



Photometric Test Report



DISPLAYCOBTRWDWW

45 W Warm White track mounted
and W-DMX spotlight

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TESTING PROCESS

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

Prolights measurement instrument

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

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

Prolights measurement software

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

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



Total lumen output:

2110 lm

Peak candela output:

13596 cd

Light quality:

CRI: 98,2

Color temperature:

3017 K

PRODUCT NAME:
DISPLAYCOBTRWDWW

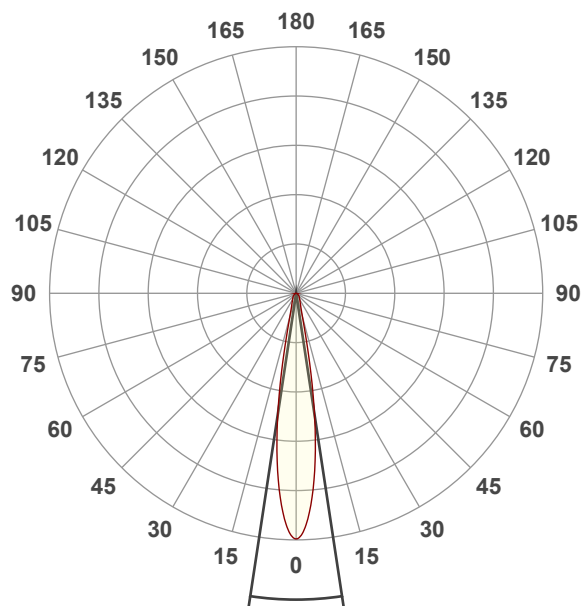
MEASURAMENT CONDITIONS:

Beam angle:
15°

Target:
Full on

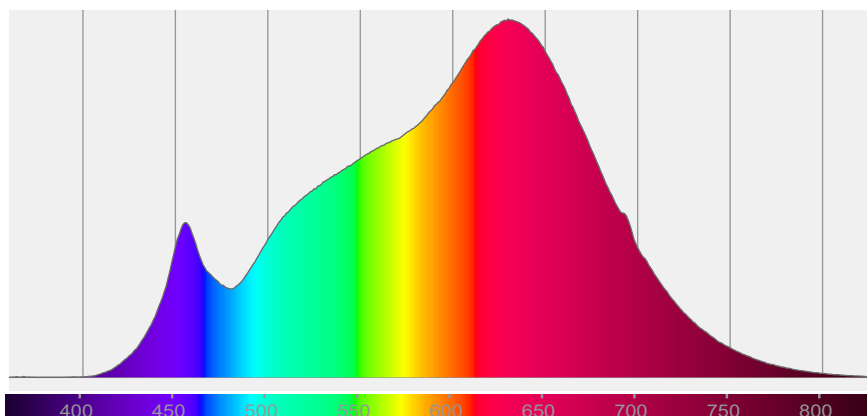
Operator:
Paolo Carvone

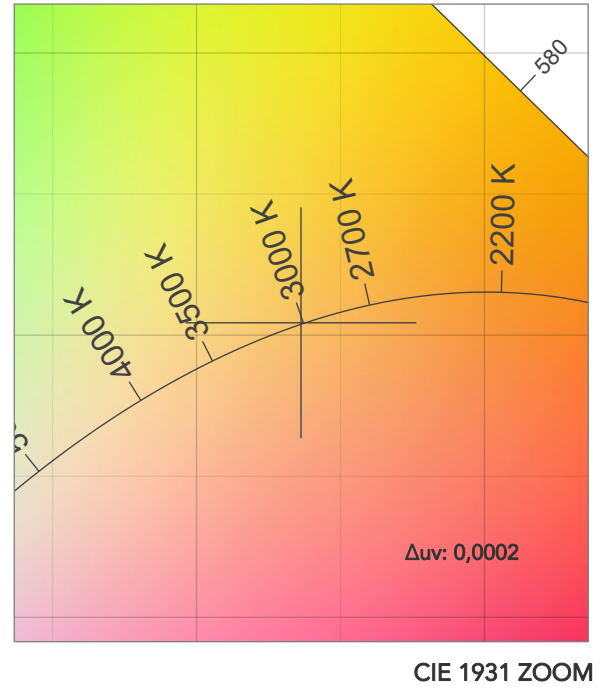
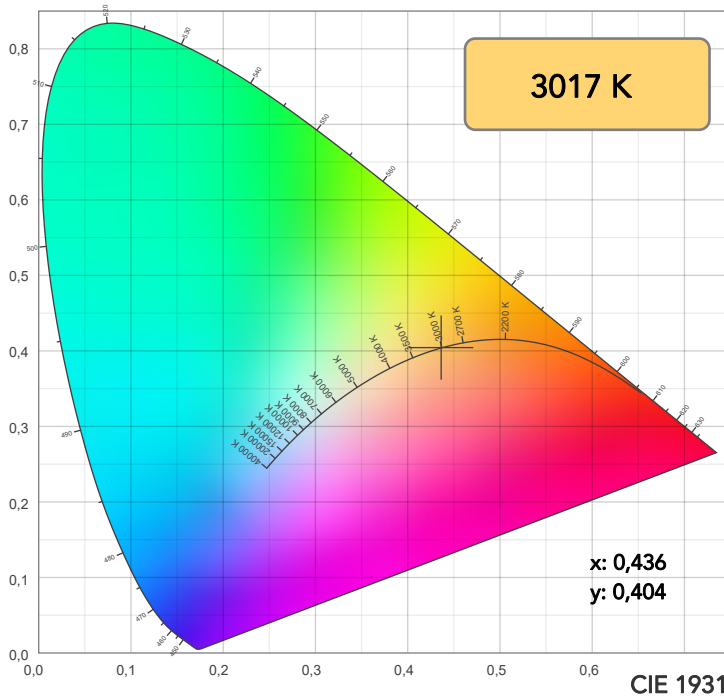
Date and time:
16/06/2023 10:09:41



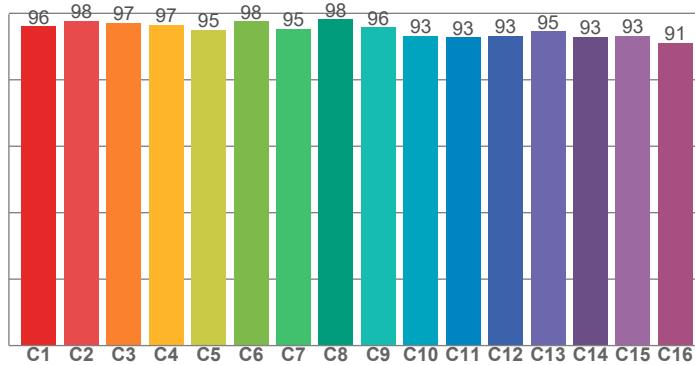
Beam angle 50%: 17,2°
Field angle 10%: 30,1°
Cut off angle 2.5%: 67,3°

Spectra

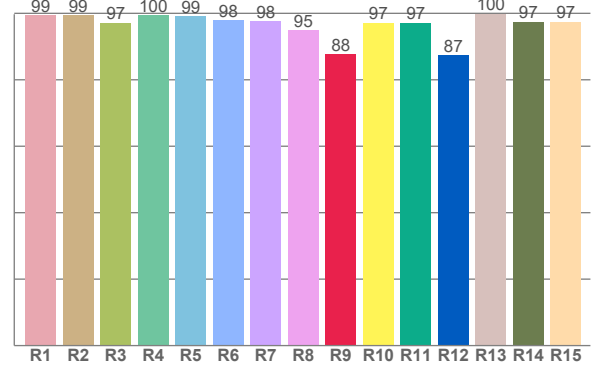




TM30: 95,2



CRI: 98,2 (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
99,5	99,4	97,2	99,5	99,1	98,0	97,6	95,0	87,6	97,2	97,2	87,5	99,9	97,4	97,5

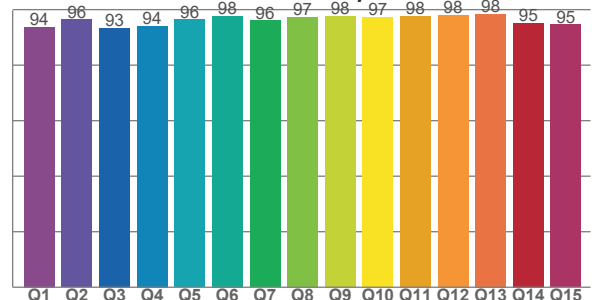
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
96,1	97,8	97,1	96,5	95,0	97,6	95,3	98,2	95,8	93,3	92,8	93,2	94,6	93,0	93,2	91,2

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
93,7	96,5	93,4	94,0	96,4	97,7	96,1	97,3	97,7	97,3	97,7	98,0	98,4	95,2	94,7

CQS: 95,7



COLOR PARAMETERS

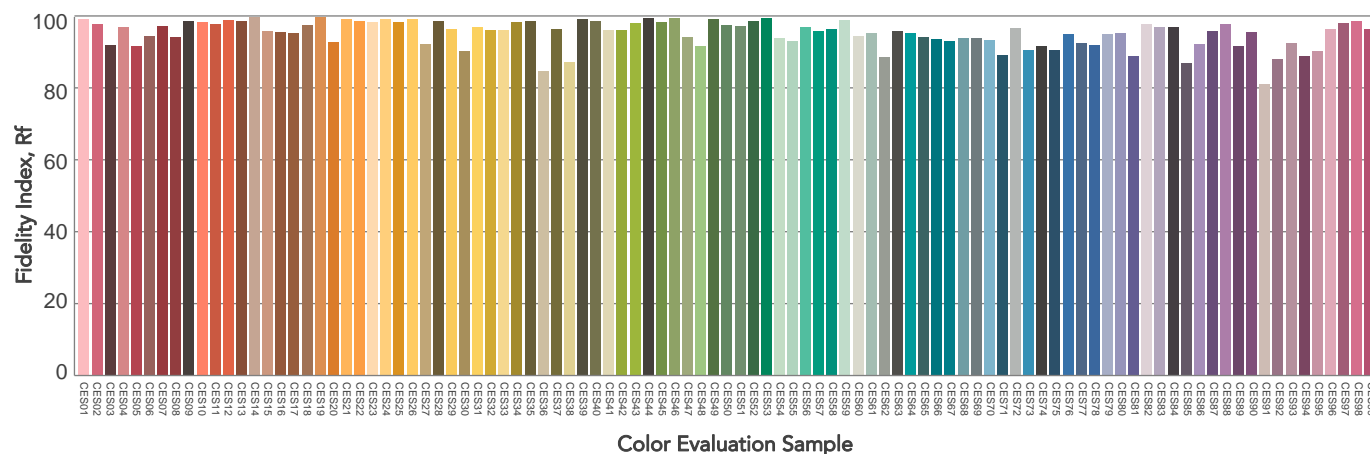
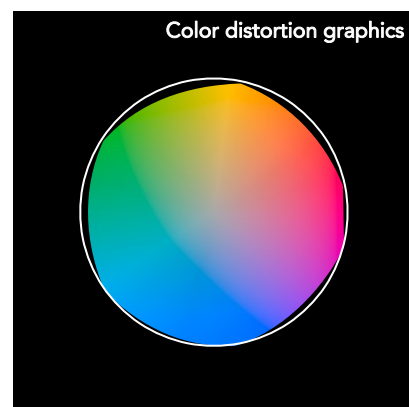
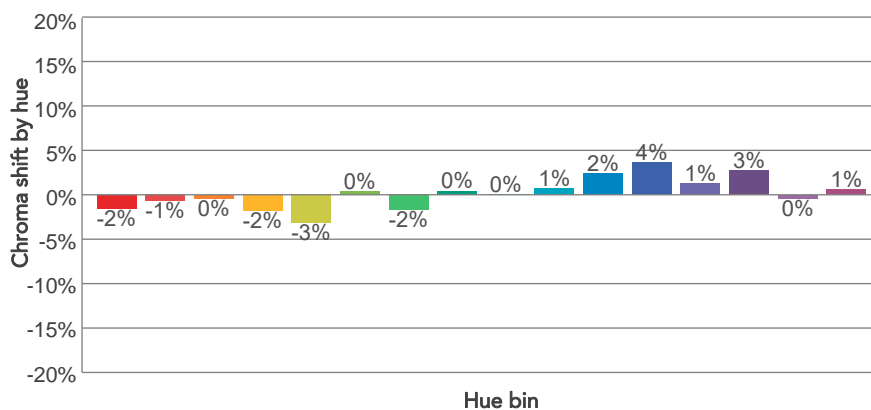
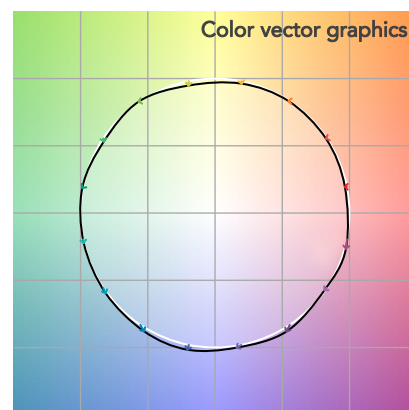
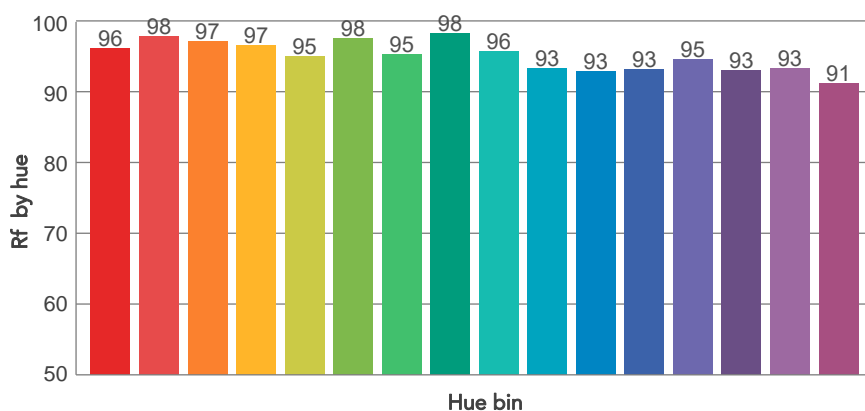
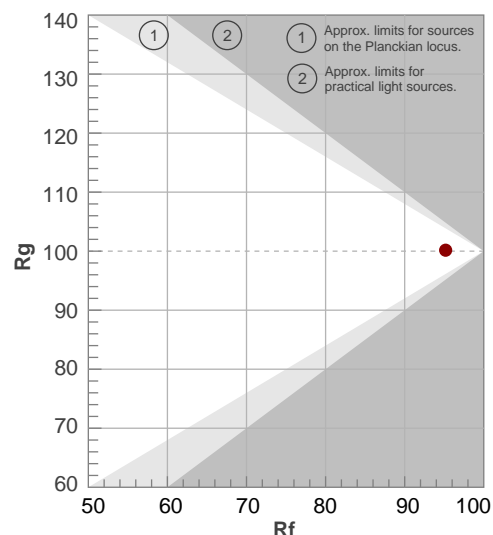
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
3017 K	98,2	87,6	95,2	100,2	95,7	98	0,436	0,404	0,0002

TM30 DETAILS

Rf 95,2
Fidelity index Rf

Rg 100,2
Gammut index

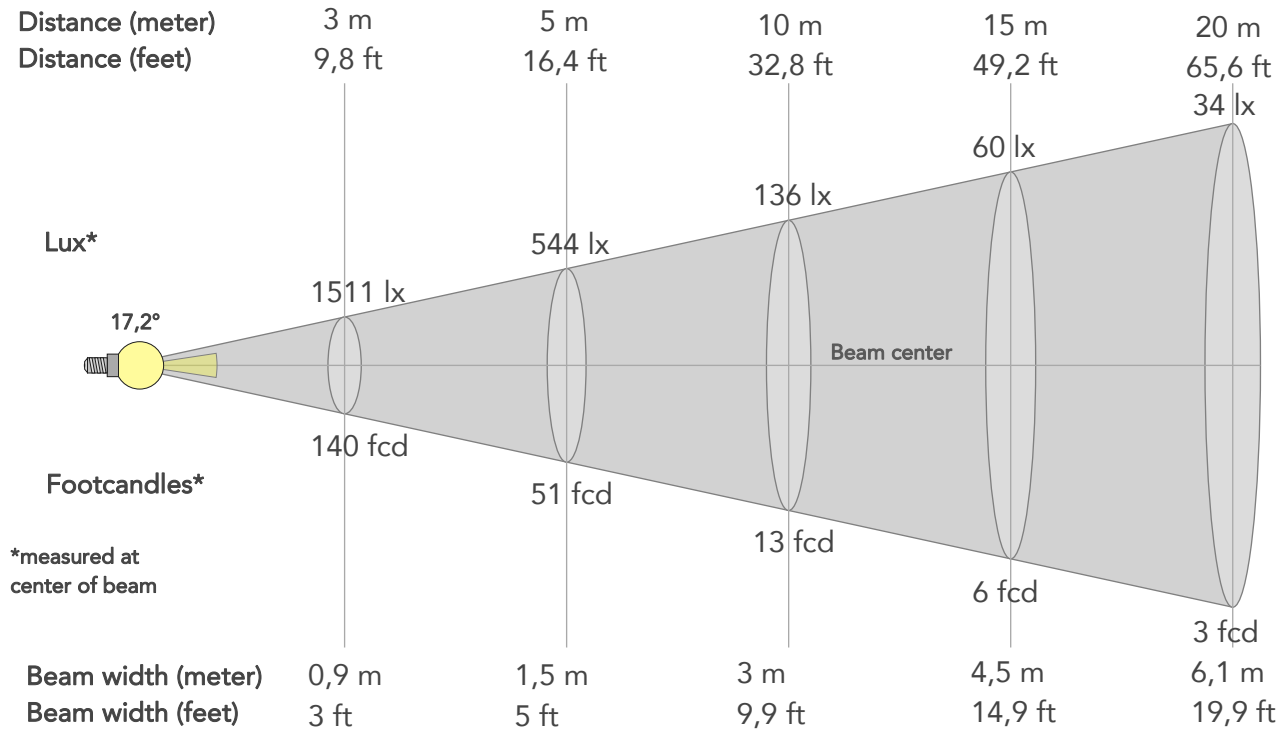
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	96	-2%	0%
2	98	-1%	0%
3	97	0%	1%
4	97	-2%	-1%
5	95	-3%	1%
6	98	0%	1%
7	95	-2%	2%
8	98	0%	1%
9	96	0%	3%
10	93	1%	4%
11	93	2%	5%
12	93	4%	0%
13	95	1%	-4%
14	93	3%	-5%
15	93	0%	-3%
16	91	1%	-7%



BEAM DETAILS



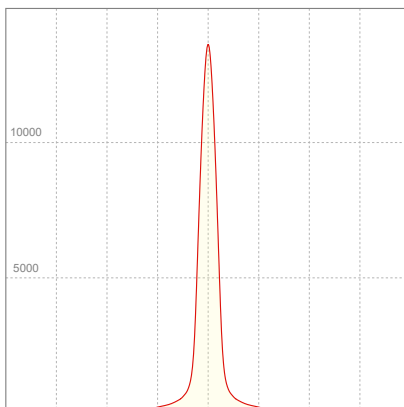
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
17,2°	30,1°	67,3°	96,9%	87,9%



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	13596lx	3399lx	1511lx	850lx	544lx	242lx	136lx	60lx	34lx	22lx	15lx	8lx	5lx
Footcand.	1263fcd	316fcd	140fcd	79fcd	51fcd	22fcd	13fcd	6fcd	3fcd	2fcd	1fcd	1fcd	1fcd
Beam wid.	0,3m	0,6m	0,9m	1,2m	1,5m	2,3m	3m	4,5m	6,1m	7,6m	9,1m	12,1m	15,1m
Beam wid.	1ft	2ft	3ft	4ft	5ft	7,5ft	9,9ft	14,9ft	19,9ft	24,8ft	29,8ft	39,8ft	49,7ft

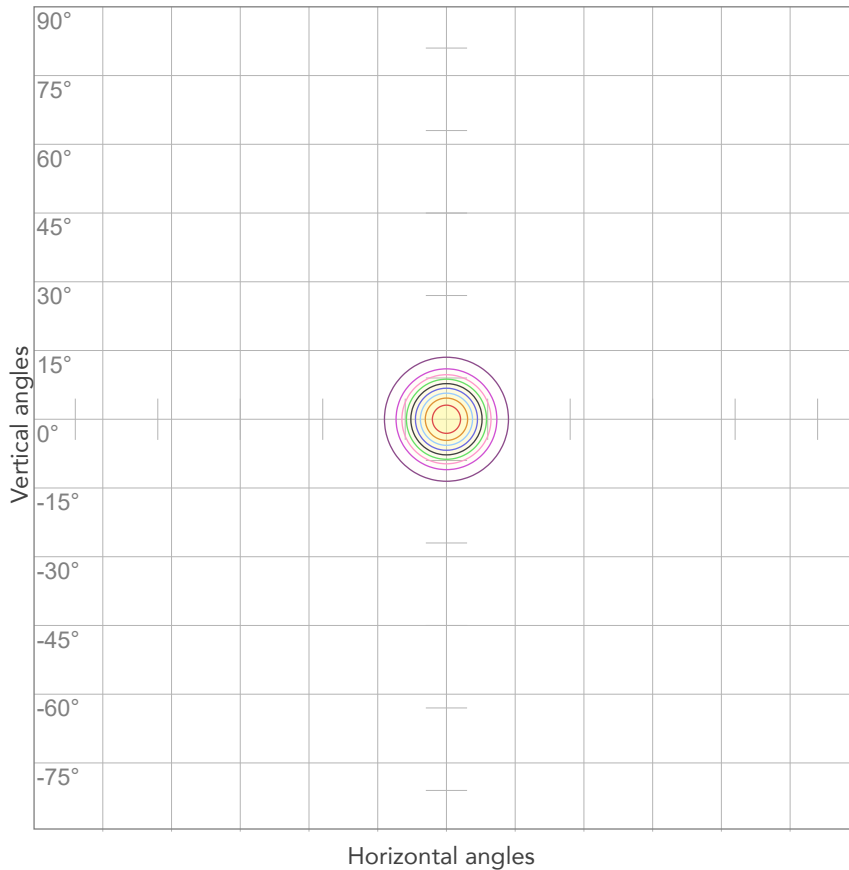
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
226V	0,228A	50,4W	42lm/W
Power Fc			
0,98			

ISO CANDELA DIAGRAM



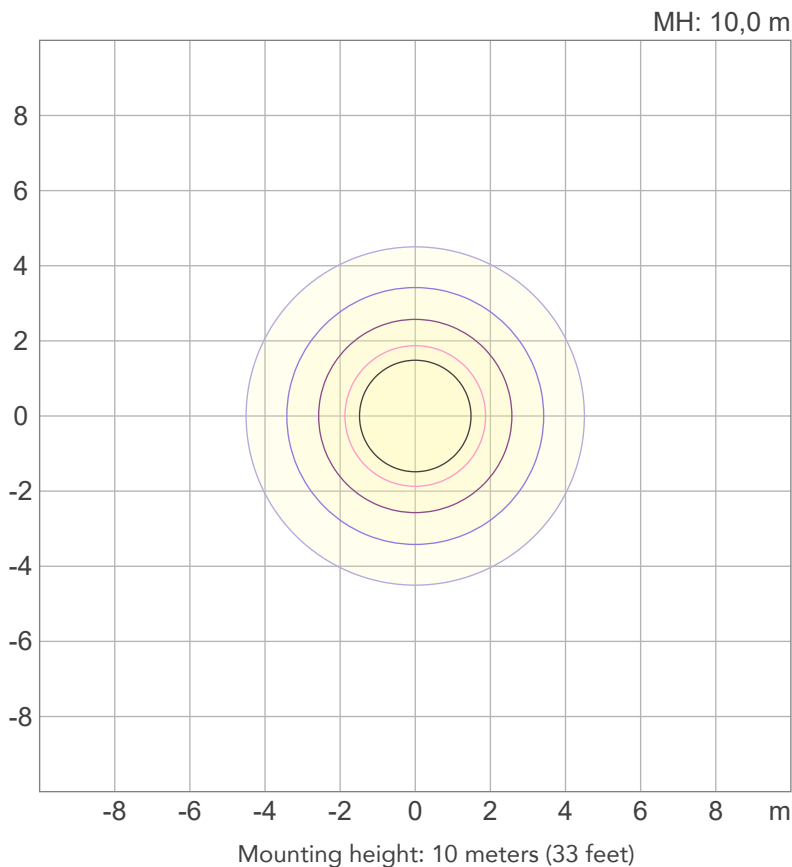
10%	1360 cd
20%	2719 cd
30%	4079 cd
40%	5438 cd
50%	6798 cd
60%	8157 cd
70%	9517 cd
80%	10876 cd

Conditions:

Number of c-planes: 2

Candela at center: 13596 cd

ISO LUX DIAGRAM



3%	4,08 lx
5%	6,80 lx
10%	13,6 lx
30%	40,8 lx
50%	68,0 lx

Conditions:

Number of c-planes: 2

Lux at center: 136 lx

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



Total lumen output:

2171 lm

Peak candela output:

5911 cd

Light quality:

CRI: 96,2

Color temperature:

3110 K

PRODUCT NAME:
DISPLAYCOBTRWDWW

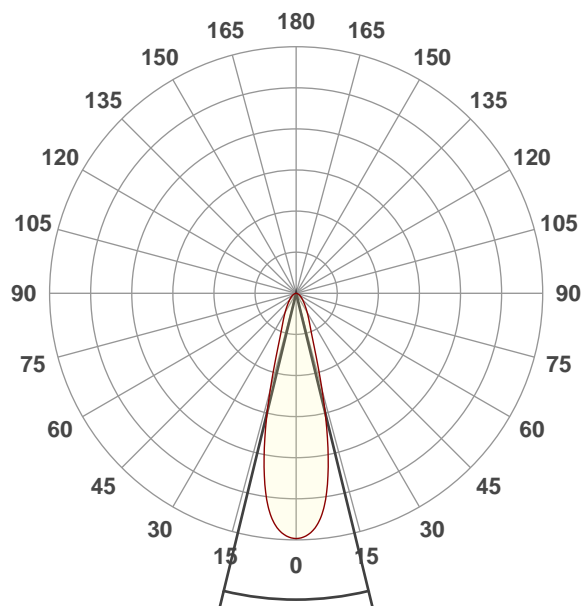
MEASURAMENT CONDITIONS:

Beam angle:
30°

Target:
Full on

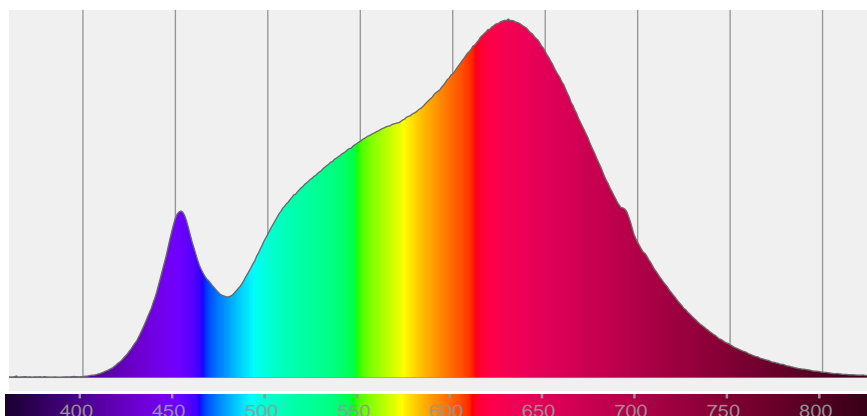
Operator:
Paolo Carvone

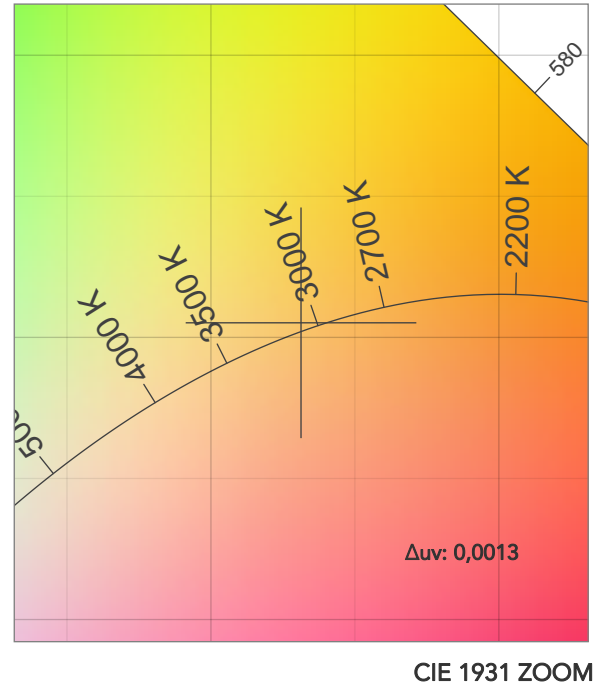
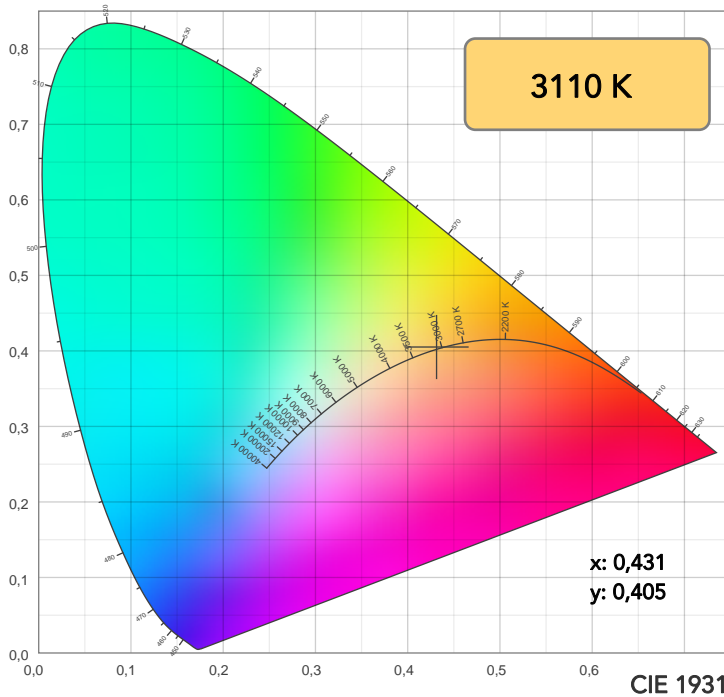
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09/10/2020 14:47:03



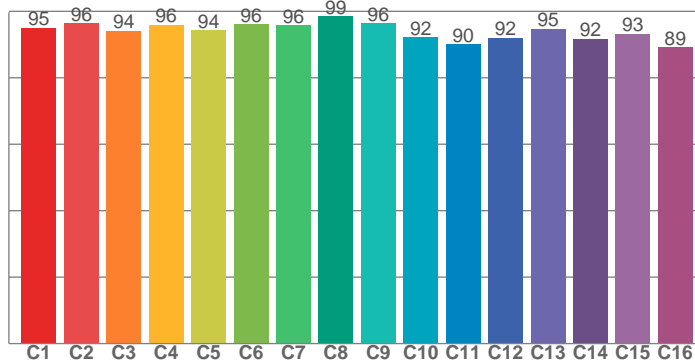
Beam angle 50%: 27,4°
Field angle 10%: 56,9°
Cut off angle 2.5%: 106,1°

Spectra

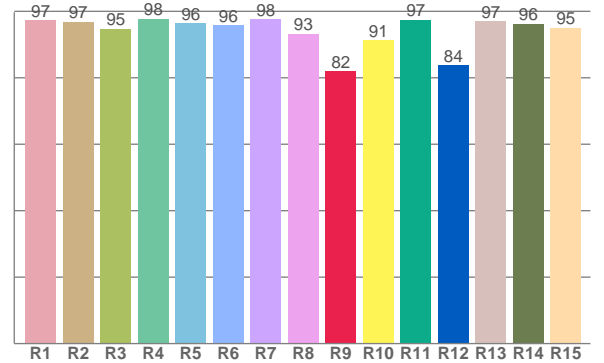




TM30: 94,2



CRI: 96,2 (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
97,3	96,8	94,8	97,7	96,4	95,8	97,6	93,3	82,0	91,3	97,5	83,8	97,1	96,2	95,1

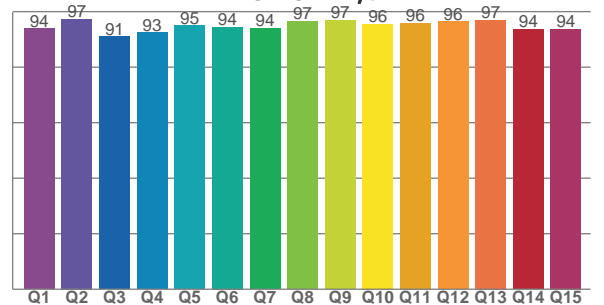
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
95,0	96,4	94,1	96,0	94,3	96,1	95,7	98,5	96,4	92,1	90,1	92,1	94,8	91,8	93,1	89,2

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
93,9	97,3	91,1	92,5	94,9	94,4	94,0	96,5	96,9	95,5	95,8	96,5	96,9	93,7	93,7

CQS: 94,5



COLOR PARAMETERS

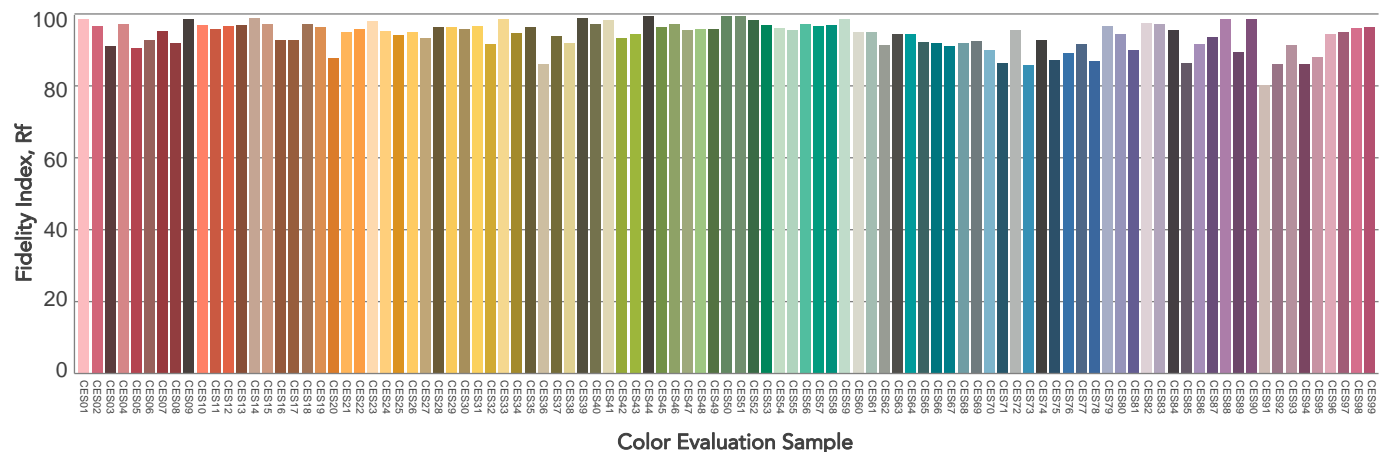
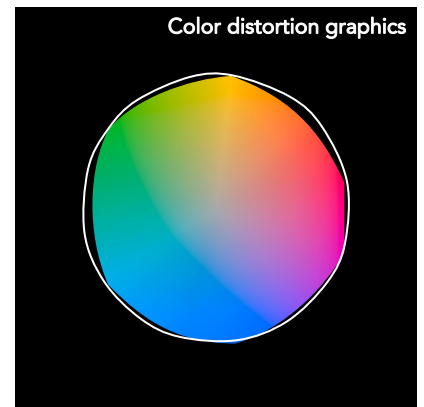
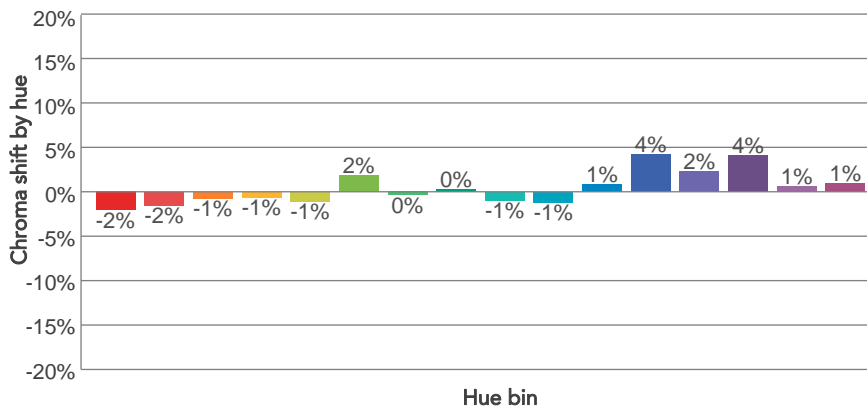
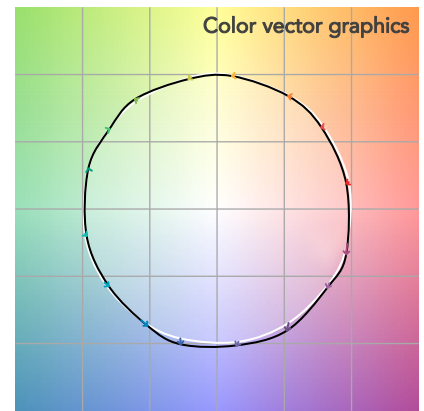
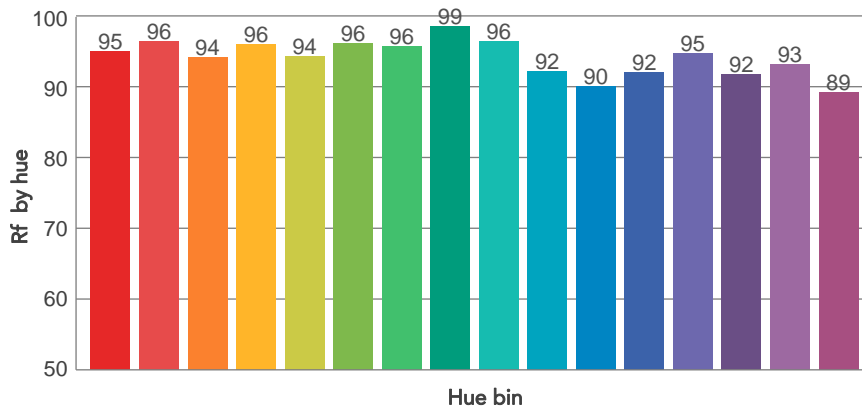
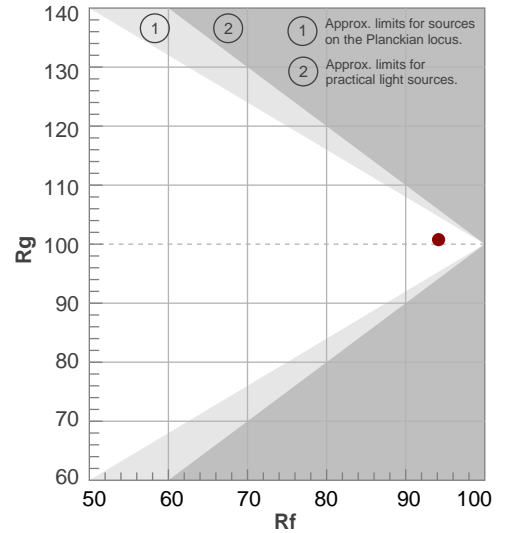
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
3110 K	96,2	82,0	94,2	100,8	94,5	97	0,431	0,405	0,0013

TM30 DETAILS

Rf 94,2
Fidelity index Rf

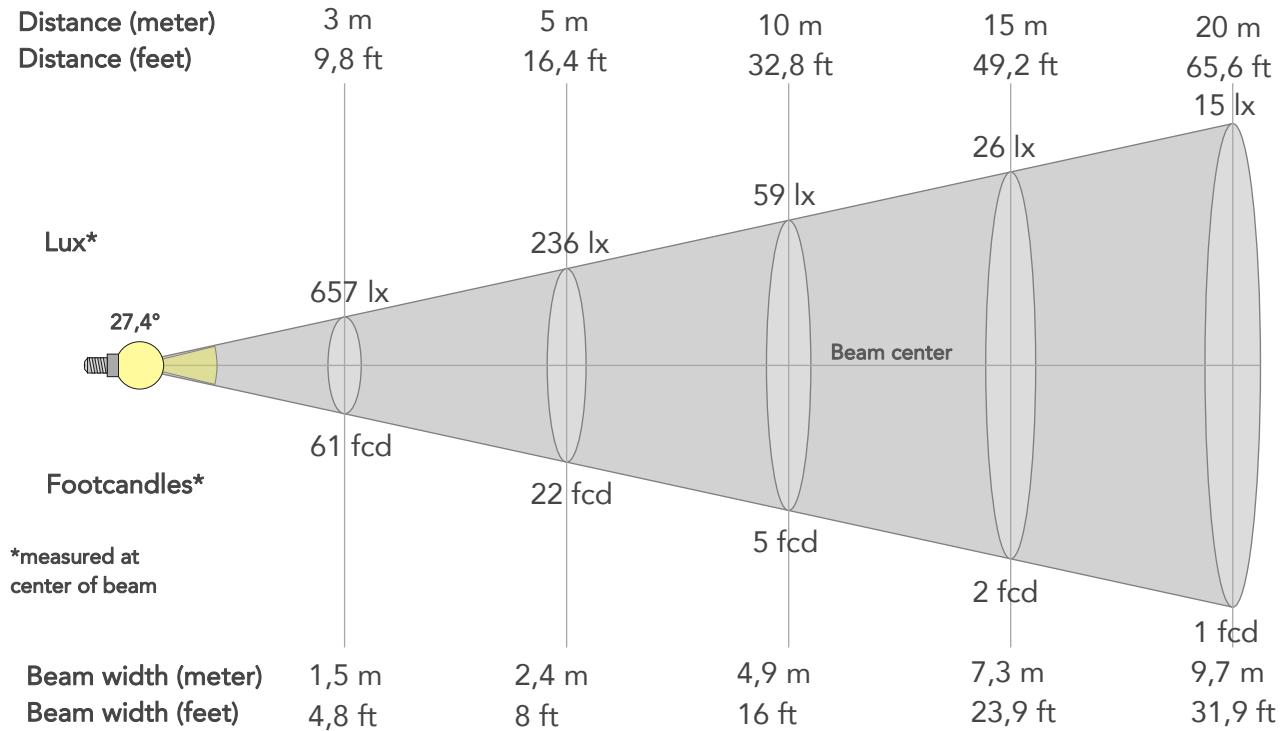
Rg 100,8
Gammut index

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	95	-2%	-1%
2	96	-2%	1%
3	94	-1%	2%
4	96	-1%	2%
5	94	-1%	2%
6	96	2%	1%
7	96	0%	-1%
8	99	0%	-1%
9	96	-1%	2%
10	92	-1%	4%
11	90	1%	6%
12	92	4%	1%
13	95	2%	-2%
14	92	4%	-4%
15	93	1%	-4%
16	89	1%	-8%



BEAM DETAILS

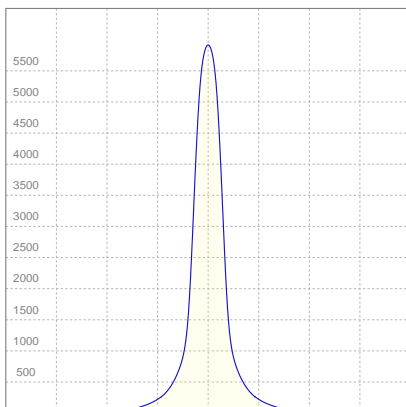
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
27,4°	56,9°	106,1°	94,9%	85,7%



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	5911lx	1478lx	657lx	369lx	236lx	105lx	59lx	26lx	15lx	9lx	7lx	4lx	2lx
Footcand.	549fcd	137fcd	61fcd	34fcd	22fcd	10fcd	5fcd	2fcd	1fcd	1fcd	1fcd	0fcd	0fcd
Beam wid.	0,5m	1m	1,5m	1,9m	2,4m	3,6m	4,9m	7,3m	9,7m	12,2m	14,6m	19,5m	24,3m
Beam wid.	1,6ft	3,2ft	4,8ft	6,4ft	8ft	12ft	16ft	23,9ft	31,9ft	39,9ft	47,9ft	63,8ft	79,8ft

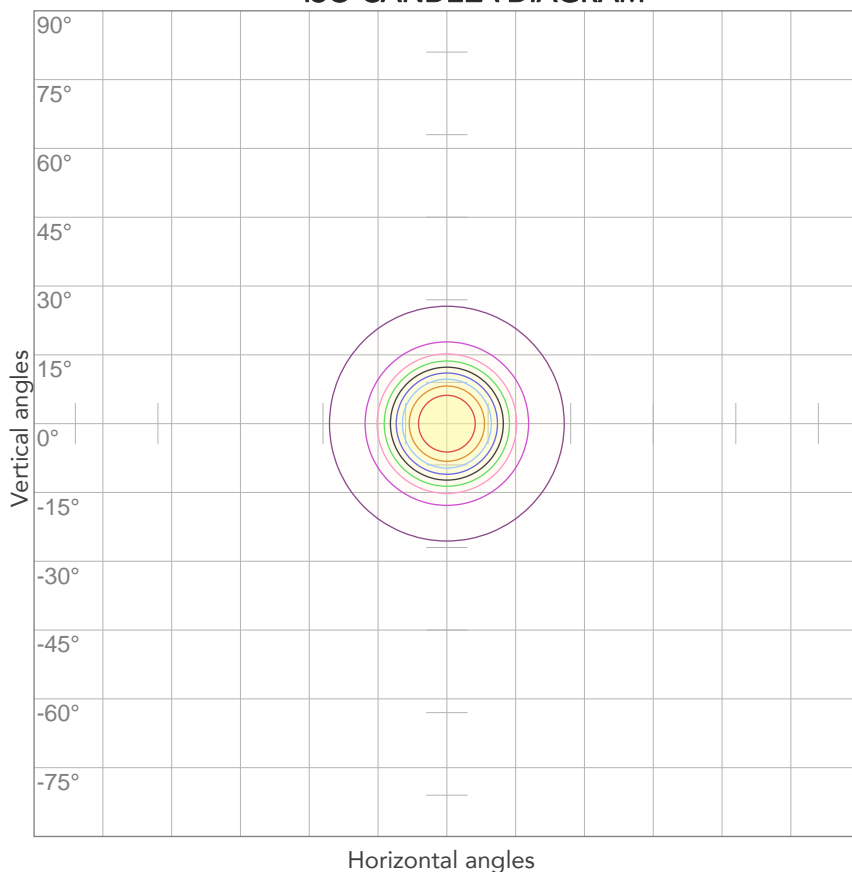
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
226V	0,230A	51,0W	43lm/W

ISO CANDELA DIAGRAM



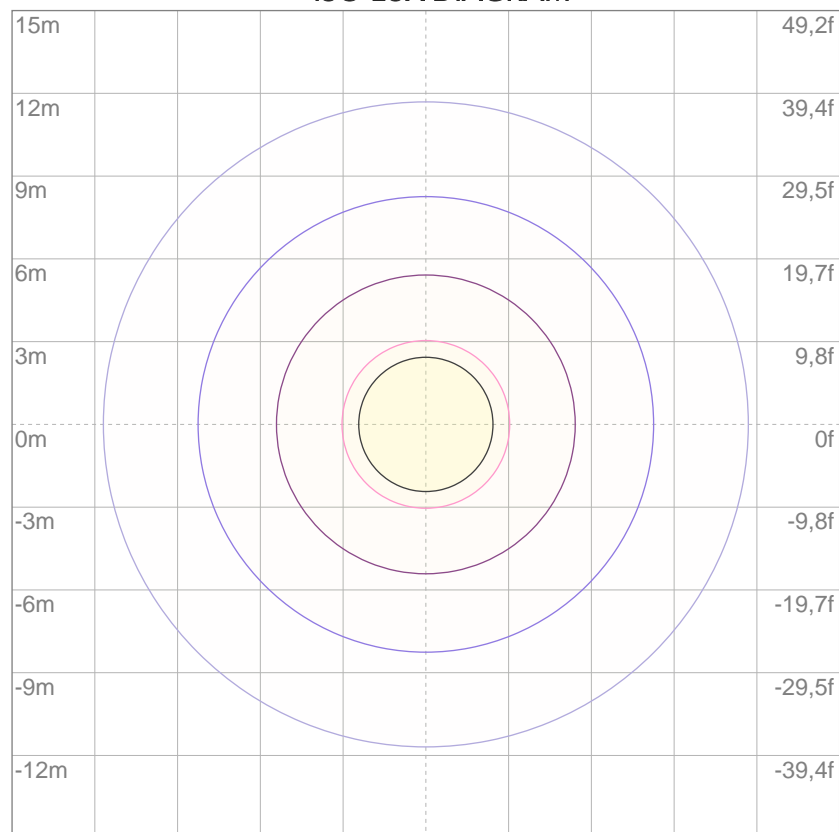
10%	591 cd
20%	1182 cd
30%	1773 cd
40%	2364 cd
50%	2956 cd
60%	3547 cd
70%	4138 cd
80%	4729 cd

Conditions:

Number of c-planes: 2

Candela at center: 5911 cd

ISO LUX DIAGRAM



3%	1,77 lx
5%	2,96 lx
10%	5,91 lx
30%	17,7 lx
50%	29,6 lx

Conditions:

Number of c-planes: 2

Lux at center: 59,1 lx

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



Total lumen output:

2309 lm

Peak candela output:

2611 cd

Light quality:

CRI: 96,0

Color temperature:

3133 K

PRODUCT NAME:
DISPLAYCOBTRWDWW

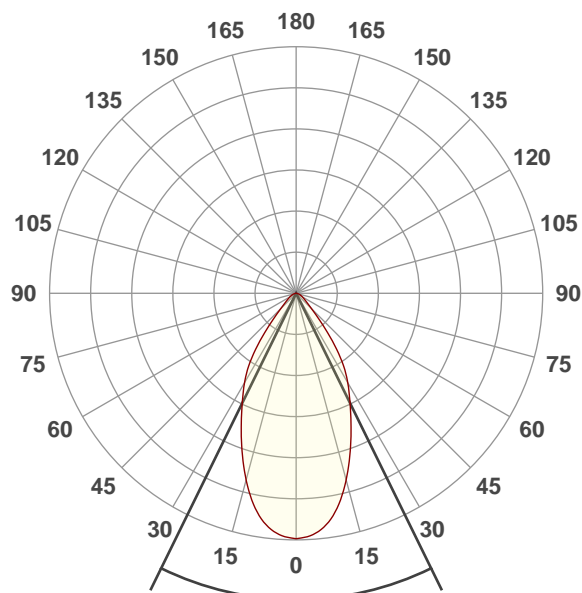
MEASURAMENT CONDITIONS:

Beam angle:
60°

Target:
Full on

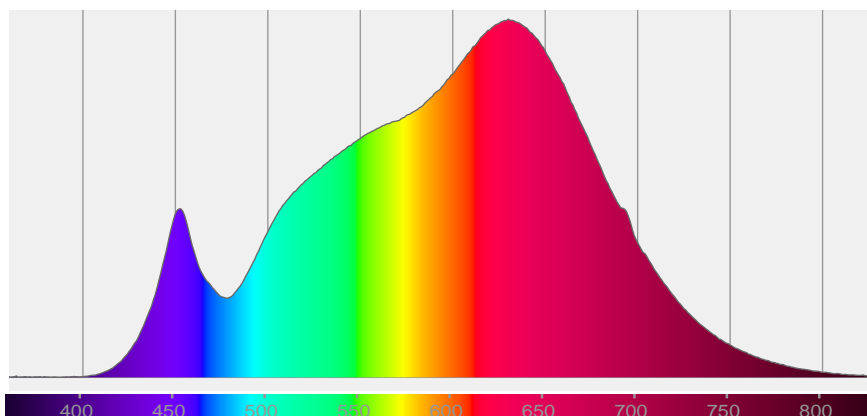
Operator:
Paolo Carvone

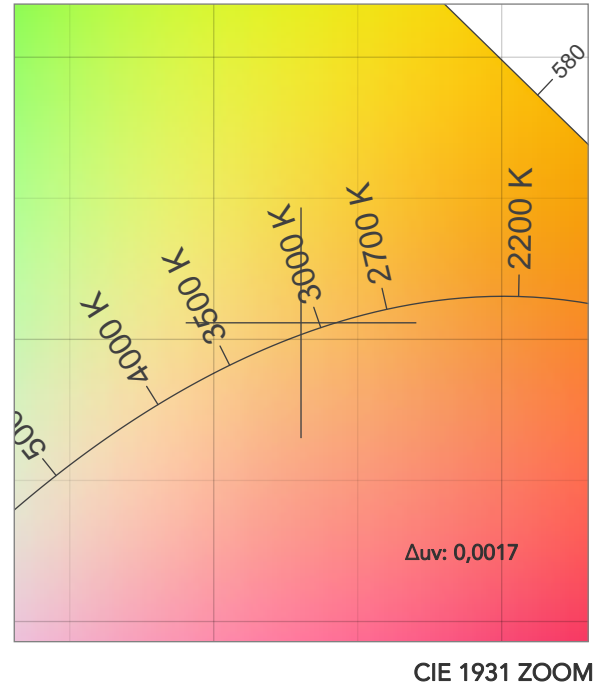
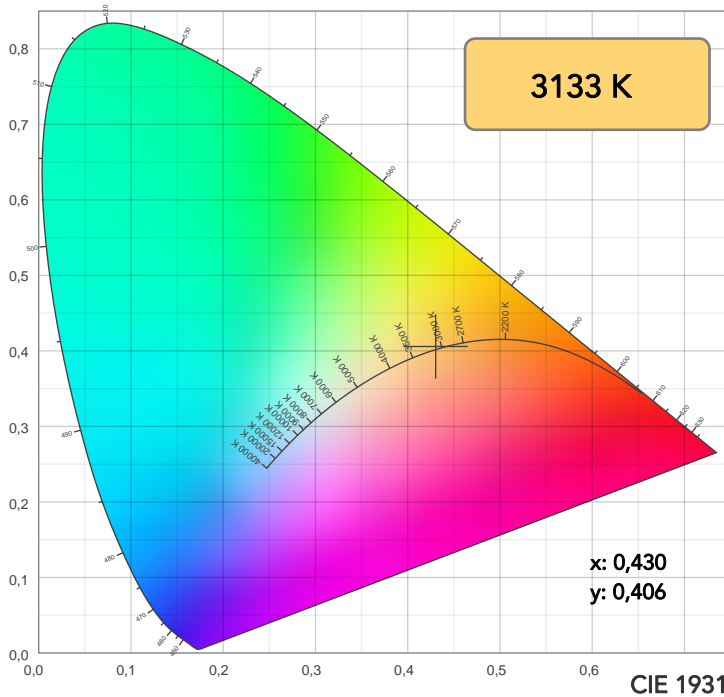
Date and time:
09/10/2020 14:39:12



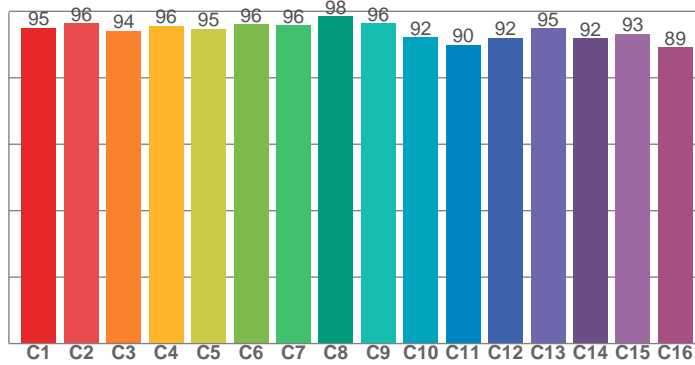
Beam angle 50%: 52,3°
Field angle 10%: 88°
Cut off angle 2.5%: 125,2°

Spectra

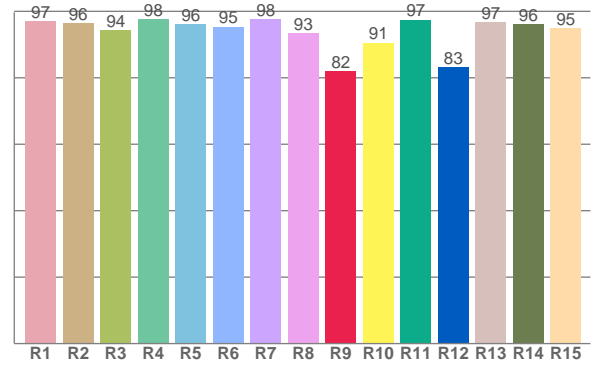




TM30: 94,1



CRI: 96,0 (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
97,0	96,4	94,4	97,6	96,1	95,4	97,7	93,4	81,9	90,5	97,4	83,1	96,7	96,0	94,8

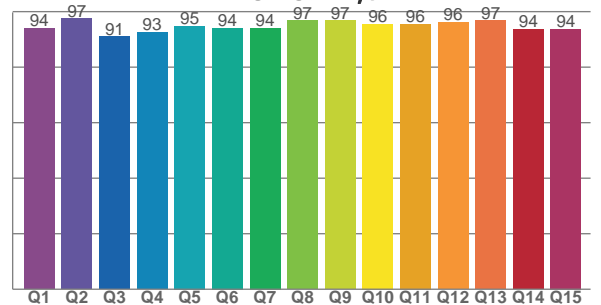
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
95,0	96,4	94,1	95,6	94,7	96,0	95,8	98,5	96,3	92,1	89,9	92,1	94,9	91,8	93,2	89,1

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
94,0	97,4	91,1	92,6	94,8	94,2	94,1	96,7	96,8	95,6	95,5	96,2	96,8	93,7	93,7

CQS: 94,5



COLOR PARAMETERS

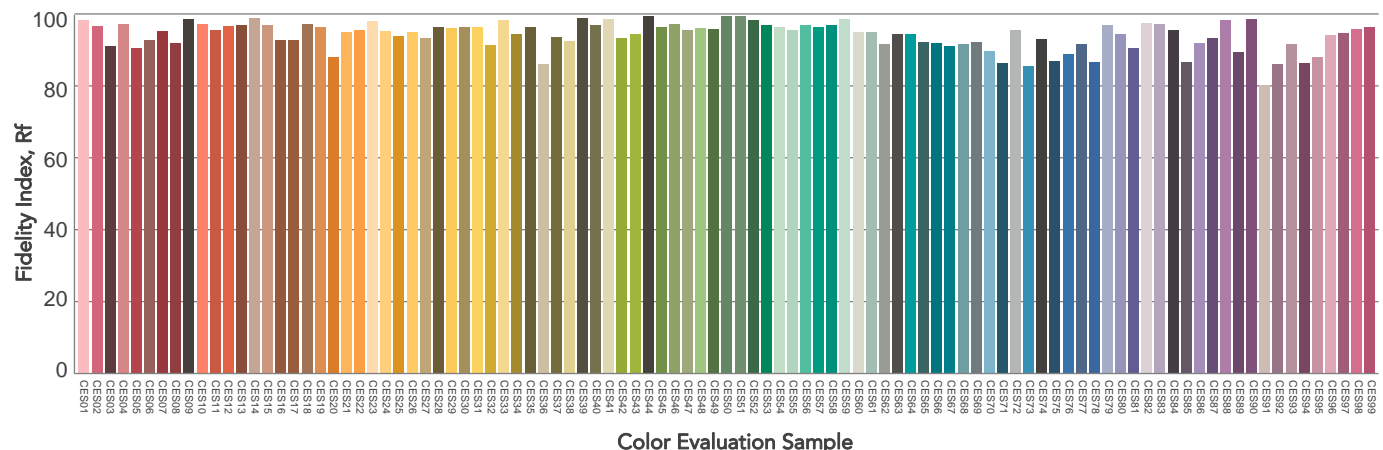
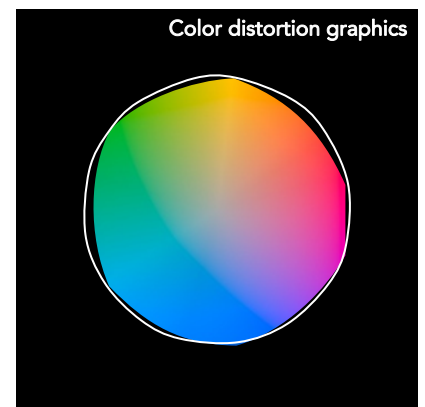
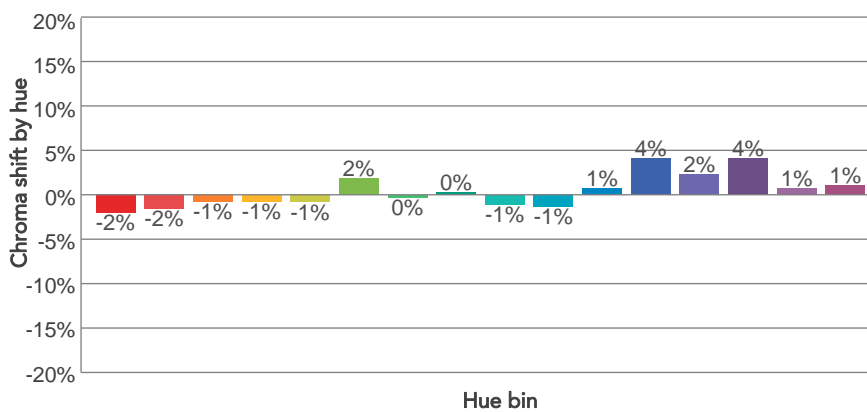
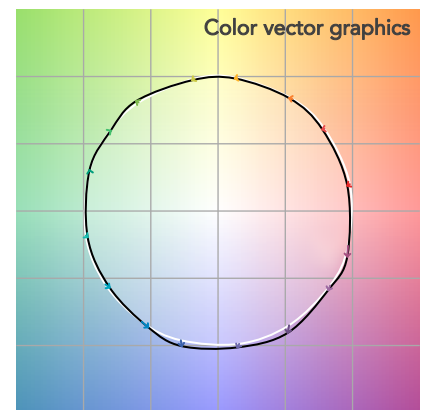
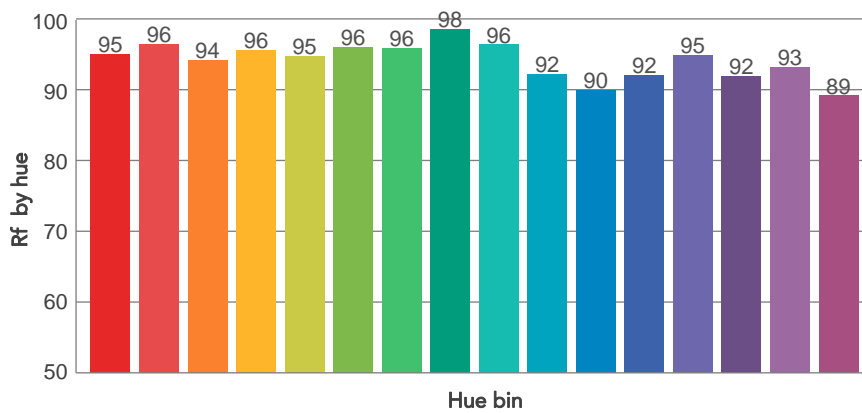
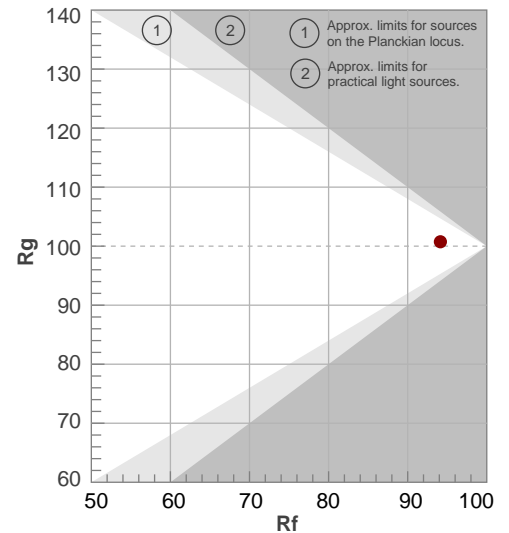
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
3133 K	96,0	81,9	94,1	100,7	94,5	97	0,430	0,406	0,0017

TM30 DETAILS

Rf 94,1
Fidelity index Rf

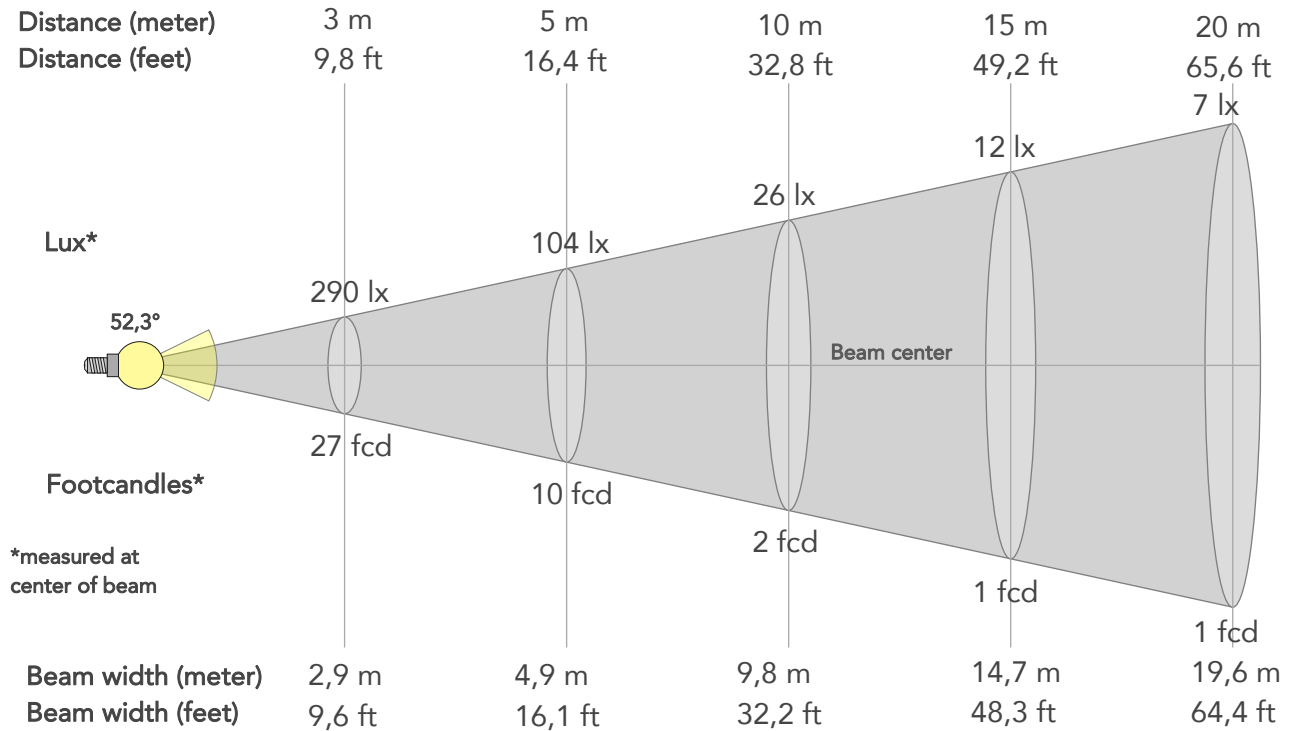
Rg 100,7
Gammut index

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	95	-2%	-1%
2	96	-2%	1%
3	94	-1%	2%
4	96	-1%	2%
5	95	-1%	2%
6	96	2%	1%
7	96	0%	-1%
8	98	0%	-1%
9	96	-1%	1%
10	92	-1%	4%
11	90	1%	6%
12	92	4%	1%
13	95	2%	-2%
14	92	4%	-4%
15	93	1%	-4%
16	89	1%	-8%



BEAM DETAILS

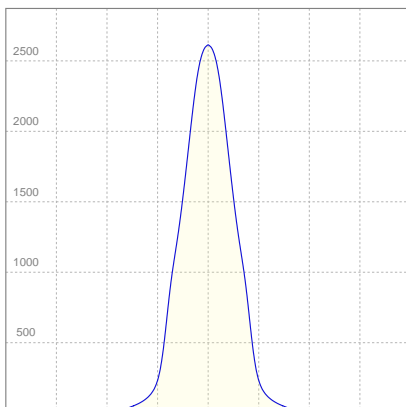
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
52,3°	88°	125,2°	96,0%	88,7%



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	2611lx	653lx	290lx	163lx	104lx	46lx	26lx	12lx	7lx	4lx	3lx	2lx	1lx
Footcand.	243fcd	61fcd	27fcd	15fcd	10fcd	4fcd	2fcd	1fcd	1fcd	0fcd	0fcd	0fcd	0fcd
Beam wid.	1m	2m	2,9m	3,9m	4,9m	7,4m	9,8m	14,7m	19,6m	24,5m	29,5m	39,3m	49,1m
Beam wid.	3,2ft	6,5ft	9,6ft	12,9ft	16,1ft	24,1ft	32,2ft	48,3ft	64,4ft	80,5ft	96,6ft	128,8ft	161ft

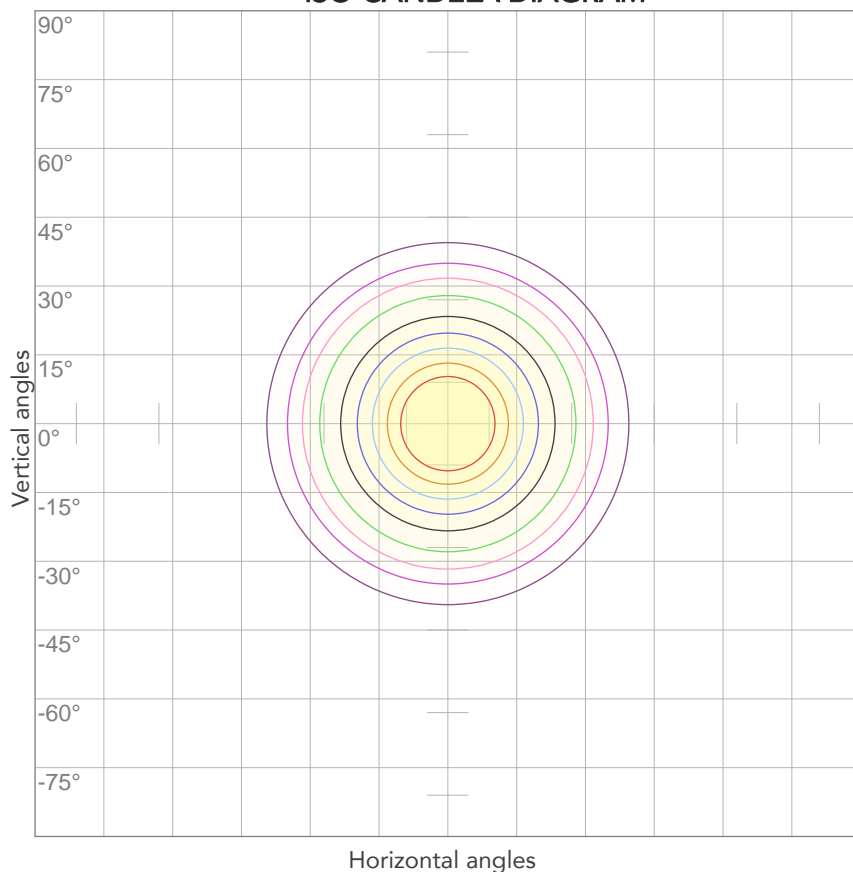
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
226V	0,232A	51,6W	45lm/W

ISO CANDELA DIAGRAM



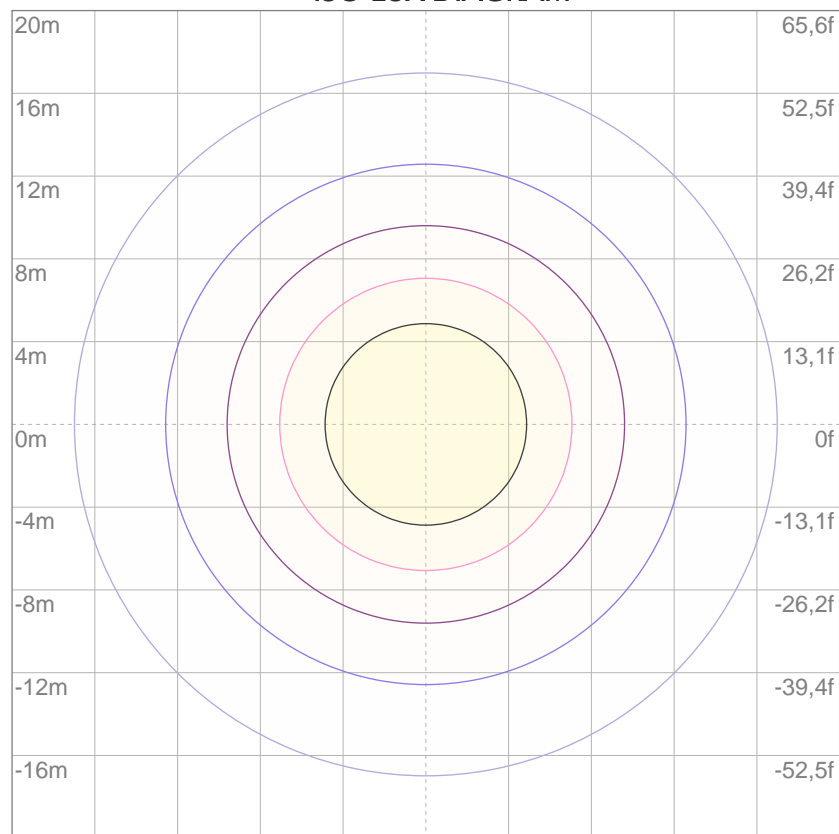
10%	261 cd
20%	522 cd
30%	783 cd
40%	1044 cd
50%	1305 cd
60%	1567 cd
70%	1828 cd
80%	2089 cd

Conditions:

Number of c-planes: 2

Candela at center: 2611 cd

ISO LUX DIAGRAM



3%	0,783 lx
5%	1,31 lx
10%	2,61 lx
30%	7,83 lx
50%	13,1 lx

Conditions:

Number of c-planes: 2

Lux at center: 26,1 lx

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