



Photometric Test Report



ECLFS PRL50

High power RGBL full spectrum ellipsoidal LED

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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:

5596 lm

Peak candela output:

11540 cd

PRODUCT NAME:

ECLFS

MEASUREMENT CONDITIONS:

Beam angle:

PRL50

Target:

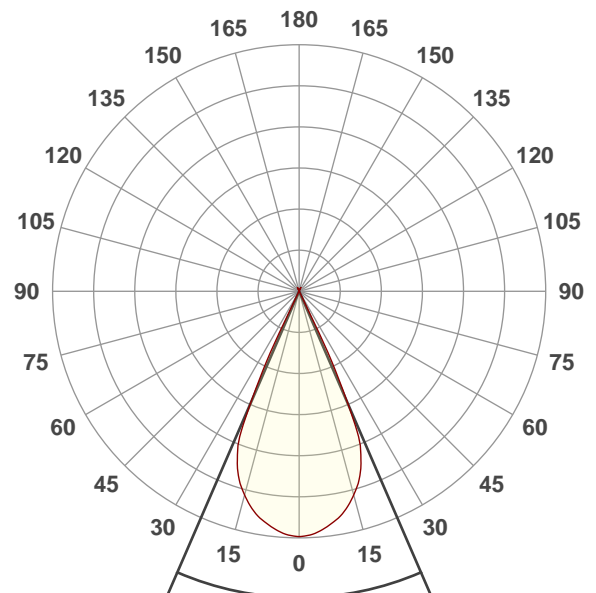
Full on

Operator:

Paolo Carvone

Date and time:

30/04/2020 11:38:00

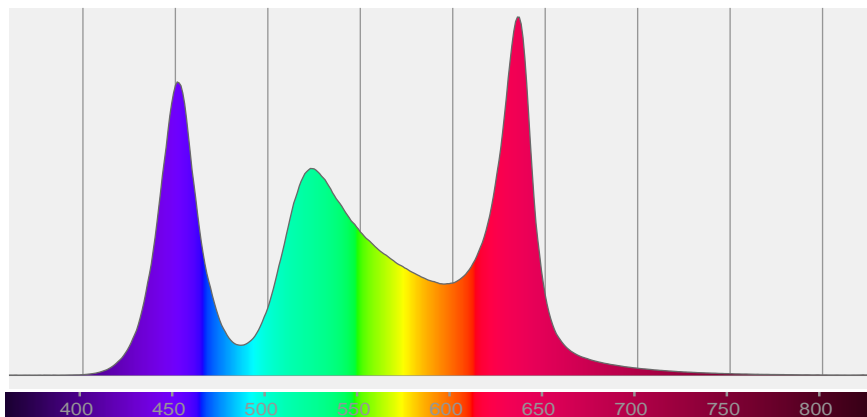


Beam angle 50%: 46,9°

Field angle 10%: 53,2°

Cut off angle 2.5%: 54,4°

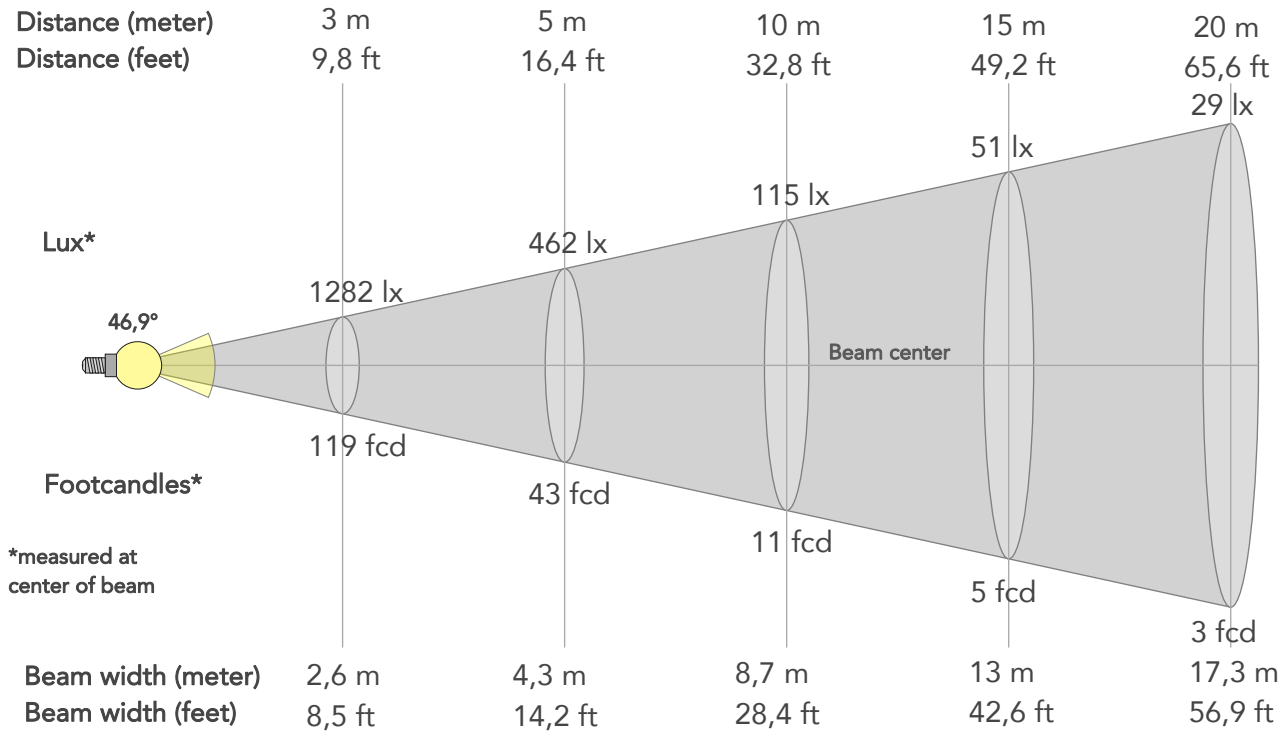
Spectra



BEAM DETAILS



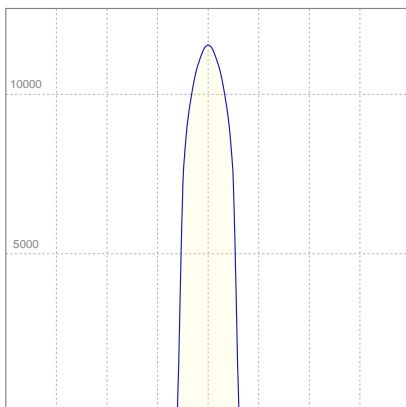
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
46,9°	53,2°	54,4°	96,7%	96,4%



BEAM INTENSITIES AND WIDTHS

Distance	1m	2m	3m	4m	5m	7,5m	10m	15m	20m	25m	30m	40m	50m
Distance	3,3ft	6,6ft	9,8ft	13,1ft	16,4ft	24,6ft	32,8ft	49,2ft	65,6ft	82ft	98,4ft	131,2ft	164ft
Lux	11540lx	2885lx	1282lx	721lx	462lx	205lx	115lx	51lx	29lx	18lx	13lx	7lx	5lx
Footcand.	1072fcd	268fcd	119fcd	67fcd	43fcd	19fcd	11fcd	5fcd	3fcd	2fcd	1fcd	1fcd	0fcd
Beam wid.	0,9m	1,7m	2,6m	3,5m	4,3m	6,5m	8,7m	13m	17,3m	21,7m	26m	34,7m	43,3m
Beam wid.	2,9ft	5,7ft	8,5ft	11,4ft	14,2ft	21,3ft	28,4ft	42,6ft	56,9ft	71,1ft	85,3ft	113,7ft	142,2ft

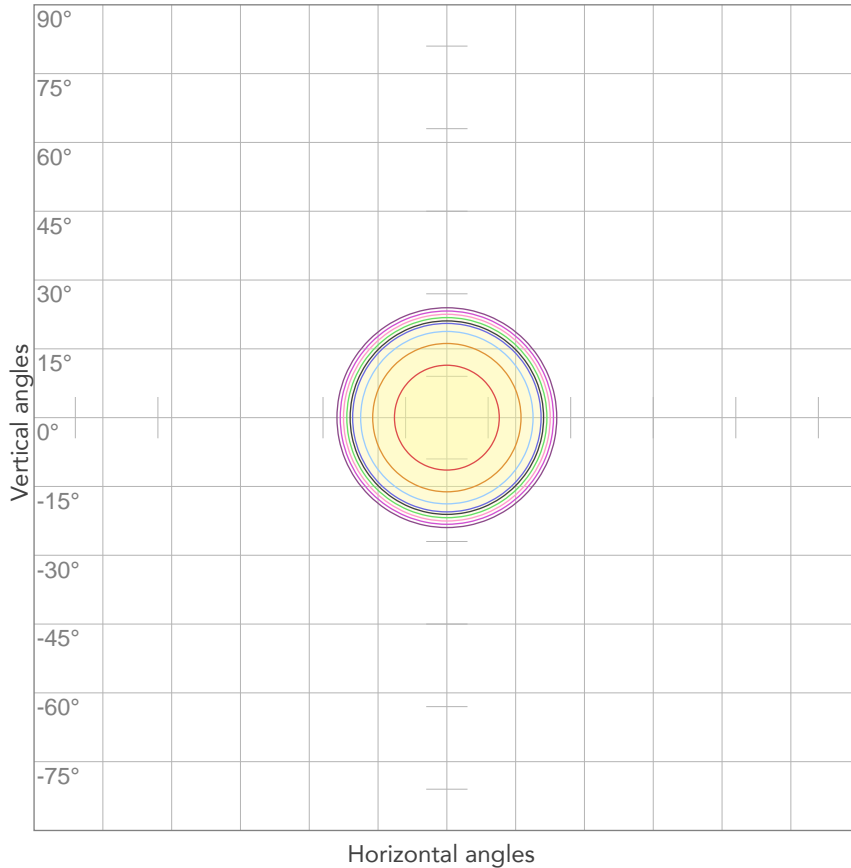
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
225V	0,934A	200,9W	28lm/W
Power FC			
0,96			

ISO CANDELA DIAGRAM



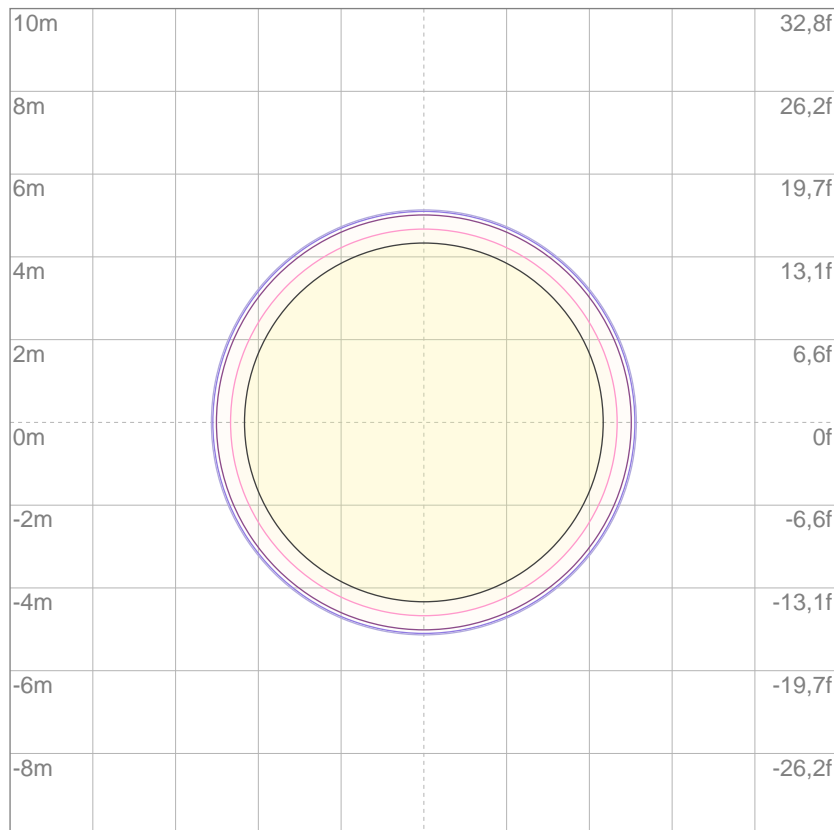
10%	1154 cd
20%	2308 cd
30%	3462 cd
40%	4616 cd
50%	5770 cd
60%	6924 cd
70%	8078 cd
80%	9232 cd

Conditions:

Number of c-planes: 2

Candela at center: 11540 cd

ISO LUX DIAGRAM



Mounting height: 10 meters (33 feet)

3%	3,46 lx
5%	5,77 lx
10%	11,5 lx
30%	34,6 lx
50%	57,7 lx

Conditions:

Number of c-planes: 2

Lux at center: 115 lx

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



Total lumen output:

851 lm

Peak candela output:

1739 cd

PRODUCT NAME:

ECLFS

MEASUREMENT CONDITIONS:

Beam angle:

PRL50

Target:

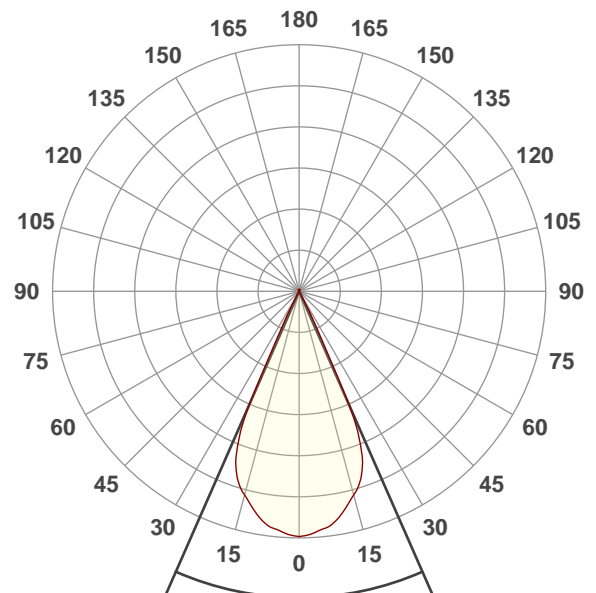
Red

Operator:

Paolo Carvone

Date and time:

30/04/2020 11:41:38

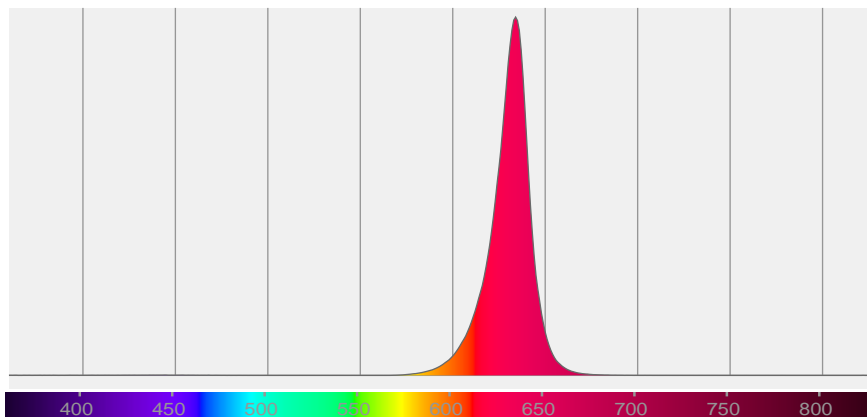


Beam angle 50%: 47,5°

Field angle 10%: 53,2°

Cut off angle 2.5%: 55,6°

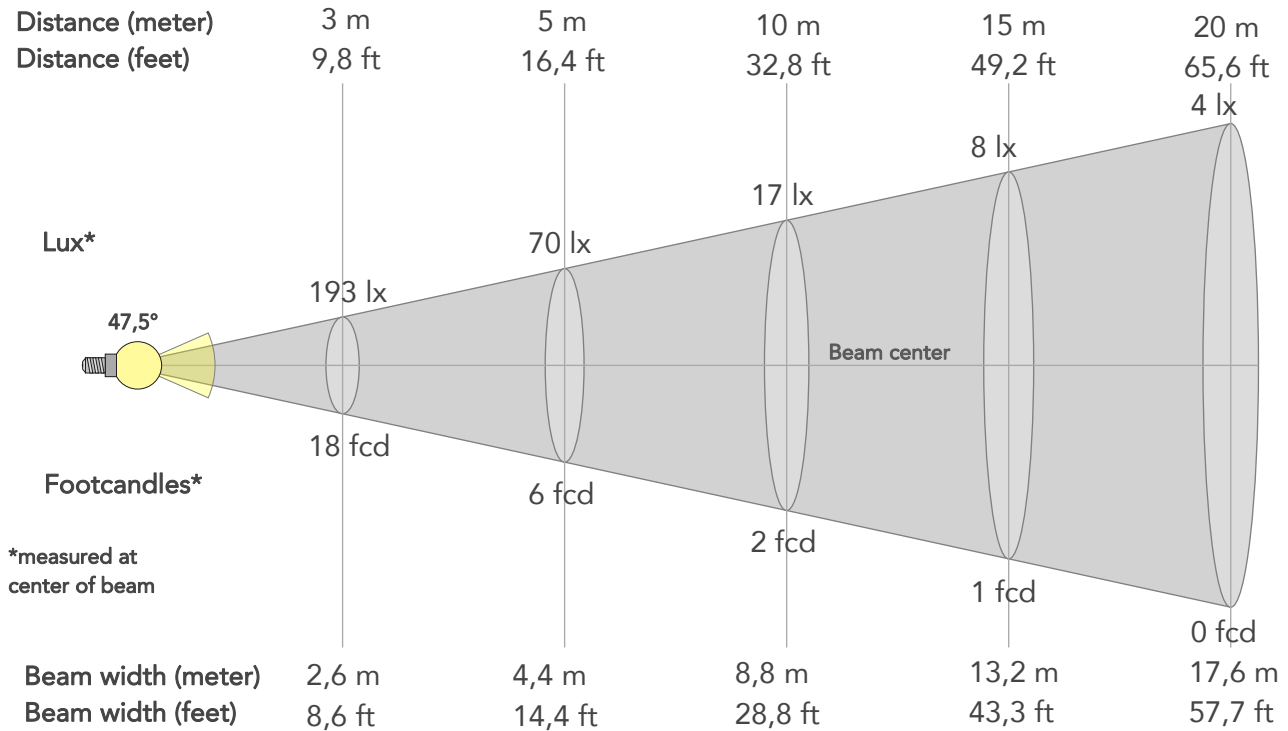
Spectra



BEAM DETAILS



Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
47,5°	53,2°	55,6°	96,7%	96,4%



BEAM INTENSITIES AND WIDTHS

Distance	1m	2m	3m	4m	5m	7,5m	10m	15m	20m	25m	30m	40m	50m
Distance	3,3ft	6,6ft	9,8ft	13,1ft	16,4ft	24,6ft	32,8ft	49,2ft	65,6ft	82ft	98,4ft	131,2ft	164ft
Lux	1739lx	435lx	193lx	109lx	70lx	31lx	17lx	8lx	4lx	3lx	2lx	1lx	1lx
Footcand.	162fcd	40fcd	18fcd	10fcd	6fcd	3fcd	2fcd	1fcd	0fcd	0fcd	0fcd	0fcd	0fcd
Beam wid.	0,9m	1,8m	2,6m	3,5m	4,4m	6,6m	8,8m	13,2m	17,6m	22m	26,4m	35,2m	44m
Beam wid.	2,9ft	5,8ft	8,6ft	11,5ft	14,4ft	21,6ft	28,8ft	43,3ft	57,7ft	72,1ft	86,5ft	115,4ft	144,2ft

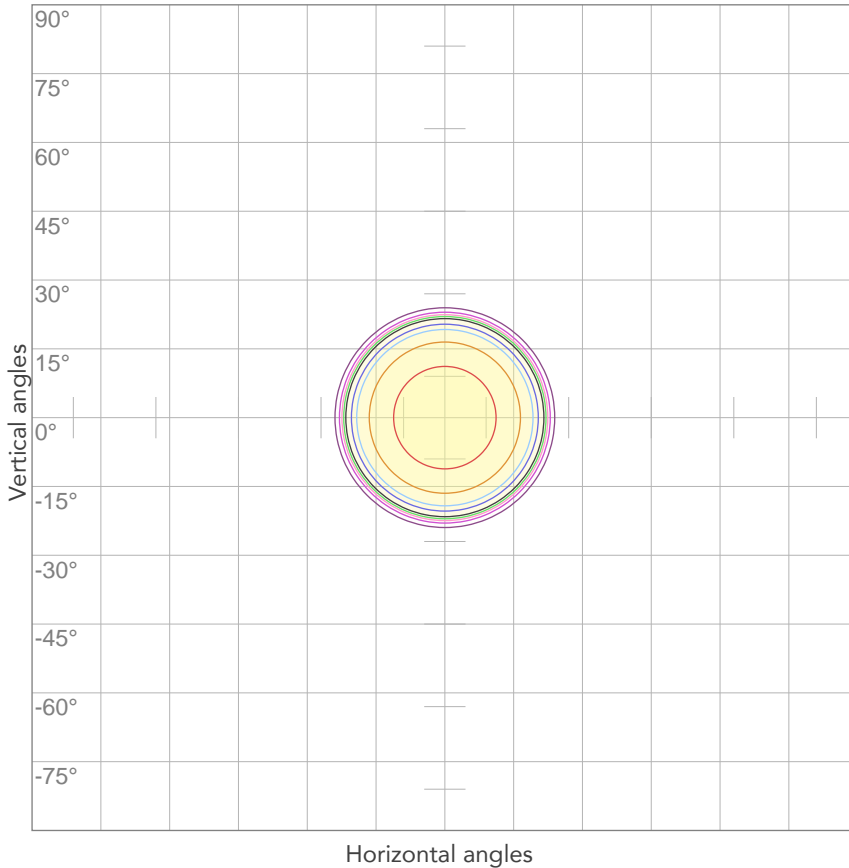
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
226V	0,279A	47,3W	18lm/W
Power FC			
0,96			

ISO CANDELA DIAGRAM



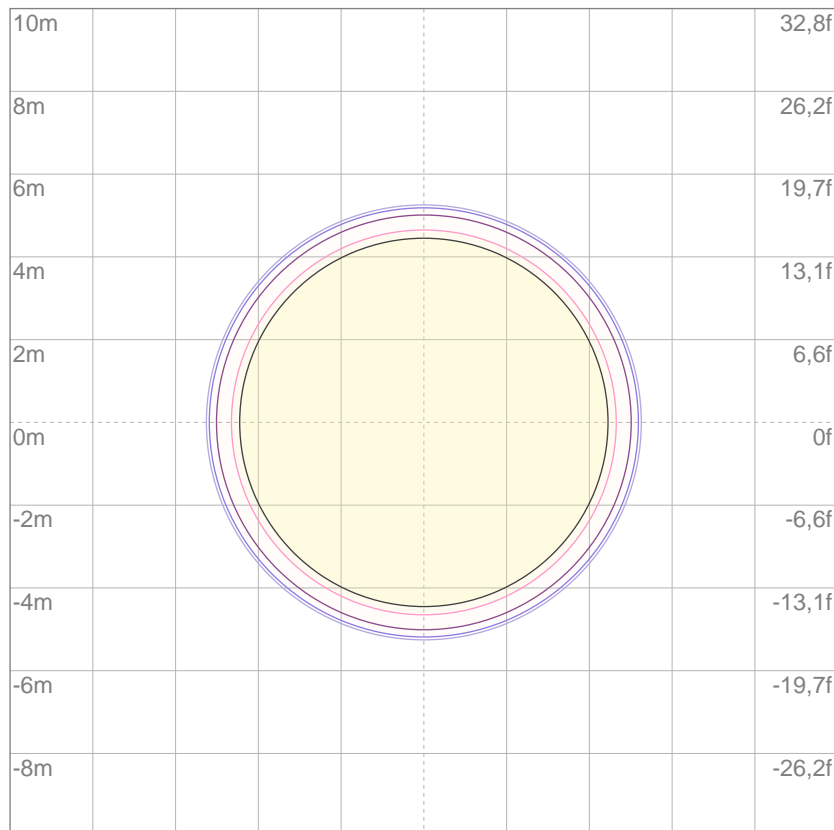
10%	174 cd
20%	348 cd
30%	522 cd
40%	696 cd
50%	870 cd
60%	1043 cd
70%	1217 cd
80%	1391 cd

Conditions:

Number of c-planes: 2

Candela at center: 1739 cd

ISO LUX DIAGRAM



3%	0,522 lx
5%	0,870 lx
10%	1,74 lx
30%	5,22 lx
50%	8,70 lx

Conditions:

Number of c-planes: 2

Lux at center: 17,4 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:

1255 lm

Peak candela output:

2628 cd

PRODUCT NAME:

ECLFS

MEASUREMENT CONDITIONS:

Beam angle:

PRL50

Target:

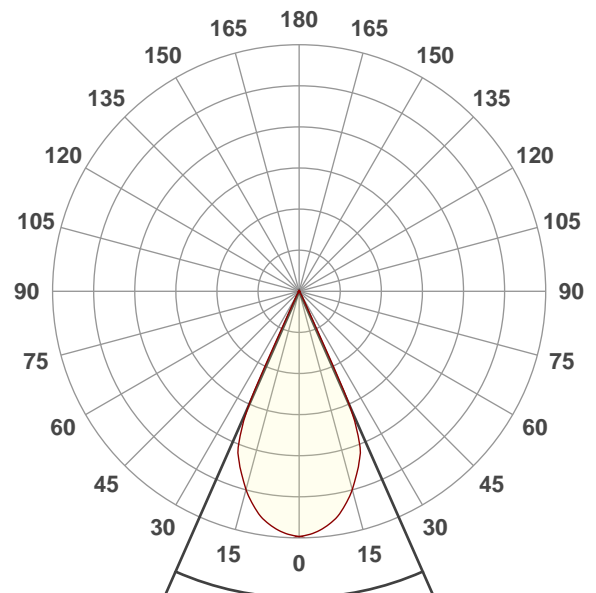
Green

Operator:

Paolo Carvone

Date and time:

30/04/2020 11:43:15

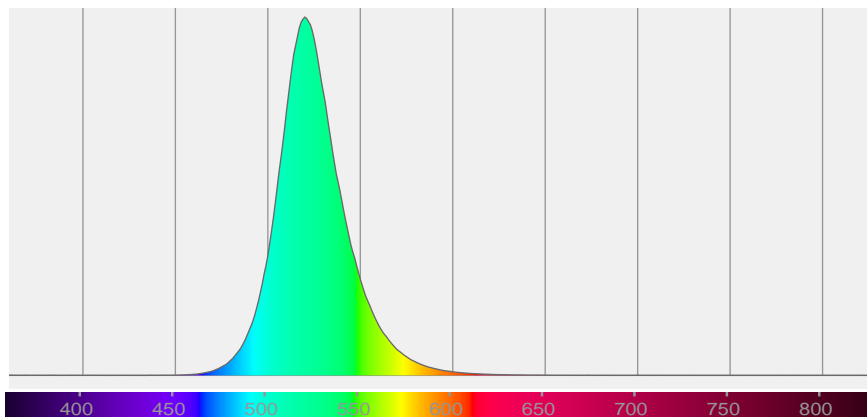


Beam angle 50%: 47,6°

Field angle 10%: 52,4°

Cut off angle 2.5%: 55,8°

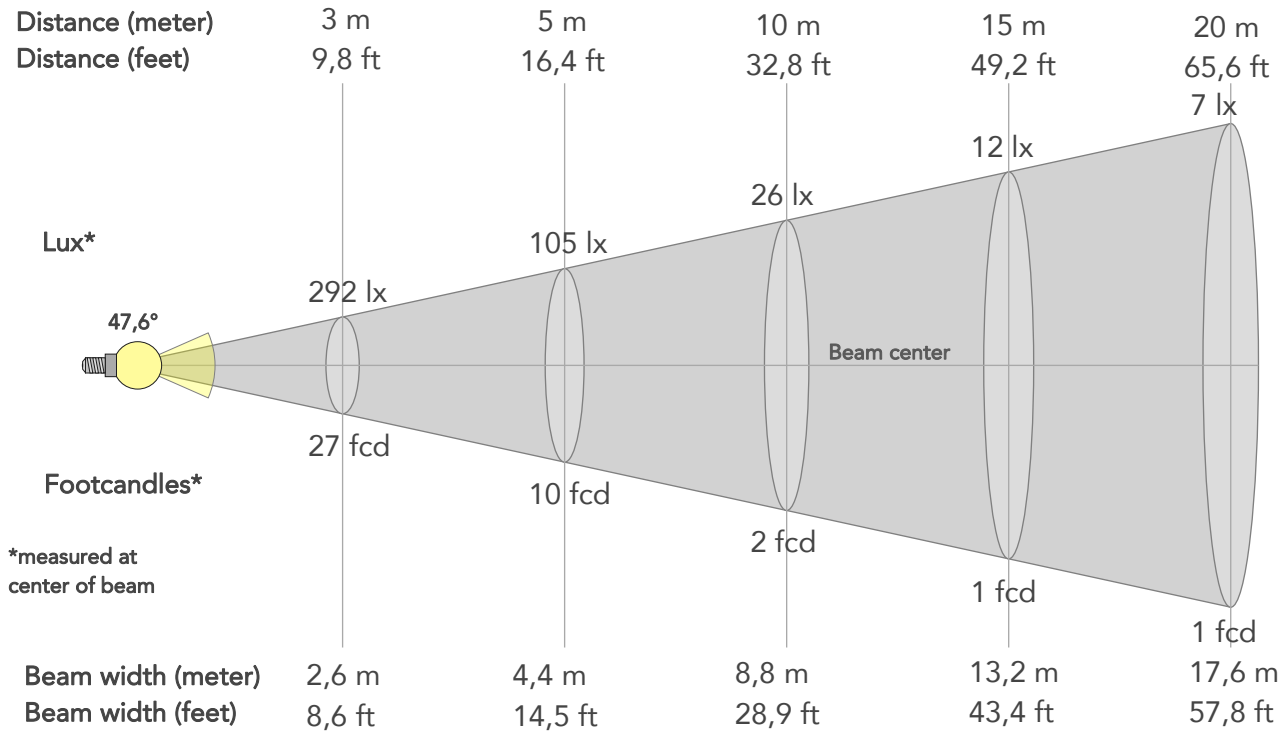
Spectra



BEAM DETAILS



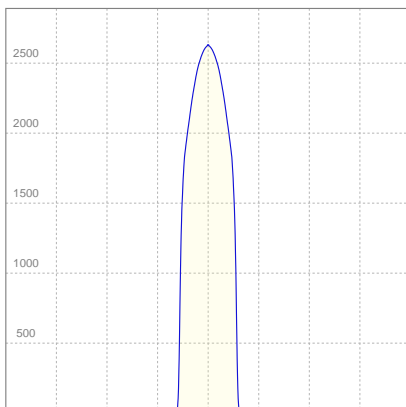
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
47,6°	52,4°	55,8°	96,8%	96,5%



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	2628lx	657lx	292lx	164lx	105lx	47lx	26lx	12lx	7lx	4lx	3lx	2lx	1lx
Footcand.	244fcd	61fcd	27fcd	15fcd	10fcd	4fcd	2fcd	1fcd	1fcd	0fcd	0fcd	0fcd	0fcd
Beam wid.	0,9m	1,8m	2,6m	3,5m	4,4m	6,6m	8,8m	13,2m	17,6m	22m	26,5m	35,3m	44,1m
Beam wid.	2,9ft	5,8ft	8,6ft	11,6ft	14,5ft	21,7ft	28,9ft	43,4ft	57,8ft	72,3ft	86,8ft	115,7ft	144,6ft

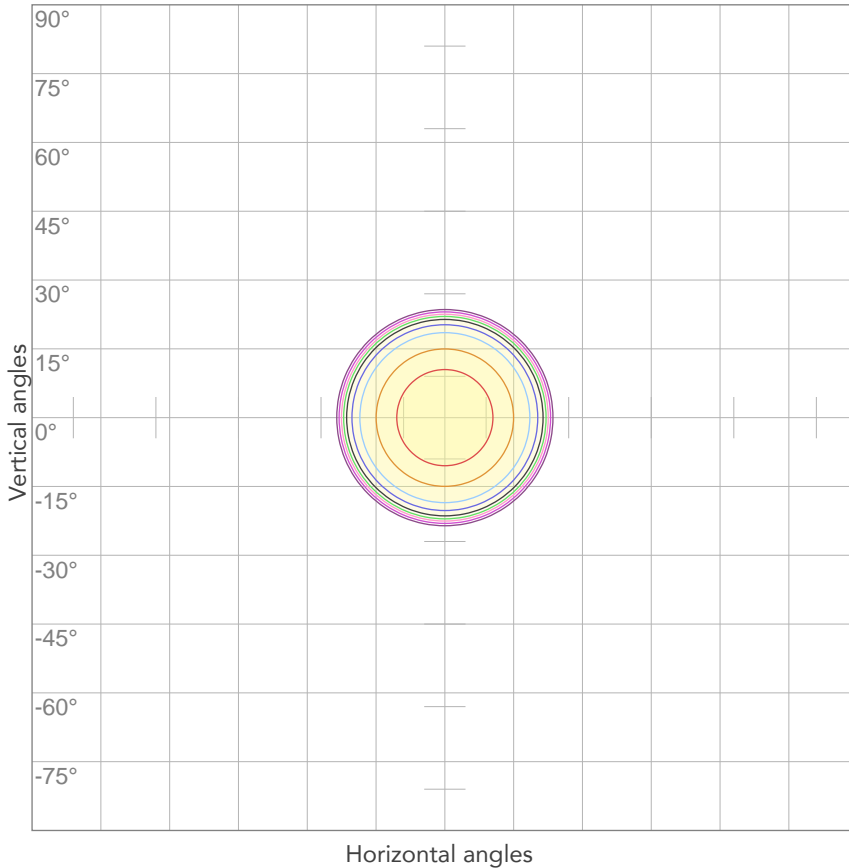
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
226V	0,282A	48,0W	26lm/W
Power FC			
0,96			

ISO CANDELA DIAGRAM



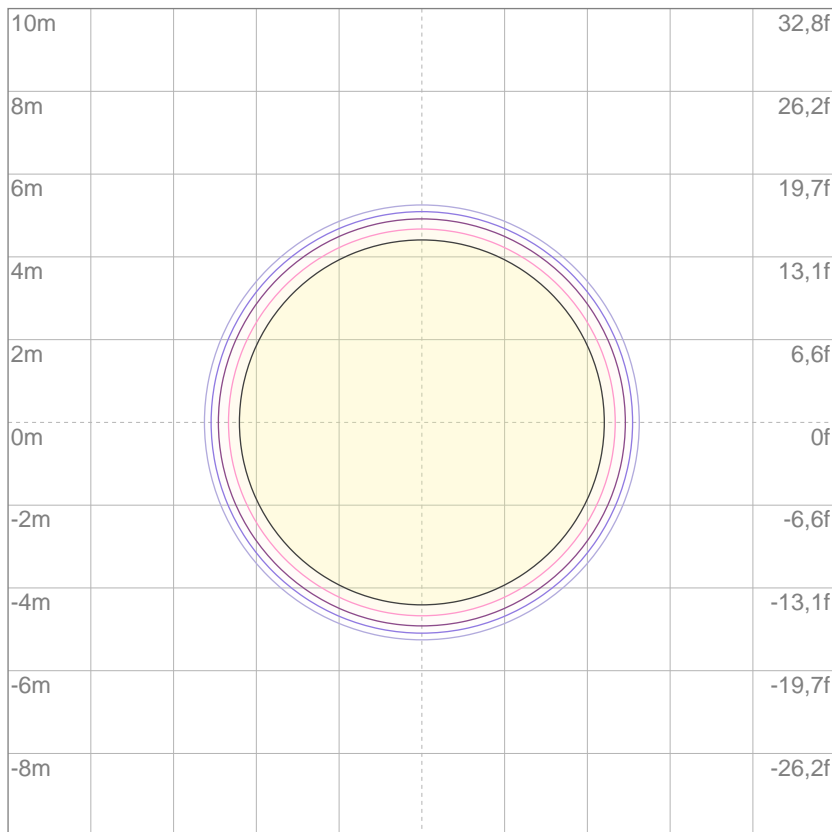
10%	263 cd
20%	526 cd
30%	788 cd
40%	1051 cd
50%	1314 cd
60%	1577 cd
70%	1840 cd
80%	2102 cd

Conditions:

Number of c-planes: 2

Candela at center: 2628 cd

ISO LUX DIAGRAM



3%	0,788 lx
5%	1,31 lx
10%	2,63 lx
30%	7,88 lx
50%	13,1 lx

Conditions:

Number of c-planes: 2

Lux at center: 26,3 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:

184 lm

Peak candela output:

395 cd

PRODUCT NAME:

ECLFS

MEASUREMENT CONDITIONS:

Beam angle:

PRL50

Target:

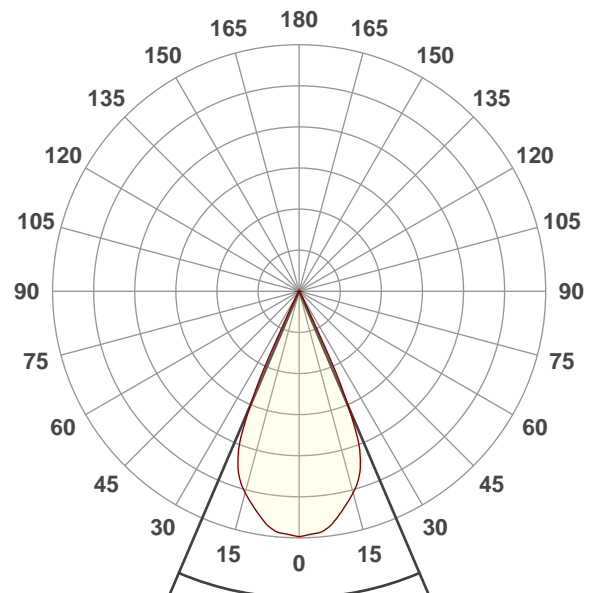
Blue

Operator:

Paolo Carvone

Date and time:

30/04/2020 11:44:42

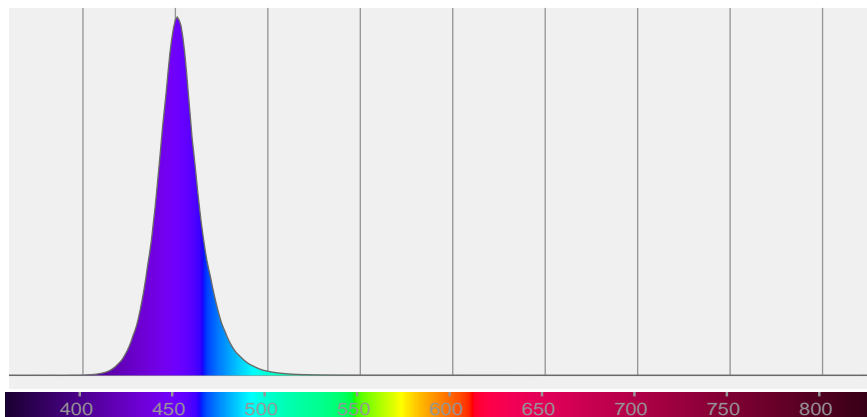


Beam angle 50%: 46,3°

Field angle 10%: 52,7°

Cut off angle 2.5%: 56,3°

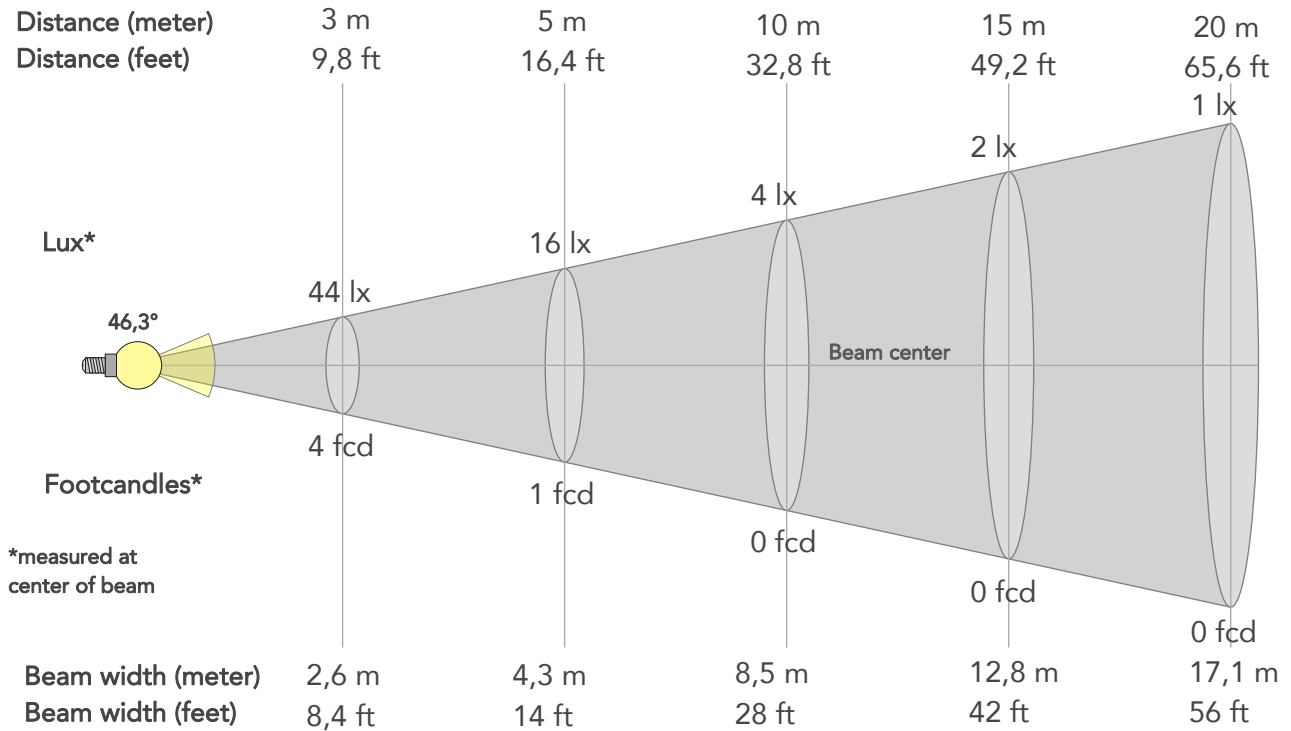
Spectra



BEAM DETAILS



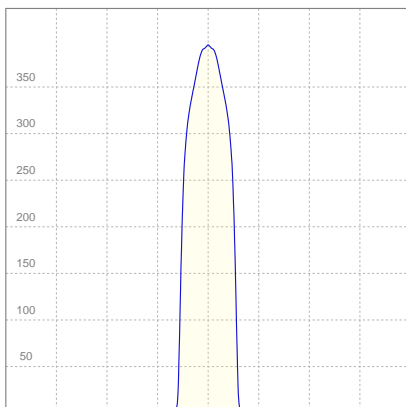
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
46,3°	52,7°	56,3°	99,0%	98,7%



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	395lx	99lx	44lx	25lx	16lx	7lx	4lx	2lx	1lx	1lx	0lx	0lx	0lx
Footcand.	37fcd	9fcd	4fcd	2fcd	1fcd	1fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd
Beam wid.	0,9m	1,7m	2,6m	3,4m	4,3m	6,4m	8,5m	12,8m	17,1m	21,4m	25,6m	34,2m	42,7m
Beam wid.	2,8ft	5,6ft	8,4ft	11,2ft	14ft	21ft	28ft	42ft	56ft	70,1ft	84,1ft	112,1ft	140,1ft

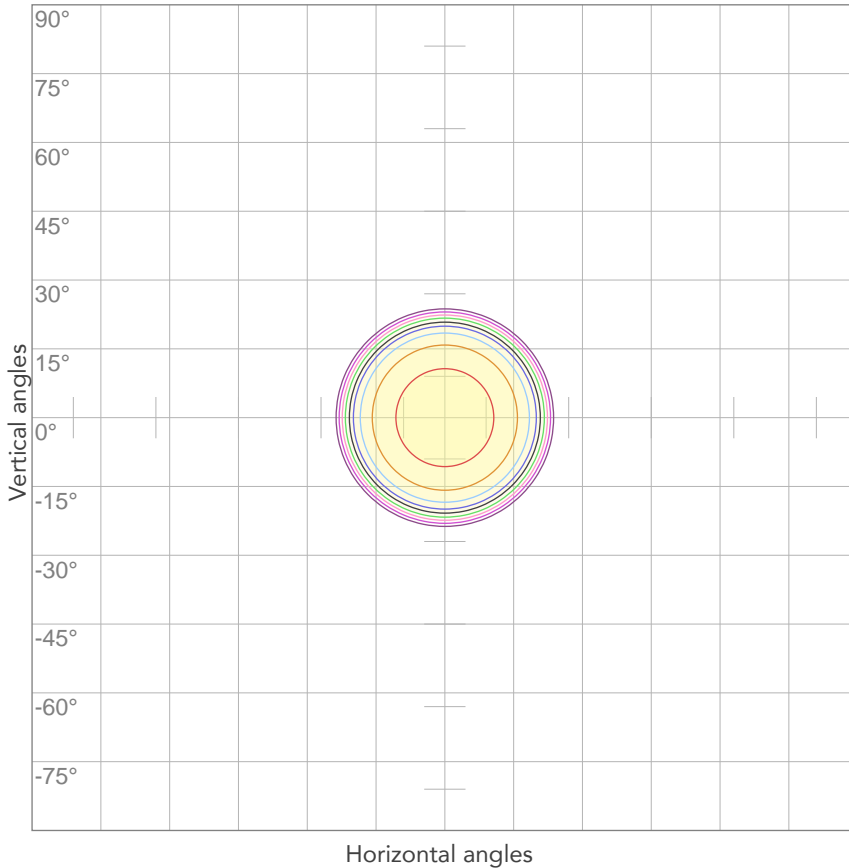
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
226V	0,244A	37,8W	5lm/W
Power FC			
0,96			

ISO CANDELA DIAGRAM

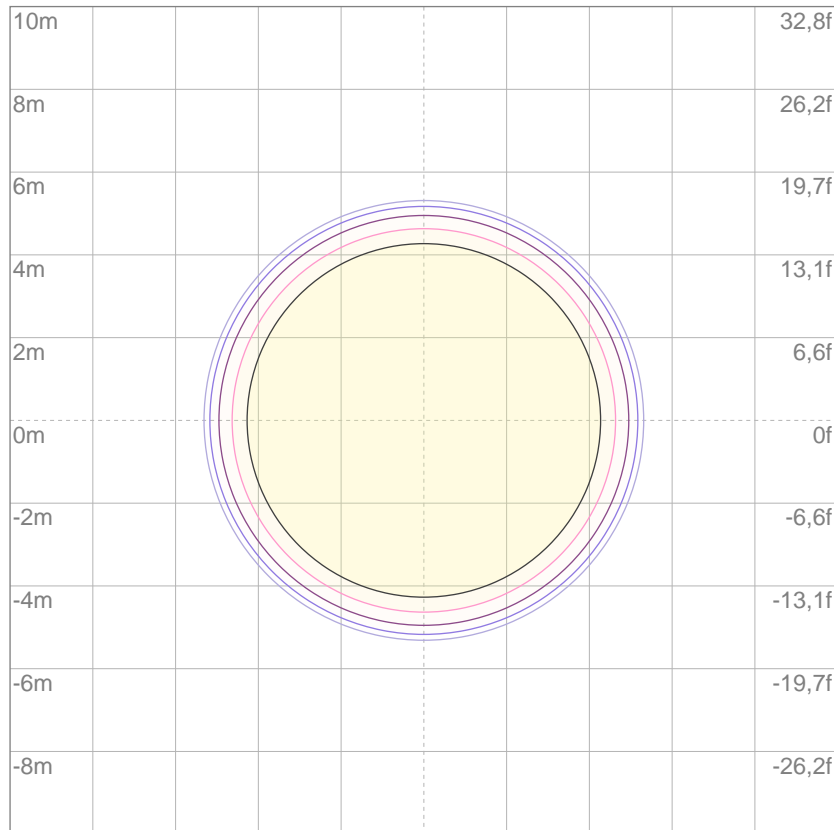


10%	39 cd
20%	79 cd
30%	118 cd
40%	158 cd
50%	197 cd
60%	237 cd
70%	276 cd
80%	316 cd

Conditions:

Number of c-planes: 2
Candela at center: 395 cd

ISO LUX DIAGRAM



3%	0,118 lx
5%	0,197 lx
10%	0,395 lx
30%	1,18 lx
50%	1,97 lx

Conditions:

Number of c-planes: 2
Lux at center: 3,95 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:

3475 lm

Peak candela output:

7106 cd

PRODUCT NAME:

ECLFS

MEASUREMENT CONDITIONS:

Beam angle:

PRL50

Target:

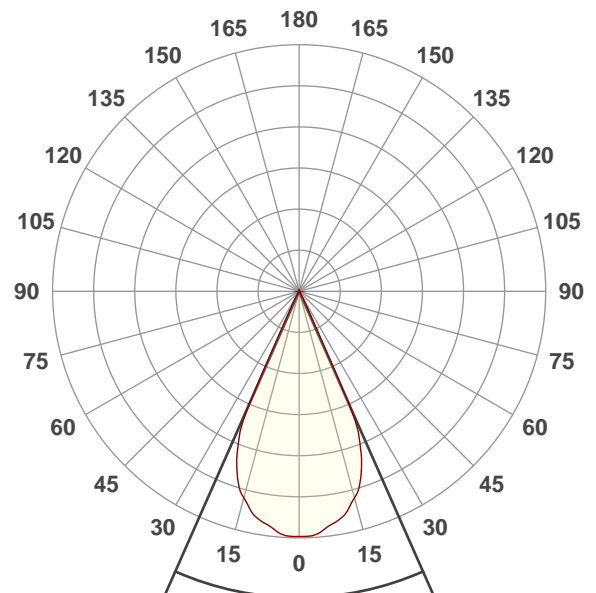
Lime

Operator:

Paolo Carvone

Date and time:

30/04/2020 11:46:23

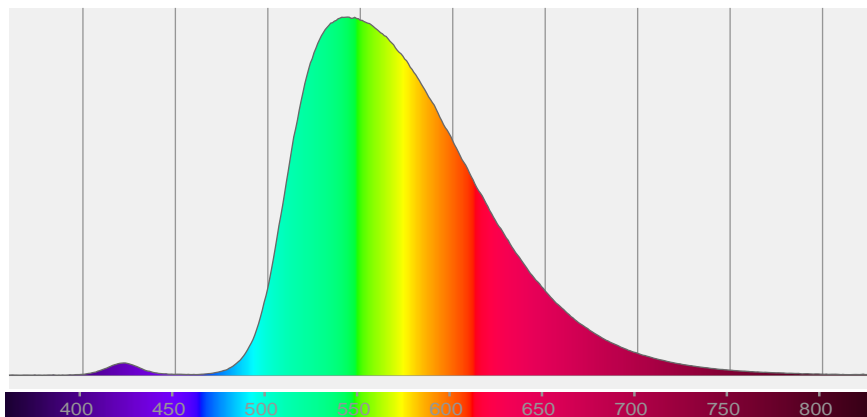


Beam angle 50%: 47,7°

Field angle 10%: 51,9°

Cut off angle 2.5%: 55,5°

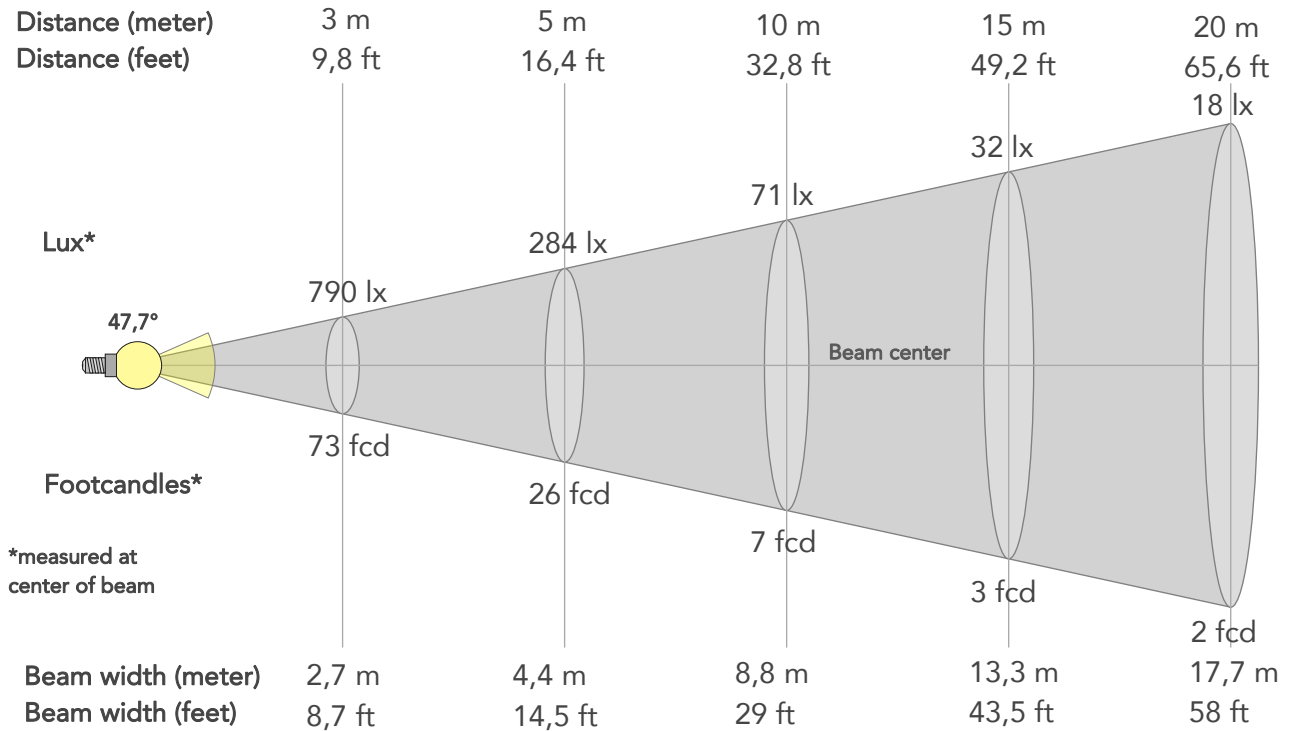
Spectra



BEAM DETAILS



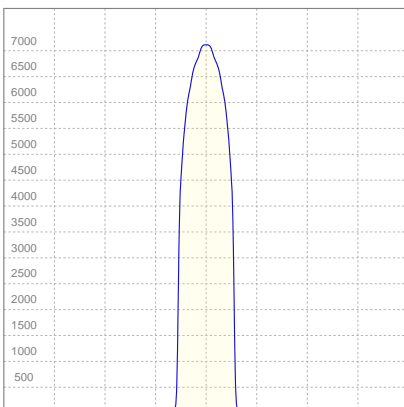
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
47,7°	51,9°	55,5°	96,6%	96,3%



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	7106lx	1777lx	790lx	444lx	284lx	126lx	71lx	32lx	18lx	11lx	8lx	4lx	3lx
Footcand.	660fcd	165fcd	73fcd	41fcd	26fcd	12fcd	7fcd	3fcd	2fcd	1fcd	1fcd	0fcd	0fcd
Beam wid.	0,9m	1,8m	2,7m	3,5m	4,4m	6,6m	8,8m	13,3m	17,7m	22,1m	26,5m	35,4m	44,2m
Beam wid.	2,9ft	5,8ft	8,7ft	11,6ft	14,5ft	21,8ft	29ft	43,5ft	58ft	72,5ft	87ft	116ft	145ft

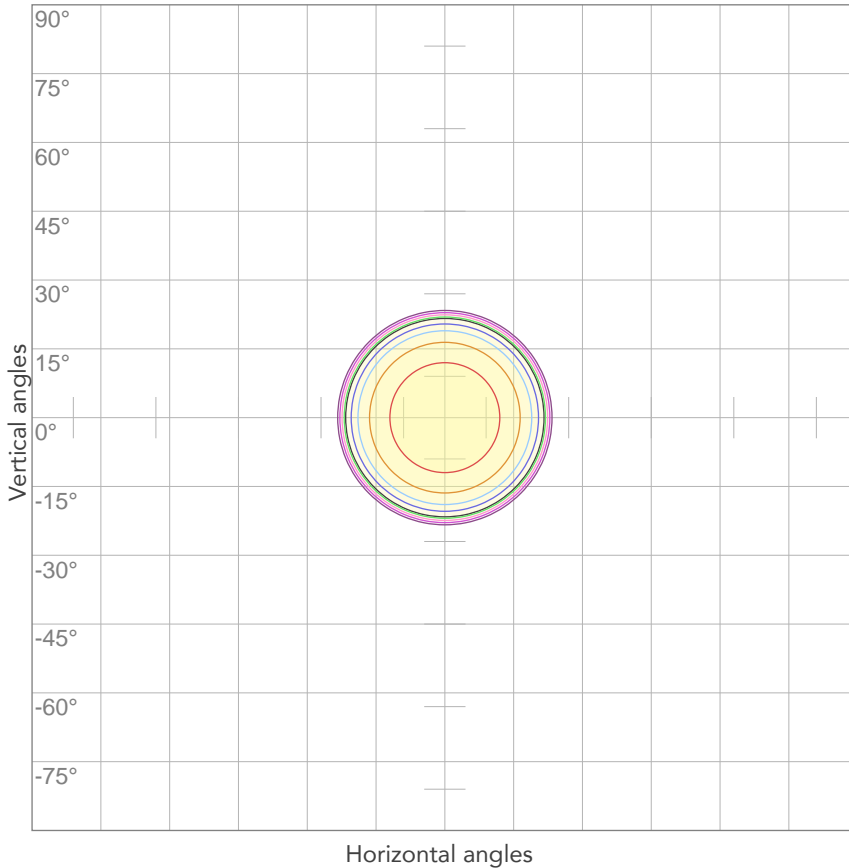
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
225V	0,431A	85,1W	41lm/W
Power FC			
0,96			

ISO CANDELA DIAGRAM



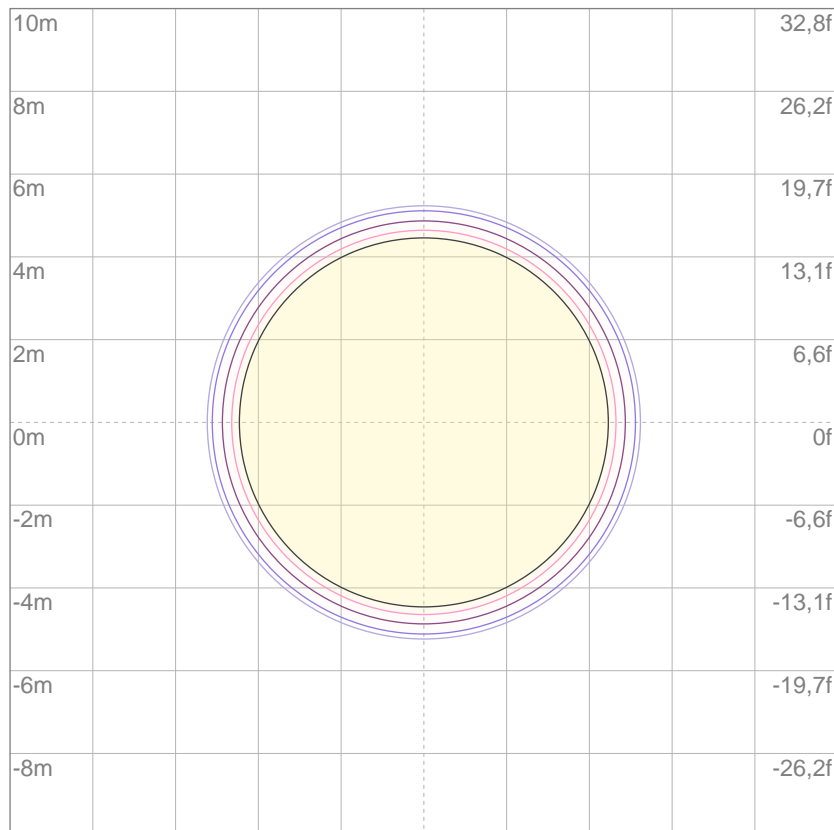
10%	711 cd
20%	1421 cd
30%	2132 cd
40%	2843 cd
50%	3553 cd
60%	4264 cd
70%	4974 cd
80%	5685 cd

Conditions:

Number of c-planes: 2

Candela at center: 7106 cd

ISO LUX DIAGRAM



3%	2,13 lx
5%	3,55 lx
10%	7,11 lx
30%	21,3 lx
50%	35,5 lx

Conditions:

Number of c-planes: 2

Lux at center: 71,1 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:

3691 lm

Peak candela output:

7596 cd

Light quality:

CRI: 85,4

Color temperature:

2974 K

PRODUCT NAME:

ECLFS

MEASUREMENT CONDITIONS:

Beam angle:

PRL50

Target:

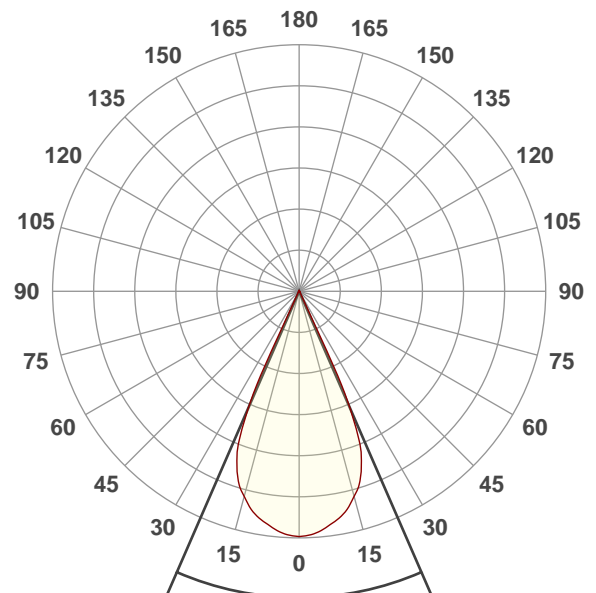
2800K

Operator:

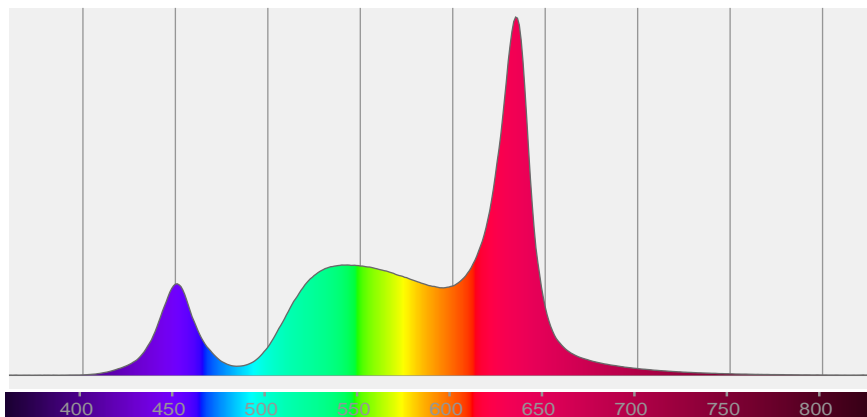
Paolo Carvone

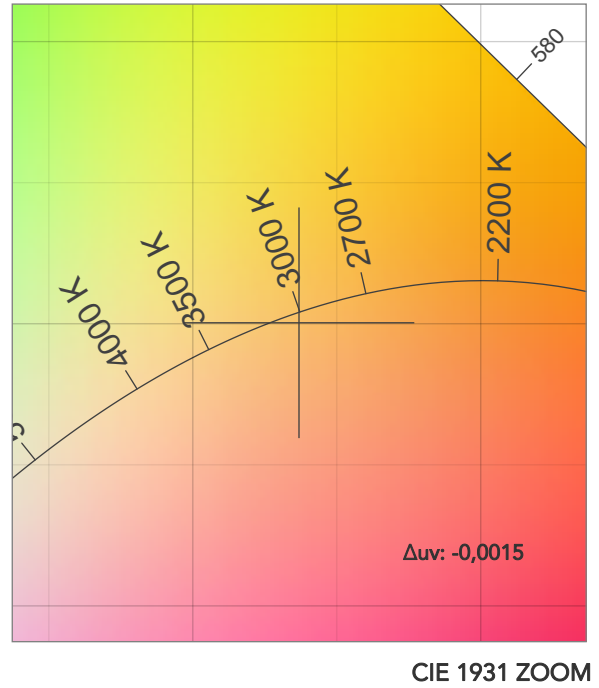
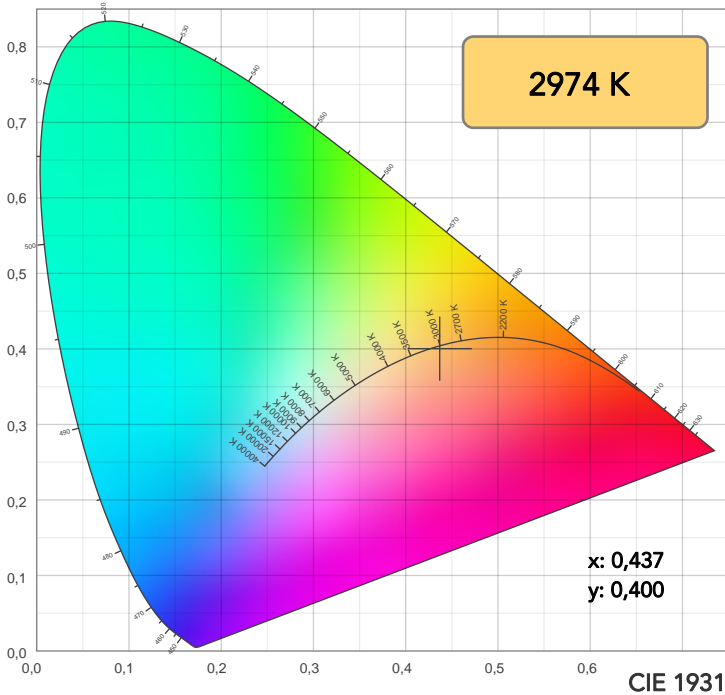
Date and time:

30/04/2020 11:48:44



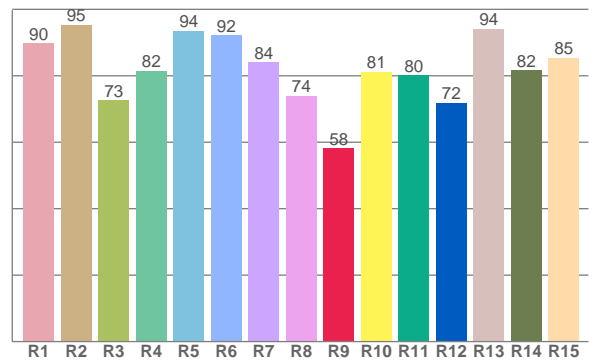
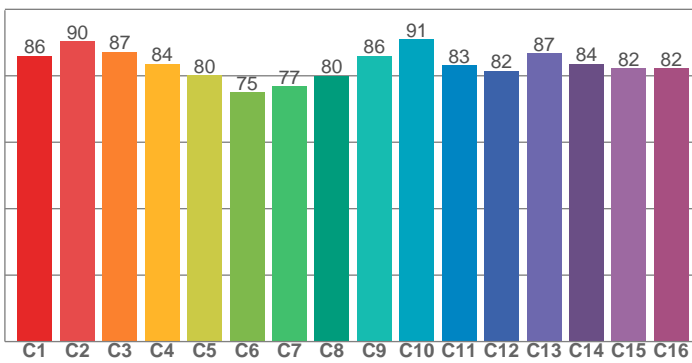
Spectra





TM30: 84,0

CRI: 85,4 (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
89,7	95,3	72,7	81,5	93,6	92,2	84,1	74,0	58,2	81,2	80,2	71,9	94,2	81,6	85,5

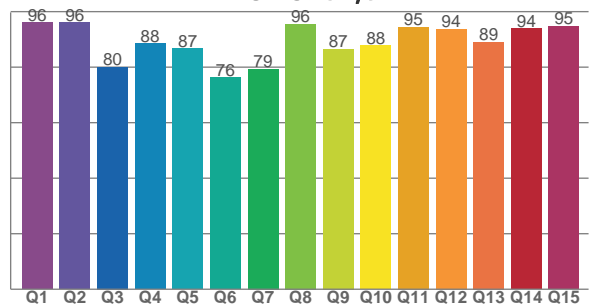
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
86,0	90,4	87,3	83,7	80,2	75,0	76,8	79,9	86,0	90,9	83,2	81,6	86,7	83,6	82,2	82,2

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
96,0	96,1	80,0	88,5	86,7	76,3	79,4	95,6	86,5	87,8	94,5	93,8	89,0	93,9	94,7

CQS: 87,3



COLOR PARAMETERS

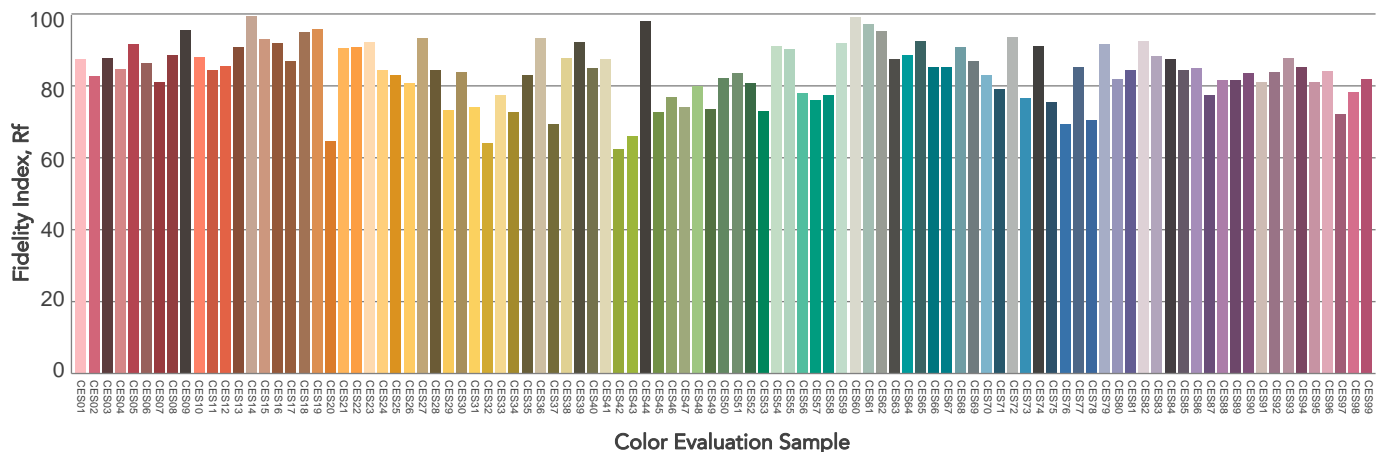
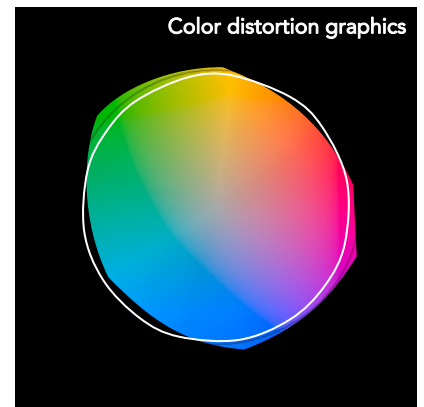
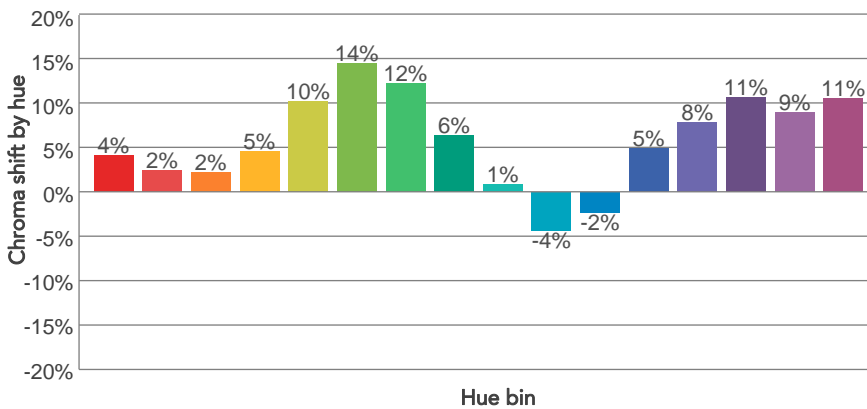
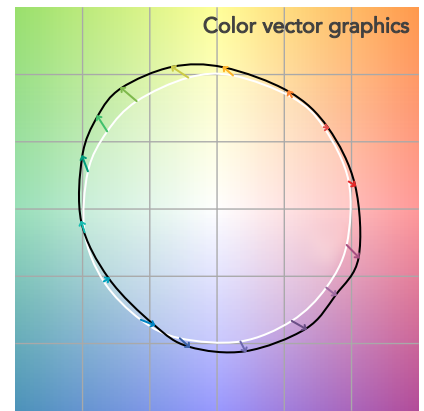
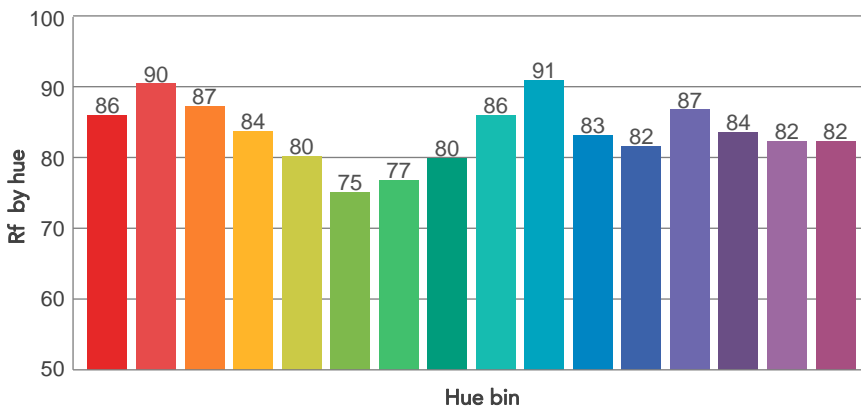
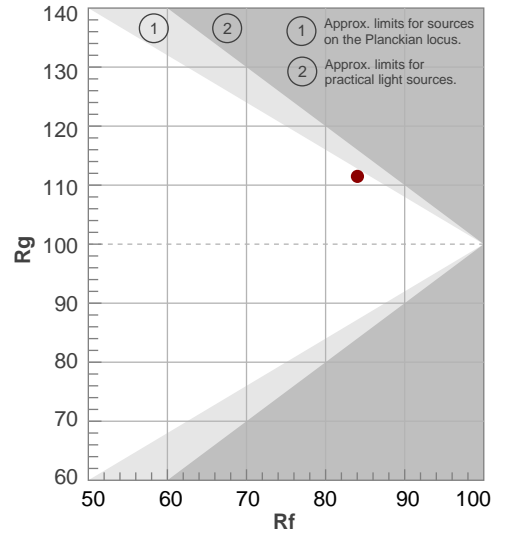
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
2974 K	85,4	58,2	84,0	111,5	87,3	72	0,437	0,400	-0,0015

TM30 DETAILS

Rf 84,0
Fidelity index Rf

Rg 111,5
Gammut index

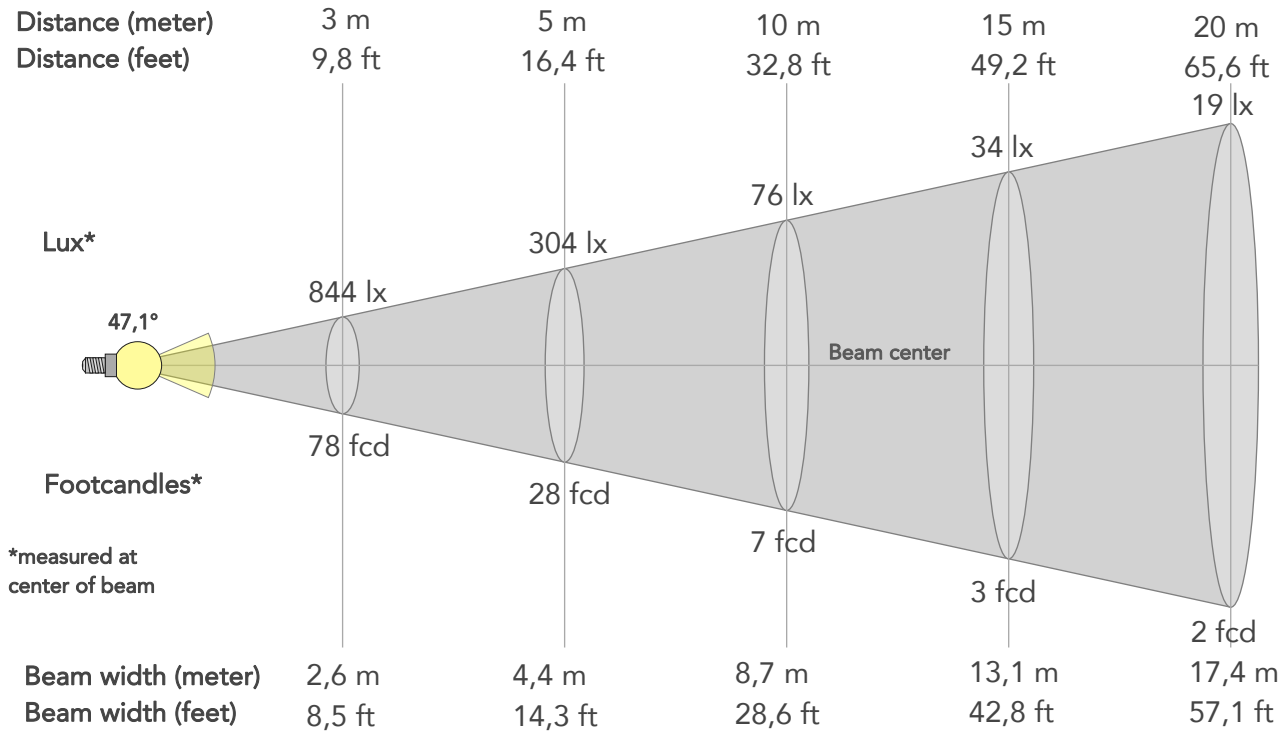
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	86	4%	-4%
2	90	2%	-2%
3	87	2%	4%
4	84	5%	8%
5	80	10%	10%
6	75	14%	4%
7	77	12%	-5%
8	80	6%	-10%
9	86	1%	-8%
10	91	-4%	0%
11	83	-2%	10%
12	82	5%	8%
13	87	8%	2%
14	84	11%	5%
15	82	9%	-1%
16	82	11%	-7%



BEAM DETAILS



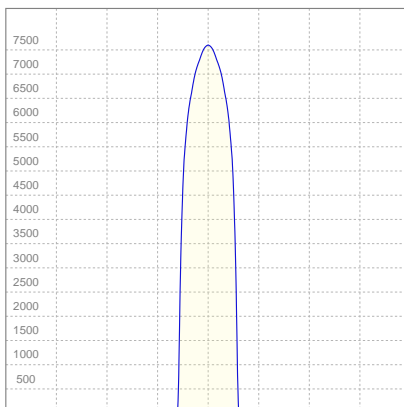
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
47,1°	52,7°	54,7°	96,9%	96,6%



BEAM INTENSITIES AND WIDTHS

Distance	1m	2m	3m	4m	5m	7,5m	10m	15m	20m	25m	30m	40m	50m
Distance	3,3ft	6,6ft	9,8ft	13,1ft	16,4ft	24,6ft	32,8ft	49,2ft	65,6ft	82ft	98,4ft	131,2ft	164ft
Lux	7596lx	1899lx	844lx	475lx	304lx	135lx	76lx	34lx	19lx	12lx	8lx	5lx	3lx
Footcand.	706fcd	176fcd	78fcd	44fcd	28fcd	13fcd	7fcd	3fcd	2fcd	1fcd	1fcd	0fcd	0fcd
Beam wid.	0,9m	1,7m	2,6m	3,5m	4,4m	6,5m	8,7m	13,1m	17,4m	21,8m	26,1m	34,8m	43,5m
Beam wid.	2,9ft	5,7ft	8,5ft	11,4ft	14,3ft	21,4ft	28,6ft	42,8ft	57,1ft	71,4ft	85,7ft	114,2ft	142,8ft

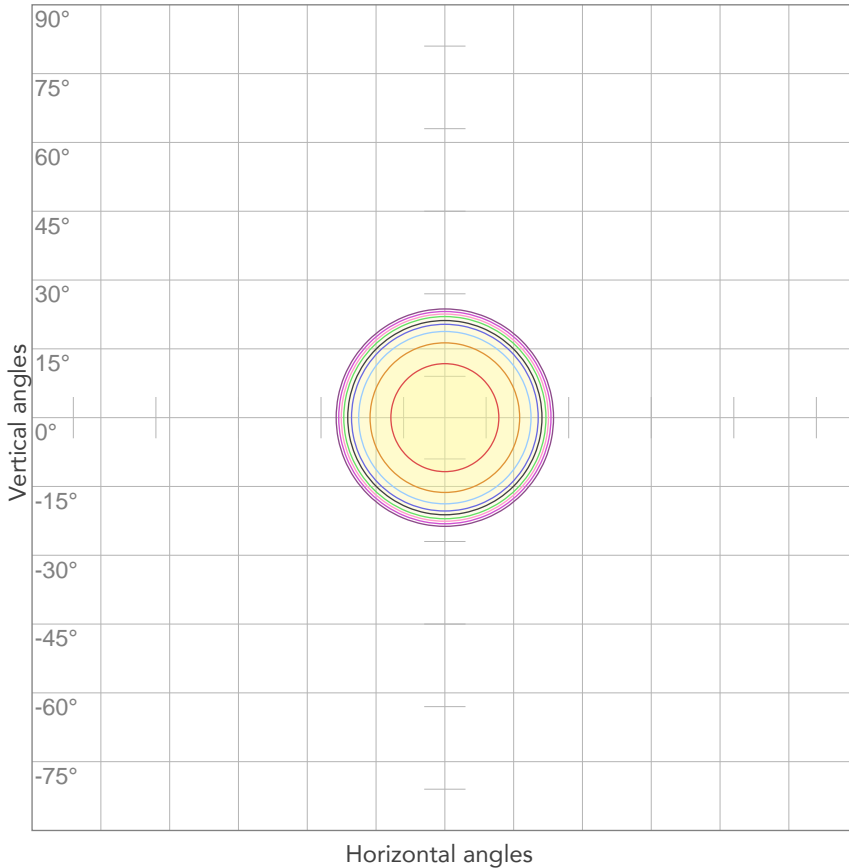
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
225V	0,554A	115,2W	32lm/W
Power FC			
0,96			

ISO CANDELA DIAGRAM



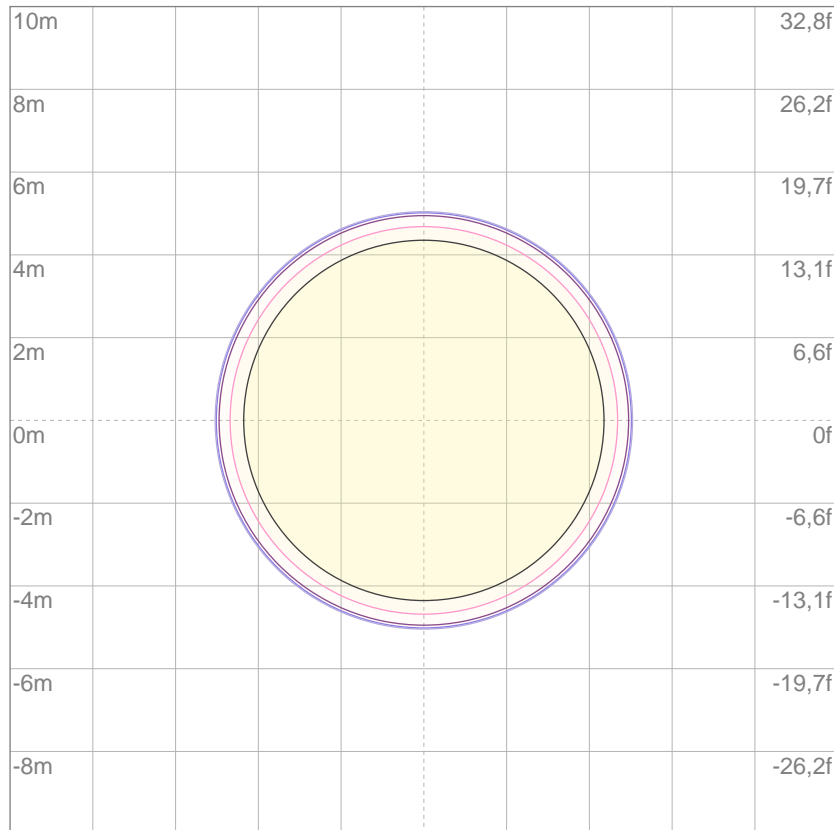
10%	760 cd
20%	1519 cd
30%	2279 cd
40%	3039 cd
50%	3798 cd
60%	4558 cd
70%	5317 cd
80%	6077 cd

Conditions:

Number of c-planes: 2

Candela at center: 7596 cd

ISO LUX DIAGRAM



3%	2,28 lx
5%	3,80 lx
10%	7,60 lx
30%	22,8 lx
50%	38,0 lx

Conditions:

Number of c-planes: 2

Lux at center: 76,0 lx

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



Total lumen output:

4020 lm

Peak candela output:

8252 cd

Light quality:

CRI: 86,5

Color temperature:

3301 K

PRODUCT NAME:

ECLFS

MEASURAMENT CONDITIONS:

Beam angle:

PRL50

Target:

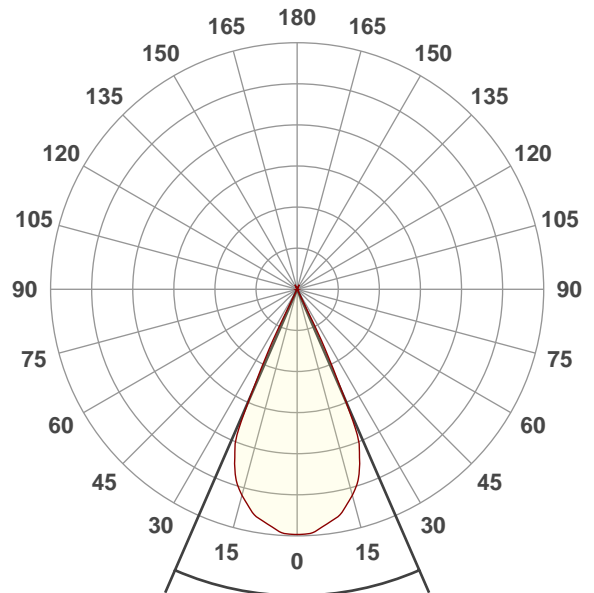
3200K

Operator:

Paolo Carvone

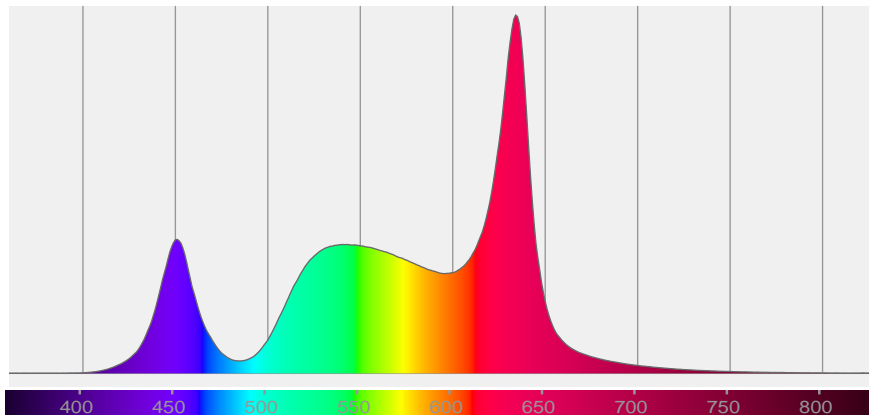
Date and time:

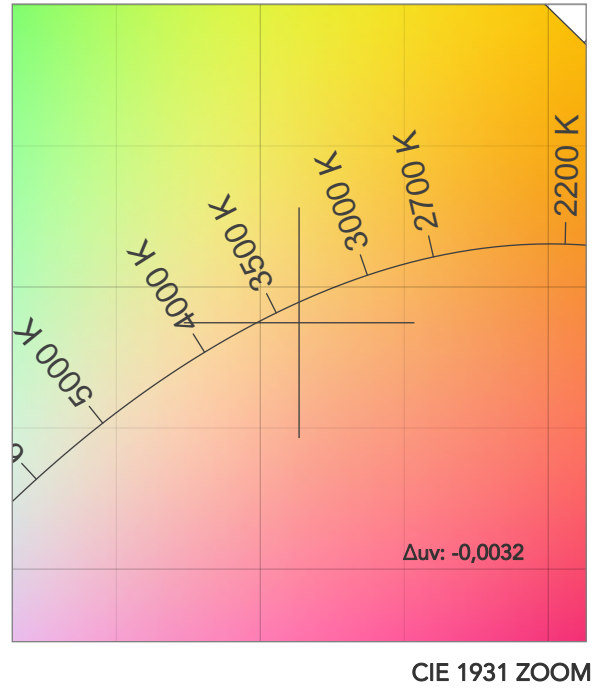
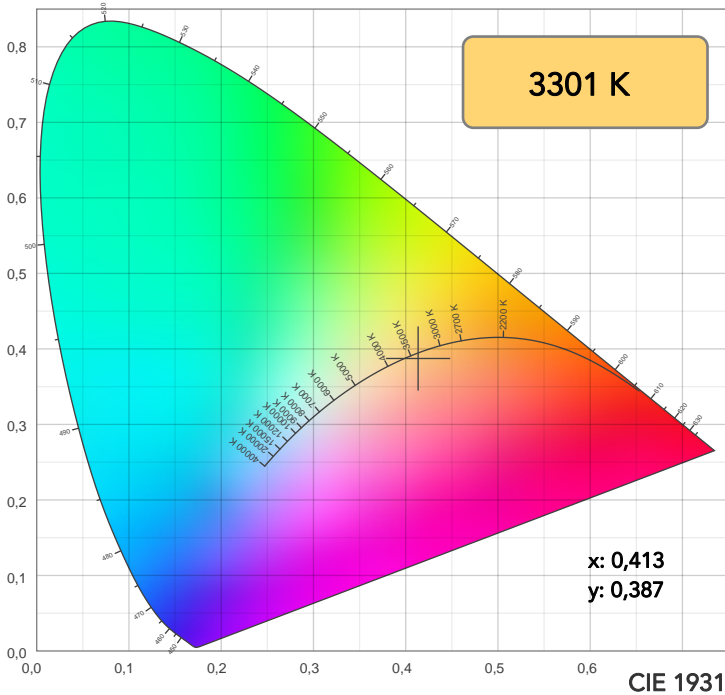
30/04/2020 11:50:22



Beam angle 50%: 47°
 Field angle 10%: 53,2°
 Cut off angle 2.5%: 54,5°

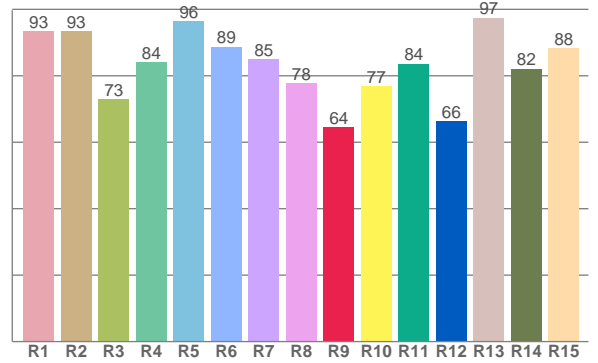
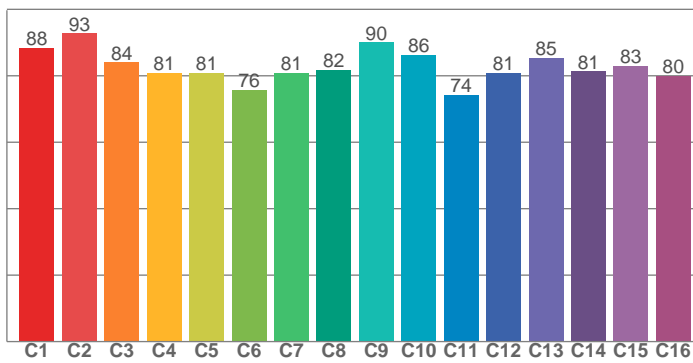
Spectra





TM30: 83,3

CRI: 86,5 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
93,4	93,4	73,0	84,2	96,4	88,7	84,9	77,7	64,4	76,9	83,7	66,2	97,5	82,1	88,2

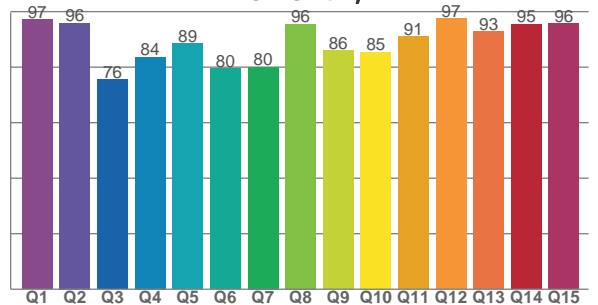
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
88,4	92,8	84,0	80,9	80,9	75,8	80,9	81,8	90,1	86,3	74,2	80,8	85,3	81,4	82,9	79,9

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
97,2	95,9	75,6	83,6	88,5	79,6	80,1	95,5	86,0	85,4	91,0	97,5	92,9	95,4	95,7

CQS: 87,1



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
3301 K	86,5	64,4	83,3	110,7	87,1	74	0,413	0,387	-0,0032

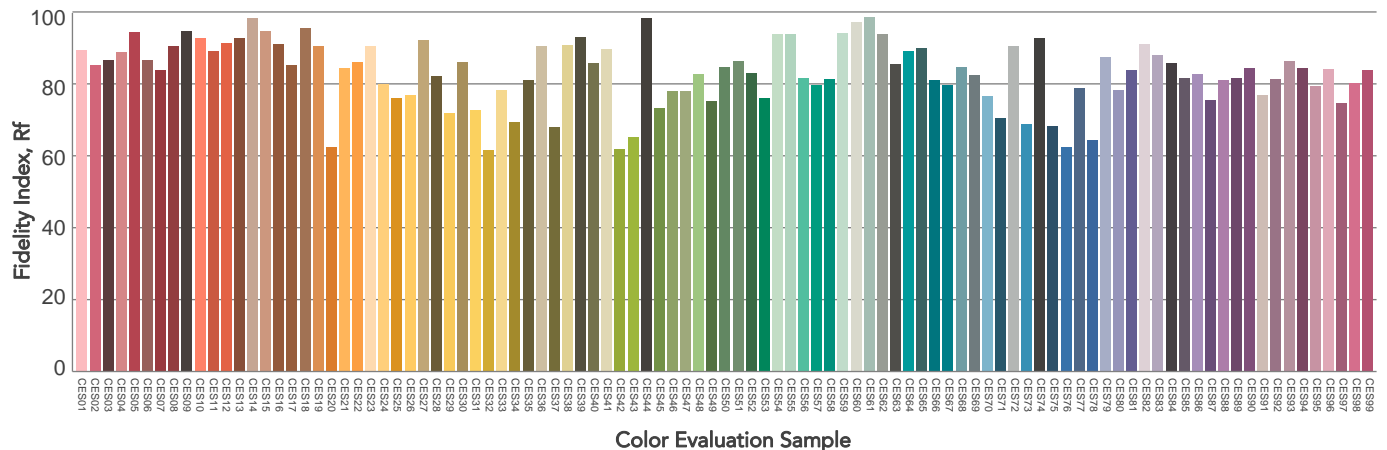
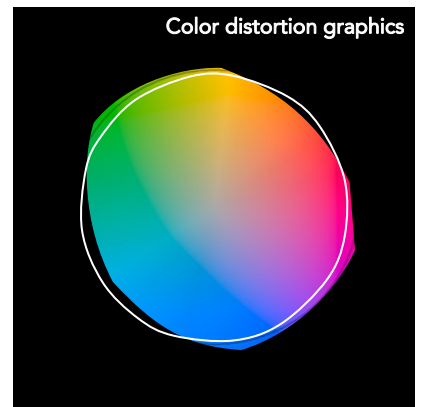
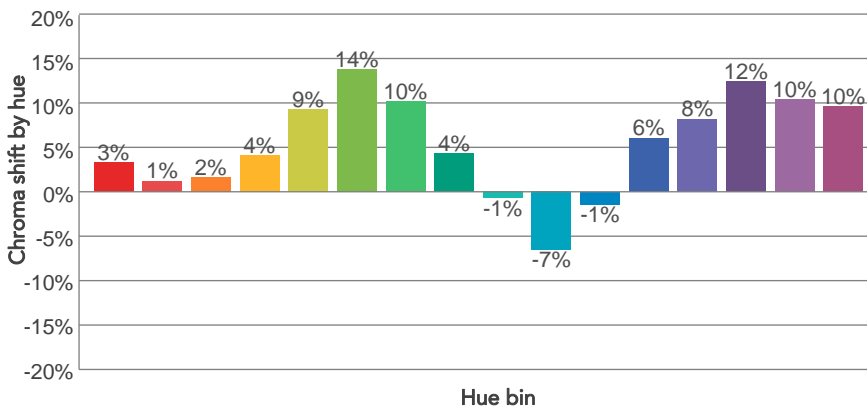
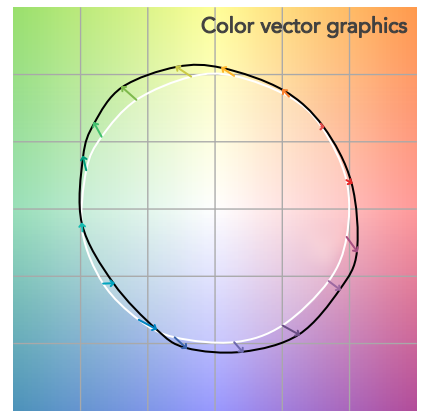
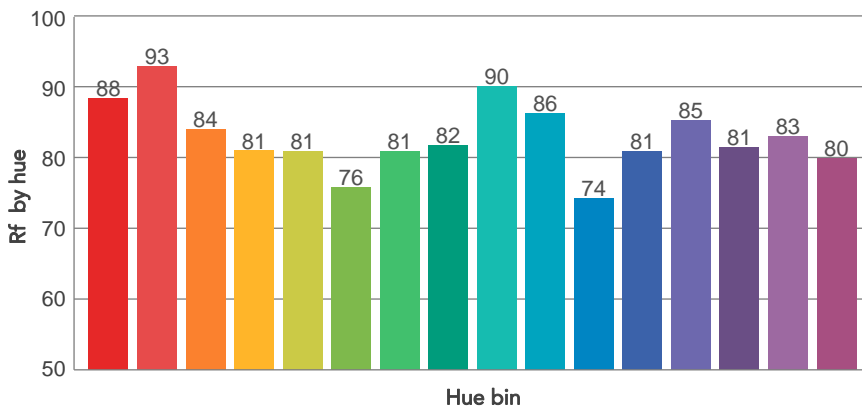
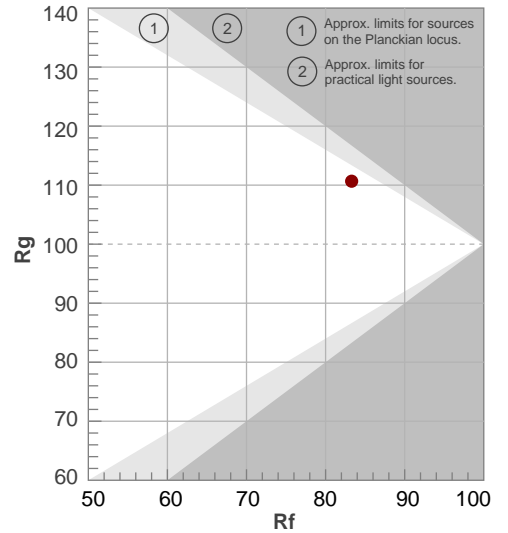
TM30 DETAILS



Rf 83,3
Fidelity index Rf

Rg 110,7
Gammut index

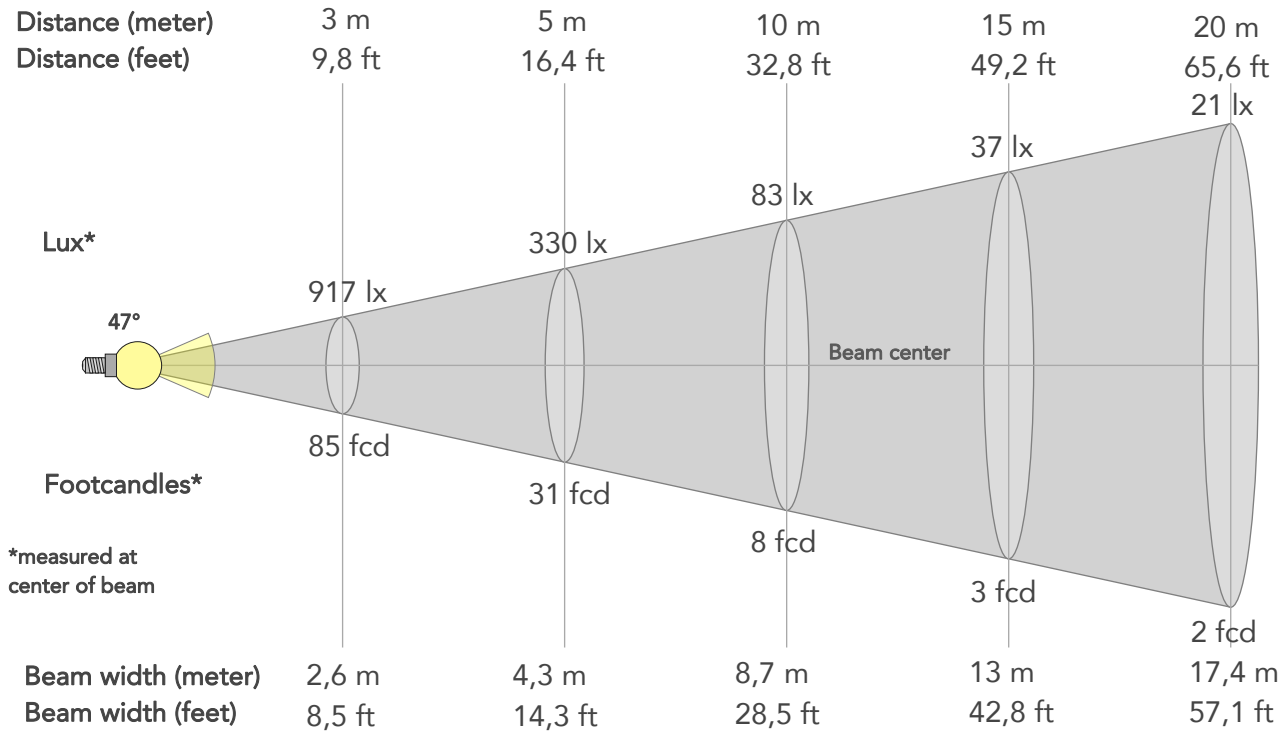
		Graphic shifts (%)	
Hue Bin	R _f	Chroma	Hue
1	88	3%	-3%
2	93	1%	-1%
3	84	2%	6%
4	81	4%	10%
5	81	9%	9%
6	76	14%	4%
7	81	10%	-5%
8	82	4%	-9%
9	90	-1%	-6%
10	86	-7%	4%
11	74	-1%	14%
12	81	6%	10%
13	85	8%	5%
14	81	12%	6%
15	83	10%	-1%
16	80	10%	-9%



BEAM DETAILS



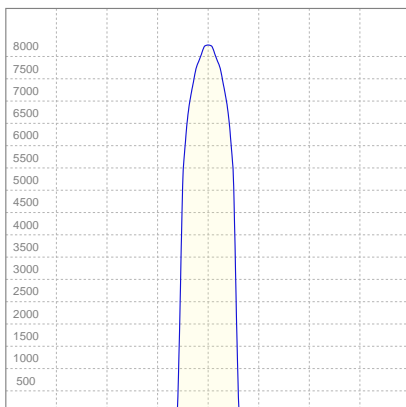
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
47°	53,2°	54,5°	96,8%	96,5%



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	8252lx	2063lx	917lx	516lx	330lx	147lx	83lx	37lx	21lx	13lx	9lx	5lx	3lx
Footcand.	767fcd	192fcd	85fcd	48fcd	31fcd	14fcd	8fcd	3fcd	2fcd	1fcd	1fcd	0fcd	0fcd
Beam wid.	0,9m	1,7m	2,6m	3,5m	4,3m	6,5m	8,7m	13m	17,4m	21,7m	26,1m	34,8m	43,5m
Beam wid.	2,9ft	5,7ft	8,5ft	11,4ft	14,3ft	21,4ft	28,5ft	42,8ft	57,1ft	71,3ft	85,6ft	114,1ft	142,6ft

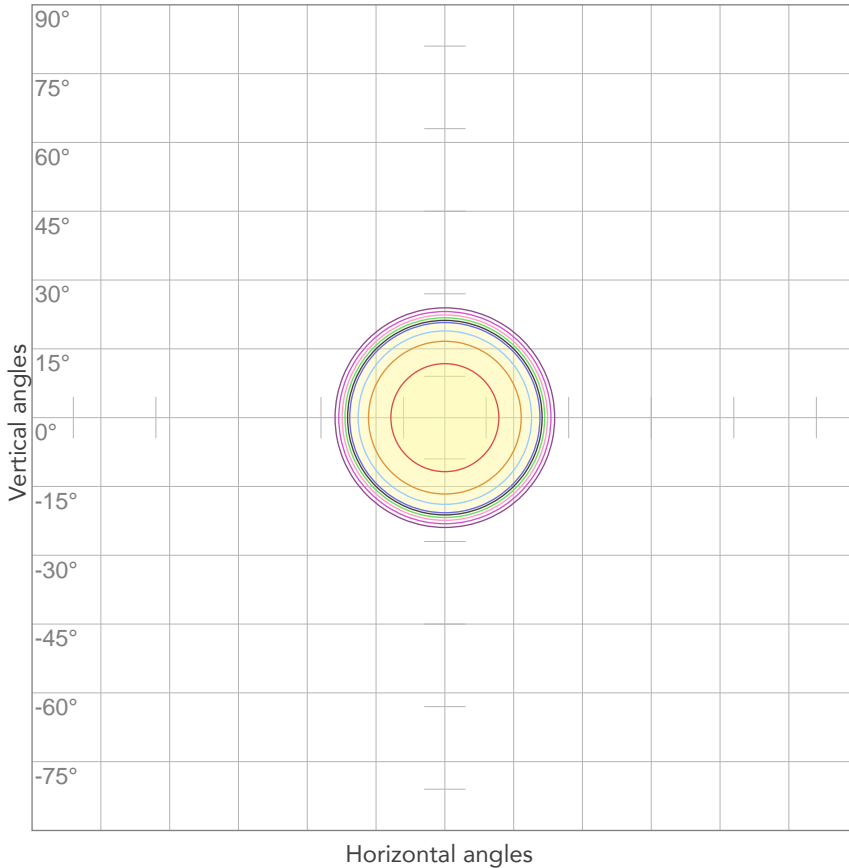
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
226V	0,596A	125,3W	32lm/W
Power FC			
0,96			

ISO CANDELA DIAGRAM



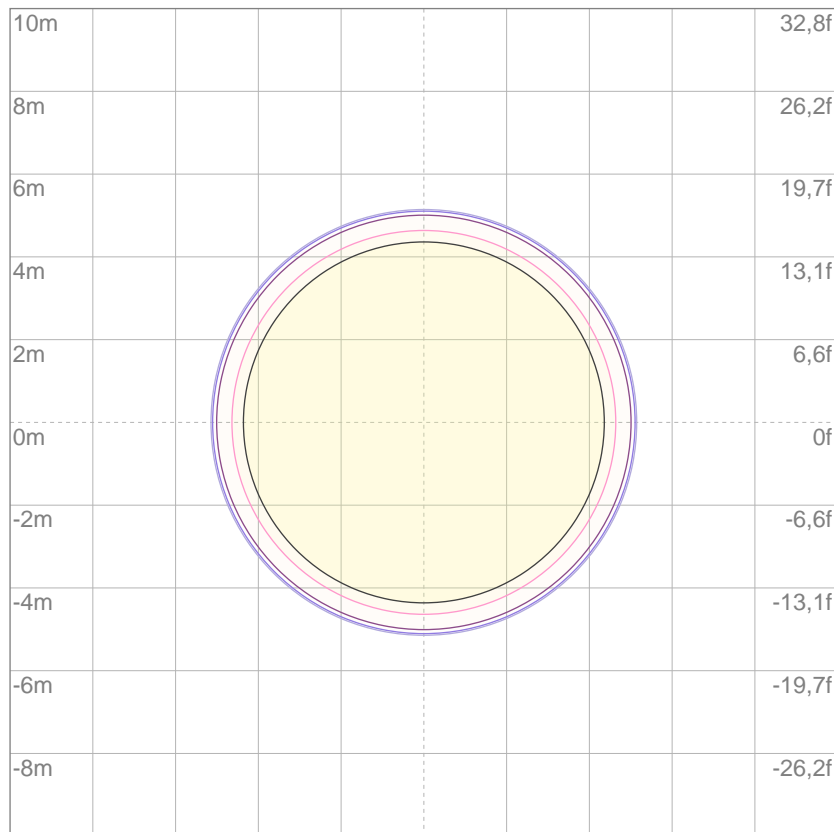
10%	825 cd
20%	1650 cd
30%	2476 cd
40%	3301 cd
50%	4126 cd
60%	4951 cd
70%	5777 cd
80%	6602 cd

Conditions:

Number of c-planes: 2

Candela at center: 8252 cd

ISO LUX DIAGRAM



3%	2,48 lx
5%	4,13 lx
10%	8,25 lx
30%	24,8 lx
50%	41,3 lx

Conditions:

Number of c-planes: 2

Lux at center: 82,5 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:

4410 lm

Peak candela output:

9072 cd

Light quality:

CRI: 86,0

Color temperature:

3998 K

PRODUCT NAME:

ECLFS

MEASUREMENT CONDITIONS:

Beam angle:

PRL50

Target:

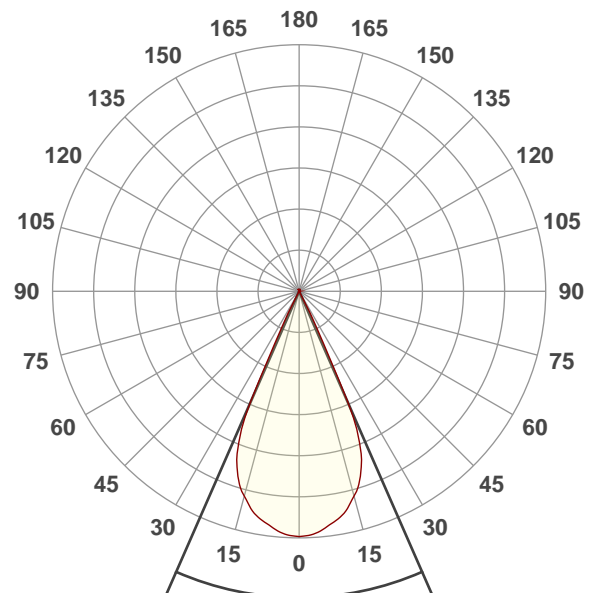
4000K

Operator:

Paolo Carvone

Date and time:

30/04/2020 11:51:49

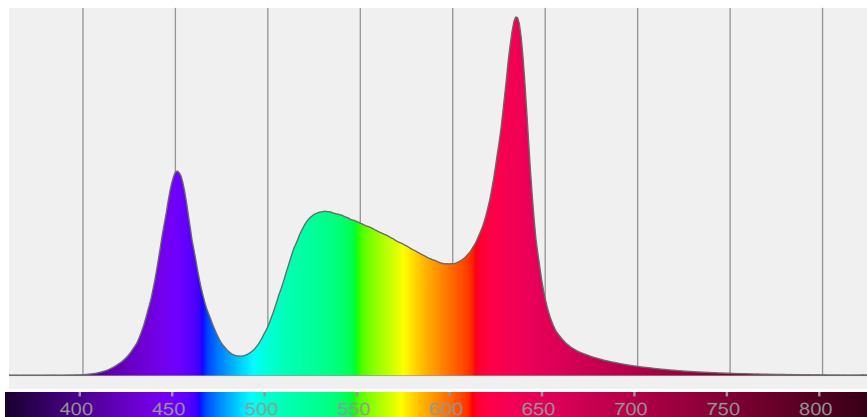


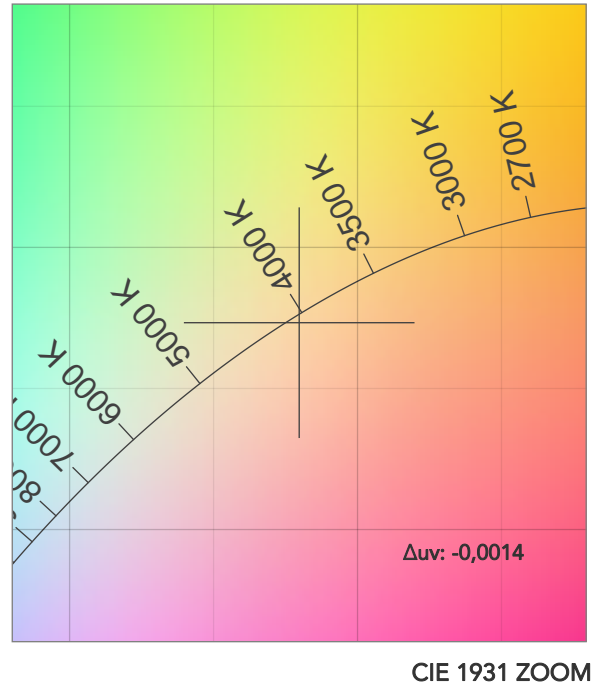
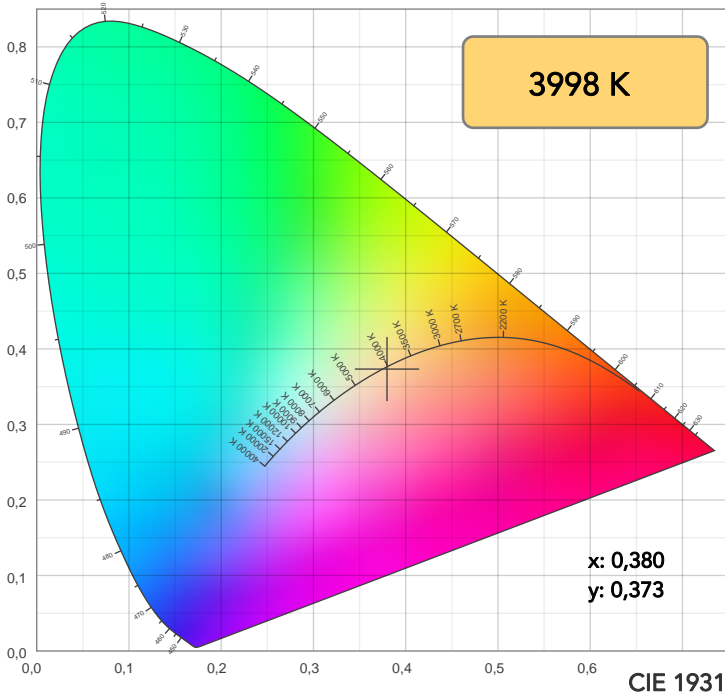
Beam angle 50%: 47,3°

Field angle 10%: 53,3°

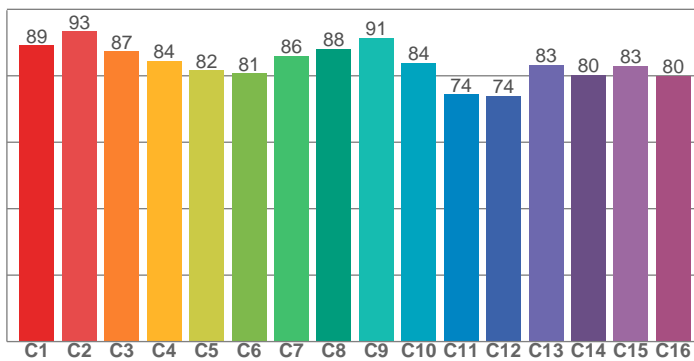
Cut off angle 2.5%: 55,5°

Spectra

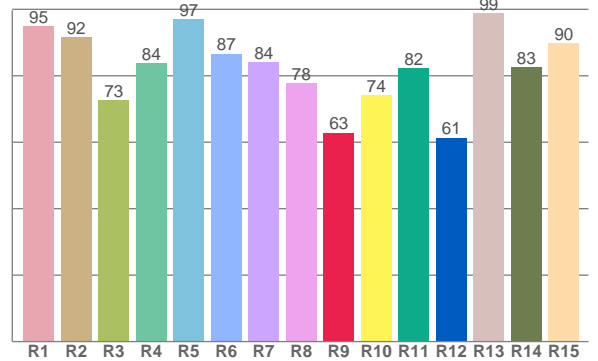




TM30: 84,0



CRI: 86,0 (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
94,8	91,6	72,7	83,7	96,9	86,6	84,2	77,8	62,9	74,1	82,2	61,3	98,8	82,6	89,7

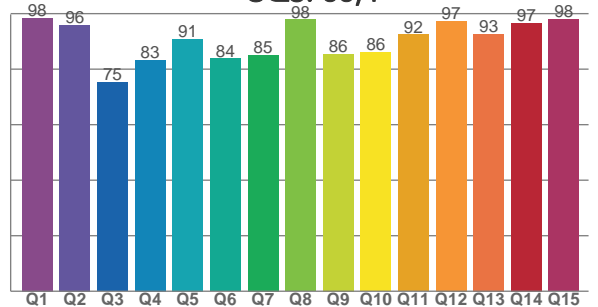
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
89,1	93,4	87,4	84,4	81,6	80,7	85,9	88,1	91,5	83,9	74,5	74,0	83,3	80,3	82,9	79,9

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
98,4	95,9	75,3	83,3	90,9	83,8	85,1	97,9	85,5	86,1	92,4	97,4	92,7	96,6	98,0

CQS: 88,4



COLOR PARAMETERS

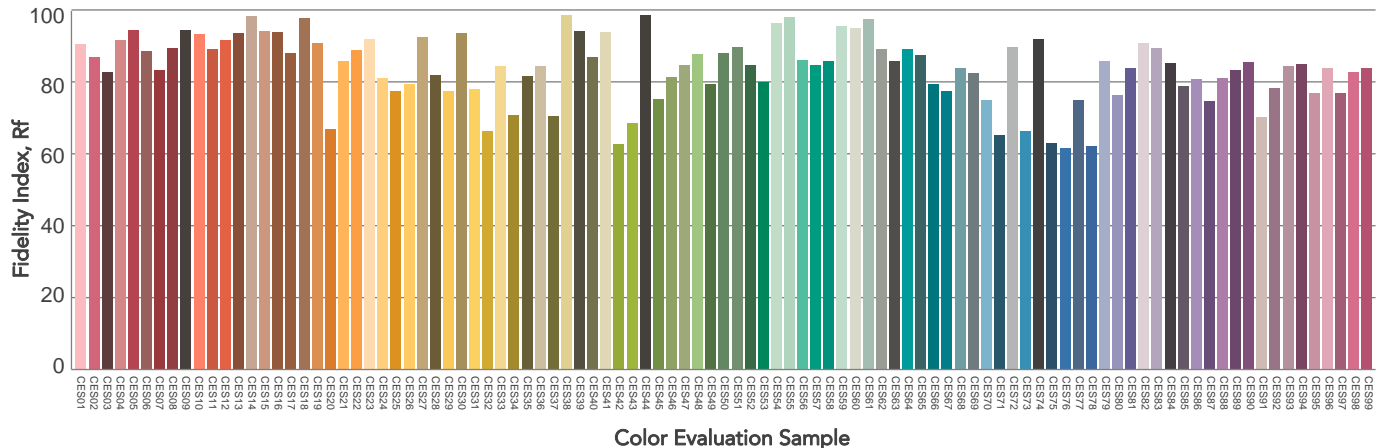
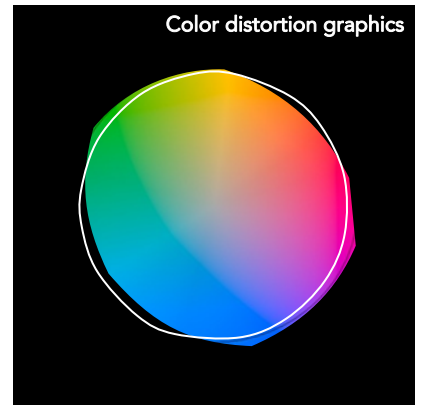
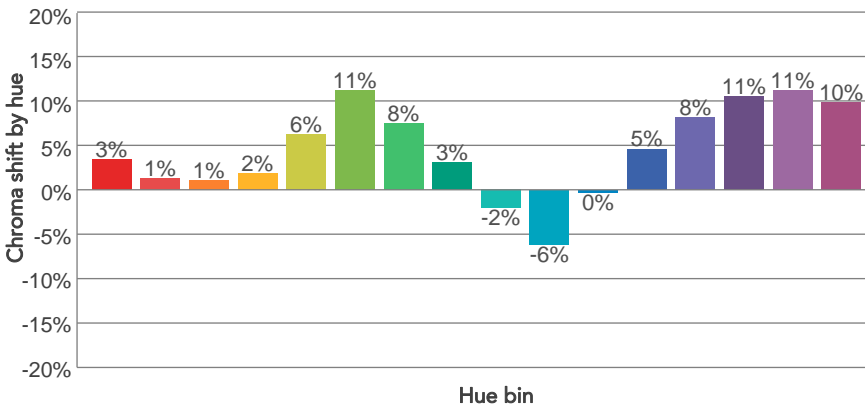
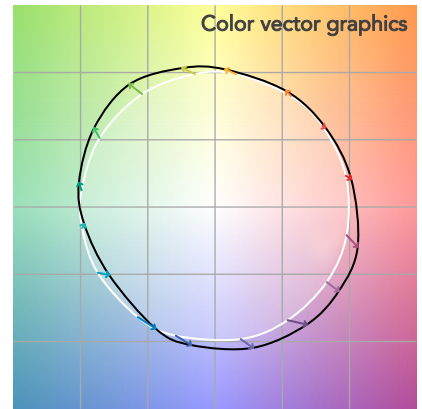
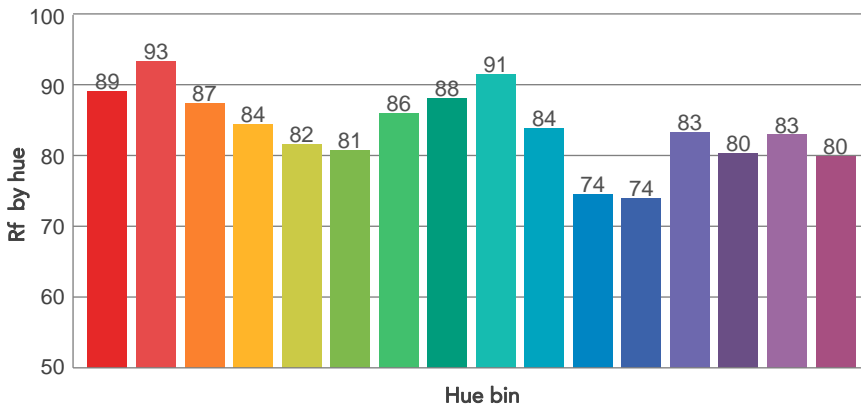
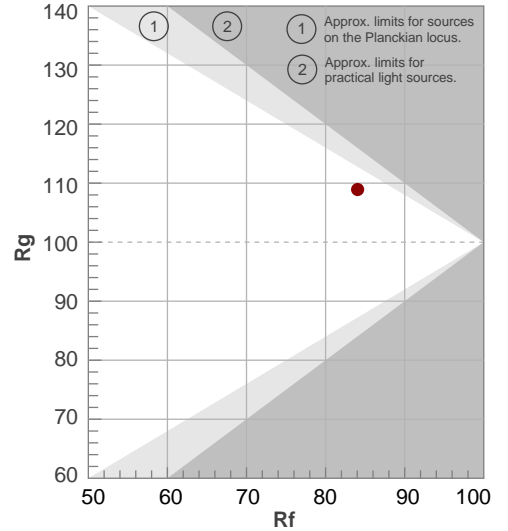
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
3998 K	86,0	62,9	84,0	108,9	88,4	78	0,380	0,373	-0,0014

TM30 DETAILS

Rf 84,0
Fidelity index Rf

Rg 108,9
Gammut index

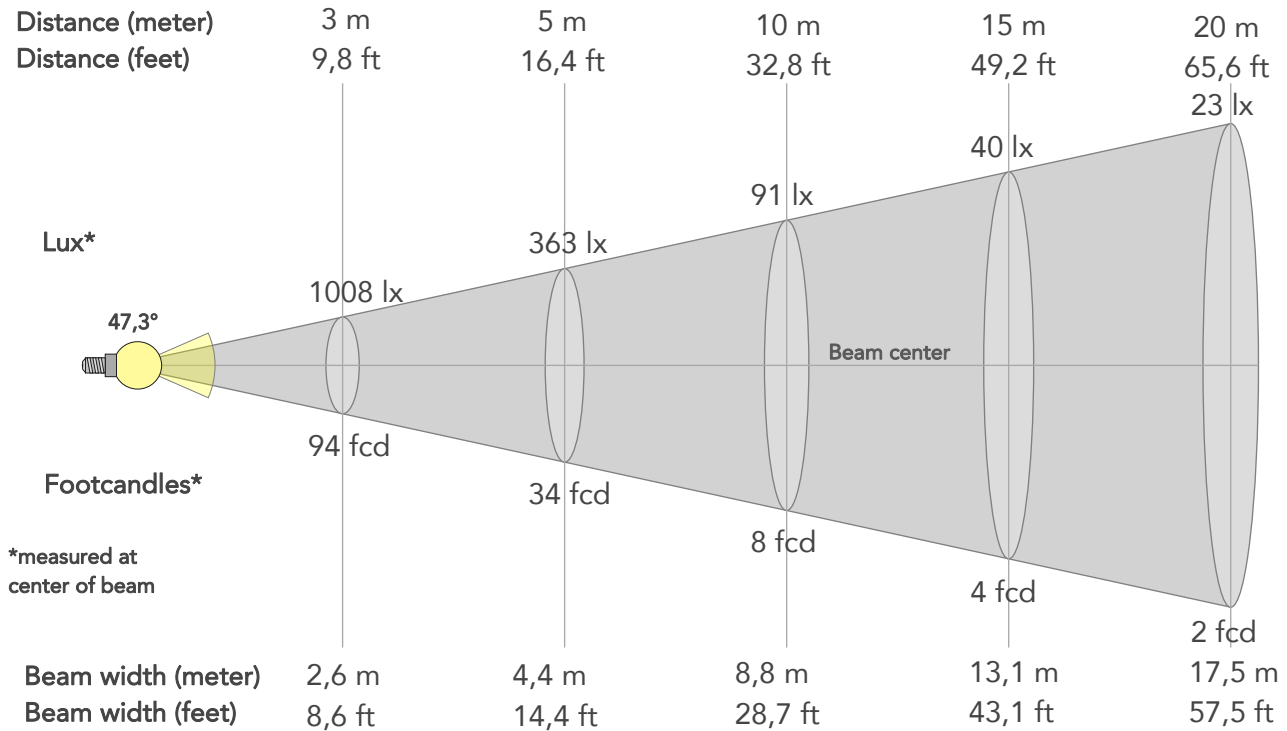
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	89	3%	-3%
2	93	1%	-2%
3	87	1%	5%
4	84	2%	8%
5	82	6%	8%
6	81	11%	4%
7	86	8%	-4%
8	88	3%	-5%
9	91	-2%	-3%
10	84	-6%	6%
11	74	0%	16%
12	74	5%	12%
13	83	8%	8%
14	80	11%	10%
15	83	11%	-1%
16	80	10%	-7%



BEAM DETAILS



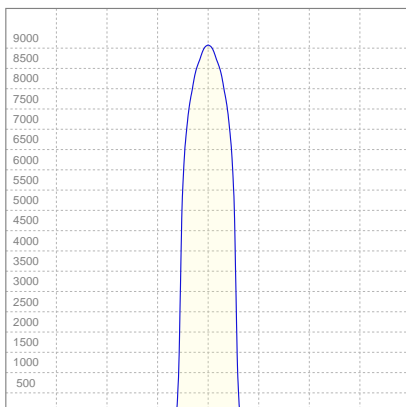
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
47,3°	53,3°	55,5°	96,8%	96,5%



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	9072lx	2268lx	1008lx	567lx	363lx	161lx	91lx	40lx	23lx	15lx	10lx	6lx	4lx
Footcand.	843fcd	211fcd	94fcd	53fcd	34fcd	15fcd	8fcd	4fcd	2fcd	1fcd	1fcd	1fcd	0fcd
Beam wid.	0,9m	1,8m	2,6m	3,5m	4,4m	6,6m	8,8m	13,1m	17,5m	21,9m	26,3m	35,1m	43,8m
Beam wid.	2,9ft	5,8ft	8,6ft	11,5ft	14,4ft	21,6ft	28,7ft	43,1ft	57,5ft	71,9ft	86,2ft	115ft	143,7ft

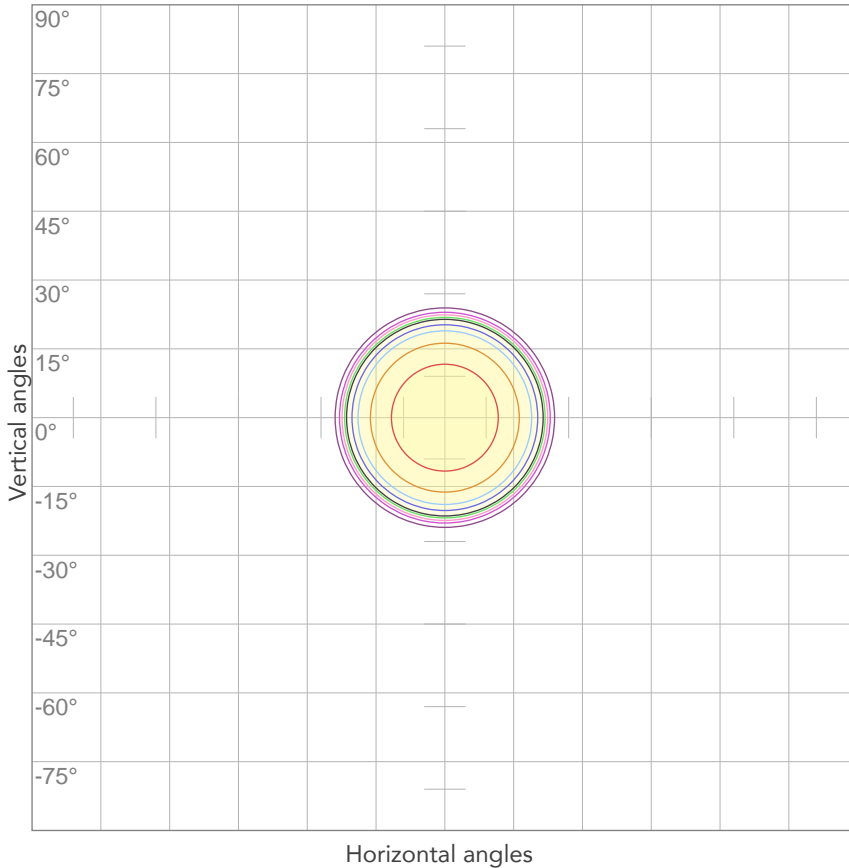
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
225V	0,666A	140,8W	31lm/W
Power FC			
0,96			

ISO CANDELA DIAGRAM



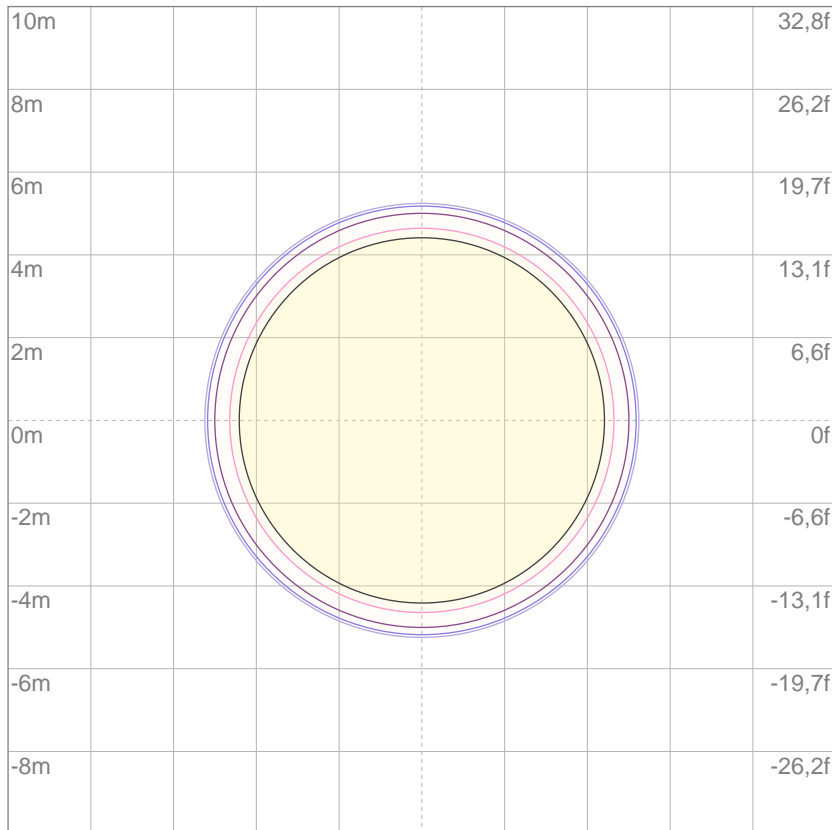
10%	907 cd
20%	1814 cd
30%	2722 cd
40%	3629 cd
50%	4536 cd
60%	5443 cd
70%	6350 cd
80%	7257 cd

Conditions:

Number of c-planes: 2

Candela at center: 9072 cd

ISO LUX DIAGRAM



3%	2,72 lx
5%	4,54 lx
10%	9,07 lx
30%	27,2 lx
50%	45,4 lx

Conditions:

Number of c-planes: 2

Lux at center: 90,7 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:

4645 lm

Peak candela output:

9561 cd

Light quality:

CRI: 85,8

Color temperature:

5603 K

PRODUCT NAME:

ECLFS

MEASURAMENT CONDITIONS:

Beam angle:

PRL50

Target:

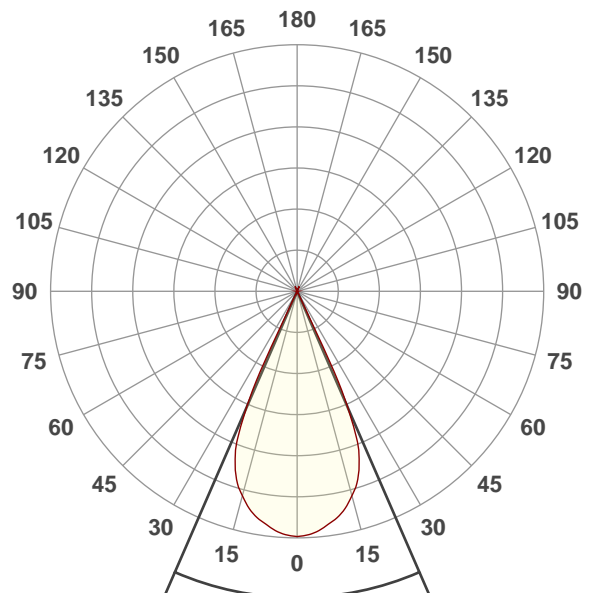
5600K

Operator:

Paolo Carvone

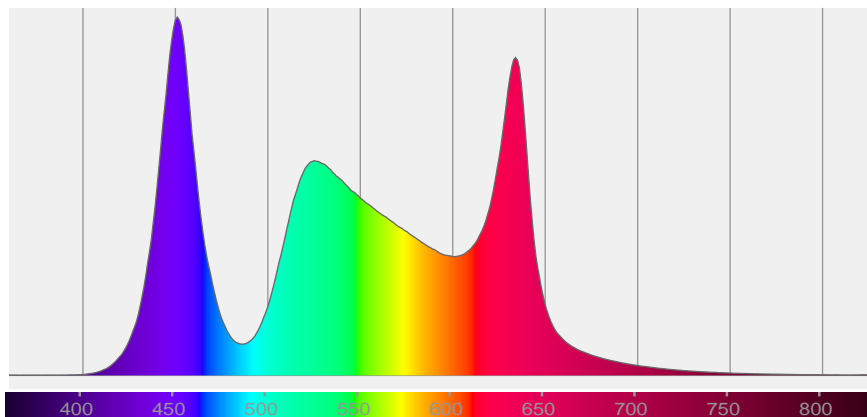
Date and time:

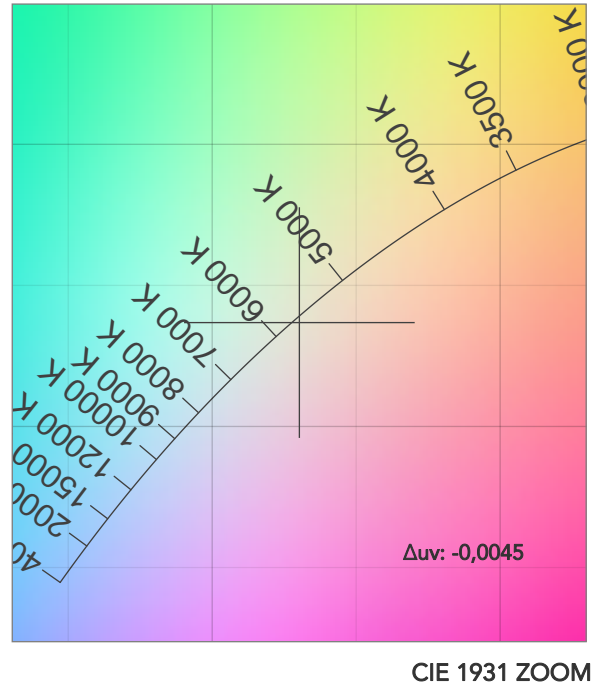
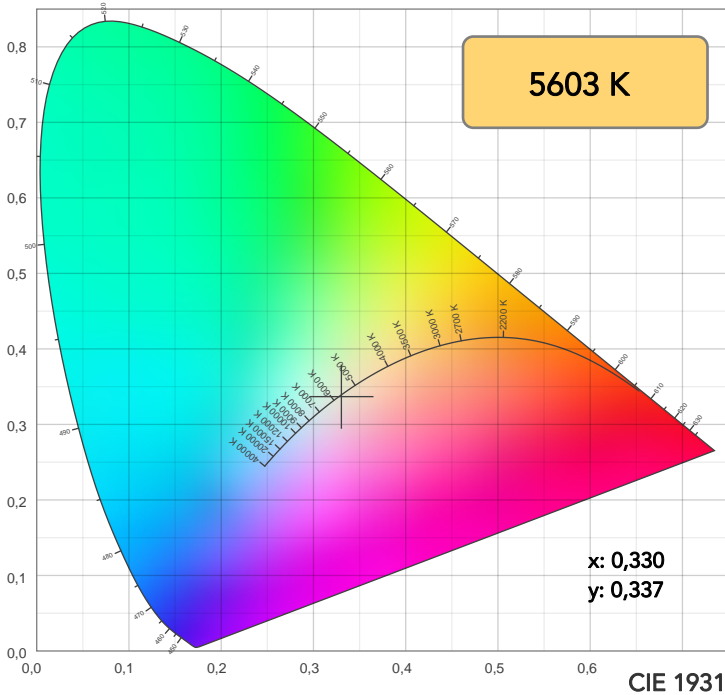
30/04/2020 11:56:42



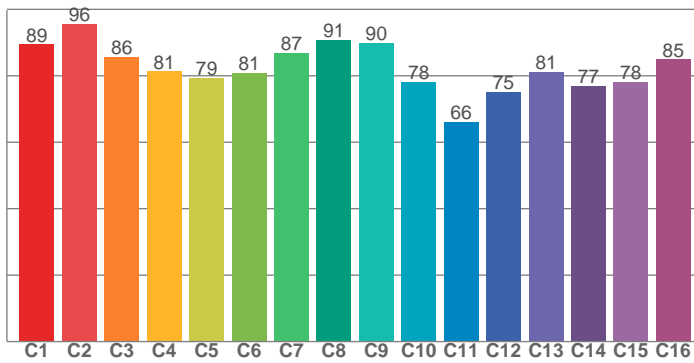
Beam angle 50%: 47°
 Field angle 10%: 52,7°
 Cut off angle 2.5%: 53,7°

Spectra

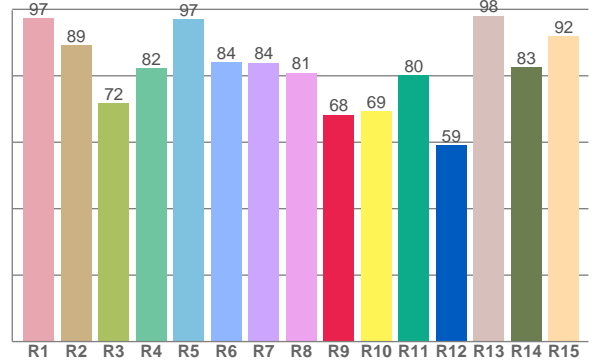




TM30: 82,4



CRI: 85,8 (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
97,2	89,2	71,8	82,2	97,0	84,0	83,9	80,9	68,3	69,4	80,1	59,1	98,0	82,6	91,9

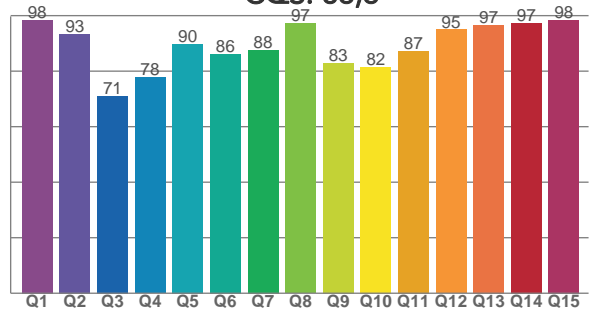
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
89,4	95,6	85,7	81,3	79,4	80,9	86,9	90,8	89,9	78,1	66,1	75,1	81,1	77,0	78,1	85,0

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
98,4	93,5	71,0	77,8	89,7	86,3	87,7	97,2	82,9	81,6	87,3	94,9	96,7	97,3	98,4

CQS: 86,6



COLOR PARAMETERS

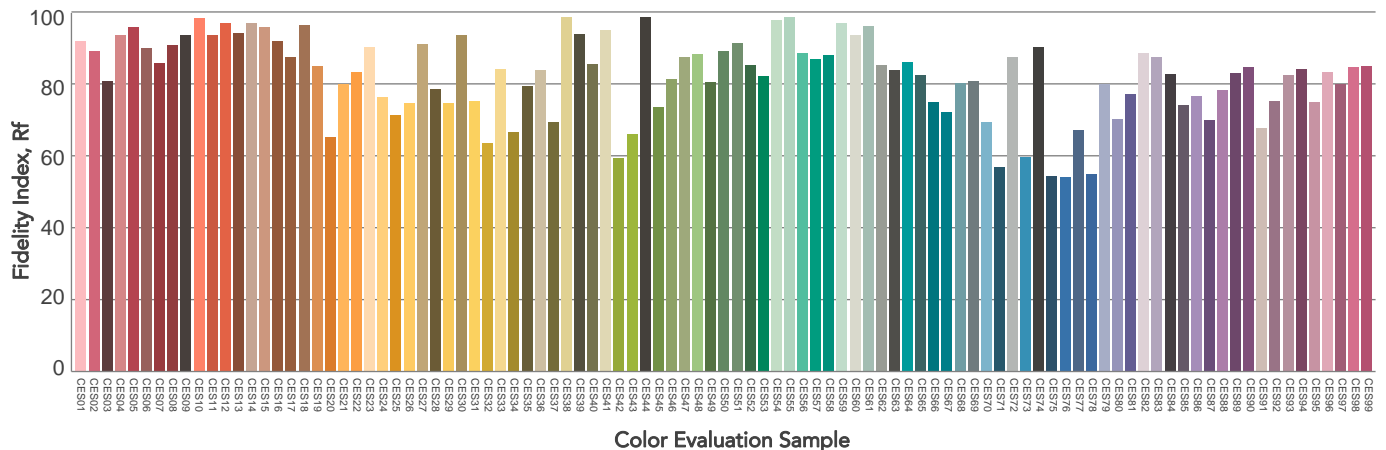
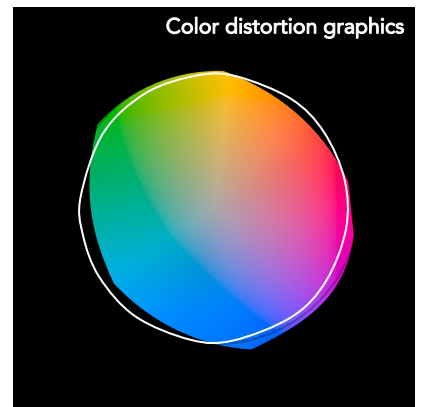
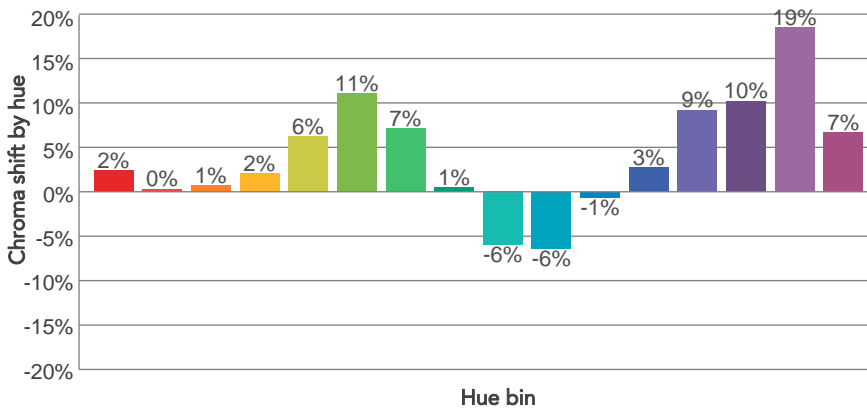
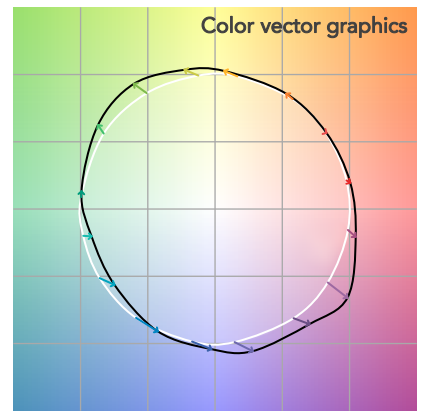
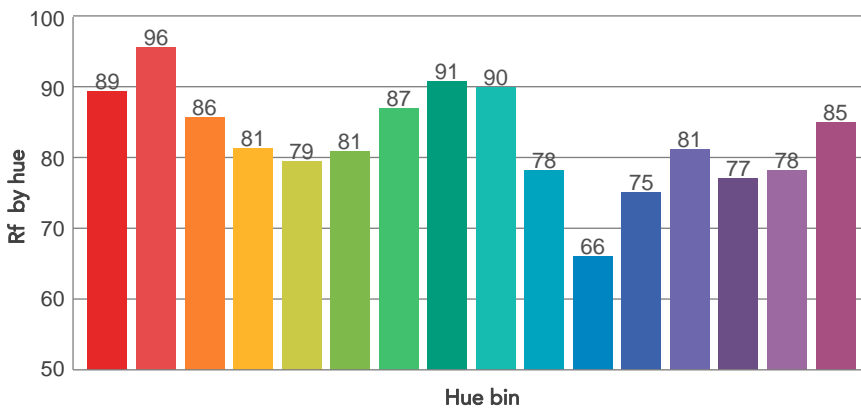
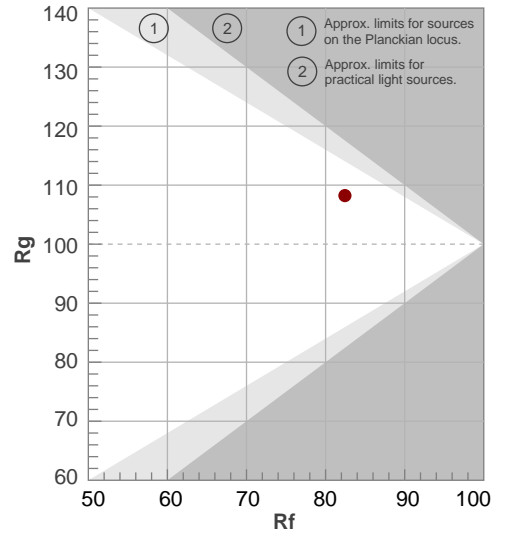
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
5603 K	85,8	68,3	82,4	108,2	86,6	82	0,330	0,337	-0,0045

TM30 DETAILS

Rf 82,4
Fidelity index Rf

Rg 108,2
Gammut index

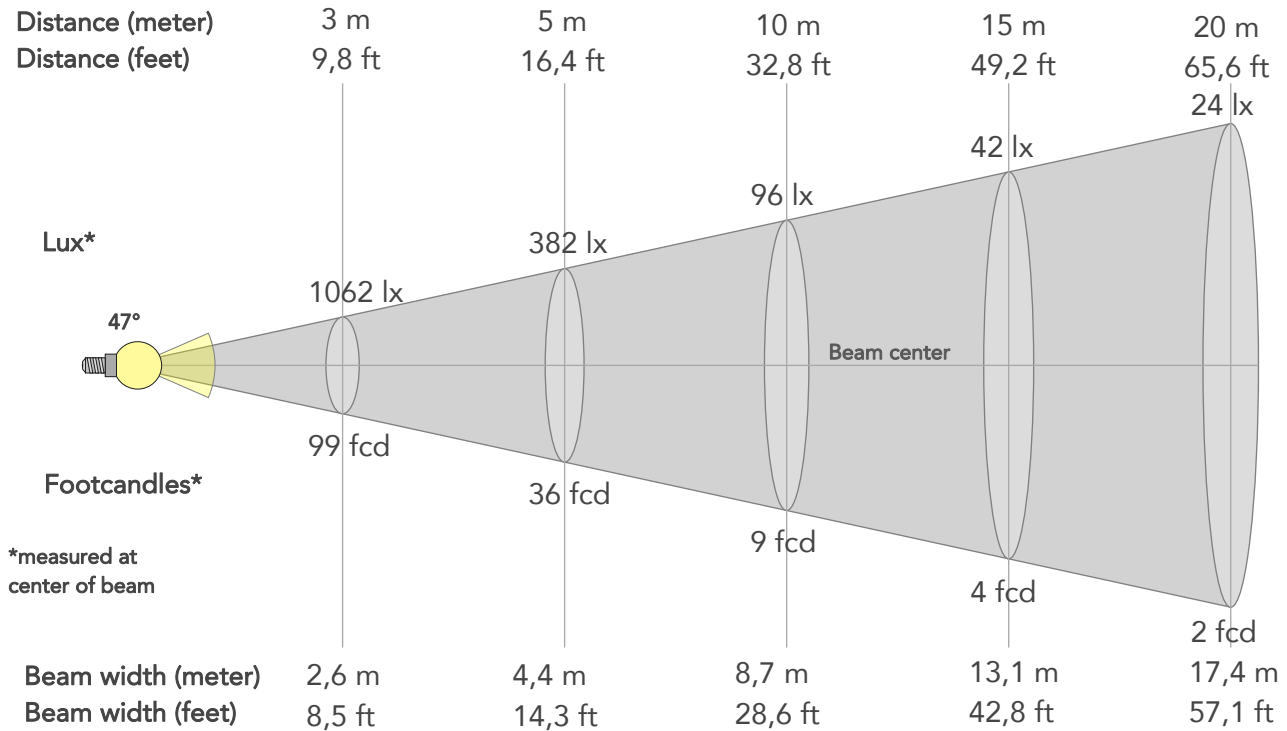
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	89	2%	-2%
2	96	0%	-1%
3	86	1%	6%
4	81	2%	10%
5	79	6%	9%
6	81	11%	4%
7	87	7%	-3%
8	91	1%	-4%
9	90	-6%	2%
10	78	-6%	10%
11	66	-1%	19%
12	75	3%	15%
13	81	9%	12%
14	77	10%	7%
15	78	19%	-1%
16	85	7%	-4%



BEAM DETAILS



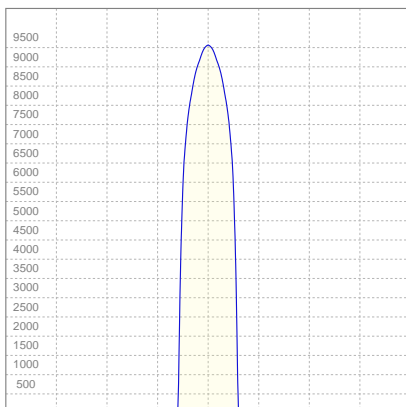
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
47°	52,7°	53,7°	96,7%	96,4%



BEAM INTENSITIES AND WIDTHS

Distance	1m	2m	3m	4m	5m	7,5m	10m	15m	20m	25m	30m	40m	50m
Distance	3,3ft	6,6ft	9,8ft	13,1ft	16,4ft	24,6ft	32,8ft	49,2ft	65,6ft	82ft	98,4ft	131,2ft	164ft
Lux	9561lx	2390lx	1062lx	598lx	382lx	170lx	96lx	42lx	24lx	15lx	11lx	6lx	4lx
Footcand.	888fcd	222fcd	99fcd	56fcd	36fcd	16fcd	9fcd	4fcd	2fcd	1fcd	1fcd	1fcd	0fcd
Beam wid.	0,9m	1,7m	2,6m	3,5m	4,4m	6,5m	8,7m	13,1m	17,4m	21,8m	26,1m	34,8m	43,5m
Beam wid.	2,9ft	5,7ft	8,5ft	11,4ft	14,3ft	21,4ft	28,6ft	42,8ft	57,1ft	71,4ft	85,7ft	114,2ft	142,8ft

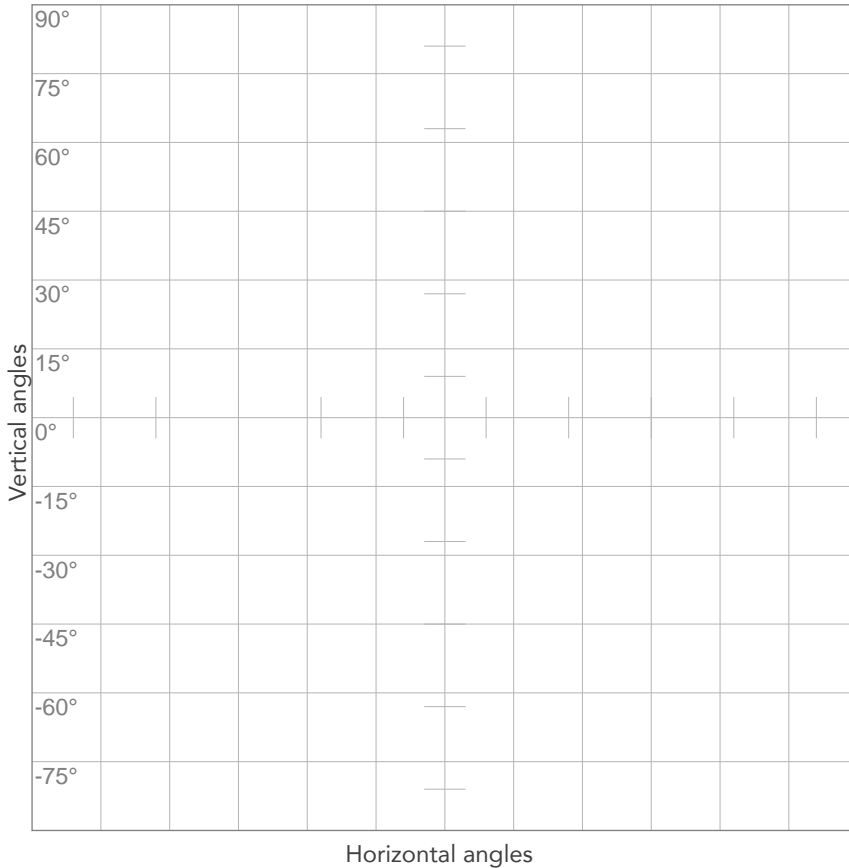
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
226V	0,725A	154,2W	30lm/W
Power FC			
0,96			

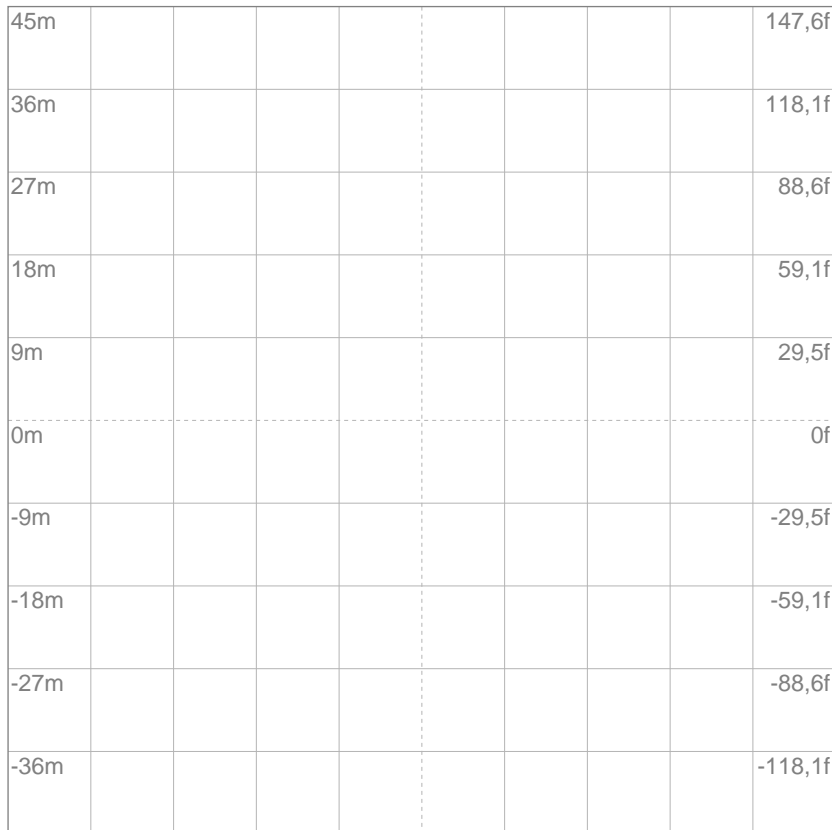
ISO CANDELA DIAGRAM



10%	956 cd
20%	1912 cd
30%	2868 cd
40%	3824 cd
50%	4780 cd
60%	5737 cd
70%	6693 cd
80%	7649 cd

Conditions:
 Number of c-planes: 2
 Candela at center: 9561 cd

ISO LUX DIAGRAM



3%	2,87 lx
5%	4,78 lx
10%	9,56 lx
30%	28,7 lx
50%	47,8 lx

Conditions:
 Number of c-planes: 2
 Lux at center: 95,6 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:

4645 lm

Peak candela output:

9561 cd

Light quality:

CRI: 85,8

Color temperature:

5603 K

PRODUCT NAME:

ECLFS

MEASURAMENT CONDITIONS:

Beam angle:

PRL50

Target:

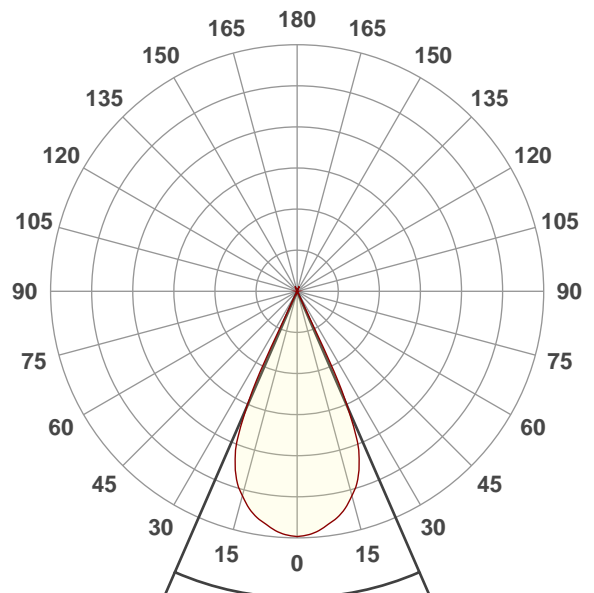
5600K

Operator:

Paolo Carvone

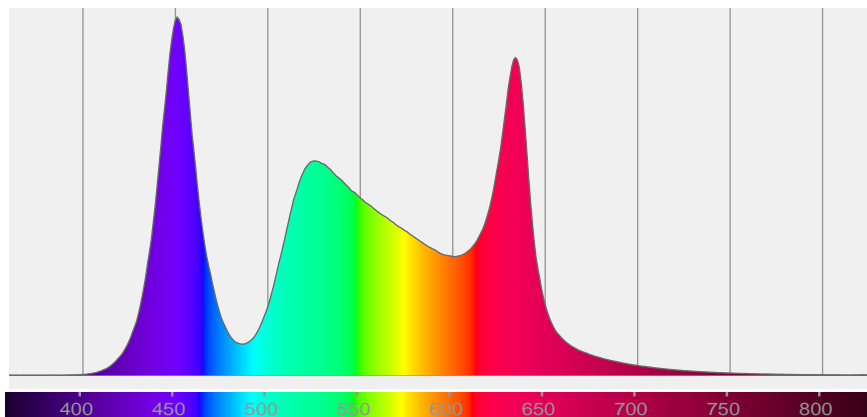
Date and time:

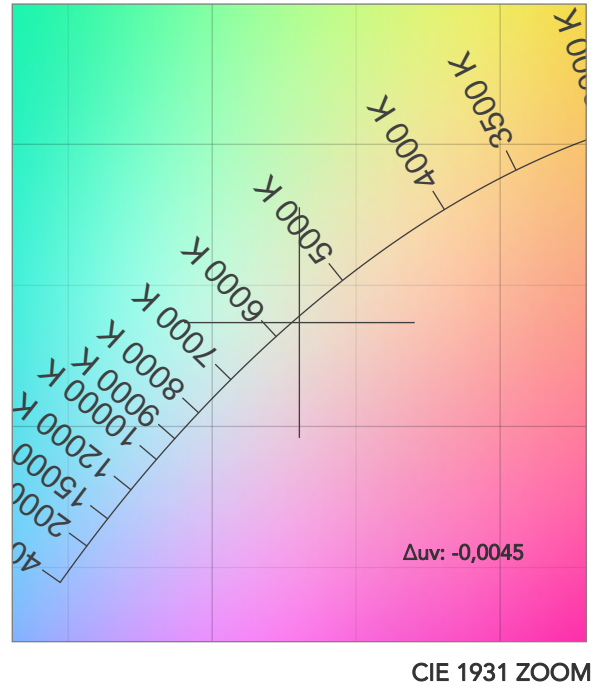
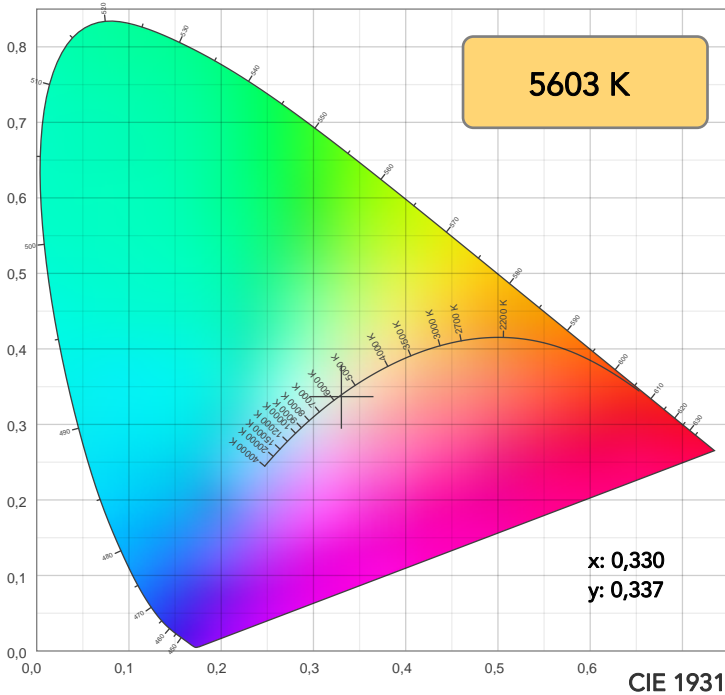
30/04/2020 11:56:42



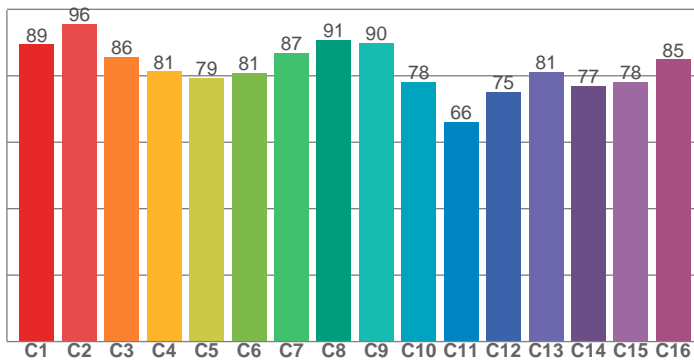
Beam angle 50%: 47°
 Field angle 10%: 52,7°
 Cut off angle 2.5%: 53,7°

Spectra

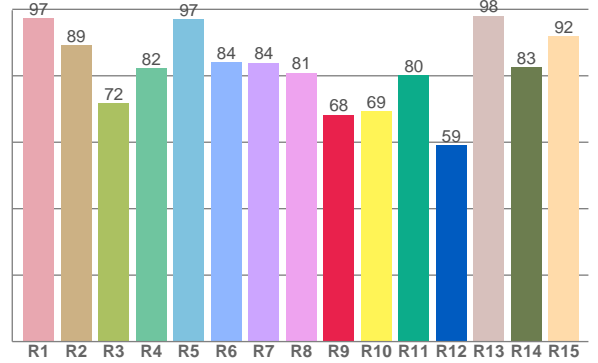




TM30: 82,4



CRI: 85,8 (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
97,2	89,2	71,8	82,2	97,0	84,0	83,9	80,9	68,3	69,4	80,1	59,1	98,0	82,6	91,9

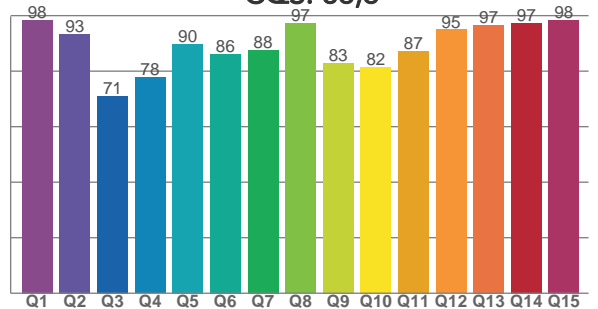
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
89,4	95,6	85,7	81,3	79,4	80,9	86,9	90,8	89,9	78,1	66,1	75,1	81,1	77,0	78,1	85,0

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
98,4	93,5	71,0	77,8	89,7	86,3	87,7	97,2	82,9	81,6	87,3	94,9	96,7	97,3	98,4

CQS: 86,6



COLOR PARAMETERS

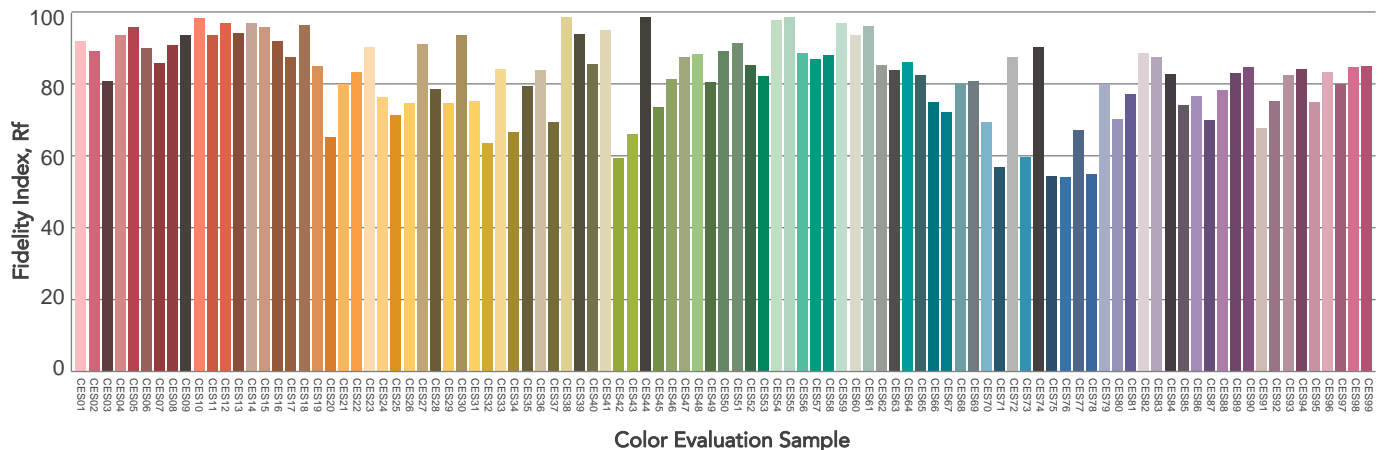
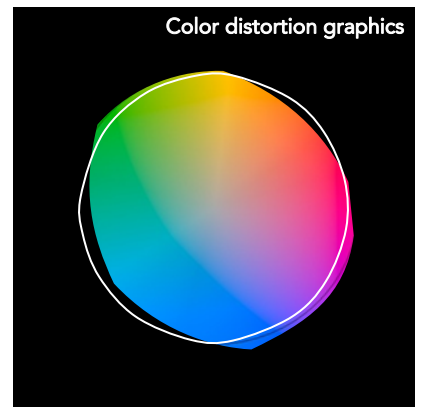
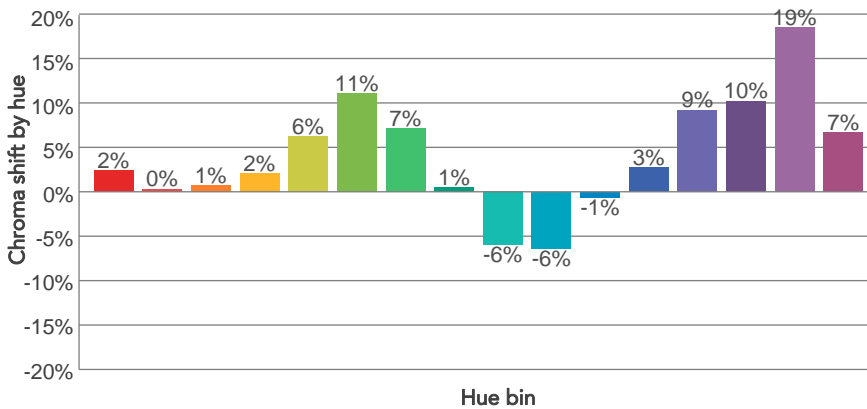
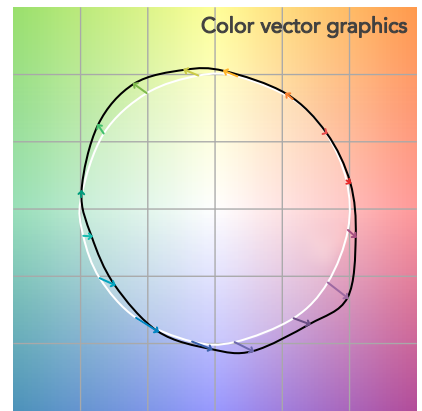
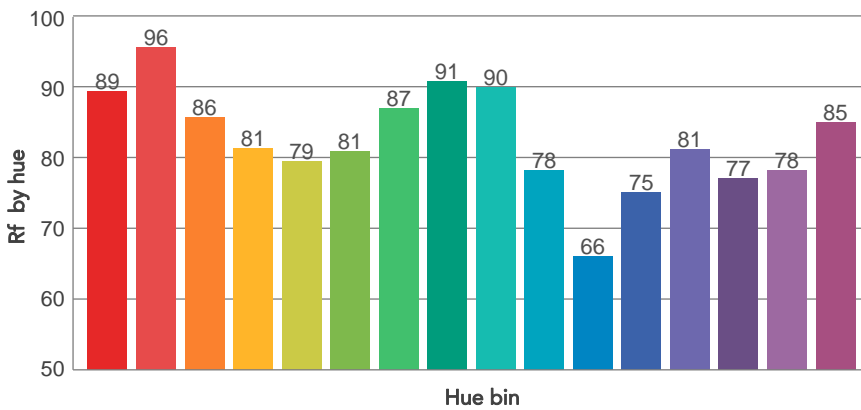
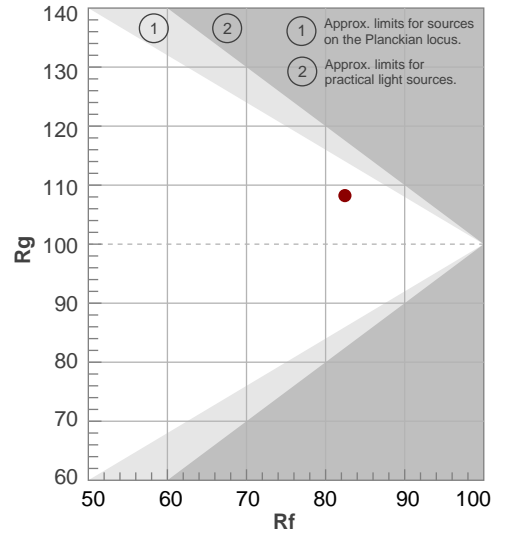
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
5603 K	85,8	68,3	82,4	108,2	86,6	82	0,330	0,337	-0,0045

TM30 DETAILS

Rf 82,4
Fidelity index Rf

Rg 108,2
Gammut index

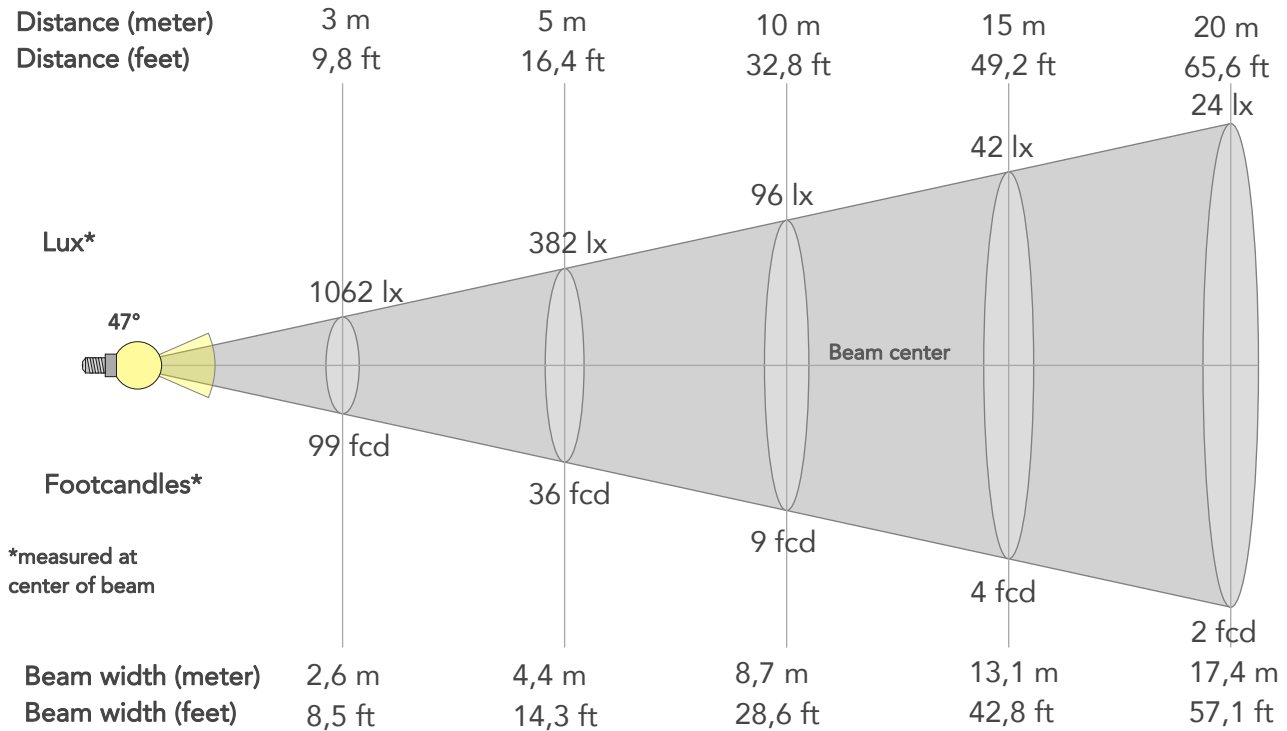
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	89	2%	-2%
2	96	0%	-1%
3	86	1%	6%
4	81	2%	10%
5	79	6%	9%
6	81	11%	4%
7	87	7%	-3%
8	91	1%	-4%
9	90	-6%	2%
10	78	-6%	10%
11	66	-1%	19%
12	75	3%	15%
13	81	9%	12%
14	77	10%	7%
15	78	19%	-1%
16	85	7%	-4%



BEAM DETAILS



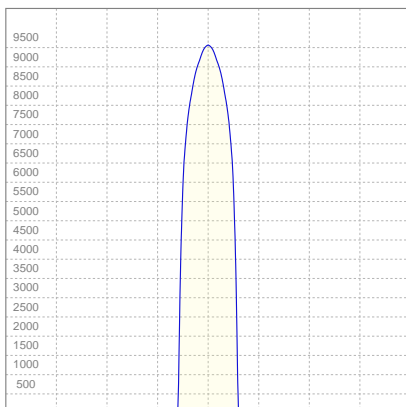
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
47°	52,7°	53,7°	96,7%	96,4%



BEAM INTENSITIES AND WIDTHS

Distance	1m	2m	3m	4m	5m	7,5m	10m	15m	20m	25m	30m	40m	50m
Distance	3,3ft	6,6ft	9,8ft	13,1ft	16,4ft	24,6ft	32,8ft	49,2ft	65,6ft	82ft	98,4ft	131,2ft	164ft
Lux	9561lx	2390lx	1062lx	598lx	382lx	170lx	96lx	42lx	24lx	15lx	11lx	6lx	4lx
Footcand.	888fcd	222fcd	99fcd	56fcd	36fcd	16fcd	9fcd	4fcd	2fcd	1fcd	1fcd	1fcd	0fcd
Beam wid.	0,9m	1,7m	2,6m	3,5m	4,4m	6,5m	8,7m	13,1m	17,4m	21,8m	26,1m	34,8m	43,5m
Beam wid.	2,9ft	5,7ft	8,5ft	11,4ft	14,3ft	21,4ft	28,6ft	42,8ft	57,1ft	71,4ft	85,7ft	114,2ft	142,8ft

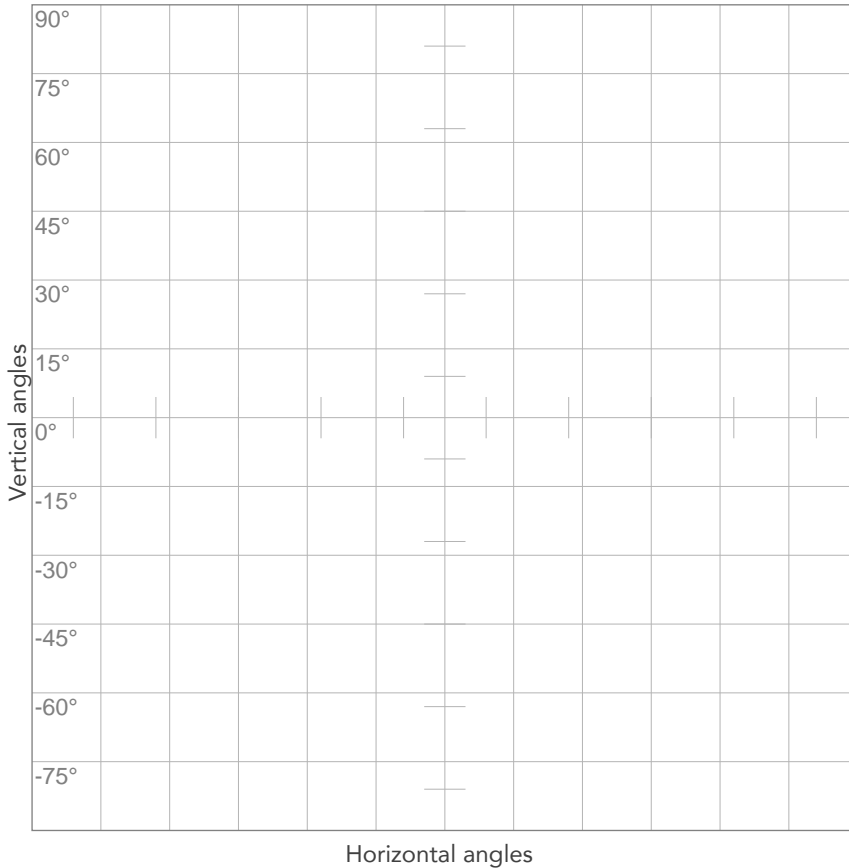
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
226V	0,725A	154,2W	30lm/W
Power FC			
0,96			

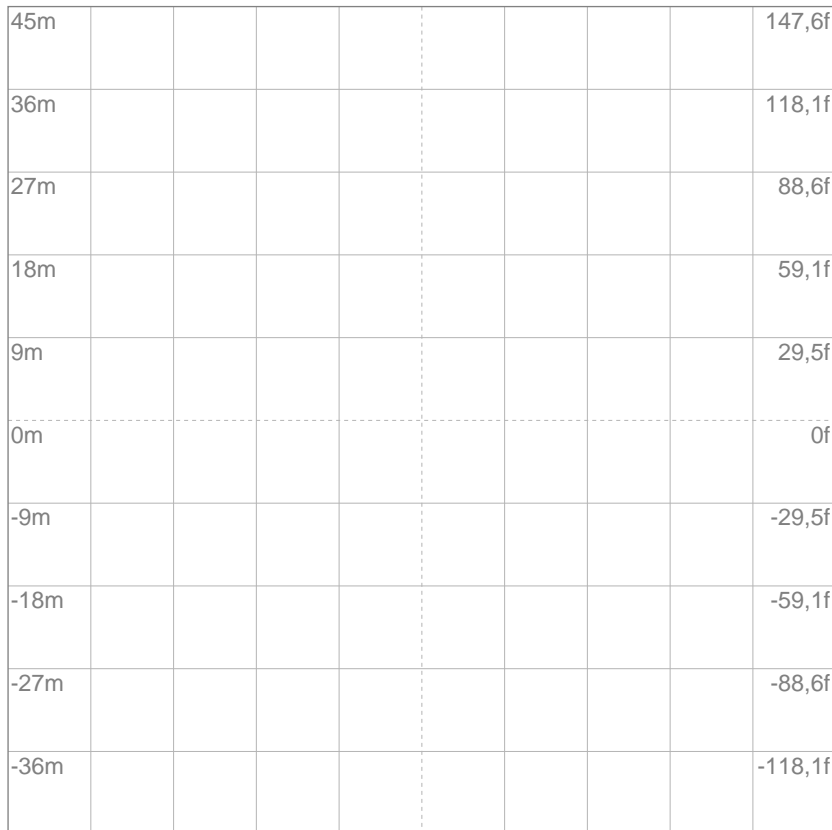
ISO CANDELA DIAGRAM



10%	956 cd
20%	1912 cd
30%	2868 cd
40%	3824 cd
50%	4780 cd
60%	5737 cd
70%	6693 cd
80%	7649 cd

Conditions:
 Number of c-planes: 2
 Candela at center: 9561 cd

ISO LUX DIAGRAM



3%	2,87 lx
5%	4,78 lx
10%	9,56 lx
30%	28,7 lx
50%	47,8 lx

Conditions:
 Number of c-planes: 2
 Lux at center: 95,6 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:

4528 lm

Peak candela output:

9283 cd

Light quality:

CRI: 86,1

Color temperature:

6046 K

PRODUCT NAME:

ECLFS

MEASUREMENT CONDITIONS:

Beam angle:

PRL50

Target:

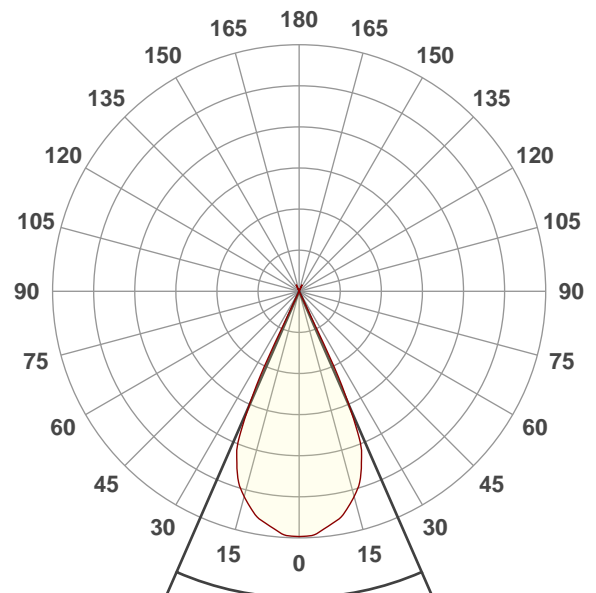
6000K

Operator:

Paolo Carvone

Date and time:

30/04/2020 11:59:06

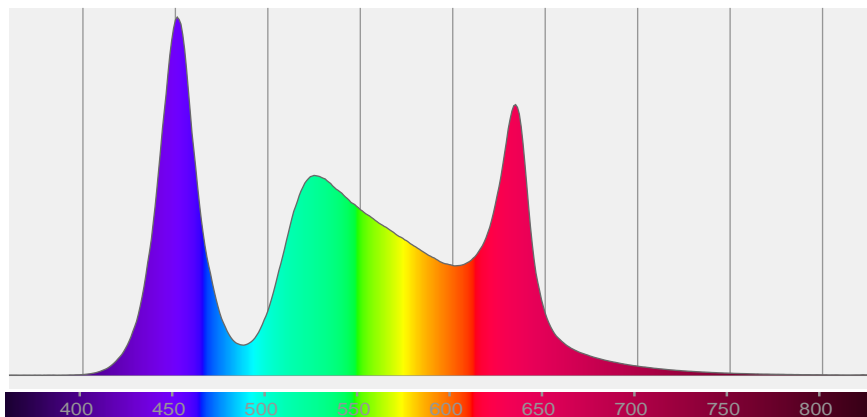


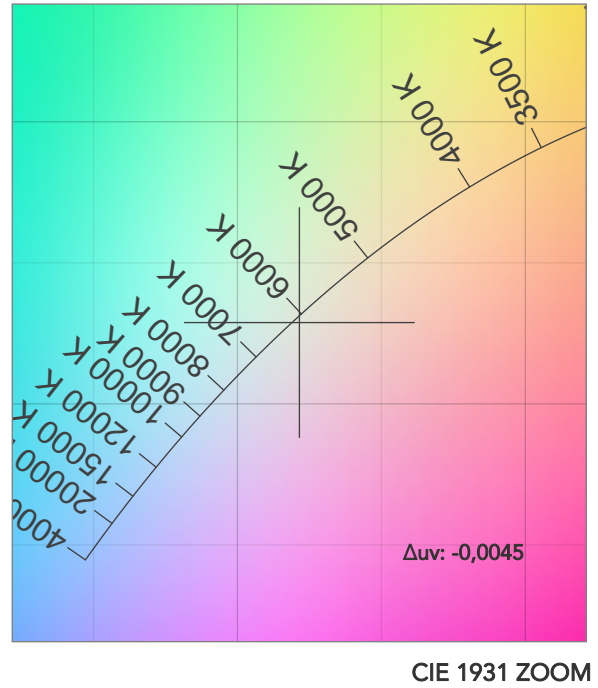
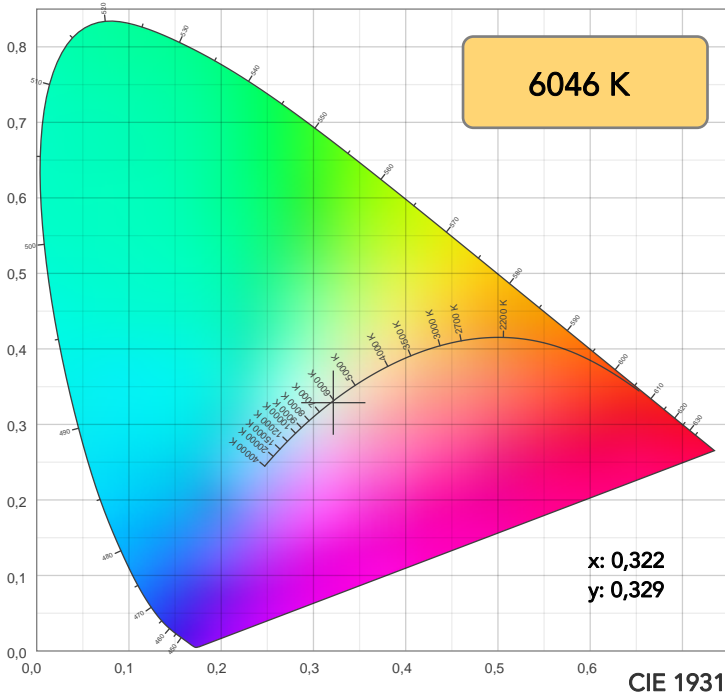
Beam angle 50%: 47,2°

Field angle 10%: 52,7°

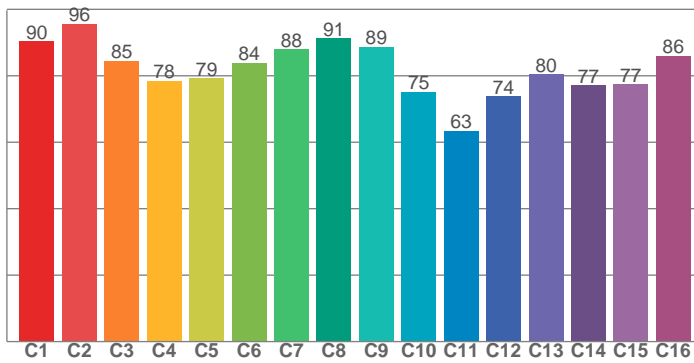
Cut off angle 2.5%: 53,6°

Spectra

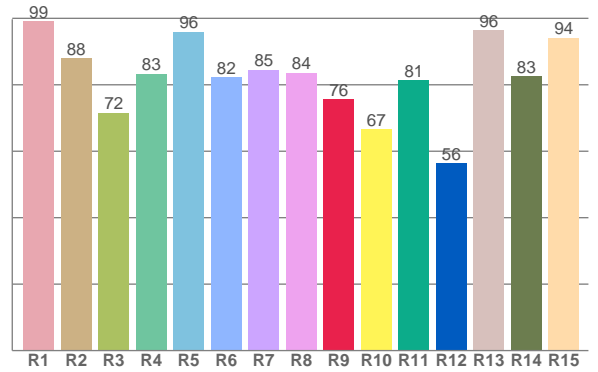




TM30: 82,0



CRI: 86,1 (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
99,2	88,1	71,5	83,3	96,0	82,3	84,6	83,7	75,7	66,7	81,3	56,4	96,4	82,7	94,1

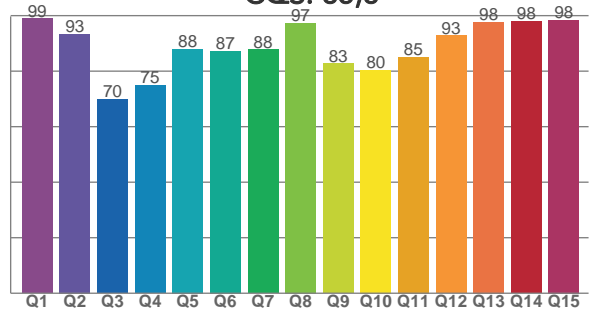
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
90,4	95,7	84,5	78,4	79,2	83,8	87,9	91,2	88,7	75,2	63,4	73,8	80,5	77,2	77,4	86,0

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
98,9	93,3	69,8	74,9	87,9	87,3	87,8	97,4	82,7	80,4	85,2	92,8	97,7	98,0	98,4

CQS: 85,8



COLOR PARAMETERS

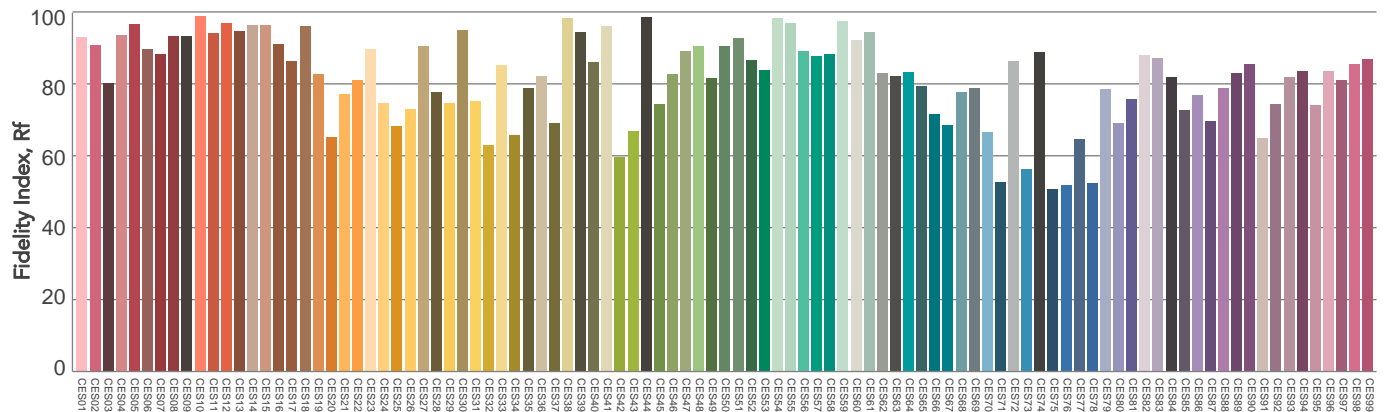
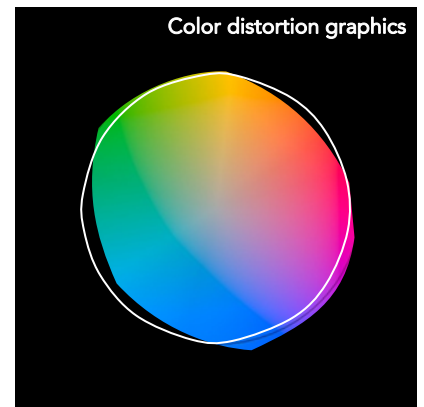
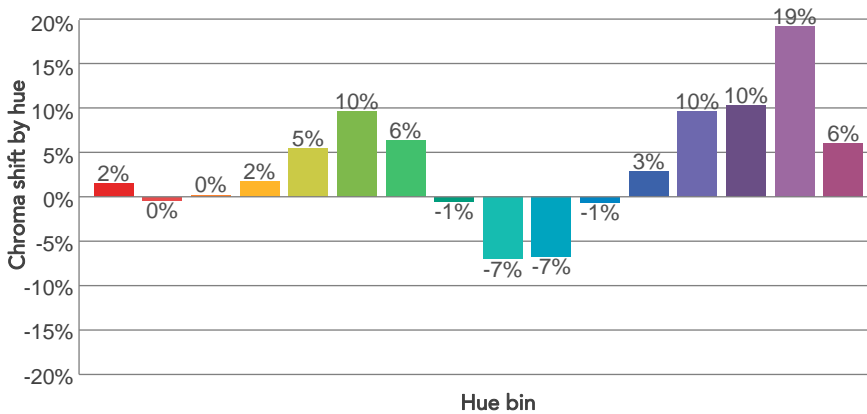
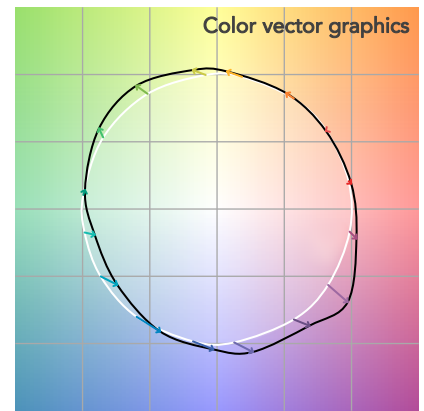
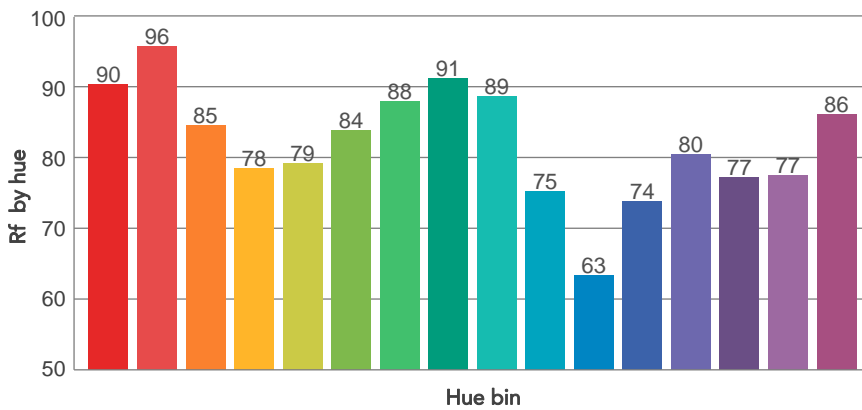
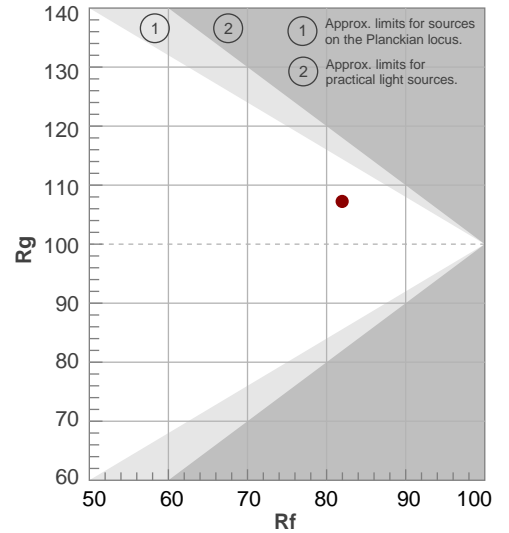
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Television lighting index	Color coordinate cie 1931	Color coordinate cie 1931	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	TLCI	x	y	Δuv
6046 K	86,1	75,7	82,0	107,2	85,8	82	0,322	0,329	-0,0045

TM30 DETAILS

Rf 82,0
Fidelity index Rf

Rg 107,2
Gammut index

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	90	2%	-2%
2	96	0%	0%
3	85	0%	7%
4	78	2%	12%
5	79	5%	9%
6	84	10%	4%
7	88	6%	-4%
8	91	-1%	-4%
9	89	-7%	3%
10	75	-7%	12%
11	63	-1%	21%
12	74	3%	16%
13	80	10%	12%
14	77	10%	7%
15	77	19%	-2%
16	86	6%	-4%

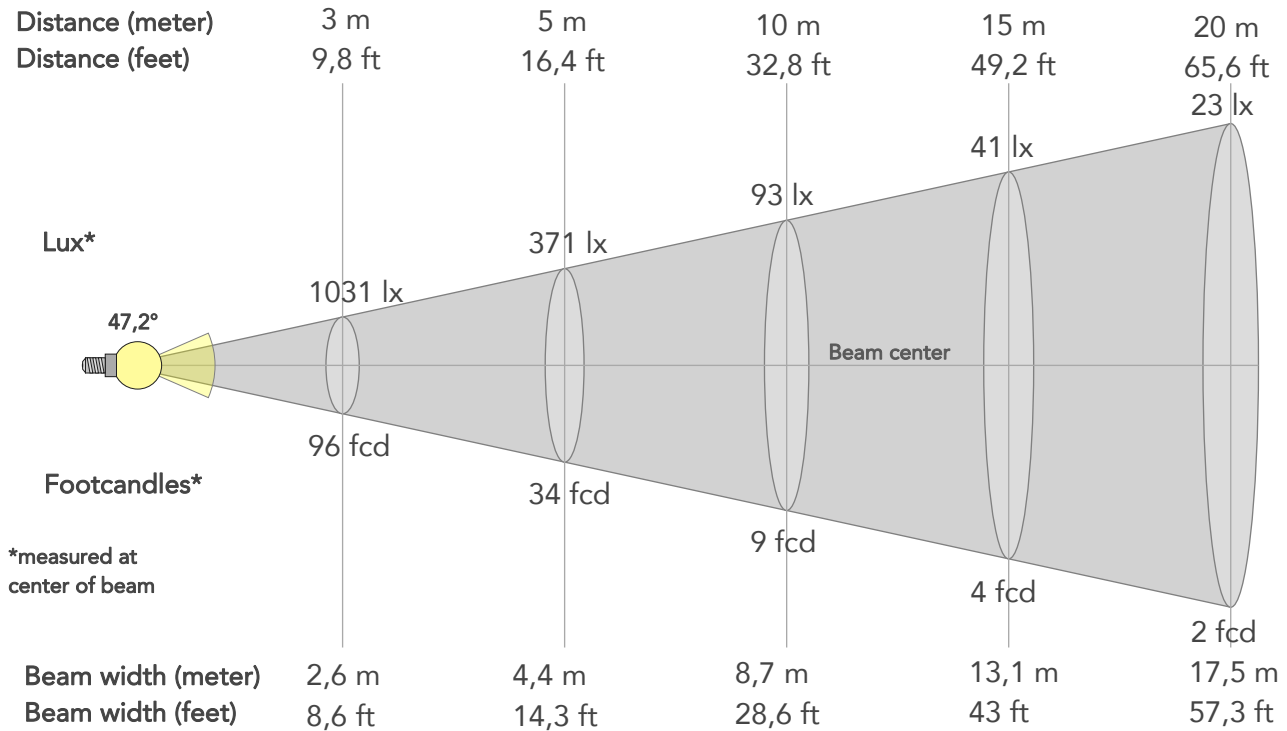


Color Evaluation Sample

BEAM DETAILS



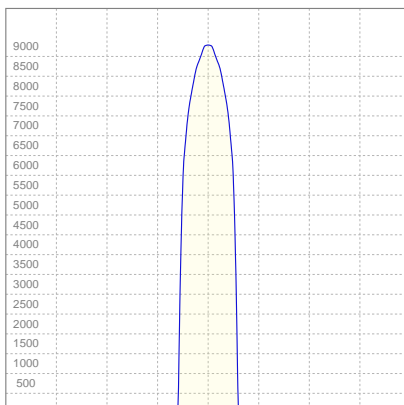
Beam angle 50%	Field angle 10%	Cut off angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
47,2°	52,7°	53,6°	96,7%	96,4%



BEAM INTENSITIES AND WIDTHS

Distance	1m	2m	3m	4m	5m	7,5m	10m	15m	20m	25m	30m	40m	50m
Distance	3,3ft	6,6ft	9,8ft	13,1ft	16,4ft	24,6ft	32,8ft	49,2ft	65,6ft	82ft	98,4ft	131,2ft	164ft
Lux	9283lx	2321lx	1031lx	580lx	371lx	165lx	93lx	41lx	23lx	15lx	10lx	6lx	4lx
Footcand.	862fcd	216fcd	96fcd	54fcd	34fcd	15fcd	9fcd	4fcd	2fcd	1fcd	1fcd	1fcd	0fcd
Beam wid.	0,9m	1,7m	2,6m	3,5m	4,4m	6,5m	8,7m	13,1m	17,5m	21,8m	26,2m	34,9m	43,7m
Beam wid.	2,9ft	5,8ft	8,6ft	11,4ft	14,3ft	21,5ft	28,6ft	43ft	57,3ft	71,6ft	85,9ft	114,6ft	143,2ft

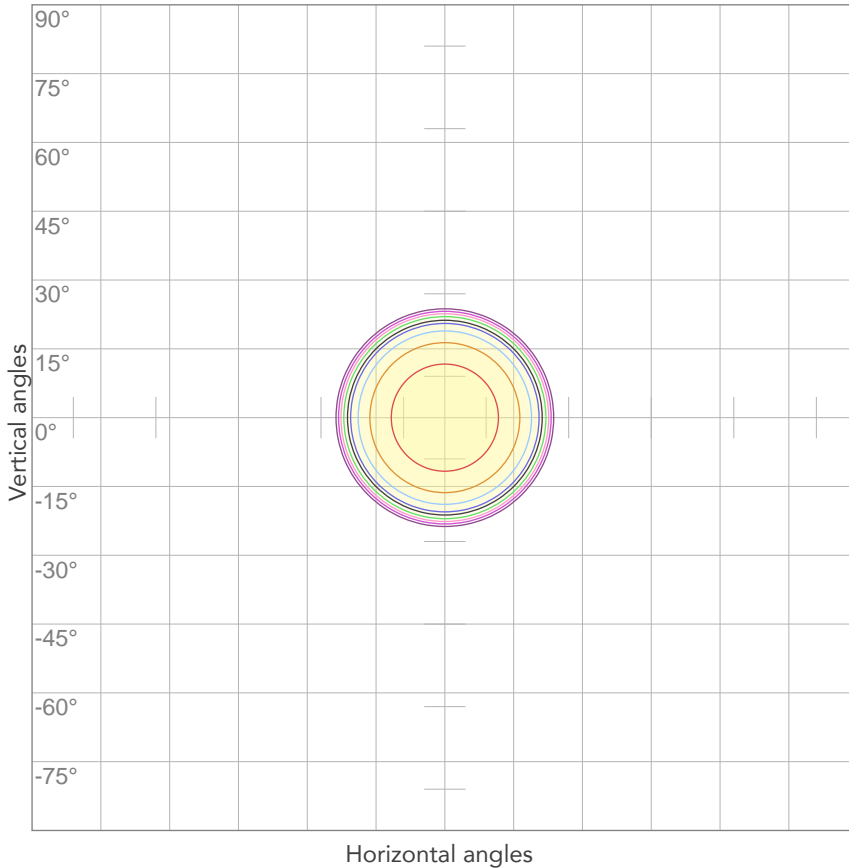
LINEAR DISTRIBUTION DIAGRAM



ELECTRICAL SPECIFICATIONS

Input voltage	Input current	Input power	Effeciency
226V	0,708A	150,7W	30lm/W
Power FC			
0,96			

ISO CANDELA DIAGRAM



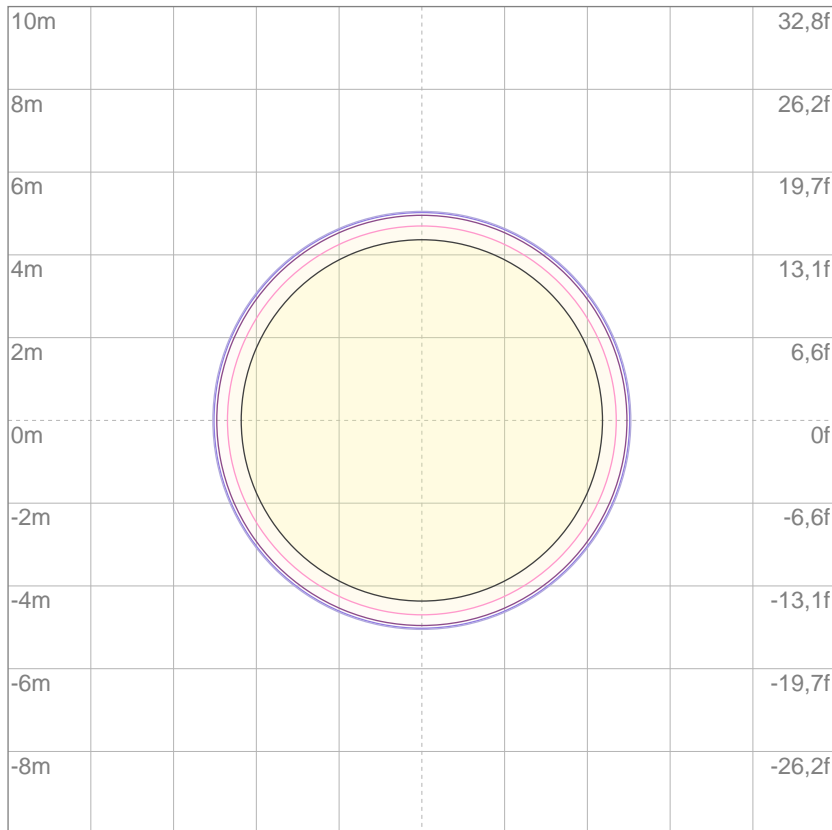
10%	928 cd
20%	1857 cd
30%	2785 cd
40%	3713 cd
50%	4641 cd
60%	5570 cd
70%	6498 cd
80%	7426 cd

Conditions:

Number of c-planes: 2

Candela at center: 9283 cd

ISO LUX DIAGRAM



Mounting height: 10 meters (33 feet)

3%	2,78 lx
5%	4,64 lx
10%	9,28 lx
30%	27,8 lx
50%	46,4 lx

Conditions:

Number of c-planes: 2

Lux at center: 92,8 lx

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