

Photometric Test Report



MINIECLFRTU

LED Fresnel with HB White source
to replace a 300 W Lamp

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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:

2183 lm

Peak candela output:

2148 cd

Light quality:

CRI: 92,6

Color temperature:

3056 K

PRODUCT NAME:

MINIECLFRTU

MEASURAMENT CONDITIONS:

Beam angle:

Max Zoom

Target:

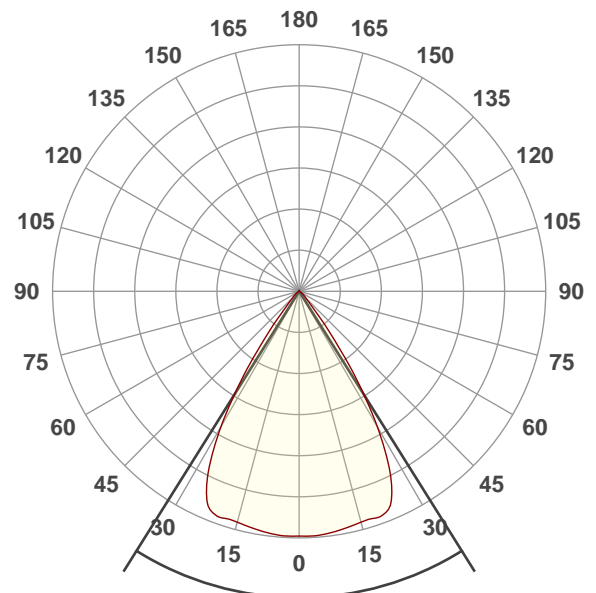
3050K

Operator:

Paolo Carvone

Date and time:

26/02/2020 10:04:20

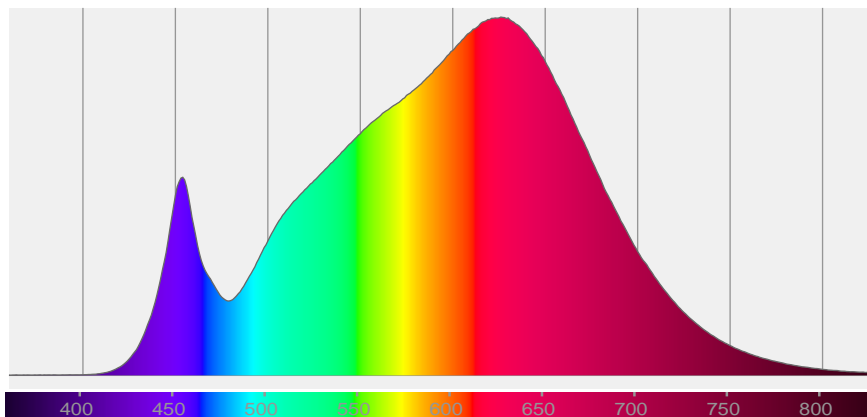


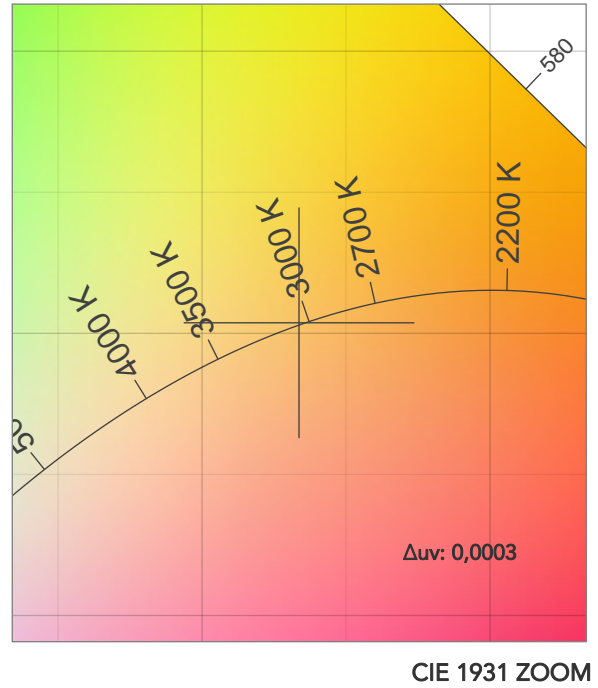
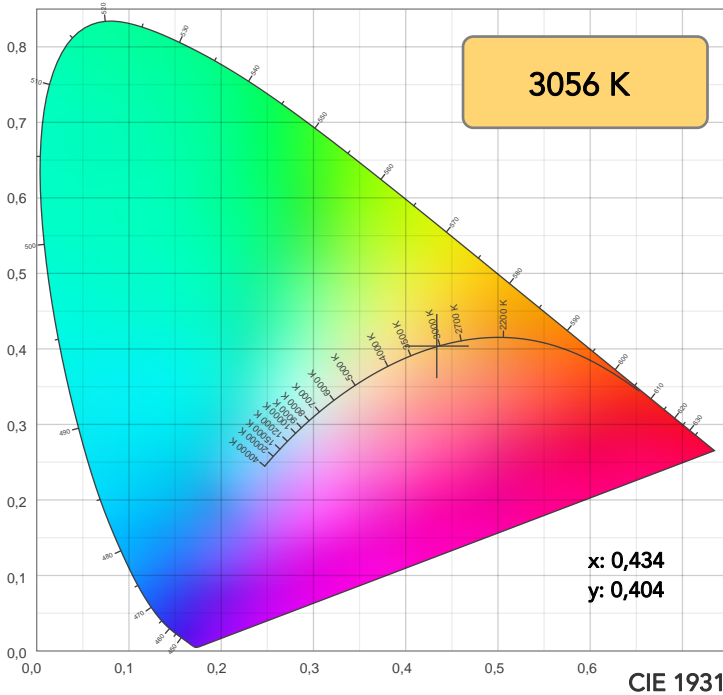
Beam angle 50%: 64,1°

Field angle 10%: 79,2°

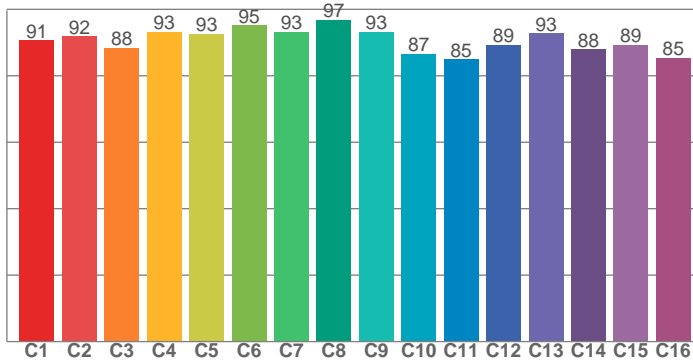
Cut off angle 2.5%: 100,1°

Spectra

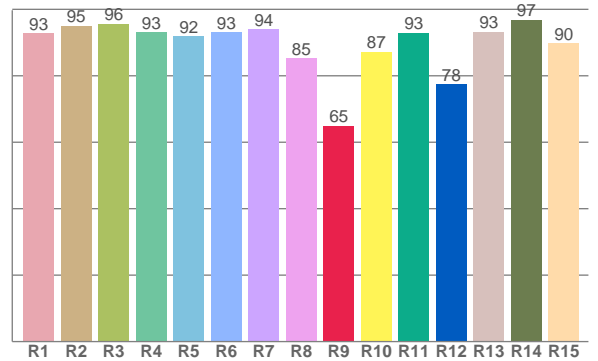




TM30: 90,7



CRI: 92,6 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
92,8	95,1	95,7	93,0	91,9	93,1	94,1	85,2	64,9	87,3	92,9	77,5	93,2	96,9	89,9

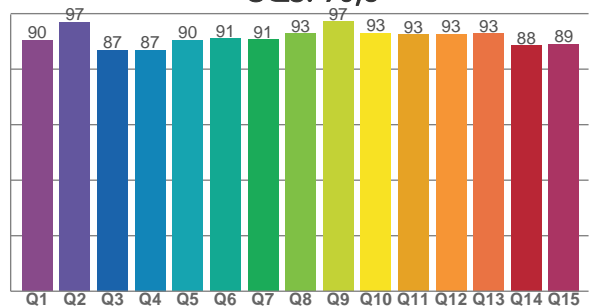
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
90,7	91,9	88,4	93,1	92,7	95,2	93,1	96,8	93,2	86,5	85,0	89,3	92,7	88,0	89,3	85,4

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
90,4	96,9	86,9	86,9	90,4	91,0	90,6	92,8	97,1	93,1	92,5	92,6	92,8	88,5	89,0

CQS: 90,8



COLOR PARAMETERS

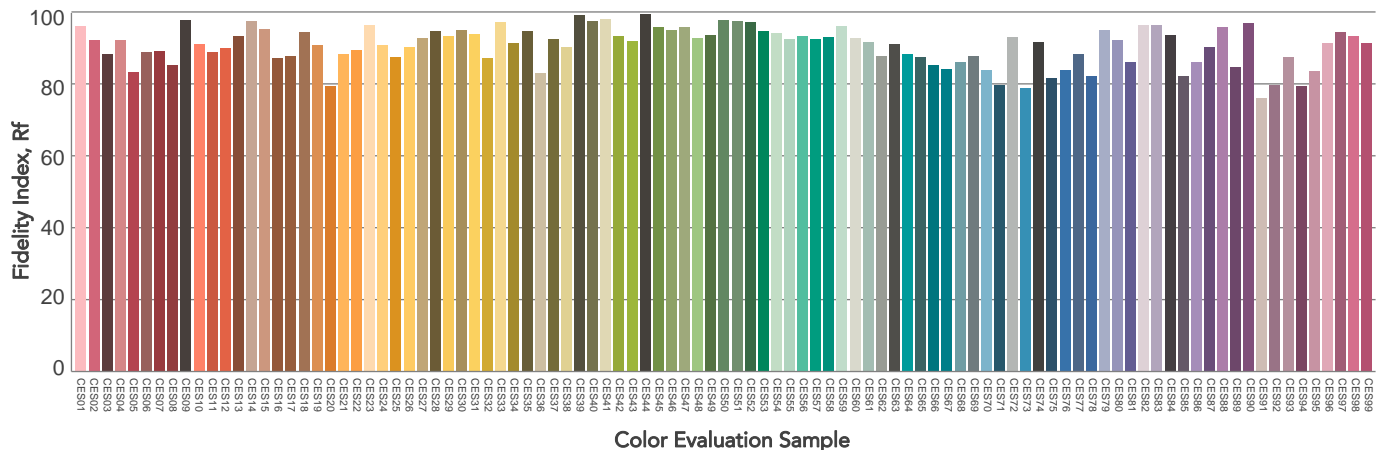
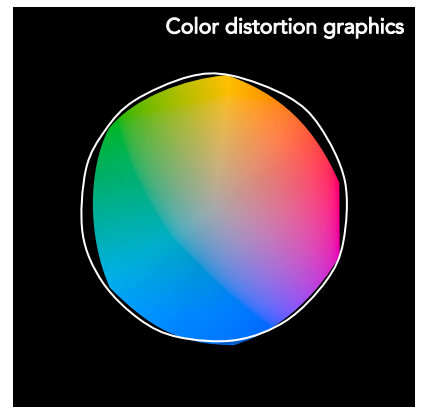
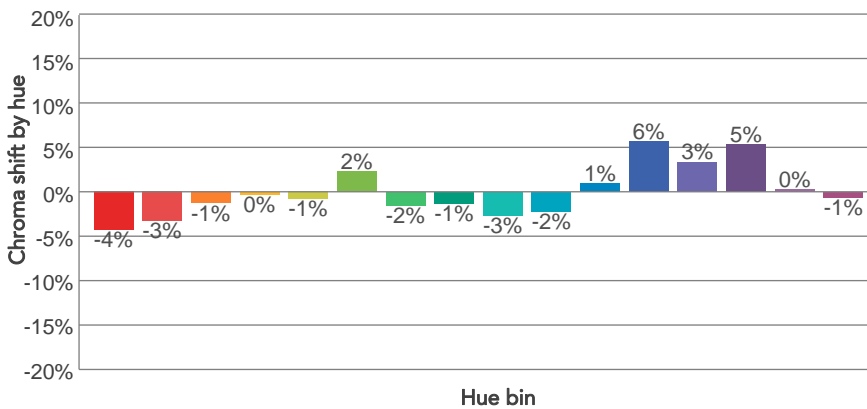
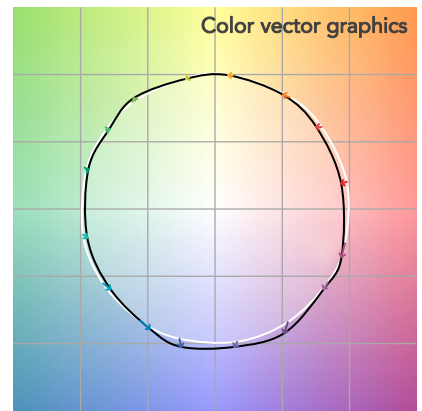
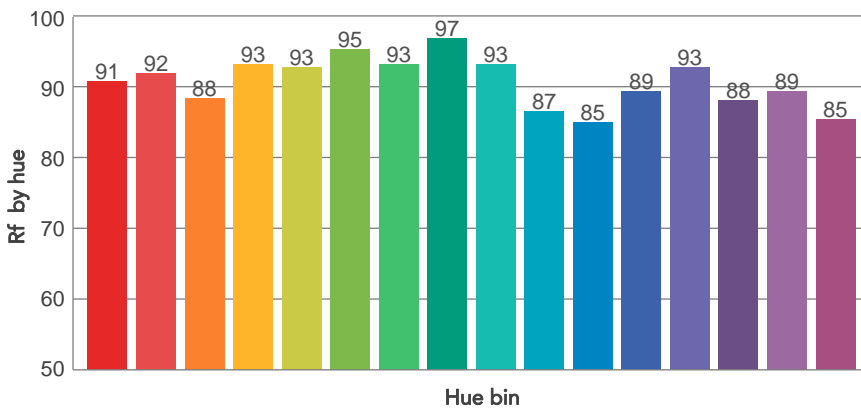
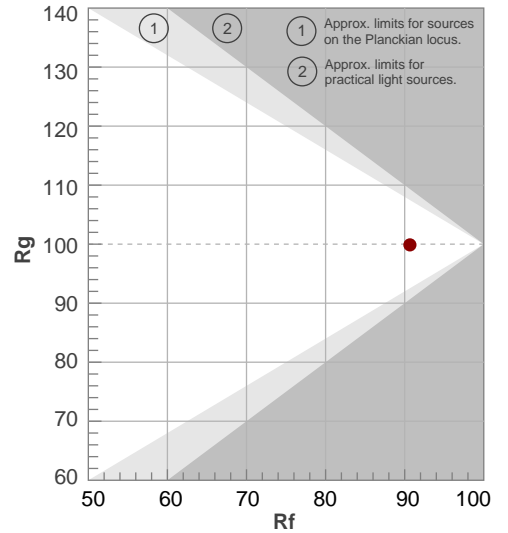
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
3056 K	92,6	64,9	90,7	99,9	90,8	93	0,434	0,404	0,0003

TM30 DETAILS

Rf 90,7
Fidelity index Rf

Rg 99,9
Gammut index

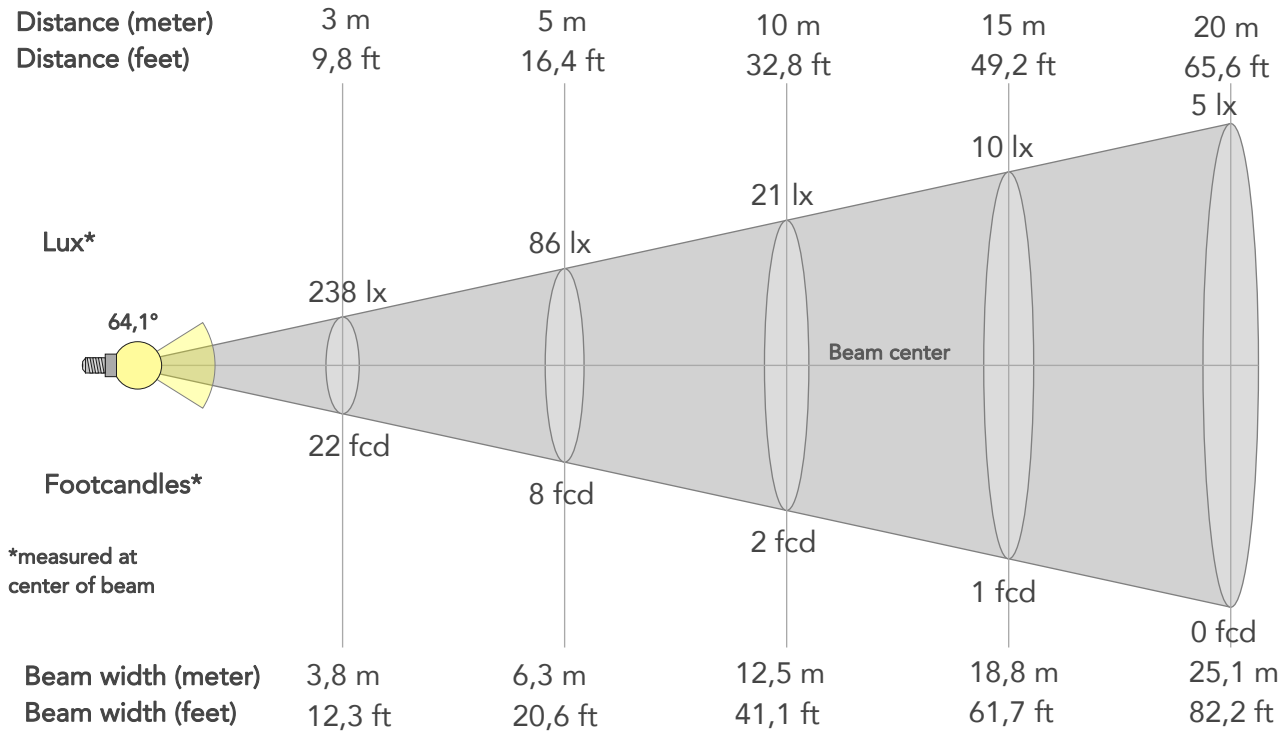
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	91	-4%	0%
2	92	-3%	2%
3	88	-1%	5%
4	93	0%	3%
5	93	-1%	3%
6	95	2%	0%
7	93	-2%	-2%
8	97	-1%	-1%
9	93	-3%	3%
10	87	-2%	7%
11	85	1%	9%
12	89	6%	2%
13	93	3%	-3%
14	88	5%	-7%
15	89	0%	-6%
16	85	-1%	-10%



BEAM DETAILS



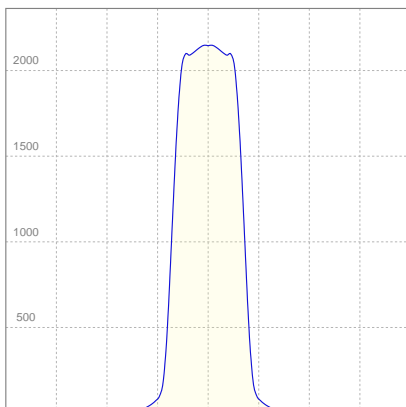
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
64,1°	79,2°	100,1°	99,5%	96,9%



BEAM INTENSITIES AND WIDTHS

Distance	1m	2m	3m	4m	5m	7,5m	10m	15m	20m	25m	30m	40m	50m
Distance	3,3ft	6,6ft	9,8ft	13,1ft	16,4ft	24,6ft	32,8ft	49,2ft	65,6ft	82ft	98,4ft	131,2ft	164ft
Lux	2145lx	536lx	238lx	134lx	86lx	38lx	21lx	10lx	5lx	3lx	2lx	1lx	1lx
Footcand.	199fcd	50fcd	22fcd	12fcd	8fcd	4fcd	2fcd	1fcd	0fcd	0fcd	0fcd	0fcd	0fcd
Beam wid.	1,3m	2,5m	3,8m	5m	6,3m	9,4m	12,5m	18,8m	25,1m	31,3m	37,6m	50,1m	62,7m
Beam wid.	4,1ft	8,3ft	12,3ft	16,4ft	20,6ft	30,8ft	41,1ft	61,7ft	82,2ft	102,8ft	123,3ft	164,4ft	205,5ft

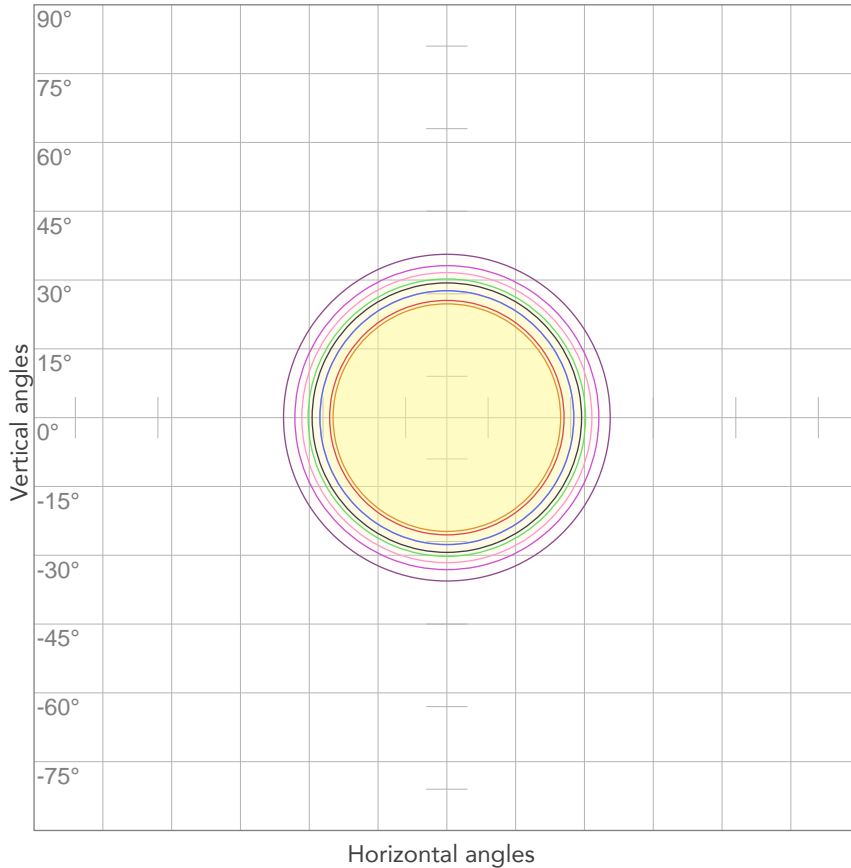
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
224V	0,159A	34,3W	64lm/W

ISO CANDELA DIAGRAM



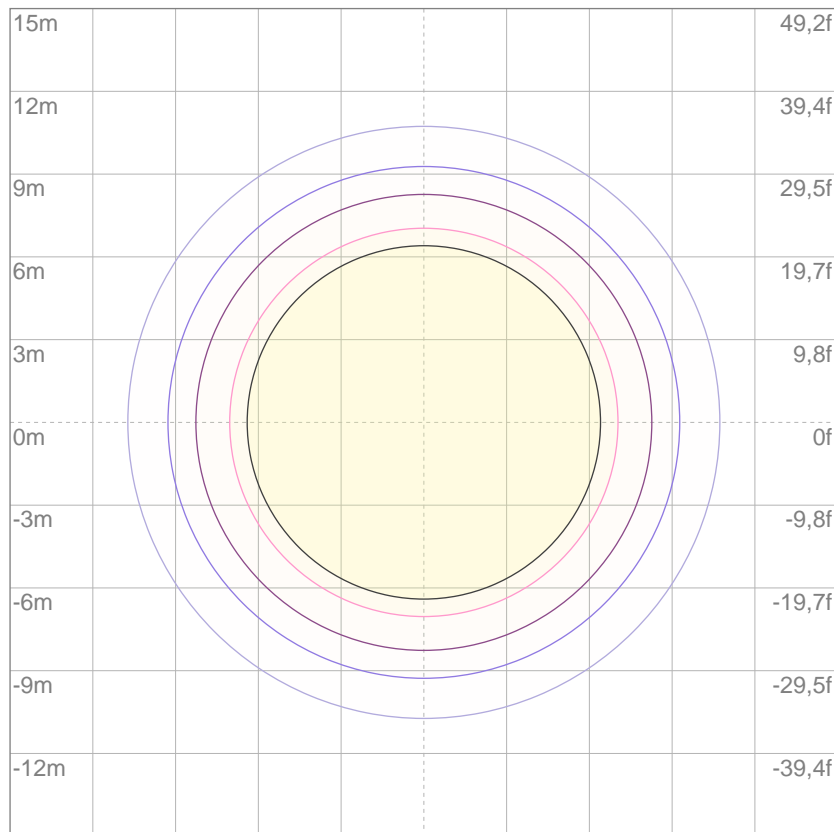
10%	215 cd
20%	429 cd
30%	644 cd
40%	858 cd
50%	1073 cd
60%	1287 cd
70%	1502 cd
80%	1716 cd

Conditions:

Number of c-planes: 2

Candela at center: 2145 cd

ISO LUX DIAGRAM



3%	0,644 lx
5%	1,07 lx
10%	2,15 lx
30%	6,44 lx
50%	10,7 lx

Conditions:

Number of c-planes: 2

Lux at center: 21,5 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:

856 lm

Peak candela output:

5898 cd

Light quality:

CRI: 92,8

Color temperature:

3060 K

PRODUCT NAME:

MINIECLFRTU

MEASURAMENT CONDITIONS:

Beam angle:

Min Zoom

Target:

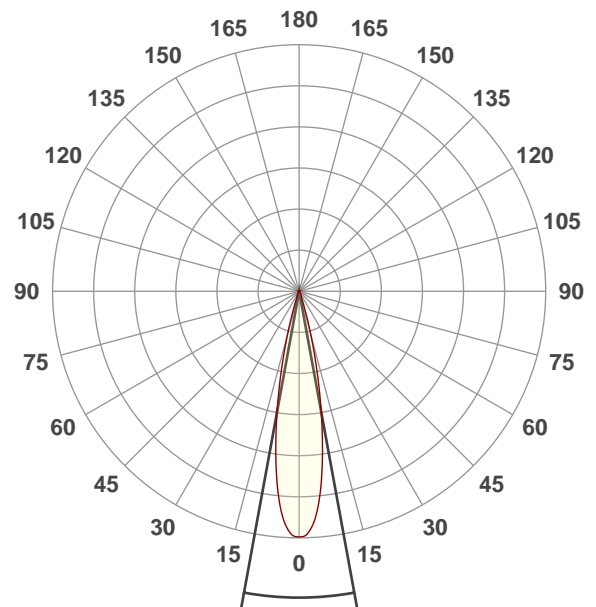
3050K

Operator:

Paolo Carvone

Date and time:

26/02/2020 10:08:10

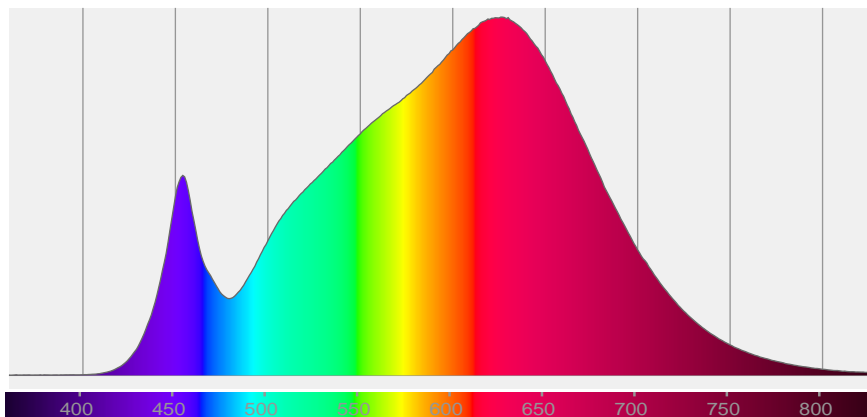


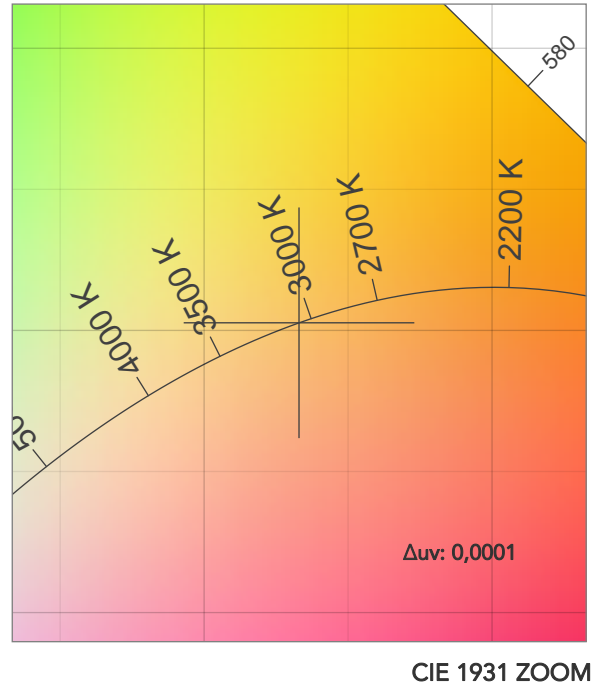
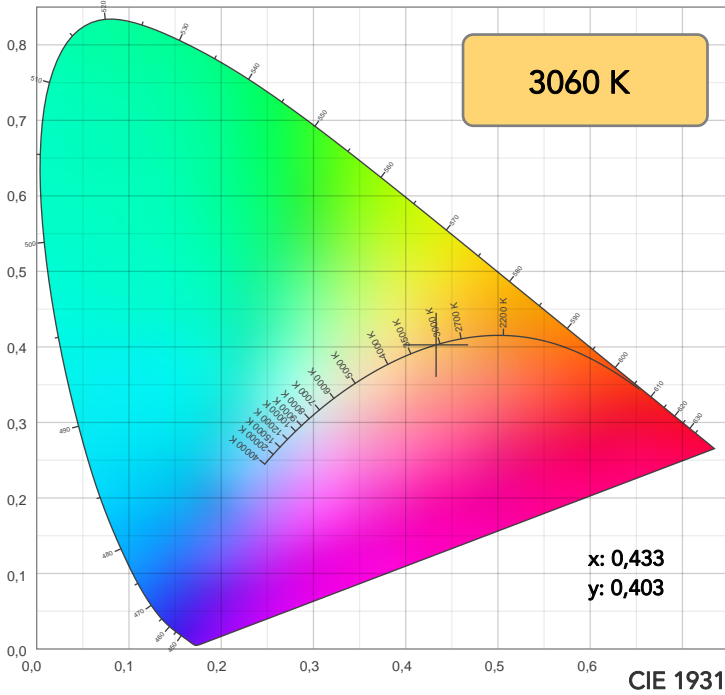
Beam angle 50%: 20,7°

Field angle 10%: 33,8°

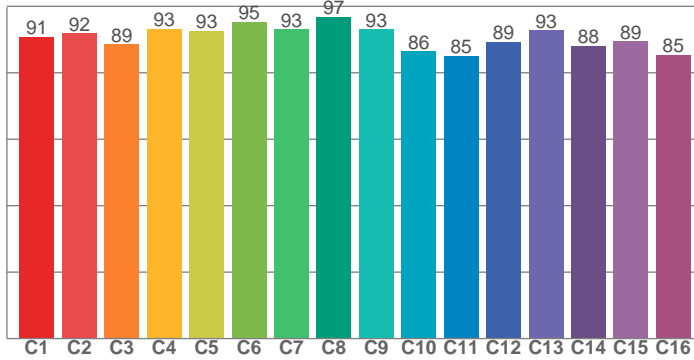
Cut off angle 2.5%: 44,6°

Spectra

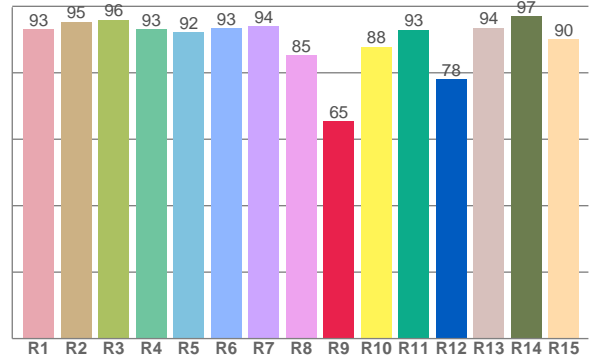




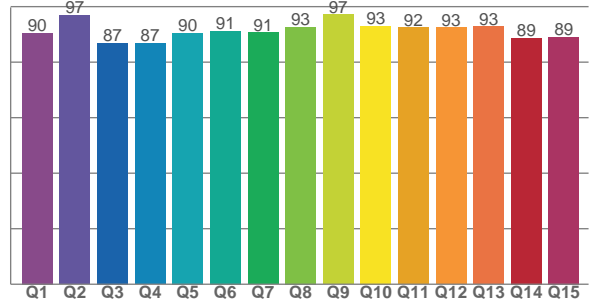
TM30: 90,7



CRI: 92,8 (R1-R8)



CQS: 90,9



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	95,4	95,9	93,1	92,1	93,5	94,0	85,3	65,5	87,9	93,0	78,0	93,5	97,0	90,2

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

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
90,8	91,9	88,5	93,2	92,6	95,3	93,1	96,8	93,1	86,4	85,0	89,3	92,7	88,0	89,4	85,4

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
90,5	96,9	87,0	86,8	90,4	91,2	90,7	92,7	97,2	93,1	92,4	92,5	92,8	88,6	89,1

COLOR PARAMETERS

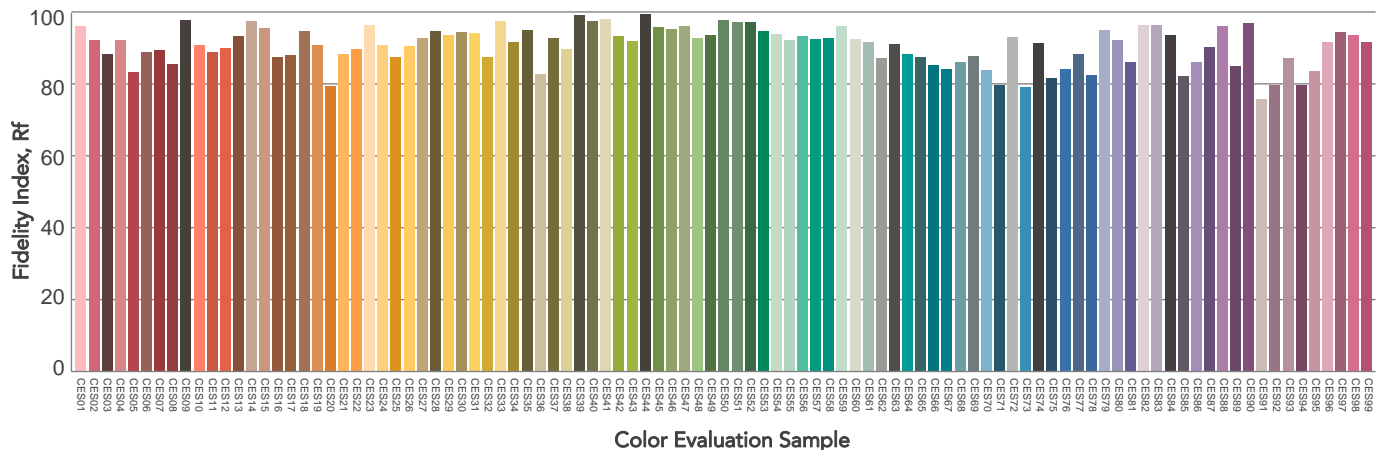
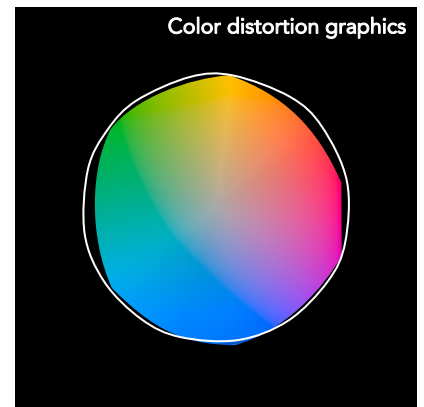
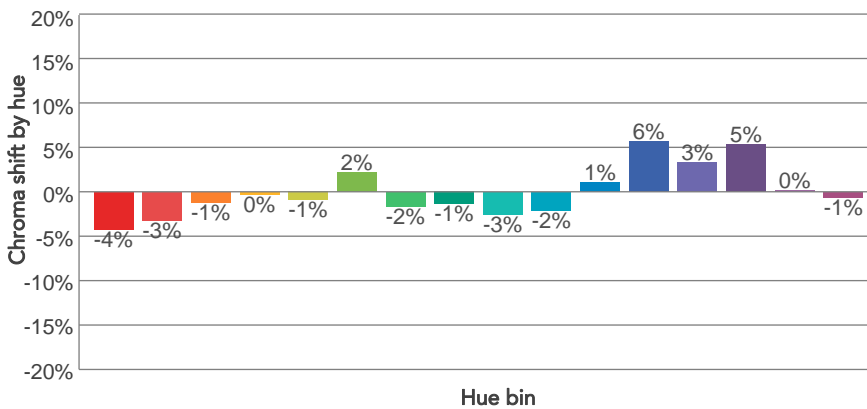
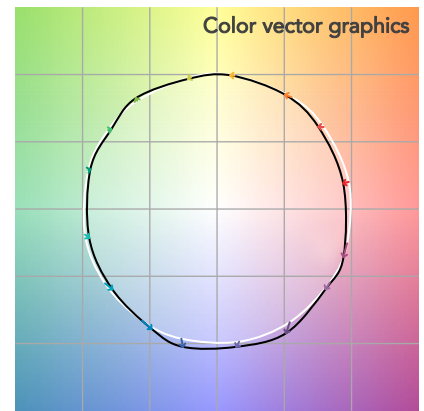
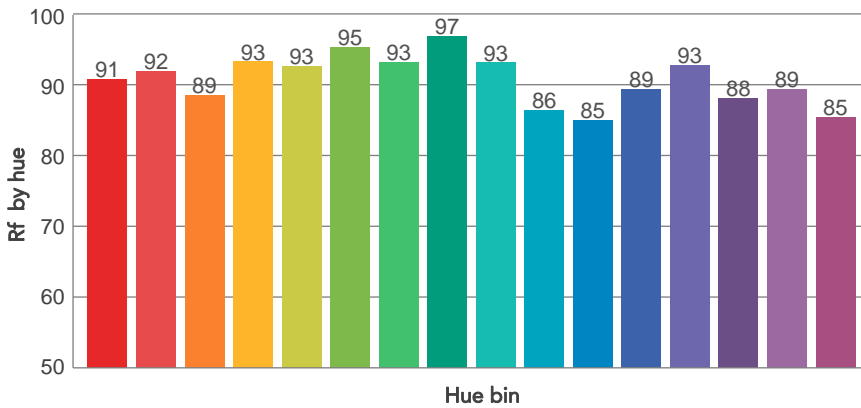
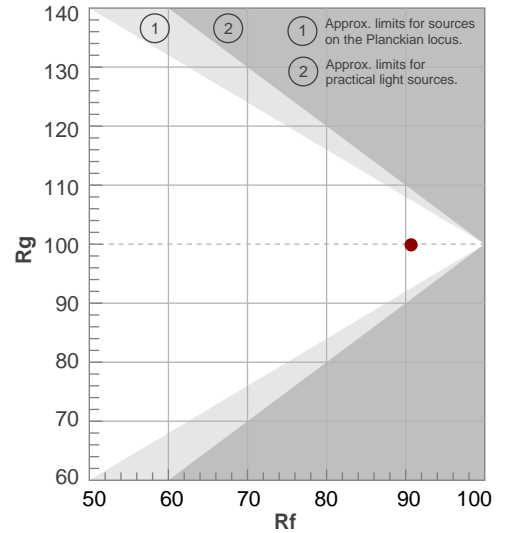
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
3060 K	92,8	65,5	90,7	99,9	90,9	93	0,433	0,403	0,0001

TM30 DETAILS

Rf 90,7
Fidelity index Rf

Rg 99,9
Gammut index

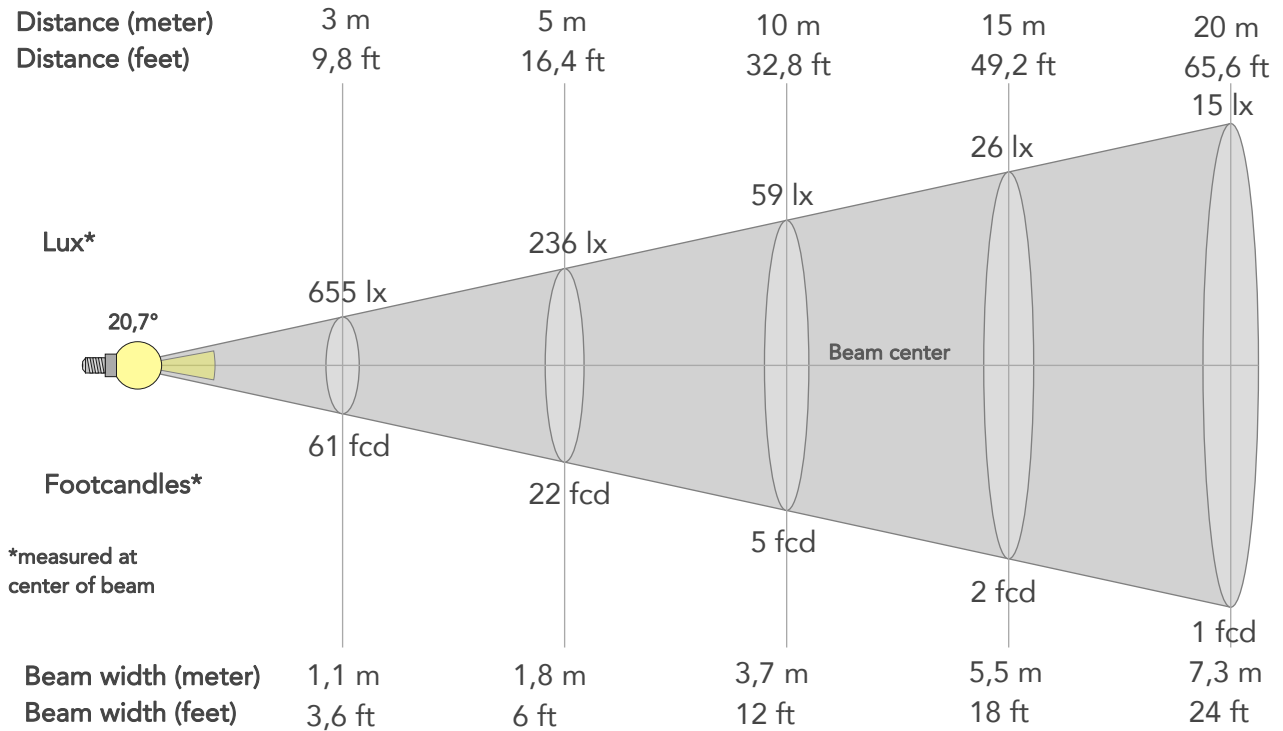
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	91	-4%	0%
2	92	-3%	2%
3	89	-1%	5%
4	93	0%	3%
5	93	-1%	3%
6	95	2%	0%
7	93	-2%	-2%
8	97	-1%	-1%
9	93	-3%	3%
10	86	-2%	7%
11	85	1%	9%
12	89	6%	2%
13	93	3%	-3%
14	88	5%	-7%
15	89	0%	-6%
16	85	-1%	-10%



BEAM DETAILS



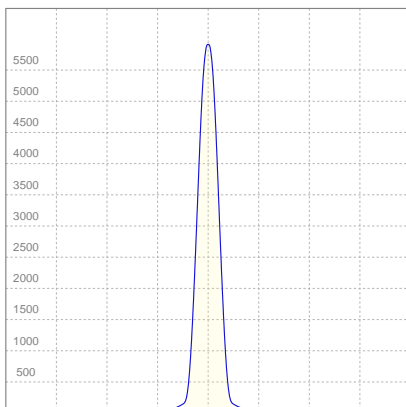
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
20,7°	33,8°	44,6°	99,7%	98,5%



BEAM INTENSITIES AND WIDTHS

Distance	1m	2m	3m	4m	5m	7,5m	10m	15m	20m	25m	30m	40m	50m
Distance	3,3ft	6,6ft	9,8ft	13,1ft	16,4ft	24,6ft	32,8ft	49,2ft	65,6ft	82ft	98,4ft	131,2ft	164ft
Lux	5898lx	1474lx	655lx	369lx	236lx	105lx	59lx	26lx	15lx	9lx	7lx	4lx	2lx
Footcand.	548fcd	137fcd	61fcd	34fcd	22fcd	10fcd	5fcd	2fcd	1fcd	1fcd	1fcd	0fcd	0fcd
Beam wid.	0,4m	0,7m	1,1m	1,5m	1,8m	2,7m	3,7m	5,5m	7,3m	9,1m	11m	14,6m	18,3m
Beam wid.	1,2ft	2,4ft	3,6ft	4,8ft	6ft	9ft	12ft	18ft	24ft	30ft	36ft	48ft	60ft

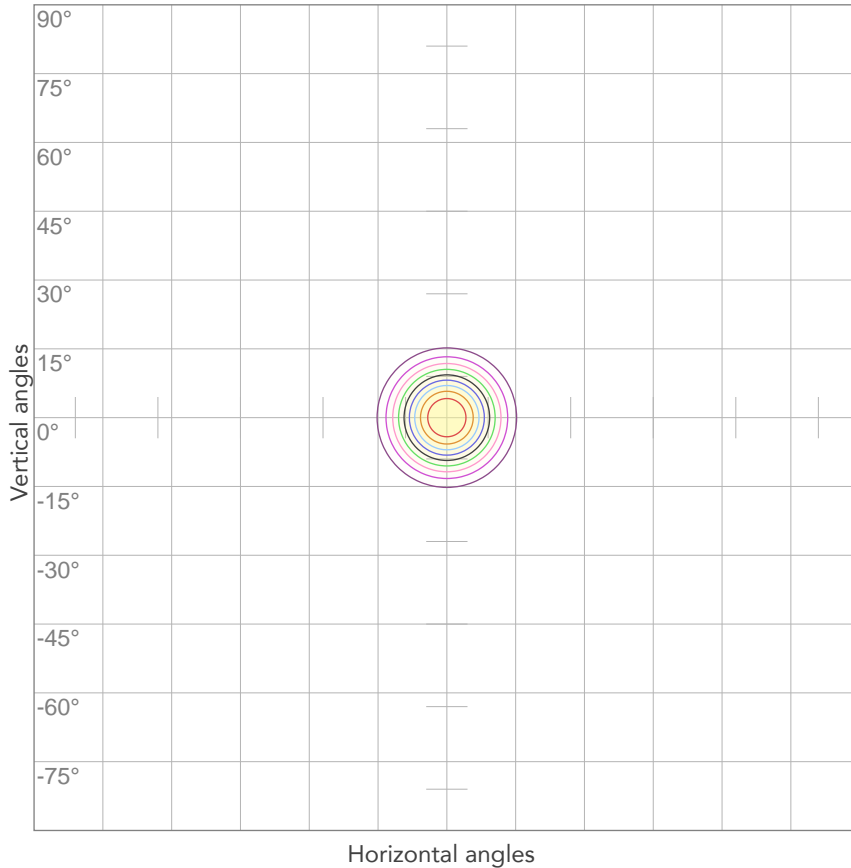
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
225V	0,157A	34,1W	25lm/W

ISO CANDELA DIAGRAM



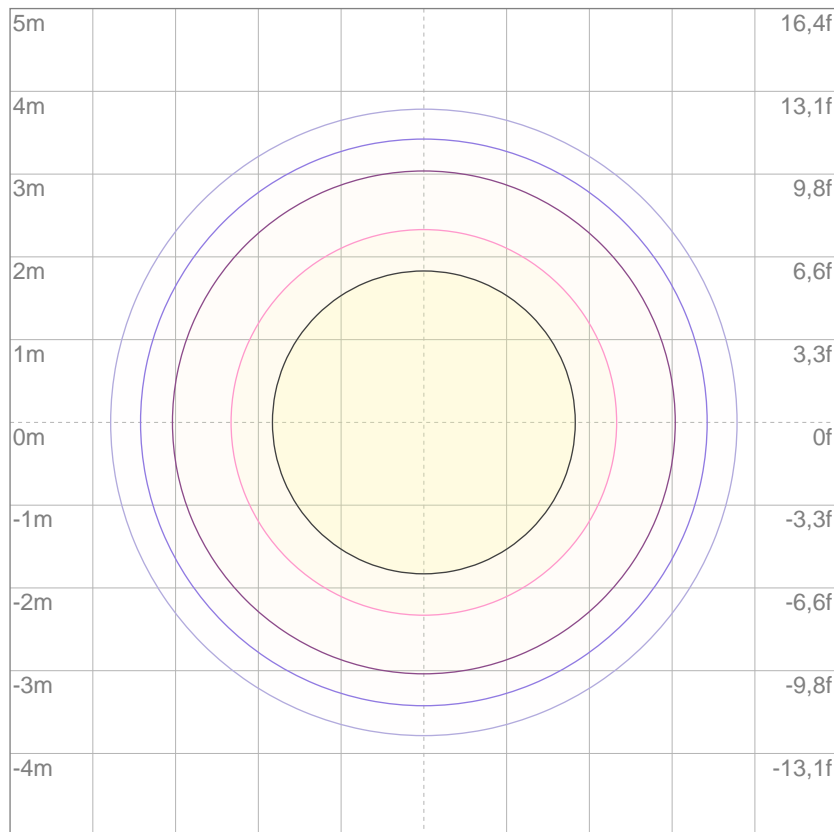
10%	590 cd
20%	1180 cd
30%	1769 cd
40%	2359 cd
50%	2949 cd
60%	3539 cd
70%	4128 cd
80%	4718 cd

Conditions:

Number of c-planes: 2

Candela at center: 5898 cd

ISO LUX DIAGRAM



3%	1,77 lx
5%	2,95 lx
10%	5,90 lx
30%	17,7 lx
50%	29,5 lx

Conditions:

Number of c-planes: 2

Lux at center: 59,0 lx

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

Mounting height: 10 meters (33 feet)