

Photometric Test Report



MINI ECL TU

Mini LED profile with knob-dimming

CONTENTS

Table of contents	2
Testing process	3
Color preset Full on	
Profile Lens 19°	4
Profile Lens 26°	9
Profile Lens 36°	14
Profile Lens 50°	19
Wash Lens 15°- 30° Max Zoom	24
Wash Lens 15°- 30° Min Zoom	29
Wash Lens 25°- 50° Max Zoom	34
Wash Lens 25°- 50° Min Zoom	39

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:

563 lm

Peak candela output:

8262 cd

Light quality:

CRI: 92,8

Color temperature:

3040 K

PRODUCT NAME:

MINIECL TU

MEASURAMENT CONDITIONS:

Beam angle:

19°

Target:

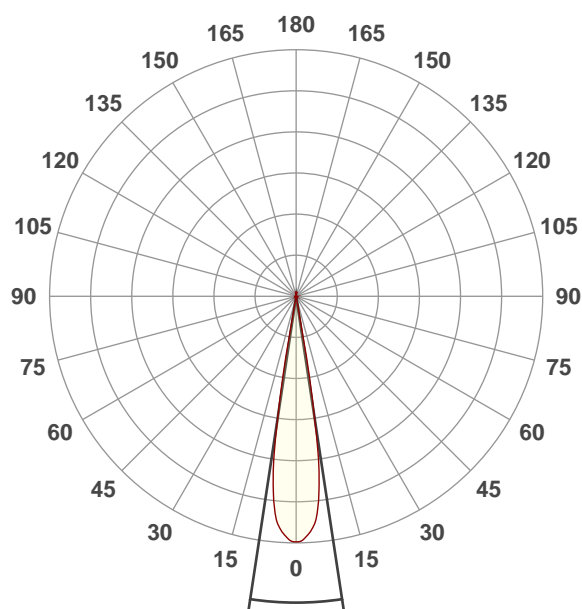
Warm White

Operator:

Paolo Carvone

Date and time:

05/05/2020 18:00:24

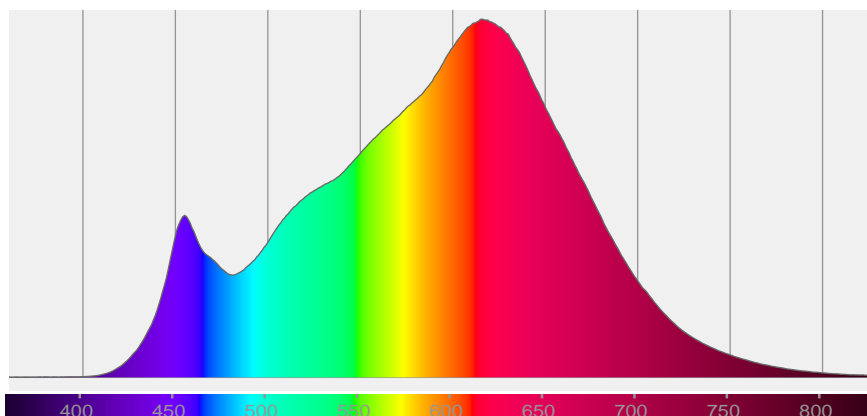


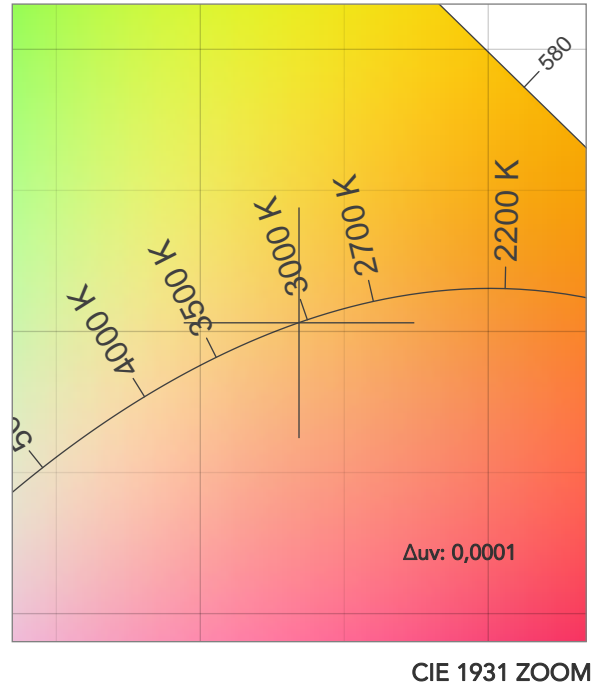
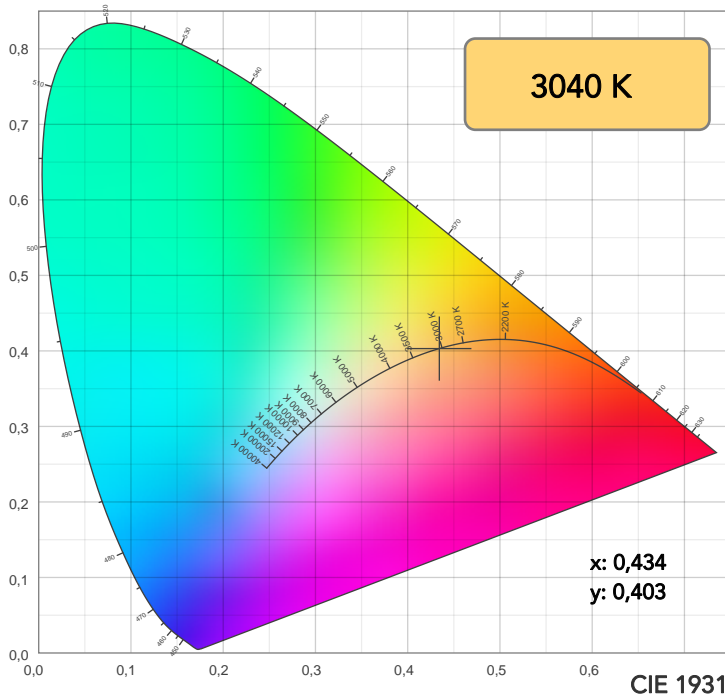
Beam angle 50%: 17,2°

Field angle 10%: 20,8°

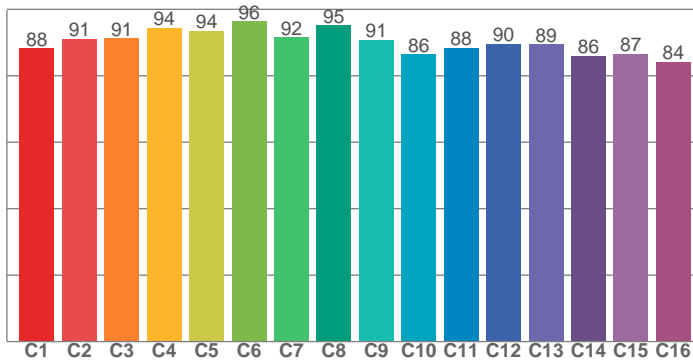
Cut off angle 2.5%: 21,4°

Spectra

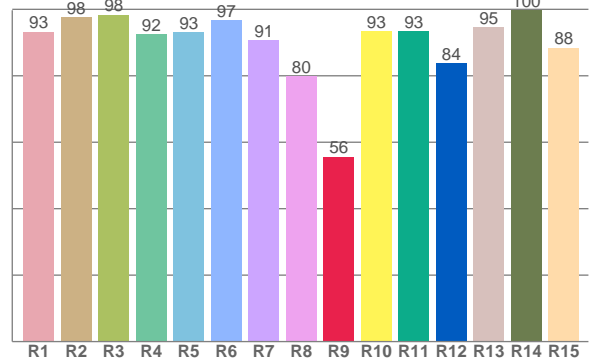




TM30: 90,4



CRI: 92,8 (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
93,3	97,6	98,4	92,4	93,1	96,8	90,6	79,9	55,6	93,4	93,5	83,7	94,6	99,8	88,4

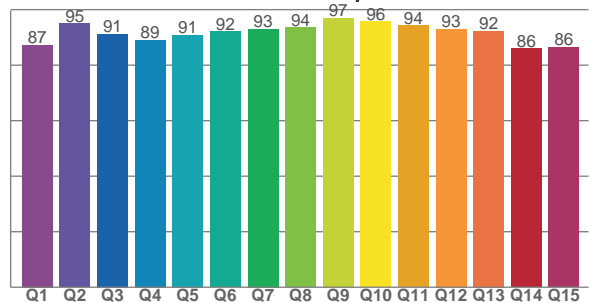
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
88,2	91,2	91,3	94,4	93,5	96,4	91,6	95,1	90,9	86,5	88,4	89,6	89,5	85,9	86,6	84,2

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
87,2	95,0	91,2	89,0	90,8	92,1	93,0	93,6	97,0	95,6	94,2	93,1	92,3	86,0	86,5

CQS: 91,0



COLOR PARAMETERS

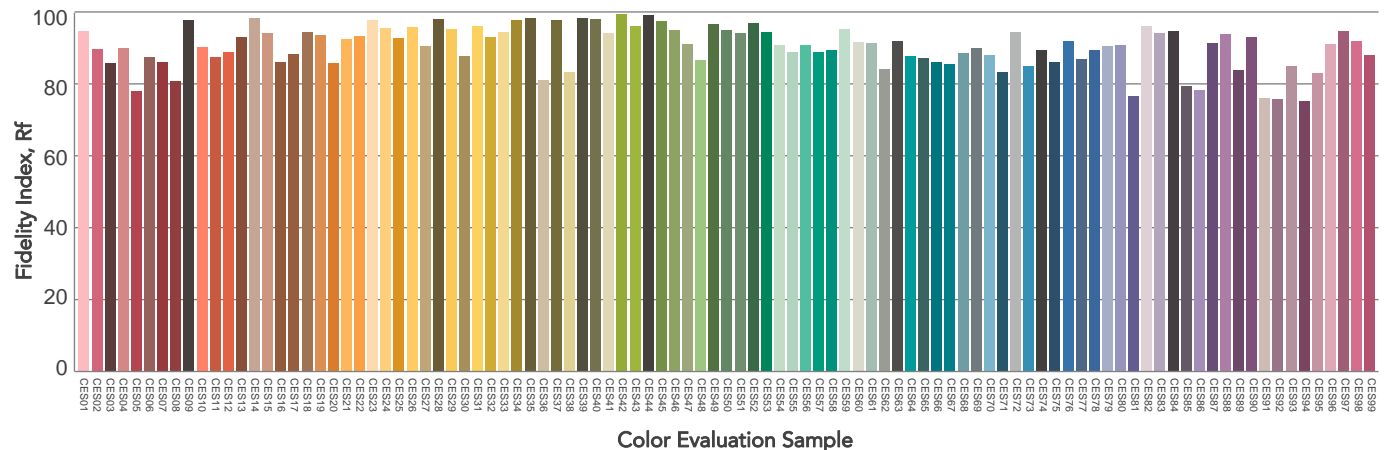
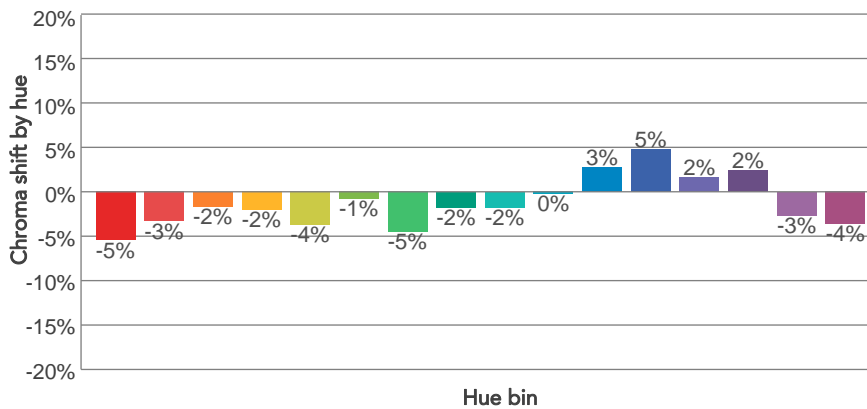
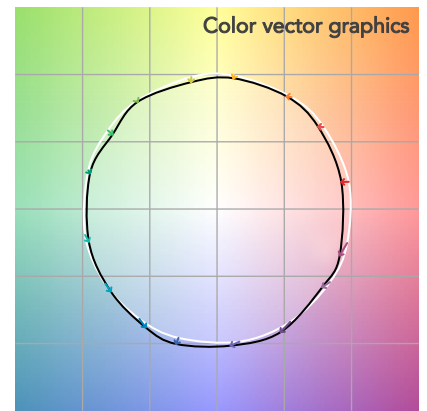
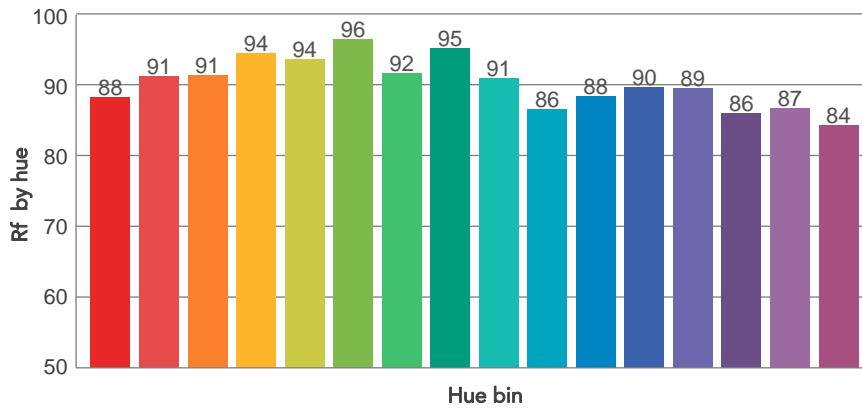
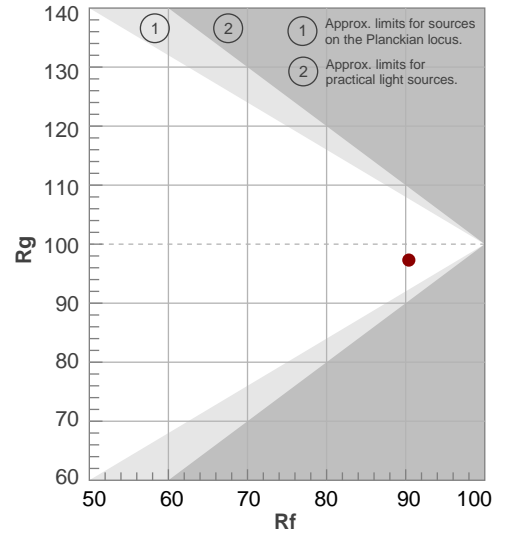
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
3040 K	92,8	55,6	90,4	97,3	91,0	91	0,434	0,403	0,0001

TM30 DETAILS

Rf 90,4
Fidelity index Rf

Rg 97,3
Gammut index

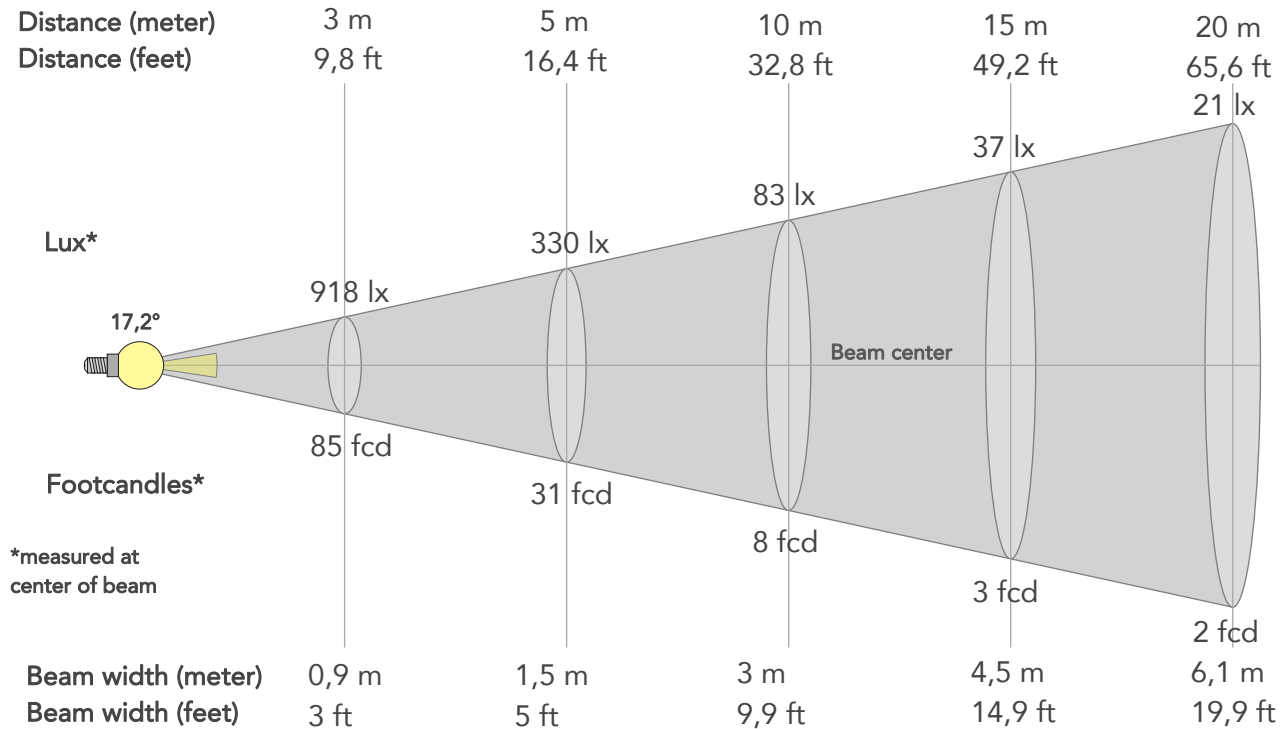
		Graphic shifts (%)	
Hue Bin	R _f	Chroma	Hue
1	88	-5%	1%
2	91	-3%	3%
3	91	-2%	4%
4	94	-2%	0%
5	94	-4%	1%
6	96	-1%	0%
7	92	-5%	1%
8	95	-2%	2%
9	91	-2%	5%
10	86	0%	7%
11	88	3%	7%
12	90	5%	-1%
13	89	2%	-7%
14	86	2%	-10%
15	87	-3%	-6%
16	84	-4%	-10%



BEAM DETAILS



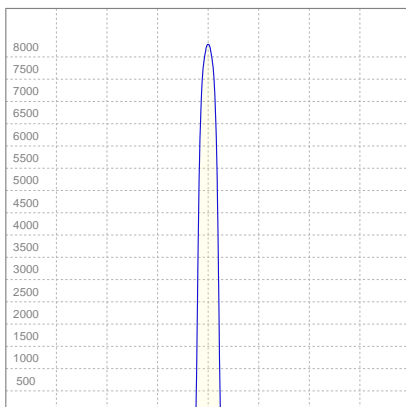
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
17,2°	20,8°	21,4°	99,8%	99,7%



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	8262lx	2066lx	918lx	516lx	330lx	147lx	83lx	37lx	21lx	13lx	9lx	5lx	3lx
Footcand.	768fcd	192fcd	85fcd	48fcd	31fcd	14fcd	8fcd	3fcd	2fcd	1fcd	1fcd	0fcd	0fcd
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	15,2m
Beam wid.	1ft	2ft	3ft	4ft	5ft	7,5ft	9,9ft	14,9ft	19,9ft	24,9ft	29,8ft	39,8ft	49,7ft

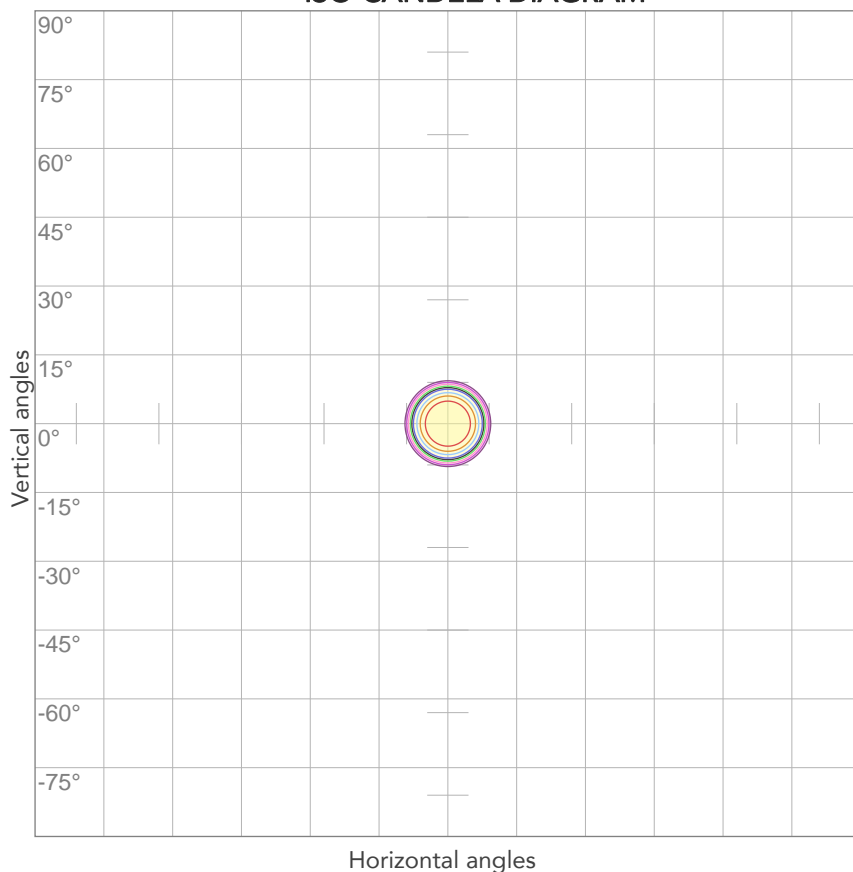
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
226V	0,241A	21,8W	26lm/W
Power FC			
0,40			

ISO CANDELA DIAGRAM



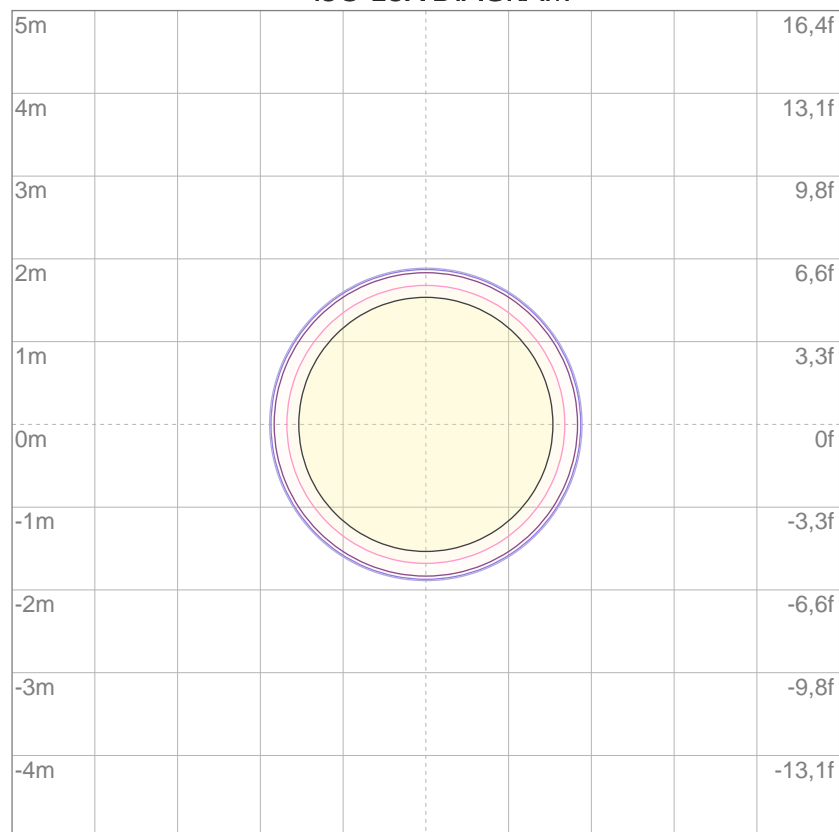
10%	826 cd
20%	1652 cd
30%	2479 cd
40%	3305 cd
50%	4131 cd
60%	4957 cd
70%	5784 cd
80%	6610 cd

Conditions:

Number of c-planes: 2

Candela at center: 8262 cd

ISO LUX DIAGRAM



3%	2,48 lx
5%	4,13 lx
10%	8,26 lx
30%	24,8 lx
50%	41,3 lx

Conditions:

Number of c-planes: 2

Lux at center: 82,6 lx

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



Total lumen output:

554 lm

Peak candela output:

4496 cd

Light quality:

CRI: 92,3

Color temperature:

3040 K

PRODUCT NAME:

MINIECL TU

MEASURAMENT CONDITIONS:

Beam angle:

26°

Target:

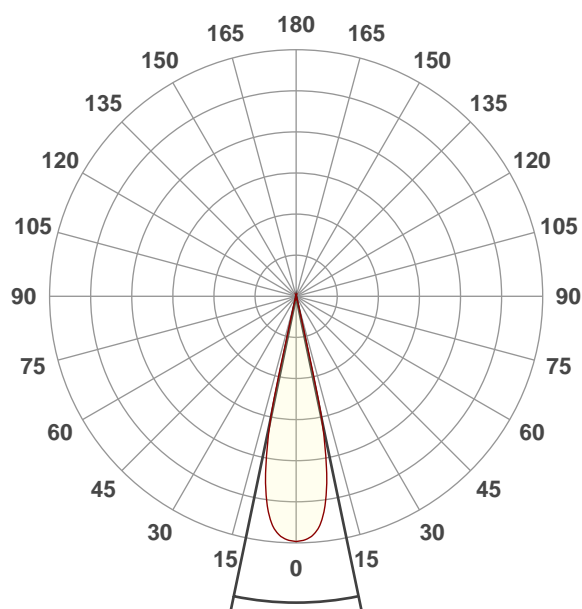
Warm White

Operator:

Paolo Carvone

Date and time:

05/05/2020 18:19:45

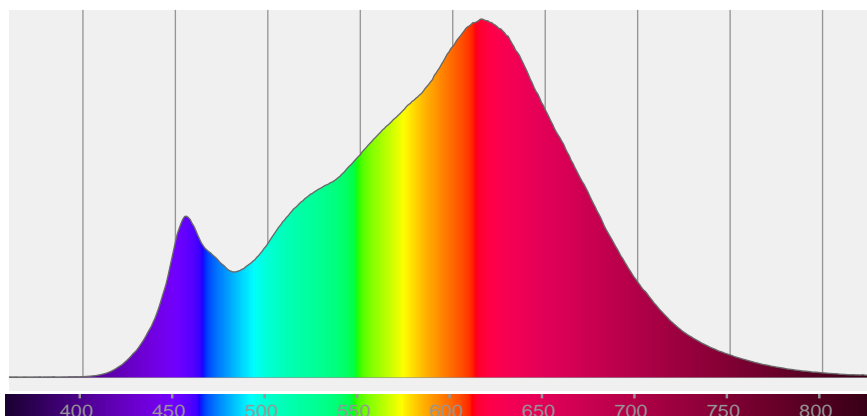


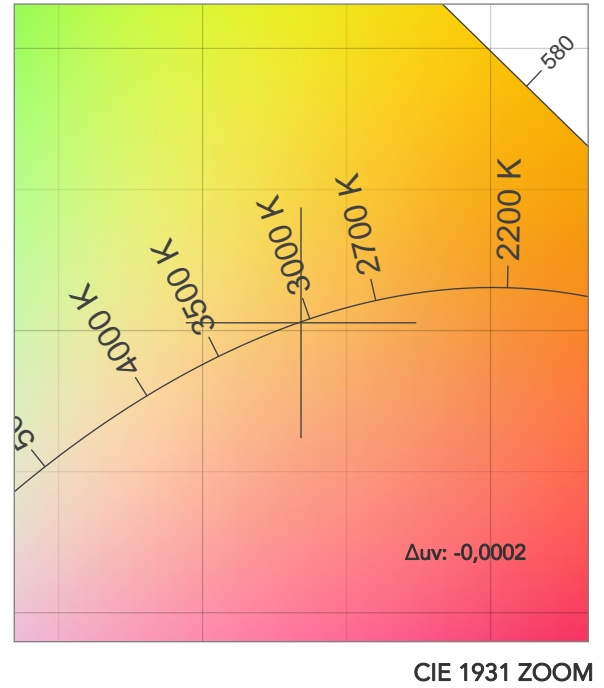
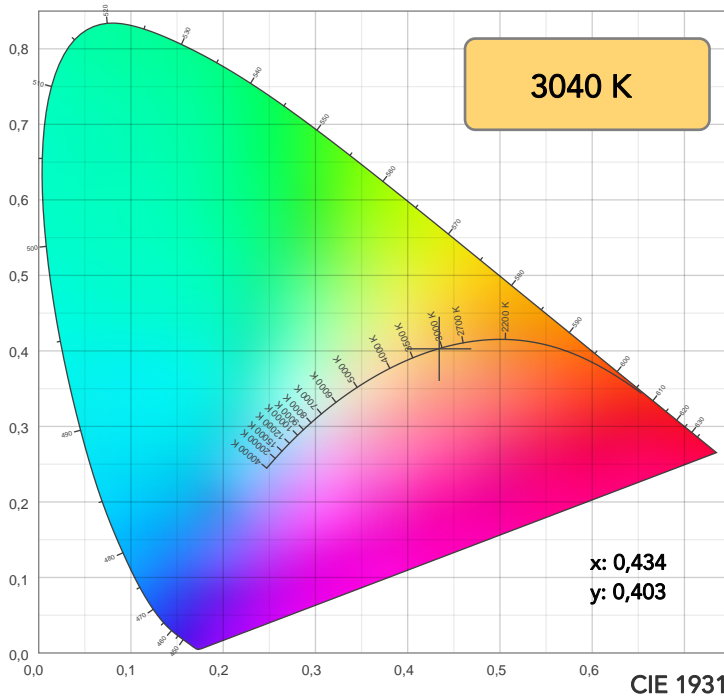
Beam angle 50%: 23,5°

Field angle 10%: 27,5°

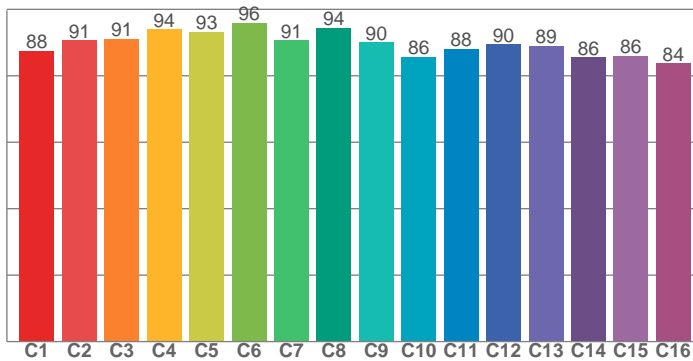
Cut off angle 2.5%: 30°

Spectra

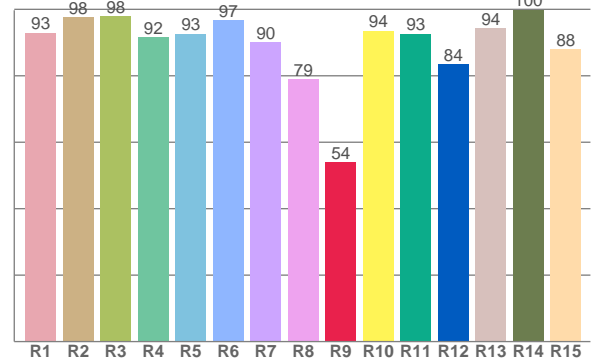




TM30: 89,9



CRI: 92,3 (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
92,9	97,7	97,9	91,7	92,7	96,7	90,1	79,0	53,9	93,5	92,6	83,5	94,4	99,9	88,0

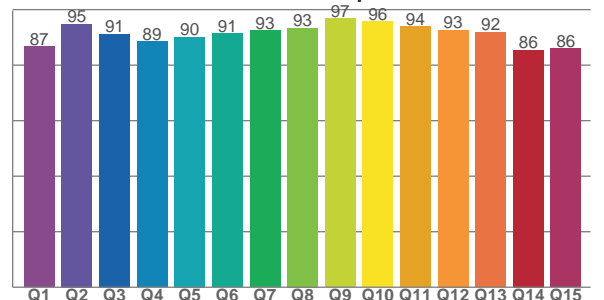
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
87,6	90,7	91,1	94,0	93,3	96,0	90,7	94,3	90,0	85,6	88,0	89,5	89,0	85,5	86,1	83,7

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
86,8	94,8	91,2	88,5	90,1	91,4	92,5	93,4	96,8	95,6	93,9	92,7	91,9	85,5	86,0

CQS: 90,6



COLOR PARAMETERS

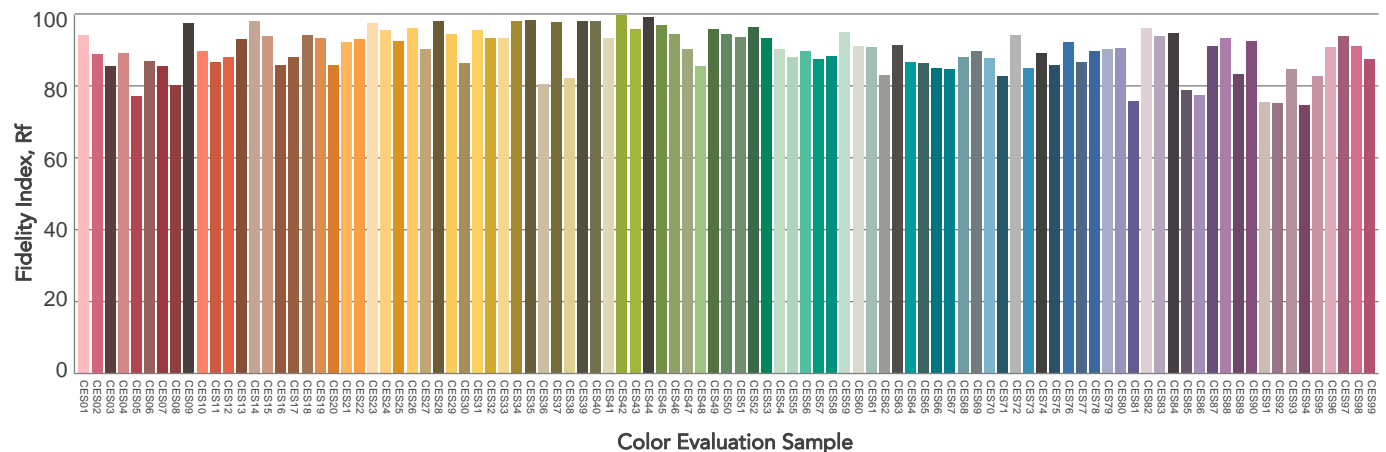
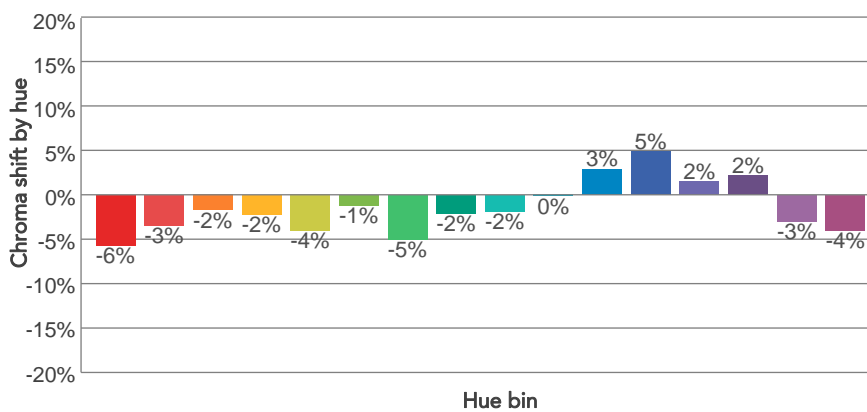
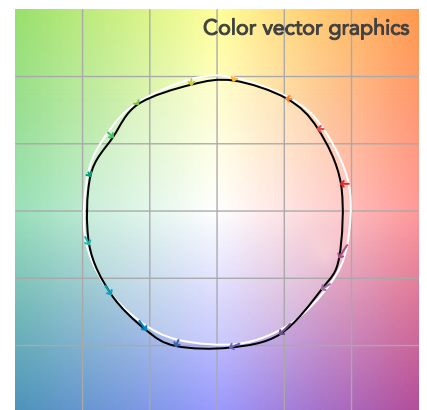
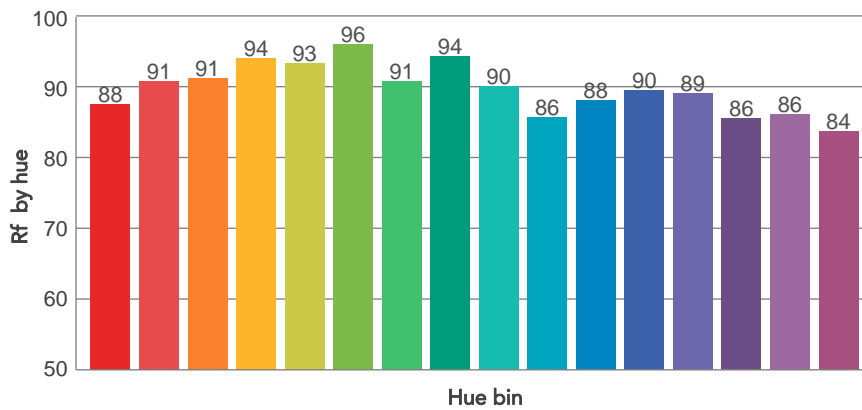
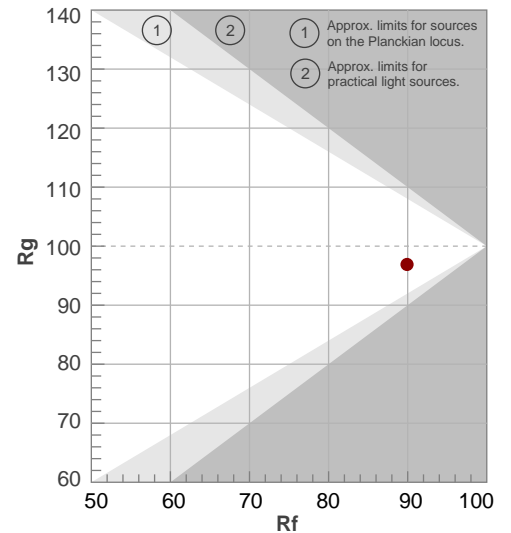
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
3040 K	92,3	53,9	89,9	96,9	90,6	90	0,434	0,403	-0,0002

TM30 DETAILS

Rf 89,9
Fidelity index Rf

Rg 96,9
Gammut index

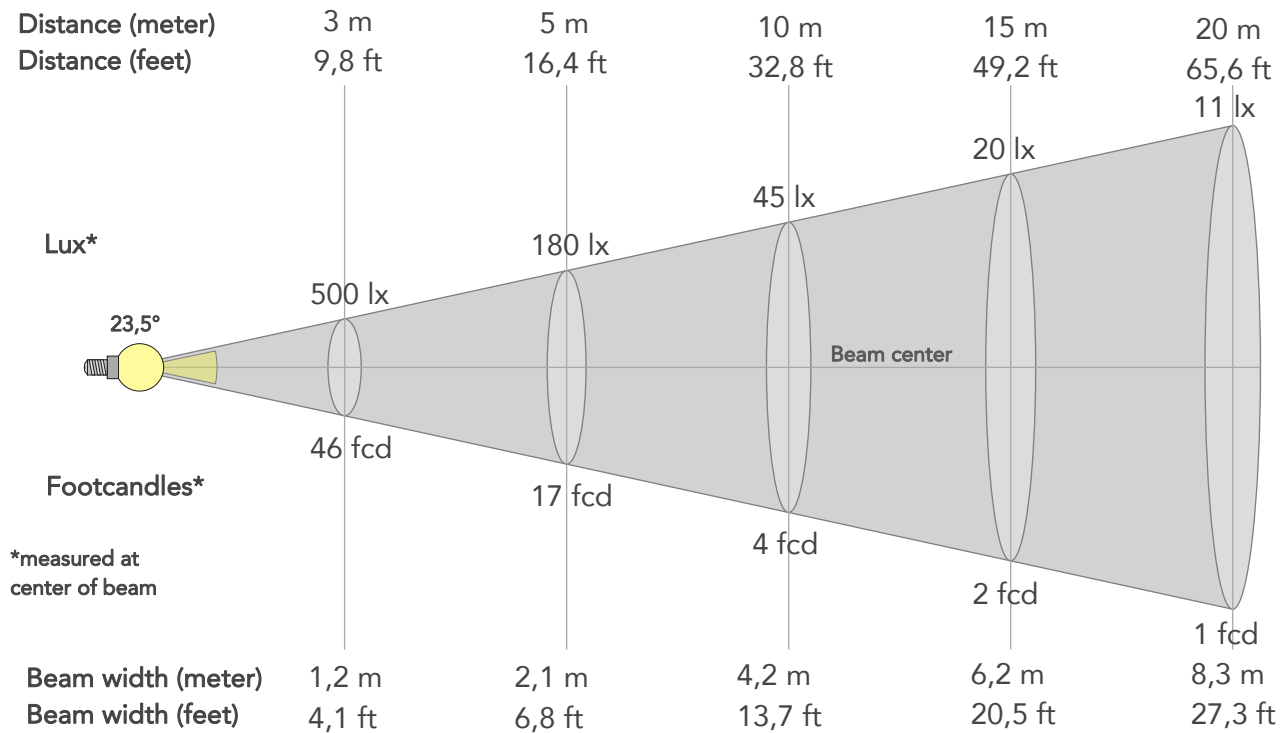
		Graphic shifts (%)	
Hue Bin	R _f	Chroma	Hue
1	88	-6%	1%
2	91	-3%	3%
3	91	-2%	4%
4	94	-2%	0%
5	93	-4%	1%
6	96	-1%	0%
7	91	-5%	1%
8	94	-2%	2%
9	90	-2%	6%
10	86	0%	8%
11	88	3%	8%
12	90	5%	-1%
13	89	2%	-7%
14	86	2%	-10%
15	86	-3%	-6%
16	84	-4%	-10%



BEAM DETAILS



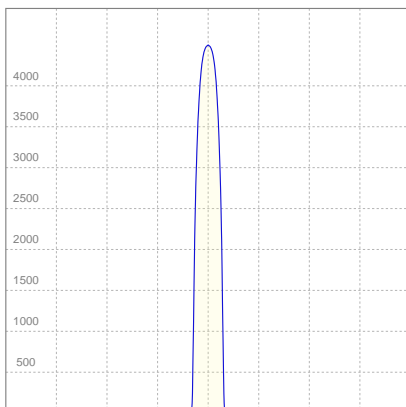
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
23,5°	27,5°	30°	99,6%	99,5%



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	4496lx	1124lx	500lx	281lx	180lx	80lx	45lx	20lx	11lx	7lx	5lx	3lx	2lx
Footcand.	418fcd	104fcd	46fcd	26fcd	17fcd	7fcd	4fcd	2fcd	1fcd	1fcd	0fcd	0fcd	0fcd
Beam wid.	0,4m	0,8m	1,2m	1,7m	2,1m	3,1m	4,2m	6,2m	8,3m	10,4m	12,5m	16,6m	20,8m
Beam wid.	1,4ft	2,7ft	4,1ft	5,5ft	6,8ft	10,2ft	13,7ft	20,5ft	27,3ft	34,1ft	41ft	54,6ft	68,3ft

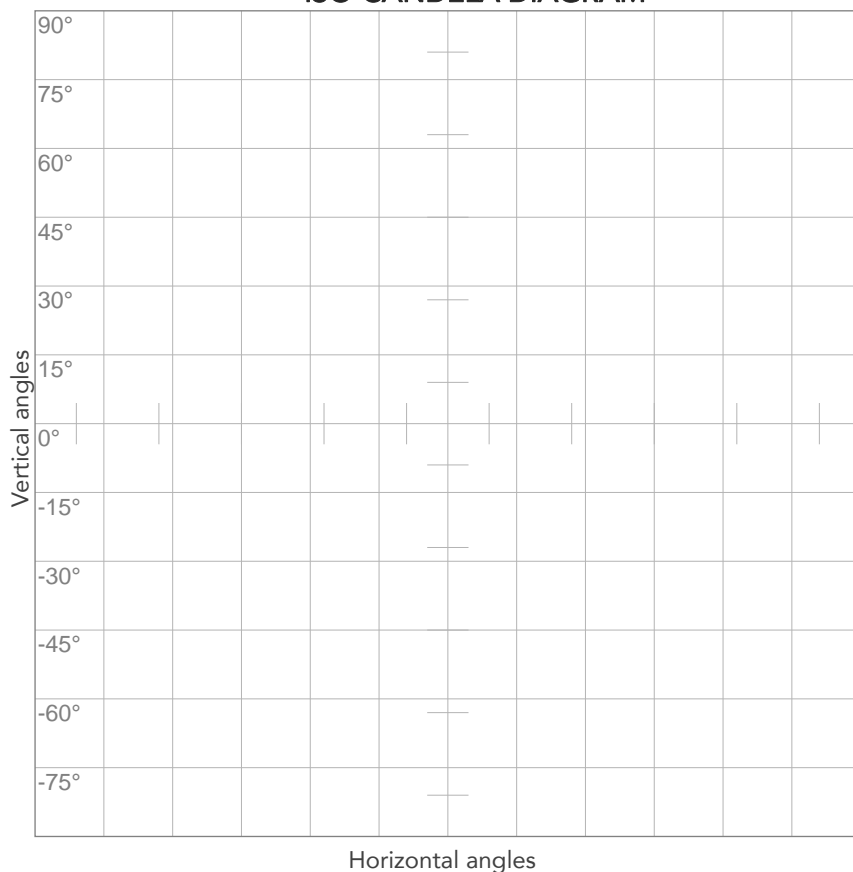
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
225V	0,212A	21,5W	26lm/W
Power FC			
0,40			

ISO CANDELA DIAGRAM



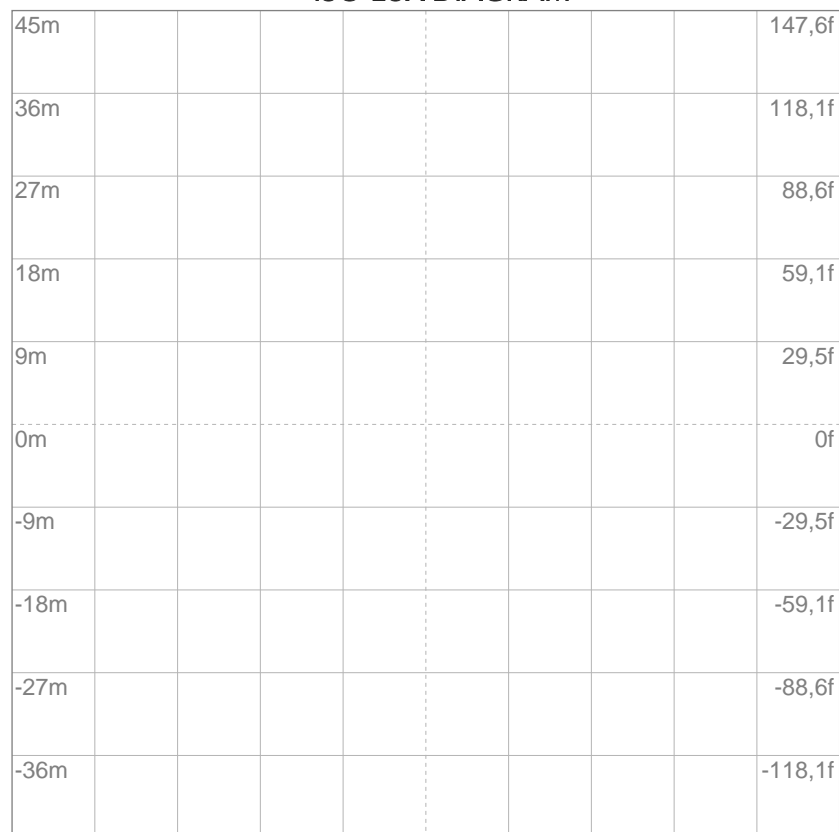
10%	450 cd
20%	899 cd
30%	1349 cd
40%	1798 cd
50%	2248 cd
60%	2697 cd
70%	3147 cd
80%	3597 cd

Conditions:

Number of c-planes: 2

Candela at center: 4496 cd

ISO LUX DIAGRAM



Mounting height: 10 meters (33 feet)

3%	1,35 lx
5%	2,25 lx
10%	4,50 lx
30%	13,5 lx
50%	22,5 lx

Conditions:

Number of c-planes: 2

Lux at center: 45,0 lx

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



Total lumen output:

582 lm

Peak candela output:

2412 cd

Light quality:

CRI: 92,4

Color temperature:

2976 K

PRODUCT NAME:

MINIECL TU

MEASURAMENT CONDITIONS:

Beam angle:

36°

Target:

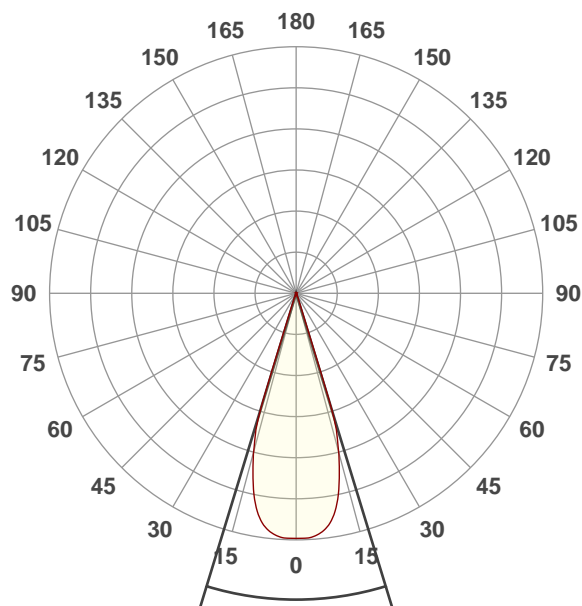
Warm White

Operator:

Paolo Carvone

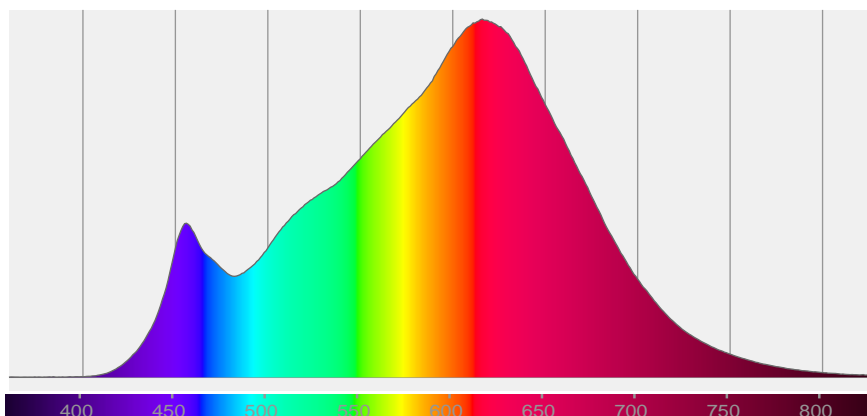
Date and time:

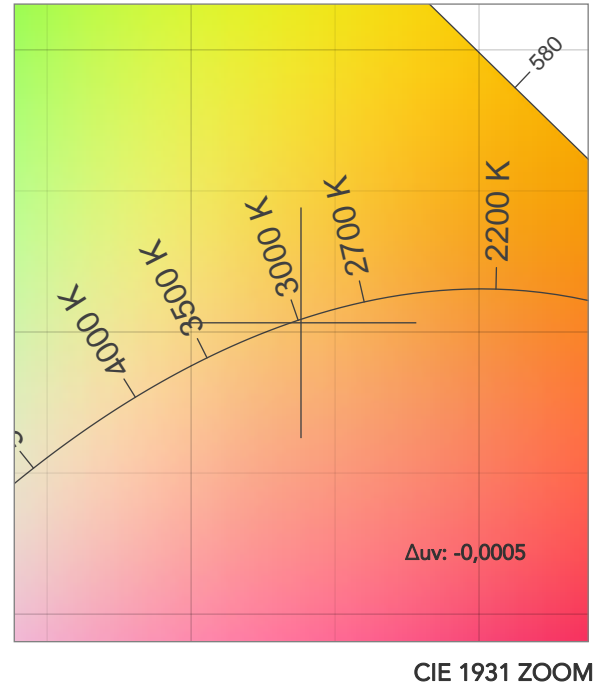
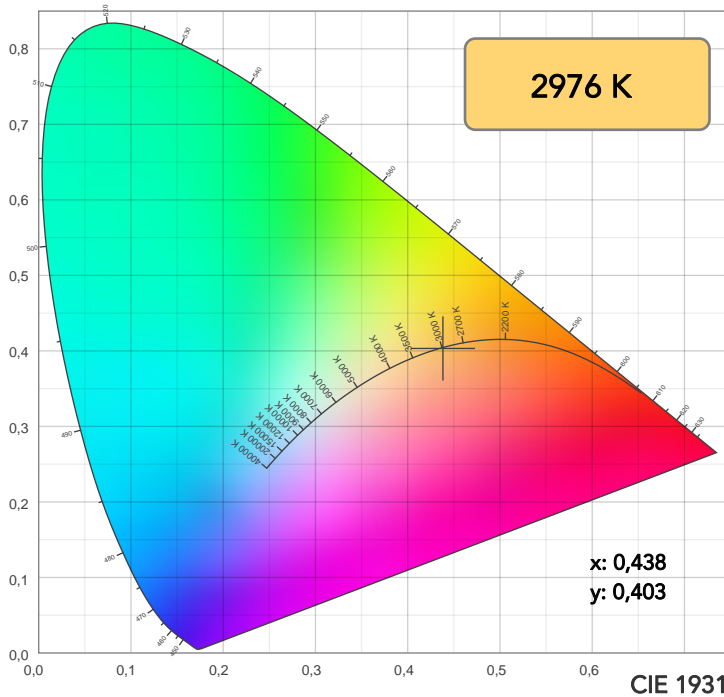
05/05/2020 18:22:21



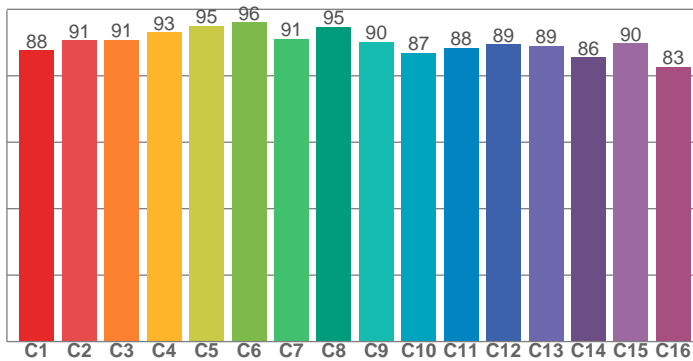
Beam angle 50%: 34°
Field angle 10%: 37,2°
Cut off angle 2.5%: 39,7°

Spectra

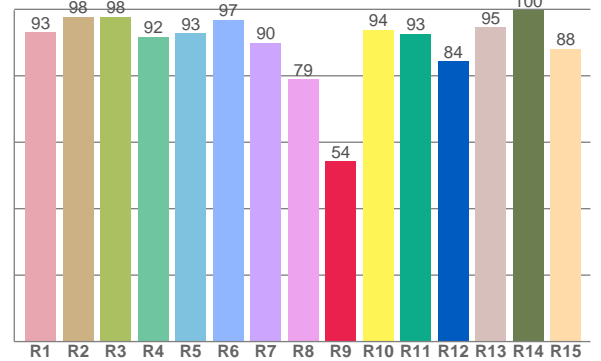




TM30: 90,1



CRI: 92,4 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
93,0	97,8	97,8	91,8	92,9	96,8	89,9	78,9	54,3	93,9	92,7	84,3	94,5	99,8	88,1

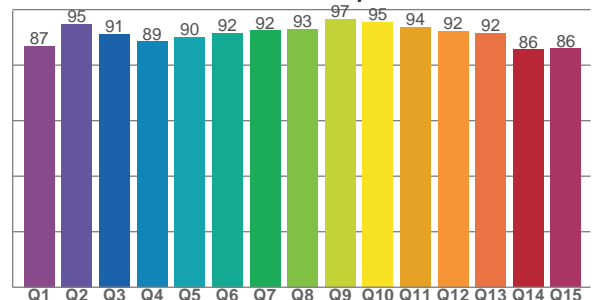
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
87,7	90,7	90,9	93,1	95,0	96,1	91,1	94,7	90,3	86,8	88,3	89,4	89,0	85,6	89,8	82,7

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
86,9	94,7	91,2	88,5	90,2	91,6	92,5	93,0	96,6	95,4	93,7	92,4	91,6	85,6	86,0

CQS: 90,6



COLOR PARAMETERS

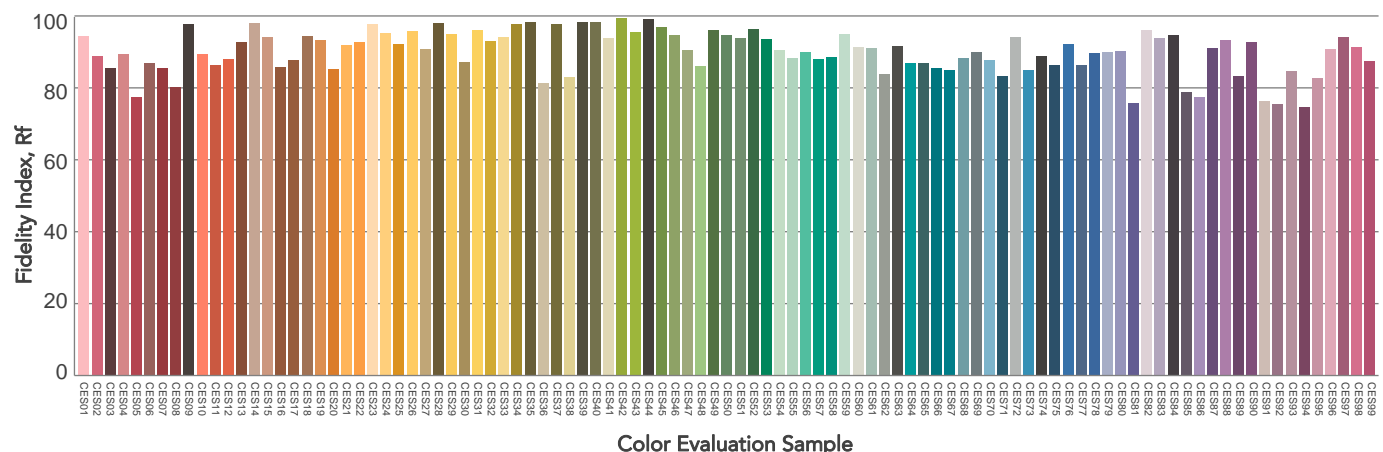
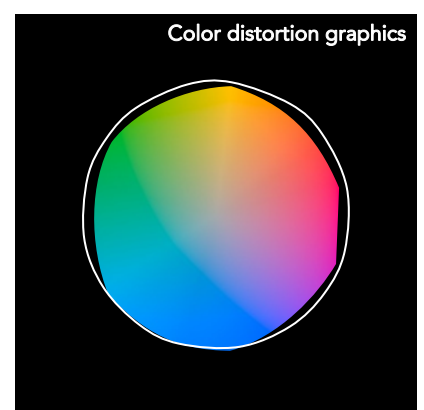
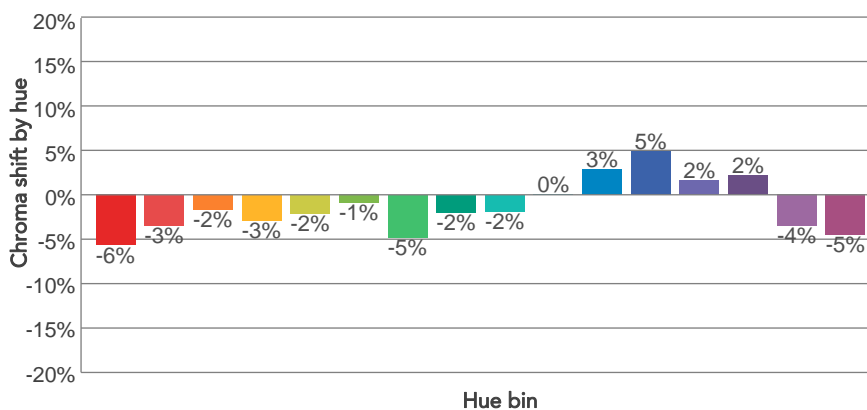
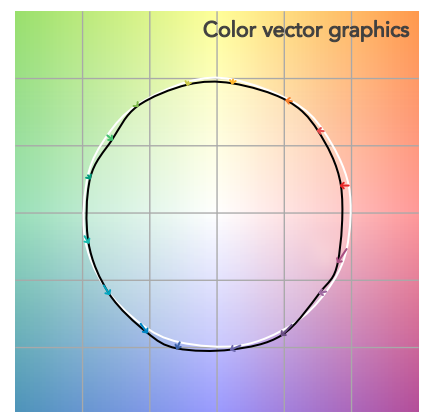
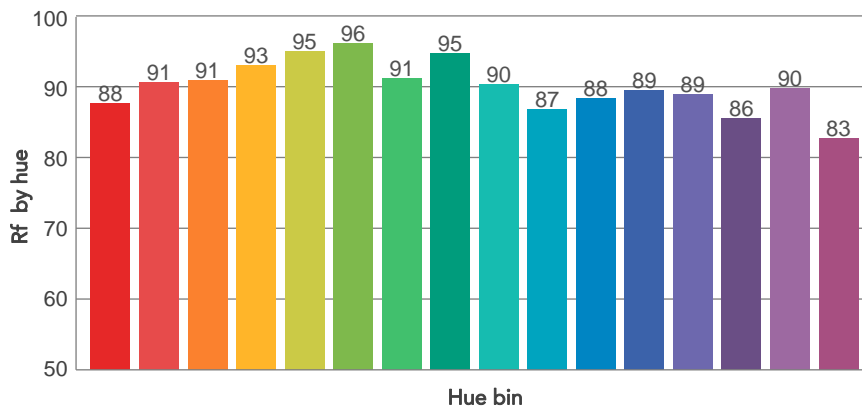
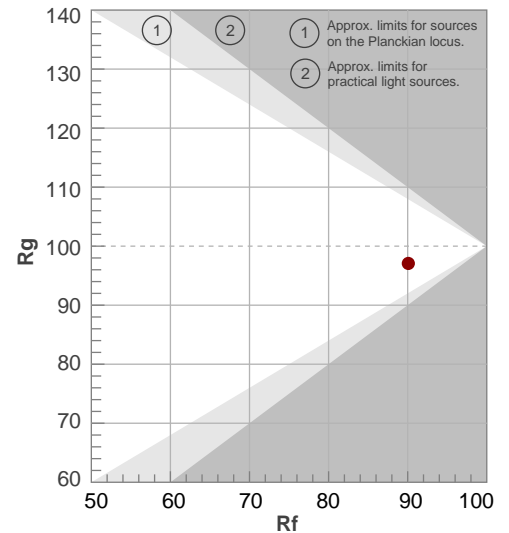
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
2976 K	92,4	54,3	90,1	97,1	90,6	90	0,438	0,403	-0,0005

TM30 DETAILS

Rf 90,1
Fidelity index Rf

Rg 97,1
Gammut index

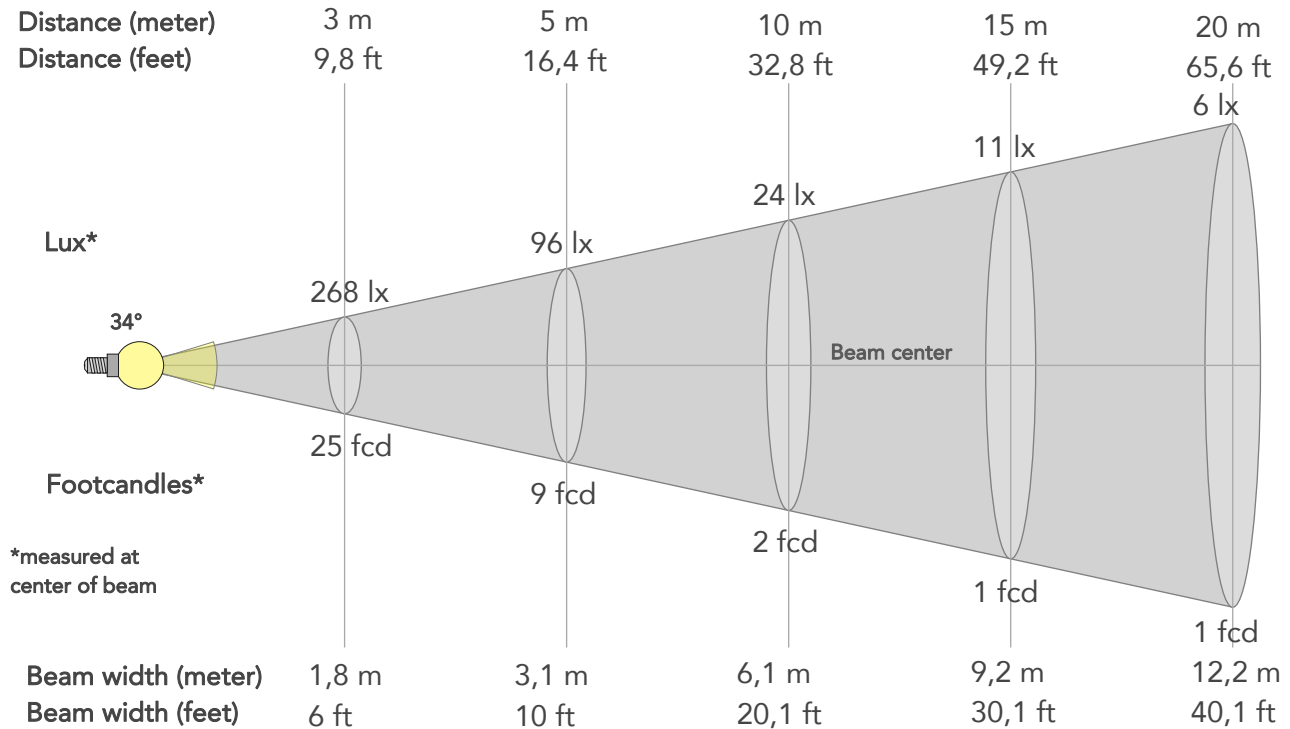
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	88	-6%	1%
2	91	-3%	3%
3	91	-2%	4%
4	93	-3%	0%
5	95	-2%	1%
6	96	-1%	0%
7	91	-5%	1%
8	95	-2%	2%
9	90	-2%	5%
10	87	0%	8%
11	88	3%	7%
12	89	5%	-1%
13	89	2%	-7%
14	86	2%	-10%
15	90	-4%	-3%
16	83	-5%	-11%



BEAM DETAILS



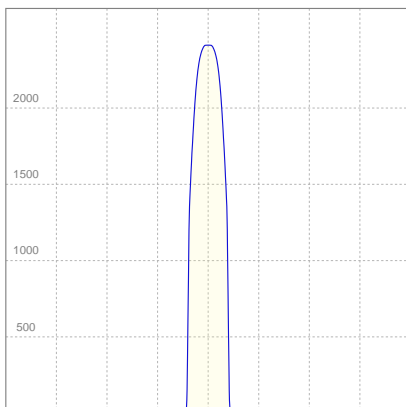
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
34°	37,2°	39,7°	99,4%	99,3%



BEAM INTENSITIES AND WIDTHS

Distance	1m	2m	3m	4m	5m	7,5m	10m	15m	20m	25m	30m	40m	50m
Distance	3,3ft	6,6ft	9,8ft	13,1ft	16,4ft	24,6ft	32,8ft	49,2ft	65,6ft	82ft	98,4ft	131,2ft	164ft
Lux	2412lx	603lx	268lx	151lx	96lx	43lx	24lx	11lx	6lx	4lx	3lx	2lx	1lx
Footcand.	224fcd	56fcd	25fcd	14fcd	9fcd	4fcd	2fcd	1fcd	1fcd	0fcd	0fcd	0fcd	0fcd
Beam wid.	0,6m	1,2m	1,8m	2,4m	3,1m	4,6m	6,1m	9,2m	12,2m	15,3m	18,3m	24,5m	30,6m
Beam wid.	2ft	4ft	6ft	8ft	10ft	15ft	20,1ft	30,1ft	40,1ft	50,1ft	60,2ft	80,2ft	100,3ft

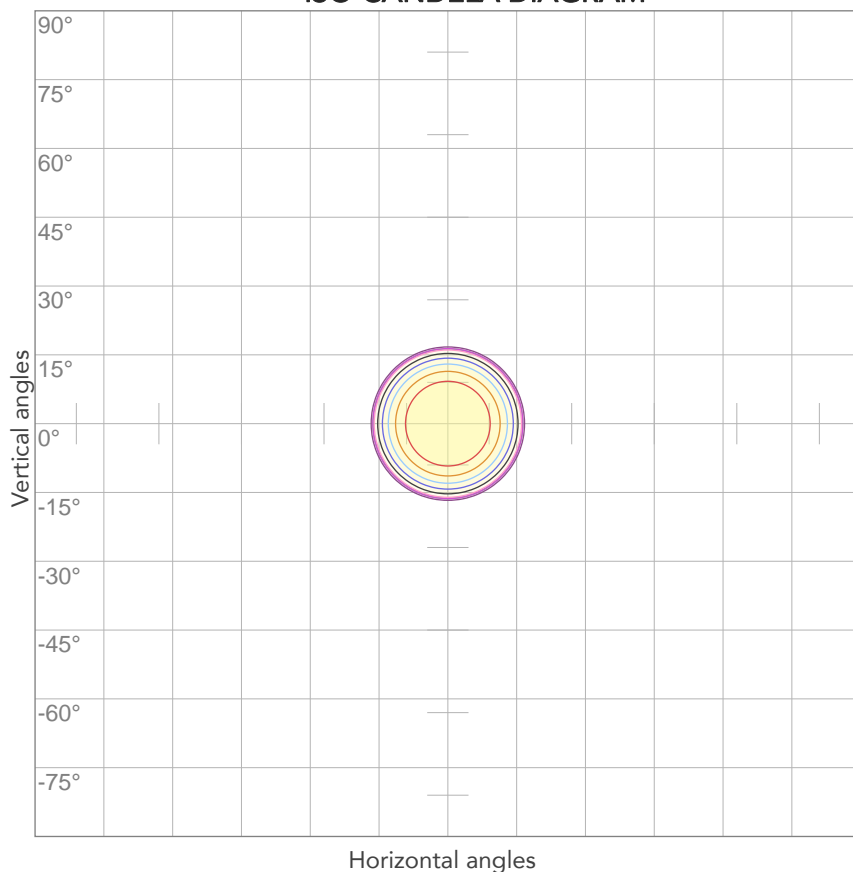
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
226V	0,216A	21,5W	27lm/W
Power FC			
0,40			

ISO CANDELA DIAGRAM



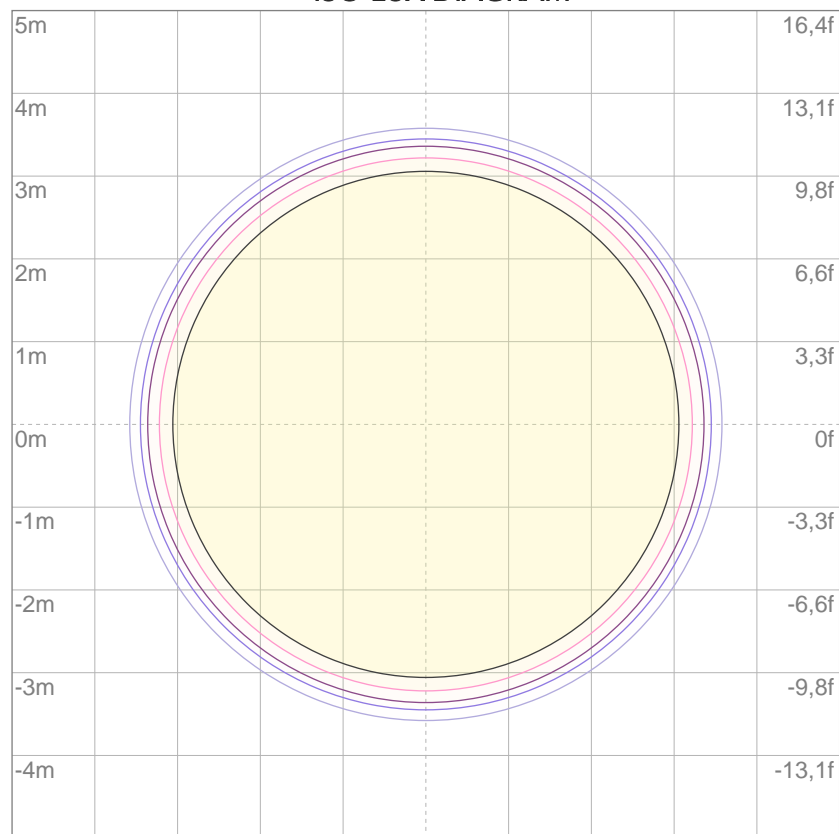
10%	241 cd
20%	482 cd
30%	723 cd
40%	965 cd
50%	1206 cd
60%	1447 cd
70%	1688 cd
80%	1929 cd

Conditions:

Number of c-planes: 2

Candela at center: 2412 cd

ISO LUX DIAGRAM



3%	0,723 lx
5%	1,21 lx
10%	2,41 lx
30%	7,23 lx
50%	12,1 lx

Conditions:

Number of c-planes: 2

Lux at center: 24,1 lx

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



Total lumen output:

552 lm

Peak candela output:

1279 cd

Light quality:

CRI: 92,7

Color temperature:

3018 K

PRODUCT NAME:

MINIECL TU

MEASURAMENT CONDITIONS:

Beam angle:

50°

Target:

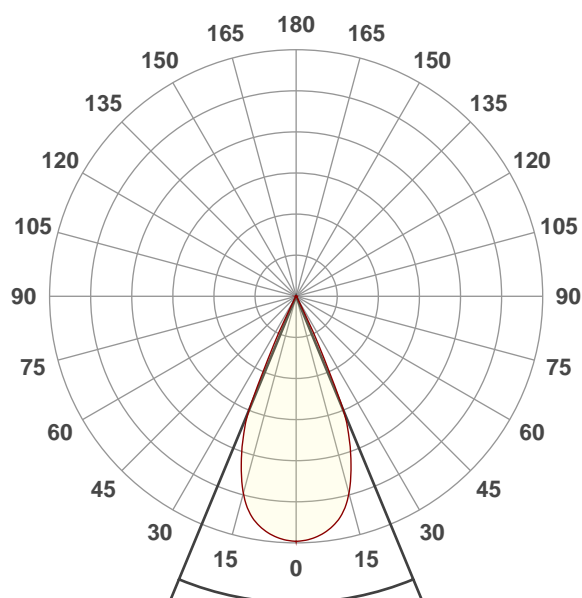
Warm White

Operator:

Paolo Carvone

Date and time:

05/05/2020 18:25:47

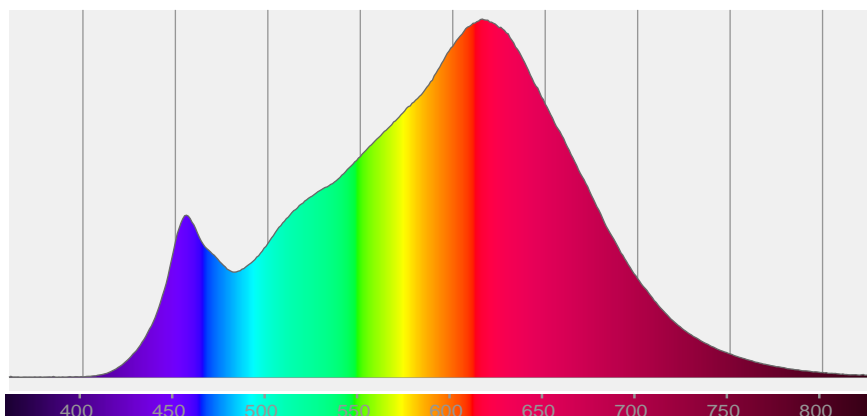


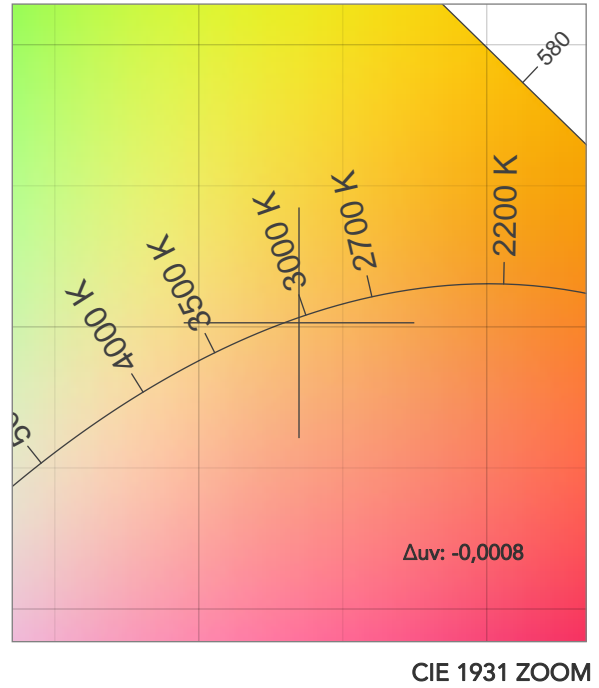
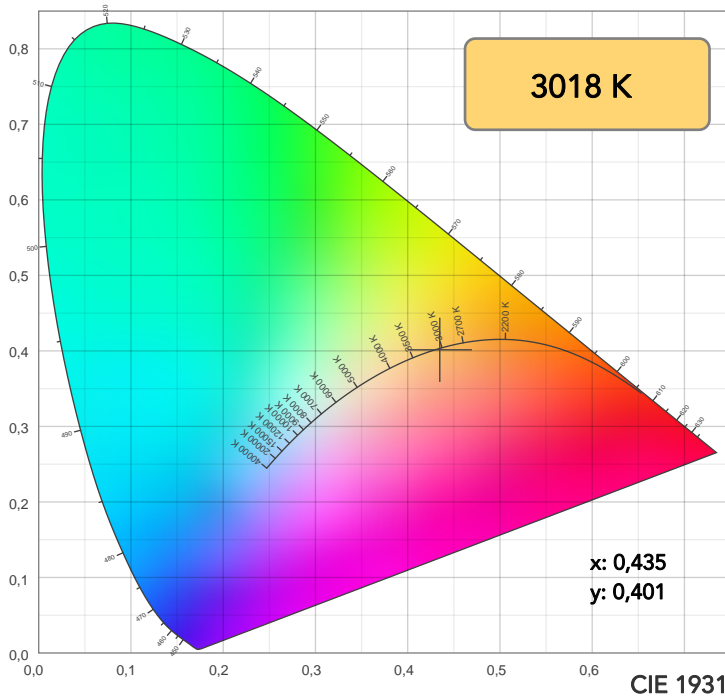
Beam angle 50%: 45°

Field angle 10%: 52,8°

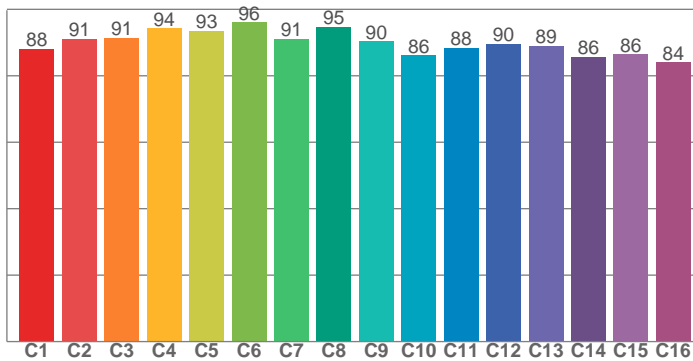
Cut off angle 2.5%: 56,4°

Spectra

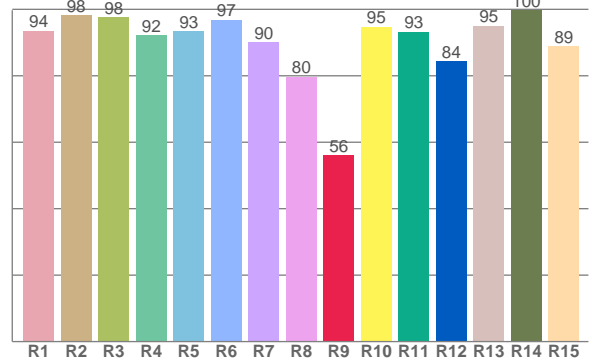




TM30: 90,2



CRI: 92,7 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
93,6	98,2	97,6	92,2	93,4	96,8	90,1	79,7	56,1	94,8	93,3	84,5	95,1	99,7	88,8

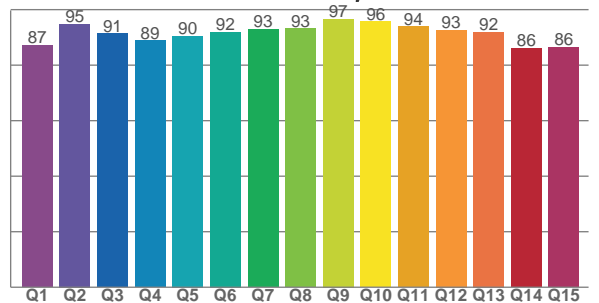
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
88,0	91,0	91,4	94,2	93,4	96,1	91,1	94,7	90,4	86,2	88,5	89,6	89,1	85,7	86,4	84,1

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
87,2	94,8	91,4	88,8	90,4	91,9	92,9	93,2	96,7	95,7	93,9	92,6	91,9	86,1	86,5

CQS: 90,9



COLOR PARAMETERS

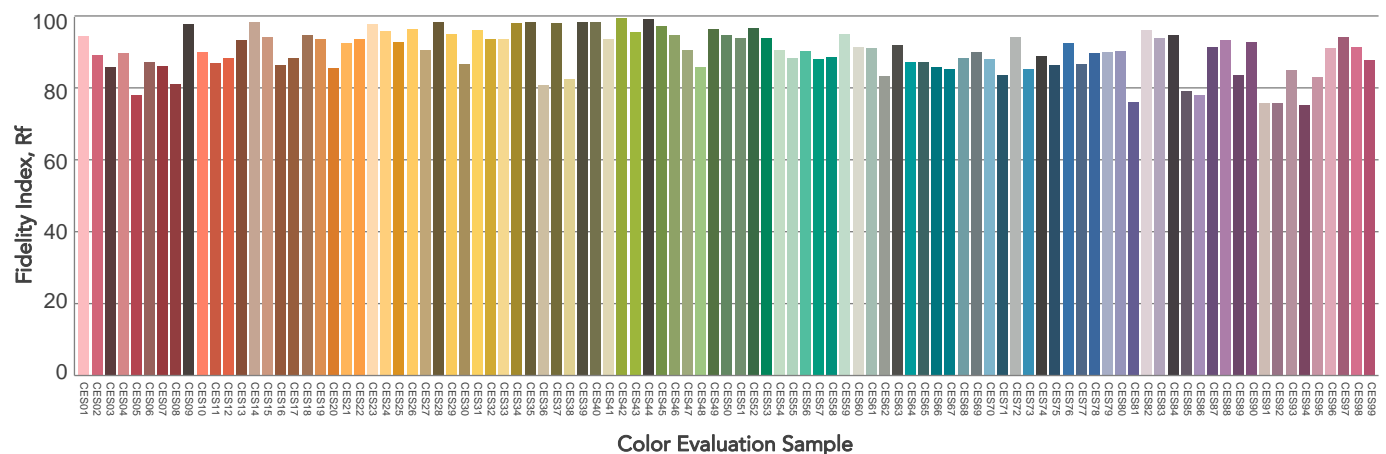
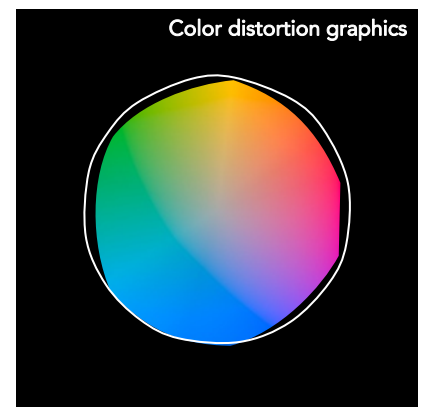
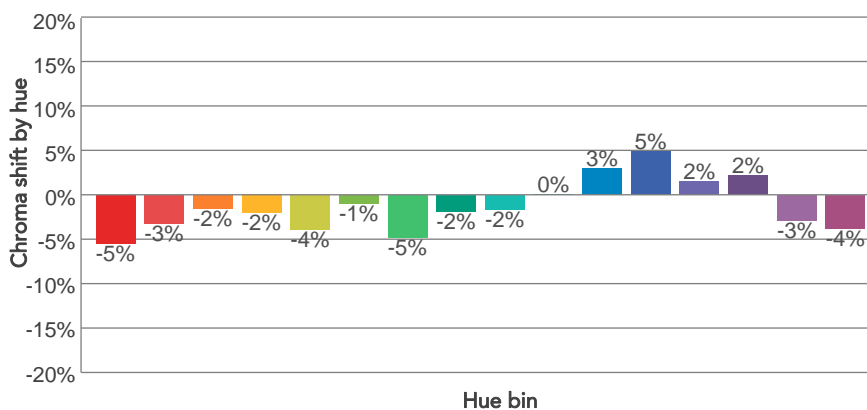
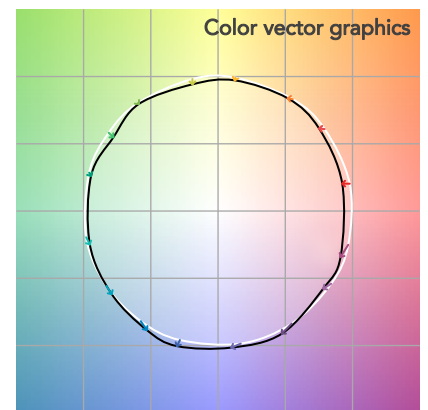
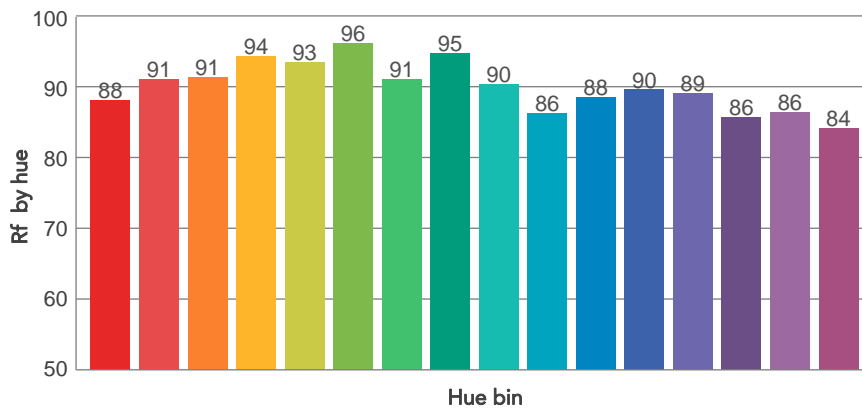
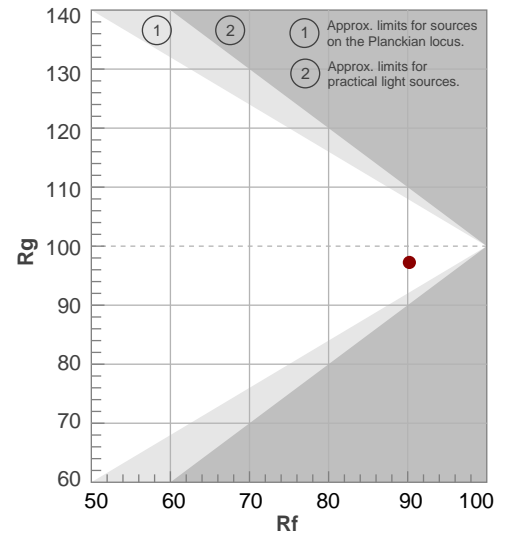
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
3018 K	92,7	56,1	90,2	97,2	90,9	91	0,435	0,401	-0,0008

TM30 DETAILS

Rf 90,2
Fidelity index Rf

Rg 97,2
Gammut index

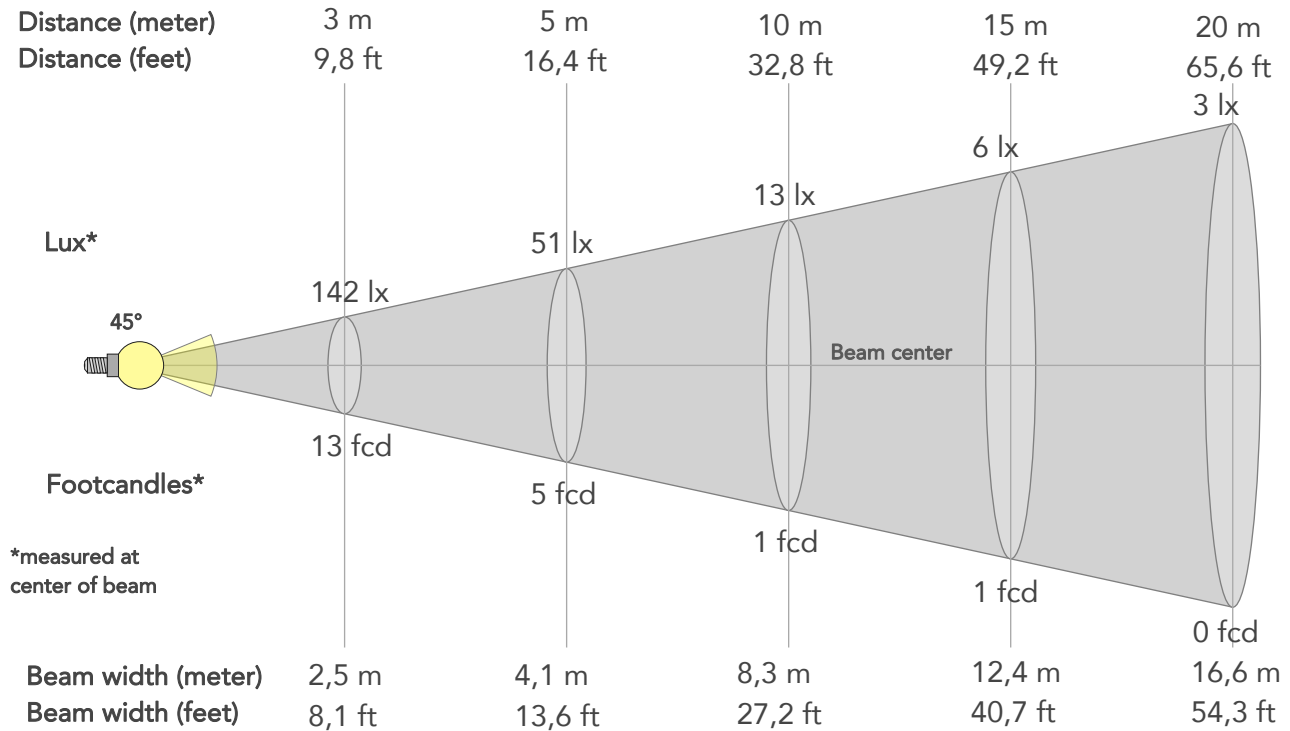
		Graphic shifts (%)	
Hue Bin	R _f	Chroma	Hue
1	88	-5%	1%
2	91	-3%	3%
3	91	-2%	4%
4	94	-2%	0%
5	93	-4%	1%
6	96	-1%	0%
7	91	-5%	1%
8	95	-2%	2%
9	90	-2%	6%
10	86	0%	7%
11	88	3%	7%
12	90	5%	-1%
13	89	2%	-7%
14	86	2%	-10%
15	86	-3%	-6%
16	84	-4%	-10%



BEAM DETAILS



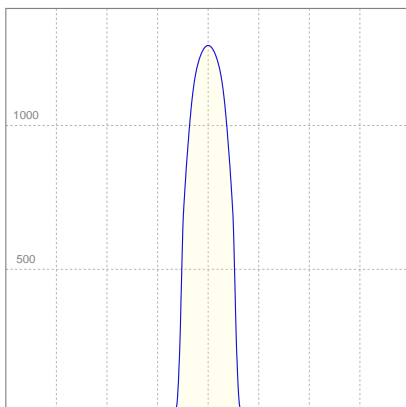
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
45°	52,8°	56,4°	99,5%	99,4%



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	1279lx	320lx	142lx	80lx	51lx	23lx	13lx	6lx	3lx	2lx	1lx	1lx	1lx
Footcand.	119fcd	30fcd	13fcd	7fcd	5fcd	2fcd	1fcd	1fcd	0fcd	0fcd	0fcd	0fcd	0fcd
Beam wid.	0,8m	1,7m	2,5m	3,3m	4,1m	6,2m	8,3m	12,4m	16,6m	20,7m	24,8m	33,1m	41,4m
Beam wid.	2,7ft	5,5ft	8,1ft	10,8ft	13,6ft	20,4ft	27,2ft	40,7ft	54,3ft	67,9ft	81,5ft	108,6ft	135,8ft

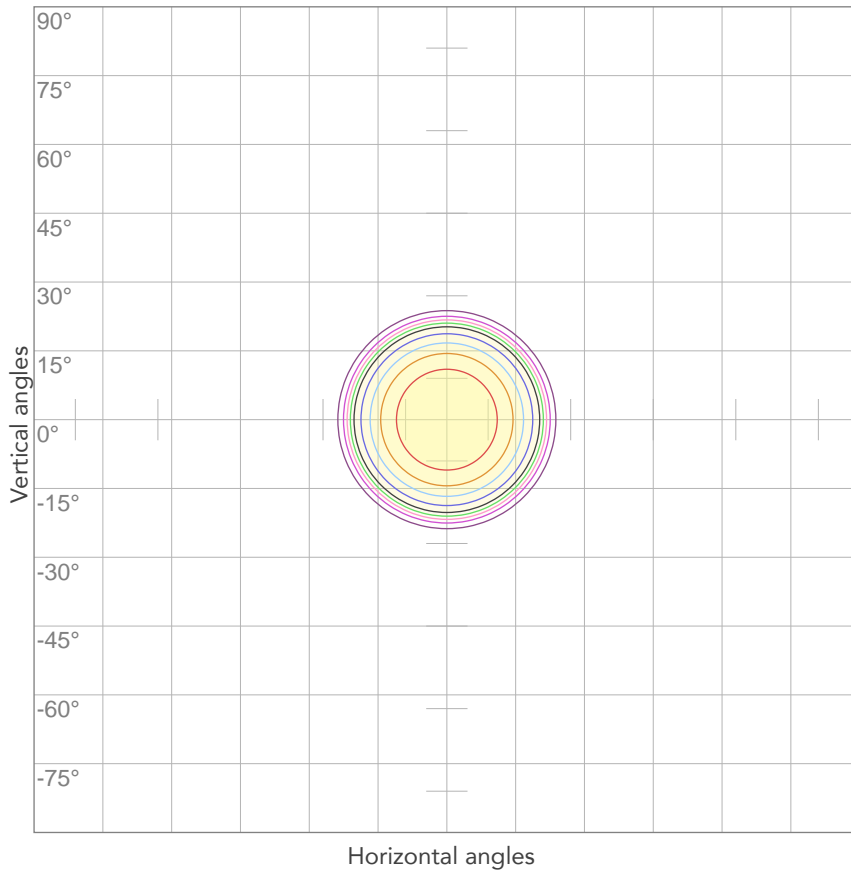
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
226V	0,234A	21,5W	26lm/W
Power FC			
0,40			

ISO CANDELA DIAGRAM



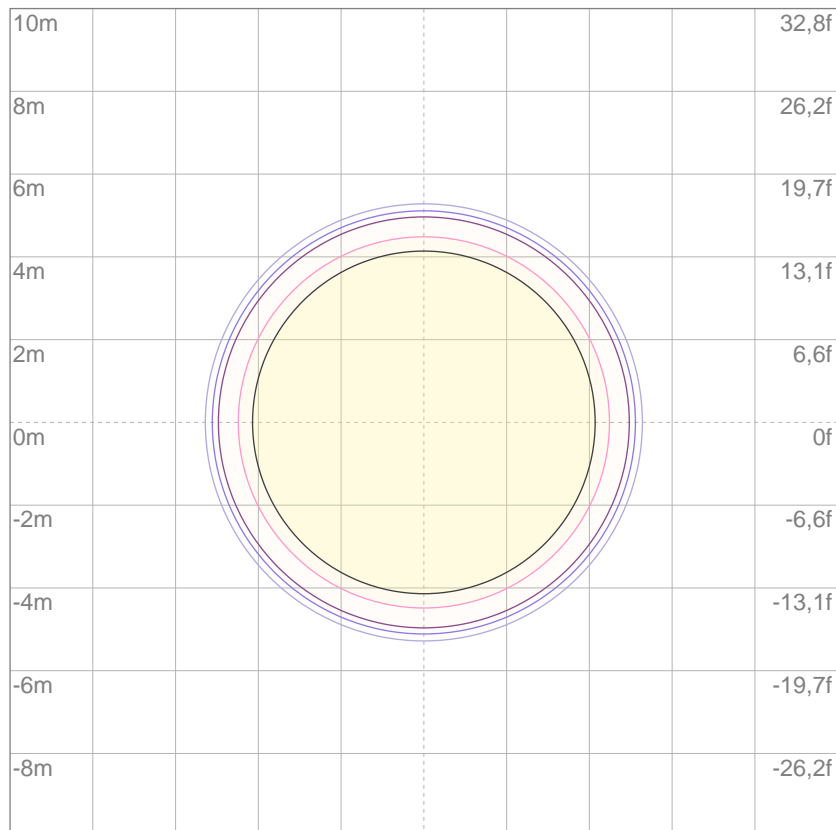
10%	128 cd
20%	256 cd
30%	384 cd
40%	512 cd
50%	640 cd
60%	767 cd
70%	895 cd
80%	1023 cd

Conditions:

Number of c-planes: 2

Candela at center: 1279 cd

ISO LUX DIAGRAM



3%	0,384 lx
5%	0,640 lx
10%	1,28 lx
30%	3,84 lx
50%	6,40 lx

Conditions:

Number of c-planes: 2

Lux at center: 12,8 lx

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



Total lumen output:

481 lm

Peak candela output:

1776 cd

Light quality:

CRI: 92,7

Color temperature:

2981 K

PRODUCT NAME:

MINIECL TU

MEASURAMENT CONDITIONS:

Beam angle:

1530 Wash - Max Zoom

Target:

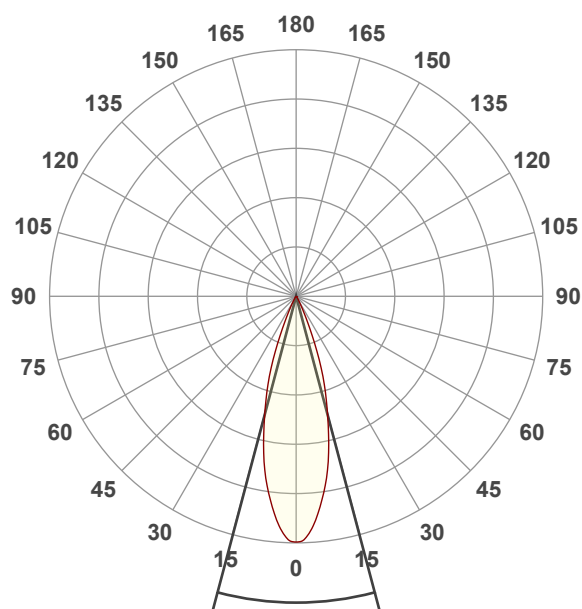
Warm White

Operator:

Paolo Carvone

Date and time:

07/07/2022 10:23:15

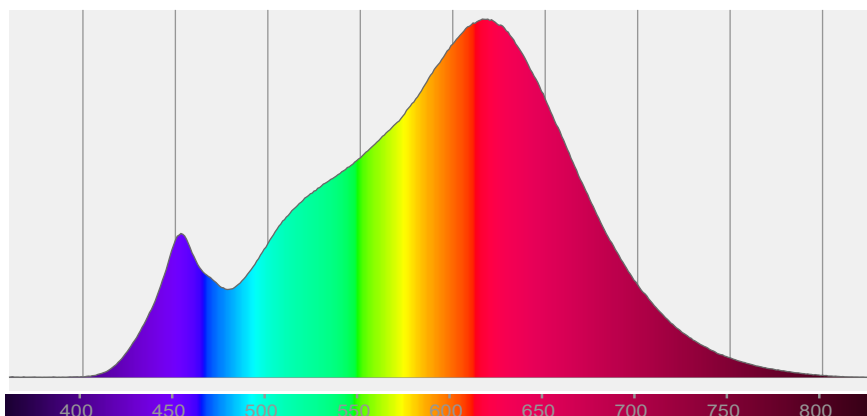


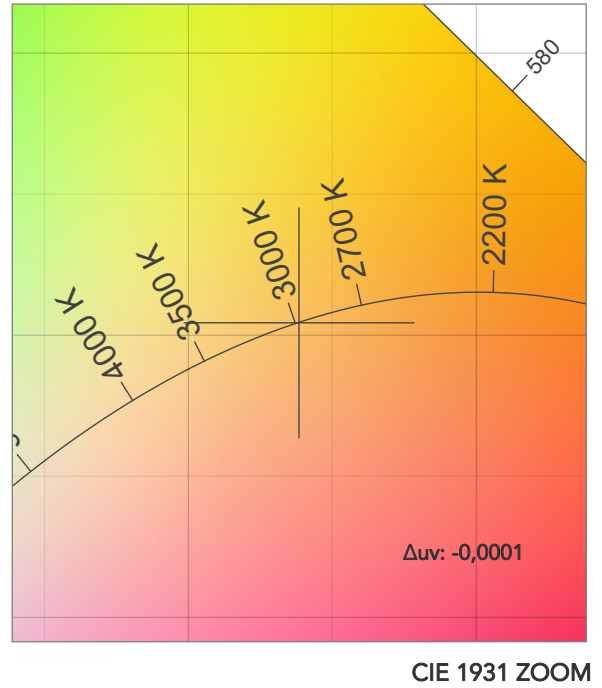
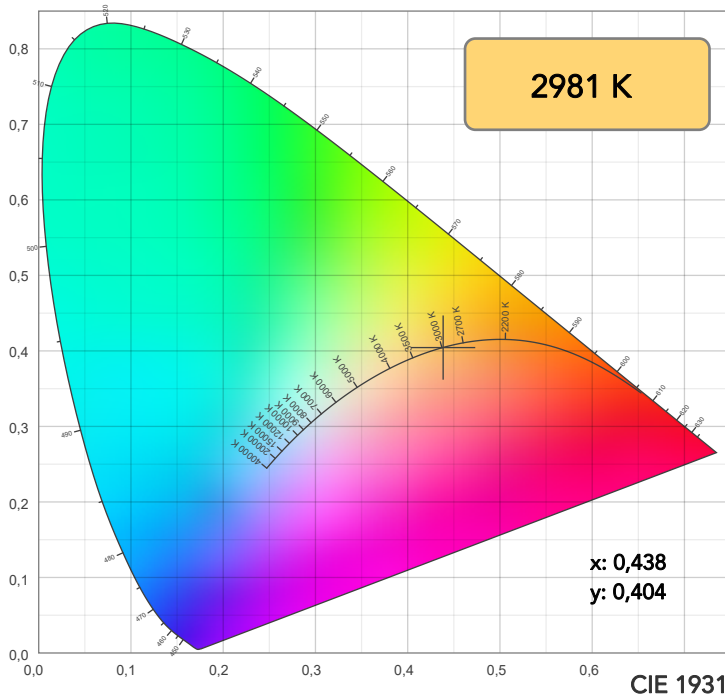
Beam angle 50%: 29,7°

Field angle 10%: 48,9°

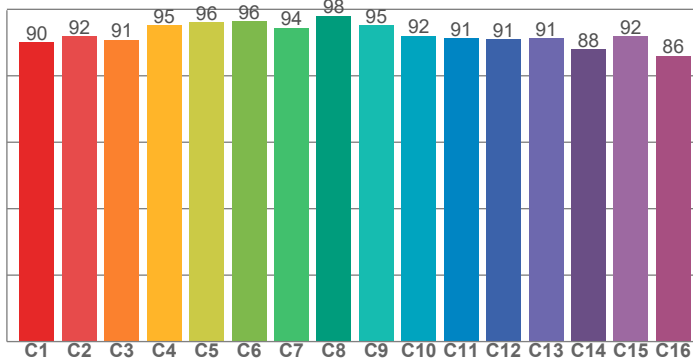
Cut off angle 2.5%: 60°

Spectra

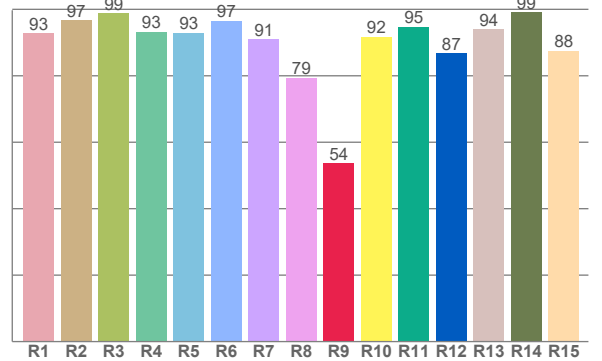




TM30: 92,5



CRI: 92,7 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
92,9	96,7	98,9	93,3	93,0	96,6	90,9	79,4	53,6	91,7	94,7	86,8	94,0	99,2	87,5

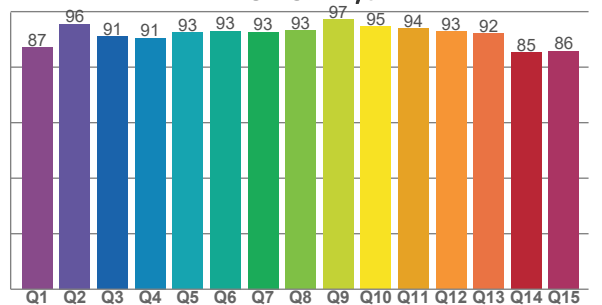
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
90,1	91,8	90,7	95,2	96,1	96,4	94,4	98,1	95,2	92,0	91,3	90,9	91,2	88,0	91,8	86,0

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
87,1	95,5	91,1	90,6	92,5	93,1	92,7	93,2	97,1	94,7	93,9	92,8	92,0	85,2	85,7

CQS: 91,0



COLOR PARAMETERS

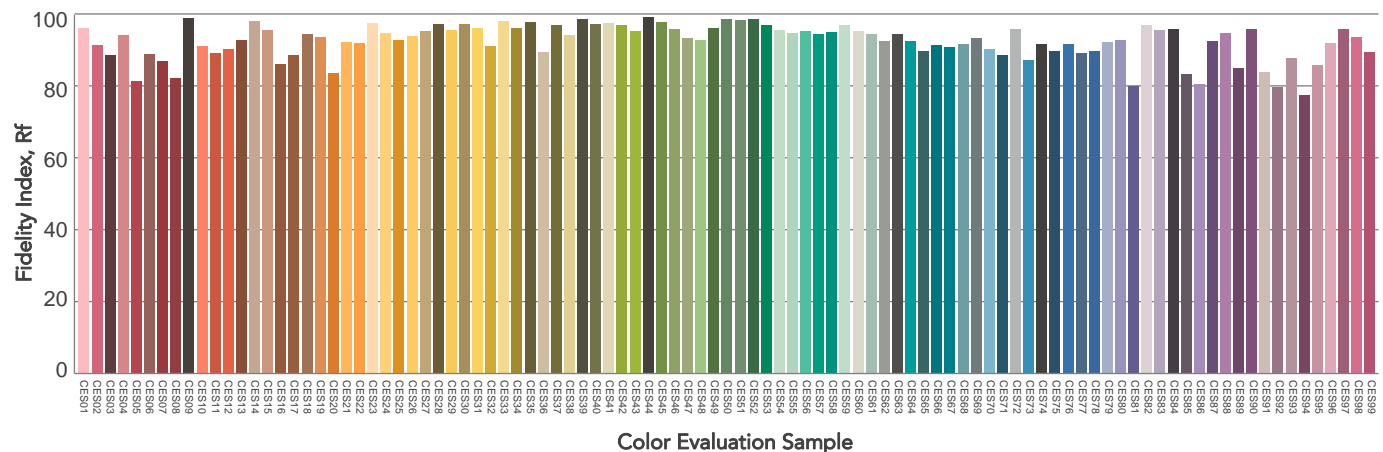
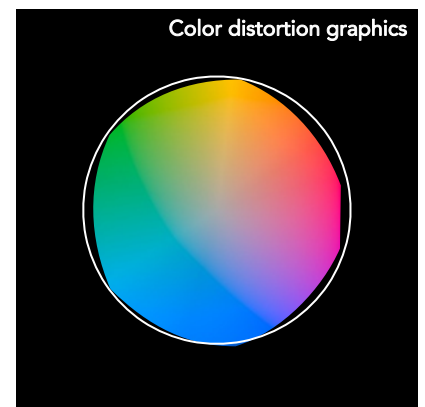
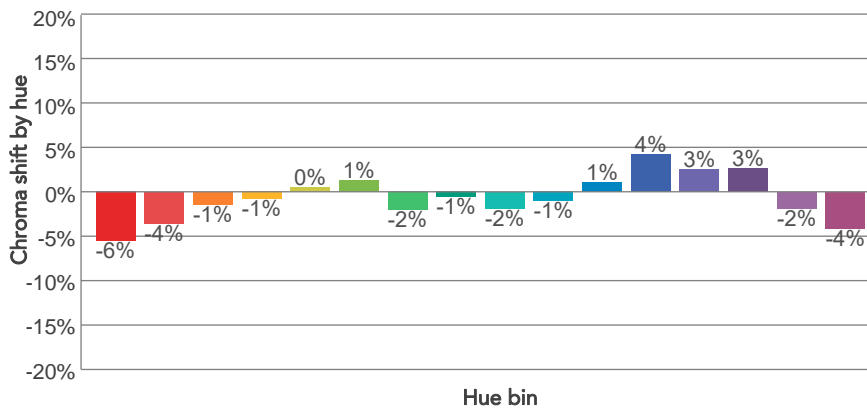
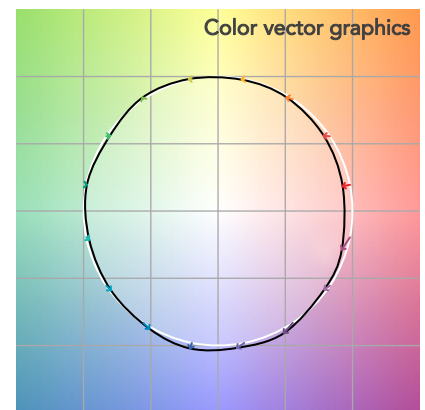
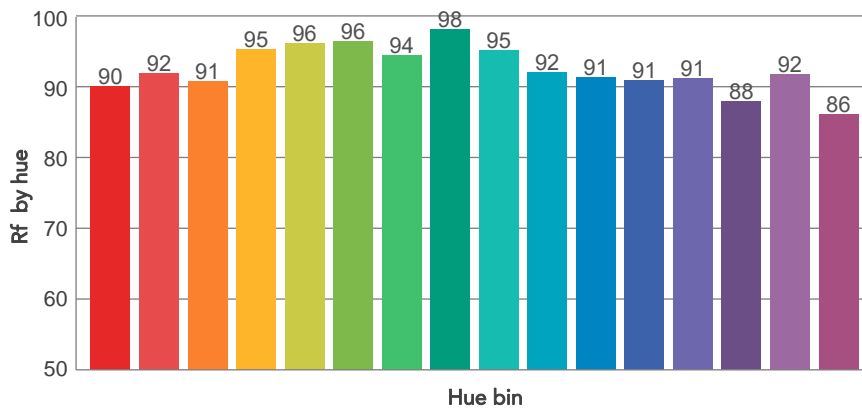
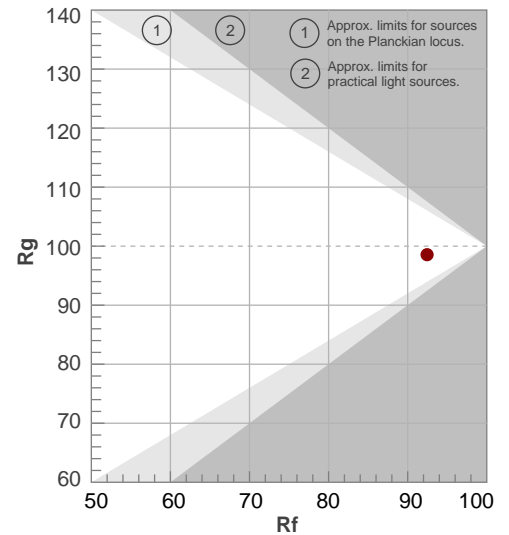
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
2981 K	92,7	53,6	92,5	98,6	91,0	89	0,438	0,404	-0,0001

TM30 DETAILS

Rf 92,5
Fidelity index Rf

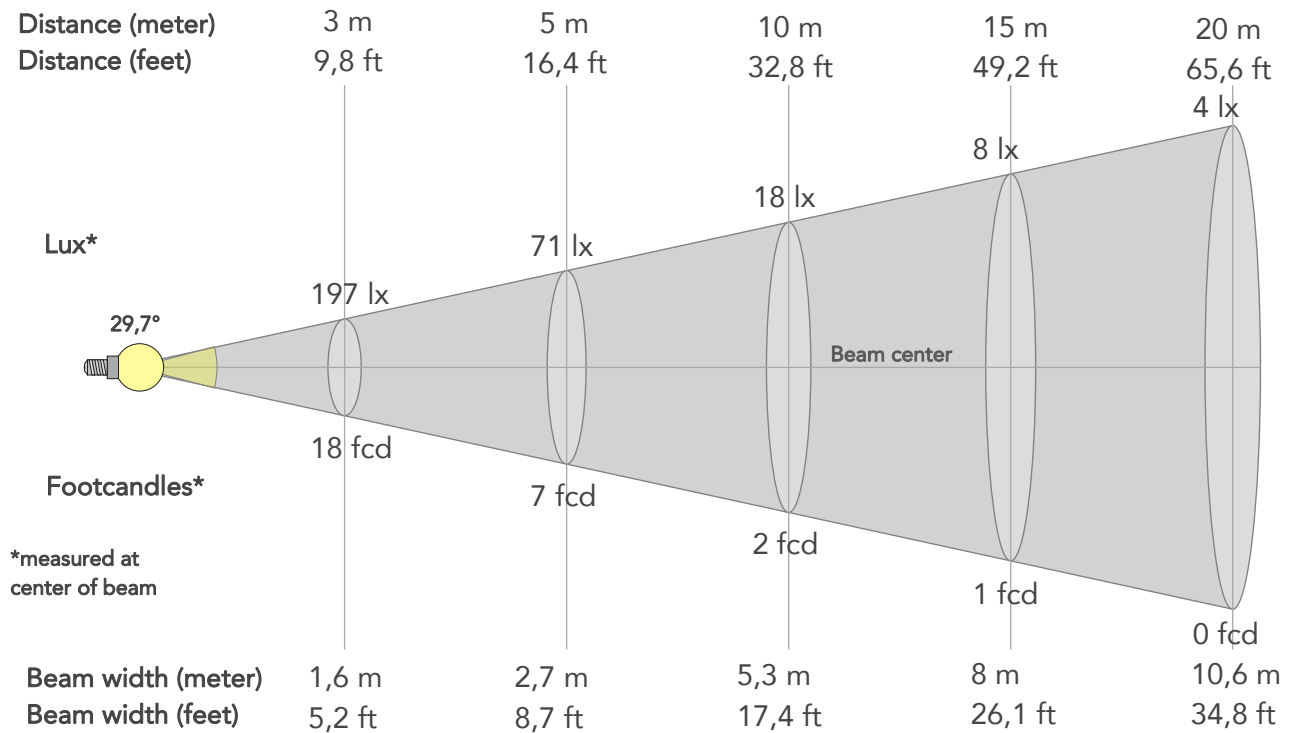
Rg 98,6
Gammut index

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	90	-6%	0%
2	92	-4%	3%
3	91	-1%	5%
4	95	-1%	2%
5	96	0%	2%
6	96	1%	0%
7	94	-2%	-2%
8	98	-1%	0%
9	95	-2%	2%
10	92	-1%	5%
11	91	1%	6%
12	91	4%	0%
13	91	3%	-6%
14	88	3%	-10%
15	92	-2%	-5%
16	86	-4%	-10%



BEAM DETAILS

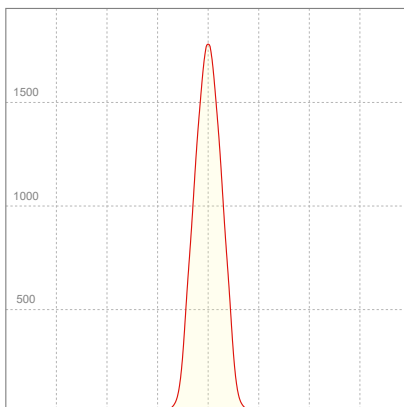
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
29,7°	48,9°	60°	100,0%	99,7%



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	1776lx	444lx	197lx	111lx	71lx	32lx	18lx	8lx	4lx	3lx	2lx	1lx	1lx
Footcand.	165fcd	41fcd	18fcd	10fcd	7fcd	3fcd	2fcd	1fcd	0fcd	0fcd	0fcd	0fcd	0fcd
Beam wid.	0,5m	1,1m	1,6m	2,1m	2,7m	4m	5,3m	8m	10,6m	13,3m	15,9m	21,2m	26,5m
Beam wid.	1,8ft	3,5ft	5,2ft	7ft	8,7ft	13,1ft	17,4ft	26,1ft	34,8ft	43,5ft	52,2ft	69,7ft	87,1ft

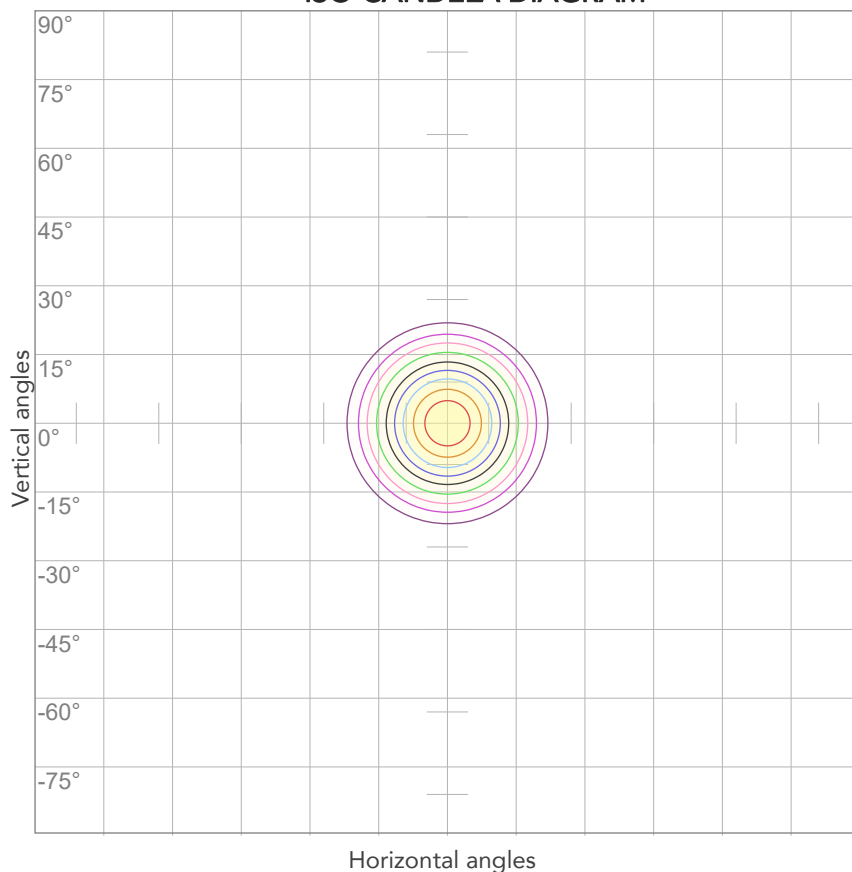
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
224V	0,211A	21,3W	23lm/W

ISO CANDELA DIAGRAM



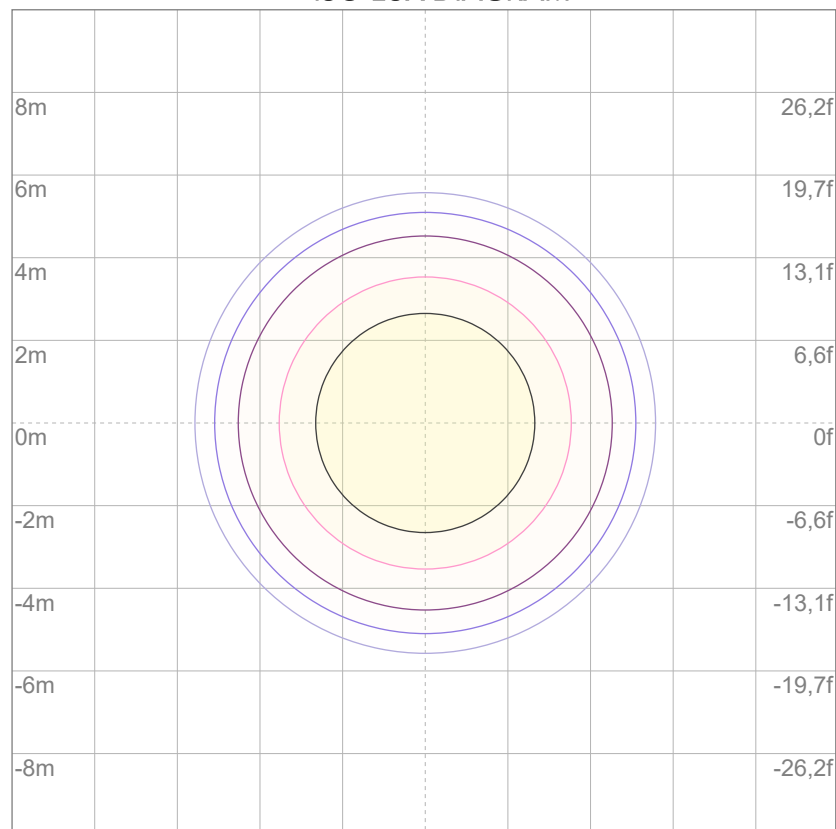
10%	178 cd
20%	355 cd
30%	533 cd
40%	711 cd
50%	888 cd
60%	1066 cd
70%	1243 cd
80%	1421 cd

Conditions:

Number of c-planes: 2

Candela at center: 1776 cd

ISO LUX DIAGRAM



3%	0,533 lx
5%	0,888 lx
10%	1,78 lx
30%	5,33 lx
50%	8,88 lx

Conditions:

Number of c-planes: 2

Lux at center: 17,8 lx

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



Total lumen output:

341 lm

Peak candela output:

4122 cd

Light quality:

CRI: 92,9

Color temperature:

2976 K

PRODUCT NAME:

MINIECL TU

MEASURAMENT CONDITIONS:

Beam angle:

1530 Wash - Min Zoom

Target:

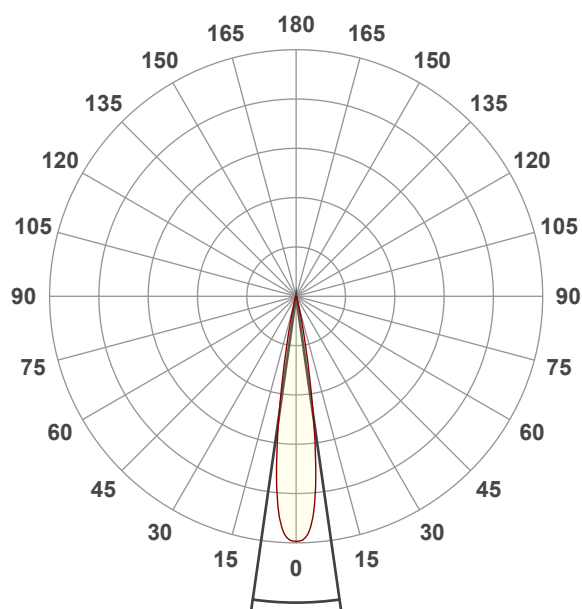
Warm White

Operator:

Paolo Carvone

Date and time:

07/07/2022 10:20:46

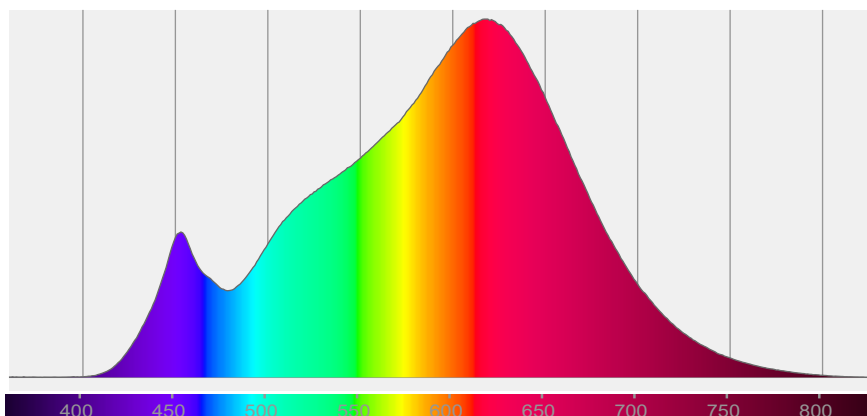


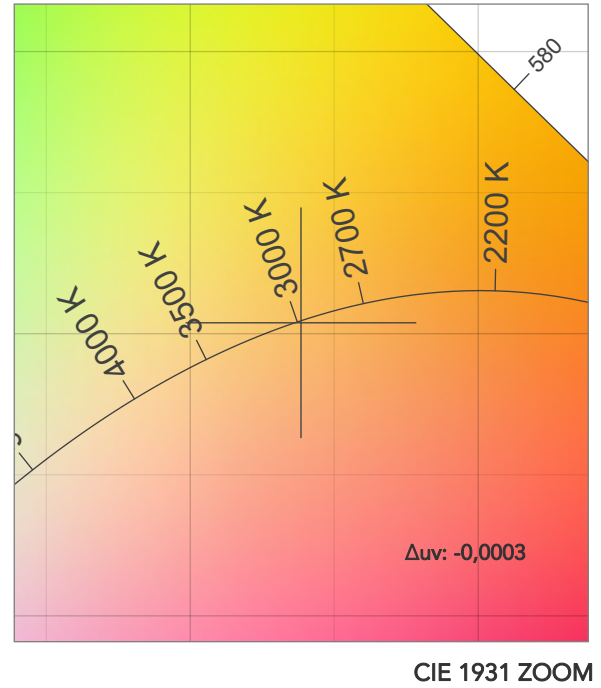
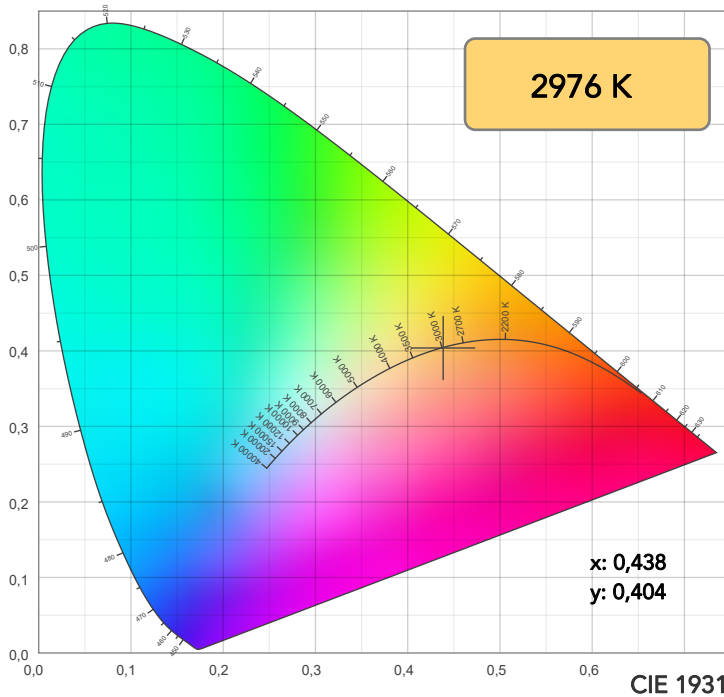
Beam angle 50%: 16,3°

Field angle 10%: 25,6°

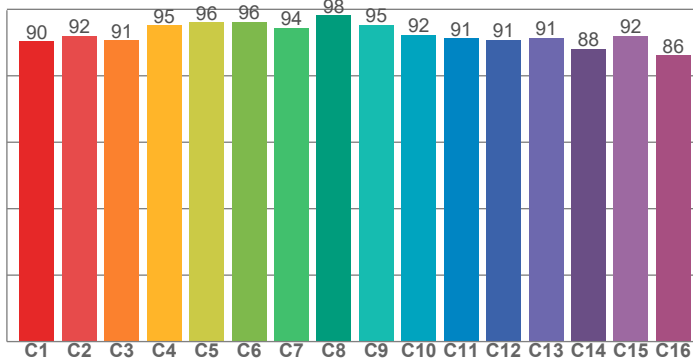
Cut off angle 2.5%: 34,7°

Spectra

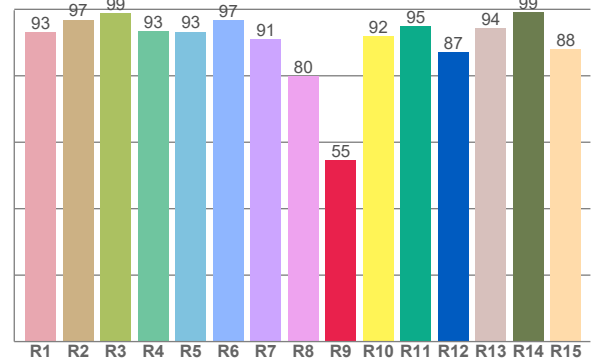




TM30: 92,5



CRI: 92,9 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
93,1	96,8	98,9	93,5	93,2	96,6	91,1	79,8	54,7	91,9	95,0	87,0	94,2	99,1	87,9

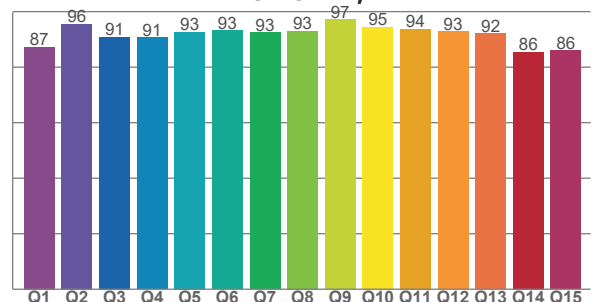
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
90,3	92,0	90,6	95,1	96,0	96,2	94,5	98,2	95,4	92,2	91,3	90,9	91,3	88,1	91,9	86,2

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
87,3	95,6	90,9	90,6	92,6	93,1	92,5	93,1	97,2	94,5	93,8	92,8	92,1	85,5	85,9

CQS: 91,1



COLOR PARAMETERS

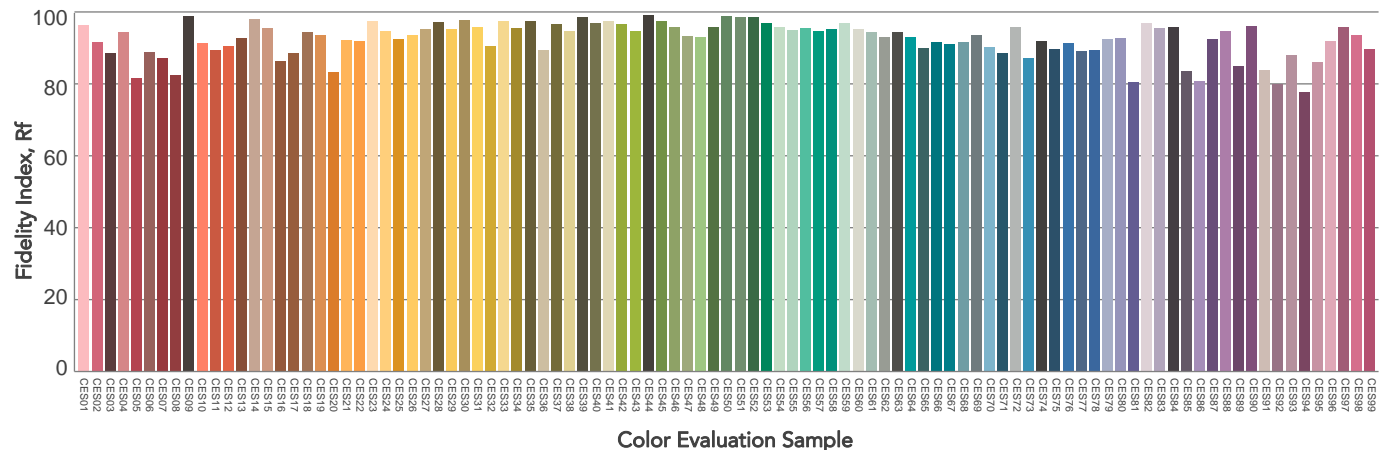
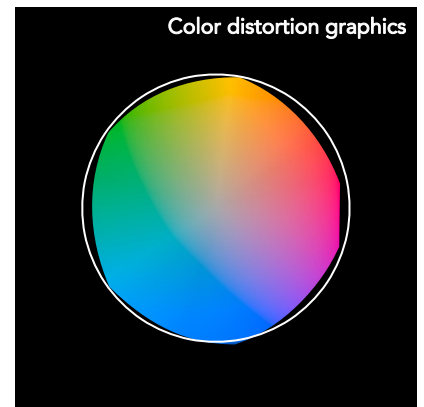
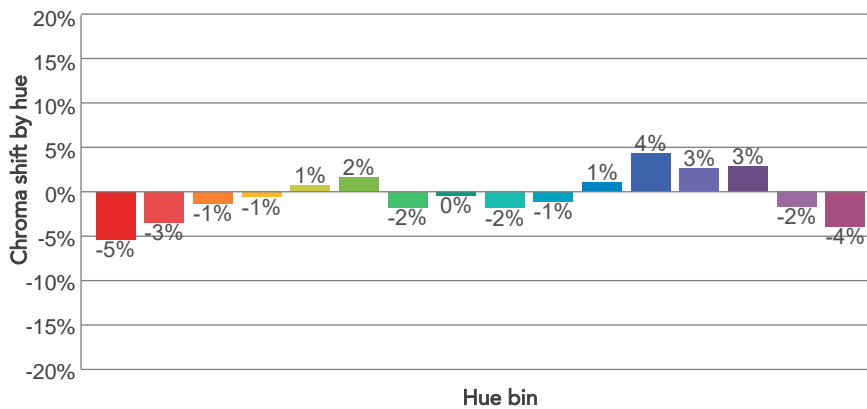
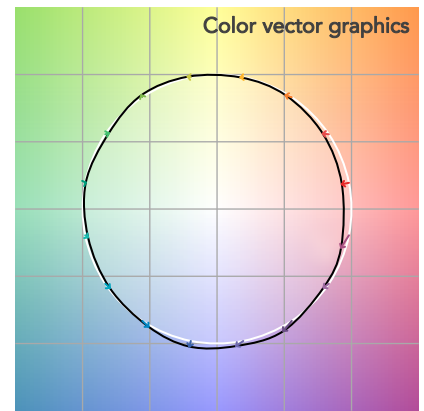
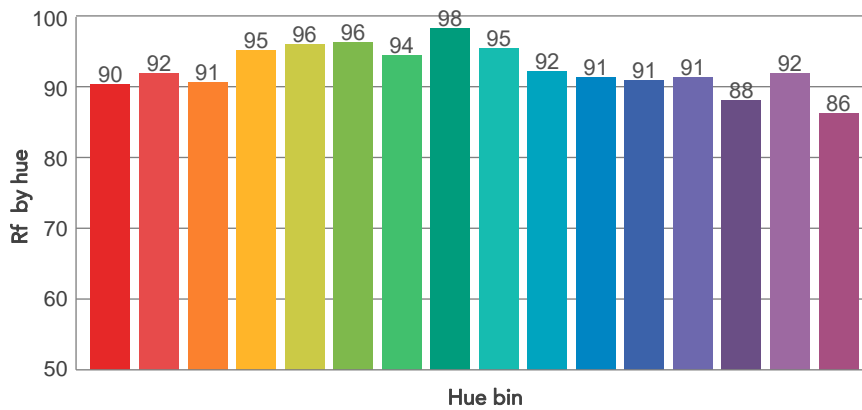
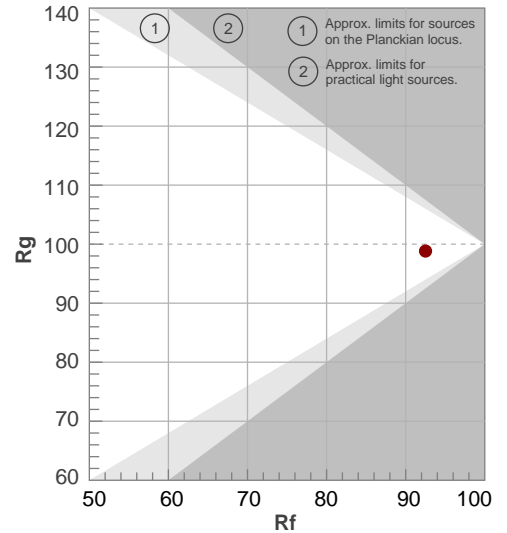
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
2976 K	92,9	54,7	92,5	98,8	91,1	90	0,438	0,404	-0,0003

TM30 DETAILS

Rf 92,5
Fidelity index Rf

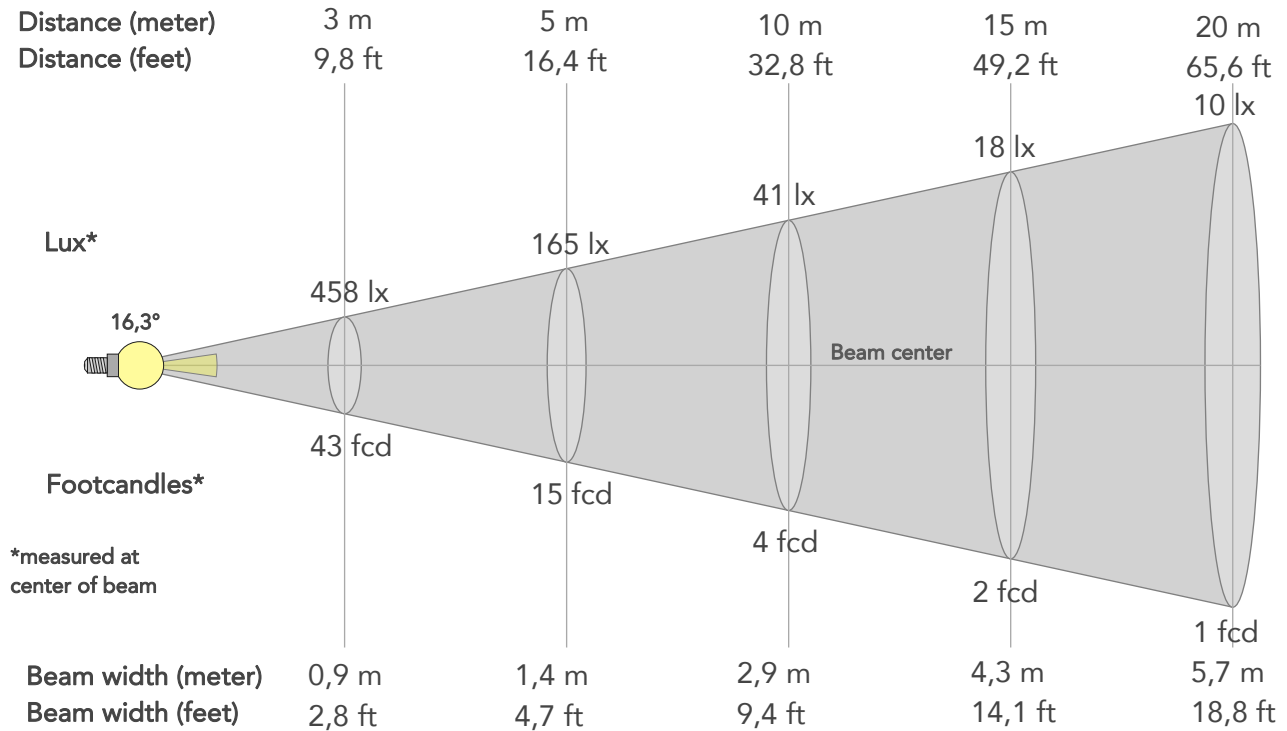
Rg 98,8
Gammut index

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	90	-5%	0%
2	92	-3%	3%
3	91	-1%	5%
4	95	-1%	2%
5	96	1%	2%
6	96	2%	0%
7	94	-2%	-2%
8	98	0%	0%
9	95	-2%	2%
10	92	-1%	5%
11	91	1%	6%
12	91	4%	0%
13	91	3%	-6%
14	88	3%	-9%
15	92	-2%	-5%
16	86	-4%	-10%



BEAM DETAILS

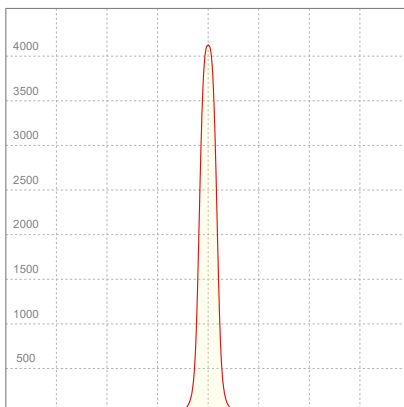
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
16,3°	25,6°	34,7°	100,0%	100,0%



BEAM INTENSITIES AND WIDTHS

Distance	1m	2m	3m	4m	5m	7,5m	10m	15m	20m	25m	30m	40m	50m
Distance	3,3ft	6,6ft	9,8ft	13,1ft	16,4ft	24,6ft	32,8ft	49,2ft	65,6ft	82ft	98,4ft	131,2ft	164ft
Lux	4122lx	1031lx	458lx	258lx	165lx	73lx	41lx	18lx	10lx	7lx	5lx	3lx	2lx
Footcand.	383fcd	96fcd	43fcd	24fcd	15fcd	7fcd	4fcd	2fcd	1fcd	1fcd	0fcd	0fcd	0fcd
Beam wid.	0,3m	0,6m	0,9m	1,1m	1,4m	2,1m	2,9m	4,3m	5,7m	7,2m	8,6m	11,5m	14,3m
Beam wid.	0,9ft	1,9ft	2,8ft	3,8ft	4,7ft	7ft	9,4ft	14,1ft	18,8ft	23,5ft	28,2ft	37,6ft	46,9ft

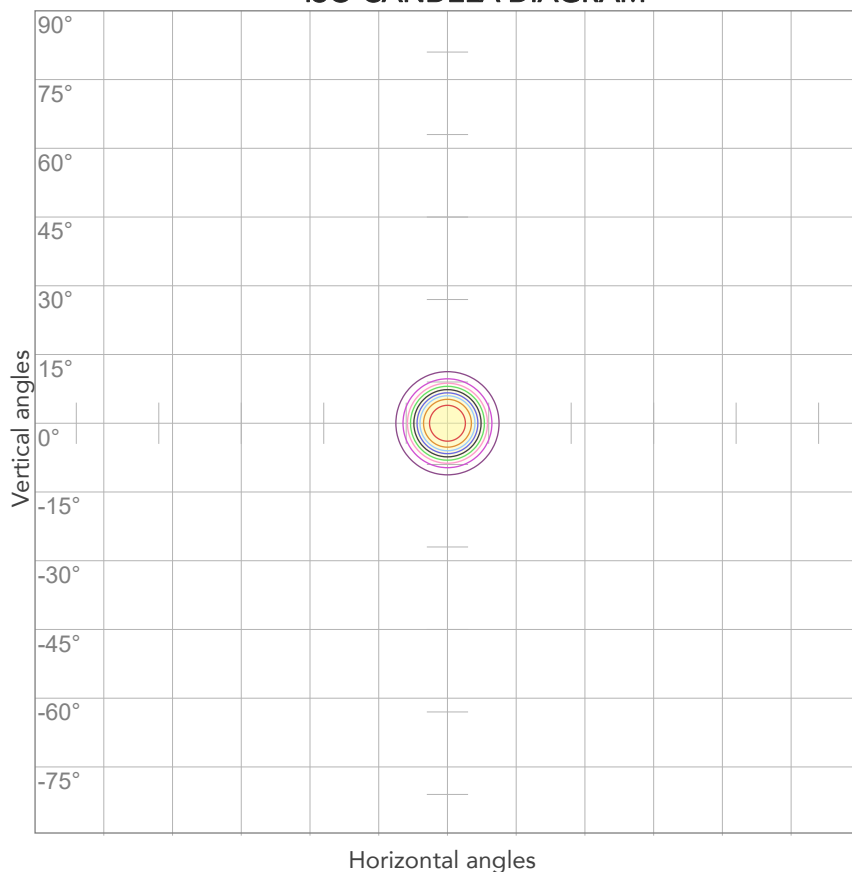
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
224V	0,213A	21,5W	16lm/W

ISO CANDELA DIAGRAM



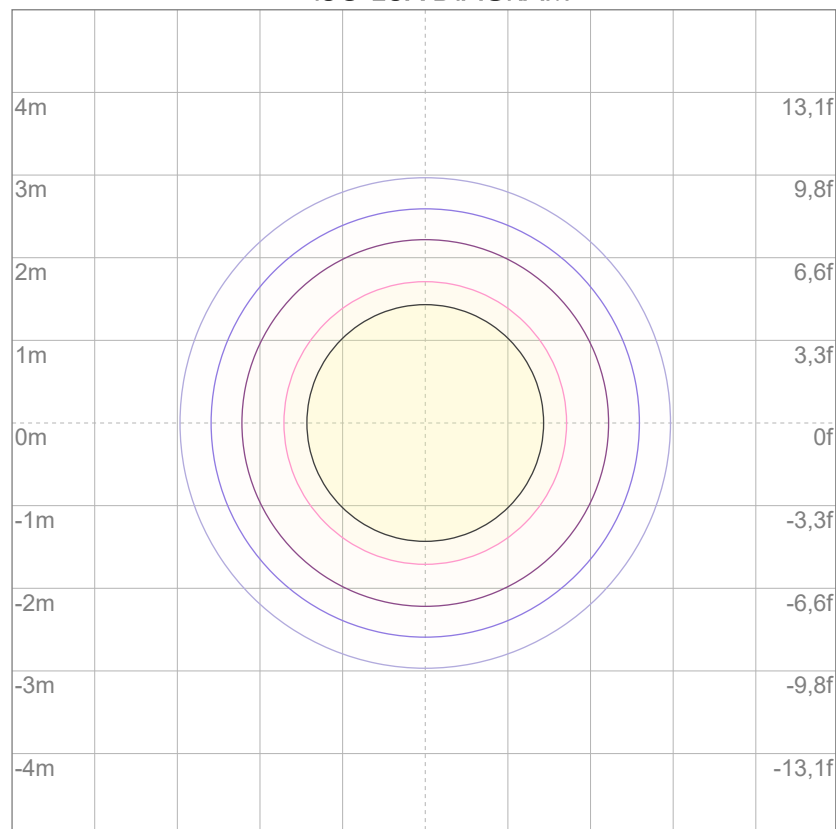
10%	412 cd
20%	824 cd
30%	1237 cd
40%	1649 cd
50%	2061 cd
60%	2473 cd
70%	2886 cd
80%	3298 cd

Conditions:

Number of c-planes: 2

Candela at center: 4122 cd

ISO LUX DIAGRAM



3%	1,24 lx
5%	2,06 lx
10%	4,12 lx
30%	12,4 lx
50%	20,6 lx

Conditions:

Number of c-planes: 2

Lux at center: 41,2 lx

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



Total lumen output:

518 lm

Peak candela output:

670 cd

Light quality:

CRI: 93,0

Color temperature:

2986 K

PRODUCT NAME:

MINIECL TU

MEASURAMENT CONDITIONS:

Beam angle:

2550 Wash - Max Zoom

Target:

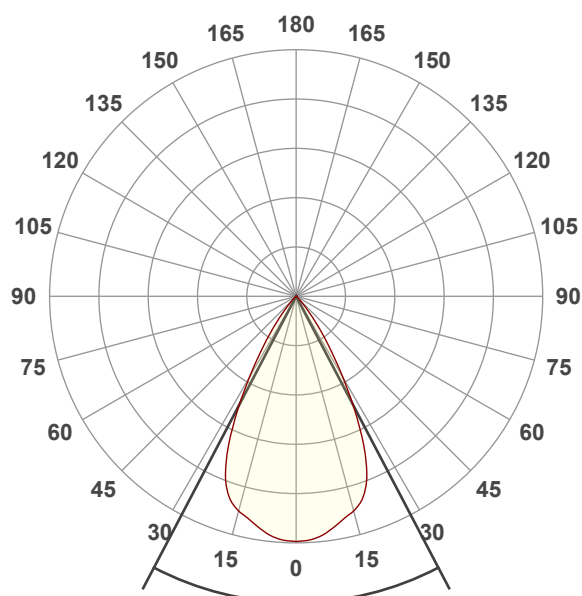
Warm White

Operator:

Paolo Carvone

Date and time:

07/07/2022 10:33:47

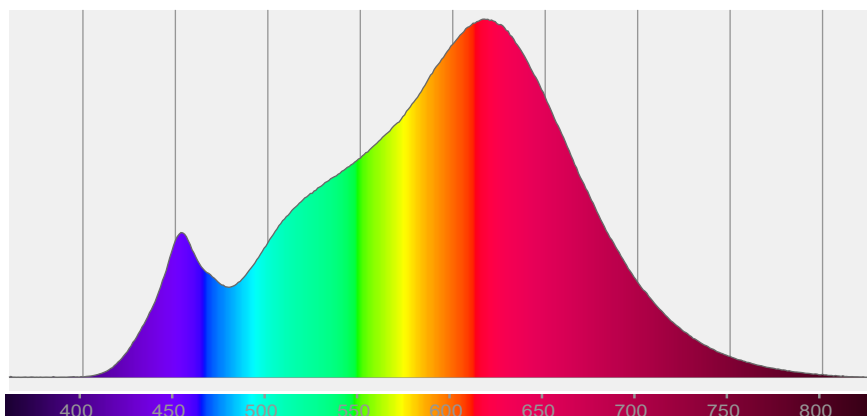


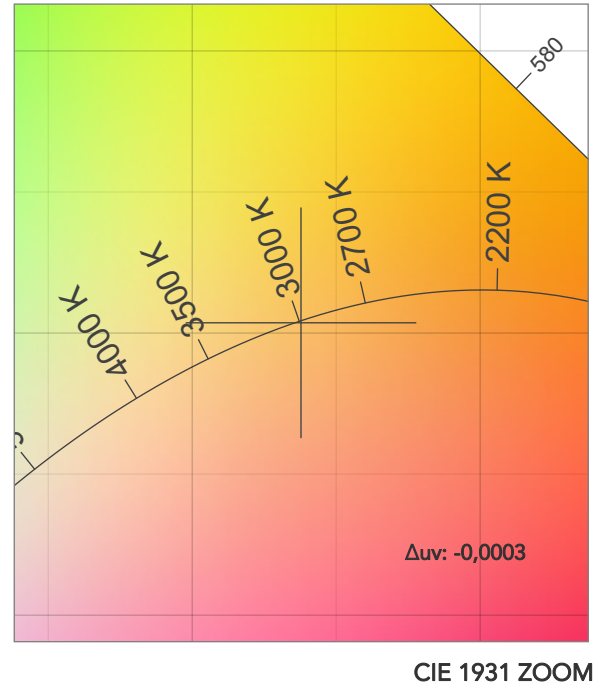
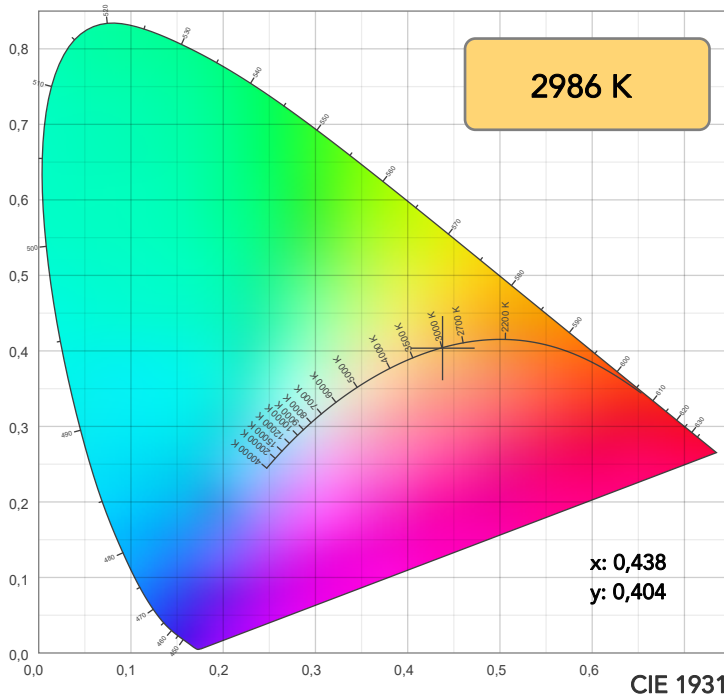
Beam angle 50%: 55,3°

Field angle 10%: 76,8°

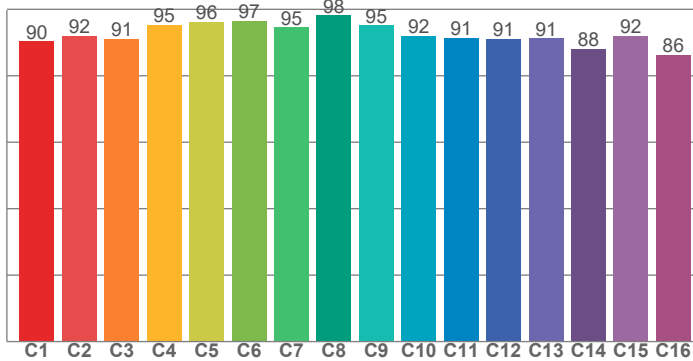
Cut off angle 2.5%: 88,8°

Spectra

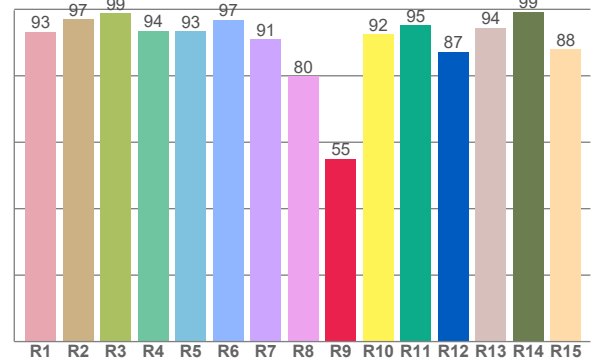




TM30: 92,6



CRI: 93,0 (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
93,3	97,1	98,9	93,6	93,4	96,8	91,0	79,9	55,0	92,5	95,1	87,3	94,5	99,3	88,1

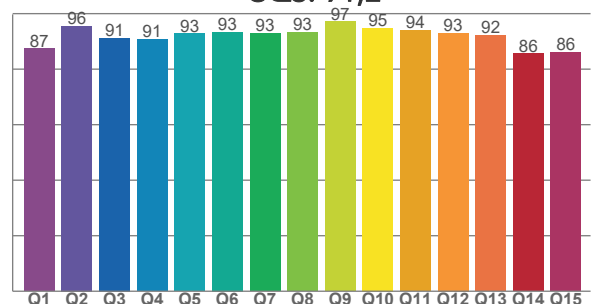
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
90,3	92,1	91,1	95,4	96,2	96,5	94,6	98,1	95,2	92,1	91,5	91,0	91,3	88,2	92,0	86,2

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
87,4	95,5	91,3	90,8	92,7	93,4	92,9	93,3	97,1	94,8	94,0	93,0	92,2	85,6	86,1

CQS: 91,2



COLOR PARAMETERS

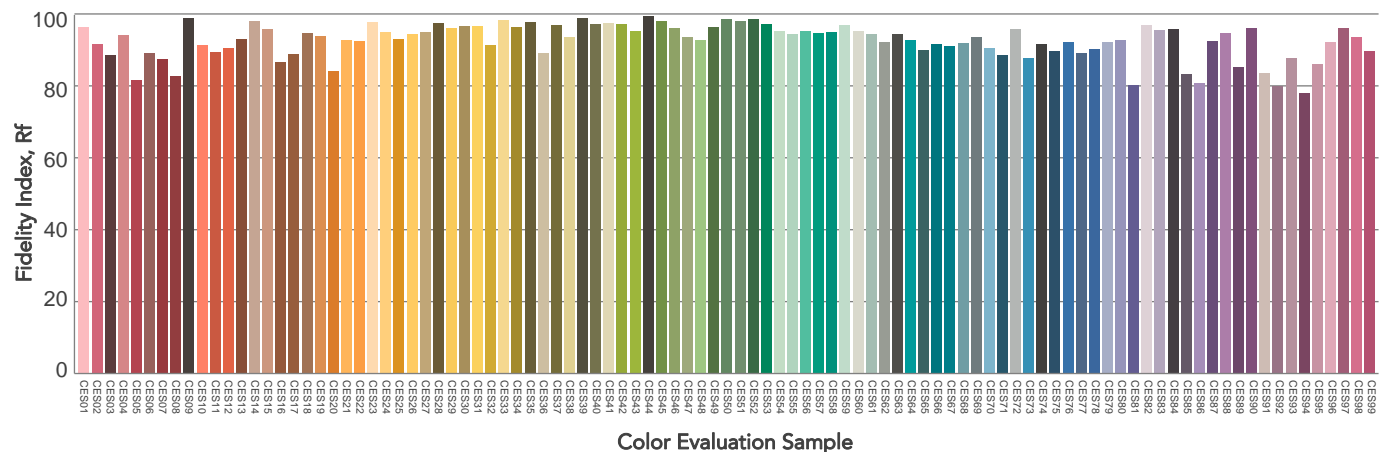
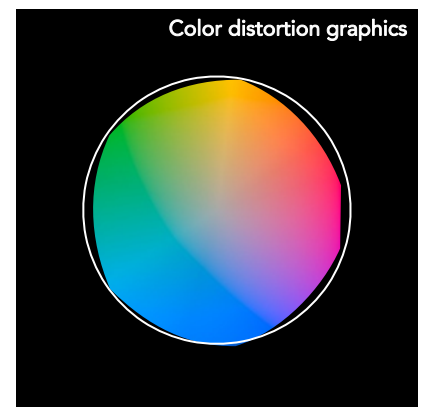
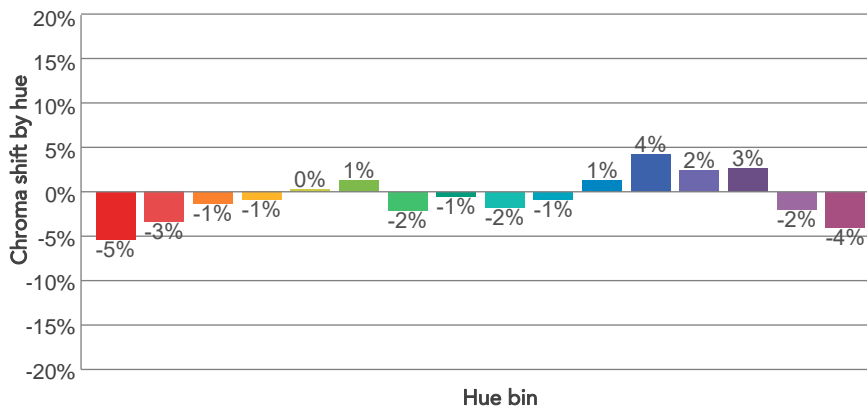
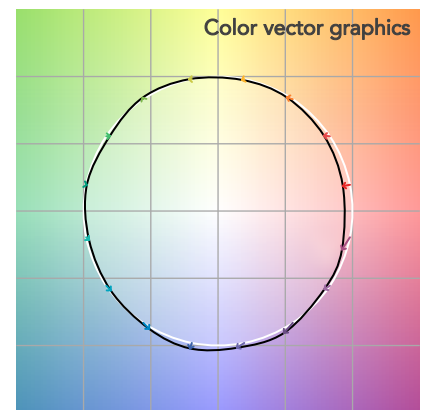
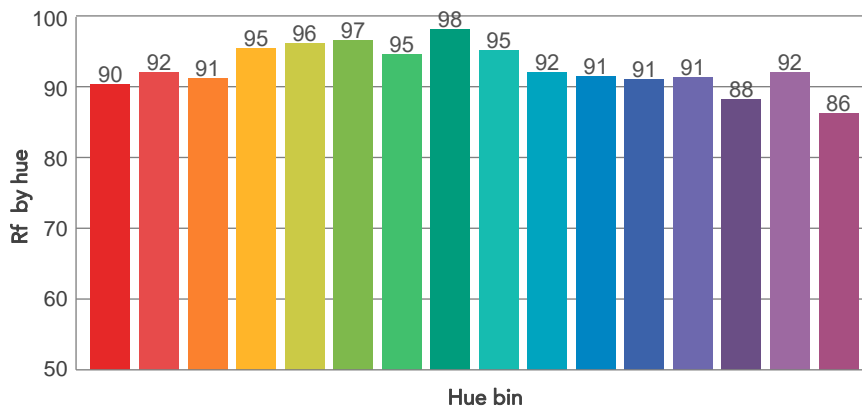
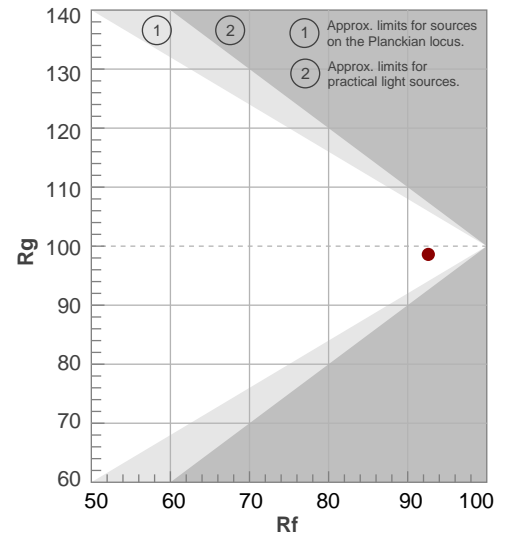
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
2986 K	93,0	55,0	92,6	98,6	91,2	90	0,438	0,404	-0,0003

TM30 DETAILS

Rf 92,6
Fidelity index Rf

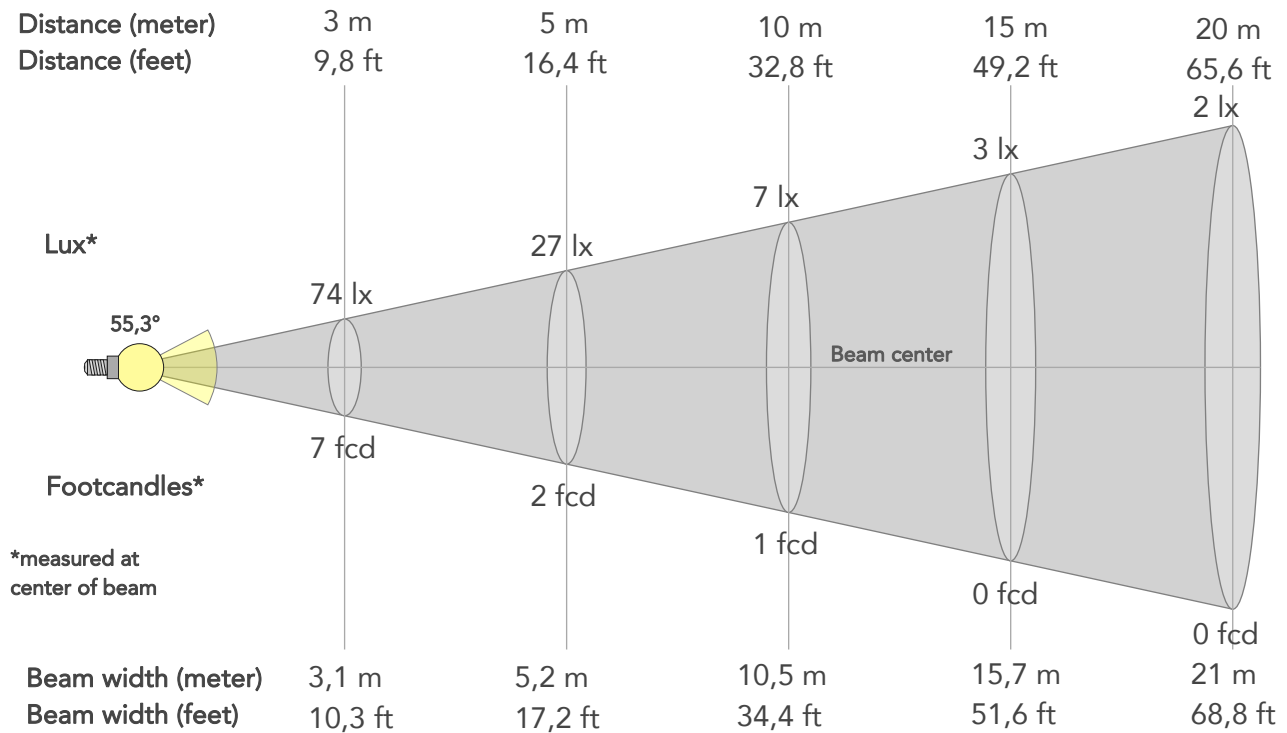
Rg 98,6
Gammut index

		Graphic shifts (%)	
Hue Bin	R _f	Chroma	Hue
1	90	-5%	0%
2	92	-3%	3%
3	91	-1%	4%
4	95	-1%	2%
5	96	0%	2%
6	97	1%	0%
7	95	-2%	-2%
8	98	-1%	0%
9	95	-2%	2%
10	92	-1%	5%
11	91	1%	6%
12	91	4%	0%
13	91	2%	-6%
14	88	3%	-9%
15	92	-2%	-4%
16	86	-4%	-10%



BEAM DETAILS

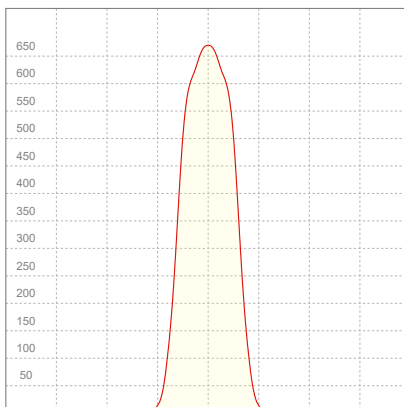
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
55,3°	76,8°	88,8°	100,0%	99,0%



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	670lx	167lx	74lx	42lx	27lx	12lx	7lx	3lx	2lx	1lx	1lx	0lx	0lx
Footcand.	62fcd	16fcd	7fcd	4fcd	2fcd	1fcd	1fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd
Beam wid.	1m	2,1m	3,1m	4,2m	5,2m	7,9m	10,5m	15,7m	21m	26,2m	31,4m	41,9m	52,4m
Beam wid.	3,5ft	6,9ft	10,3ft	13,7ft	17,2ft	25,8ft	34,4ft	51,6ft	68,8ft	86ft	103,1ft	137,5ft	171,9ft

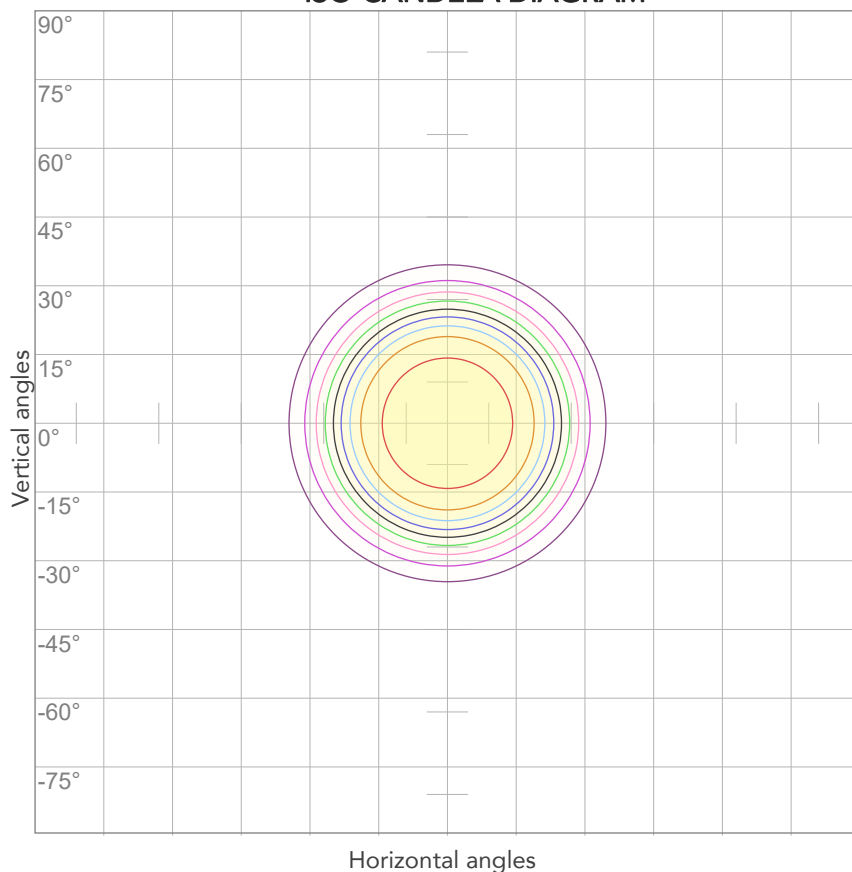
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
224V	0,209A	21,1W	25lm/W

ISO CANDELA DIAGRAM



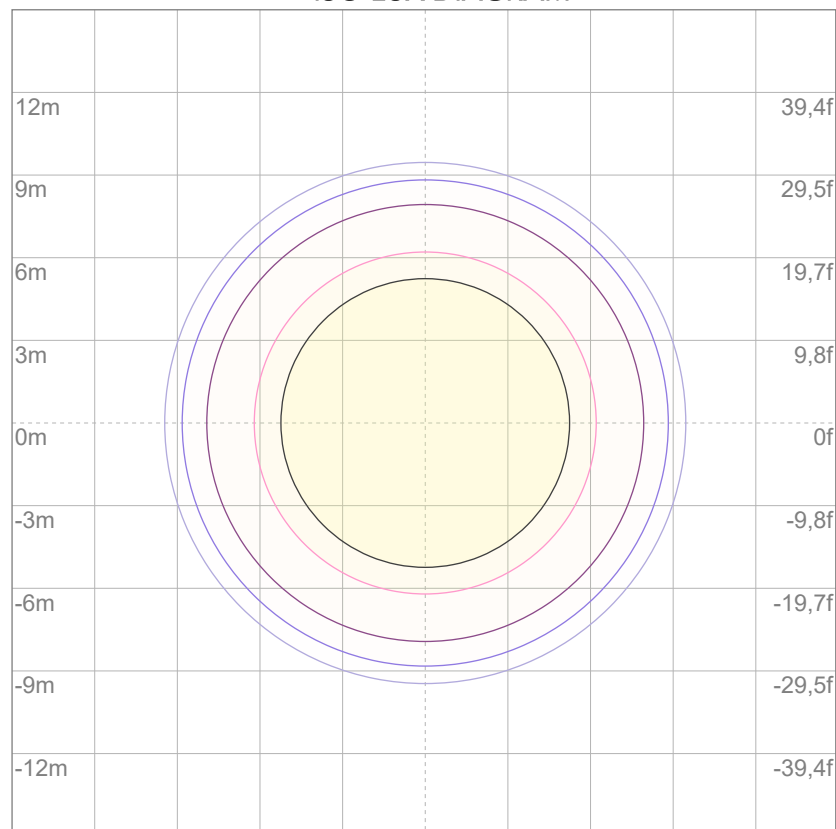
10%	67 cd
20%	134 cd
30%	201 cd
40%	268 cd
50%	335 cd
60%	402 cd
70%	469 cd
80%	536 cd

Conditions:

Number of c-planes: 2

Candela at center: 670 cd

ISO LUX DIAGRAM



3%	0,201 lx
5%	0,335 lx
10%	0,670 lx
30%	2,01 lx
50%	3,35 lx

Conditions:

Number of c-planes: 2

Lux at center: 6,70 lx

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



Total lumen output:

280 lm

Peak candela output:

1979 cd

Light quality:

CRI: 93,3

Color temperature:

2979 K

PRODUCT NAME:

MINIECL TU

MEASURAMENT CONDITIONS:

Beam angle:

2550 Wash - Min Zoom

Target:

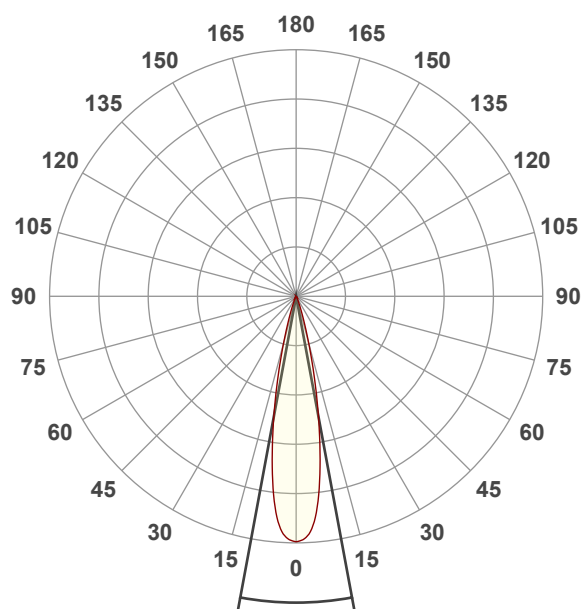
Warm White

Operator:

Paolo Carvone

Date and time:

07/07/2022 10:29:28

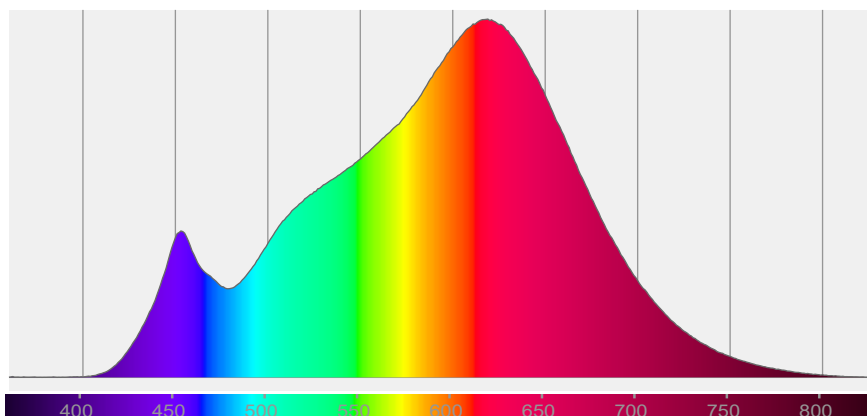


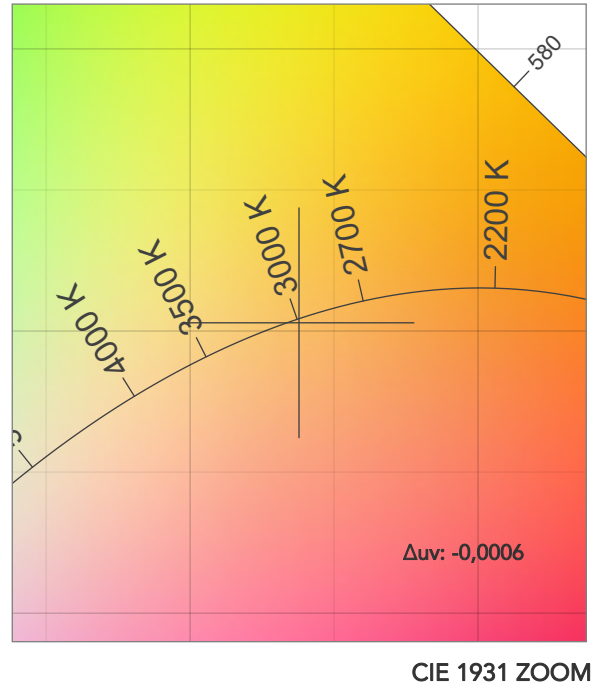
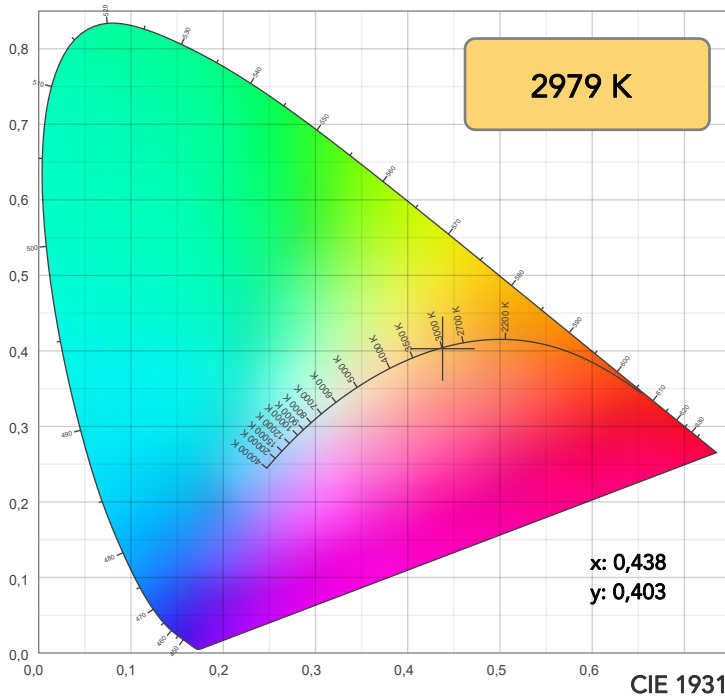
Beam angle 50%: 21°

Field angle 10%: 35,3°

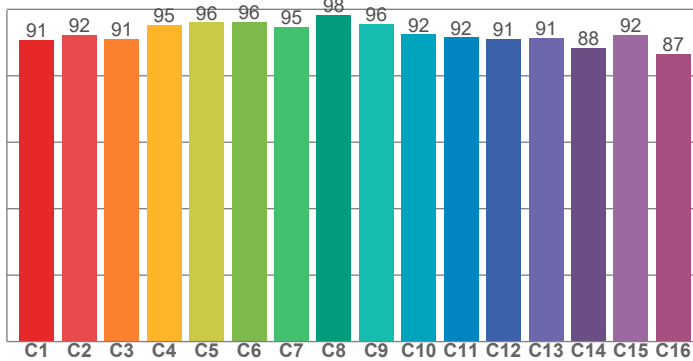
Cut off angle 2.5%: 45,6°

Spectra

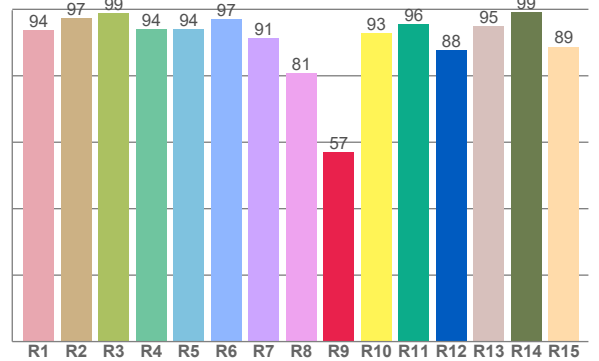




TM30: 92,8



CRI: 93,3 (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
93,8	97,3	98,9	94,0	93,9	96,9	91,3	80,7	56,9	92,9	95,6	87,7	94,9	99,1	88,7

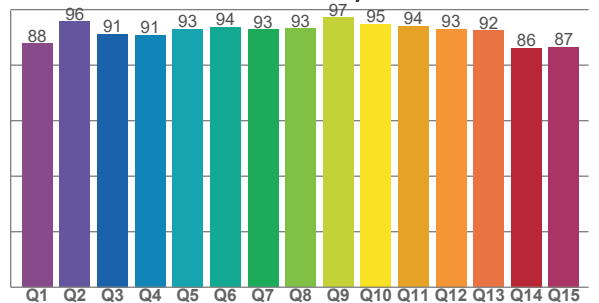
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
90,8	92,4	91,1	95,3	96,1	96,3	94,7	98,3	95,6	92,5	91,6	91,0	91,4	88,4	92,3	86,5

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
87,7	95,7	91,2	90,9	93,1	93,6	92,8	93,2	97,2	94,7	94,0	93,0	92,4	86,2	86,5

CQS: 91,4



COLOR PARAMETERS

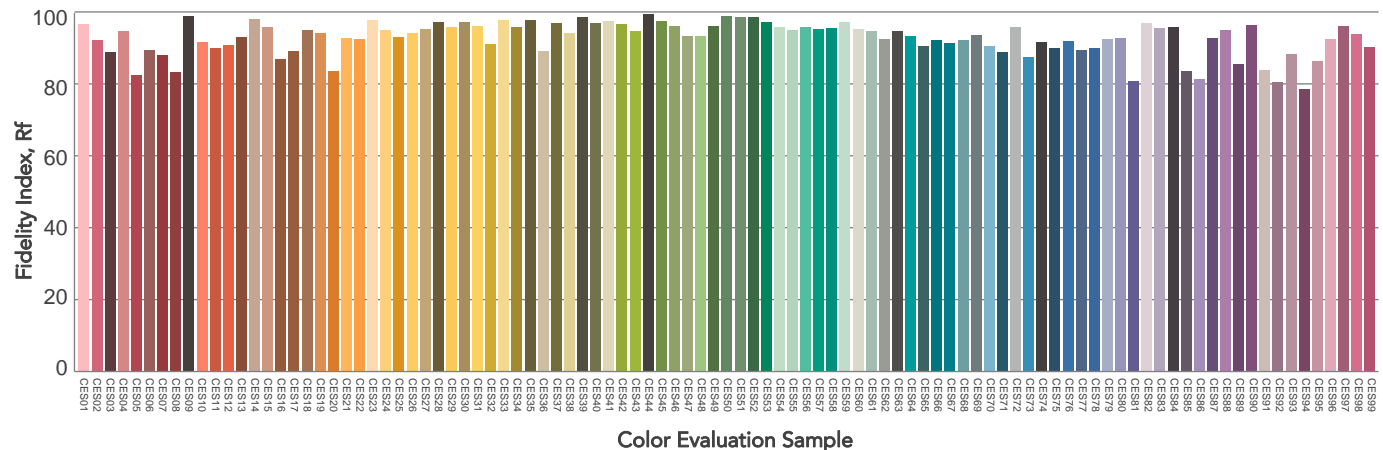
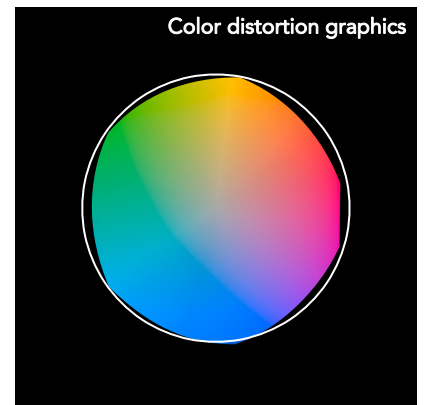
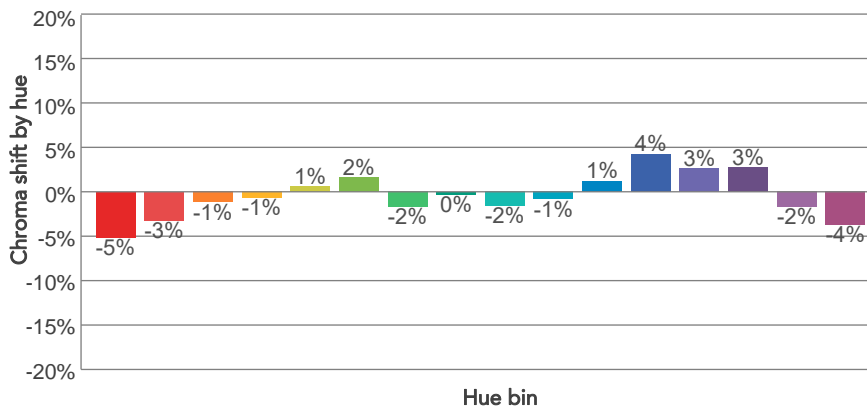
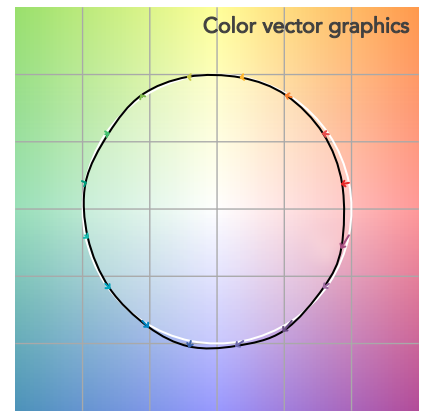
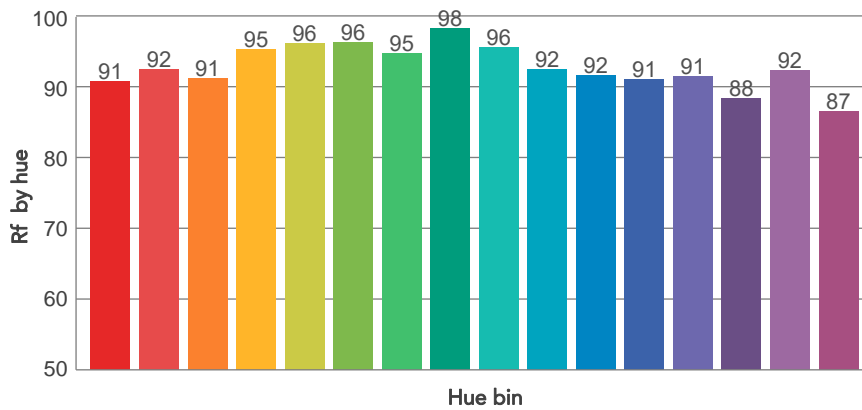
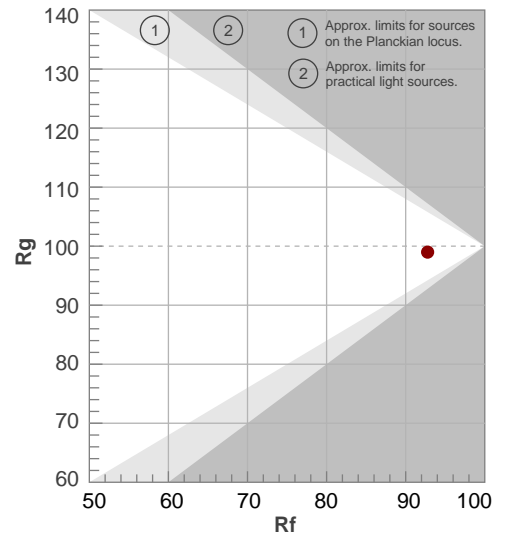
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
2979 K	93,3	56,9	92,8	99,0	91,4	90	0,438	0,403	-0,0006

TM30 DETAILS

Rf 92,8
Fidelity index Rf

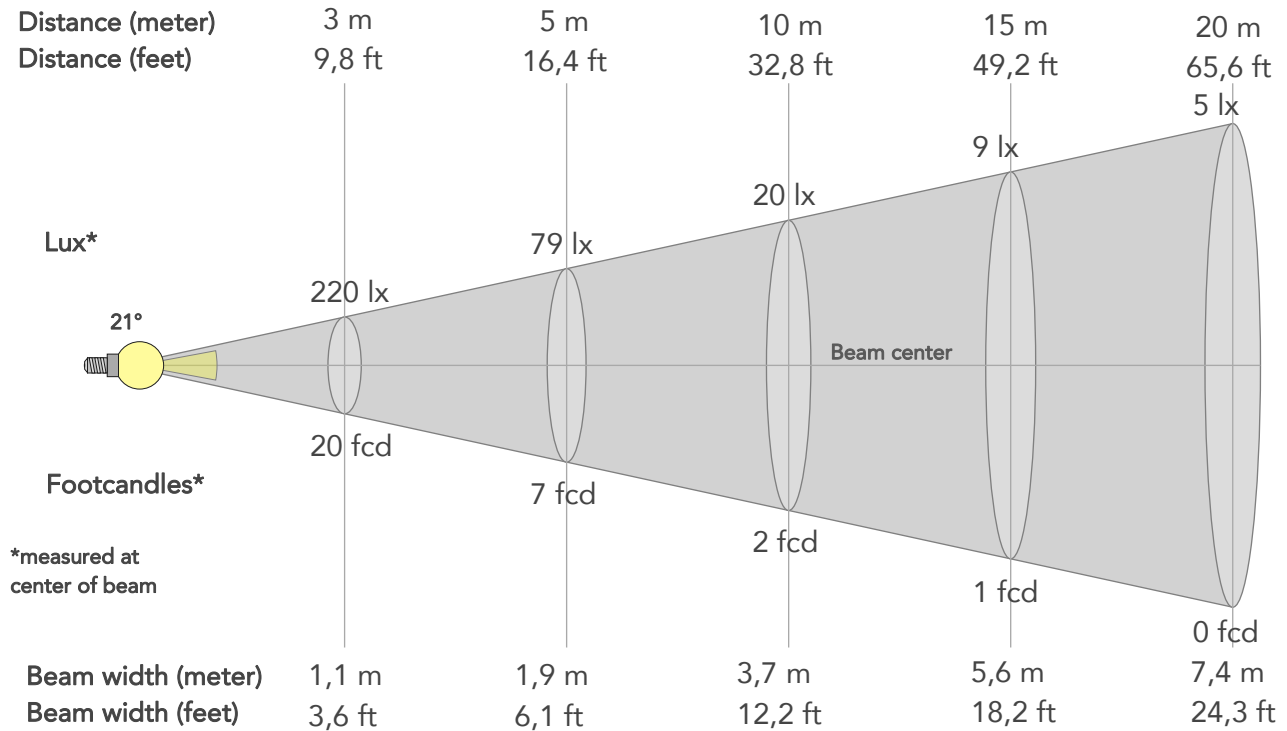
Rg 99,0
Gammut index

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	91	-5%	0%
2	92	-3%	3%
3	91	-1%	4%
4	95	-1%	2%
5	96	1%	2%
6	96	2%	0%
7	95	-2%	-2%
8	98	0%	0%
9	96	-2%	2%
10	92	-1%	4%
11	92	1%	6%
12	91	4%	0%
13	91	3%	-6%
14	88	3%	-9%
15	92	-2%	-4%
16	87	-4%	-10%



BEAM DETAILS

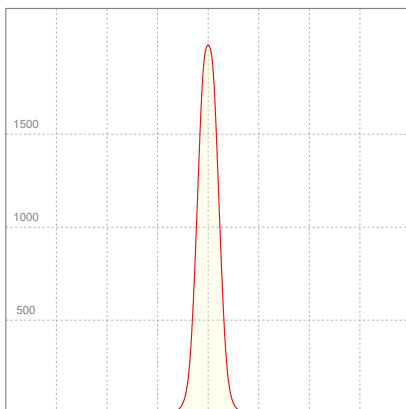
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
21°	35,3°	45,6°	100,0%	100,0%



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	1979lx	495lx	220lx	124lx	79lx	35lx	20lx	9lx	5lx	3lx	2lx	1lx	1lx
Footcand.	184fcd	46fcd	20fcd	11fcd	7fcd	3fcd	2fcd	1fcd	0fcd	0fcd	0fcd	0fcd	0fcd
Beam wid.	0,4m	0,7m	1,1m	1,5m	1,9m	2,8m	3,7m	5,6m	7,4m	9,3m	11,1m	14,8m	18,5m
Beam wid.	1,2ft	2,4ft	3,6ft	4,9ft	6,1ft	9,1ft	12,2ft	18,2ft	24,3ft	30,4ft	36,5ft	48,7ft	60,8ft

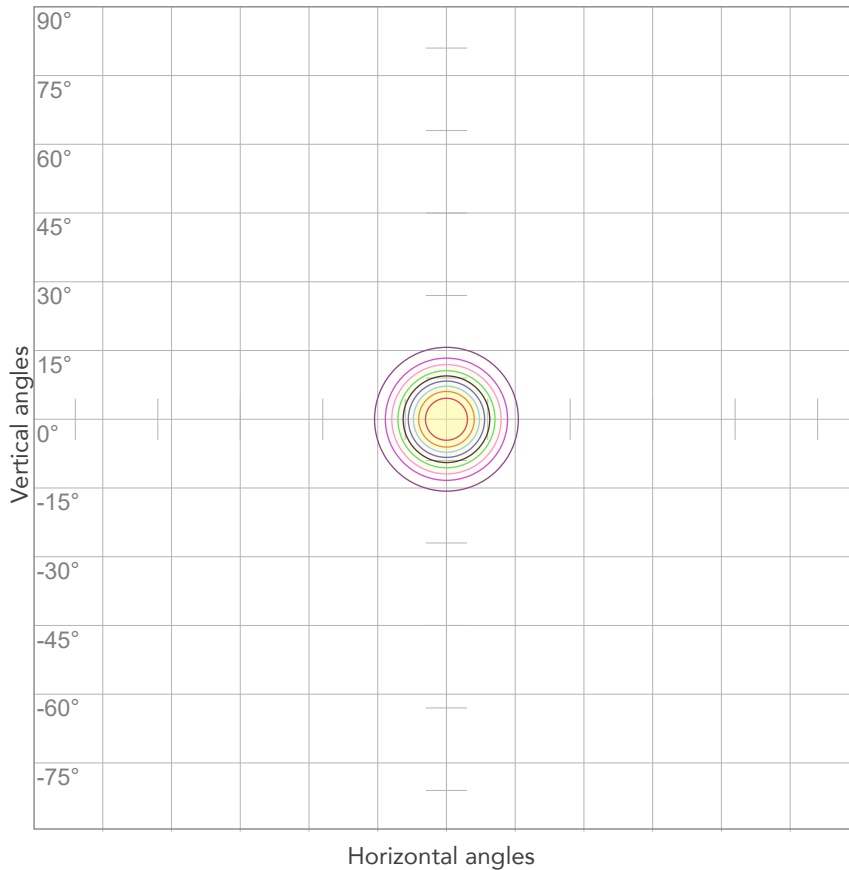
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
224V	0,214A	21,3W	13lm/W

ISO CANDELA DIAGRAM



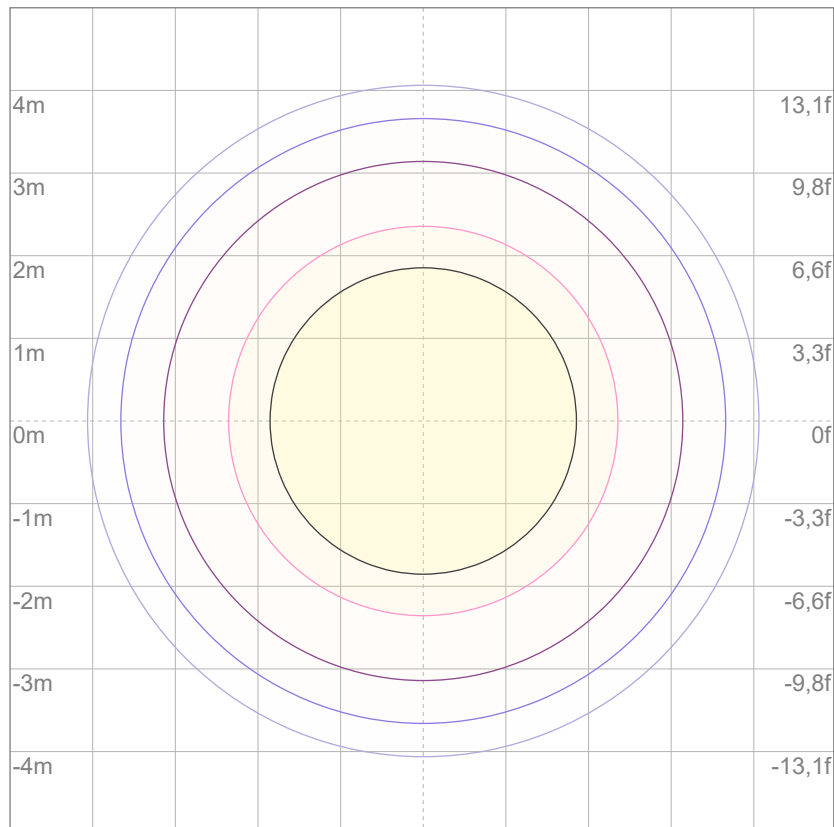
10%	198 cd
20%	396 cd
30%	594 cd
40%	791 cd
50%	989 cd
60%	1187 cd
70%	1385 cd
80%	1583 cd

Conditions:

Number of c-planes: 2

Candela at center: 1979 cd

ISO LUX DIAGRAM



3%	0,594 lx
5%	0,989 lx
10%	1,98 lx
30%	5,94 lx
50%	9,89 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.