

Photometric Test Report



Stark 400

7x40 W high power LED wash/beam light
with pixel mapping

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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 25°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:

2700 lm

Peak candela output:

21199 cd

PRODUCT NAME:

Stark 400

MEASURAMENT CONDITIONS:

Beam angle:

Max Zoom

Target:

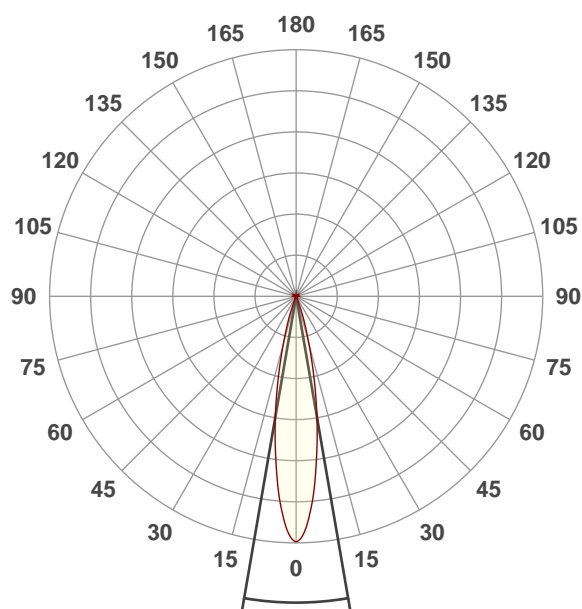
Full on

Operator:

Paolo Carvone

Date and time:

19/12/2019 18:01:43

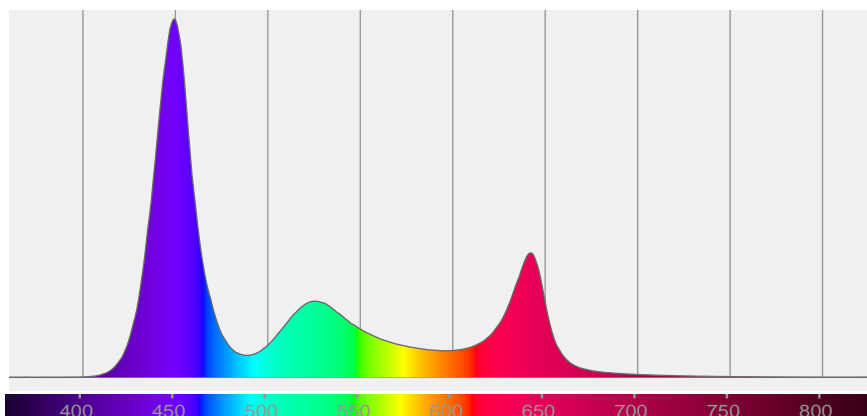


Beam angle 50%: 19,5°

Field angle 10%: 36°

Cut off angle 2.5%: 42,3°

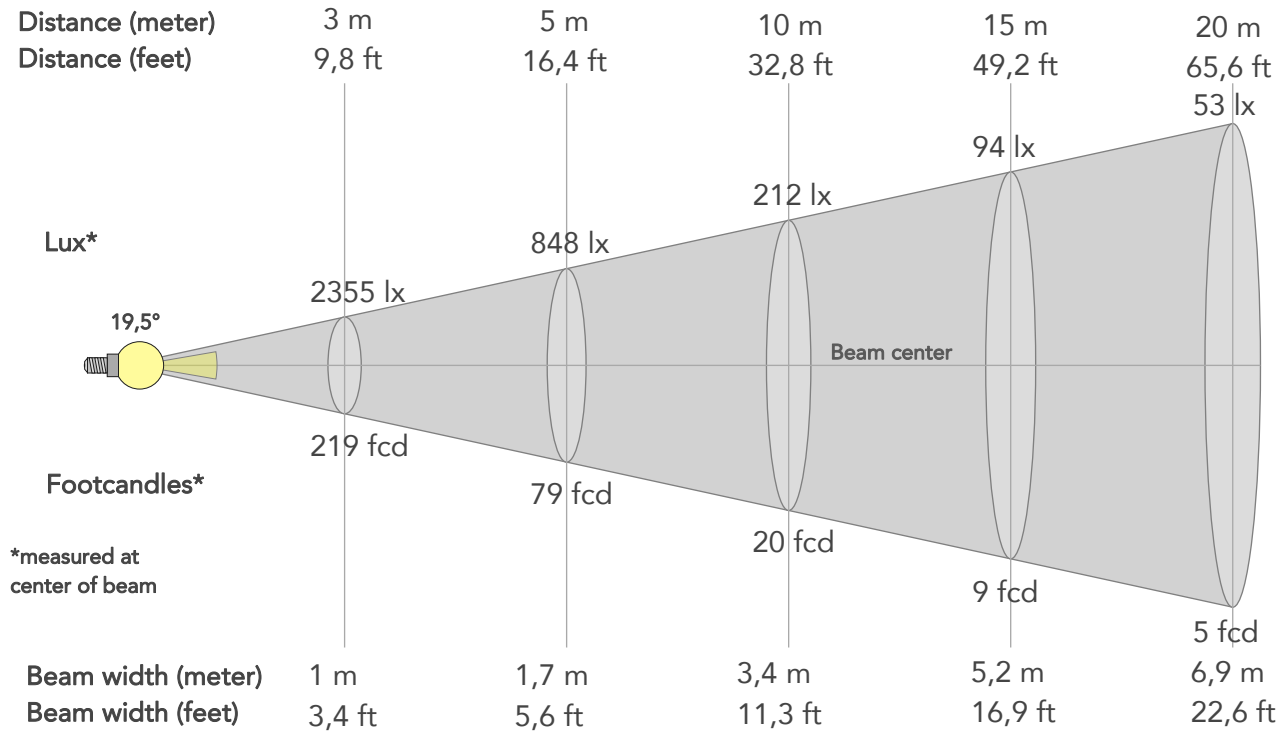
Spectra



BEAM DETAILS



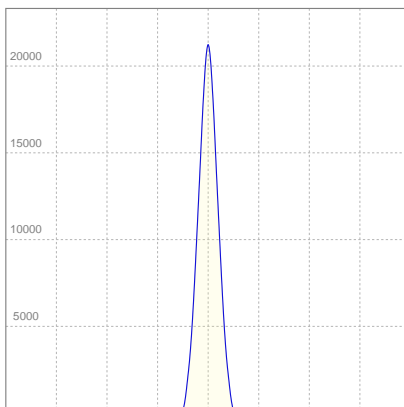
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
19,5°	36°	42,3°	99,9%	99,8%



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	21199lx	5300lx	2355lx	1325lx	848lx	377lx	212lx	94lx	53lx	34lx	24lx	13lx	8lx
Footcand.	1969fcd	492fcd	219fcd	123fcd	79fcd	35fcd	20fcd	9fcd	5fcd	3fcd	2fcd	1fcd	1fcd
Beam wid.	0,3m	0,7m	1m	1,4m	1,7m	2,6m	3,4m	5,2m	6,9m	8,6m	10,3m	13,8m	17,2m
Beam wid.	1,1ft	2,3ft	3,4ft	4,5ft	5,6ft	8,5ft	11,3ft	16,9ft	22,6ft	28,2ft	33,9ft	45,2ft	56,5ft

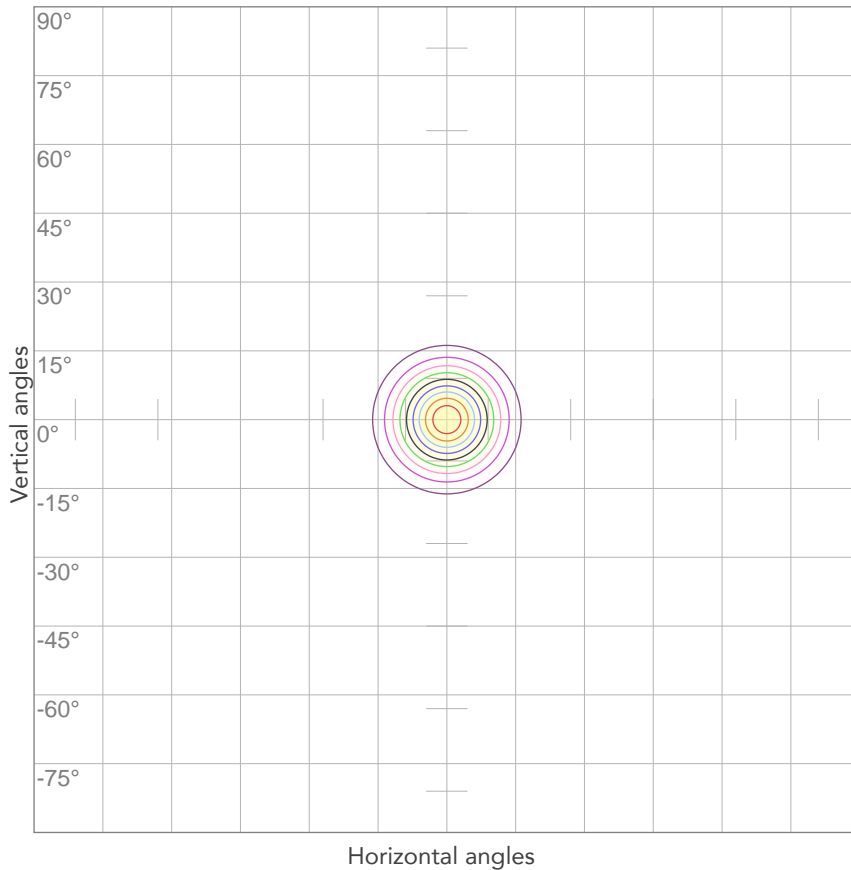
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
220V	1,12A	242,2W	11lm/W

ISO CANDELA DIAGRAM



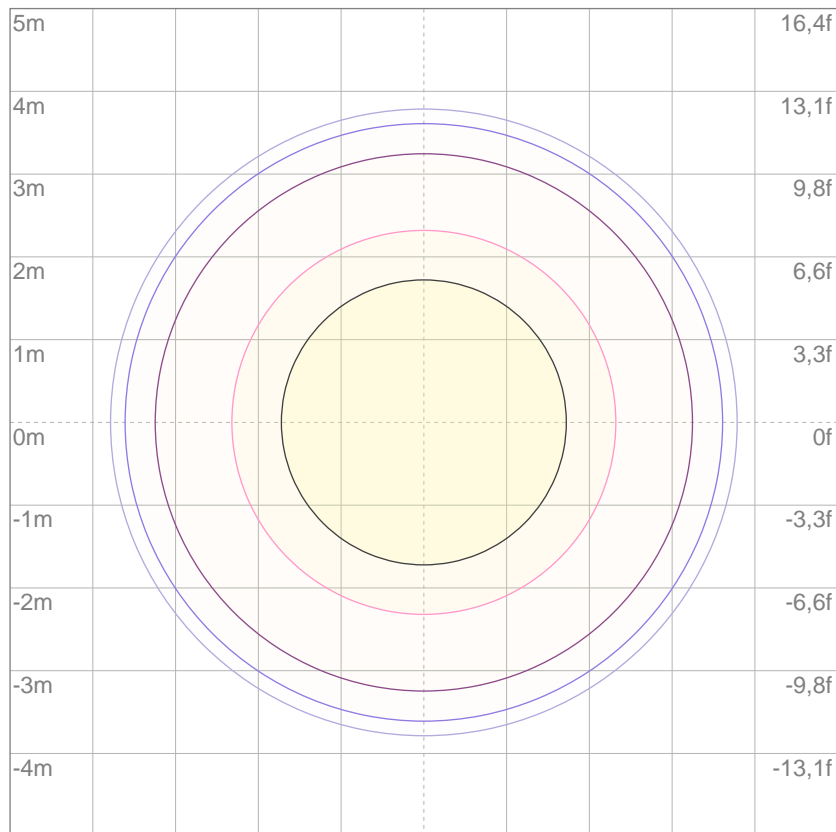
10%	2120 cd
20%	4240 cd
30%	6360 cd
40%	8480 cd
50%	10599 cd
60%	12719 cd
70%	14839 cd
80%	16959 cd

Conditions:

Number of c-planes: 2

Candela at center: 21199 cd

ISO LUX DIAGRAM



3%	6,36 lx
5%	10,6 lx
10%	21,2 lx
30%	63,6 lx
50%	106 lx

Conditions:

Number of c-planes: 2

Lux at center: 212 lx

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



Total lumen output:

2338 lm

Peak candela output:

80892 cd

PRODUCT NAME:

Stark 400

MEASURAMENT CONDITIONS:

Beam angle:

Med Zoom

Target:

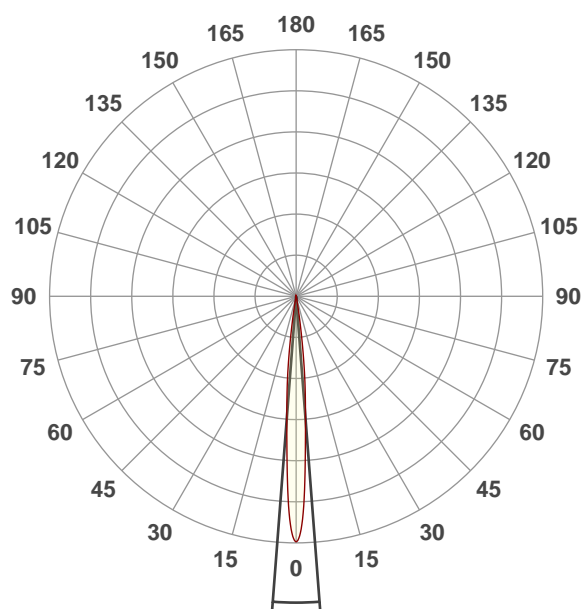
full on

Operator:

Paolo Carvone

Date and time:

20/12/2019 09:55:59

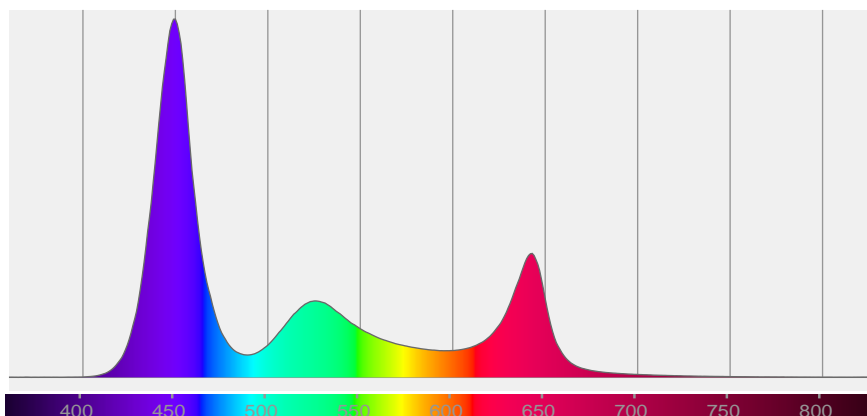


Beam angle 50%: 8,8°

Field angle 10%: 17,2°

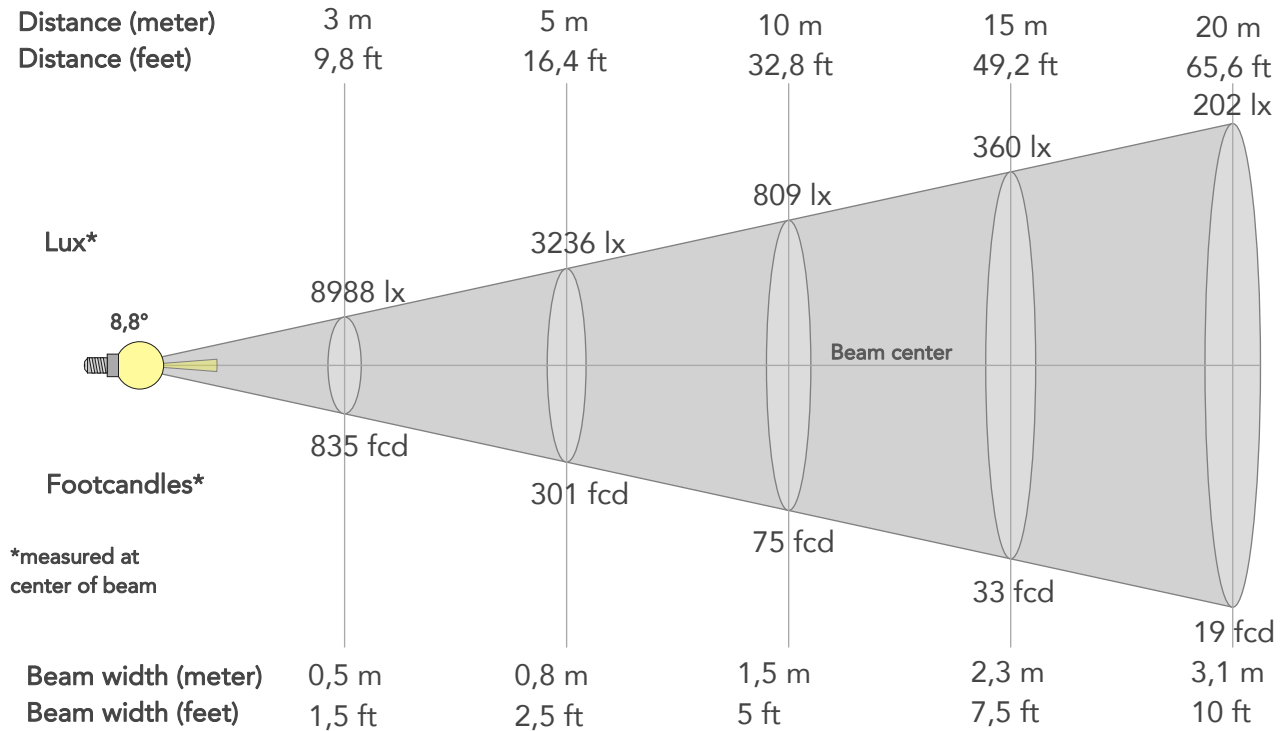
Cut off angle 2.5%: 20,1°

Spectra



BEAM DETAILS

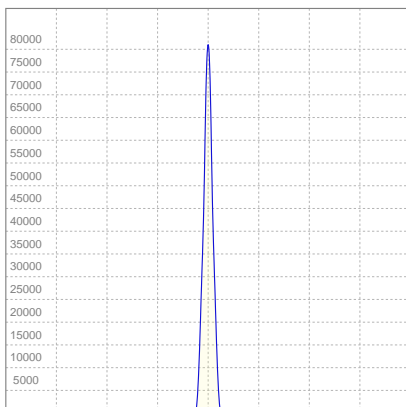
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
8,8°	17,2°	20,1°	99,8%	99,7%



BEAM INTENSITIES AND WIDTHS

Distance	1m	2m	3m	4m	5m	7,5m	10m	15m	20m	25m	30m	40m	50m
Distance	3,3ft	6,6ft	9,8ft	13,1ft	16,4ft	24,6ft	32,8ft	49,2ft	65,6ft	82ft	98,4ft	131,2ft	164ft
Lux	80892lx	20223lx	8988lx	5056lx	3236lx	1438lx	809lx	360lx	202lx	129lx	90lx	51lx	32lx
Footcand.	7515fcd	1879fcd	835fcd	470fcd	301fcd	134fcd	75fcd	33fcd	19fcd	12fcd	8fcd	5fcd	3fcd
Beam wid.	0,2m	0,3m	0,5m	0,6m	0,8m	1,1m	1,5m	2,3m	3,1m	3,8m	4,6m	6,1m	7,7m
Beam wid.	0,5ft	1ft	1,5ft	2ft	2,5ft	3,8ft	5ft	7,5ft	10ft	12,6ft	15,1ft	20,1ft	25,1ft

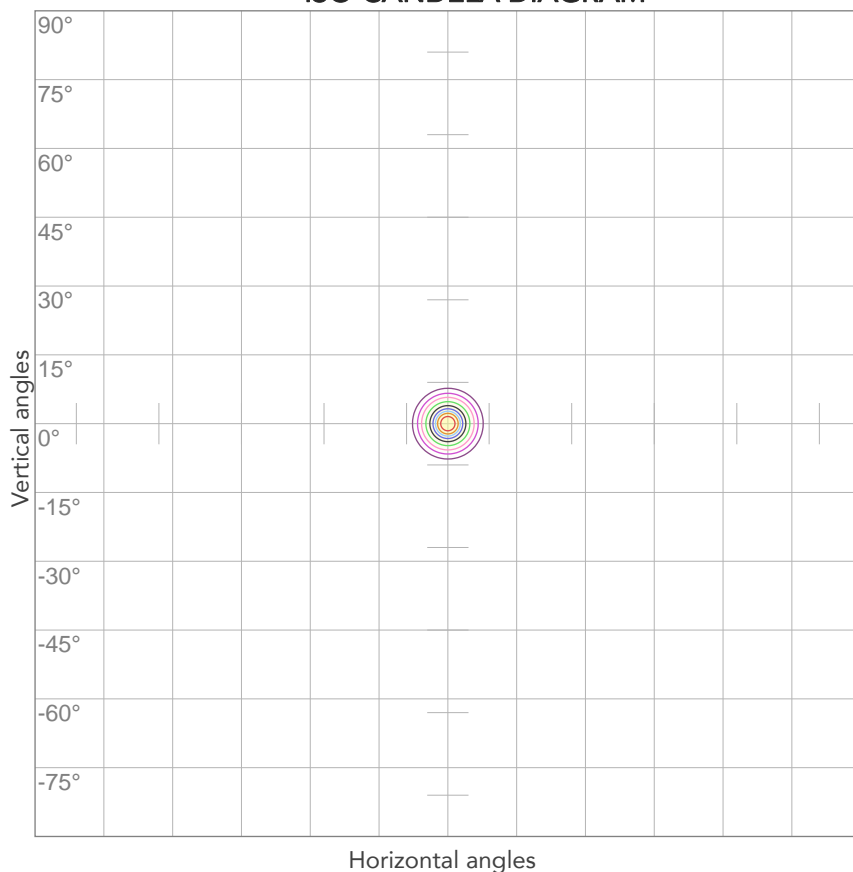
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
224V	1,10A	241,6W	10lm/W

ISO CANDELA DIAGRAM



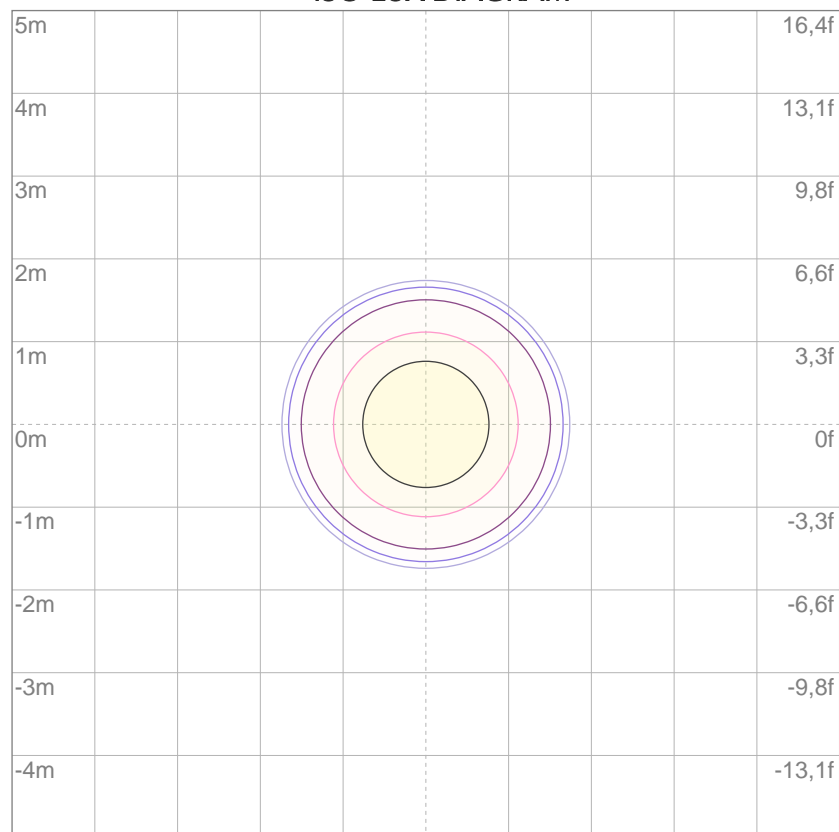
10%	8089 cd
20%	16178 cd
30%	24268 cd
40%	32357 cd
50%	40446 cd
60%	48535 cd
70%	56624 cd
80%	64713 cd

Conditions:

Number of c-planes: 2

Candela at center: 80892 cd

ISO LUX DIAGRAM



3%	24,3 lx
5%	40,4 lx
10%	80,9 lx
30%	243 lx
50%	404 lx

Conditions:

Number of c-planes: 2

Lux at center: 809 lx

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



Total lumen output:

1944 lm

Peak candela output:

391473 cd

PRODUCT NAME:

Stark 400

MEASURAMENT CONDITIONS:

Beam angle:

Min Zoom

Target:

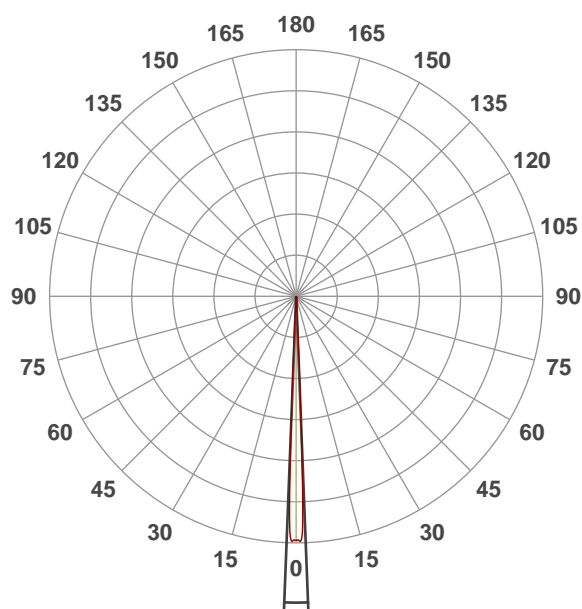
full on

Operator:

Paolo Carvone

Date and time:

19/12/2019 17:37:42

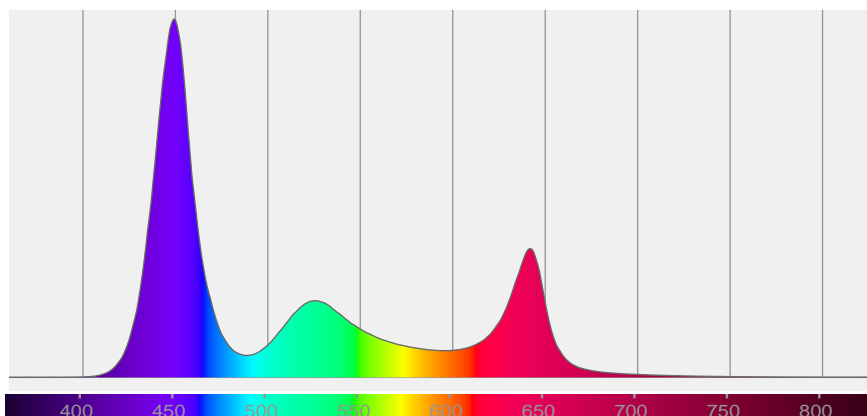


Beam angle 50%: 4,4°

Field angle 10%: 5,6°

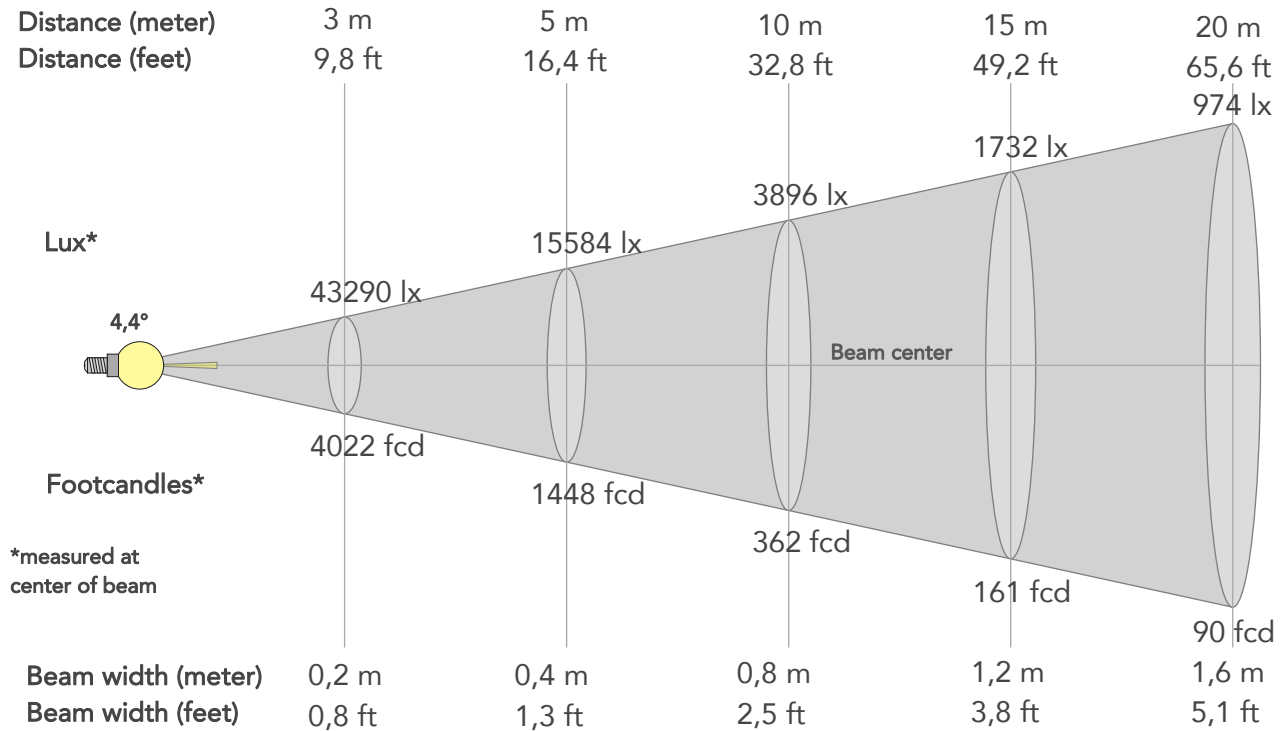
Cut off angle 2.5%: 6,1°

Spectra



BEAM DETAILS

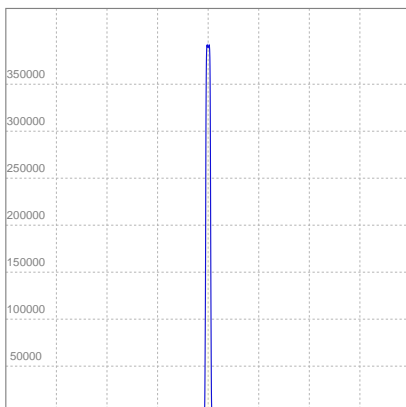
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
4,4°	5,6°	6,1°	100,0%	100,0%



BEAM INTENSITIES AND WIDTHS

Distance	1m	2m	3m	4m	5m	7,5m	10m	15m	20m	25m	30m	40m	50m
Distance	3,3ft	6,6ft	9,8ft	13,1ft	16,4ft	24,6ft	32,8ft	49,2ft	65,6ft	82ft	98,4ft	131,2ft	164ft
Lux	389608lx	97402lx	43290lx	24350lx	15584lx	6926lx	3896lx	1732lx	974lx	623lx	433lx	244lx	156lx
Footcand.	36196fcd	9049fcd	4022fcd	2262fcd	1448fcd	643fcd	362fcd	161fcd	90fcd	58fcd	40fcd	23fcd	14fcd
Beam wid.	0,1m	0,2m	0,2m	0,3m	0,4m	0,6m	0,8m	1,2m	1,6m	1,9m	2,3m	3,1m	3,9m
Beam wid.	0,3ft	0,5ft	0,8ft	1ft	1,3ft	1,9ft	2,5ft	3,8ft	5,1ft	6,4ft	7,6ft	10,2ft	12,7ft

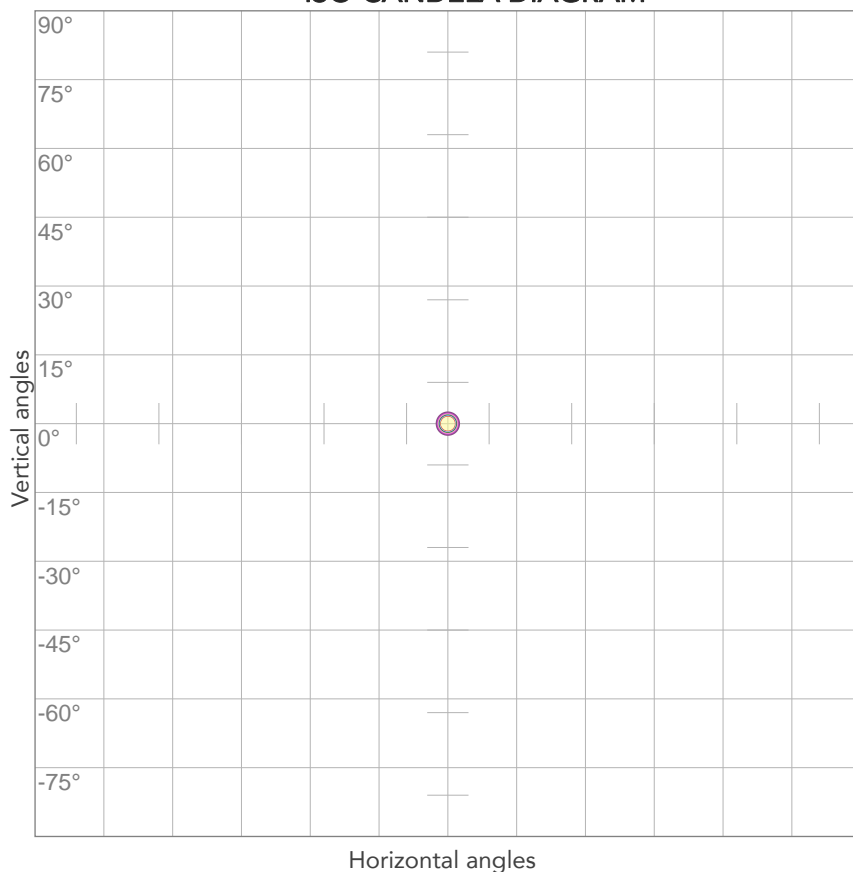
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
220V	1,12A	242,8W	8lm/W

ISO CANDELA DIAGRAM



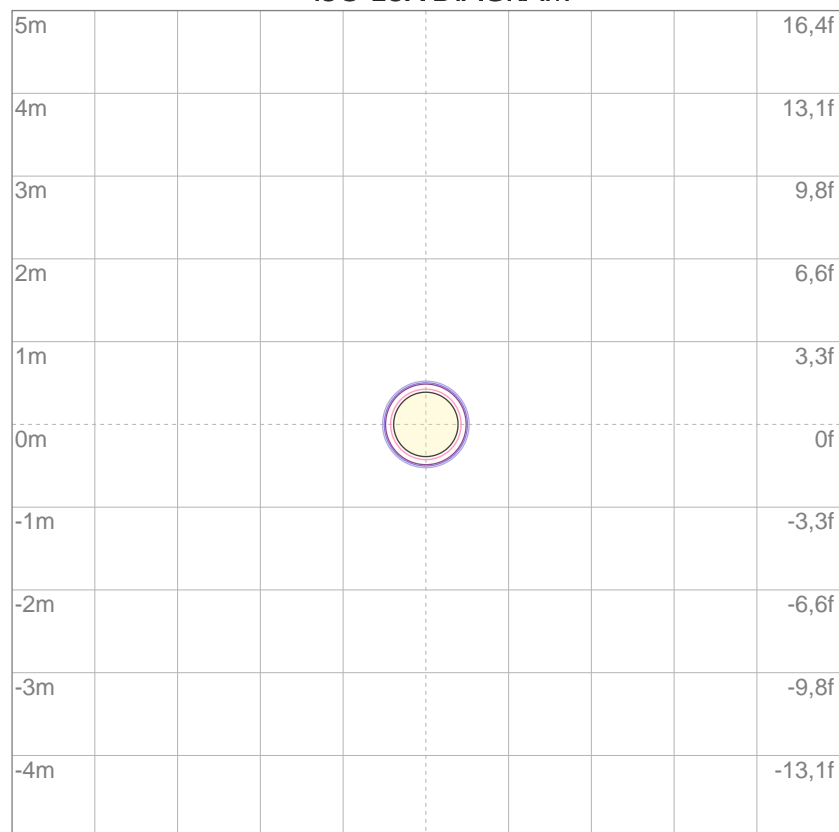
10%	38961 cd
20%	77922 cd
30%	116882 cd
40%	155843 cd
50%	194804 cd
60%	233765 cd
70%	272725 cd
80%	311686 cd

Conditions:

Number of c-planes: 2

Candela at center: 389608 cd

ISO LUX DIAGRAM



3%	117 lx
5%	195 lx
10%	390 lx
30%	1169 lx
50%	1948 lx

Conditions:

Number of c-planes: 2

Lux at center: 3896 lx

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



Total lumen output:

464 lm

Peak candela output:

3637 cd

PRODUCT NAME:

Stark 400

MEASURAMENT CONDITIONS:

Beam angle:

Max Zoom

Target:

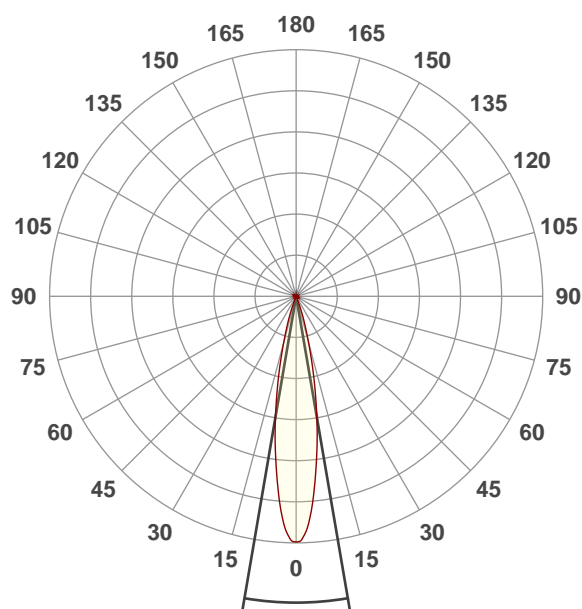
Red

Operator:

Paolo Carvone

Date and time:

19/12/2019 18:04:24

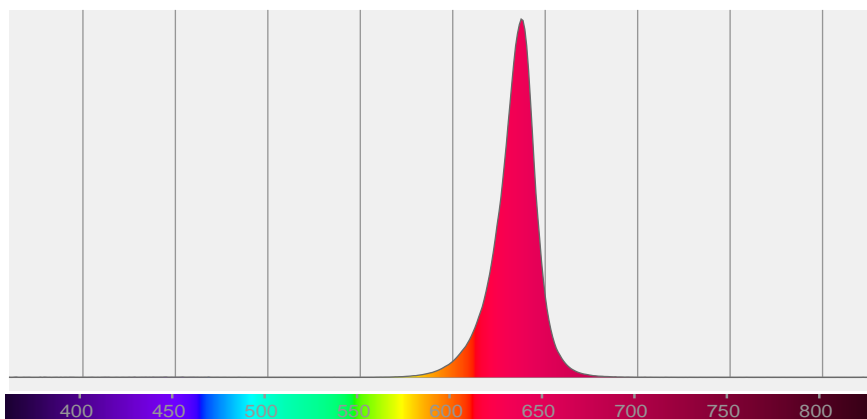


Beam angle 50%: 19,4°

Field angle 10%: 35,7°

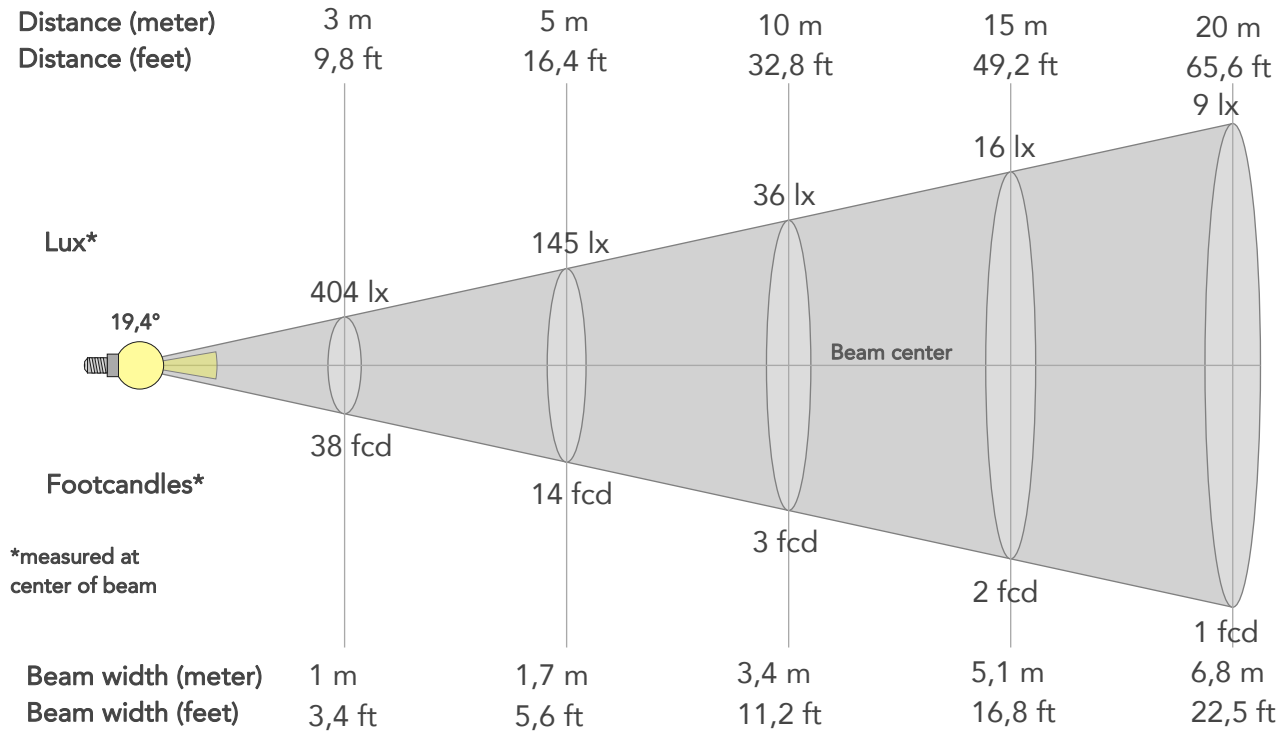
Cut off angle 2.5%: 42,3°

Spectra



BEAM DETAILS

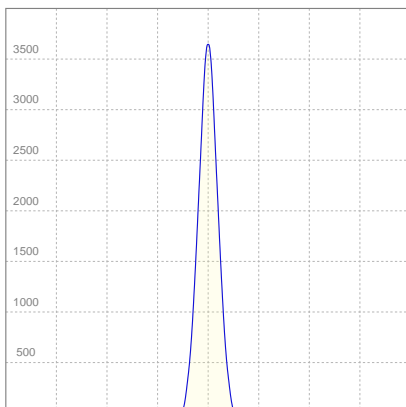
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
19,4°	35,7°	42,3°	99,3%	99,1%



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	3637lx	909lx	404lx	227lx	145lx	65lx	36lx	16lx	9lx	6lx	4lx	2lx	1lx
Footcand.	338fcd	84fcd	38fcd	21fcd	14fcd	6fcd	3fcd	2fcd	1fcd	1fcd	0fcd	0fcd	0fcd
Beam wid.	0,3m	0,7m	1m	1,4m	1,7m	2,6m	3,4m	5,1m	6,8m	8,6m	10,3m	13,7m	17,1m
Beam wid.	1,1ft	2,3ft	3,4ft	4,5ft	5,6ft	8,4ft	11,2ft	16,8ft	22,5ft	28,1ft	33,7ft	44,9ft	56,1ft

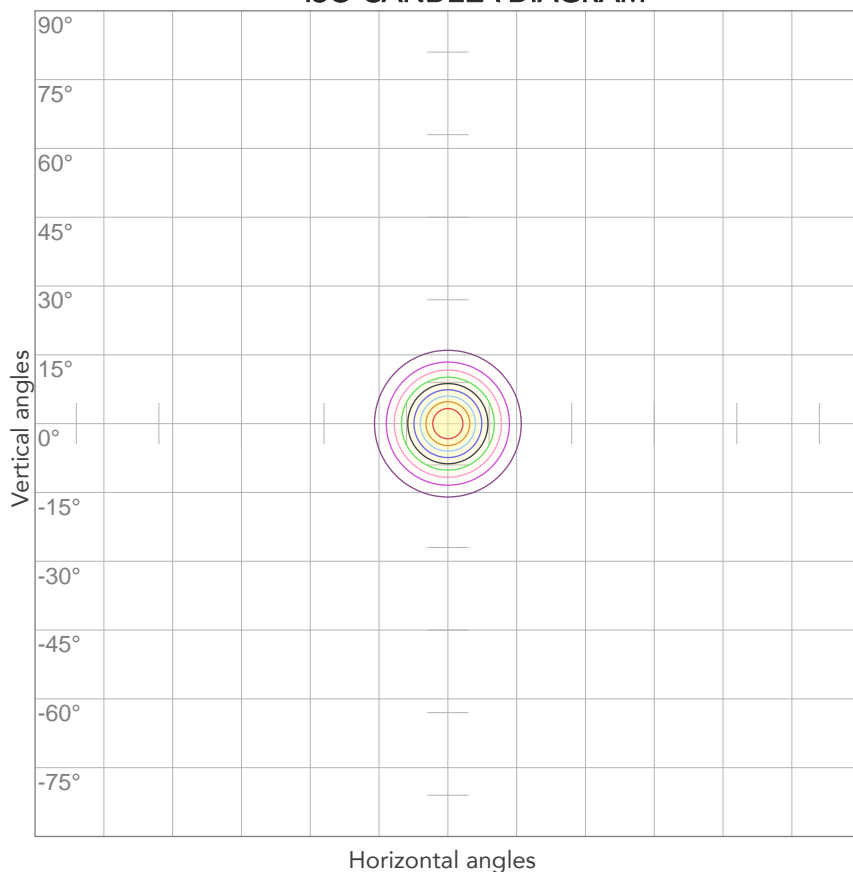
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
221V	0,366A	76,9W	6lm/W

ISO CANDELA DIAGRAM



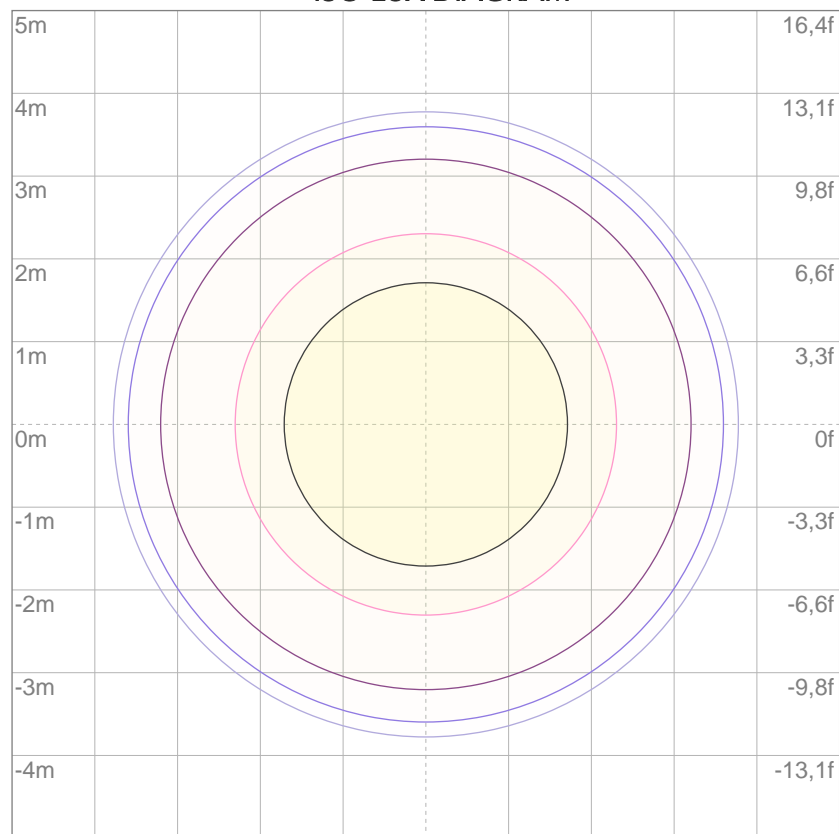
10%	364 cd
20%	727 cd
30%	1091 cd
40%	1455 cd
50%	1818 cd
60%	2182 cd
70%	2546 cd
80%	2909 cd

Conditions:

Number of c-planes: 2

Candela at center: 3637 cd

ISO LUX DIAGRAM



3%	1,09 lx
5%	1,82 lx
10%	3,64 lx
30%	10,9 lx
50%	18,2 lx

Conditions:

Number of c-planes: 2

Lux at center: 36,4 lx

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



Total lumen output:

408 lm

Peak candela output:

13954 cd

PRODUCT NAME:

Stark 400

MEASURAMENT CONDITIONS:

Beam angle:

Med Zoom

Target:

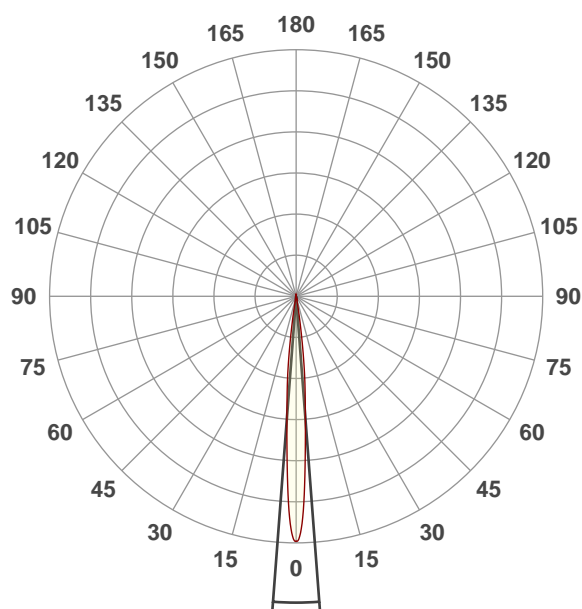
Red

Operator:

Paolo Carvone

Date and time:

20/12/2019 09:57:53

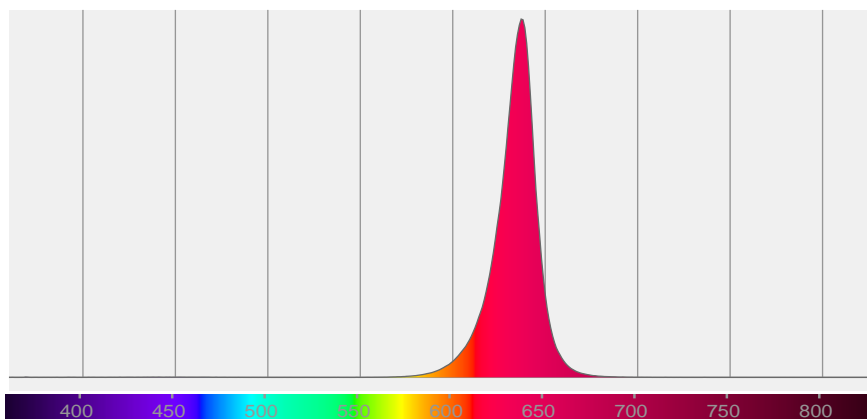


Beam angle 50%: 8,7°

Field angle 10%: 17,2°

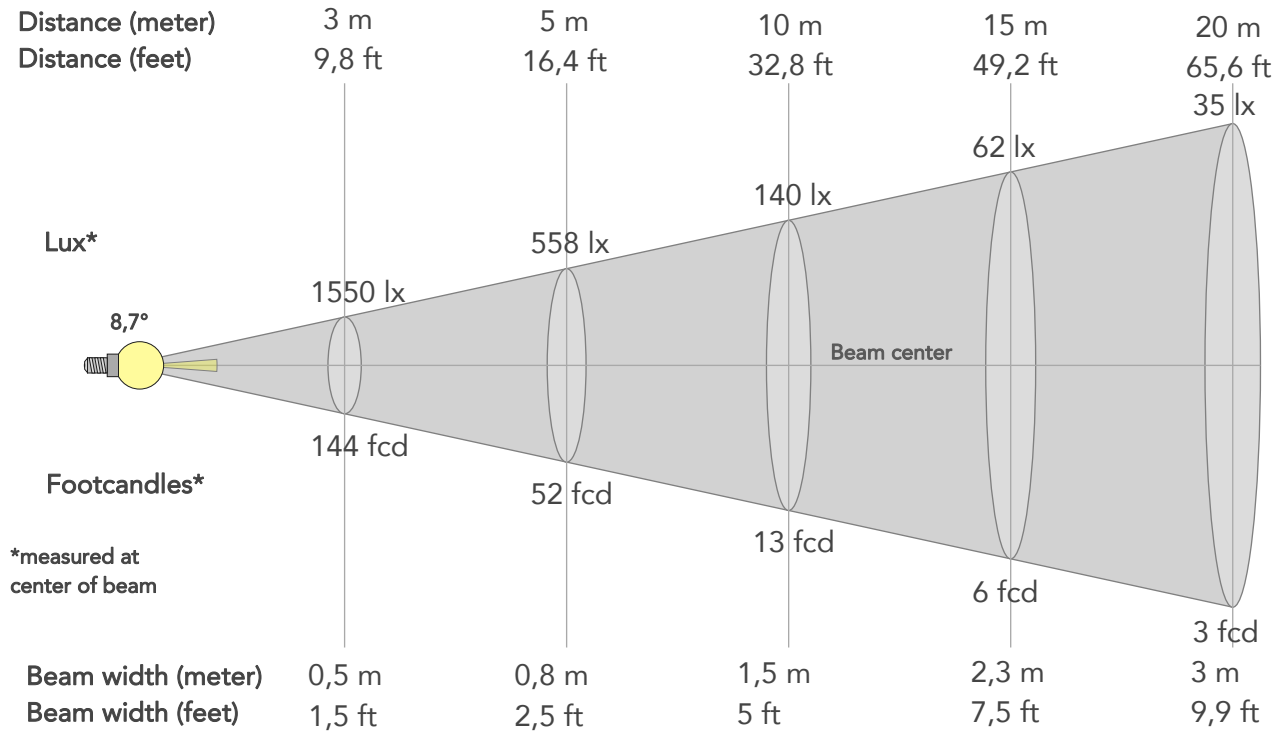
Cut off angle 2.5%: 20,3°

Spectra



BEAM DETAILS

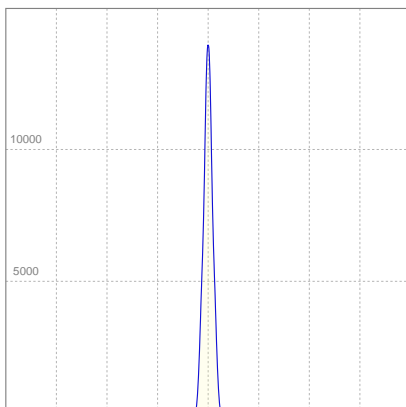
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
8,7°	17,2°	20,3°	99,2%	99,0%



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	13954lx	3488lx	1550lx	872lx	558lx	248lx	140lx	62lx	35lx	22lx	16lx	9lx	6lx
Footcand.	1296fcd	324fcd	144fcd	81fcd	52fcd	23fcd	13fcd	6fcd	3fcd	2fcd	1fcd	1fcd	1fcd
Beam wid.	0,2m	0,3m	0,5m	0,6m	0,8m	1,1m	1,5m	2,3m	3m	3,8m	4,5m	6,1m	7,6m
Beam wid.	0,5ft	1ft	1,5ft	2ft	2,5ft	3,7ft	5ft	7,5ft	9,9ft	12,4ft	14,9ft	19,9ft	24,9ft

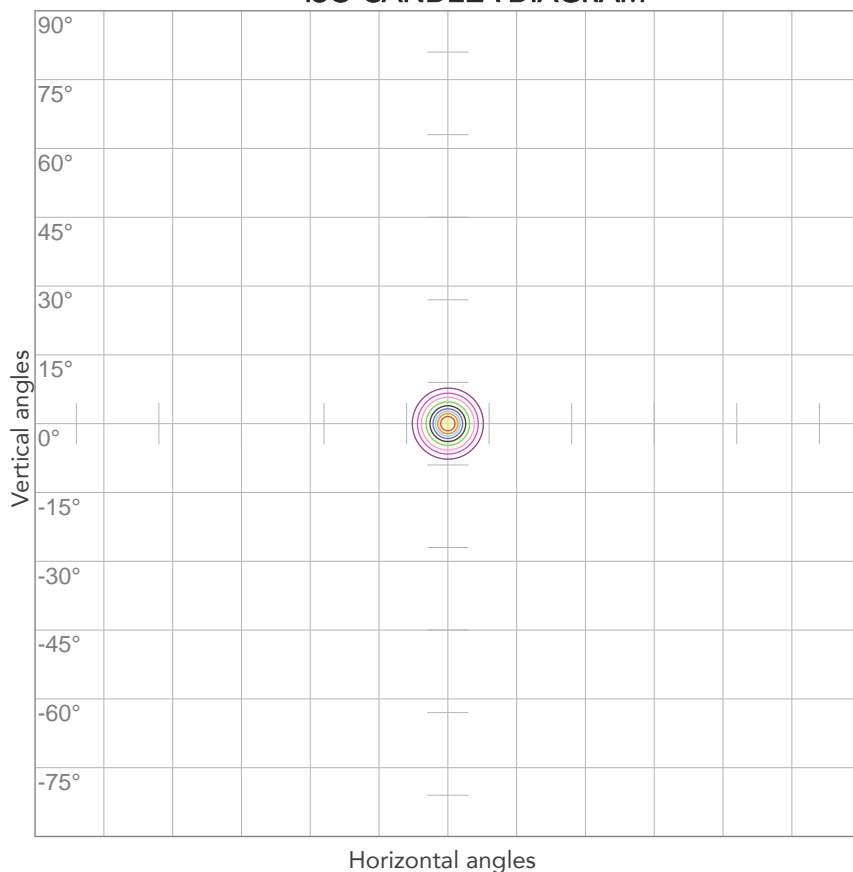
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
225V	0,362A	77,3W	5lm/W

ISO CANDELA DIAGRAM



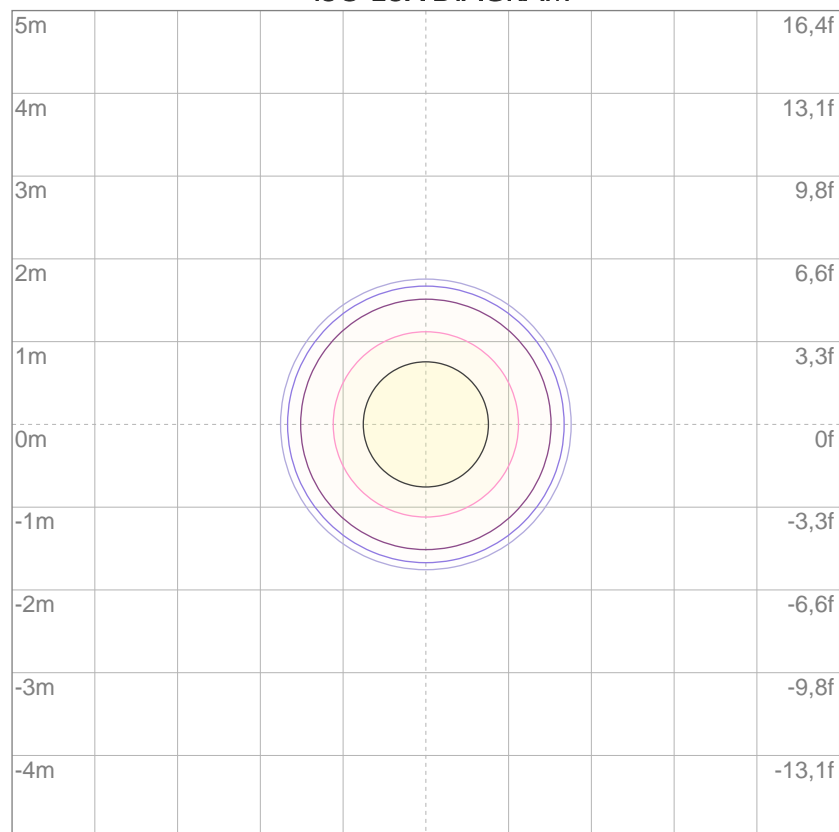
10%	1395 cd
20%	2791 cd
30%	4186 cd
40%	5582 cd
50%	6977 cd
60%	8372 cd
70%	9768 cd
80%	11163 cd

Conditions:

Number of c-planes: 2

Candela at center: 13954 cd

ISO LUX DIAGRAM



3%	4,19 lx
5%	6,98 lx
10%	14,0 lx
30%	41,9 lx
50%	69,8 lx

Conditions:

Number of c-planes: 2

Lux at center: 140 lx

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



Total lumen output:

367 lm

Peak candela output:

71151 cd

PRODUCT NAME:

Stark 400

MEASURAMENT CONDITIONS:

Beam angle:

Min Zoom

Target:

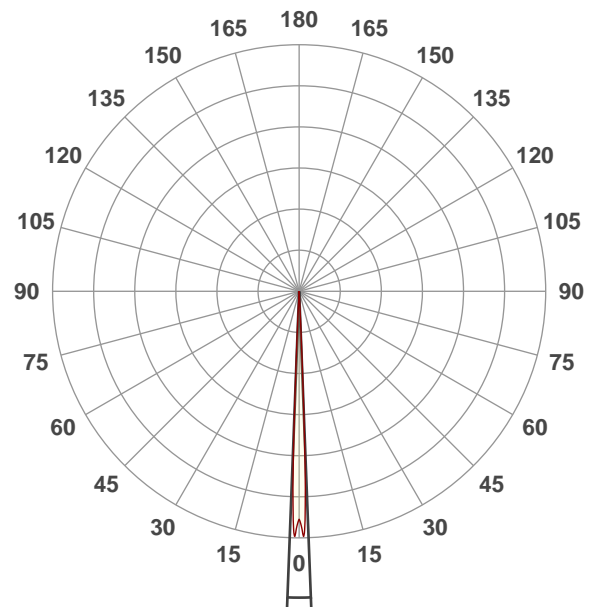
Red

Operator:

Paolo Carvone

Date and time:

19/12/2019 17:39:10

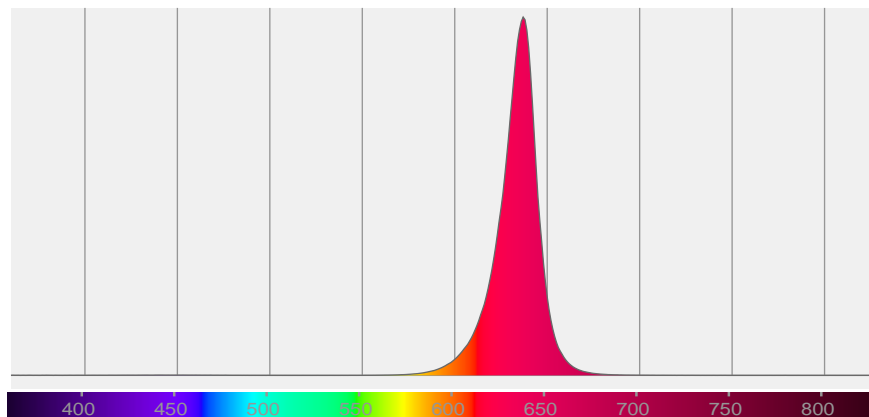


Beam angle 50%: 4,4°

Field angle 10%: 5,6°

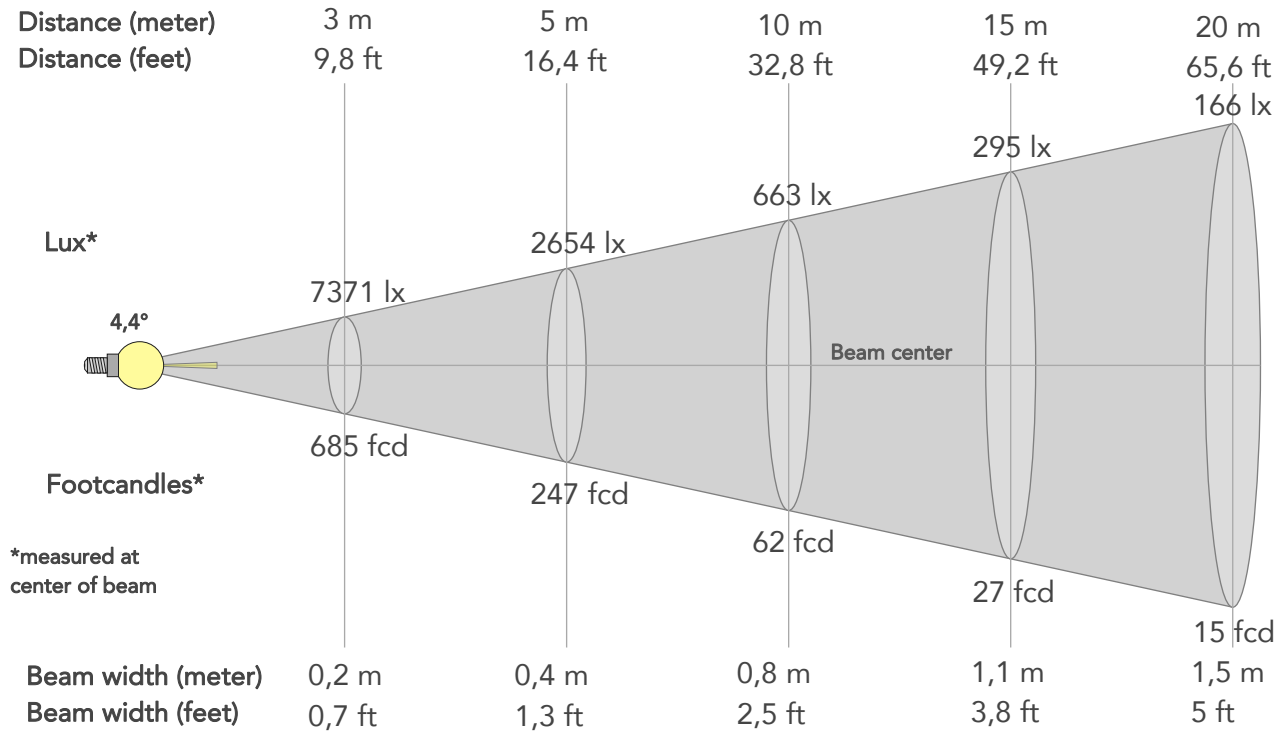
Cut off angle 2.5%: 6,2°

Spectra



BEAM DETAILS

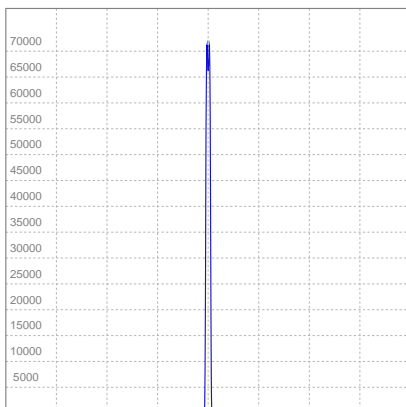
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
4,4°	5,6°	6,2°	95,9%	94,4%



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	66341lx	16585lx	7371lx	4146lx	2654lx	1179lx	663lx	295lx	166lx	106lx	74lx	41lx	27lx
Footcand.	6163fcd	1541fcd	685fcd	385fcd	247fcd	110fcd	62fcd	27fcd	15fcd	10fcd	7fcd	4fcd	2fcd
Beam wid.	0,1m	0,2m	0,2m	0,3m	0,4m	0,6m	0,8m	1,1m	1,5m	1,9m	2,3m	3,1m	3,8m
Beam wid.	0,3ft	0,5ft	0,7ft	1ft	1,3ft	1,9ft	2,5ft	3,8ft	5ft	6,3ft	7,5ft	10ft	12,5ft

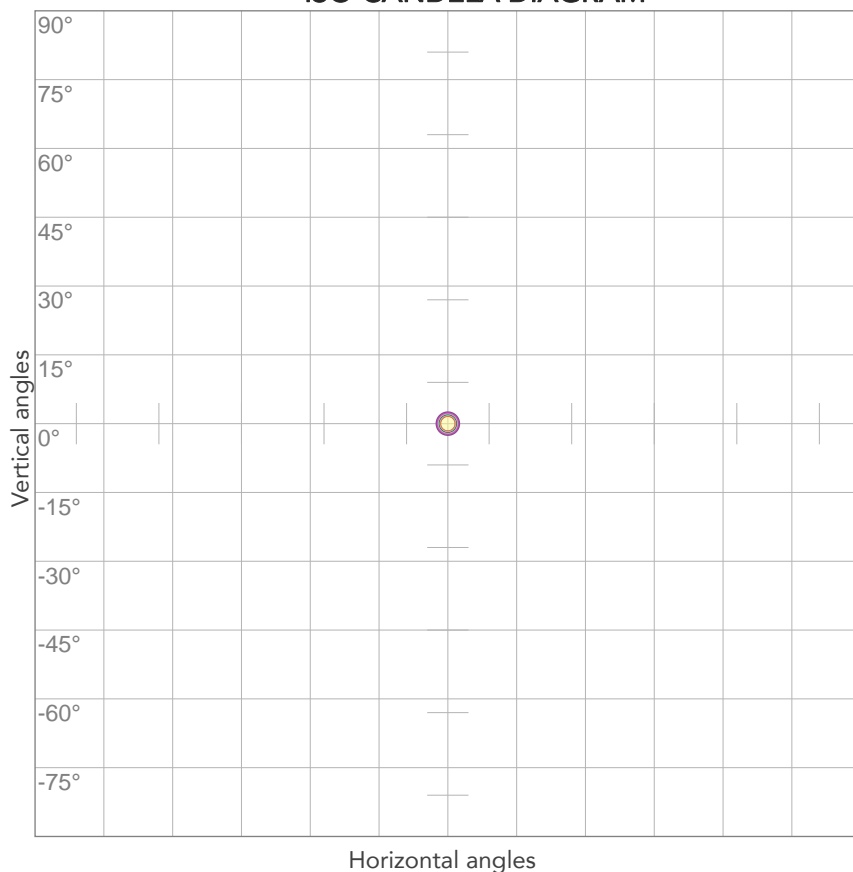
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
221V	0,366A	77,0W	5lm/W

ISO CANDELA DIAGRAM



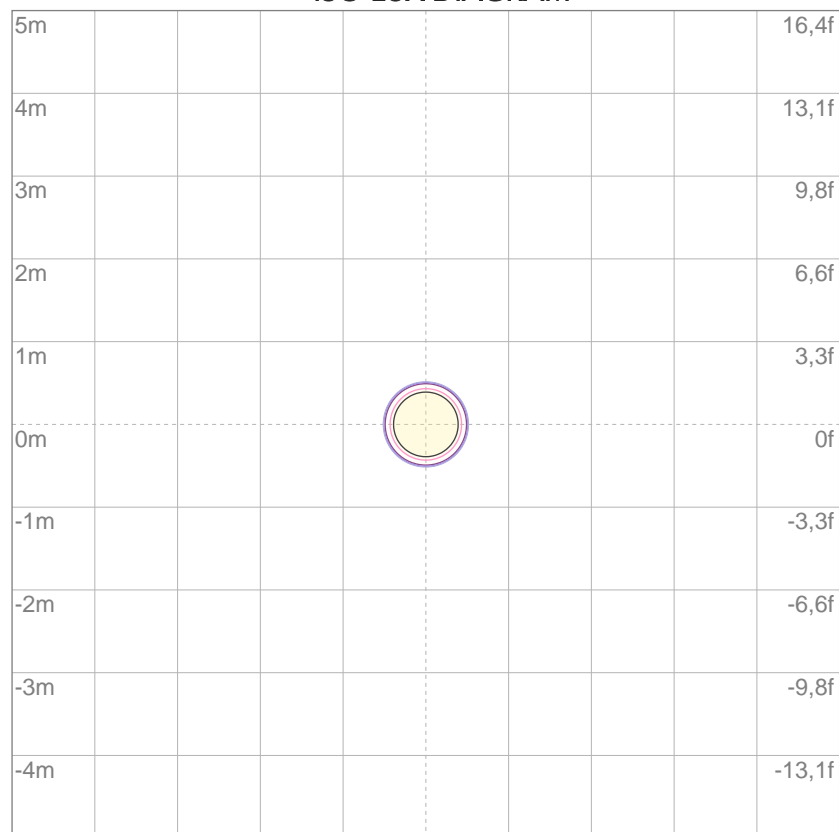
10%	6634 cd
20%	13268 cd
30%	19902 cd
40%	26536 cd
50%	33170 cd
60%	39805 cd
70%	46439 cd
80%	53073 cd

Conditions:

Number of c-planes: 2

Candela at center: 66341 cd

ISO LUX DIAGRAM



3%	19,9 lx
5%	33,2 lx
10%	66,3 lx
30%	199 lx
50%	332 lx

Conditions:

Number of c-planes: 2

Lux at center: 663 lx

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



Total lumen output:

964 lm

Peak candela output:

7995 cd

PRODUCT NAME:

Stark 400

MEASURAMENT CONDITIONS:

Beam angle:

Max Zoom

Target:

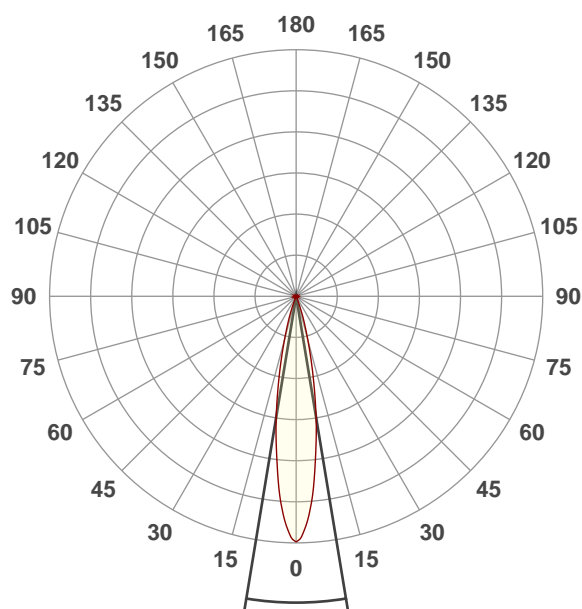
Green

Operator:

Paolo Carvone

Date and time:

19/12/2019 18:06:17

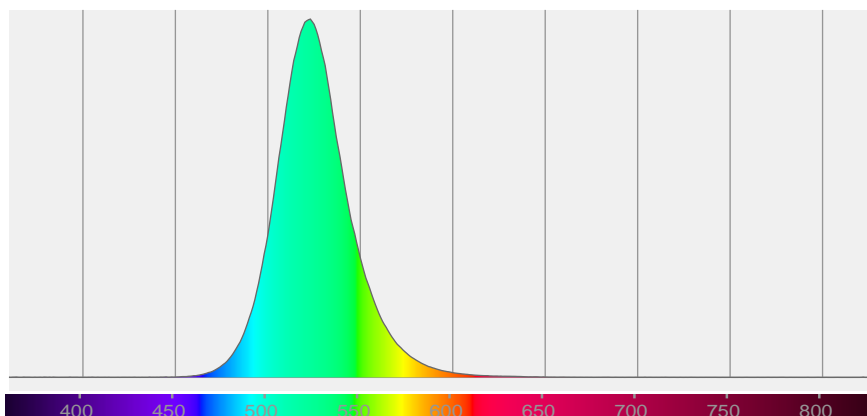


Beam angle 50%: 18,7°

Field angle 10%: 35,2°

Cut off angle 2.5%: 41,9°

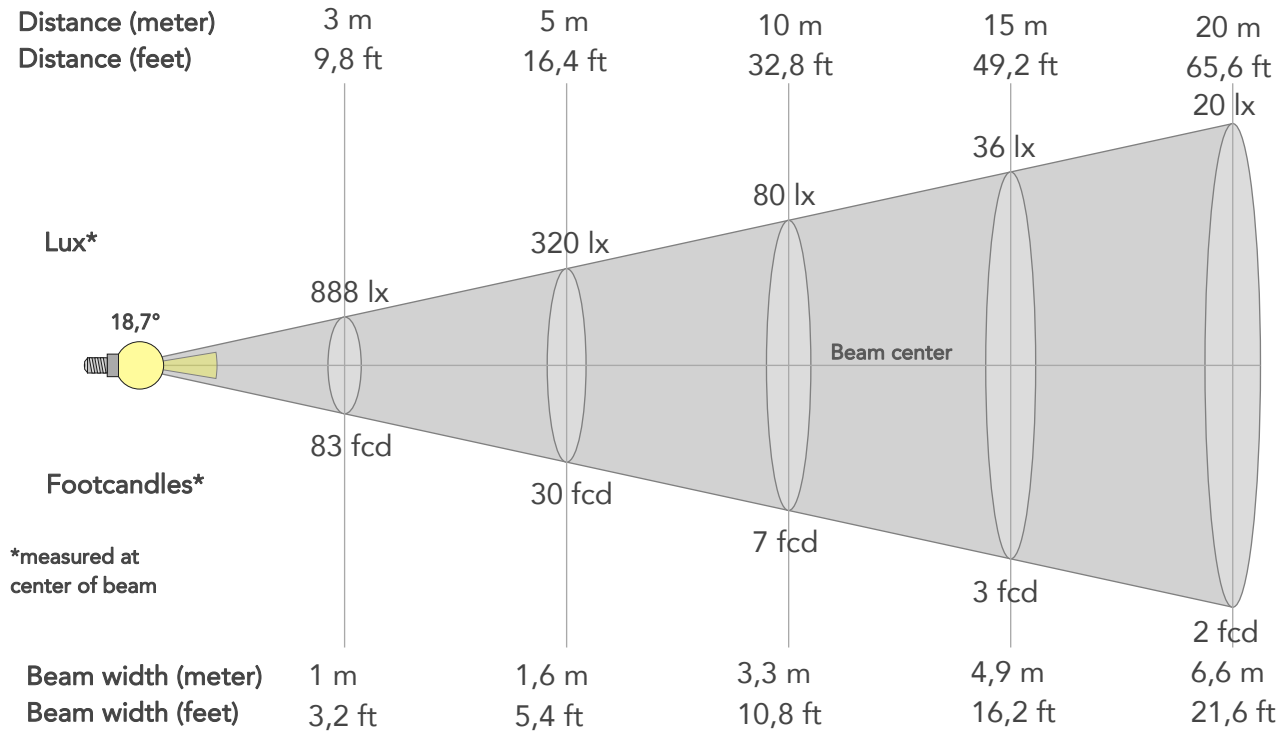
Spectra



BEAM DETAILS



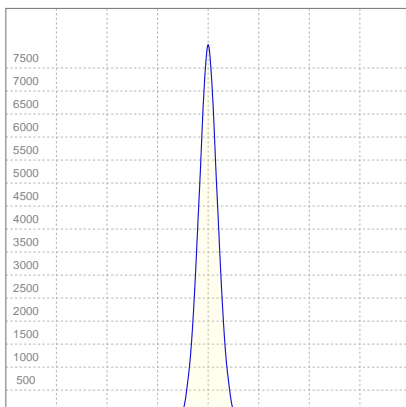
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
18,7°	35,2°	41,9°	99,6%	99,5%



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	7995lx	1999lx	888lx	500lx	320lx	142lx	80lx	36lx	20lx	13lx	9lx	5lx	3lx
Footcand.	743fcd	186fcd	83fcd	46fcd	30fcd	13fcd	7fcd	3fcd	2fcd	1fcd	1fcd	0fcd	0fcd
Beam wid.	0,3m	0,7m	1m	1,3m	1,6m	2,5m	3,3m	4,9m	6,6m	8,2m	9,9m	13,2m	16,5m
Beam wid.	1,1ft	2,2ft	3,2ft	4,3ft	5,4ft	8,1ft	10,8ft	16,2ft	21,6ft	27ft	32,4ft	43,3ft	54,1ft

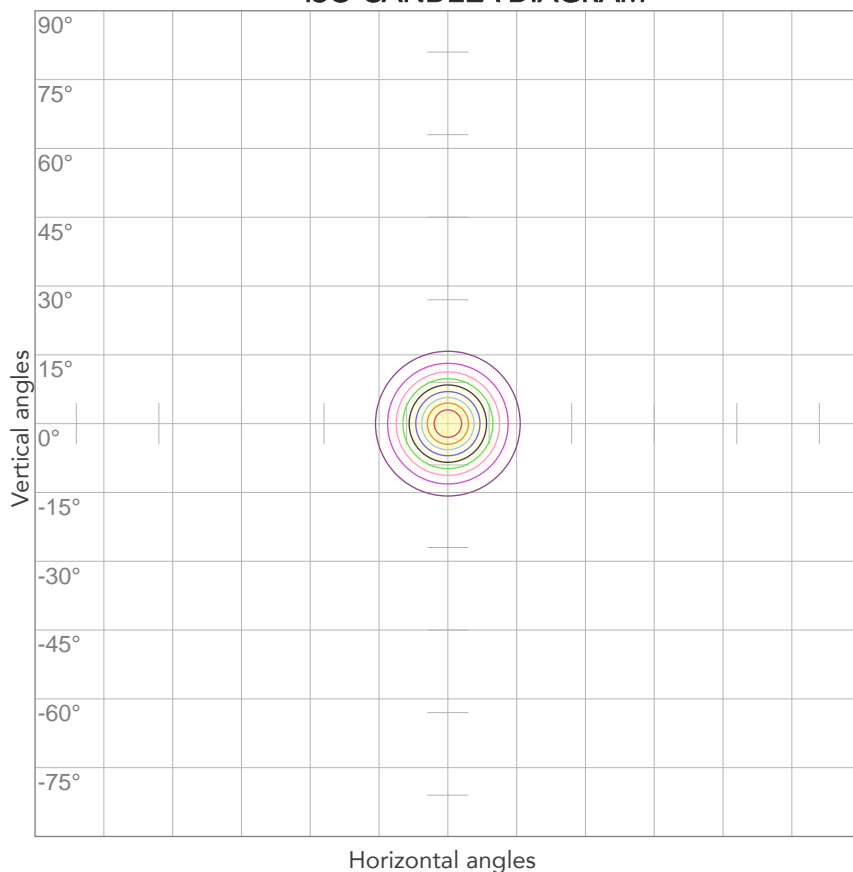
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
221V	0,439A	93,2W	10lm/W

ISO CANDELA DIAGRAM



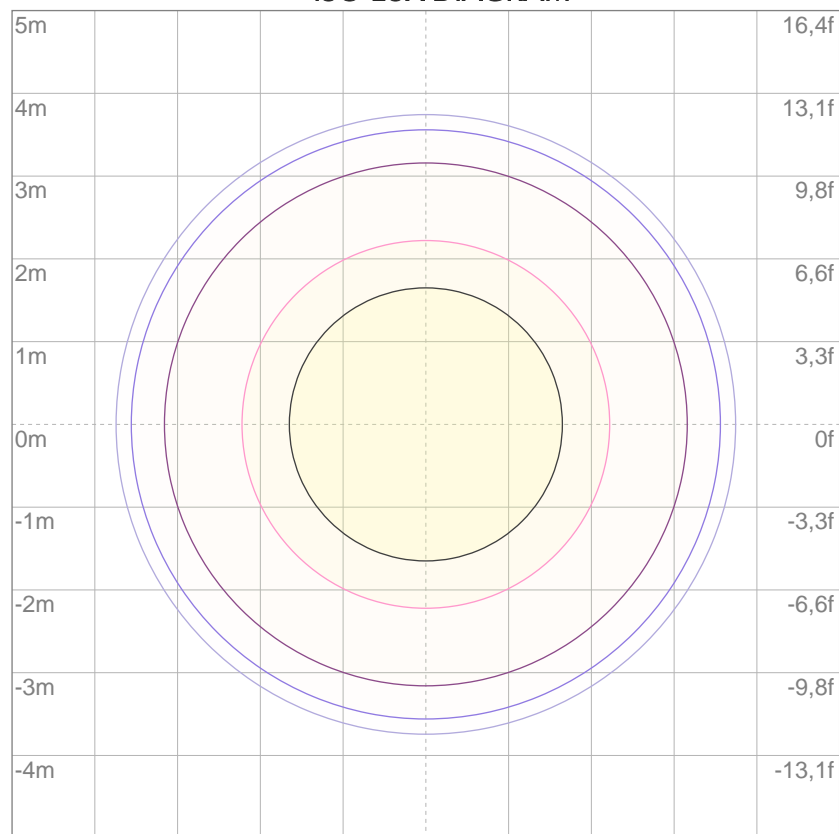
10%	799 cd
20%	1599 cd
30%	2398 cd
40%	3198 cd
50%	3997 cd
60%	4797 cd
70%	5596 cd
80%	6396 cd

Conditions:

Number of c-planes: 2

Candela at center: 7995 cd

ISO LUX DIAGRAM



3%	2,40 lx
5%	4,00 lx
10%	7,99 lx
30%	24,0 lx
50%	40,0 lx

Conditions:

Number of c-planes: 2

Lux at center: 79,9 lx

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



Total lumen output:

853 lm

Peak candela output:

30175 cd

PRODUCT NAME:

Stark 400

MEASURAMENT CONDITIONS:

Beam angle:

Med Zoom

Target:

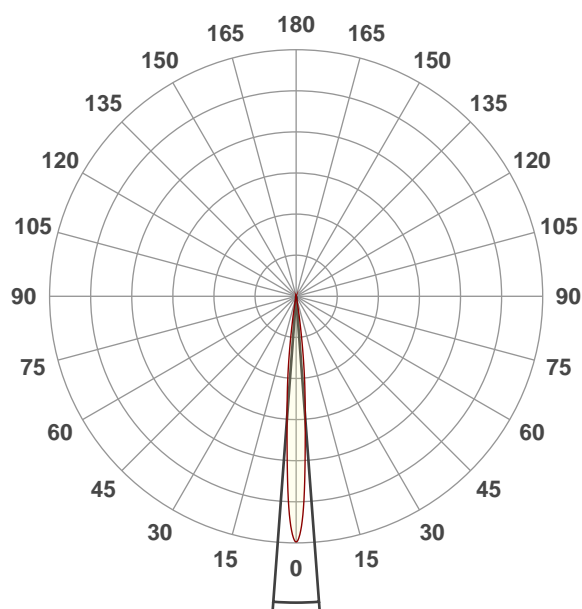
Green

Operator:

Paolo Carvone

Date and time:

20/12/2019 09:59:38

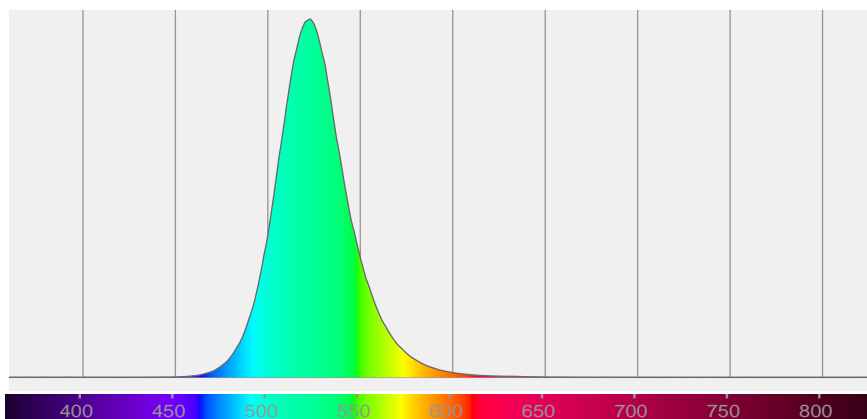


Beam angle 50%: 8,6°

Field angle 10%: 16,9°

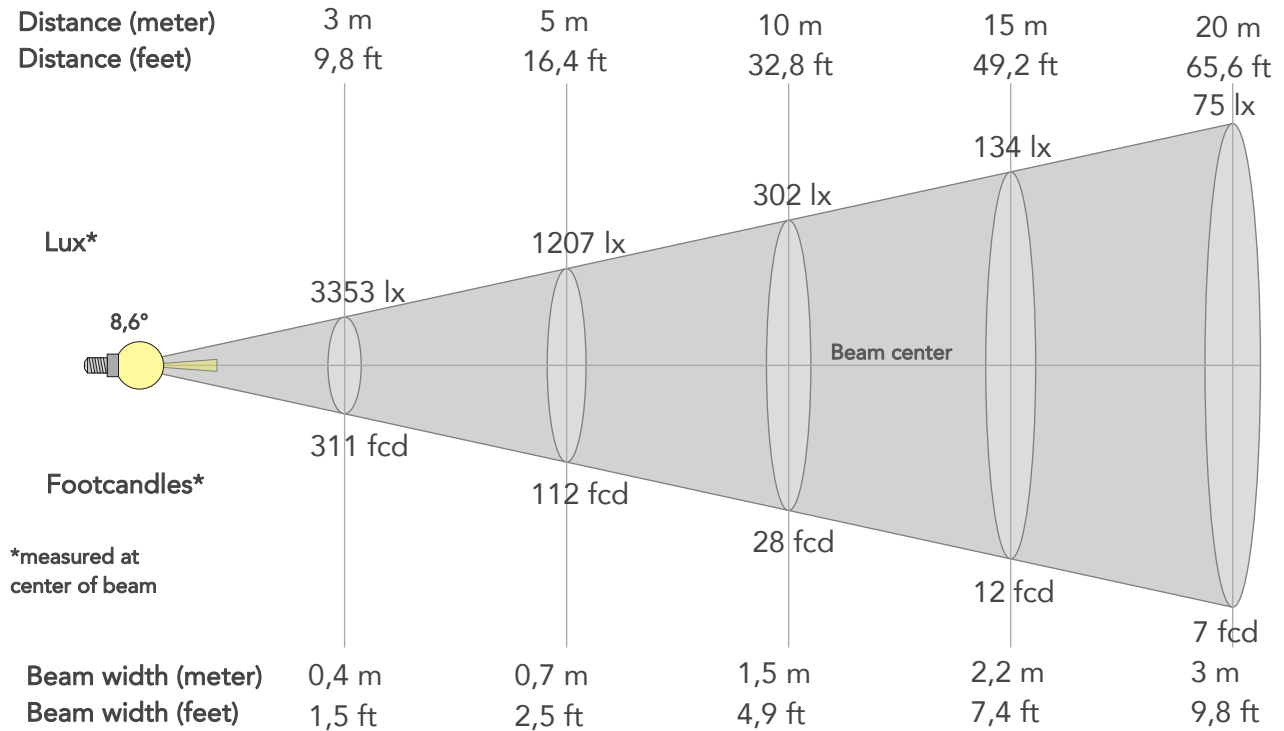
Cut off angle 2.5%: 20°

Spectra



BEAM DETAILS

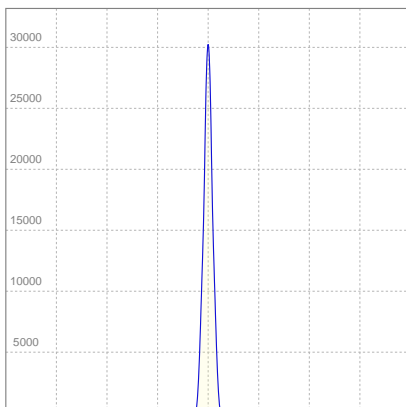
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
8,6°	16,9°	20°	98,9%	98,5%



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	30175lx	7544lx	3353lx	1886lx	1207lx	536lx	302lx	134lx	75lx	48lx	34lx	19lx	12lx
Footcand.	2803fcd	701fcd	311fcd	175fcd	112fcd	50fcd	28fcd	12fcd	7fcd	4fcd	3fcd	2fcd	1fcd
Beam wid.	0,1m	0,3m	0,4m	0,6m	0,7m	1,1m	1,5m	2,2m	3m	3,7m	4,5m	6m	7,5m
Beam wid.	0,5ft	1ft	1,5ft	2ft	2,5ft	3,7ft	4,9ft	7,4ft	9,8ft	12,3ft	14,7ft	19,6ft	24,5ft

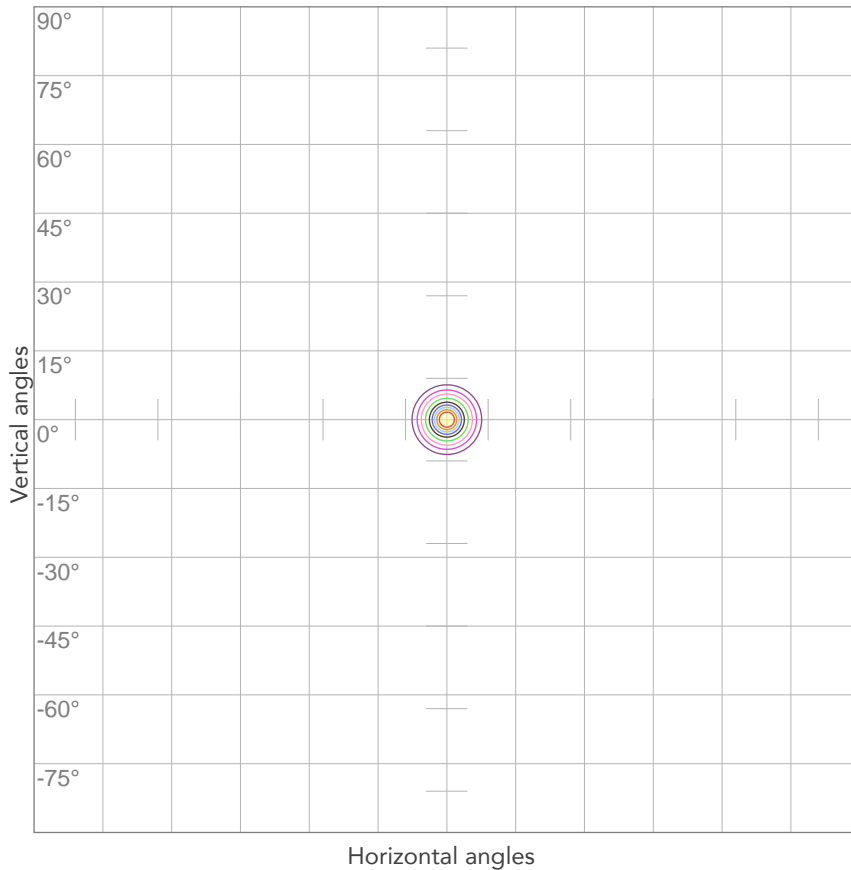
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
225V	0,433A	93,5W	9lm/W

ISO CANDELA DIAGRAM



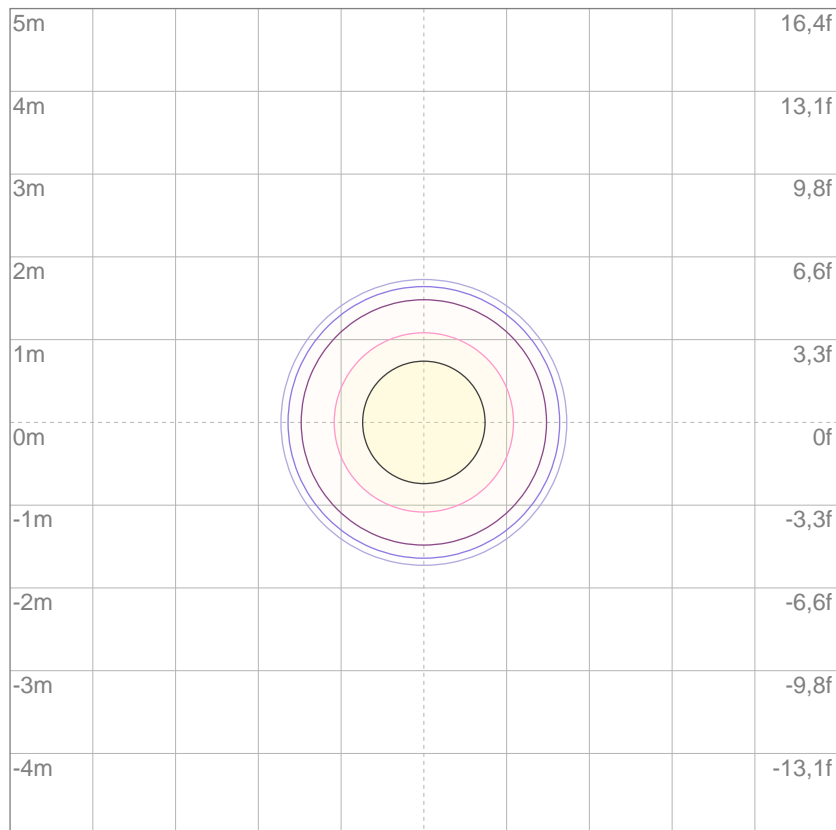
10%	3018 cd
20%	6035 cd
30%	9053 cd
40%	12070 cd
50%	15088 cd
60%	18105 cd
70%	21123 cd
80%	24140 cd

Conditions:

Number of c-planes: 2

Candela at center: 30175 cd

ISO LUX DIAGRAM



3%	9,05 lx
5%	15,1 lx
10%	30,2 lx
30%	90,5 lx
50%	151 lx

Conditions:

Number of c-planes: 2

Lux at center: 302 lx

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



Total lumen output:

689 lm

Peak candela output:

141241 cd

PRODUCT NAME:

Stark 400

MEASURAMENT CONDITIONS:

Beam angle:

Min Zoom

Target:

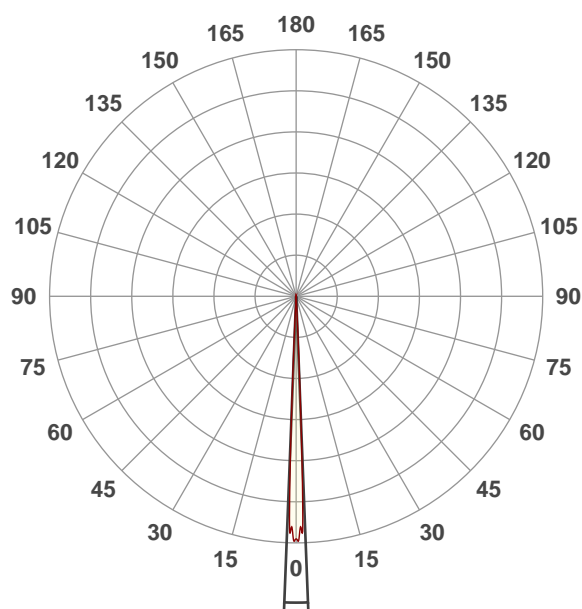
Green

Operator:

Paolo Carvone

Date and time:

19/12/2019 17:40:52

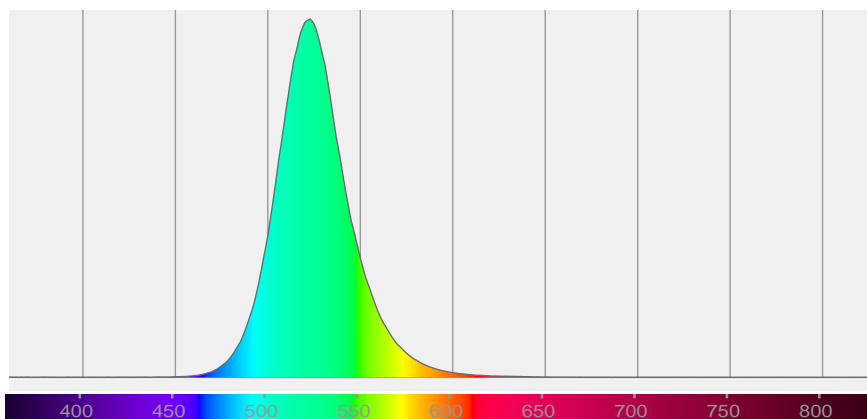


Beam angle 50%: 4,4°

Field angle 10%: 5,6°

Cut off angle 2.5%: 6,1°

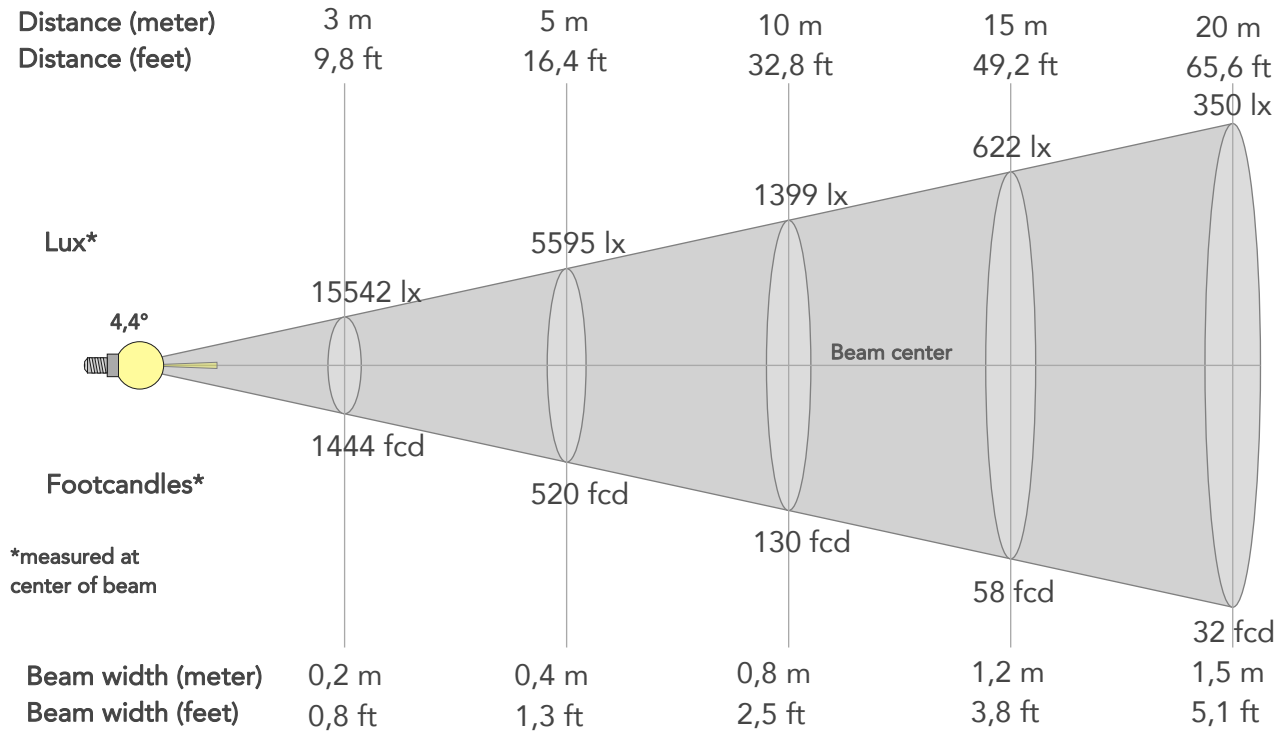
Spectra



BEAM DETAILS



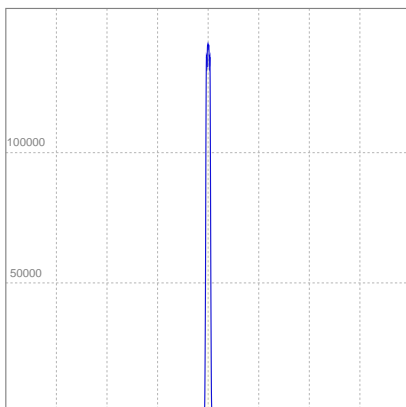
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
4,4°	5,6°	6,1°	100,0%	100,0%



BEAM INTENSITIES AND WIDTHS

Distance	1m	2m	3m	4m	5m	7,5m	10m	15m	20m	25m	30m	40m	50m
Distance	3,3ft	6,6ft	9,8ft	13,1ft	16,4ft	24,6ft	32,8ft	49,2ft	65,6ft	82ft	98,4ft	131,2ft	164ft
Lux	139882lx	34970lx	15542lx	8743lx	5595lx	2487lx	1399lx	622lx	350lx	224lx	155lx	87lx	56lx
Footcand.	12995fcd	3249fcd	1444fcd	812fcd	520fcd	231fcd	130fcd	58fcd	32fcd	21fcd	14fcd	8fcd	5fcd
Beam wid.	0,1m	0,2m	0,2m	0,3m	0,4m	0,6m	0,8m	1,2m	1,5m	1,9m	2,3m	3,1m	3,9m
Beam wid.	0,3ft	0,5ft	0,8ft	1ft	1,3ft	1,9ft	2,5ft	3,8ft	5,1ft	6,3ft	7,6ft	10,1ft	12,7ft

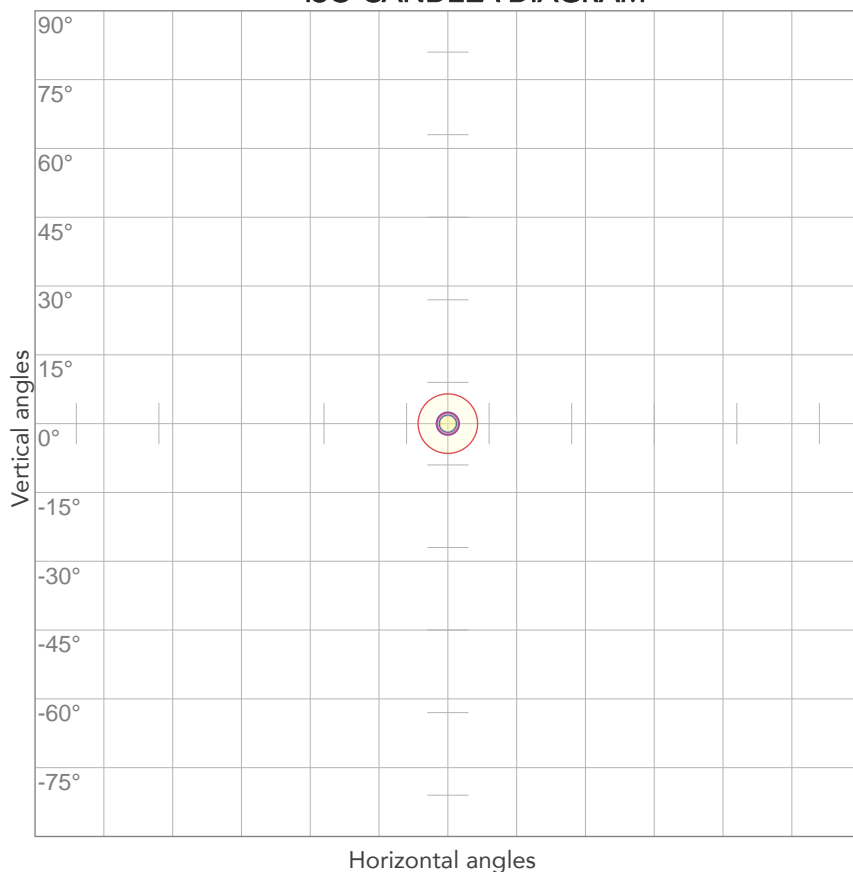
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
220V	0,441A	93,4W	7lm/W

ISO CANDELA DIAGRAM



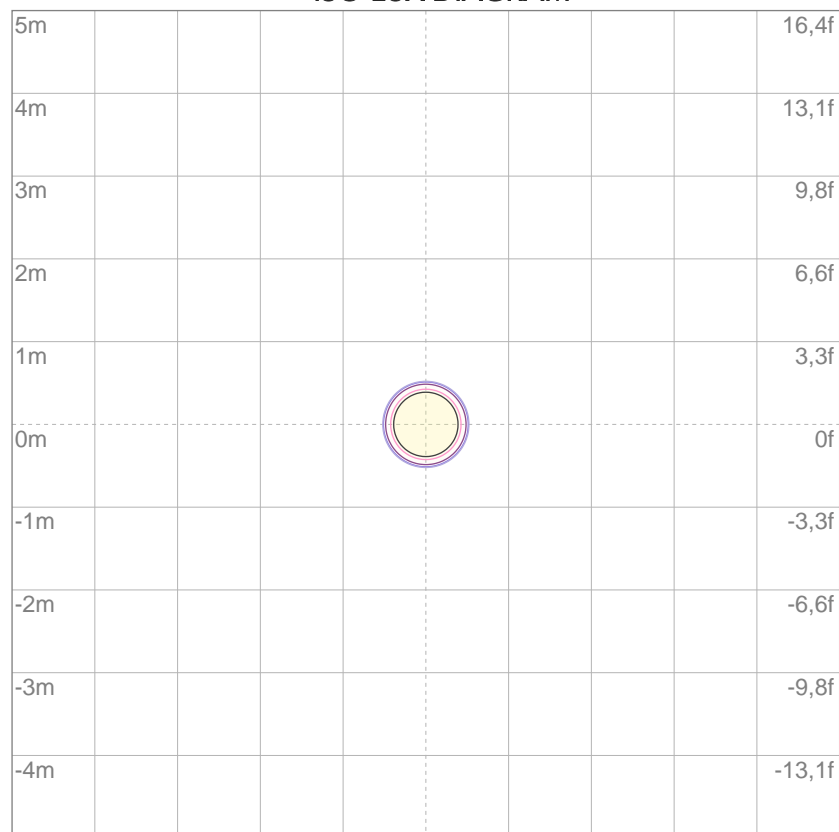
10%	13988 cd
20%	27976 cd
30%	41964 cd
40%	55953 cd
50%	69941 cd
60%	83929 cd
70%	97917 cd
80%	111905 cd

Conditions:

Number of c-planes: 2

Candela at center: 139882 cd

ISO LUX DIAGRAM



3%	42,0 lx
5%	69,9 lx
10%	140 lx
30%	420 lx
50%	699 lx

Conditions:

Number of c-planes: 2

Lux at center: 1399 lx

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



Total lumen output:

235 lm

Peak candela output:

1981 cd

PRODUCT NAME:

Stark 400

MEASURAMENT CONDITIONS:

Beam angle:

Max Zoom

Target:

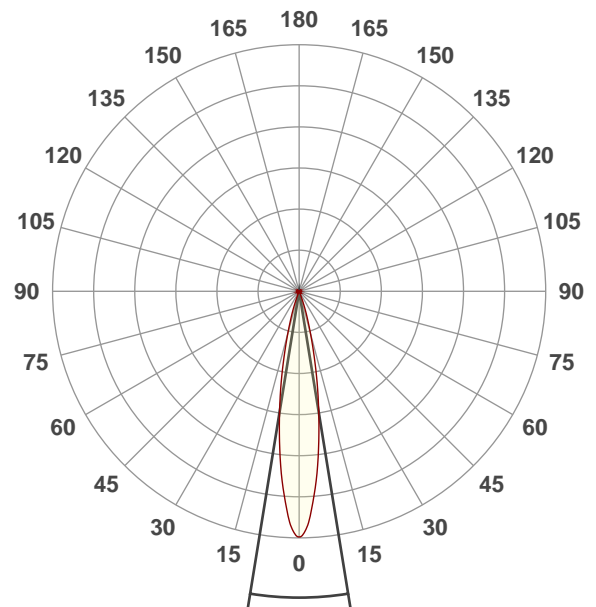
Blue

Operator:

Paolo Carvone

Date and time:

19/12/2019 18:08:22

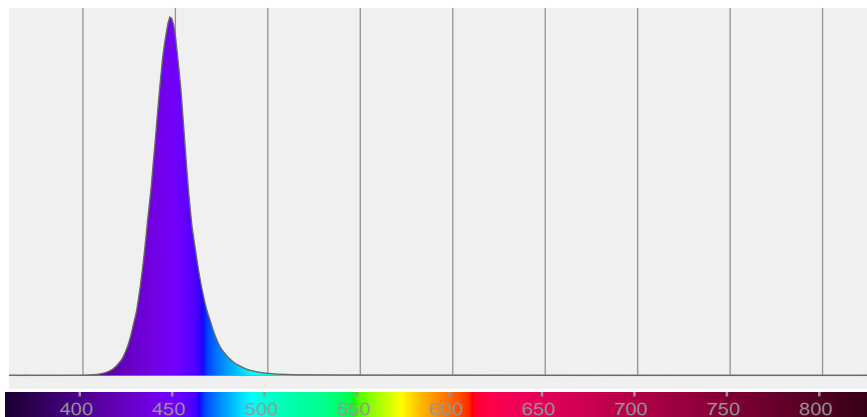


Beam angle 50%: 18,4°

Field angle 10%: 34,9°

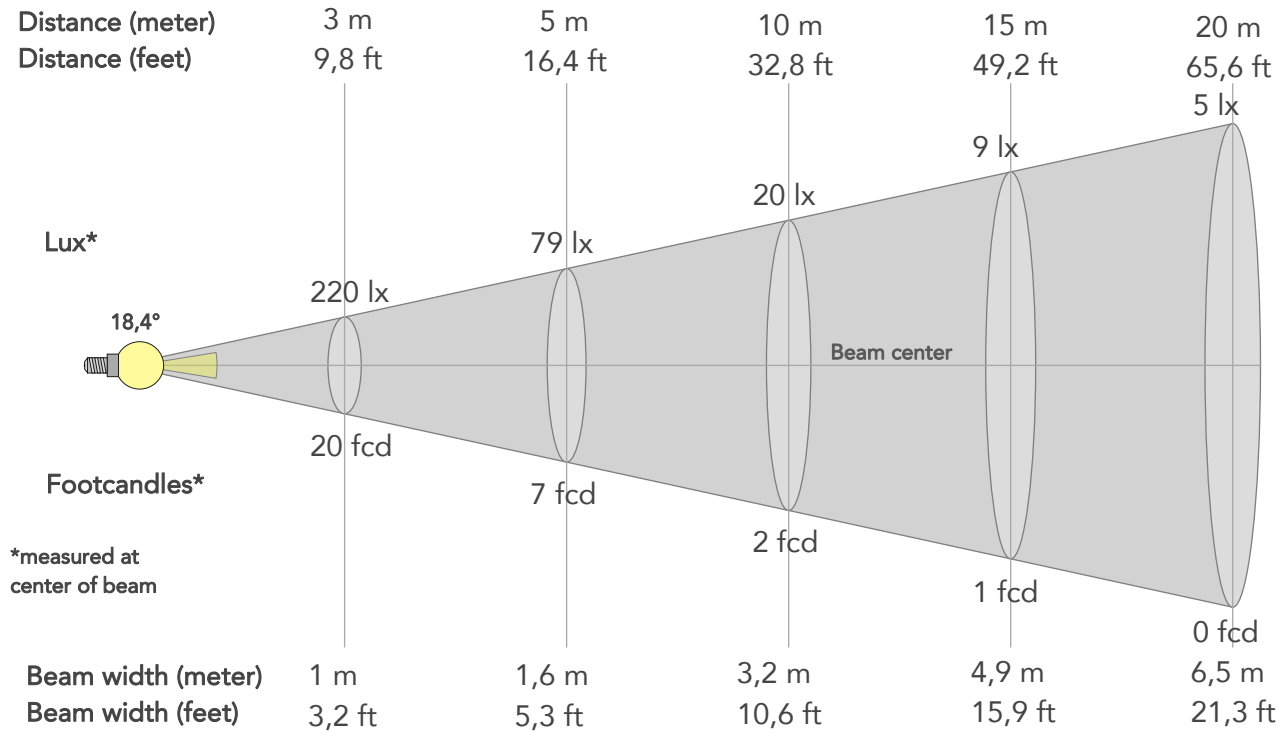
Cut off angle 2.5%: 41,5°

Spectra



BEAM DETAILS

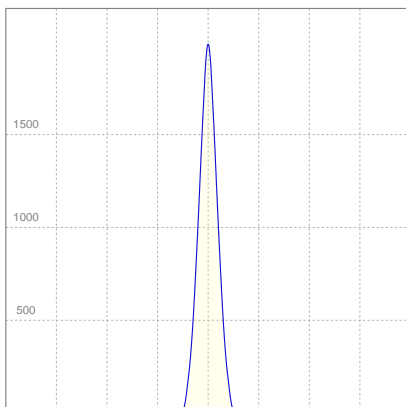
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
18,4°	34,9°	41,5°	99,7%	99,5%



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	1981lx	495lx	220lx	124lx	79lx	35lx	20lx	9lx	5lx	3lx	2lx	1lx	1lx
Footcand.	184fcd	46fcd	20fcd	12fcd	7fcd	3fcd	2fcd	1fcd	0fcd	0fcd	0fcd	0fcd	0fcd
Beam wid.	0,3m	0,6m	1m	1,3m	1,6m	2,4m	3,2m	4,9m	6,5m	8,1m	9,7m	13m	16,2m
Beam wid.	1,1ft	2,1ft	3,2ft	4,2ft	5,3ft	8ft	10,6ft	15,9ft	21,3ft	26,6ft	31,9ft	42,5ft	53,1ft

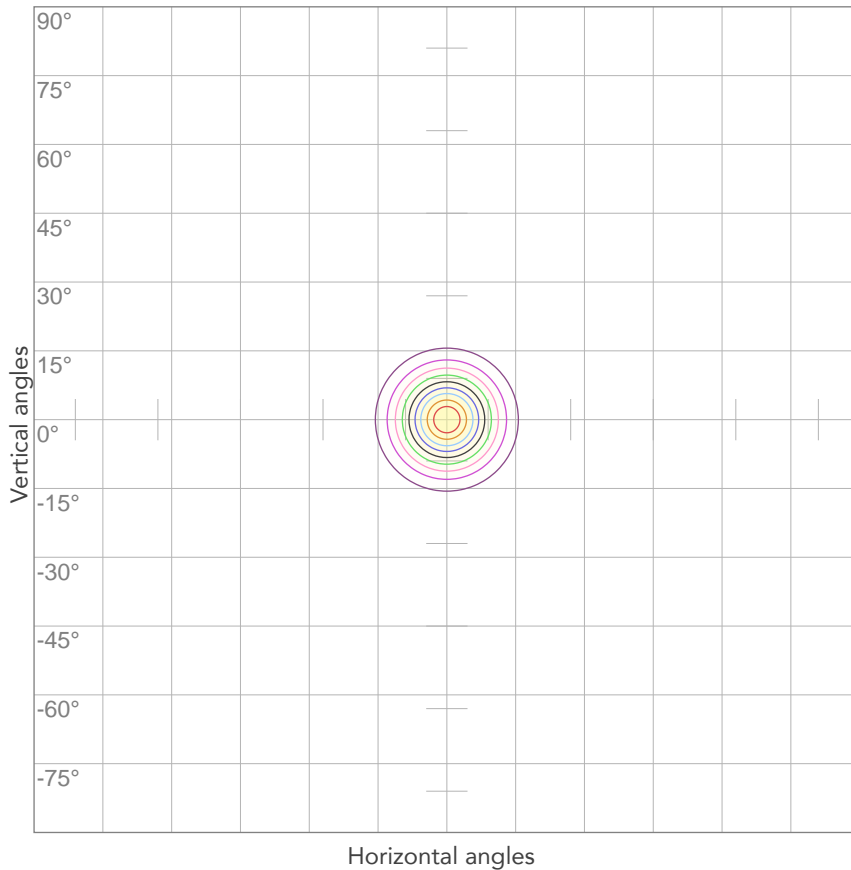
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
221V	0,402A	84,8W	3lm/W

ISO CANDELA DIAGRAM



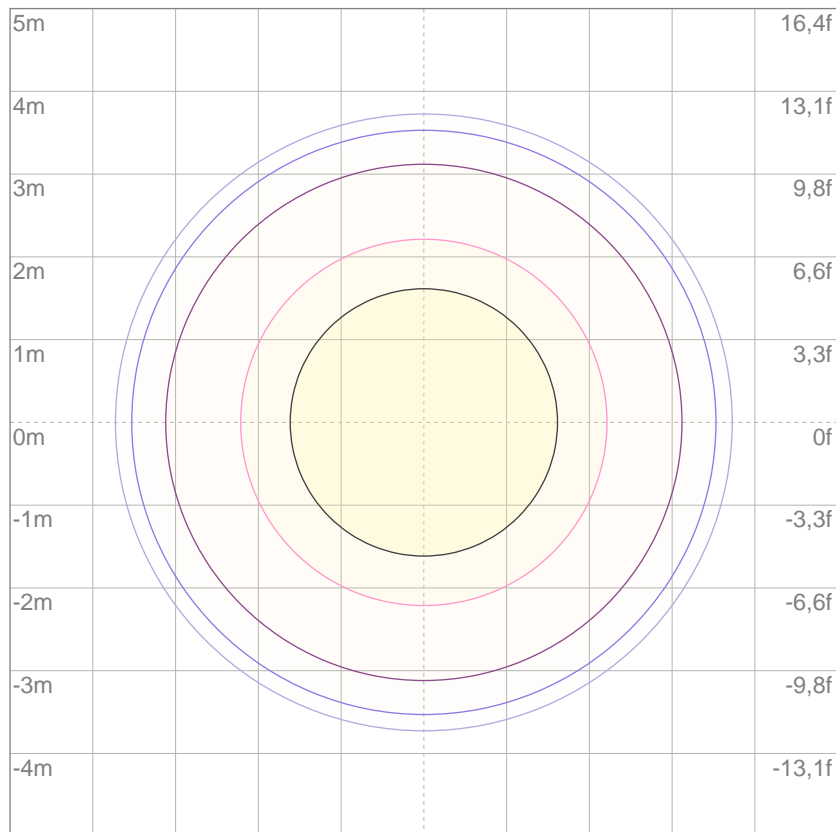
10%	198 cd
20%	396 cd
30%	594 cd
40%	792 cd
50%	990 cd
60%	1189 cd
70%	1387 cd
80%	1585 cd

Conditions:

Number of c-planes: 2

Candela at center: 1981 cd

ISO LUX DIAGRAM



3%	0,594 lx
5%	0,990 lx
10%	1,98 lx
30%	5,94 lx
50%	9,90 lx

Conditions:

Number of c-planes: 2

Lux at center: 19,8 lx

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



Total lumen output:

203 lm

Peak candela output:

7645 cd

PRODUCT NAME:

Stark 400

MEASURAMENT CONDITIONS:

Beam angle:

Med Zoom

Target:

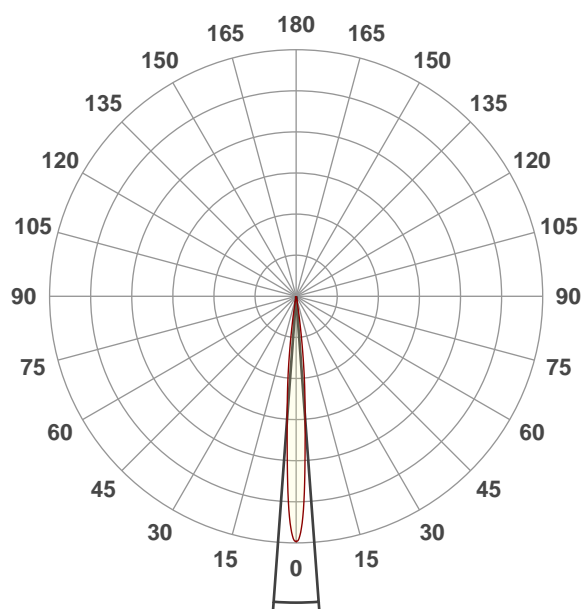
Blue

Operator:

Paolo Carvone

Date and time:

20/12/2019 10:04:05

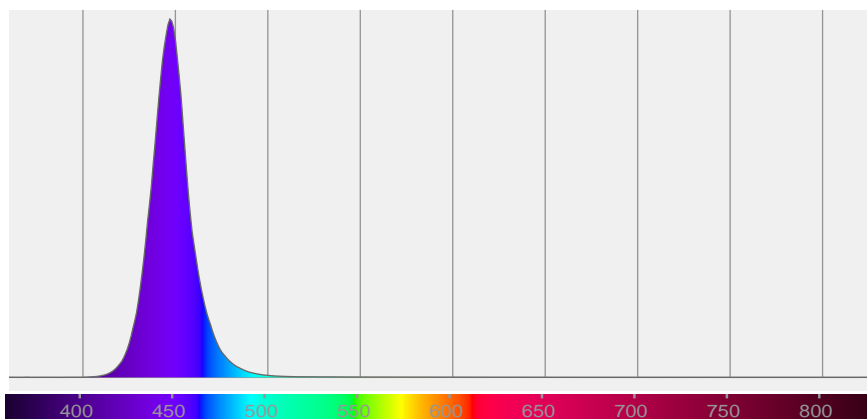


Beam angle 50%: 8,4°

Field angle 10%: 16,5°

Cut off angle 2.5%: 19,5°

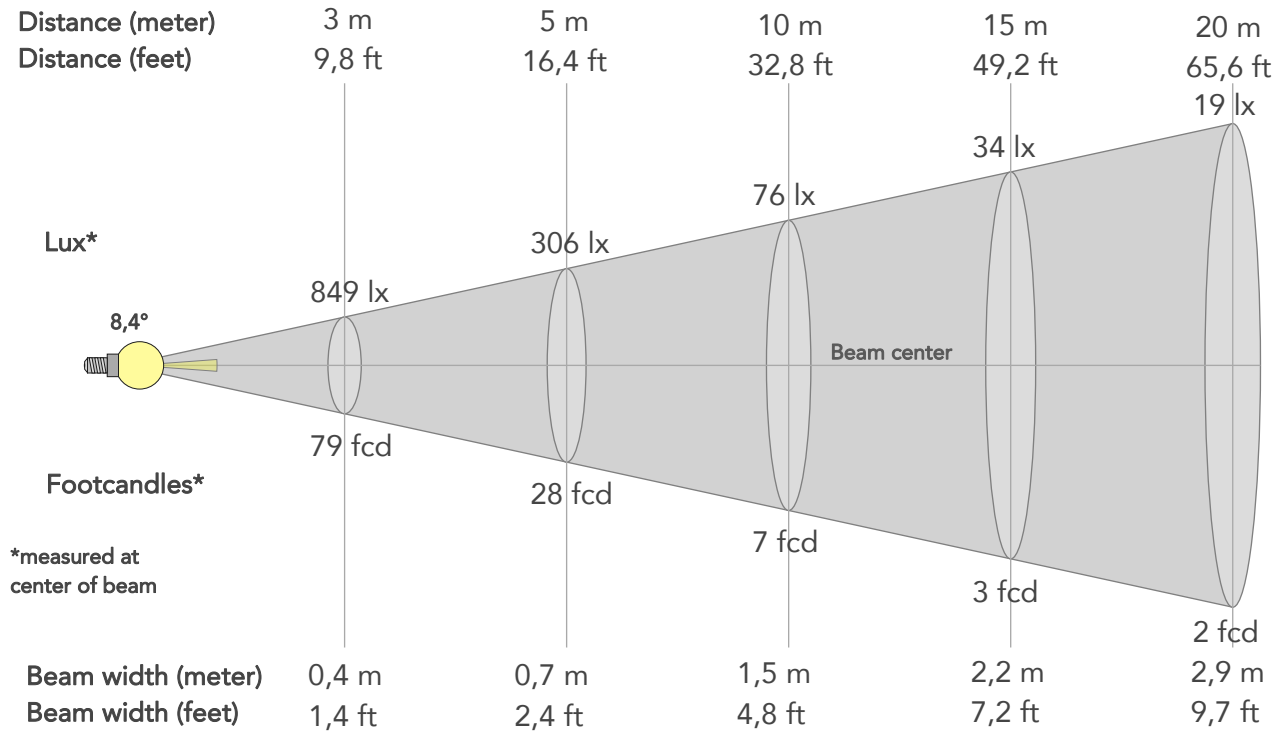
Spectra



BEAM DETAILS



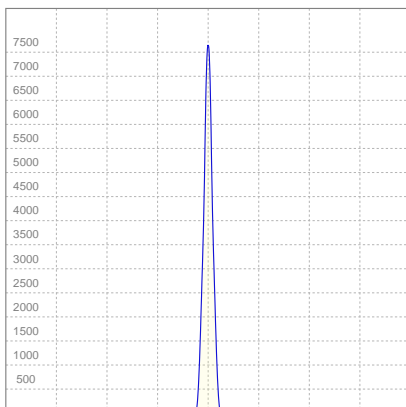
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
8,4°	16,5°	19,5°	100,0%	100,0%



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	7645lx	1911lx	849lx	478lx	306lx	136lx	76lx	34lx	19lx	12lx	8lx	5lx	3lx
Footcand.	710fcd	178fcd	79fcd	44fcd	28fcd	13fcd	7fcd	3fcd	2fcd	1fcd	1fcd	0fcd	0fcd
Beam wid.	0,1m	0,3m	0,4m	0,6m	0,7m	1,1m	1,5m	2,2m	2,9m	3,7m	4,4m	5,9m	7,4m
Beam wid.	0,5ft	1ft	1,4ft	1,9ft	2,4ft	3,6ft	4,8ft	7,2ft	9,7ft	12,1ft	14,5ft	19,3ft	24,2ft

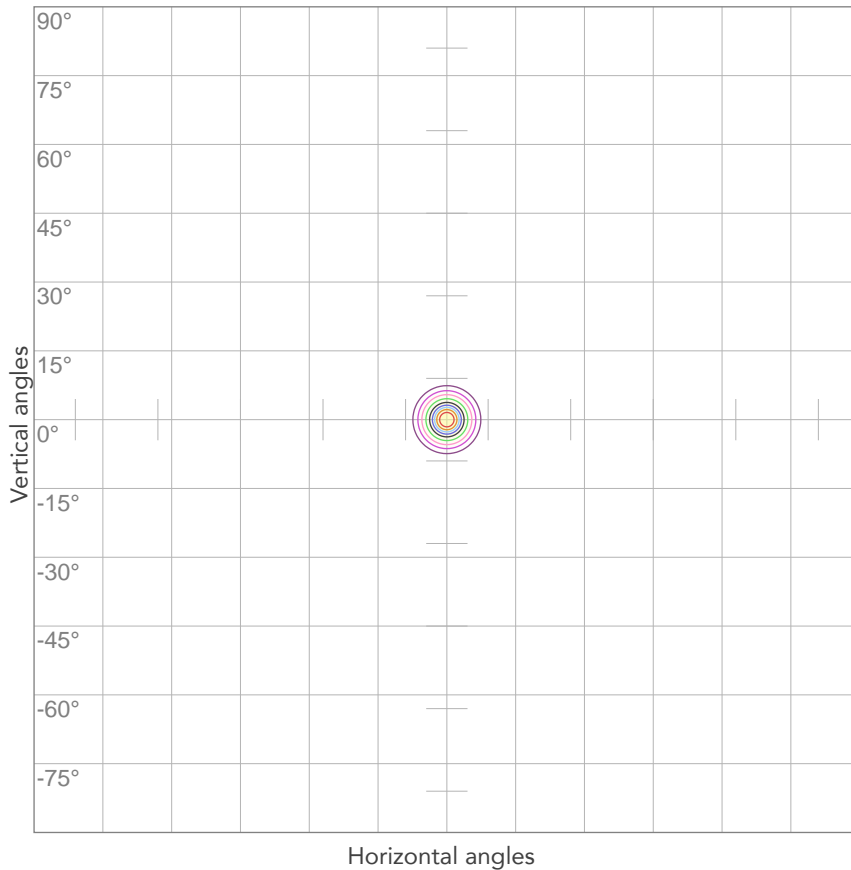
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
225V	0,397A	85,3W	2lm/W

ISO CANDELA DIAGRAM



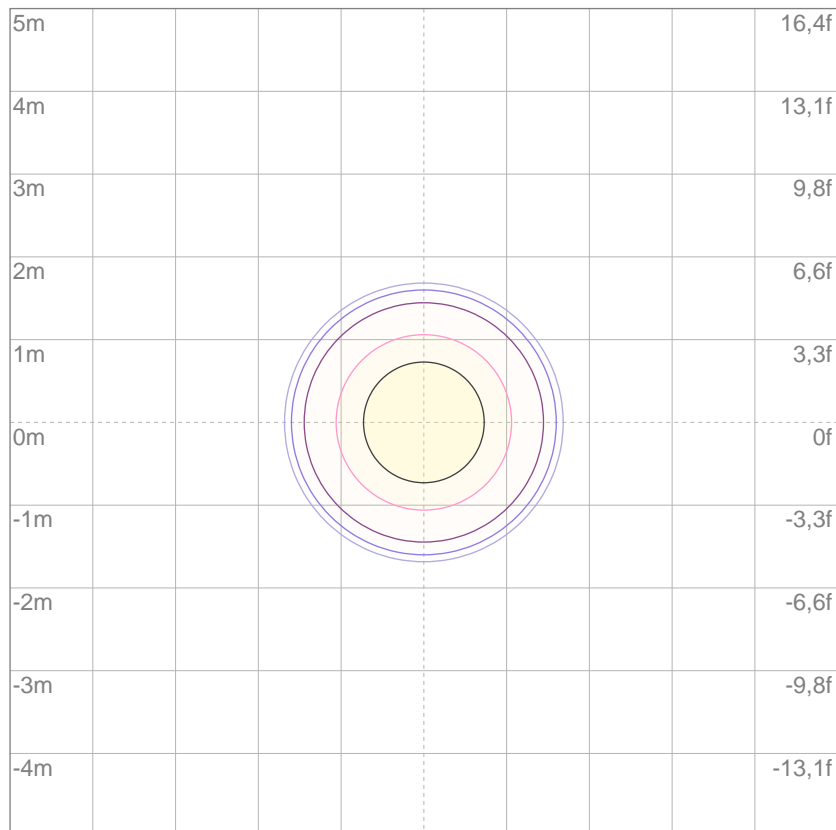
10%	764 cd
20%	1529 cd
30%	2293 cd
40%	3058 cd
50%	3822 cd
60%	4587 cd
70%	5351 cd
80%	6116 cd

Conditions:

Number of c-planes: 2

Candela at center: 7645 cd

ISO LUX DIAGRAM



3%	2,29 lx
5%	3,82 lx
10%	7,64 lx
30%	22,9 lx
50%	38,2 lx

Conditions:

Number of c-planes: 2

Lux at center: 76,4 lx

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



Total lumen output:

169 lm

Peak candela output:

34177 cd

PRODUCT NAME:

Stark 400

MEASURAMENT CONDITIONS:

Beam angle:

Min Zoom

Target:

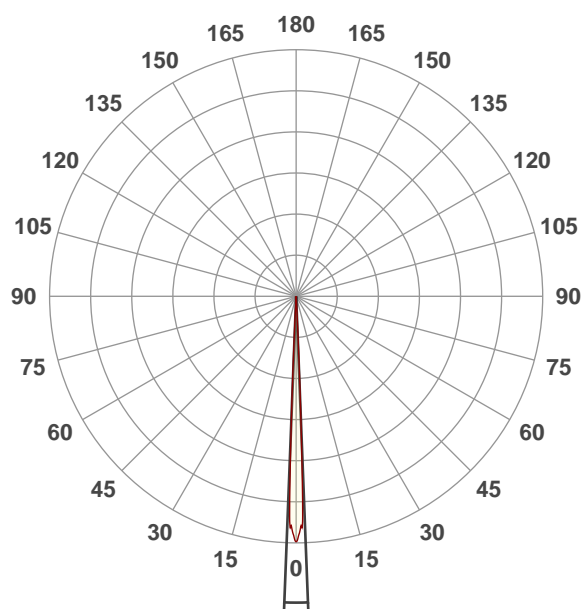
Blue

Operator:

Paolo Carvone

Date and time:

19/12/2019 17:42:24

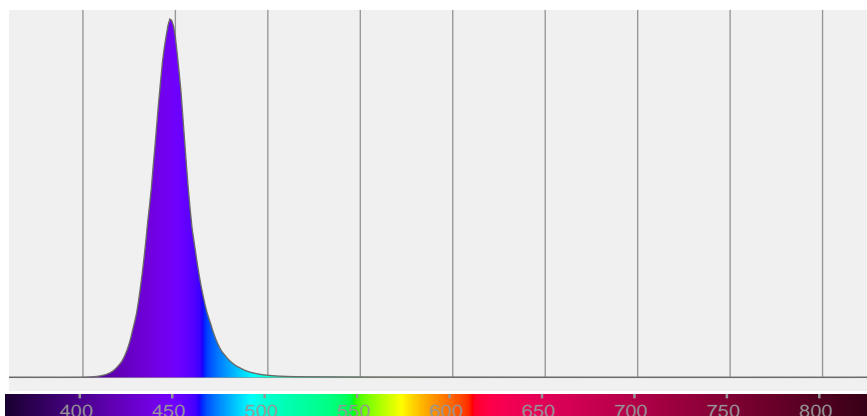


Beam angle 50%: 4,4°

Field angle 10%: 5,7°

Cut off angle 2.5%: 6,4°

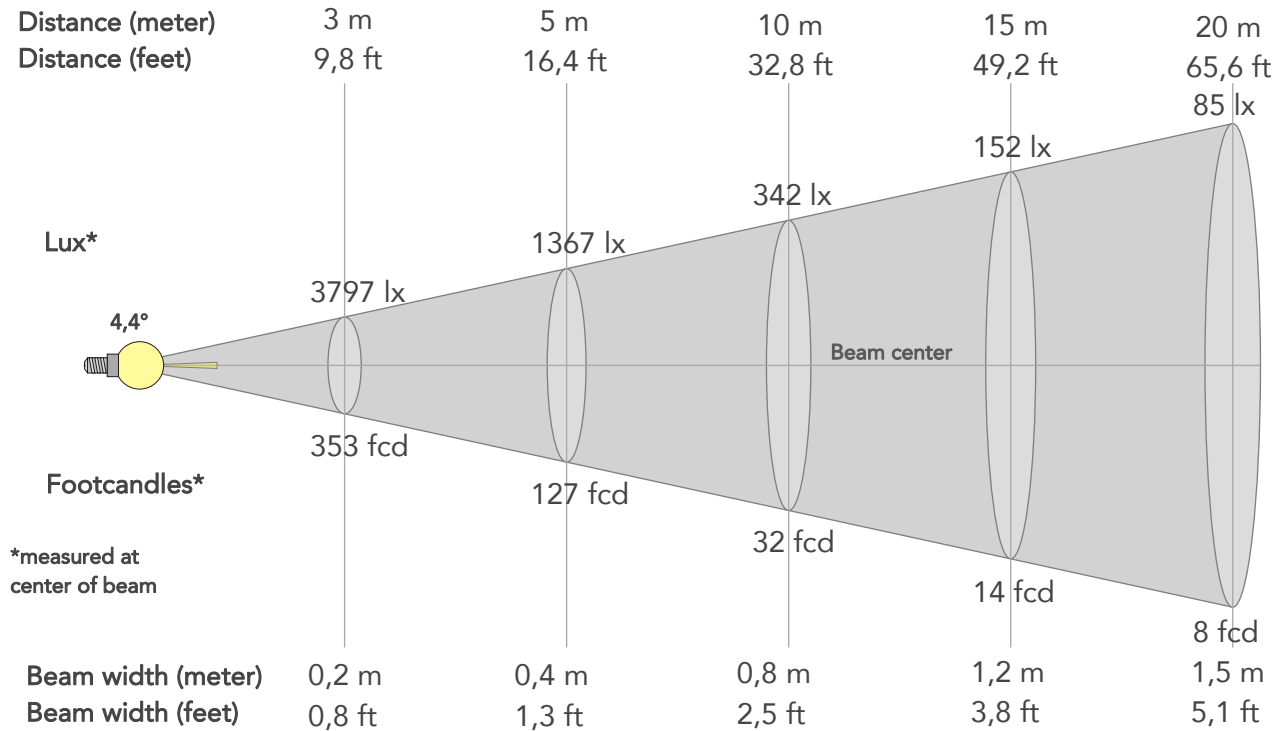
Spectra



BEAM DETAILS



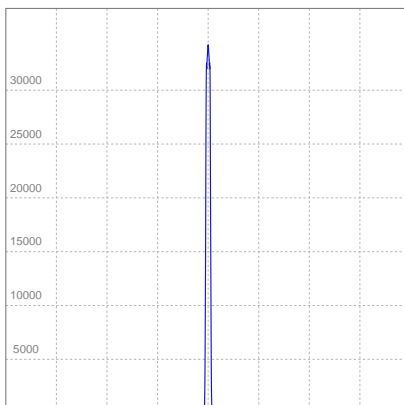
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
4,4°	5,7°	6,4°	100,0%	100,0%



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	34177lx	8544lx	3797lx	2136lx	1367lx	608lx	342lx	152lx	85lx	55lx	38lx	21lx	14lx
Footcand.	3175fcd	794fcd	353fcd	198fcd	127fcd	56fcd	32fcd	14fcd	8fcd	5fcd	4fcd	2fcd	1fcd
Beam wid.	0,1m	0,2m	0,2m	0,3m	0,4m	0,6m	0,8m	1,2m	1,5m	1,9m	2,3m	3,1m	3,9m
Beam wid.	0,3ft	0,5ft	0,8ft	1ft	1,3ft	1,9ft	2,5ft	3,8ft	5,1ft	6,3ft	7,6ft	10,1ft	12,7ft

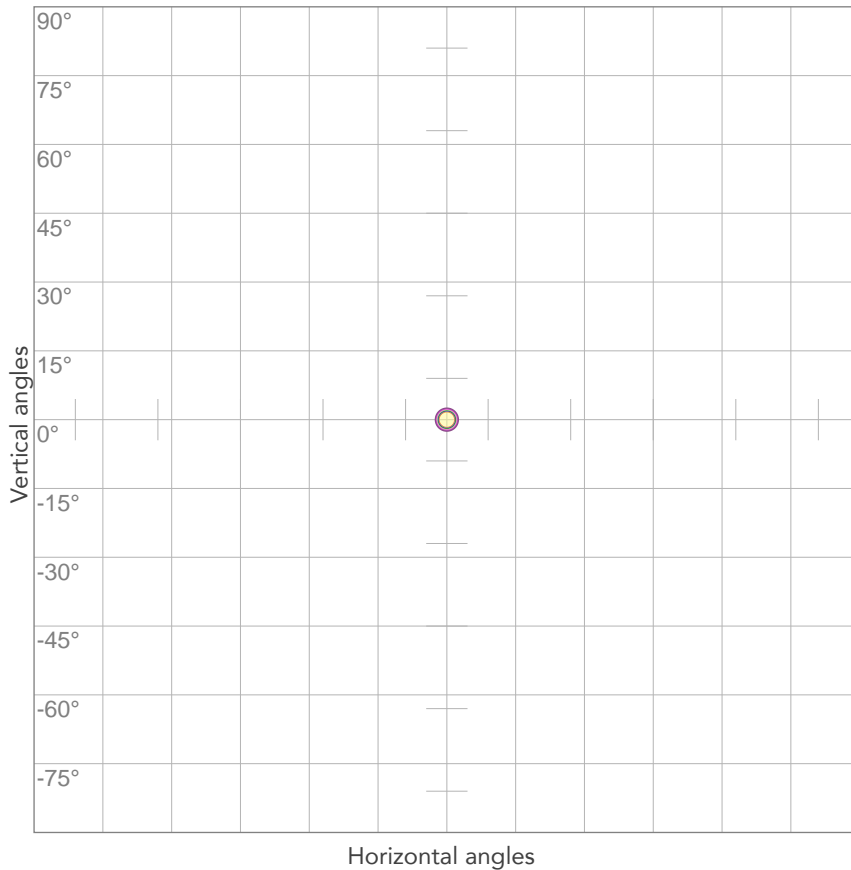
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
220V	0,403A	84,9W	2lm/W

ISO CANDELA DIAGRAM



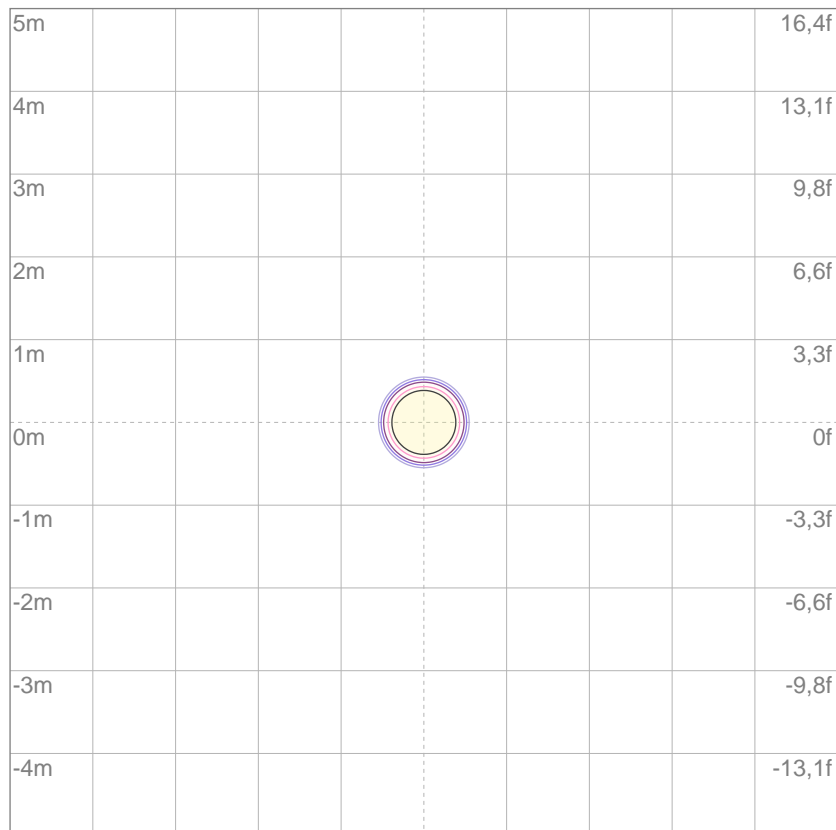
10%	3418 cd
20%	6835 cd
30%	10253 cd
40%	13671 cd
50%	17088 cd
60%	20506 cd
70%	23924 cd
80%	27341 cd

Conditions:

Number of c-planes: 2

Candela at center: 34177 cd

ISO LUX DIAGRAM



3%	10,3 lx
5%	17,1 lx
10%	34,2 lx
30%	103 lx
50%	171 lx

Conditions:

Number of c-planes: 2

Lux at center: 342 lx

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



Total lumen output:

1419 lm

Peak candela output:

10347 cd

PRODUCT NAME:

Stark 400

MEASURAMENT CONDITIONS:

Beam angle:

Max Zoom

Target:

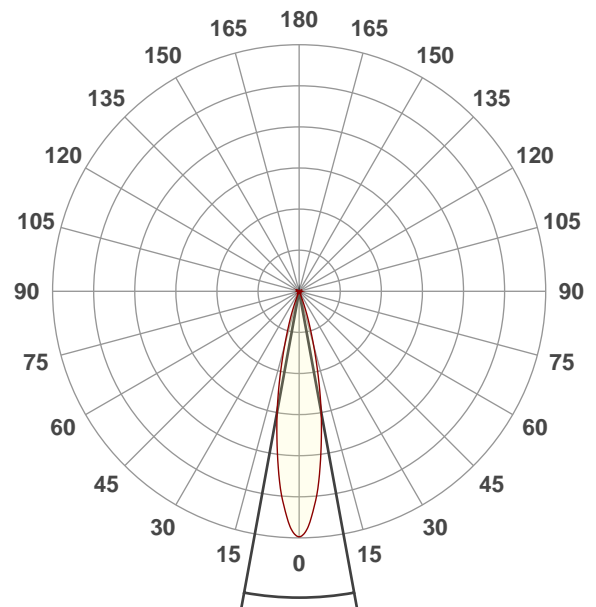
White

Operator:

Paolo Carvone

Date and time:

19/12/2019 18:10:46

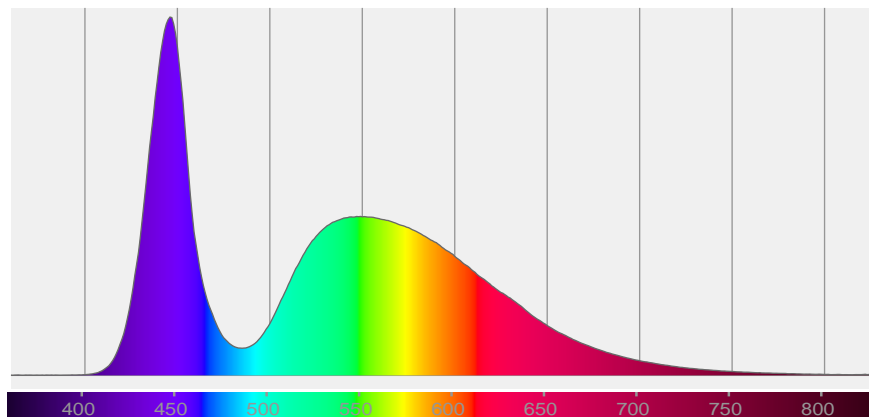


Beam angle 50%: 20,7°

Field angle 10%: 36,9°

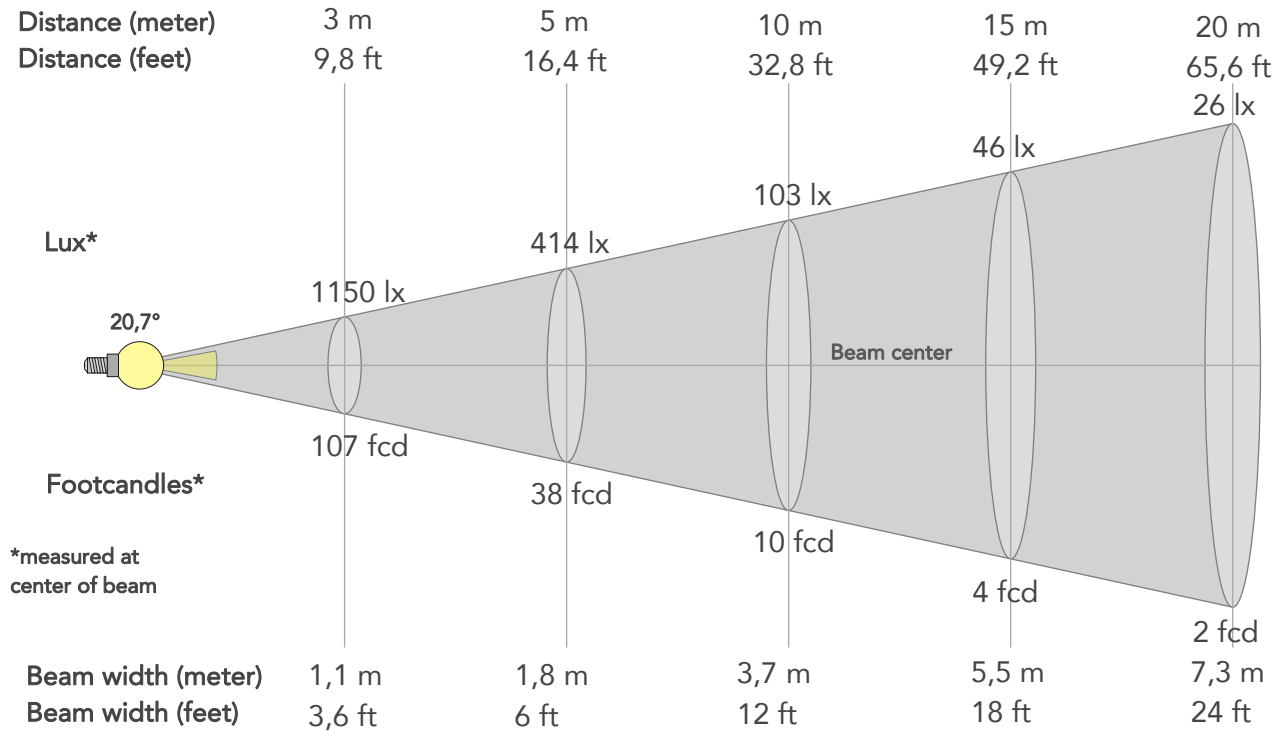
Cut off angle 2.5%: 42,6°

Spectra



BEAM DETAILS

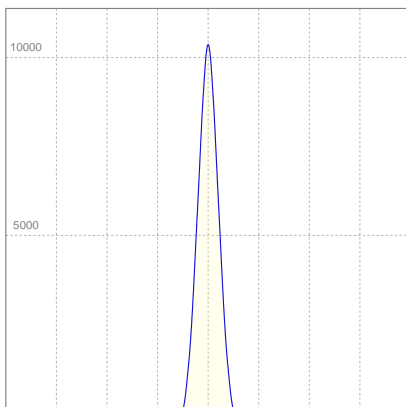
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
20,7°	36,9°	42,6°	99,6%	99,5%



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	10347lx	2587lx	1150lx	647lx	414lx	184lx	103lx	46lx	26lx	17lx	11lx	6lx	4lx
Footcand.	961fcd	240fcd	107fcd	60fcd	38fcd	17fcd	10fcd	4fcd	2fcd	2fcd	1fcd	1fcd	0fcd
Beam wid.	0,4m	0,7m	1,1m	1,5m	1,8m	2,7m	3,7m	5,5m	7,3m	9,1m	11m	14,6m	18,3m
Beam wid.	1,2ft	2,4ft	3,6ft	4,8ft	6ft	9ft	12ft	18ft	24ft	29,9ft	35,9ft	47,9ft	59,9ft

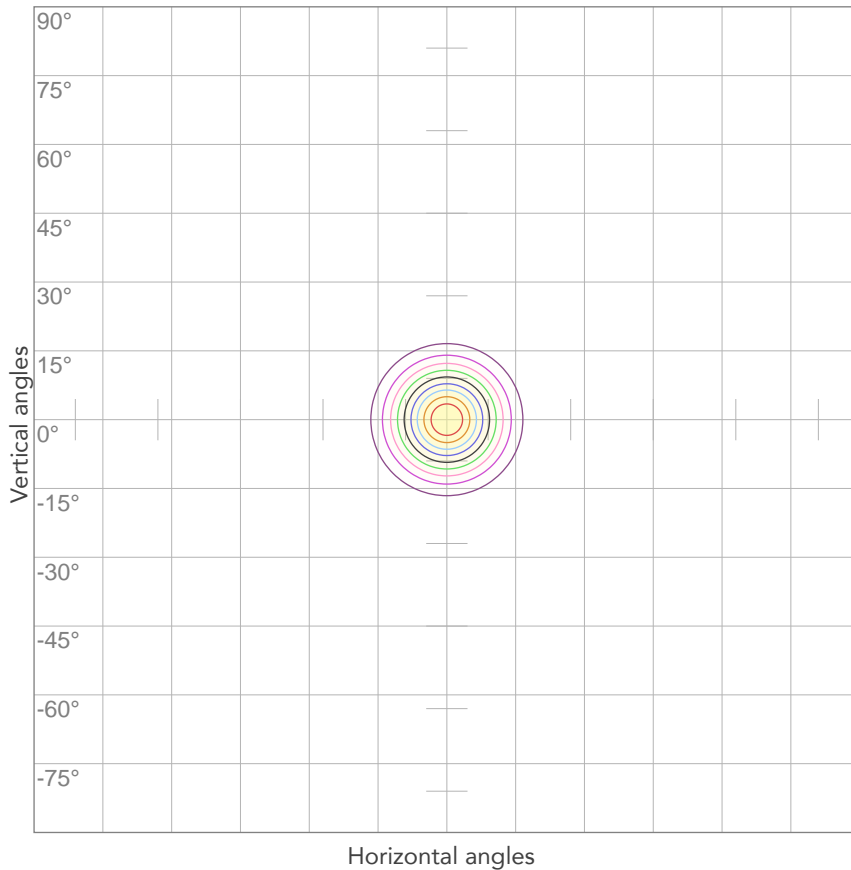
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
221V	0,410A	86,6W	16lm/W

ISO CANDELA DIAGRAM



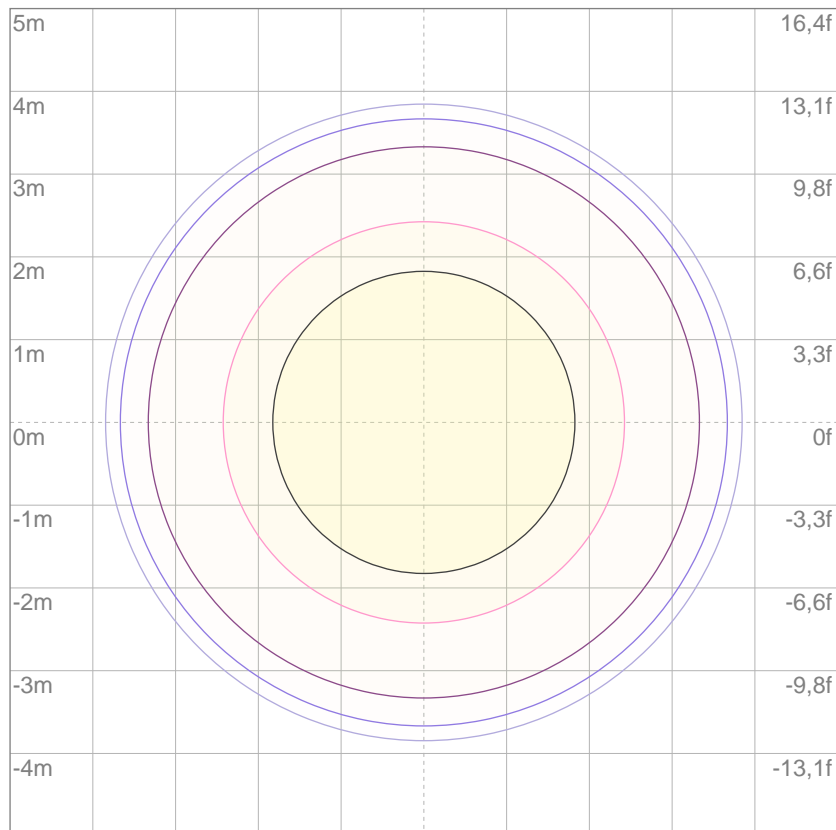
10%	1035 cd
20%	2069 cd
30%	3104 cd
40%	4139 cd
50%	5174 cd
60%	6208 cd
70%	7243 cd
80%	8278 cd

Conditions:

Number of c-planes: 2

Candela at center: 10347 cd

ISO LUX DIAGRAM



3%	3,10 lx
5%	5,17 lx
10%	10,3 lx
30%	31,0 lx
50%	51,7 lx

Conditions:

Number of c-planes: 2

Lux at center: 103 lx

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



Total lumen output:

1239 lm

Peak candela output:

40934 cd

PRODUCT NAME:

Stark 400

MEASURAMENT CONDITIONS:

Beam angle:

Med Zoom

Target:

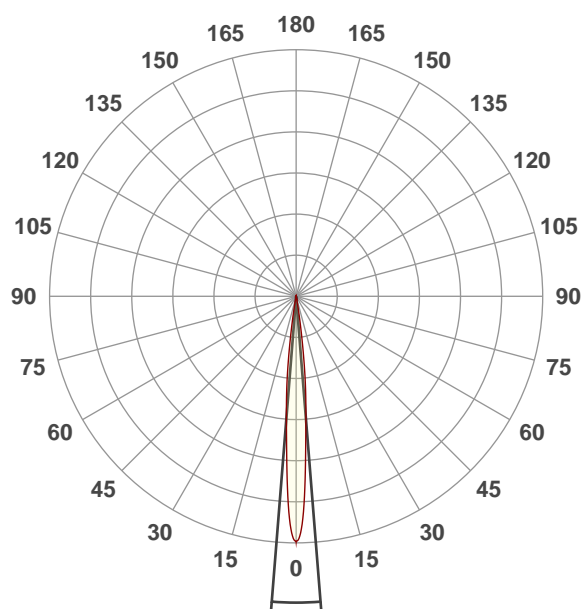
White

Operator:

Paolo Carvone

Date and time:

20/12/2019 10:05:51

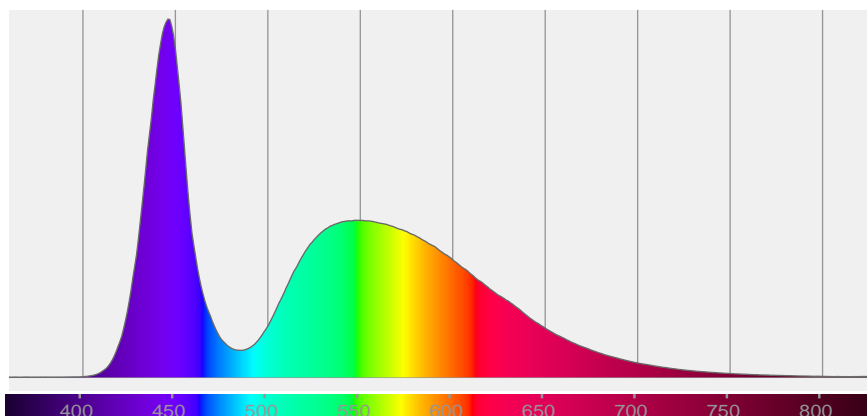


Beam angle 50%: 9,1°

Field angle 10%: 17,5°

Cut off angle 2.5%: 20,3°

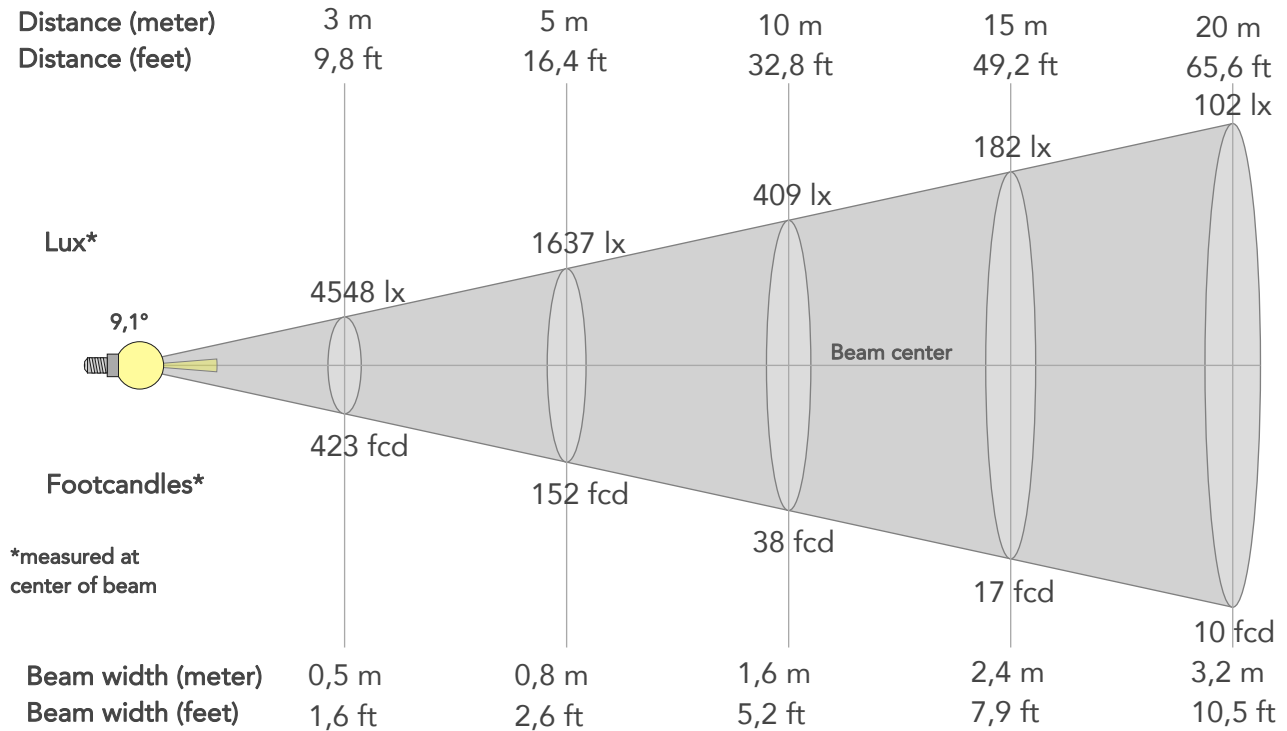
Spectra



BEAM DETAILS



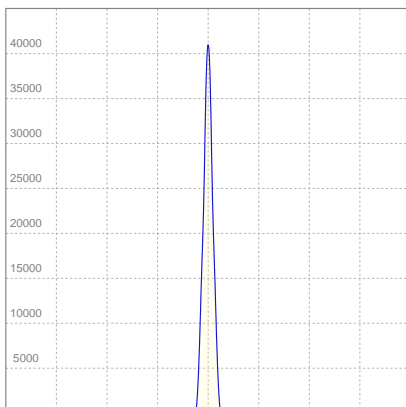
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
9,1°	17,5°	20,3°	100,0%	100,0%



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	40934lx	10233lx	4548lx	2558lx	1637lx	728lx	409lx	182lx	102lx	65lx	45lx	26lx	16lx
Footcand.	3803fcd	951fcd	423fcd	238fcd	152fcd	68fcd	38fcd	17fcd	10fcd	6fcd	4fcd	2fcd	2fcd
Beam wid.	0,2m	0,3m	0,5m	0,6m	0,8m	1,2m	1,6m	2,4m	3,2m	4m	4,8m	6,4m	8m
Beam wid.	0,5ft	1,1ft	1,6ft	2,1ft	2,6ft	3,9ft	5,2ft	7,9ft	10,5ft	13,1ft	15,7ft	21ft	26,2ft

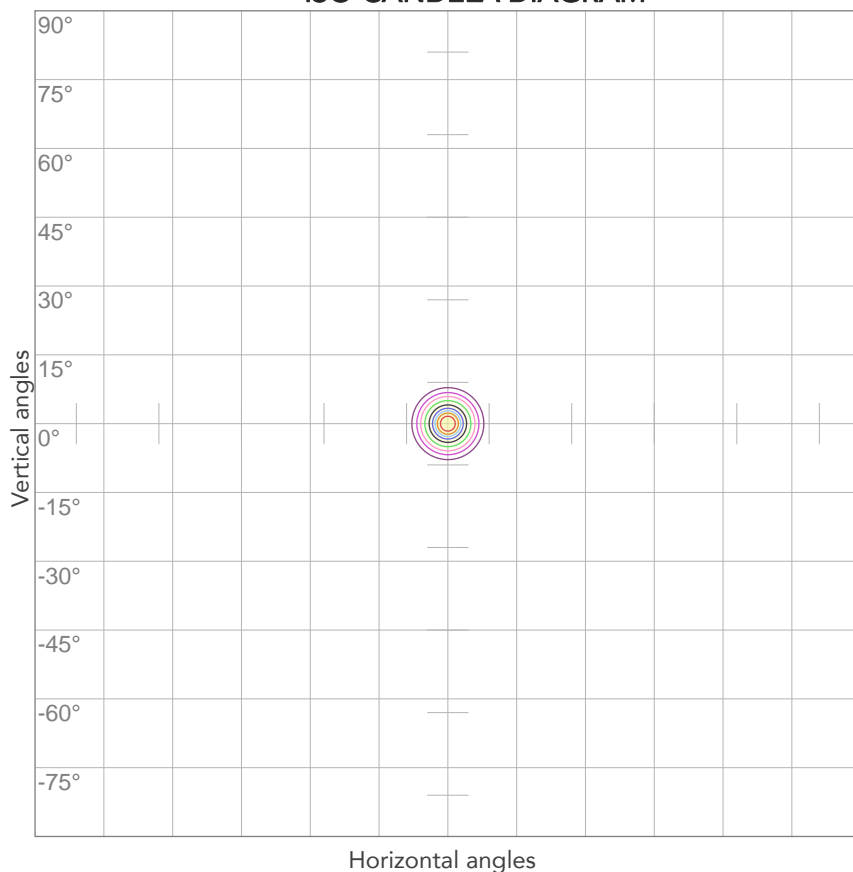
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
224V	0,404A	86,7W	14lm/W

ISO CANDELA DIAGRAM



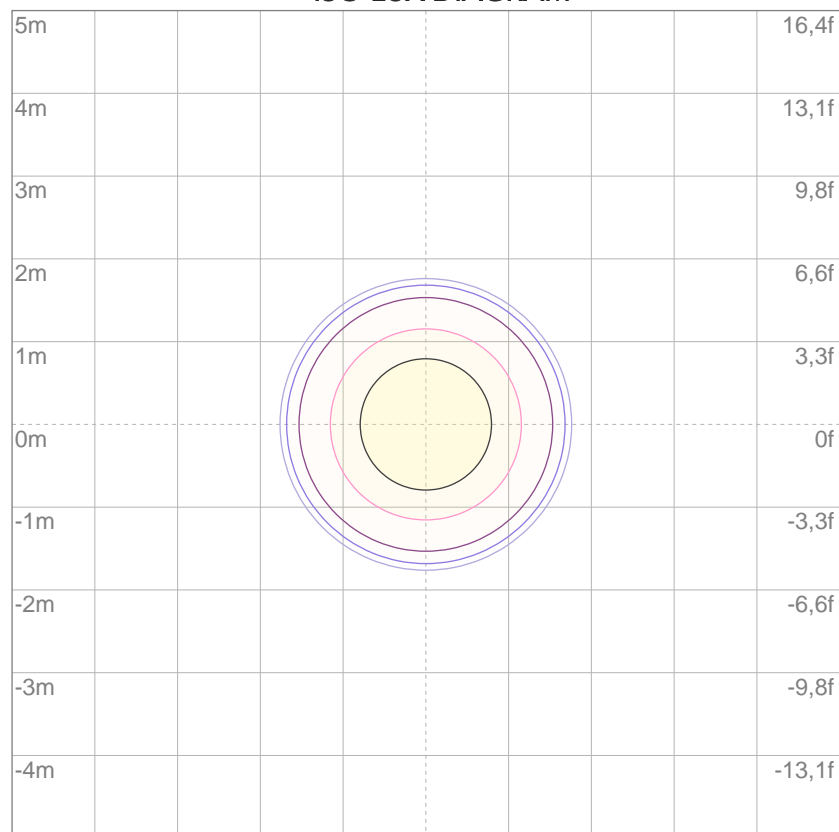
10%	4093 cd
20%	8187 cd
30%	12280 cd
40%	16373 cd
50%	20467 cd
60%	24560 cd
70%	28654 cd
80%	32747 cd

Conditions:

Number of c-planes: 2

Candela at center: 40934 cd

ISO LUX DIAGRAM



3%	12,3 lx
5%	20,5 lx
10%	40,9 lx
30%	123 lx
50%	205 lx

Conditions:

Number of c-planes: 2

Lux at center: 409 lx

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



Total lumen output:

1052 lm

Peak candela output:

205942 cd

PRODUCT NAME:

Stark 400

MEASURAMENT CONDITIONS:

Beam angle:

Min Zoom

Target:

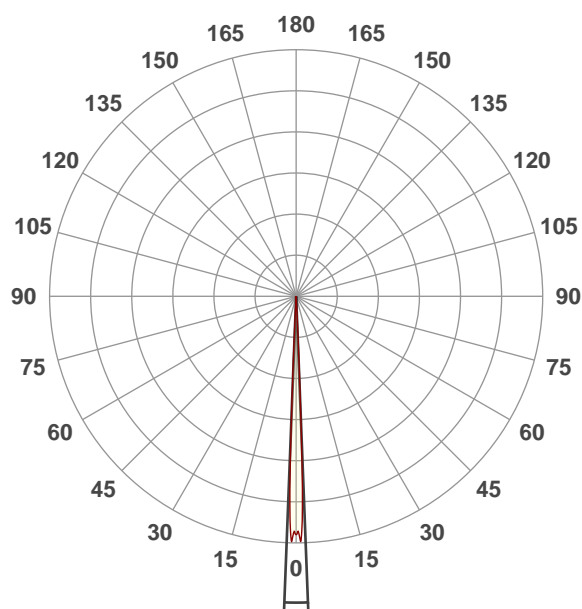
White

Operator:

Paolo Carvone

Date and time:

19/12/2019 17:44:11

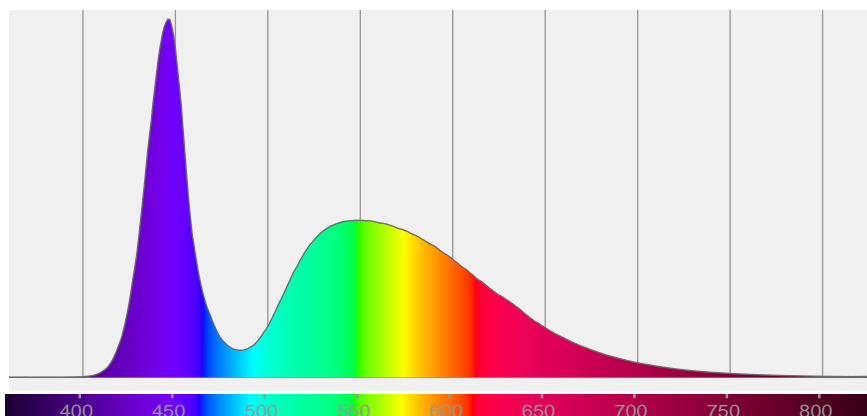


Beam angle 50%: 4,4°

Field angle 10%: 5,6°

Cut off angle 2.5%: 6,2°

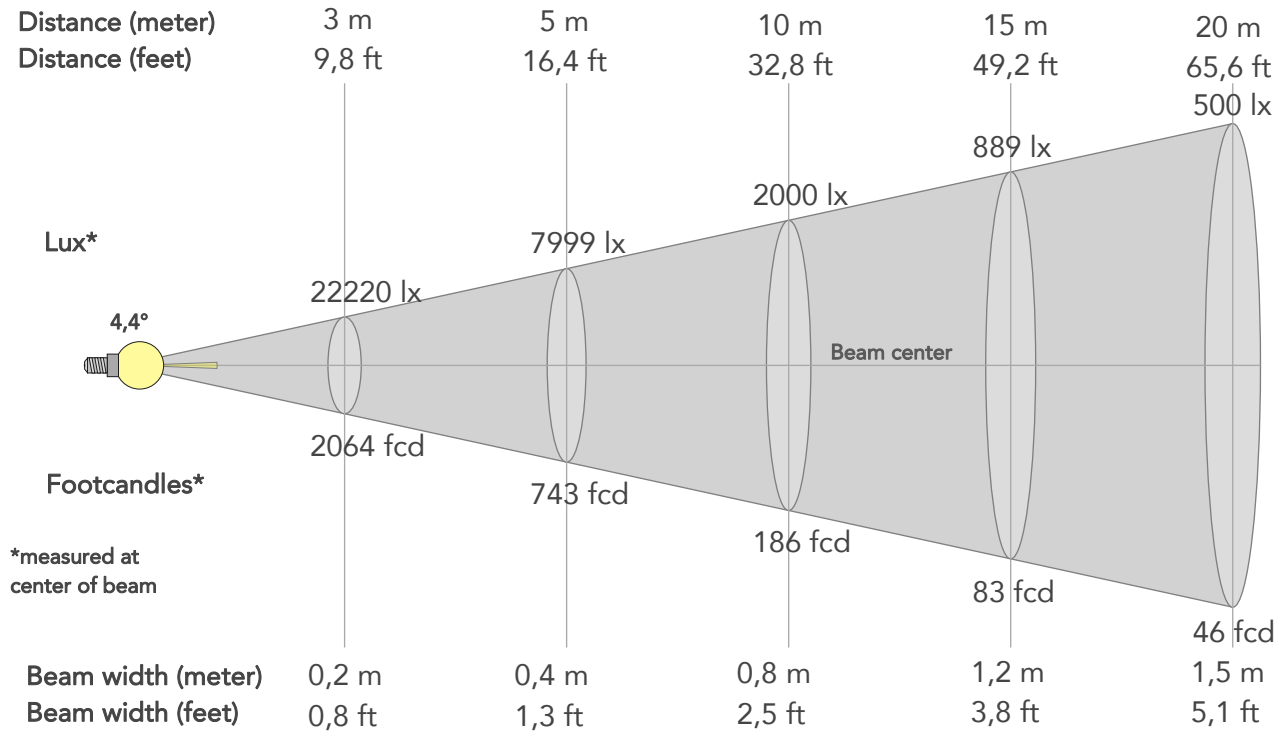
Spectra



BEAM DETAILS



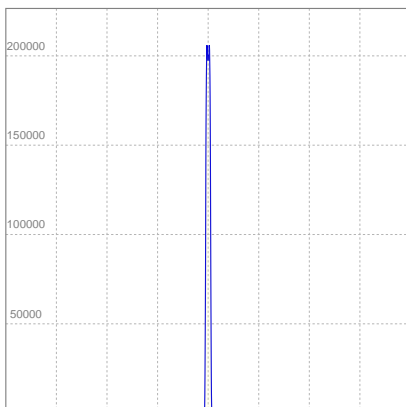
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
4,4°	5,6°	6,2°	97,3%	96,4%



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	199981lx	49995lx	22220lx	12499lx	7999lx	3555lx	2000lx	889lx	500lx	320lx	222lx	125lx	80lx
Footcand.	18579fcd	4645fcd	2064fcd	1161fcd	743fcd	330fcd	186fcd	83fcd	46fcd	30fcd	21fcd	12fcd	7fcd
Beam wid.	0,1m	0,2m	0,2m	0,3m	0,4m	0,6m	0,8m	1,2m	1,5m	1,9m	2,3m	3,1m	3,9m
Beam wid.	0,3ft	0,5ft	0,8ft	1ft	1,3ft	1,9ft	2,5ft	3,8ft	5,1ft	6,3ft	7,6ft	10,1ft	12,6ft

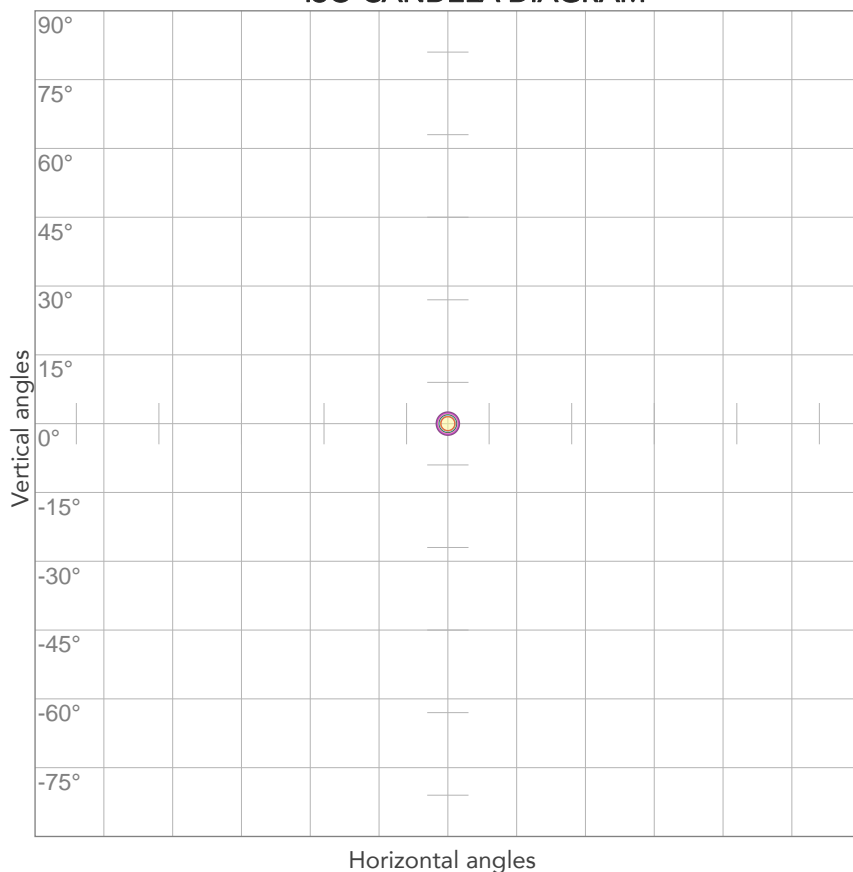
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
221V	0,410A	86,9W	12lm/W

ISO CANDELA DIAGRAM



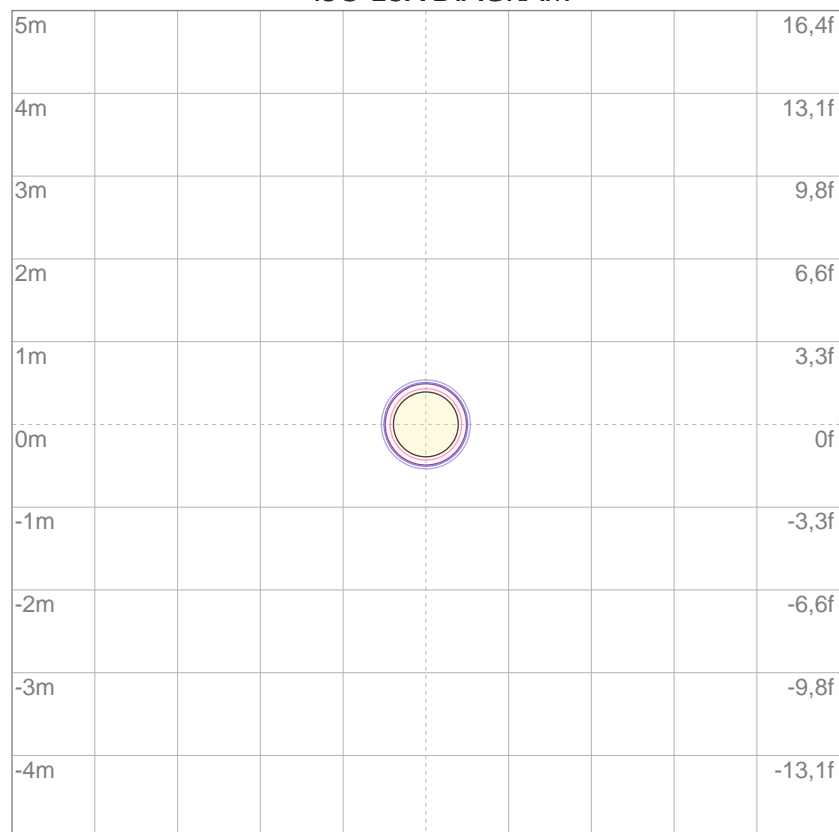
10%	19998 cd
20%	39996 cd
30%	59994 cd
40%	79992 cd
50%	99990 cd
60%	119988 cd
70%	139986 cd
80%	159984 cd

Conditions:

Number of c-planes: 2

Candela at center: 199981 cd

ISO LUX DIAGRAM



Mounting height: 10 meters (33 feet)

3%	60,0 lx
5%	100,0 lx
10%	200 lx
30%	600 lx
50%	1000 lx

Conditions:

Number of c-planes: 2

Lux at center: 2000 lx

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



Total lumen output:

1489 lm

Peak candela output:

11657 cd

Light quality:

CRI: 42,9

Color temperature:

2873 K

PRODUCT NAME:

Stark 400

MEASURAMENT CONDITIONS:

Beam angle:

Max Zoom

Target:

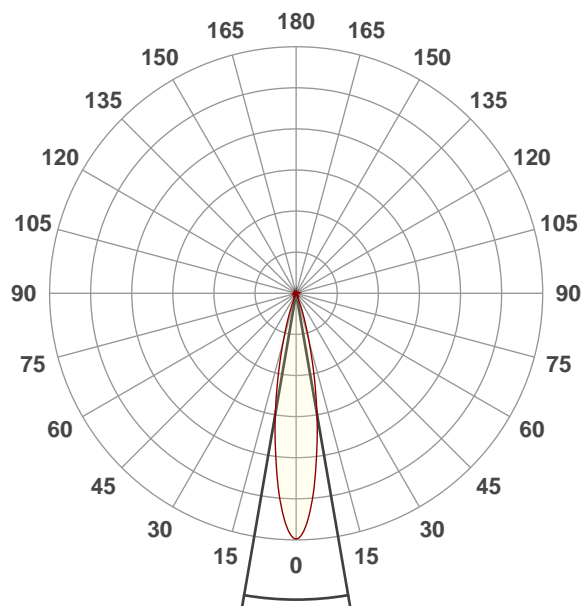
2800K

Operator:

Paolo Carvone

Date and time:

19/12/2019 18:13:30

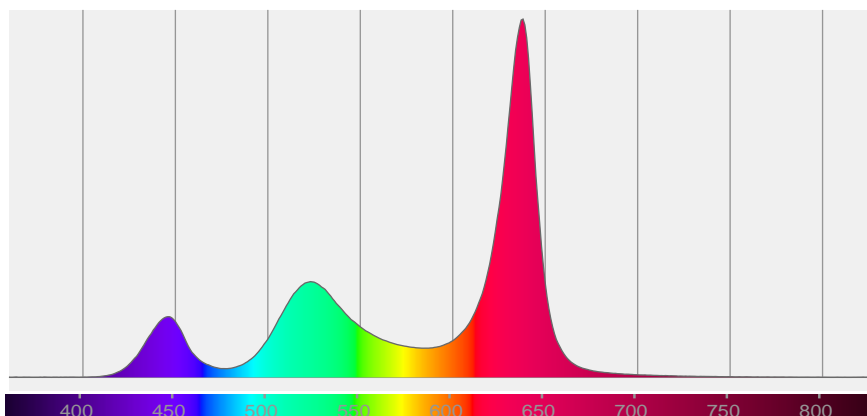


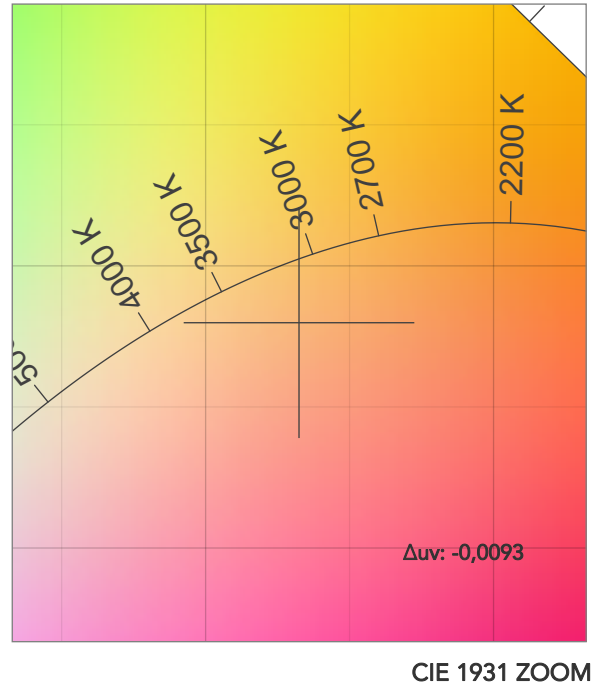
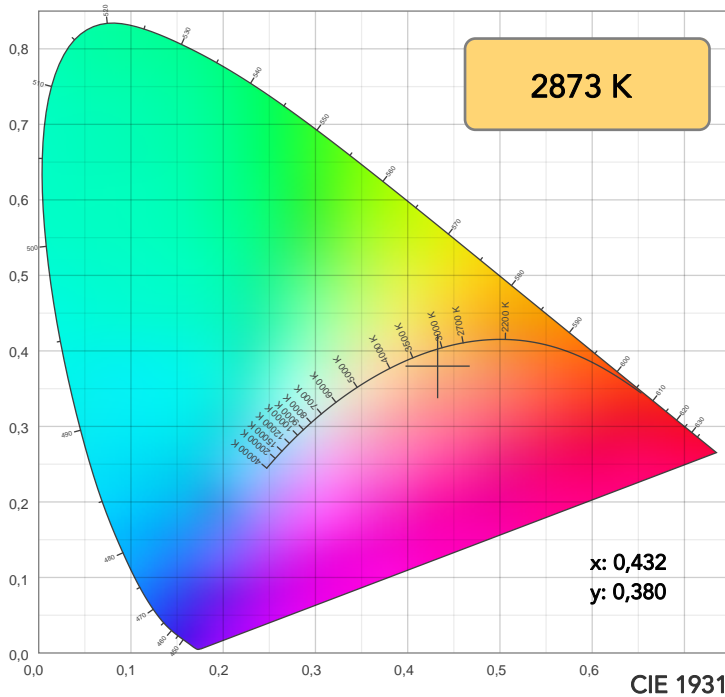
Beam angle 50%: 19,6°

Field angle 10%: 36°

Cut off angle 2.5%: 42,3°

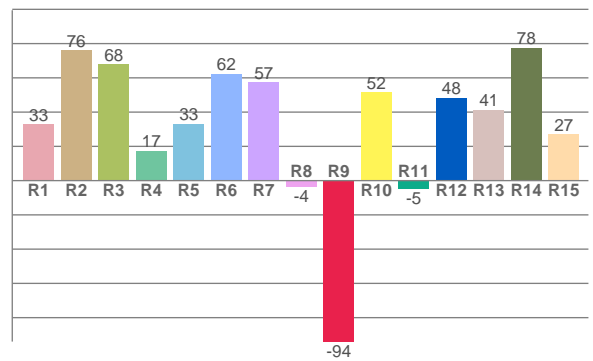
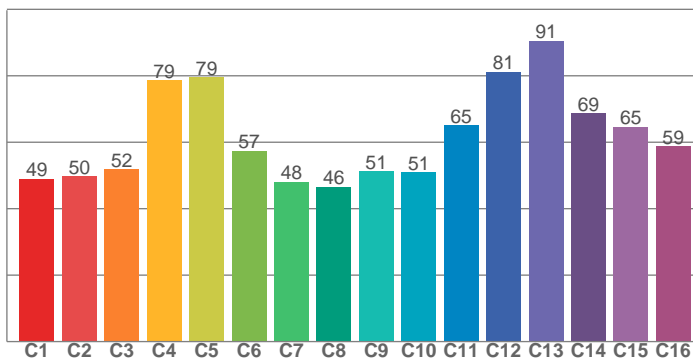
Spectra





TM30: 62,0

CRI: 42,9 (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
32,9	76,0	67,9	17,4	33,2	62,4	57,4	-3,8	-94,0	51,7	-4,8	48,4	41,4	77,6	27,2

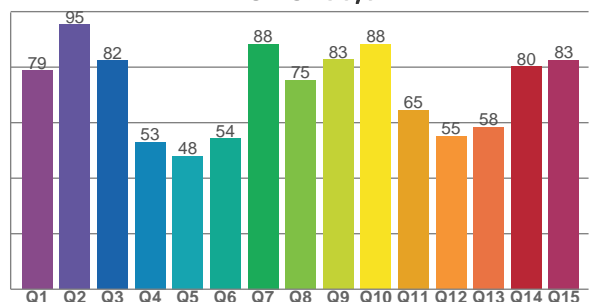
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
49,0	49,8	51,9	78,6	79,5	57,4	48,2	46,5	51,2	50,9	65,1	81,2	90,5	68,7	64,6	58,7

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
78,7	95,4	82,3	53,0	48,0	54,2	88,4	75,3	82,7	88,3	64,6	55,1	58,4	80,3	82,5

CQS: 68,5



COLOR PARAMETERS

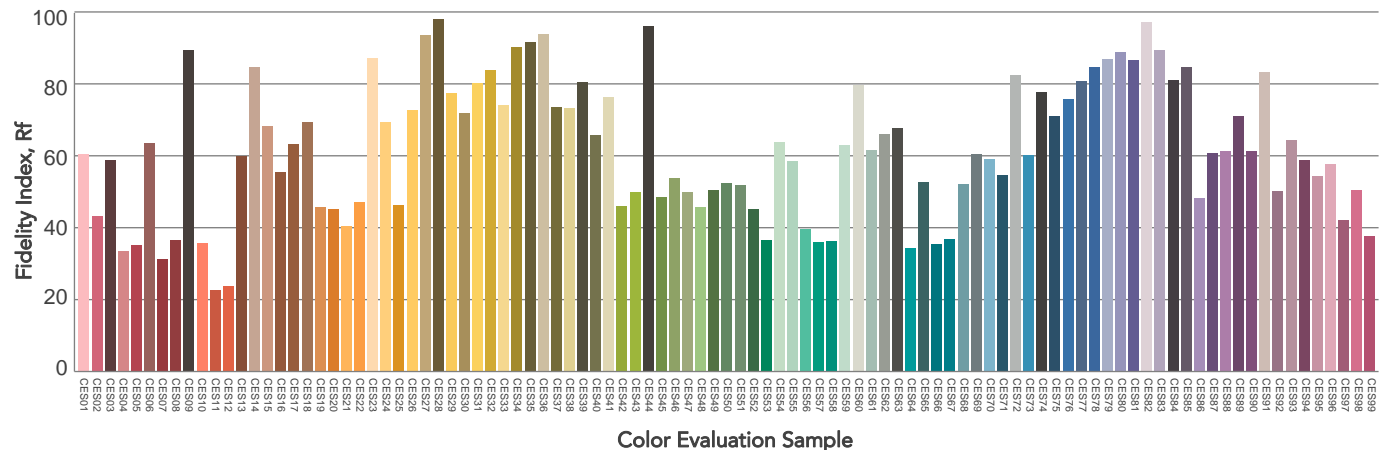
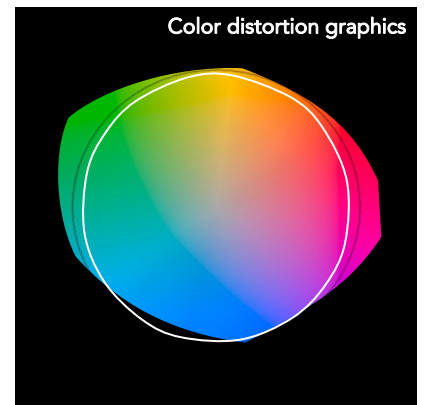
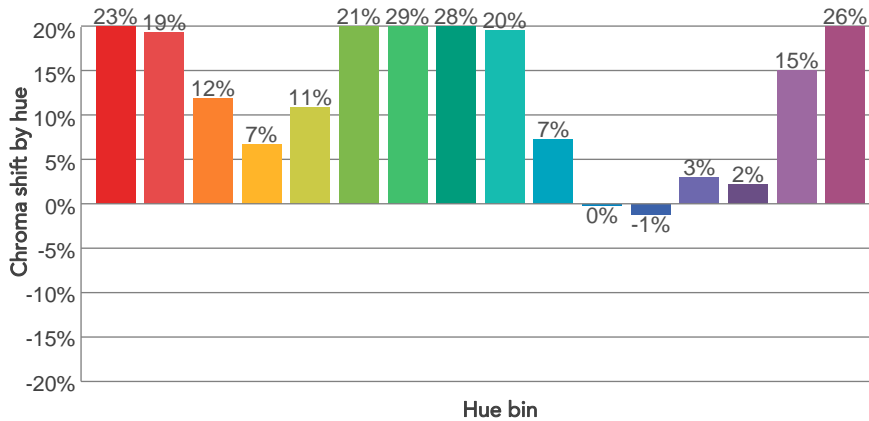
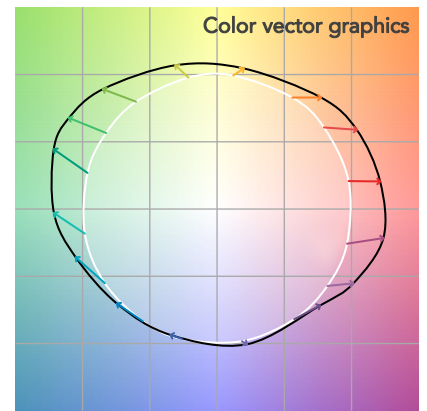
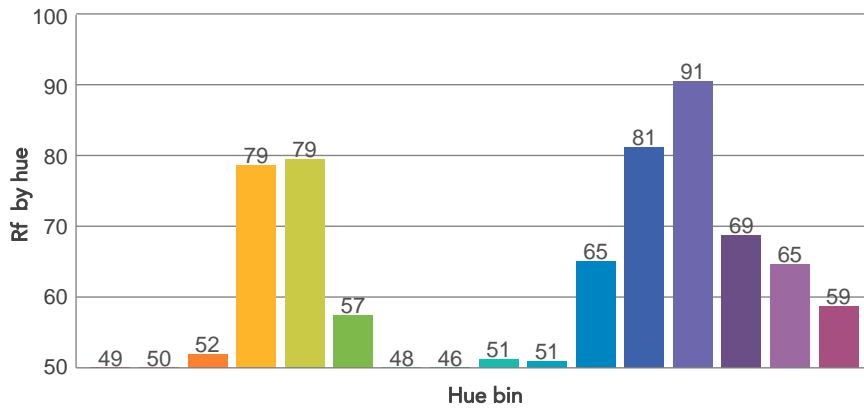
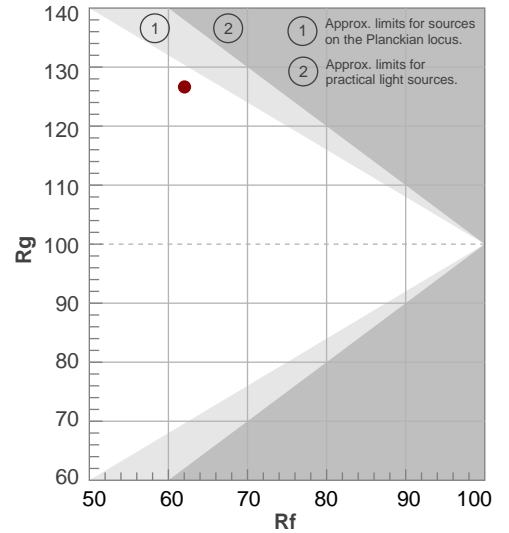
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
2873 K	42,9	-94,0	62,0	126,6	68,5	28	0,432	0,380	-0,0093

TM30 DETAILS

Rf 62,0
Fidelity index Rf

Rg 126,6
Gammut index

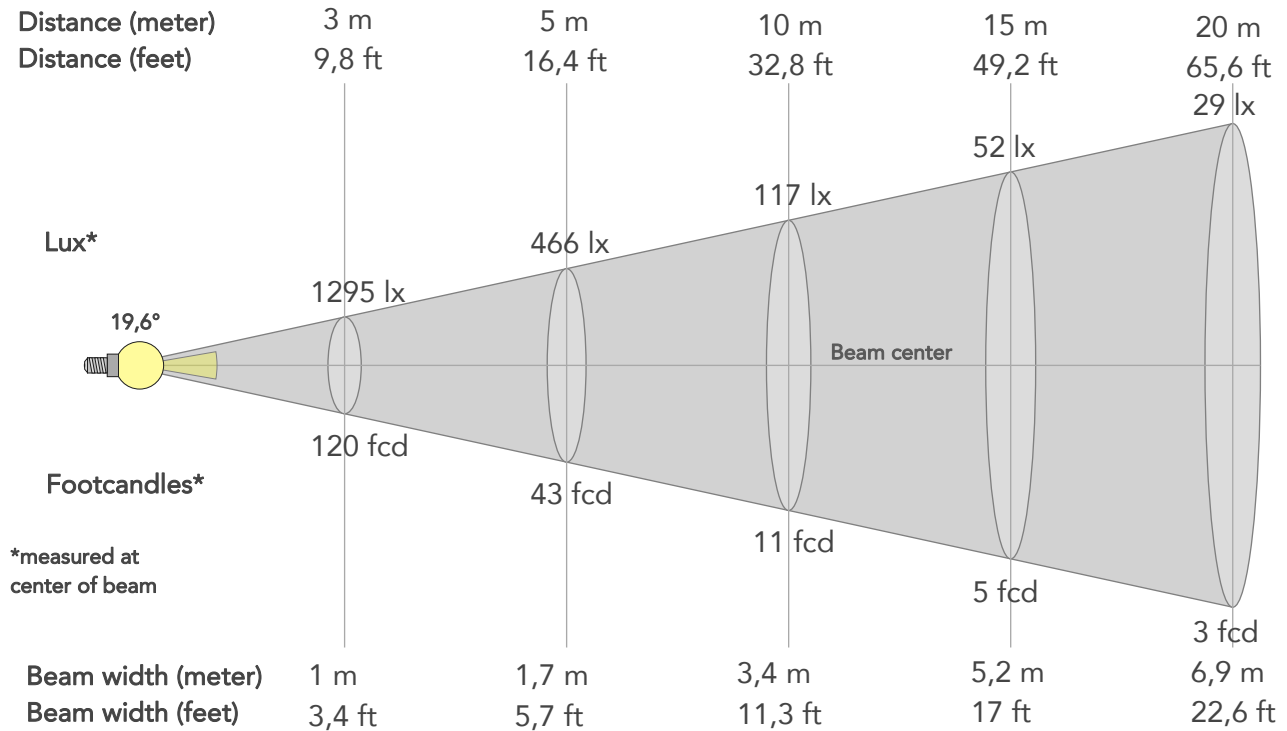
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	49	23%	-5%
2	50	19%	-15%
3	52	12%	-18%
4	79	7%	-7%
5	79	11%	8%
6	57	21%	15%
7	48	29%	6%
8	46	28%	-12%
9	51	20%	-19%
10	51	7%	-28%
11	65	0%	-23%
12	81	-1%	-9%
13	91	3%	3%
14	69	2%	22%
15	65	15%	12%
16	59	26%	9%



BEAM DETAILS



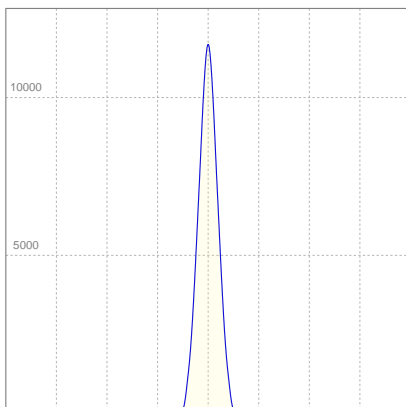
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
19,6°	36°	42,3°	99,6%	99,5%



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	11657lx	2914lx	1295lx	729lx	466lx	207lx	117lx	52lx	29lx	19lx	13lx	7lx	5lx
Footcand.	1083fcd	271fcd	120fcd	68fcd	43fcd	19fcd	11fcd	5fcd	3fcd	2fcd	1fcd	1fcd	0fcd
Beam wid.	0,3m	0,7m	1m	1,4m	1,7m	2,6m	3,4m	5,2m	6,9m	8,6m	10,3m	13,8m	17,2m
Beam wid.	1,1ft	2,3ft	3,4ft	4,5ft	5,7ft	8,5ft	11,3ft	17ft	22,6ft	28,3ft	33,9ft	45,2ft	56,5ft

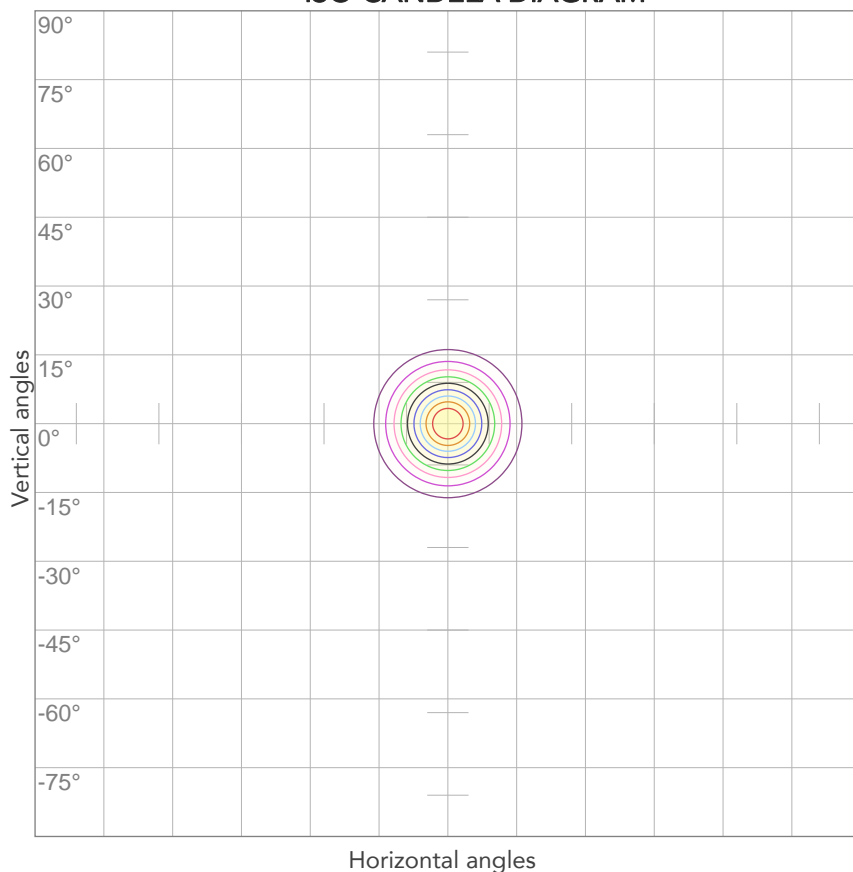
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
221V	0,600A	129,1W	12lm/W

ISO CANDELA DIAGRAM



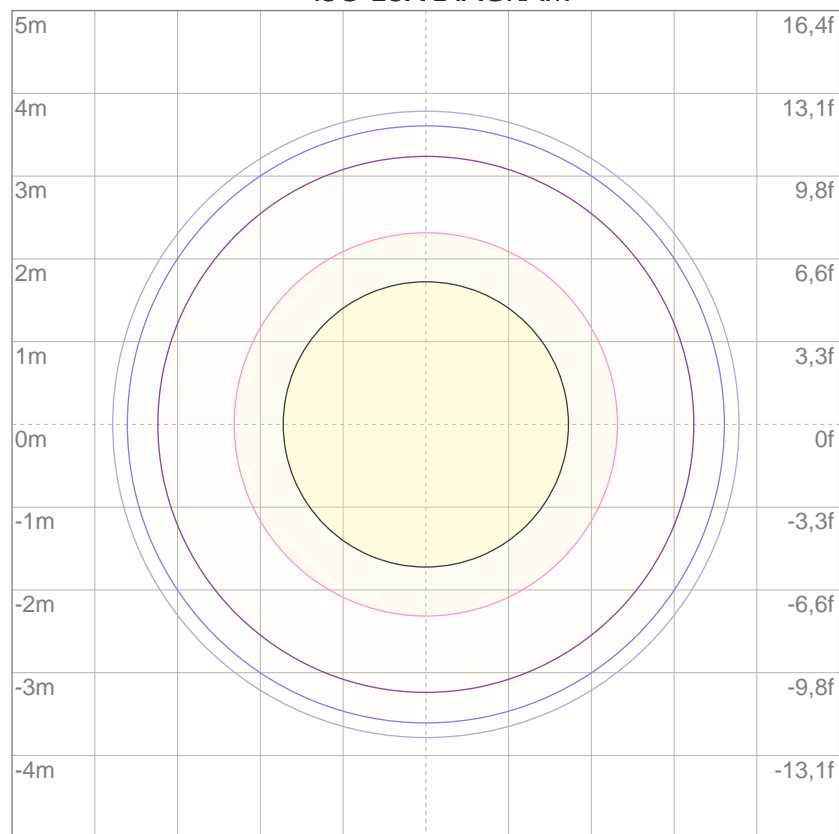
10%	1166 cd
20%	2331 cd
30%	3497 cd
40%	4663 cd
50%	5829 cd
60%	6994 cd
70%	8160 cd
80%	9326 cd

Conditions:

Number of c-planes: 2

Candela at center: 11657 cd

ISO LUX DIAGRAM



3%	3,50 lx
5%	5,83 lx
10%	11,7 lx
30%	35,0 lx
50%	58,3 lx

Conditions:

Number of c-planes: 2

Lux at center: 117 lx

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



Total lumen output:

1306 lm

Peak candela output:

45024 cd

Light quality:

CRI: 42,6

Color temperature:

2856 K

PRODUCT NAME:

Stark 400

MEASURAMENT CONDITIONS:

Beam angle:

Med Zoom

Target:

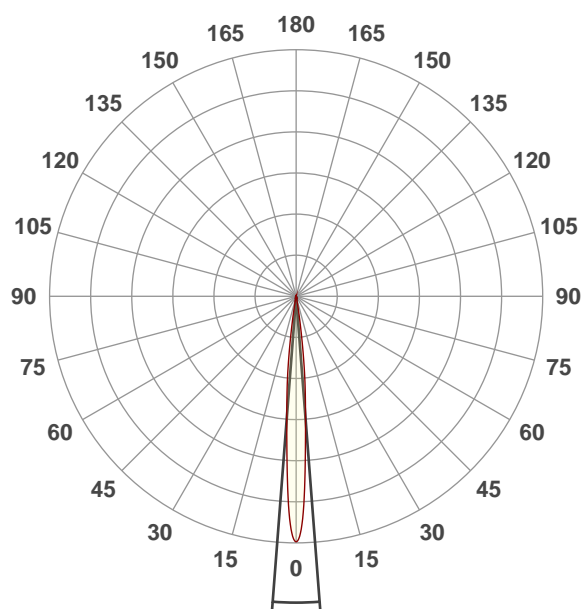
2800K

Operator:

Paolo Carvone

Date and time:

20/12/2019 10:10:26

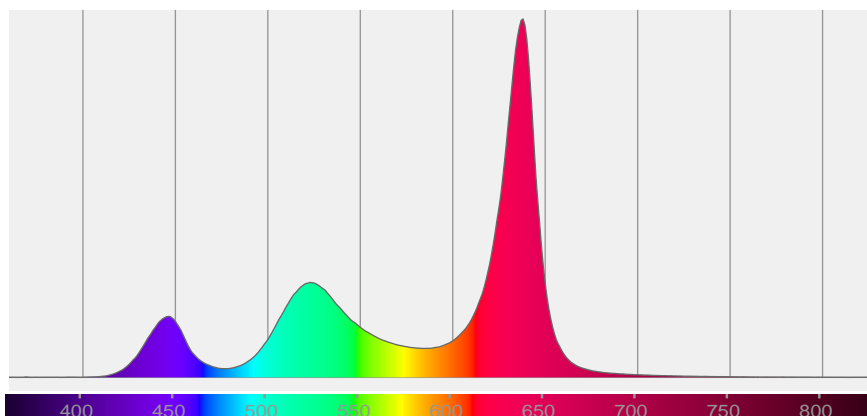


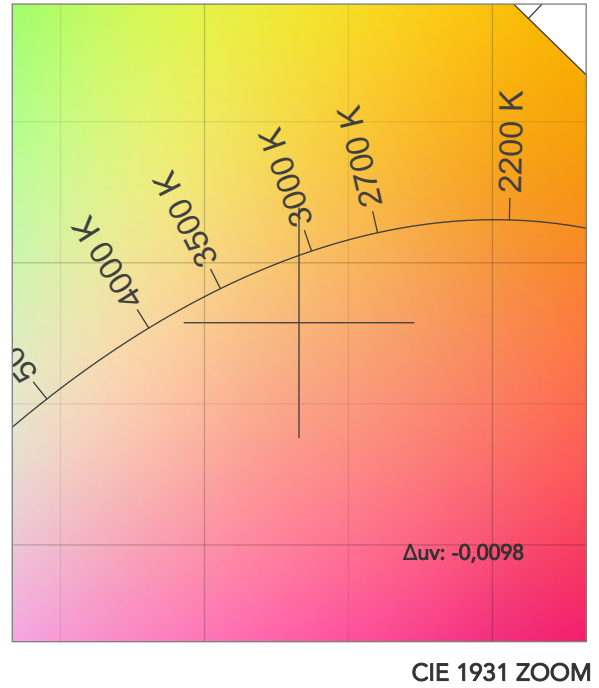
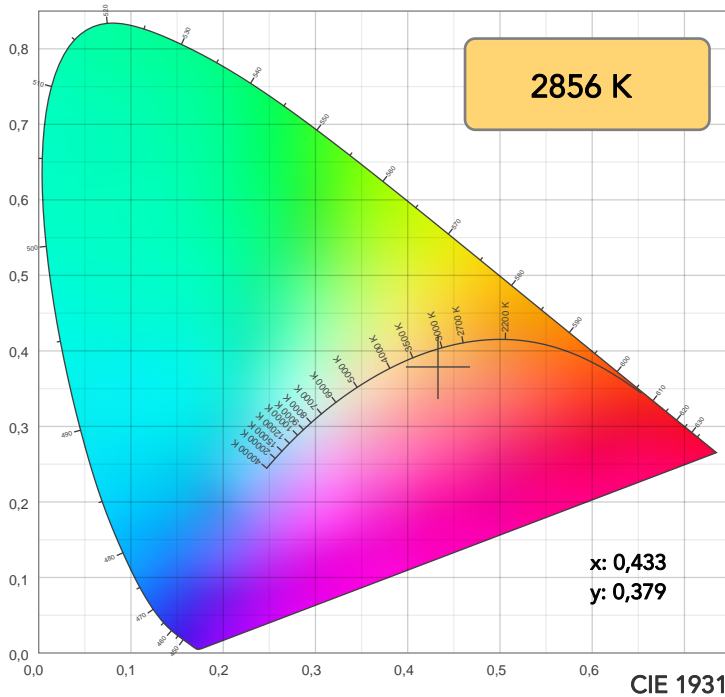
Beam angle 50%: 8,8°

Field angle 10%: 17,2°

Cut off angle 2.5%: 20,2°

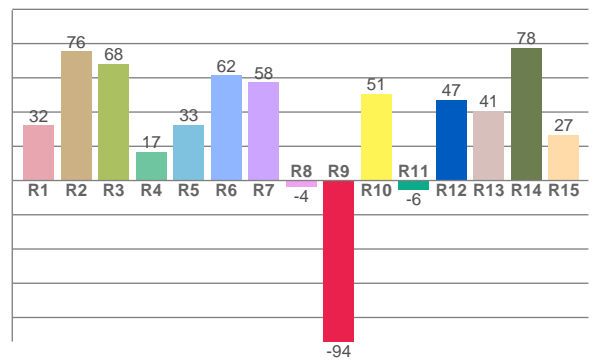
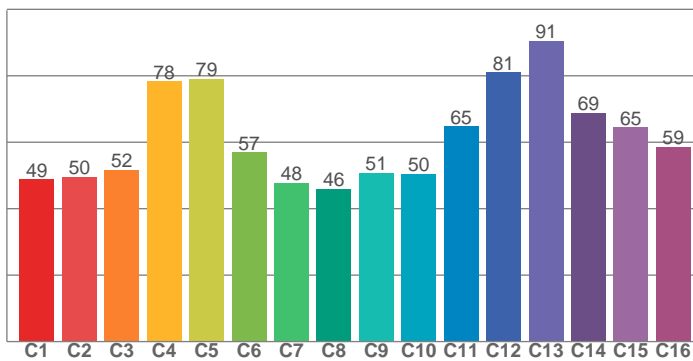
Spectra





TM30: 61,8

CRI: 42,6 (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
32,4	75,5	68,1	16,9	32,6	61,7	57,6	-3,9	-94,1	50,8	-5,5	47,2	40,9	77,7	26,8

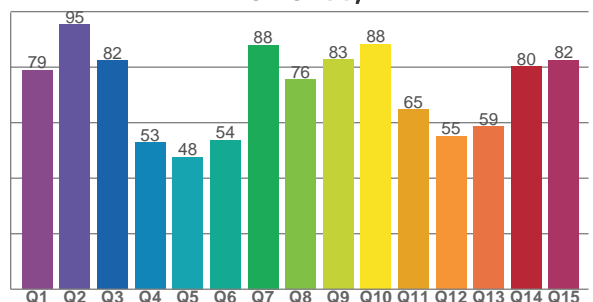
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
48,8	49,6	51,7	78,3	79,1	57,0	47,7	45,9	50,7	50,5	64,7	81,0	90,5	68,8	64,5	58,7

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
78,9	95,3	82,4	52,8	47,7	53,7	88,0	75,6	82,8	88,3	64,7	55,3	58,6	80,1	82,5

CQS: 68,4



COLOR PARAMETERS

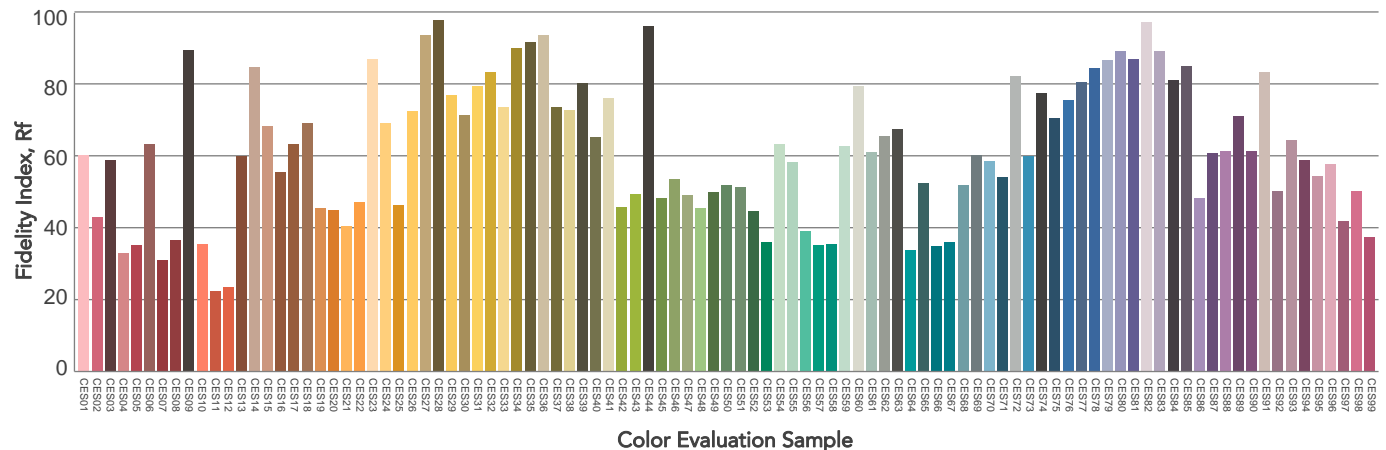
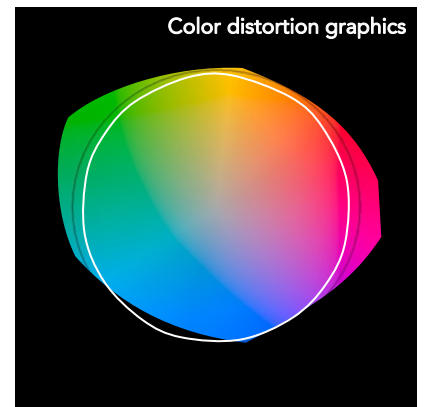
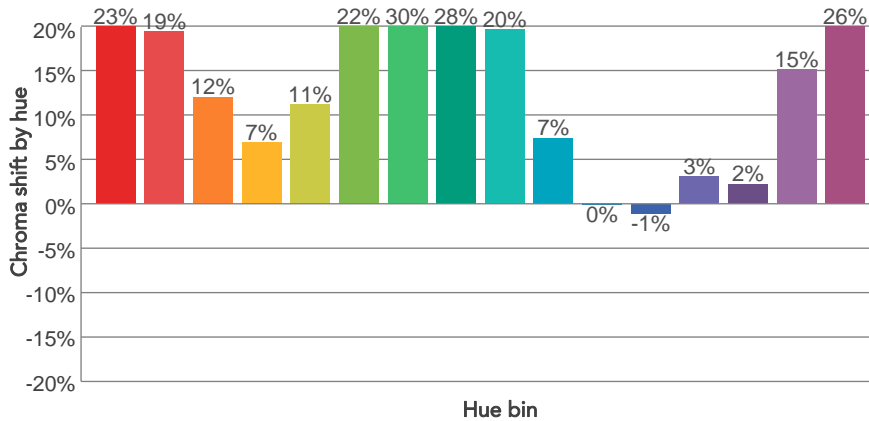
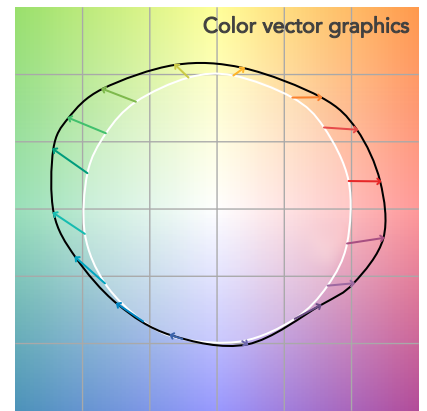
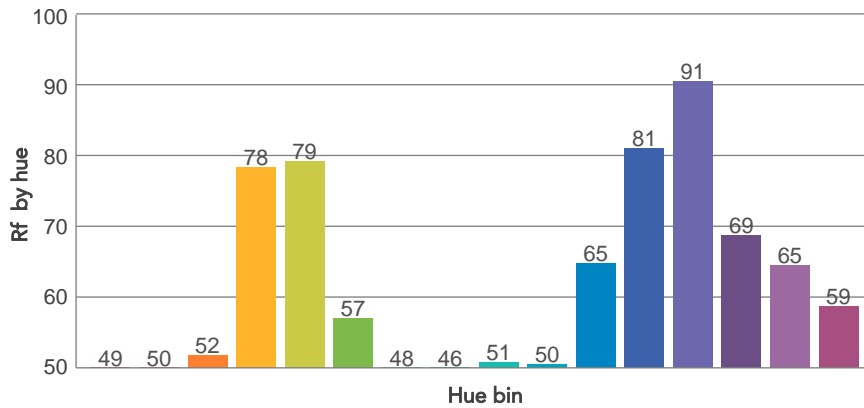
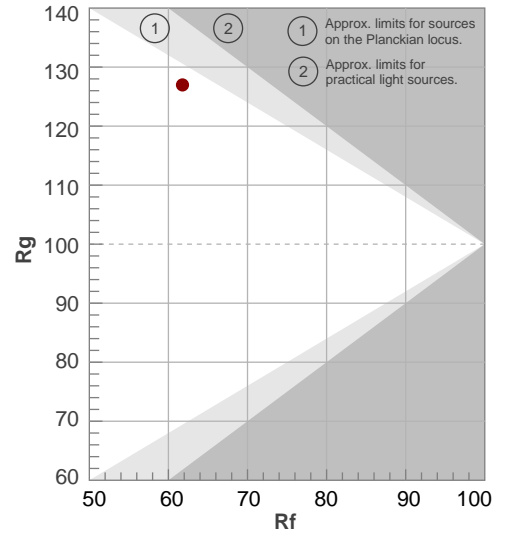
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
2856 K	42,6	-94,1	61,8	127,0	68,4	28	0,433	0,379	-0,0098

TM30 DETAILS

Rf 61,8
Fidelity index Rf

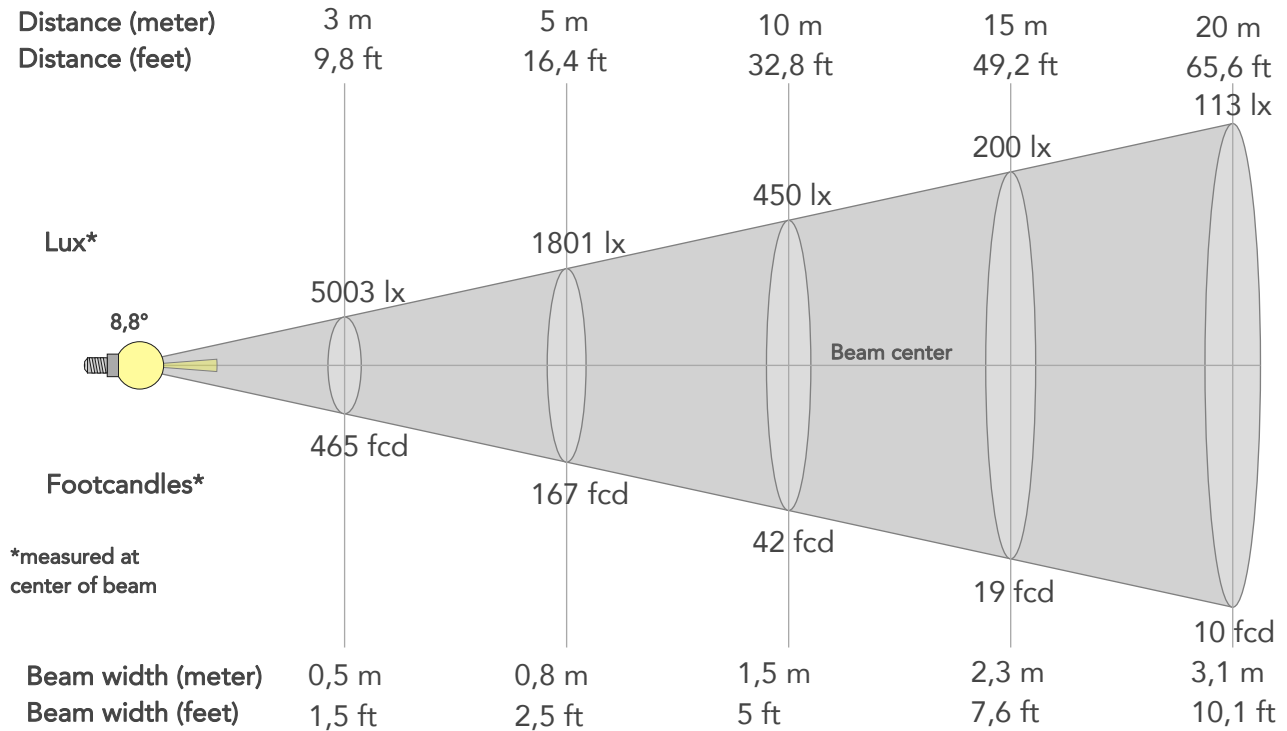
Rg 127,0
Gammut index

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	49	23%	-5%
2	50	19%	-15%
3	52	12%	-18%
4	78	7%	-6%
5	79	11%	8%
6	57	22%	15%
7	48	30%	6%
8	46	28%	-13%
9	51	20%	-20%
10	50	7%	-28%
11	65	0%	-23%
12	81	-1%	-9%
13	91	3%	3%
14	69	2%	22%
15	65	15%	12%
16	59	26%	9%



BEAM DETAILS

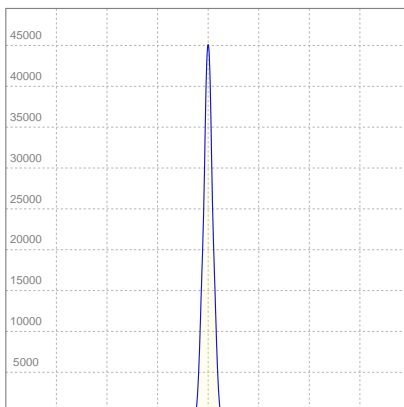
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
8,8°	17,2°	20,2°	99,8%	99,8%



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	45024lx	11256lx	5003lx	2814lx	1801lx	800lx	450lx	200lx	113lx	72lx	50lx	28lx	18lx
Footcand.	4183fcd	1046fcd	465fcd	261fcd	167fcd	74fcd	42fcd	19fcd	10fcd	7fcd	5fcd	3fcd	2fcd
Beam wid.	0,2m	0,3m	0,5m	0,6m	0,8m	1,2m	1,5m	2,3m	3,1m	3,8m	4,6m	6,1m	7,7m
Beam wid.	0,5ft	1ft	1,5ft	2ft	2,5ft	3,8ft	5ft	7,6ft	10,1ft	12,6ft	15,1ft	20,2ft	25,2ft

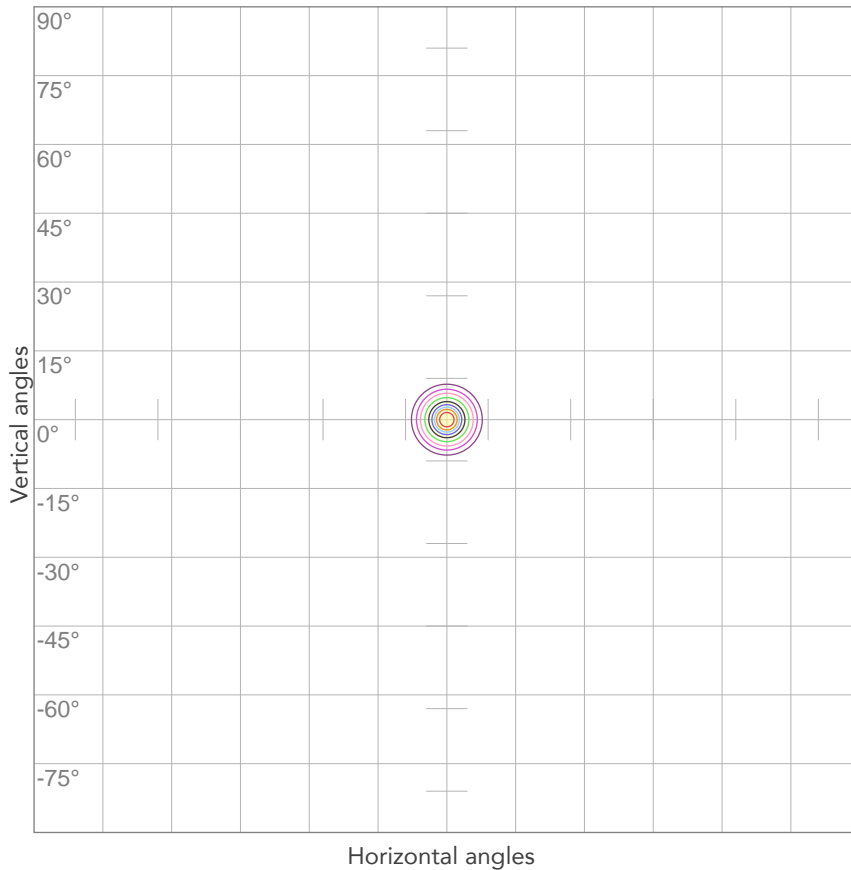
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
225V	0,591A	129,5W	10lm/W

ISO CANDELA DIAGRAM



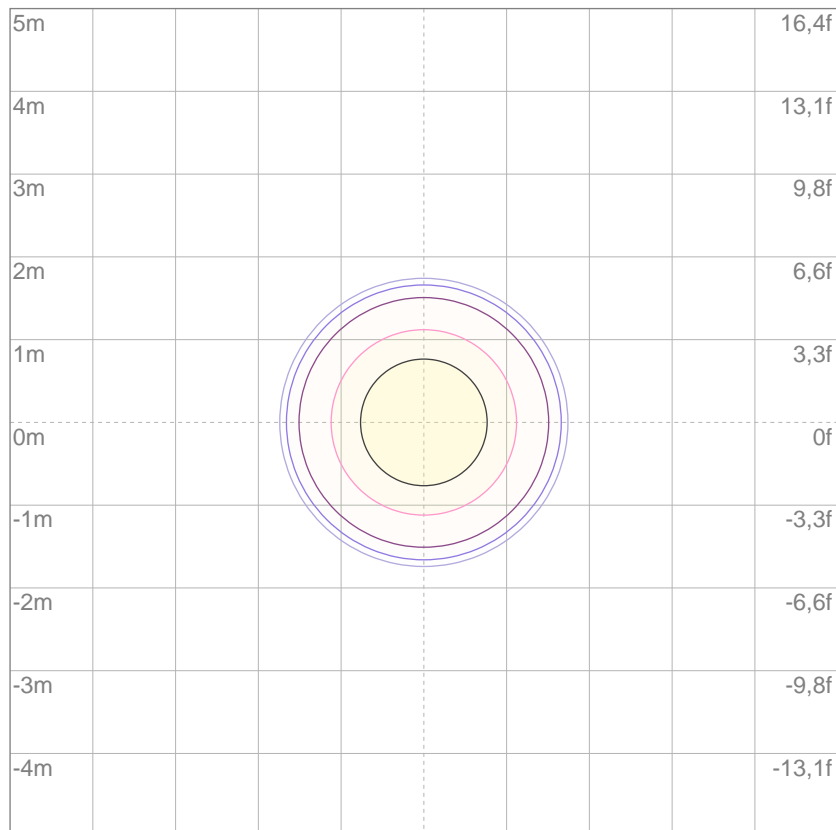
10%	4502 cd
20%	9005 cd
30%	13507 cd
40%	18010 cd
50%	22512 cd
60%	27015 cd
70%	31517 cd
80%	36019 cd

Conditions:

Number of c-planes: 2

Candela at center: 45024 cd

ISO LUX DIAGRAM



3%	13,5 lx
5%	22,5 lx
10%	45,0 lx
30%	135 lx
50%	225 lx

Conditions:

Number of c-planes: 2

Lux at center: 450 lx

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



Total lumen output:

1061 lm

Peak candela output:

215370 cd

Light quality:

CRI: 42,0

Color temperature:

2825 K

PRODUCT NAME:

Stark 400

MEASURAMENT CONDITIONS:

Beam angle:

Min Zoom

Target:

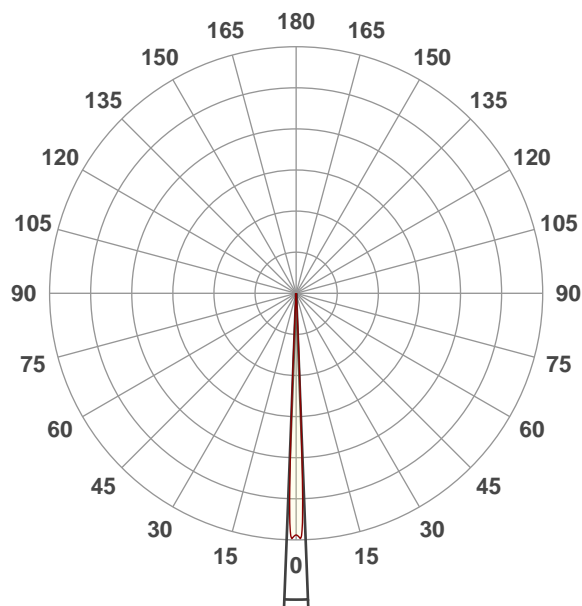
2800K

Operator:

Paolo Carvone

Date and time:

19/12/2019 17:50:14

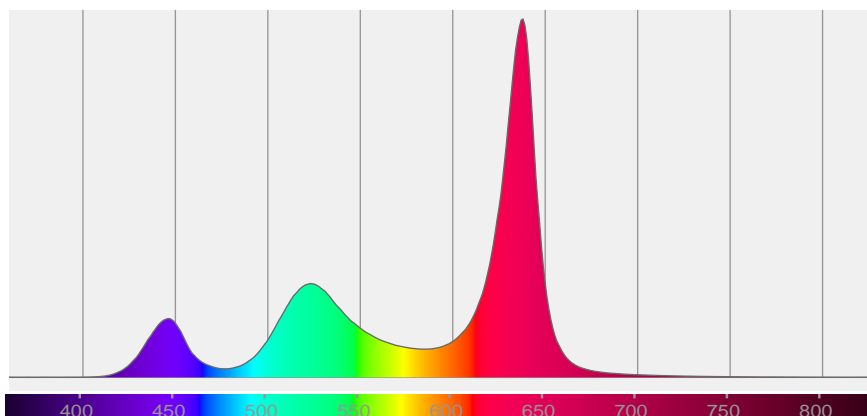


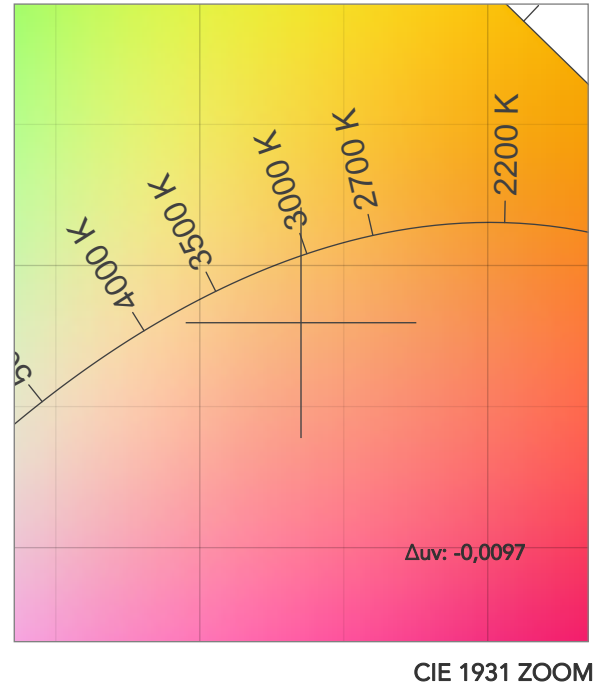
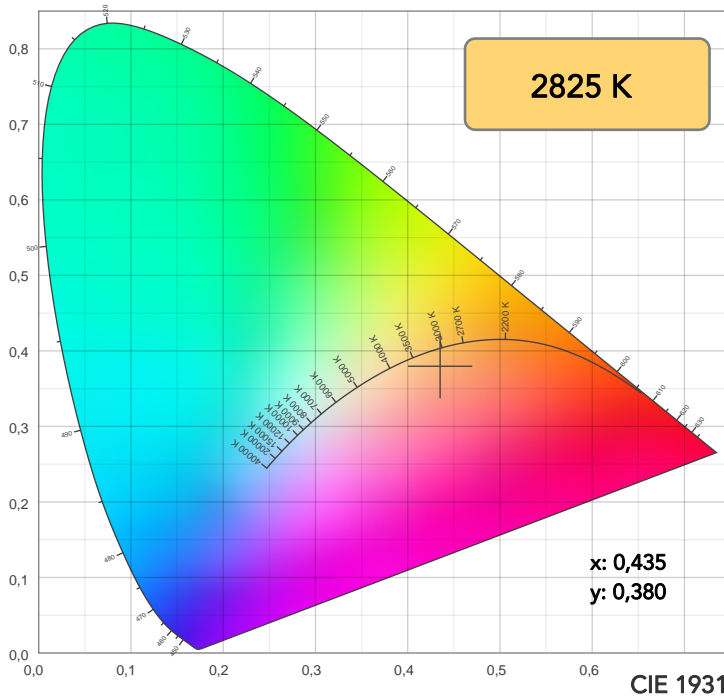
Beam angle 50%: 4,4°

Field angle 10%: 5,6°

Cut off angle 2.5%: 6,2°

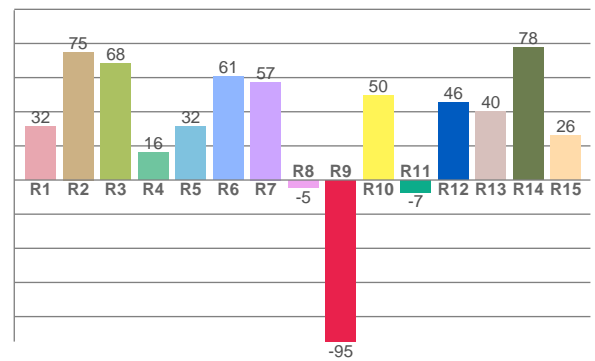
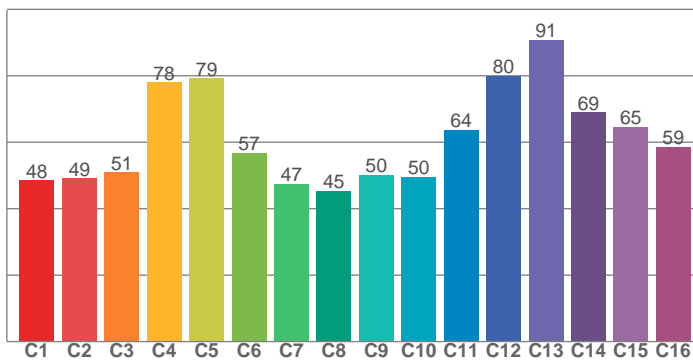
Spectra





TM30: 61,4

CRI: 42,0 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
31,5	75,0	68,2	15,9	31,5	60,7	57,4	-4,6	-94,6	49,6	-7,0	45,6	40,0	77,7	26,3

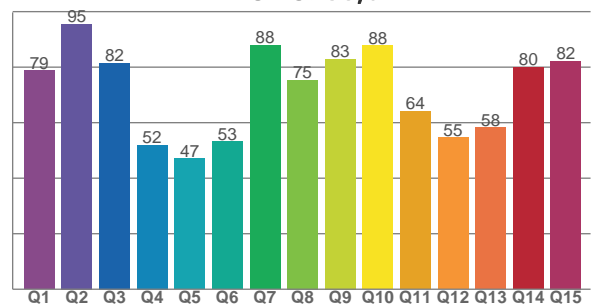
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
48,5	49,1	50,9	78,0	79,2	56,8	47,4	45,4	50,1	49,6	63,7	80,0	90,8	68,9	64,6	58,6

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
78,7	95,5	81,6	51,9	47,1	53,2	87,9	75,4	82,9	87,8	64,1	54,7	58,2	79,9	82,3

CQS: 68,0



COLOR PARAMETERS

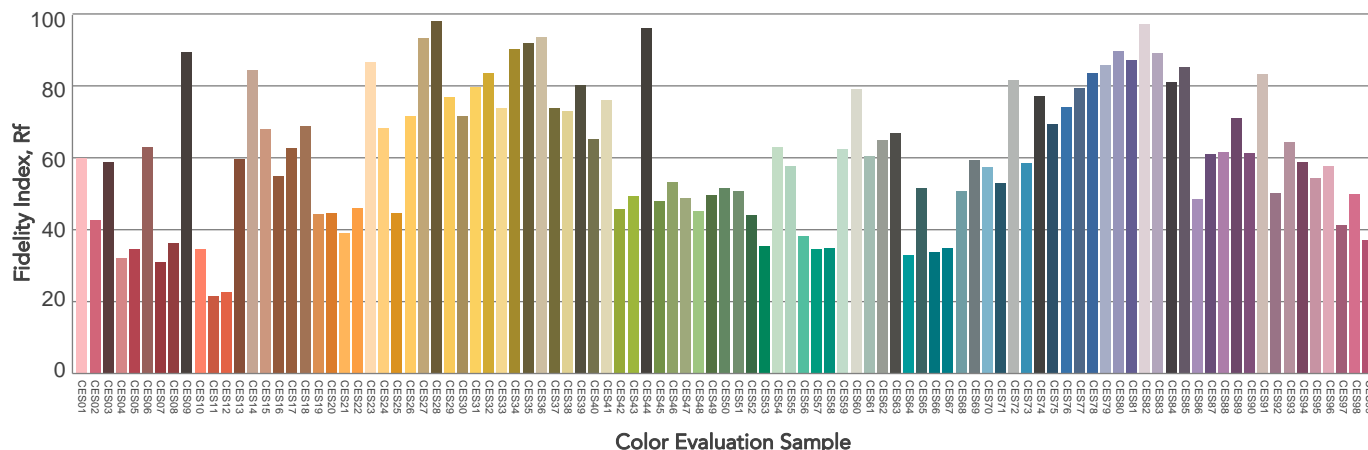
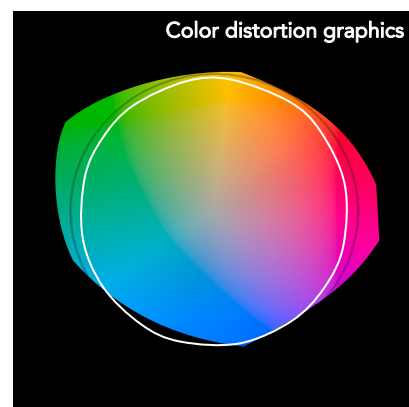
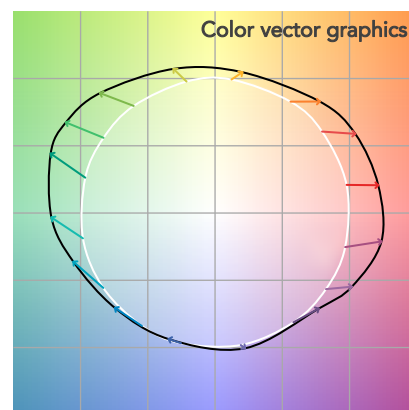
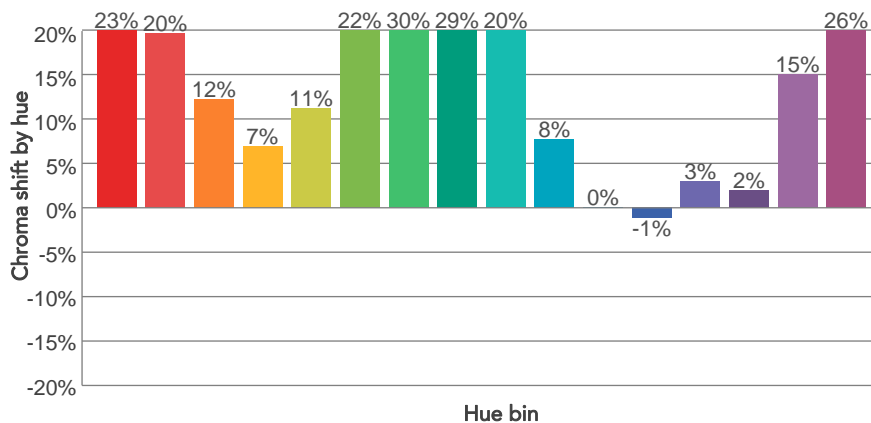
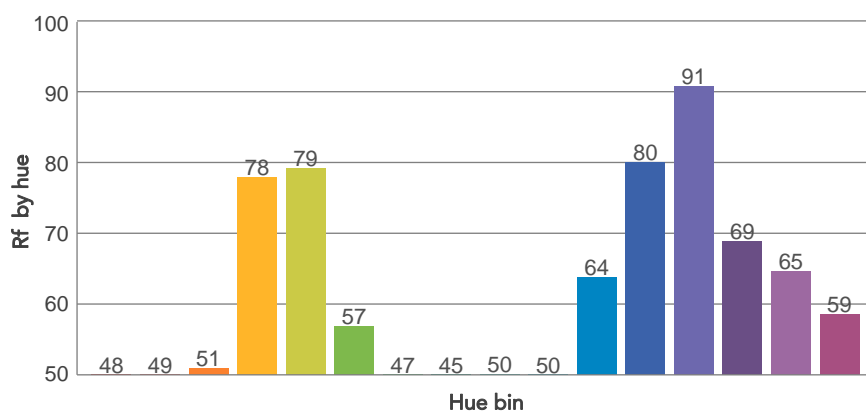
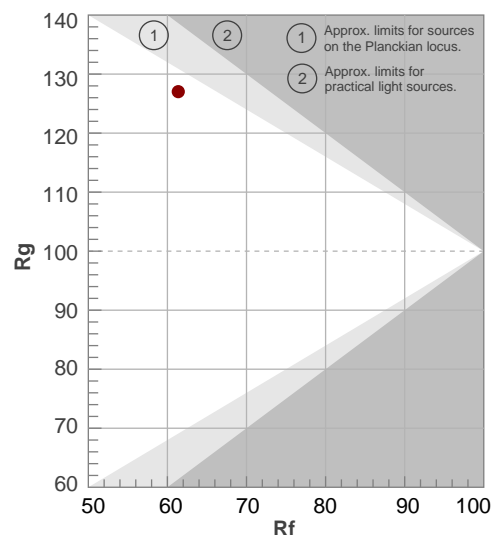
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
2825 K	42,0	-94,6	61,4	127,0	68,0	27	0,435	0,380	-0,0097

TM30 DETAILS

Rf 61,4
Fidelity index Rf

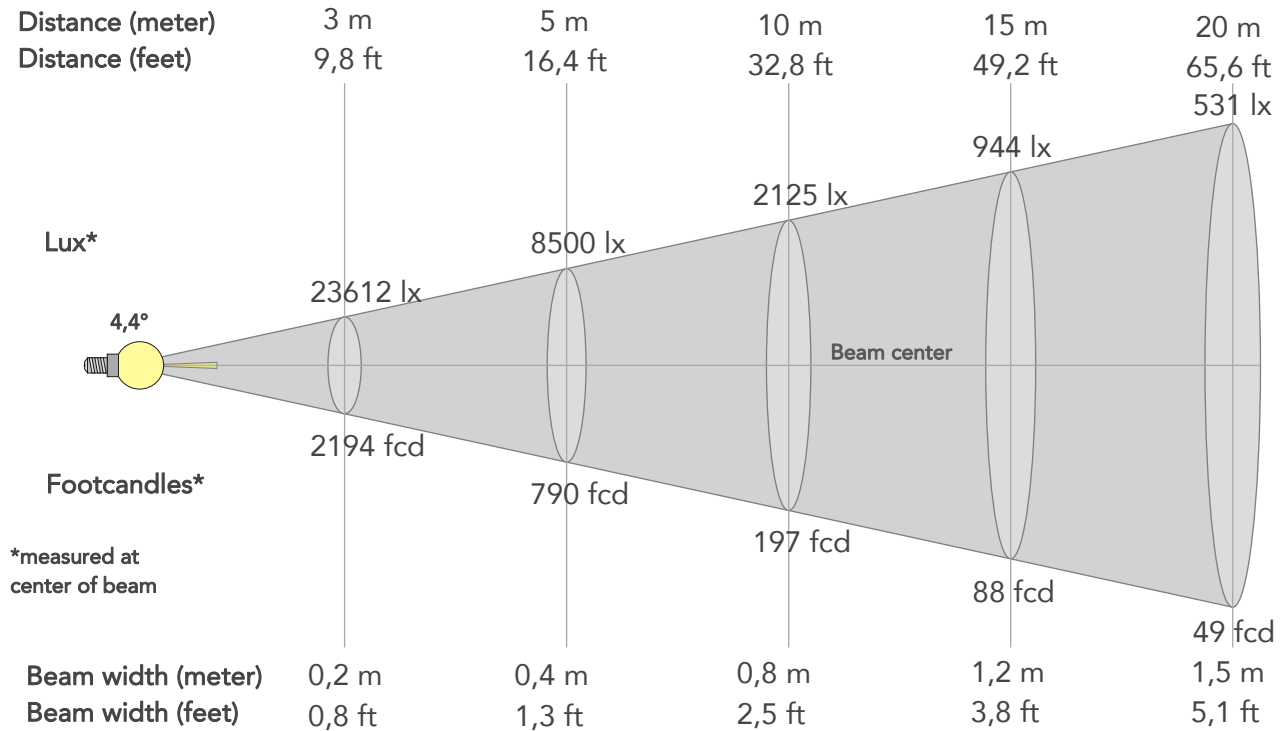
Rg 127,0
Gammut index

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	48	23%	-5%
2	49	20%	-15%
3	51	12%	-18%
4	78	7%	-7%
5	79	11%	8%
6	57	22%	16%
7	47	30%	6%
8	45	29%	-13%
9	50	20%	-20%
10	50	8%	-29%
11	64	0%	-24%
12	80	-1%	-10%
13	91	3%	3%
14	69	2%	21%
15	65	15%	12%
16	59	26%	9%



BEAM DETAILS

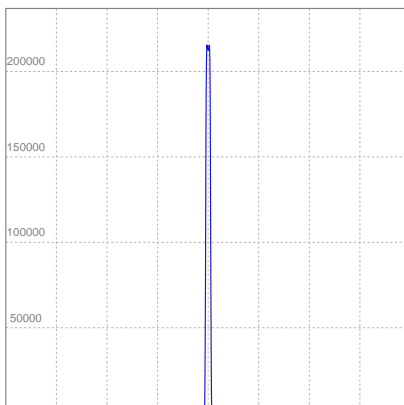
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
4,4°	5,6°	6,2°	100,0%	100,0%



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	212504lx	53126lx	23612lx	13281lx	8500lx	3778lx	2125lx	944lx	531lx	340lx	236lx	133lx	85lx
Footcand.	19742fcd	4936fcd	2194fcd	1234fcd	790fcd	351fcd	197fcd	88fcd	49fcd	32fcd	22fcd	12fcd	8fcd
Beam wid.	0,1m	0,2m	0,2m	0,3m	0,4m	0,6m	0,8m	1,2m	1,5m	1,9m	2,3m	3,1m	3,9m
Beam wid.	0,3ft	0,5ft	0,8ft	1ft	1,3ft	1,9ft	2,5ft	3,8ft	5,1ft	6,3ft	7,6ft	10,1ft	12,6ft

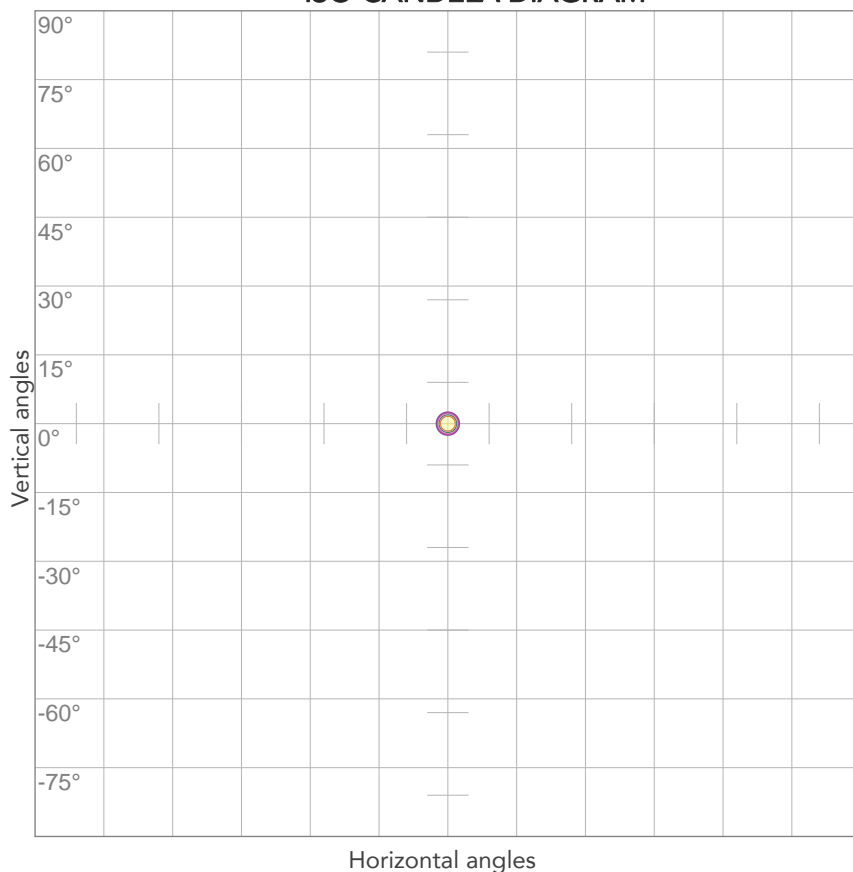
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Efficiency
221V	0,598A	129,3W	8lm/W

ISO CANDELA DIAGRAM



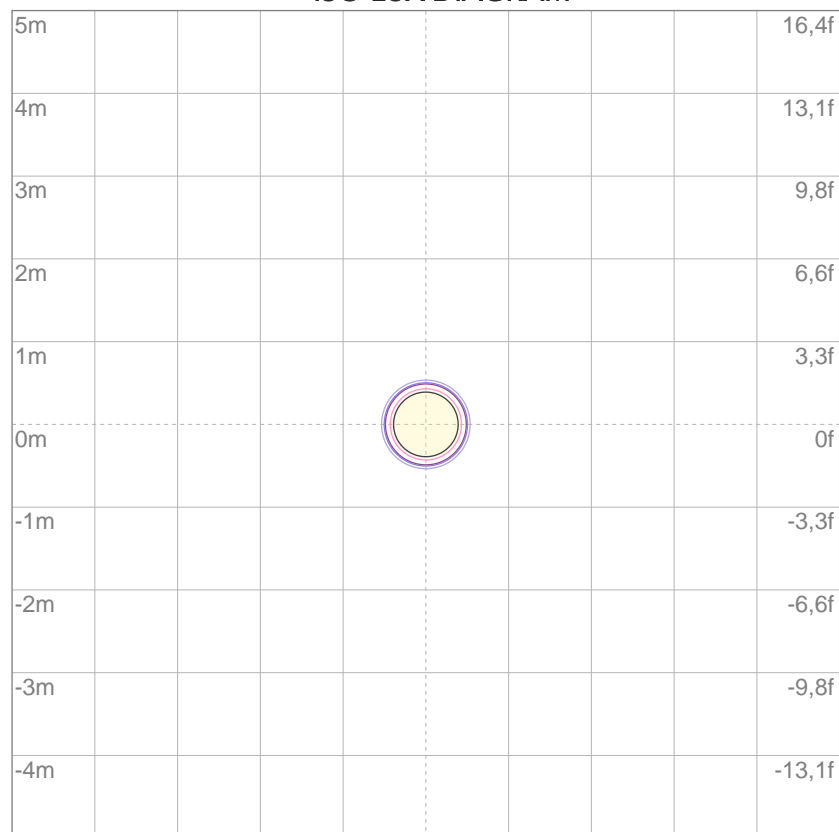
10%	21250 cd
20%	42501 cd
30%	63751 cd
40%	85002 cd
50%	106252 cd
60%	127502 cd
70%	148753 cd
80%	170003 cd

Conditions:

Number of c-planes: 2

Candela at center: 212504 cd

ISO LUX DIAGRAM



3%	63,8 lx
5%	106 lx
10%	213 lx
30%	638 lx
50%	1063 lx

Conditions:

Number of c-planes: 2

Lux at center: 2125 lx

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



Total lumen output:

1704 lm

Peak candela output:

13216 cd

Light quality:

CRI: 51,2

Color temperature:

3248 K

PRODUCT NAME:

Stark 400

MEASURAMENT CONDITIONS:

Beam angle:

Max Zoom

Target:

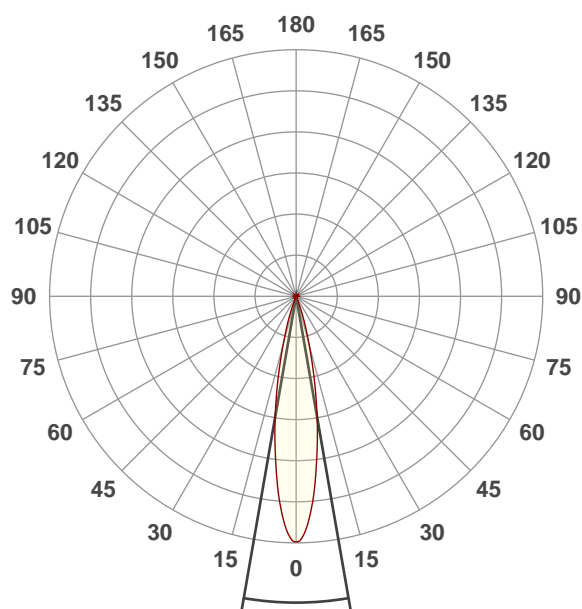
3200K

Operator:

Paolo Carvone

Date and time:

19/12/2019 18:15:35

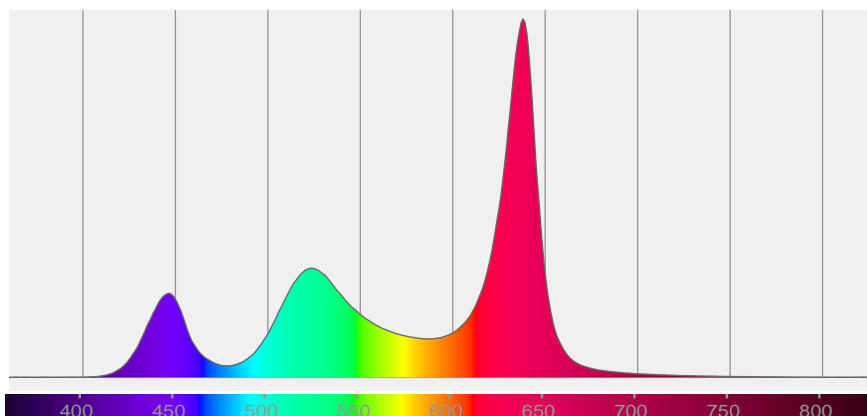


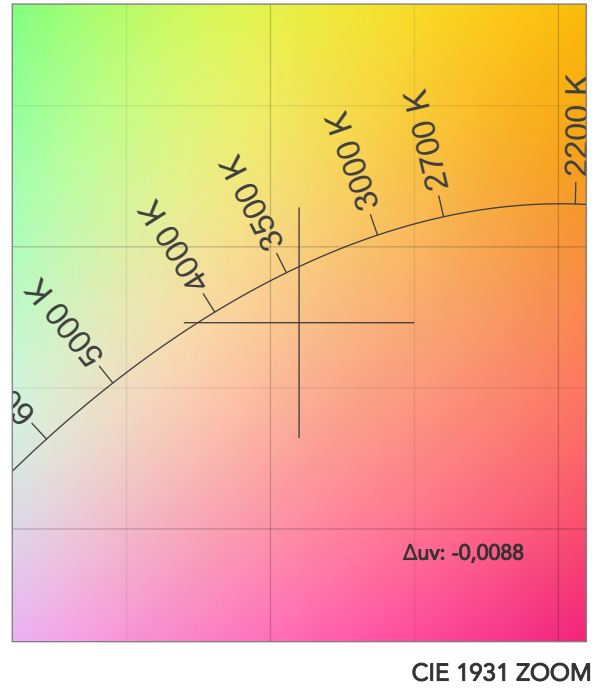
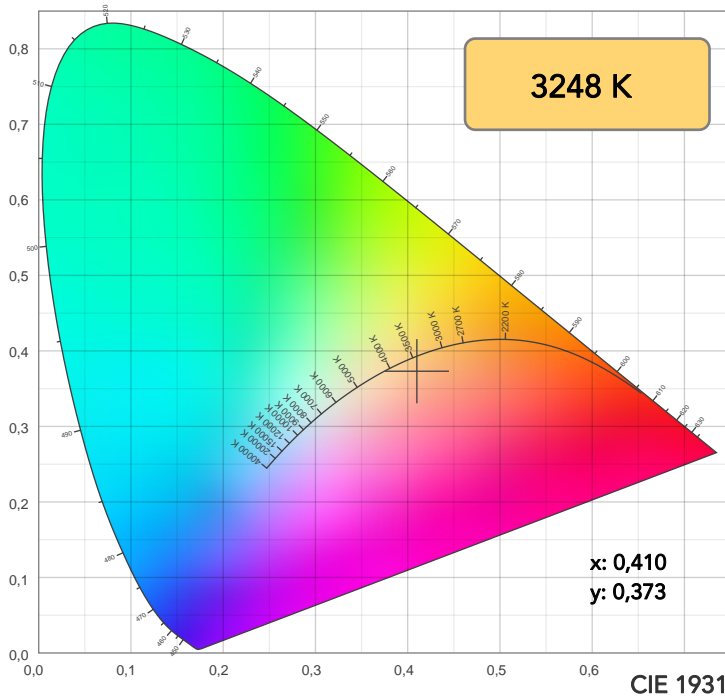
Beam angle 50%: 19,7°

Field angle 10%: 36,1°

Cut off angle 2.5%: 42,3°

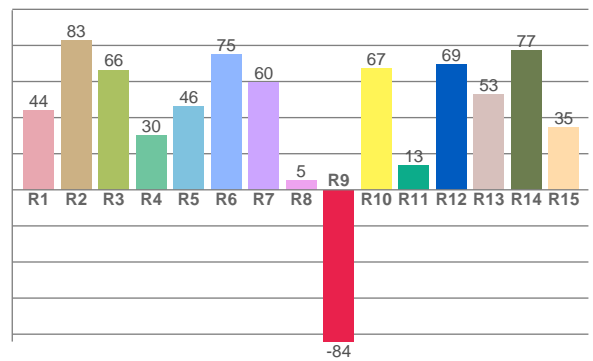
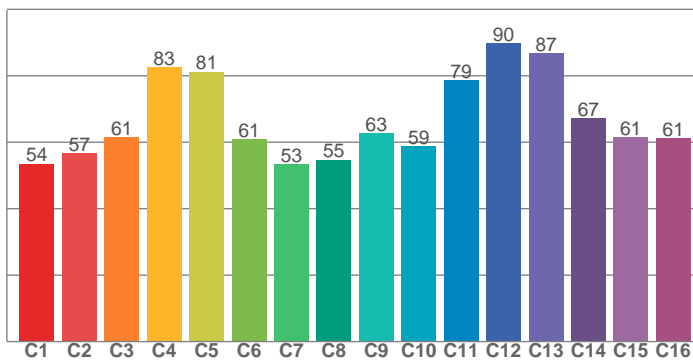
Spectra





TM30: 67,4

CRI: 51,2 (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
43,9	83,0	66,4	30,0	46,4	75,0	59,5	5,2	-84,1	67,4	13,5	69,4	52,8	77,3	34,8

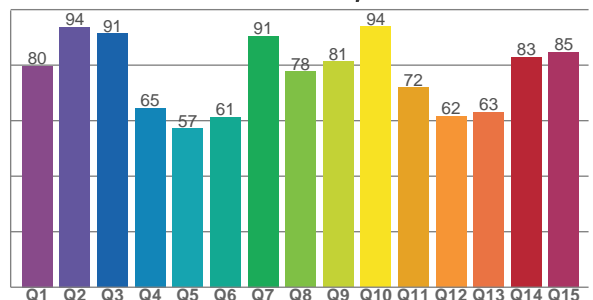
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
53,5	56,6	61,5	82,5	81,1	60,8	53,4	54,7	62,7	58,8	78,6	89,7	86,8	67,2	61,5	61,1

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
79,6	93,8	91,4	64,6	57,1	61,4	90,5	77,7	81,2	93,8	71,9	61,8	63,2	82,8	84,6

CQS: 73,7



COLOR PARAMETERS

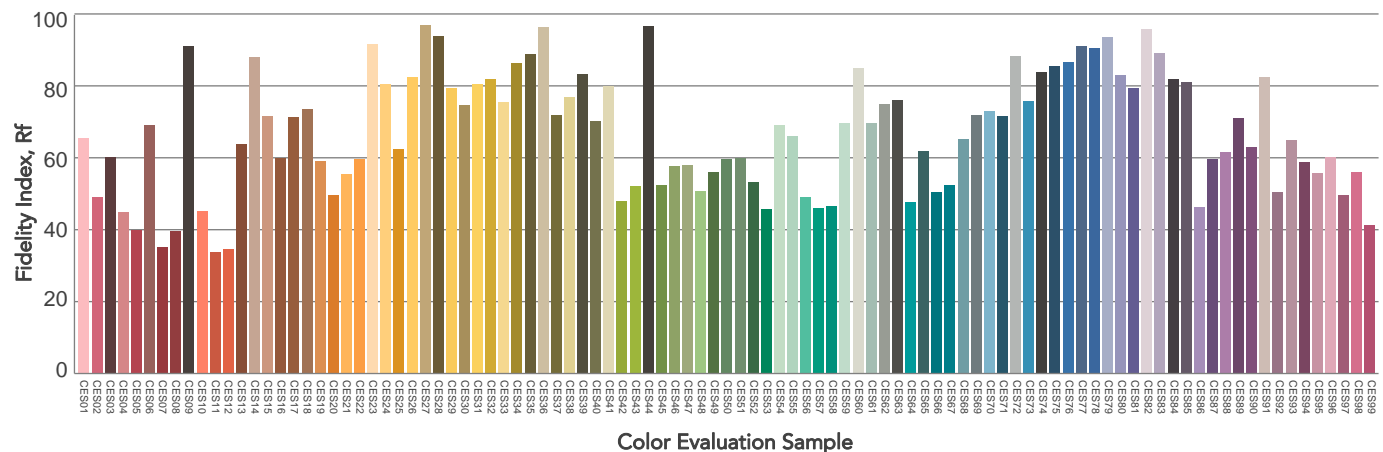
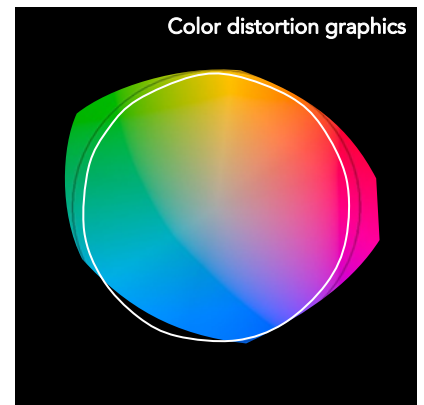
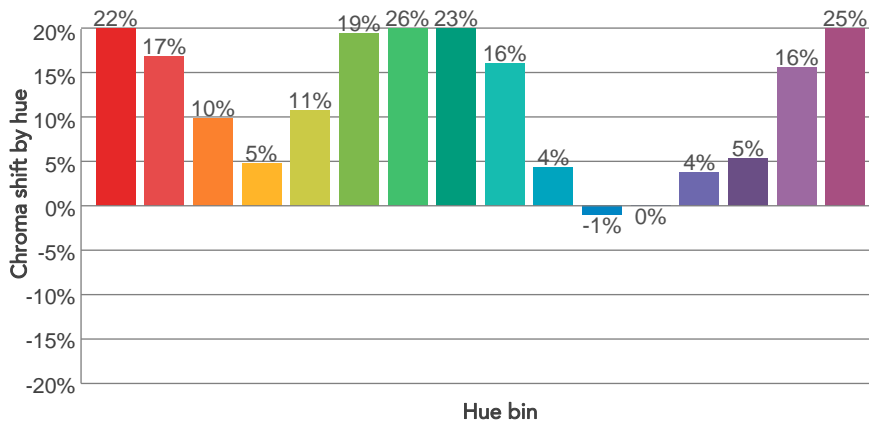
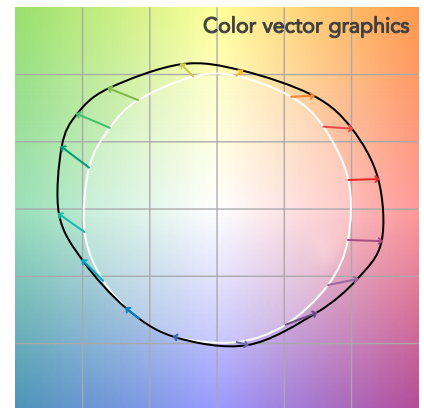
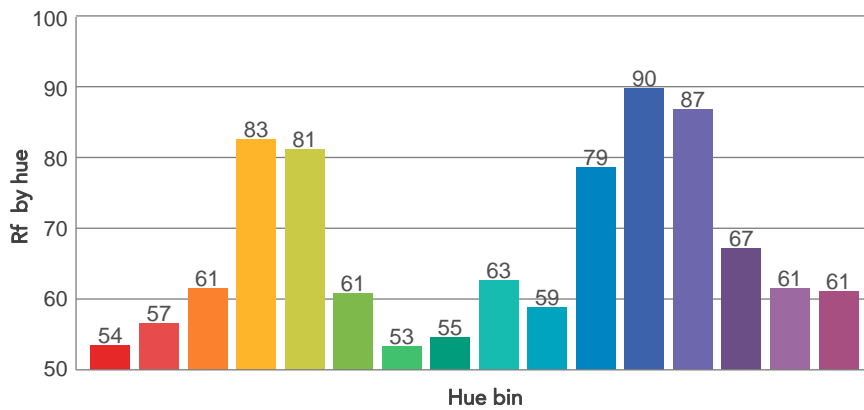
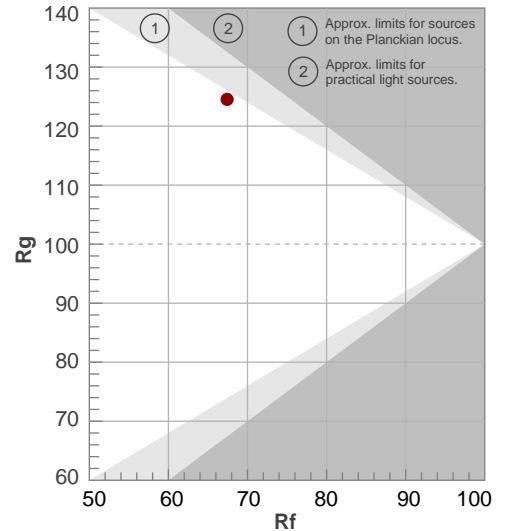
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
3248 K	51,2	-84,1	67,4	124,5	73,7	37	0,410	0,373	-0,0088

TM30 DETAILS

Rf 67,4
Fidelity index Rf

Rg 124,5
Gammut index

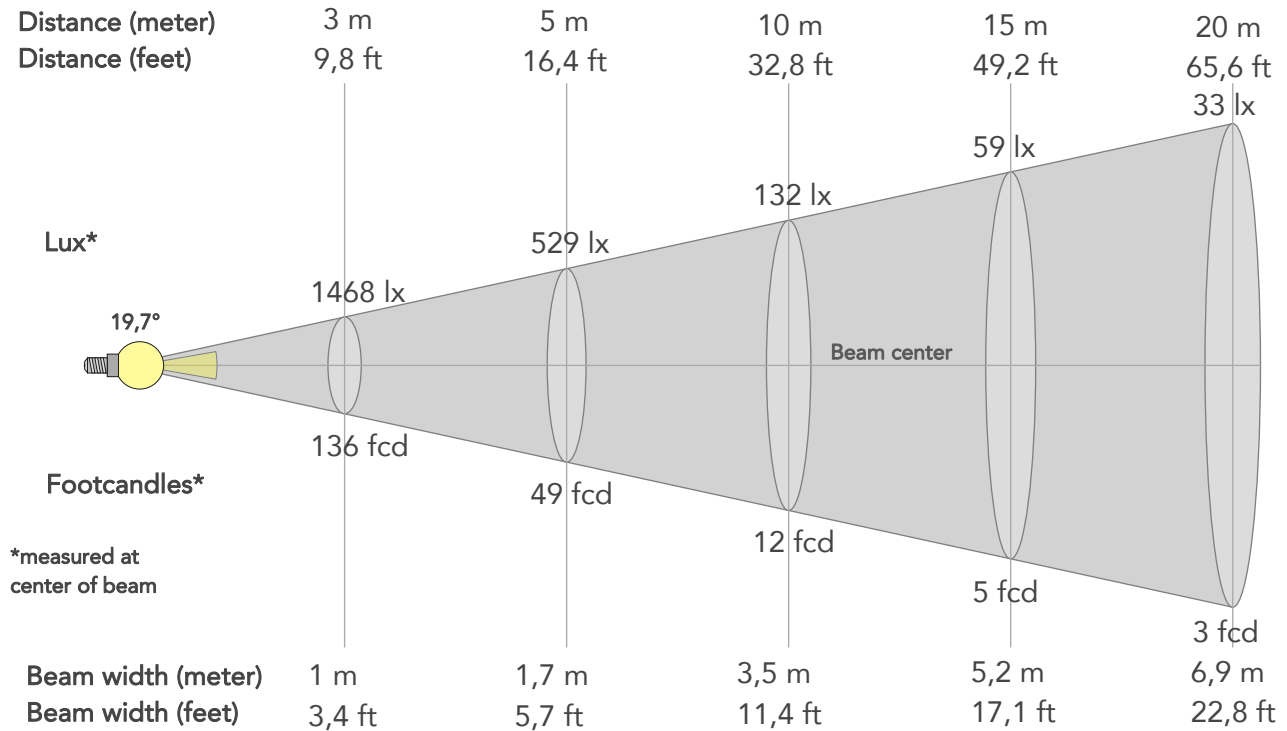
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	54	22%	-4%
2	57	17%	-13%
3	61	10%	-13%
4	83	5%	-4%
5	81	11%	7%
6	61	19%	13%
7	53	26%	5%
8	55	23%	-11%
9	63	16%	-17%
10	59	4%	-21%
11	79	-1%	-12%
12	90	0%	-3%
13	87	4%	7%
14	67	5%	24%
15	61	16%	16%
16	61	25%	4%



BEAM DETAILS



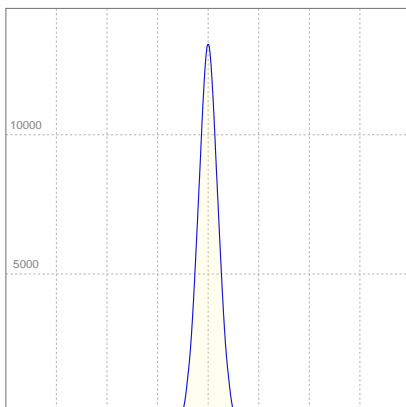
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
19,7°	36,1°	42,3°	99,7%	99,6%



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	13216lx	3304lx	1468lx	826lx	529lx	235lx	132lx	59lx	33lx	21lx	15lx	8lx	5lx
Footcand.	1228fcd	307fcd	136fcd	77fcd	49fcd	22fcd	12fcd	5fcd	3fcd	2fcd	1fcd	1fcd	0fcd
Beam wid.	0,3m	0,7m	1m	1,4m	1,7m	2,6m	3,5m	5,2m	6,9m	8,7m	10,4m	13,9m	17,4m
Beam wid.	1,1ft	2,3ft	3,4ft	4,5ft	5,7ft	8,5ft	11,4ft	17,1ft	22,8ft	28,5ft	34,2ft	45,5ft	56,9ft

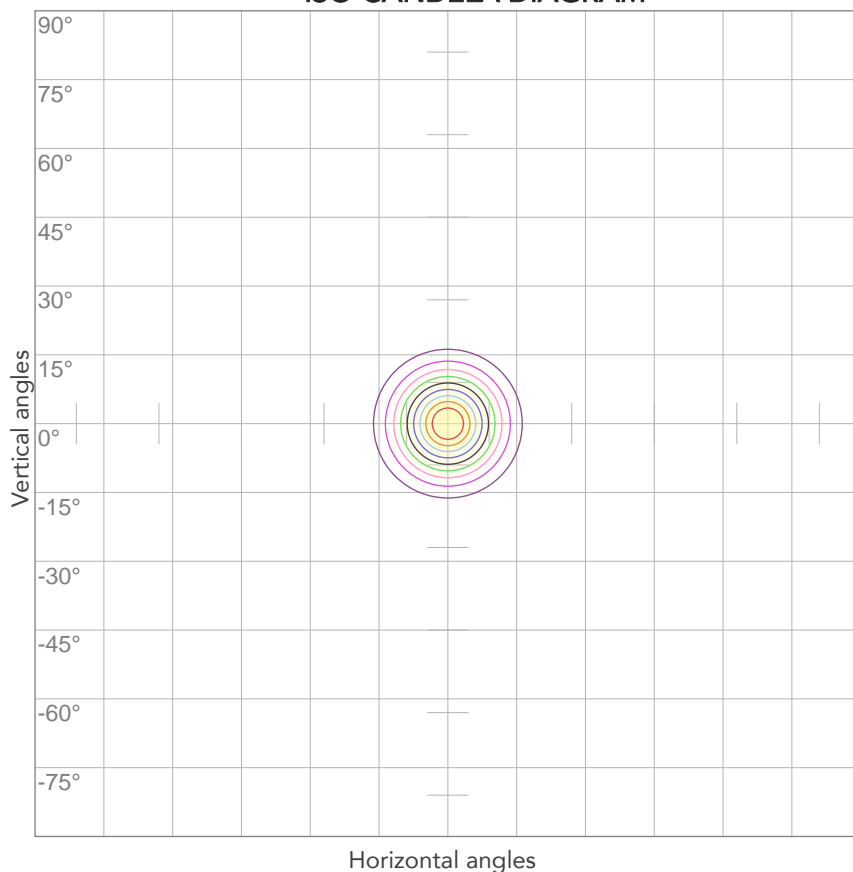
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
220V	0,646A	139,1W	12lm/W

ISO CANDELA DIAGRAM



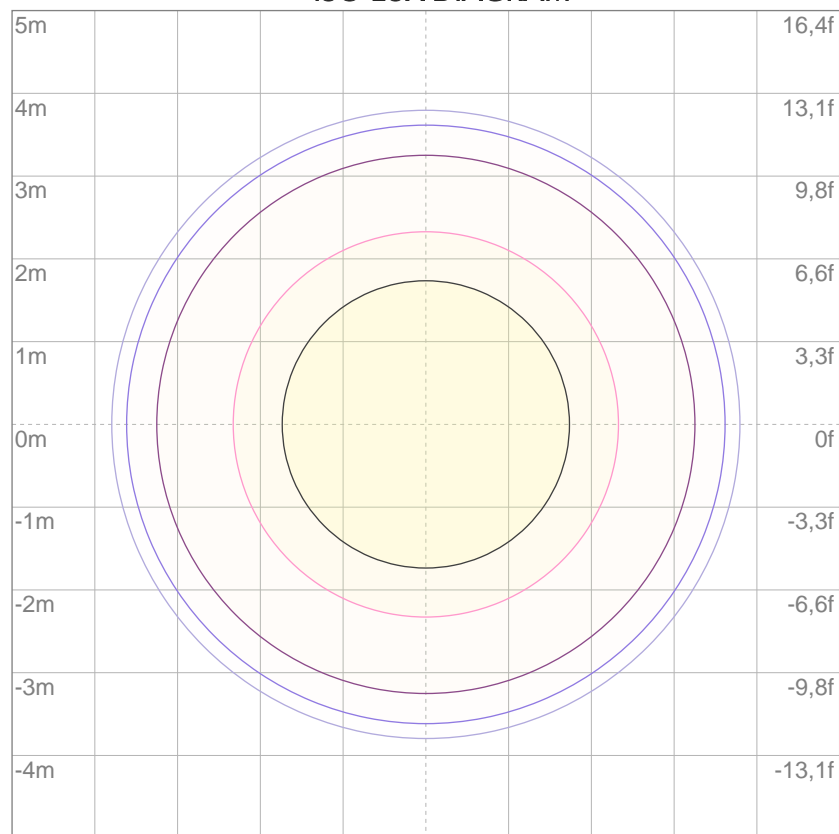
10%	1322 cd
20%	2643 cd
30%	3965 cd
40%	5286 cd
50%	6608 cd
60%	7930 cd
70%	9251 cd
80%	10573 cd

Conditions:

Number of c-planes: 2

Candela at center: 13216 cd

ISO LUX DIAGRAM



3%	3,96 lx
5%	6,61 lx
10%	13,2 lx
30%	39,6 lx
50%	66,1 lx

Conditions:

Number of c-planes: 2

Lux at center: 132 lx

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



Total lumen output:

1488 lm

Peak candela output:

51086 cd

Light quality:

CRI: 50,2

Color temperature:

3202 K

PRODUCT NAME:

Stark 400

MEASURAMENT CONDITIONS:

Beam angle:

Med Zoom

Target:

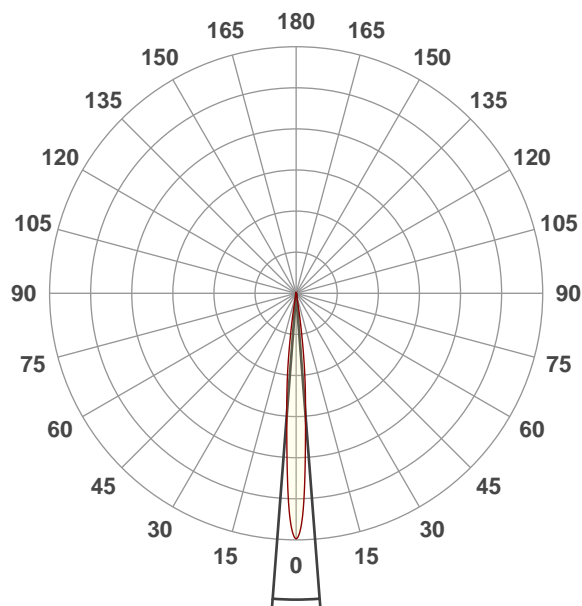
3200K

Operator:

Paolo Carvone

Date and time:

20/12/2019 10:12:26

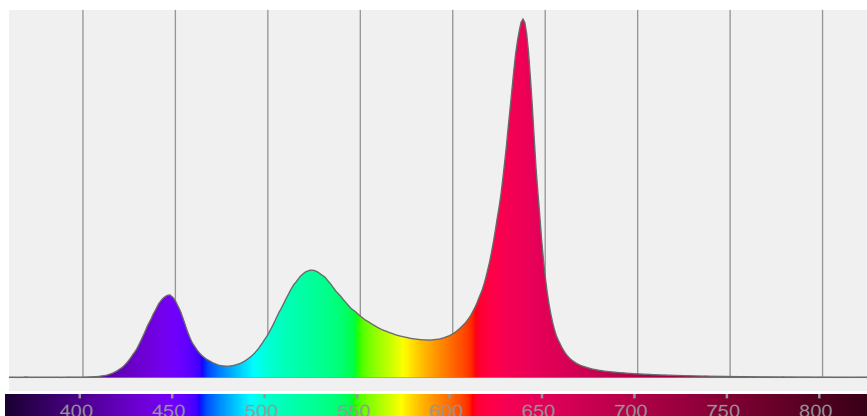


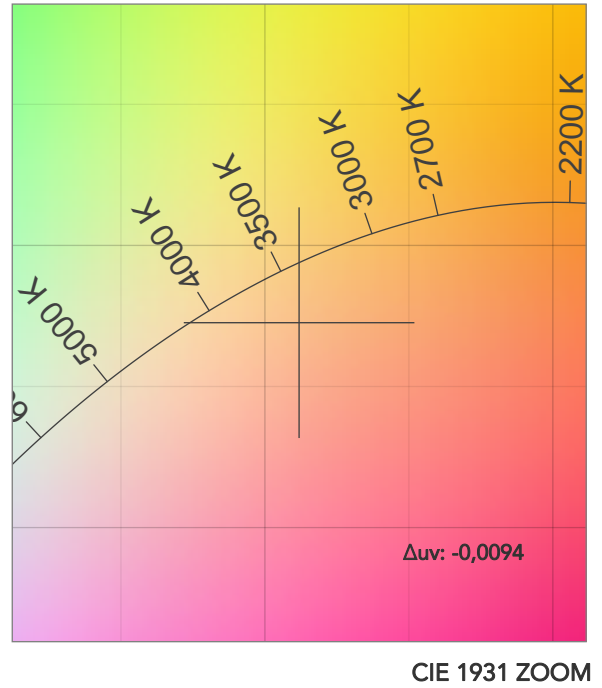
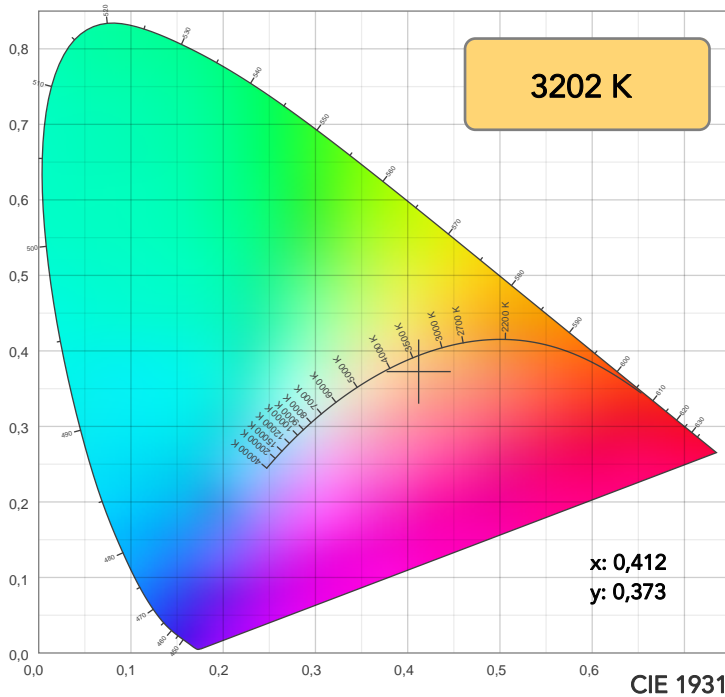
Beam angle 50%: 8,8°

Field angle 10%: 17,2°

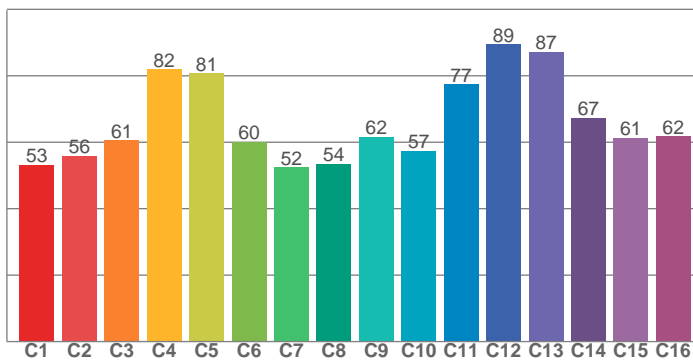
Cut off angle 2.5%: 20,2°

Spectra

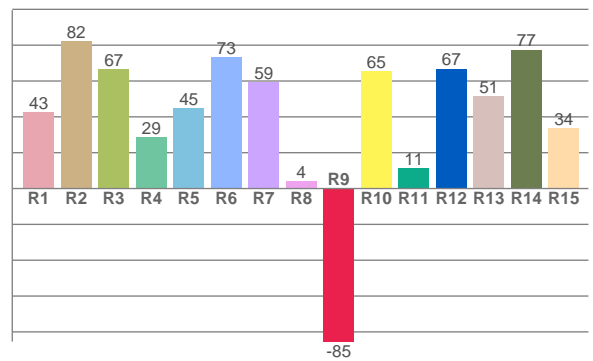




TM30: 66,8



CRI: 50,2 (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
42,5	82,1	66,7	28,5	44,8	73,4	59,4	4,1	-85,4	65,4	11,3	66,8	51,4	77,4	33,6

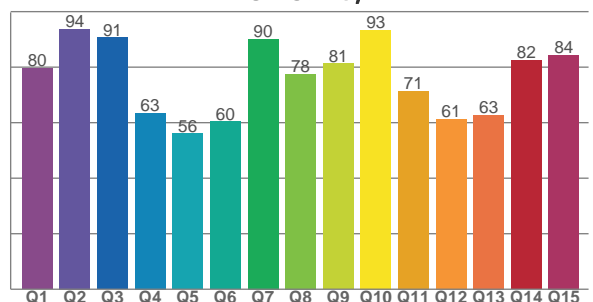
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
53,2	55,9	60,6	81,9	80,7	60,1	52,5	53,5	61,7	57,3	77,4	89,4	87,2	67,3	61,3	61,8

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
79,6	93,8	90,7	63,4	56,1	60,4	90,2	77,5	81,3	93,4	71,4	61,3	62,8	82,5	84,4

CQS: 73,2



COLOR PARAMETERS

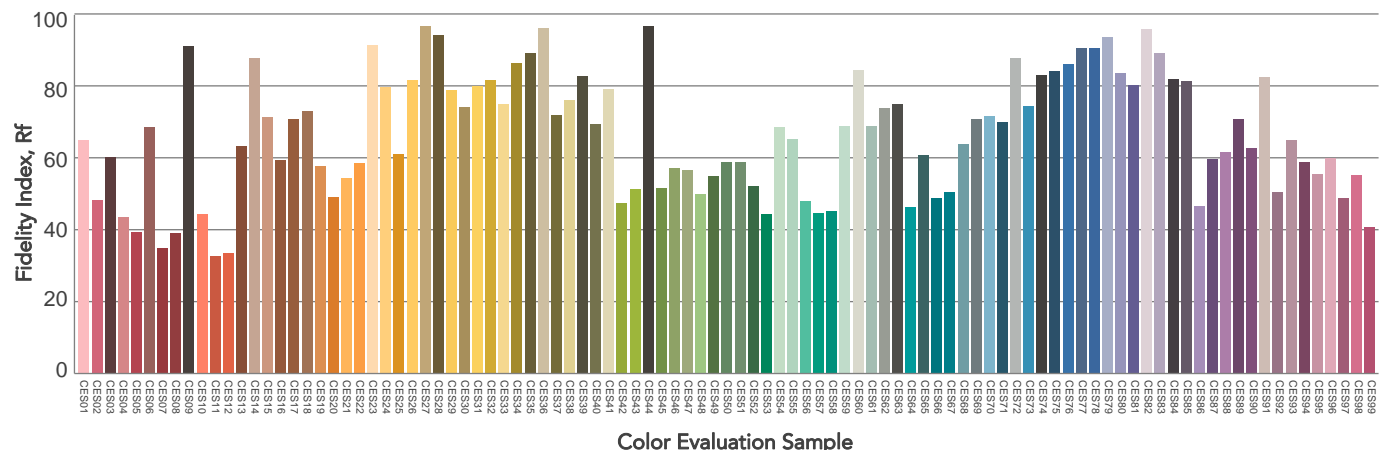
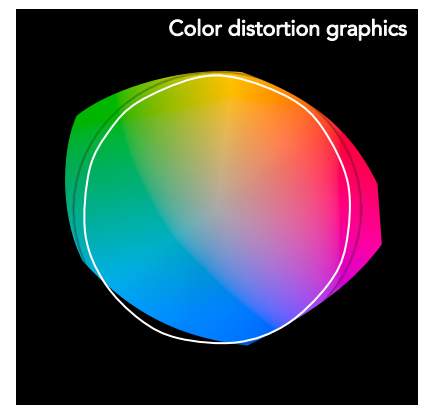
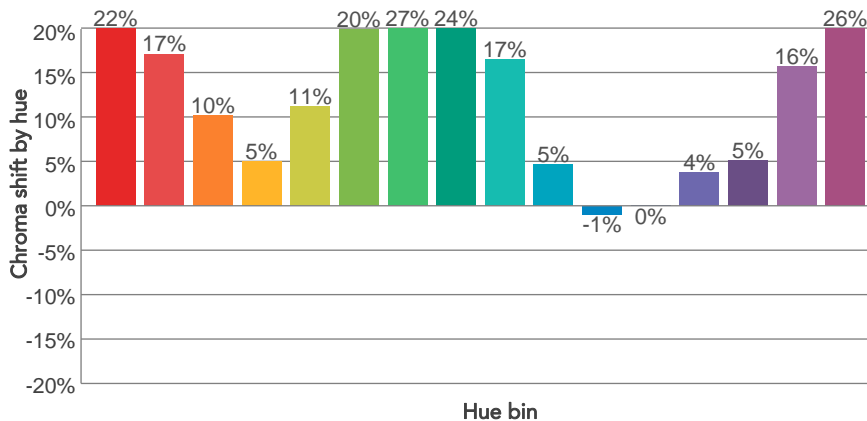
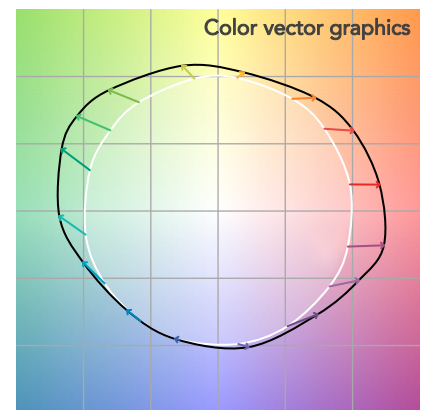
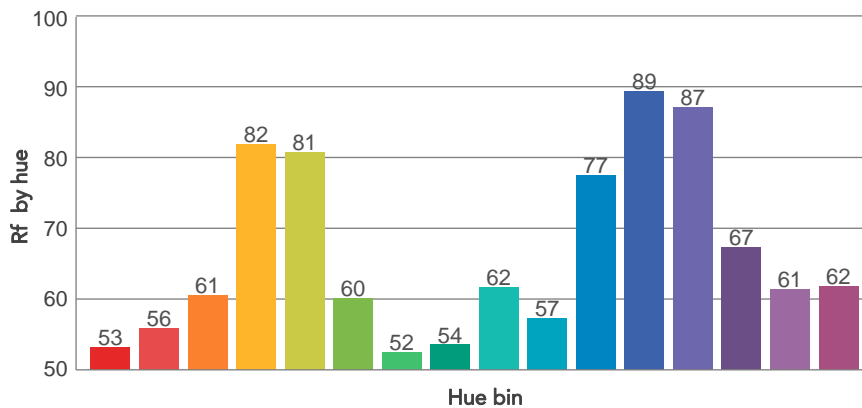
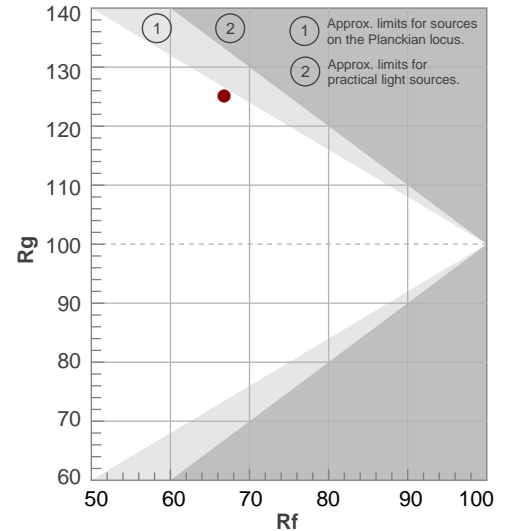
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
3202 K	50,2	-85,4	66,8	125,1	73,2	36	0,412	0,373	-0,0094

TM30 DETAILS

Rf 66,8
Fidelity index Rf

Rg 125,1
Gammut index

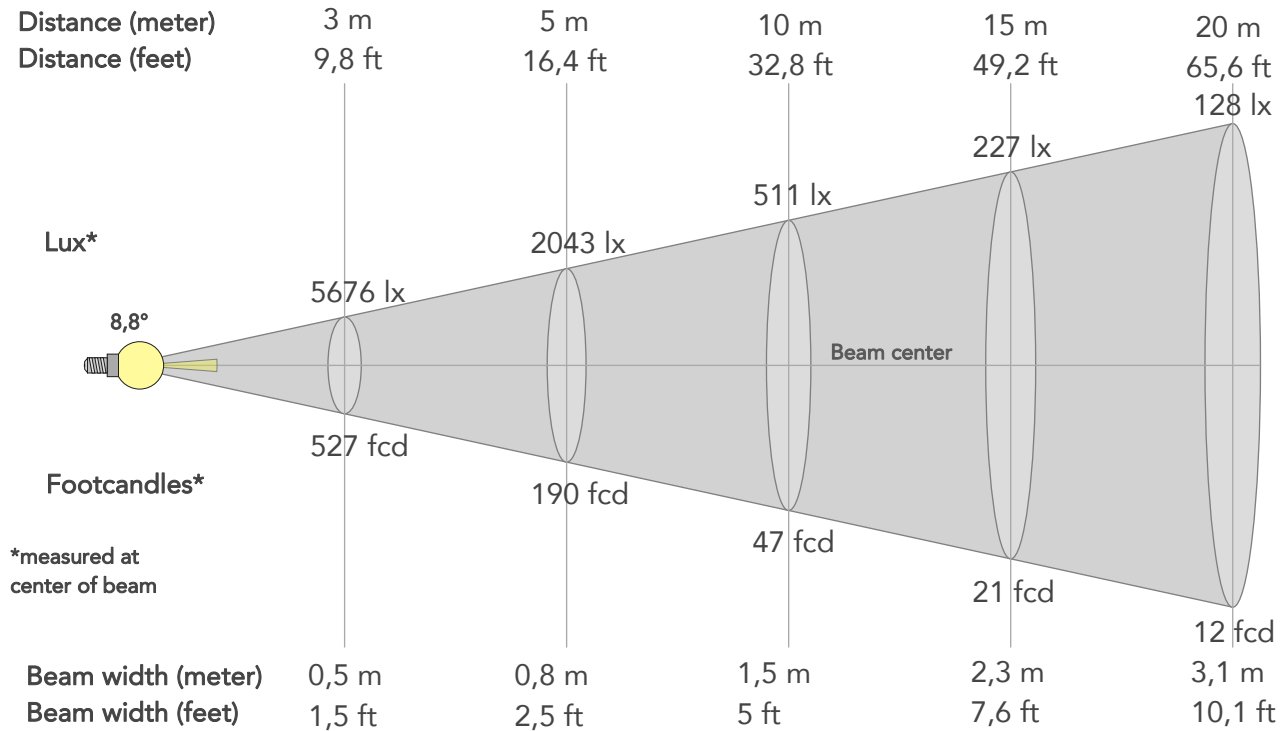
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	53	22%	-4%
2	56	17%	-13%
3	61	10%	-14%
4	82	5%	-4%
5	81	11%	7%
6	60	20%	14%
7	52	27%	5%
8	54	24%	-11%
9	62	17%	-17%
10	57	5%	-22%
11	77	-1%	-13%
12	89	0%	-3%
13	87	4%	7%
14	67	5%	23%
15	61	16%	16%
16	62	26%	6%



BEAM DETAILS



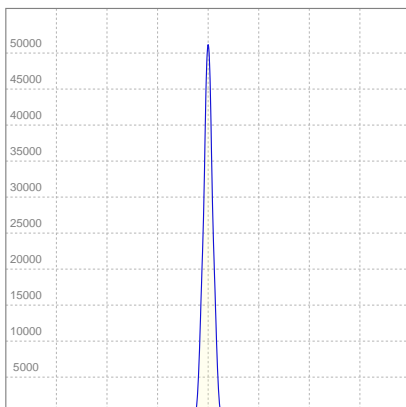
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
8,8°	17,2°	20,2°	99,8%	99,7%



BEAM INTENSITIES AND WIDTHS

Distance	1m	2m	3m	4m	5m	7,5m	10m	15m	20m	25m	30m	40m	50m
Distance	3,3ft	6,6ft	9,8ft	13,1ft	16,4ft	24,6ft	32,8ft	49,2ft	65,6ft	82ft	98,4ft	131,2ft	164ft
Lux	51086lx	12771lx	5676lx	3193lx	2043lx	908lx	511lx	227lx	128lx	82lx	57lx	32lx	20lx
Footcand.	4746fcd	1187fcd	527fcd	297fcd	190fcd	84fcd	47fcd	21fcd	12fcd	8fcd	5fcd	3fcd	2fcd
Beam wid.	0,2m	0,3m	0,5m	0,6m	0,8m	1,2m	1,5m	2,3m	3,1m	3,8m	4,6m	6,2m	7,7m
Beam wid.	0,5ft	1ft	1,5ft	2ft	2,5ft	3,8ft	5ft	7,6ft	10,1ft	12,6ft	15,1ft	20,2ft	25,2ft

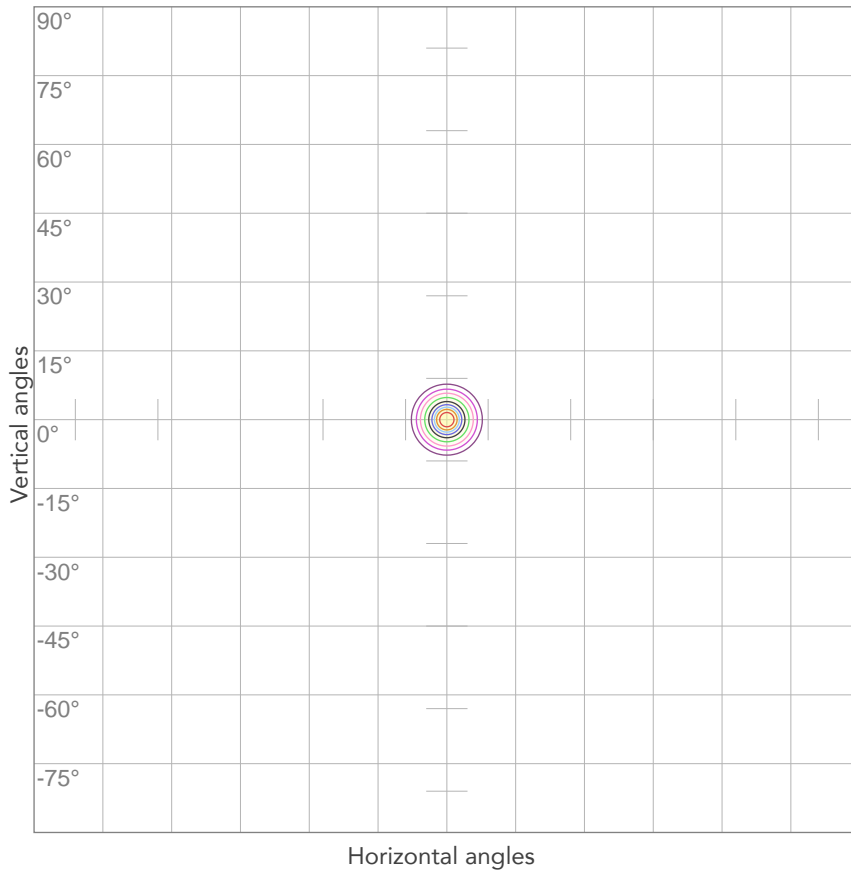
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
224V	0,632A	138,5W	11lm/W

ISO CANDELA DIAGRAM



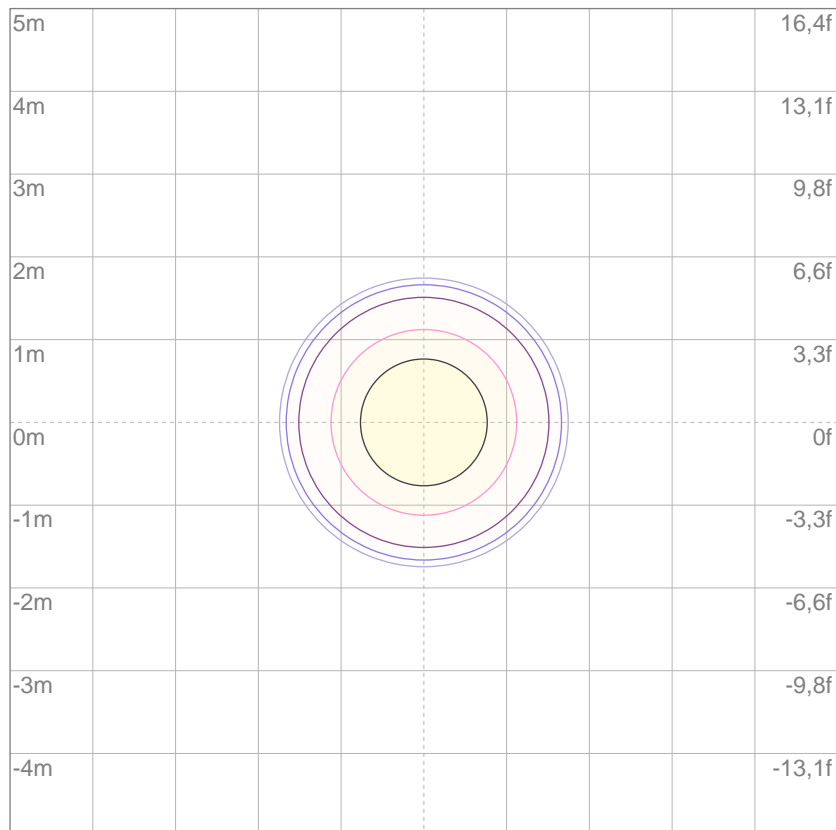
10%	5109 cd
20%	10217 cd
30%	15326 cd
40%	20434 cd
50%	25543 cd
60%	30652 cd
70%	35760 cd
80%	40869 cd

Conditions:

Number of c-planes: 2

Candela at center: 51086 cd

ISO LUX DIAGRAM



3%	15,3 lx
5%	25,5 lx
10%	51,1 lx
30%	153 lx
50%	255 lx

Conditions:

Number of c-planes: 2

Lux at center: 511 lx

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



Total lumen output:

1205 lm

Peak candela output:

245375 cd

Light quality:

CRI: 49,8

Color temperature:

3181 K

PRODUCT NAME:

Stark 400

MEASURAMENT CONDITIONS:

Beam angle:

Min Zoom

Target:

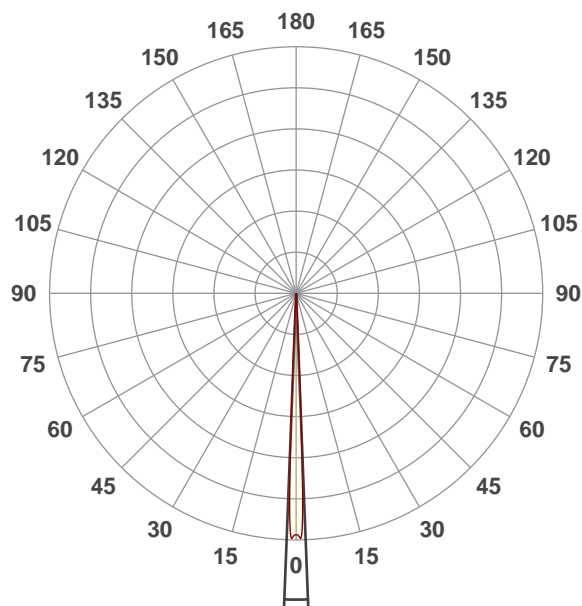
3200K

Operator:

Paolo Carvone

Date and time:

19/12/2019 17:52:30

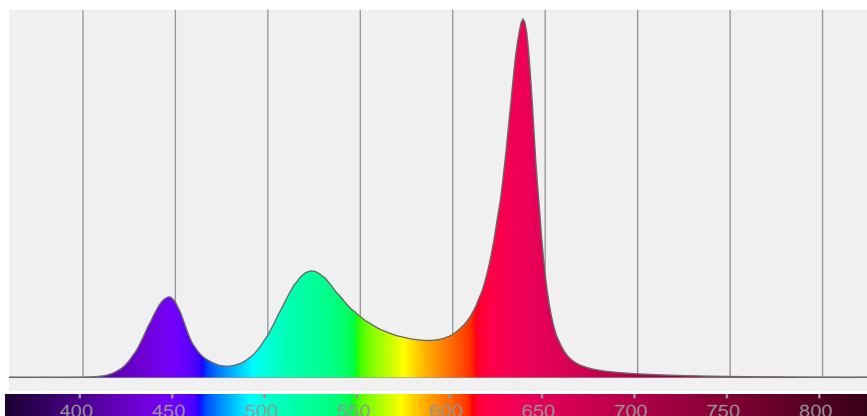


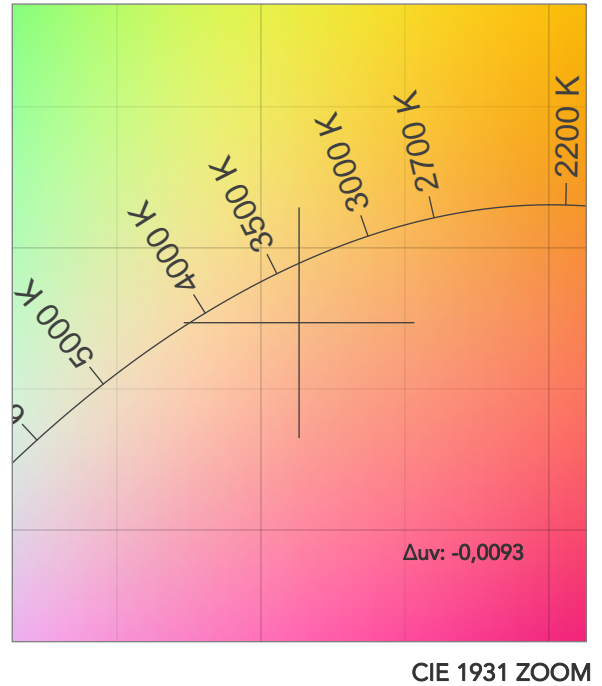
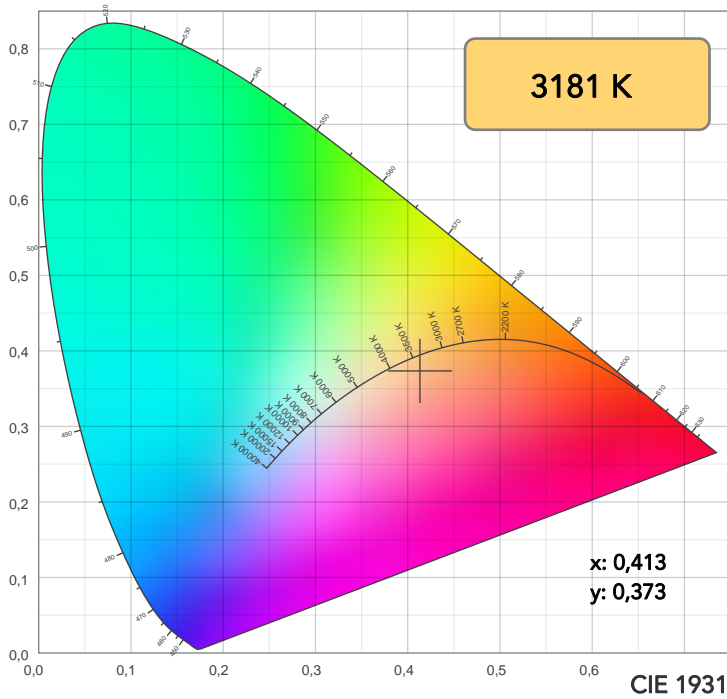
Beam angle 50%: 4,4°

Field angle 10%: 5,6°

Cut off angle 2.5%: 6,1°

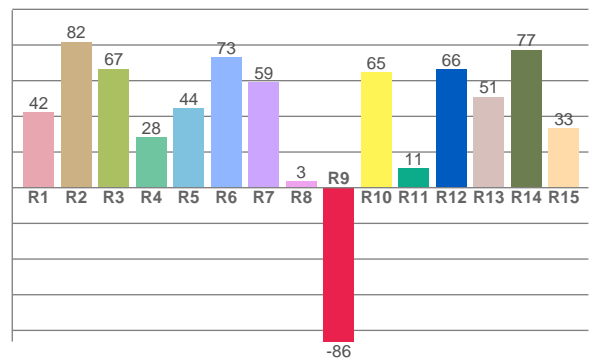
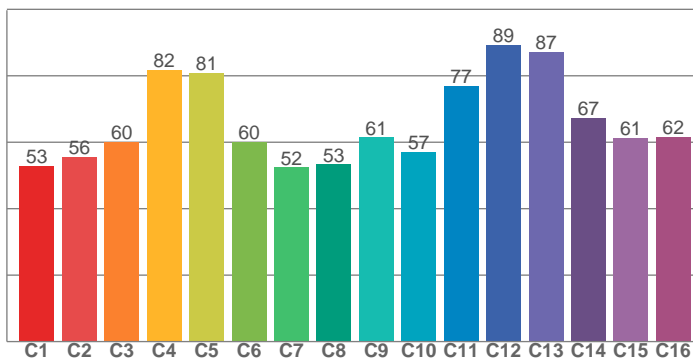
Spectra





TM30: 66,6

CRI: 49,8 (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
42,1	81,8	66,7	28,1	44,3	73,0	59,2	3,5	-86,3	64,8	10,8	66,2	50,9	77,3	33,3

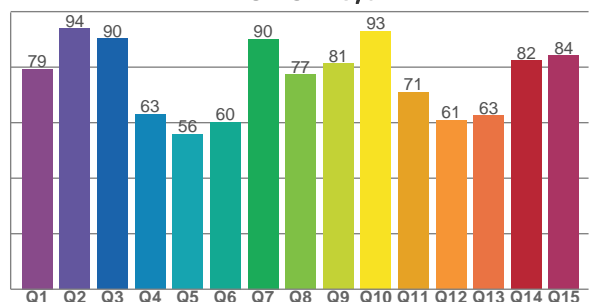
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
52,9	55,6	60,1	81,8	80,9	60,2	52,4	53,4	61,5	57,0	77,0	89,2	87,3	67,3	61,3	61,6

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
79,4	93,9	90,4	63,0	55,8	60,2	90,1	77,4	81,3	93,1	71,0	60,9	62,5	82,3	84,2

CQS: 73,0



COLOR PARAMETERS

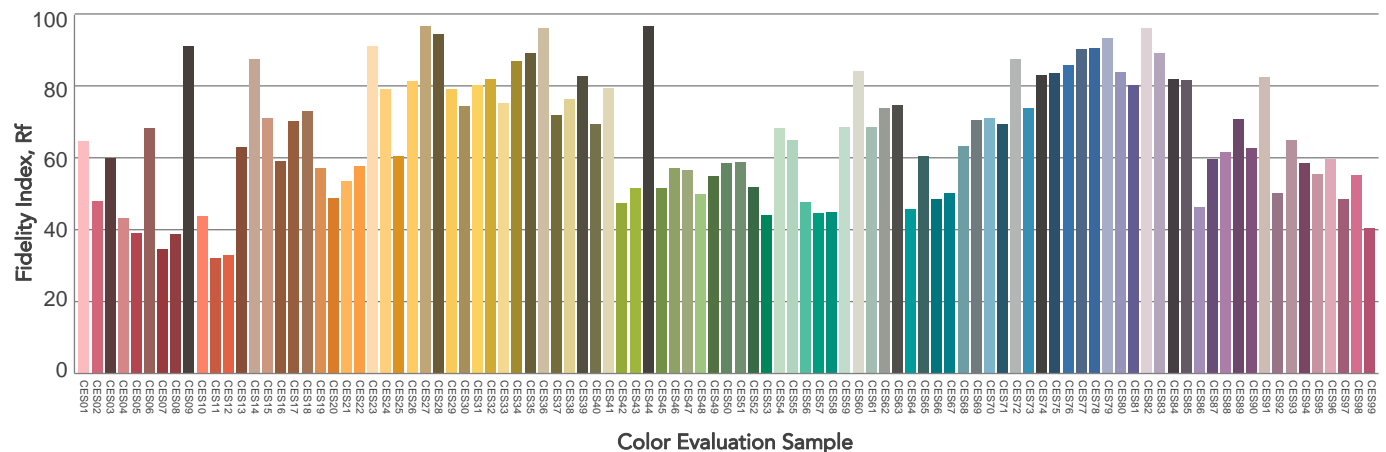
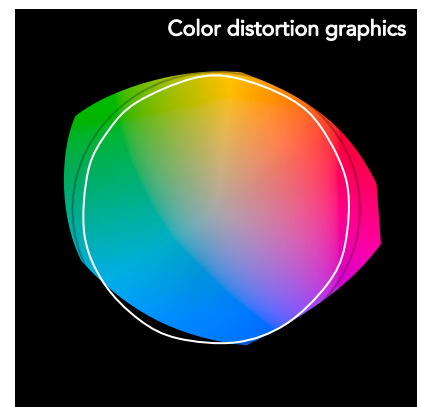
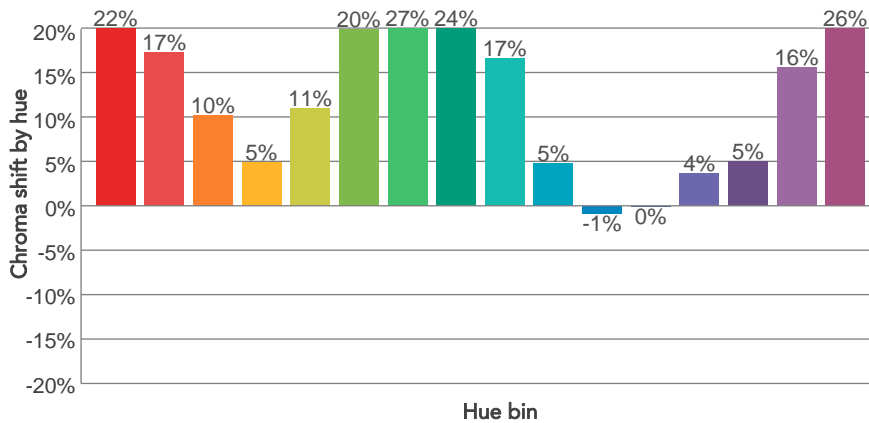
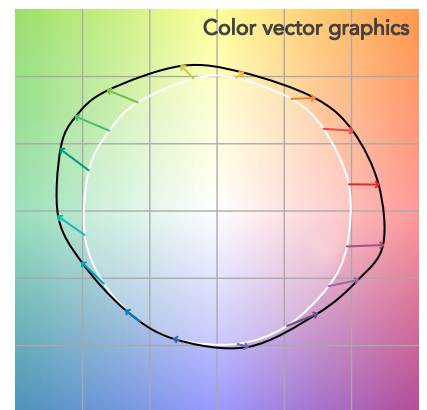
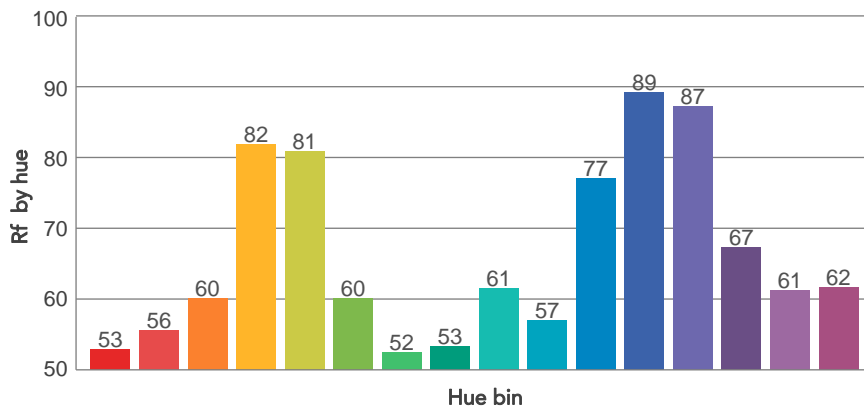
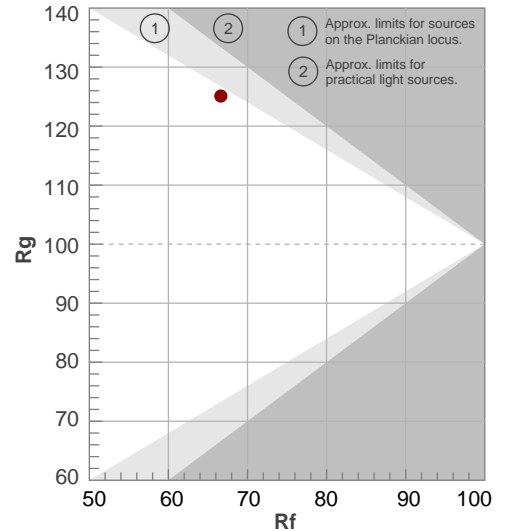
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
3181 K	49,8	-86,3	66,6	125,1	73,0	36	0,413	0,373	-0,0093

TM30 DETAILS

Rf 66,6
Fidelity index Rf

Rg 125,1
Gammut index

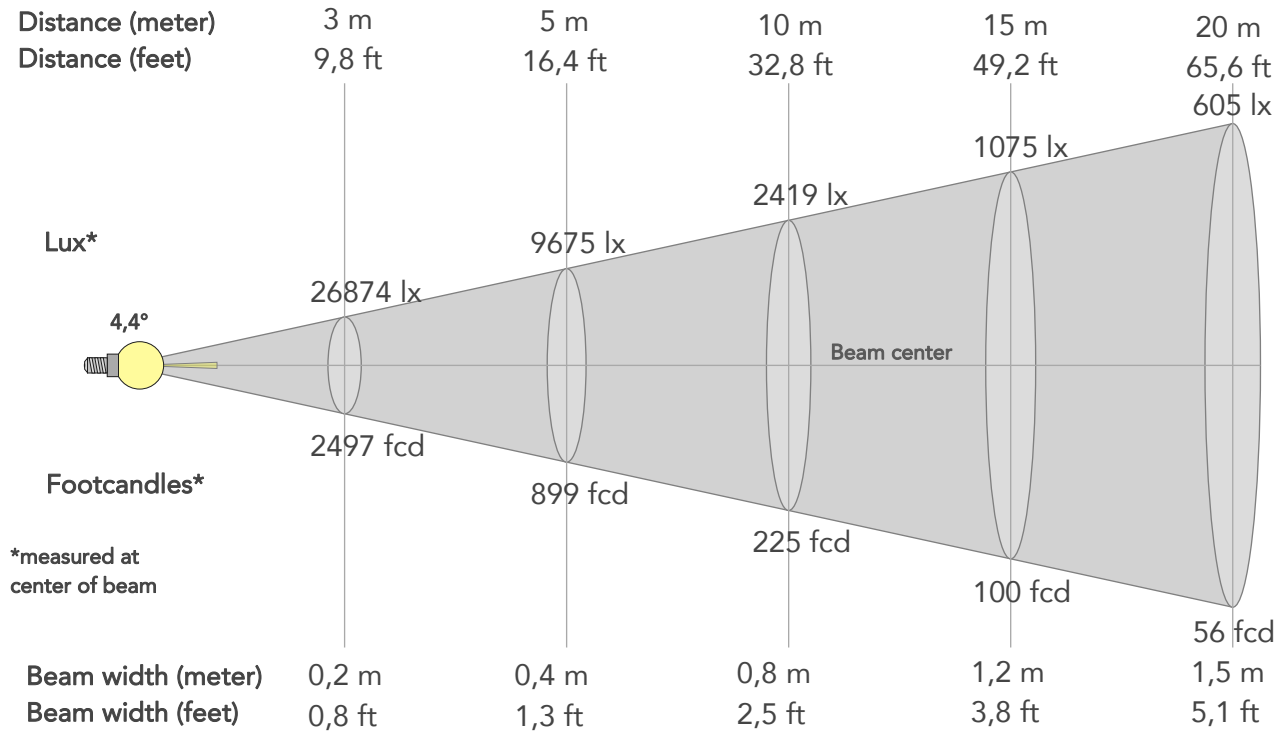
		Graphic shifts (%)	
Hue Bin	R _f	Chroma	Hue
1	53	22%	-4%
2	56	17%	-13%
3	60	10%	-14%
4	82	5%	-4%
5	81	11%	7%
6	60	20%	14%
7	52	27%	5%
8	53	24%	-11%
9	61	17%	-17%
10	57	5%	-22%
11	77	-1%	-13%
12	89	0%	-4%
13	87	4%	7%
14	67	5%	23%
15	61	16%	16%
16	62	26%	6%



BEAM DETAILS



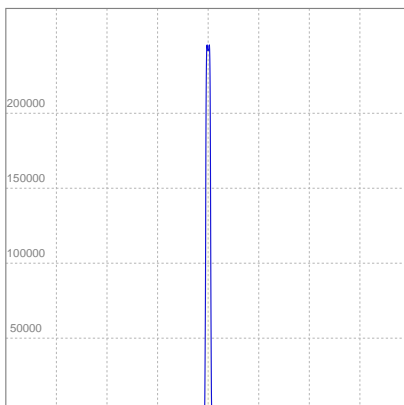
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
4,4°	5,6°	6,1°	100,0%	100,0%



BEAM INTENSITIES AND WIDTHS

Distance	1m	2m	3m	4m	5m	7,5m	10m	15m	20m	25m	30m	40m	50m
Distance	3,3ft	6,6ft	9,8ft	13,1ft	16,4ft	24,6ft	32,8ft	49,2ft	65,6ft	82ft	98,4ft	131,2ft	164ft
Lux	241864lx	60466lx	26874lx	15116lx	9675lx	4300lx	2419lx	1075lx	605lx	387lx	269lx	151lx	97lx
Footcand.	22470fcd	5617fcd	2497fcd	1404fcd	899fcd	399fcd	225fcd	100fcd	56fcd	36fcd	25fcd	14fcd	9fcd
Beam wid.	0,1m	0,2m	0,2m	0,3m	0,4m	0,6m	0,8m	1,2m	1,5m	1,9m	2,3m	3,1m	3,9m
Beam wid.	0,3ft	0,5ft	0,8ft	1ft	1,3ft	1,9ft	2,5ft	3,8ft	5,1ft	6,3ft	7,6ft	10,1ft	12,7ft

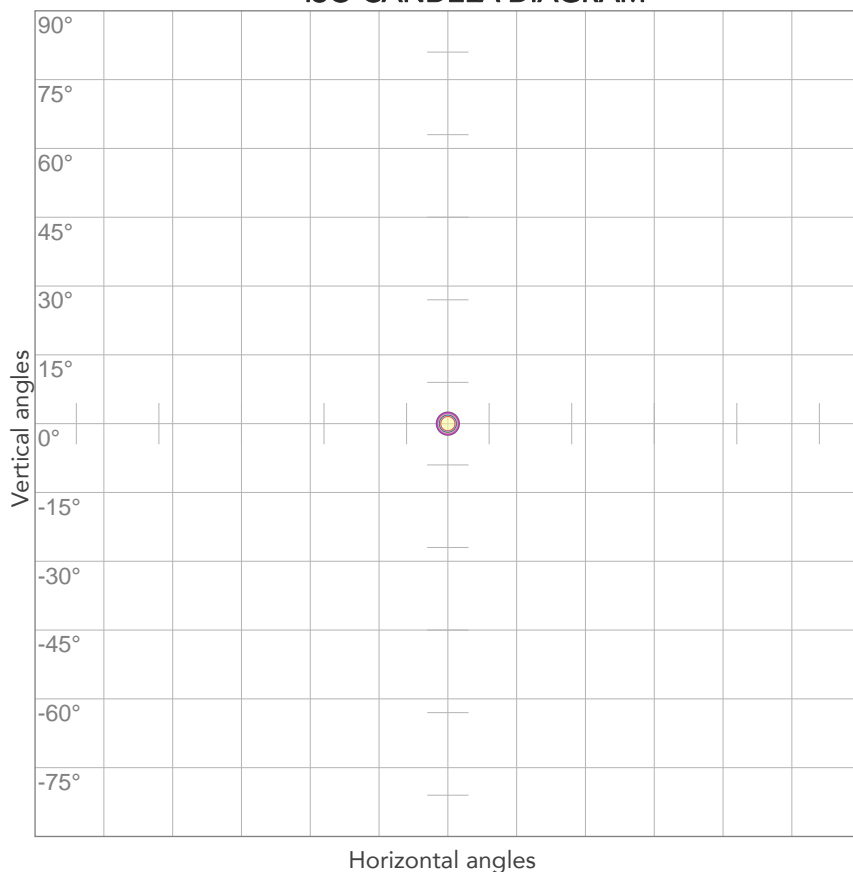
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
221V	0,641A	138,5W	9lm/W

ISO CANDELA DIAGRAM



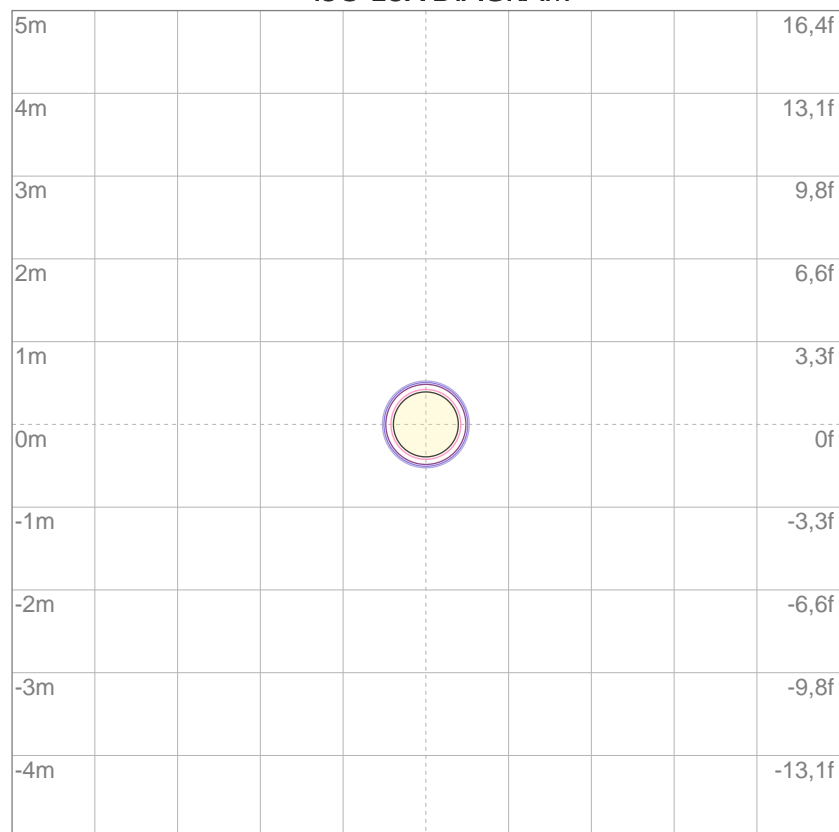
10%	24186 cd
20%	48373 cd
30%	72559 cd
40%	96745 cd
50%	120932 cd
60%	145118 cd
70%	169304 cd
80%	193491 cd

Conditions:

Number of c-planes: 2

Candela at center: 241864 cd

ISO LUX DIAGRAM



3%	72,6 lx
5%	121 lx
10%	242 lx
30%	726 lx
50%	1209 lx

Conditions:

Number of c-planes: 2

Lux at center: 2419 lx

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



Total lumen output:

2289 lm

Peak candela output:

17561 cd

Light quality:

CRI: 68,0

Color temperature:

4096 K

PRODUCT NAME:

Stark 400

MEASURAMENT CONDITIONS:

Beam angle:

Max Zoom

Target:

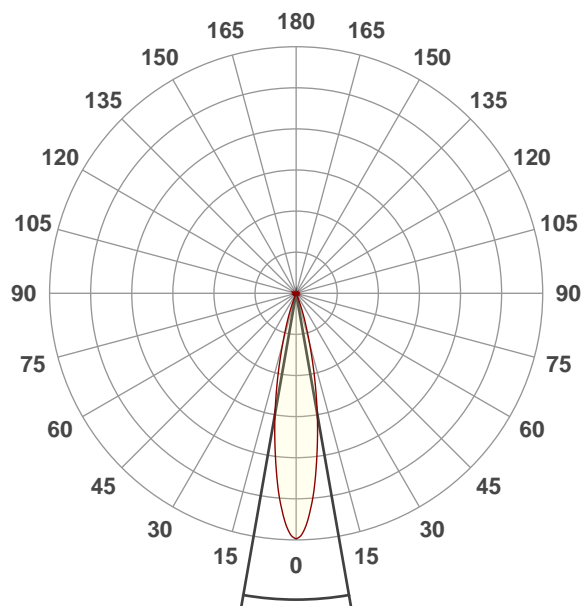
4000K

Operator:

Paolo Carvone

Date and time:

19/12/2019 18:17:35

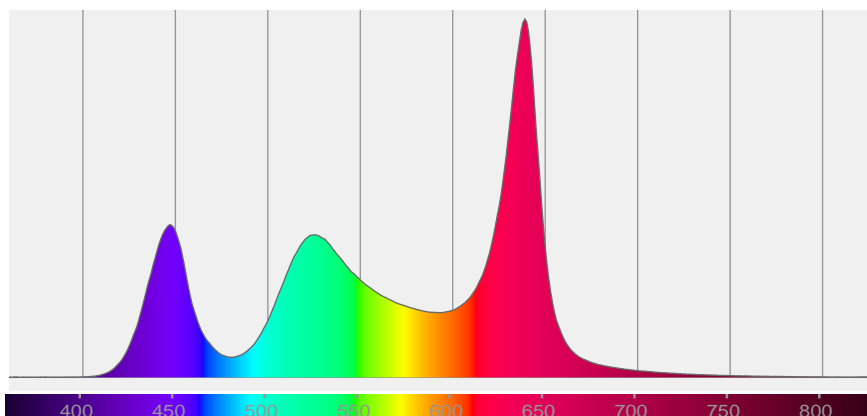


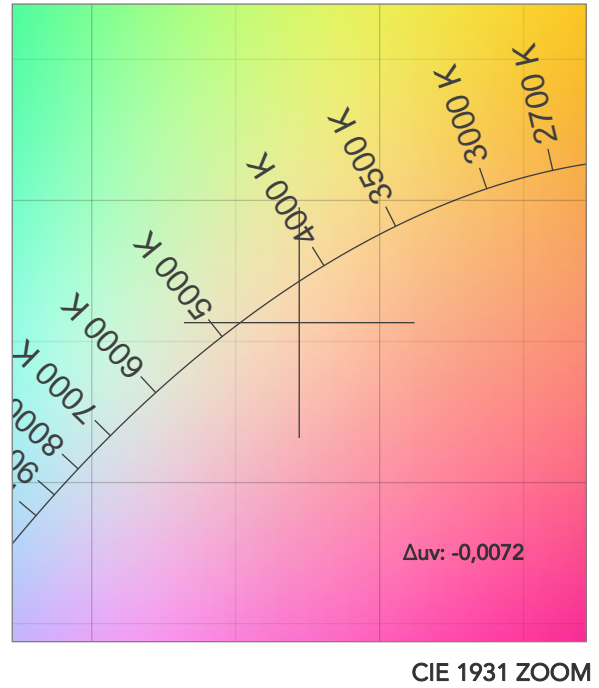
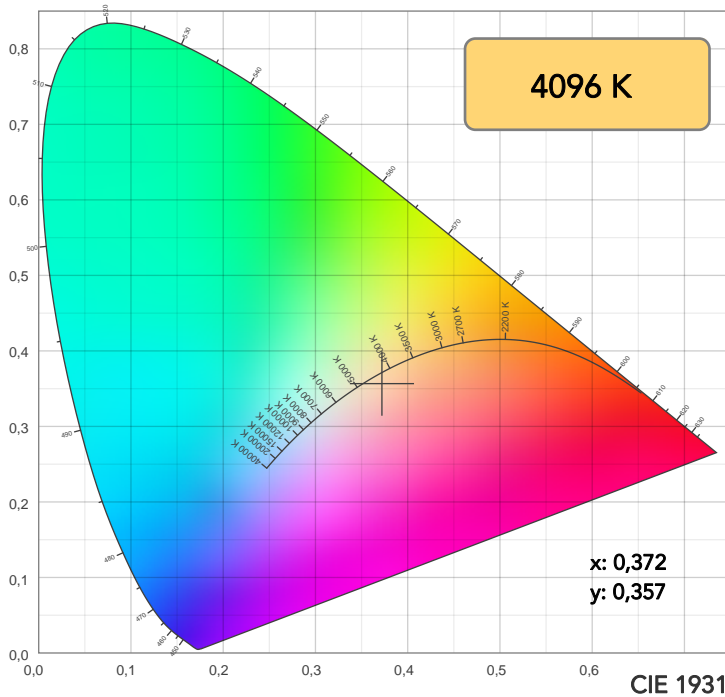
Beam angle 50%: 19,9°

Field angle 10%: 36,2°

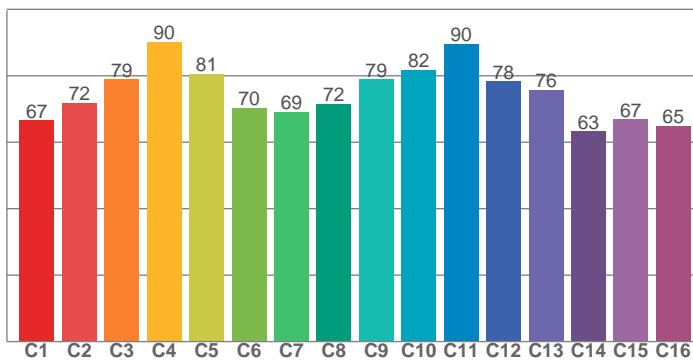
Cut off angle 2.5%: 42,4°

Spectra

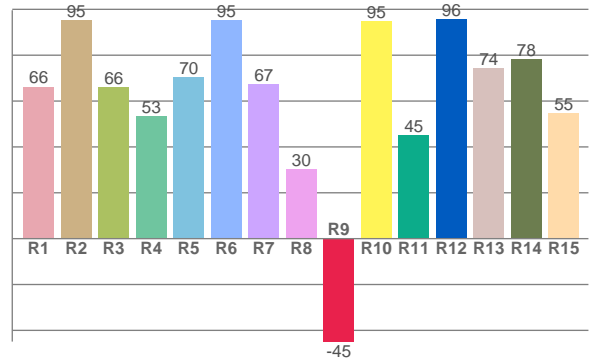




TM30: 76,3



CRI: 68,0 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
66,2	95,2	66,1	53,3	70,4	95,1	67,3	30,4	-44,9	94,7	44,9	95,8	74,3	78,3	54,7

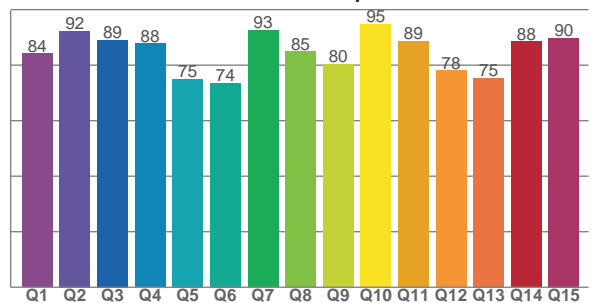
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
66,6	71,8	78,9	90,2	80,6	70,4	69,1	71,5	78,9	81,8	89,7	78,4	75,8	63,3	66,8	64,9

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
84,2	92,3	89,0	87,8	75,0	73,6	92,5	84,8	80,5	94,8	88,7	78,0	75,4	88,4	89,8

CQS: 83,6



COLOR PARAMETERS

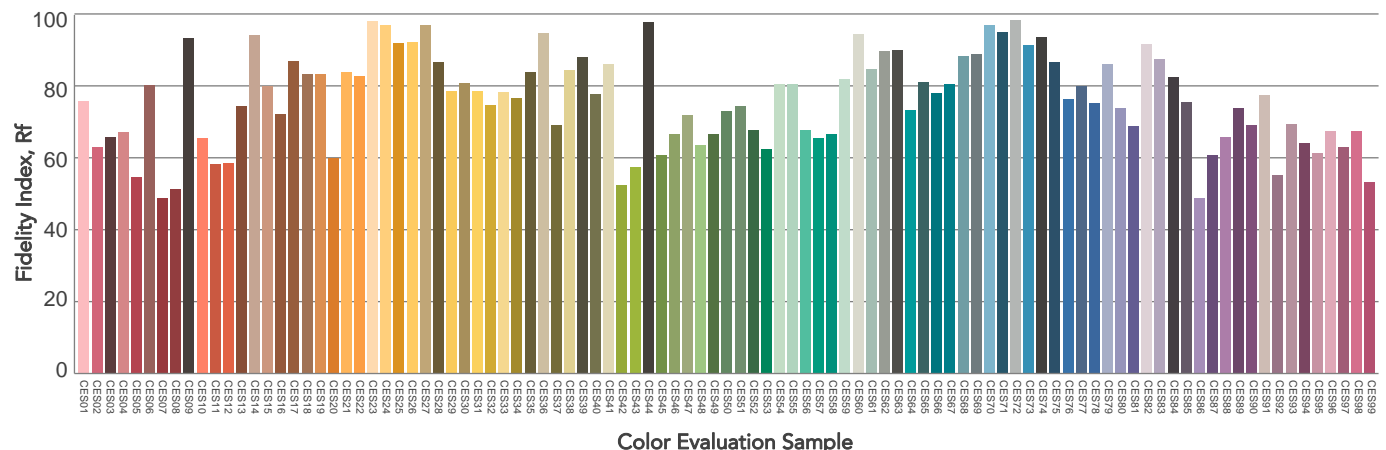
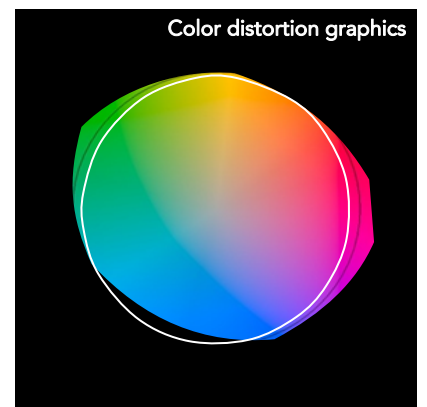
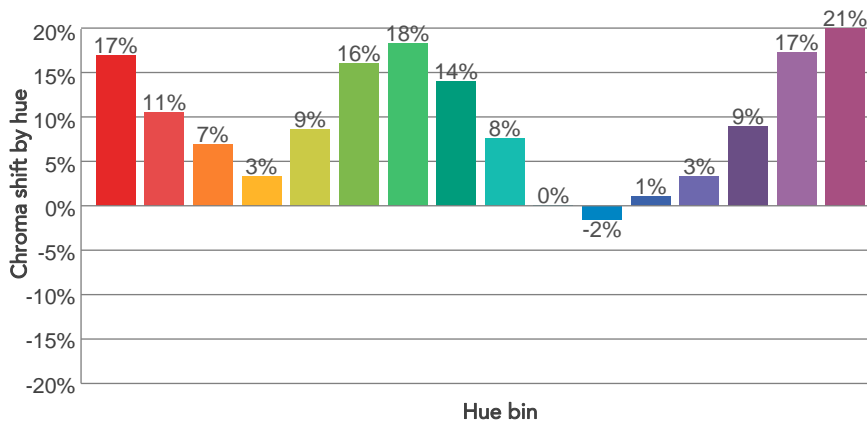
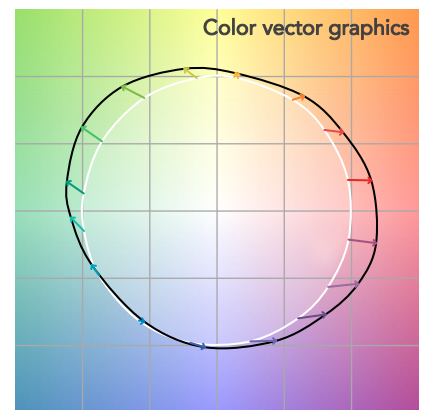
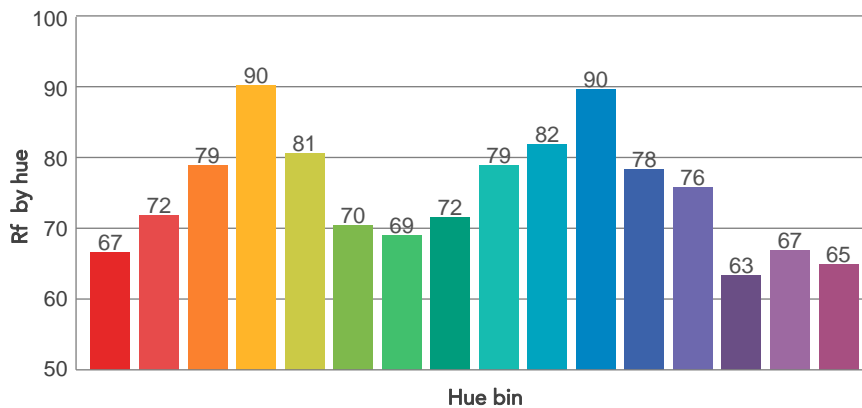
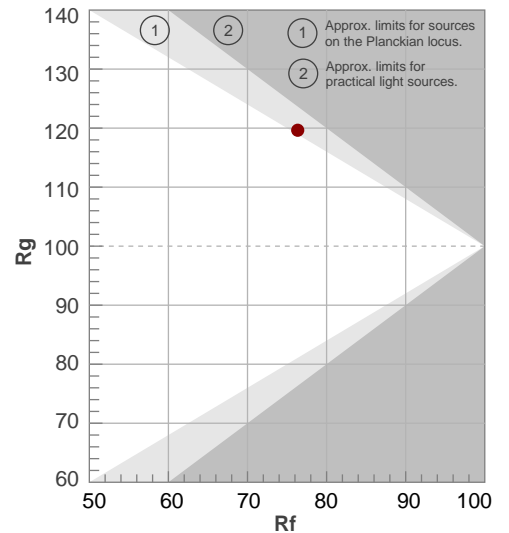
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
4096 K	68,0	-44,9	76,3	119,6	83,6	59	0,372	0,357	-0,0072

TM30 DETAILS

Rf 76,3
Fidelity index Rf

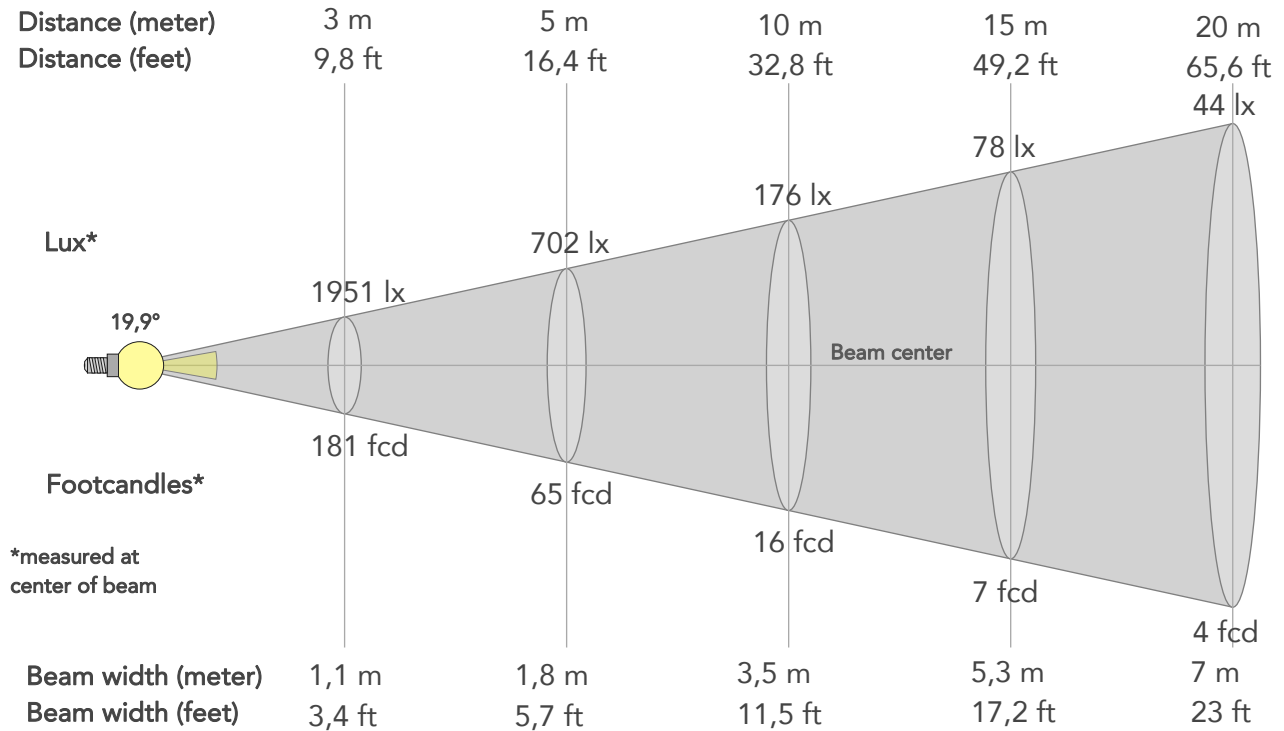
Rg 119,6
Gammut index

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	67	17%	-4%
2	72	11%	-9%
3	79	7%	-6%
4	90	3%	2%
5	81	9%	8%
6	70	16%	9%
7	69	18%	0%
8	72	14%	-6%
9	79	8%	-12%
10	82	0%	-9%
11	90	-2%	4%
12	78	1%	11%
13	76	3%	19%
14	63	9%	19%
15	67	17%	14%
16	65	21%	1%



BEAM DETAILS

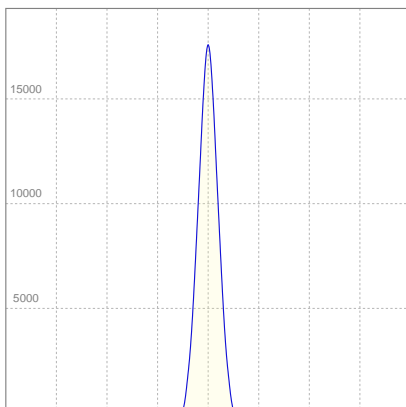
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
19,9°	36,2°	42,4°	99,7%	99,6%



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	17561lx	4390lx	1951lx	1098lx	702lx	312lx	176lx	78lx	44lx	28lx	20lx	11lx	7lx
Footcand.	1631fcd	408fcd	181fcd	102fcd	65fcd	29fcd	16fcd	7fcd	4fcd	3fcd	2fcd	1fcd	1fcd
Beam wid.	0,4m	0,7m	1,1m	1,4m	1,8m	2,6m	3,5m	5,3m	7m	8,8m	10,5m	14m	17,5m
Beam wid.	1,2ft	2,3ft	3,4ft	4,6ft	5,7ft	8,6ft	11,5ft	17,2ft	23ft	28,7ft	34,5ft	45,9ft	57,4ft

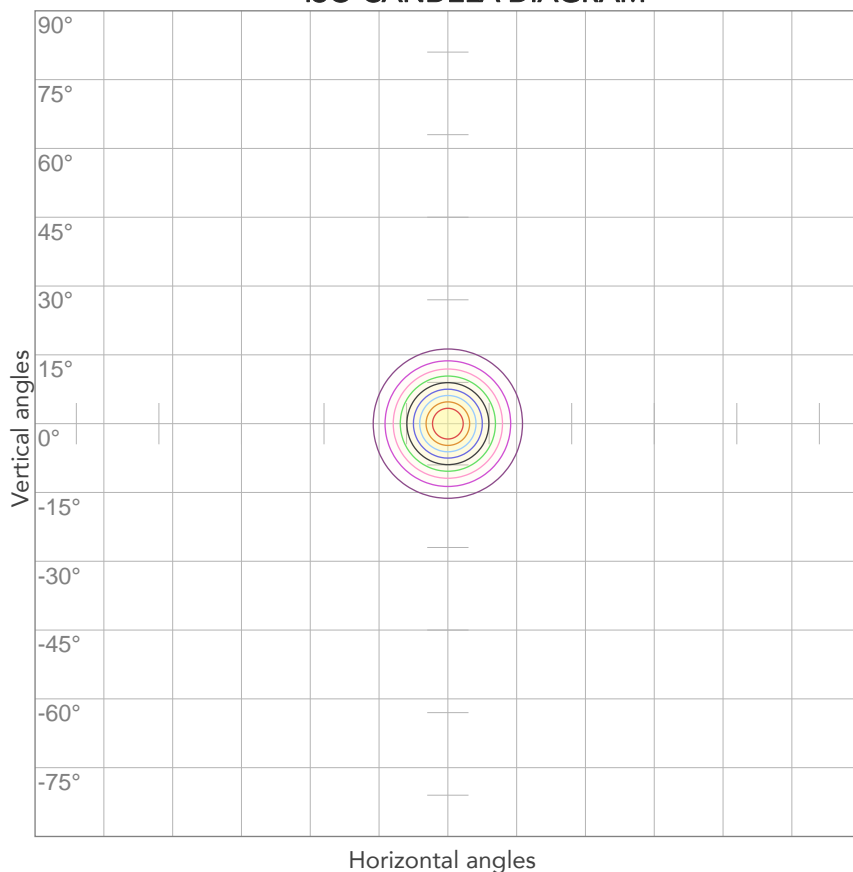
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
220V	0,771A	165,7W	14lm/W

ISO CANDELA DIAGRAM



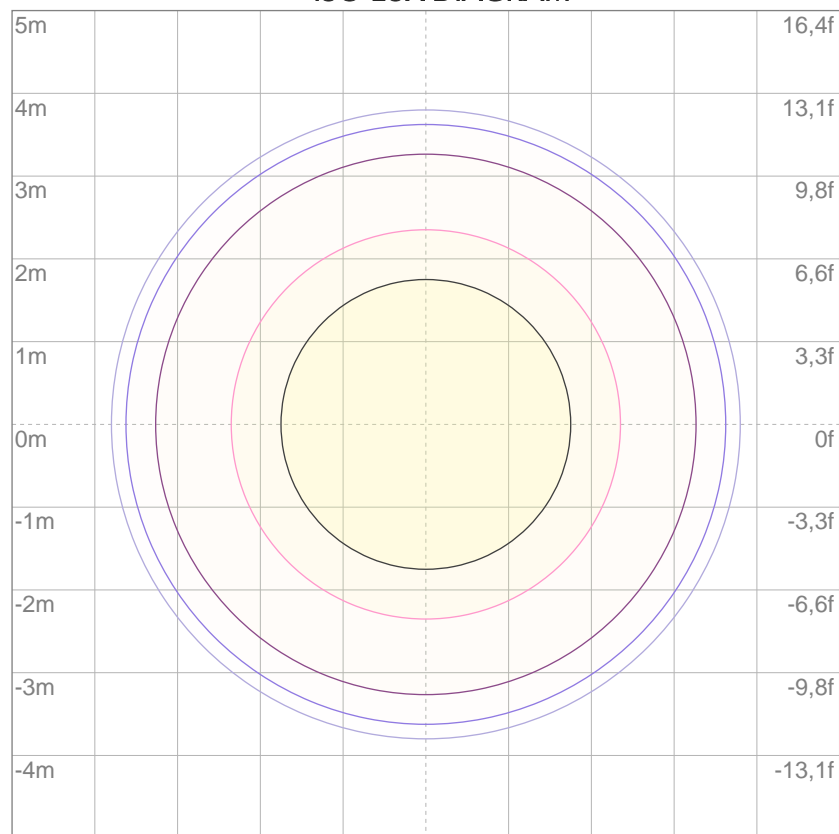
10%	1756 cd
20%	3512 cd
30%	5268 cd
40%	7024 cd
50%	8781 cd
60%	10537 cd
70%	12293 cd
80%	14049 cd

Conditions:

Number of c-planes: 2

Candela at center: 17561 cd

ISO LUX DIAGRAM



3%	5,27 lx
5%	8,78 lx
10%	17,6 lx
30%	52,7 lx
50%	87,8 lx

Conditions:

Number of c-planes: 2

Lux at center: 176 lx

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



Total lumen output:

2013 lm

Peak candela output:

68580 cd

Light quality:

CRI: 67,4

Color temperature:

4068 K

PRODUCT NAME:

Stark 400

MEASURAMENT CONDITIONS:

Beam angle:

Med Zoom

Target:

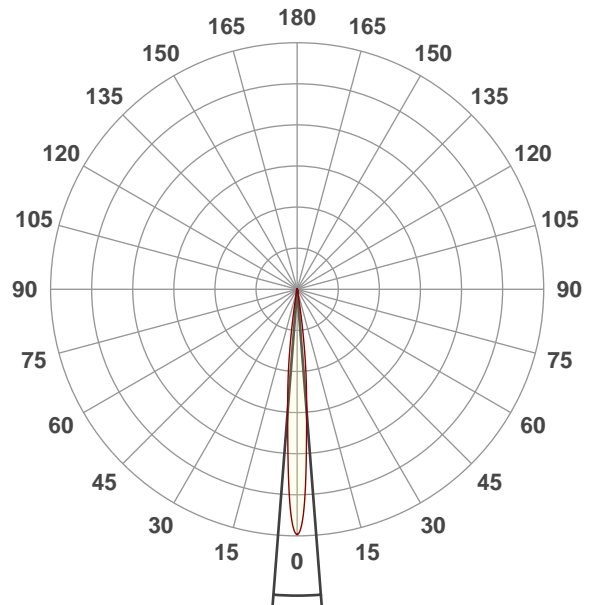
4000K

Operator:

Paolo Carvone

Date and time:

20/12/2019 10:14:09

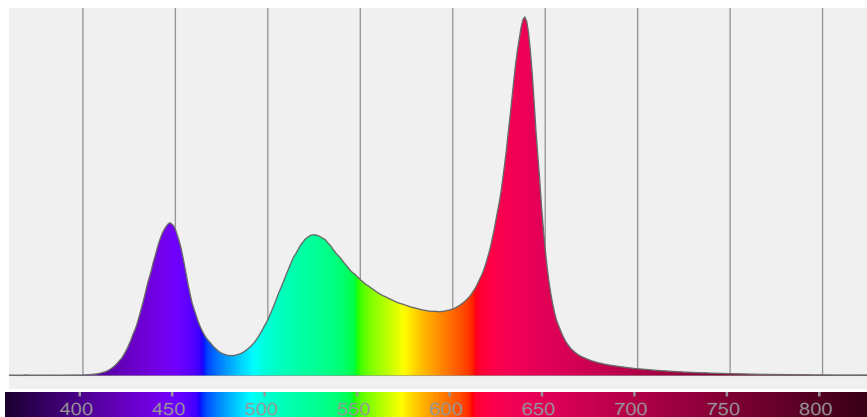


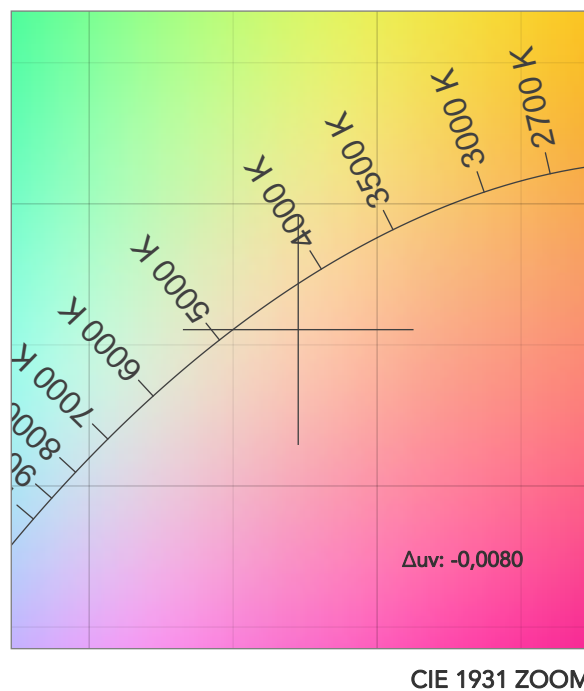
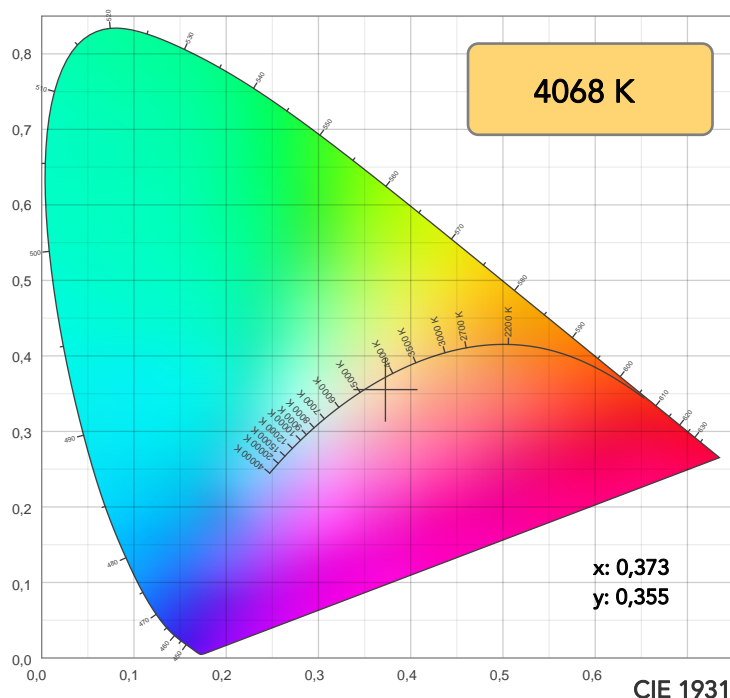
Beam angle 50%: 8,9°

Field angle 10%: 17,3°

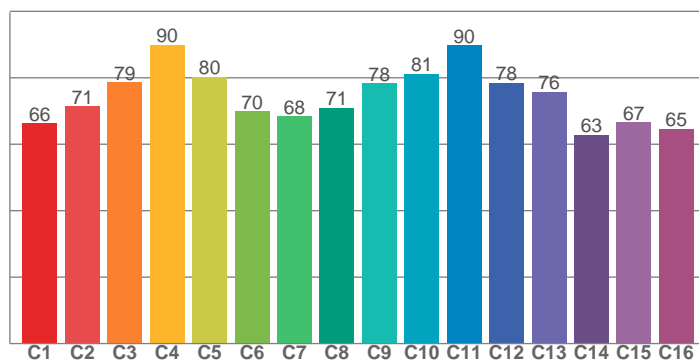
Cut off angle 2.5%: 20,2°

Spectra

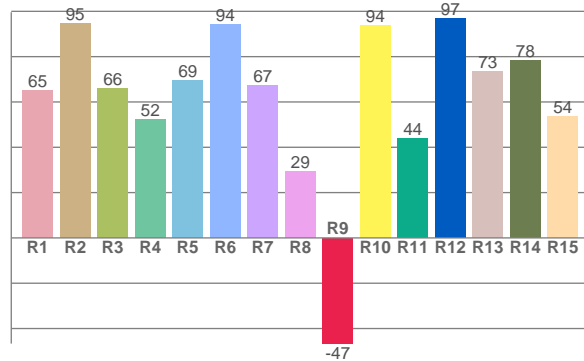




TM30: 76,0



CRI: 67,4 (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
65,3	94,6	66,1	52,4	69,4	94,3	67,1	29,5	-46,6	93,7	43,8	97,0	73,4	78,2	53,6

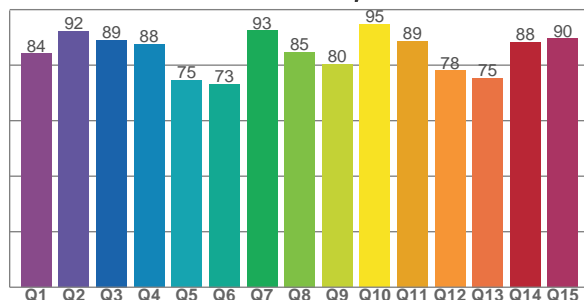
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
66,3	71,4	78,6	90,0	80,2	69,8	68,4	70,9	78,3	81,2	89,8	78,4	75,7	62,8	66,5	64,6

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
84,2	92,2	89,0	87,5	74,6	73,2	92,5	84,7	80,3	94,7	88,7	78,0	75,4	88,2	89,6

CQS: 83,4



COLOR PARAMETERS

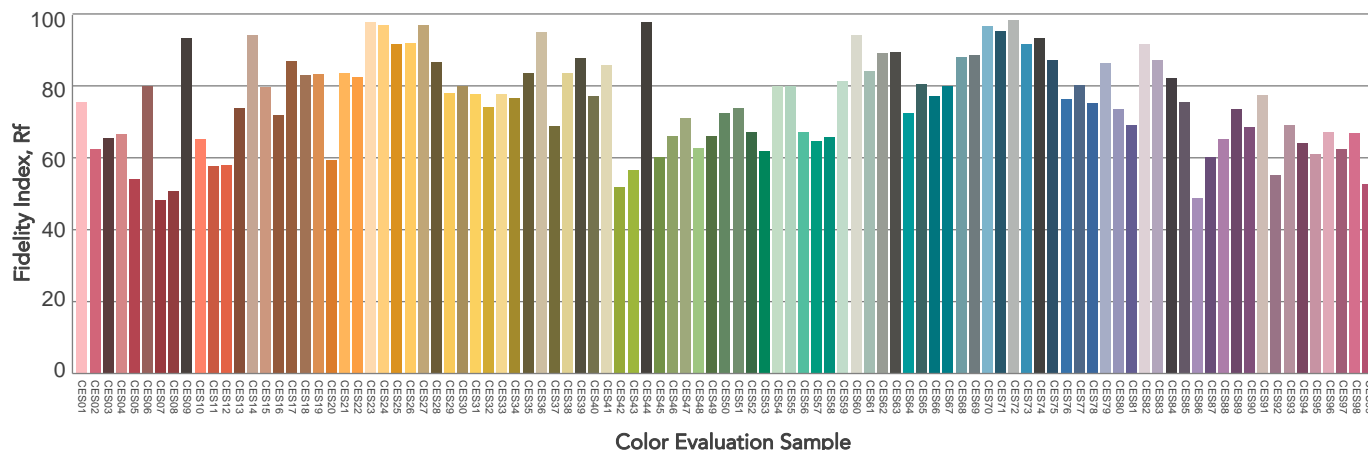
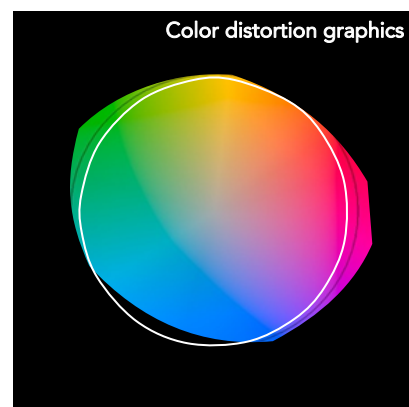
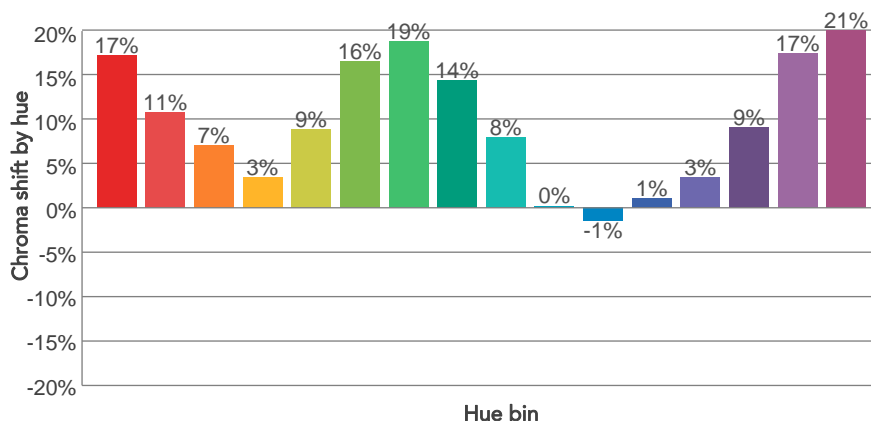
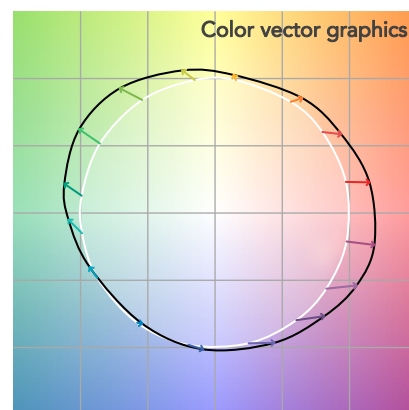
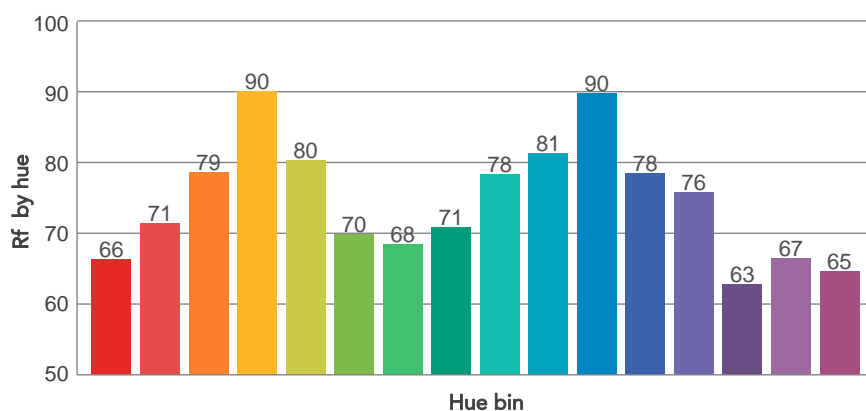
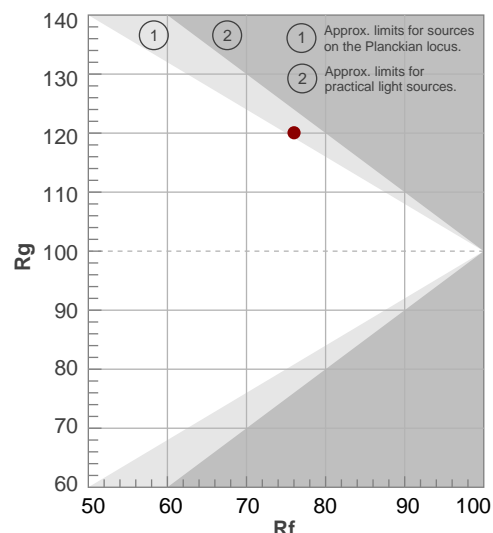
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
4068 K	67,4	-46,6	76,0	120,1	83,4	58	0,373	0,355	-0,0080

TM30 DETAILS

Rf 76,0
Fidelity index Rf

Rg 120,1
Gammut index

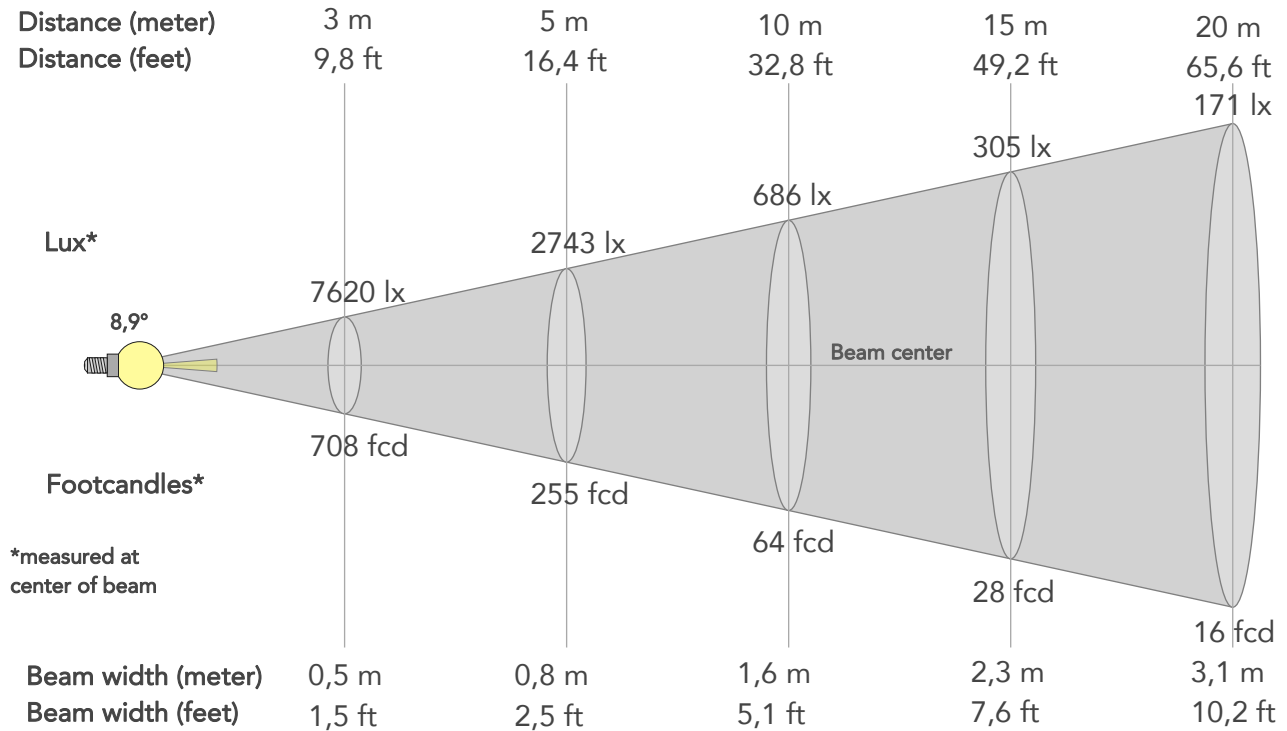
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	66	17%	-4%
2	71	11%	-9%
3	79	7%	-6%
4	90	3%	3%
5	80	9%	8%
6	70	16%	9%
7	68	19%	0%
8	71	14%	-6%
9	78	8%	-12%
10	81	0%	-10%
11	90	-1%	3%
12	78	1%	11%
13	76	3%	19%
14	63	9%	19%
15	67	17%	15%
16	65	21%	2%



BEAM DETAILS



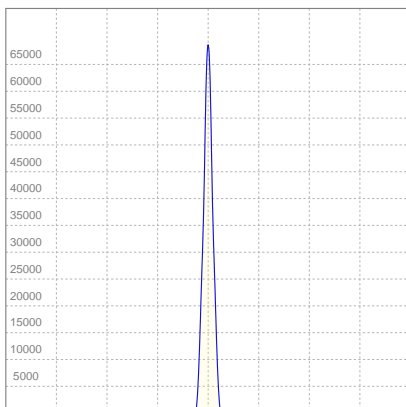
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
8,9°	17,3°	20,2°	100,0%	100,0%



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	68580lx	17145lx	7620lx	4286lx	2743lx	1219lx	686lx	305lx	171lx	110lx	76lx	43lx	27lx
Footcand.	6371fcd	1593fcd	708fcd	398fcd	255fcd	113fcd	64fcd	28fcd	16fcd	10fcd	7fcd	4fcd	3fcd
Beam wid.	0,2m	0,3m	0,5m	0,6m	0,8m	1,2m	1,6m	2,3m	3,1m	3,9m	4,7m	6,2m	7,8m
Beam wid.	0,5ft	1ft	1,5ft	2ft	2,5ft	3,8ft	5,1ft	7,6ft	10,2ft	12,7ft	15,3ft	20,4ft	25,5ft

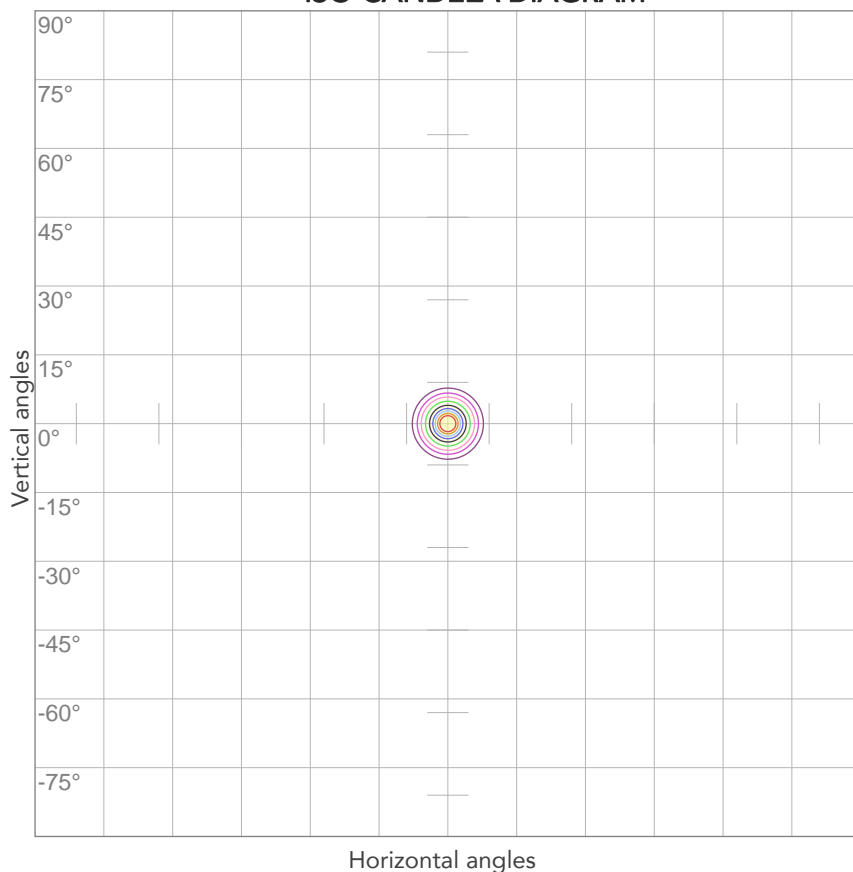
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
225V	0,756A	166W	12lm/W

ISO CANDELA DIAGRAM



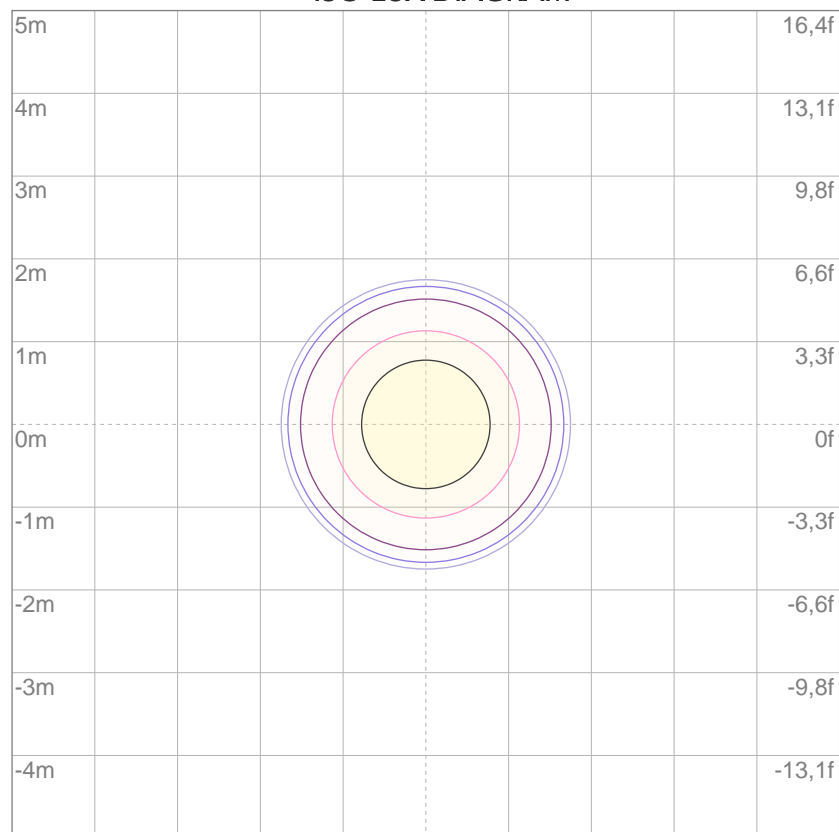
10%	6858 cd
20%	13716 cd
30%	20574 cd
40%	27432 cd
50%	34290 cd
60%	41148 cd
70%	48006 cd
80%	54864 cd

Conditions:

Number of c-planes: 2

Candela at center: 68580 cd

ISO LUX DIAGRAM



3%	20,6 lx
5%	34,3 lx
10%	68,6 lx
30%	206 lx
50%	343 lx

Conditions:

Number of c-planes: 2

Lux at center: 686 lx

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



Total lumen output:

1680 lm

Peak candela output:

329523 cd

Light quality:

CRI: 66,6

Color temperature:

4024 K

PRODUCT NAME:

Stark 400

MEASURAMENT CONDITIONS:

Beam angle:

Min Zoom

Target:

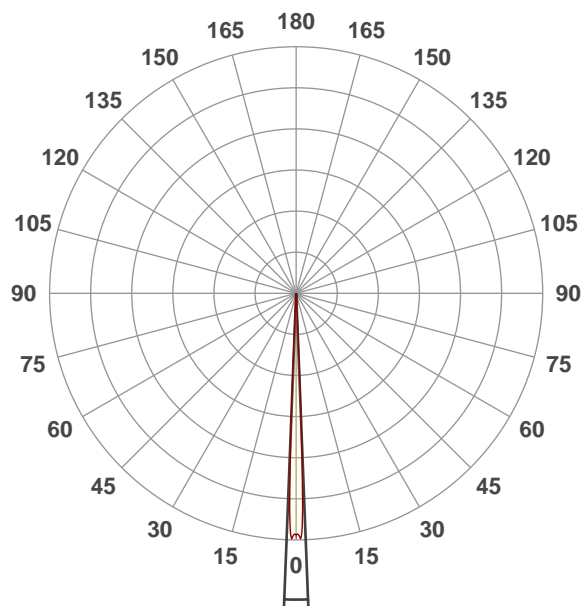
4000K

Operator:

Paolo Carvone

Date and time:

19/12/2019 17:54:25

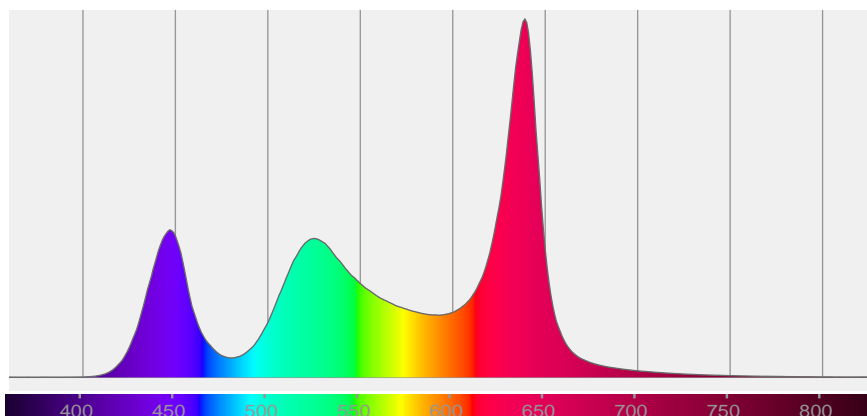


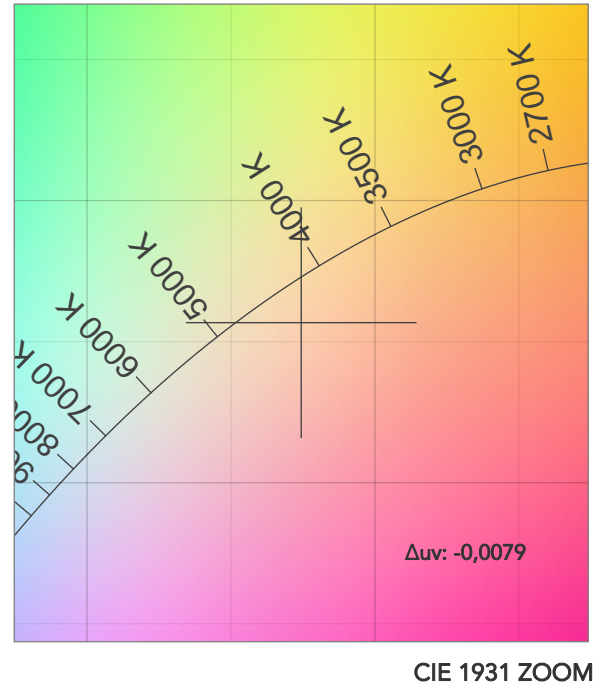
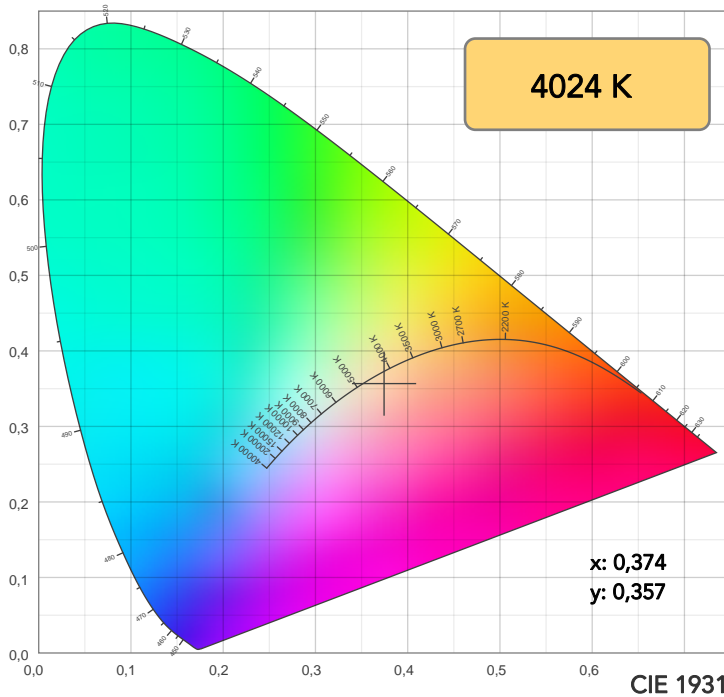
Beam angle 50%: 4,4°

Field angle 10%: 5,6°

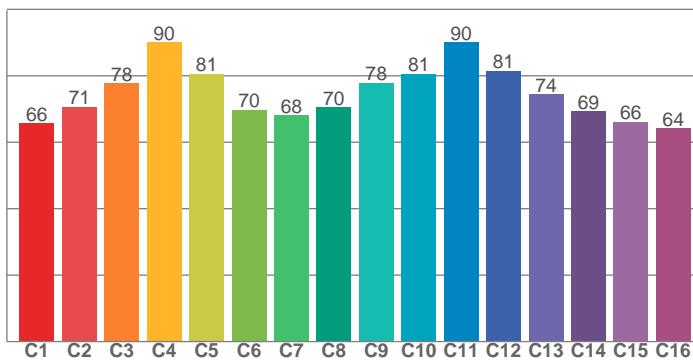
Cut off angle 2.5%: 6,2°

Spectra

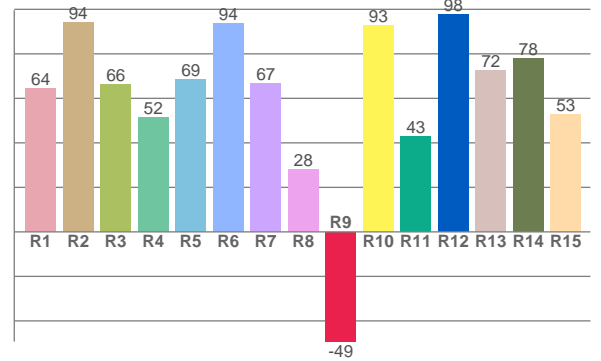




TM30: 75,8



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
64,3	94,2	66,1	51,6	68,5	93,7	66,6	28,0	-49,3	92,8	42,7	97,8	72,5	78,1	52,6

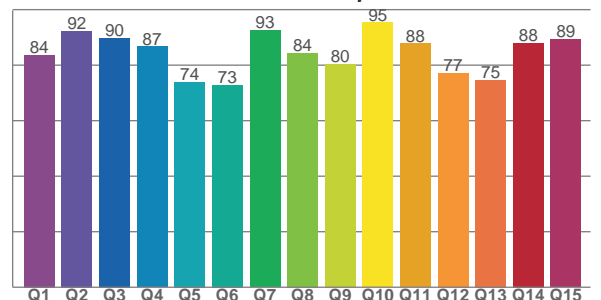
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
65,6	70,6	77,7	90,1	80,5	69,8	68,1	70,5	77,9	80,5	90,0	81,5	74,4	69,3	66,2	64,2

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
83,7	92,3	89,7	86,7	74,0	72,9	92,5	84,4	80,4	95,3	87,8	77,2	74,7	88,0	89,3

CQS: 83,1



COLOR PARAMETERS

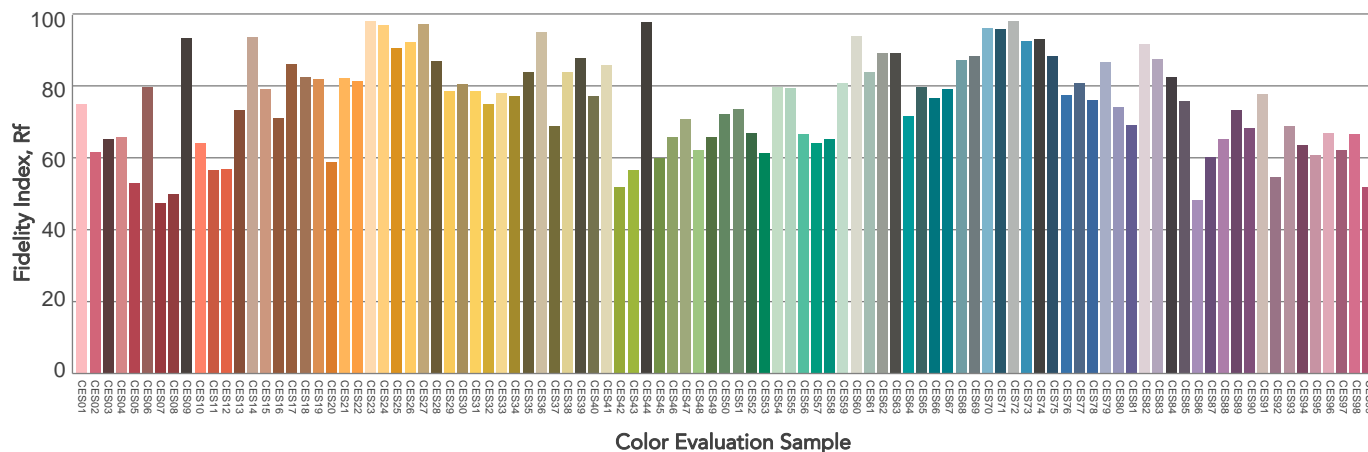
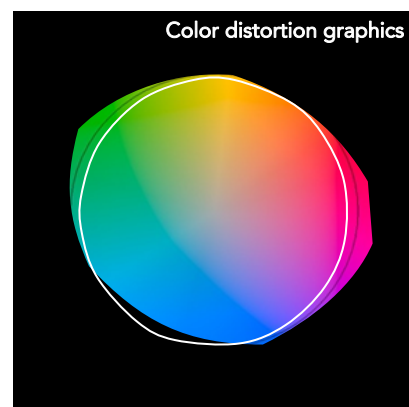
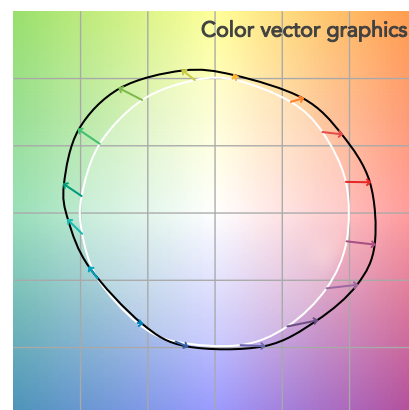
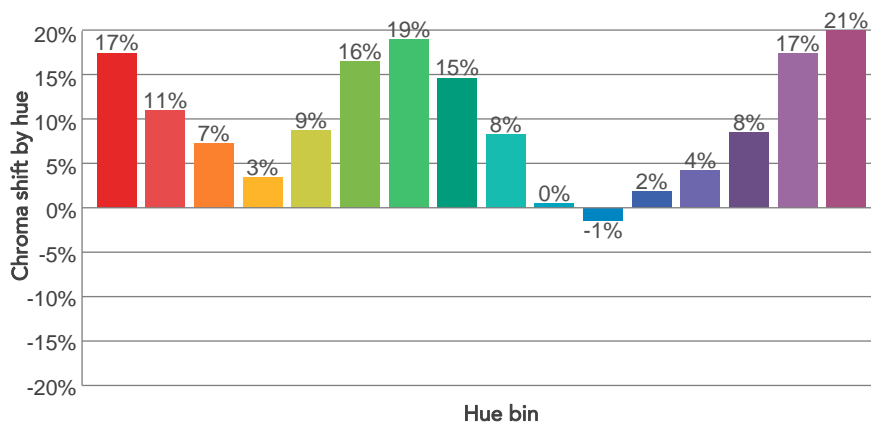
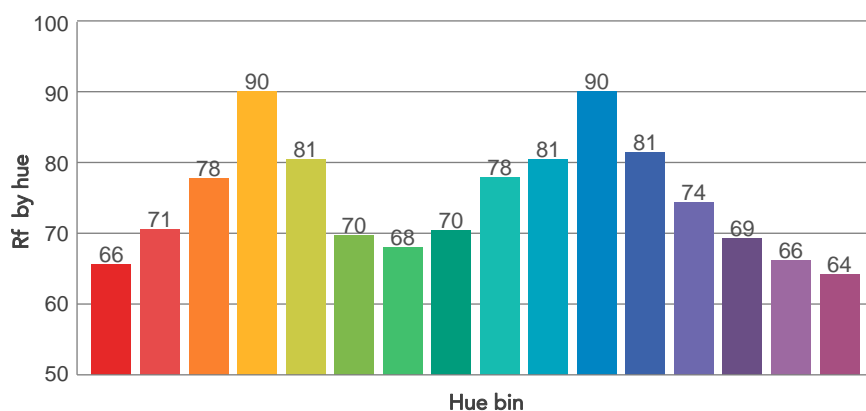
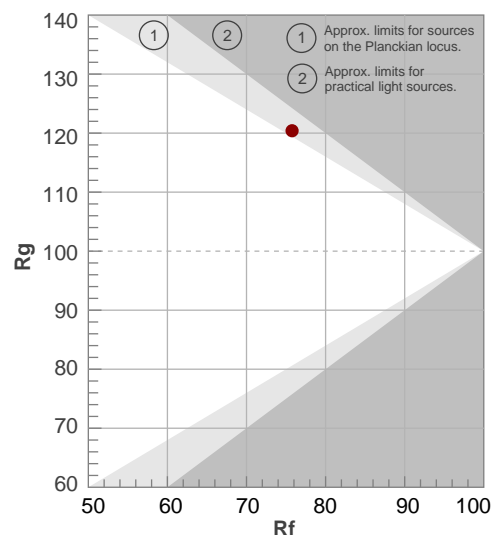
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
4024 K	66,6	-49,3	75,8	120,4	83,1	57	0,374	0,357	-0,0079

TM30 DETAILS

Rf 75,8
Fidelity index Rf

Rg 120,4
Gammut index

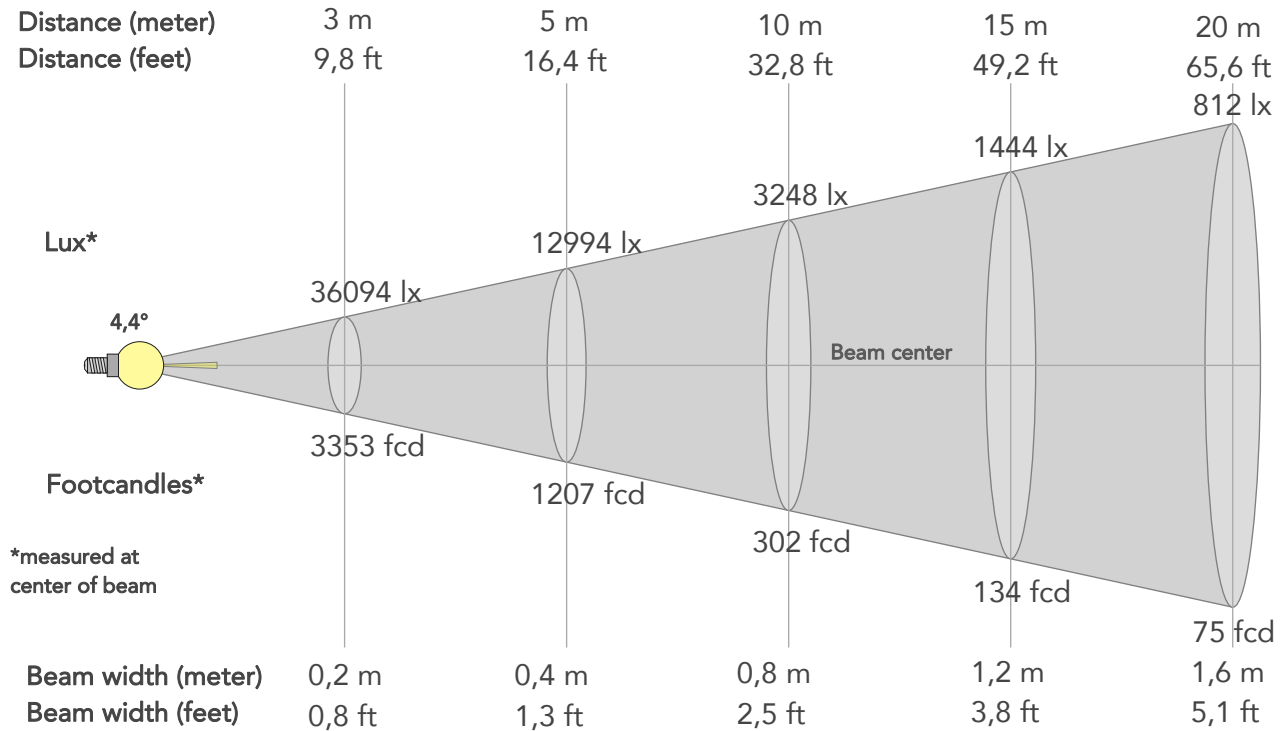
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	66	17%	-4%
2	71	11%	-9%
3	78	7%	-6%
4	90	3%	2%
5	81	9%	8%
6	70	16%	9%
7	68	19%	0%
8	70	15%	-6%
9	78	8%	-12%
10	81	0%	-10%
11	90	-1%	3%
12	81	2%	9%
13	74	4%	17%
14	69	8%	21%
15	66	17%	15%
16	64	21%	2%



BEAM DETAILS



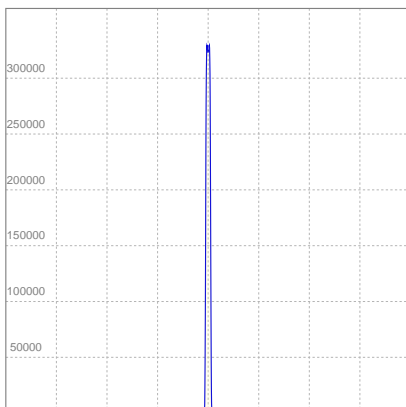
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
4,4°	5,6°	6,2°	98,1%	97,4%



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	324849lx	81212lx	36094lx	20303lx	12994lx	5775lx	3248lx	1444lx	812lx	520lx	361lx	203lx	130lx
Footcand.	30179fcd	7545fcd	3353fcd	1886fcd	1207fcd	537fcd	302fcd	134fcd	75fcd	48fcd	34fcd	19fcd	12fcd
Beam wid.	0,1m	0,2m	0,2m	0,3m	0,4m	0,6m	0,8m	1,2m	1,6m	1,9m	2,3m	3,1m	3,9m
Beam wid.	0,3ft	0,5ft	0,8ft	1ft	1,3ft	1,9ft	2,5ft	3,8ft	5,1ft	6,4ft	7,6ft	10,2ft	12,7ft

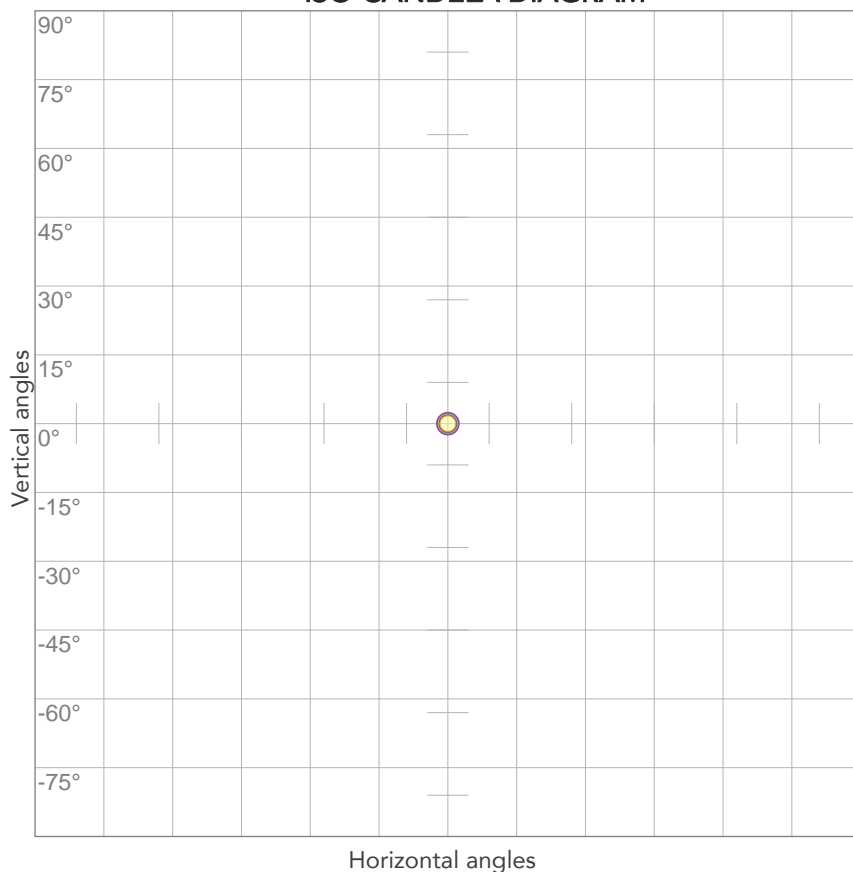
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
221V	0,765A	164,9W	10lm/W

ISO CANDELA DIAGRAM



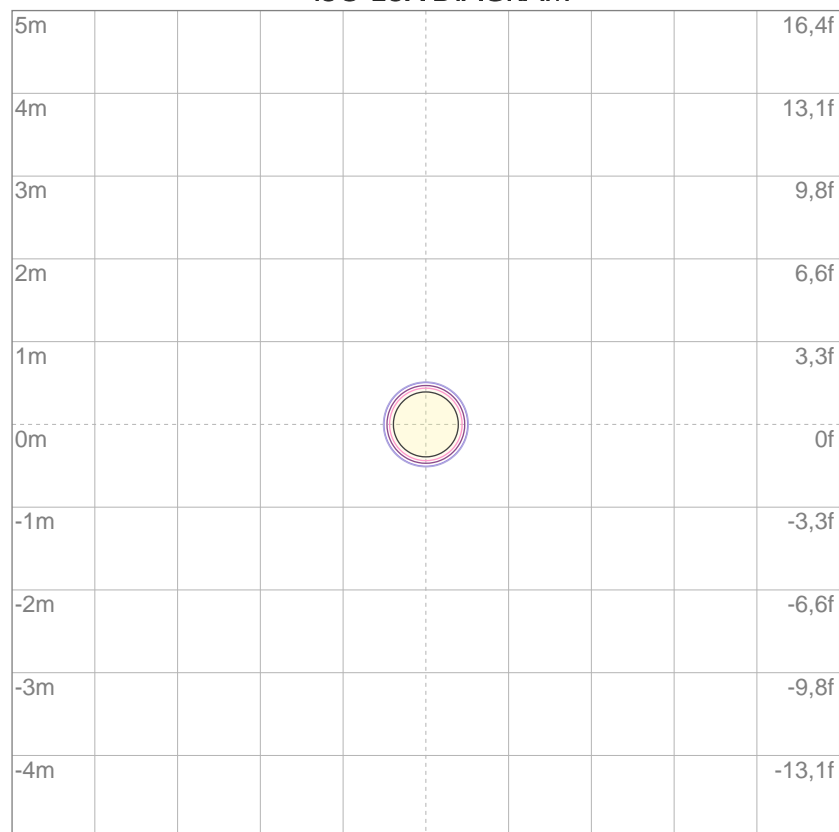
10%	32485 cd
20%	64970 cd
30%	97455 cd
40%	129940 cd
50%	162425 cd
60%	194910 cd
70%	227395 cd
80%	259879 cd

Conditions:

Number of c-planes: 2

Candela at center: 324849 cd

ISO LUX DIAGRAM



3%	97,5 lx
5%	162 lx
10%	325 lx
30%	975 lx
50%	1624 lx

Conditions:

Number of c-planes: 2

Lux at center: 3248 lx

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



Total lumen output:

2578 lm

Peak candela output:

19983 cd

Light quality:

CRI: 70,4

Color temperature:

5682 K

PRODUCT NAME:

Stark 400

MEASURAMENT CONDITIONS:

Beam angle:

Max Zoom

Target:

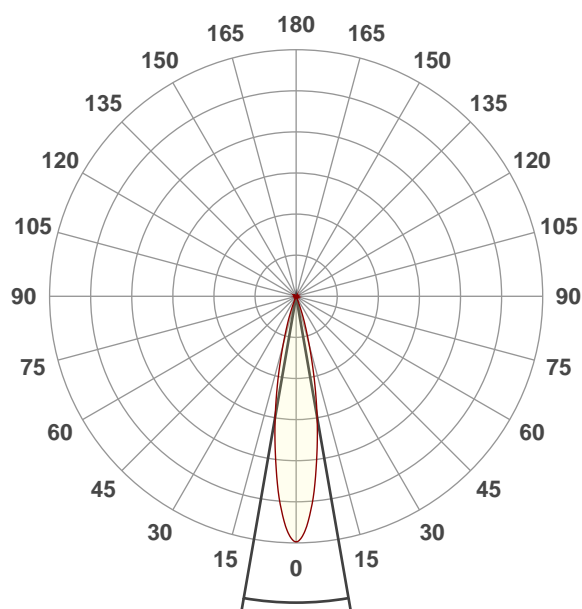
5600K

Operator:

Paolo Carvone

Date and time:

19/12/2019 18:20:04

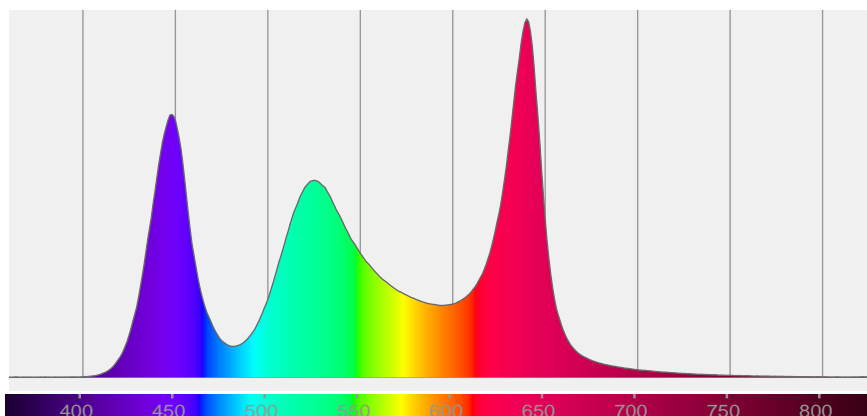


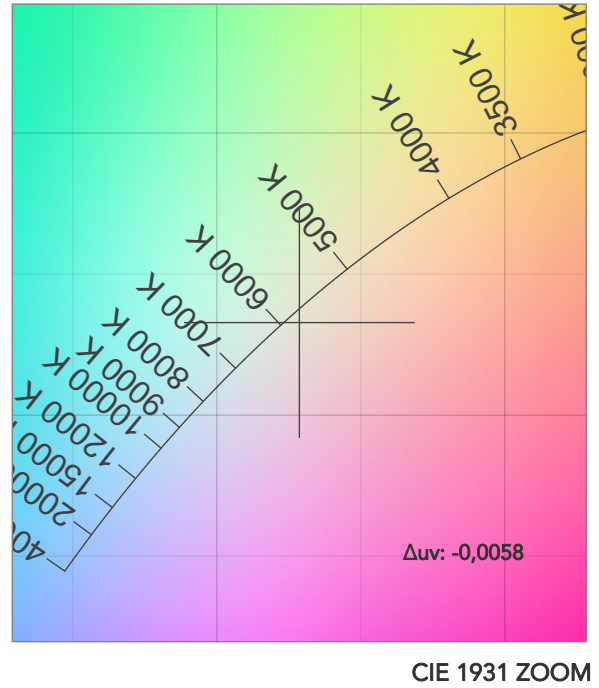
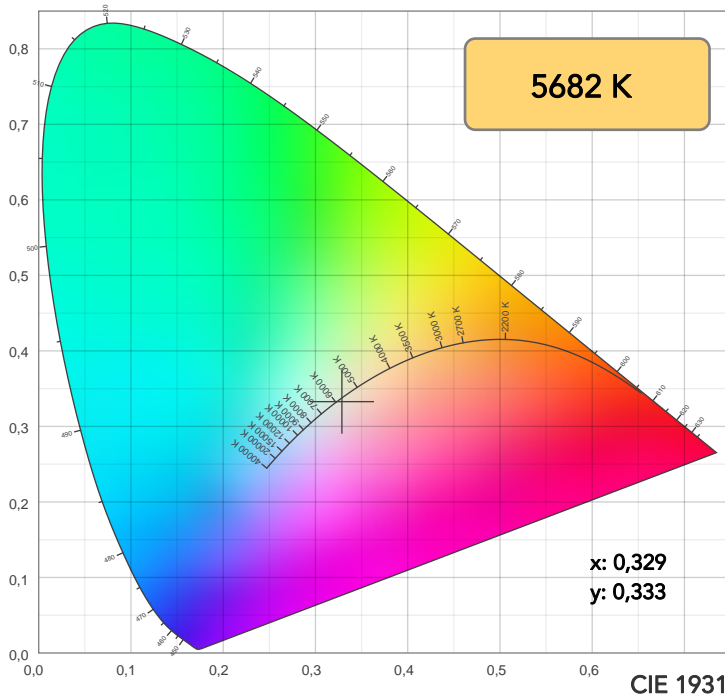
Beam angle 50%: 19,7°

Field angle 10%: 36,1°

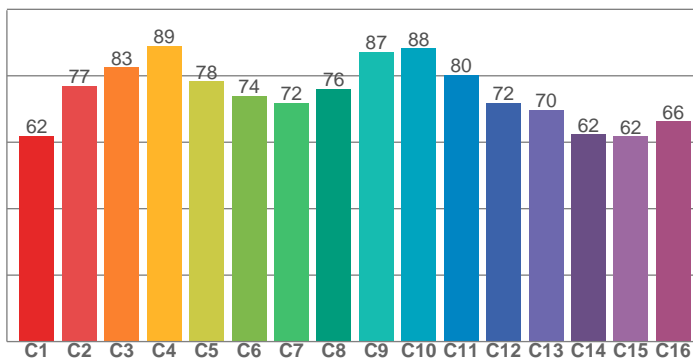
Cut off angle 2.5%: 42,4°

Spectra

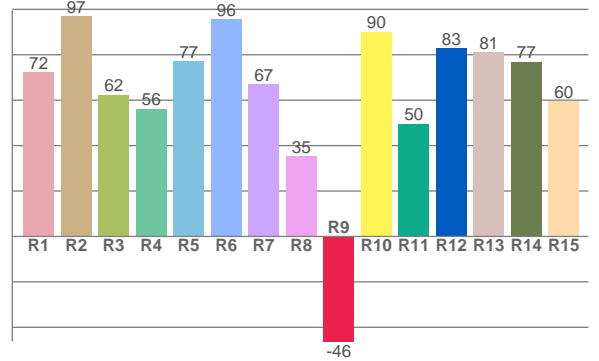




TM30: 76,0



CRI: 70,4 (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
72,4	97,0	62,4	56,2	77,3	95,6	67,0	35,2	-46,3	90,2	49,7	83,0	81,2	77,0	59,6

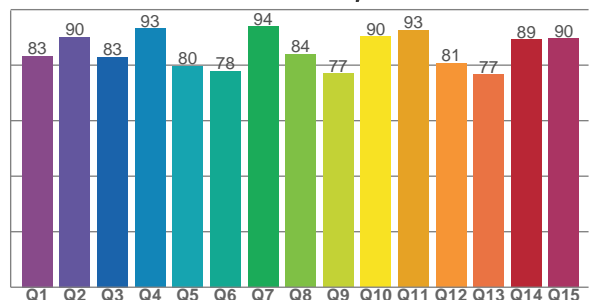
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
61,9	77,0	82,6	89,0	78,3	73,9	71,8	76,0	87,2	88,2	80,2	71,8	69,7	62,4	61,8	66,3

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
83,3	90,2	83,0	93,2	79,8	78,0	94,0	83,9	77,0	90,2	92,6	80,8	76,7	89,3	89,6

CQS: 84,3



COLOR PARAMETERS

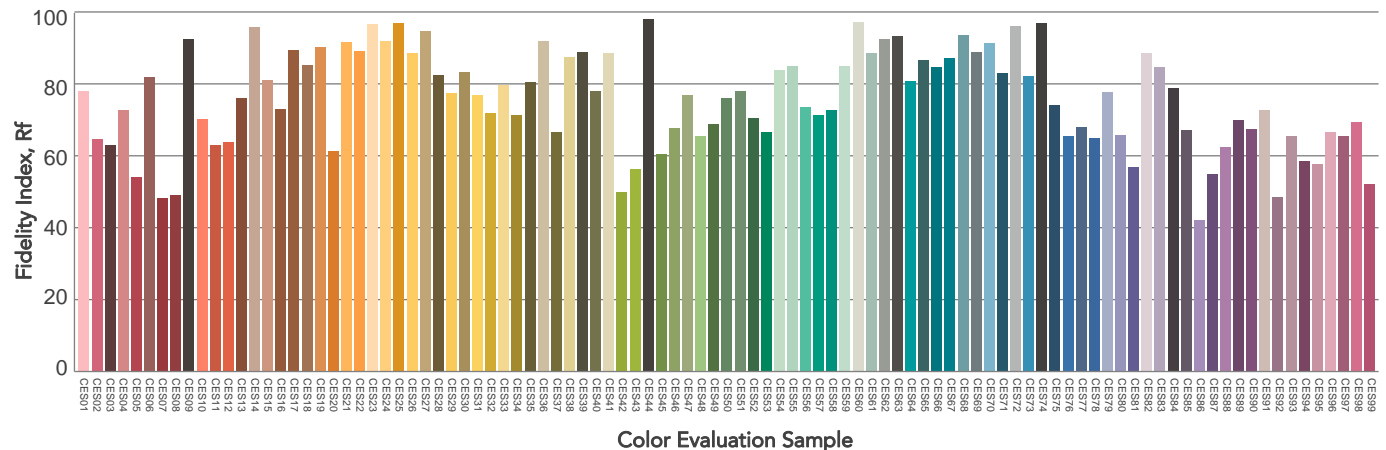
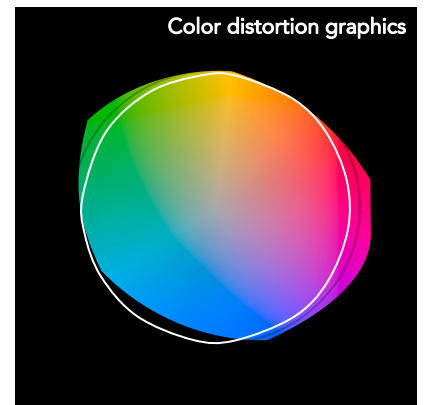
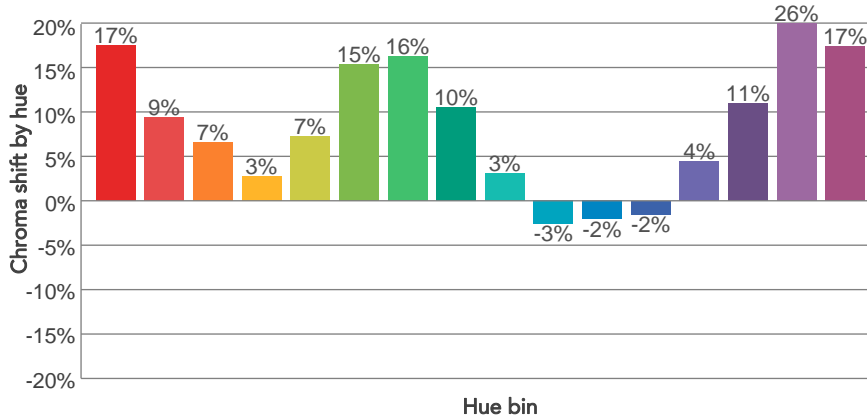
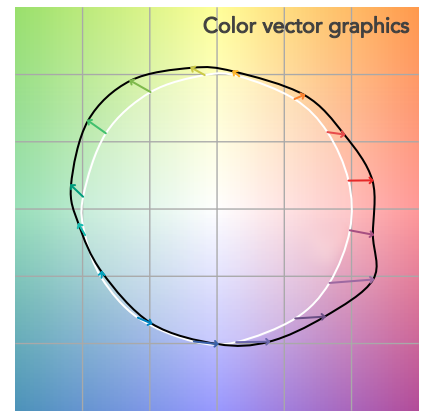
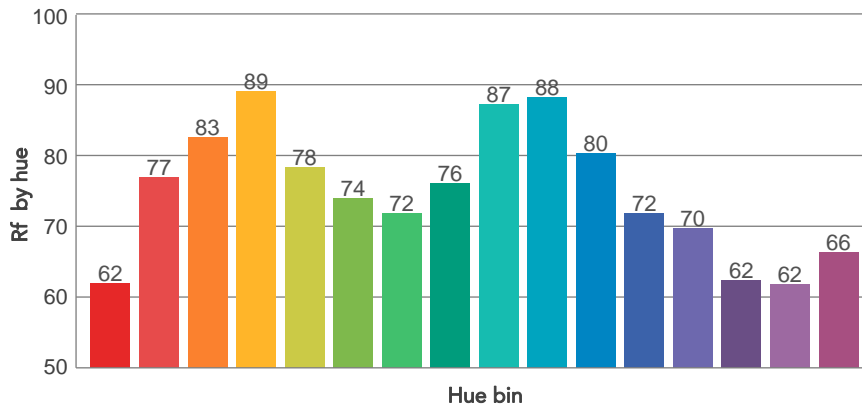
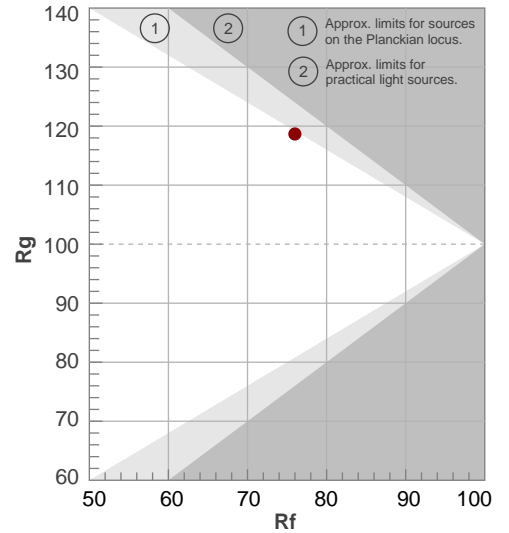
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
5682 K	70,4	-46,3	76,0	118,7	84,3	60	0,329	0,333	-0,0058

TM30 DETAILS

Rf 76,0
Fidelity index Rf

Rg 118,7
Gammut index

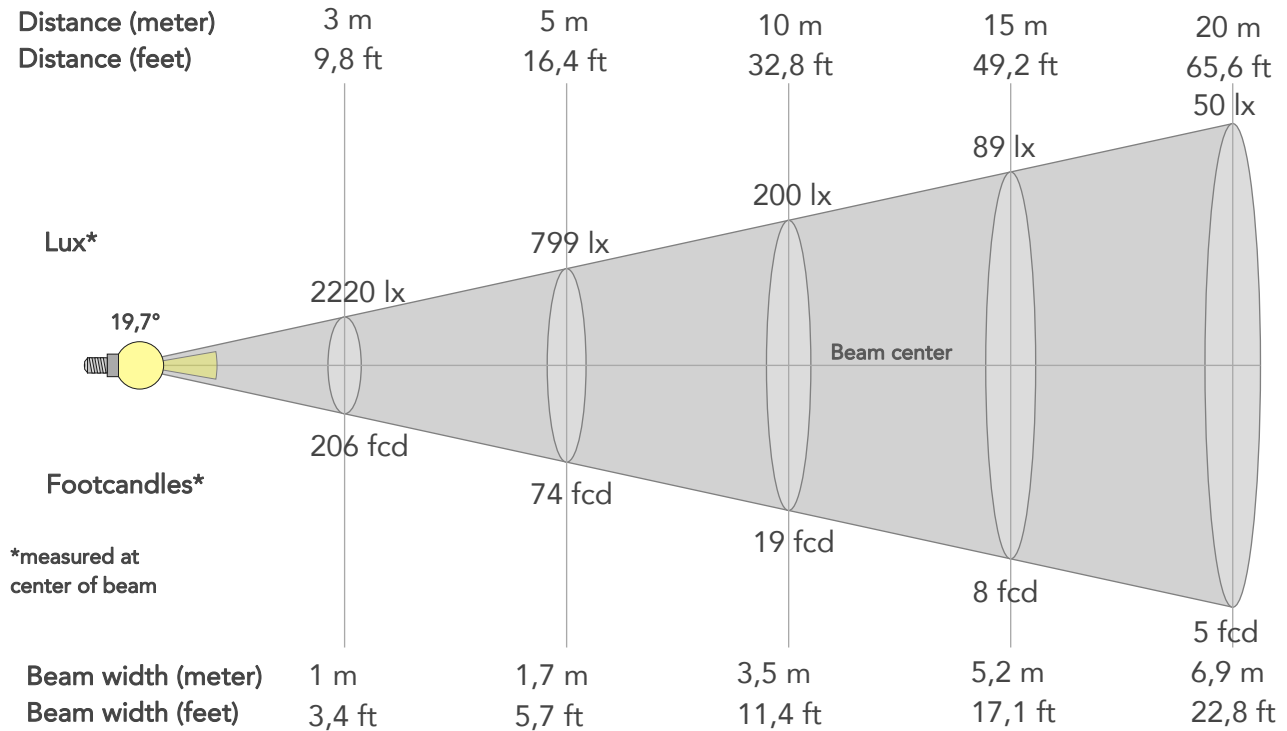
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	62	17%	-3%
2	77	9%	-8%
3	83	7%	-4%
4	89	3%	5%
5	78	7%	9%
6	74	15%	8%
7	72	16%	0%
8	76	10%	-7%
9	87	3%	-9%
10	88	-3%	-3%
11	80	-2%	11%
12	72	-2%	18%
13	70	4%	24%
14	62	11%	19%
15	62	26%	20%
16	66	17%	0%



BEAM DETAILS



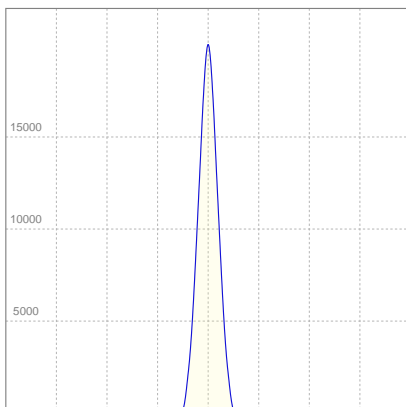
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
19,7°	36,1°	42,4°	99,7%	99,6%



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	19983lx	4996lx	2220lx	1249lx	799lx	355lx	200lx	89lx	50lx	32lx	22lx	12lx	8lx
Footcand.	1856fcd	464fcd	206fcd	116fcd	74fcd	33fcd	19fcd	8fcd	5fcd	3fcd	2fcd	1fcd	1fcd
Beam wid.	0,3m	0,7m	1m	1,4m	1,7m	2,6m	3,5m	5,2m	6,9m	8,7m	10,4m	13,9m	17,4m
Beam wid.	1,1ft	2,3ft	3,4ft	4,5ft	5,7ft	8,5ft	11,4ft	17,1ft	22,8ft	28,5ft	34,2ft	45,6ft	56,9ft

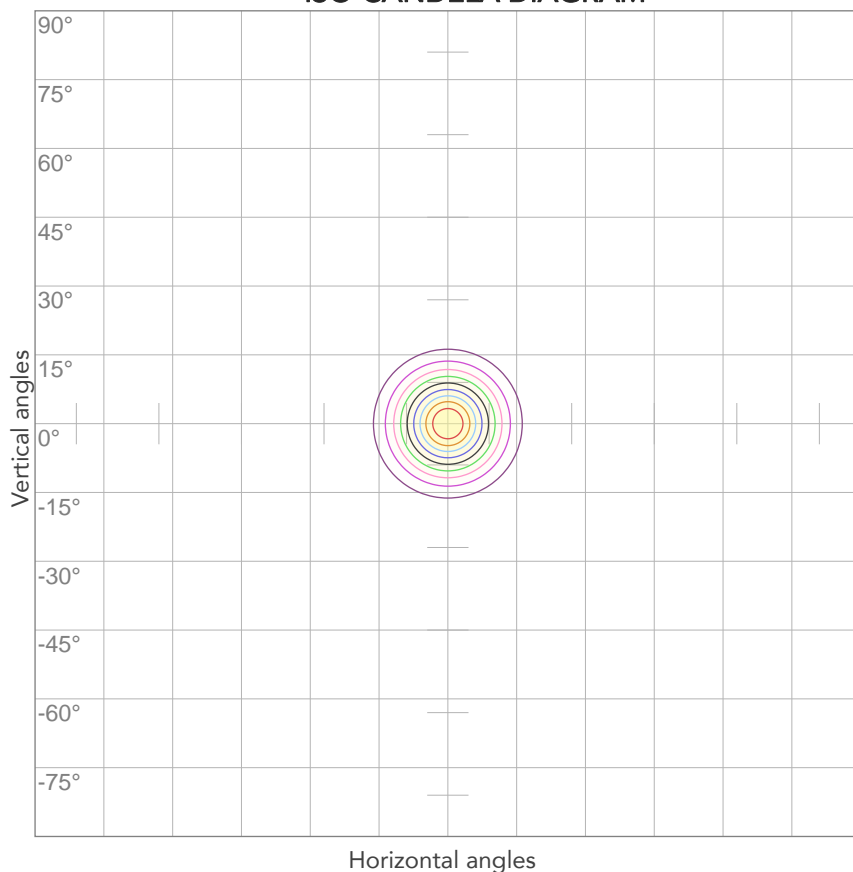
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
220V	0,890A	191,6W	13lm/W

ISO CANDELA DIAGRAM



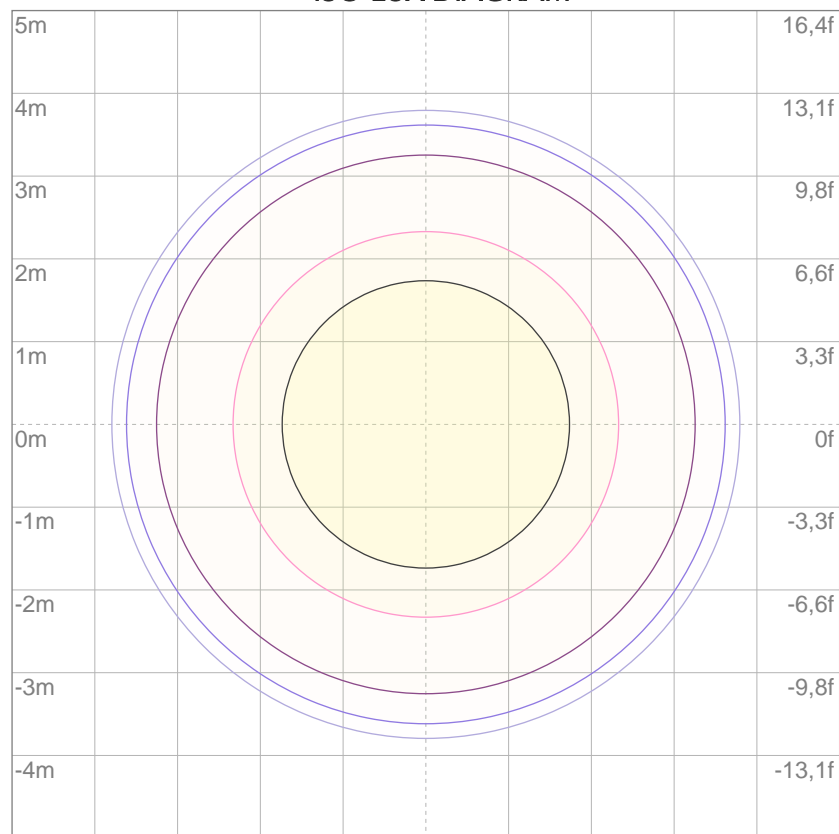
10%	1998 cd
20%	3997 cd
30%	5995 cd
40%	7993 cd
50%	9992 cd
60%	11990 cd
70%	13988 cd
80%	15986 cd

Conditions:

Number of c-planes: 2

Candela at center: 19983 cd

ISO LUX DIAGRAM



3%	5,99 lx
5%	9,99 lx
10%	20,0 lx
30%	59,9 lx
50%	99,9 lx

Conditions:

Number of c-planes: 2

Lux at center: 200 lx

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



Total lumen output:

2284 lm

Peak candela output:

77678 cd

Light quality:

CRI: 69,8

Color temperature:

5630 K

PRODUCT NAME:

Stark 400

MEASURAMENT CONDITIONS:

Beam angle:

Med Zoom

Target:

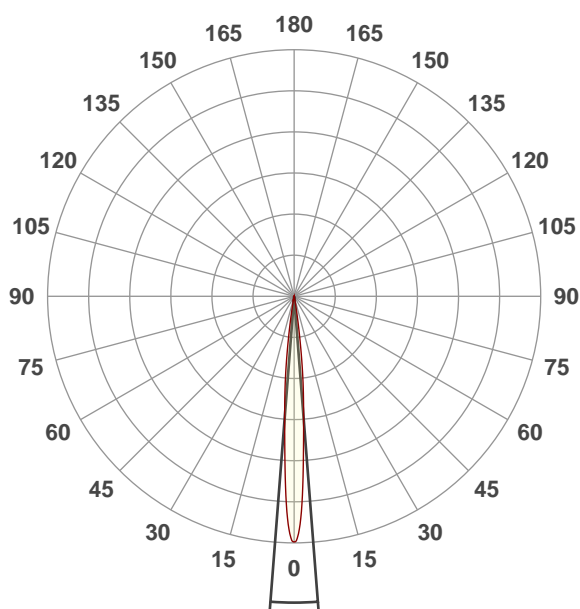
5600K

Operator:

Paolo Carvone

Date and time:

20/12/2019 10:15:58

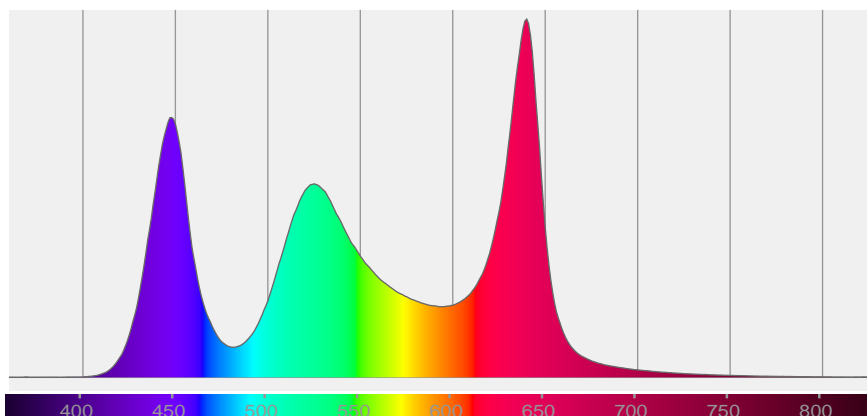


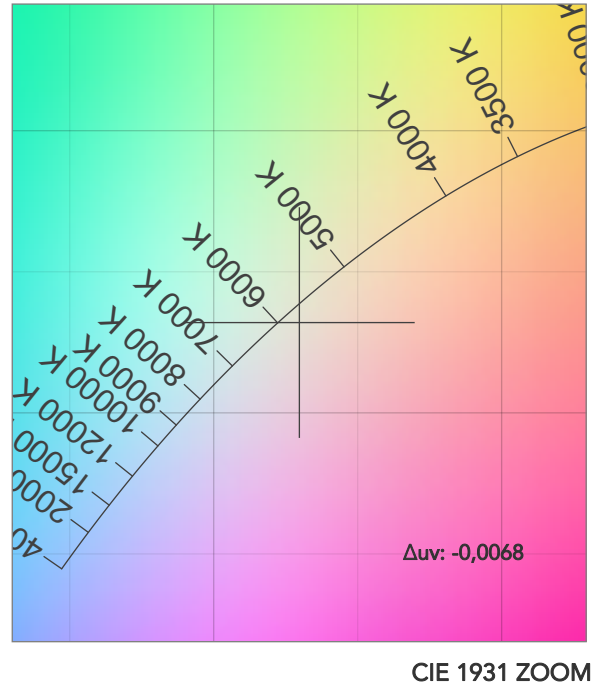
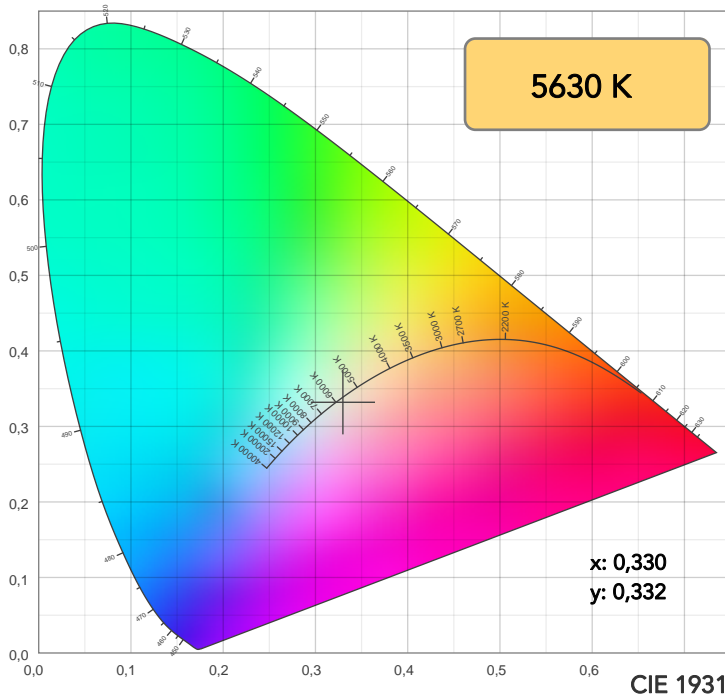
Beam angle 50%: 8,9°

Field angle 10%: 17,3°

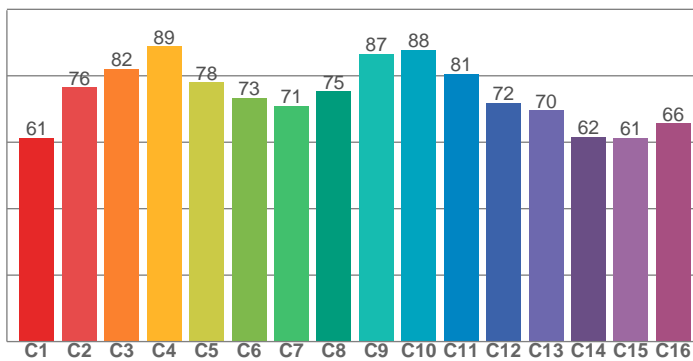
Cut off angle 2.5%: 20,2°

Spectra

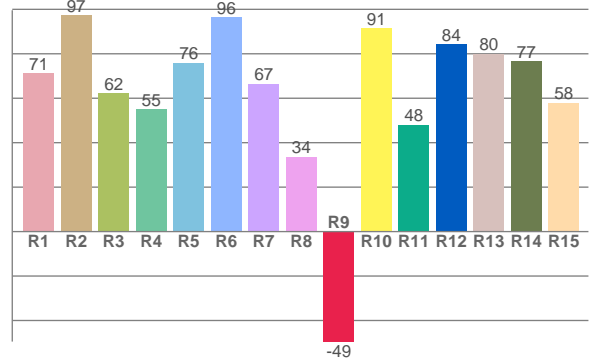




TM30: 75,6



CRI: 69,8 (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
71,1	97,2	62,2	54,9	76,0	96,5	66,6	33,7	-49,5	91,3	48,1	84,4	80,0	76,7	58,0

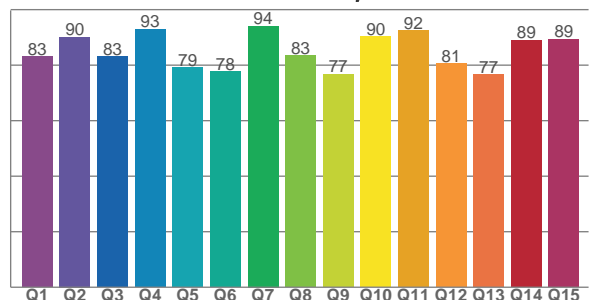
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
61,3	76,5	82,1	88,9	78,0	73,3	71,0	75,3	86,7	87,9	80,7	71,9	69,5	61,7	61,4	65,7

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
83,1	90,1	83,0	92,9	79,2	77,6	94,1	83,5	76,7	90,3	92,4	80,6	76,6	89,0	89,3

CQS: 84,0



COLOR PARAMETERS

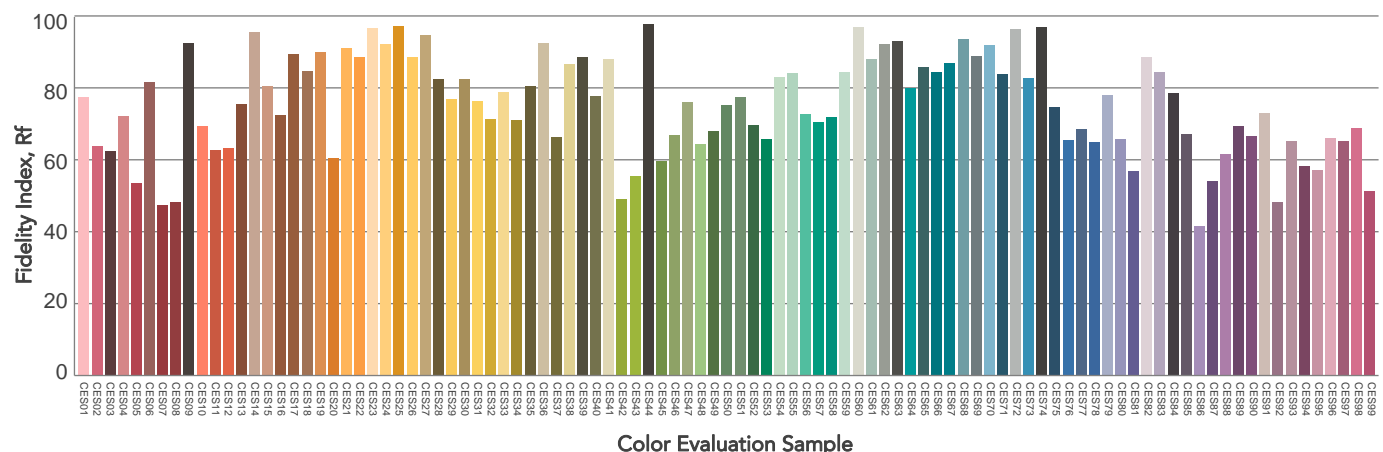
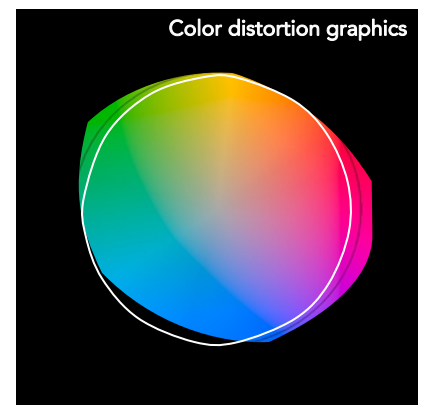
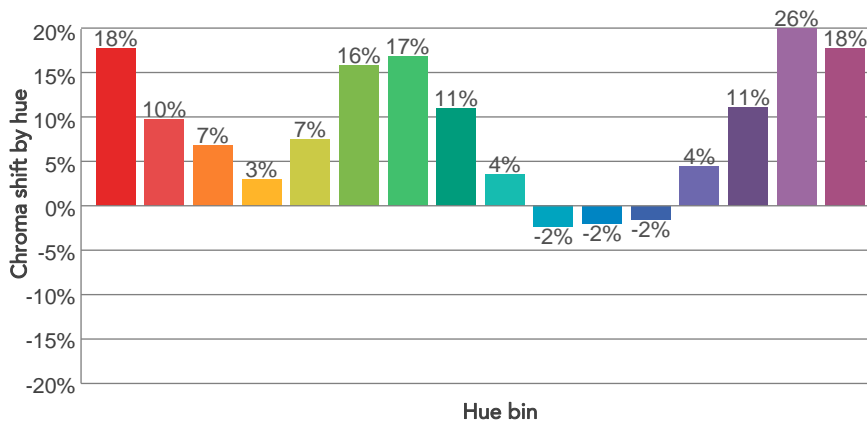
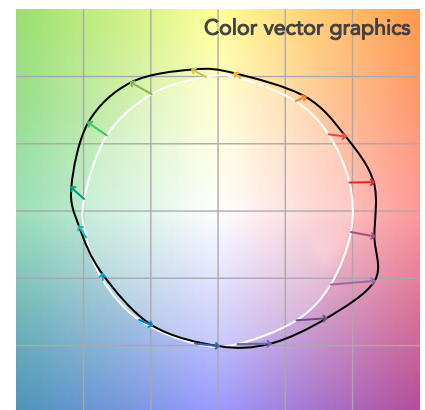
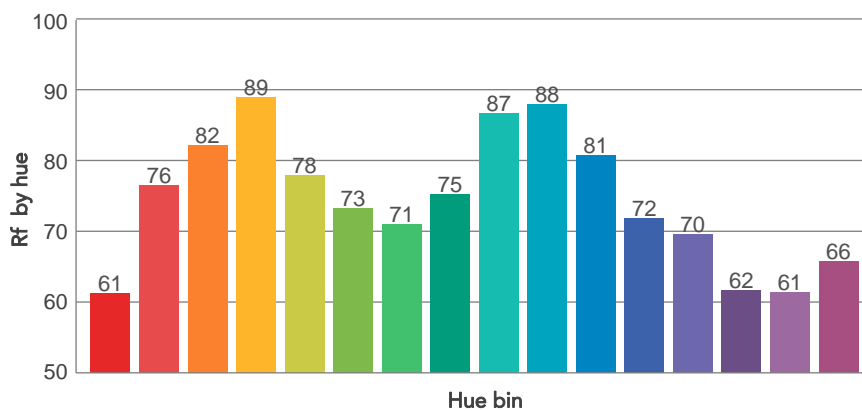
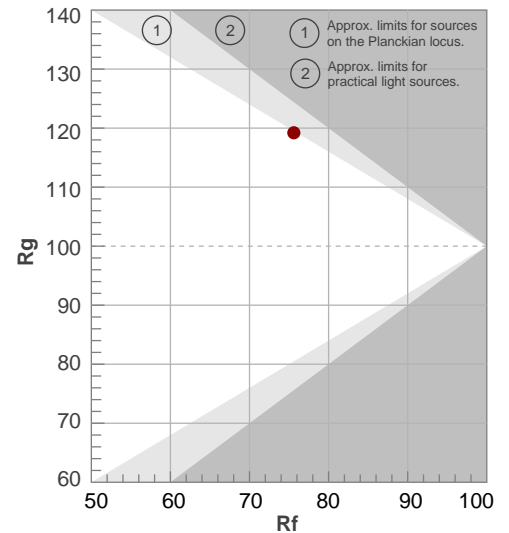
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
5630 K	69,8	-49,5	75,6	119,2	84,0	59	0,330	0,332	-0,0068

TM30 DETAILS

Rf 75,6
Fidelity index Rf

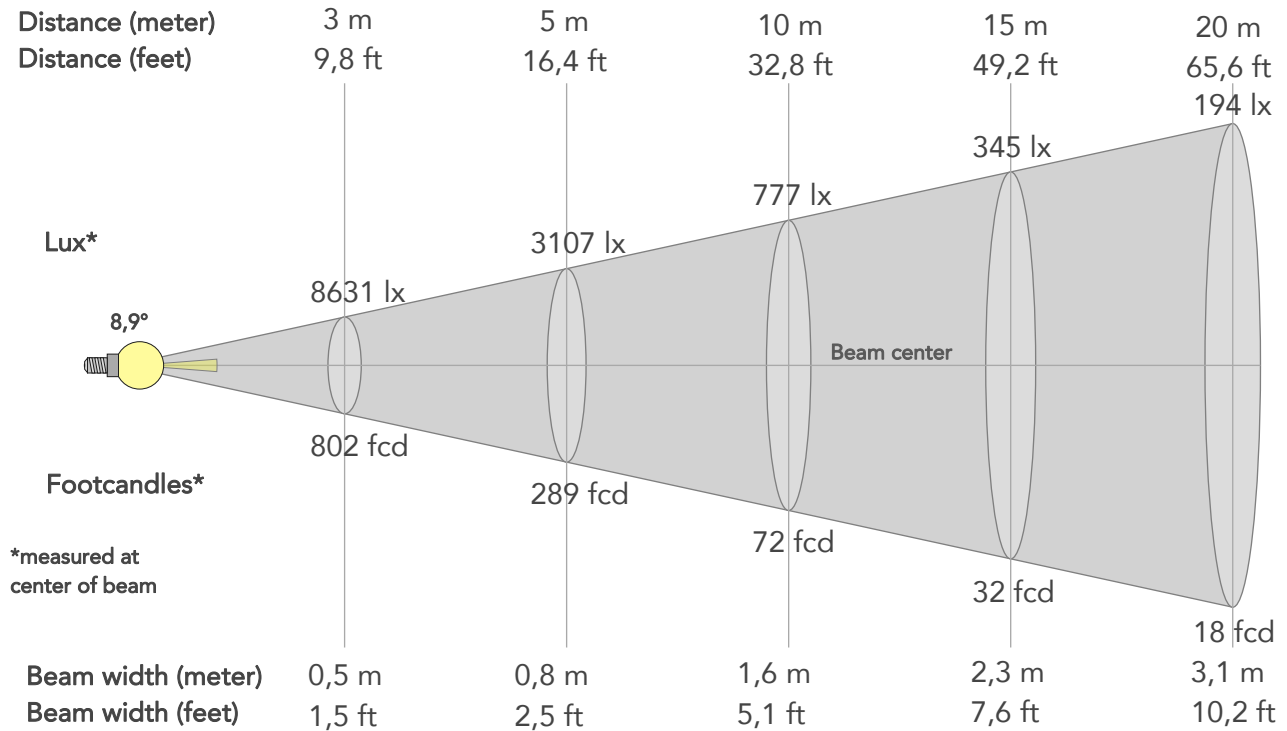
Rg 119,2
Gammut index

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	61	18%	-3%
2	76	10%	-9%
3	82	7%	-4%
4	89	3%	5%
5	78	7%	9%
6	73	16%	8%
7	71	17%	0%
8	75	11%	-7%
9	87	4%	-9%
10	88	-2%	-4%
11	81	-2%	10%
12	72	-2%	18%
13	70	4%	24%
14	62	11%	19%
15	61	26%	21%
16	66	18%	0%



BEAM DETAILS

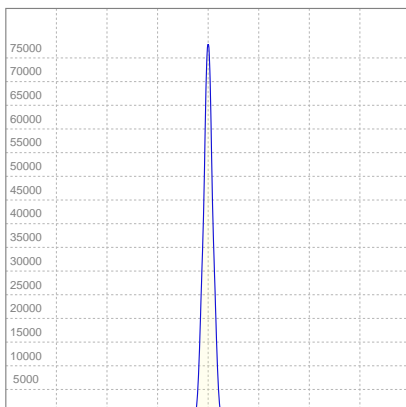
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
8,9°	17,3°	20,2°	99,8%	99,7%



BEAM INTENSITIES AND WIDTHS

Distance	1m	2m	3m	4m	5m	7,5m	10m	15m	20m	25m	30m	40m	50m
Distance	3,3ft	6,6ft	9,8ft	13,1ft	16,4ft	24,6ft	32,8ft	49,2ft	65,6ft	82ft	98,4ft	131,2ft	164ft
Lux	77678lx	19420lx	8631lx	4855lx	3107lx	1381lx	777lx	345lx	194lx	124lx	86lx	49lx	31lx
Footcand.	7217fcd	1804fcd	802fcd	451fcd	289fcd	128fcd	72fcd	32fcd	18fcd	12fcd	8fcd	5fcd	3fcd
Beam wid.	0,2m	0,3m	0,5m	0,6m	0,8m	1,2m	1,6m	2,3m	3,1m	3,9m	4,7m	6,2m	7,8m
Beam wid.	0,5ft	1ft	1,5ft	2ft	2,5ft	3,8ft	5,1ft	7,6ft	10,2ft	12,7ft	15,3ft	20,4ft	25,5ft

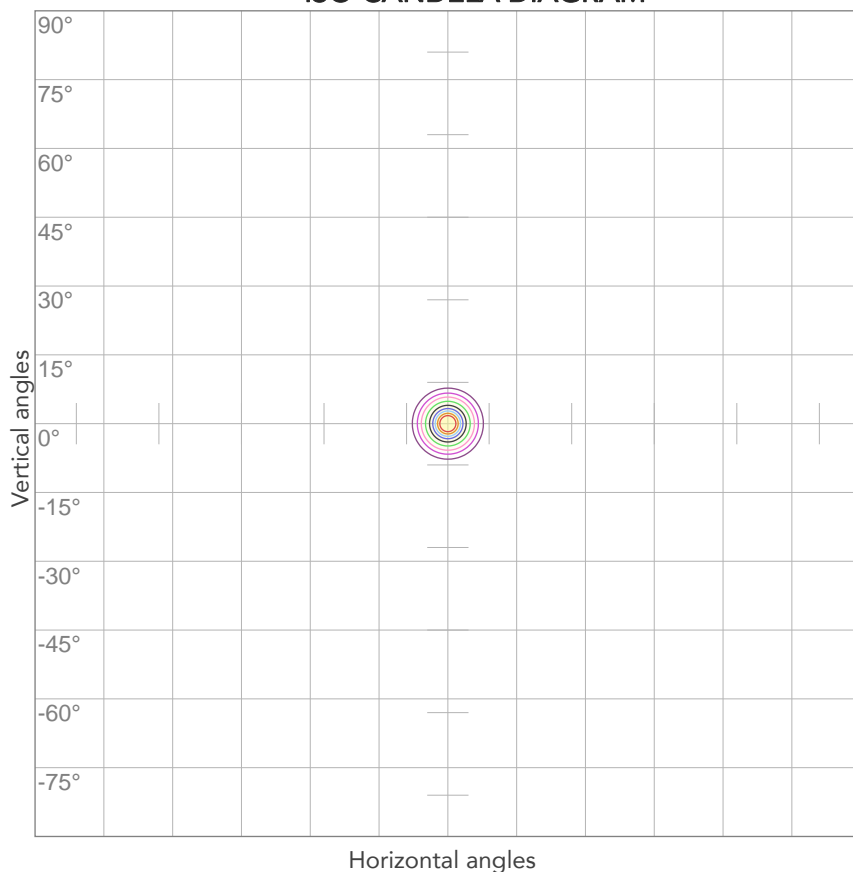
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
224V	0,876A	192,3W	12lm/W

ISO CANDELA DIAGRAM



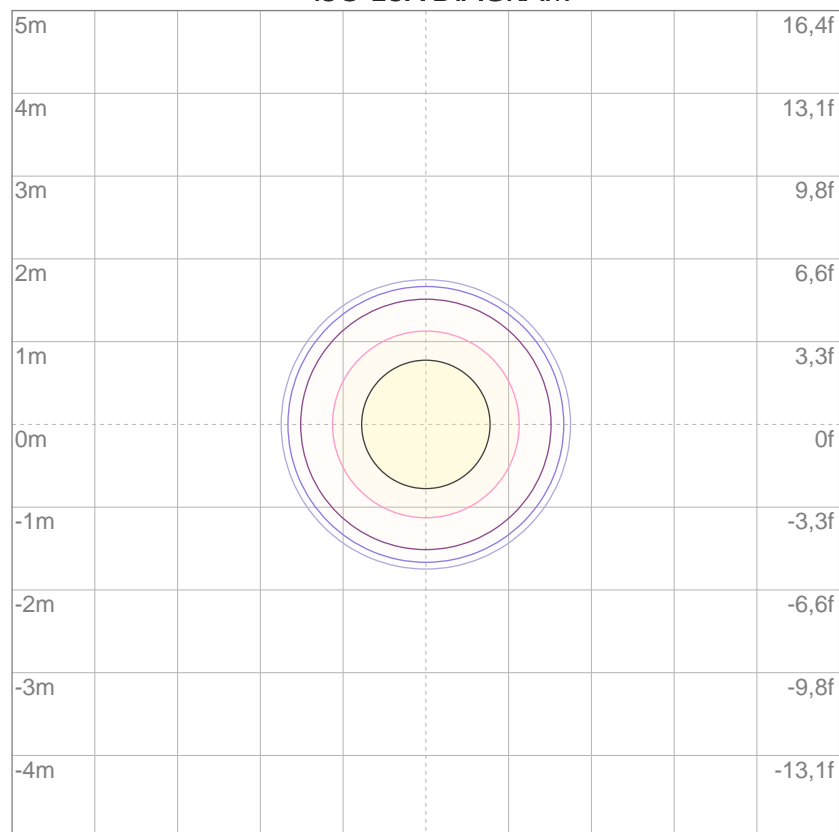
10%	7768 cd
20%	15536 cd
30%	23303 cd
40%	31071 cd
50%	38839 cd
60%	46607 cd
70%	54375 cd
80%	62142 cd

Conditions:

Number of c-planes: 2

Candela at center: 77678 cd

ISO LUX DIAGRAM



3%	23,3 lx
5%	38,8 lx
10%	77,7 lx
30%	233 lx
50%	388 lx

Conditions:

Number of c-planes: 2

Lux at center: 777 lx

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



Total lumen output:

1936 lm

Peak candela output:

372838 cd

Light quality:

CRI: 69,4

Color temperature:

5656 K

PRODUCT NAME:

Stark 400

MEASURAMENT CONDITIONS:

Beam angle:

Min Zoom

Target:

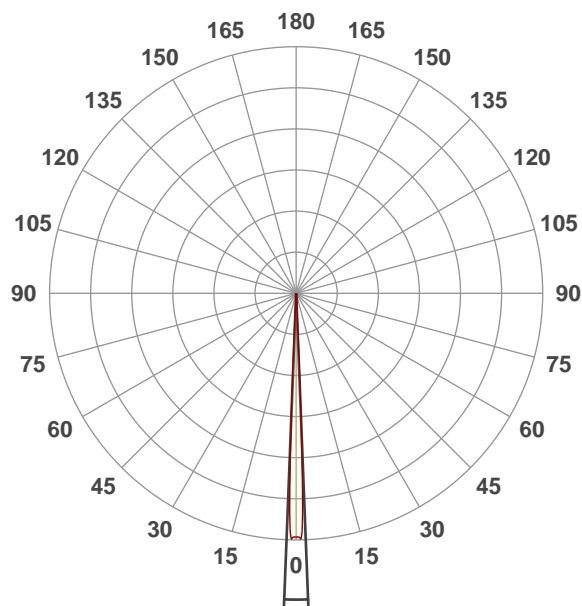
5600K

Operator:

Paolo Carvone

Date and time:

19/12/2019 17:56:09

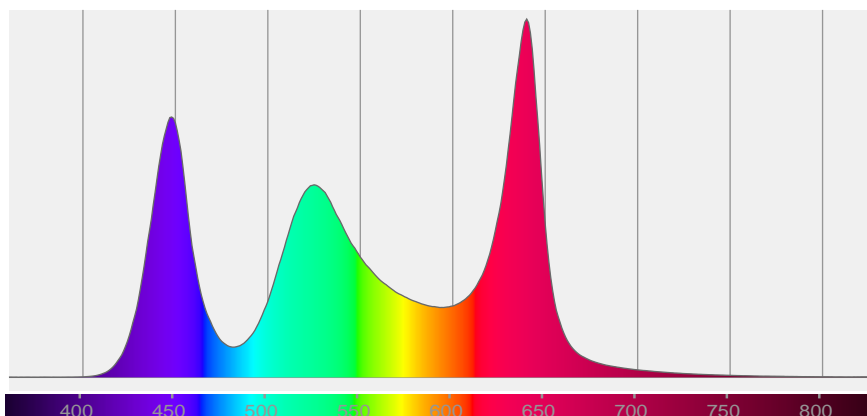


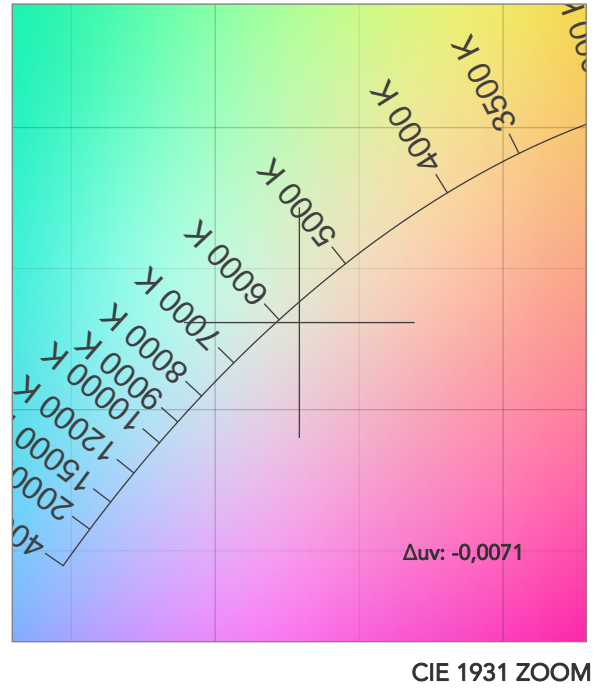
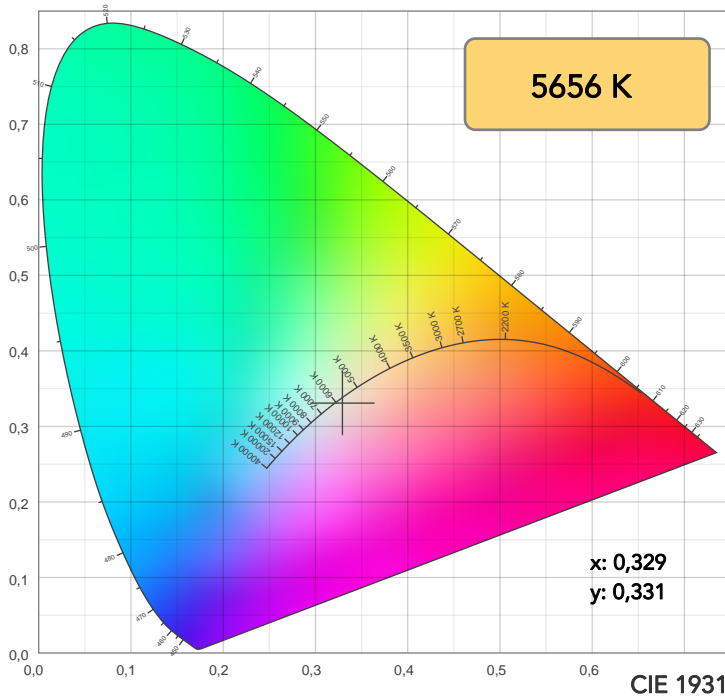
Beam angle 50%: 4,5°

Field angle 10%: 5,7°

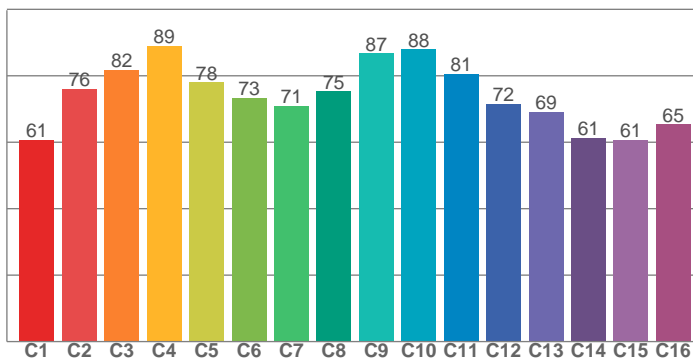
Cut off angle 2.5%: 6,3°

Spectra

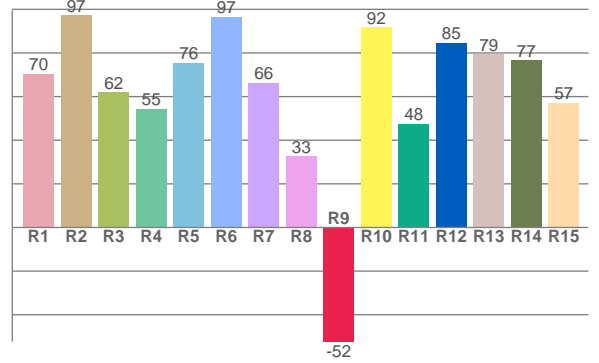




TM30: 75,4



CRI: 69,4 (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
70,5	97,2	62,0	54,5	75,6	96,6	66,3	32,7	-52,3	91,8	47,6	84,6	79,4	76,6	57,1

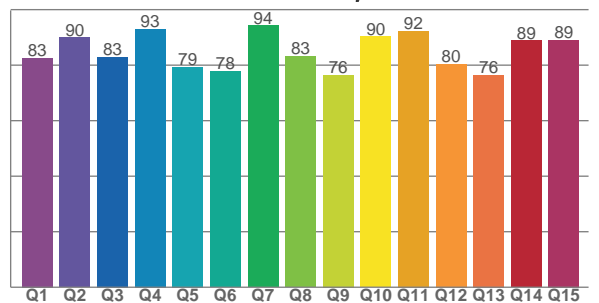
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
60,7	76,1	81,8	89,1	78,0	73,3	70,9	75,2	86,8	87,9	80,6	71,6	69,1	61,3	60,8	65,4

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
82,7	90,0	82,9	93,1	79,3	77,8	94,3	83,2	76,4	90,3	92,4	80,4	76,4	88,8	89,0

CQS: 83,9



COLOR PARAMETERS

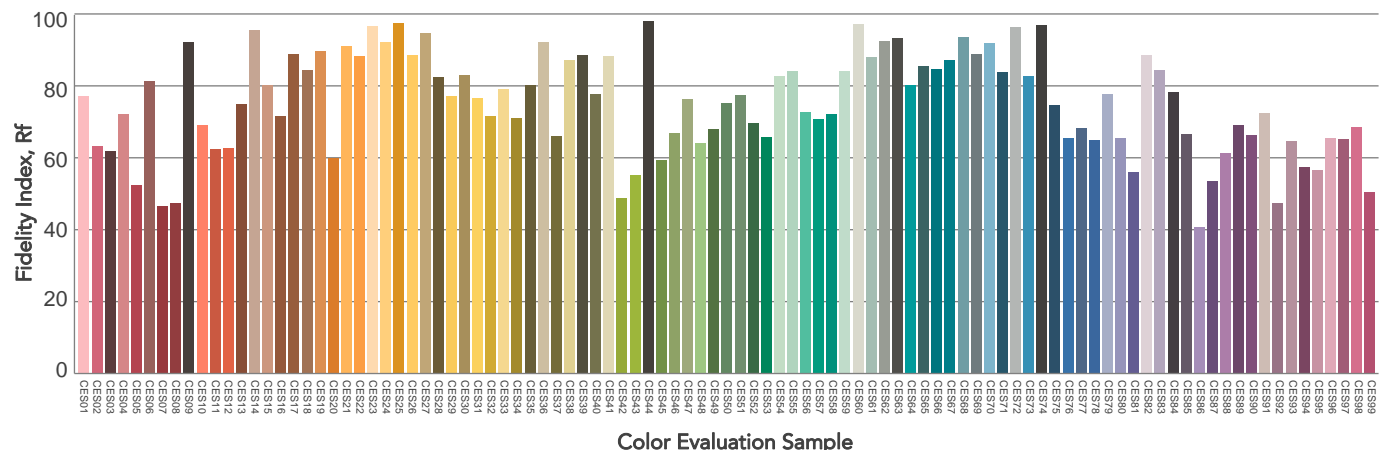
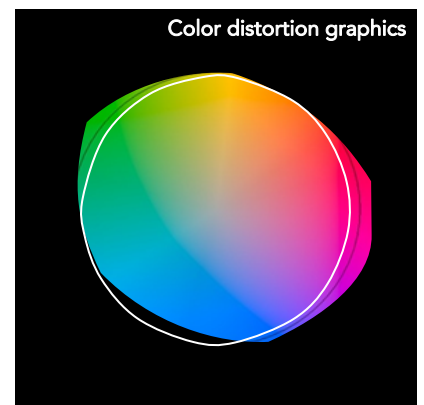
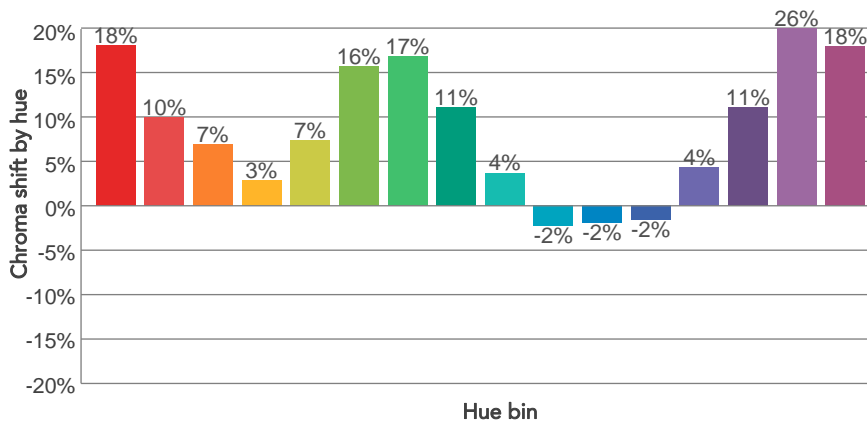
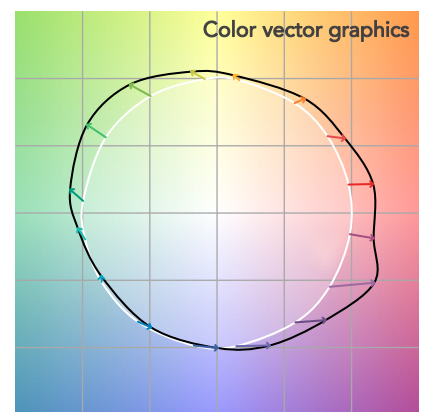
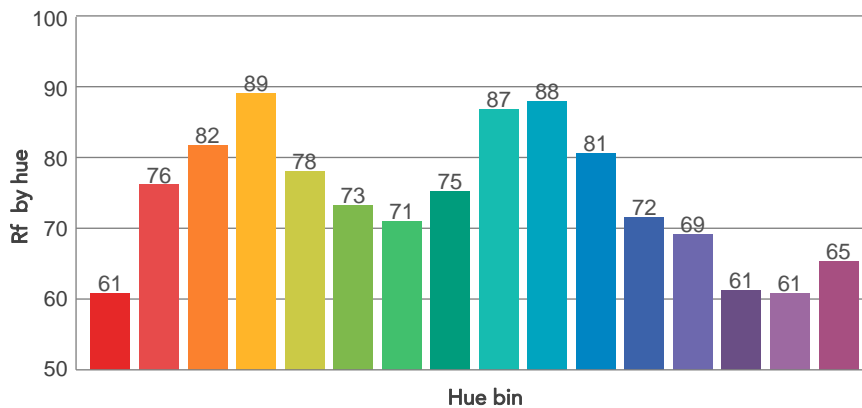
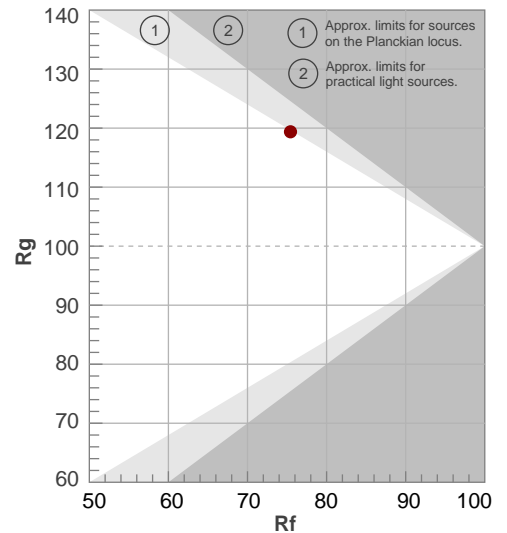
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
5656 K	69,4	-52,3	75,4	119,4	83,9	59	0,329	0,331	-0,0071

TM30 DETAILS

Rf 75,4
Fidelity index Rf

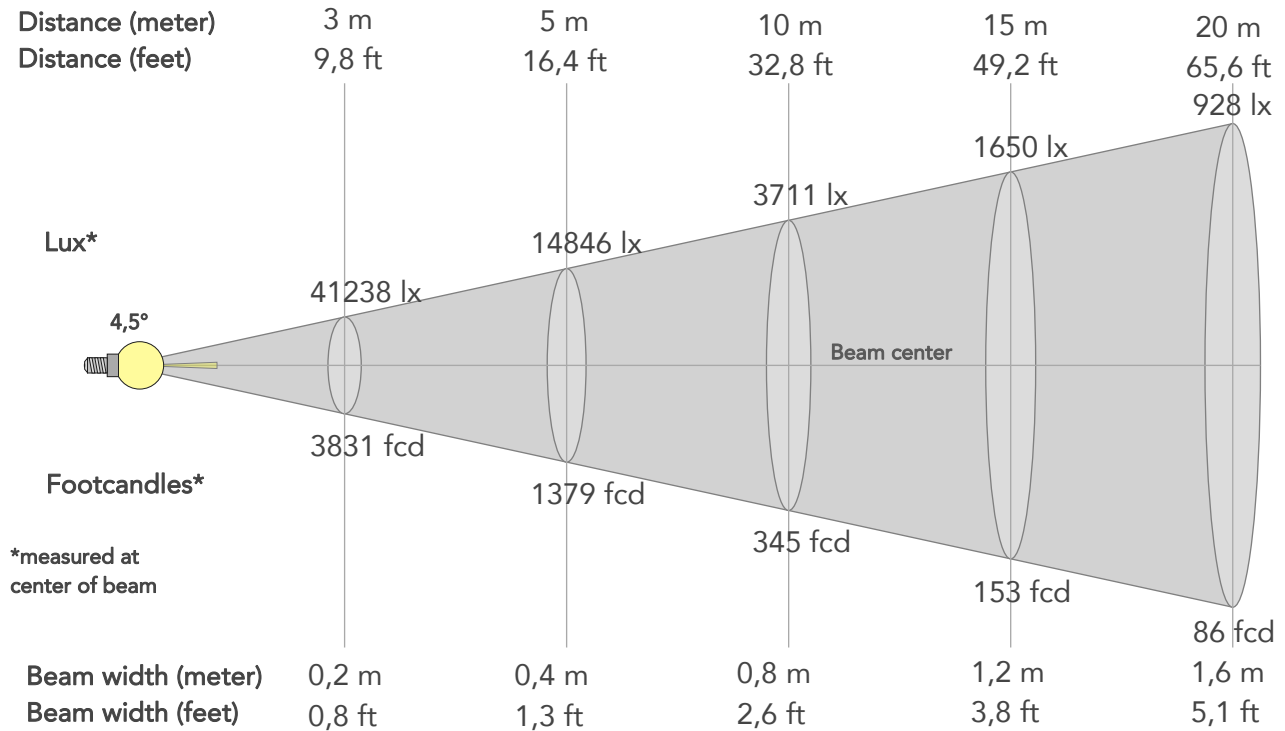
Rg 119,4
Gammut index

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	61	18%	-3%
2	76	10%	-9%
3	82	7%	-5%
4	89	3%	5%
5	78	7%	9%
6	73	16%	8%
7	71	17%	0%
8	75	11%	-6%
9	87	4%	-9%
10	88	-2%	-4%
11	81	-2%	11%
12	72	-2%	18%
13	69	4%	25%
14	61	11%	20%
15	61	26%	21%
16	65	18%	0%



BEAM DETAILS

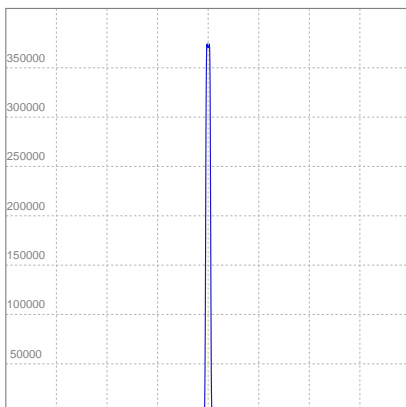
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
4,5°	5,7°	6,3°	97,7%	96,9%



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	371140lx	92785lx	41238lx	23196lx	14846lx	6598lx	3711lx	1650lx	928lx	594lx	412lx	232lx	148lx
Footcand.	34480fcd	8620fcd	3831fcd	2155fcd	1379fcd	613fcd	345fcd	153fcd	86fcd	55fcd	38fcd	22fcd	14fcd
Beam wid.	0,1m	0,2m	0,2m	0,3m	0,4m	0,6m	0,8m	1,2m	1,6m	1,9m	2,3m	3,1m	3,9m
Beam wid.	0,3ft	0,5ft	0,8ft	1ft	1,3ft	1,9ft	2,6ft	3,8ft	5,1ft	6,4ft	7,7ft	10,2ft	12,8ft

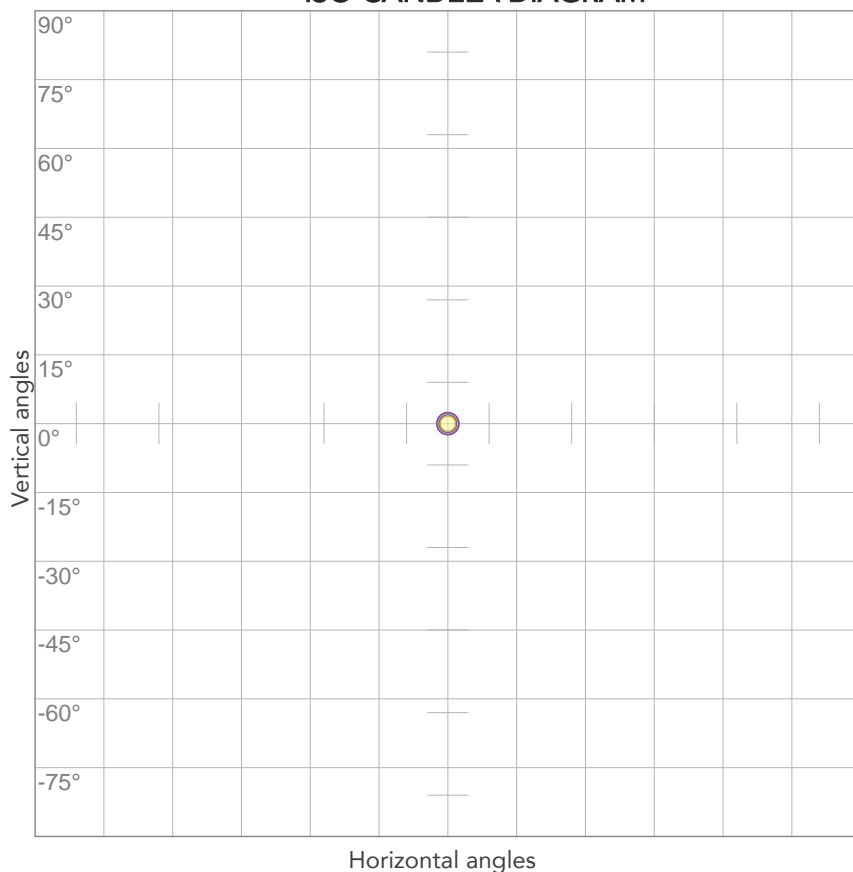
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
221V	0,892A	192,3W	10lm/W

ISO CANDELA DIAGRAM



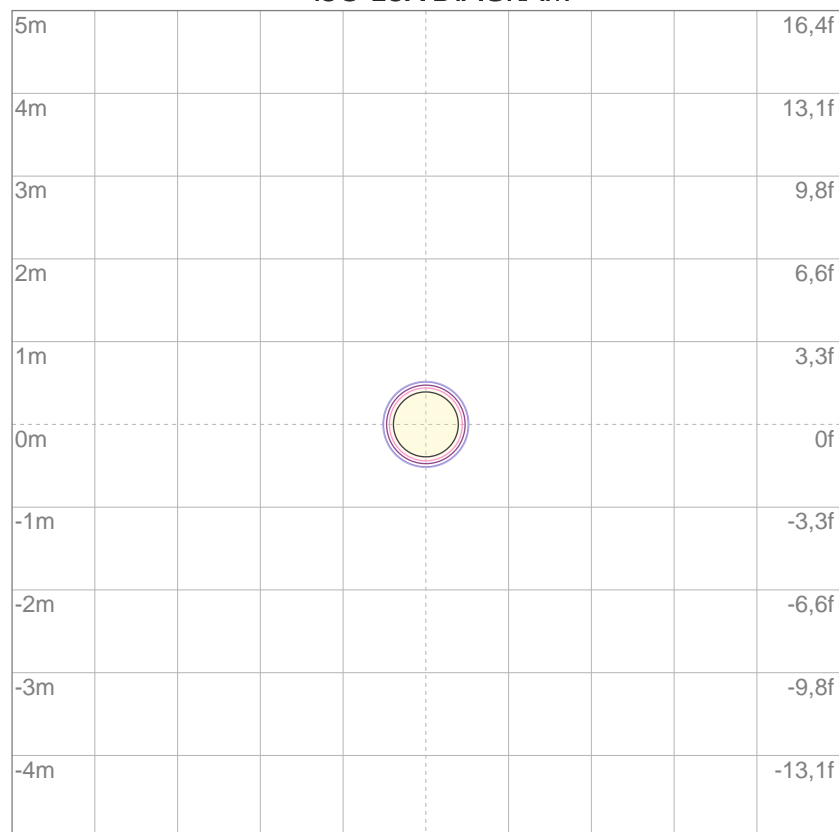
10%	37114 cd
20%	74228 cd
30%	111342 cd
40%	148456 cd
50%	185570 cd
60%	222684 cd
70%	259798 cd
80%	296912 cd

Conditions:

Number of c-planes: 2

Candela at center: 371140 cd

ISO LUX DIAGRAM



3%	111 lx
5%	186 lx
10%	371 lx
30%	1113 lx
50%	1856 lx

Conditions:

Number of c-planes: 2

Lux at center: 3711 lx

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



Total lumen output:

2569 lm

Peak candela output:

19901 cd

Light quality:

CRI: 70,3

Color temperature:

6180 K

PRODUCT NAME:

Stark 400

MEASURAMENT CONDITIONS:

Beam angle:

Max Zoom

Target:

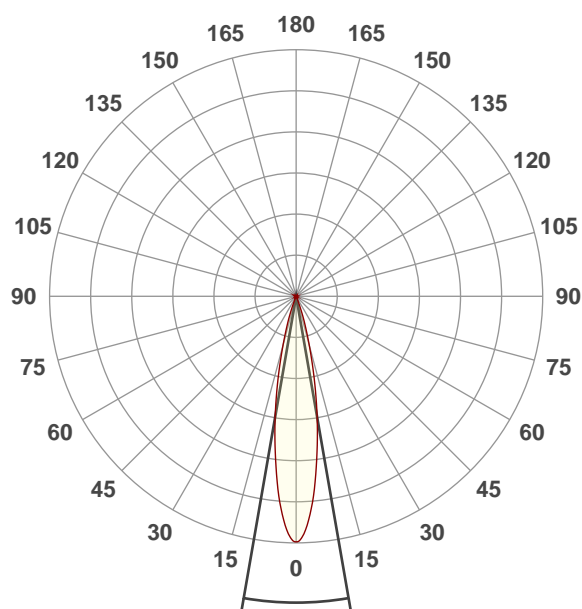
6000K

Operator:

Paolo Carvone

Date and time:

19/12/2019 18:22:26

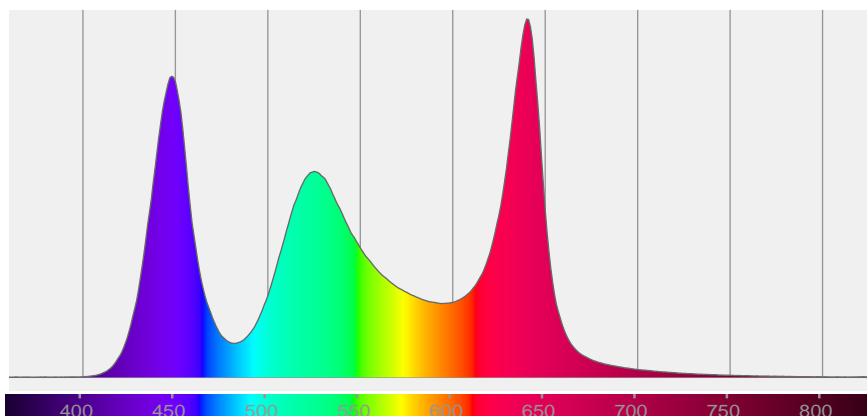


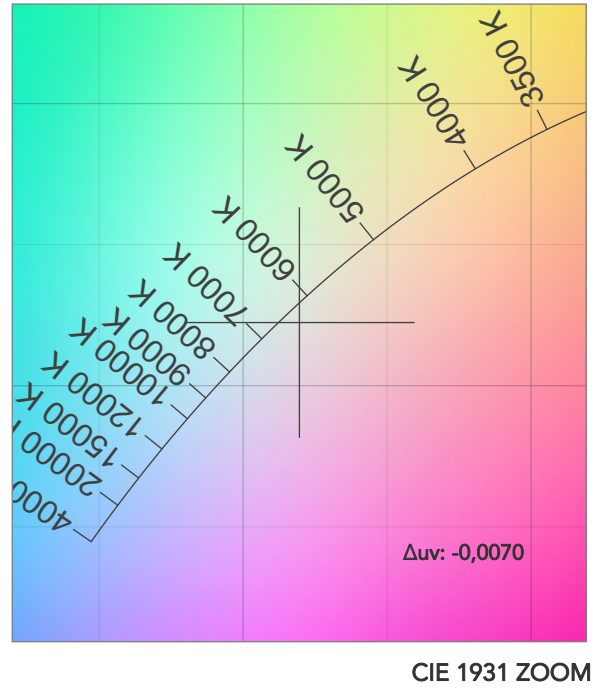
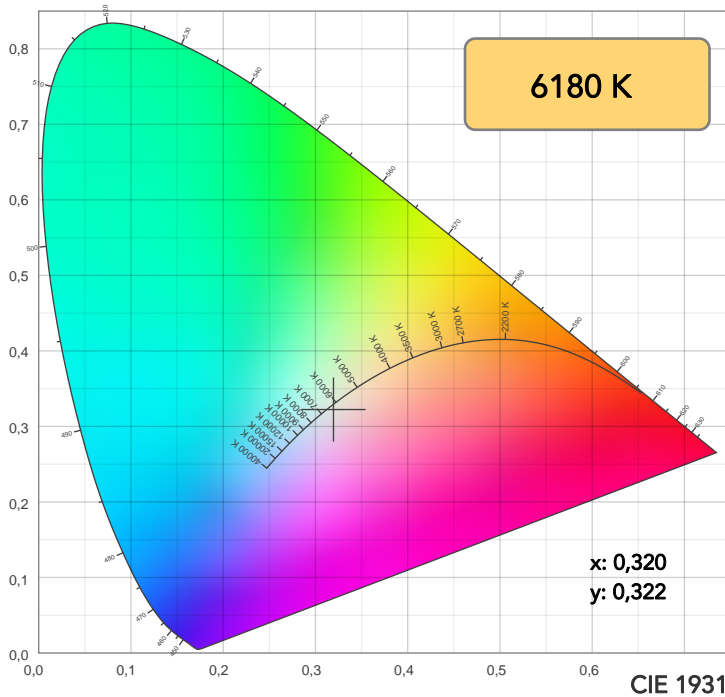
Beam angle 50%: 19,7°

Field angle 10%: 36,1°

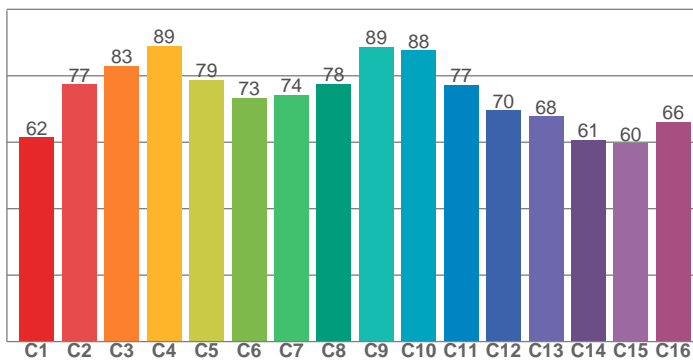
Cut off angle 2.5%: 42,4°

Spectra

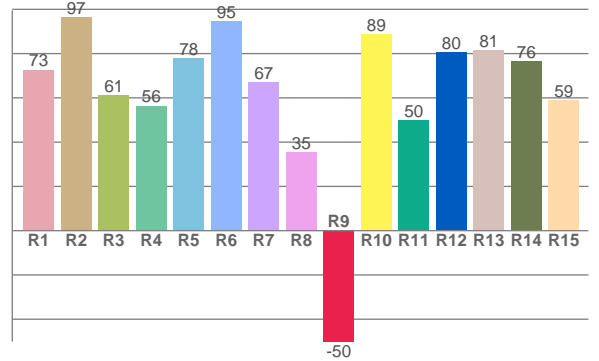




TM30: 75,6



CRI: 70,3 (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
72,7	96,6	61,3	56,4	78,0	94,8	67,2	35,4	-50,1	88,7	49,9	80,5	81,4	76,4	59,0

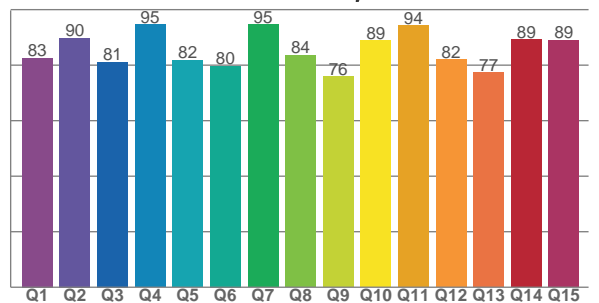
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
61,5	77,4	83,1	89,0	78,7	73,3	74,3	77,5	88,6	87,6	77,2	69,6	67,8	60,8	59,7	66,2

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
82,6	89,8	81,1	94,6	81,7	79,6	94,6	83,6	75,9	88,9	94,3	82,0	77,4	89,2	88,9

CQS: 84,4



COLOR PARAMETERS

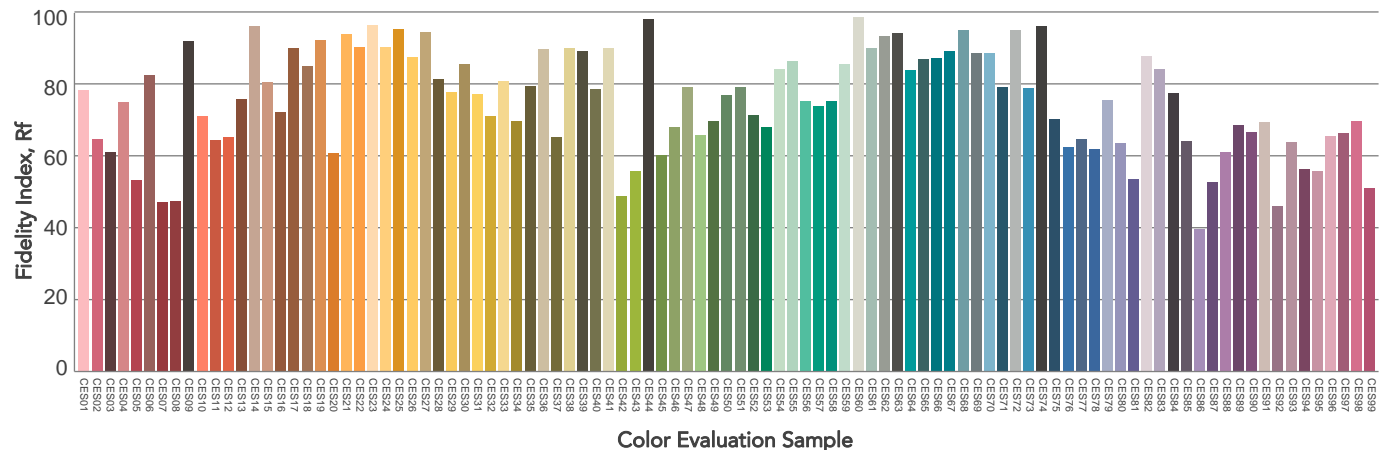
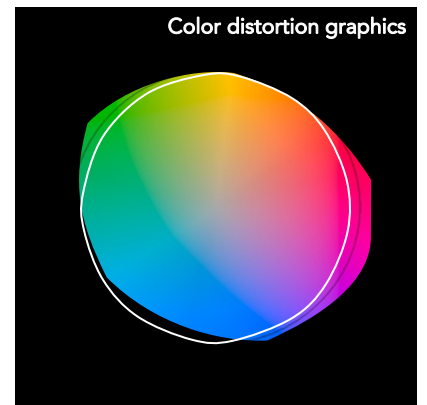
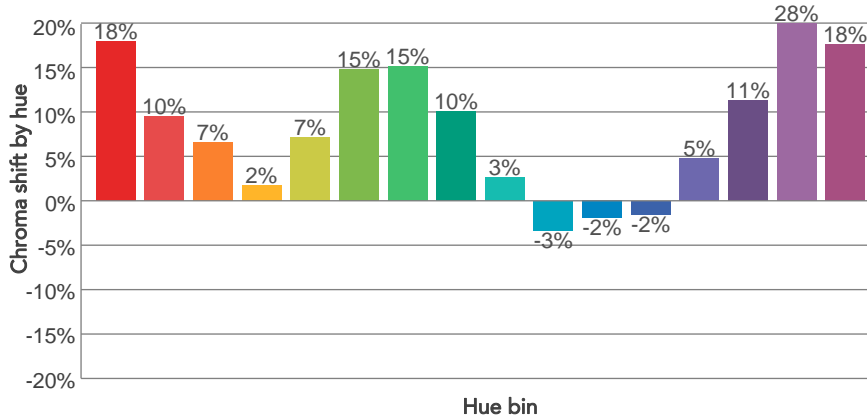
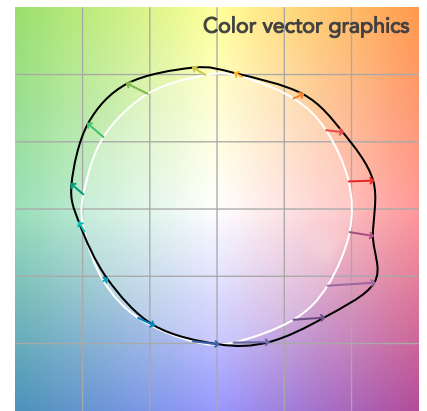
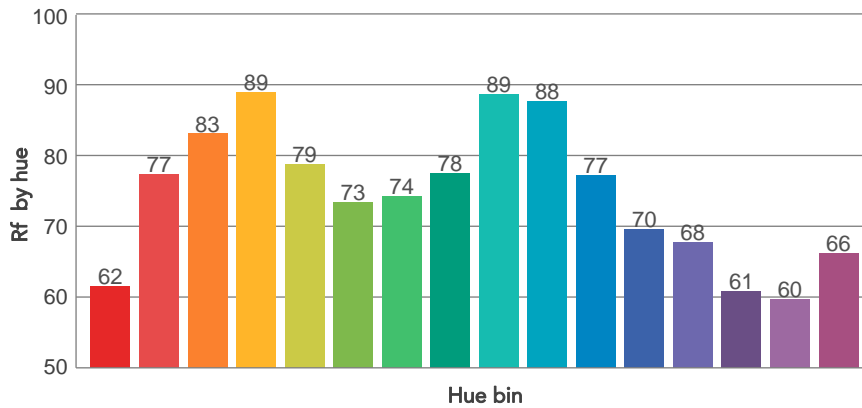
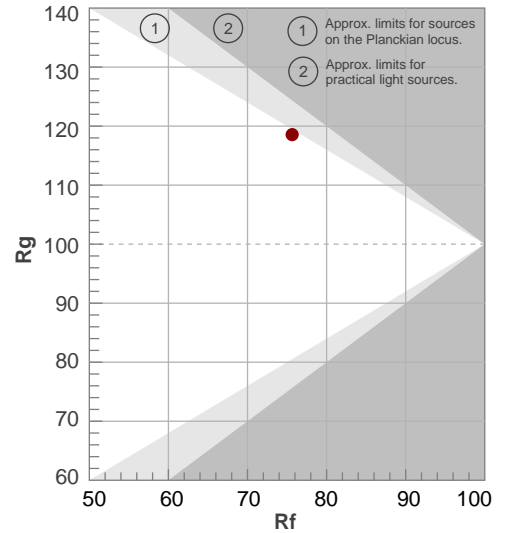
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
6180 K	70,3	-50,1	75,6	118,6	84,4	60	0,320	0,322	-0,0070

TM30 DETAILS

Rf 75,6
Fidelity index Rf

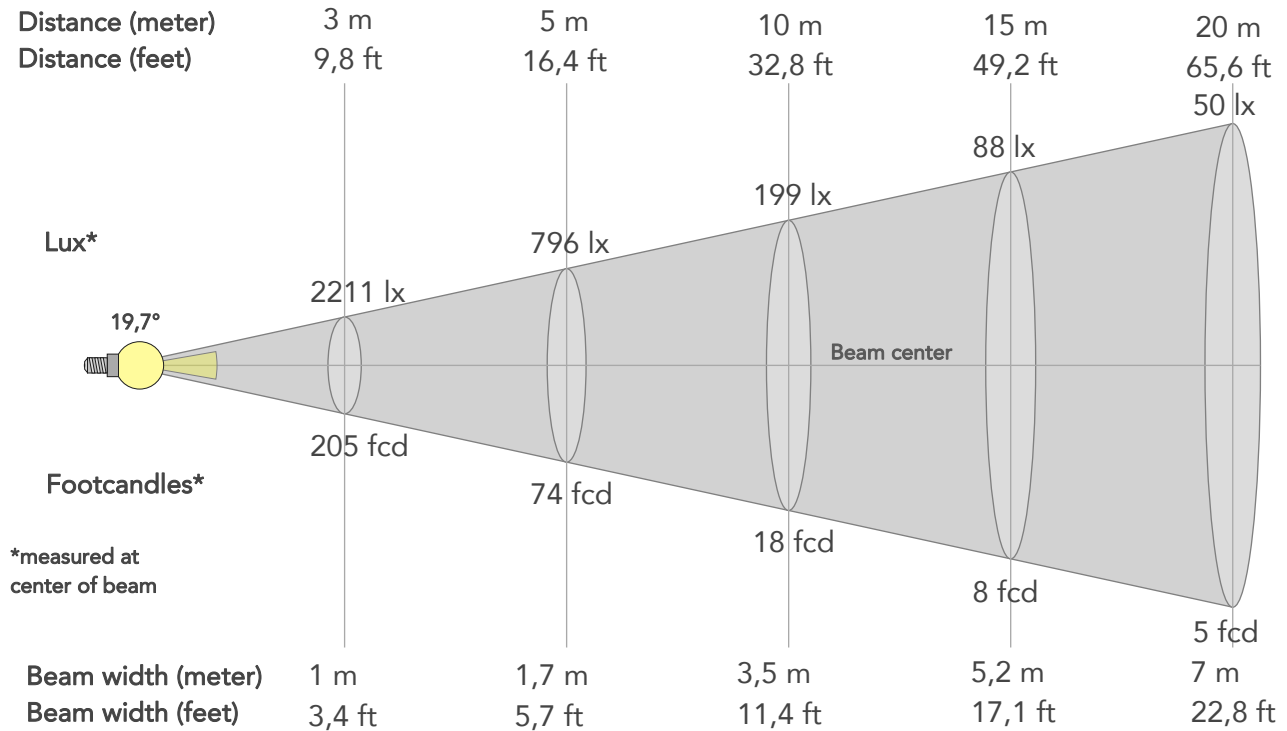
Rg 118,6
Gammut index

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	62	18%	-3%
2	77	10%	-8%
3	83	7%	-4%
4	89	2%	6%
5	79	7%	8%
6	73	15%	8%
7	74	15%	-2%
8	78	10%	-6%
9	89	3%	-7%
10	88	-3%	0%
11	77	-2%	13%
12	70	-2%	19%
13	68	5%	26%
14	61	11%	20%
15	60	28%	21%
16	66	18%	1%



BEAM DETAILS

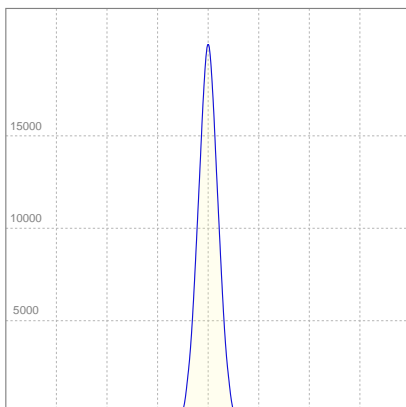
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
19,7°	36,1°	42,4°	99,8%	99,7%



BEAM INTENSITIES AND WIDTHS

Distance	1m	2m	3m	4m	5m	7,5m	10m	15m	20m	25m	30m	40m	50m
Distance	3,3ft	6,6ft	9,8ft	13,1ft	16,4ft	24,6ft	32,8ft	49,2ft	65,6ft	82ft	98,4ft	131,2ft	164ft
Lux	1990lx	4975lx	2211lx	1244lx	796lx	354lx	199lx	88lx	50lx	32lx	22lx	12lx	8lx
Footcand.	1849fcd	462fcd	205fcd	116fcd	74fcd	33fcd	18fcd	8fcd	5fcd	3fcd	2fcd	1fcd	1fcd
Beam wid.	0,3m	0,7m	1m	1,4m	1,7m	2,6m	3,5m	5,2m	7m	8,7m	10,4m	13,9m	17,4m
Beam wid.	1,1ft	2,3ft	3,4ft	4,6ft	5,7ft	8,5ft	11,4ft	17,1ft	22,8ft	28,5ft	34,2ft	45,6ft	57ft

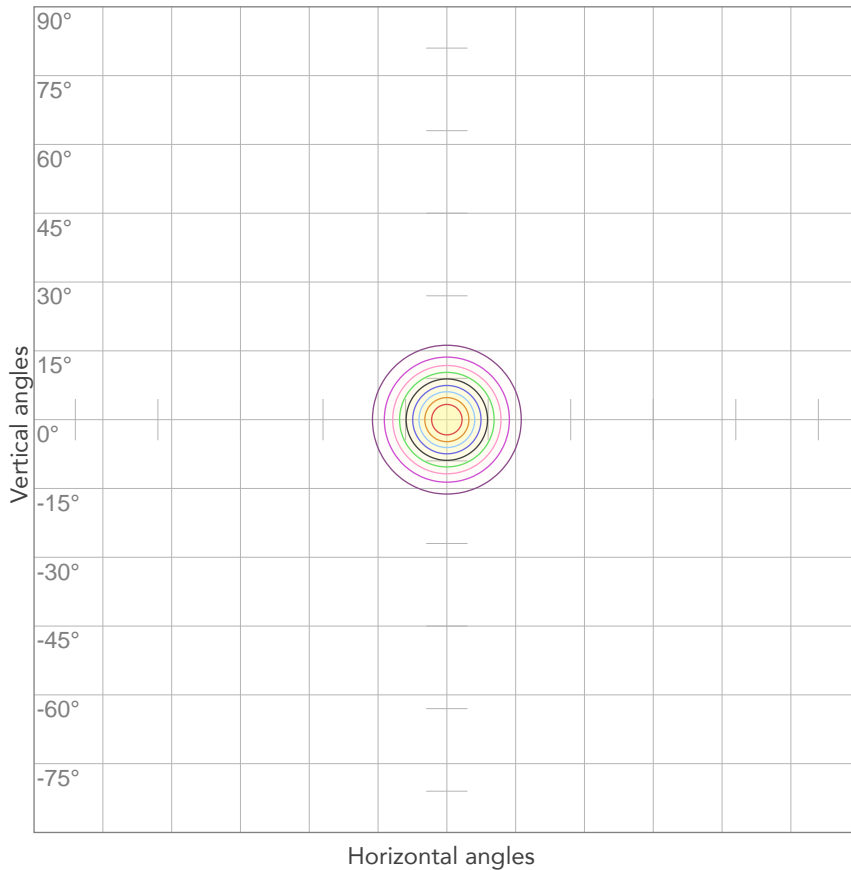
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Efficiency
220V	0,900A	193,6W	13lm/W

ISO CANDELA DIAGRAM



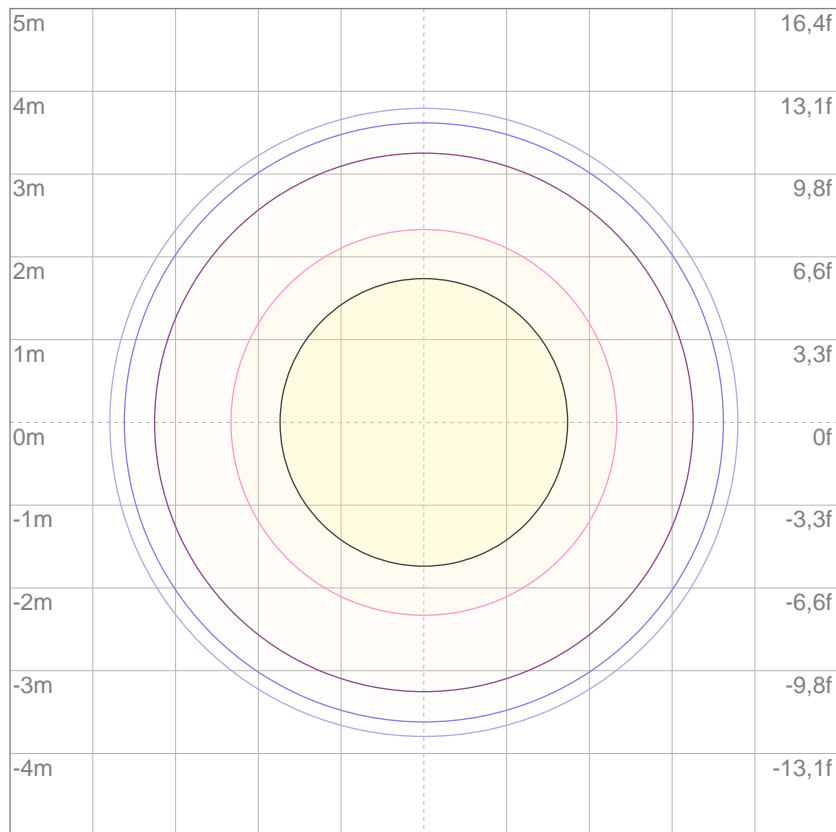
10%	1990 cd
20%	3980 cd
30%	5970 cd
40%	7960 cd
50%	9950 cd
60%	11940 cd
70%	13930 cd
80%	15920 cd

Conditions:

Number of c-planes: 2

Candela at center: 19901 cd

ISO LUX DIAGRAM



3%	5,97 lx
5%	9,95 lx
10%	19,9 lx
30%	59,7 lx
50%	99,5 lx

Conditions:

Number of c-planes: 2

Lux at center: 199 lx

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



Total lumen output:

2245 lm

Peak candela output:

76737 cd

Light quality:

CRI: 70,0

Color temperature:

6178 K

PRODUCT NAME:

Stark 400

MEASURAMENT CONDITIONS:

Beam angle:

Med Zoom

Target:

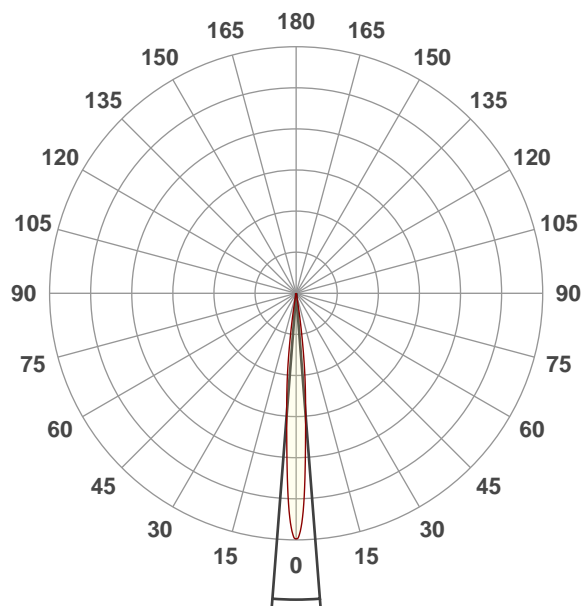
6000K

Operator:

Paolo Carvone

Date and time:

20/12/2019 10:22:03

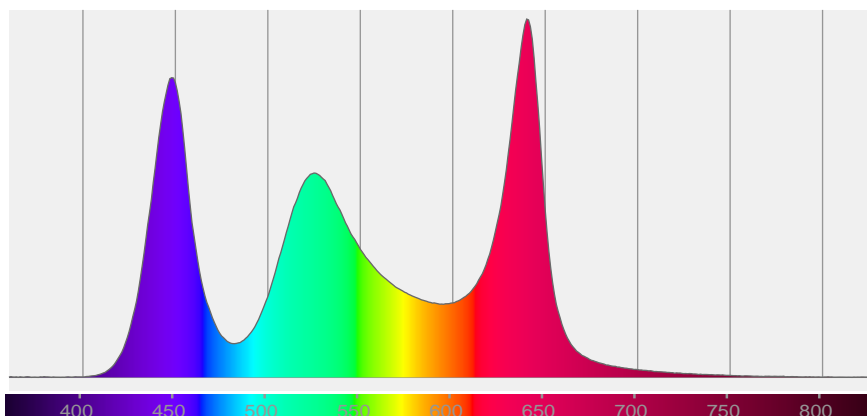


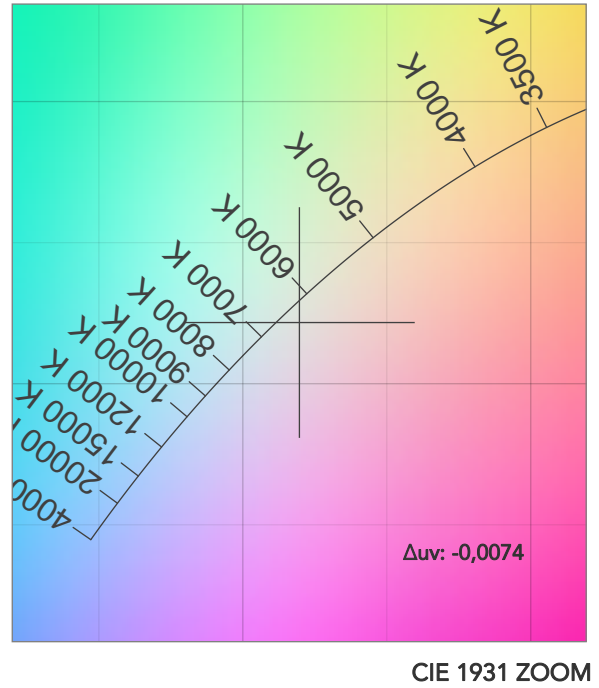
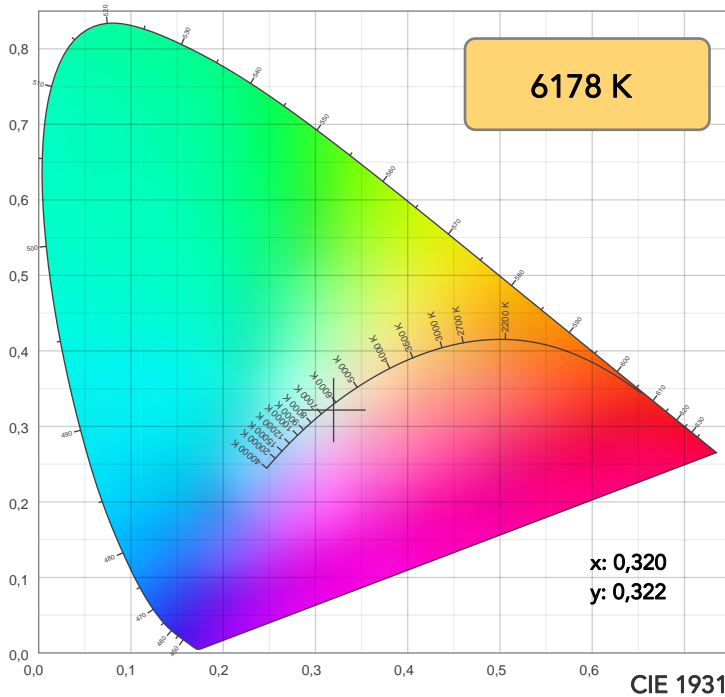
Beam angle 50%: 8,9°

Field angle 10%: 17,3°

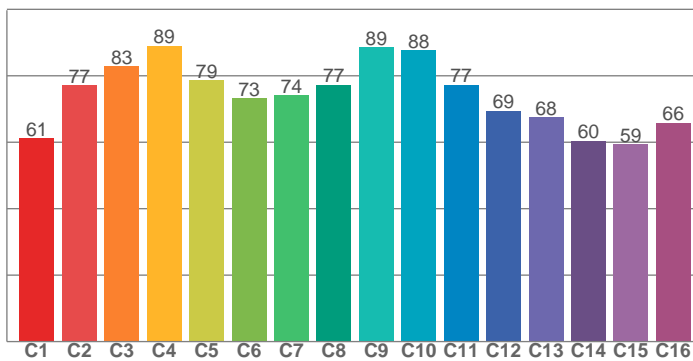
Cut off angle 2.5%: 20,2°

Spectra

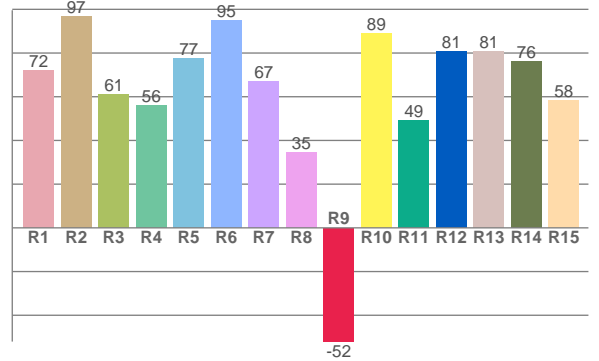




TM30: 75,5



CRI: 70,0 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
72,1	96,7	61,1	55,9	77,5	95,0	67,0	34,6	-52,0	89,1	49,3	80,9	80,9	76,2	58,2

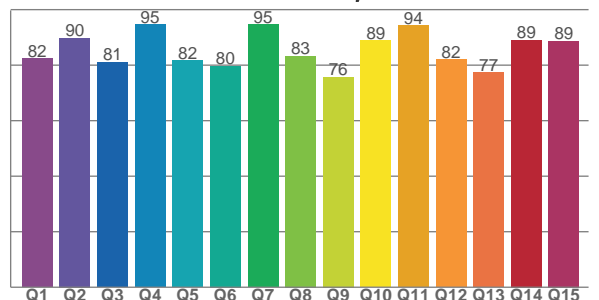
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
61,1	77,2	82,9	88,9	78,6	73,1	74,1	77,3	88,6	87,6	77,2	69,4	67,5	60,4	59,3	65,9

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
82,4	89,7	81,1	94,7	81,7	79,6	94,7	83,3	75,7	88,9	94,3	82,0	77,4	89,0	88,8

CQS: 84,3



COLOR PARAMETERS

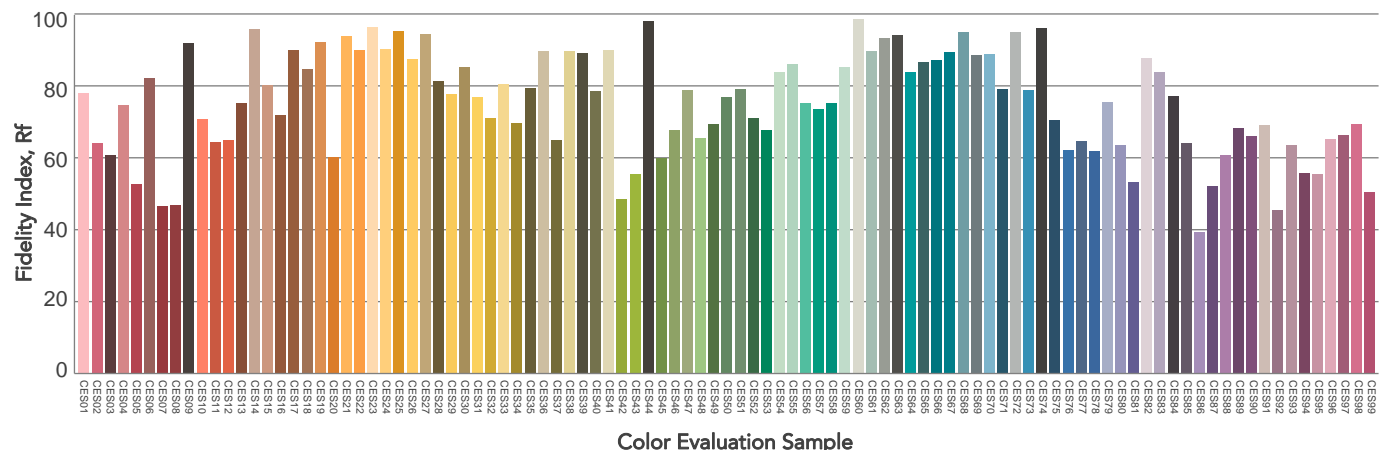
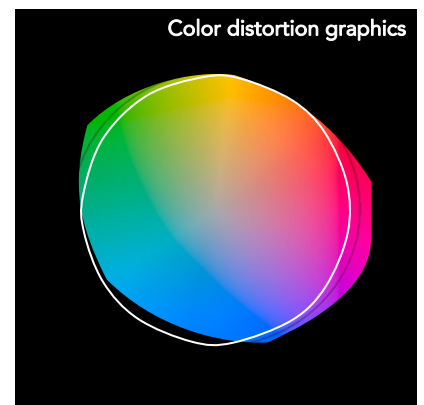
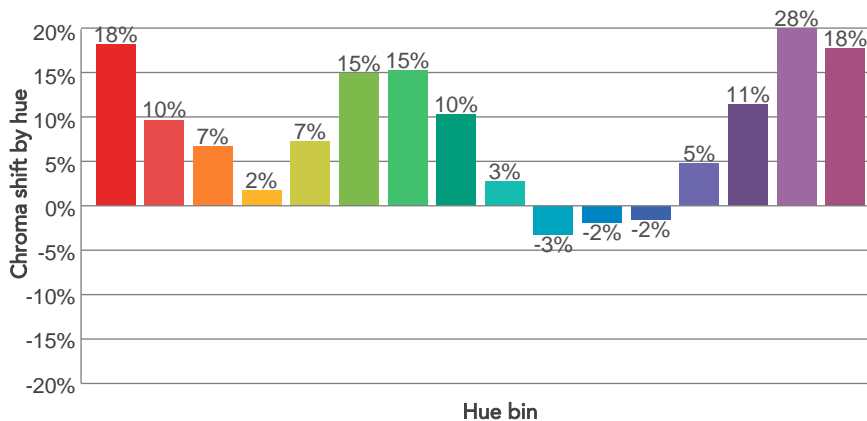
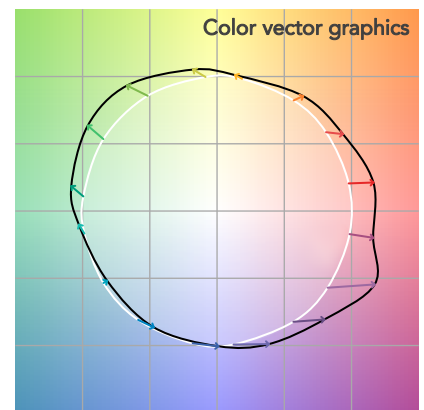
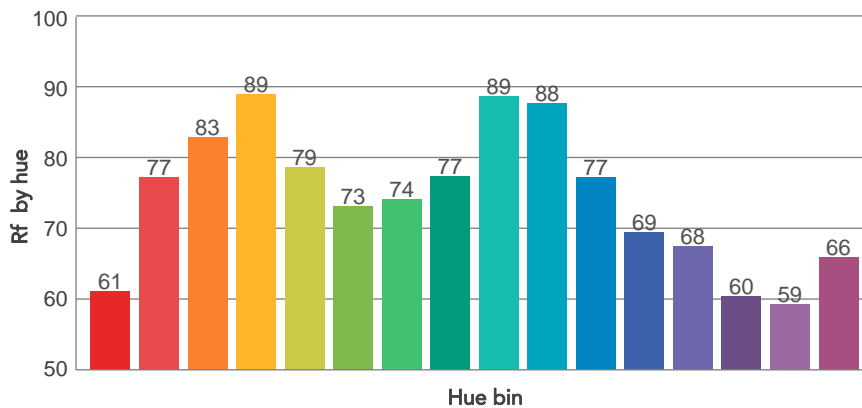
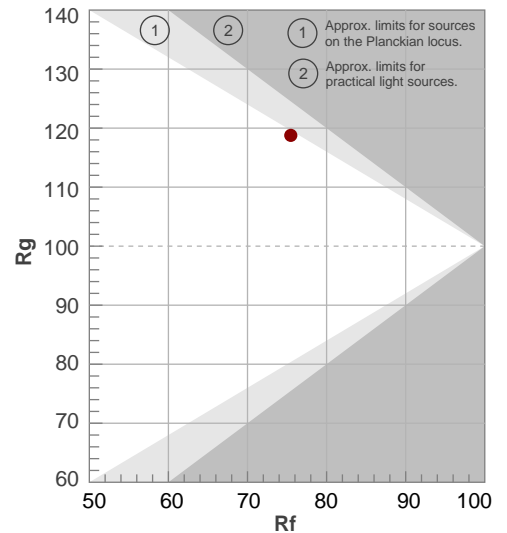
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
6178 K	70,0	-52,0	75,5	118,8	84,3	60	0,320	0,322	-0,0074

TM30 DETAILS

Rf 75,5
Fidelity index Rf

Rg 118,8
Gammut index

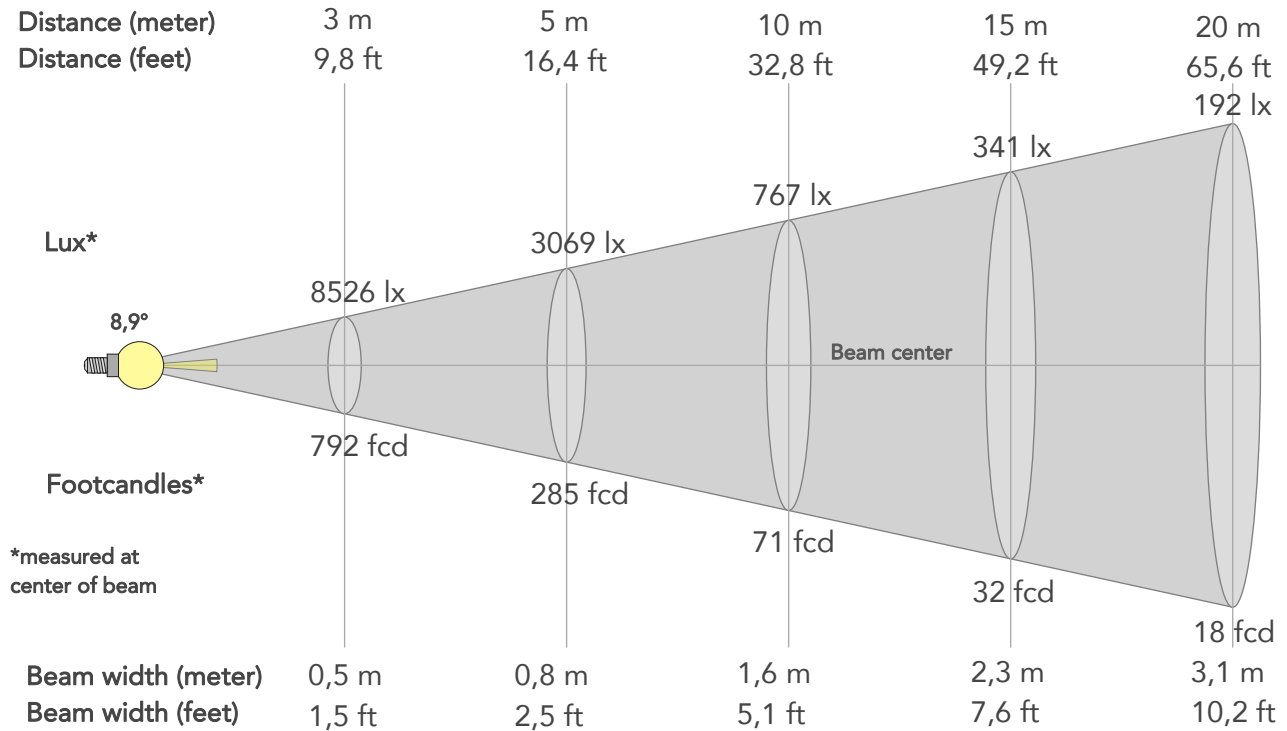
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	61	18%	-3%
2	77	10%	-8%
3	83	7%	-4%
4	89	2%	6%
5	79	7%	8%
6	73	15%	9%
7	74	15%	-2%
8	77	10%	-6%
9	89	3%	-7%
10	88	-3%	0%
11	77	-2%	13%
12	69	-2%	19%
13	68	5%	26%
14	60	11%	20%
15	59	28%	21%
16	66	18%	1%



BEAM DETAILS



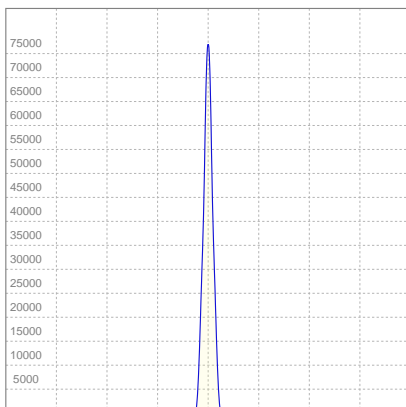
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
8,9°	17,3°	20,2°	100,0%	100,0%



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	76737lx	19184lx	8526lx	4796lx	3069lx	1364lx	767lx	341lx	192lx	123lx	85lx	48lx	31lx
Footcand.	7129fcd	1782fcd	792fcd	446fcd	285fcd	127fcd	71fcd	32fcd	18fcd	11fcd	8fcd	4fcd	3fcd
Beam wid.	0,2m	0,3m	0,5m	0,6m	0,8m	1,2m	1,6m	2,3m	3,1m	3,9m	4,7m	6,2m	7,8m
Beam wid.	0,5ft	1ft	1,5ft	2ft	2,5ft	3,8ft	5,1ft	7,6ft	10,2ft	12,7ft	15,3ft	20,4ft	25,5ft

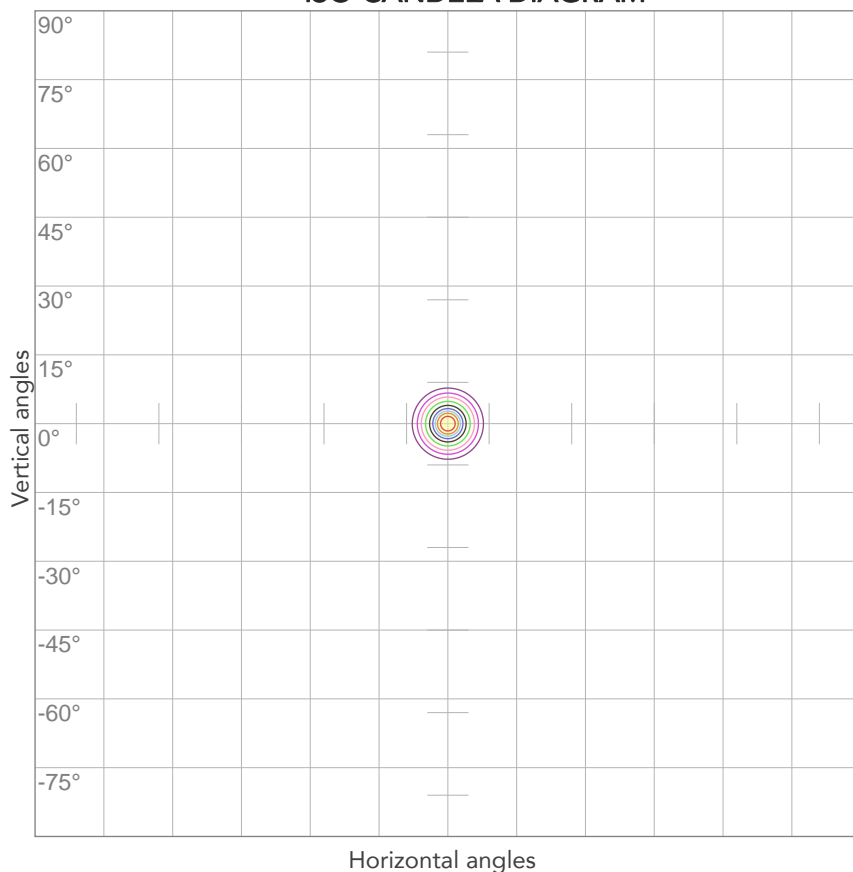
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
224V	0,883A	193,7W	12lm/W

ISO CANDELA DIAGRAM



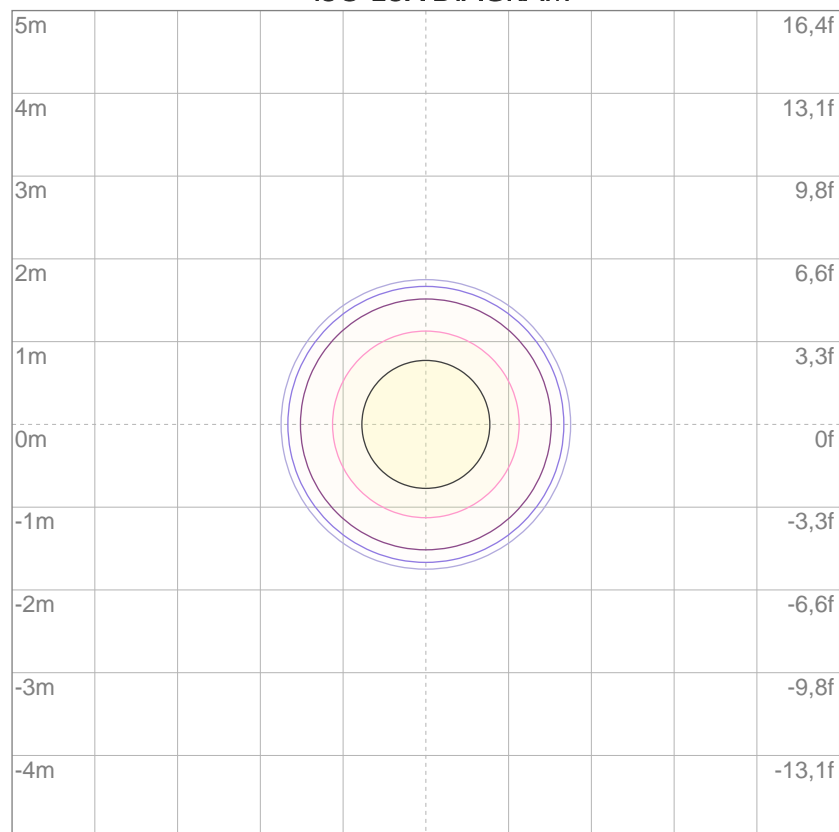
10%	7674 cd
20%	15347 cd
30%	23021 cd
40%	30695 cd
50%	38369 cd
60%	46042 cd
70%	53716 cd
80%	61390 cd

Conditions:

Number of c-planes: 2

Candela at center: 76737 cd

ISO LUX DIAGRAM



3%	23,0 lx
5%	38,4 lx
10%	76,7 lx
30%	230 lx
50%	384 lx

Conditions:

Number of c-planes: 2

Lux at center: 767 lx

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



Total lumen output:

1920 lm

Peak candela output:

370532 cd

Light quality:

CRI: 69,5

Color temperature:

6043 K

PRODUCT NAME:

Stark 400

MEASUREMENT CONDITIONS:

Beam angle:

Min Zoom

Target:

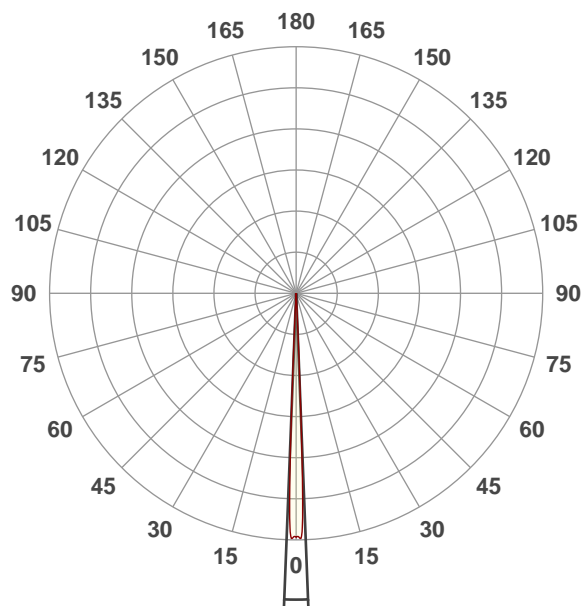
6000K

Operator:

Paolo Carvone

Date and time:

19/12/2019 17:58:19

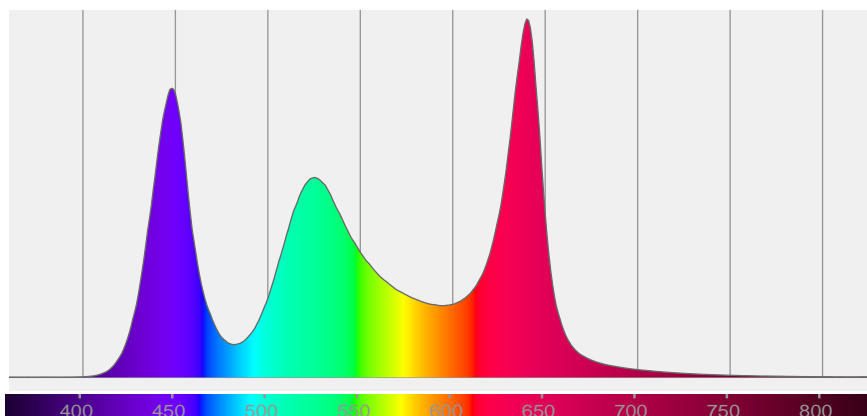


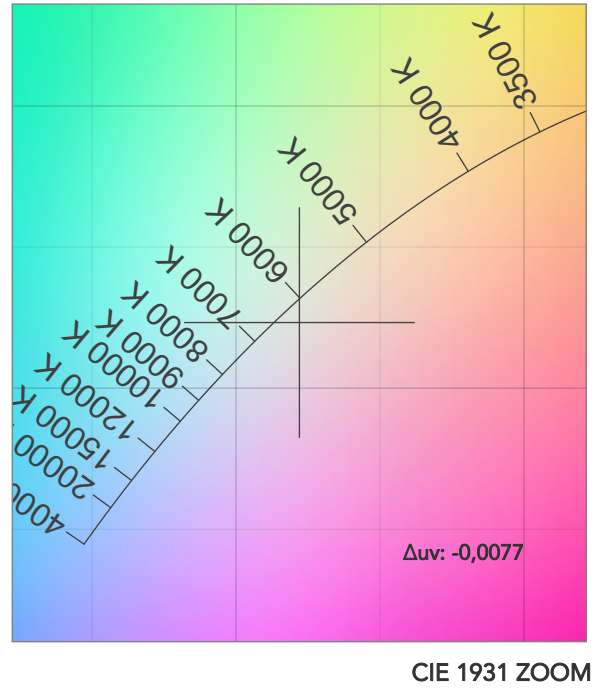
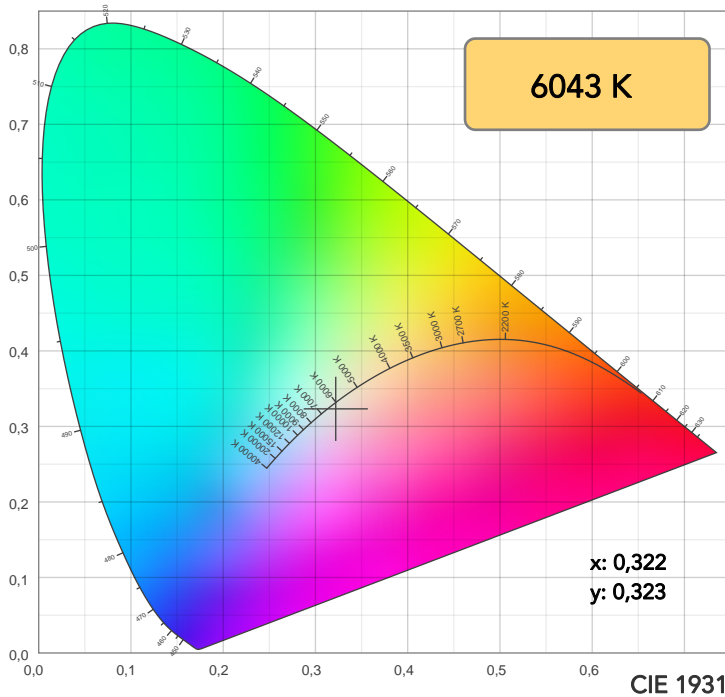
Beam angle 50%: 4,5°

Field angle 10%: 5,6°

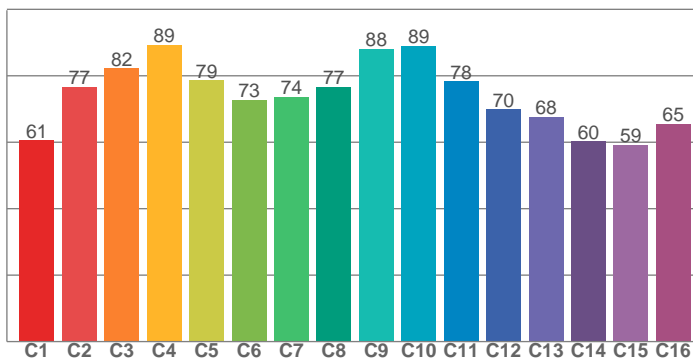
Cut off angle 2.5%: 6,2°

Spectra

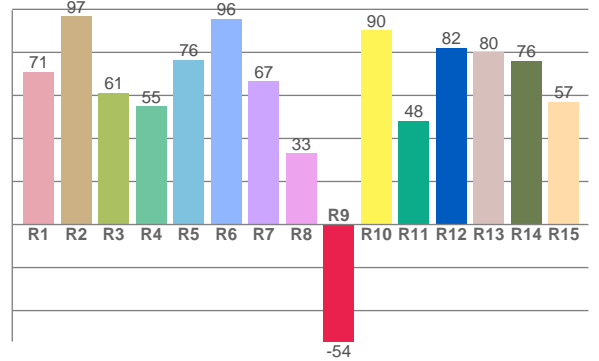




TM30: 75,3



CRI: 69,5 (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
71,1	96,9	61,2	55,1	76,5	95,7	66,6	33,2	-54,4	90,3	48,3	82,2	80,0	76,2	57,1

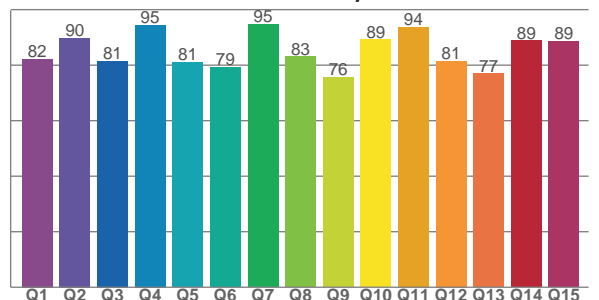
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
60,6	76,6	82,3	89,3	78,6	72,8	73,6	76,6	88,2	89,1	78,3	69,9	67,7	60,2	59,3	65,4

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
82,2	89,7	81,5	94,5	81,0	79,2	94,7	83,0	75,6	89,3	93,7	81,4	77,0	88,8	88,6

CQS: 84,1



COLOR PARAMETERS

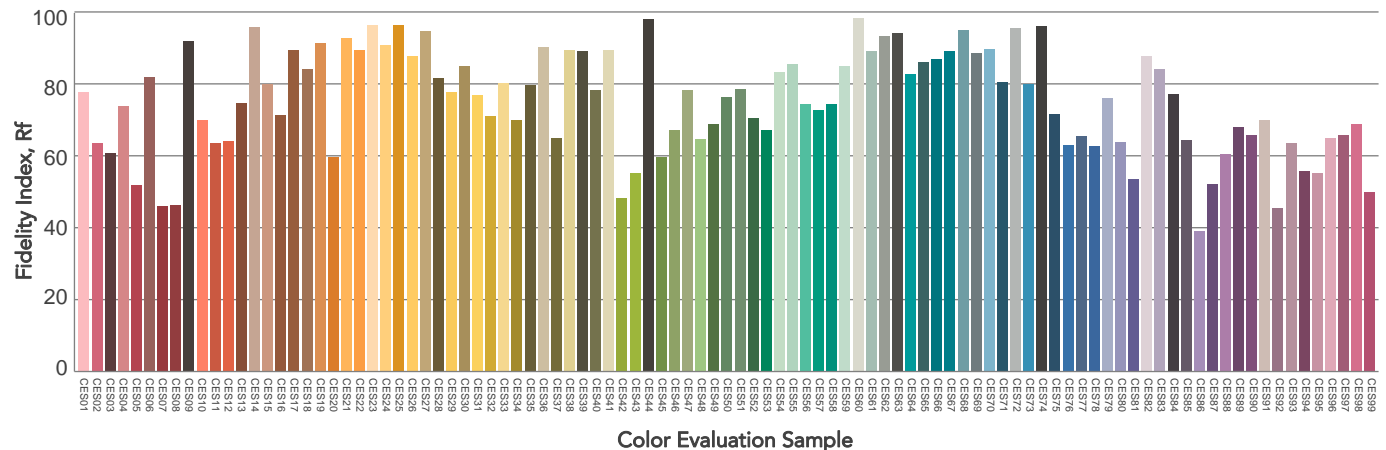
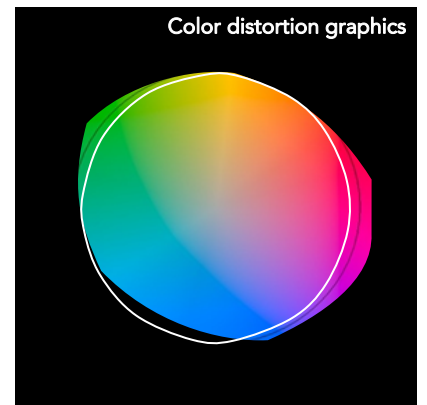
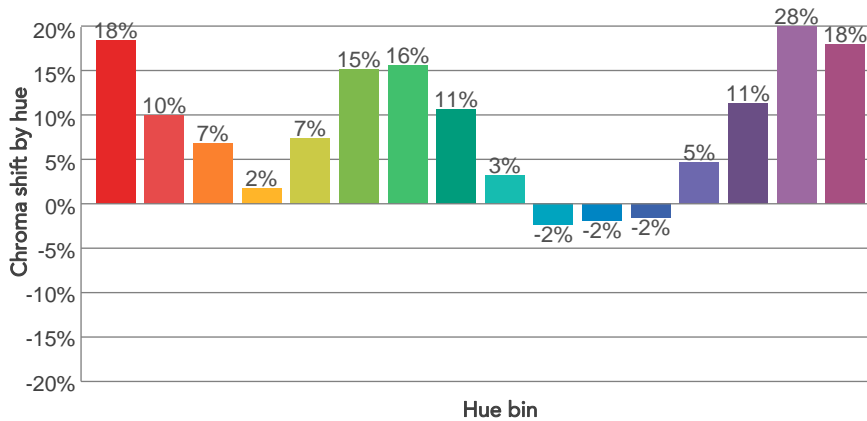
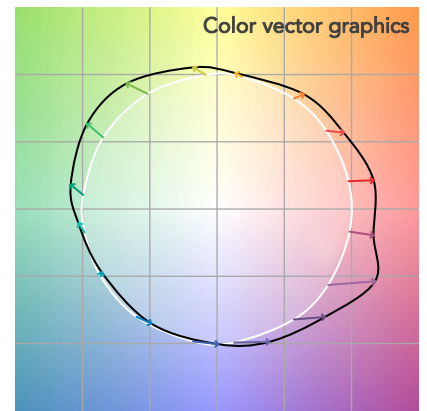
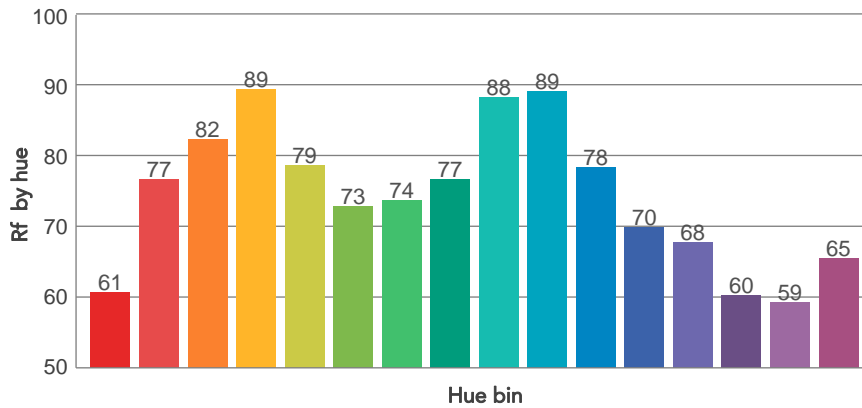
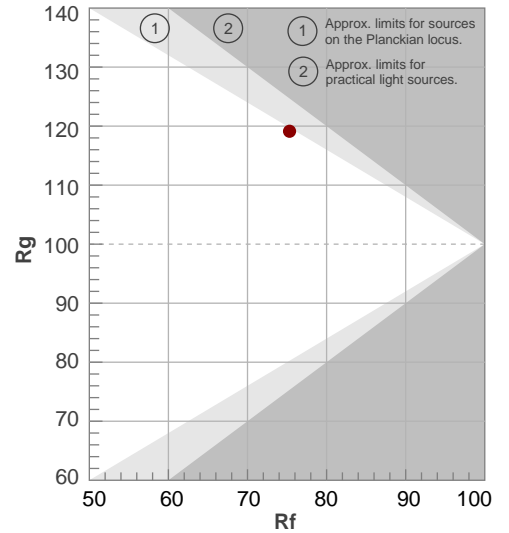
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
6043 K	69,5	-54,4	75,3	119,1	84,1	59	0,322	0,323	-0,0077

TM30 DETAILS

Rf 75,3
Fidelity index Rf

Rg 119,1
Gammut index

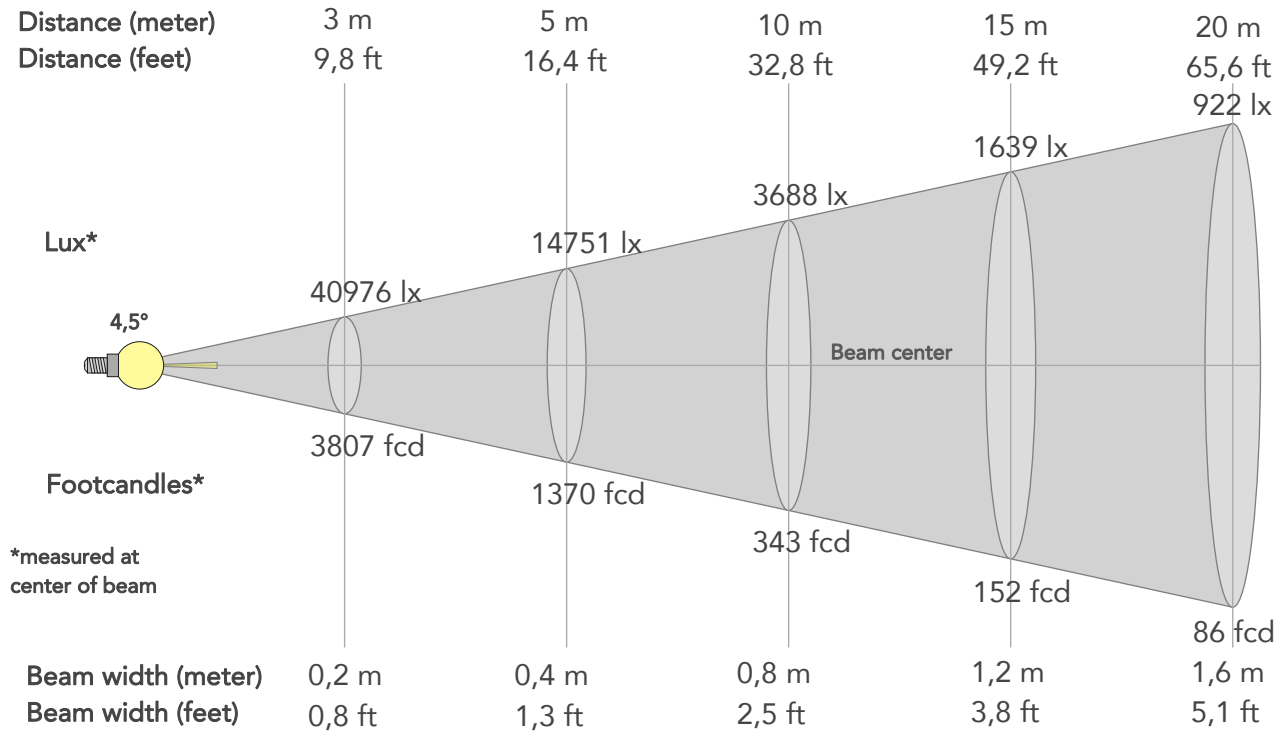
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	61	18%	-3%
2	77	10%	-8%
3	82	7%	-4%
4	89	2%	5%
5	79	7%	8%
6	73	15%	9%
7	74	16%	-2%
8	77	11%	-6%
9	88	3%	-8%
10	89	-2%	-2%
11	78	-2%	12%
12	70	-2%	19%
13	68	5%	26%
14	60	11%	20%
15	59	28%	22%
16	65	18%	1%



BEAM DETAILS



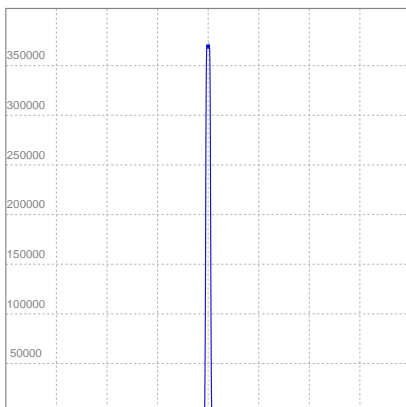
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
4,5°	5,6°	6,2°	97,6%	96,7%



BEAM INTENSITIES AND WIDTHS

Distance	1m	2m	3m	4m	5m	7,5m	10m	15m	20m	25m	30m	40m	50m
Distance	3,3ft	6,6ft	9,8ft	13,1ft	16,4ft	24,6ft	32,8ft	49,2ft	65,6ft	82ft	98,4ft	131,2ft	164ft
Lux	368780lx	92195lx	40976lx	23049lx	14751lx	6556lx	3688lx	1639lx	922lx	590lx	410lx	230lx	148lx
Footcand.	34261fcd	8565fcd	3807fcd	2141fcd	1370fcd	609fcd	343fcd	152fcd	86fcd	55fcd	38fcd	21fcd	14fcd
Beam wid.	0,1m	0,2m	0,2m	0,3m	0,4m	0,6m	0,8m	1,2m	1,6m	1,9m	2,3m	3,1m	3,9m
Beam wid.	0,3ft	0,5ft	0,8ft	1ft	1,3ft	1,9ft	2,5ft	3,8ft	5,1ft	6,4ft	7,6ft	10,2ft	12,7ft

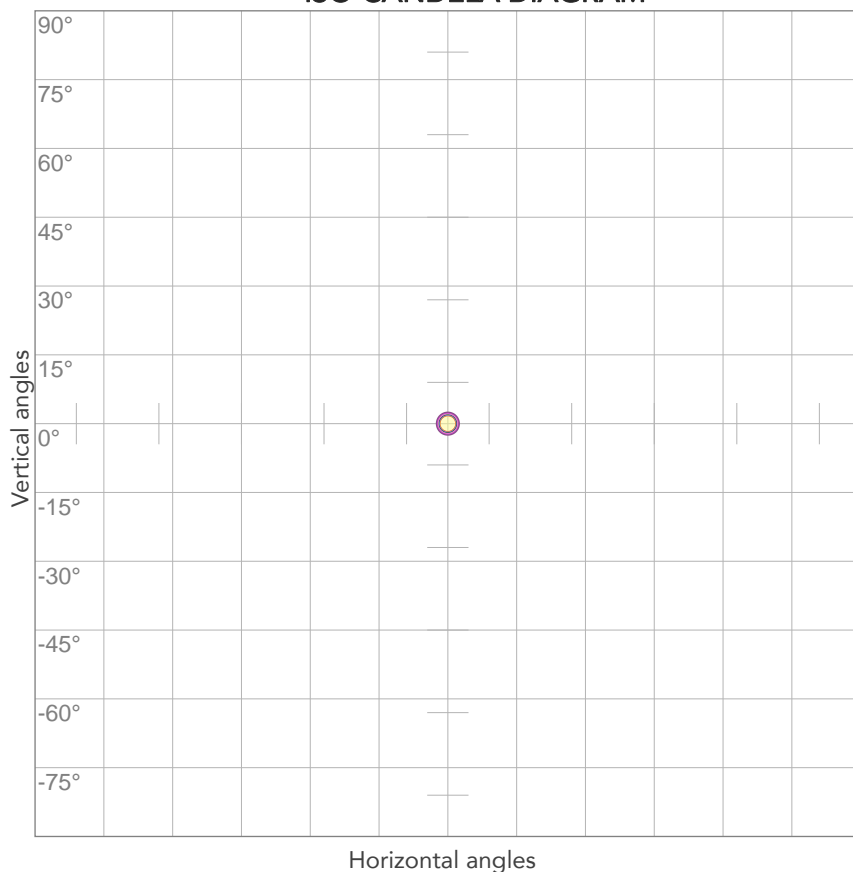
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
220V	0,898A	193,4W	10lm/W

ISO CANDELA DIAGRAM



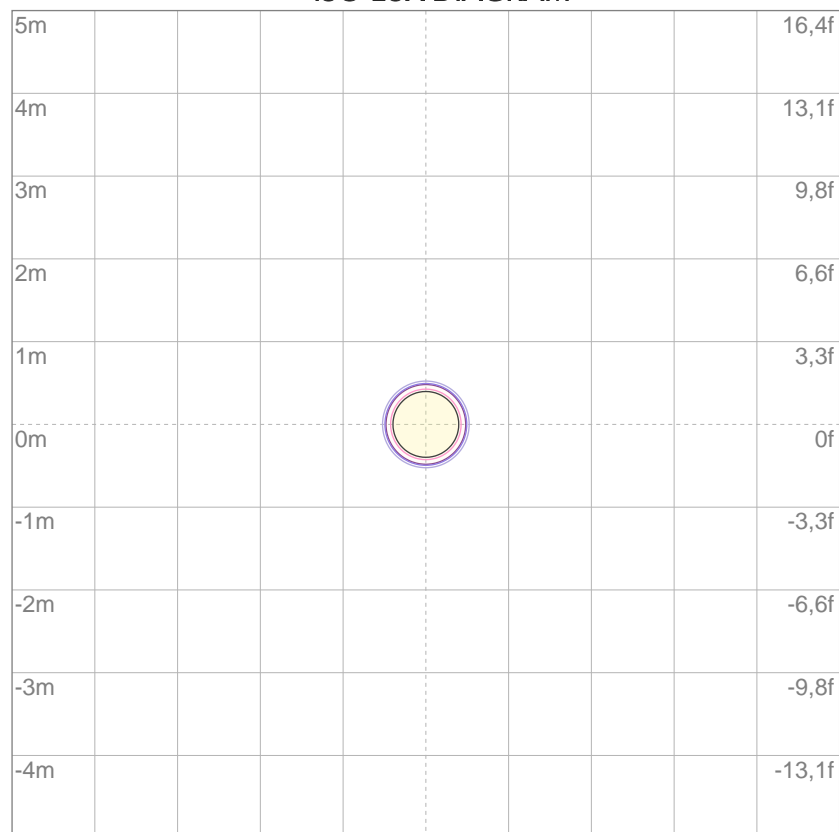
10%	36878 cd
20%	73756 cd
30%	110634 cd
40%	147512 cd
50%	184390 cd
60%	221268 cd
70%	258146 cd
80%	295024 cd

Conditions:

Number of c-planes: 2

Candela at center: 368780 cd

ISO LUX DIAGRAM



3%	111 lx
5%	184 lx
10%	369 lx
30%	1106 lx
50%	1844 lx

Conditions:

Number of c-planes: 2

Lux at center: 3688 lx

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