Light efficiency:

97 Lumen/Watt

Light quality:

CRI: 86,6

Color temperature:

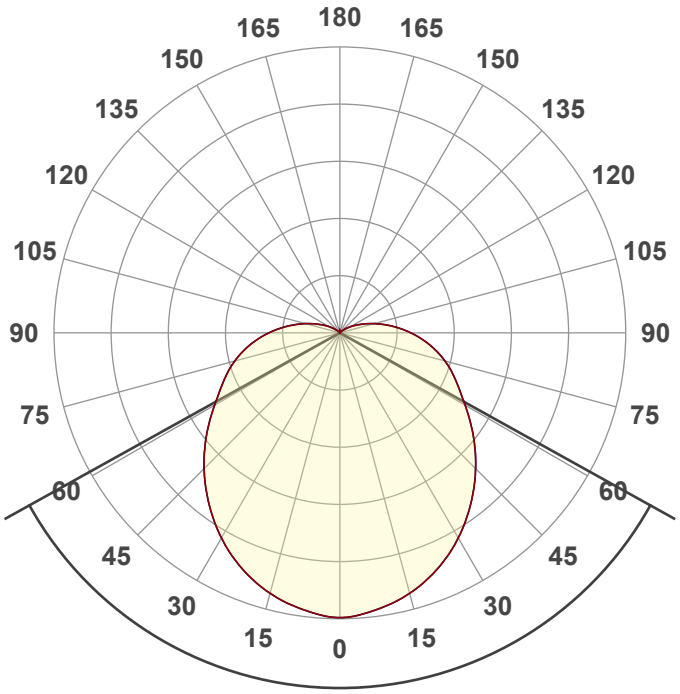
4000 K

Output: 1168 lm

Peak: 298 cd

Power: 12,1 W

PF: 0,91



Beam angle 121,9°

CIE 1931
x: 0,381
y: 0,377

Tracking number: VT240919-008242

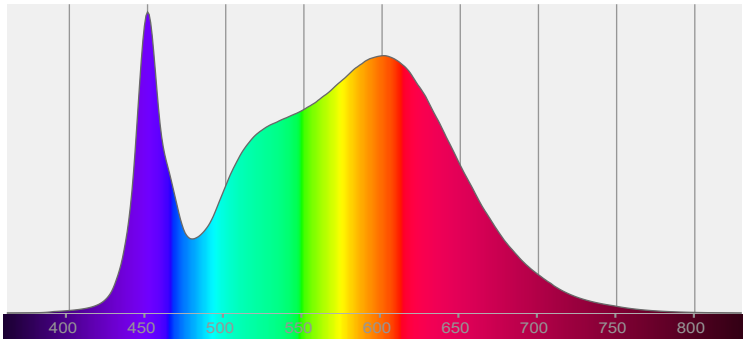
Product name:
802394-4000K

Item number:
802394-4000K

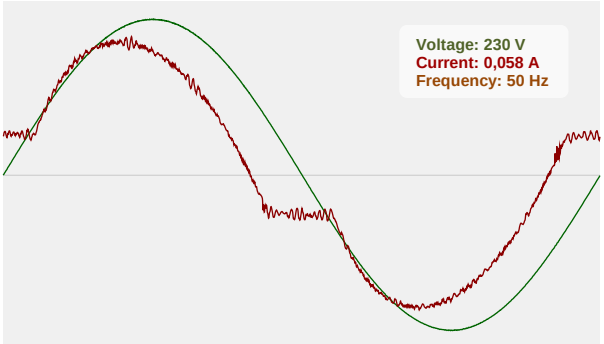
Date and time:
19-9-2024 14:21:50

Description:
LED BULKHEAD | JULIET | 12W |

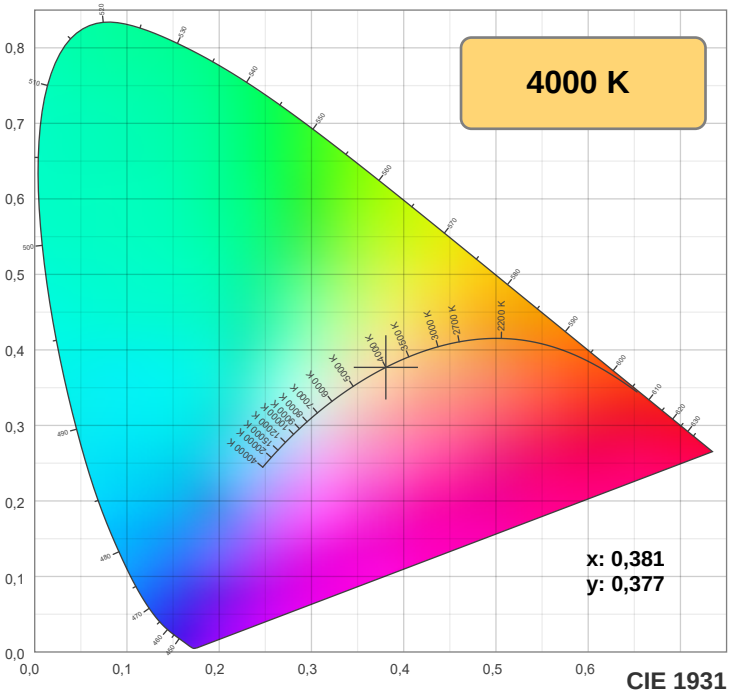
Spectra



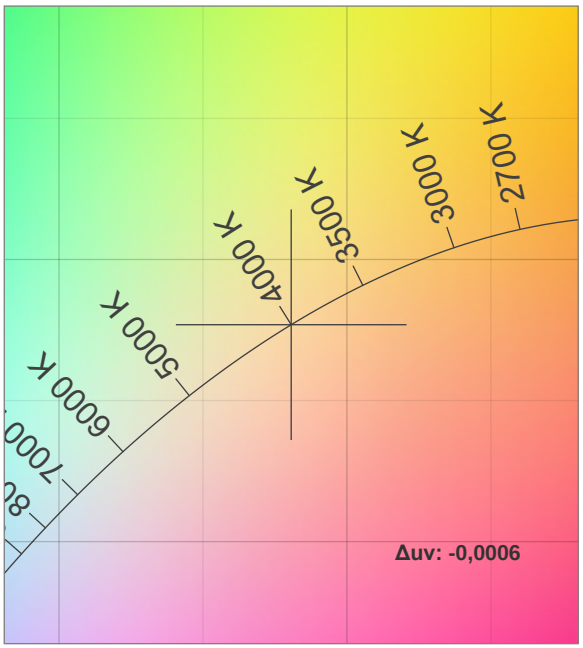
Power



Color details

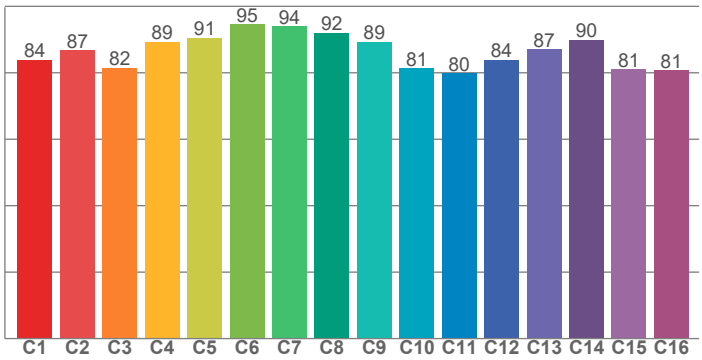


CIE 1931

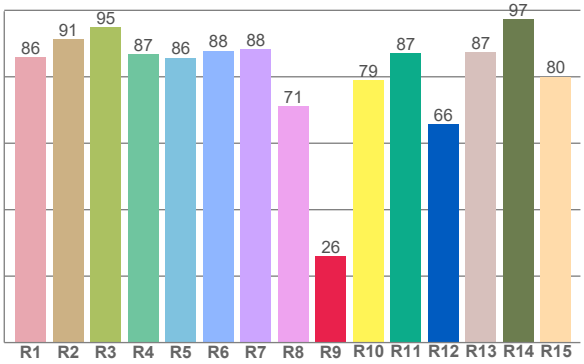


CIE 1931 ZOOM

TM-30: 86,4



CRI: 86,6 (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
86,0	91,4	95,0	86,9	85,7	87,8	88,4	71,2	25,9	79,1	87,0	65,7	87,5	97,2	80,1

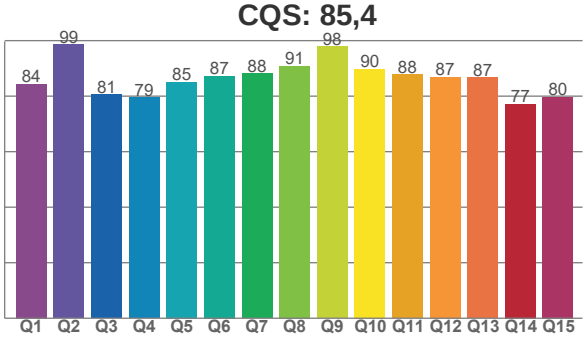
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
83,9	86,8	81,5	89,4	90,5	94,6	94,0	92,0	89,4	81,4	79,9	84,0	87,0	89,9	81,0	80,7

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
84,4	98,7	80,5	79,5	85,1	87,2	88,2	90,8	97,9	89,8	87,7	86,8	86,7	77,1	79,7

CQS: 85,4



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 diviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
4000 K	86,6	25,9	86,4	97,5	85,4	0,381	0,377	0,225	0,334	-0,0006

TM-30 details

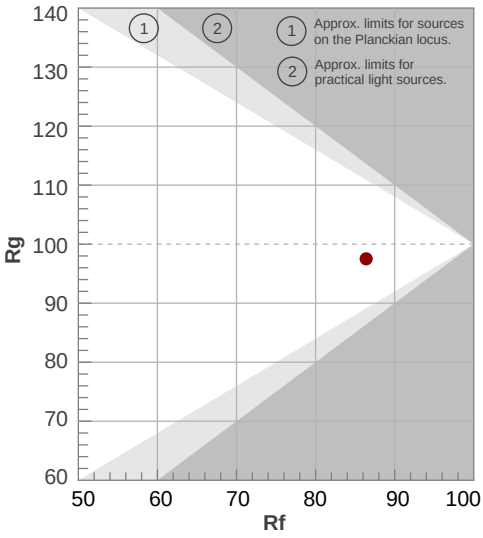
Rf 86,4

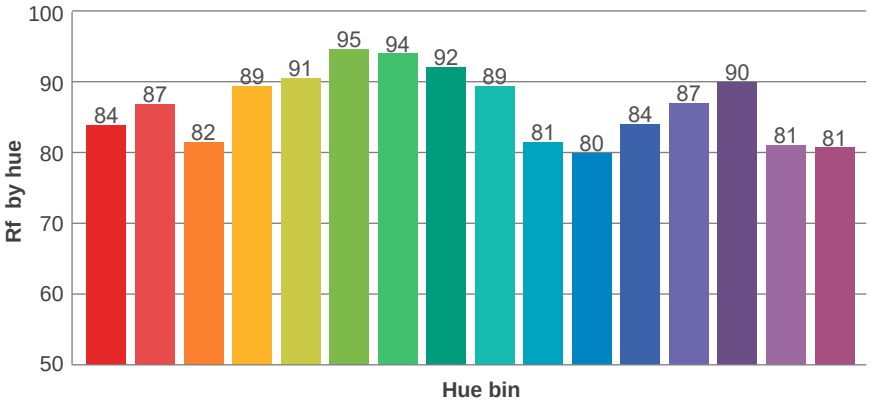
Fidelity index Rf

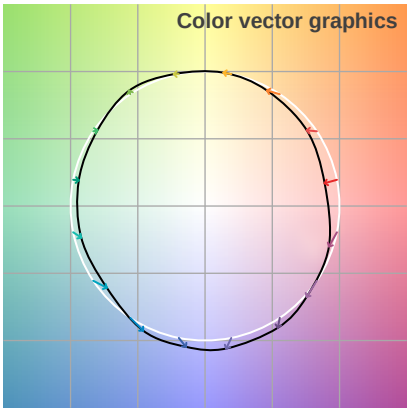
Rg 97,5

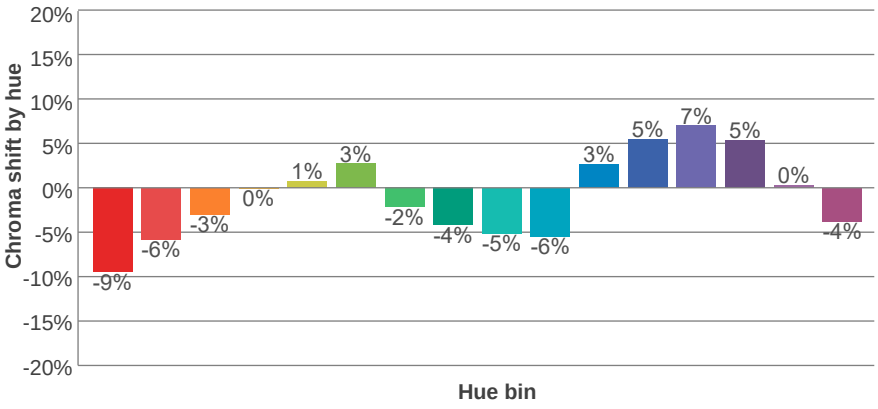
Gamut index Rg

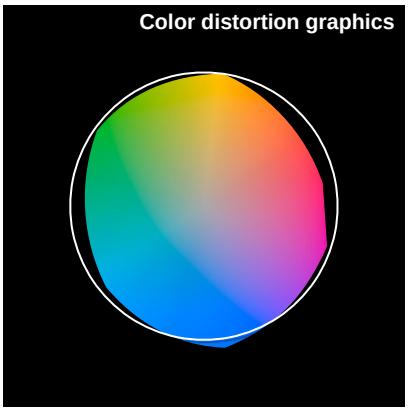
Hue Bin	R_f	Shifts (%) Chroma	Hue
1	84	-9%	-1%
2	87	-6%	5%
3	82	-3%	9%
4	89	0%	6%
5	91	1%	4%
6	95	3%	-1%
7	94	-2%	-2%
8	92	-4%	0%
9	89	-5%	5%
10	81	-6%	10%
11	80	3%	13%
12	84	5%	6%
13	87	7%	-5%
14	90	5%	-5%
15	81	0%	-14%
16	81	-4%	-12%

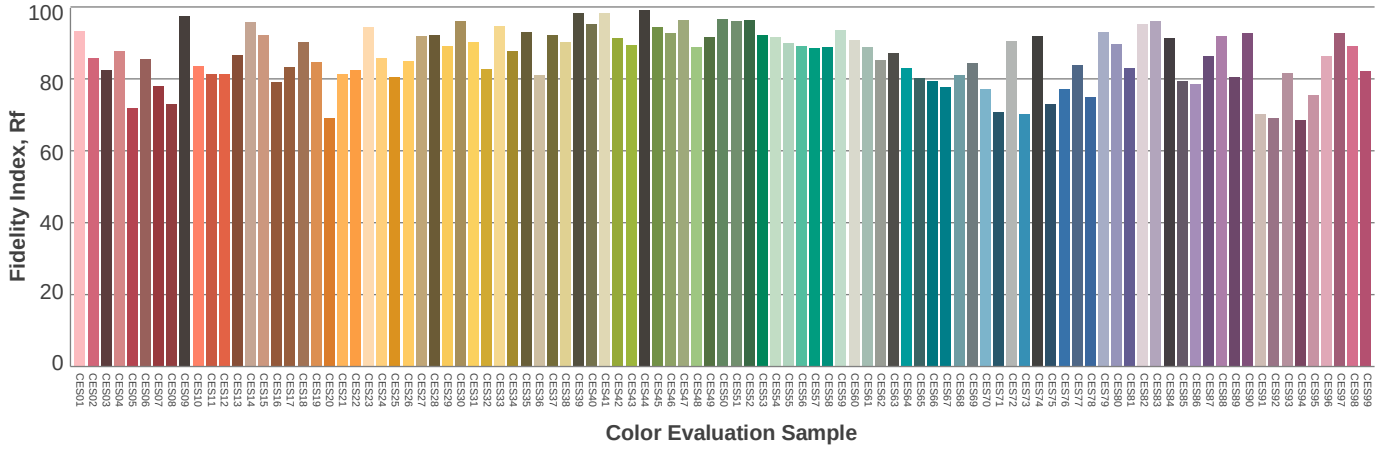




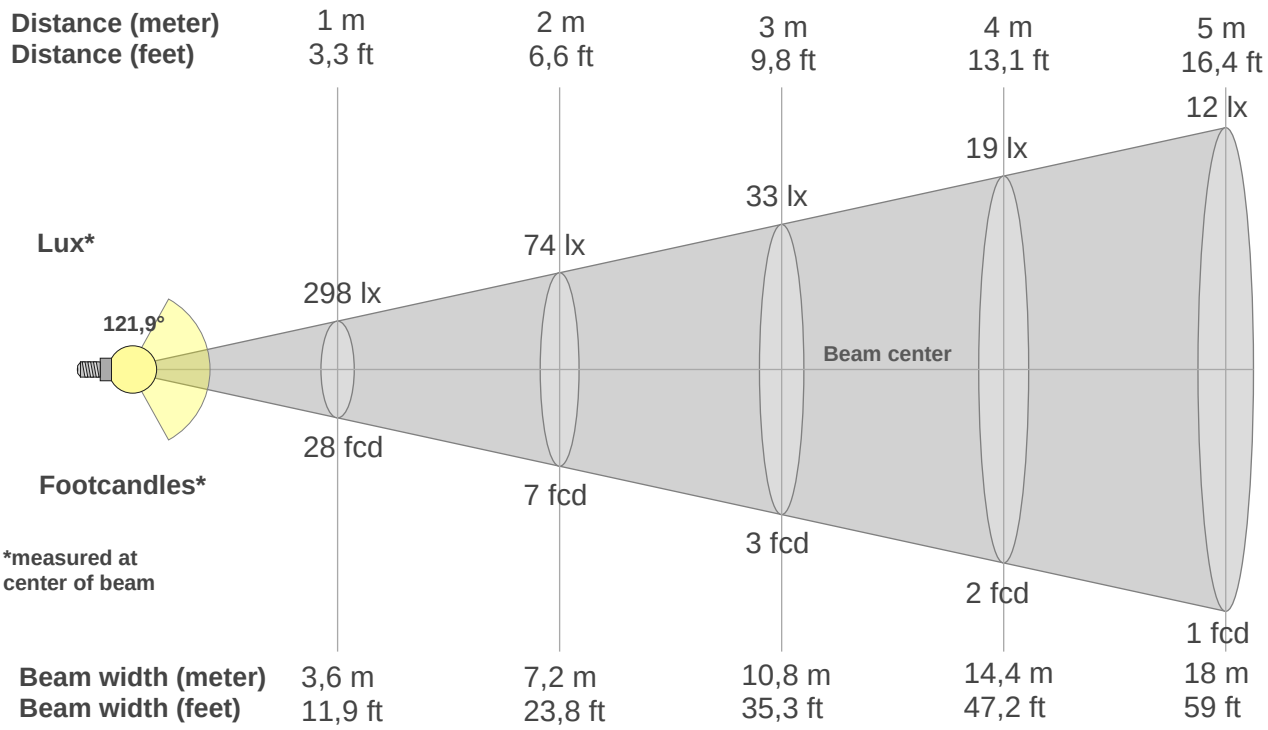








Beam details



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
298lx	74lx	33lx	19lx	12lx	8lx	6lx	5lx	4lx	3lx	2lx	2lx	2lx	2lx	1lx	1lx	1lx	1lx	1lx	1lx
27,7fcd	6,9fcd	3,1fcd	1,7fcd	1,1fcd	0,8fcd	0,6fcd	0,4fcd	0,3fcd	0,3fcd	0,2fcd	0,2fcd	0,2fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd

Intensities in 0° c-plane

0°	9°	18°	27°	36°	45°	54°	63°	72°	81°	90°	99°	108°	117°	126°	135°	144°	153°	162°	171°
298	291	277	256	230	201	171	143	121	99	74	51	31	17	7	1	0	0	0	0
100%	98%	93%	86%	77%	68%	57%	48%	41%	33%	25%	17%	10%	6%	2%	0%	0%	0%	0%	0%

Intensities in 90° c-plane

0°	9°	18°	27°	36°	45°	54°	63°	72°	81°	90°	99°	108°	117°	126°	135°	144°	153°	162°	171°
298	291	277	256	230	201	171	143	121	99	74	51	31	17	7	1	0	0	0	0
100%	98%	93%	86%	77%	68%	57%	48%	41%	33%	25%	17%	10%	6%	2%	0%	0%	0%	0%	0%

Intensities in 180° c-plane

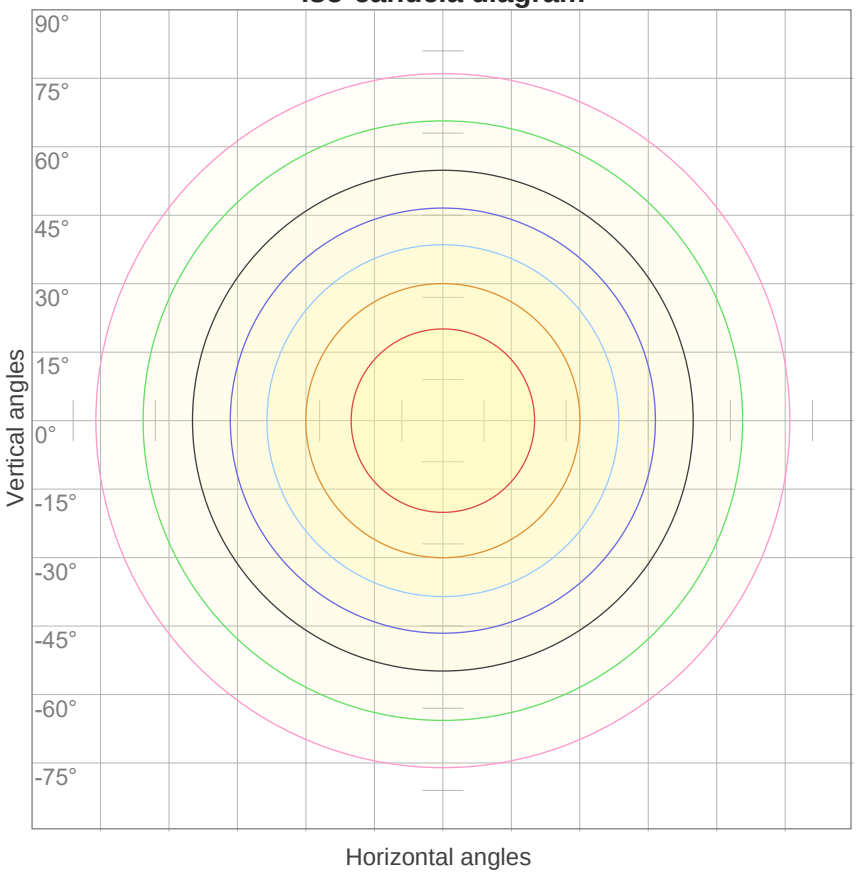
0°	9°	18°	27°	36°	45°	54°	63°	72°	81°	90°	99°	108°	117°	126°	135°	144°	153°	162°	171°
298	291	277	256	230	201	171	143	121	99	74	51	31	17	7	1	0	0	0	0
100%	98%	93%	86%	77%	68%	57%	48%	41%	33%	25%	17%	10%	6%	2%	0%	0%	0%	0%	0%

Intensities in 270° c-plane

0°	9°	18°	27°	36°	45°	54°	63°	72°	81°	90°	99°	108°	117°	126°	135°	144°	153°	162°	171°
298	291	277	256	230	201	171	143	121	99	74	51	31	17	7	1	0	0	0	0
100%	98%	93%	86%	77%	68%	57%	48%	41%	33%	25%	17%	10%	6%	2%	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
121,9°	217,5°	251,2°	58,2%	38,7%

iso-candela diagram



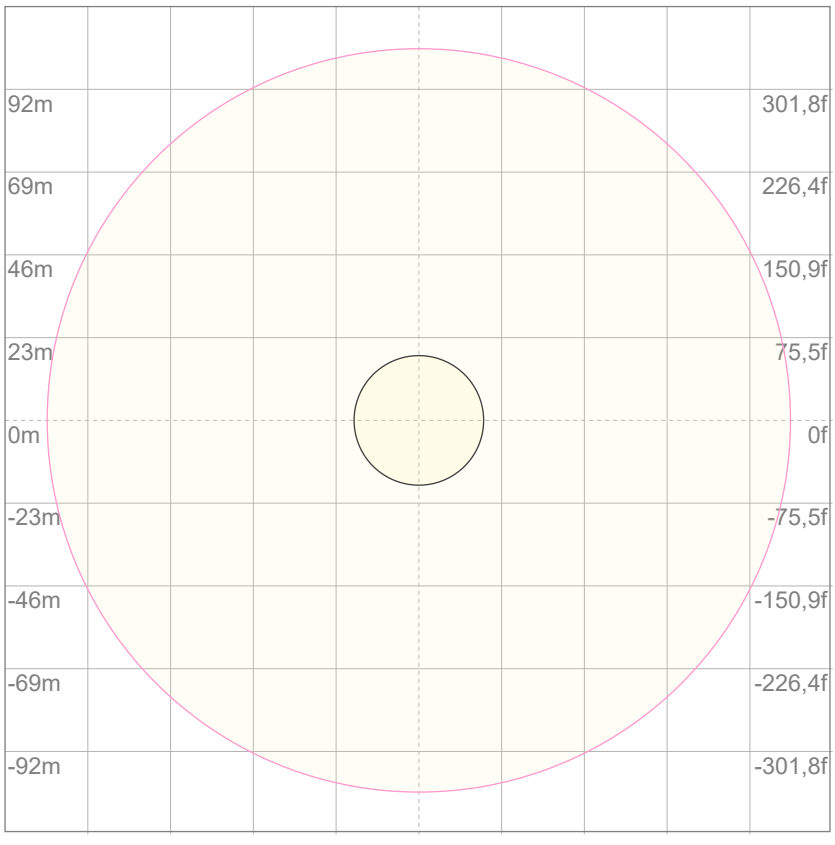
10%	30 cd
20%	60 cd
30%	89 cd
40%	119 cd
50%	149 cd
60%	179 cd
70%	208 cd
80%	238 cd
90%	268 cd

Conditions:

Number of c-planes: 72

Candela at center: 298 cd

iso-lux diagram



Mounting height: 10 meters (33 feet)

3%	89,3m lx
5%	0,149 lx
10%	0,298 lx
30%	0,893 lx
50%	1,49 lx

Conditions:

Number of c-planes: 72

Lux at center: 2,98 lx

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

Glare evaluation according to UGR

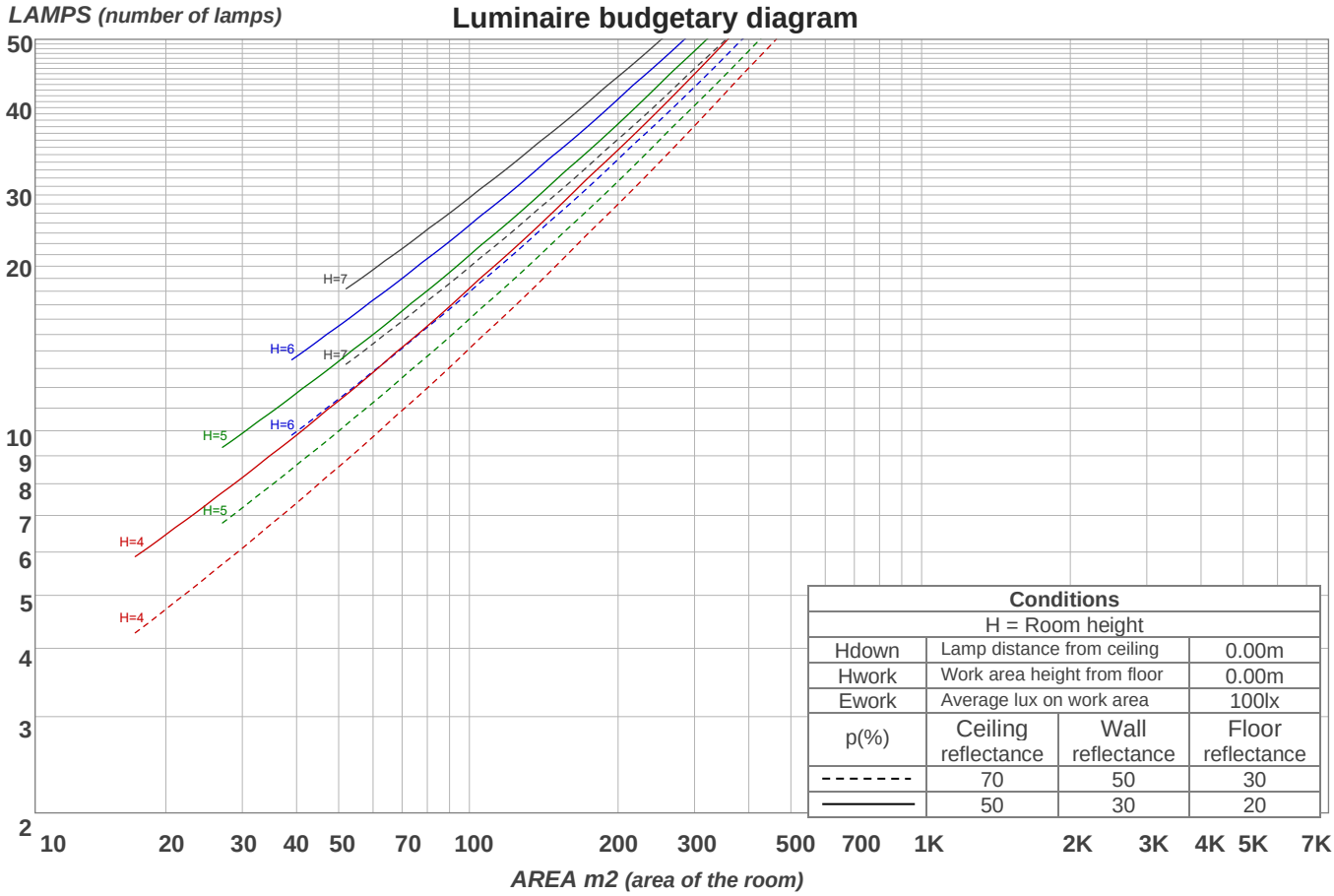
p Ceiling	70	70	50	50	30	70	70	50	50	30
p Walls	50	30	50	30	30	50	30	50	30	30
p Floor	20	20	20	20	20	20	20	20	20	20
Room size X Y	Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Variation of the observer position for the luminaire distance S										
n/a	n/a					n/a				
n/a	n/a					n/a				
n/a	n/a					n/a				
CIE 117-1995. Corrected glare indices referring to 1168 lm total luminous flux										

UGR data could not be calculated due to missing dimensions. Goto Edit->Photometric->Dimensions and set the fixture/lamp dimensions.

Coefficients of Utilization

Ceiling reflectance	80				70				50			30			10			0
Wall reflectance	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
Floor reflectance	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	0
RCR	(RCR: Room Cavity Ratio)				Room Values are expressed as percentage of Lumens delivered to the task surface													
0	116	116	116	116	112	112	112	112	105	105	105	98	98	98	91	91	91	88
1	103	97	91	86	99	93	88	84	87	83	79	81	77	74	75	73	70	67
2	92	83	75	68	88	80	72	66	74	68	63	69	64	60	64	60	57	54
3	84	72	63	55	80	69	61	54	65	57	52	60	54	49	56	51	47	44
4	76	63	54	46	73	61	52	45	57	49	43	53	47	42	50	44	40	37
5	70	56	47	39	67	54	45	39	51	43	37	48	41	36	45	39	34	32
6	64	50	41	34	62	49	40	34	46	38	32	43	36	31	40	34	30	28
7	60	46	36	30	57	44	36	29	42	34	28	39	32	27	37	31	26	24
8	55	41	33	27	53	40	32	26	38	31	25	36	29	24	34	28	24	21
9	52	38	30	24	50	37	29	23	35	28	23	33	27	22	31	25	21	19
10	49	35	27	21	47	34	26	21	32	25	21	31	24	20	29	23	19	17

Luminaire budgetary diagram



Zonal Lumen Summary

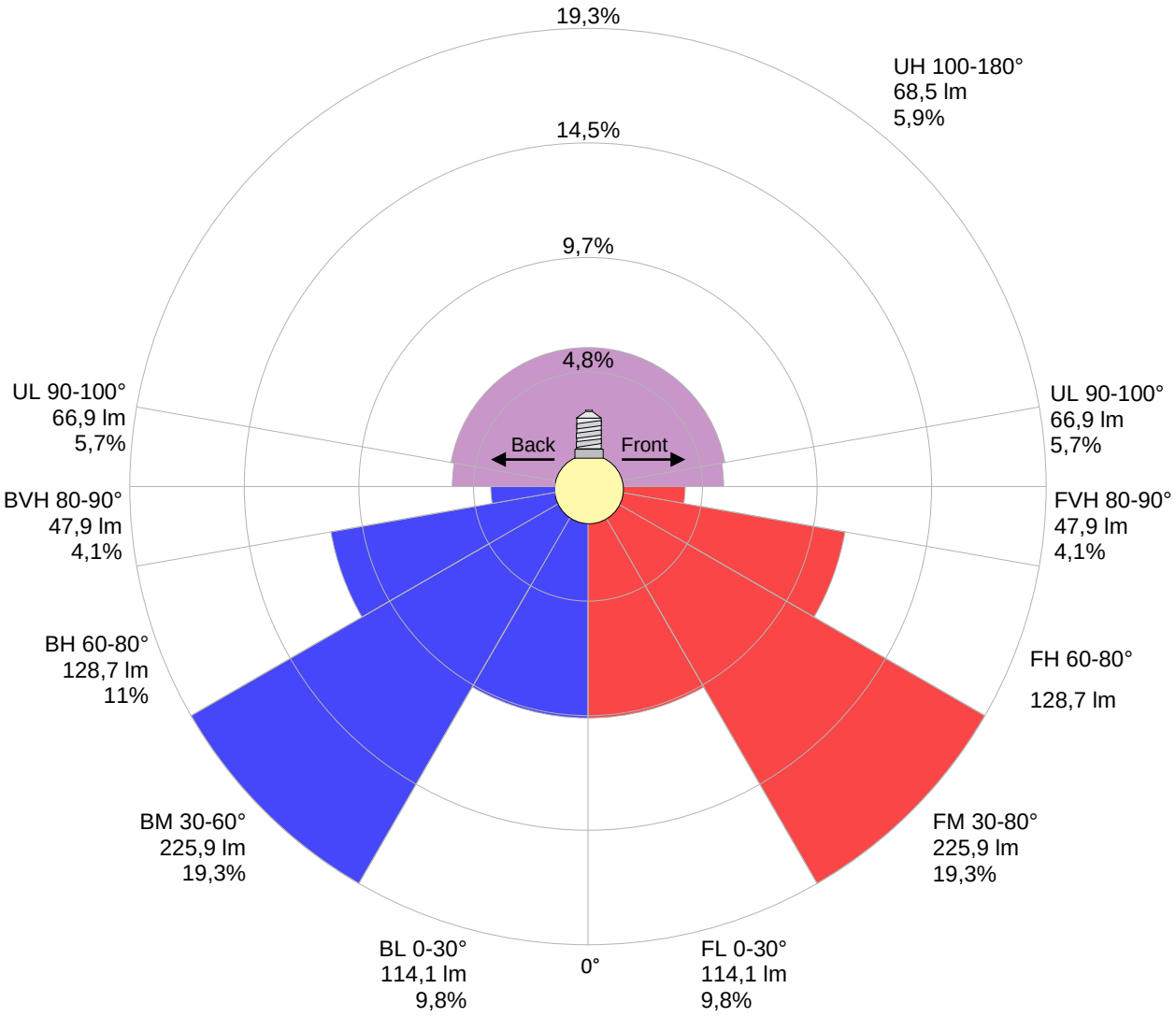
0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
{LUM0-10}	79,8 lm	121 lm	146 lm	155 lm	150 lm	137 lm	120 lm	95,9 lm

90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
66,8 lm	39,7 lm	19,4 lm	7,28 lm	1,21 lm	0,183 lm	0,124 lm	0,075 lm	0,026 lm

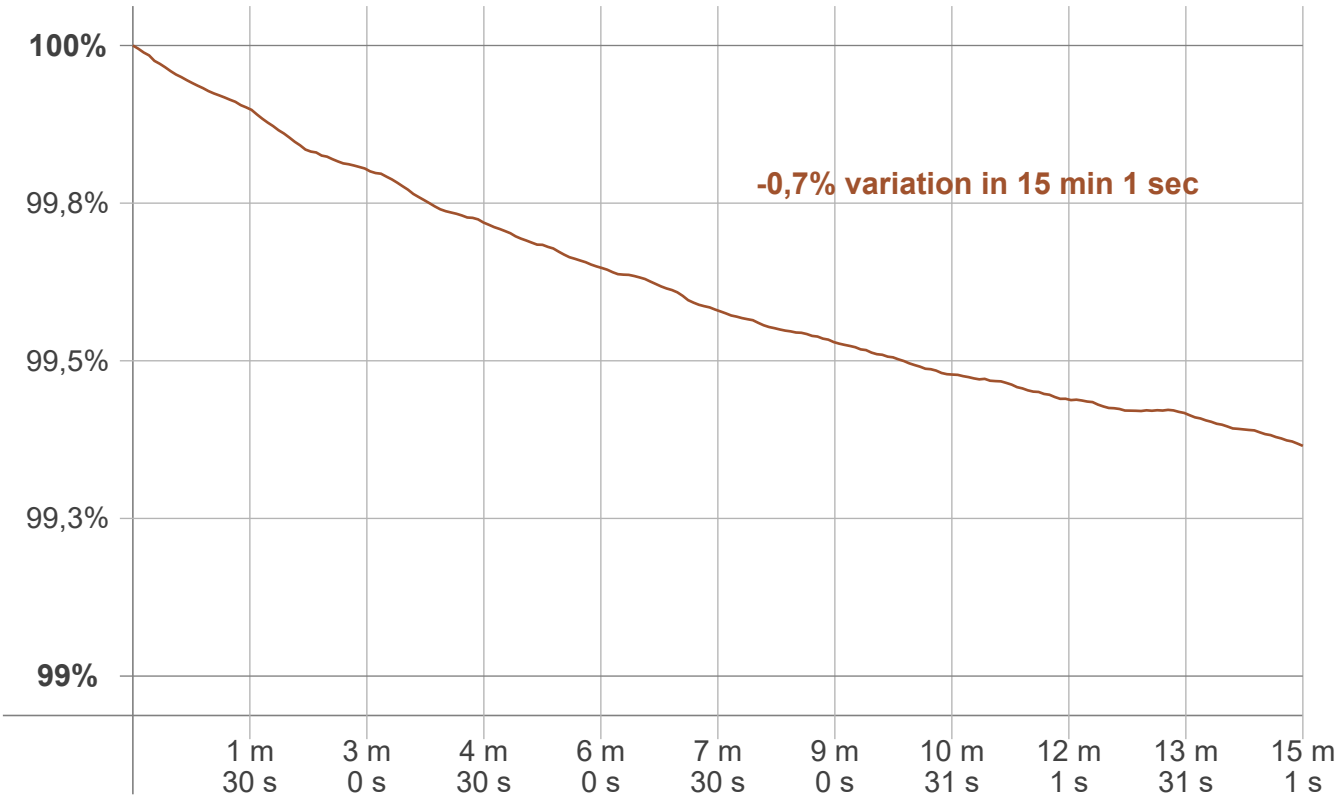
LCS table

BUG rating:	B1 U3 G1	
Forward light	Lumens	Lumens %
Low(0-30):	114,1	9,8%
Medium(30-60):	225,9	19,3%
High(60-80):	128,7	11%
Very high(80-90):	47,9	4,1%
Back light		
Low(0-30):	114,1	9,8%
Medium(30-60):	225,9	19,3%
High(60-80):	128,7	11%
Very high(80-90):	47,9	4,1%
Uplight		
Low(90-100):	66,9	5,7%
High(100-180):	68,5	5,9%

LCS graph



Warmup curve



Warmup result

Warmup time:	**Lamp stabilized in 15 min 1 sec**
Warmup variation	**-0,7%**

Warmup conditions

Stable period:	**15 min**
Stable change max:	**2,0%**
Minimum time:	**15 min**

Color temperature change

CCT start	CCT change	CCT end
3993 K	+7 K	4000 K

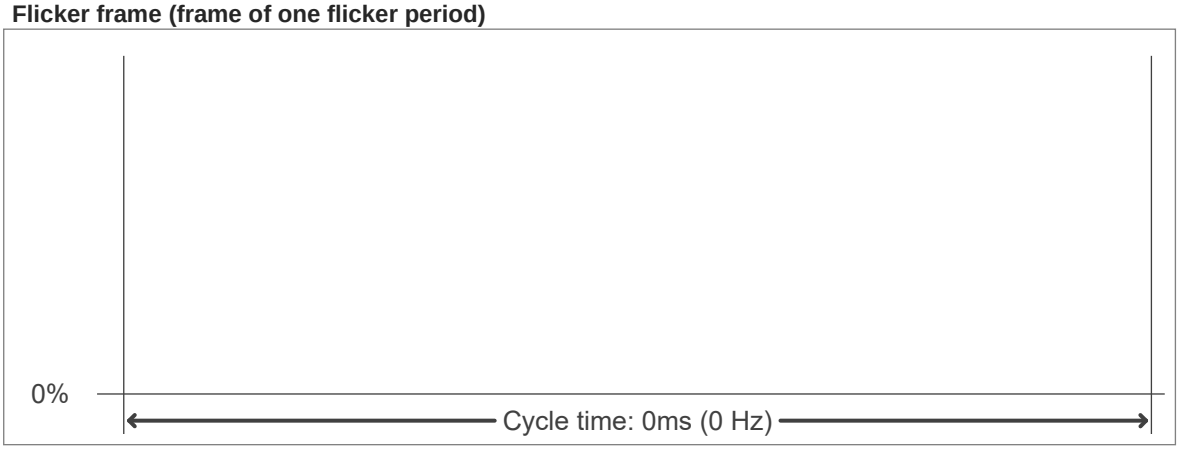
Output change

Output start	Output change	Output end
1176 lm	-7 lm	1168 lm

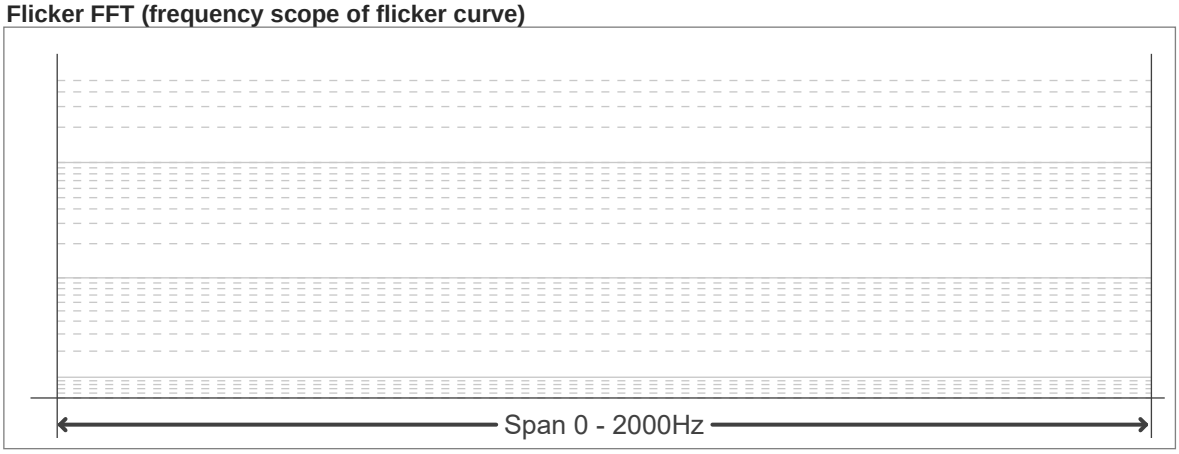
Flicker

Flicker curve (complete sampled flicker signal)

Flicker frame (frame of one flicker period)



Flicker FFT (frequency scope of flicker curve)



Flicker results:

Flicker frequency:		n/a Hz	
Flicker index:	n/a	JA8/10 40Hz	n/a %
Flicker percentage:	n/a %	JA8/10 90Hz	n/a %
SVM: (Visual flicker)	n/a	JA8/10 200Hz	n/a %
PstLM	n/a	JA8/10 400Hz	n/a %
Mp	n/a	JA8/10 1000Hz	n/a %

Flicker conditions:

Sample rate:	n/a samples/second