

Light efficiency:

n/a Lumen/Watt

Light quality:

CRI: 97.0

Color temperature:

3488 K

Output: 648 lm

Peak: 223 cd

Power: 0.00 W

PF: n/a

No photo

Tracking number: [n/a](#)

Product name:

Suspan X PrimaLine 9 -3500K

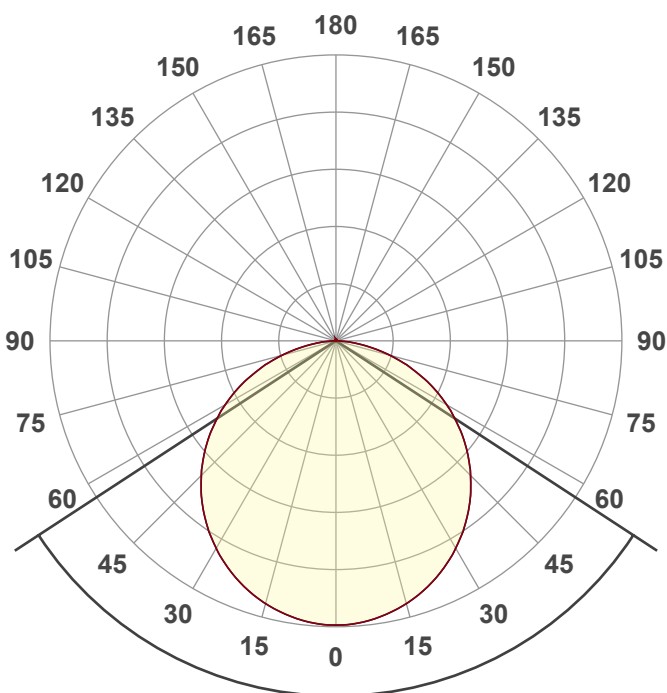
Item number:

AL-01-22-2408-CU-IN

Date and time:

10/11/2023 8:23:48 AM

Description:



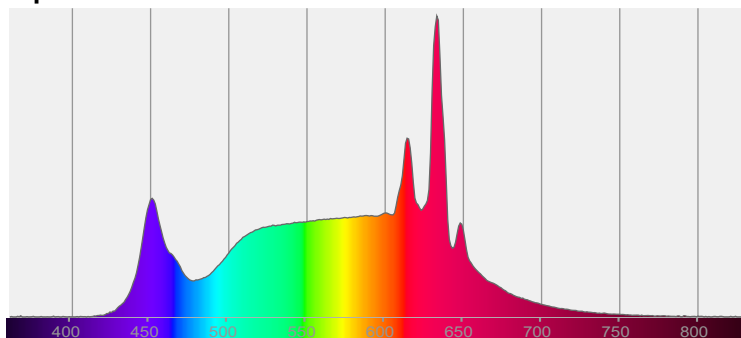
Beam angle

113.7°

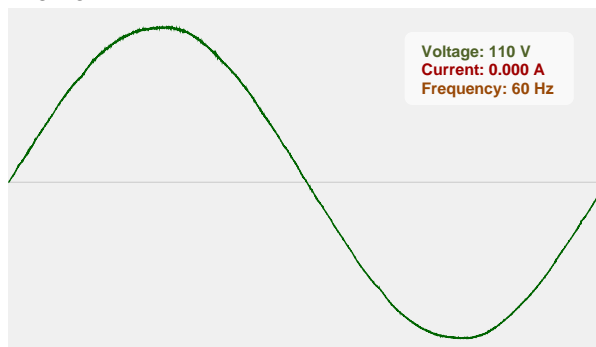


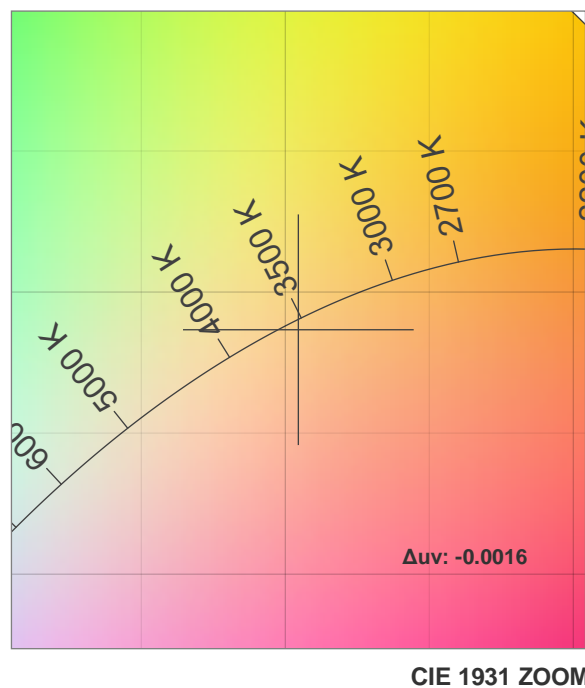
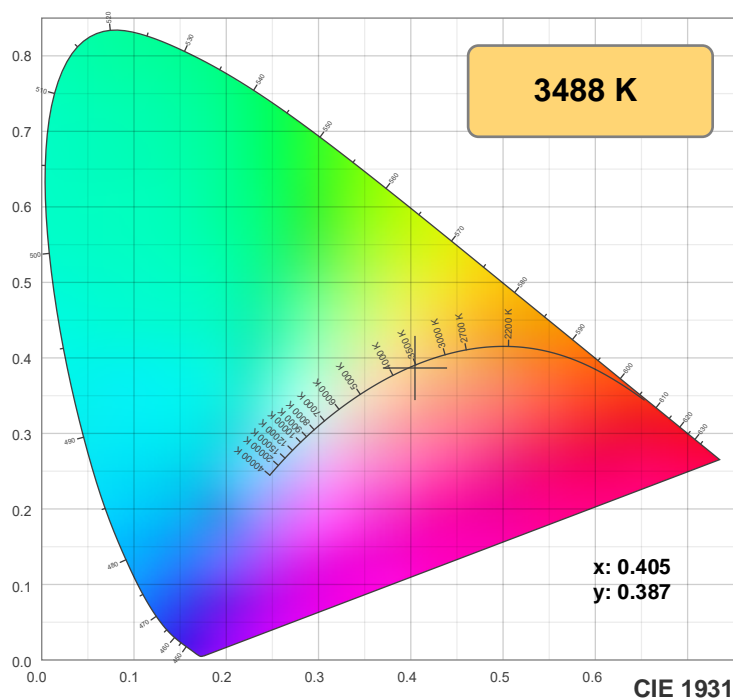
CIE 1931
x: 0.405
y: 0.387

Spectra

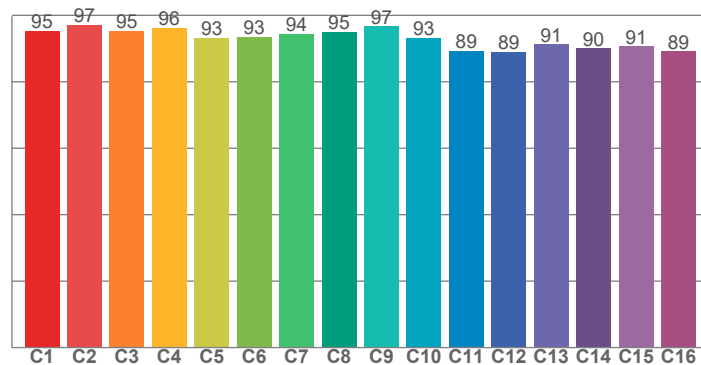


Power

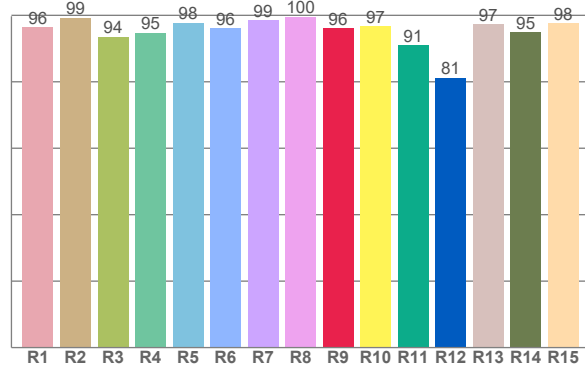




TM30: 93.4



CRI: 97.0 (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
96.4	99.3	93.5	94.8	97.8	96.0	98.5	99.6	96.1	96.7	91.0	81.2	97.4	94.9	97.6

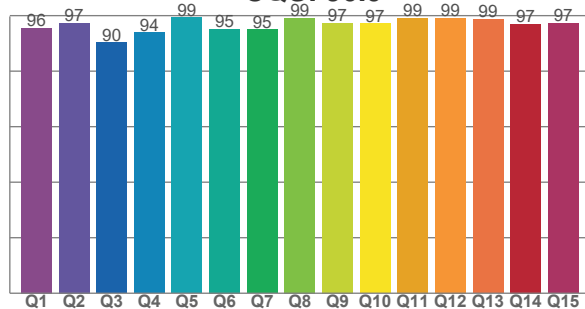
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
95.4	97.1	95.4	96.2	93.1	93.4	94.4	95.0	96.6	93.3	89.3	88.9	91.2	90.0	90.7	89.1

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
95.6	97.3	90.3	93.9	99.3	95.2	95.0	99.2	97.3	97.2	99.1	99.2	98.7	97.0	97.2

CQS: 96.0



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
3488 K	97.0	96.1	93.4	102.6	96.0	0.405	0.387	0.237	0.340	-0.0016

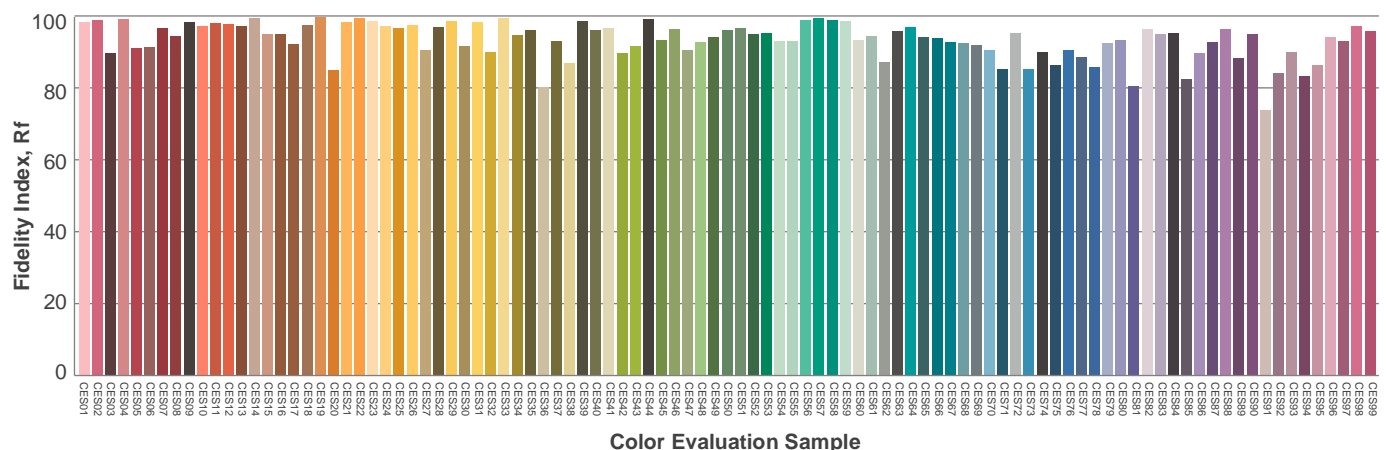
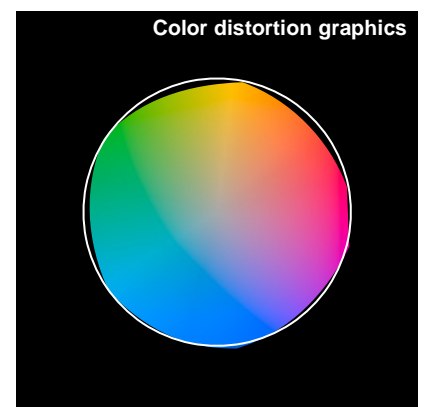
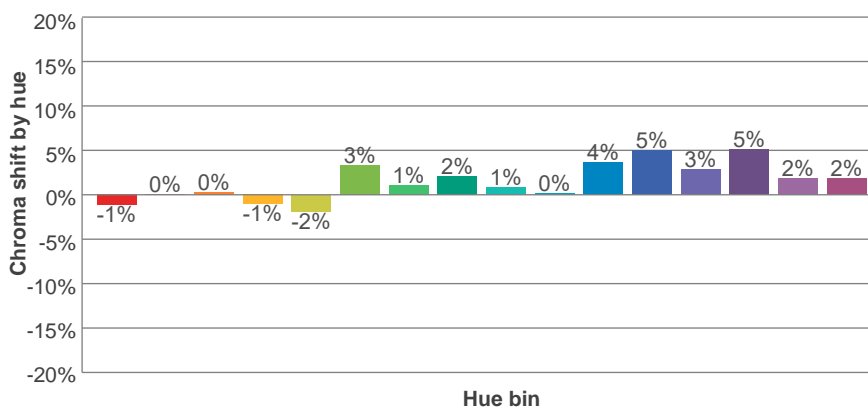
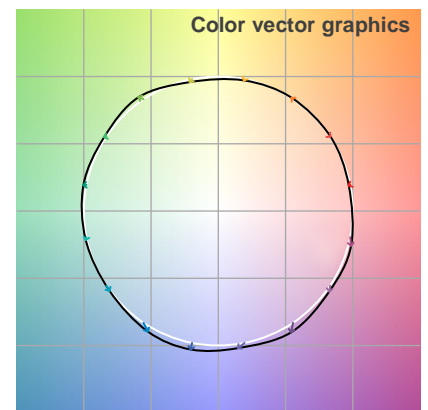
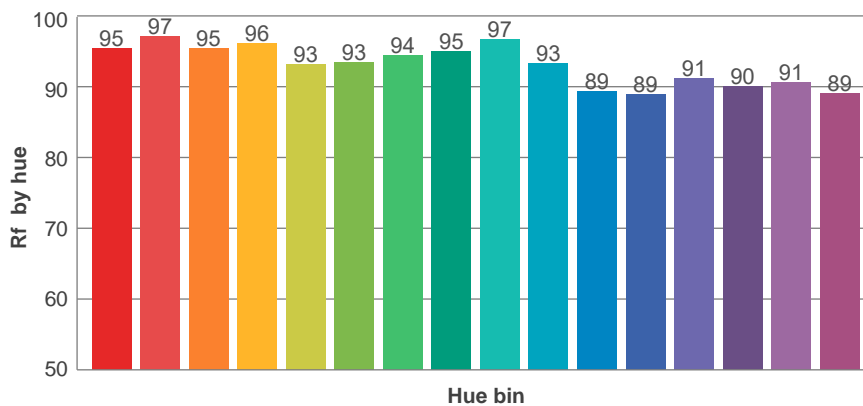
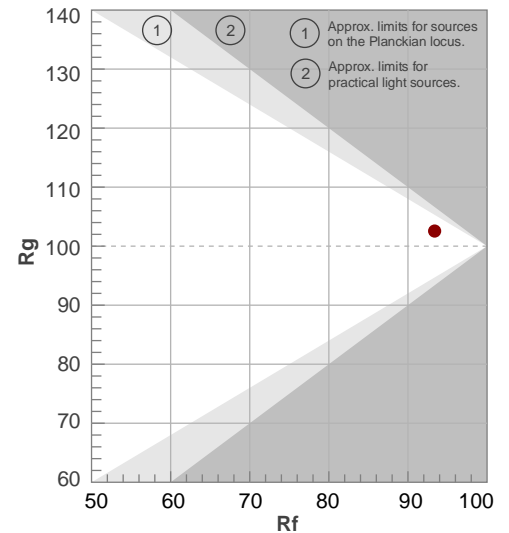
Rf 93.4

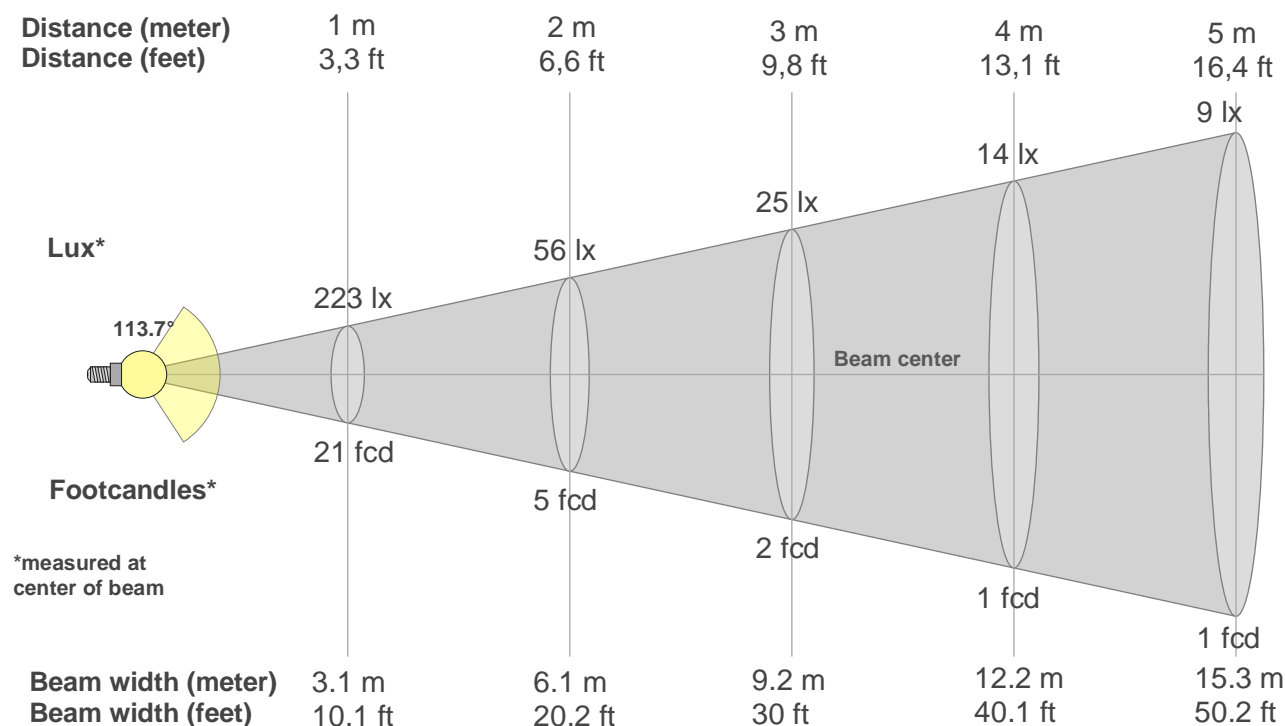
Fidelity index Rf

Rg 102.6

Gamut index Rg

Hue Bin	R _f	Shifts (%)	
		Chroma	Hue
1	95	-1%	0%
2	97	0%	0%
3	95	0%	1%
4	96	-1%	0%
5	93	-2%	2%
6	93	3%	2%
7	94	1%	1%
8	95	2%	1%
9	97	1%	2%
10	93	0%	4%
11	89	4%	6%
12	89	5%	0%
13	91	3%	-5%
14	90	5%	-5%
15	91	2%	-4%
16	89	2%	-6%





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
223lx	56lx	25lx	14lx	9lx	6lx	5lx	3lx	3lx	2lx	2lx	2lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx
20.7fcd	5.2fcd	2.3fcd	1.3fcd	0.8fcd	0.6fcd	0.4fcd	0.3fcd	0.3fcd	0.2fcd	0.2fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd

Intensities in 0° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
223	221	218	213	206	198	188	176	163	149	134	118	100	82	63	44	25	10	2	1
100%	99%	98%	96%	93%	89%	84%	79%	73%	67%	60%	53%	45%	37%	28%	20%	11%	5%	1%	0%

Intensities in 90° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
223	221	218	213	206	198	188	176	163	149	134	118	100	82	63	44	25	10	2	1
100%	99%	98%	96%	93%	89%	84%	79%	73%	67%	60%	53%	45%	37%	28%	20%	11%	5%	1%	0%

Intensities in 180° c-plane

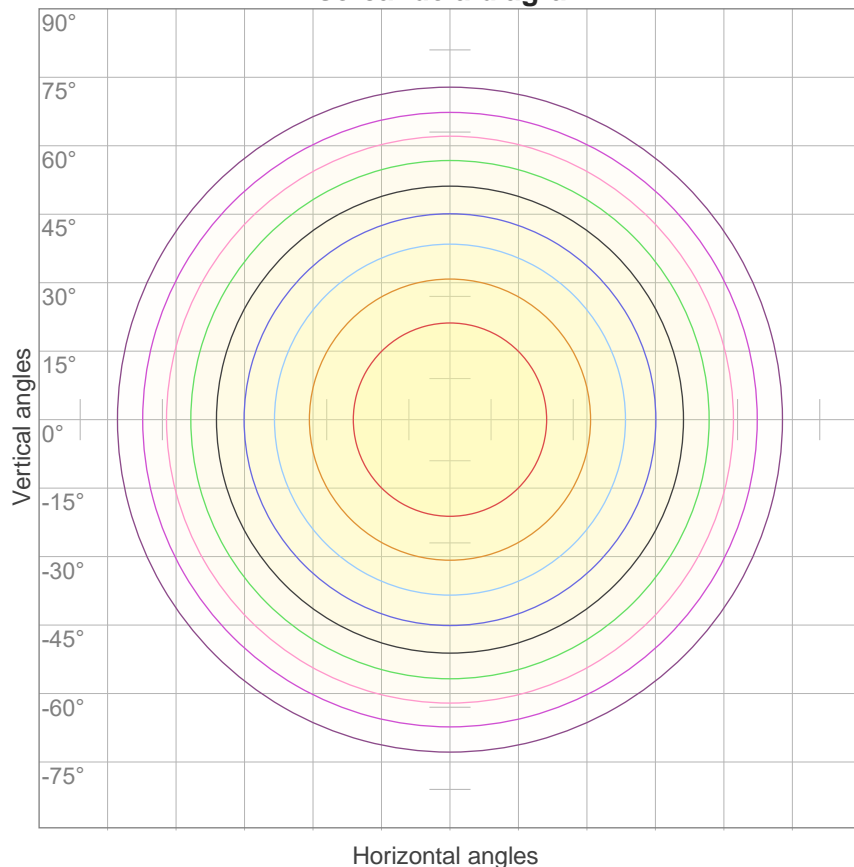
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
223	221	218	213	206	198	188	176	163	149	134	118	100	82	63	44	25	10	2	1
100%	99%	98%	96%	93%	89%	84%	79%	73%	67%	60%	53%	45%	37%	28%	20%	11%	5%	1%	0%

Intensities in 270° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
223	221	218	213	206	198	188	176	163	149	134	118	100	82	63	44	25	10	2	1
100%	99%	98%	96%	93%	89%	84%	79%	73%	67%	60%	53%	45%	37%	28%	20%	11%	5%	1%	0%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
113.7°	161.9°	175.5°	77.5%	52.5%

iso-candela diagram



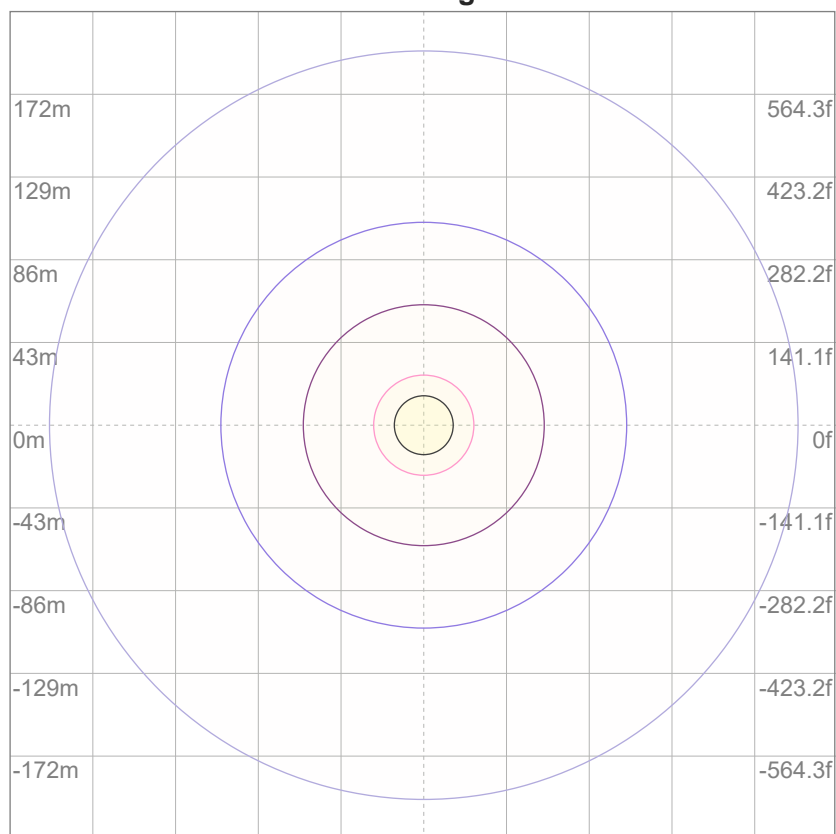
10%	22 cd
20%	45 cd
30%	67 cd
40%	89 cd
50%	111 cd
60%	134 cd
70%	156 cd
80%	178 cd
90%	200 cd

Conditions:

Number of c-planes: 12

Candela at center: 223 cd

iso-lux diagram



3%	66.8m lx
5%	0.111 lx
10%	0.223 lx
30%	0.668 lx
50%	1.11 lx

Conditions:

Number of c-planes: 12

Lux at center: 2.23 lx

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

Glare evaluation according to UGR

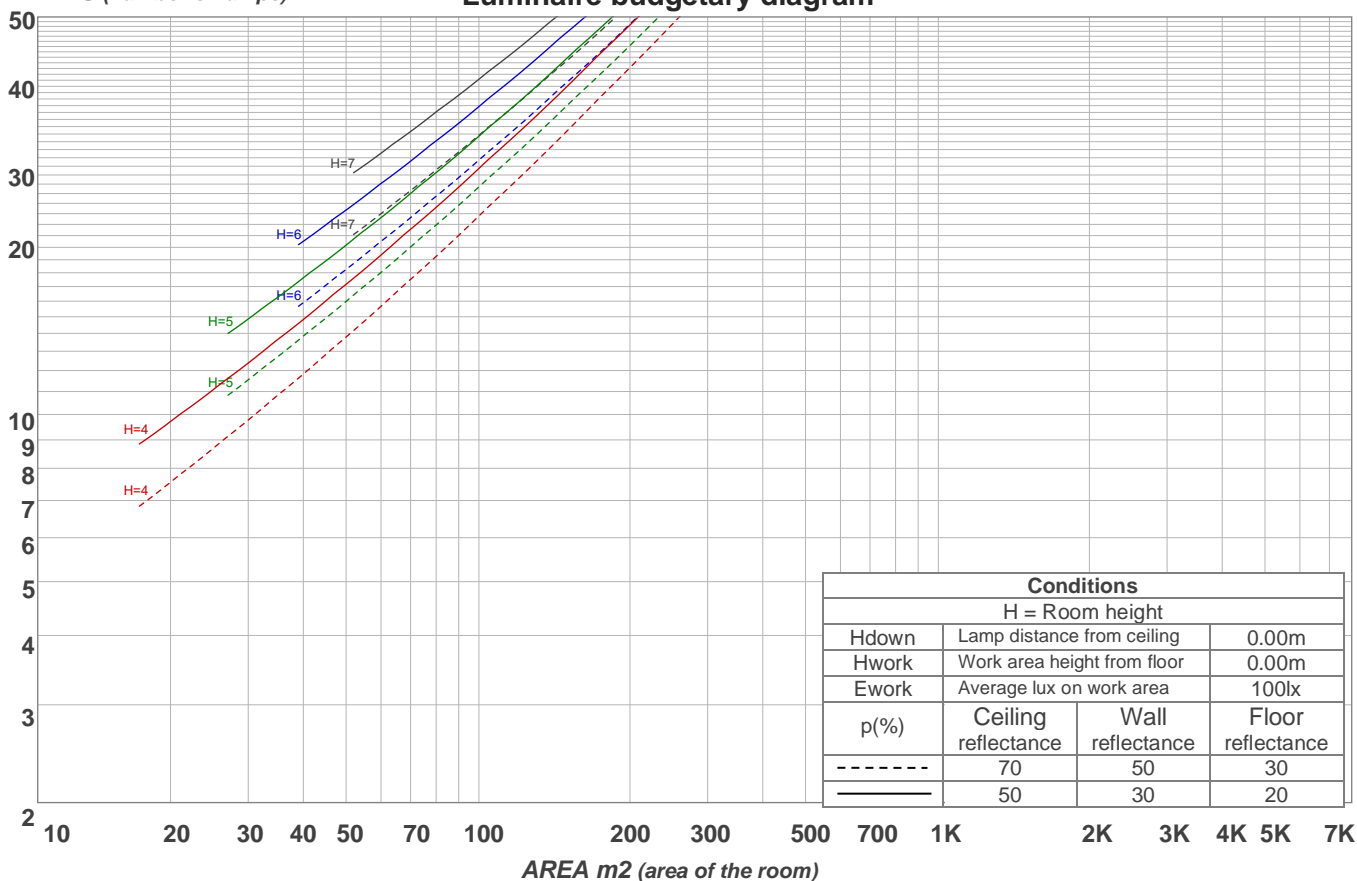
p Ceiling		70	70	50	50	30	70	70	50	50	30
p Walls		50	30	50	30	30	50	30	50	30	30
p Floor		20	20	20	20	20	20	20	20	20	20
Room size X Y		Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
2H	2H	19.8	21.0	20.0	21.3	21.5	21.3	22.5	21.5	22.8	23.0
	3H	20.8	22.0	21.2	22.3	22.6	22.6	23.9	23.1	24.2	24.4
	4H	21.1	22.4	21.6	22.6	22.9	23.2	24.4	23.6	24.7	25.0
	6H	21.4	22.5	21.7	22.8	23.2	23.6	24.7	24.0	25.0	25.4
	8H	21.4	22.4	21.8	22.8	23.2	23.7	24.7	24.1	25.1	25.5
	12H	21.4	22.4	21.8	22.7	23.2	23.7	24.7	24.1	25.1	25.5
4H	2H	20.3	21.5	20.7	21.8	22.1	21.5	22.7	22.0	23.0	23.3
	3H	21.6	22.6	22.0	23.0	23.4	23.2	24.2	23.6	24.5	25.0
	4H	22.0	22.9	22.5	23.4	23.9	23.7	24.7	24.2	25.1	25.7
	6H	22.3	23.1	22.8	23.5	23.9	24.2	25.1	24.7	25.4	25.8
	8H	22.3	23.1	22.8	23.5	23.9	24.3	25.1	24.8	25.5	25.9
	12H	22.3	23.0	22.8	23.4	23.9	24.4	25.0	24.9	25.5	26.0
8H	4H	22.2	23.0	22.7	23.4	23.8	23.8	24.6	24.3	25.0	25.4
	6H	22.6	23.2	23.1	23.7	24.2	24.3	25.0	24.9	25.4	26.0
	8H	22.7	23.2	23.2	23.7	24.4	24.5	25.1	25.1	25.6	26.2
	12H	22.7	23.2	23.3	23.7	24.3	24.6	25.1	25.2	25.6	26.2
12H	4H	22.2	22.9	22.7	23.3	23.8	23.8	24.5	24.3	24.9	25.4
	6H	22.6	23.1	23.1	23.7	24.3	24.4	24.9	24.9	25.4	26.1
	8H	22.7	23.2	23.3	23.7	24.3	24.5	25.0	25.1	25.5	26.1
Variation of the observer position for the luminaire distance S											
S = 1.0H		0.1 / -0.2					0.1 / -0.1				
S = 1.5H		0.3 / -0.5					0.4 / -0.5				
S = 2.0H		0.7 / -1.0					1.0 / -1.1				
CIE 117-1995. Corrected glare indices referring to 648 lm total luminous flux											

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	101	101	101	99
1	108	104	99	95	106	101	97	94	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	84	79	74	81	76	73	78	74	71	69
3	90	79	71	64	87	77	70	63	74	68	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	44	42
6	69	56	47	41	67	55	46	40	53	46	40	51	45	39	50	44	39	37
7	64	51	42	36	63	50	41	36	48	41	35	47	40	35	45	39	35	33
8	60	46	38	32	58	46	37	32	44	37	31	43	36	31	42	35	31	29
9	56	42	34	29	54	42	34	28	41	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	39	31	26	38	30	26	37	30	25	36	30	25	24

LAMPS (number of lamps)

Luminaire budgetary diagram



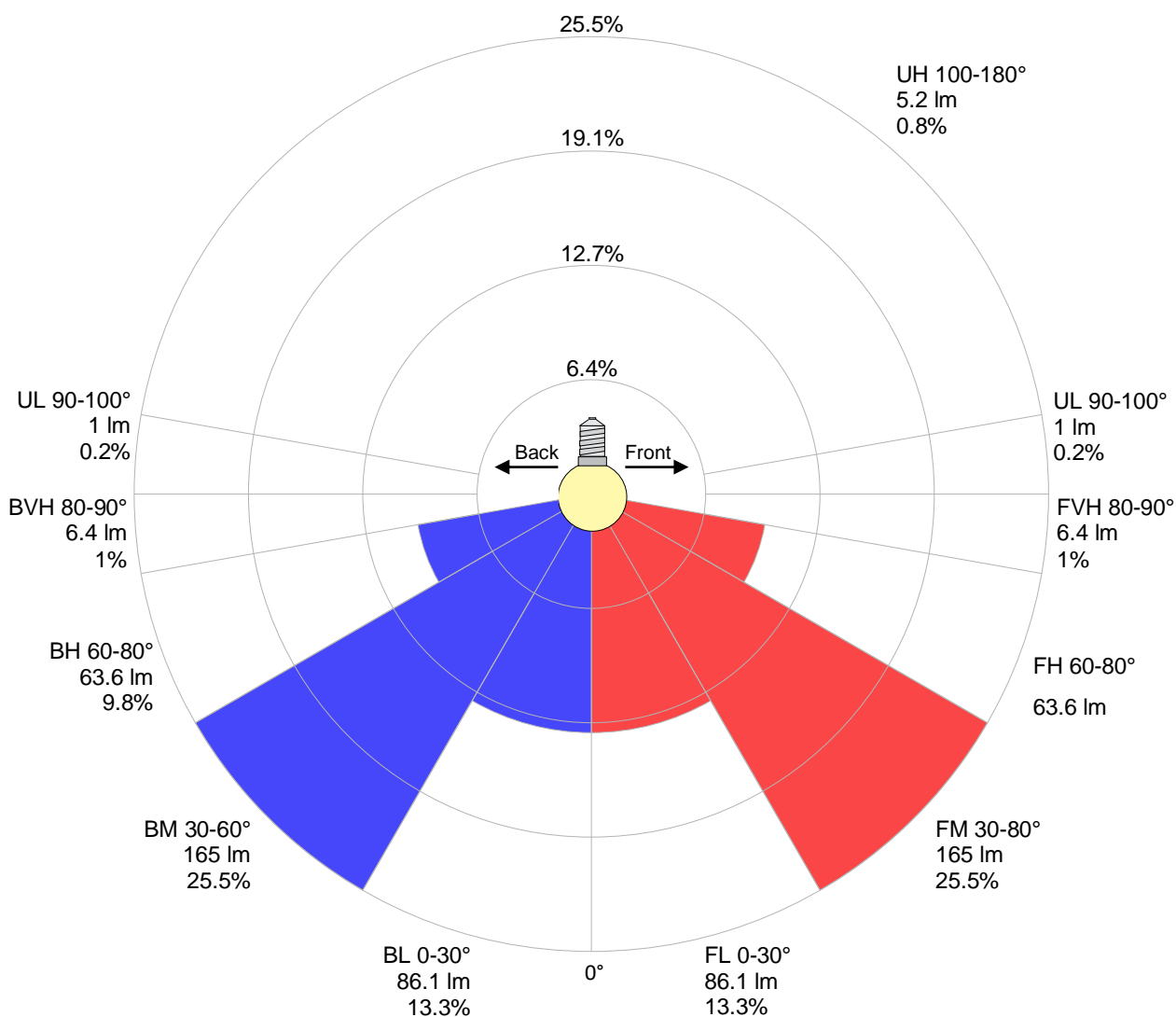
Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
{LUM0-10}	60.1 lm	91.1 lm	110 lm	115 lm	105 lm	80.8 lm	46.3 lm	12.7 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
0.962 lm	0.899 lm	0.879 lm	0.871 lm	0.816 lm	0.701 lm	0.544 lm	0.345 lm	0.125 lm

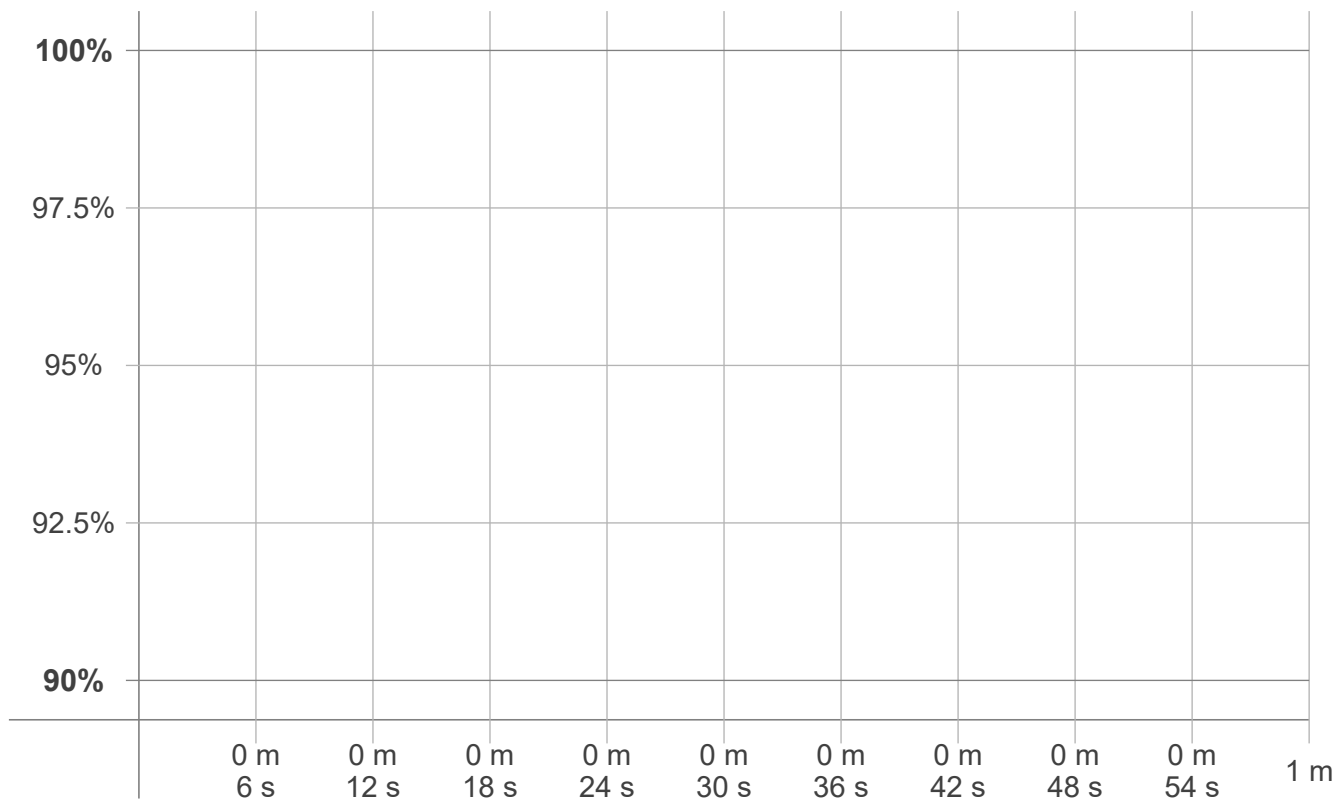
LCS table

BUG rating:	B0 U1 G0	
Forward light	Lumens	Lumens %
Low(0-30):	86.1	13.3%
Medium(30-60):	165	25.5%
High(60-80):	63.6	9.8%
Very high(80-90):	6.4	1%
Back light		
Low(0-30):	86.1	13.3%
Medium(30-60):	165	25.5%
High(60-80):	63.6	9.8%
Very high(80-90):	6.4	1%
Uplight		
Low(90-100):	1	0.2%
High(100-180):	5.2	0.8%

LCS graph



Warmup curve



Warmup result

Warmup time:	n/a
Warmup variation	n/a%

Warmup conditions

Stable period:	n/a
Stable change max:	n/a%
Minimum time:	n/a

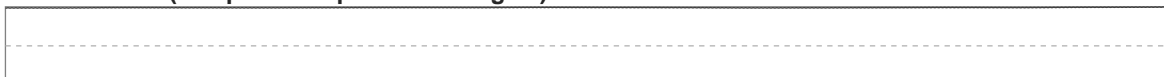
Color temperature change

CCT start	CCT change	CCT end
n/a K	n/a K	3488 K

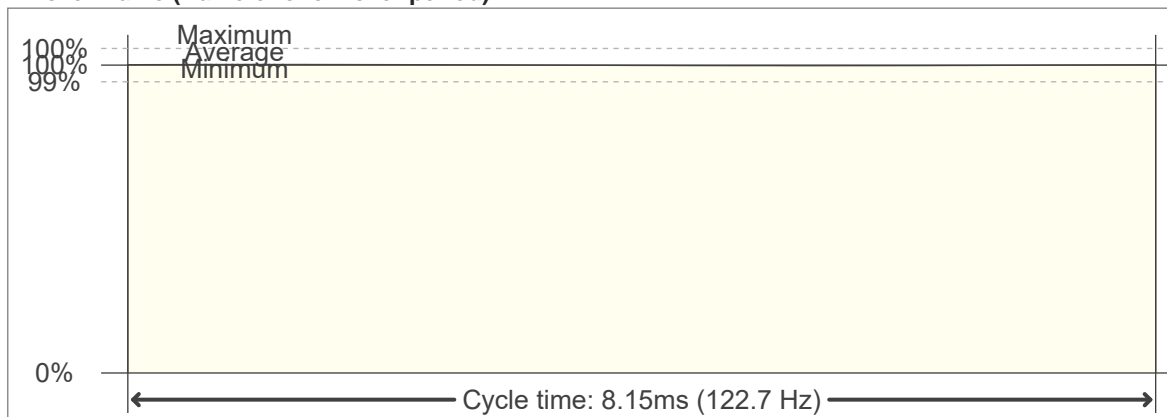
Output change

Output start	Output change	Output end
n/a lm	n/a lm	648 lm

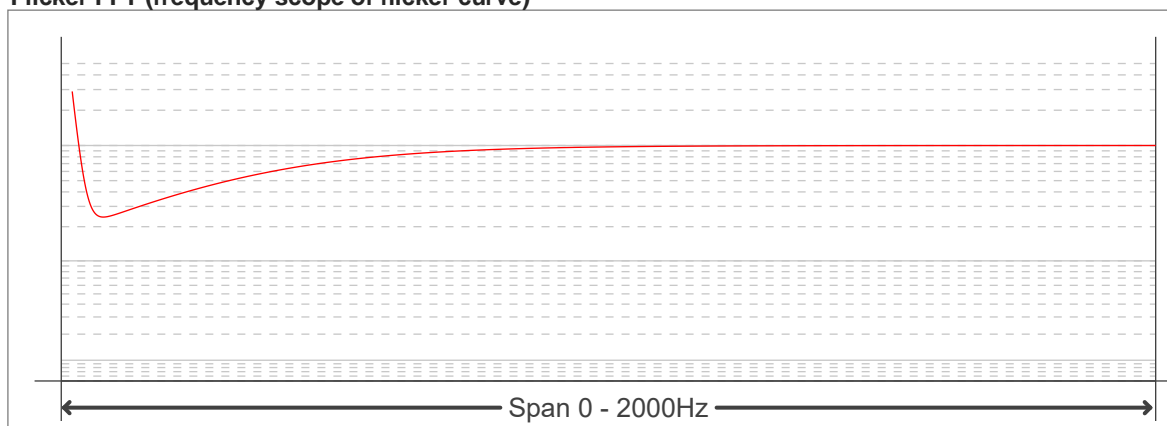
Flicker curve (complete sampled flicker signal)



Flicker frame (frame of one flicker period)



Flicker FFT (frequency scope of flicker curve)



Flicker results:

Flicker frequency:		122.7 Hz	
Flicker index:	0	JA8/10 40Hz	0.7 %
Flicker percentage:	0.84 %	JA8/10 90Hz	0.71 %
SVM: (Visual flicker)	0.01	JA8/10 200Hz	0.91 %
PstLM	0	JA8/10 400Hz	0.88 %
Mp	0.15	JA8/10 1000Hz	0.87 %

Flicker conditions:

Sample rate:	20000 samples/second
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