

# Photometric Test Report



## Mosaico

250 W IP66 zoomable LED image projector  
with animation wheel

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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:

11667 lm

Peak candela output:

35227 cd

Light quality:

CRI: 77,3

Color temperature:

8688 K

## PRODUCT NAME:

Mosaico

## MEASUREMENT CONDITIONS:

Beam angle:

Max Zoom

Target:

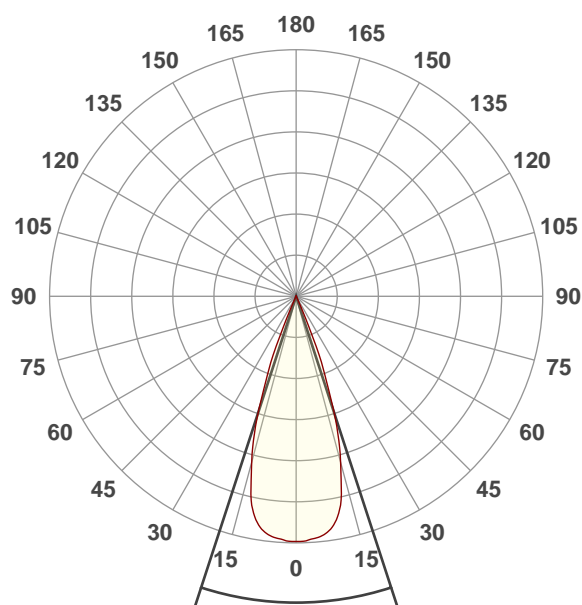
Full on

Operator:

Paolo Carvone

Date and time:

22/01/2020 12:51:23

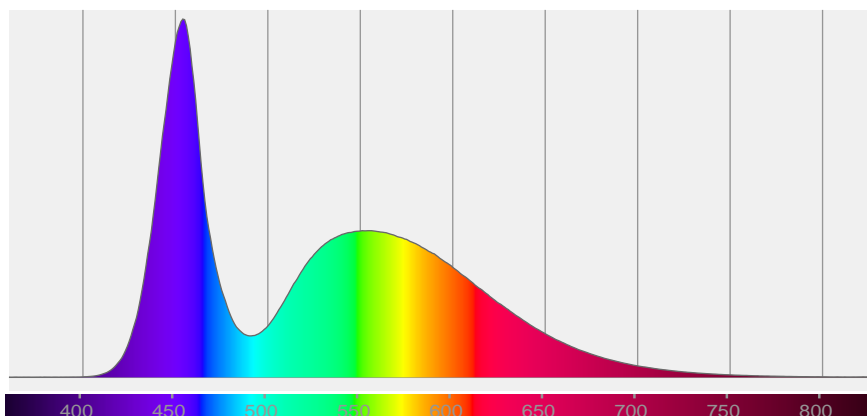


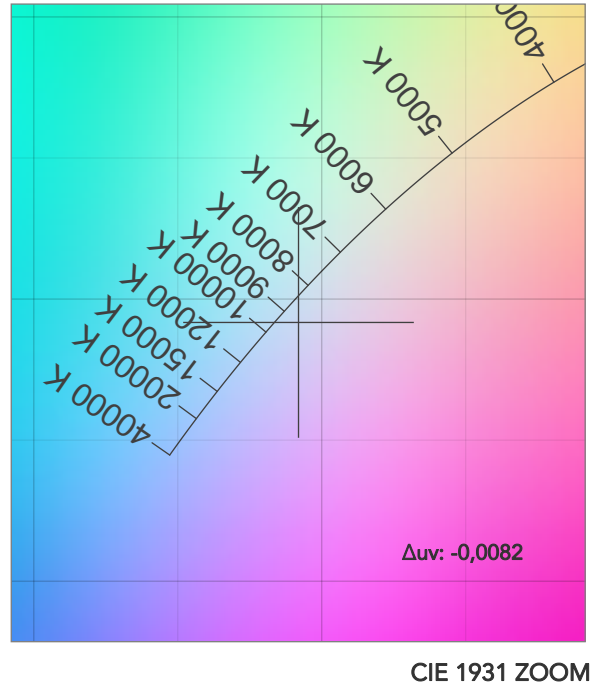
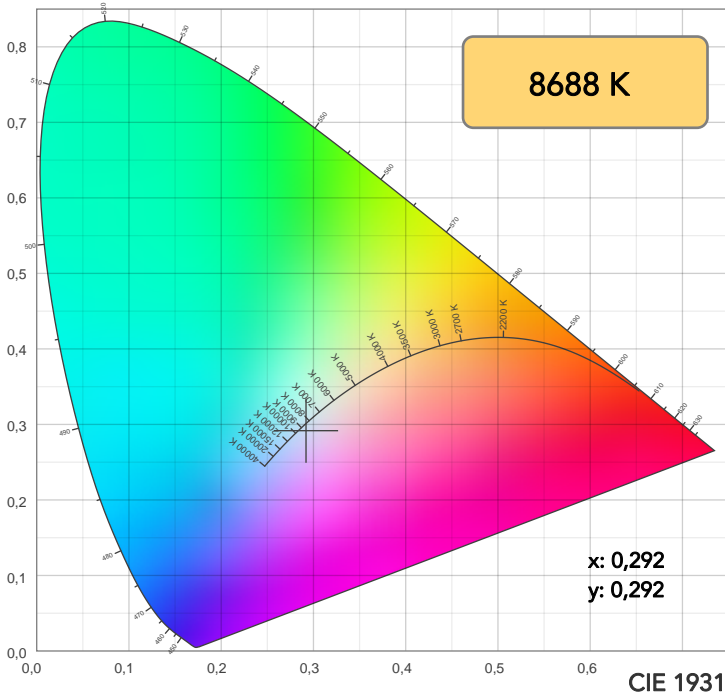
Beam angle 50%: 36,1°

Field angle 10%: 46,4°

Cut off angle 2.5%: 49,7°

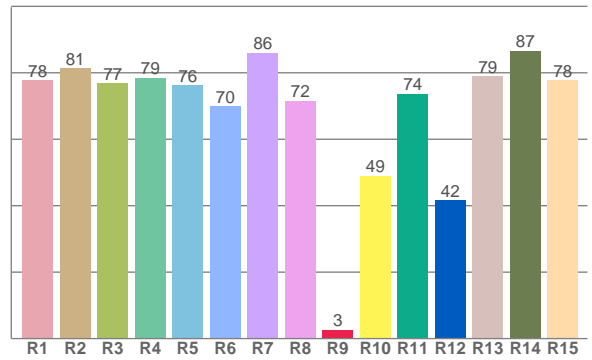
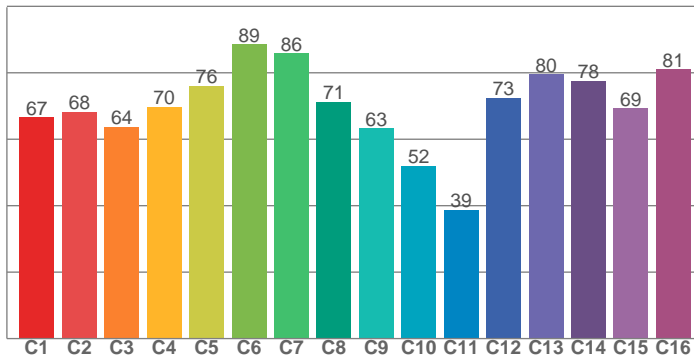
## Spectra





TM30: 70,2

CRI: 77,3 (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
77,8	81,4	76,8	78,5	76,2	69,8	86,0	71,6	2,6	49,0	73,6	41,7	79,0	86,6	77,7

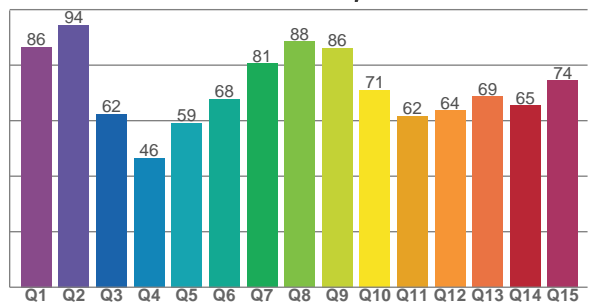
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
66,6	68,3	63,7	69,8	76,0	88,5	85,8	71,3	63,3	52,0	38,7	72,5	79,6	77,5	69,3	81,1

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
86,5	94,4	62,4	46,5	59,1	67,8	80,6	88,5	86,1	71,1	61,6	63,6	68,7	65,4	74,4

CQS: 69,0



COLOR PARAMETERS

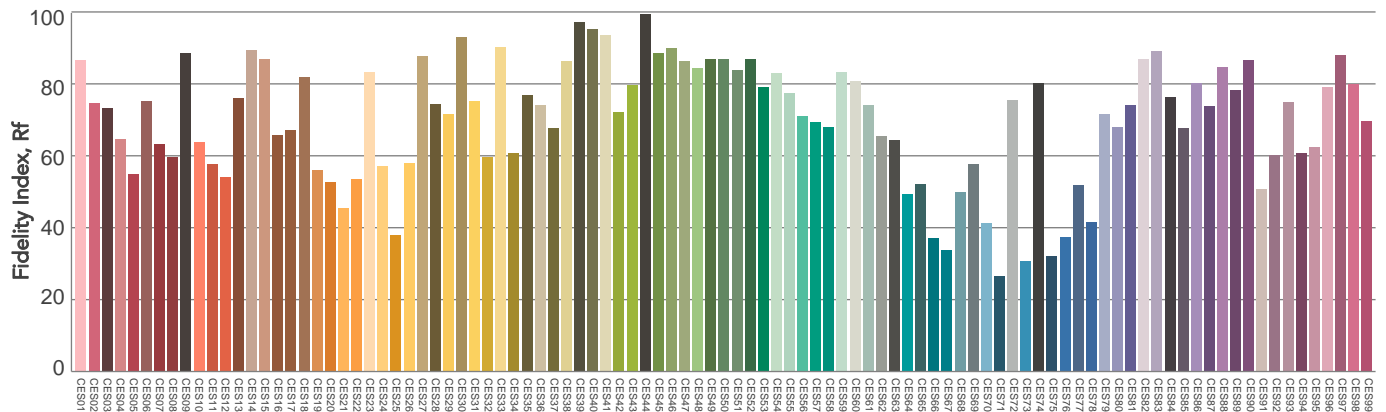
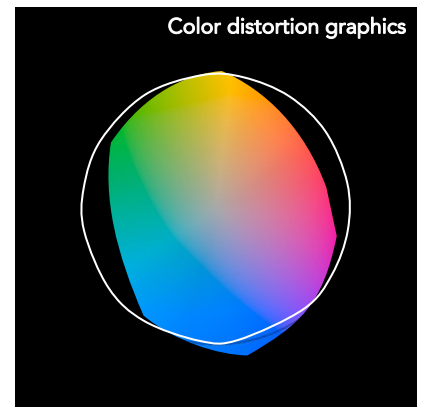
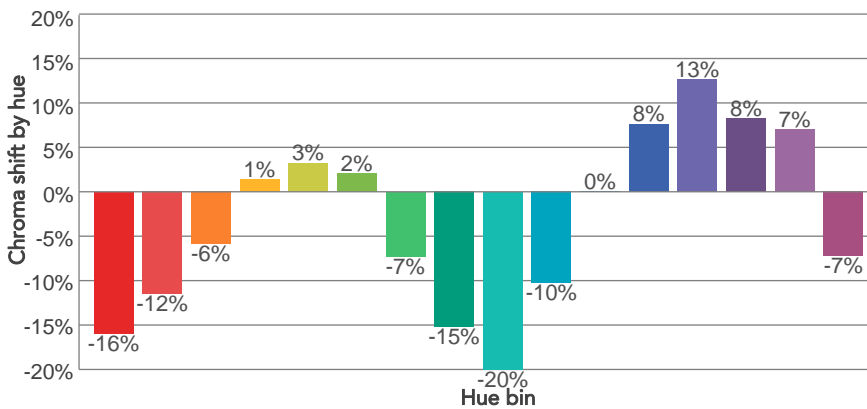
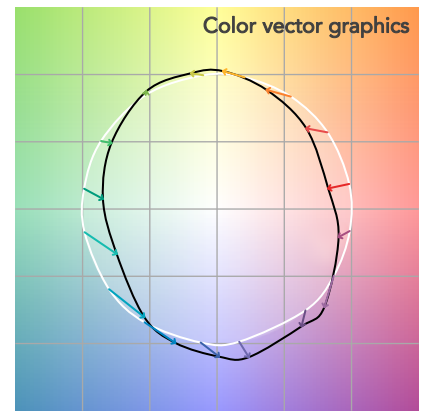
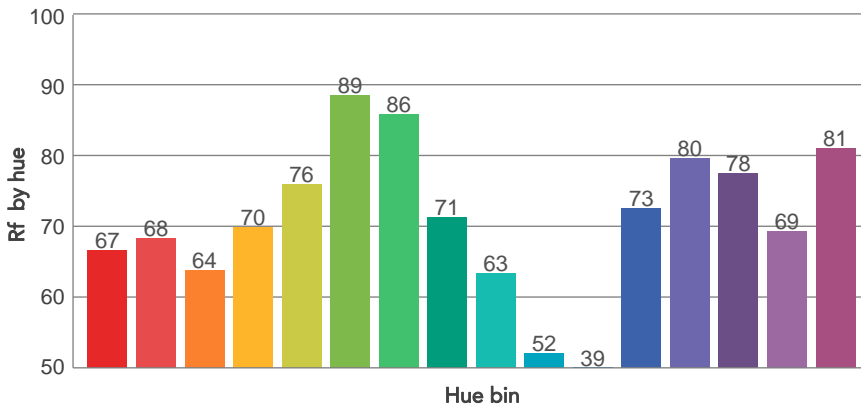
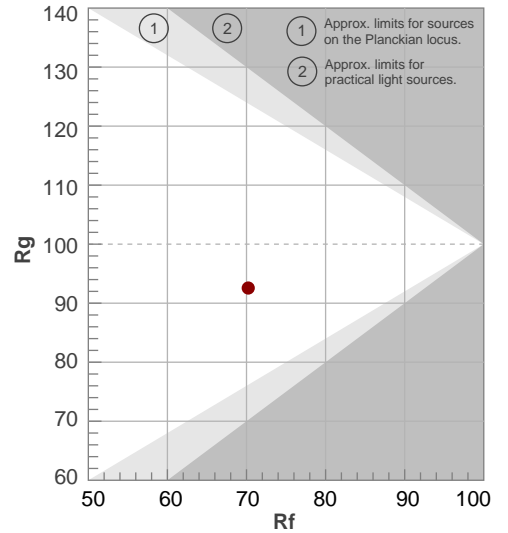
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
8688 K	77,3	2,6	70,2	92,6	69,0	47	0,292	0,292	-0,0082

# TM30 DETAILS

**Rf 70,2**  
Fidelity index Rf

**Rg 92,6**  
Gammut index

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	67	-16%	0%
2	68	-12%	11%
3	64	-6%	18%
4	70	1%	17%
5	76	3%	9%
6	89	2%	-2%
7	86	-7%	-3%
8	71	-15%	5%
9	63	-20%	21%
10	52	-10%	32%
11	39	0%	28%
12	73	8%	15%
13	80	13%	5%
14	78	8%	-9%
15	69	7%	-23%
16	81	-7%	-6%

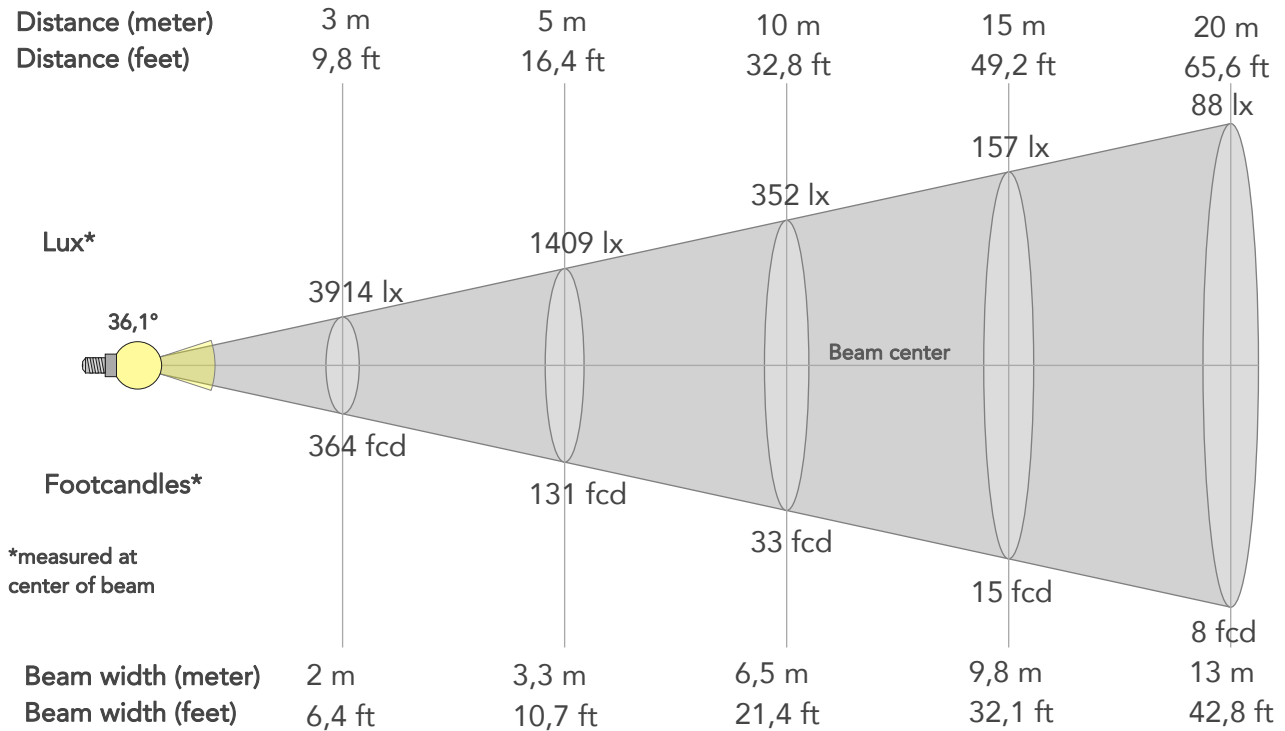


Color Evaluation Sample

# BEAM DETAILS



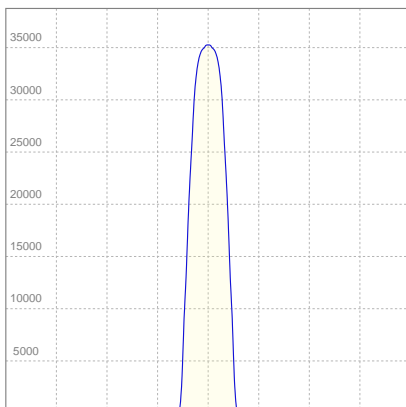
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
36,1°	46,4°	49,7°	95,2%	94,8%



## 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	35227lx	8807lx	3914lx	2202lx	1409lx	626lx	352lx	157lx	88lx	56lx	39lx	22lx	14lx
Footcand.	3273fcd	818fcd	364fcd	205fcd	131fcd	58fcd	33fcd	15fcd	8fcd	5fcd	4fcd	2fcd	1fcd
Beam wid.	0,7m	1,3m	2m	2,6m	3,3m	4,9m	6,5m	9,8m	13m	16,3m	19,6m	26,1m	32,6m
Beam wid.	2,2ft	4,3ft	6,4ft	8,5ft	10,7ft	16ft	21,4ft	32,1ft	42,8ft	53,5ft	64,2ft	85,6ft	107ft

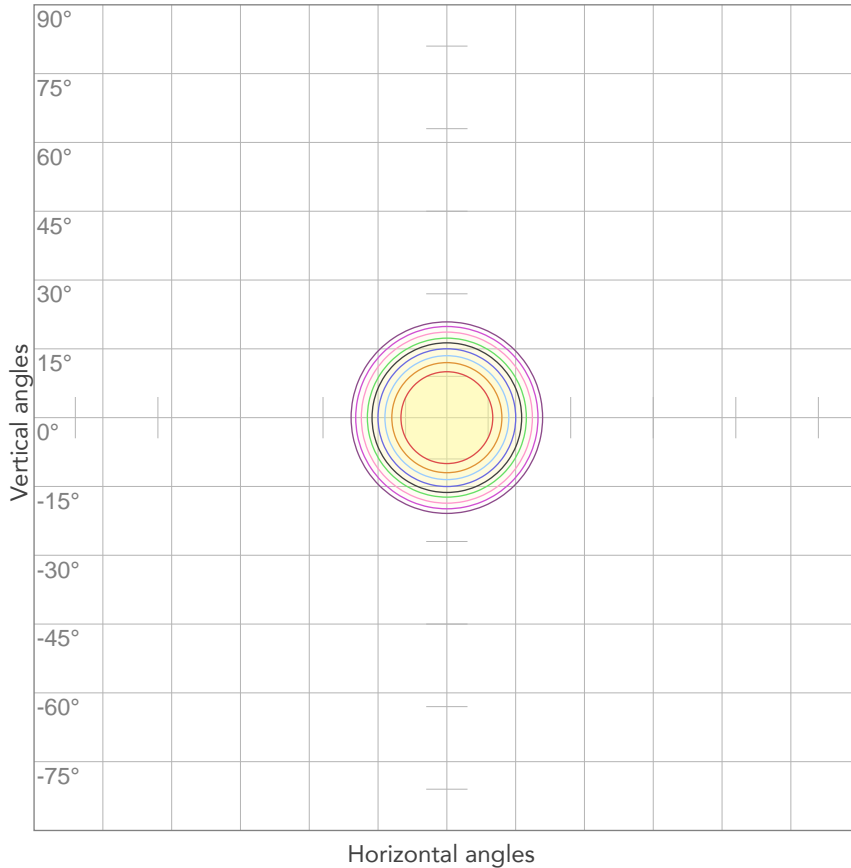
## LINEAR DISTRIBUTION DIAGRAM



## ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
223V	1,51A	318,3W	37lm/W

## ISO CANDELA DIAGRAM



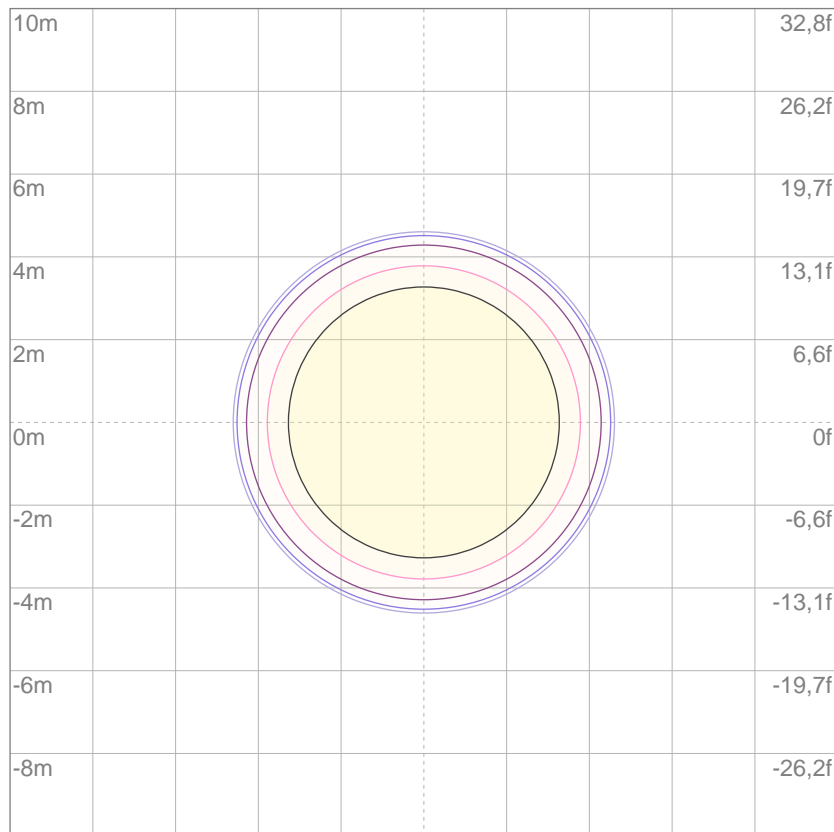
10%	3523 cd
20%	7045 cd
30%	10568 cd
40%	14091 cd
50%	17613 cd
60%	21136 cd
70%	24659 cd
80%	28181 cd

Conditions:

Number of c-planes: 2

Candela at center: 35227 cd

## ISO LUX DIAGRAM



3%	10,6 lx
5%	17,6 lx
10%	35,2 lx
30%	106 lx
50%	176 lx

Conditions:

Number of c-planes: 2

Lux at center: 352 lx

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

Mounting height: 10 meters (33 feet)





Total lumen output:

10979 lm

Peak candela output:

107564 cd

Light quality:

CRI: 77,3

Color temperature:

8572 K

**PRODUCT NAME:**

Mosaico

**MEASUREMENT CONDITIONS:**

Beam angle:

Med Zoom

Target:

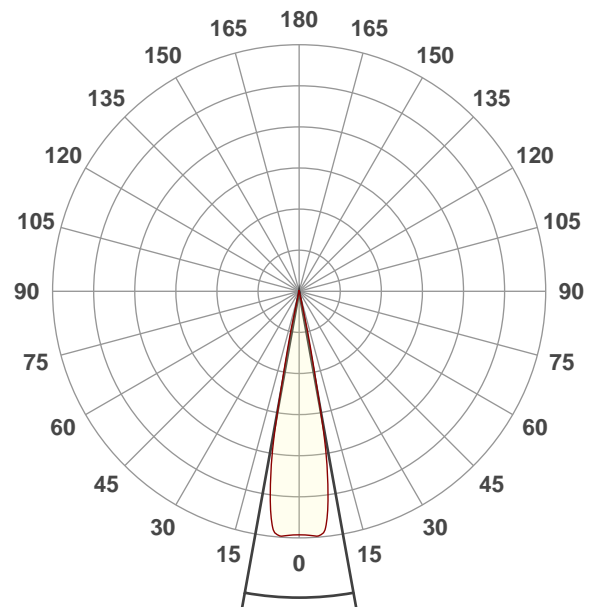
Full on

Operator:

Paolo Carvone

Date and time:

22/01/2020 12:47:00

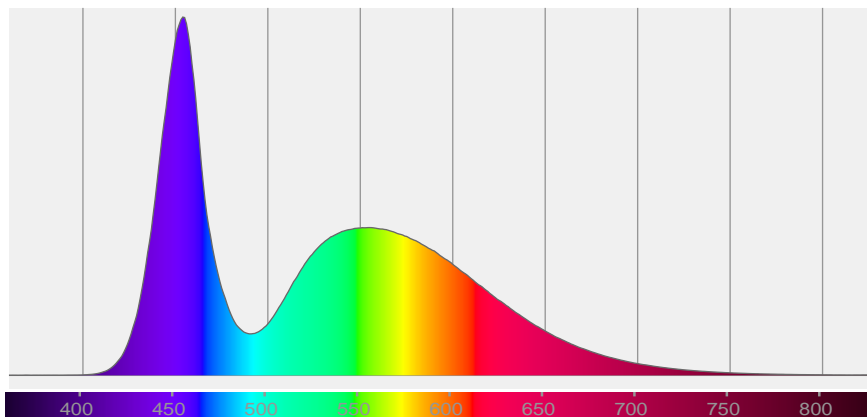


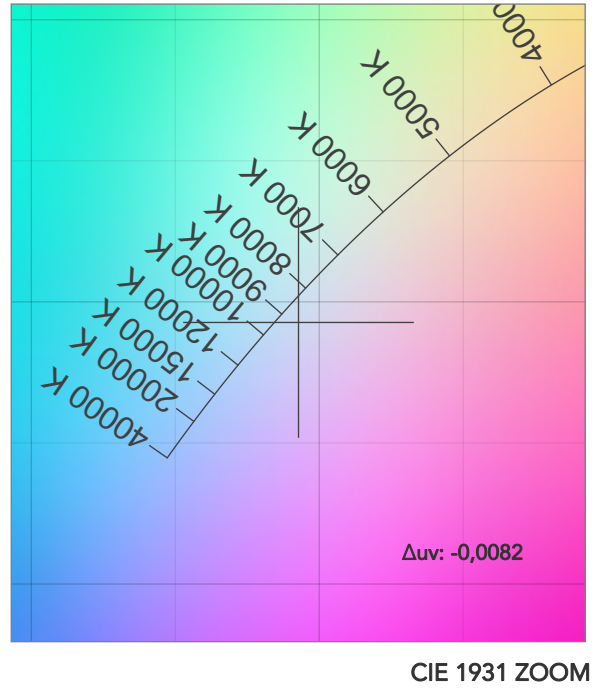
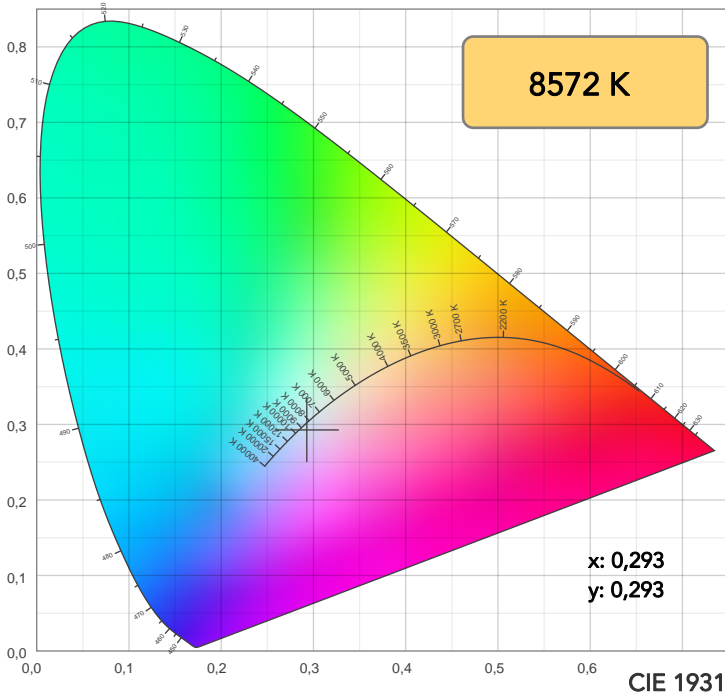
Beam angle 50%: 20,4°

Field angle 10%: 24,9°

Cut off angle 2.5%: 26°

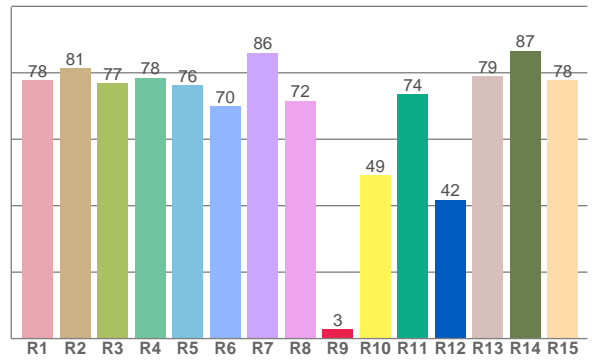
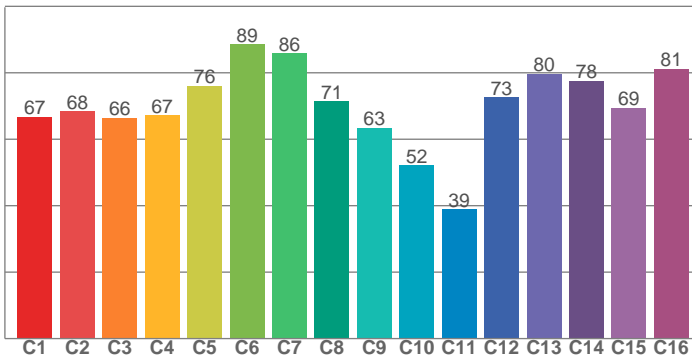
**Spectra**





TM30: 70,3

CRI: 77,3 (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
77,8	81,4	76,9	78,5	76,2	69,9	86,0	71,6	2,9	49,2	73,6	41,7	79,0	86,7	77,7

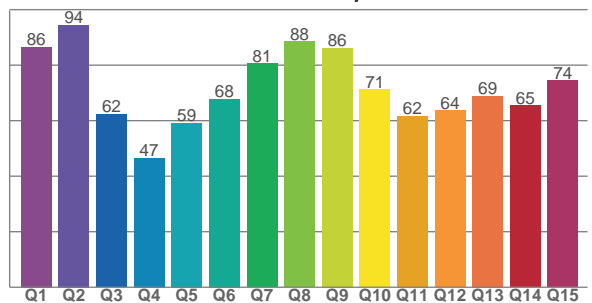
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
66,7	68,4	66,5	67,2	76,0	88,5	85,8	71,4	63,4	52,1	38,9	72,6	79,6	77,5	69,4	81,1

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
86,5	94,4	62,3	46,5	59,2	67,8	80,6	88,5	86,2	71,1	61,7	63,7	68,8	65,5	74,4

CQS: 69,1



COLOR PARAMETERS

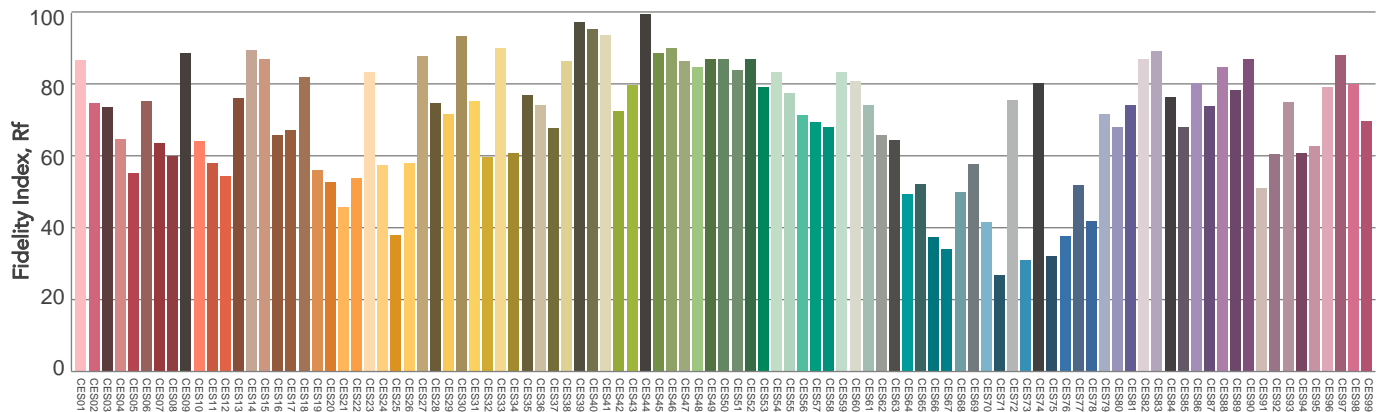
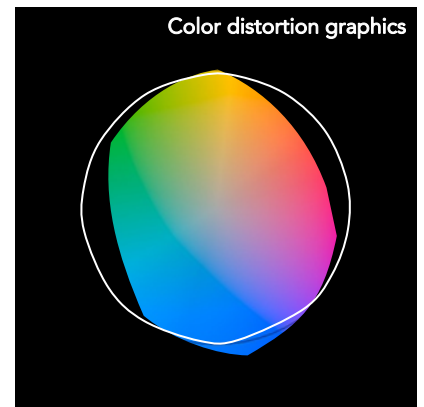
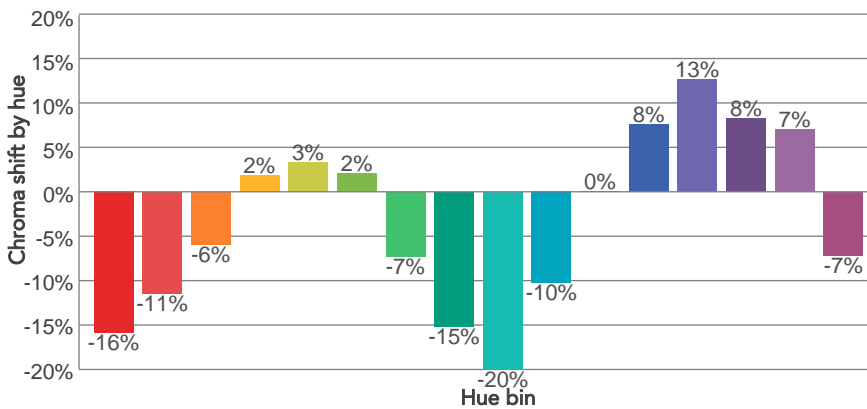
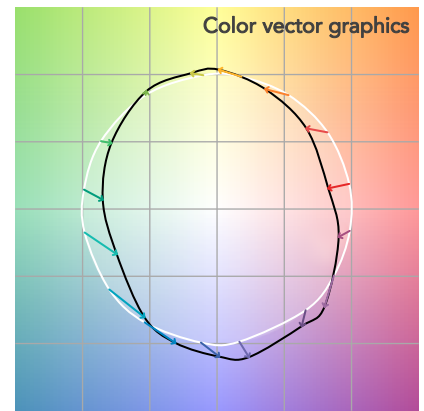
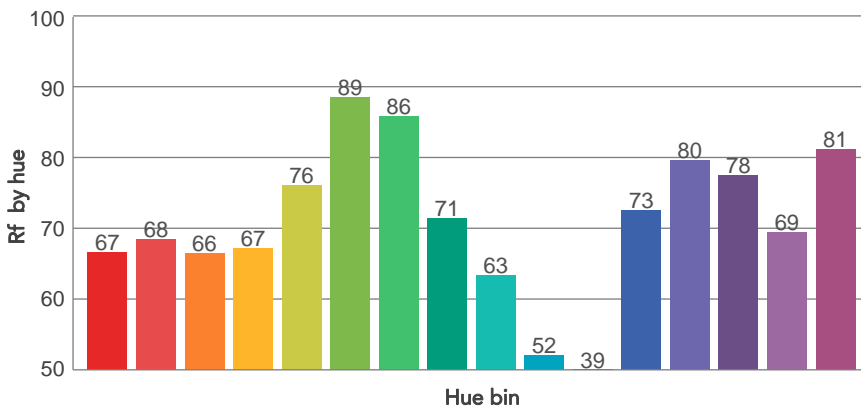
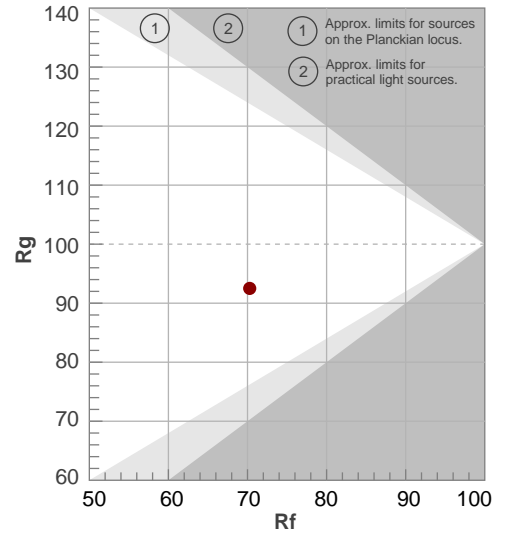
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
8572 K	77,3	2,9	70,3	92,5	69,1	48	0,293	0,293	-0,0082

# TM30 DETAILS

**Rf 70,3**  
Fidelity index Rf

**Rg 92,5**  
Gammut index

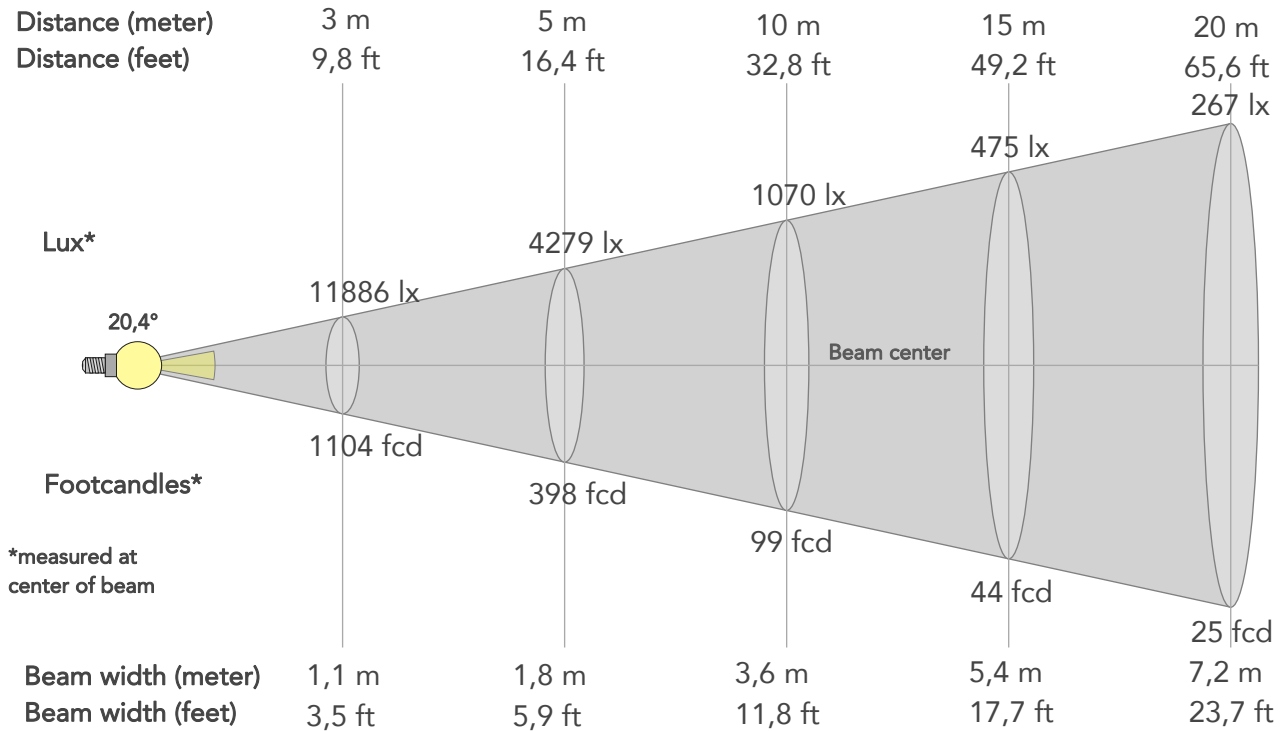
Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	67	-16%	0%
2	68	-11%	11%
3	66	-6%	17%
4	67	2%	18%
5	76	3%	9%
6	89	2%	-2%
7	86	-7%	-3%
8	71	-15%	5%
9	63	-20%	20%
10	52	-10%	32%
11	39	0%	27%
12	73	8%	15%
13	80	13%	5%
14	78	8%	-9%
15	69	7%	-23%
16	81	-7%	-6%



# BEAM DETAILS



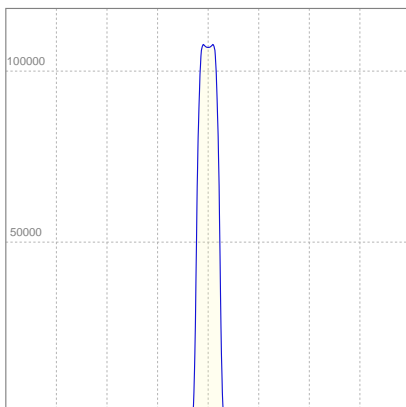
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
20,4°	24,9°	26°	98,0%	97,5%



## 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	106978lx	26745lx	11886lx	6686lx	4279lx	1902lx	1070lx	475lx	267lx	171lx	119lx	67lx	43lx
Footcand.	9939fcd	2485fcd	1104fcd	621fcd	398fcd	177fcd	99fcd	44fcd	25fcd	16fcd	11fcd	6fcd	4fcd
Beam wid.	0,4m	0,7m	1,1m	1,4m	1,8m	2,7m	3,6m	5,4m	7,2m	9m	10,8m	14,4m	18m
Beam wid.	1,2ft	2,4ft	3,5ft	4,7ft	5,9ft	8,9ft	11,8ft	17,7ft	23,7ft	29,6ft	35,5ft	47,3ft	59,1ft

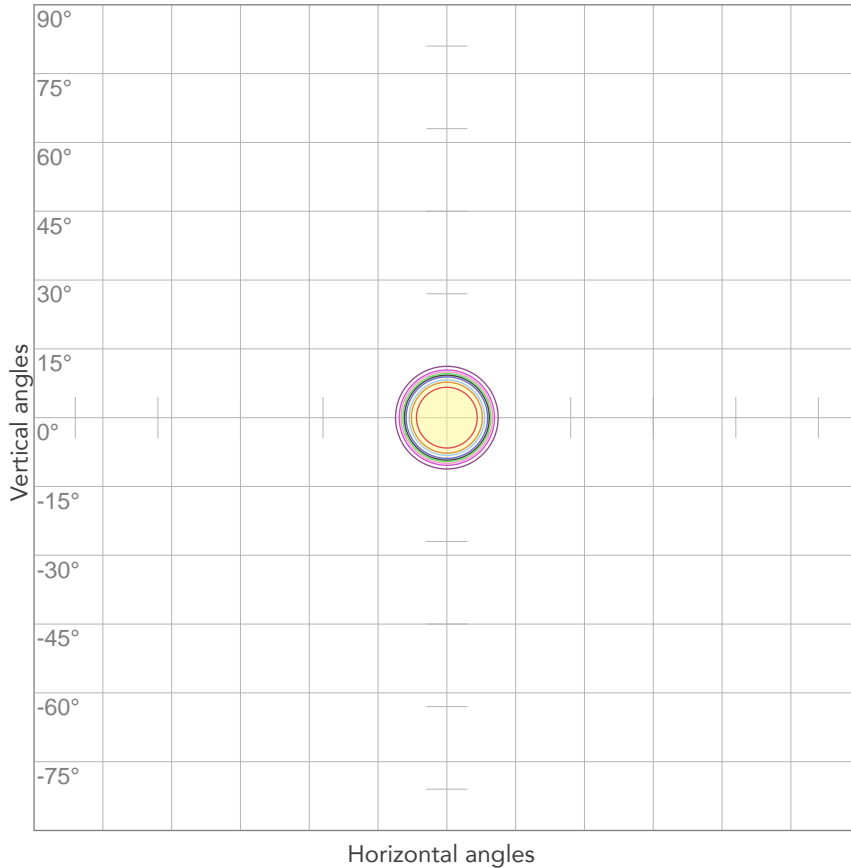
## LINEAR DISTRIBUTION DIAGRAM



## ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
223V	1,51A	318,8W	34lm/W

## ISO CANDELA DIAGRAM



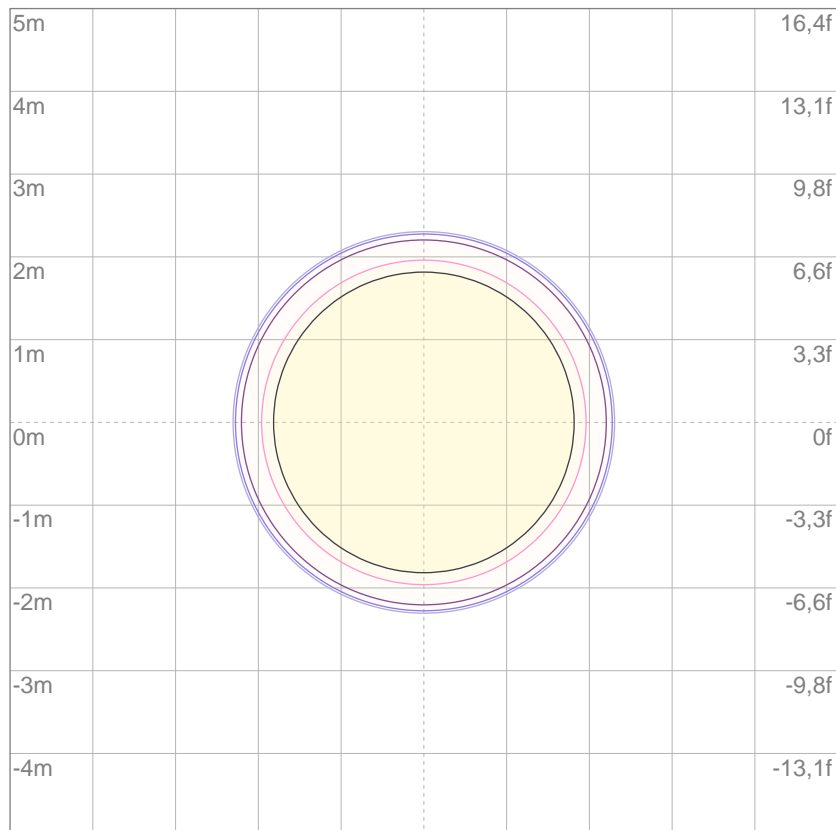
10%	10698 cd
20%	21396 cd
30%	32094 cd
40%	42791 cd
50%	53489 cd
60%	64187 cd
70%	74885 cd
80%	85583 cd

Conditions:

Number of c-planes: 2

Candela at center: 106978 cd

## ISO LUX DIAGRAM



Mounting height: 10 meters (33 feet)

3%	32,1 lx
5%	53,5 lx
10%	107 lx
30%	321 lx
50%	535 lx

Conditions:

Number of c-planes: 2

Lux at center: 1070 lx

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



Total lumen output:

10740 lm

Peak candela output:

266916 cd

Light quality:

CRI: 77,1

Color temperature:

8568 K

## PRODUCT NAME:

Mosaico

## MEASUREMENT CONDITIONS:

Beam angle:

Min Zoom

Target:

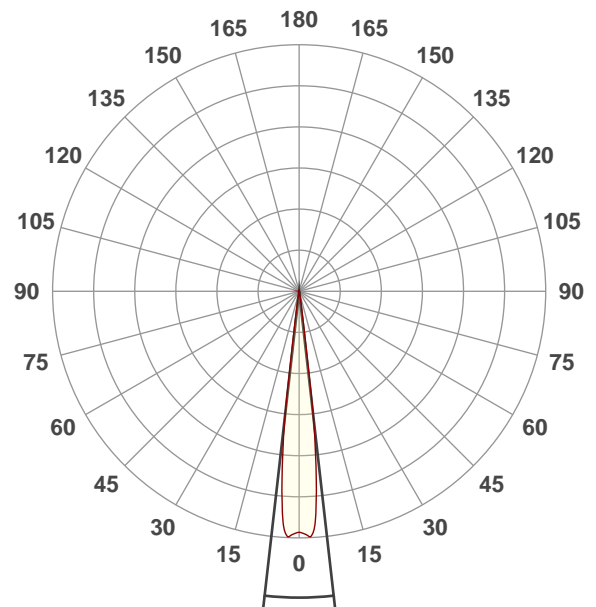
Full on

Operator:

Paolo Carvone

Date and time:

22/01/2020 12:36:41

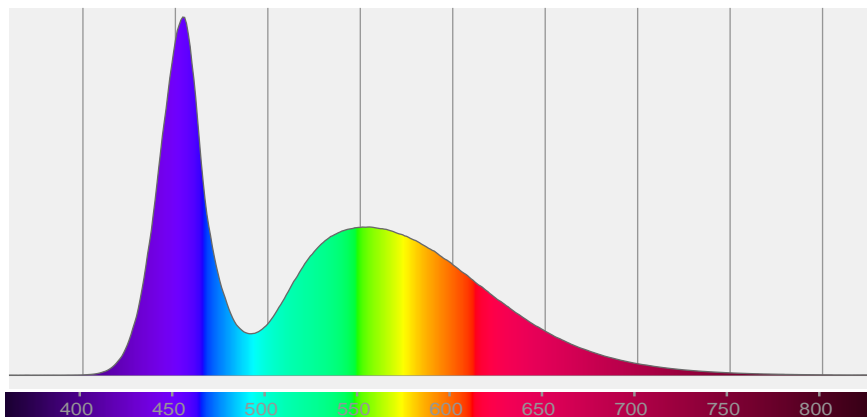


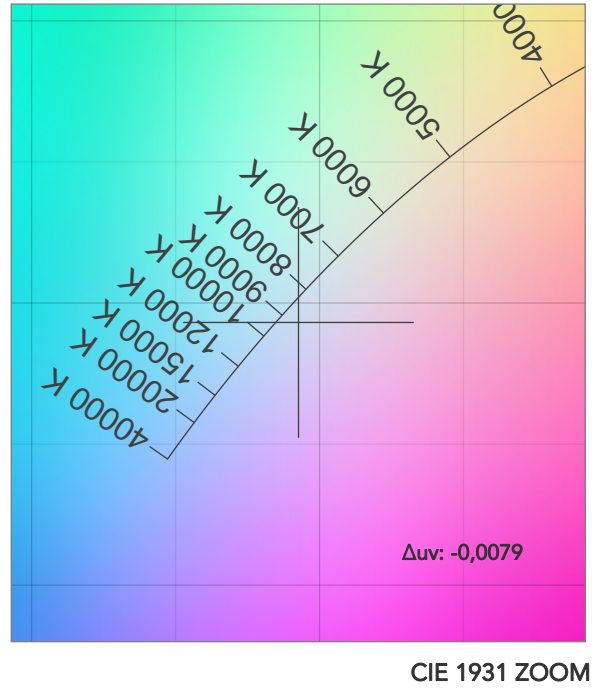
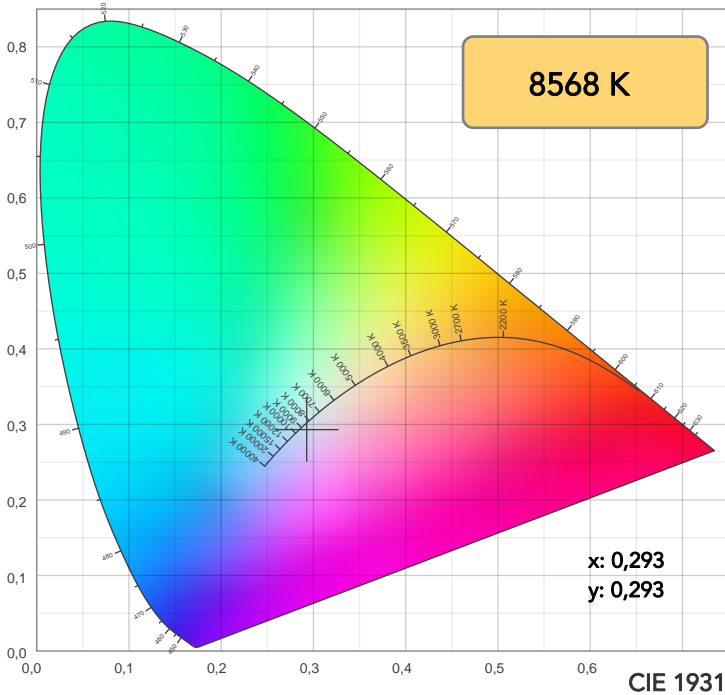
Beam angle 50%: 12,9°

Field angle 10%: 15,9°

Cut off angle 2.5%: 17,3°

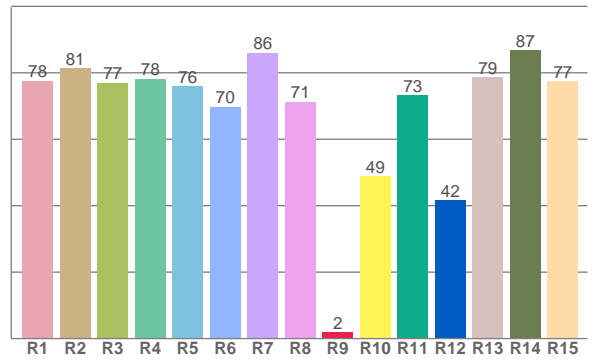
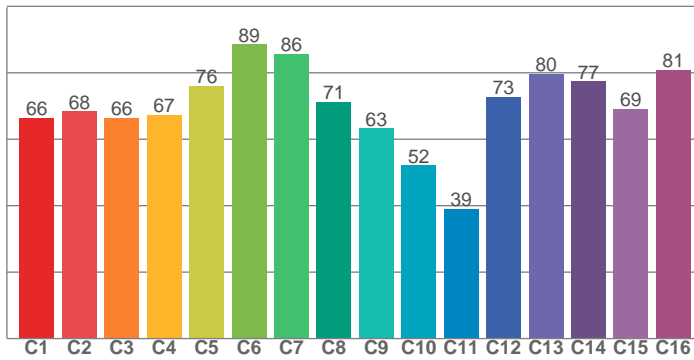
## Spectra





TM30: 70,2

CRI: 77,1 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
77,6	81,3	77,0	78,2	76,0	69,8	86,0	71,3	1,9	49,0	73,2	41,5	78,7	86,7	77,4

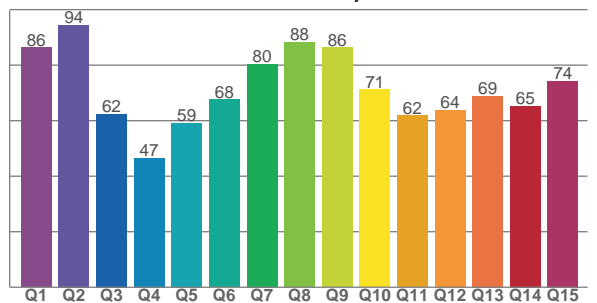
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
66,4	68,3	66,5	67,3	76,1	88,5	85,7	71,2	63,3	52,1	39,0	72,7	79,7	77,4	69,1	80,9

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
86,3	94,5	62,3	46,6	59,1	67,7	80,4	88,3	86,3	71,2	61,8	63,8	68,9	65,2	74,2

CQS: 69,0



COLOR PARAMETERS

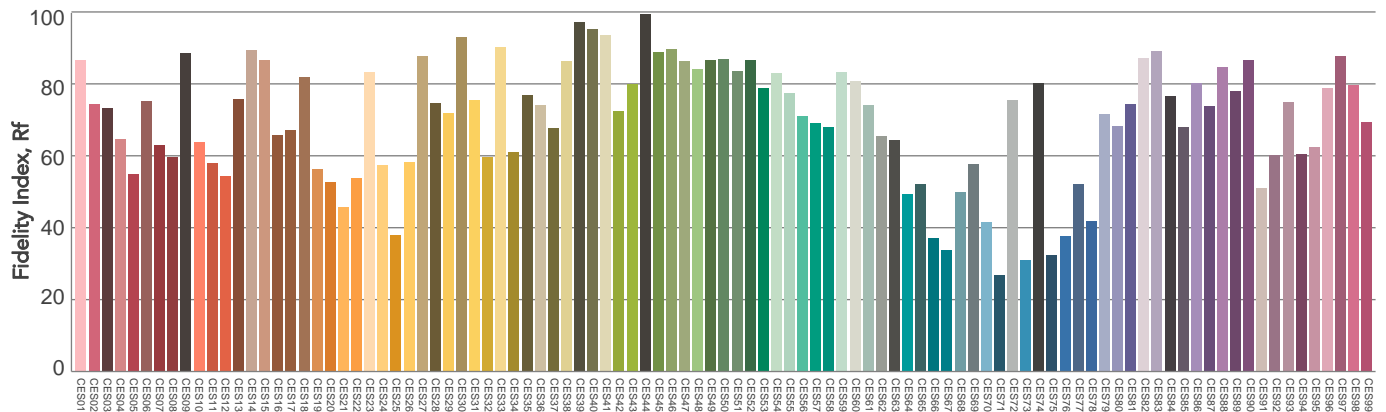
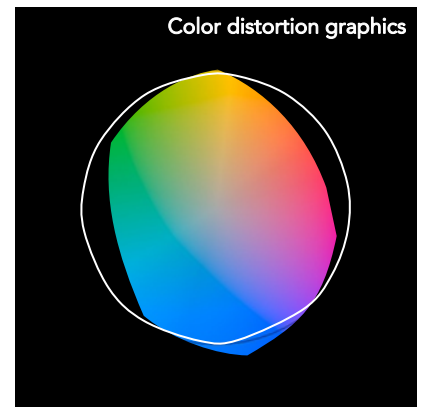
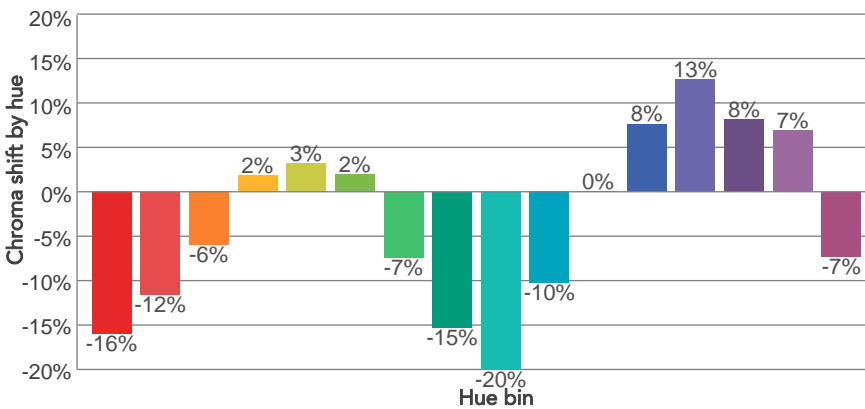
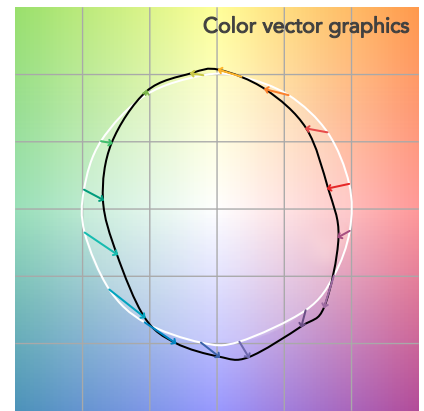
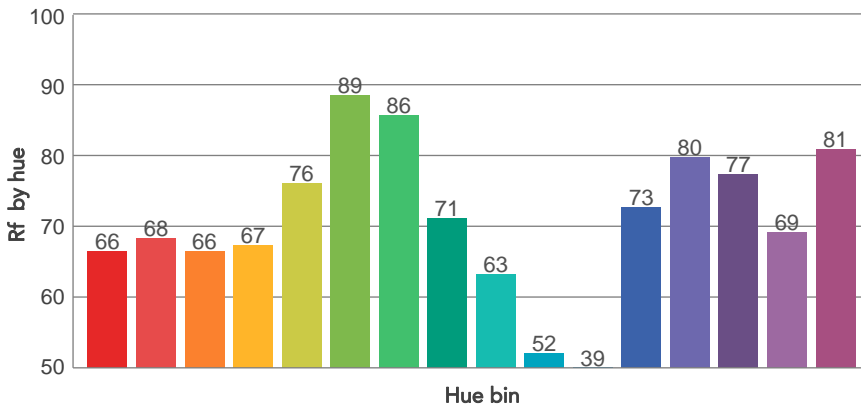
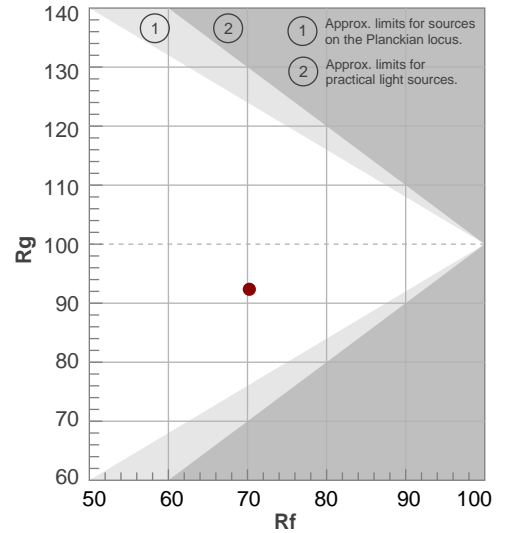
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
8568 K	77,1	1,9	70,2	92,4	69,0	47	0,293	0,293	-0,0079

# TM30 DETAILS

**Rf 70,2**  
Fidelity index Rf

**Rg 92,4**  
Gammut index

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	66	-16%	0%
2	68	-12%	11%
3	66	-6%	17%
4	67	2%	17%
5	76	3%	9%
6	89	2%	-2%
7	86	-7%	-3%
8	71	-15%	5%
9	63	-20%	21%
10	52	-10%	32%
11	39	0%	27%
12	73	8%	15%
13	80	13%	5%
14	77	8%	-9%
15	69	7%	-23%
16	81	-7%	-6%



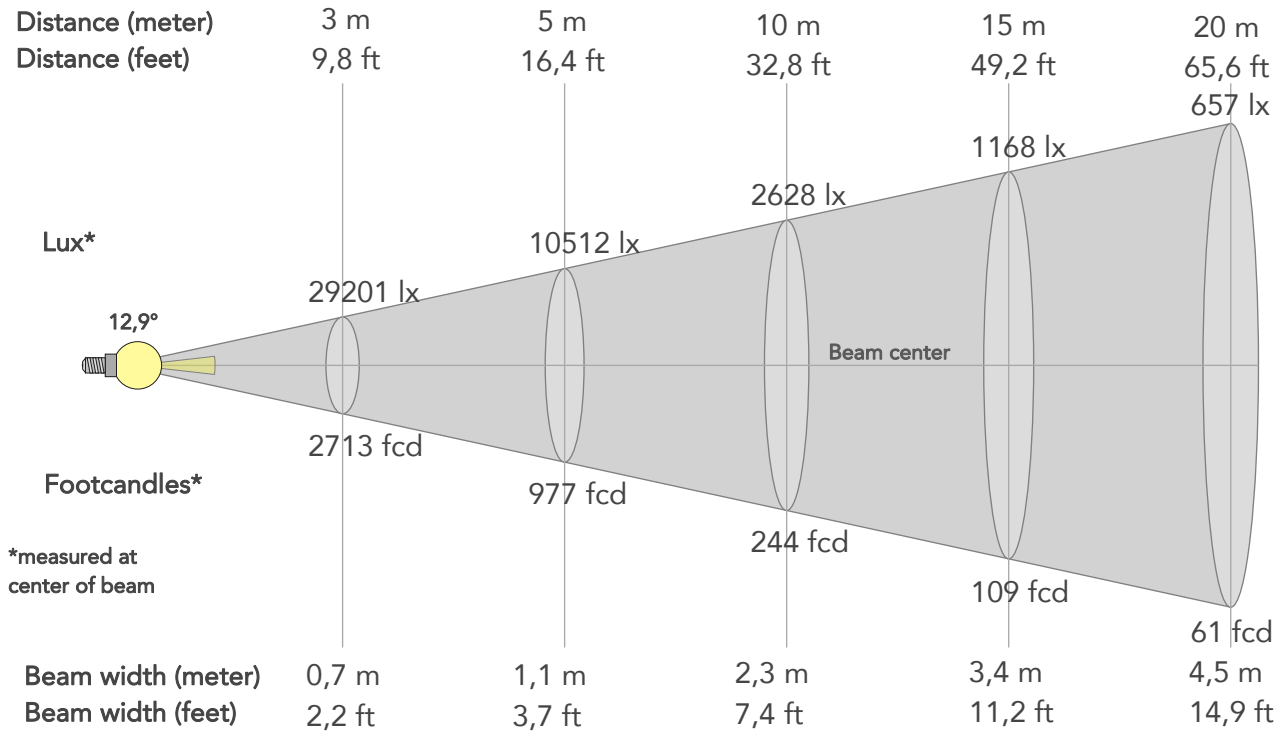
Color Evaluation Sample



# BEAM DETAILS



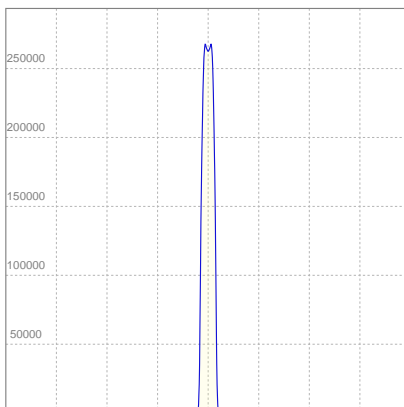
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
12,9°	15,9°	17,3°	98,0%	97,7%



## 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	262806lx	65701lx	29201lx	16425lx	10512lx	4672lx	2628lx	1168lx	657lx	420lx	292lx	164lx	105lx
Footcand.	24415fcd	6104fcd	2713fcd	1526fcd	977fcd	434fcd	244fcd	109fcd	61fcd	39fcd	27fcd	15fcd	10fcd
Beam wid.	0,2m	0,5m	0,7m	0,9m	1,1m	1,7m	2,3m	3,4m	4,5m	5,7m	6,8m	9,1m	11,3m
Beam wid.	0,7ft	1,5ft	2,2ft	3ft	3,7ft	5,6ft	7,4ft	11,2ft	14,9ft	18,6ft	22,3ft	29,8ft	37,2ft

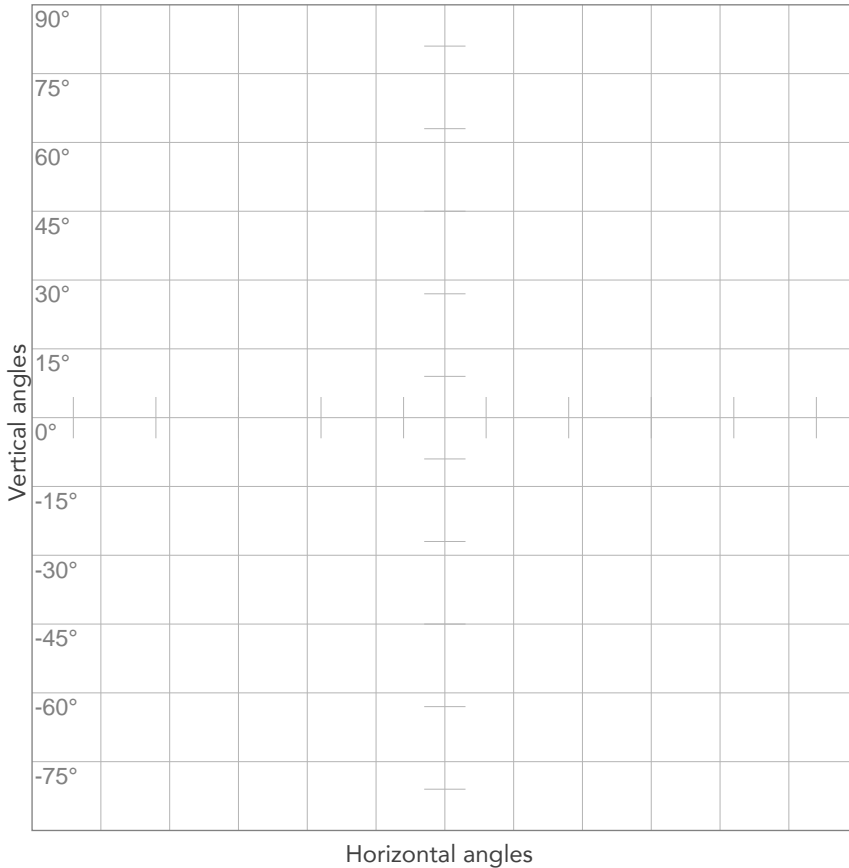
## LINEAR DISTRIBUTION DIAGRAM



## ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
224V	1,51A	318,7W	34lm/W

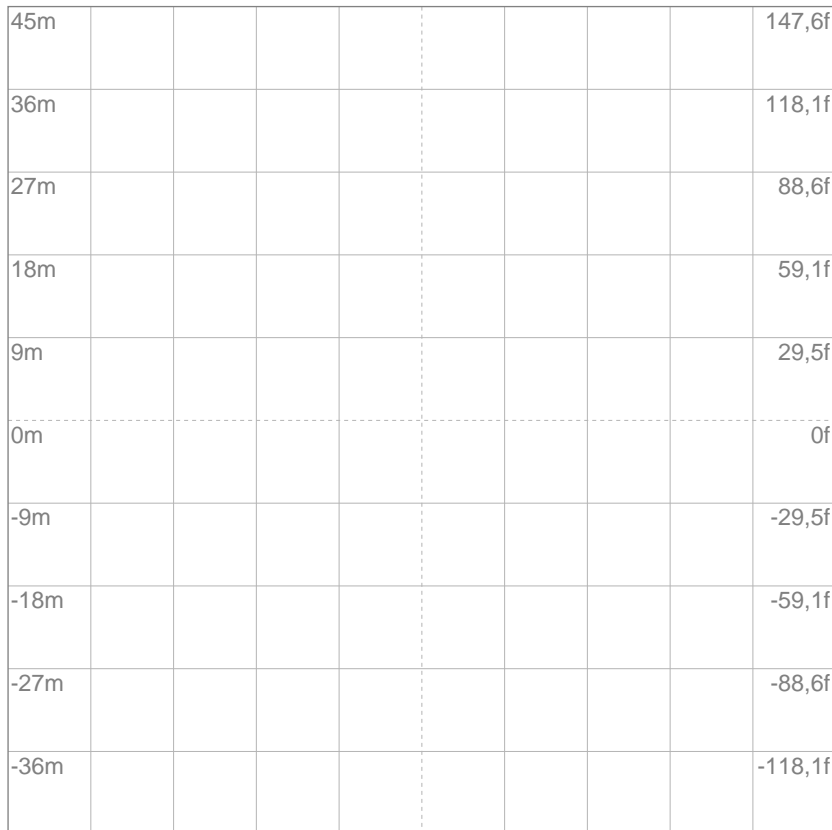
## ISO CANDELA DIAGRAM



10%	26281 cd
20%	52561 cd
30%	78842 cd
40%	105122 cd
50%	131403 cd
60%	157683 cd
70%	183964 cd
80%	210244 cd

**Conditions:**  
 Number of c-planes: 2  
 Candela at center: 262806 cd

## ISO LUX DIAGRAM



3%	78,8 lx
5%	131 lx
10%	263 lx
30%	788 lx
50%	1314 lx

**Conditions:**  
 Number of c-planes: 2  
 Lux at center: 2628 lx

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

Mounting height: 10 meters (33 feet)