

Light efficiency:

142 Lumen/Watt

Light quality:

CRI: 82.8

Color temperature:

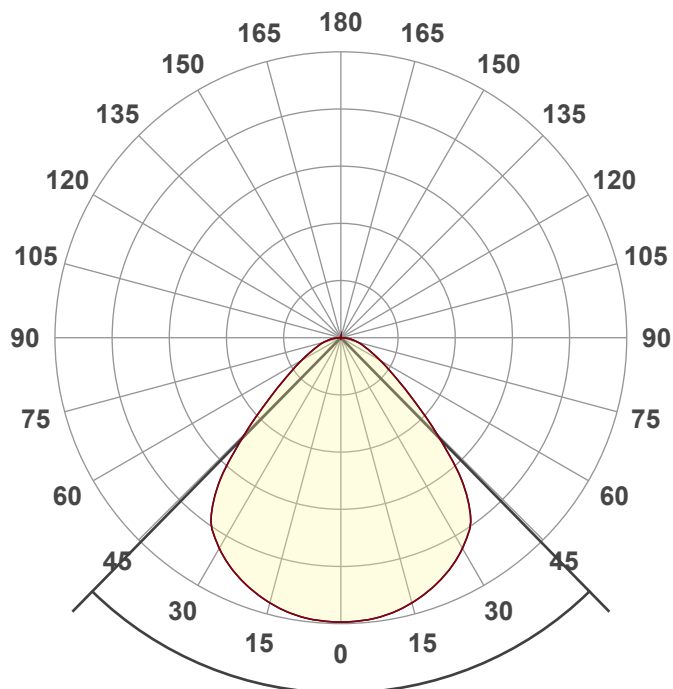
5139 K

Output: 15087 lm

Peak: 7315 cd

Power: 106 W

PF: 1.0



Product name:

LHBDS1-50K110ML-P2WH2

Date and time:

8/31/2021 2:02:38 PM

Beam angle

88.8°

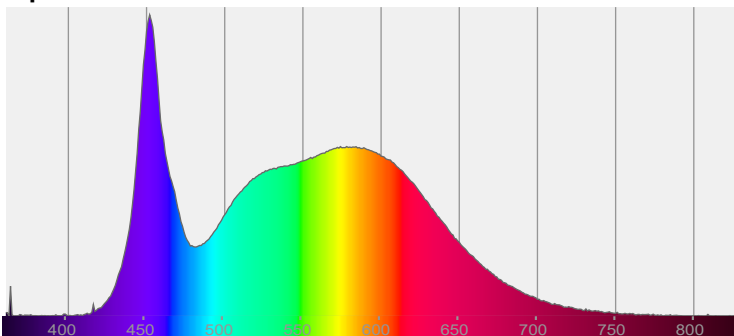


CIE 1931

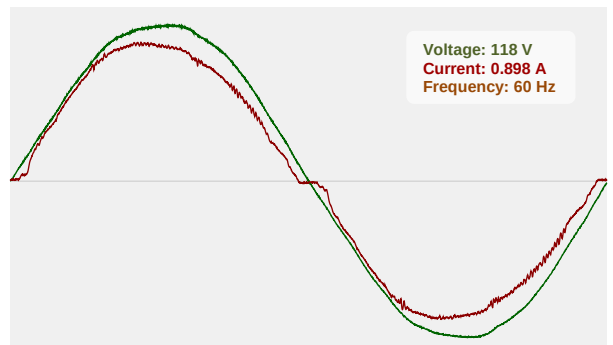
x: 0.342

y: 0.354

Spectra



Power



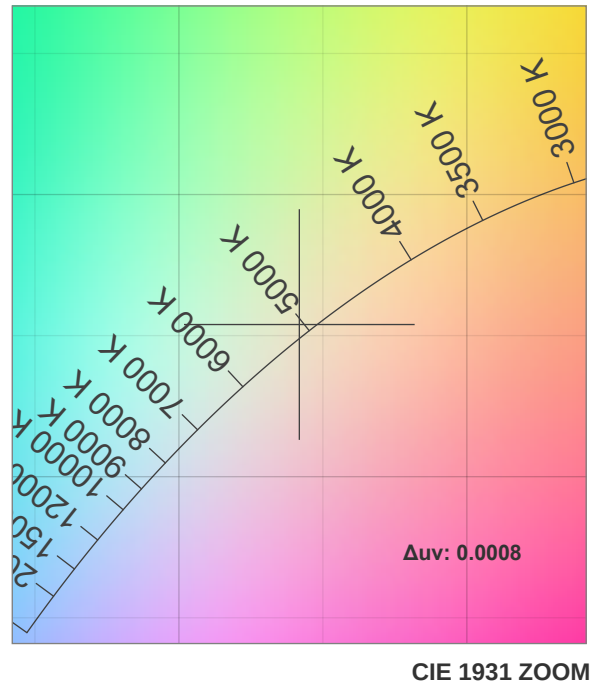
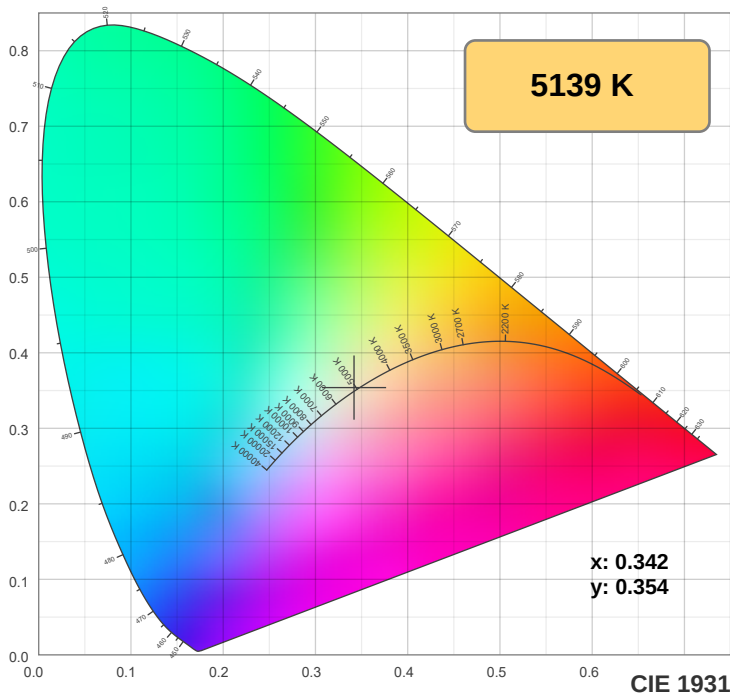
T 314.743.3067

F 314.972.6202

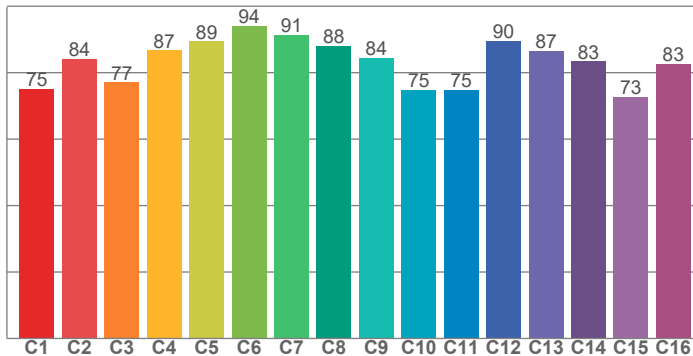
email: commercial-sales@superbrightleds.com

www.superbrightleds.com/

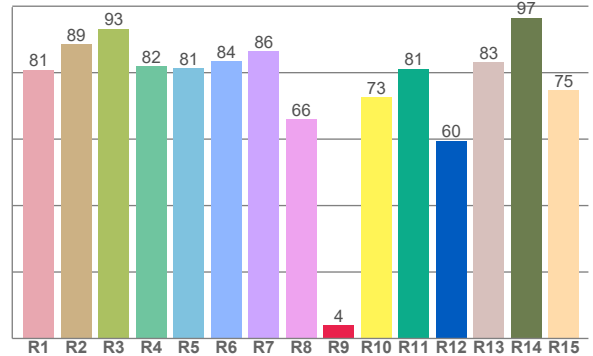
Color Specifications



TM30: 83.2



CRI: 82.8 (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
80.9	88.6	93.2	82.0	81.4	83.5	86.4	65.9	4.0	72.5	81.2	59.6	83.2	96.6	74.7

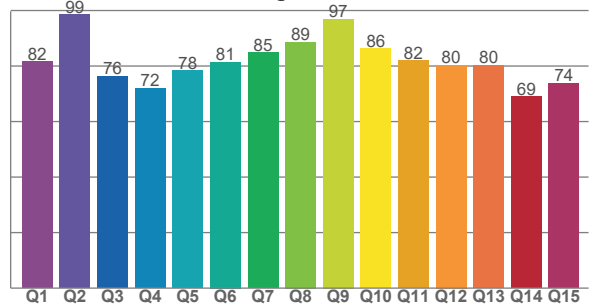
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
75.1	84.2	77.1	86.7	89.4	94.1	91.4	88.1	84.4	74.8	74.8	89.5	86.6	83.4	72.7	82.7

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
81.6	98.5	76.3	72.0	78.3	81.5	84.8	88.6	96.9	86.3	81.9	80.4	80.3	69.1	73.8

CQS: 80.3



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
5139 K	82.8	4.0	83.2	94.9	80.3	0.342	0.354	0.208	0.324	0.0008



TM30 Report

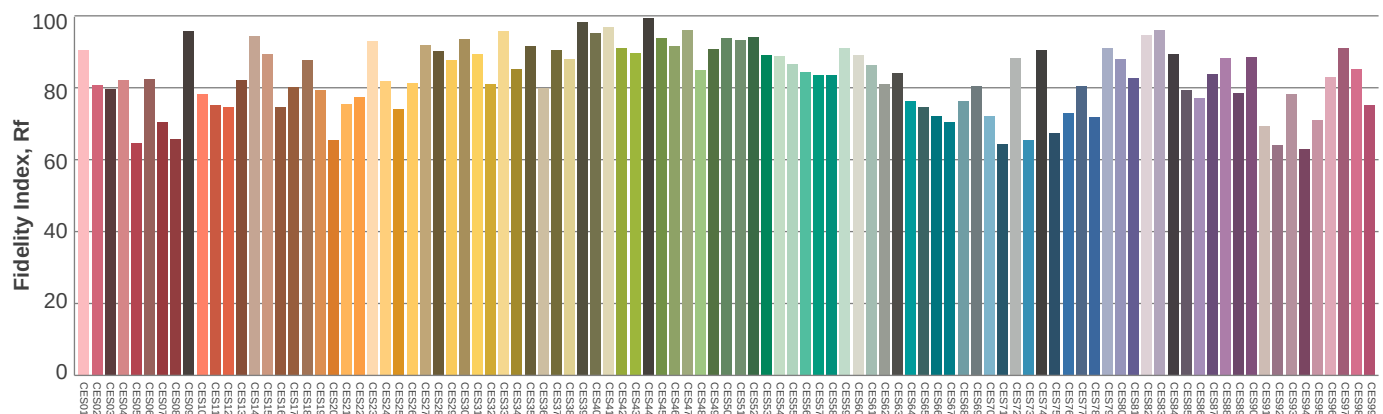
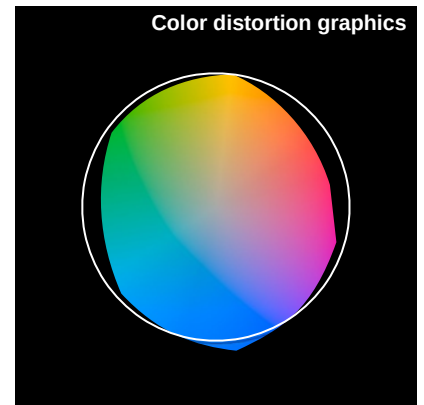
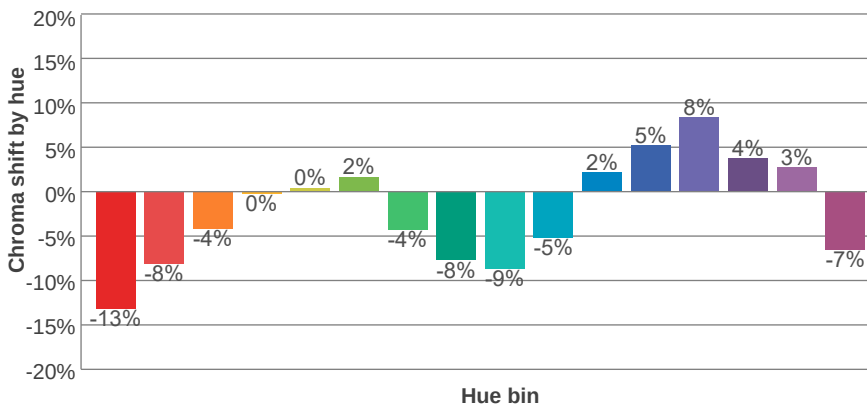
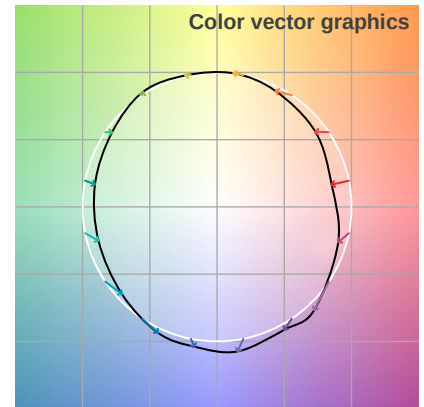
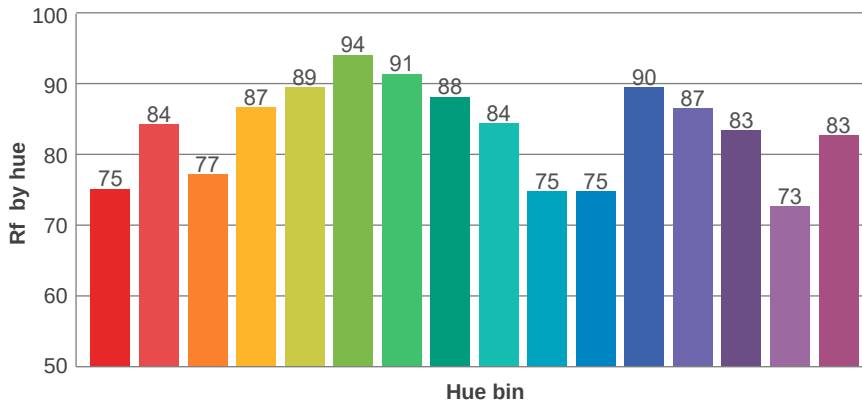
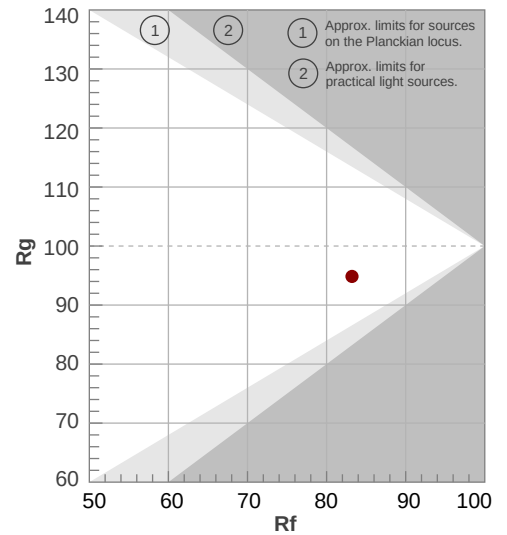
Rf 83.2

Fidelity index Rf

Rg 94.9

Gamut index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	75	-13%	0%
2	84	-8%	6%
3	77	-4%	12%
4	87	0%	7%
5	89	0%	4%
6	94	2%	-2%
7	91	-4%	-3%
8	88	-8%	1%
9	84	-9%	7%
10	75	-5%	15%
11	75	2%	15%
12	90	5%	4%
13	87	8%	-6%
14	83	4%	-9%
15	73	3%	-24%
16	83	-7%	-8%



Color Evaluation Sample



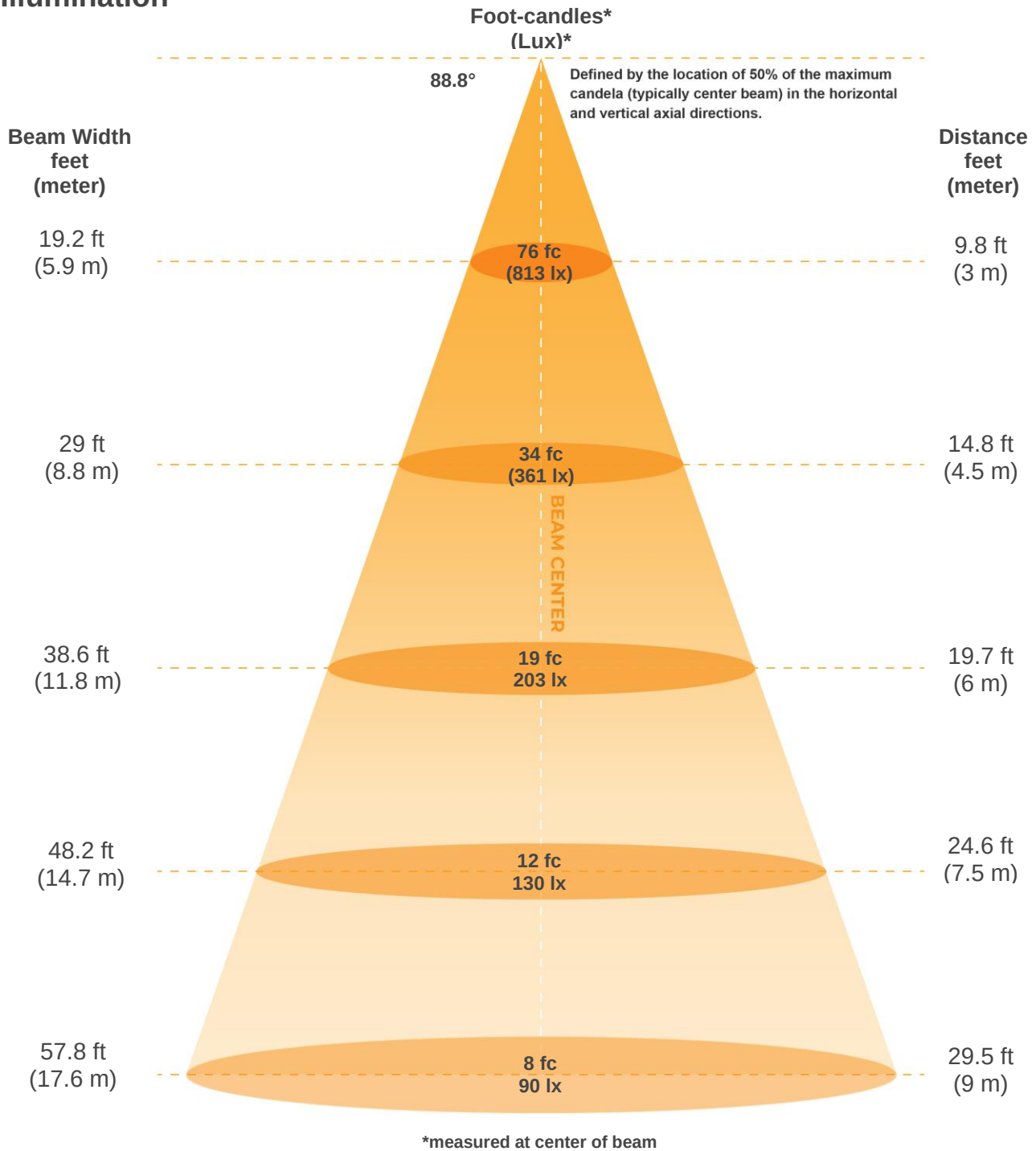
T 314.743.3067

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Illumination



Beam intensities from 1-20m

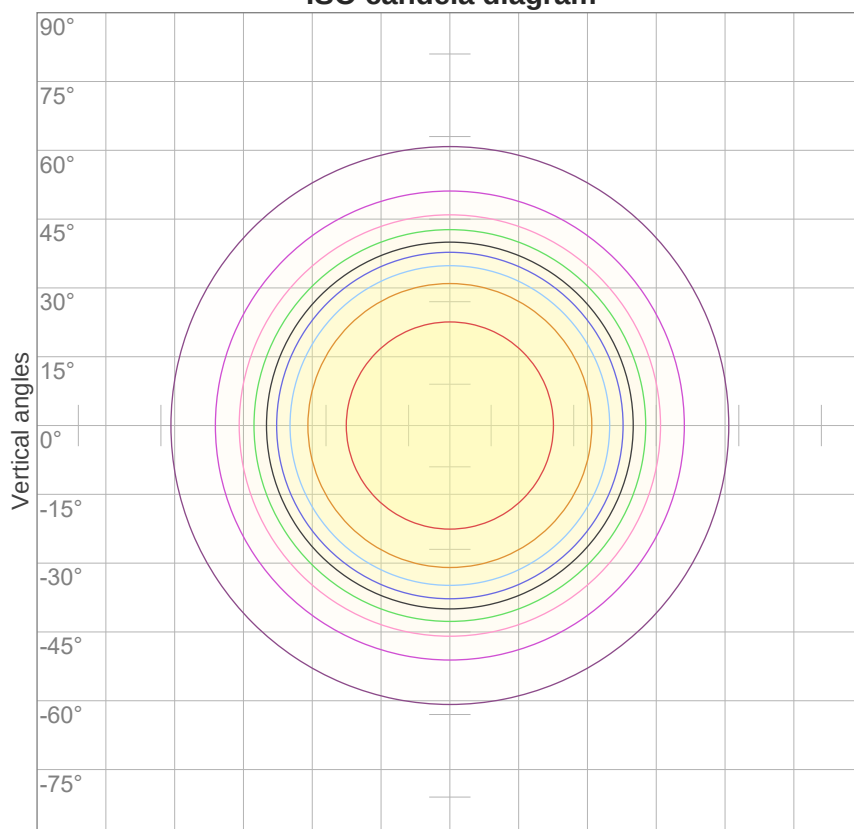
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
3.3ft	6.6ft	9.8ft	13.1ft	16.4ft	19.7ft	23ft	26.2ft	29.5ft	32.8ft	36.1ft	39.4ft	42.7ft	45.9ft	49.2ft	52.5ft	55.8ft	59.1ft	62.3ft	65.6ft
7315lx	1829lx	813lx	457lx	293lx	203lx	149lx	114lx	90lx	73lx	60lx	51lx	43lx	37lx	33lx	29lx	25lx	23lx	20lx	18lx
679.6fc	169.9fc	75.5fcd	42.5fcd	27.2fcd	18.9fcd	13.9fcd	10.6fcd	8.4fcd	6.8fcd	5.6fcd	4.7fcd	4fcd	3.5fcd	3fcd	2.7fcd	2.4fcd	2.1fcd	1.9fcd	1.7fcd

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
88.8°	135.1°	168.5°	89.5%	71.8%



ISO Diagrams

ISO candela diagram



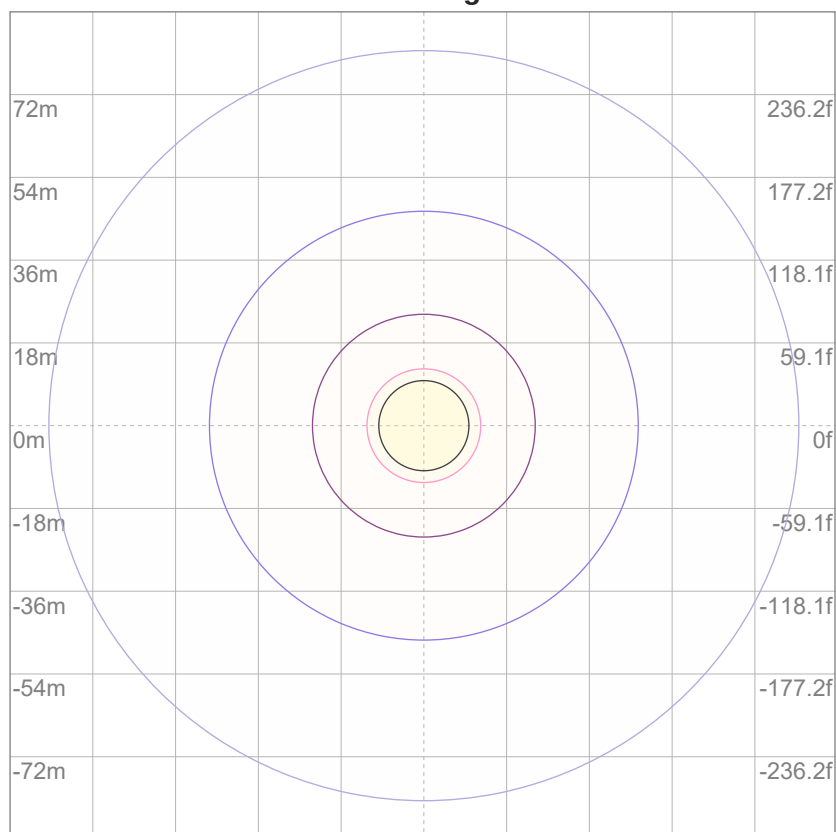
10%	732 cd
20%	1463 cd
30%	2195 cd
40%	2926 cd
50%	3658 cd
60%	4389 cd
70%	5121 cd
80%	5852 cd
90%	6584 cd

Conditions:

Number of c-planes: 16

Candela at center: 7315 cd

ISO lux diagram



3%	2.19 lx
5%	3.66 lx
10%	7.32 lx
30%	21.9 lx
50%	36.6 lx

Conditions:

Number of c-planes: 16

Lux at center: 73.2 lx

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



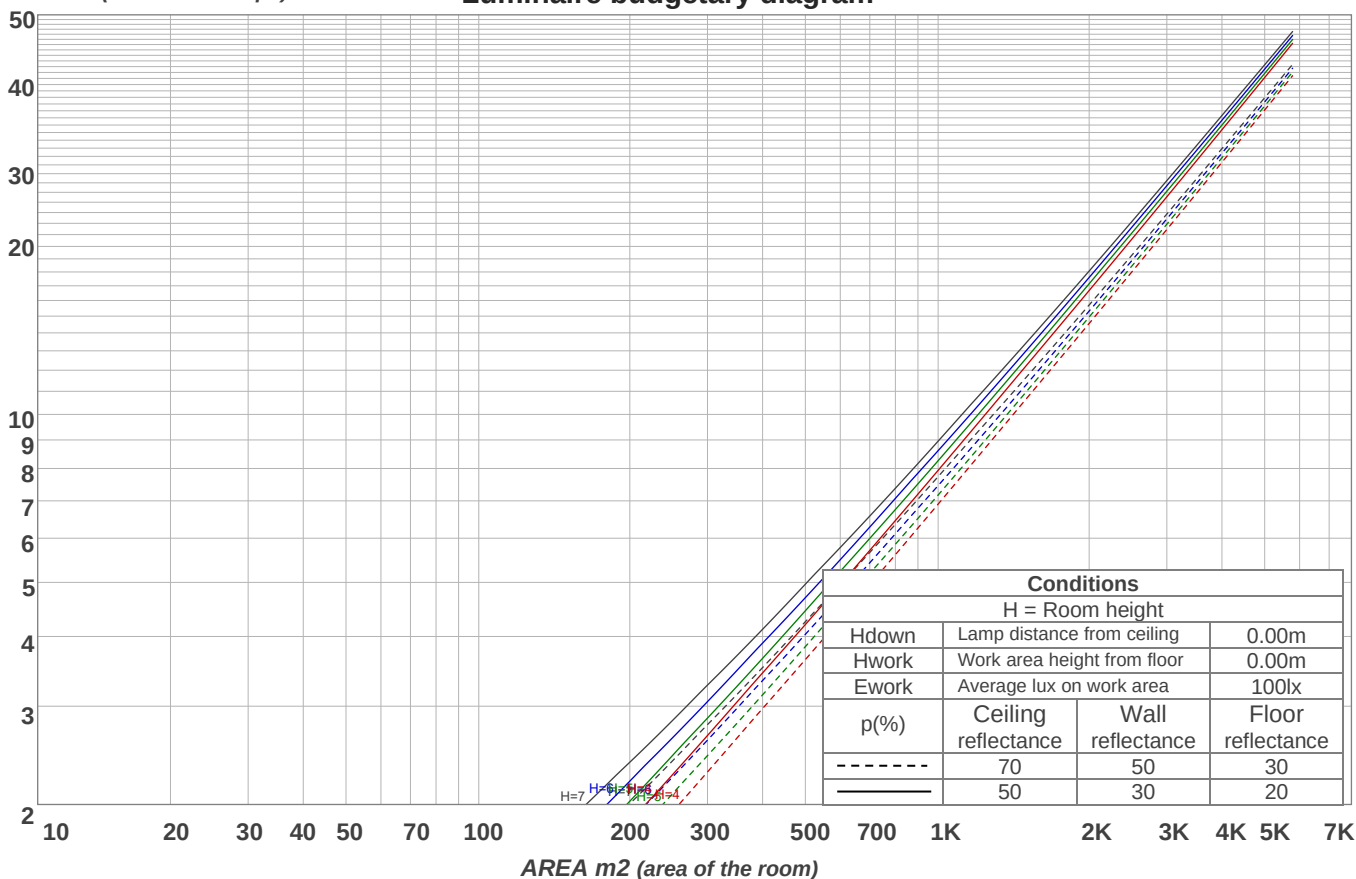
Light Planning

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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	89	87
2	102	95	90	85	100	94	88	84	90	86	82	87	83	80	84	81	78	76
3	95	86	79	73	92	84	78	73	81	76	71	79	74	70	76	72	69	67
4	88	77	70	64	86	76	69	64	74	68	63	71	66	62	69	65	61	59
5	82	70	62	57	80	69	62	56	67	61	56	65	59	55	63	58	54	53
6	76	64	56	50	74	63	56	50	61	55	50	60	54	49	58	53	49	47
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	37	34	32

LAMPS (number of lamps)

Luminaire budgetary diagram



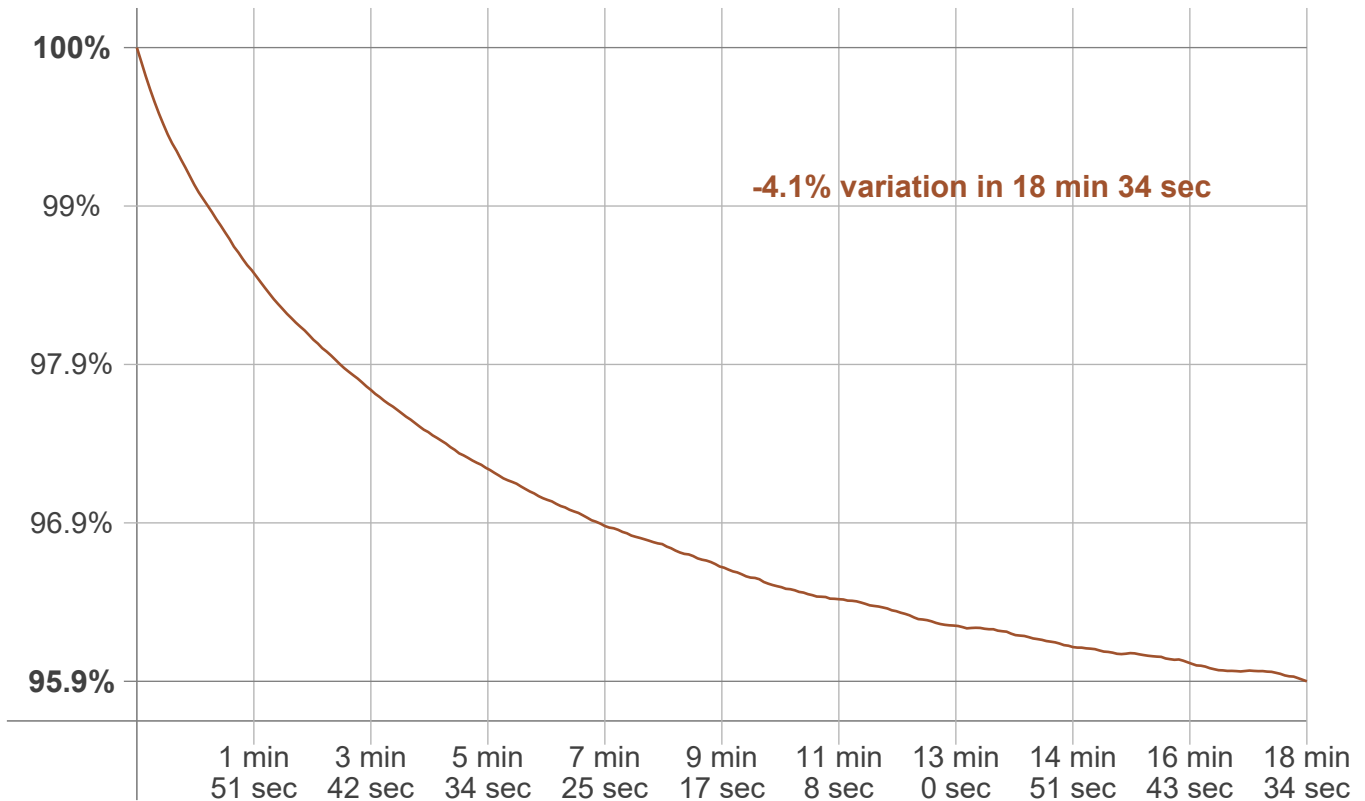
Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
694 lm	1994 lm	3034 lm	3558 lm	2720 lm	1506 lm	861 lm	491 lm	172 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
9.54 lm	4.86 lm	6.06 lm	7.56 lm	7.76 lm	7.71 lm	6.65 lm	4.57 lm	1.64 lm



Stabilization

Warmup curve



Warmup result

Warmup time:	Lamp stabilized in 18 min 34 sec
Warmup variation	-4.1%

Warmup conditions

Stable period:	15 min
Stable change max:	2.0%
Minimum time:	15 min

Color temperature change

CCT start	CCT change	CCT end
5056 K	+83 K	5139 K

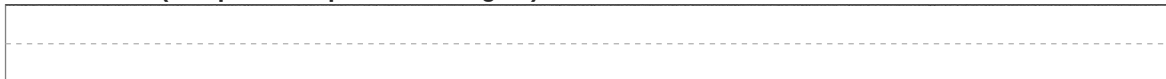
Output change

Output start	Output change	Output end
15700 lm	-613 lm	15087 lm

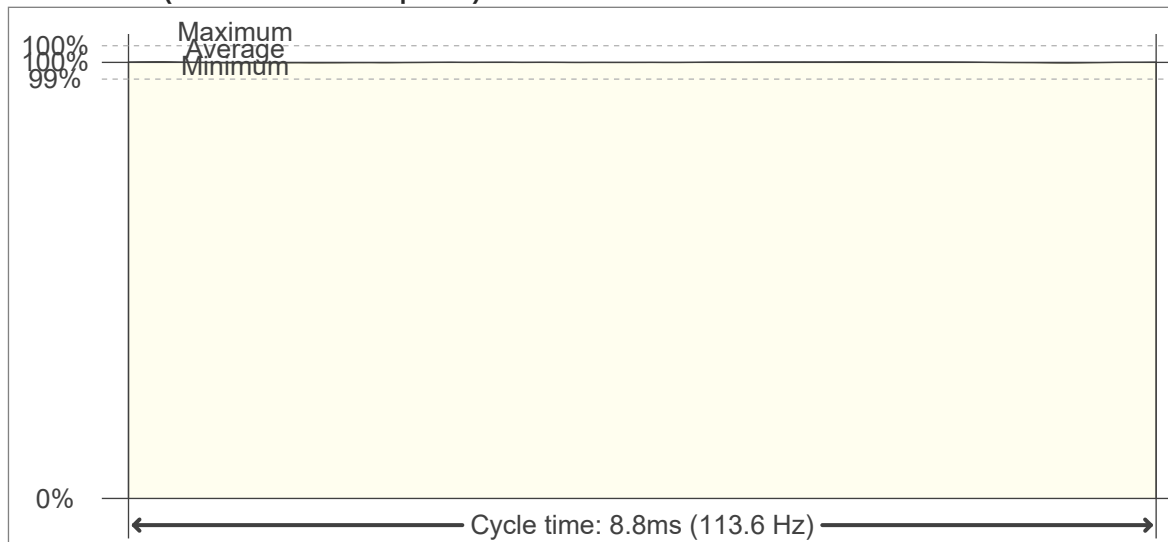


Flicker Specifications

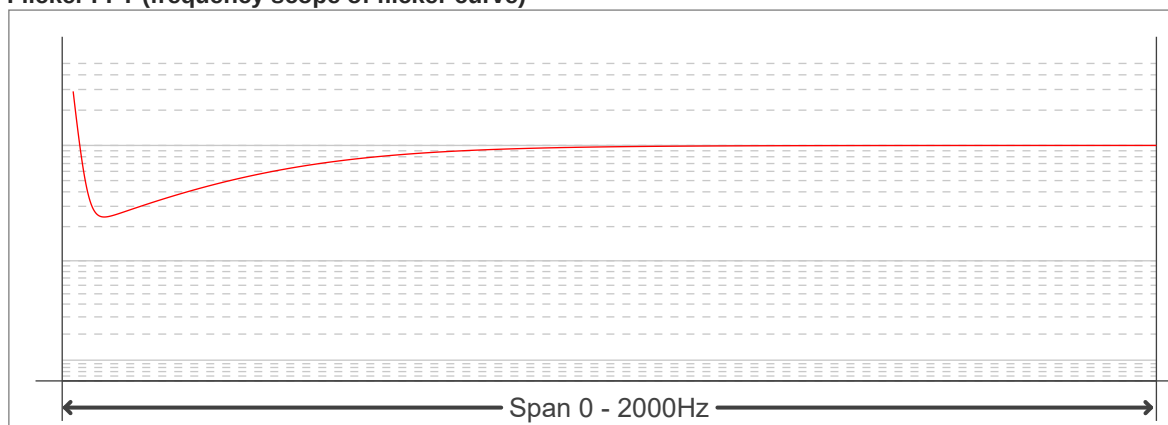
Flicker curve (complete sampled flicker signal)



Flicker frame (frame of one flicker period)



Flicker FFT (frequency scope of flicker curve)



Flicker results:

Flicker frequency:	113.64 Hz
Flicker index:	0
Flicker percentage:	0.42 %
SVM: (Visual flicker)	0

Flicker conditions:

Sample rate:	20000 samples/second
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