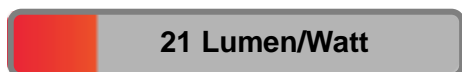


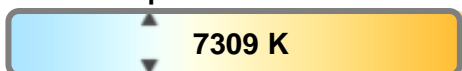
Light efficiency:



Light quality:



Color temperature:



Output: 11788 lm

Peak: 483679 cd

Power: 575 W

PF: n/a



Tracking number: [n/a](#)

Product name:

**Hydro Hybrid**

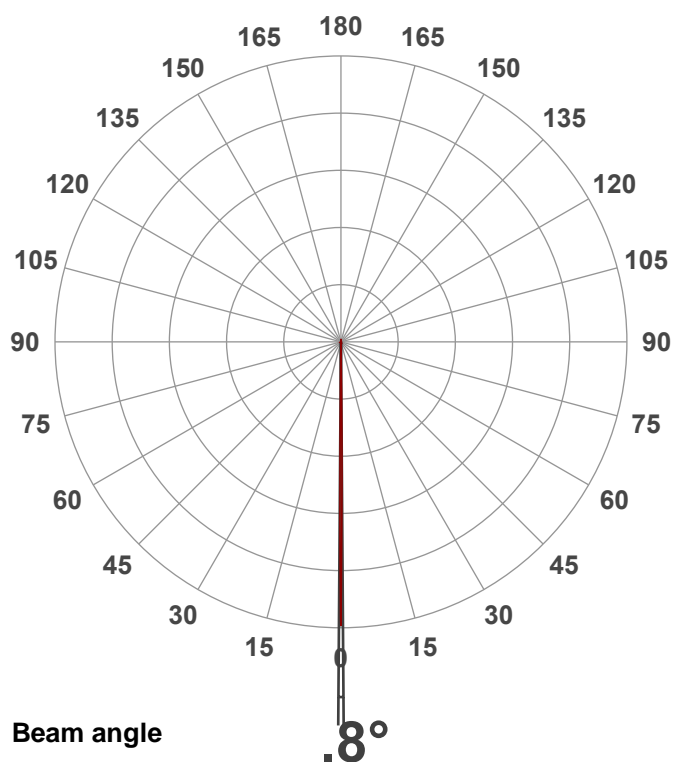
Item number:

**Zoom In**

Date and time:

**8/1/2024 1:01:26 PM**

Description:

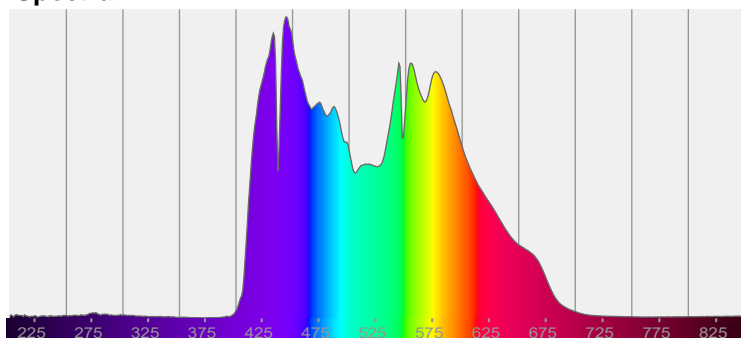


CIE 1931

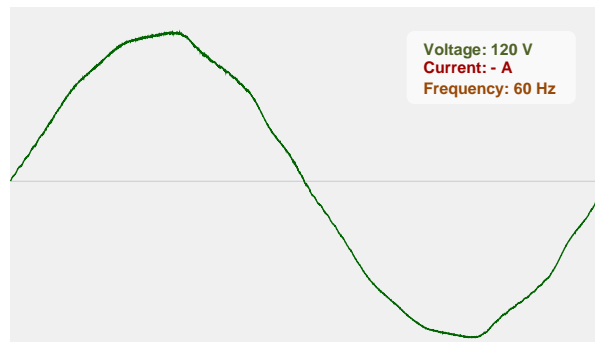
x: 0.302

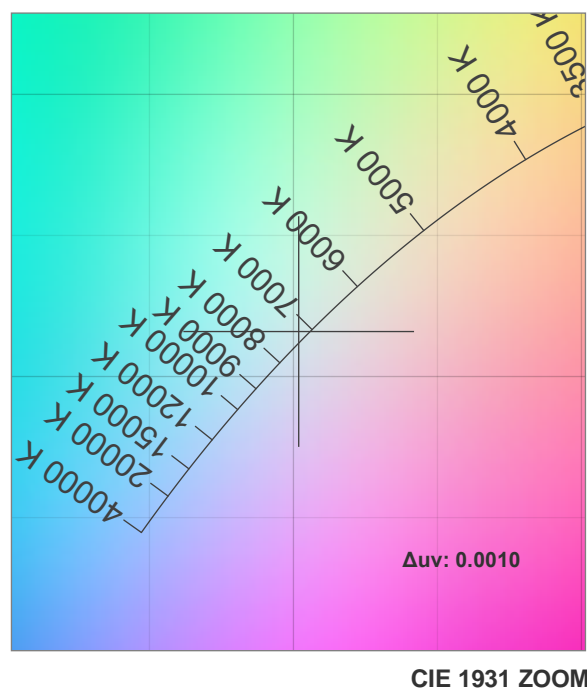
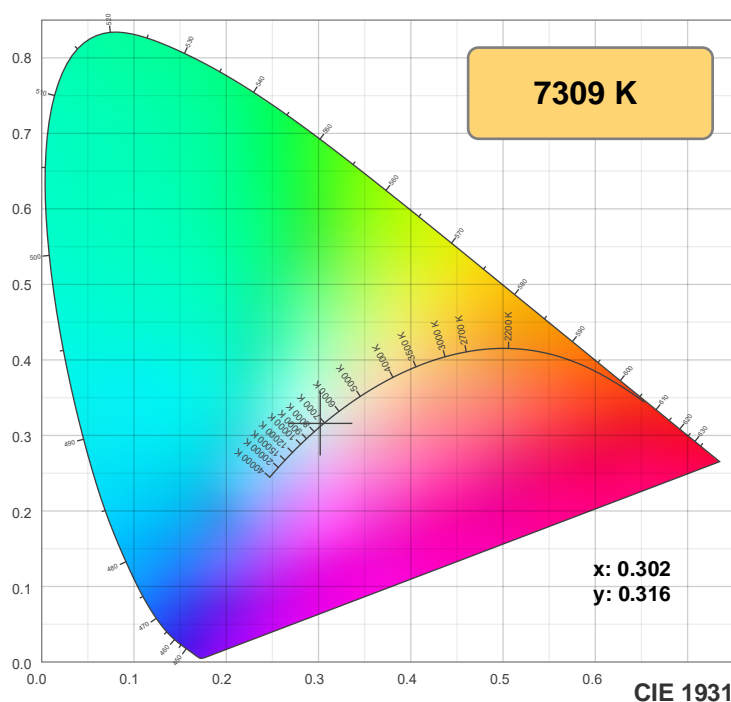
y: 0.316

Spectra

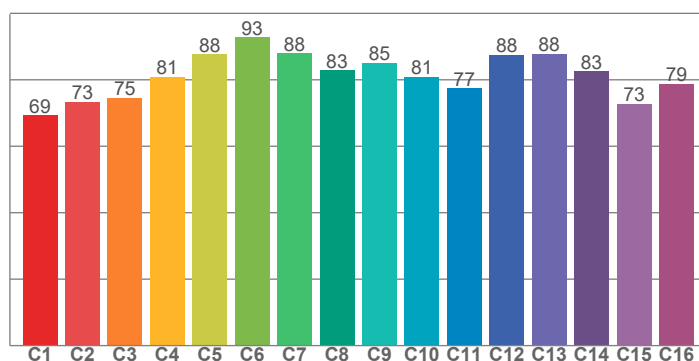


Power

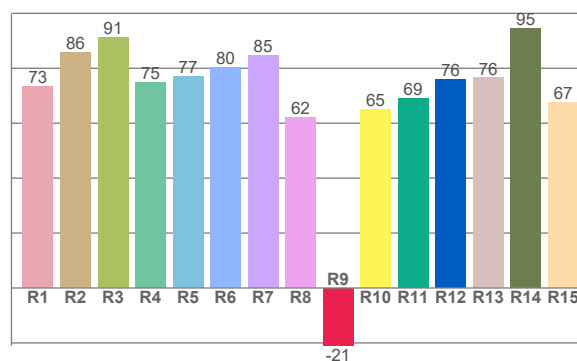




**TM-30: 81.6**



**CRI: 78.7 (R1-R8)**



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

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
73.4	85.9	91.3	75.0	77.0	80.4	84.6	62.1	-21.0	65.1	69.0	75.8	76.5	94.6	67.4

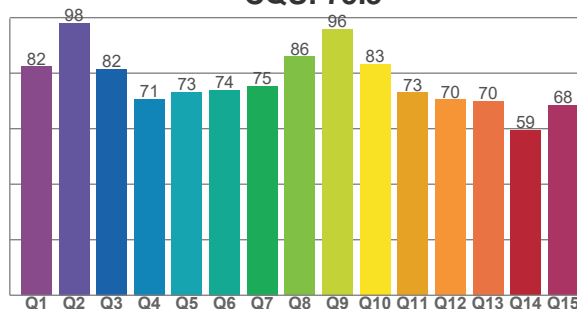
**TM30 C values, 16 binned values out of total of 99 C values**

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
69.3	73.4	74.6	80.9	87.7	92.7	88.0	82.9	85.1	80.8	77.4	87.5	87.9	82.6	72.7	78.8

**CQS Q values**

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
82.3	98.1	81.6	70.8	73.2	73.9	75.4	86.0	96.0	83.2	73.0	70.5	70.0	59.4	68.4

**CQS: 75.3**



## Color parameters

Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
7309 K	78.7	-21.0	81.6	91.4	75.3	0.302	0.316	0.195	0.306	0.0010

## TM-30 details

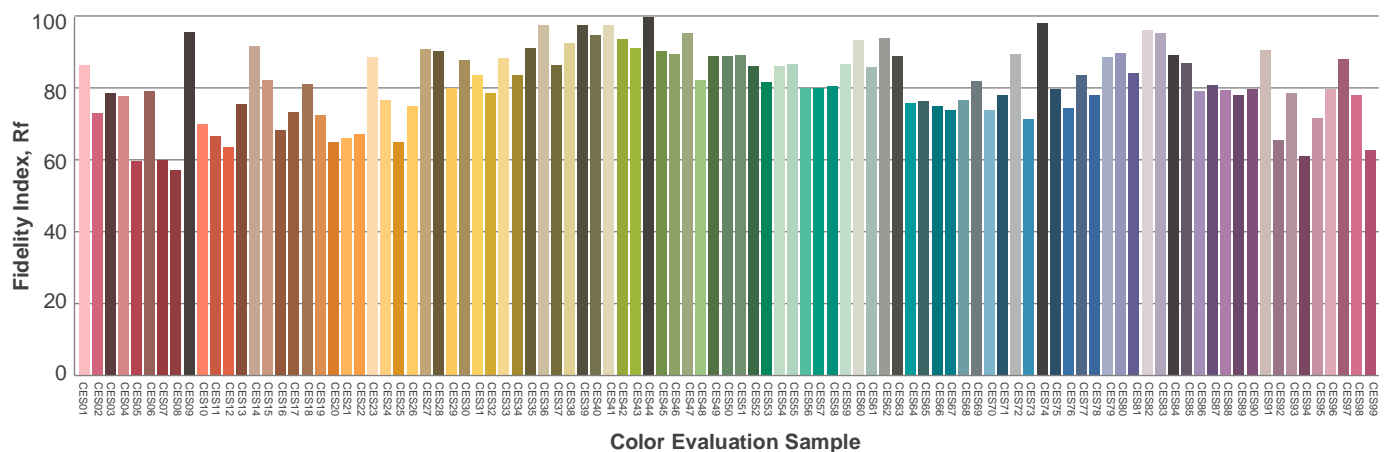
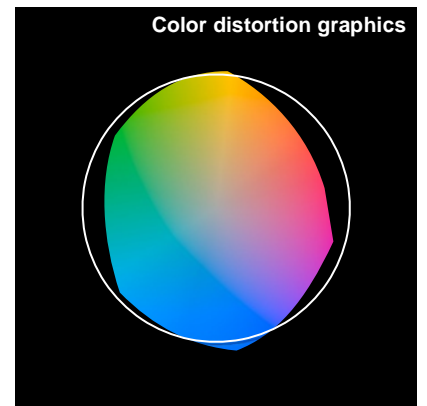
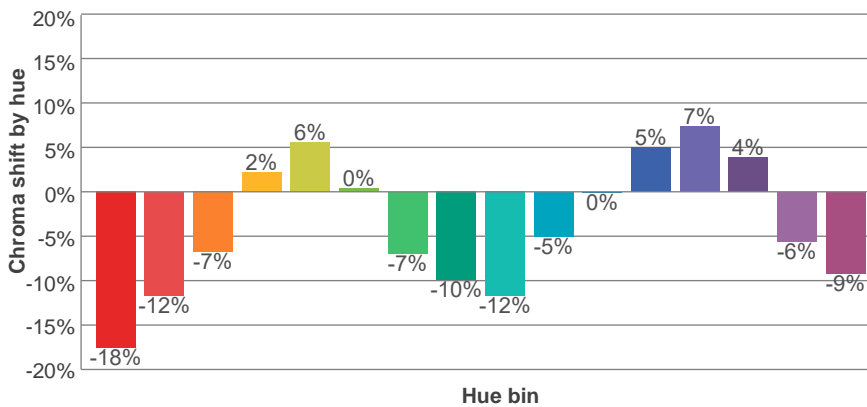
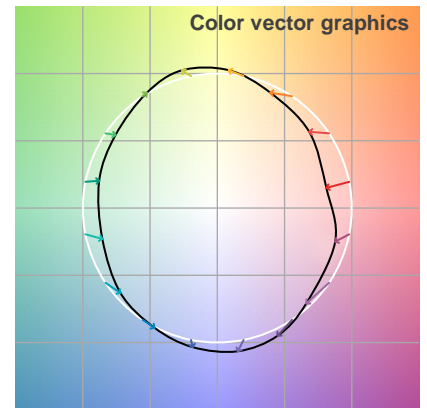
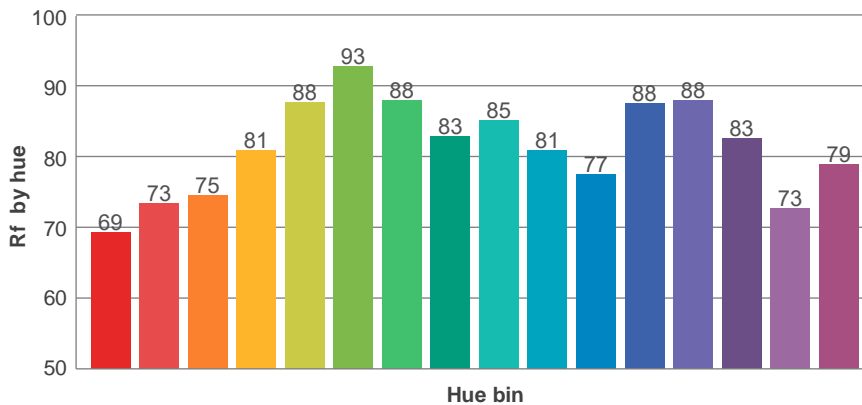
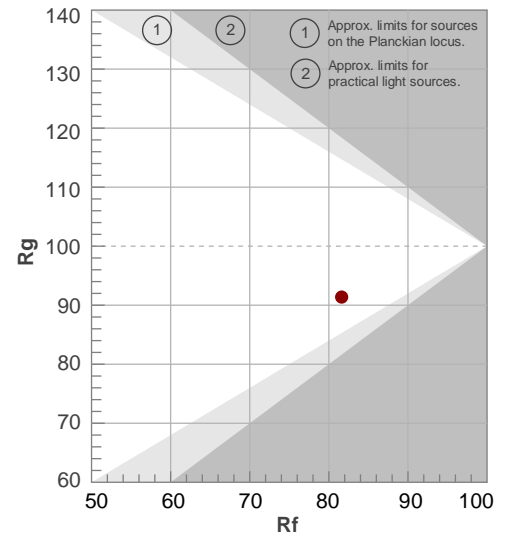
**Rf 81.6**

Fidelity index Rf

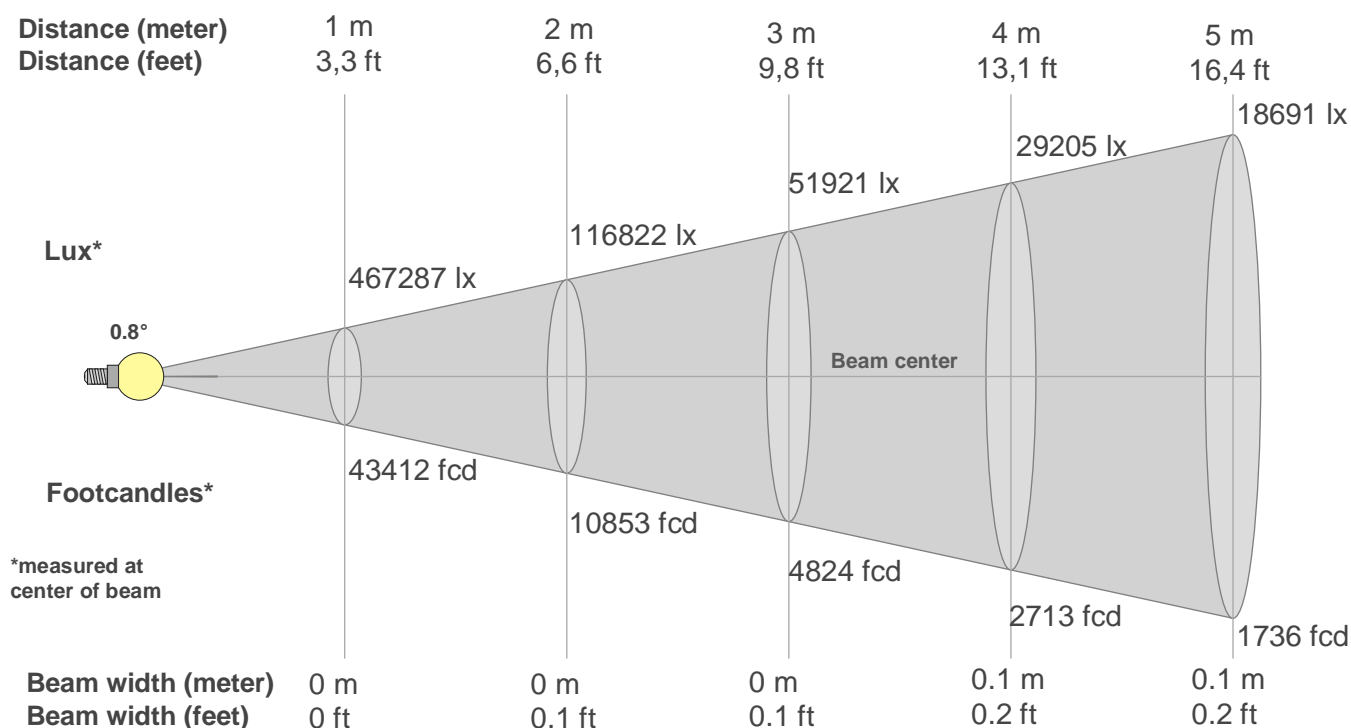
**Rg 91.4**

Gamut index Rg

Hue Bin	R <sub>f</sub>	Shifts (%)	
		Chroma	Hue
1	69	-18%	-1%
2	73	-12%	9%
3	75	-7%	15%
4	81	2%	12%
5	88	6%	6%
6	93	0%	-4%
7	88	-7%	-3%
8	83	-10%	-3%
9	85	-12%	6%
10	81	-5%	12%
11	77	0%	11%
12	88	5%	2%
13	88	7%	-6%
14	83	4%	-15%
15	73	-6%	-22%
16	79	-9%	-7%



## Beam details



### Beam intensities from 1-20m

1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
3.3ft	6.6ft	9.8ft	13.1ft	16.4ft	19.7ft	23ft	26.2ft	29.5ft	32.8ft	36.1ft	39.4ft	42.7ft	45.9ft	49.2ft	52.5ft	55.8ft	59.1ft	62.3ft	65.6ft
467287lx	116822lx	51921lx	29205lx	18691lx	12980lx	9536lx	7301lx	5769lx	4673lx	3862lx	3245lx	2765lx	2384lx	2077lx	1825lx	1617lx	1442lx	1294lx	1168lx
43412.3fcd	10853.1fcd	4823.6fcd	2713.3fcd	1736.5fcd	1205.9fcd	886fcd	678.3fcd	536fcd	434.1fcd	358.8fcd	301.5fcd	256.9fcd	221.5fcd	192.9fcd	169.6fcd	150.2fcd	134fcd	120.3fcd	108.5fcd

### Intensities in 0° c-plane

0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
467K	13K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K
100%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

### Intensities in 90° c-plane

0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
467K	13K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K
100%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

### Intensities in 180° c-plane

0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
467K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K
100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

### Intensities in 270° c-plane

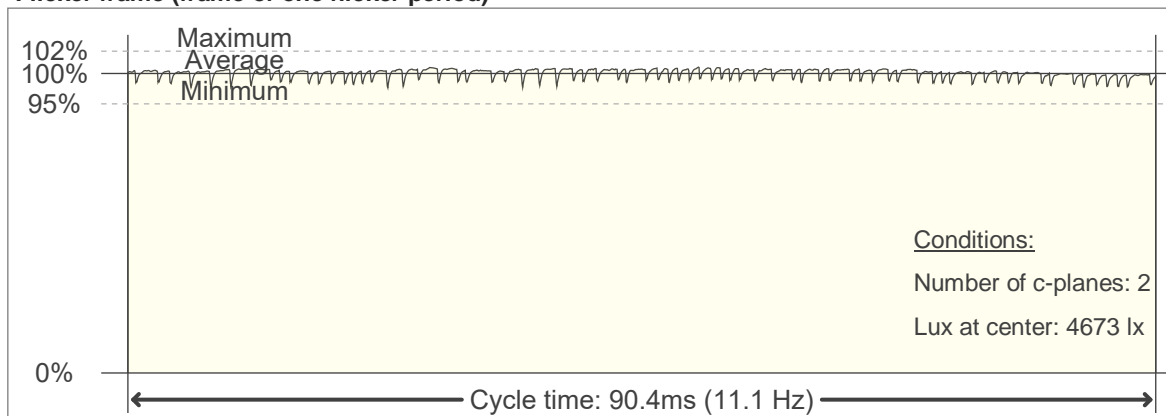
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
467K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K	1K
100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
0.8°	1.5°	1.9°	25.7%	15.4%

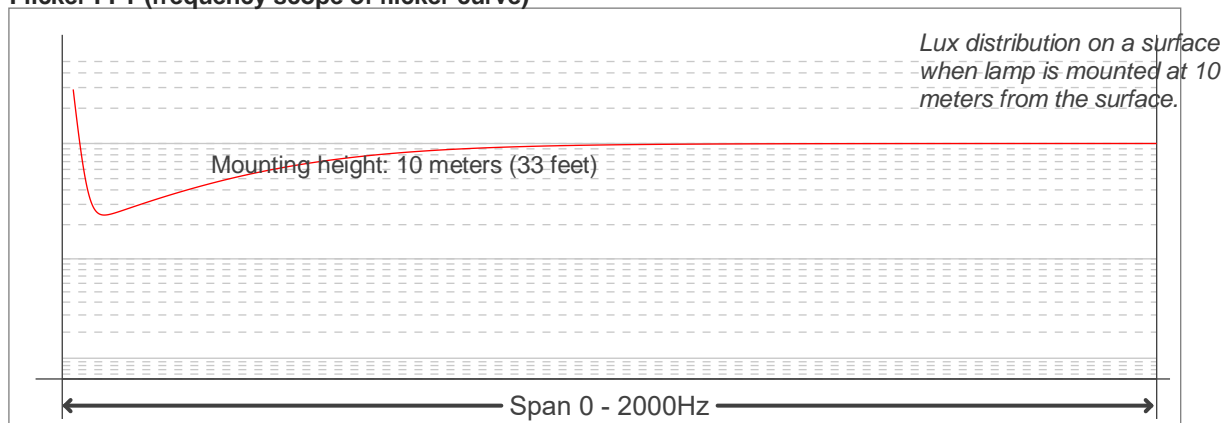
## Flicker

**Flicker curve (complete sampled flicker signal)**

**Flicker frame (frame of one flicker period)**



**Flicker FFT (frequency scope of flicker curve)**



**Flicker results:**

Flicker frequency:		11.06 Hz	
Flicker index:	0.01	JA8/10 40Hz	2.32 %
Flicker percentage:	5.43 %	JA8/10 90Hz	2.53 %
SVM: (Visual flicker)	0.01	JA8/10 200Hz	2.61 %
PstLM	1.76	JA8/10 400Hz	2.97 %
Mp	1.25	JA8/10 1000Hz	4.34 %

**Flicker conditions:**

Sample rate:	20000 samples/second
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