lx	201lx	129lx	89lx	50lx	32lx
Footcand.	7480fcd	1870fcd	831fcd	468fcd	299fcd	133fcd	75fcd	33fcd	19fcd	12fcd	8fcd	5fcd	3fcd
Beam wid.	0,1m	0,1m	0,2m	0,3m	0,4m	0,5m	0,7m	1,1m	1,4m	1,8m	2,1m	2,8m	3,5m
Beam wid.	0,2ft	0,5ft	0,7ft	0,9ft	1,2ft	1,7ft	2,3ft	3,5ft	4,7ft	5,8ft	7ft	9,3ft	11,6ft

### LINEAR DISTRIBUTION DIAGRAM



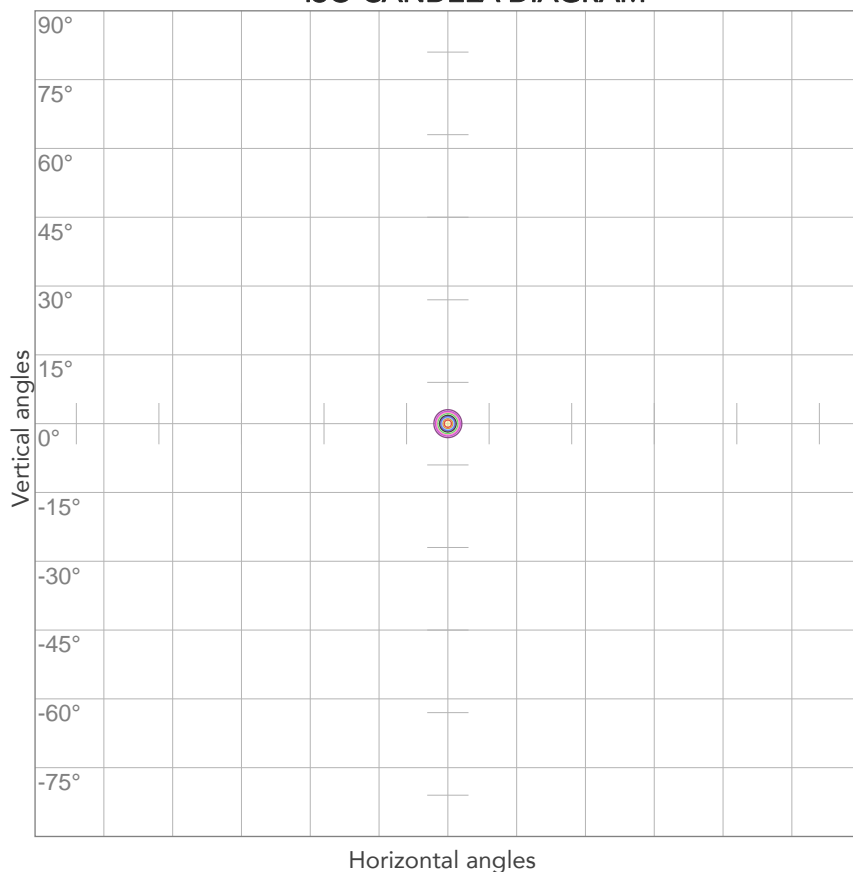
### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
224V	0,763A	150,5W	36lm/W

Power FC
0,88

## ISO CANDELA DIAGRAM



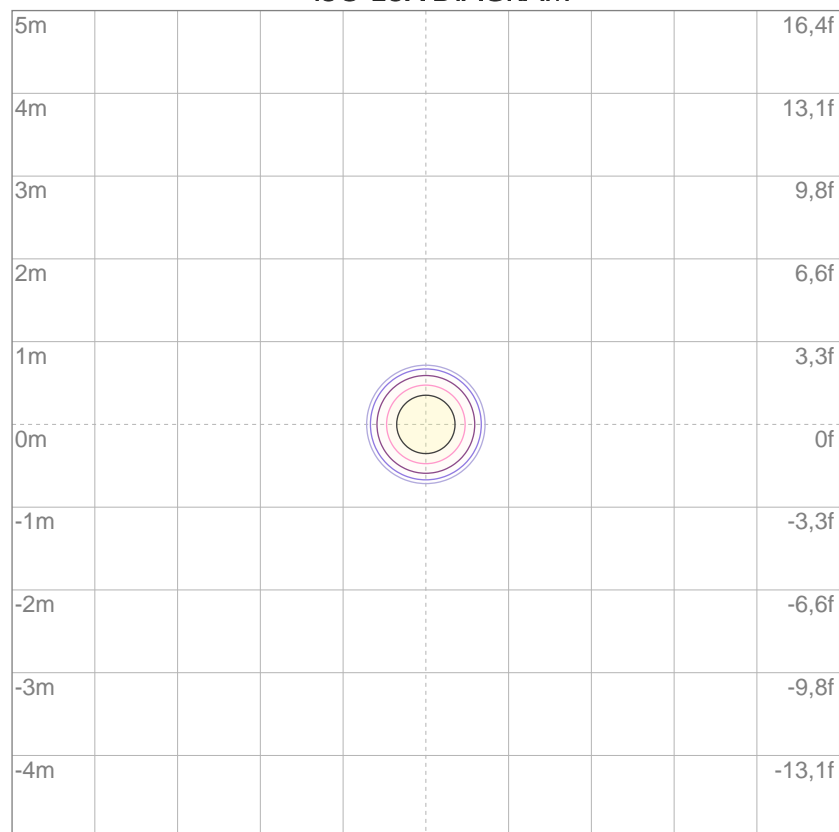
10%	8052 cd
20%	16104 cd
30%	24155 cd
40%	32207 cd
50%	40259 cd
60%	48311 cd
70%	56363 cd
80%	64415 cd

### Conditions:

Number of c-planes: 2

Candela at center: 80518 cd

## ISO LUX DIAGRAM



3%	24,2 lx
5%	40,3 lx
10%	80,5 lx
30%	242 lx
50%	403 lx

### Conditions:

Number of c-planes: 2

Lux at center: 805 lx

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





Total lumen output:

4089 lm

Peak candela output:

26632 cd

## PRODUCT NAME:

Stark 1000

## MEASURAMENT CONDITIONS:

Beam angle:

Max Zoom

Target:

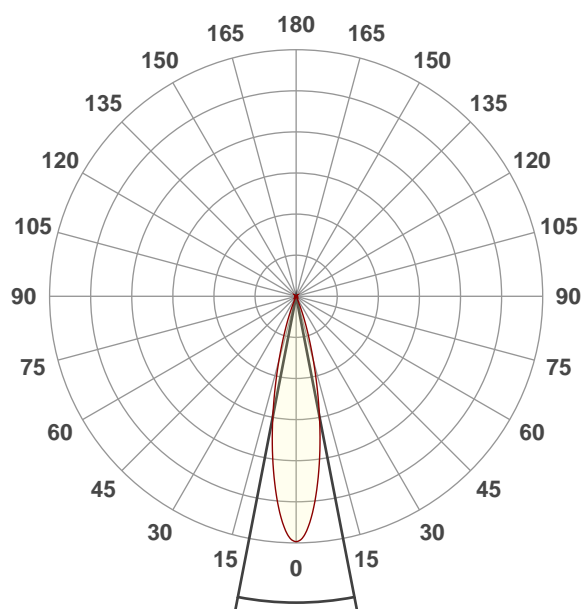
White

Operator:

Paolo Carvone

Date and time:

18/12/2019 15:20:35

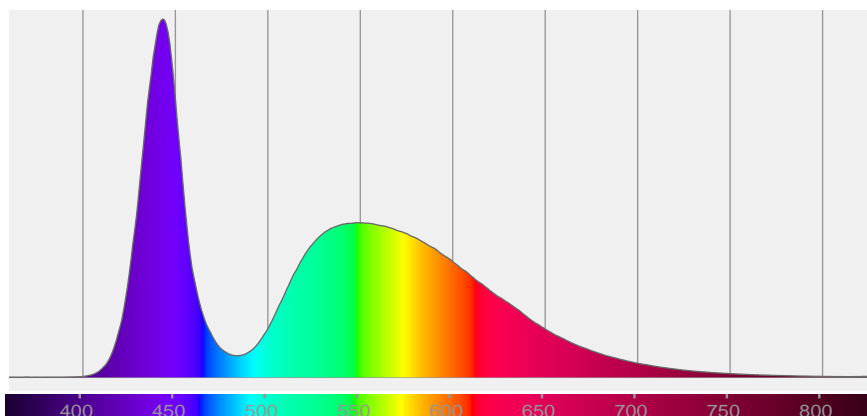


Beam angle 50%: 21,9°

Field angle 10%: 38,8°

Cut off angle 2.5%: 45,3°

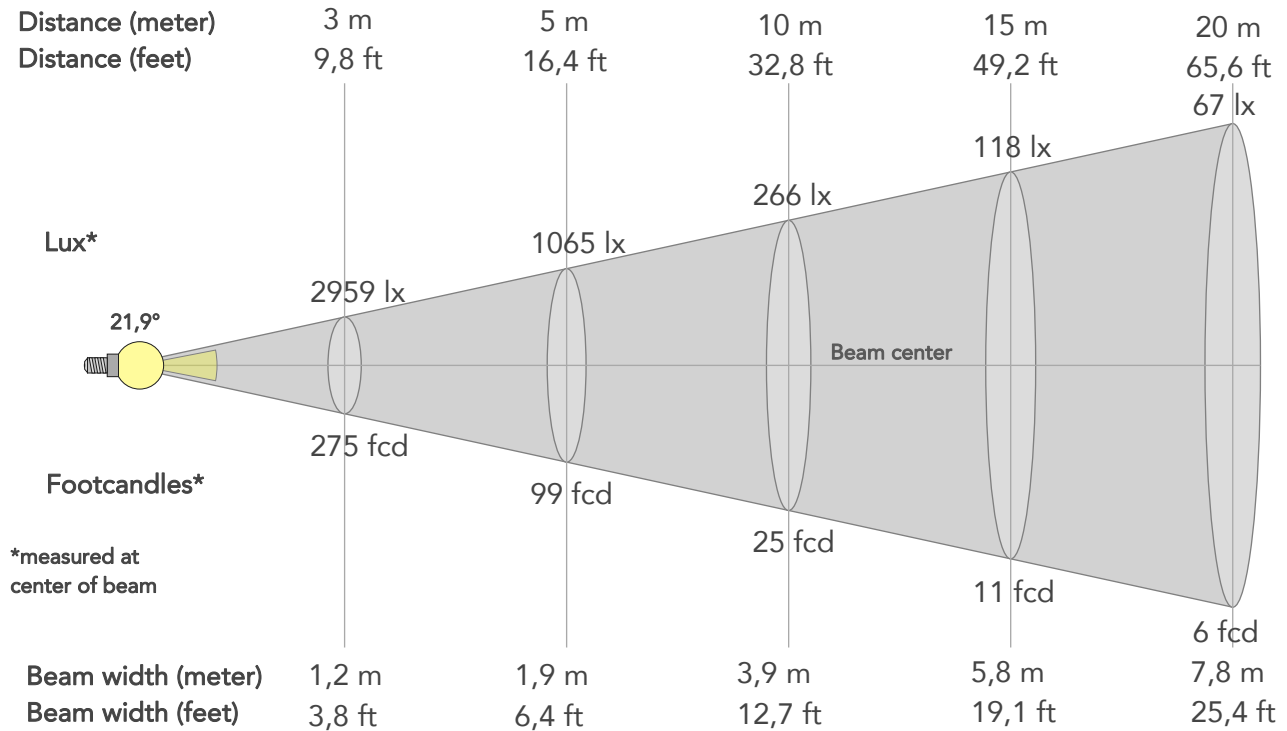
## Spectra



## BEAM DETAILS



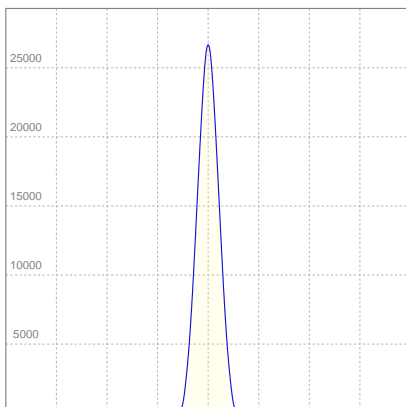
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
21,9°	38,8°	45,3°	100,0%	99,9%



### 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	26632lx	6658lx	2959lx	1664lx	1065lx	473lx	266lx	118lx	67lx	43lx	30lx	17lx	11lx
Footcand.	2474fcd	619fcd	275fcd	155fcd	99fcd	44fcd	25fcd	11fcd	6fcd	4fcd	3fcd	2fcd	1fcd
Beam wid.	0,4m	0,8m	1,2m	1,6m	1,9m	2,9m	3,9m	5,8m	7,8m	9,7m	11,6m	15,5m	19,4m
Beam wid.	1,3ft	2,6ft	3,8ft	5,1ft	6,4ft	9,5ft	12,7ft	19,1ft	25,4ft	31,8ft	38,1ft	50,9ft	63,6ft

### LINEAR DISTRIBUTION DIAGRAM

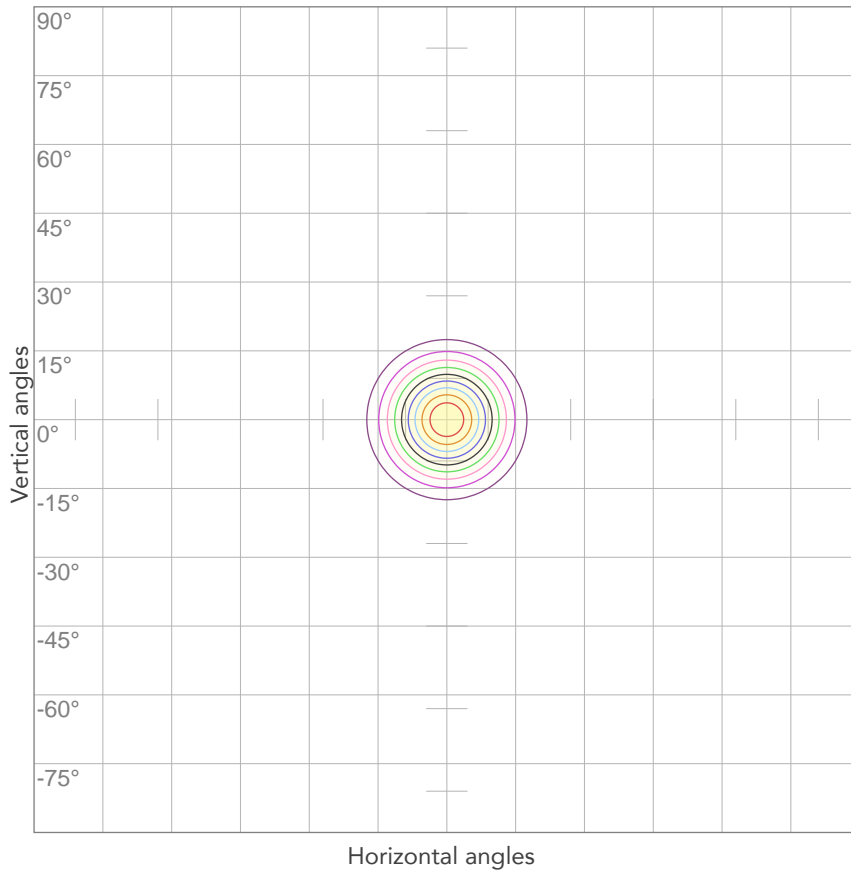


### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
226V	0,876A	177,7W	23lm/W

Power FC
0,9

## ISO CANDELA DIAGRAM



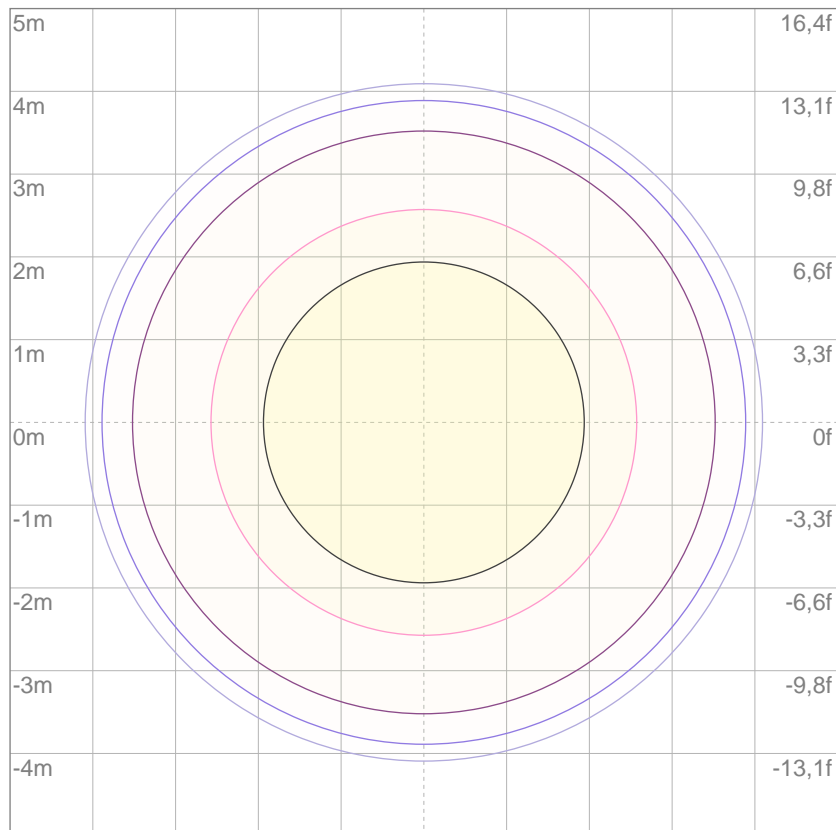
10%	2663 cd
20%	5326 cd
30%	7990 cd
40%	10653 cd
50%	13316 cd
60%	15979 cd
70%	18642 cd
80%	21305 cd

### Conditions:

Number of c-planes: 2

Candela at center: 26632 cd

## ISO LUX DIAGRAM



3%	7,99 lx
5%	13,3 lx
10%	26,6 lx
30%	79,9 lx
50%	133 lx

### Conditions:

Number of c-planes: 2

Lux at center: 266 lx

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



Total lumen output:

3915 lm

Peak candela output:

87370 cd

## PRODUCT NAME:

Stark 1000

## MEASURAMENT CONDITIONS:

Beam angle:

Med Zoom

Target:

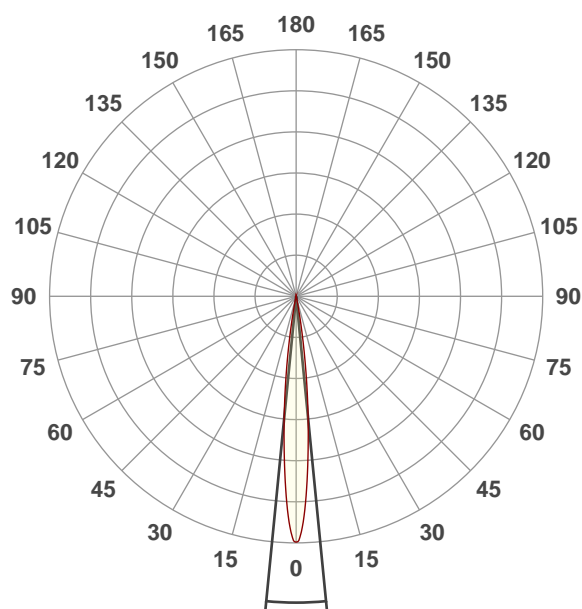
White

Operator:

Paolo Carvone

Date and time:

18/12/2019 17:08:52

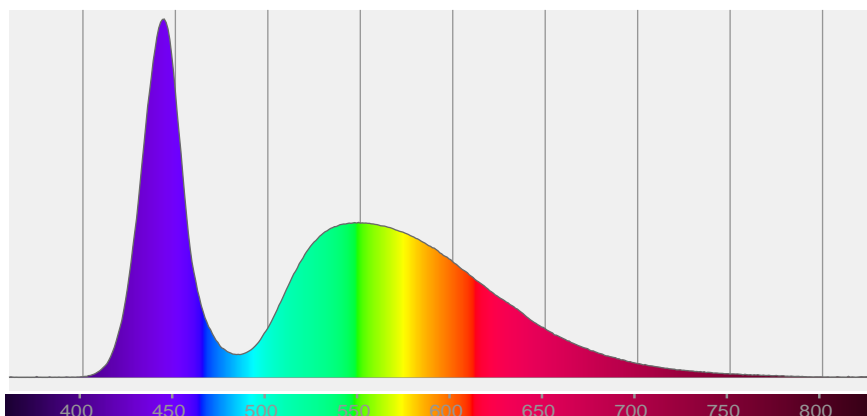


Beam angle 50%: 11,2°

Field angle 10%: 19,8°

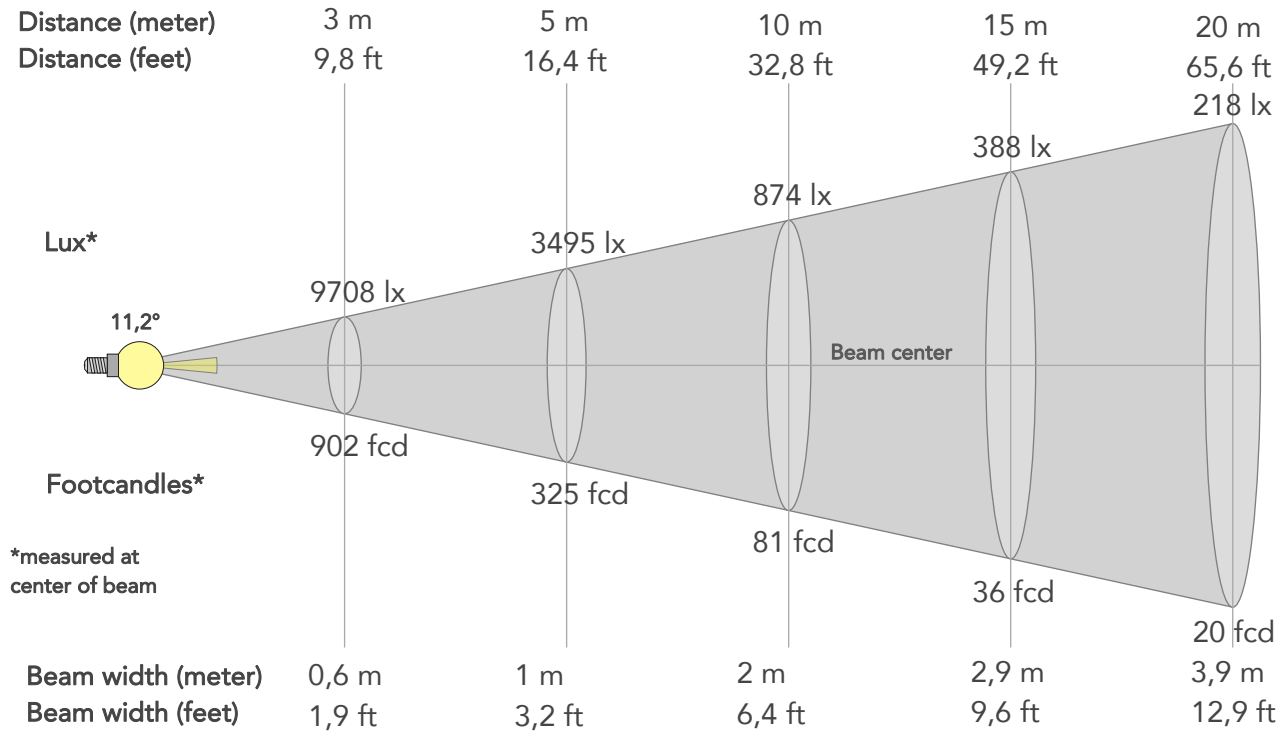
Cut off angle 2.5%: 23,4°

## Spectra



## BEAM DETAILS

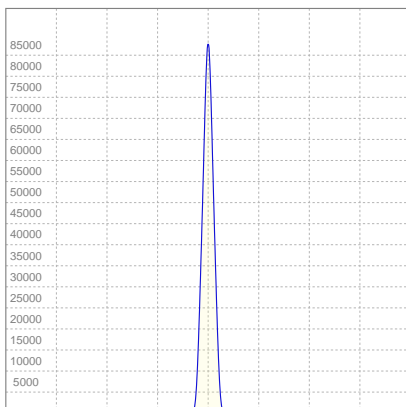
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
11,2°	19,8°	23,4°	94,7%	93,1%



### 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	87370lx	21842lx	9708lx	5461lx	3495lx	1553lx	874lx	388lx	218lx	140lx	97lx	55lx	35lx
Footcand.	8117fcd	2029fcd	902fcd	507fcd	325fcd	144fcd	81fcd	36fcd	20fcd	13fcd	9fcd	5fcd	3fcd
Beam wid.	0,2m	0,4m	0,6m	0,8m	1m	1,5m	2m	2,9m	3,9m	4,9m	5,9m	7,8m	9,8m
Beam wid.	0,6ft	1,3ft	1,9ft	2,6ft	3,2ft	4,8ft	6,4ft	9,6ft	12,9ft	16,1ft	19,3ft	25,7ft	32,2ft

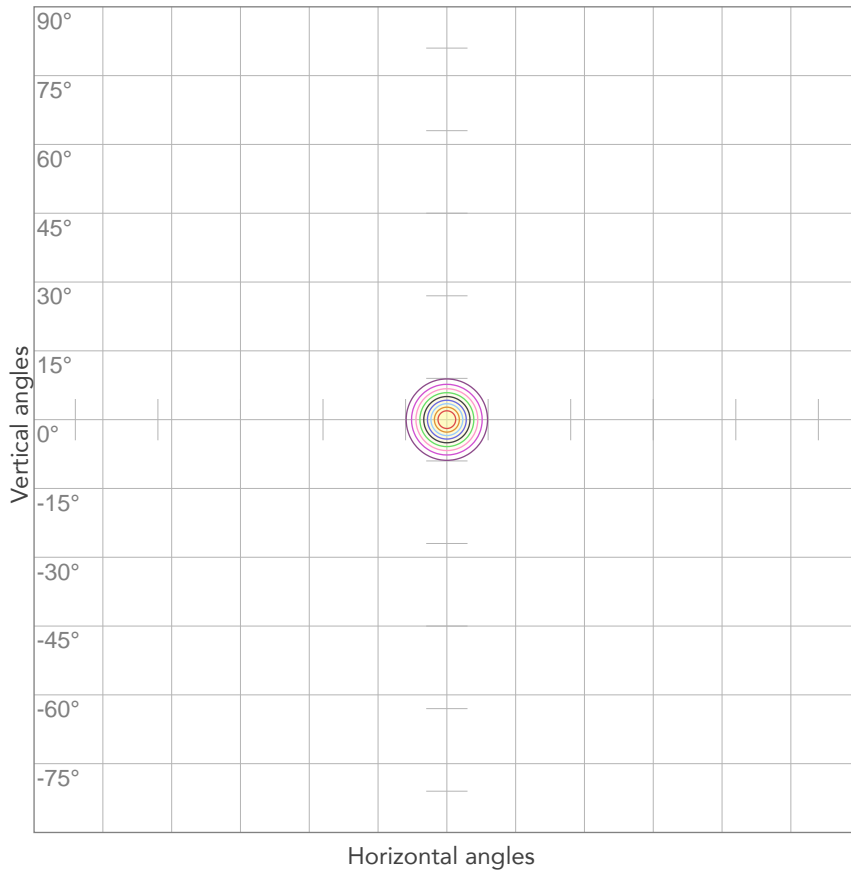
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Efficiency
223V	0,876A	176,3W	22lm/W
Power FC			
0,9			

## ISO CANDELA DIAGRAM



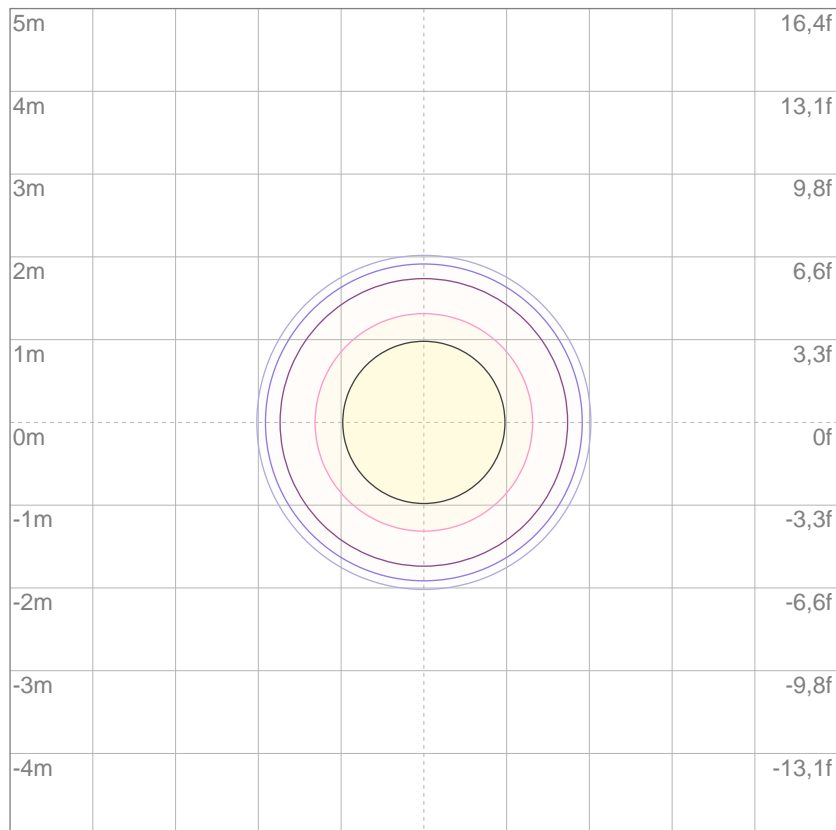
10%	8737 cd
20%	17474 cd
30%	26211 cd
40%	34948 cd
50%	43685 cd
60%	52422 cd
70%	61159 cd
80%	69896 cd

### Conditions:

Number of c-planes: 2

Candela at center: 87370 cd

## ISO LUX DIAGRAM



3%	26,2 lx
5%	43,7 lx
10%	87,4 lx
30%	262 lx
50%	437 lx

### Conditions:

Number of c-planes: 2

Lux at center: 874 lx

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



Total lumen output:

4714 lm

Peak candela output:

561970 cd

## PRODUCT NAME:

Stark 1000

## MEASURAMENT CONDITIONS:

Beam angle:

Min Zoom

Target:

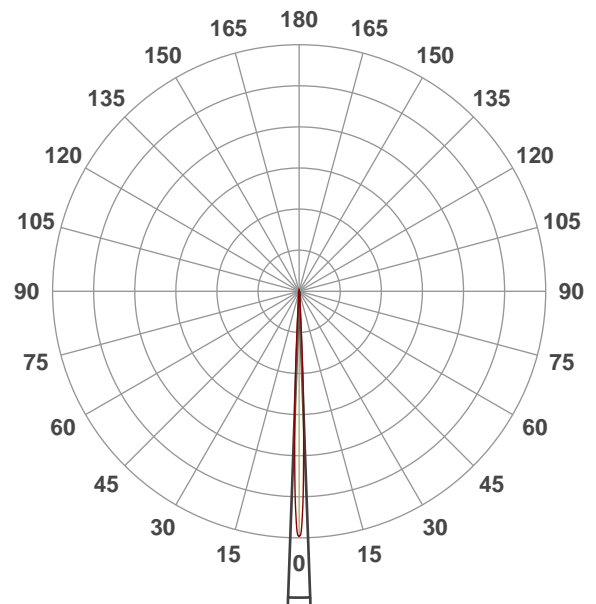
White

Operator:

Paolo Carvone

Date and time:

18/12/2019 16:29:32

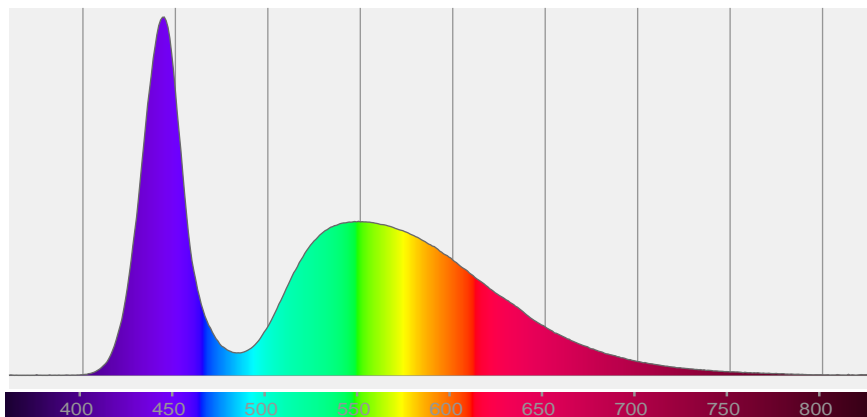


Beam angle 50%: 4,1°

Field angle 10%: 6,7°

Cut off angle 2.5%: 7,7°

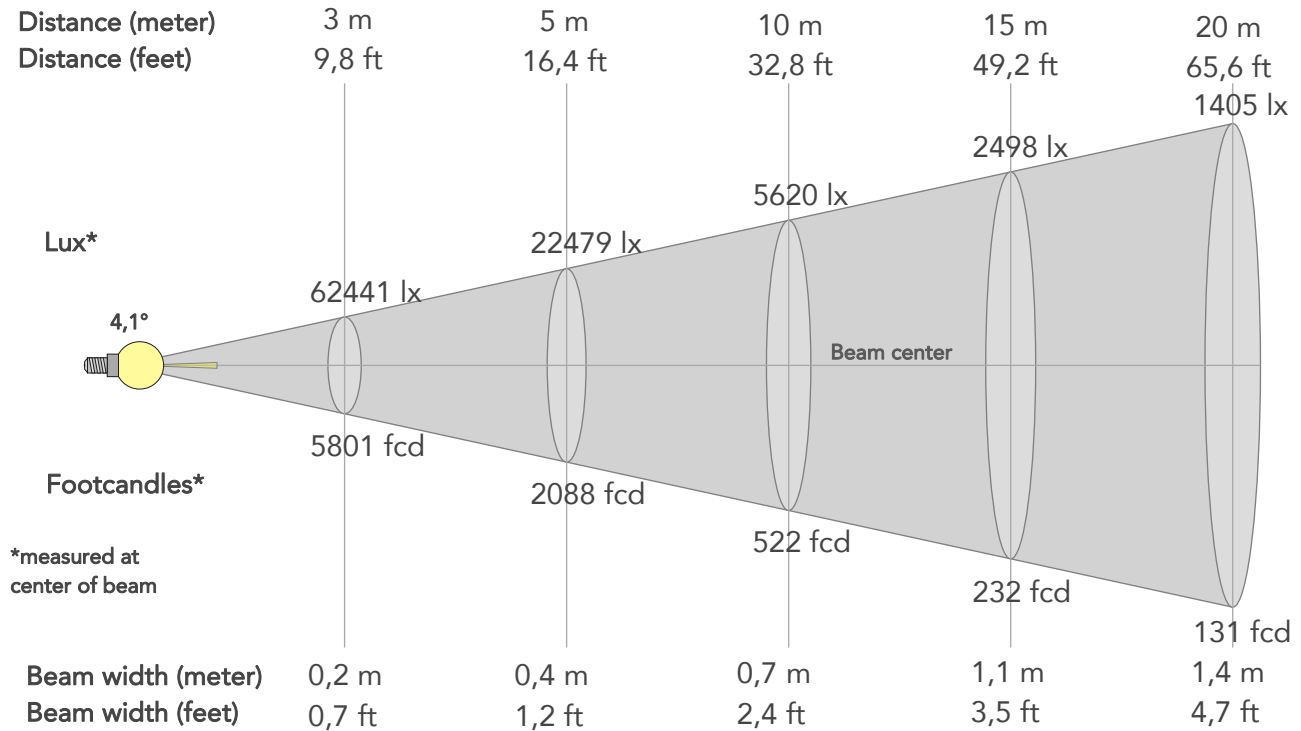
## Spectra



## BEAM DETAILS



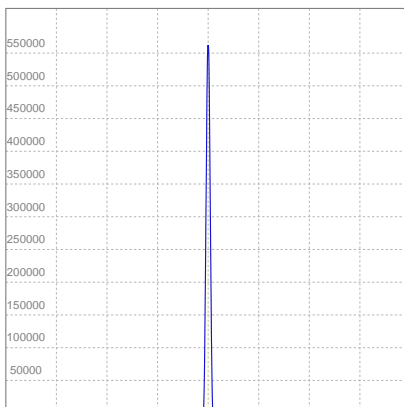
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
4,1°	6,7°	7,7°	78,7%	70,9%



### 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	561970lx	140493lx	62441lx	35123lx	22479lx	9991lx	5620lx	2498lx	1405lx	899lx	624lx	351lx	225lx
Footcand.	52209fcd	13052fcd	5801fcd	3263fcd	2088fcd	928fcd	522fcd	232fcd	131fcd	84fcd	58fcd	33fcd	21fcd
Beam wid.	0,1m	0,1m	0,2m	0,3m	0,4m	0,5m	0,7m	1,1m	1,4m	1,8m	2,2m	2,9m	3,6m
Beam wid.	0,2ft	0,5ft	0,7ft	0,9ft	1,2ft	1,8ft	2,4ft	3,5ft	4,7ft	5,9ft	7,1ft	9,5ft	11,8ft

### LINEAR DISTRIBUTION DIAGRAM



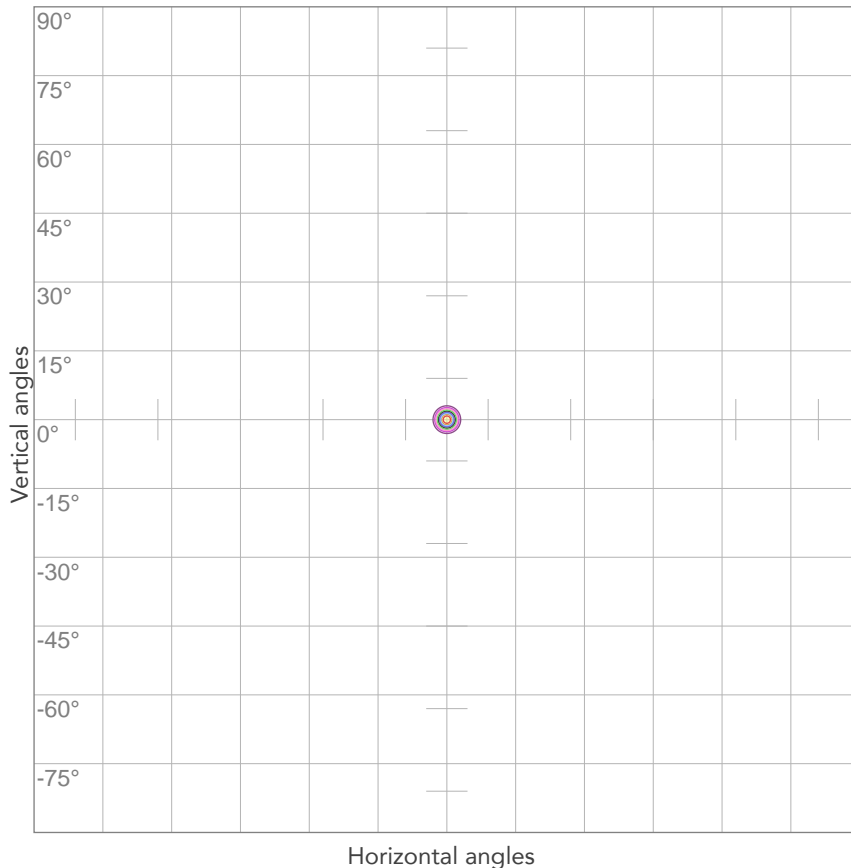
### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
224V	0,879A	177,1W	27lm/W

Power FC
0,9



## ISO CANDELA DIAGRAM



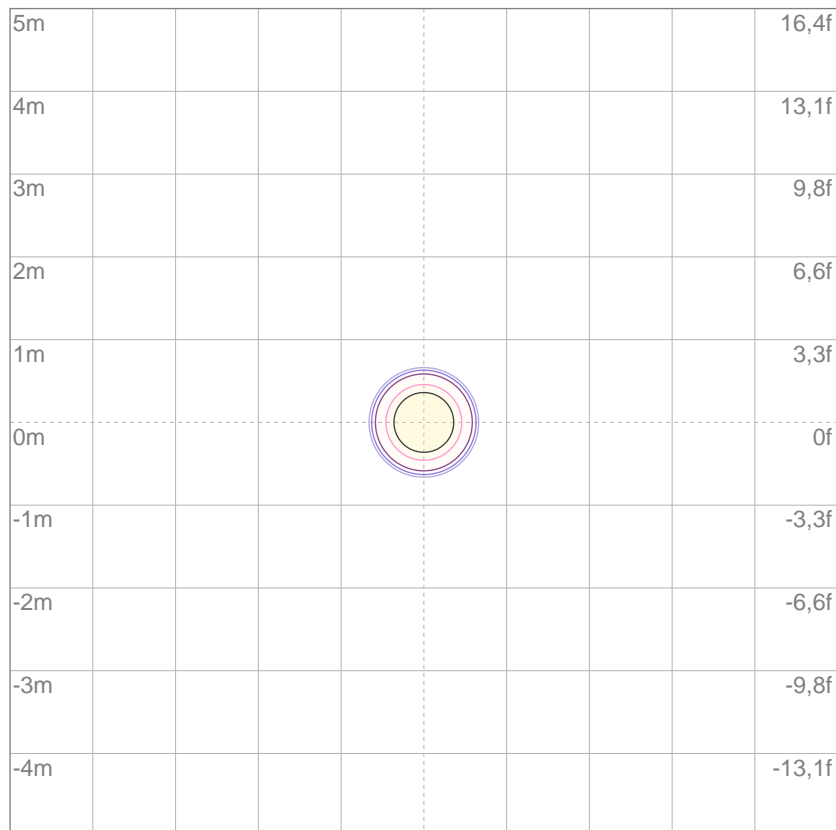
10%	56197 cd
20%	112394 cd
30%	168591 cd
40%	224788 cd
50%	280985 cd
60%	337182 cd
70%	393379 cd
80%	449576 cd

### Conditions:

Number of c-planes: 2

Candela at center: 561970 cd

## ISO LUX DIAGRAM



3%	169 lx
5%	281 lx
10%	562 lx
30%	1686 lx
50%	2810 lx

### Conditions:

Number of c-planes: 2

Lux at center: 5620 lx

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



Total lumen output:

4170 lm

Peak candela output:

28616 cd

Light quality:

CRI: 44,8

Color temperature:

2825 K

## PRODUCT NAME:

Stark 1000

## MEASURAMENT CONDITIONS:

Beam angle:

Max Zoom

Target:

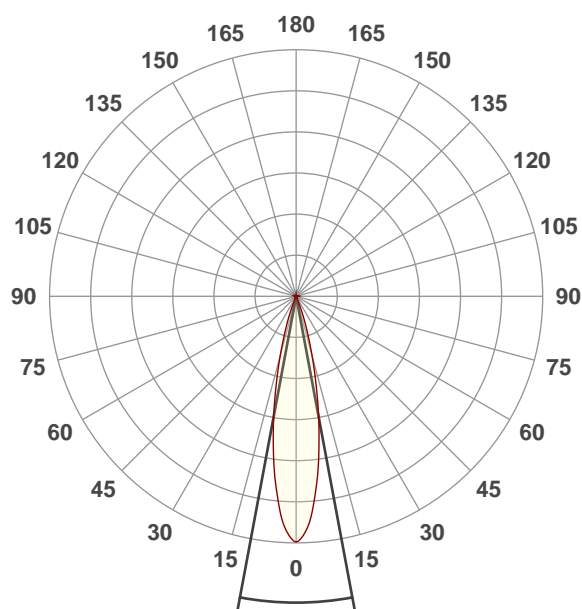
2800K

Operator:

Paolo Carvone

Date and time:

18/12/2019 15:39:03

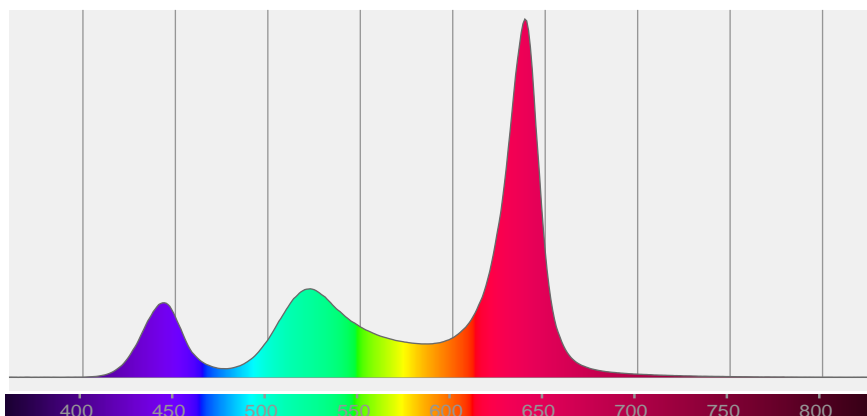


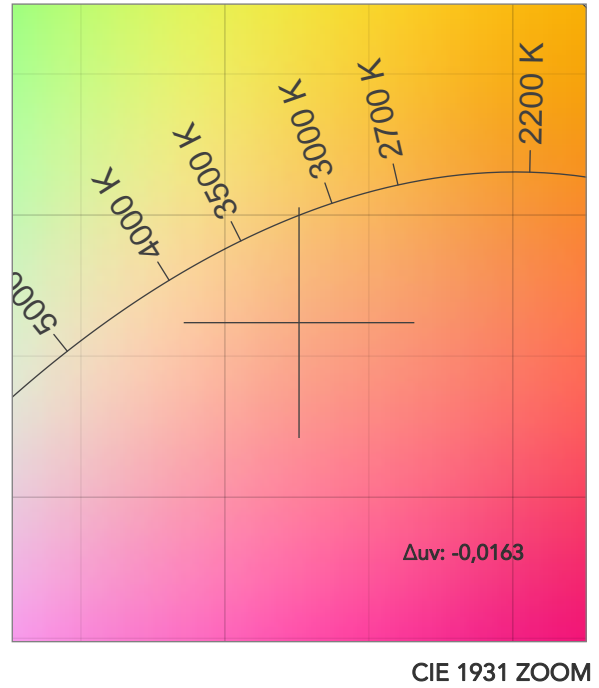
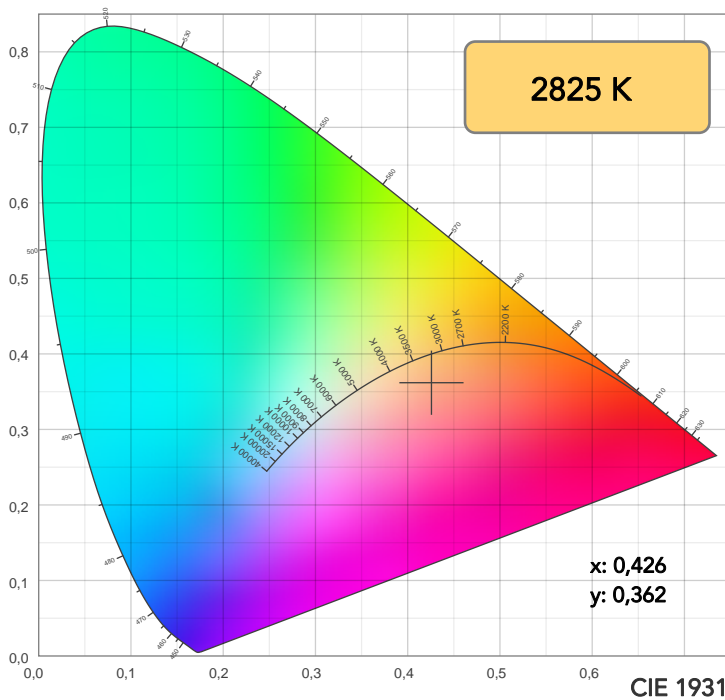
Beam angle 50%: 21,1°

Field angle 10%: 38,1°

Cut off angle 2.5%: 44,8°

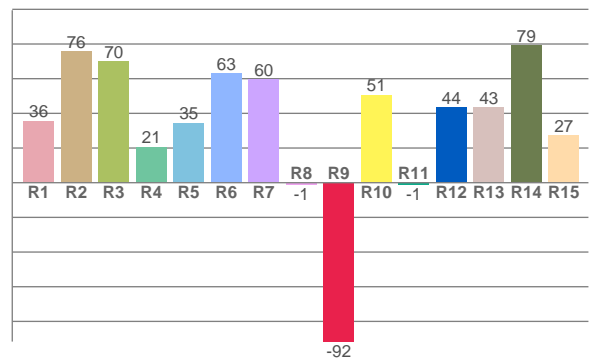
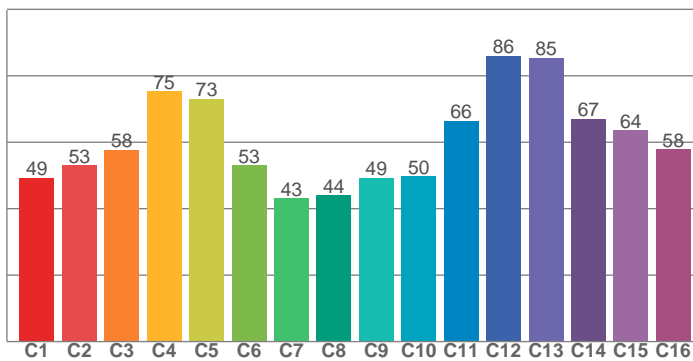
## Spectra





TM30: 61,0

CRI: 44,8 (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
35,7	75,6	70,1	20,7	34,6	63,0	59,7	-1,1	-91,6	50,7	-1,2	43,6	43,3	79,1	27,4

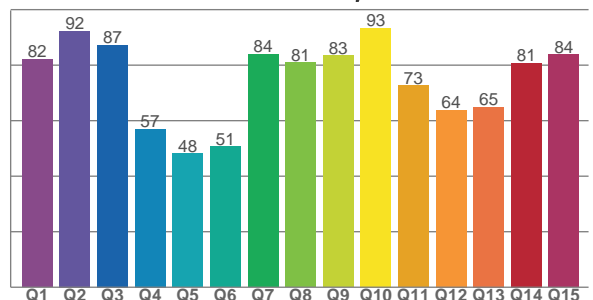
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
49,2	53,1	57,7	75,3	73,1	53,1	43,1	44,1	49,3	49,7	66,4	85,9	85,5	67,0	63,6	57,8

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
82,1	92,3	87,3	57,0	48,2	50,7	83,9	80,9	83,4	93,3	72,7	63,8	65,0	80,7	83,9

CQS: 71,0



## COLOR PARAMETERS

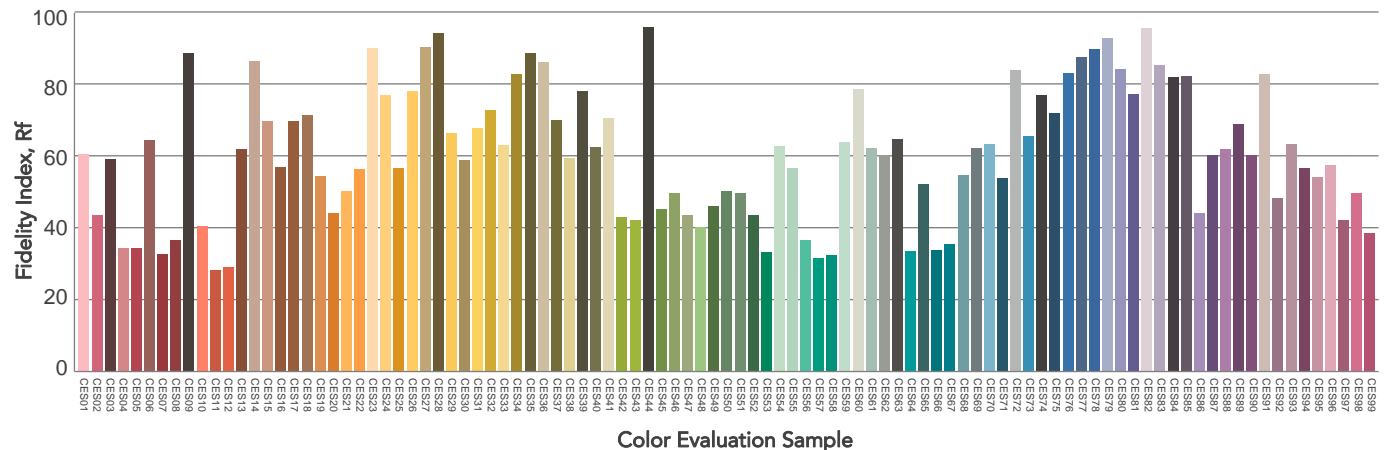
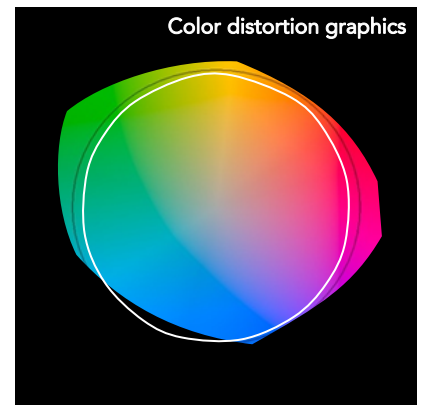
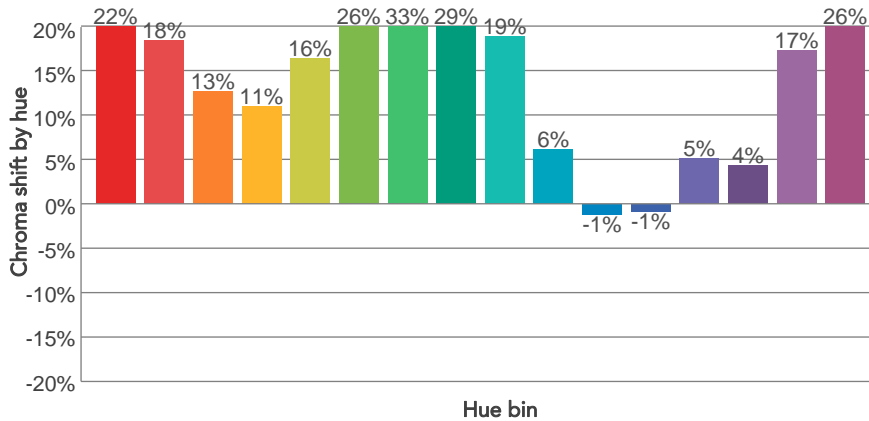
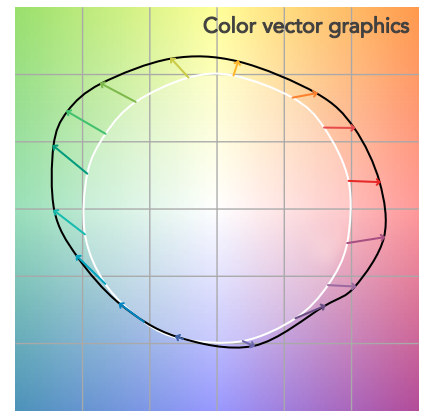
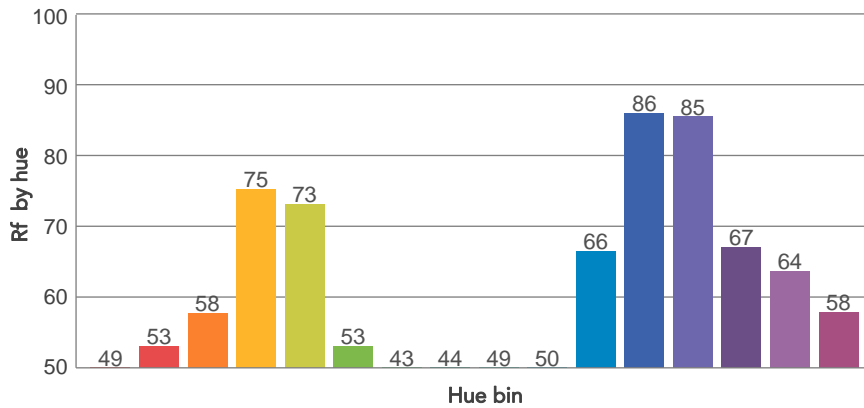
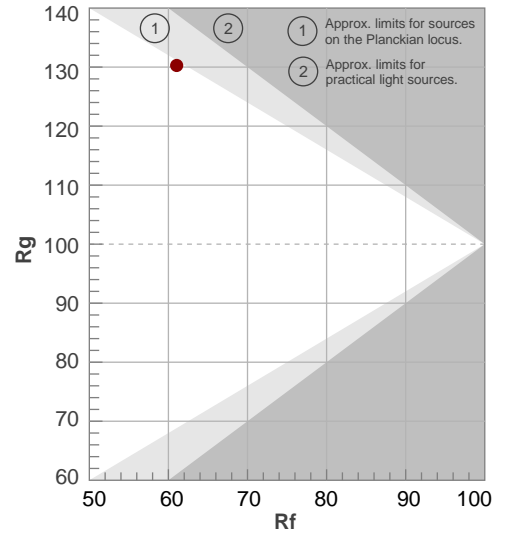
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
2825 K	44,8	-91,6	61,0	130,3	71,0	29	0,426	0,362	-0,0163

# TM30 DETAILS

**Rf 61,0**  
Fidelity index Rf

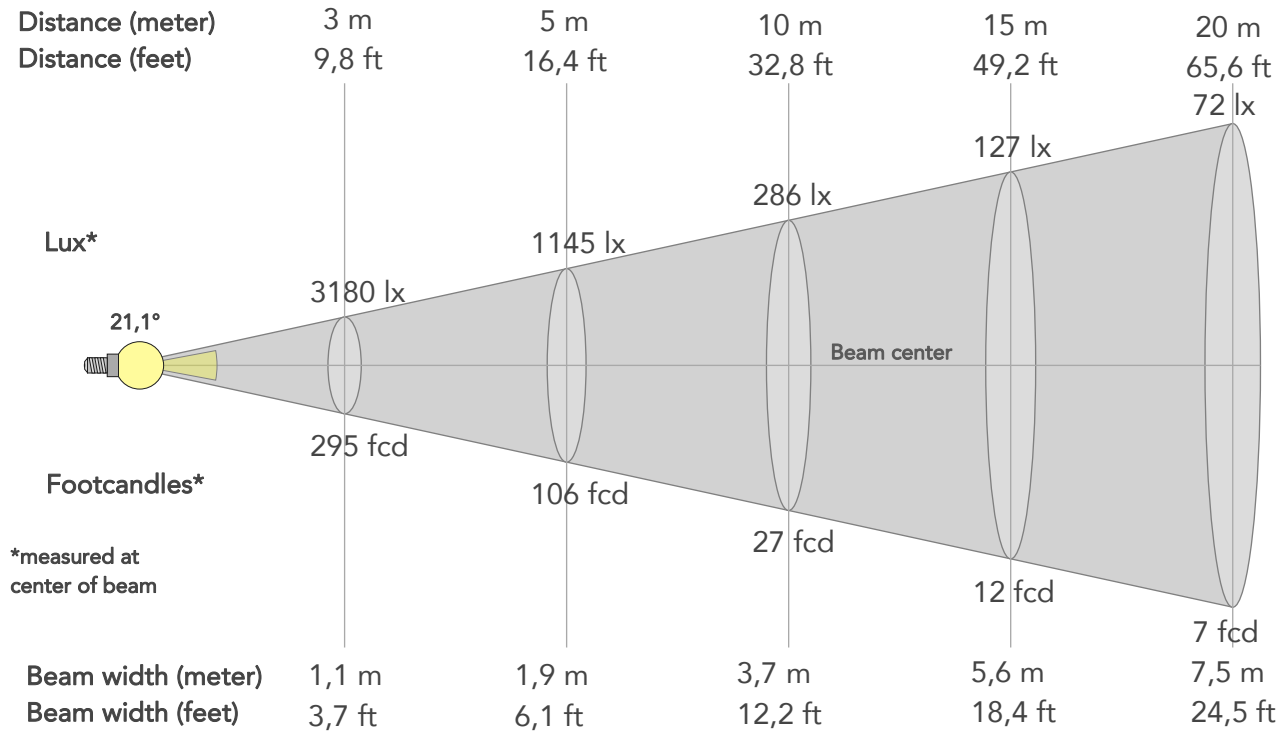
**Rg 130,3**  
Gammut index

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	49	22%	-5%
2	53	18%	-13%
3	58	13%	-13%
4	75	11%	-1%
5	73	16%	10%
6	53	26%	14%
7	43	33%	2%
8	44	29%	-15%
9	49	19%	-22%
10	50	6%	-29%
11	66	-1%	-22%
12	86	-1%	-5%
13	85	5%	7%
14	67	4%	23%
15	64	17%	10%
16	58	26%	10%



## BEAM DETAILS

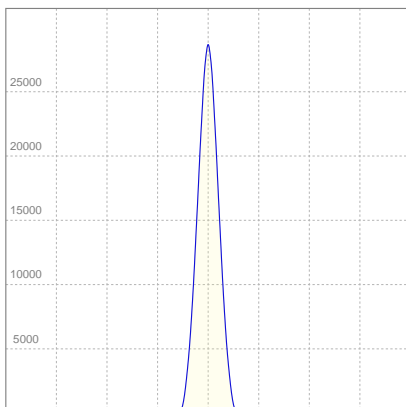
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
21,1°	38,1°	44,8°	100,0%	100,0%



### 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	28616lx	7154lx	3180lx	1788lx	1145lx	509lx	286lx	127lx	72lx	46lx	32lx	18lx	11lx
Footcand.	2659fcd	665fcd	295fcd	166fcd	106fcd	47fcd	27fcd	12fcd	7fcd	4fcd	3fcd	2fcd	1fcd
Beam wid.	0,4m	0,7m	1,1m	1,5m	1,9m	2,8m	3,7m	5,6m	7,5m	9,3m	11,2m	14,9m	18,7m
Beam wid.	1,2ft	2,5ft	3,7ft	4,9ft	6,1ft	9,2ft	12,2ft	18,4ft	24,5ft	30,6ft	36,7ft	49ft	61,2ft

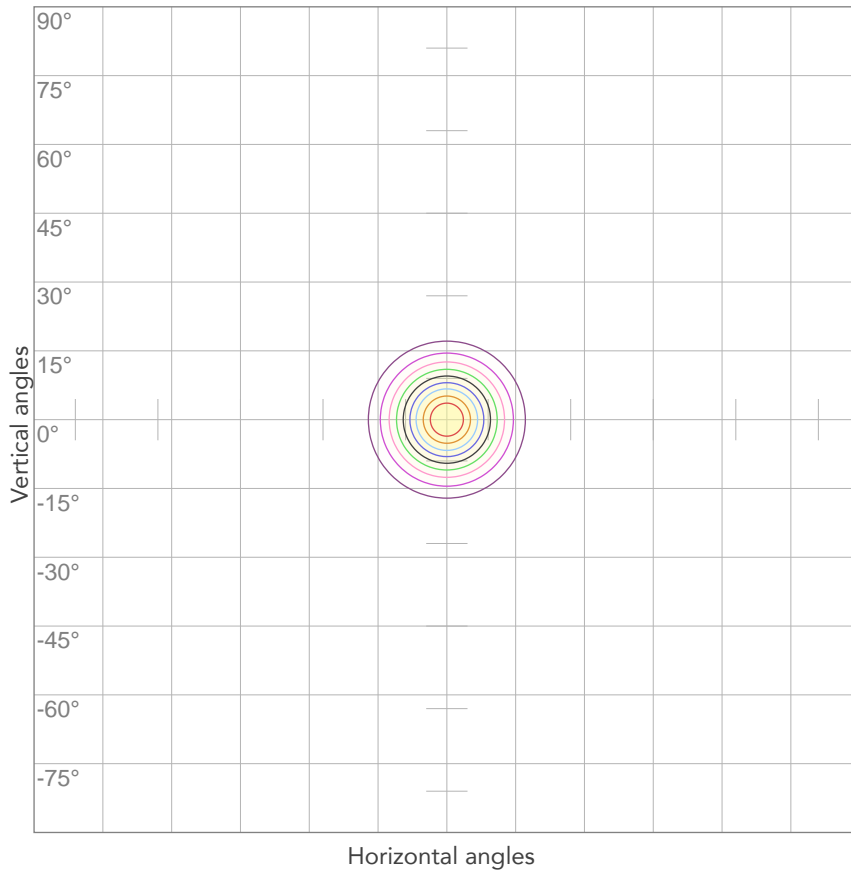
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
224V	1,35A	287,4W	15lm/W

## ISO CANDELA DIAGRAM



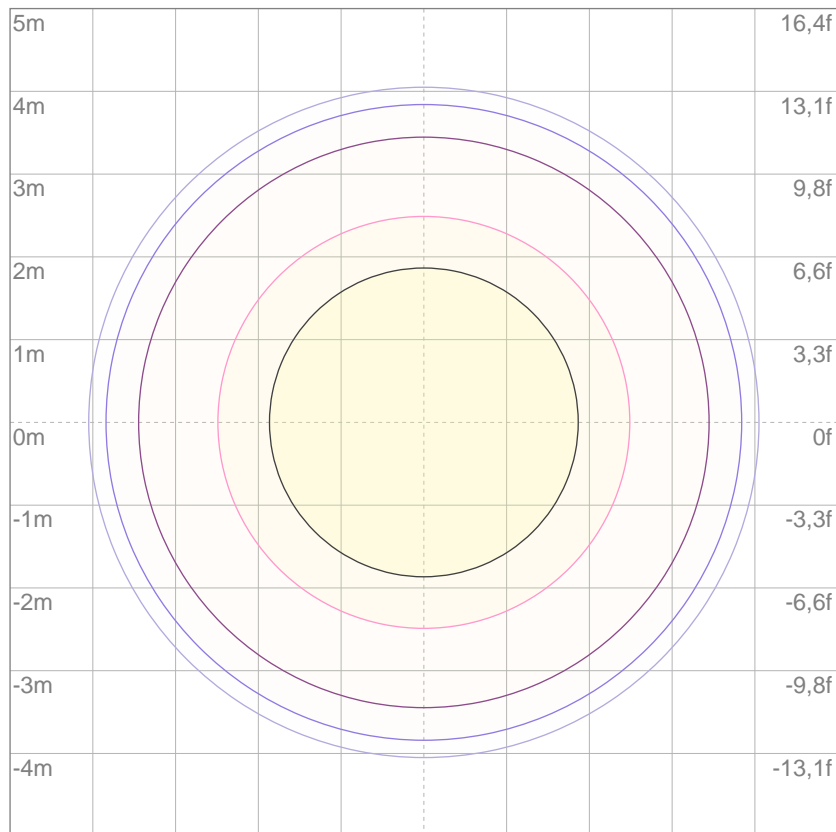
10%	2862 cd
20%	5723 cd
30%	8585 cd
40%	11446 cd
50%	14308 cd
60%	17170 cd
70%	20031 cd
80%	22893 cd

### Conditions:

Number of c-planes: 2

Candela at center: 28616 cd

## ISO LUX DIAGRAM



3%	8,58 lx
5%	14,3 lx
10%	28,6 lx
30%	85,8 lx
50%	143 lx

### Conditions:

Number of c-planes: 2

Lux at center: 286 lx

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



Total lumen output:

4558 lm

Peak candela output:

94739 cd

Light quality:

CRI: 44,7

Color temperature:

2829 K

## PRODUCT NAME:

Stark 1000

## MEASURAMENT CONDITIONS:

Beam angle:

Med Zoom

Target:

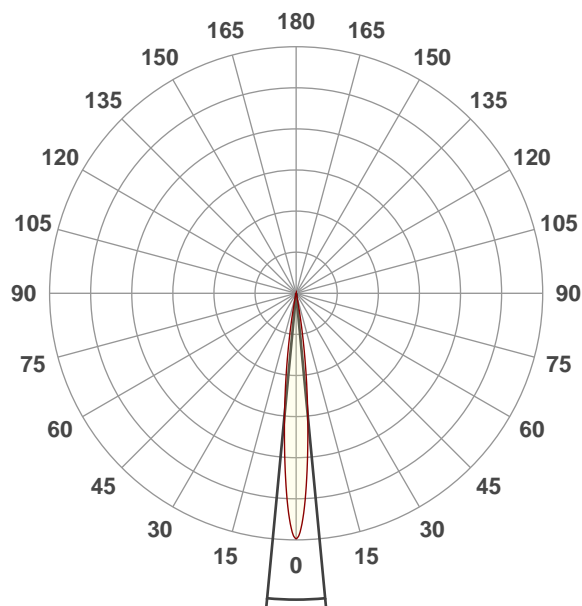
2800K

Operator:

Paolo Carvone

Date and time:

18/12/2019 17:13:17

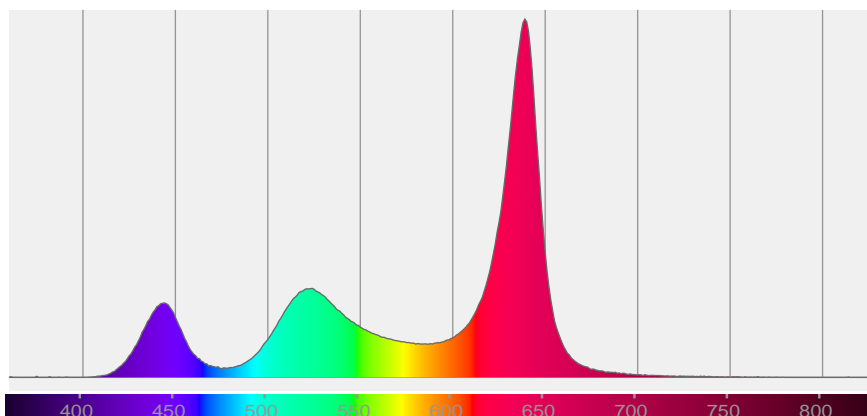


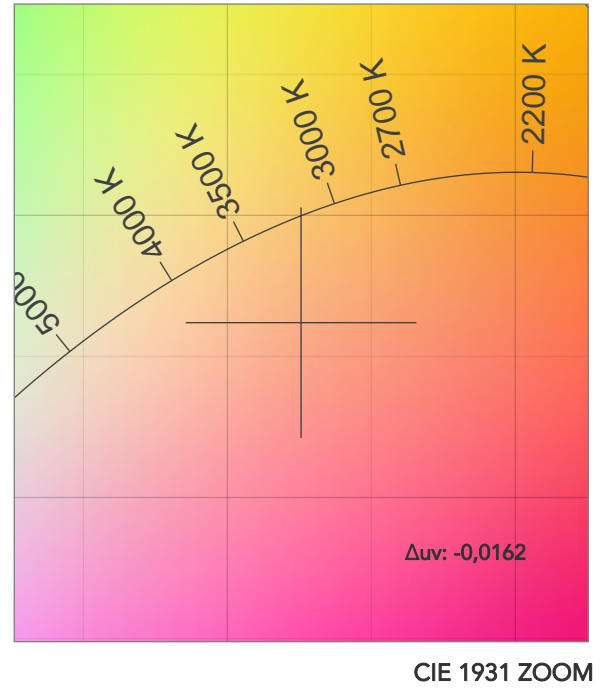
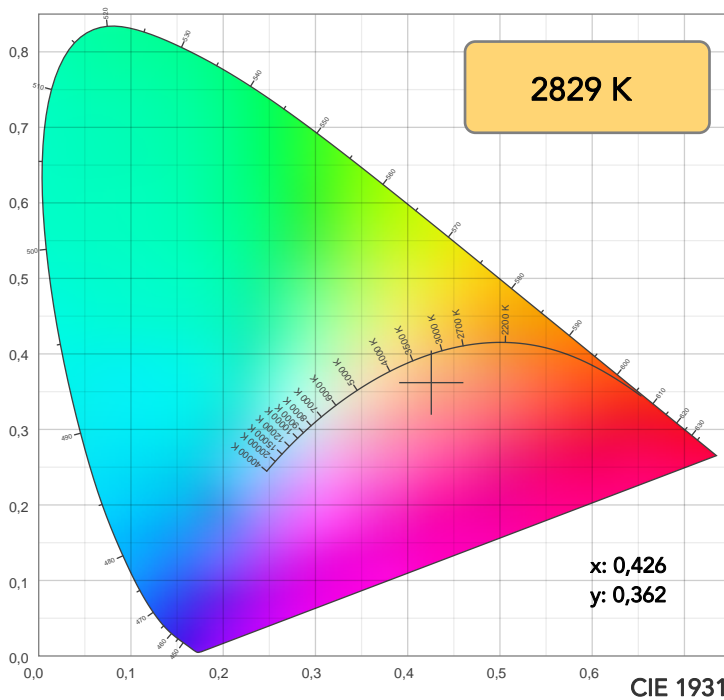
Beam angle 50%: 10,9°

Field angle 10%: 19,6°

Cut off angle 2.5%: 23,4°

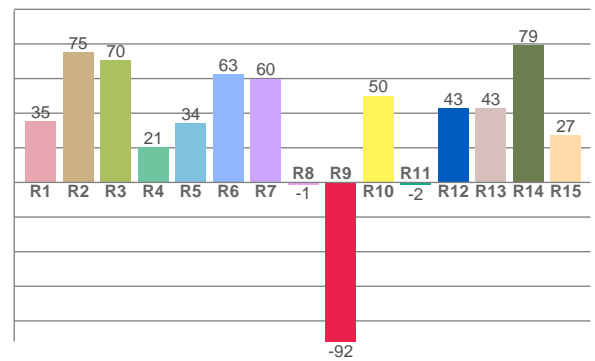
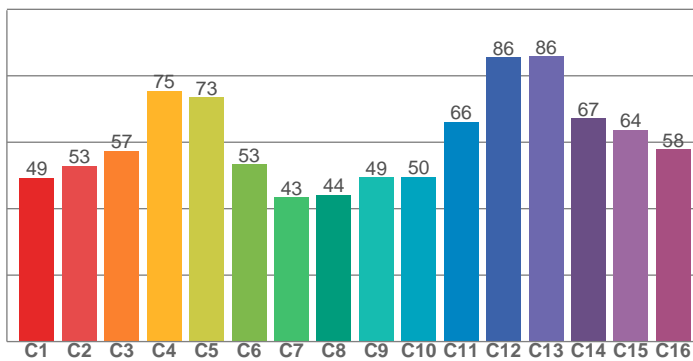
## Spectra





TM30: 61,1

CRI: 44,7 (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
35,5	75,3	70,4	20,5	34,3	62,5	59,9	-1,2	-91,9	50,1	-1,6	42,9	43,0	79,2	27,3

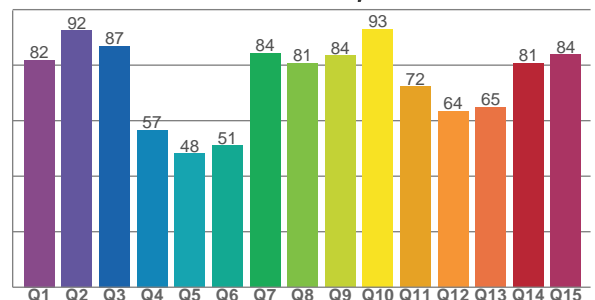
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
49,2	52,9	57,3	75,5	73,5	53,4	43,4	44,2	49,4	49,6	66,1	85,6	85,9	67,2	63,7	57,9

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
81,9	92,5	86,9	56,6	48,2	51,0	84,3	80,6	83,5	93,0	72,2	63,5	64,8	80,6	83,8

CQS: 70,9



## 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	Δuv
2829 K	44,7	-91,9	61,1	130,1	70,9	29	0,426	0,362	-0,0162

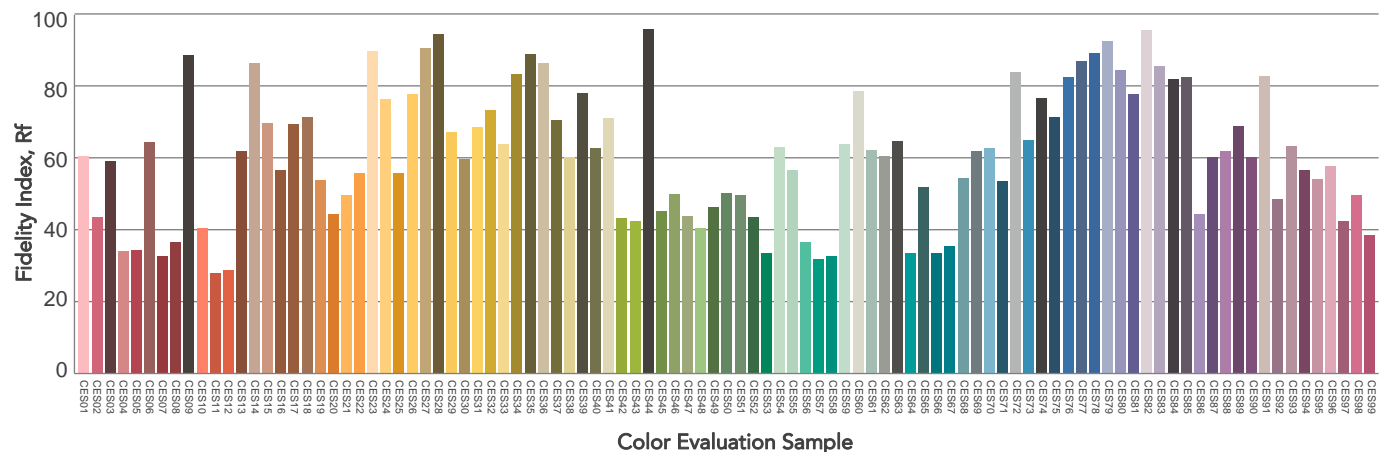
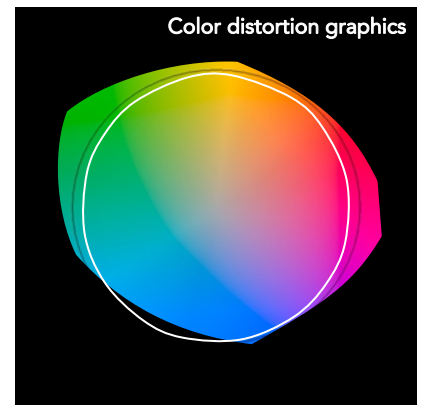
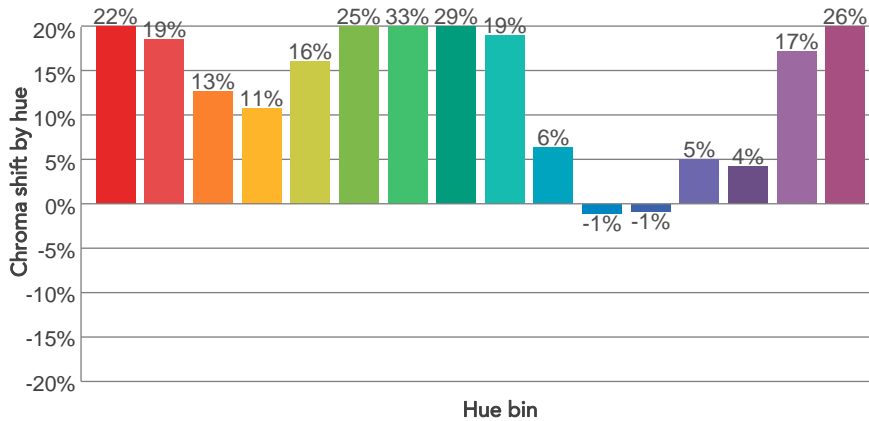
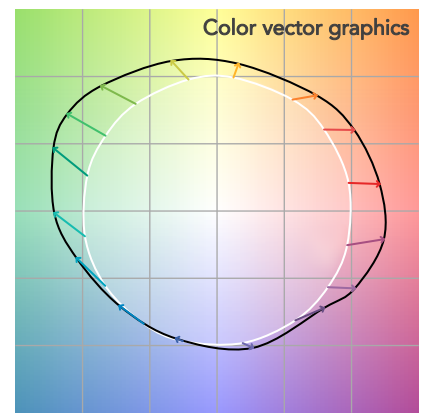
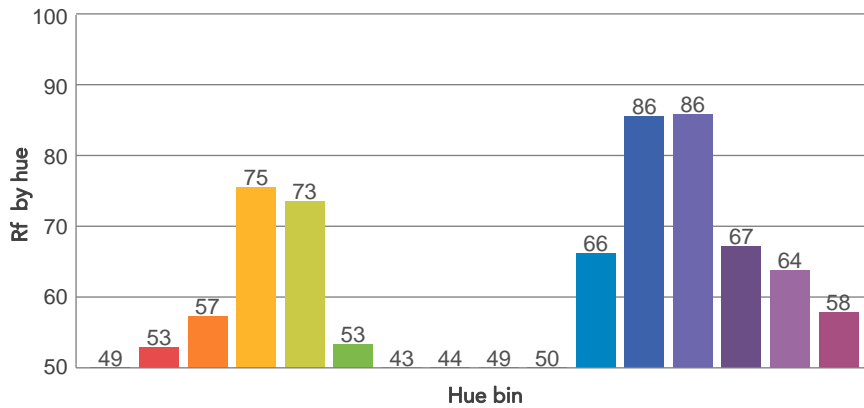
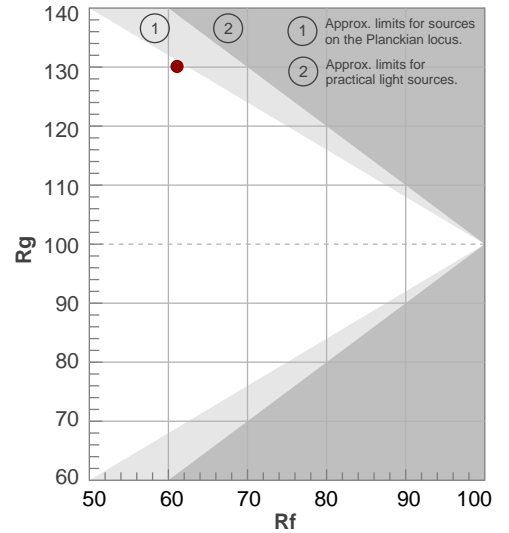


# TM30 DETAILS

**Rf 61,1**  
Fidelity index Rf

**Rg 130,1**  
Gammut index

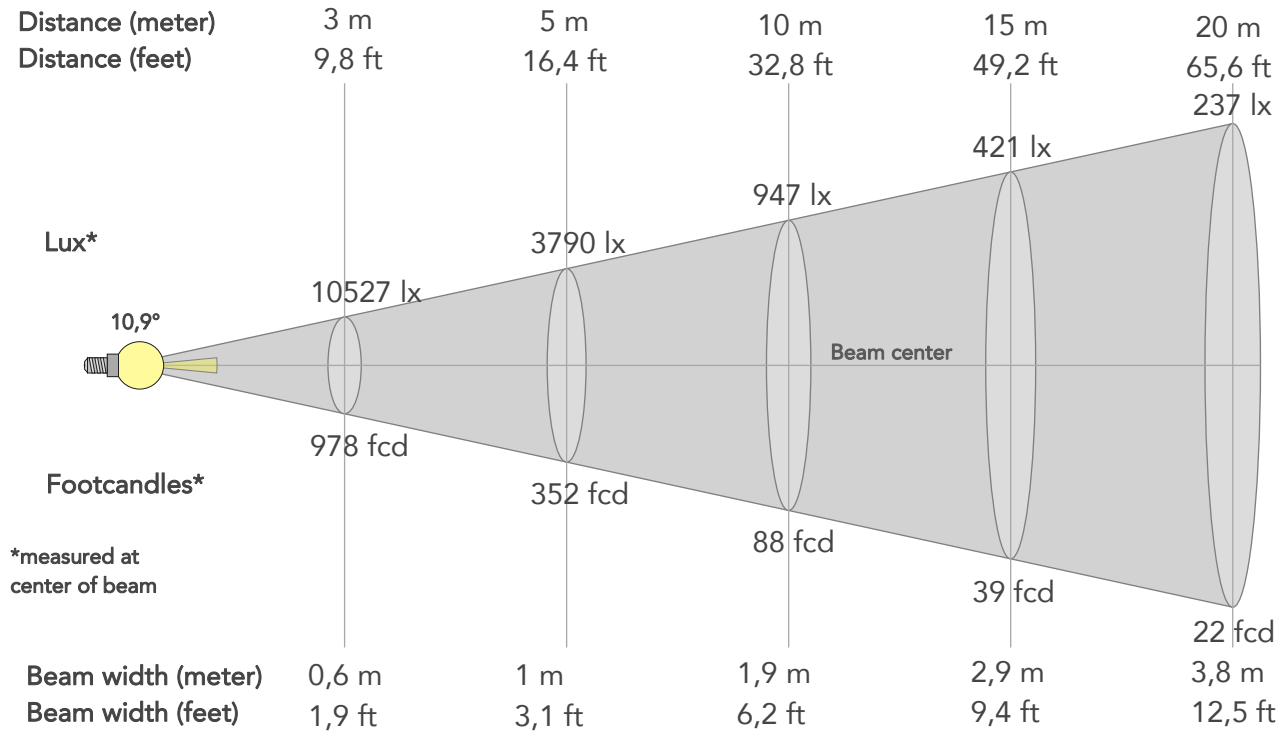
Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	49	22%	-5%
2	53	19%	-13%
3	57	13%	-13%
4	75	11%	-2%
5	73	16%	10%
6	53	25%	14%
7	43	33%	2%
8	44	29%	-15%
9	49	19%	-22%
10	50	6%	-29%
11	66	-1%	-23%
12	86	-1%	-6%
13	86	5%	7%
14	67	4%	23%
15	64	17%	10%
16	58	26%	10%



## BEAM DETAILS



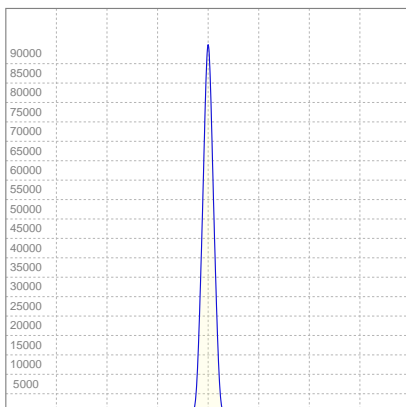
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
10,9°	19,6°	23,4°	89,6%	86,5%



### 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	94739lx	23685lx	10527lx	5921lx	3790lx	1684lx	947lx	421lx	237lx	152lx	105lx	59lx	38lx
Footcand.	8802fcd	2200fcd	978fcd	550fcd	352fcd	156fcd	88fcd	39fcd	22fcd	14fcd	10fcd	6fcd	4fcd
Beam wid.	0,2m	0,4m	0,6m	0,8m	1m	1,4m	1,9m	2,9m	3,8m	4,8m	5,7m	7,6m	9,5m
Beam wid.	0,6ft	1,3ft	1,9ft	2,5ft	3,1ft	4,7ft	6,2ft	9,4ft	12,5ft	15,6ft	18,7ft	25ft	31,2ft

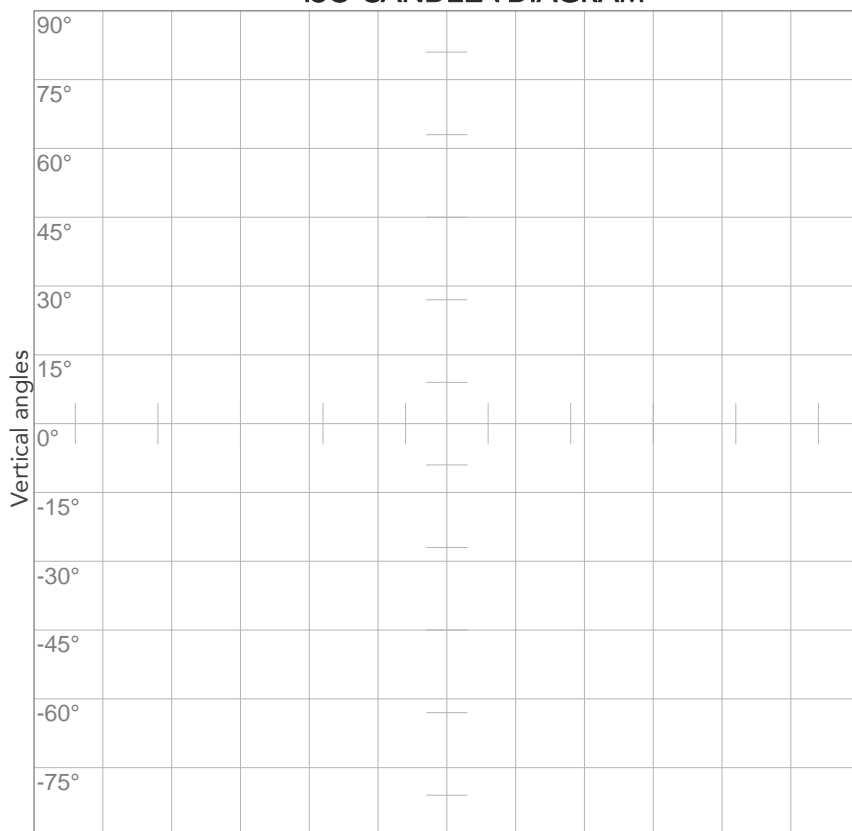
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
223V	1,36A	287,3W	16lm/W

## ISO CANDELA DIAGRAM



10%	9474 cd
20%	18948 cd
30%	28422 cd
40%	37895 cd
50%	47369 cd
60%	56843 cd
70%	66317 cd
80%	75791 cd

### Conditions:

Number of c-planes: 2

Candela at center: 94739 cd

## ISO LUX DIAGRAM



3%	28,4 lx
5%	47,4 lx
10%	94,7 lx
30%	284 lx
50%	474 lx

### Conditions:

Number of c-planes: 2

Lux at center: 947 lx

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

Mounting height: 10 meters (33 feet)



Total lumen output:

8430 lm

Peak candela output:

594258 cd

Light quality:

CRI: 45,1

Color temperature:

2830 K

## PRODUCT NAME:

Stark 1000

## MEASURAMENT CONDITIONS:

Beam angle:

Min Zoom

Target:

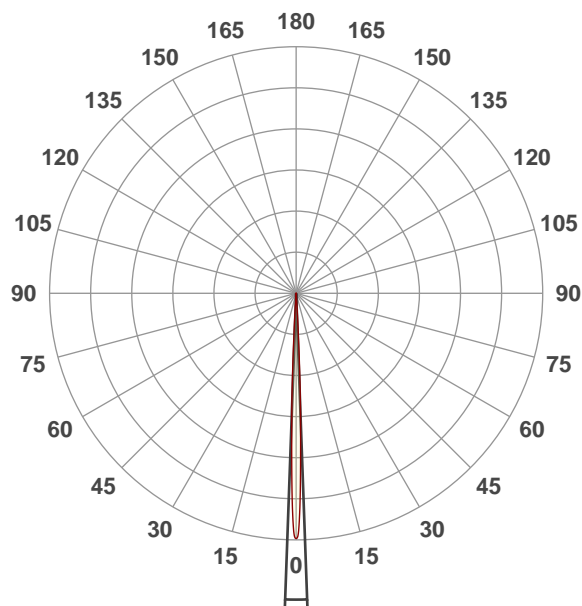
2800K

Operator:

Paolo Carvone

Date and time:

18/12/2019 16:36:23

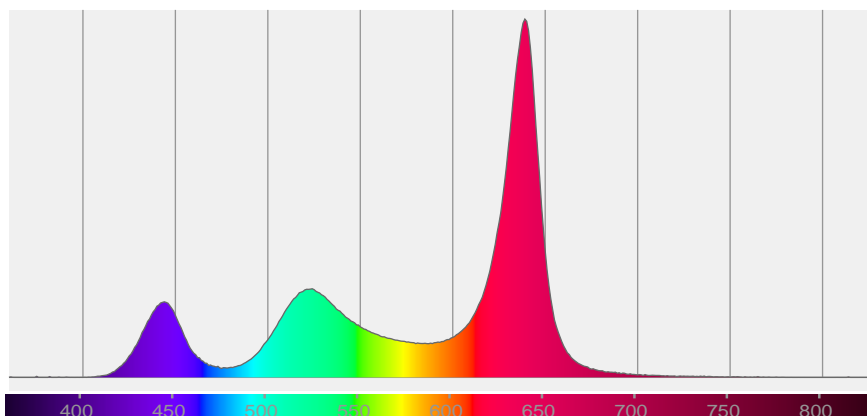


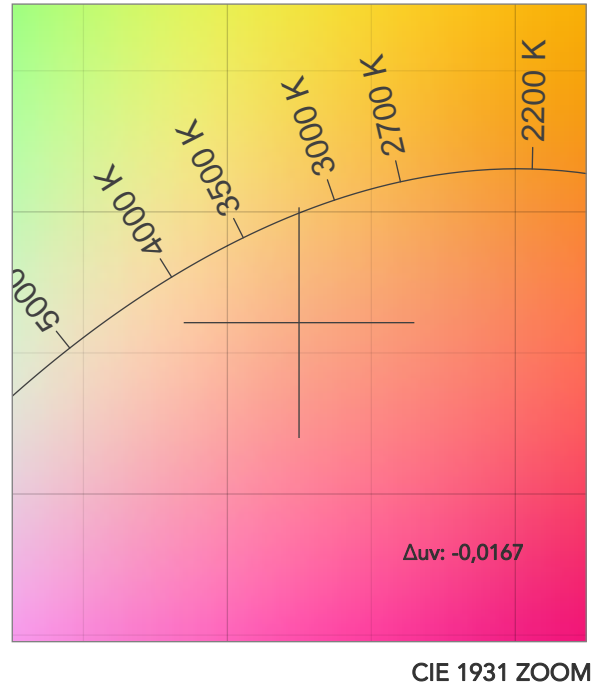
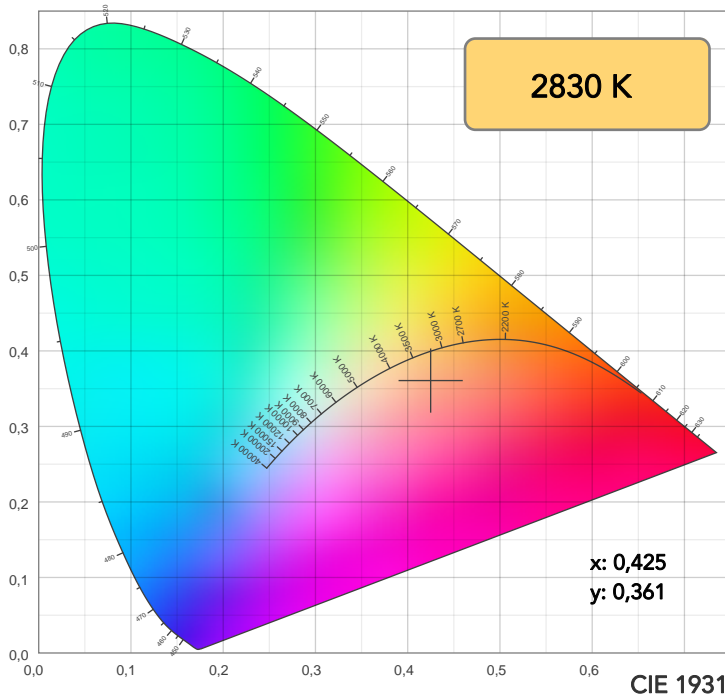
Beam angle 50%: 4,1°

Field angle 10%: 6,7°

Cut off angle 2.5%: 7,7°

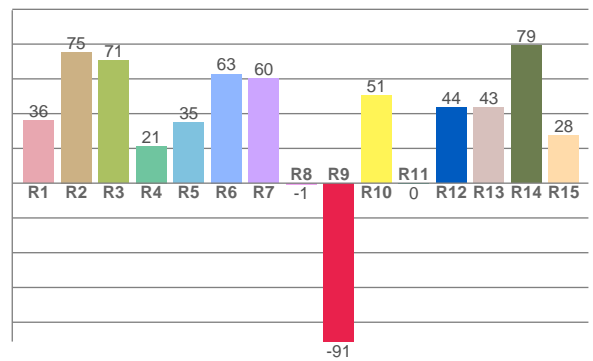
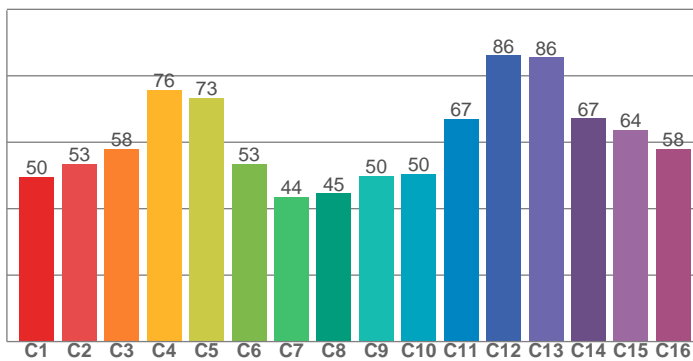
## Spectra





TM30: 61,4

CRI: 45,1 (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
36,0	75,5	70,6	21,3	34,8	62,9	60,2	-0,6	-91,1	50,5	-0,5	43,6	43,4	79,3	27,6

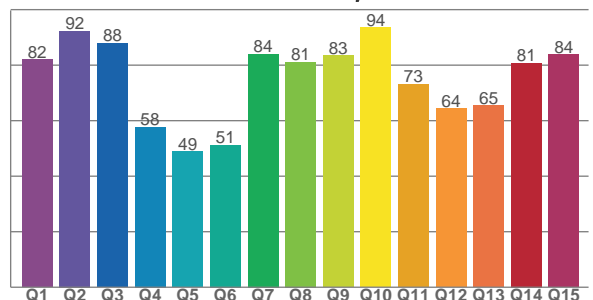
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
49,5	53,4	58,0	75,7	73,4	53,4	43,6	44,6	49,9	50,4	67,0	86,1	85,6	67,2	63,8	58,1

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
82,0	92,3	87,9	57,7	48,9	51,2	84,0	81,1	83,5	93,5	73,1	64,3	65,4	80,7	83,9

CQS: 71,4



## COLOR PARAMETERS

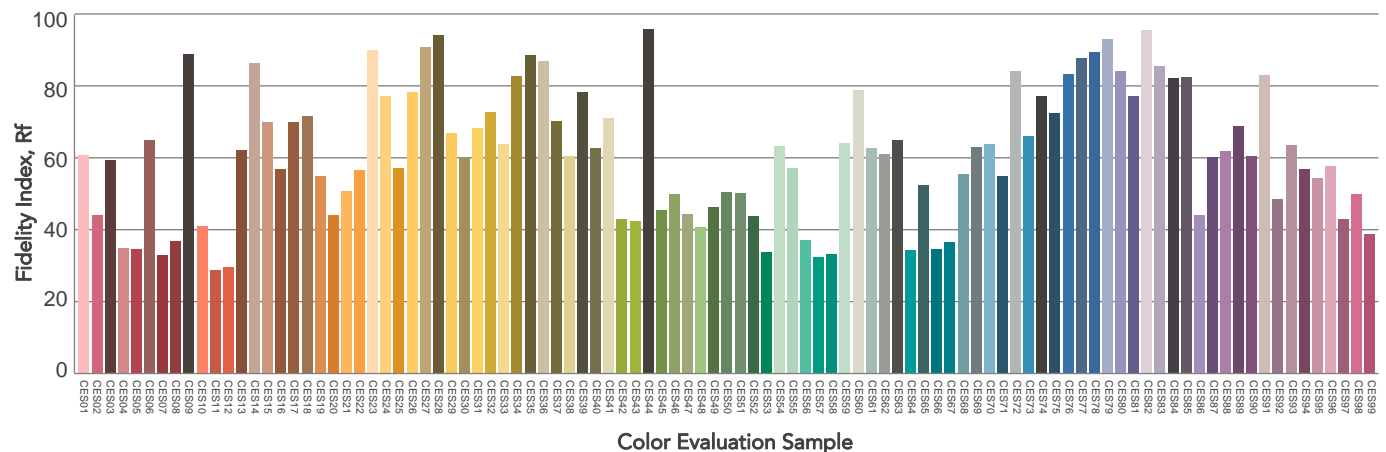
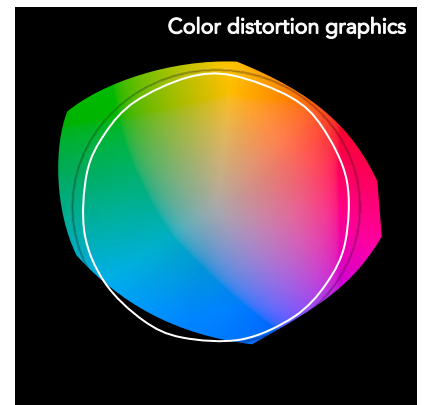
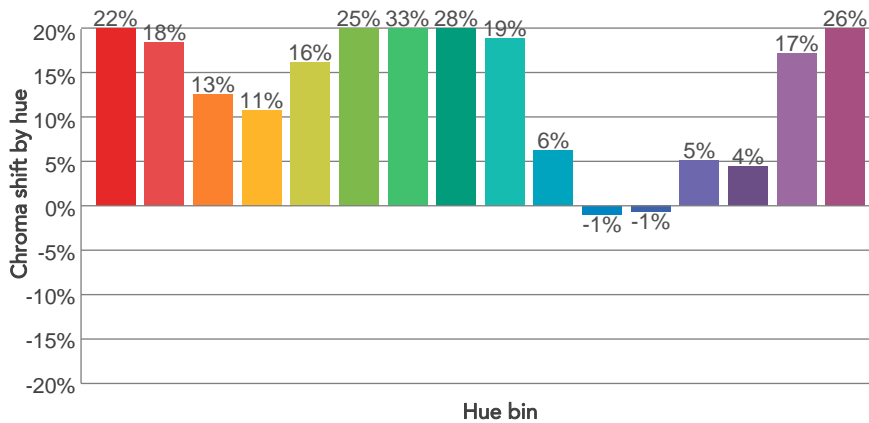
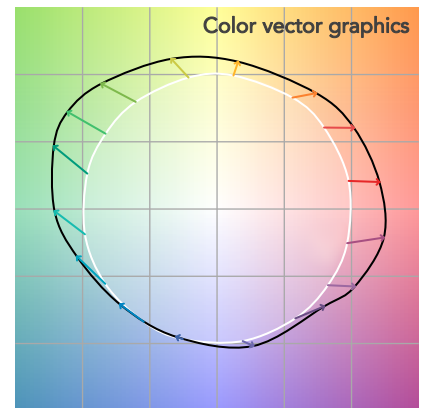
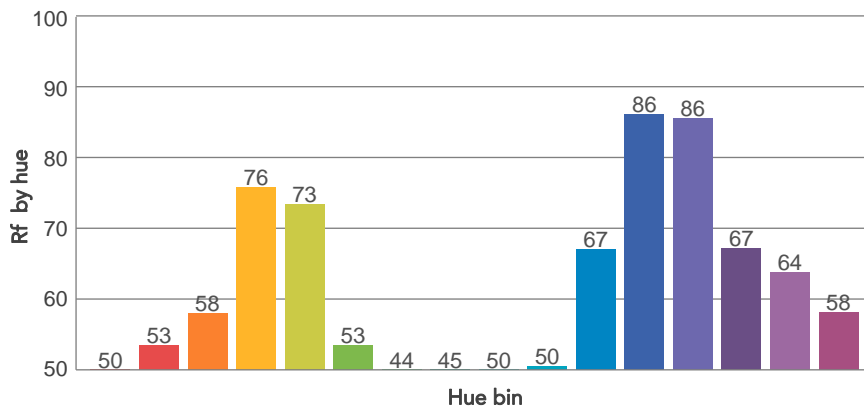
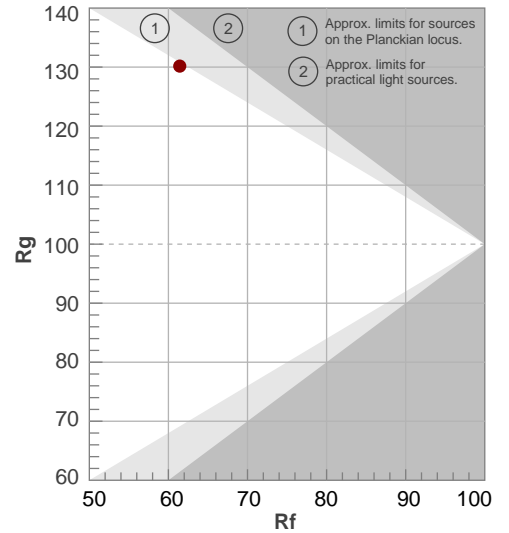
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
2830 K	45,1	-91,1	61,4	130,2	71,4	29	0,425	0,361	-0,0167

# TM30 DETAILS

**Rf 61,4**  
Fidelity index Rf

**Rg 130,2**  
Gammut index

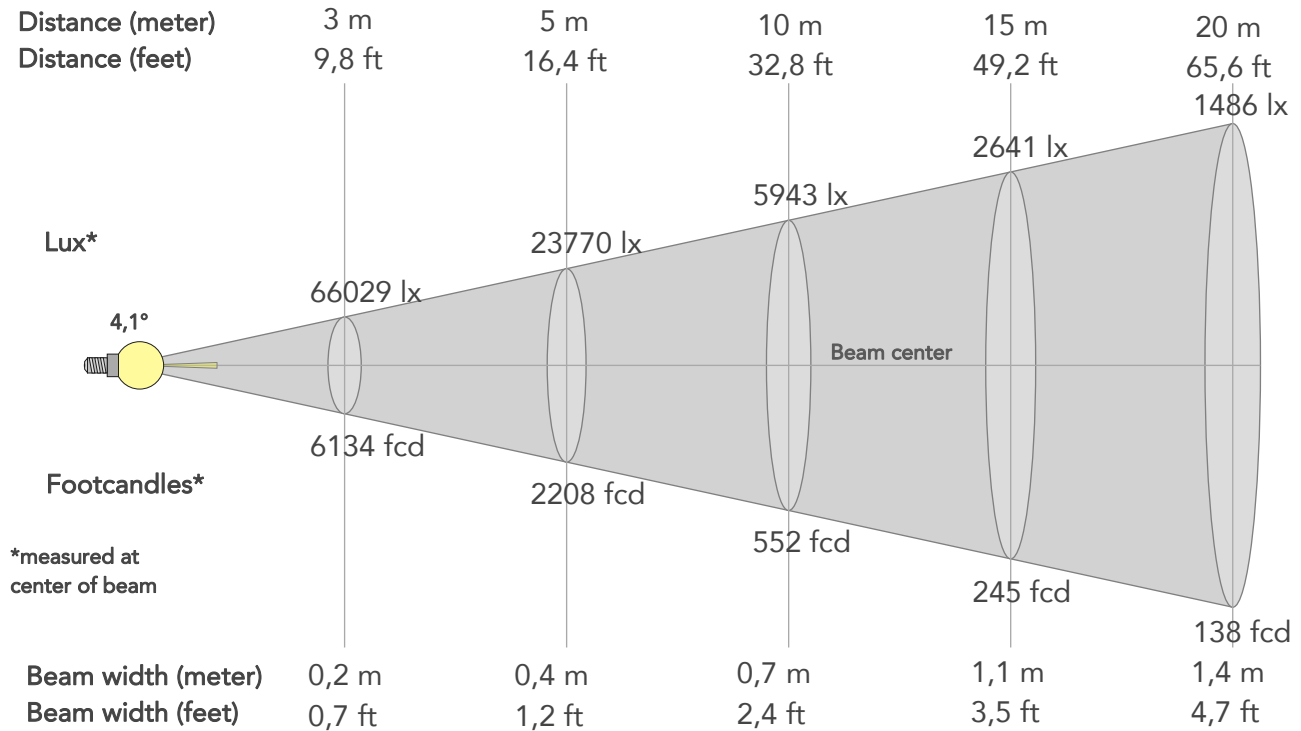
Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	50	22%	-5%
2	53	18%	-13%
3	58	13%	-13%
4	76	11%	-1%
5	73	16%	10%
6	53	25%	14%
7	44	33%	2%
8	45	28%	-15%
9	50	19%	-21%
10	50	6%	-29%
11	67	-1%	-22%
12	86	-1%	-5%
13	86	5%	7%
14	67	4%	23%
15	64	17%	10%
16	58	26%	9%



## BEAM DETAILS



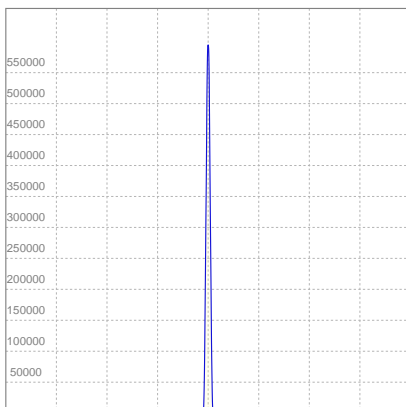
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
4,1°	6,7°	7,7°	65,9%	53,3%



### 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	594258lx	148564lx	66029lx	37141lx	23770lx	10565lx	5943lx	2641lx	1486lx	951lx	660lx	371lx	238lx
Footcand.	55208fcd	13802fcd	6134fcd	3451fcd	2208fcd	981fcd	552fcd	245fcd	138fcd	88fcd	61fcd	35fcd	22fcd
Beam wid.	0,1m	0,1m	0,2m	0,3m	0,4m	0,5m	0,7m	1,1m	1,4m	1,8m	2,2m	2,9m	3,6m
Beam wid.	0,2ft	0,5ft	0,7ft	0,9ft	1,2ft	1,8ft	2,4ft	3,5ft	4,7ft	5,9ft	7,1ft	9,4ft	11,8ft

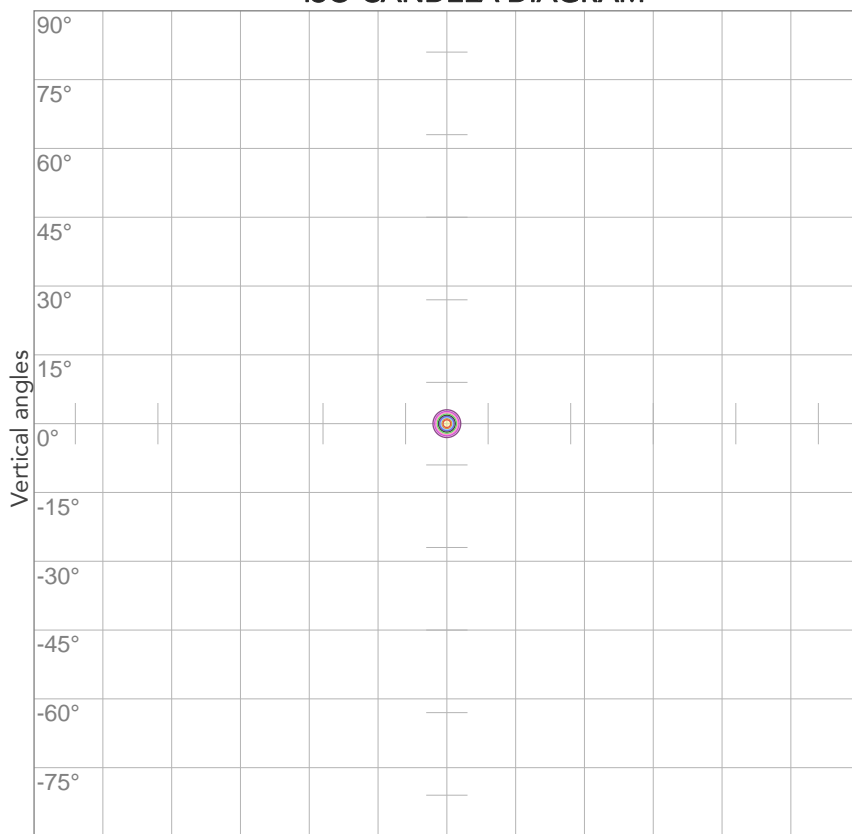
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
223V	1,37A	289,7W	29lm/W

## ISO CANDELA DIAGRAM



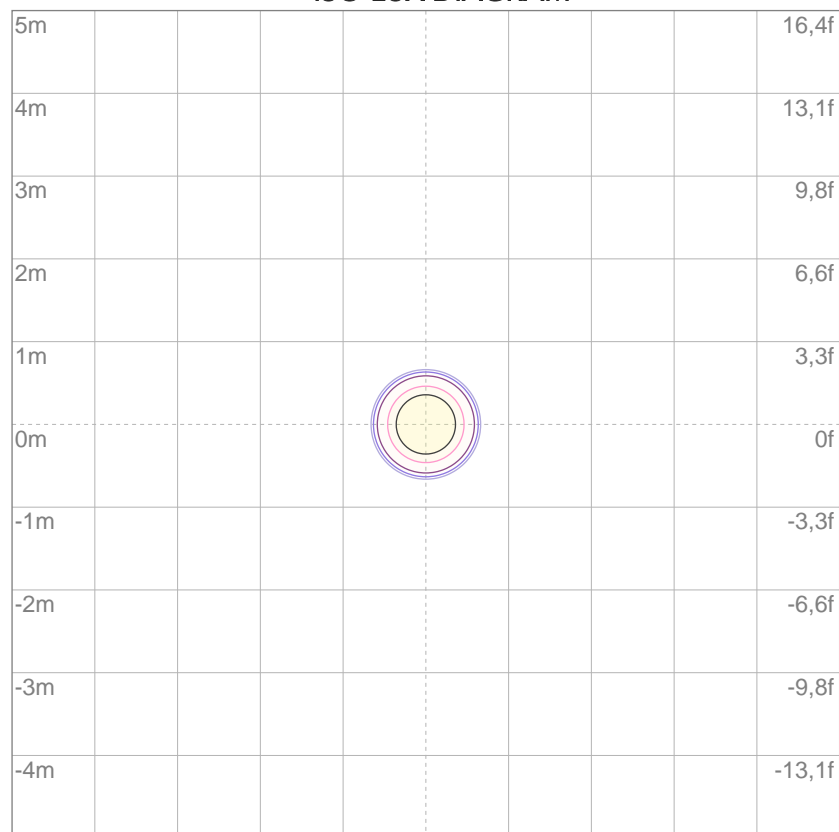
10%	59426 cd
20%	118852 cd
30%	178277 cd
40%	237703 cd
50%	297129 cd
60%	356555 cd
70%	415980 cd
80%	475406 cd

### Conditions:

Number of c-planes: 2

Candela at center: 594258 cd

## ISO LUX DIAGRAM



3%	178 lx
5%	297 lx
10%	594 lx
30%	1783 lx
50%	2971 lx

### Conditions:

Number of c-planes: 2

Lux at center: 5943 lx

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





Total lumen output:

4894 lm

Peak candela output:

33186 cd

Light quality:

CRI: 54,1

Color temperature:

3267 K

## PRODUCT NAME:

Stark 1000

## MEASURAMENT CONDITIONS:

Beam angle:

Max Zoom

Target:

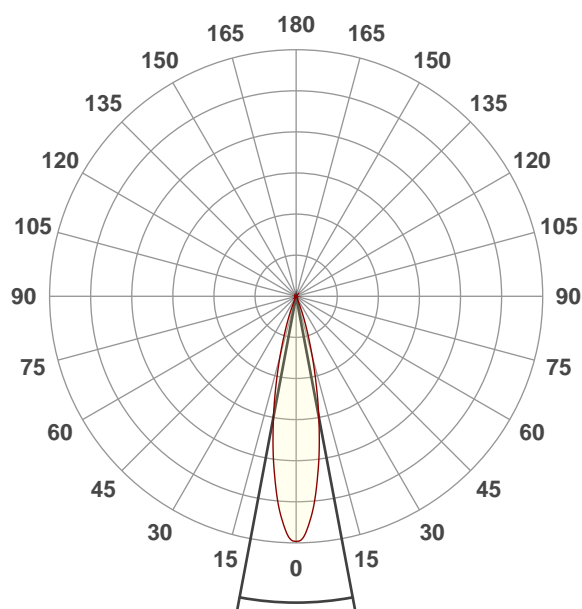
3200K

Operator:

Paolo Carvone

Date and time:

18/12/2019 15:43:52

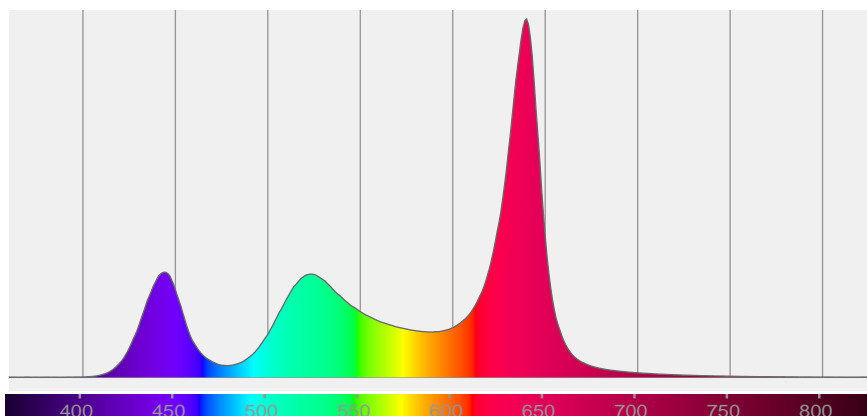


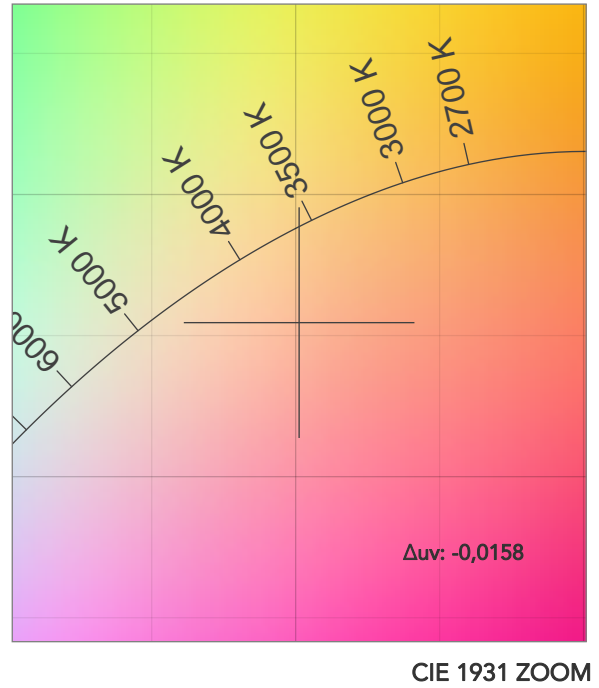
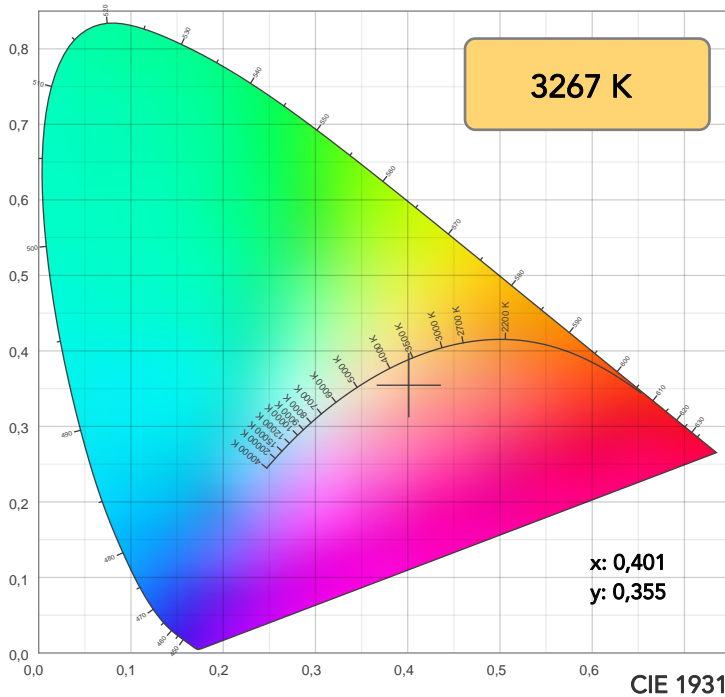
Beam angle 50%: 21,3°

Field angle 10%: 38,3°

Cut off angle 2.5%: 45°

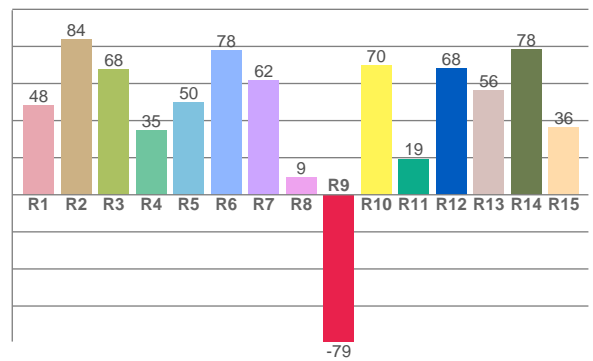
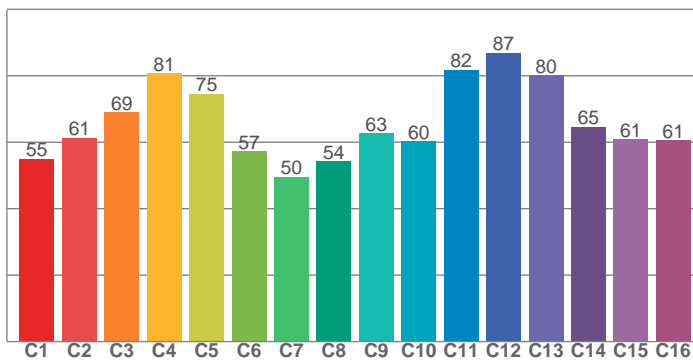
## Spectra





TM30: 67,0

CRI: 54,1 (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
48,3	83,9	67,7	34,5	49,7	77,8	61,8	9,3	-79,2	69,6	19,4	68,3	56,4	78,3	36,3

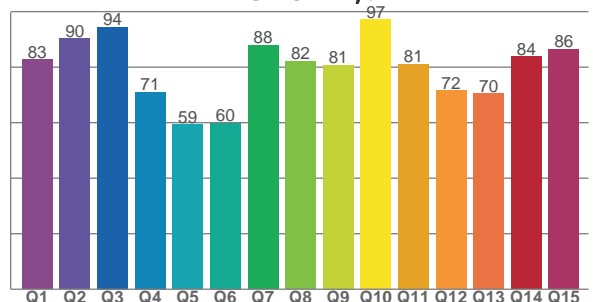
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
55,0	61,4	68,9	80,7	74,6	57,3	49,6	54,3	62,7	60,2	81,8	86,9	80,1	64,6	60,9	60,6

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
82,8	90,3	94,4	71,1	59,3	59,8	87,8	82,1	80,8	97,1	81,2	71,5	70,5	83,9	86,4

CQS: 77,0



## COLOR PARAMETERS

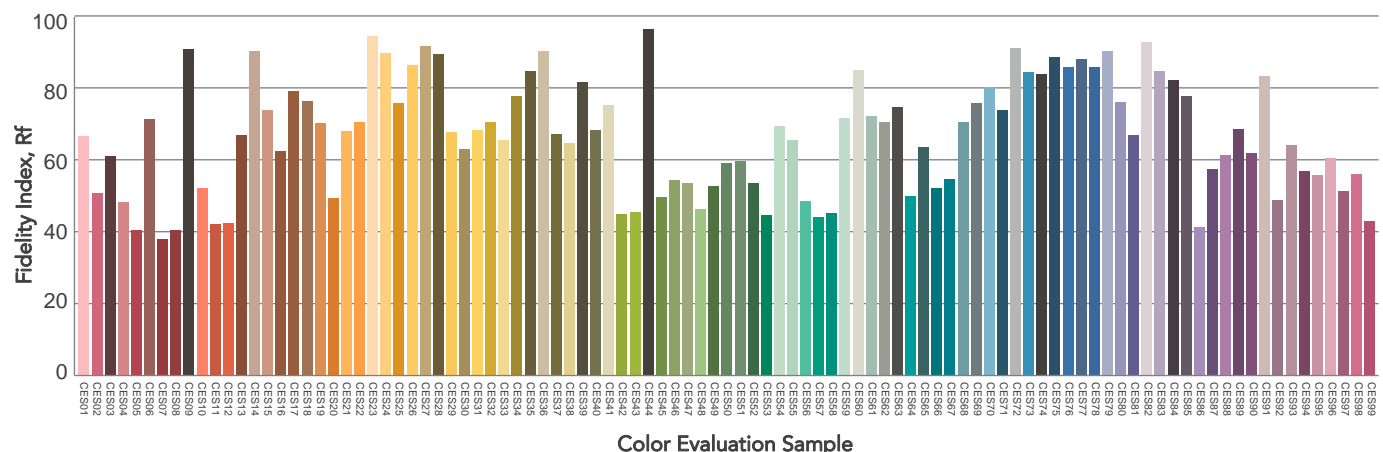
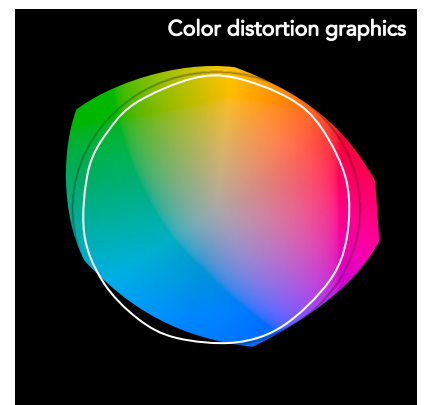
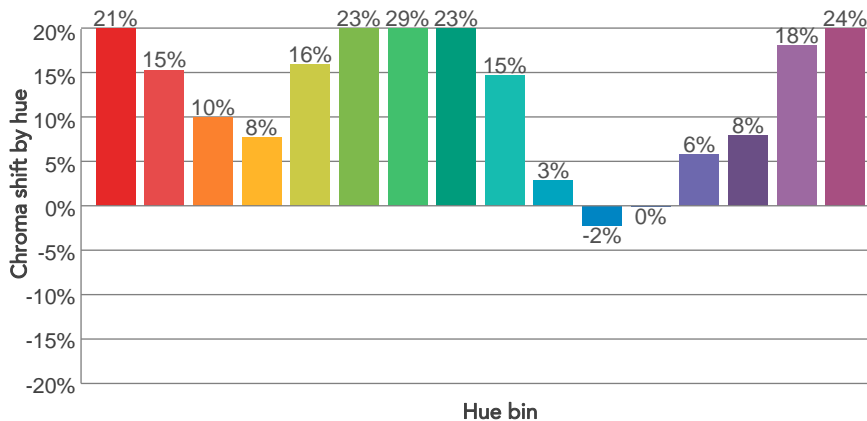
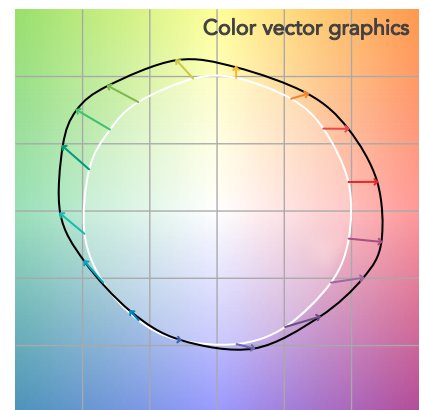
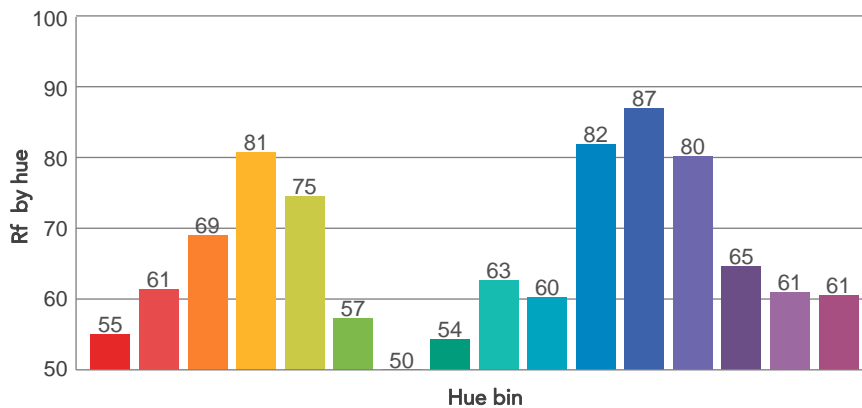
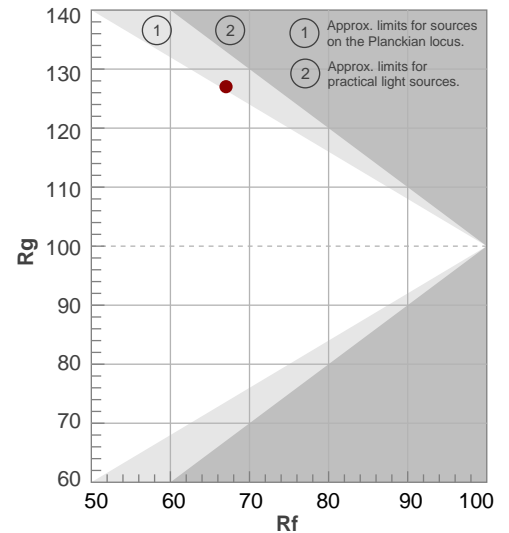
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	$\Delta uv$
3267 K	54,1	-79,2	67,0	127,0	77,0	40	0,401	0,355	-0,0158

# TM30 DETAILS

**Rf 67,0**  
Fidelity index Rf

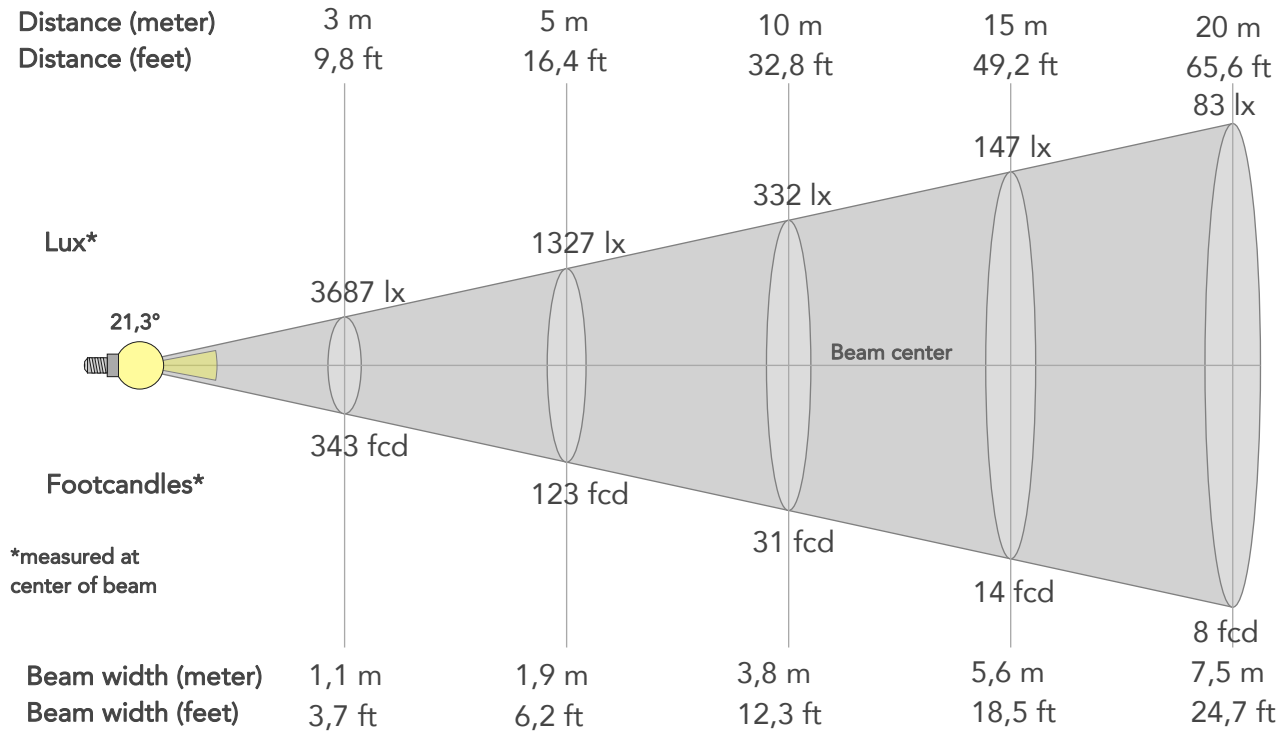
**Rg 127,0**  
Gammut index

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	55	21%	-4%
2	61	15%	-10%
3	69	10%	-8%
4	81	8%	2%
5	75	16%	10%
6	57	23%	12%
7	50	29%	2%
8	54	23%	-13%
9	63	15%	-18%
10	60	3%	-21%
11	82	-2%	-9%
12	87	0%	2%
13	80	6%	12%
14	65	8%	26%
15	61	18%	16%
16	61	24%	2%



## BEAM DETAILS

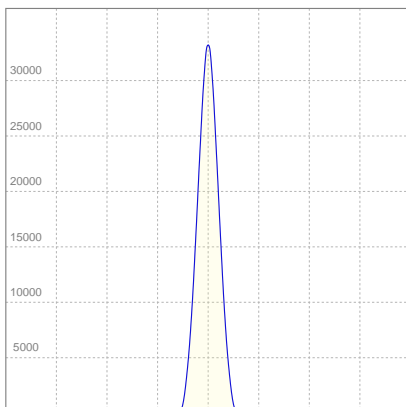
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
21,3°	38,3°	45°	100,0%	100,0%



### 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	33186lx	8296lx	3687lx	2074lx	1327lx	590lx	332lx	147lx	83lx	53lx	37lx	21lx	13lx
Footcand.	3083fcd	771fcd	343fcd	193fcd	123fcd	55fcd	31fcd	14fcd	8fcd	5fcd	3fcd	2fcd	1fcd
Beam wid.	0,4m	0,8m	1,1m	1,5m	1,9m	2,8m	3,8m	5,6m	7,5m	9,4m	11,3m	15m	18,8m
Beam wid.	1,2ft	2,5ft	3,7ft	4,9ft	6,2ft	9,2ft	12,3ft	18,5ft	24,7ft	30,8ft	37ft	49,3ft	61,6ft

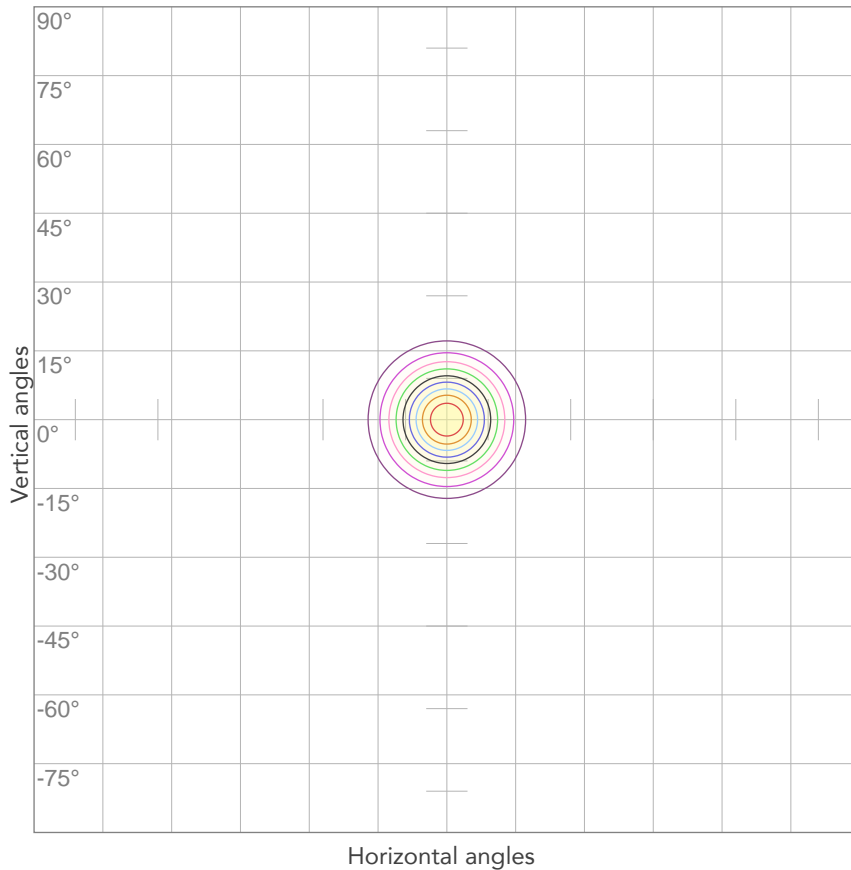
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
224V	1,49A	317,8W	15lm/W

## ISO CANDELA DIAGRAM



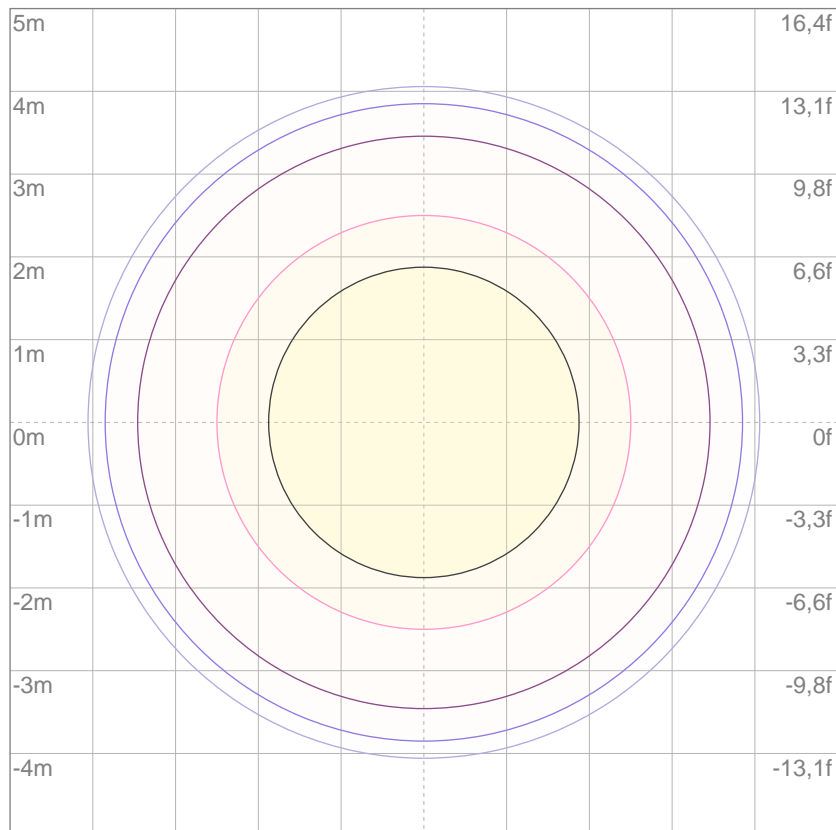
10%	3319 cd
20%	6637 cd
30%	9956 cd
40%	13274 cd
50%	16593 cd
60%	19911 cd
70%	23230 cd
80%	26549 cd

### Conditions:

Number of c-planes: 2

Candela at center: 33186 cd

## ISO LUX DIAGRAM



3%	9,96 lx
5%	16,6 lx
10%	33,2 lx
30%	99,6 lx
50%	166 lx

### Conditions:

Number of c-planes: 2

Lux at center: 332 lx

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



Total lumen output:

5013 lm

Peak candela output:

107338 cd

Light quality:

CRI: 52,8

Color temperature:

3217 K

## PRODUCT NAME:

Stark 1000

## MEASURAMENT CONDITIONS:

Beam angle:

Med Zoom

Target:

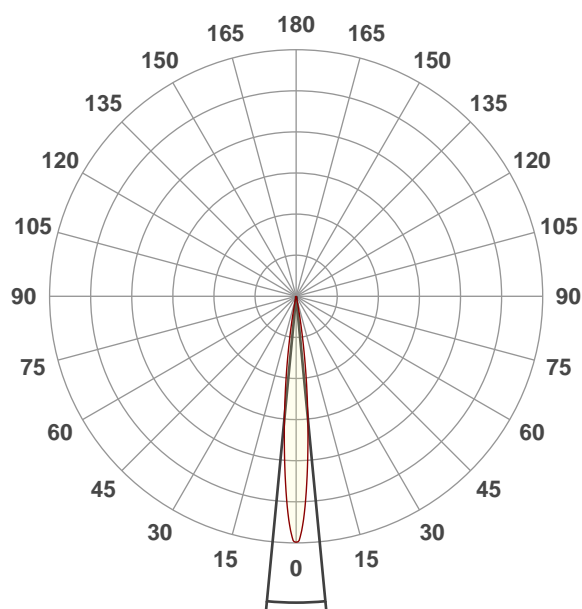
3200K

Operator:

Paolo Carvone

Date and time:

18/12/2019 17:15:32

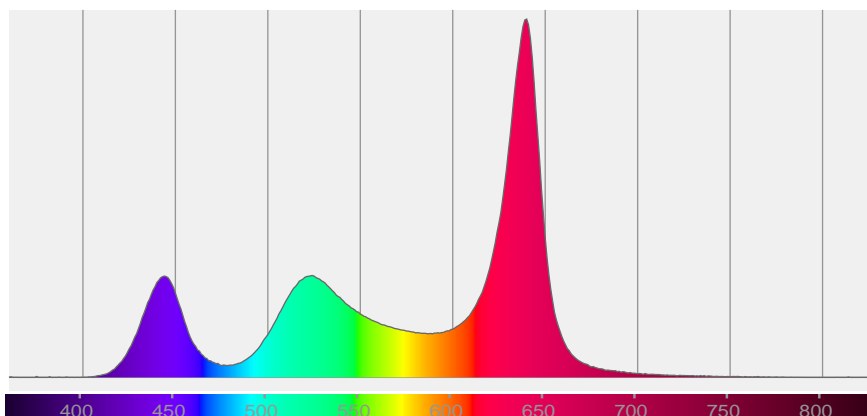


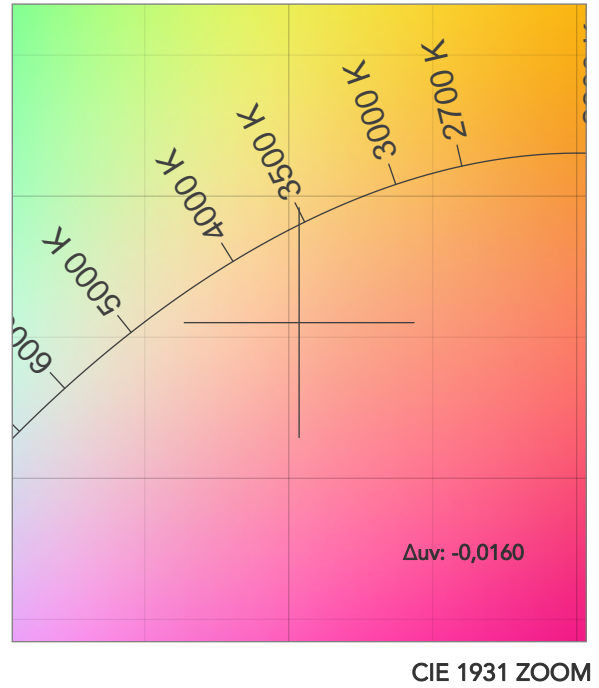
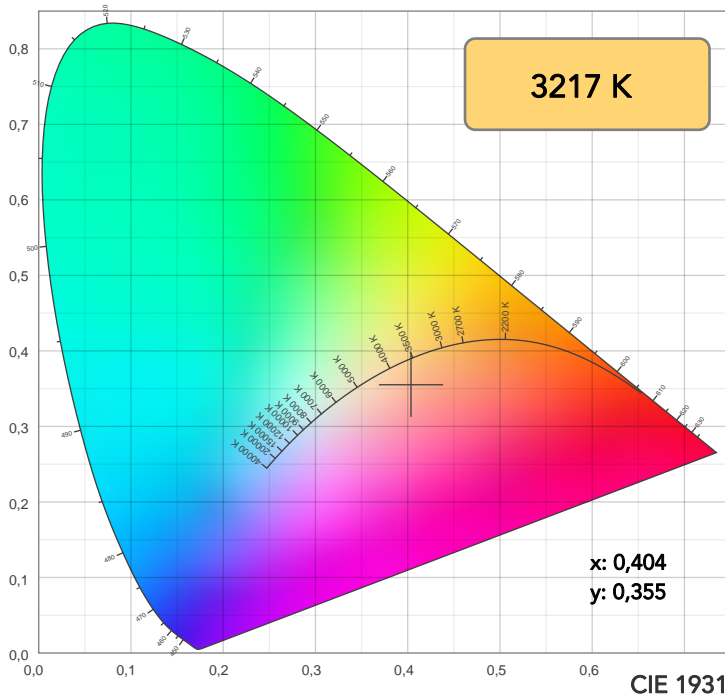
Beam angle 50%: 11°

Field angle 10%: 19,6°

Cut off angle 2.5%: 23,3°

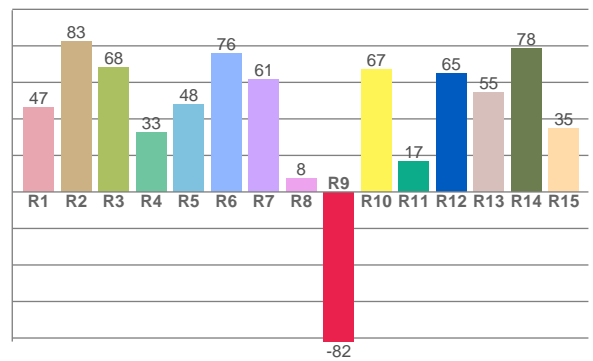
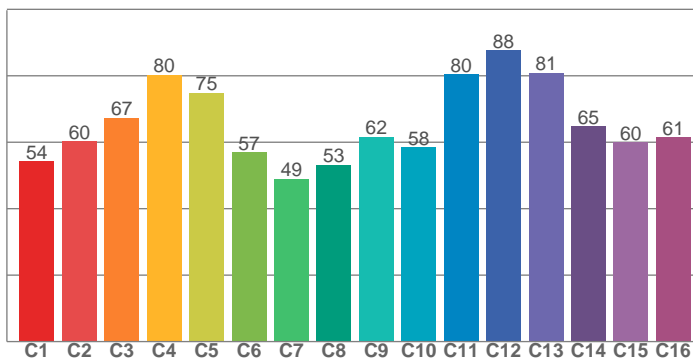
## Spectra





TM30: 66,4

CRI: 52,8 (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
46,5	82,7	68,1	32,8	47,7	75,9	61,5	7,5	-82,0	66,9	16,8	65,1	54,5	78,4	34,8

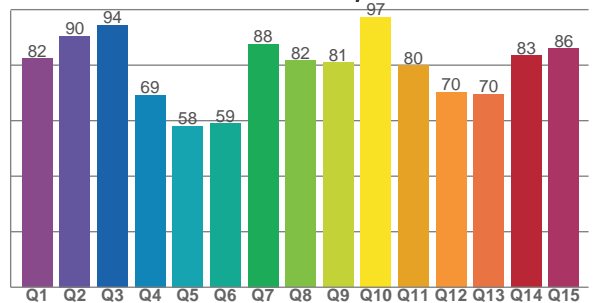
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
54,3	60,2	67,4	80,3	74,8	57,0	49,0	53,2	61,6	58,5	80,4	87,7	80,9	64,8	60,0	61,5

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
82,4	90,5	94,4	69,3	58,0	59,0	87,7	81,7	81,0	97,4	79,8	70,3	69,6	83,4	86,0

CQS: 76,2



## COLOR PARAMETERS

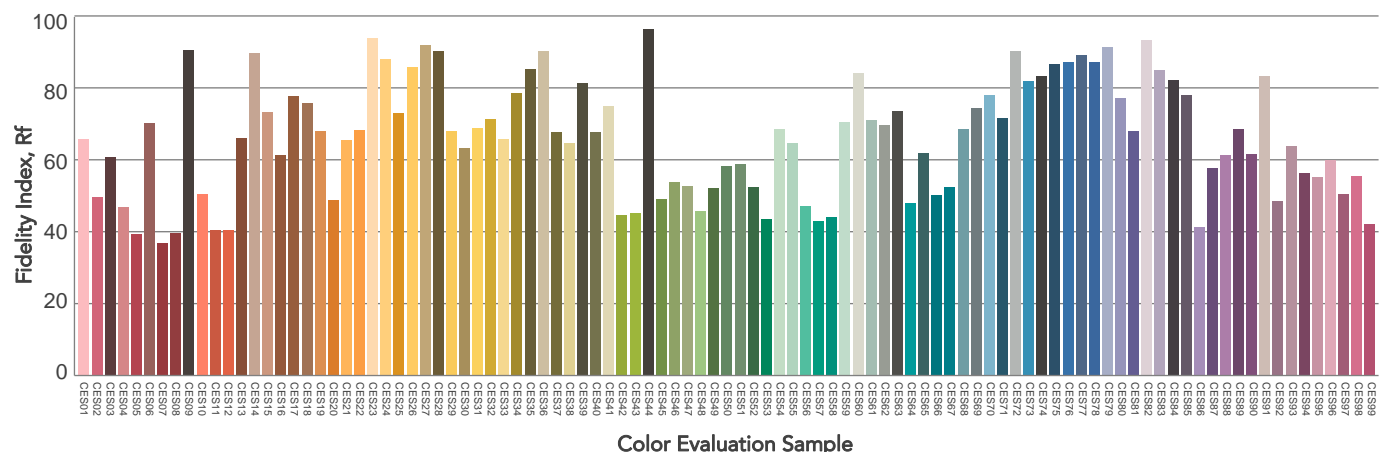
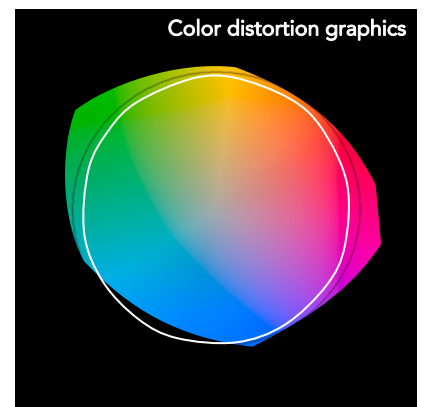
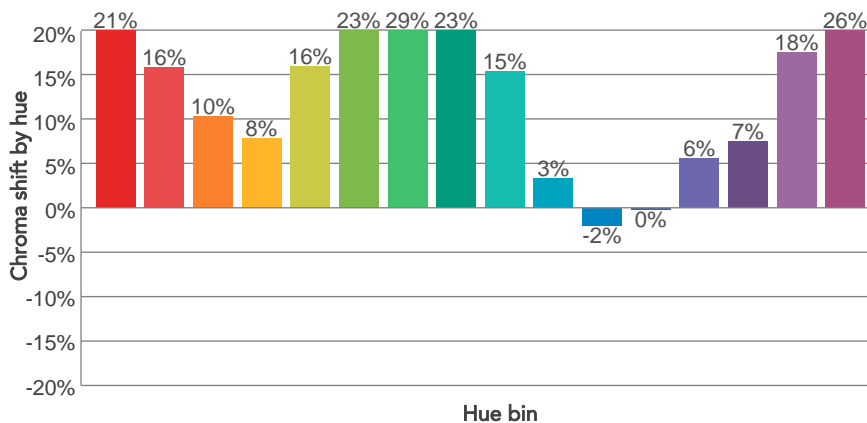
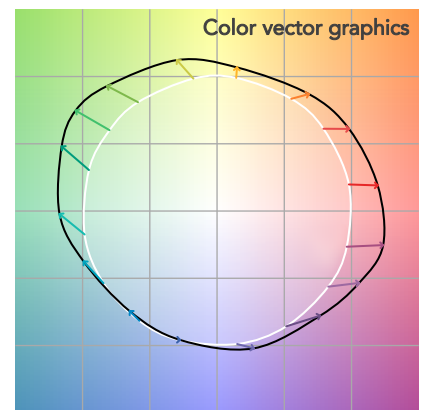
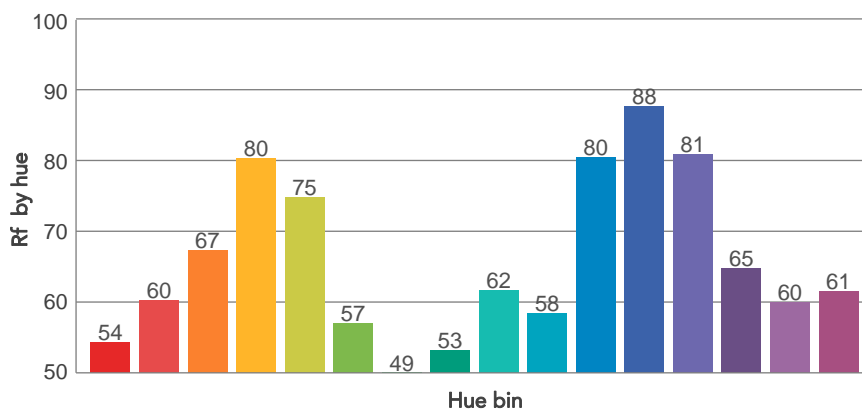
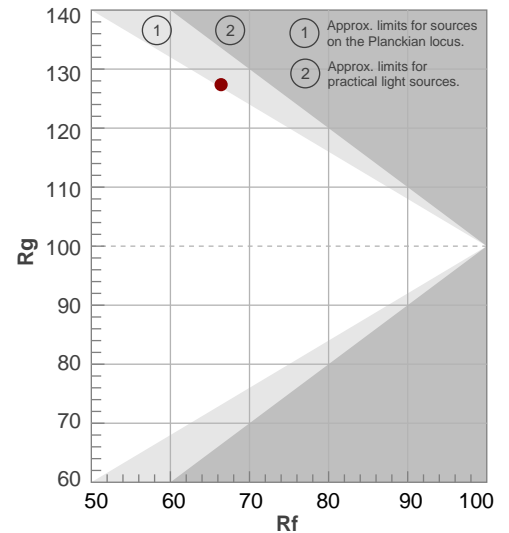
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
3217 K	52,8	-82,0	66,4	127,4	76,2	38	0,404	0,355	-0,0160

# TM30 DETAILS

**Rf 66,4**  
Fidelity index Rf

**Rg 127,4**  
Gammut index

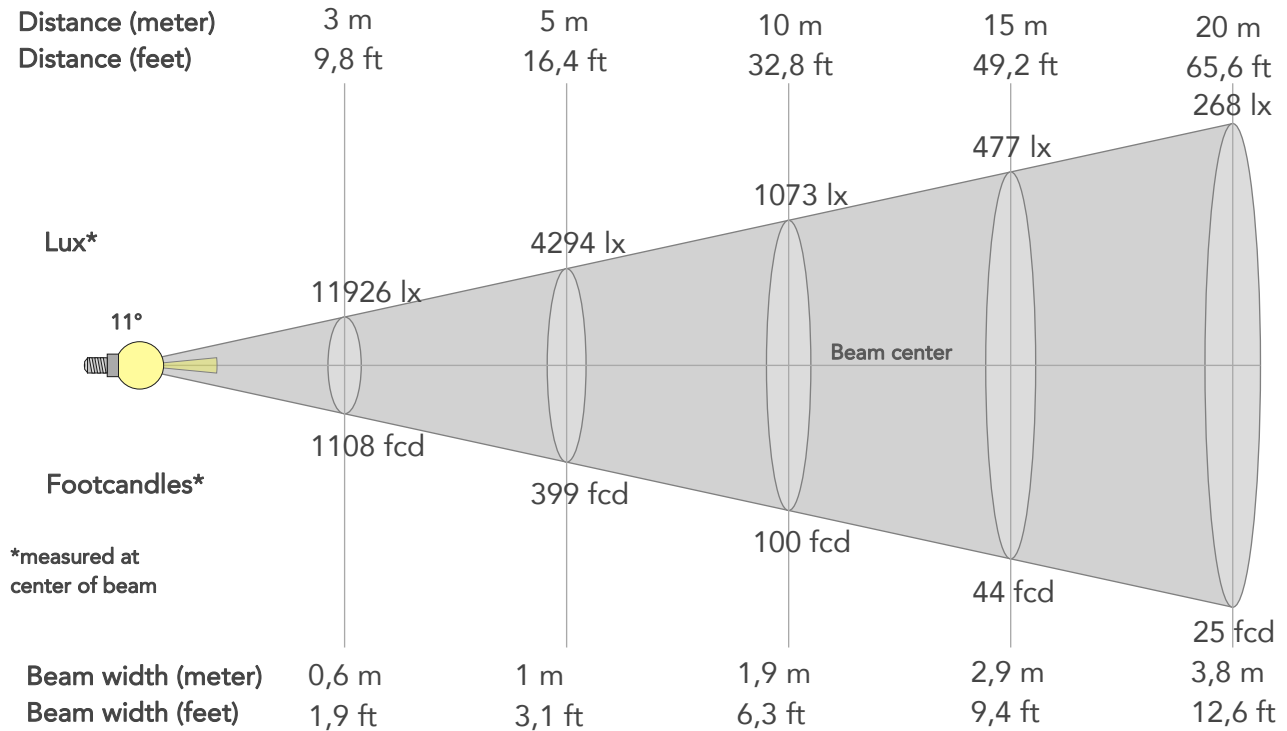
Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	54	21%	-5%
2	60	16%	-11%
3	67	10%	-9%
4	80	8%	1%
5	75	16%	9%
6	57	23%	12%
7	49	29%	2%
8	53	23%	-13%
9	62	15%	-19%
10	58	3%	-22%
11	80	-2%	-10%
12	88	0%	1%
13	81	6%	11%
14	65	7%	25%
15	60	18%	15%
16	61	26%	6%





## BEAM DETAILS

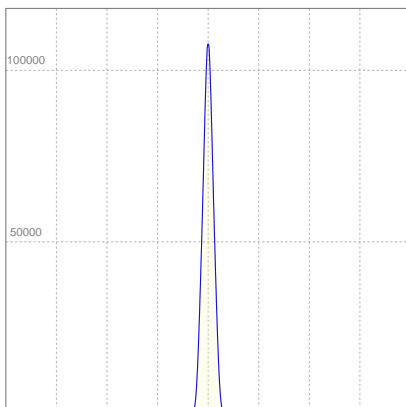
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
11°	19,6°	23,3°	91,4%	88,8%



### 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	107338lx	26834lx	11926lx	6709lx	4294lx	1908lx	1073lx	477lx	268lx	172lx	119lx	67lx	43lx
Footcand.	9972fcd	2493fcd	1108fcd	623fcd	399fcd	177fcd	100fcd	44fcd	25fcd	16fcd	11fcd	6fcd	4fcd
Beam wid.	0,2m	0,4m	0,6m	0,8m	1m	1,4m	1,9m	2,9m	3,8m	4,8m	5,8m	7,7m	9,6m
Beam wid.	0,6ft	1,3ft	1,9ft	2,5ft	3,1ft	4,7ft	6,3ft	9,4ft	12,6ft	15,7ft	18,9ft	25,2ft	31,5ft

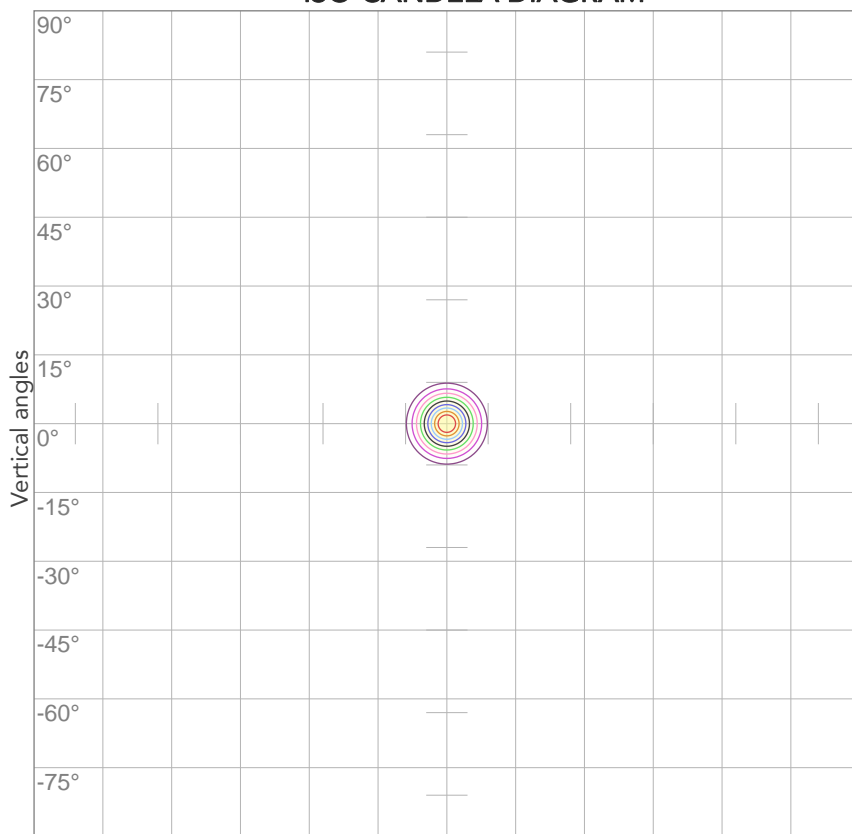
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
223V	1,48A	313,3W	16lm/W

## ISO CANDELA DIAGRAM



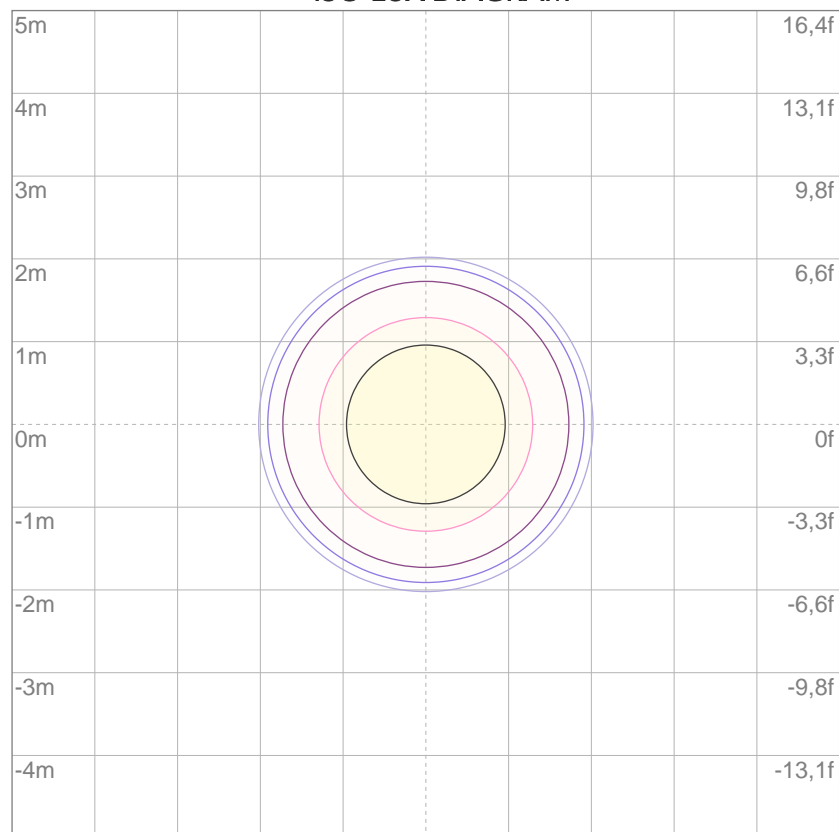
10%	10734 cd
20%	21468 cd
30%	32201 cd
40%	42935 cd
50%	53669 cd
60%	64403 cd
70%	75136 cd
80%	85870 cd

### Conditions:

Number of c-planes: 2

Candela at center: 107338 cd

## ISO LUX DIAGRAM



3%	32,2 lx
5%	53,7 lx
10%	107 lx
30%	322 lx
50%	537 lx

### Conditions:

Number of c-planes: 2

Lux at center: 1073 lx

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

Mounting height: 10 meters (33 feet)



Total lumen output:

8730 lm

Peak candela output:

685193 cd

Light quality:

CRI: 53,4

Color temperature:

3238 K

## PRODUCT NAME:

Stark 1000

## MEASURAMENT CONDITIONS:

Beam angle:

Min Zoom

Target:

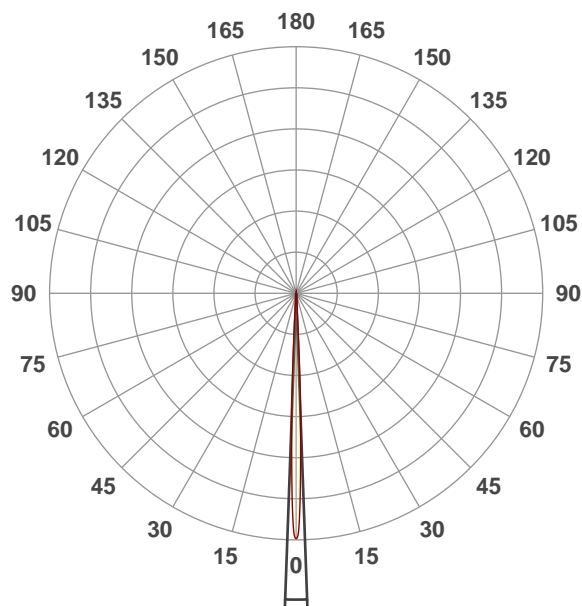
3200K

Operator:

Paolo Carvone

Date and time:

18/12/2019 16:38:43

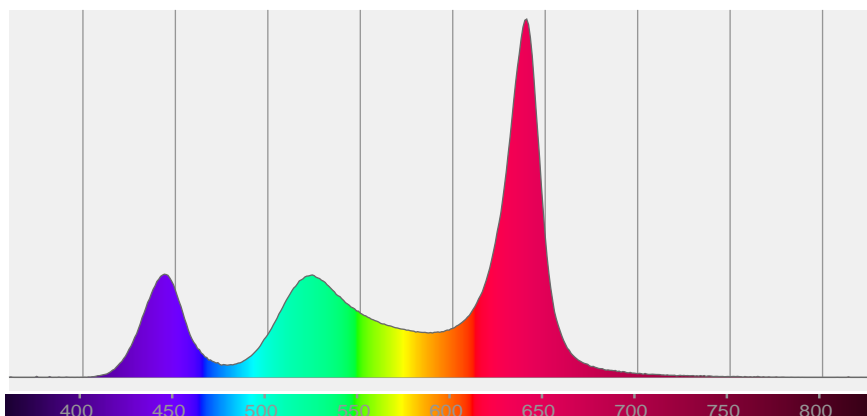


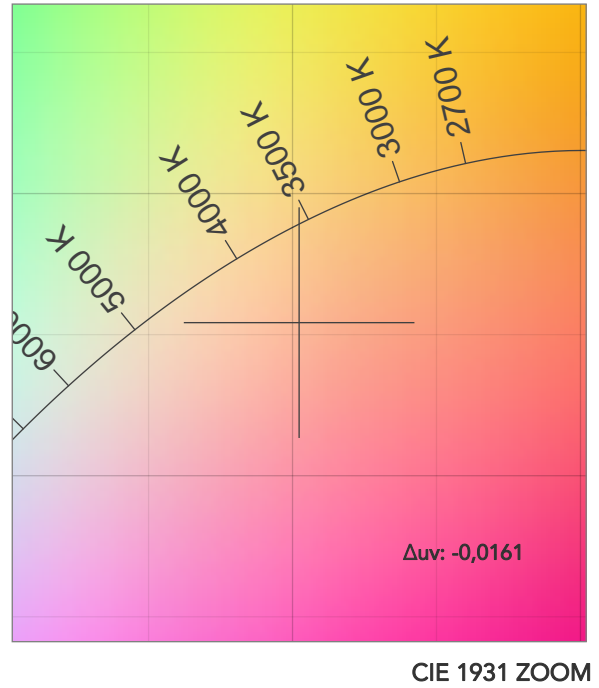
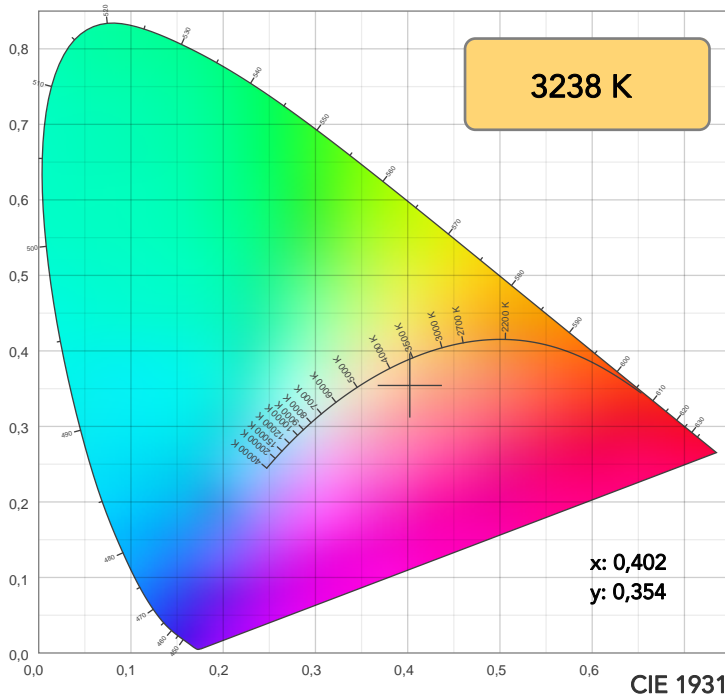
Beam angle 50%: 4,1°

Field angle 10%: 6,7°

Cut off angle 2.5%: 7,7°

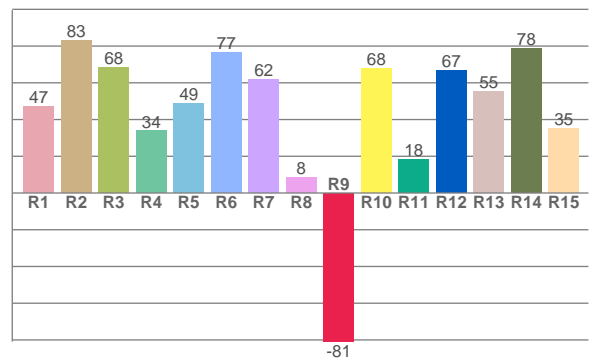
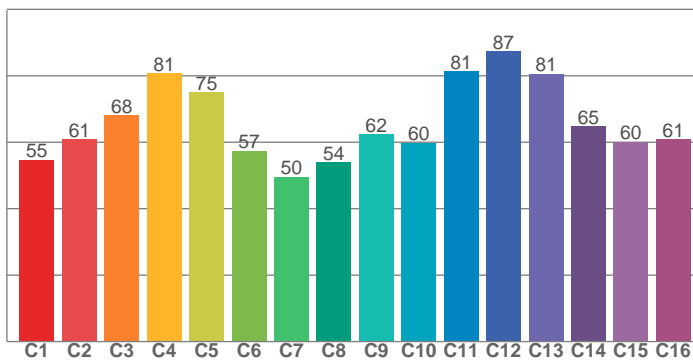
## Spectra





TM30: 66,9

CRI: 53,4 (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
47,3	83,0	68,1	33,8	48,6	76,5	61,8	8,3	-80,9	67,7	18,2	66,5	55,2	78,5	35,3

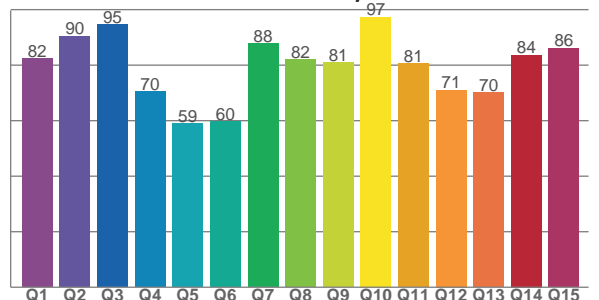
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
54,6	60,8	68,1	80,8	75,0	57,4	49,6	54,0	62,4	59,7	81,3	87,4	80,6	64,7	60,1	60,9

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
82,4	90,4	94,6	70,5	59,0	59,7	87,8	82,0	80,9	97,3	80,6	71,1	70,2	83,6	86,1

CQS: 76,7



## COLOR PARAMETERS

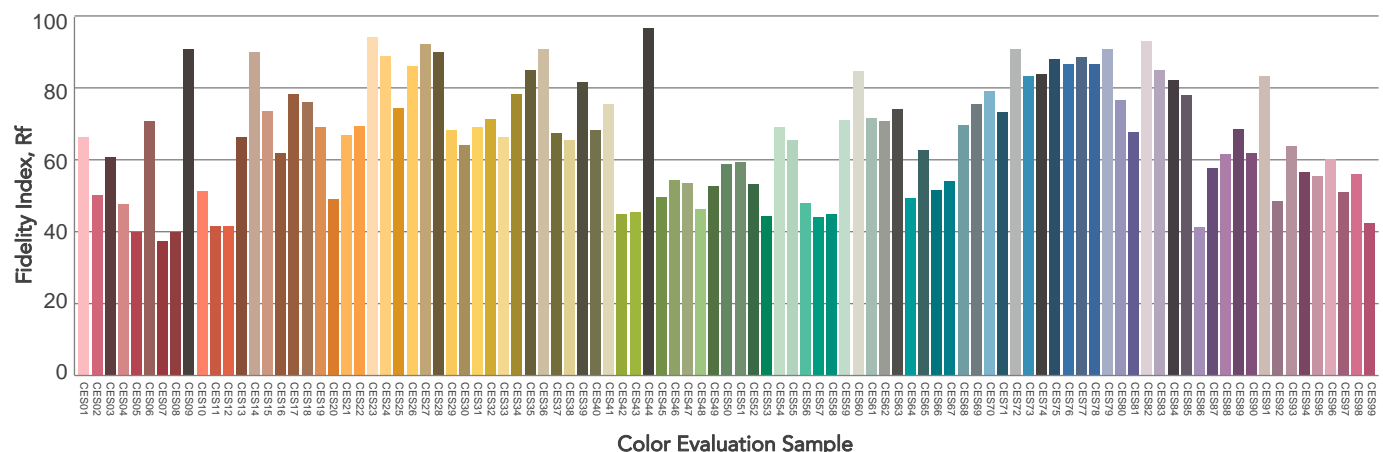
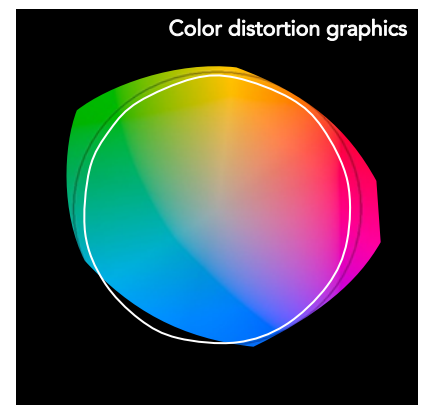
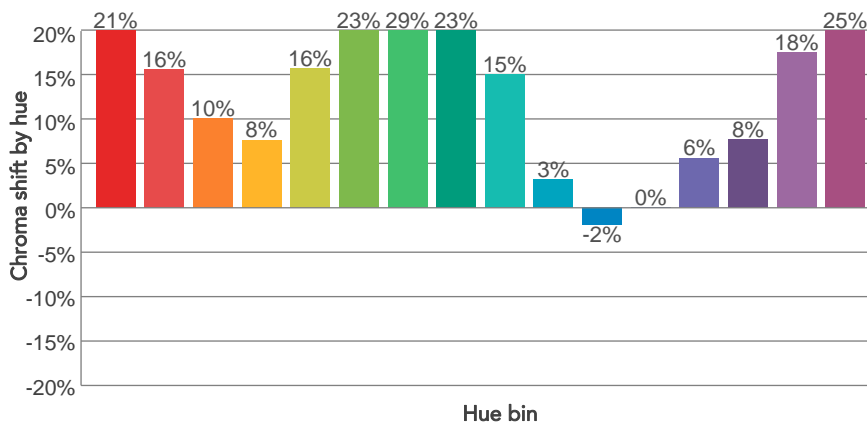
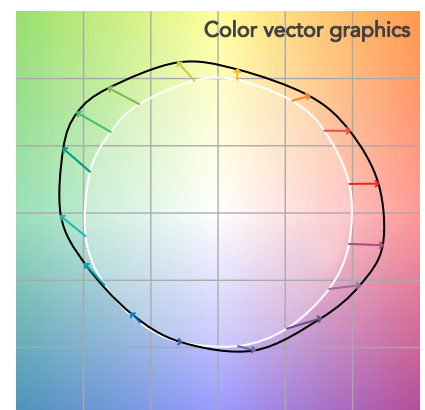
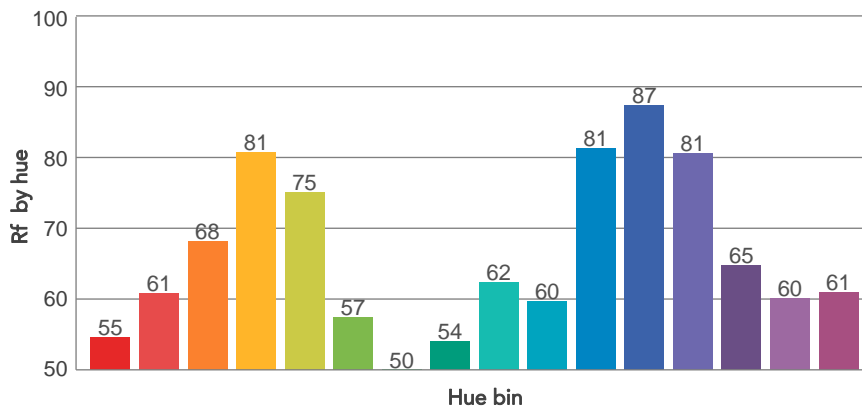
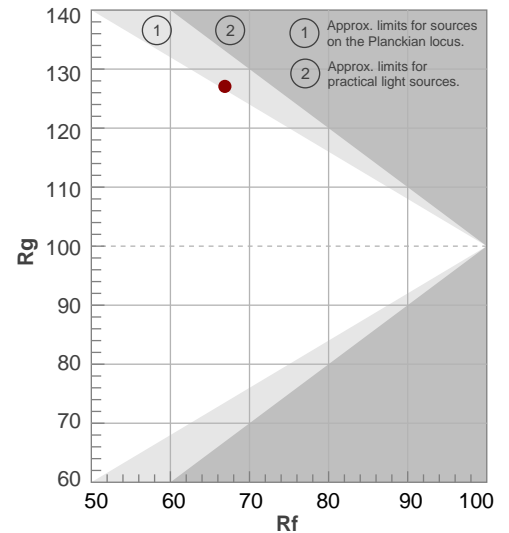
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
3238 K	53,4	-80,9	66,9	127,1	76,7	39	0,402	0,354	-0,0161

# TM30 DETAILS

**Rf 66,9**  
Fidelity index Rf

**Rg 127,1**  
Gammut index

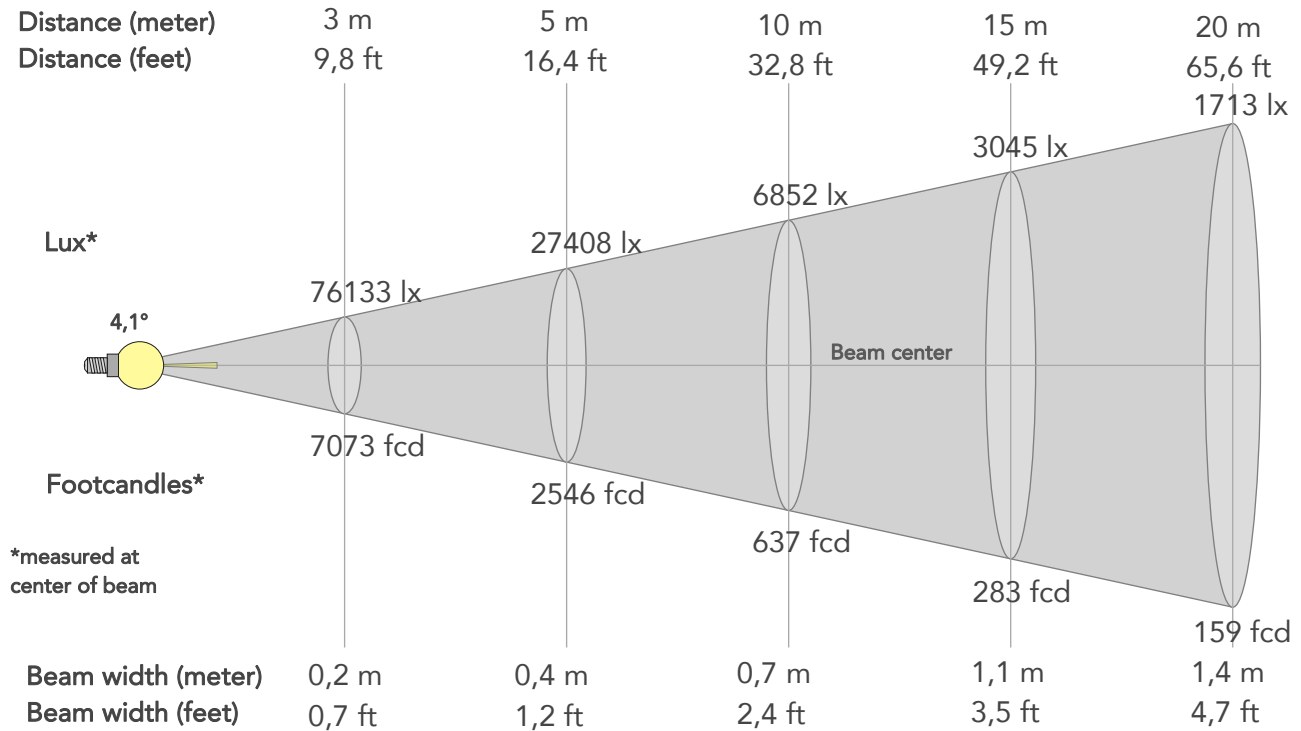
Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	55	21%	-4%
2	61	16%	-11%
3	68	10%	-9%
4	81	8%	1%
5	75	16%	9%
6	57	23%	12%
7	50	29%	2%
8	54	23%	-13%
9	62	15%	-18%
10	60	3%	-21%
11	81	-2%	-9%
12	87	0%	2%
13	81	6%	12%
14	65	8%	25%
15	60	18%	15%
16	61	25%	4%



## BEAM DETAILS



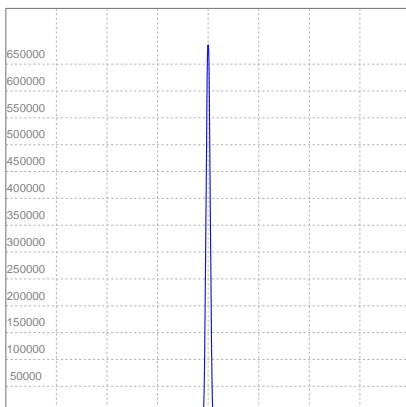
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
4,1°	6,7°	7,7°	68,0%	56,2%



### 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	685193lx	171298lx	76133lx	42825lx	27408lx	12181lx	6852lx	3045lx	1713lx	1096lx	761lx	428lx	274lx
Footcand.	63657fcd	15914fcd	7073fcd	3979fcd	2546fcd	1132fcd	637fcd	283fcd	159fcd	102fcd	71fcd	40fcd	25fcd
Beam wid.	0,1m	0,1m	0,2m	0,3m	0,4m	0,5m	0,7m	1,1m	1,4m	1,8m	2,2m	2,9m	3,6m
Beam wid.	0,2ft	0,5ft	0,7ft	0,9ft	1,2ft	1,8ft	2,4ft	3,5ft	4,7ft	5,9ft	7,1ft	9,4ft	11,8ft

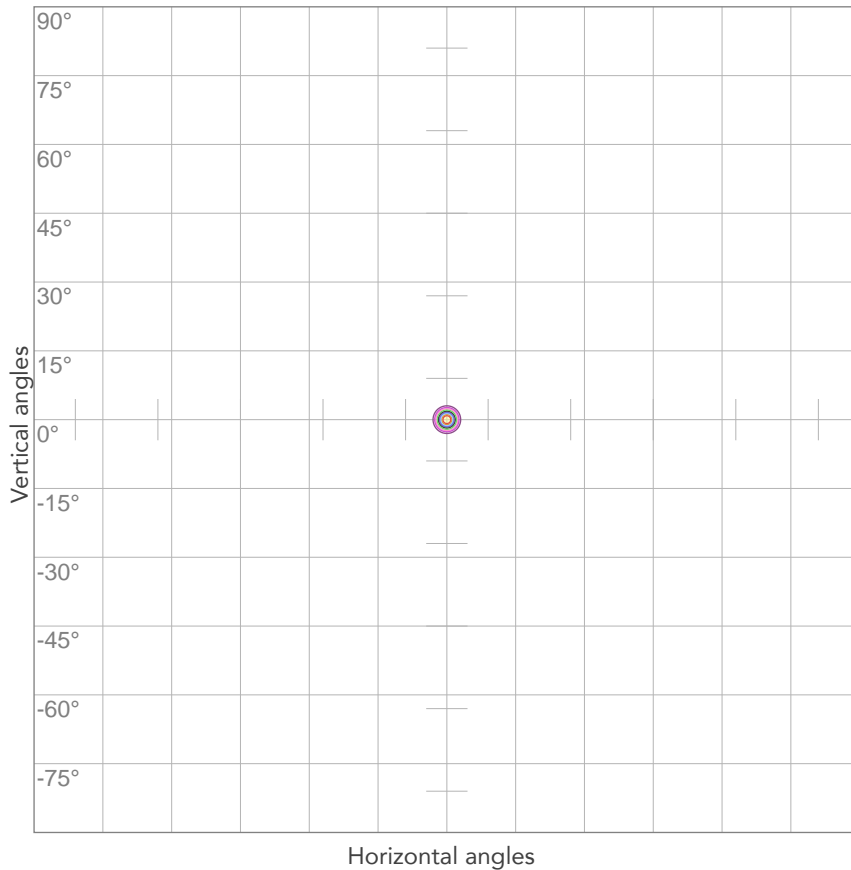
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
222V	1,50A	317,8W	27lm/W

## ISO CANDELA DIAGRAM



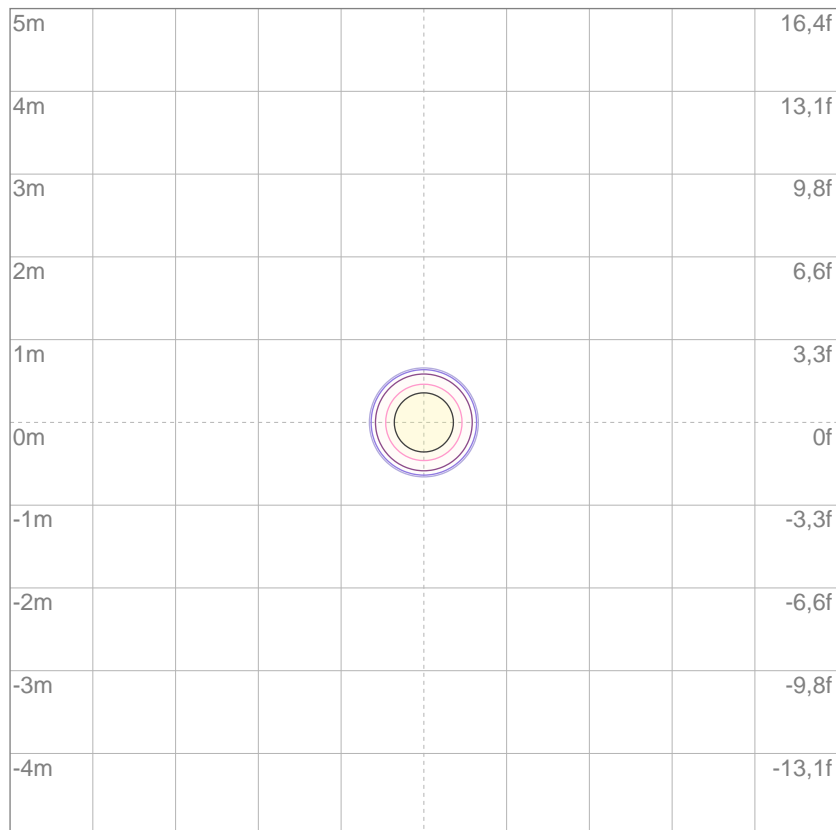
10%	68519 cd
20%	137039 cd
30%	205558 cd
40%	274077 cd
50%	342596 cd
60%	411116 cd
70%	479635 cd
80%	548154 cd

### Conditions:

Number of c-planes: 2

Candela at center: 685193 cd

## ISO LUX DIAGRAM



3%	206 lx
5%	343 lx
10%	685 lx
30%	2056 lx
50%	3426 lx

### Conditions:

Number of c-planes: 2

Lux at center: 6852 lx

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



Total lumen output:

6244 lm

Peak candela output:

42181 cd

Light quality:

CRI: 67,3

Color temperature:

4059 K

## PRODUCT NAME:

Stark 1000

## MEASURAMENT CONDITIONS:

Beam angle:

Max Zoom

Target:

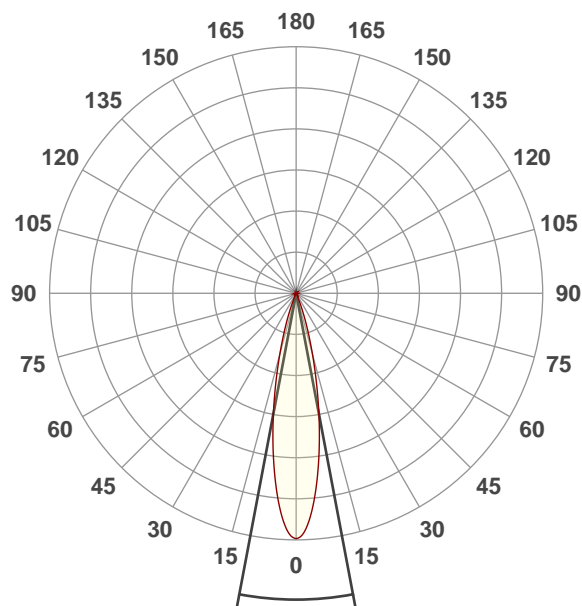
4000K

Operator:

Paolo Carvone

Date and time:

18/12/2019 15:47:48

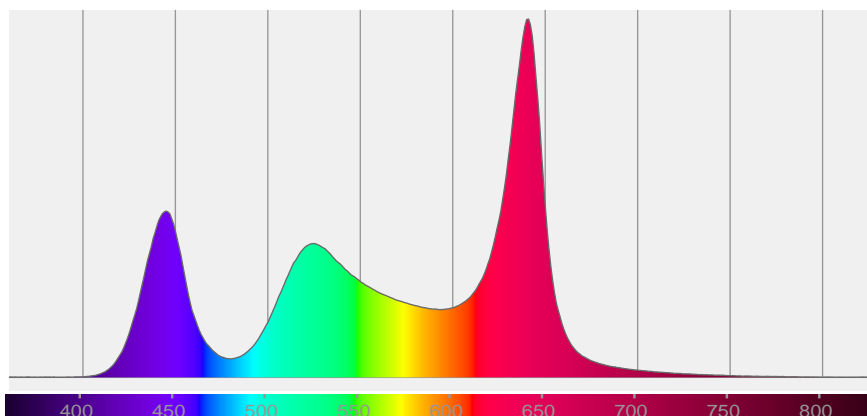


Beam angle 50%: 21,4°

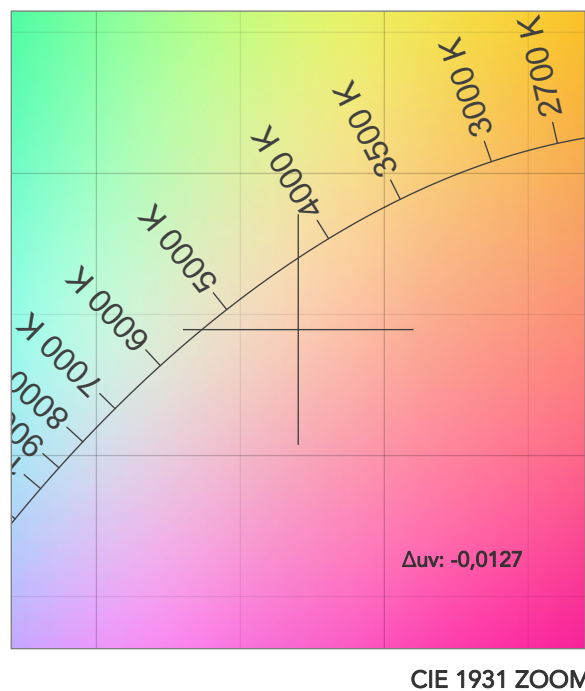
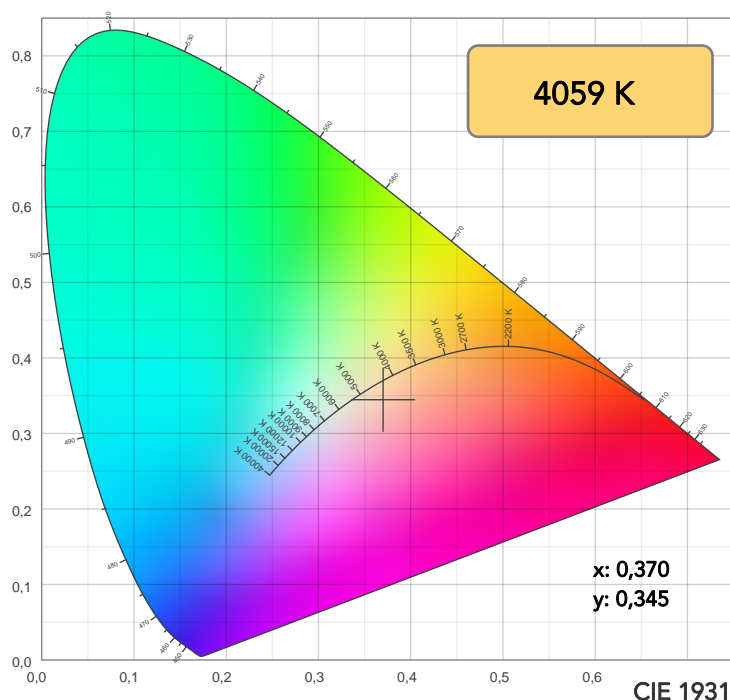
Field angle 10%: 38,3°

Cut off angle 2.5%: 45°

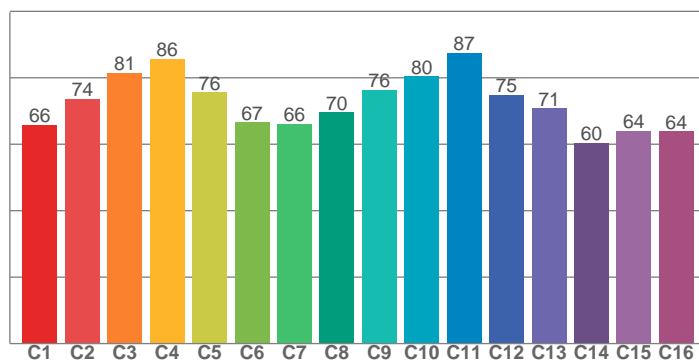
## Spectra



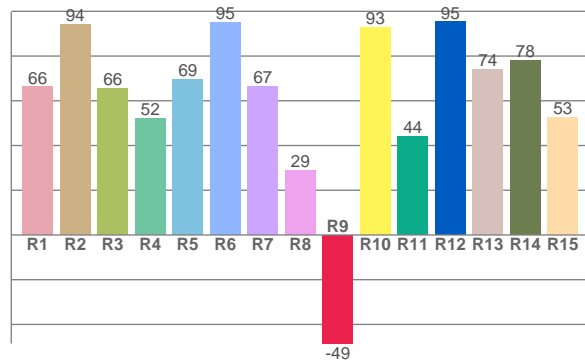




TM30: 74,1



CRI: 67,3 (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
66,2	94,3	65,6	52,1	69,4	95,2	66,6	28,9	-48,6	92,9	44,1	95,2	74,1	78,0	52,6

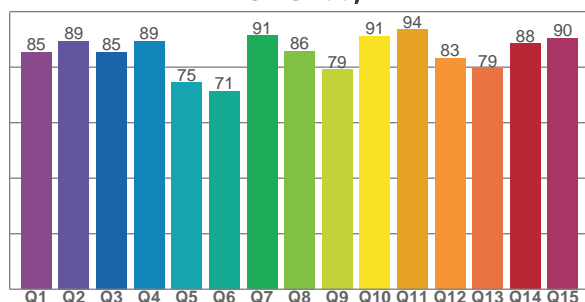
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
65,9	73,7	81,5	85,8	75,7	66,5	66,1	69,6	76,4	80,4	87,4	74,8	70,8	60,4	64,0	63,9

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
85,3	89,4	85,5	89,4	74,5	71,4	91,3	85,7	79,1	91,2	93,6	83,4	79,4	88,5	90,5

CQS: 83,9



## COLOR PARAMETERS

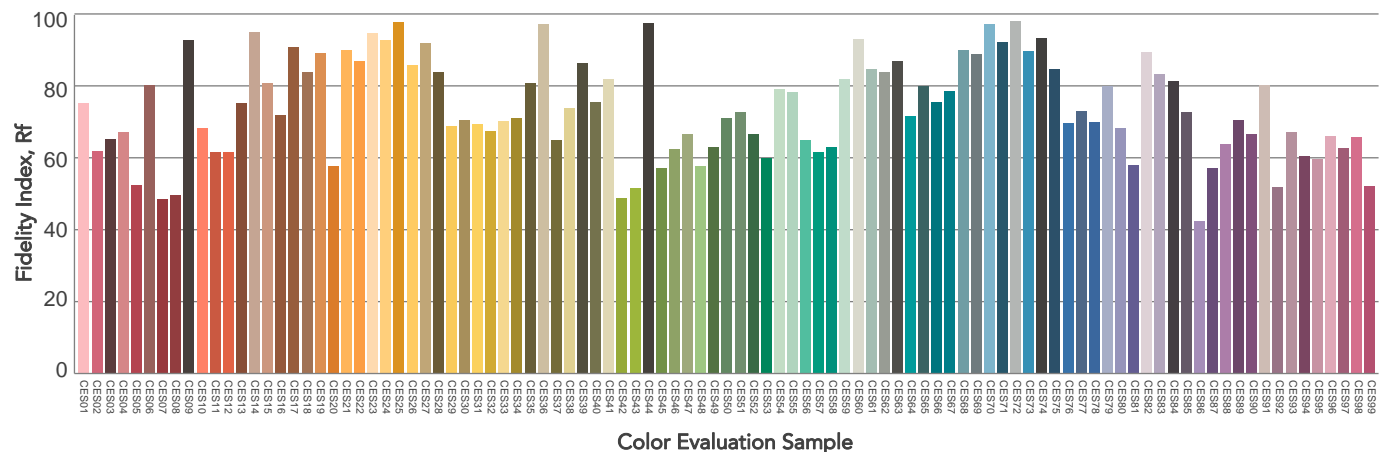
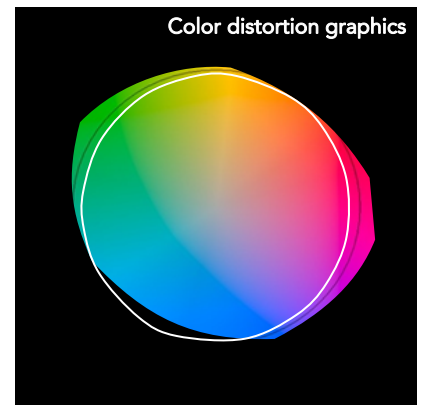
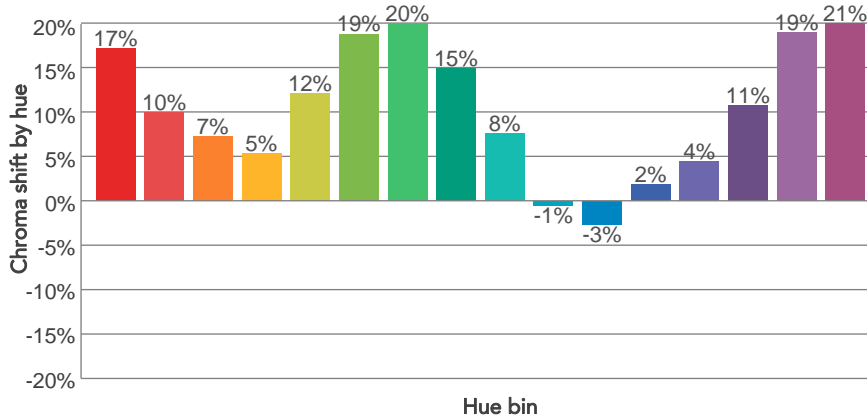
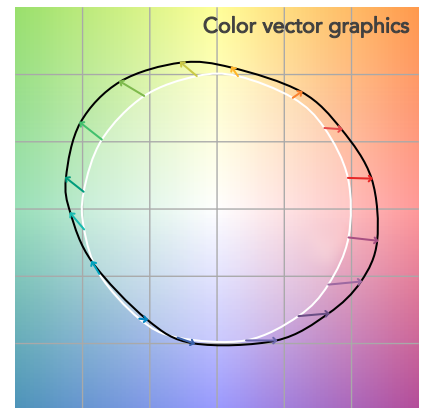
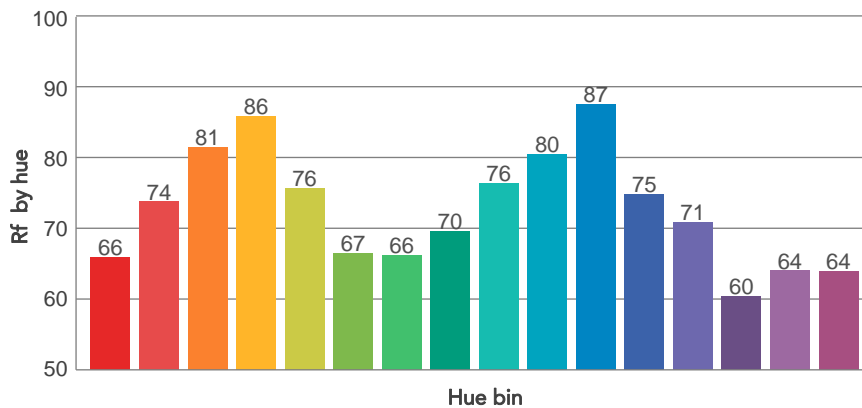
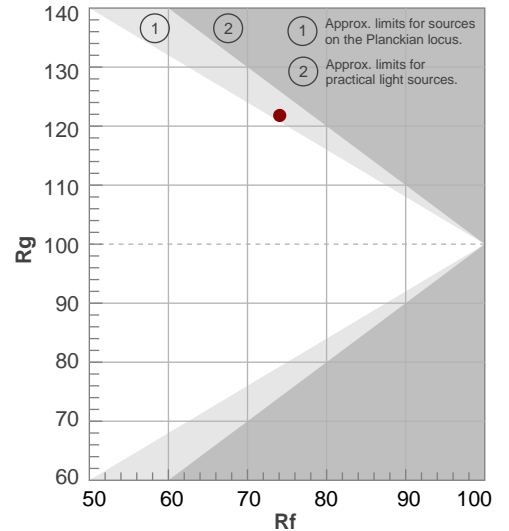
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
4059 K	67,3	-48,6	74,1	121,8	83,9	57	0,370	0,345	-0,0127

# TM30 DETAILS

**Rf 74,1**  
Fidelity index Rf

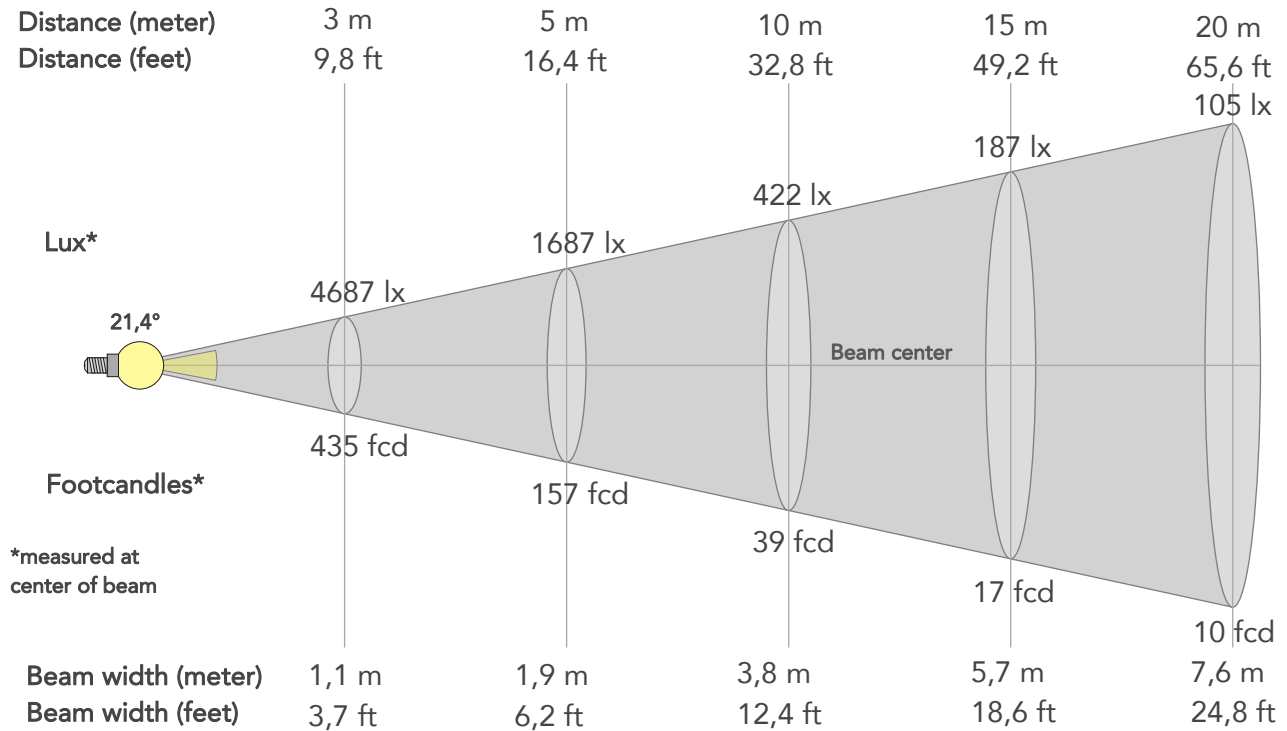
**Rg 121,8**  
Gammut index

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	66	17%	-4%
2	74	10%	-8%
3	81	7%	-3%
4	86	5%	6%
5	76	12%	10%
6	67	19%	9%
7	66	20%	-2%
8	70	15%	-8%
9	76	8%	-14%
10	80	-1%	-10%
11	87	-3%	5%
12	75	2%	13%
13	71	4%	22%
14	60	11%	20%
15	64	19%	15%
16	64	21%	2%



## BEAM DETAILS

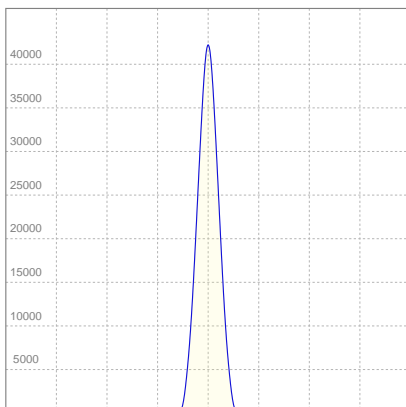
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
21,4°	38,3°	45°	100,0%	100,0%



### 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	42181lx	10545lx	4687lx	2636lx	1687lx	750lx	422lx	187lx	105lx	67lx	47lx	26lx	17lx
Footcand.	3919fcd	980fcd	435fcd	245fcd	157fcd	70fcd	39fcd	17fcd	10fcd	6fcd	4fcd	2fcd	2fcd
Beam wid.	0,4m	0,8m	1,1m	1,5m	1,9m	2,8m	3,8m	5,7m	7,6m	9,4m	11,3m	15,1m	18,9m
Beam wid.	1,2ft	2,5ft	3,7ft	4,9ft	6,2ft	9,3ft	12,4ft	18,6ft	24,8ft	31ft	37,2ft	49,5ft	61,9ft

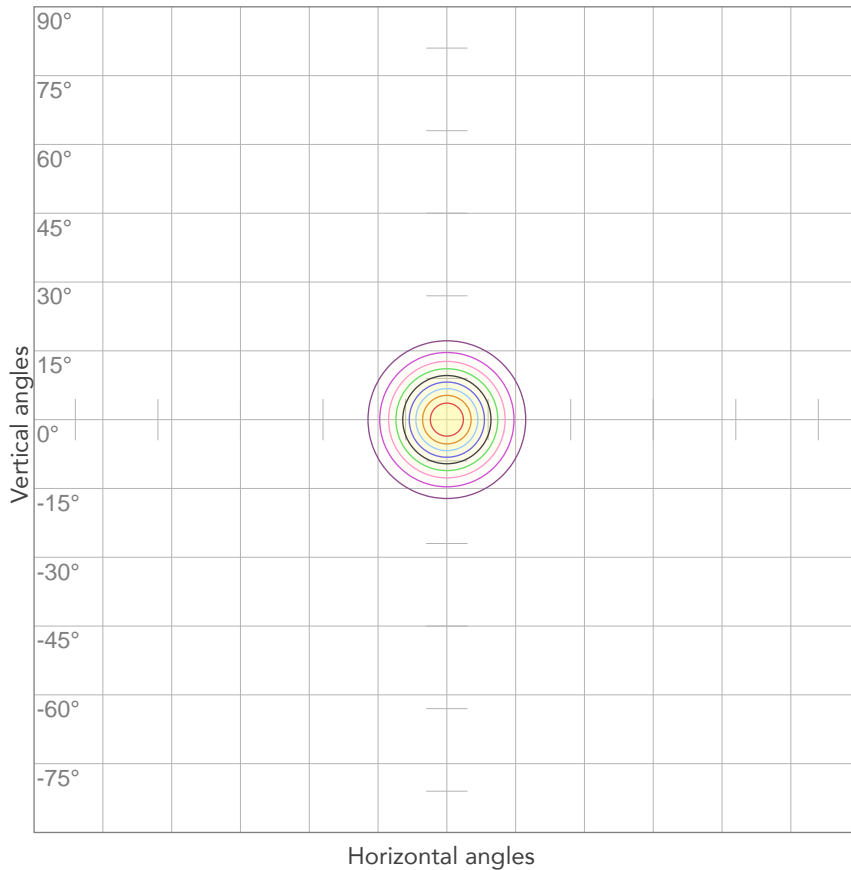
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
223V	1,78A	380,2W	16lm/W

## ISO CANDELA DIAGRAM



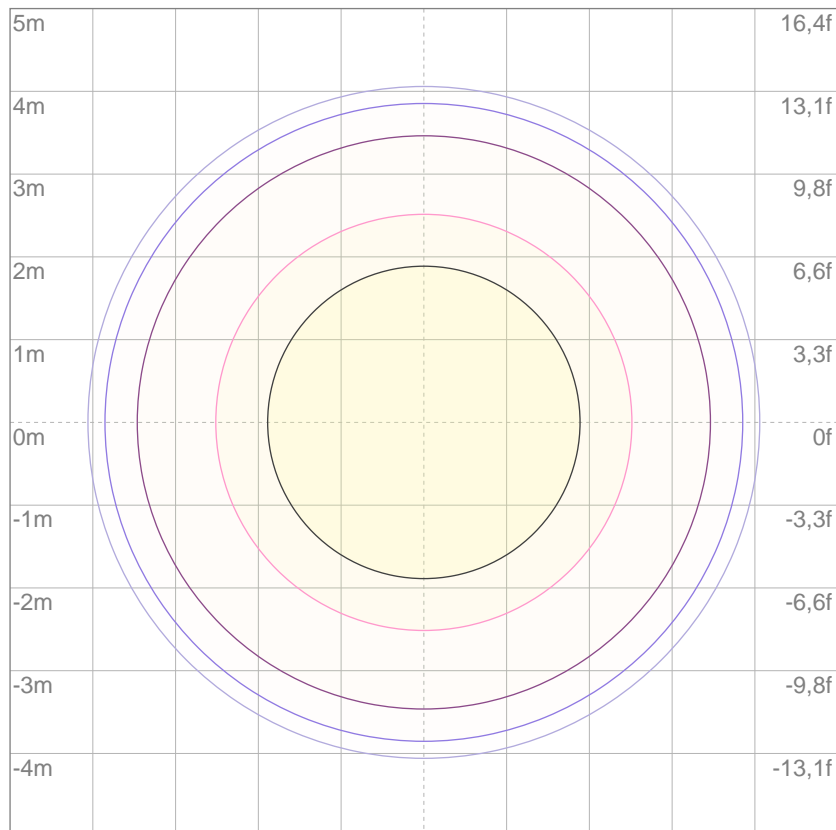
10%	4218 cd
20%	8436 cd
30%	12654 cd
40%	16872 cd
50%	21090 cd
60%	25308 cd
70%	29526 cd
80%	33744 cd

### Conditions:

Number of c-planes: 2

Candela at center: 42181 cd

## ISO LUX DIAGRAM



3%	12,7 lx
5%	21,1 lx
10%	42,2 lx
30%	127 lx
50%	211 lx

### Conditions:

Number of c-planes: 2

Lux at center: 422 lx

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



Total lumen output:

6296 lm

Peak candela output:

138212 cd

Light quality:

CRI: 67,3

Color temperature:

4060 K

## PRODUCT NAME:

Stark 1000

## MEASURAMENT CONDITIONS:

Beam angle:

Med Zoom

Target:

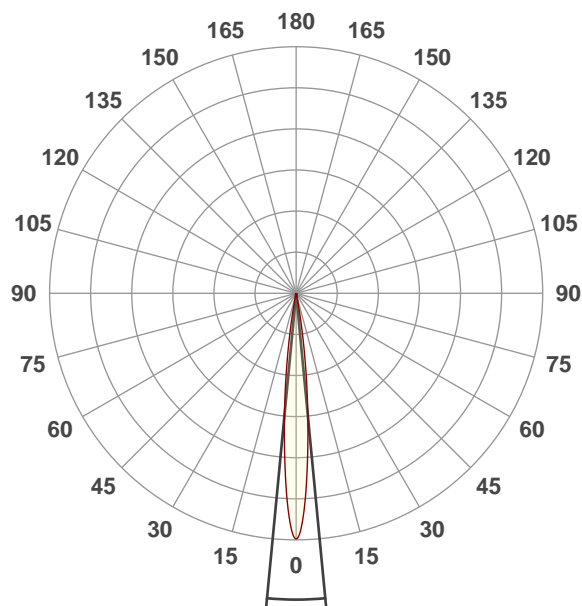
4000K

Operator:

Paolo Carvone

Date and time:

18/12/2019 17:19:50

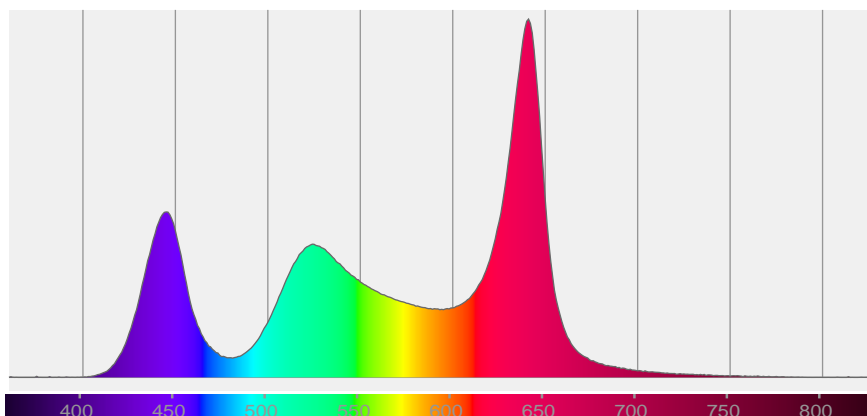


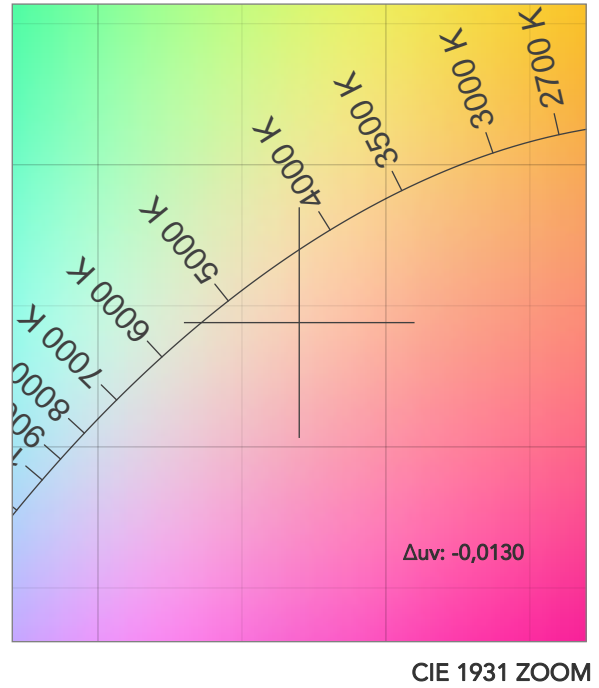
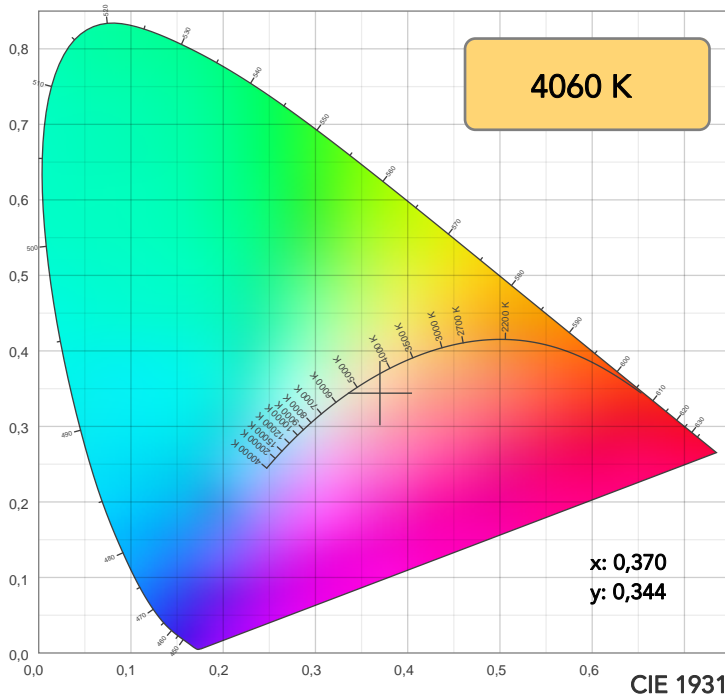
Beam angle 50%: 10,9°

Field angle 10%: 19,6°

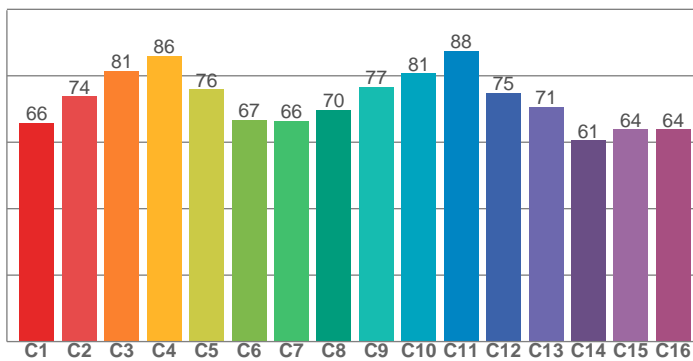
Cut off angle 2.5%: 23,3°

## Spectra

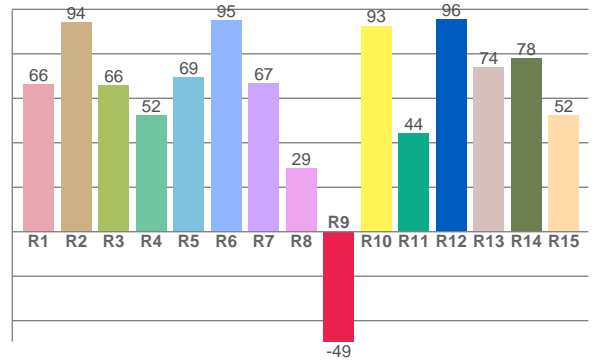




TM30: 74,2



CRI: 67,3 (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
66,1	94,1	65,8	52,3	69,3	95,1	66,7	28,6	-49,4	92,6	44,3	95,7	73,9	78,1	52,3

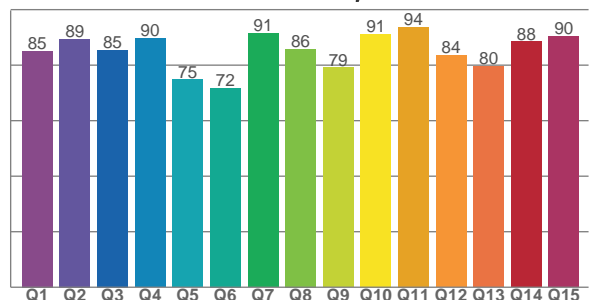
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
65,8	73,8	81,4	86,0	75,9	66,8	66,4	69,8	76,7	80,7	87,5	74,8	70,6	60,5	63,9	63,8

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
85,1	89,3	85,4	89,7	74,9	71,8	91,5	85,8	79,1	91,3	93,7	83,5	79,6	88,5	90,4

CQS: 84,0



## COLOR PARAMETERS

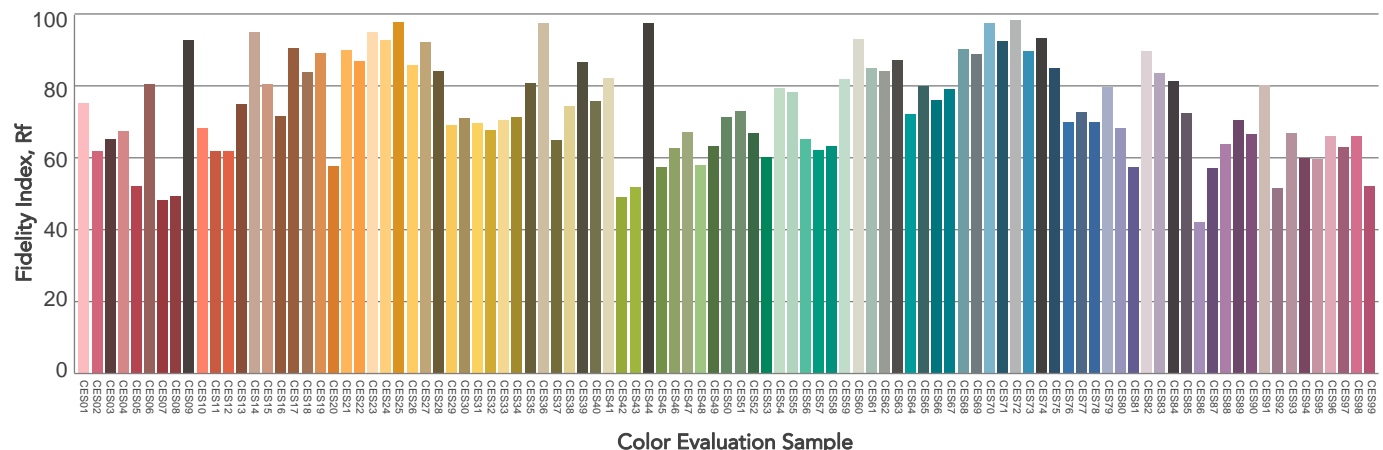
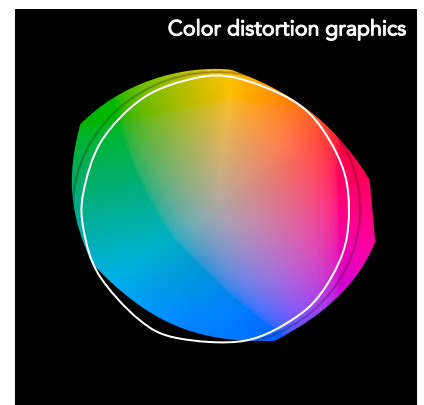
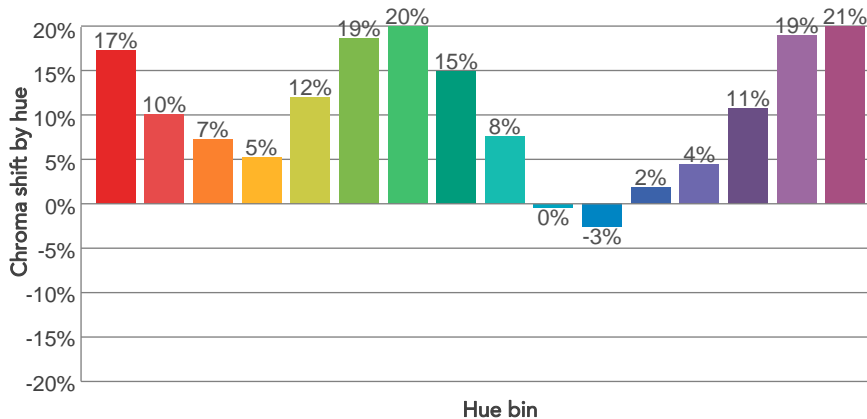
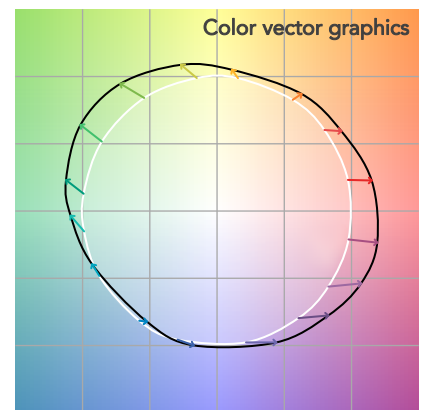
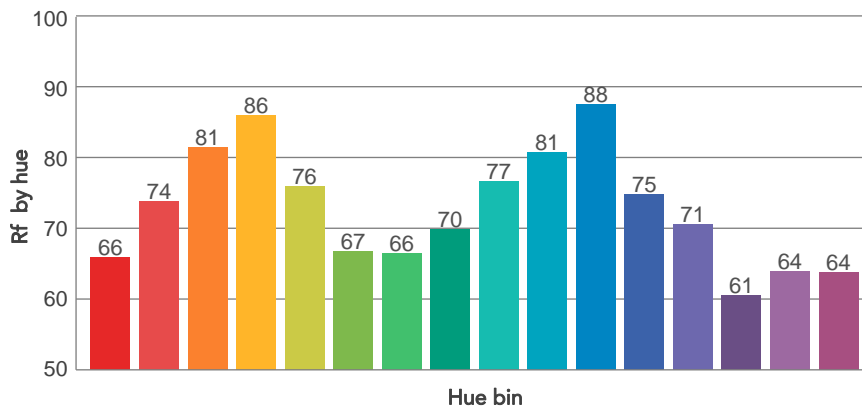
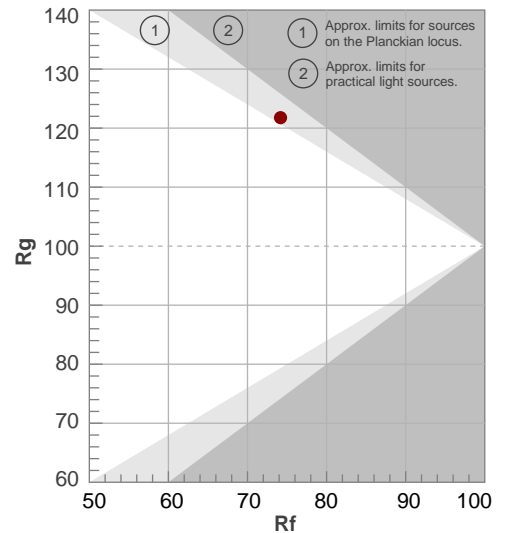
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	$\Delta uv$
4060 K	67,3	-49,4	74,2	121,8	84,0	57	0,370	0,344	-0,0130

# TM30 DETAILS

**Rf 74,2**  
Fidelity index Rf

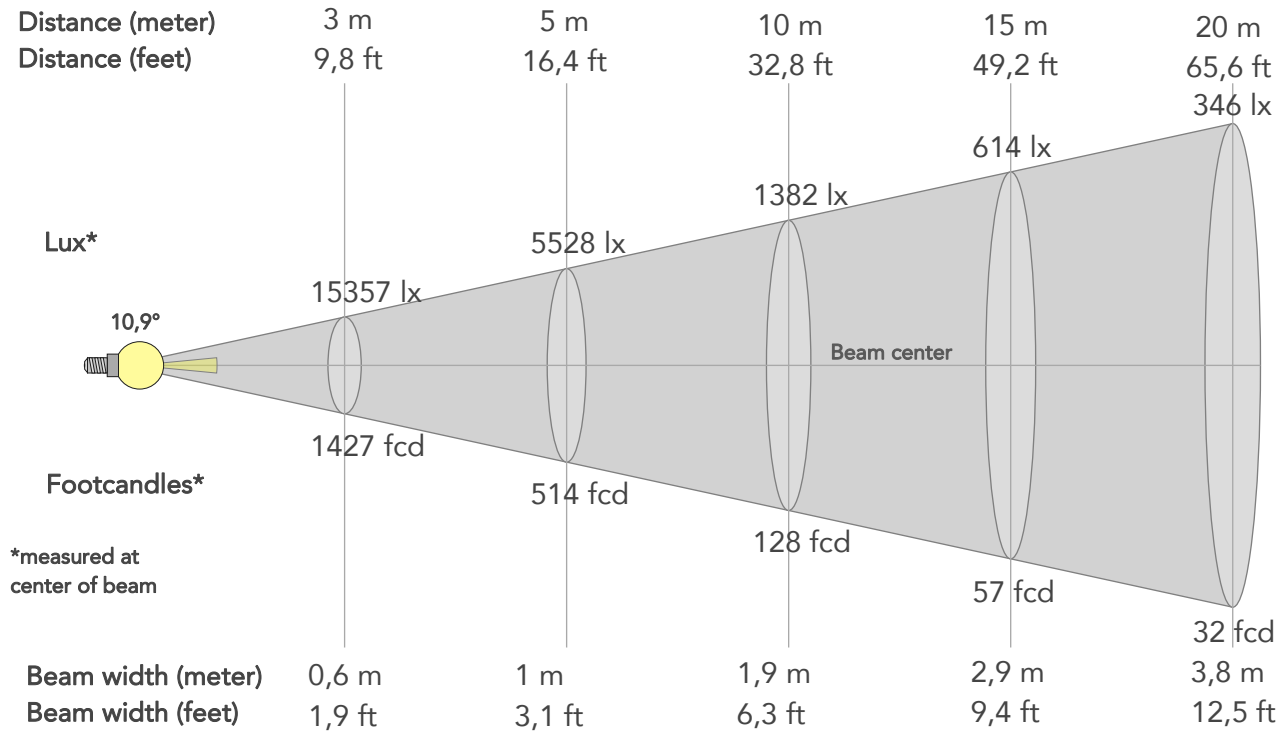
**Rg 121,8**  
Gammut index

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	66	17%	-4%
2	74	10%	-8%
3	81	7%	-3%
4	86	5%	6%
5	76	12%	10%
6	67	19%	9%
7	66	20%	-1%
8	70	15%	-7%
9	77	8%	-13%
10	81	0%	-10%
11	88	-3%	5%
12	75	2%	13%
13	71	4%	22%
14	61	11%	20%
15	64	19%	15%
16	64	21%	2%



## BEAM DETAILS

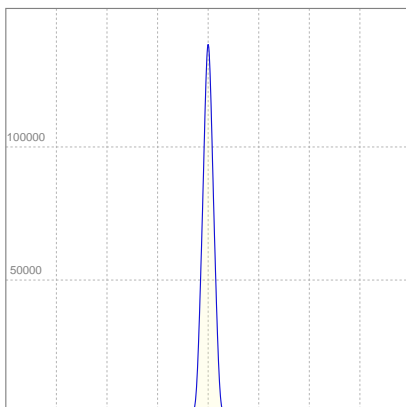
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
10,9°	19,6°	23,3°	92,4%	90,1%



### 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	138211lx	34553lx	15357lx	8638lx	5528lx	2457lx	1382lx	614lx	346lx	221lx	154lx	86lx	55lx
Footcand.	12840fcd	3210fcd	1427fcd	803fcd	514fcd	228fcd	128fcd	57fcd	32fcd	21fcd	14fcd	8fcd	5fcd
Beam wid.	0,2m	0,4m	0,6m	0,8m	1m	1,4m	1,9m	2,9m	3,8m	4,8m	5,7m	7,6m	9,6m
Beam wid.	0,6ft	1,3ft	1,9ft	2,5ft	3,1ft	4,7ft	6,3ft	9,4ft	12,5ft	15,7ft	18,8ft	25,1ft	31,3ft

### LINEAR DISTRIBUTION DIAGRAM

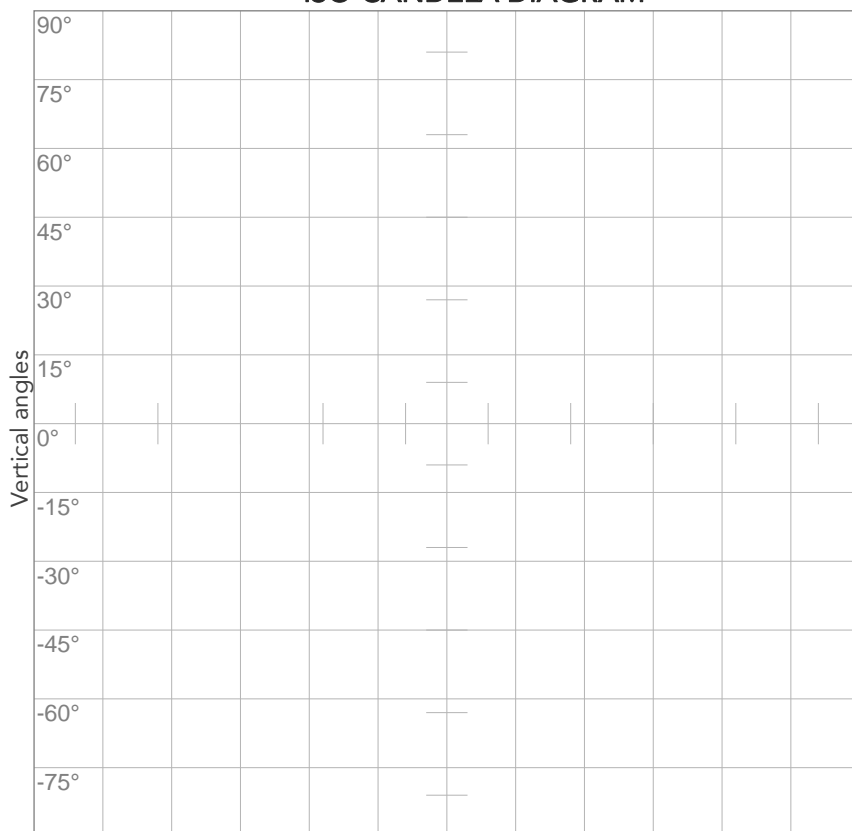


### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
223V	1,76A	376,6W	17lm/W



## ISO CANDELA DIAGRAM



Horizontal angles

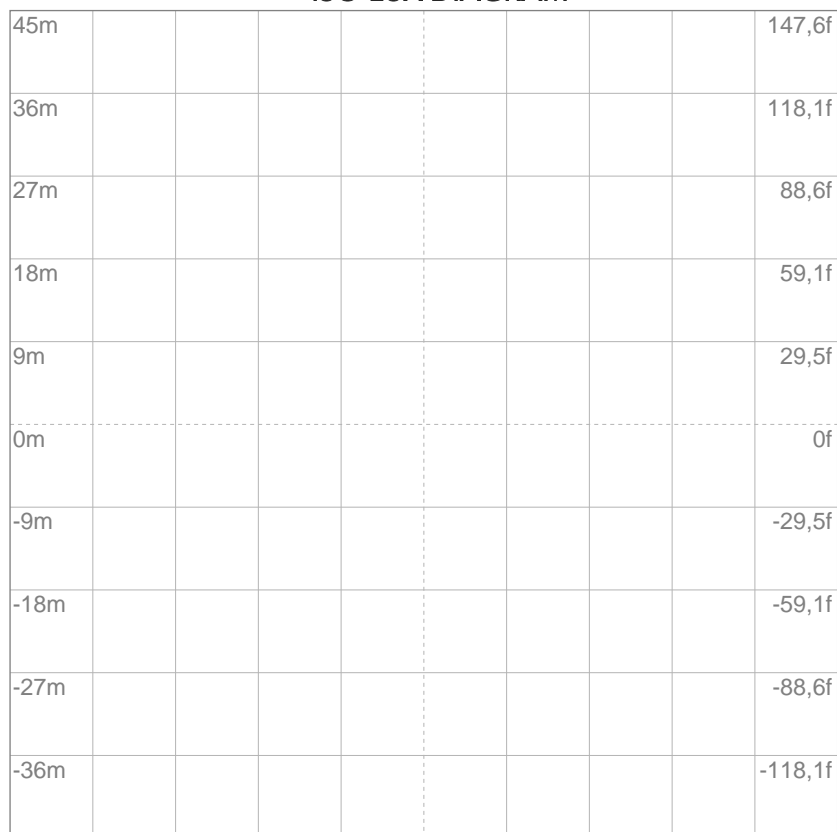
10%	13821 cd
20%	27642 cd
30%	41463 cd
40%	55285 cd
50%	69106 cd
60%	82927 cd
70%	96748 cd
80%	110569 cd

### Conditions:

Number of c-planes: 2

Candela at center: 138211 cd

## ISO LUX DIAGRAM



Mounting height: 10 meters (33 feet)

3%	41,5 lx
5%	69,1 lx
10%	138 lx
30%	415 lx
50%	691 lx

### Conditions:

Number of c-planes: 2

Lux at center: 1382 lx

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



Total lumen output:

9714 lm

Peak candela output:

878372 cd

Light quality:

CRI: 66,4

Color temperature:

4081 K

## PRODUCT NAME:

Stark 1000

## MEASURAMENT CONDITIONS:

Beam angle:

Min Zoom

Target:

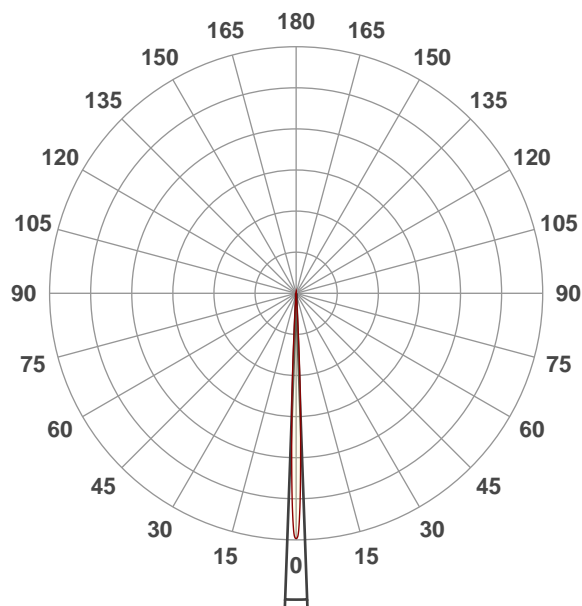
4000K

Operator:

Paolo Carvone

Date and time:

18/12/2019 16:40:23

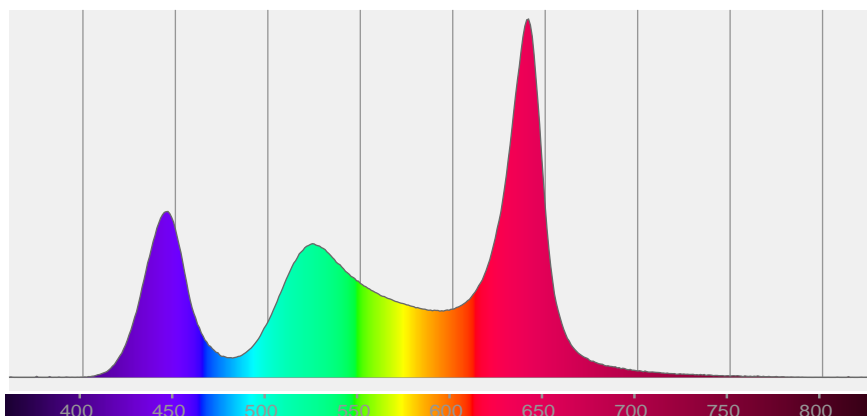


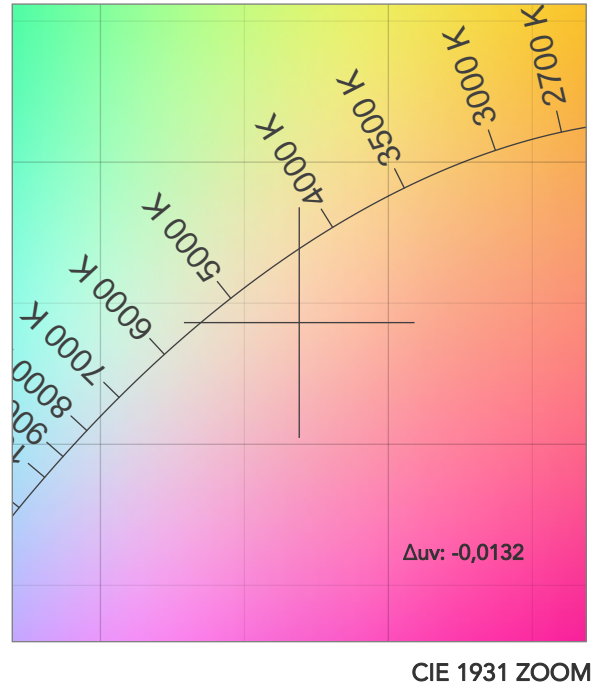
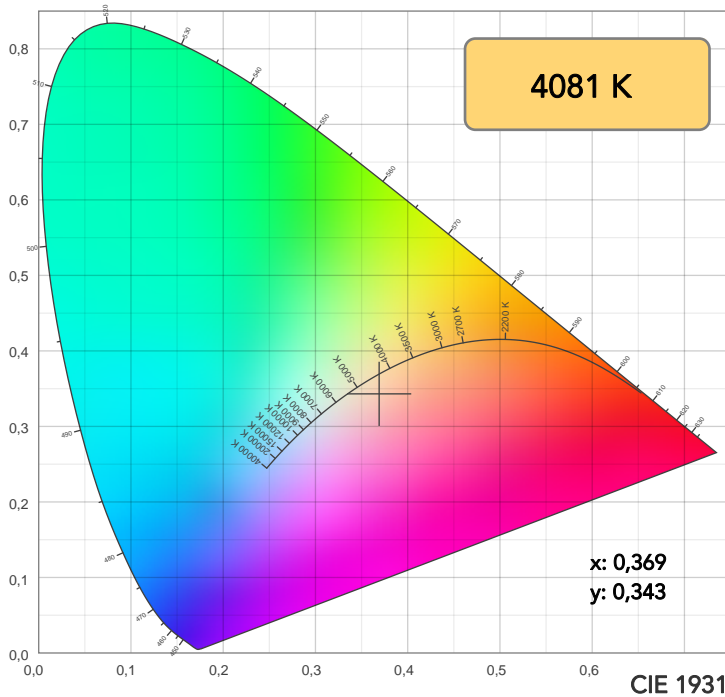
Beam angle 50%: 4,1°

Field angle 10%: 6,7°

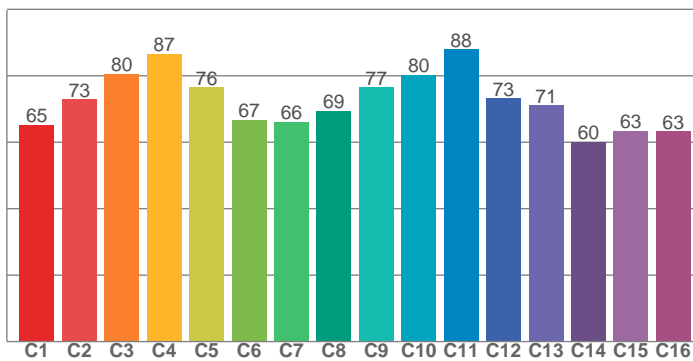
Cut off angle 2.5%: 7,7°

## Spectra

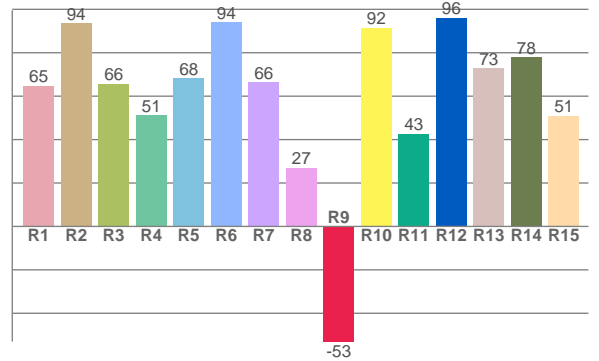




TM30: 74,0



CRI: 66,4 (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
64,8	93,6	65,8	51,2	68,1	94,2	66,3	27,1	-53,0	91,6	42,7	96,1	72,7	78,0	50,9

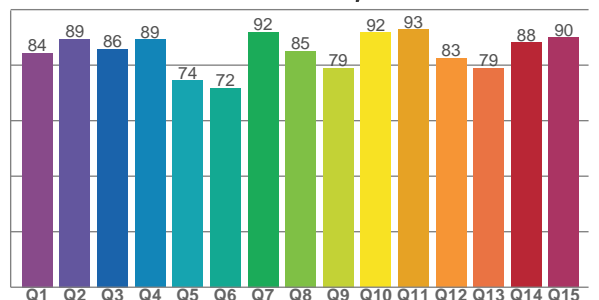
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
65,1	72,9	80,5	86,6	76,5	66,7	66,1	69,4	76,5	80,3	88,0	73,2	71,1	60,0	63,4	63,2

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
84,4	89,4	85,9	89,2	74,4	71,8	91,9	85,1	78,9	91,8	92,8	82,6	78,9	88,1	89,9

CQS: 83,7



## COLOR PARAMETERS

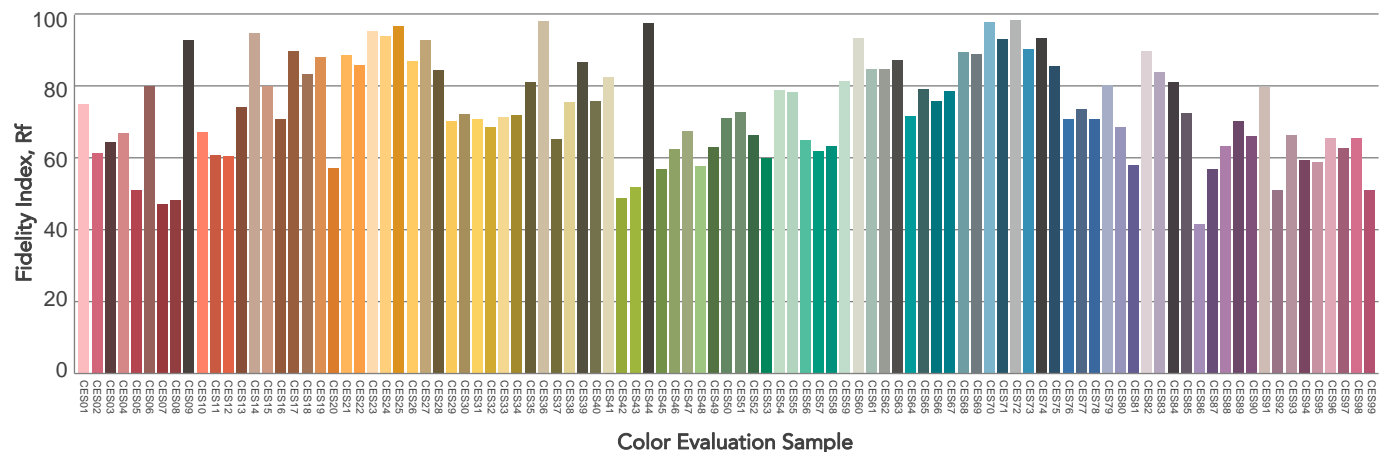
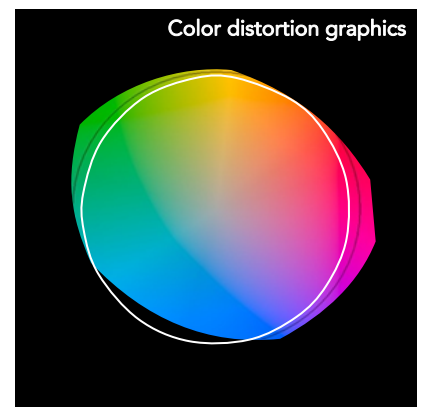
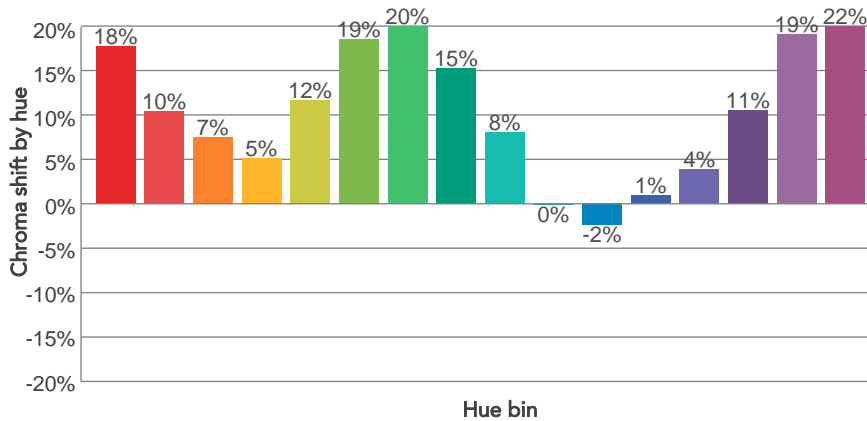
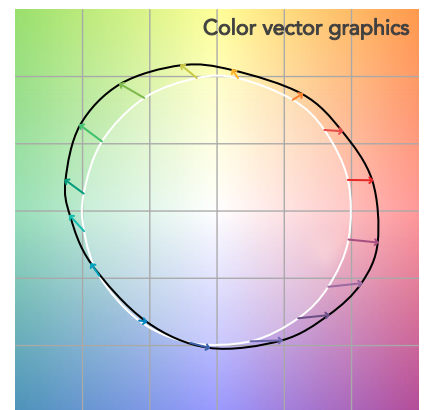
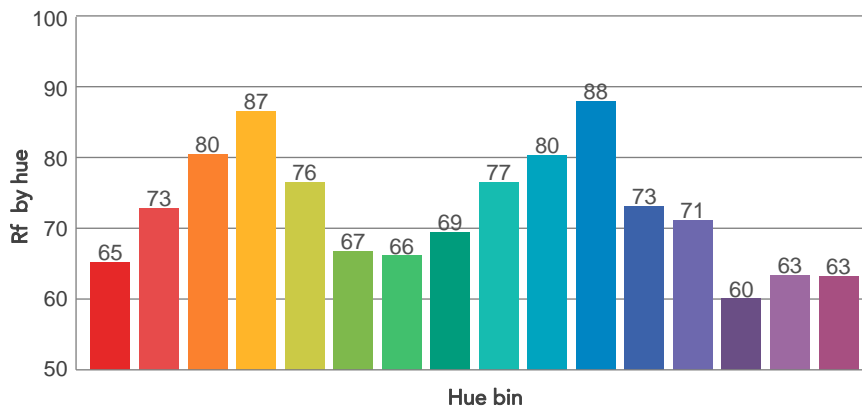
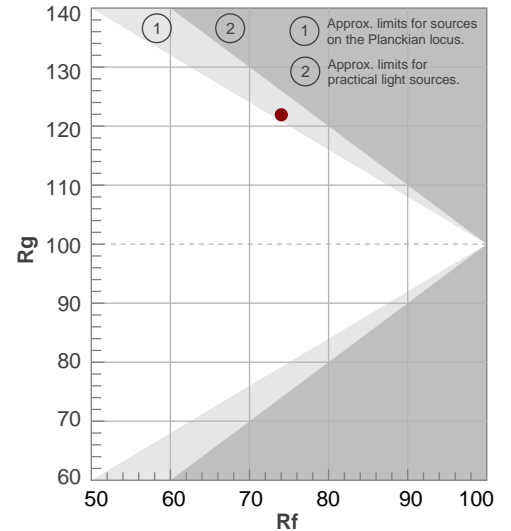
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	$\Delta uv$
4081 K	66,4	-53,0	74,0	121,9	83,7	57	0,369	0,343	-0,0132

# TM30 DETAILS

**Rf 74,0**  
Fidelity index Rf

**Rg 121,9**  
Gammut index

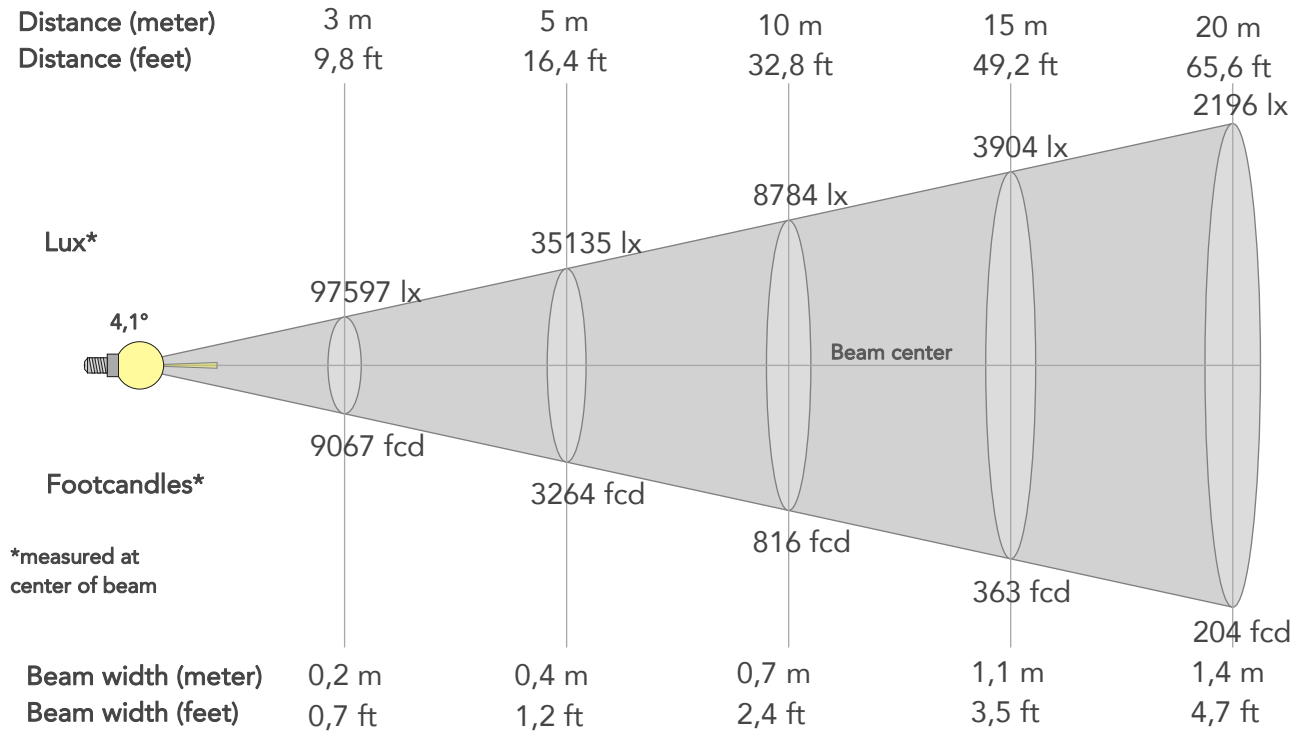
Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	65	18%	-4%
2	73	10%	-8%
3	80	7%	-3%
4	87	5%	5%
5	76	12%	9%
6	67	19%	9%
7	66	20%	-1%
8	69	15%	-7%
9	77	8%	-13%
10	80	0%	-10%
11	88	-2%	5%
12	73	1%	14%
13	71	4%	23%
14	60	11%	20%
15	63	19%	16%
16	63	22%	2%



## BEAM DETAILS



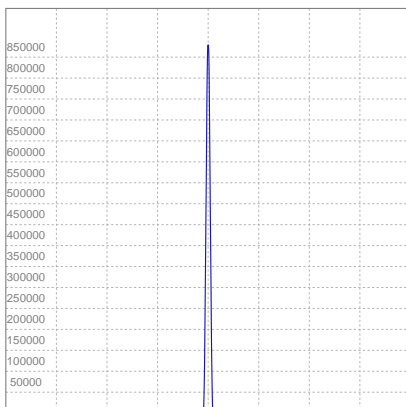
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
4,1°	6,7°	7,7°	71,2%	60,5%



### 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	878371lx	219593lx	97597lx	54898lx	35135lx	15615lx	8784lx	3904lx	2196lx	1405lx	976lx	549lx	351lx
Footcand.	81603fcd	20401fcd	9067fcd	5100fcd	3264fcd	1451fcd	816fcd	363fcd	204fcd	131fcd	91fcd	51fcd	33fcd
Beam wid.	0,1m	0,1m	0,2m	0,3m	0,4m	0,5m	0,7m	1,1m	1,4m	1,8m	2,2m	2,9m	3,6m
Beam wid.	0,2ft	0,5ft	0,7ft	0,9ft	1,2ft	1,8ft	2,4ft	3,5ft	4,7ft	5,9ft	7,1ft	9,4ft	11,8ft

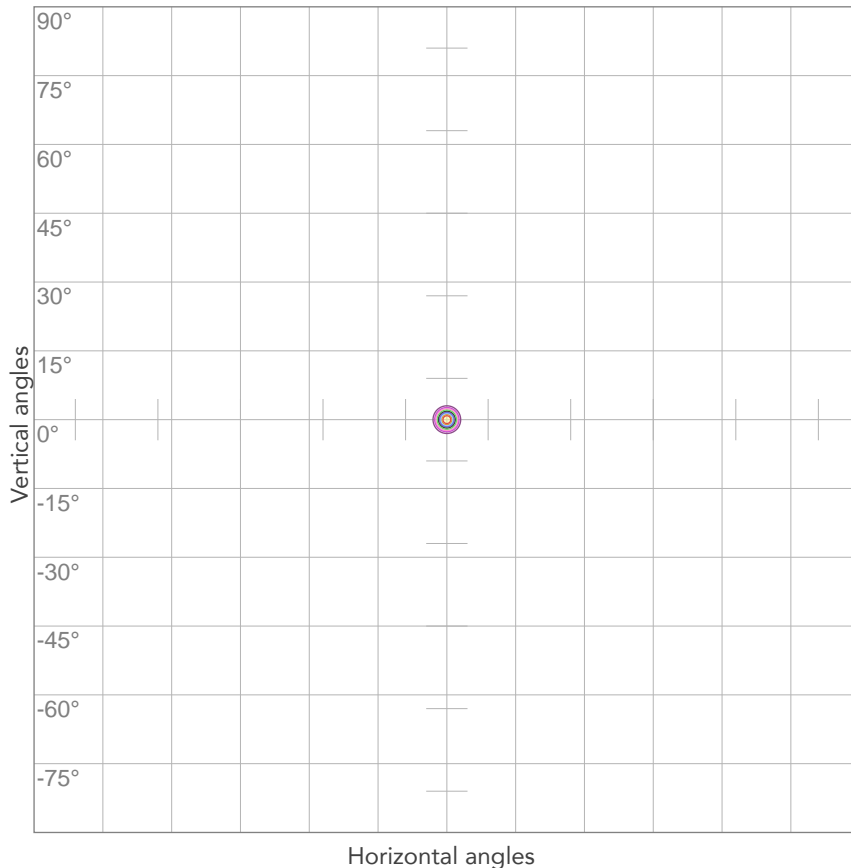
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Efficiency
222V	1,80A	383,3W	25lm/W

## ISO CANDELA DIAGRAM



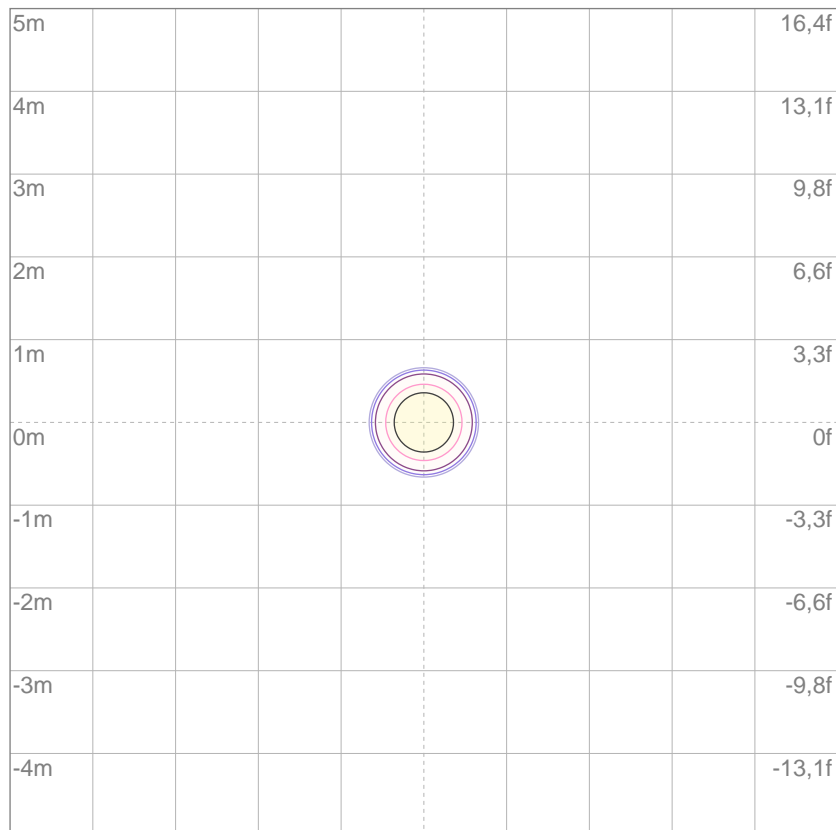
10%	87837 cd
20%	175674 cd
30%	263511 cd
40%	351349 cd
50%	439186 cd
60%	527023 cd
70%	614860 cd
80%	702697 cd

### Conditions:

Number of c-planes: 2

Candela at center: 878371 cd

## ISO LUX DIAGRAM



3%	264 lx
5%	439 lx
10%	878 lx
30%	2635 lx
50%	4392 lx

### Conditions:

Number of c-planes: 2

Lux at center: 8784 lx

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



Total lumen output:

6708 lm

Peak candela output:

45401 cd

Light quality:

CRI: 66,7

Color temperature:

5416 K

## PRODUCT NAME:

Stark 1000

## MEASURAMENT CONDITIONS:

Beam angle:

Max Zoom

Target:

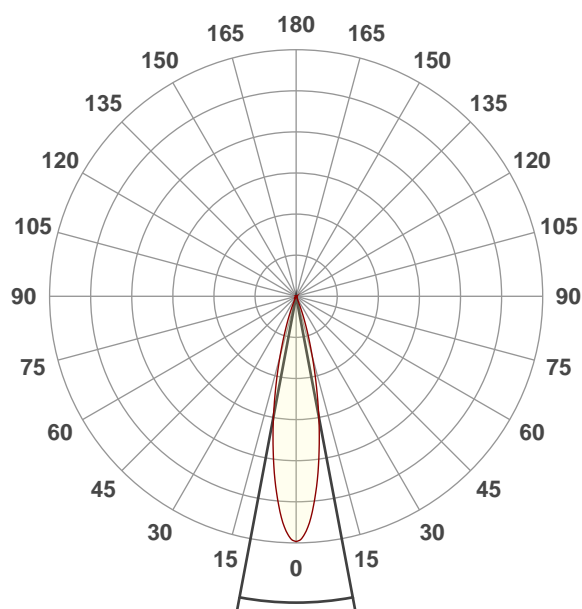
5600K

Operator:

Paolo Carvone

Date and time:

18/12/2019 15:50:29

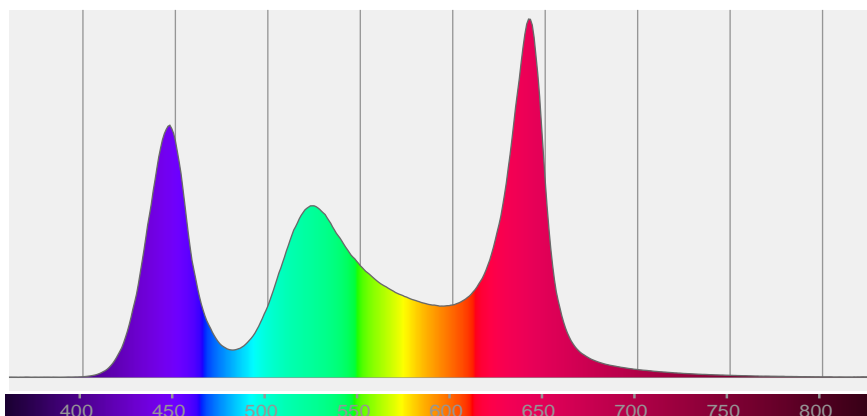


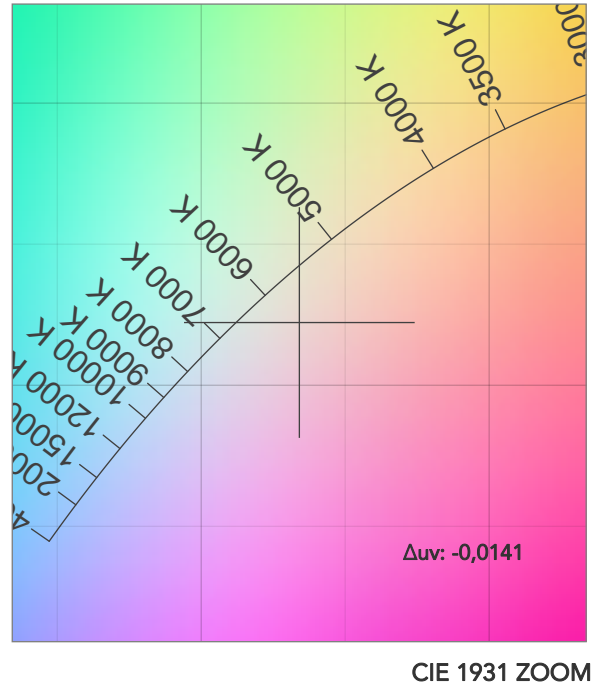
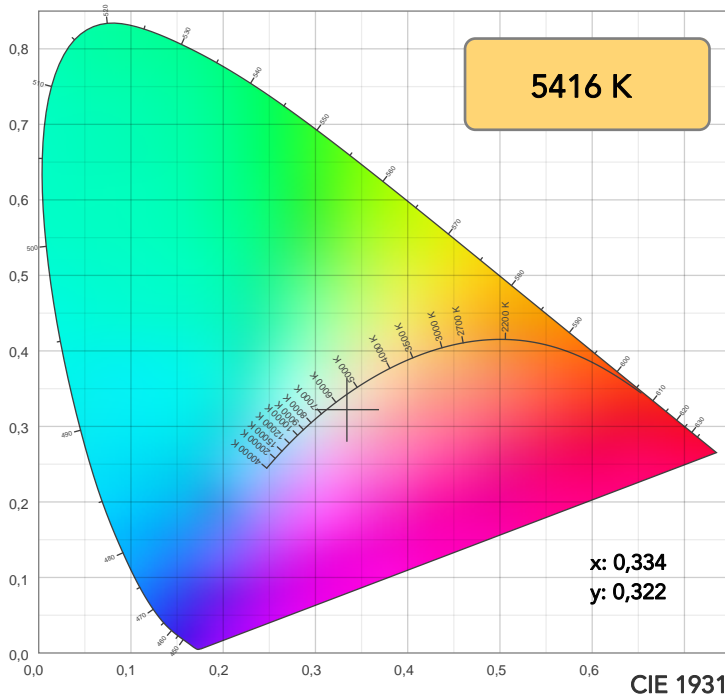
Beam angle 50%: 21,3°

Field angle 10%: 38,3°

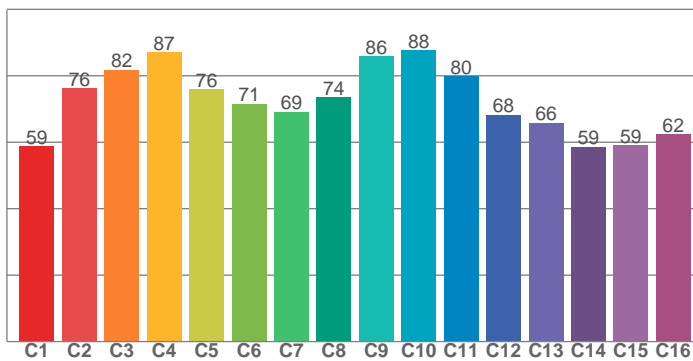
Cut off angle 2.5%: 45°

## Spectra

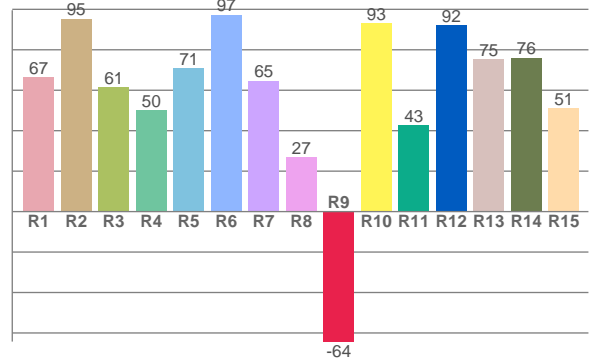




TM30: 73,9



CRI: 66,7 (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
66,6	95,4	61,4	50,0	71,0	97,3	64,6	27,0	-64,3	93,0	42,6	92,1	75,5	76,0	51,0

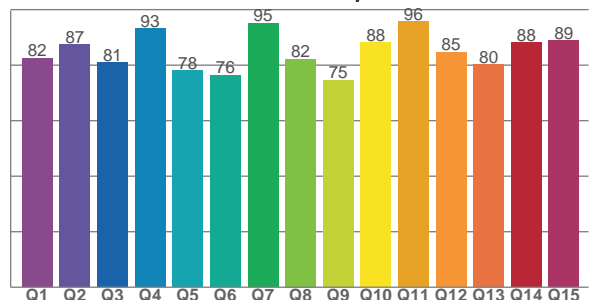
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
58,8	76,2	81,7	87,0	75,9	71,5	69,1	73,6	85,9	87,6	79,8	68,3	65,7	58,7	59,0	62,3

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
82,4	87,4	80,9	93,2	78,1	76,3	95,1	82,2	74,7	88,1	95,8	84,6	80,2	88,1	88,9

CQS: 83,8



## 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	Δuv
5416 K	66,7	-64,3	73,9	121,2	83,8	58	0,334	0,322	-0,0141

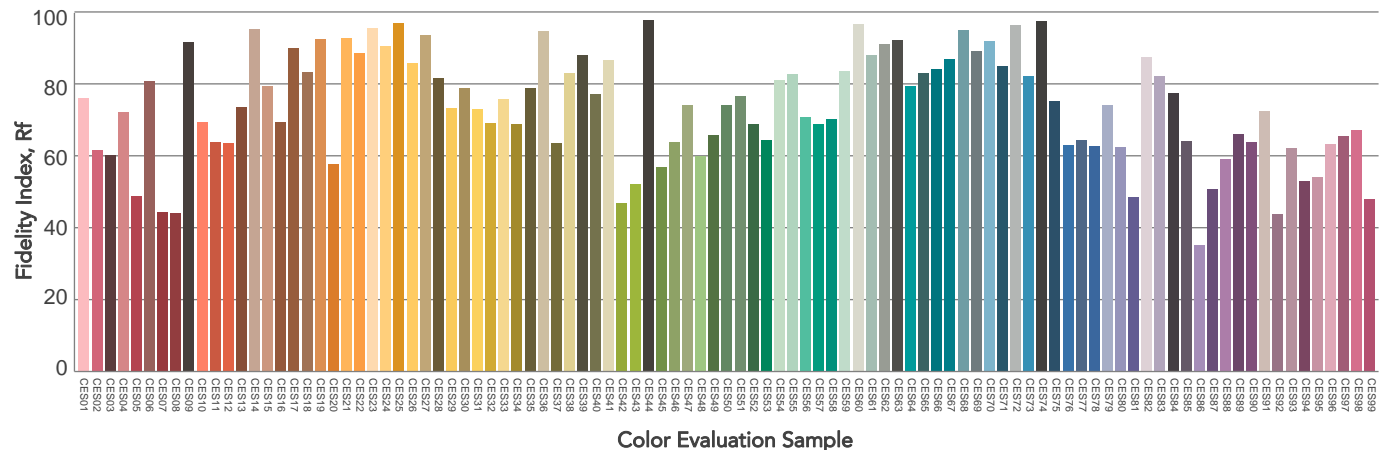
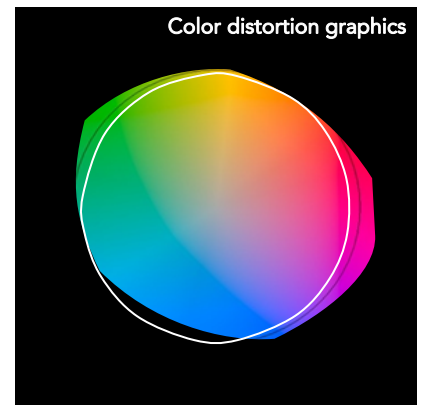
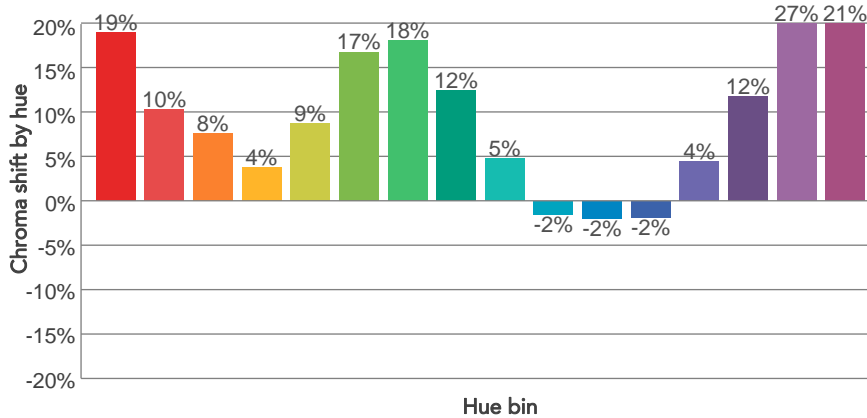
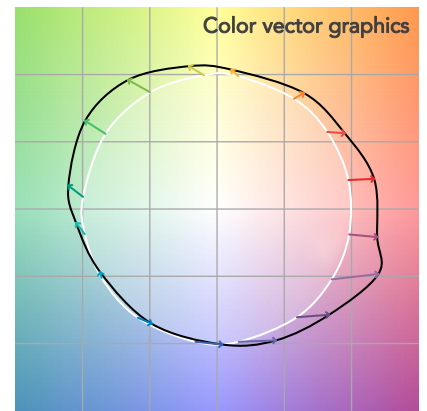
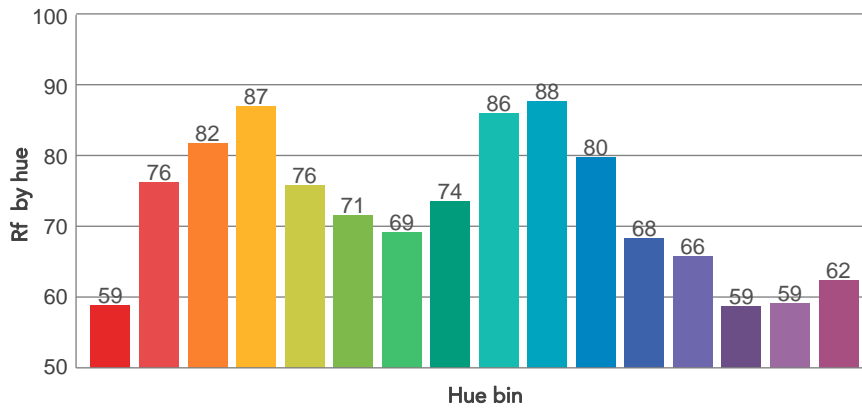
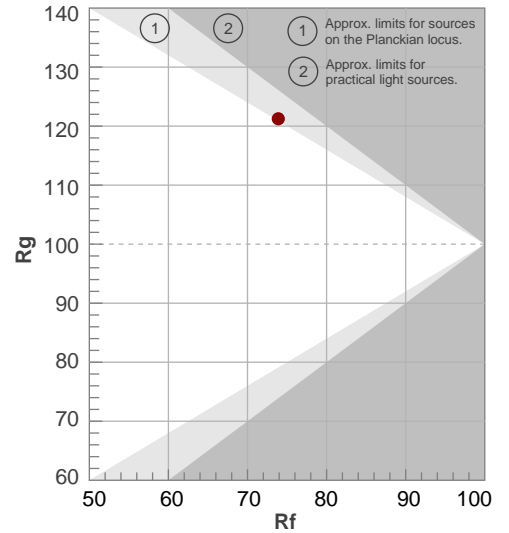


# TM30 DETAILS

**Rf 73,9**  
Fidelity index Rf

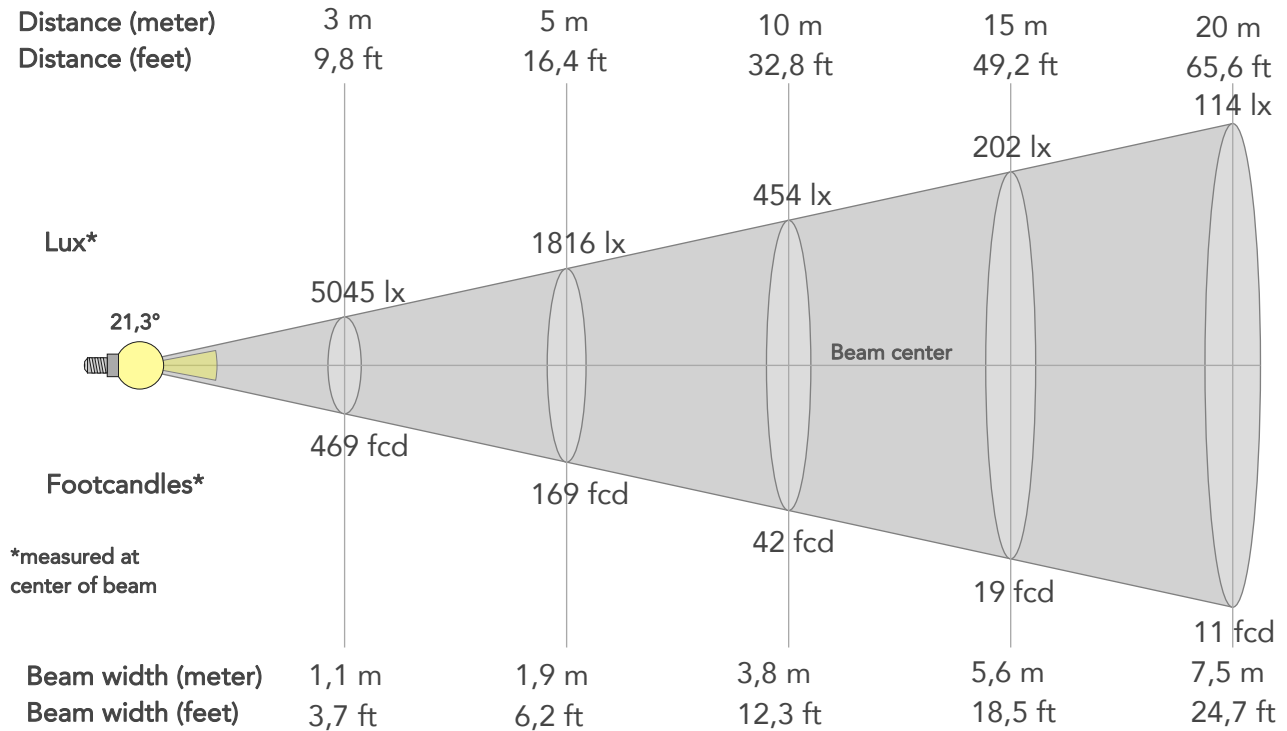
**Rg 121,2**  
Gammut index

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	59	19%	-3%
2	76	10%	-8%
3	82	8%	-4%
4	87	4%	6%
5	76	9%	10%
6	71	17%	9%
7	69	18%	0%
8	74	12%	-6%
9	86	5%	-9%
10	88	-2%	-4%
11	80	-2%	11%
12	68	-2%	20%
13	66	4%	27%
14	59	12%	21%
15	59	27%	23%
16	62	21%	2%



## BEAM DETAILS

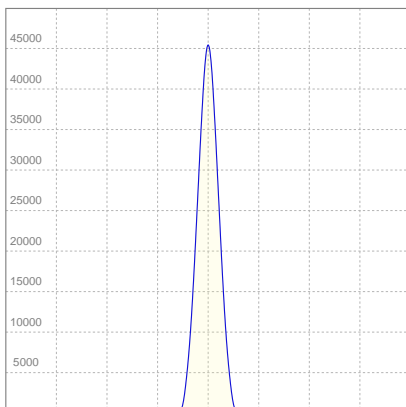
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
21,3°	38,3°	45°	100,0%	100,0%



### 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	45401lx	11350lx	5045lx	2838lx	1816lx	807lx	454lx	202lx	114lx	73lx	50lx	28lx	18lx
Footcand.	4218fcd	1054fcd	469fcd	264fcd	169fcd	75fcd	42fcd	19fcd	11fcd	7fcd	5fcd	3fcd	2fcd
Beam wid.	0,4m	0,8m	1,1m	1,5m	1,9m	2,8m	3,8m	5,6m	7,5m	9,4m	11,3m	15,1m	18,8m
Beam wid.	1,2ft	2,5ft	3,7ft	4,9ft	6,2ft	9,3ft	12,3ft	18,5ft	24,7ft	30,9ft	37ft	49,4ft	61,7ft

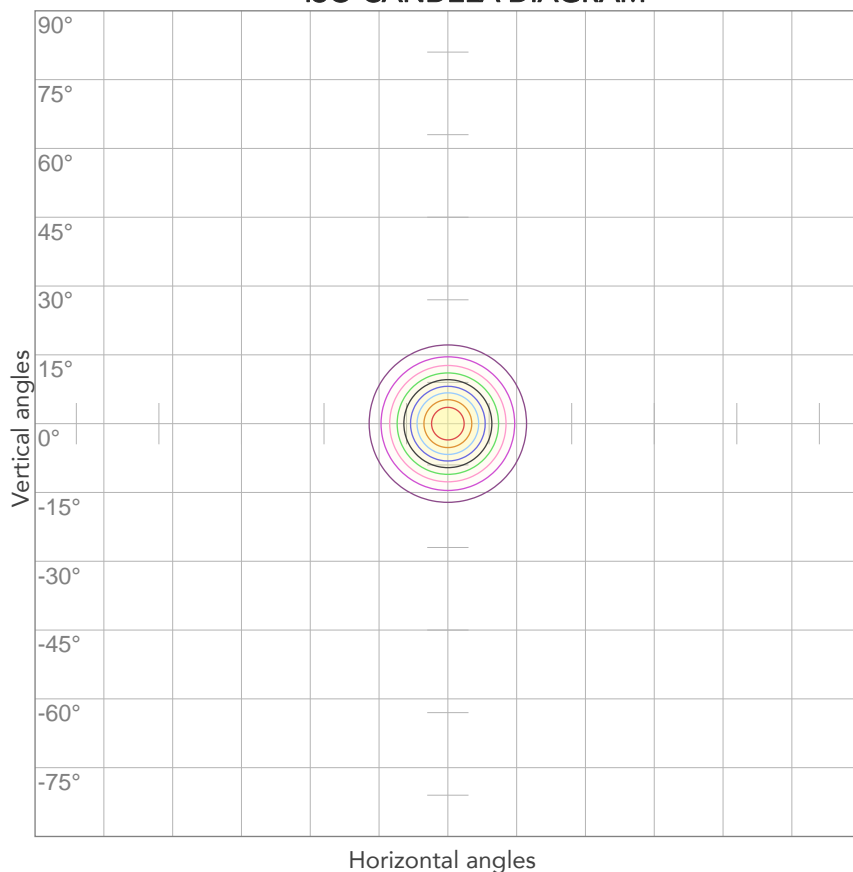
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
223V	2,01A	429,7W	16lm/W

## ISO CANDELA DIAGRAM



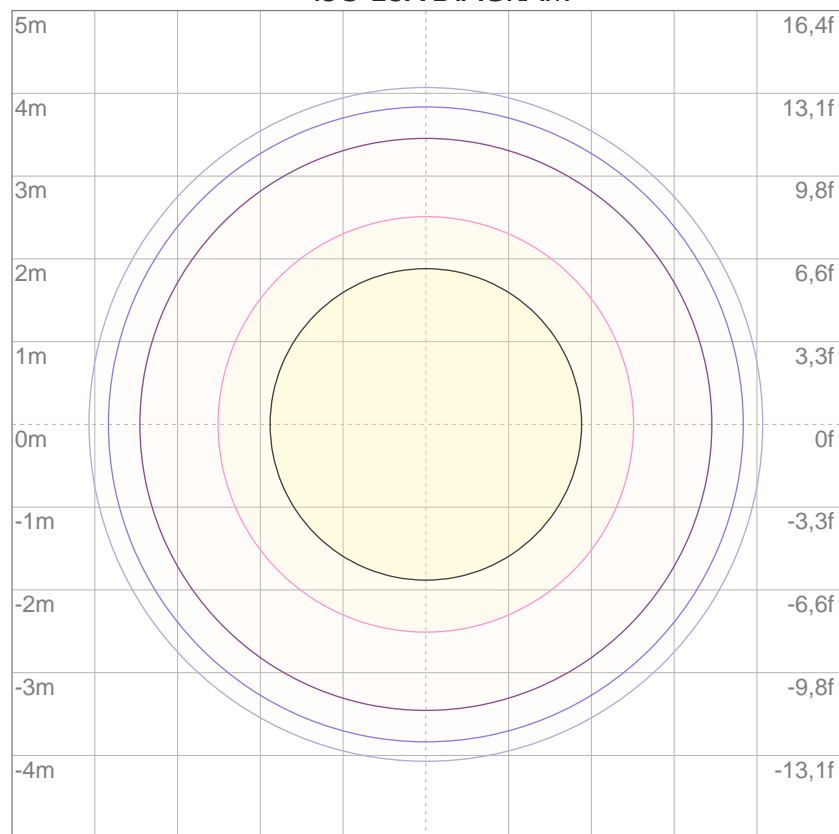
10%	4540 cd
20%	9080 cd
30%	13620 cd
40%	18160 cd
50%	22701 cd
60%	27241 cd
70%	31781 cd
80%	36321 cd

### Conditions:

Number of c-planes: 2

Candela at center: 45401 cd

## ISO LUX DIAGRAM



3%	13,6 lx
5%	22,7 lx
10%	45,4 lx
30%	136 lx
50%	227 lx

### Conditions:

Number of c-planes: 2

Lux at center: 454 lx

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



Total lumen output:

6549 lm

Peak candela output:

148009 cd

Light quality:

CRI: 67,3

Color temperature:

5641 K

## PRODUCT NAME:

Stark 1000

## MEASURAMENT CONDITIONS:

Beam angle:

Med Zoom

Target:

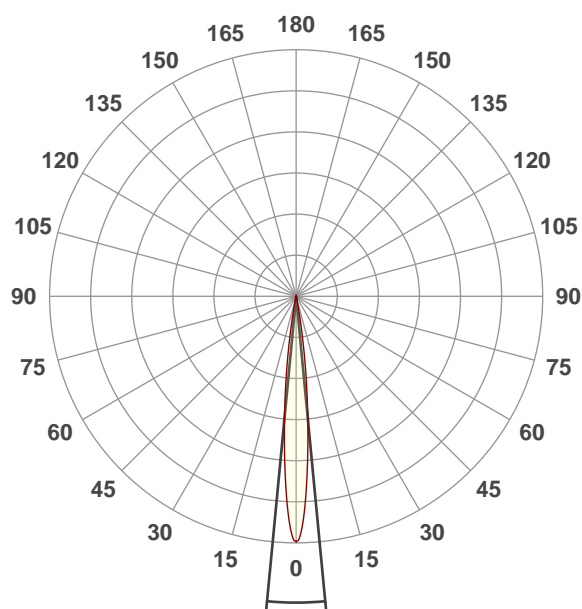
5600K

Operator:

Paolo Carvone

Date and time:

18/12/2019 17:27:36

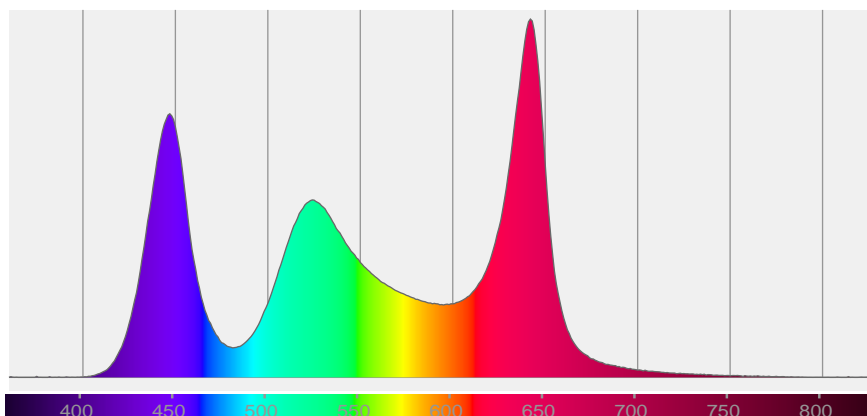


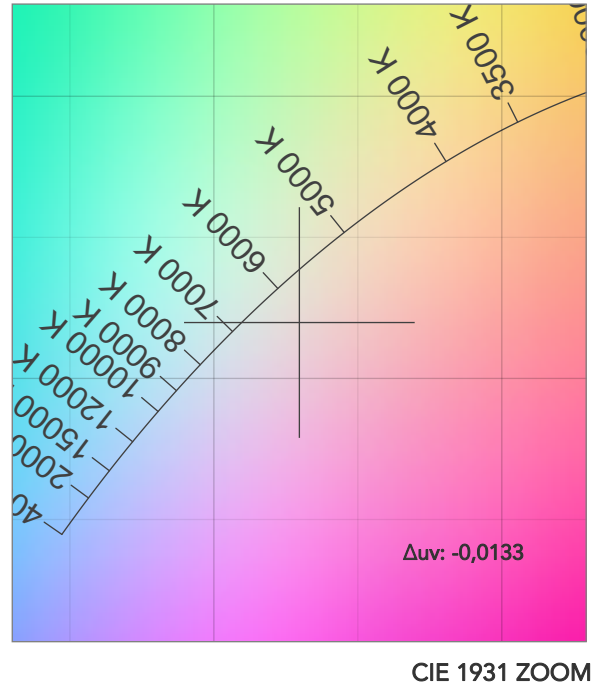
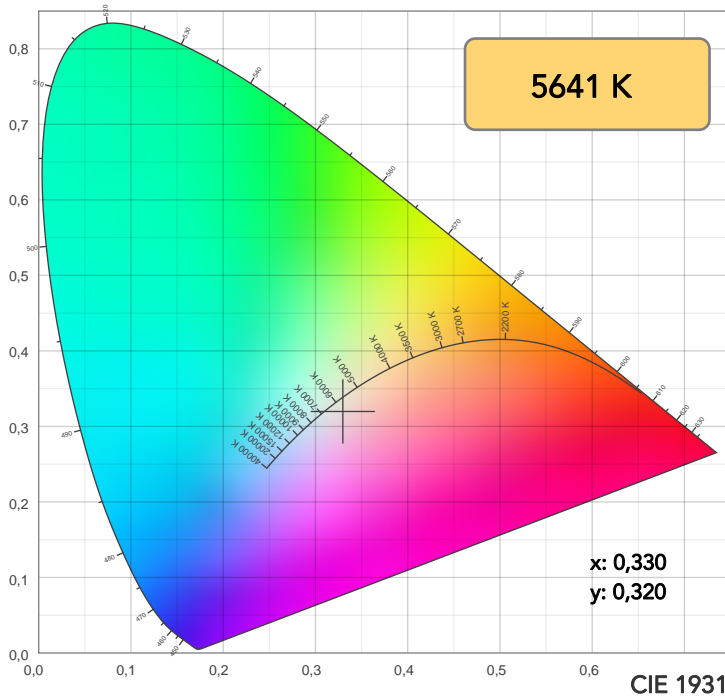
Beam angle 50%: 10,9°

Field angle 10%: 19,6°

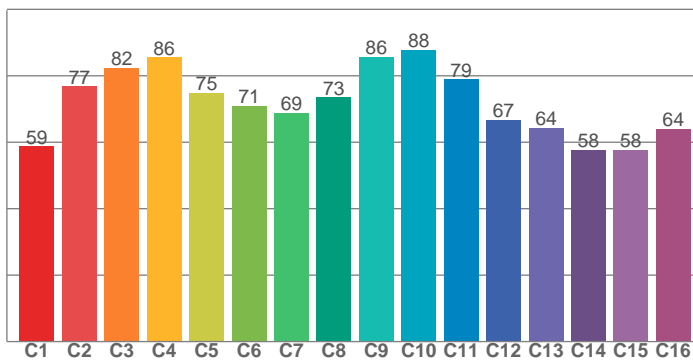
Cut off angle 2.5%: 23,3°

## Spectra

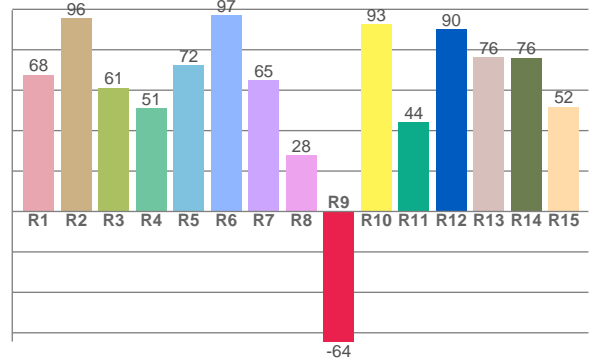




TM30: 73,5



CRI: 67,3 (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
67,6	95,7	61,2	51,2	72,2	97,1	65,0	28,0	-64,4	92,7	44,1	90,1	76,5	76,0	51,9

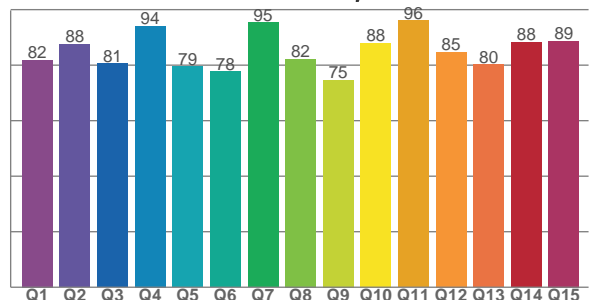
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
58,7	76,8	82,4	85,6	74,9	71,0	68,8	73,4	85,7	87,7	79,0	66,7	64,4	57,6	57,7	64,0

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
81,9	87,5	80,6	94,1	79,4	77,6	95,4	82,3	74,6	88,0	96,1	84,7	80,2	88,2	88,6

CQS: 84,0



## COLOR PARAMETERS

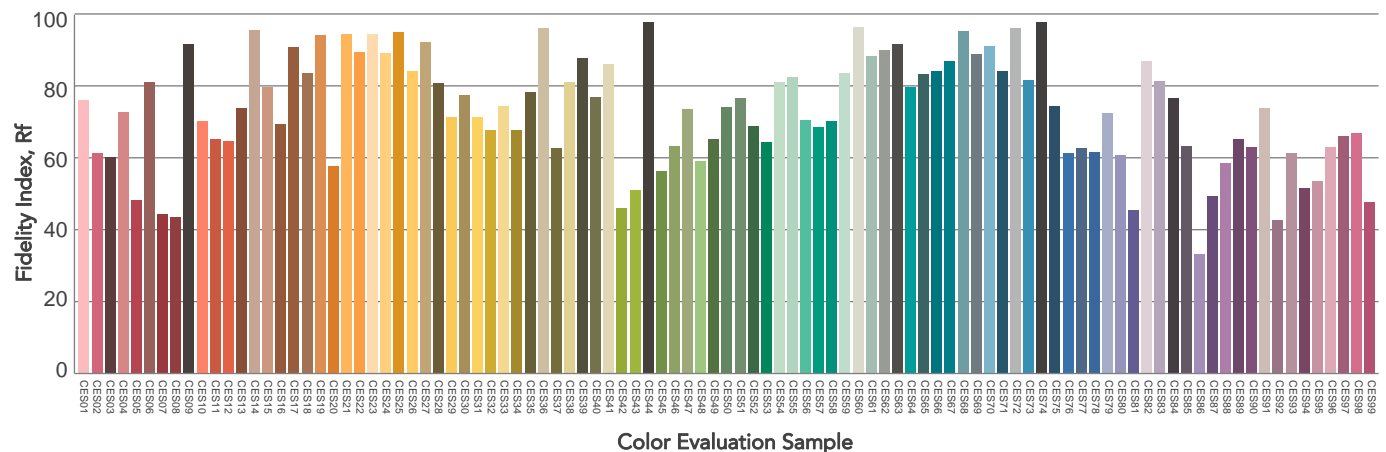
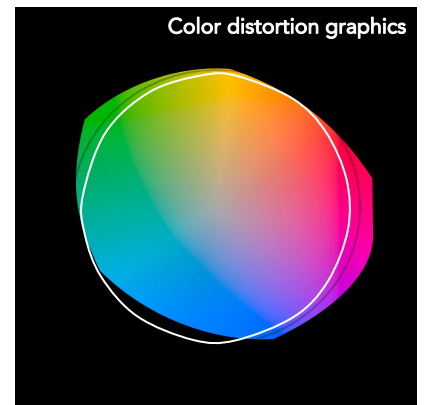
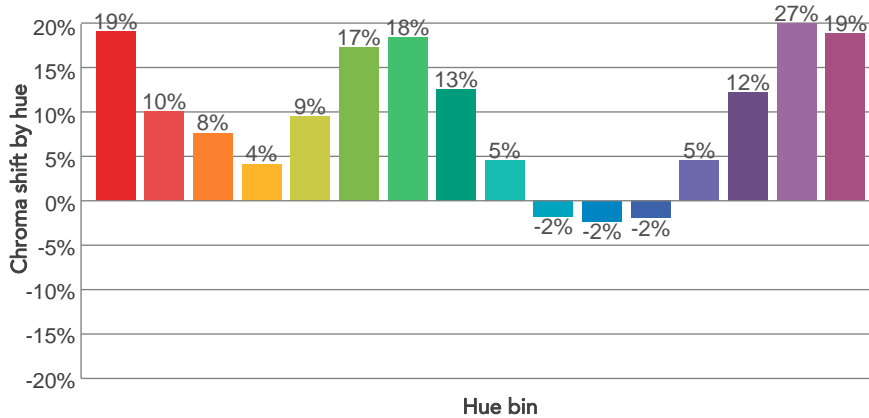
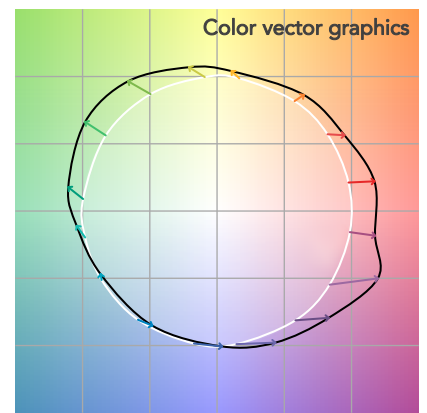
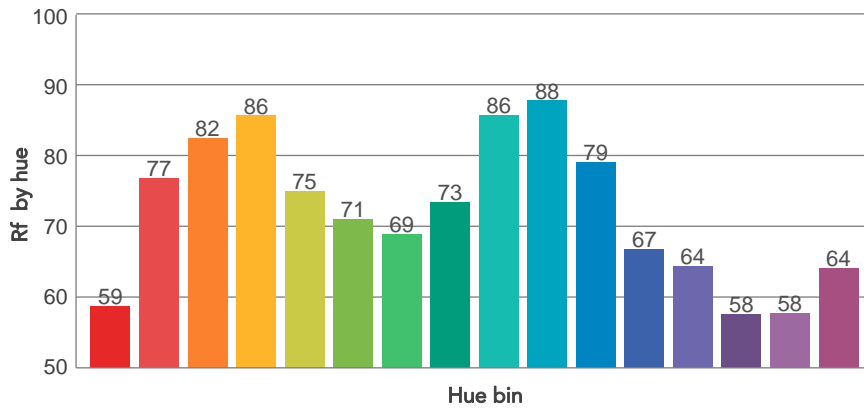
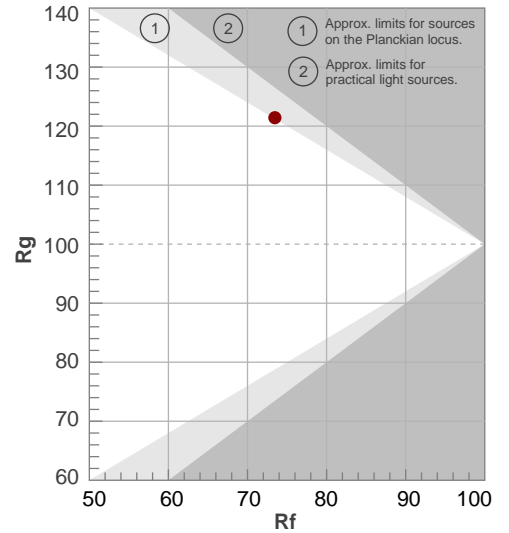
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	$\Delta uv$
5641 K	67,3	-64,4	73,5	121,4	84,0	58	0,330	0,320	-0,0133

# TM30 DETAILS

**Rf 73,5**  
Fidelity index Rf

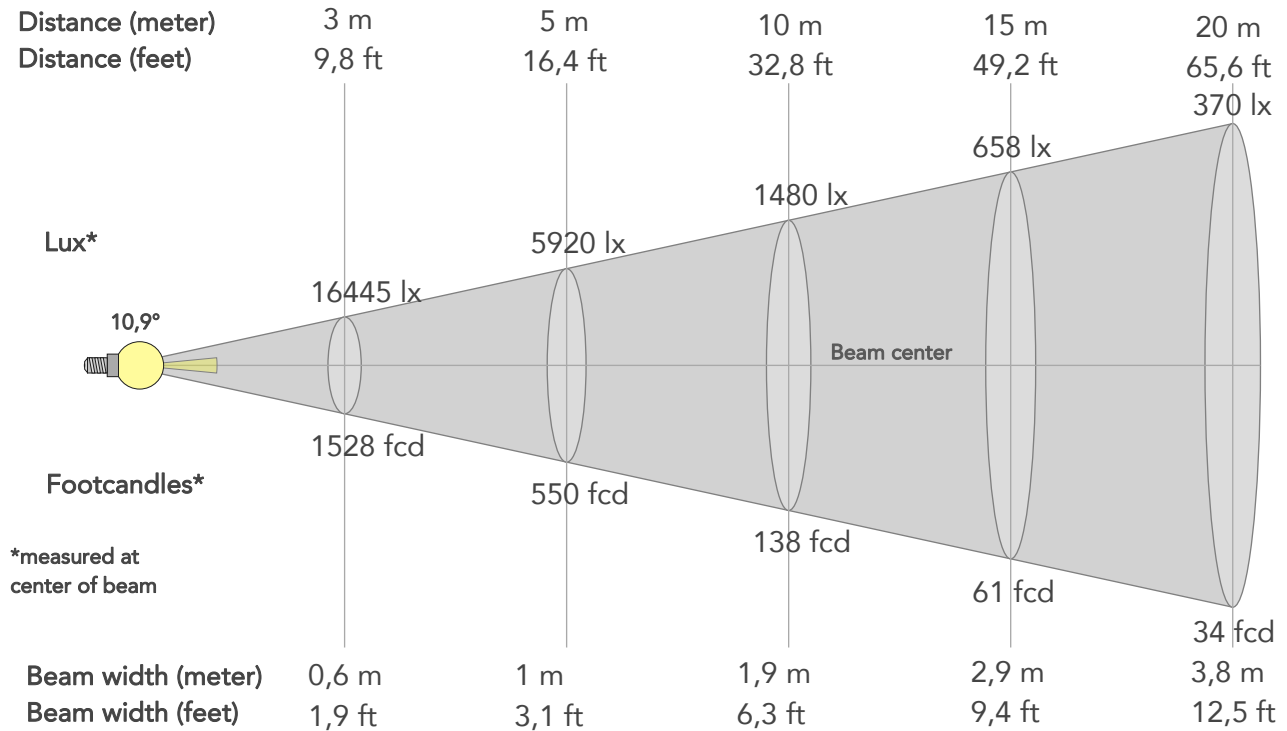
**Rg 121,4**  
Gammut index

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	59	19%	-3%
2	77	10%	-8%
3	82	8%	-3%
4	86	4%	7%
5	75	9%	10%
6	71	17%	9%
7	69	18%	0%
8	73	13%	-6%
9	86	5%	-10%
10	88	-2%	-4%
11	79	-2%	11%
12	67	-2%	21%
13	64	5%	29%
14	58	12%	22%
15	58	27%	24%
16	64	19%	1%



## BEAM DETAILS

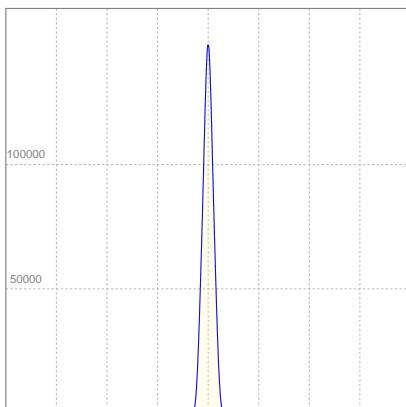
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
10,9°	19,6°	23,3°	93,7%	91,8%



### 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	148009lx	37002lx	16445lx	9251lx	5920lx	2631lx	1480lx	658lx	370lx	237lx	164lx	93lx	59lx
Footcand.	13750fcd	3438fcd	1528fcd	859fcd	550fcd	244fcd	138fcd	61fcd	34fcd	22fcd	15fcd	9fcd	6fcd
Beam wid.	0,2m	0,4m	0,6m	0,8m	1m	1,4m	1,9m	2,9m	3,8m	4,8m	5,7m	7,6m	9,5m
Beam wid.	0,6ft	1,3ft	1,9ft	2,5ft	3,1ft	4,7ft	6,3ft	9,4ft	12,5ft	15,6ft	18,8ft	25ft	31,3ft

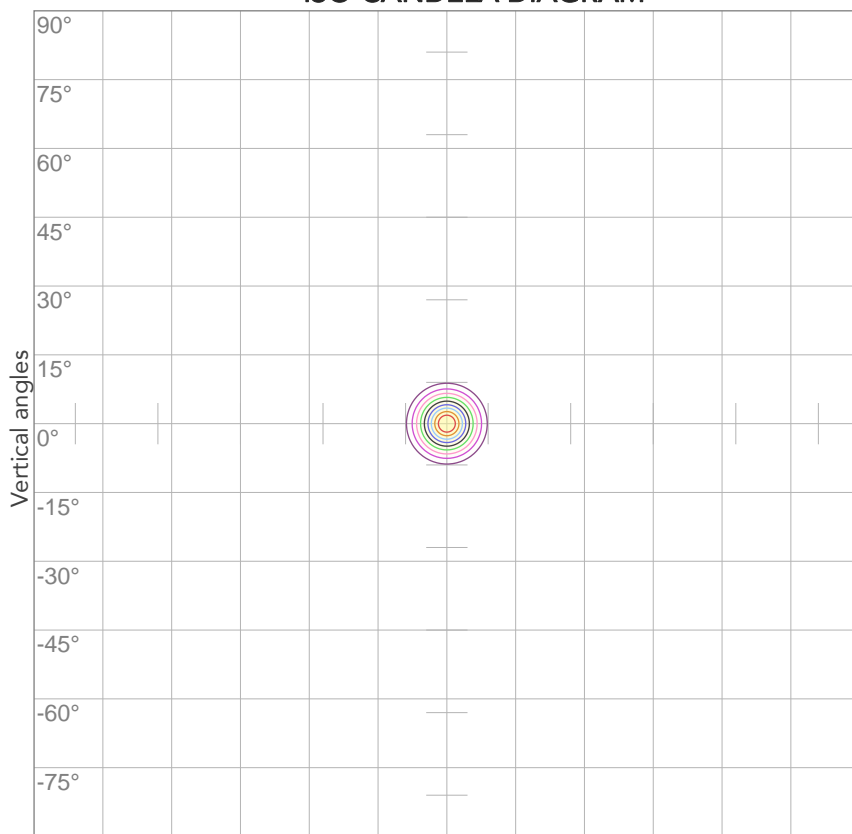
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
222V	2,01A	428,5W	15lm/W

## ISO CANDELA DIAGRAM



Horizontal angles

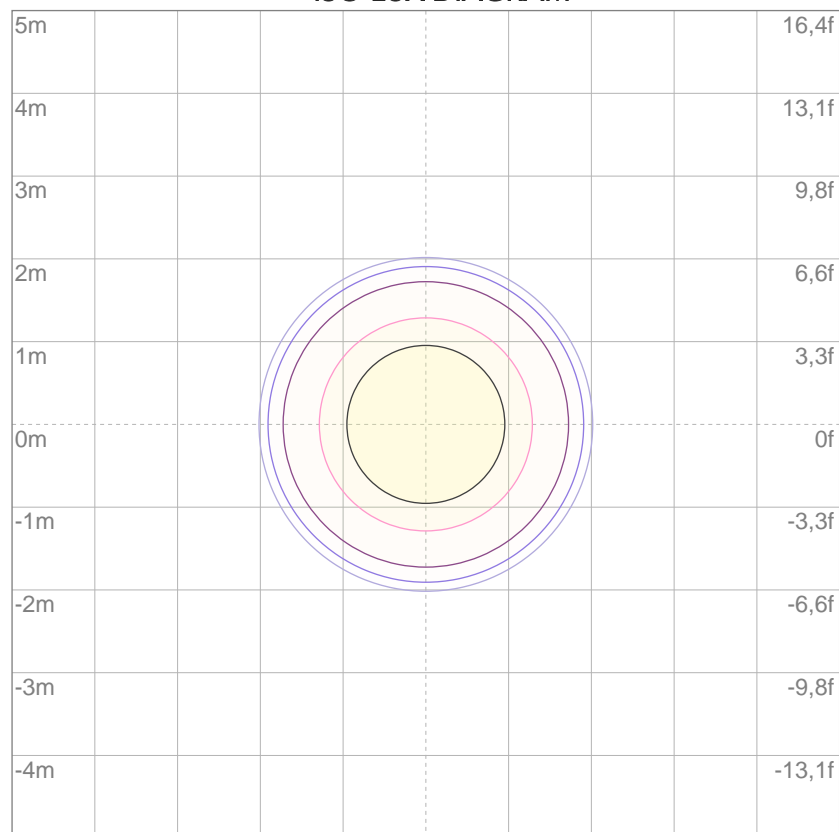
10%	14801 cd
20%	29602 cd
30%	44403 cd
40%	59204 cd
50%	74005 cd
60%	88805 cd
70%	103606 cd
80%	118407 cd

### Conditions:

Number of c-planes: 2

Candela at center: 148009 cd

## ISO LUX DIAGRAM



Mounting height: 10 meters (33 feet)

3%	44,4 lx
5%	74,0 lx
10%	148 lx
30%	444 lx
50%	740 lx

### Conditions:

Number of c-planes: 2

Lux at center: 1480 lx

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





Total lumen output:

9719 lm

Peak candela output:

932417 cd

Light quality:

CRI: 65,9

Color temperature:

5641 K

## PRODUCT NAME:

Stark 1000

## MEASURAMENT CONDITIONS:

Beam angle:

Min Zoom

Target:

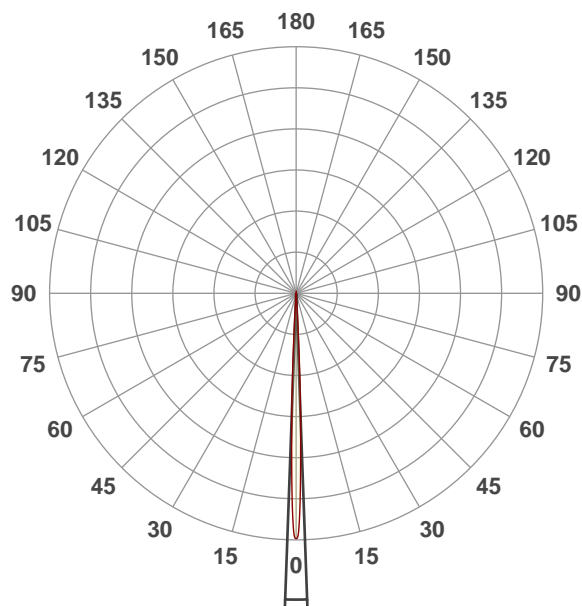
5600K

Operator:

Paolo Carvone

Date and time:

18/12/2019 16:44:07

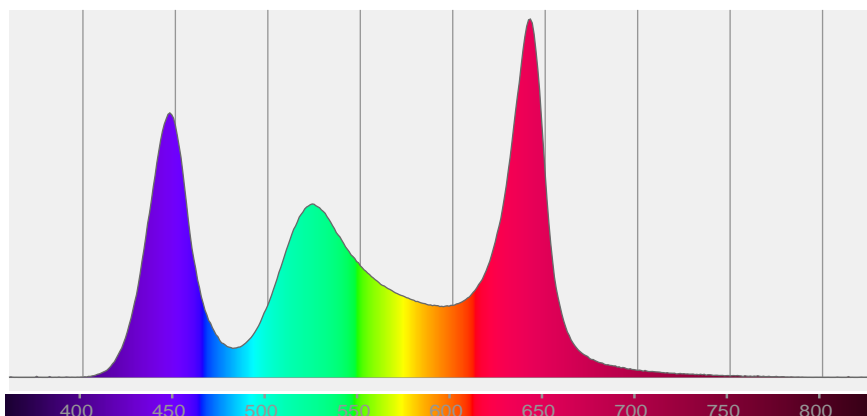


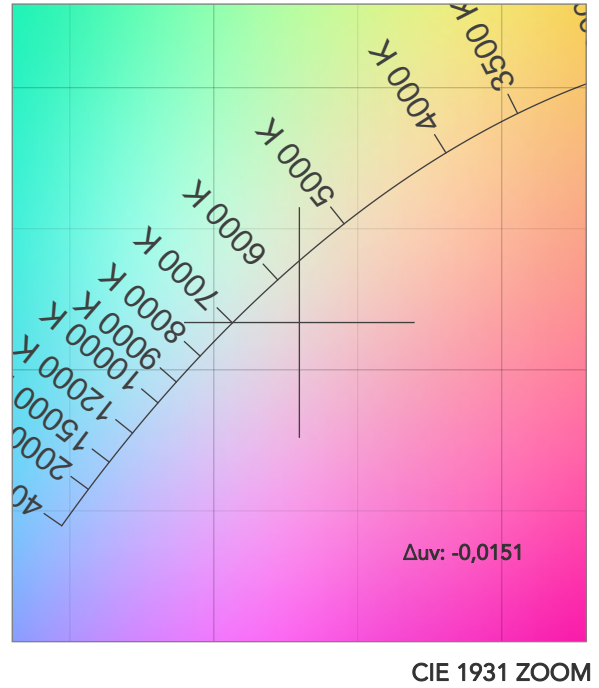
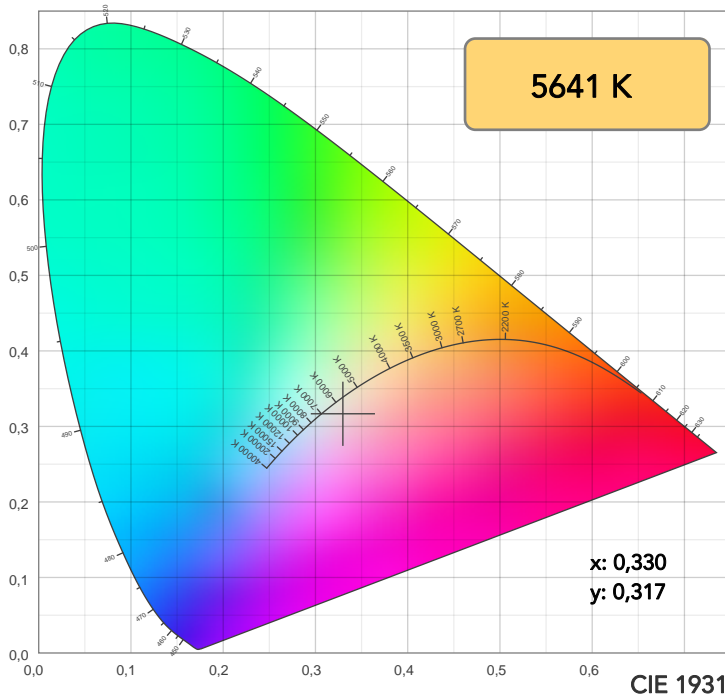
Beam angle 50%: 4,1°

Field angle 10%: 6,7°

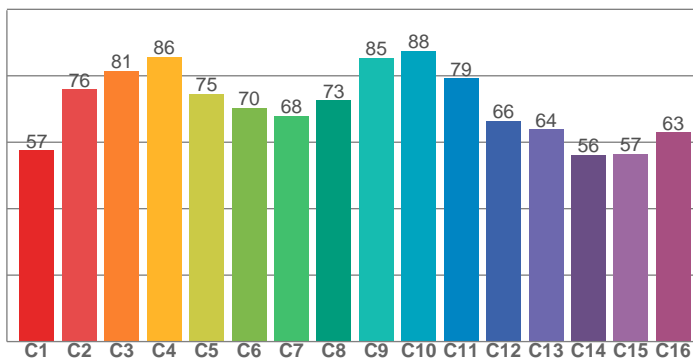
Cut off angle 2.5%: 7,7°

## Spectra

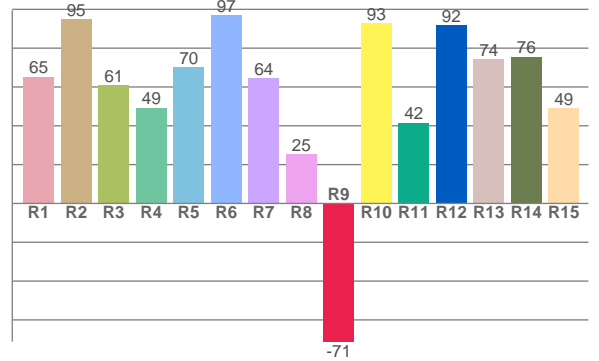




TM30: 72,9



CRI: 65,9 (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
65,3	94,9	60,8	49,3	70,2	96,8	64,4	25,2	-71,2	92,8	41,6	92,0	74,2	75,6	48,9

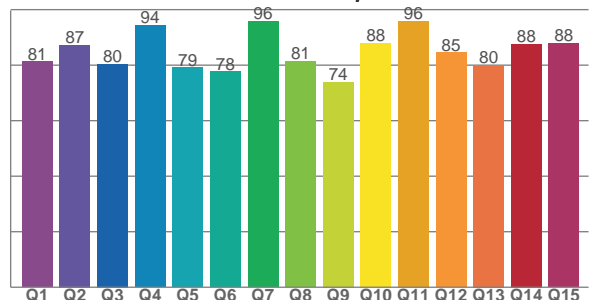
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
57,5	75,9	81,5	85,7	74,6	70,3	68,0	72,6	85,4	87,5	79,2	66,5	63,8	56,3	56,5	63,0

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
81,2	87,3	80,3	94,3	79,2	77,7	95,8	81,4	73,9	88,0	95,9	84,5	80,1	87,7	87,9

CQS: 83,7



## COLOR PARAMETERS

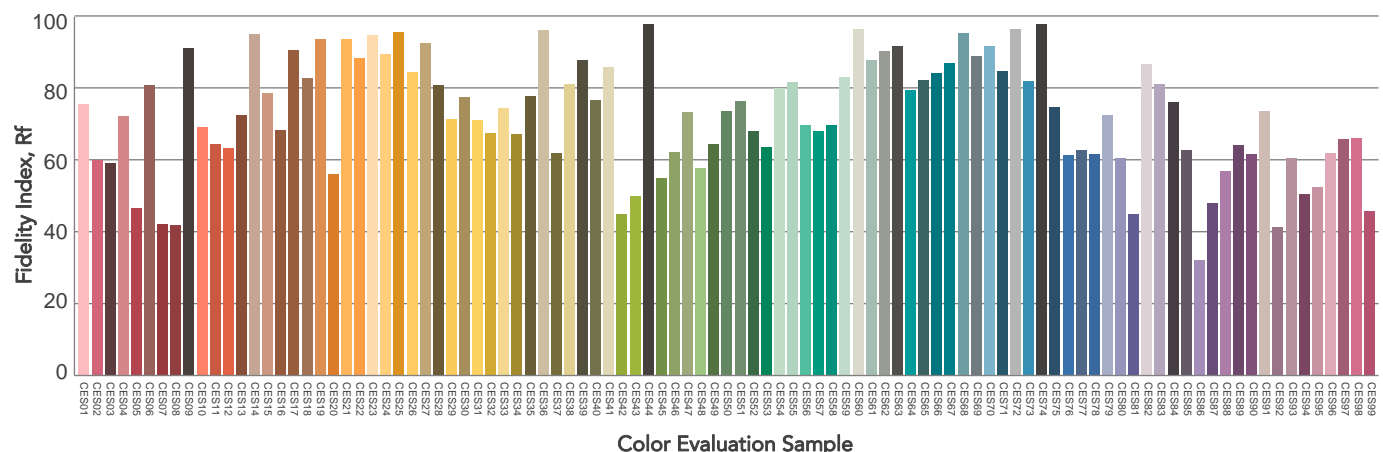
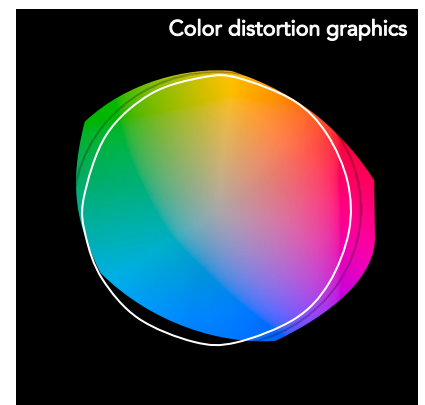
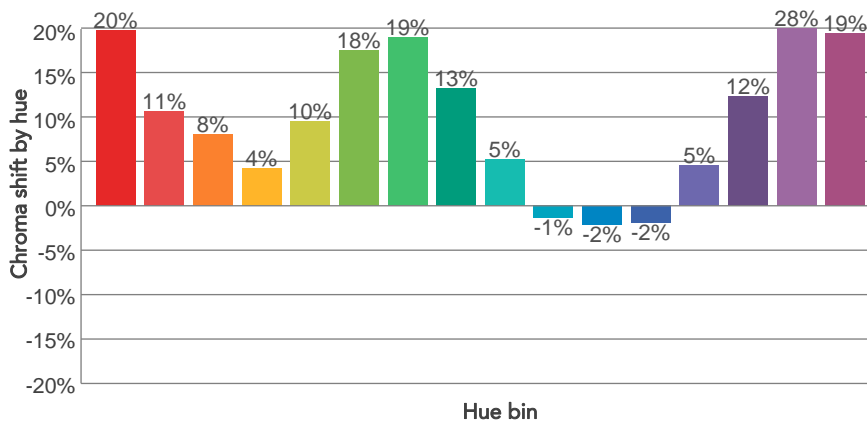
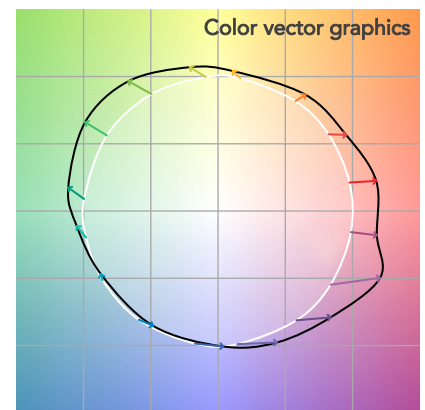
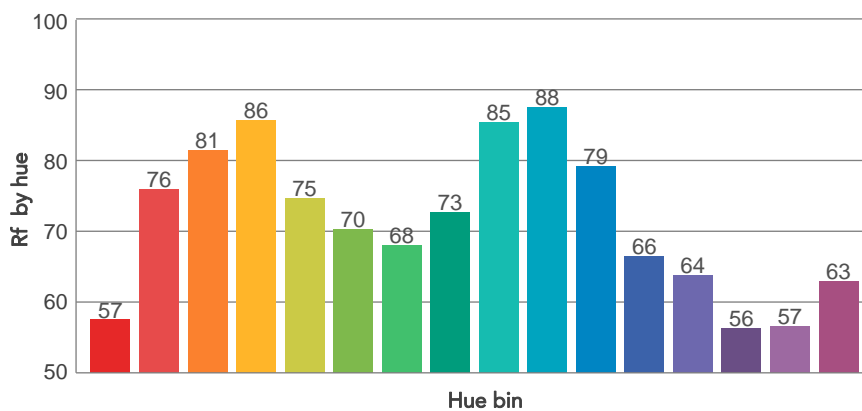
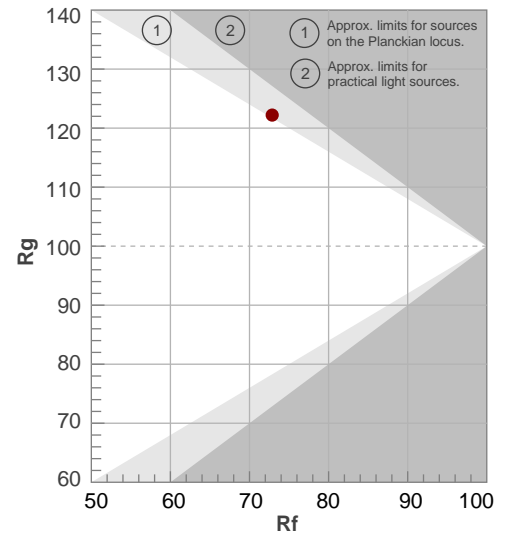
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
5641 K	65,9	-71,2	72,9	122,2	83,7	57	0,330	0,317	-0,0151

# TM30 DETAILS

**Rf 72,9**  
Fidelity index Rf

**Rg 122,2**  
Gammut index

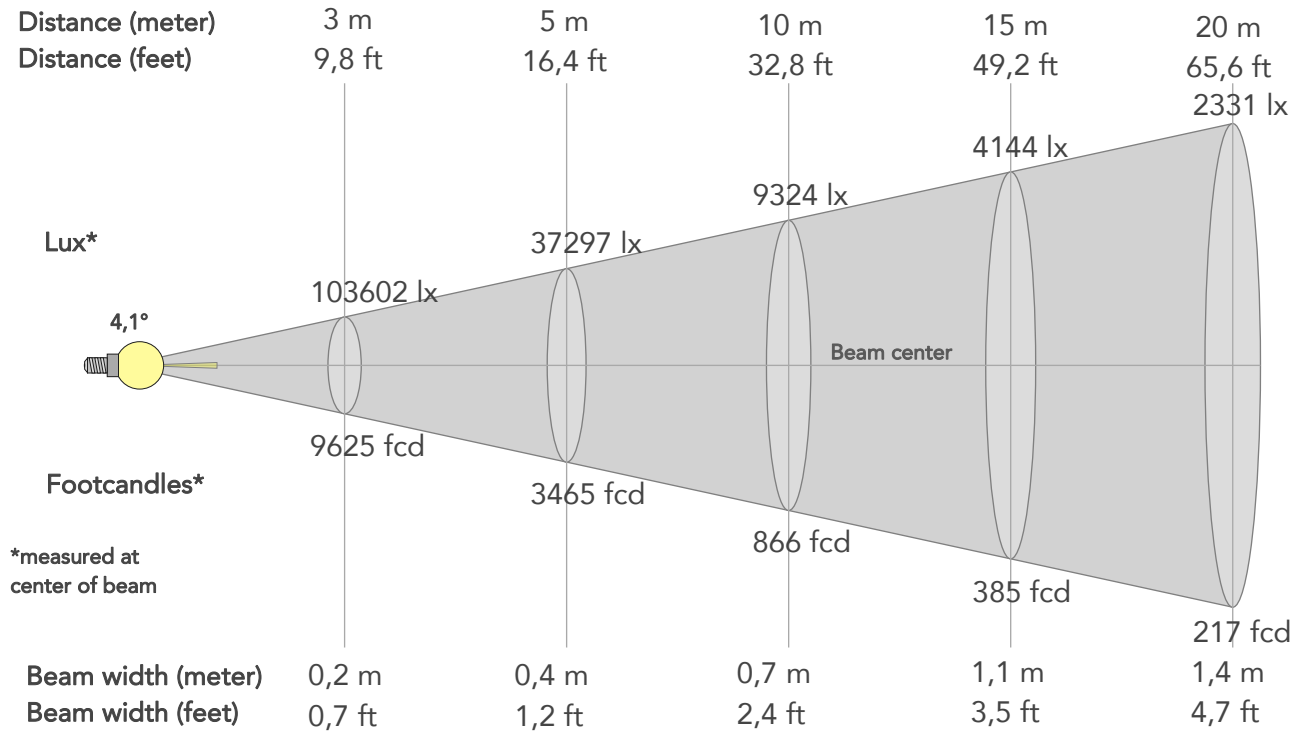
Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	57	20%	-3%
2	76	11%	-8%
3	81	8%	-3%
4	86	4%	7%
5	75	10%	10%
6	70	18%	9%
7	68	19%	1%
8	73	13%	-6%
9	85	5%	-10%
10	88	-1%	-4%
11	79	-2%	11%
12	66	-2%	21%
13	64	5%	29%
14	56	12%	22%
15	57	28%	25%
16	63	19%	2%



## BEAM DETAILS



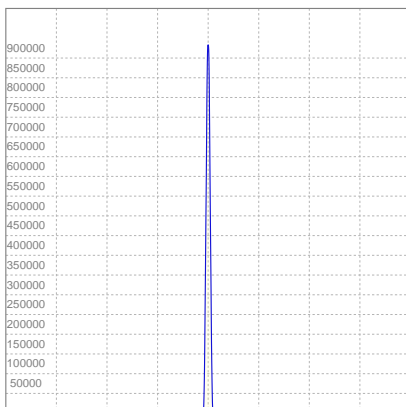
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
4,1°	6,7°	7,7°	72,6%	62,5%



### 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	932417lx	233104lx	103602lx	58276lx	37297lx	16576lx	9324lx	4144lx	2331lx	1492lx	1036lx	583lx	373lx
Footcand.	86624fcd	21656fcd	9625fcd	5414fcd	3465fcd	1540fcd	866fcd	385fcd	217fcd	139fcd	96fcd	54fcd	35fcd
Beam wid.	0,1m	0,1m	0,2m	0,3m	0,4m	0,5m	0,7m	1,1m	1,4m	1,8m	2,2m	2,9m	3,6m
Beam wid.	0,2ft	0,5ft	0,7ft	0,9ft	1,2ft	1,8ft	2,4ft	3,5ft	4,7ft	5,9ft	7,1ft	9,4ft	11,8ft

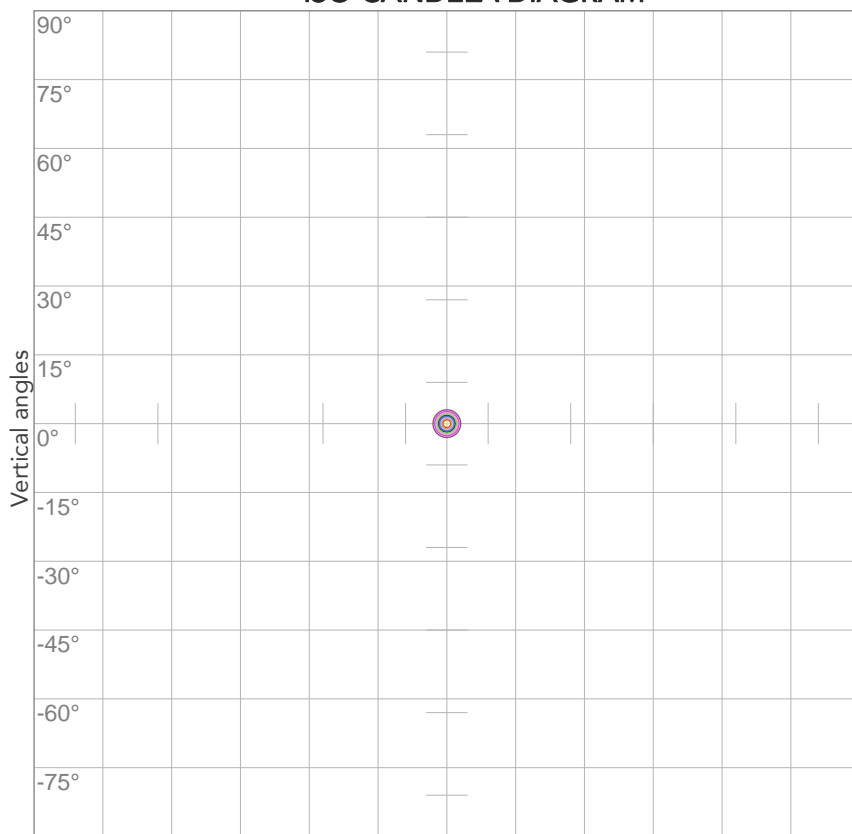
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
222V	2,03A	432,5W	22lm/W

## ISO CANDELA DIAGRAM



Horizontal angles

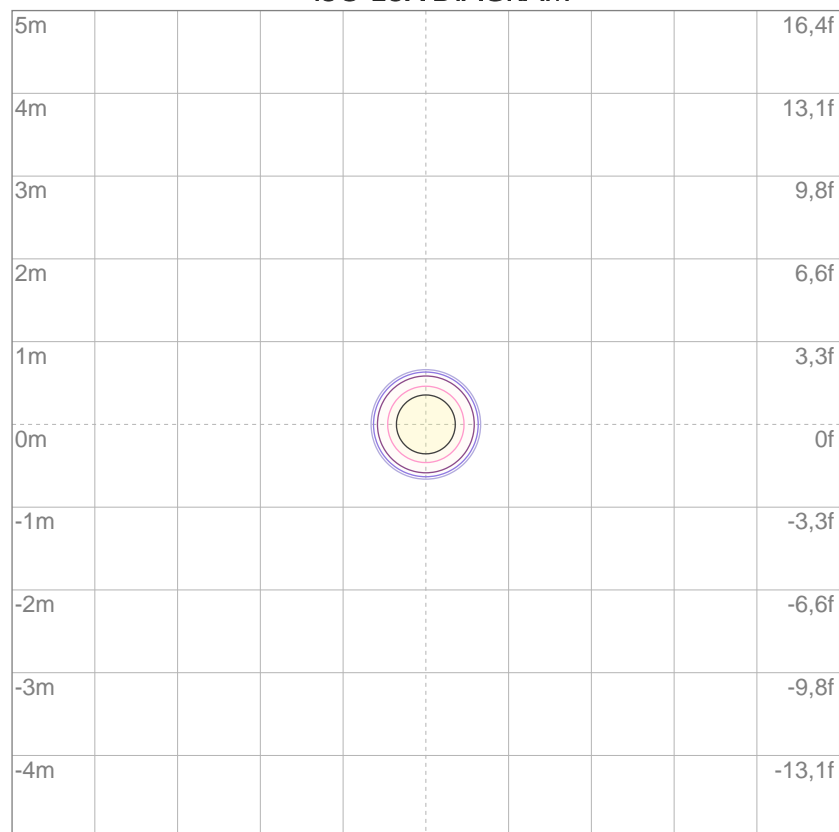
10%	93242 cd
20%	186483 cd
30%	279725 cd
40%	372967 cd
50%	466209 cd
60%	559450 cd
70%	652692 cd
80%	745934 cd

### Conditions:

Number of c-planes: 2

Candela at center: 932417 cd

## ISO LUX DIAGRAM



Mounting height: 10 meters (33 feet)

3%	280 lx
5%	466 lx
10%	932 lx
30%	2797 lx
50%	4662 lx

### Conditions:

Number of c-planes: 2

Lux at center: 9324 lx

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



Total lumen output:

6632 lm

Peak candela output:

44833 cd

Light quality:

CRI: 66,6

Color temperature:

6062 K

## PRODUCT NAME:

Stark 1000

## MEASURAMENT CONDITIONS:

Beam angle:

Max Zoom

Target:

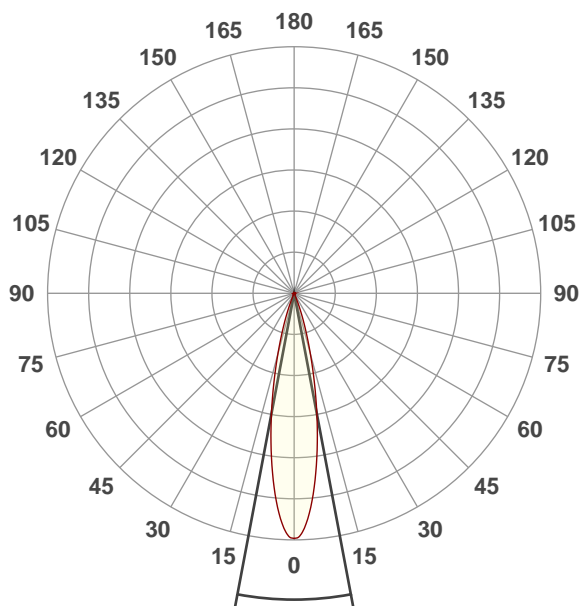
6000K

Operator:

Paolo Carvone

Date and time:

18/12/2019 16:02:33

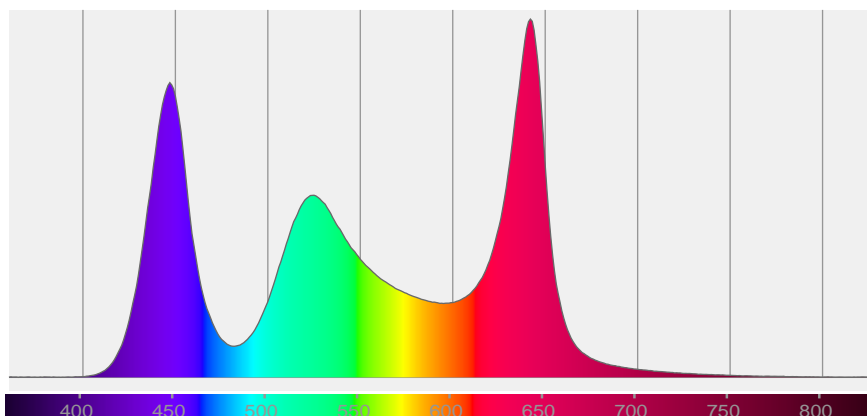


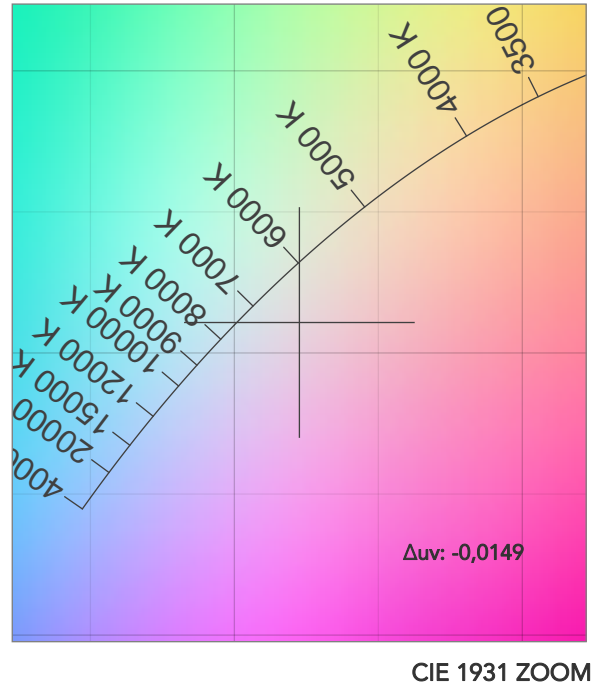
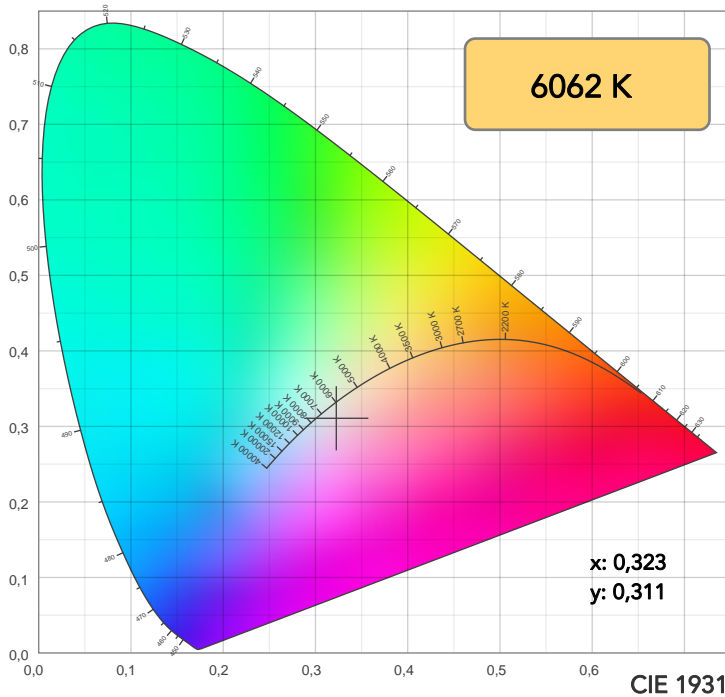
Beam angle 50%: 21,3°

Field angle 10%: 38,3°

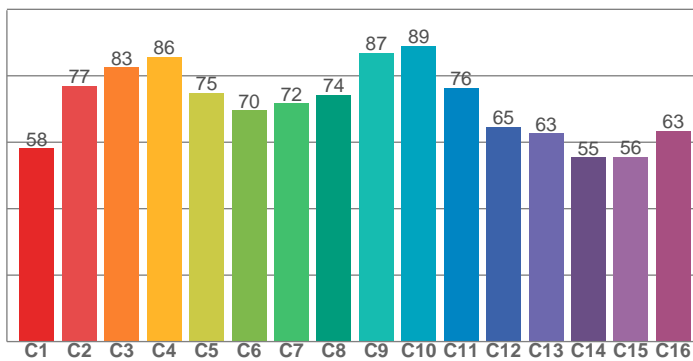
Cut off angle 2.5%: 45°

## Spectra

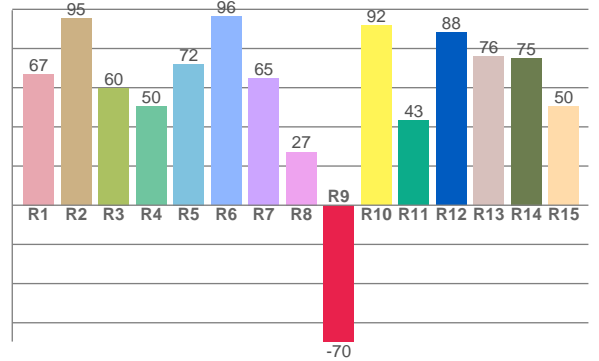




TM30: 72,9



CRI: 66,6 (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
66,9	95,3	59,8	50,4	72,1	96,3	64,9	27,3	-69,6	91,6	43,3	88,2	75,9	75,2	50,4

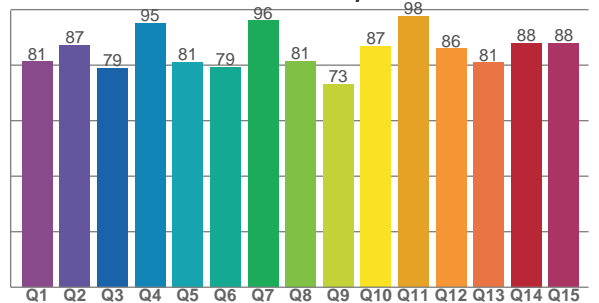
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
58,1	76,9	82,5	85,7	74,8	69,6	71,7	74,3	87,0	88,9	76,4	64,7	62,6	55,5	55,6	63,5

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
81,2	87,2	78,8	95,2	81,1	79,2	96,1	81,5	73,2	86,8	97,6	85,9	80,9	87,9	87,9

CQS: 83,9



## COLOR PARAMETERS

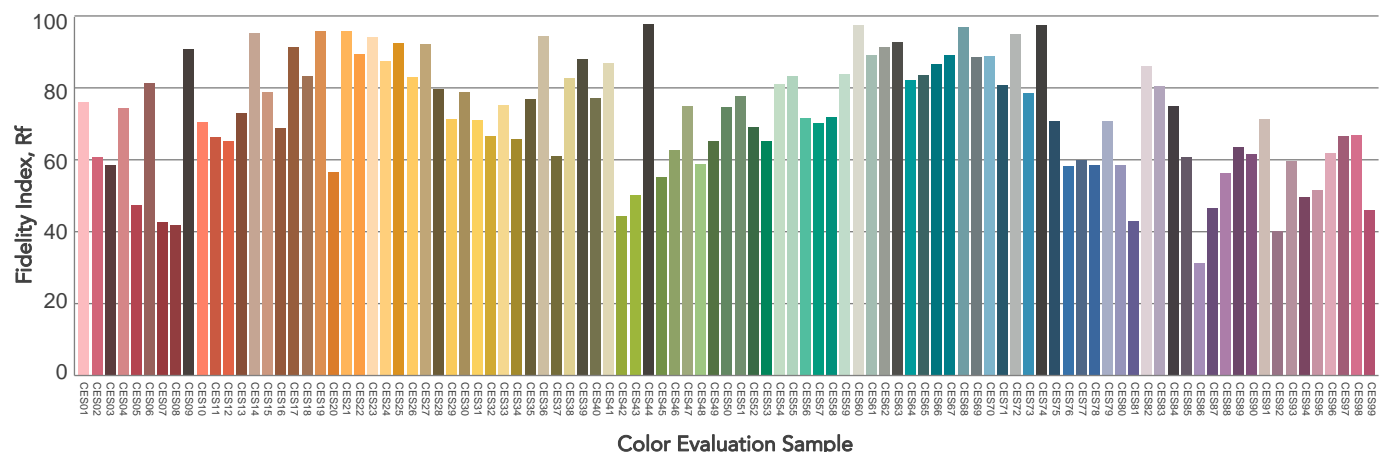
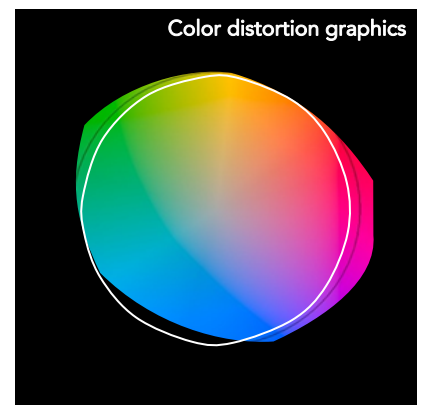
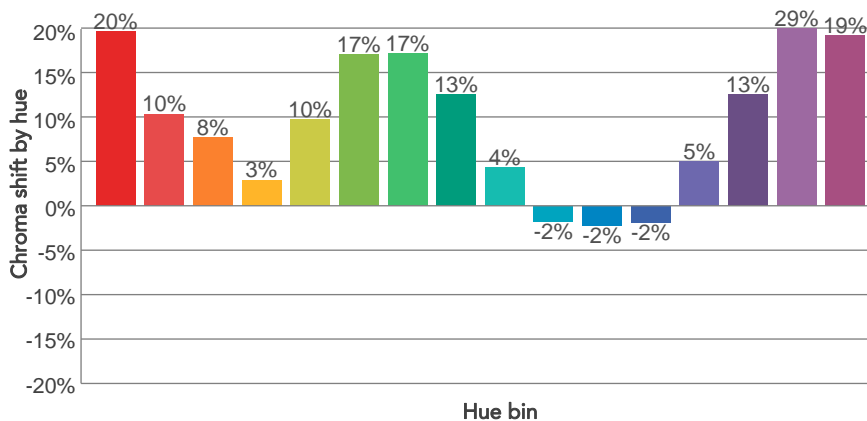
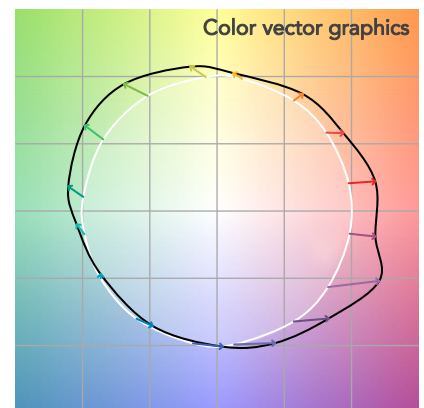
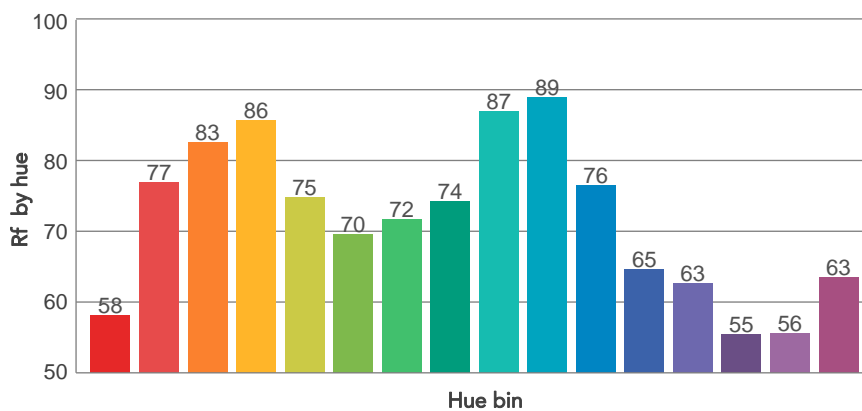
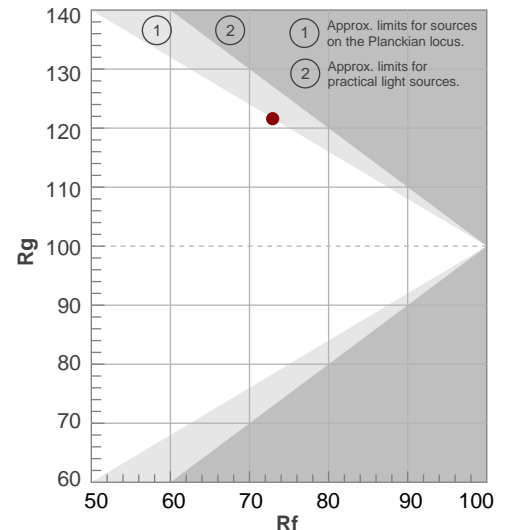
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	$\Delta uv$
6062 K	66,6	-69,6	72,9	121,6	83,9	58	0,323	0,311	-0,0149

# TM30 DETAILS

**Rf 72,9**  
Fidelity index Rf

**Rg 121,6**  
Gammut index

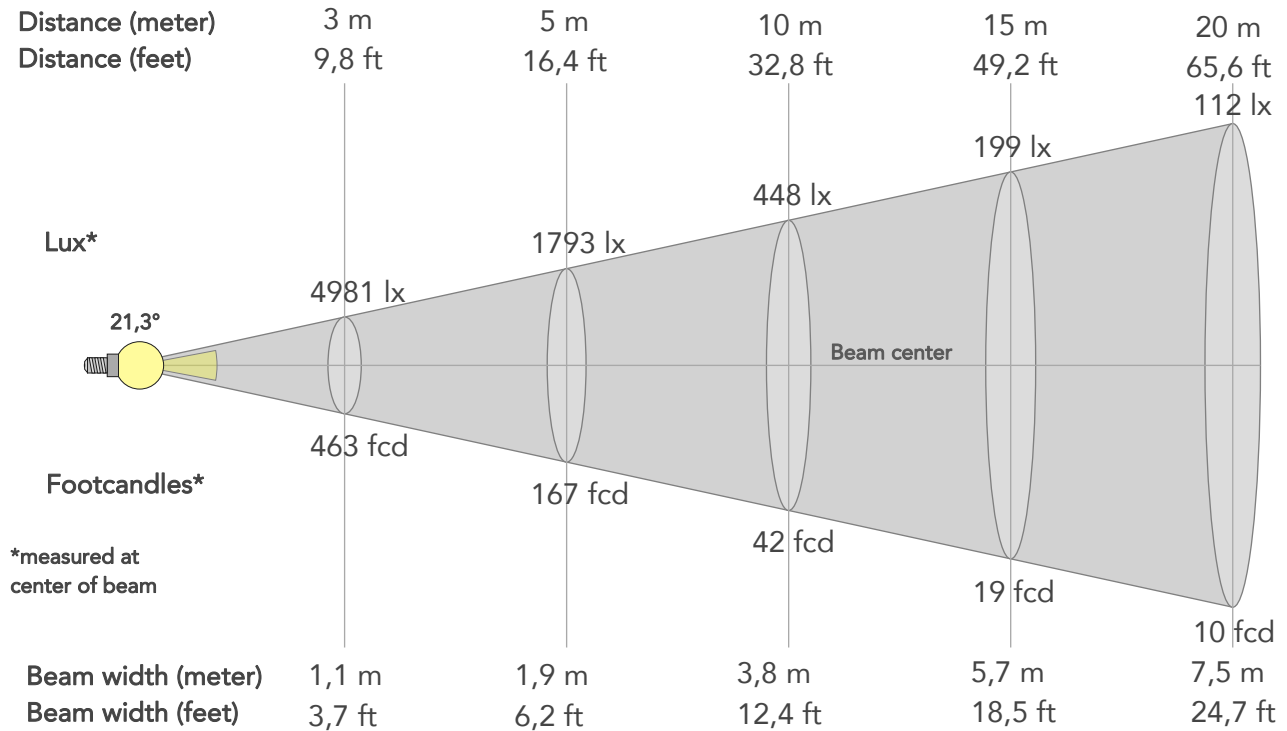
Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	58	20%	-2%
2	77	10%	-7%
3	83	8%	-3%
4	86	3%	7%
5	75	10%	10%
6	70	17%	10%
7	72	17%	-1%
8	74	13%	-5%
9	87	4%	-8%
10	89	-2%	-3%
11	76	-2%	13%
12	65	-2%	22%
13	63	5%	30%
14	55	13%	23%
15	56	29%	25%
16	63	19%	2%





## BEAM DETAILS

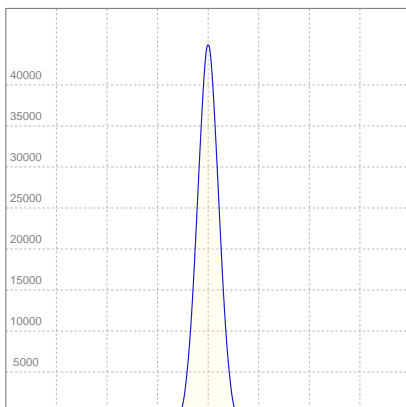
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
21,3°	38,3°	45°	100,0%	100,0%



### 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	44833lx	11208lx	4981lx	2802lx	1793lx	797lx	448lx	199lx	112lx	72lx	50lx	28lx	18lx
Footcand.	4165fcd	1041fcd	463fcd	260fcd	167fcd	74fcd	42fcd	19fcd	10fcd	7fcd	5fcd	3fcd	2fcd
Beam wid.	0,4m	0,8m	1,1m	1,5m	1,9m	2,8m	3,8m	5,7m	7,5m	9,4m	11,3m	15,1m	18,8m
Beam wid.	1,2ft	2,5ft	3,7ft	4,9ft	6,2ft	9,3ft	12,4ft	18,5ft	24,7ft	30,9ft	37,1ft	49,4ft	61,8ft

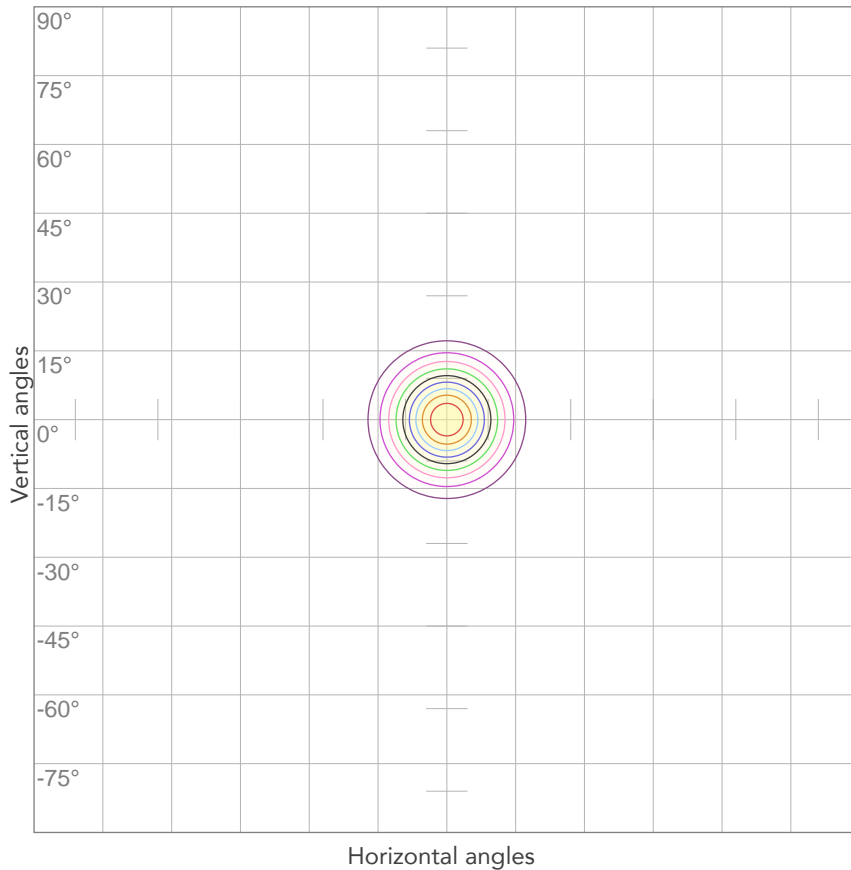
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
222V	2,03A	434,7W	15lm/W

## ISO CANDELA DIAGRAM



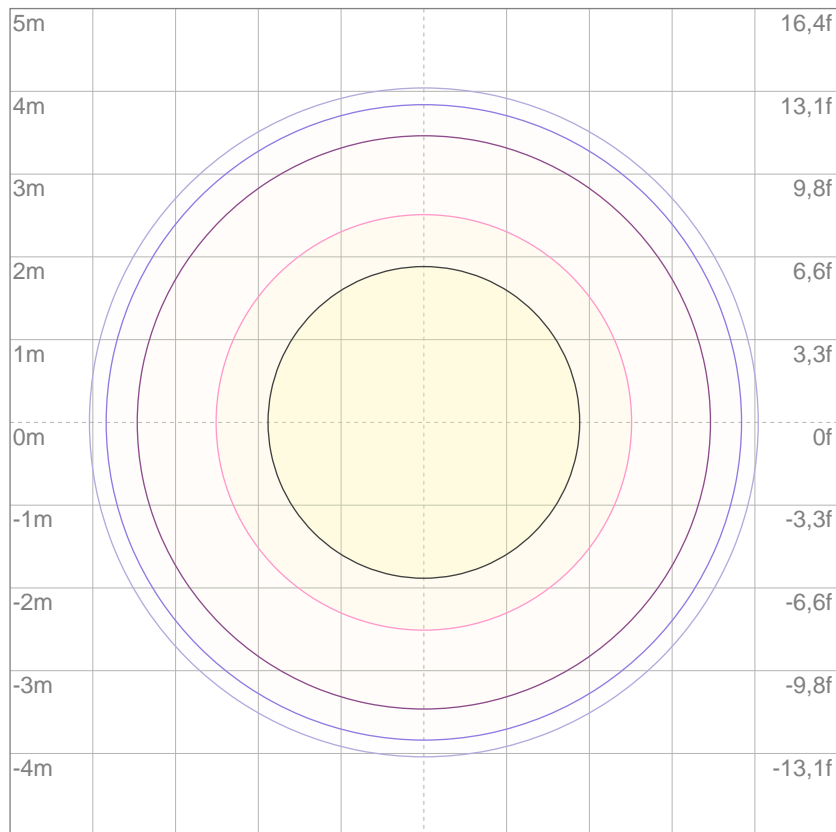
10%	4483 cd
20%	8967 cd
30%	13450 cd
40%	17933 cd
50%	22416 cd
60%	26900 cd
70%	31383 cd
80%	35866 cd

### Conditions:

Number of c-planes: 2

Candela at center: 44833 cd

## ISO LUX DIAGRAM



3%	13,4 lx
5%	22,4 lx
10%	44,8 lx
30%	134 lx
50%	224 lx

### Conditions:

Number of c-planes: 2

Lux at center: 448 lx

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



Total lumen output:

6554 lm

Peak candela output:

148217 cd

Light quality:

CRI: 66,5

Color temperature:

6056 K

## PRODUCT NAME:

Stark 1000

## MEASURAMENT CONDITIONS:

Beam angle:

Med Zoom

Target:

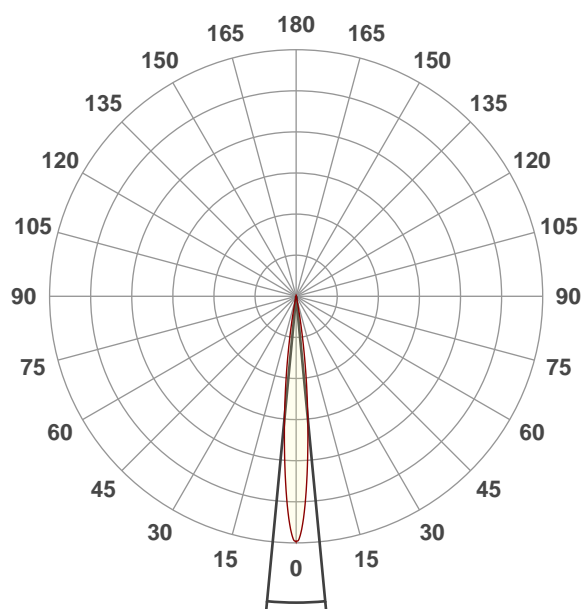
6000K

Operator:

Paolo Carvone

Date and time:

18/12/2019 17:32:44

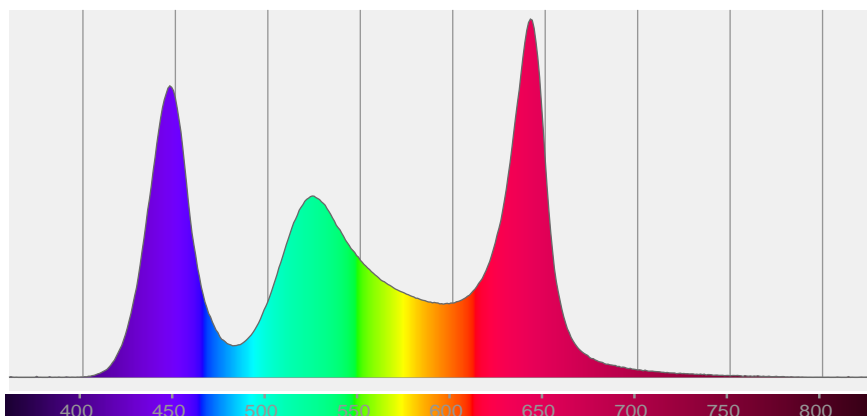


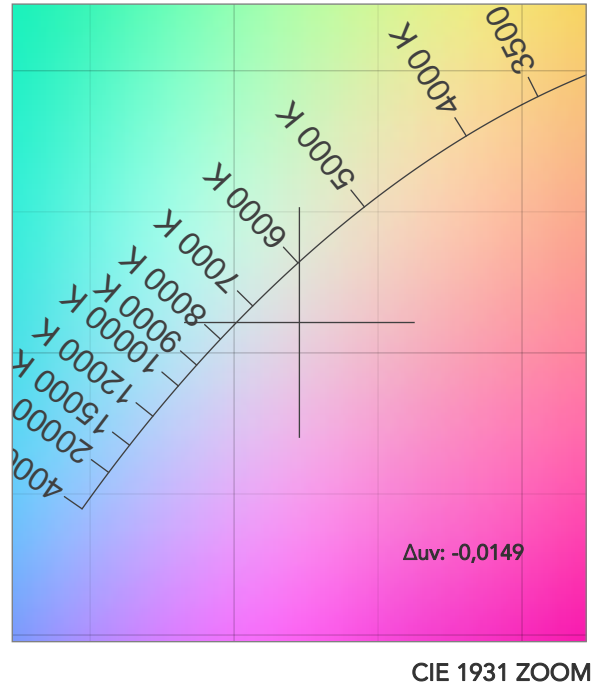
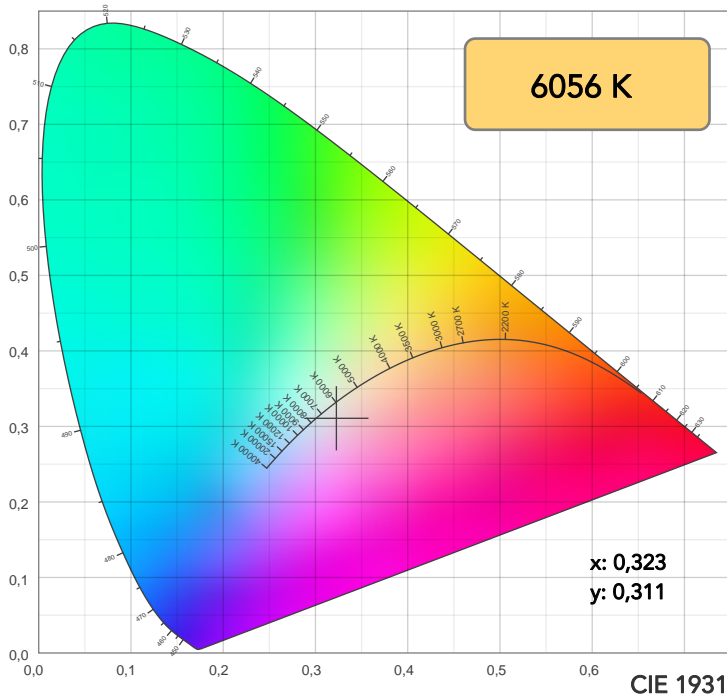
Beam angle 50%: 10,9°

Field angle 10%: 19,6°

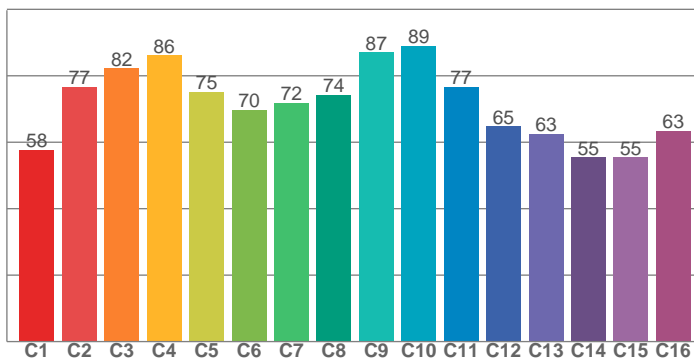
Cut off angle 2.5%: 23,3°

## Spectra

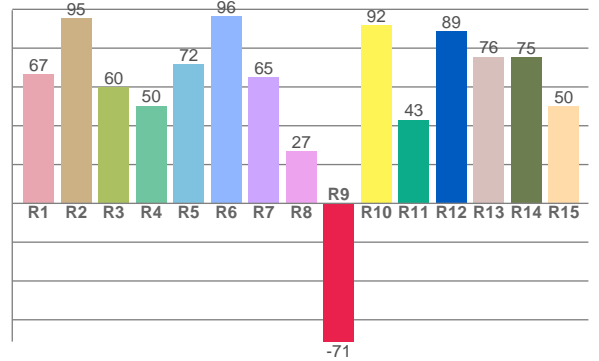




TM30: 72,9



CRI: 66,5 (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
66,6	95,2	59,9	50,3	71,8	96,4	64,8	26,7	-71,2	91,9	43,1	88,6	75,5	75,2	49,9

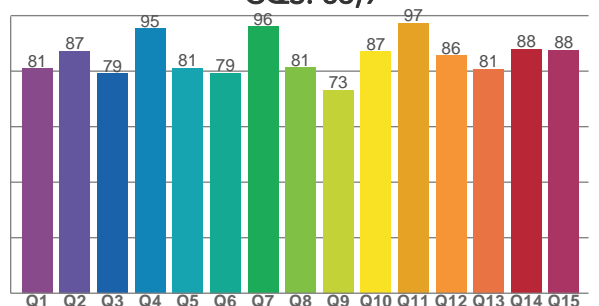
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
57,8	76,7	82,2	86,1	75,1	69,8	71,8	74,3	87,0	88,9	76,7	64,8	62,5	55,5	55,4	63,4

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
80,9	87,2	79,1	95,3	81,1	79,4	96,1	81,3	73,3	87,0	97,3	85,7	80,8	87,9	87,7

CQS: 83,9



## COLOR PARAMETERS

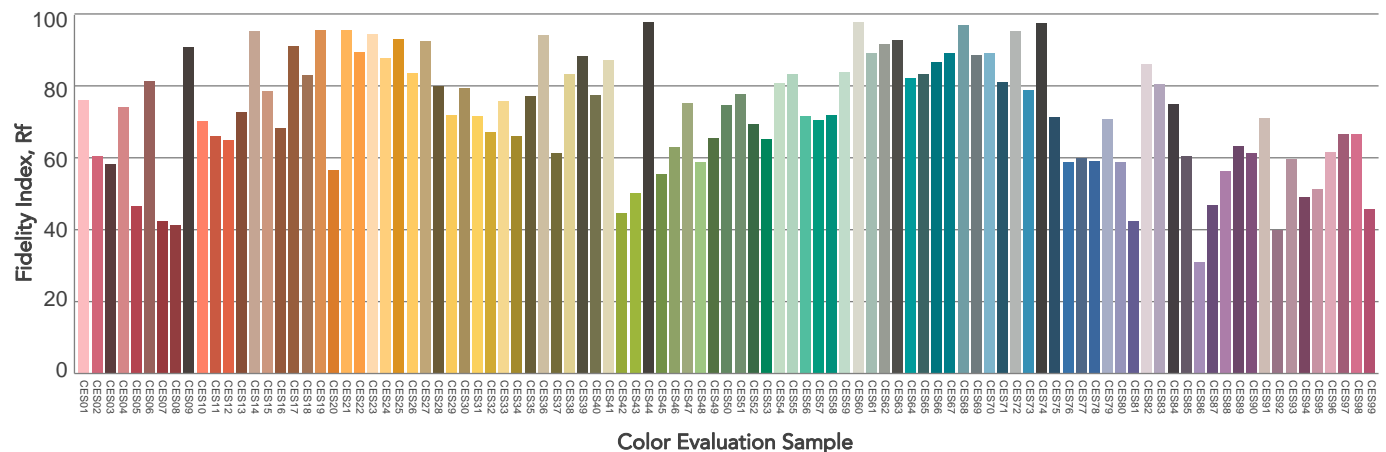
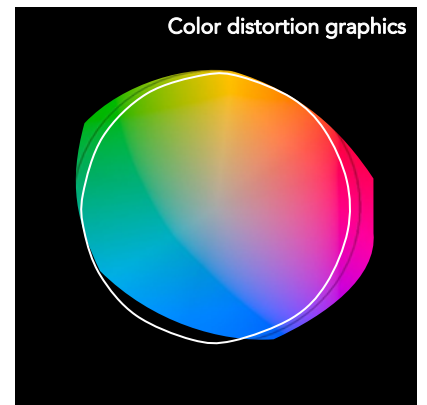
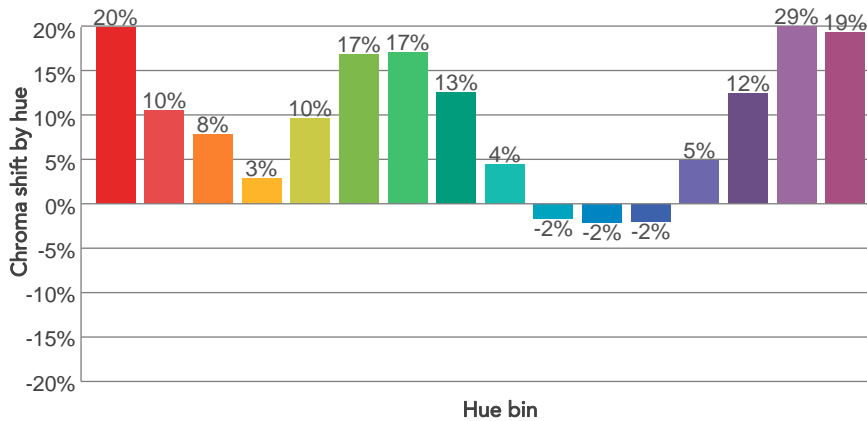
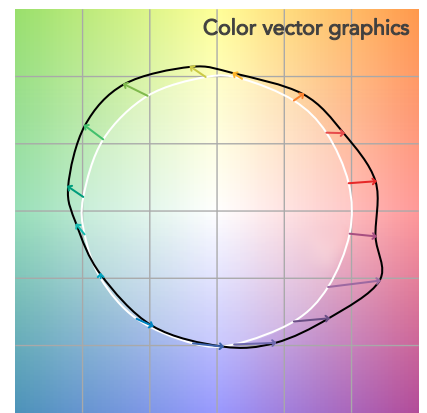
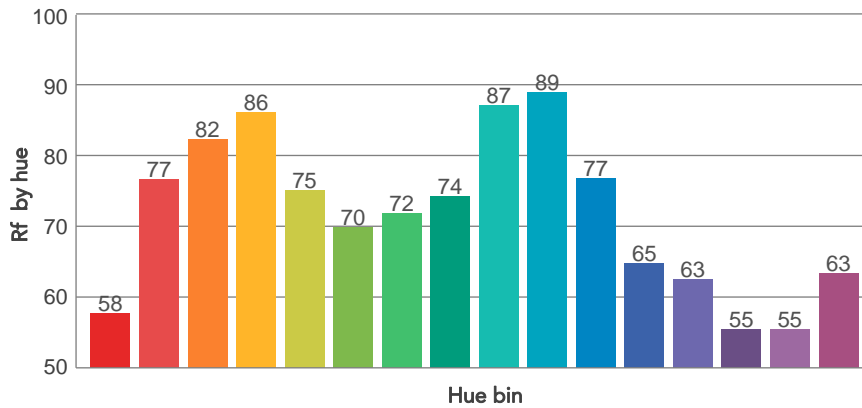
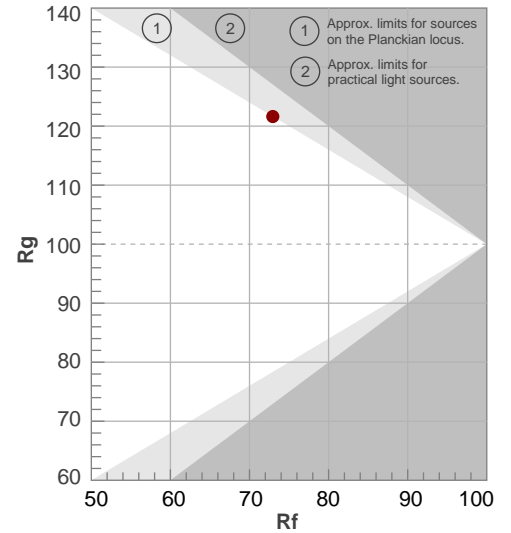
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	$\Delta uv$
6056 K	66,5	-71,2	72,9	121,6	83,9	58	0,323	0,311	-0,0149

# TM30 DETAILS

**Rf 72,9**  
Fidelity index Rf

**Rg 121,6**  
Gammut index

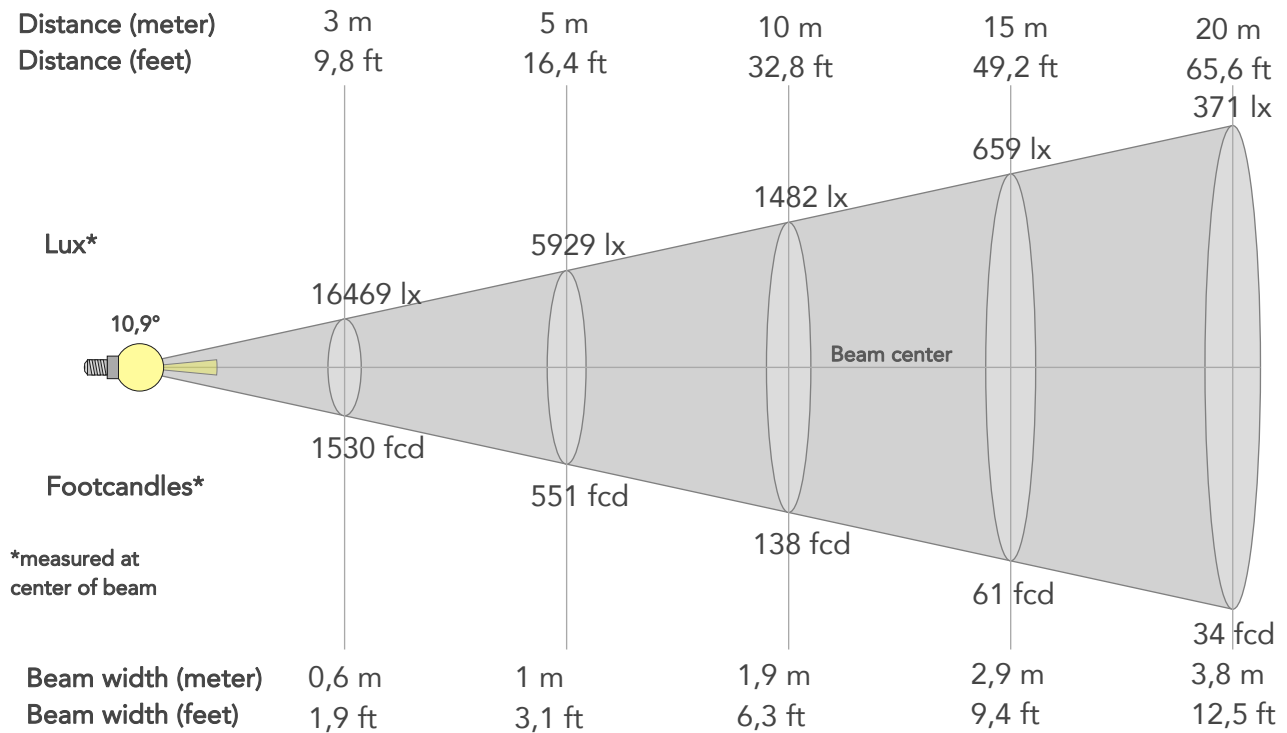
Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	58	20%	-2%
2	77	10%	-7%
3	82	8%	-3%
4	86	3%	7%
5	75	10%	9%
6	70	17%	10%
7	72	17%	-1%
8	74	13%	-5%
9	87	4%	-8%
10	89	-2%	13%
11	77	-2%	22%
12	65	-2%	30%
13	63	5%	23%
14	55	12%	25%
15	55	29%	2%
16	63	19%	



# BEAM DETAILS



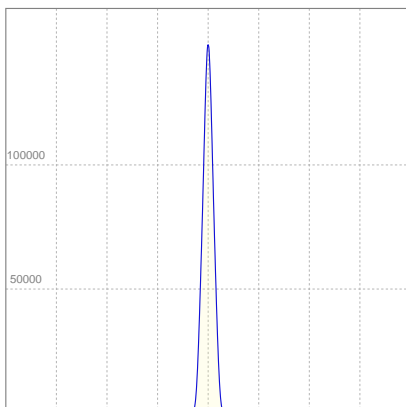
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
10,9°	19,6°	23,3°	93,7%	91,8%



## 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	148217lx	37054lx	16469lx	9264lx	5929lx	2635lx	1482lx	659lx	371lx	237lx	165lx	93lx	59lx
Footcand.	13770fcd	3442fcd	1530fcd	861fcd	551fcd	245fcd	138fcd	61fcd	34fcd	22fcd	15fcd	9fcd	6fcd
Beam wid.	0,2m	0,4m	0,6m	0,8m	1m	1,4m	1,9m	2,9m	3,8m	4,8m	5,7m	7,6m	9,5m
Beam wid.	0,6ft	1,3ft	1,9ft	2,5ft	3,1ft	4,7ft	6,3ft	9,4ft	12,5ft	15,6ft	18,8ft	25ft	31,3ft

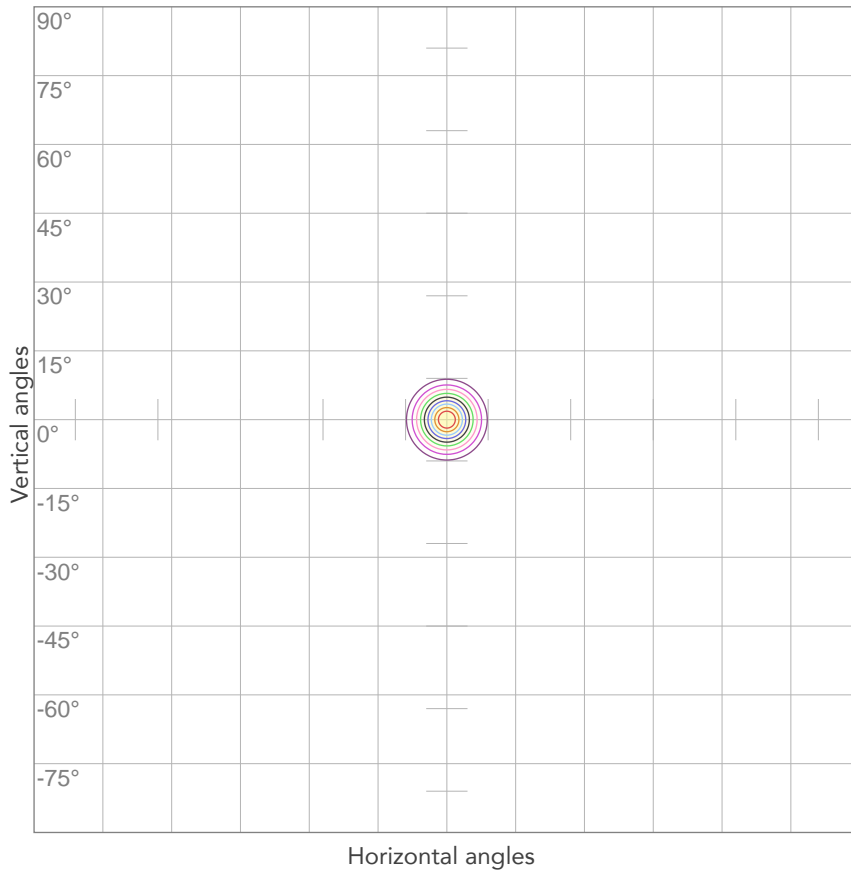
## LINEAR DISTRIBUTION DIAGRAM



## ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
222V	2,03A	433,3W	15lm/W

## ISO CANDELA DIAGRAM



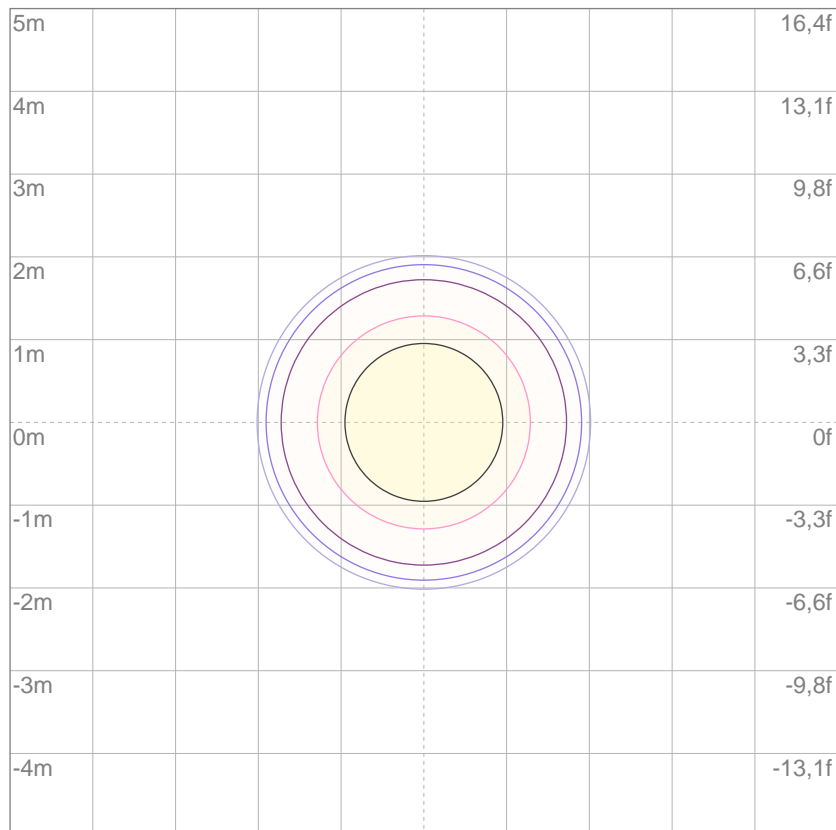
10%	14822 cd
20%	29643 cd
30%	44465 cd
40%	59287 cd
50%	74109 cd
60%	88930 cd
70%	103752 cd
80%	118574 cd

### Conditions:

Number of c-planes: 2

Candela at center: 148217 cd

## ISO LUX DIAGRAM



3%	44,5 lx
5%	74,1 lx
10%	148 lx
30%	445 lx
50%	741 lx

### Conditions:

Number of c-planes: 2

Lux at center: 1482 lx

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



Total lumen output:

8908 lm

Peak candela output:

927197 cd

Light quality:

CRI: 65,8

Color temperature:

6069 K

## PRODUCT NAME:

Stark 1000

## MEASURAMENT CONDITIONS:

Beam angle:

Min Zoom

Target:

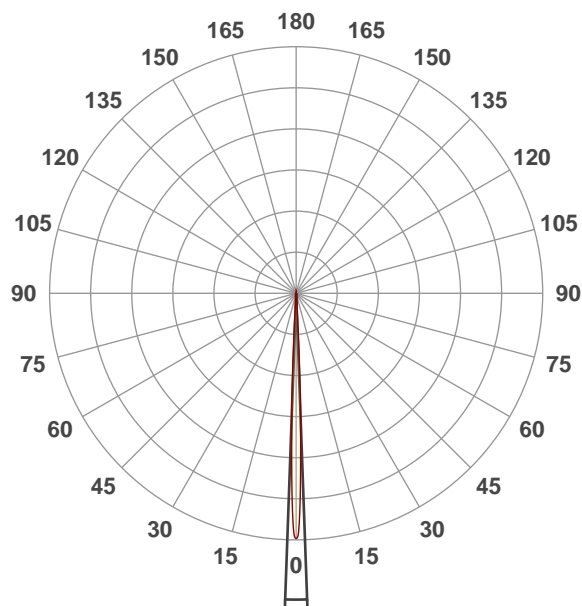
6000K

Operator:

Paolo Carvone

Date and time:

18/12/2019 16:48:52

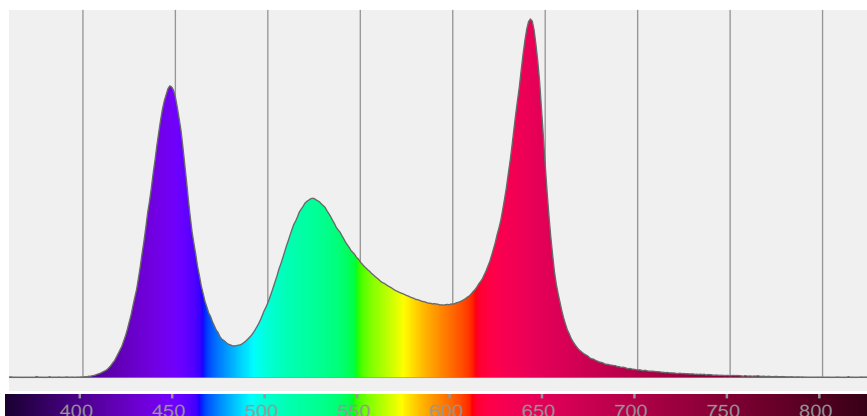


Beam angle 50%: 4,1°

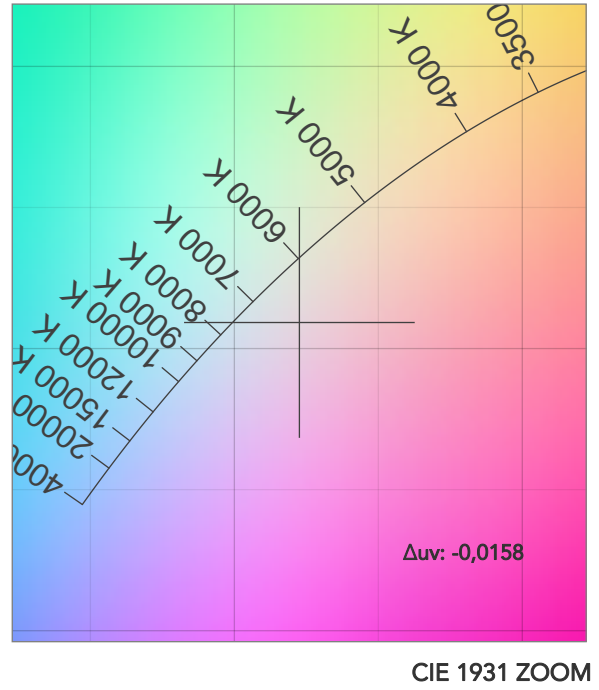
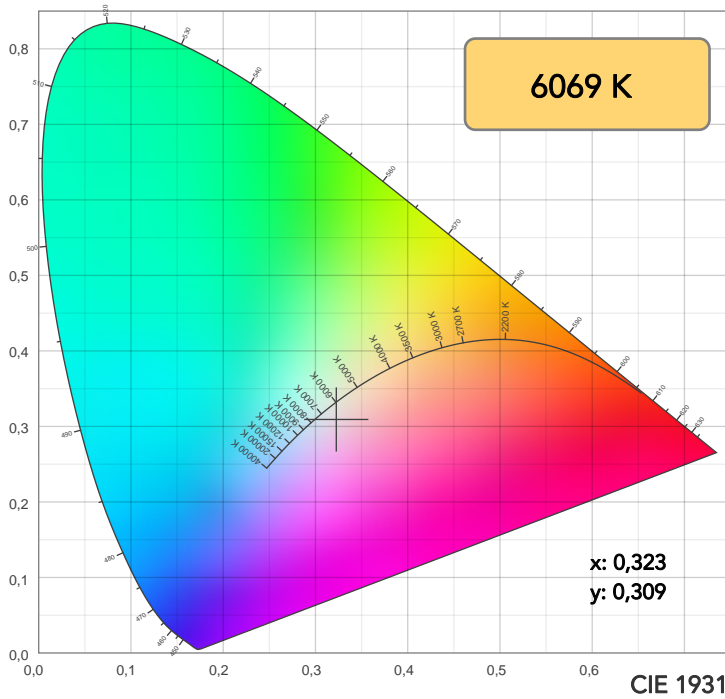
Field angle 10%: 6,7°

Cut off angle 2.5%: 7,7°

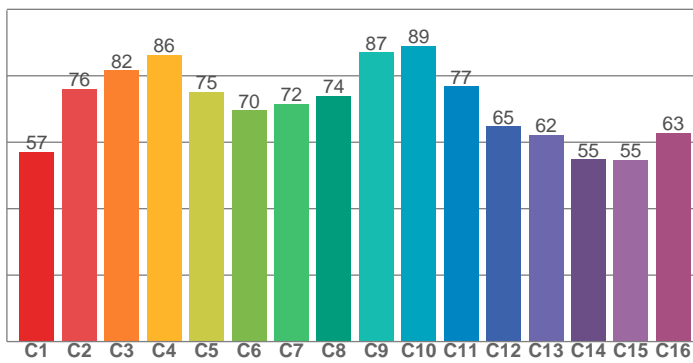
## Spectra



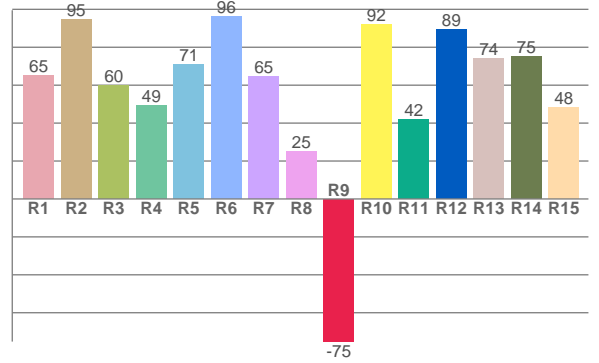




TM30: 72,7



CRI: 65,8 (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
65,3	94,8	59,8	49,4	70,8	96,3	64,6	25,2	-75,2	92,1	41,9	89,2	74,3	75,0	48,2

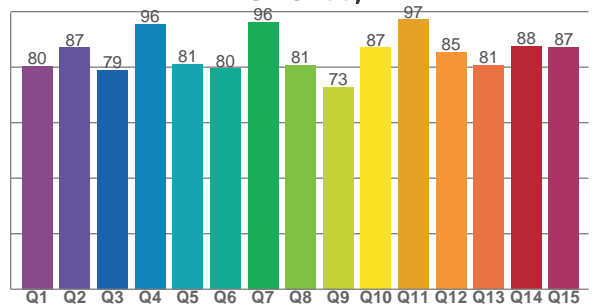
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
57,0	76,1	81,6	86,3	75,2	69,6	71,6	74,0	87,0	89,0	76,8	64,7	62,2	54,8	54,7	62,8

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
80,5	87,1	79,0	95,6	81,1	79,6	96,3	80,9	72,9	87,1	97,2	85,5	80,7	87,5	87,2

CQS: 83,7



## COLOR PARAMETERS

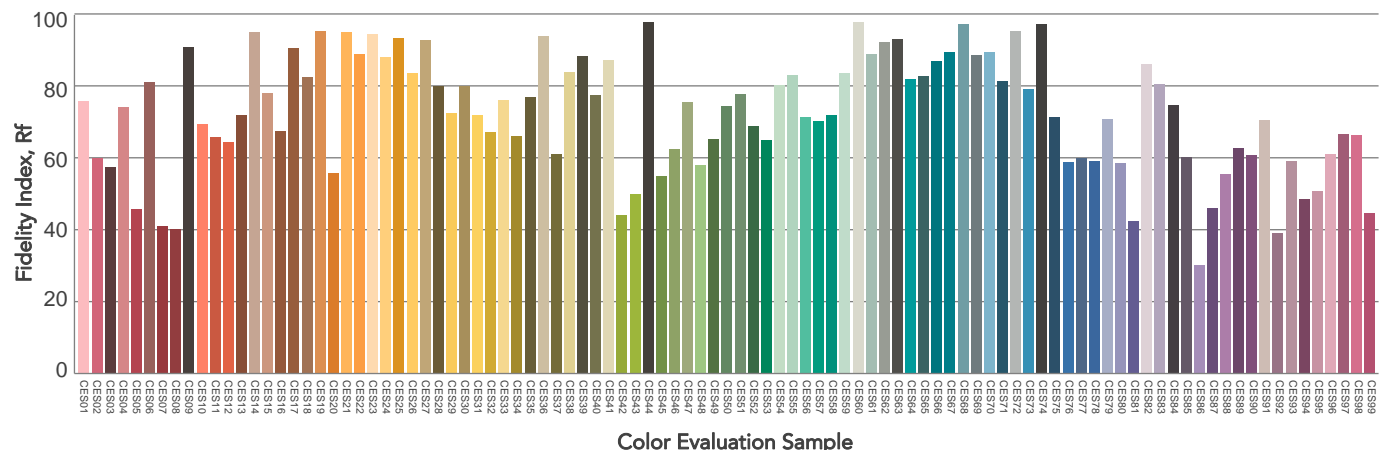
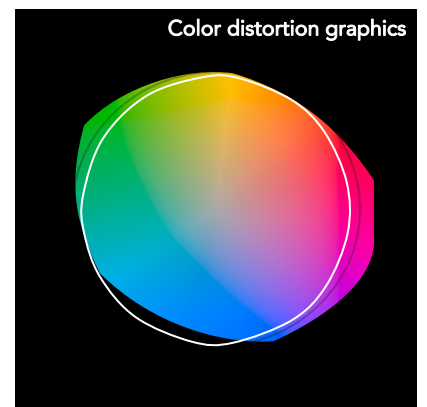
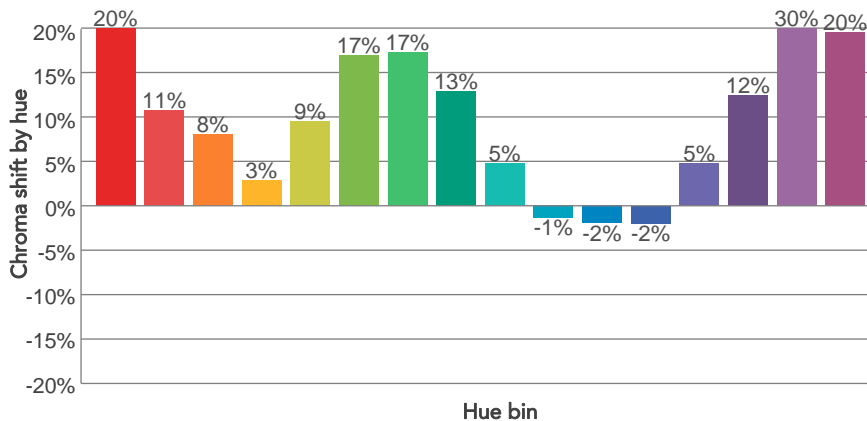
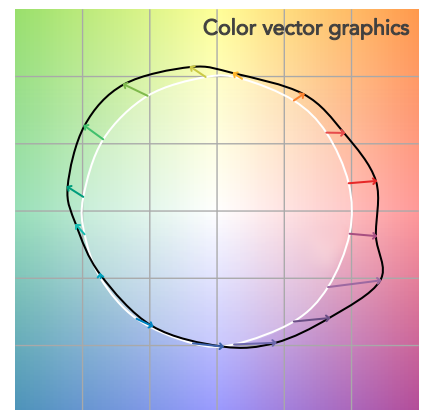
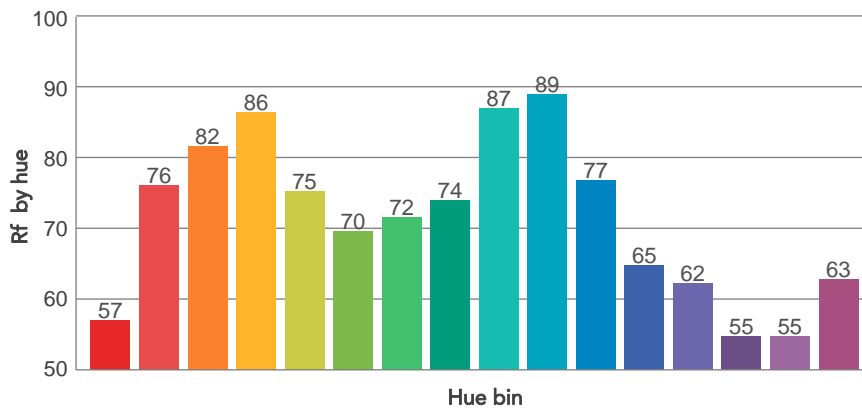
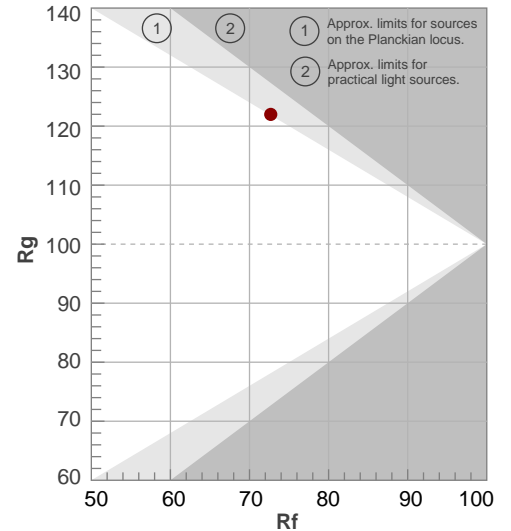
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	$\Delta uv$
6069 K	65,8	-75,2	72,7	122,0	83,7	57	0,323	0,309	-0,0158

# TM30 DETAILS

**Rf 72,7**  
Fidelity index Rf

**Rg 122,0**  
Gammut index

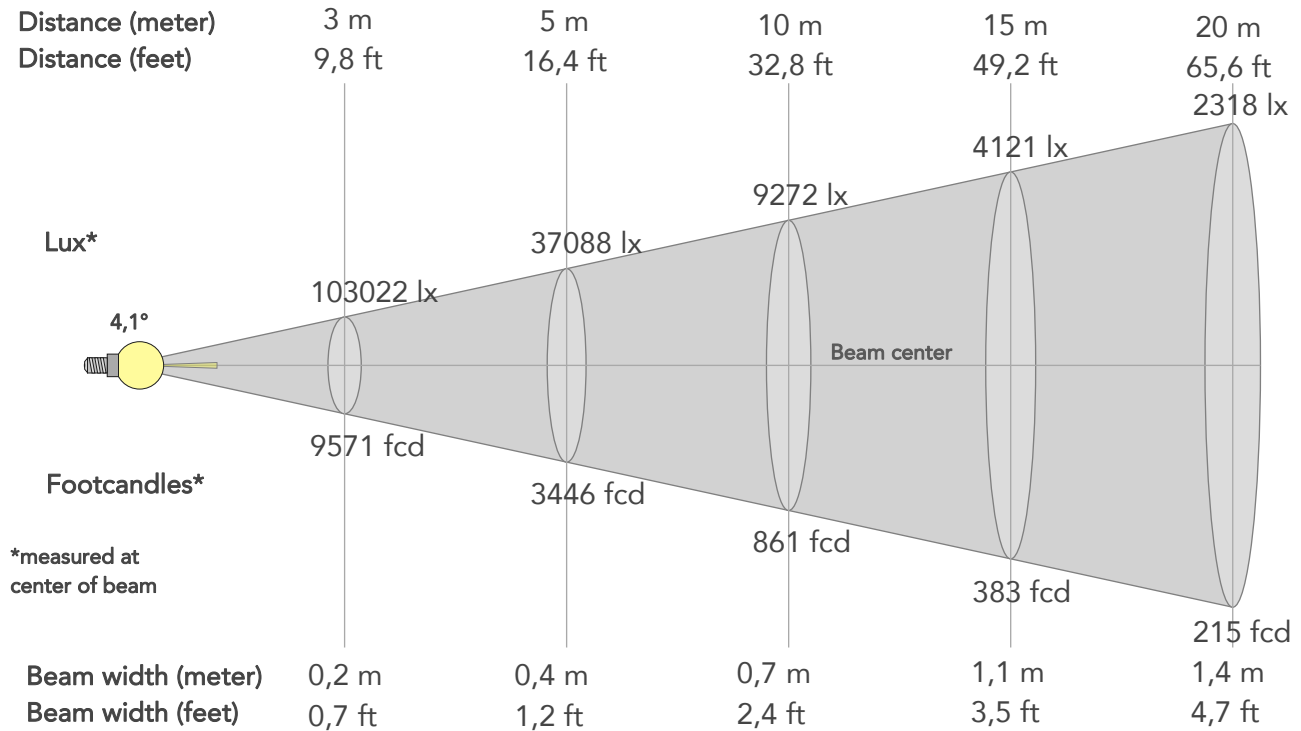
Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	57	20%	-2%
2	76	11%	-7%
3	82	8%	-3%
4	86	3%	7%
5	75	9%	9%
6	70	17%	10%
7	72	17%	-1%
8	74	13%	-5%
9	87	5%	-8%
10	89	-1%	-3%
11	77	-2%	13%
12	65	-2%	22%
13	62	5%	30%
14	55	12%	23%
15	55	30%	26%
16	63	20%	2%



## BEAM DETAILS



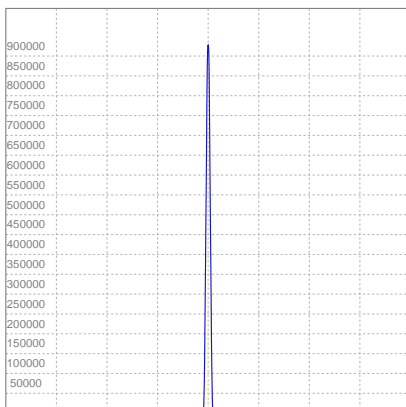
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
4,1°	6,7°	7,7°	74,7%	65,4%



### 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
<b>Lux</b>	927197lx	231799lx	103022lx	57950lx	37088lx	16483lx	9272lx	4121lx	2318lx	1484lx	1030lx	579lx	371lx
<b>Footcand.</b>	86139fcd	21535fcd	9571fcd	5384fcd	3446fcd	1531fcd	861fcd	383fcd	215fcd	138fcd	96fcd	54fcd	34fcd
<b>Beam wid.</b>	0,1m	0,1m	0,2m	0,3m	0,4m	0,5m	0,7m	1,1m	1,4m	1,8m	2,2m	2,9m	3,6m
<b>Beam wid.</b>	0,2ft	0,5ft	0,7ft	0,9ft	1,2ft	1,8ft	2,4ft	3,5ft	4,7ft	5,9ft	7,1ft	9,4ft	11,8ft

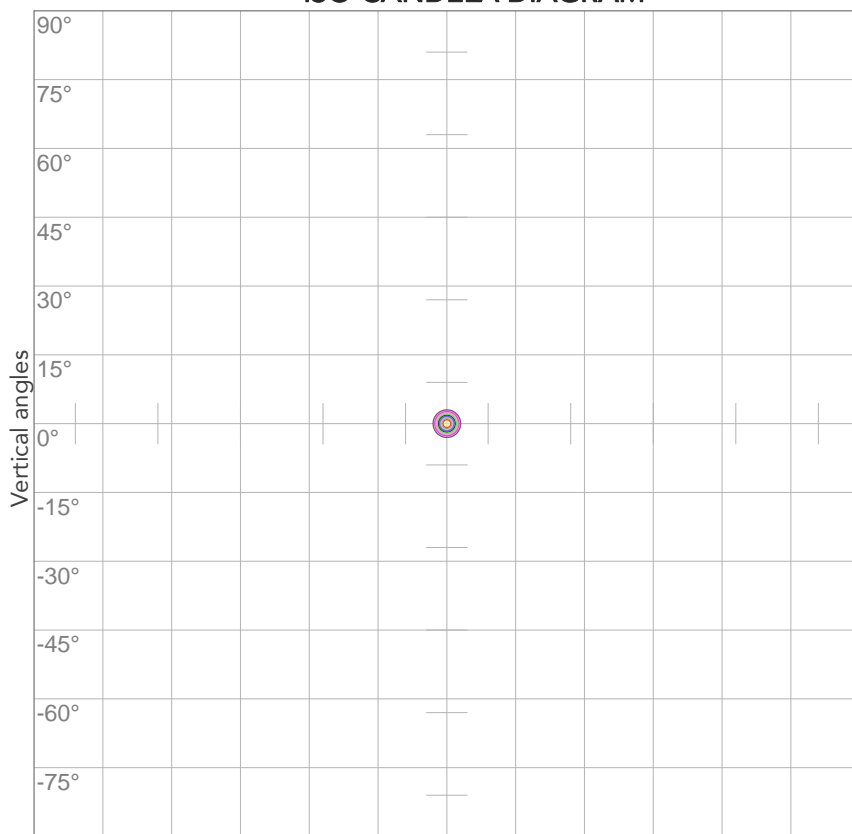
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
221V	2,05A	435,1W	20lm/W

## ISO CANDELA DIAGRAM



Horizontal angles

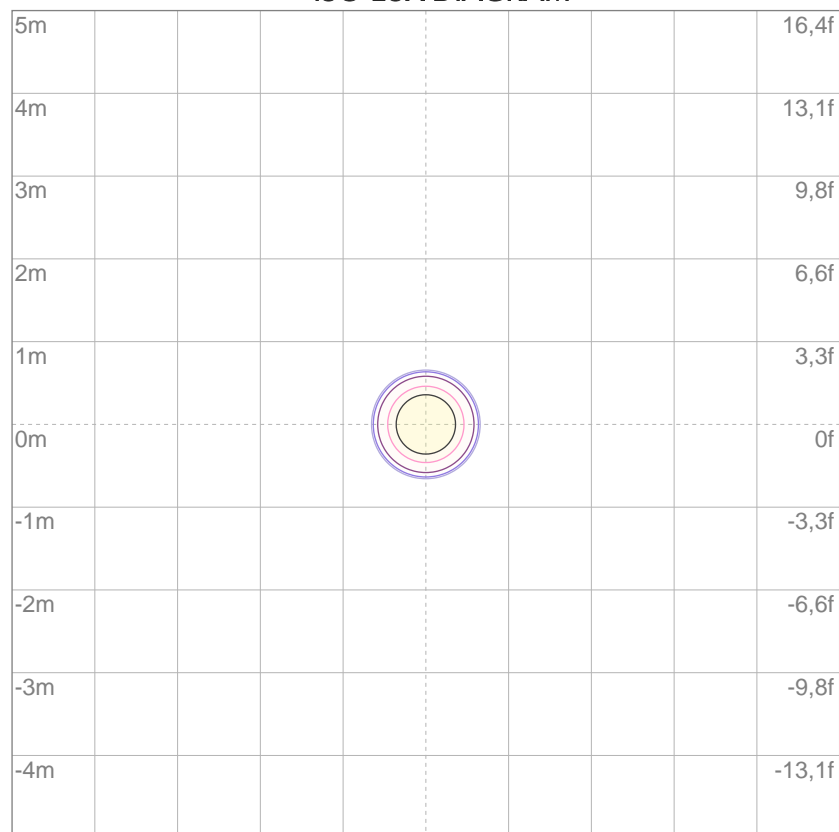
10%	92720 cd
20%	185439 cd
30%	278159 cd
40%	370879 cd
50%	463598 cd
60%	556318 cd
70%	649038 cd
80%	741757 cd

### Conditions:

Number of c-planes: 2

Candela at center: 927197 cd

## ISO LUX DIAGRAM



Mounting height: 10 meters (33 feet)

3%	278 lx
5%	464 lx
10%	927 lx
30%	2782 lx
50%	4636 lx

### Conditions:

Number of c-planes: 2

Lux at center: 9272 lx

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