

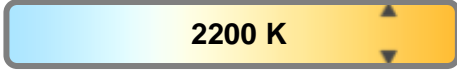
Light efficiency:



Light quality:



Color temperature:

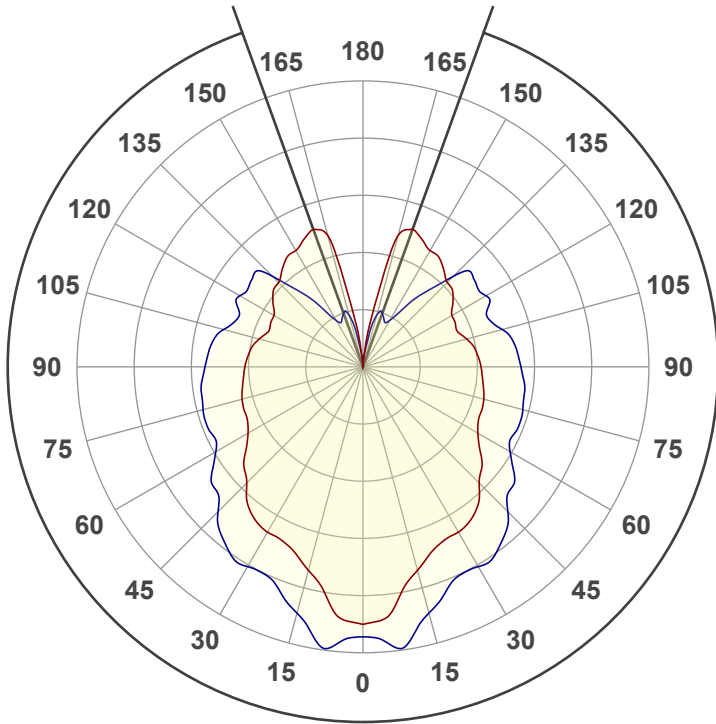


Output: 312 lm

Peak: 49,6 cd

Power: 6,1 W

PF: 0,78



Tracking number: [VT240912-001319](#)

Product name:
FL-SB-2200K

Item number:
FL-SB-2200K

Date and time:
12-9-2024 13:29:47

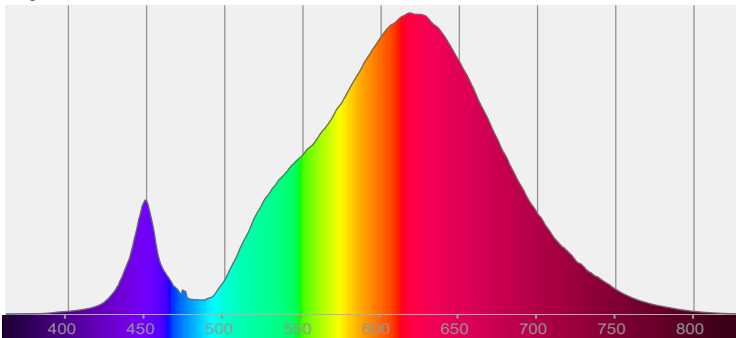
Description:
LED FILAMENT E27 PARIS DIMBAAR 6W

Beam angle **320,3°**

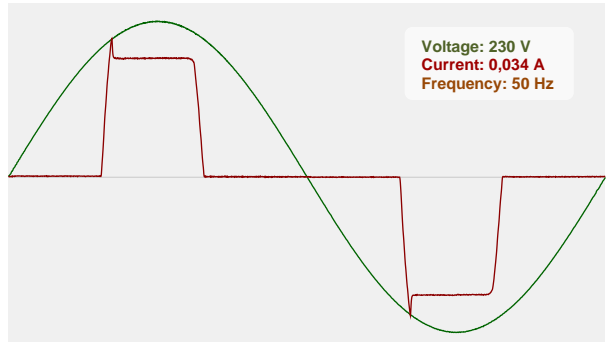


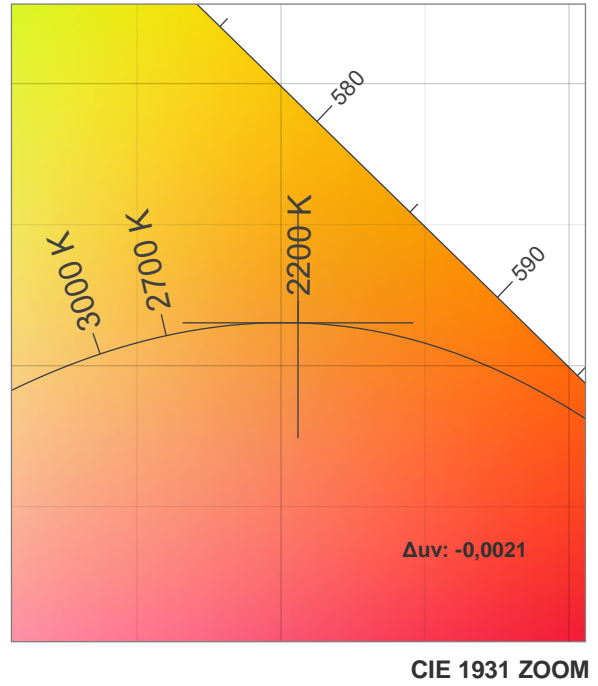
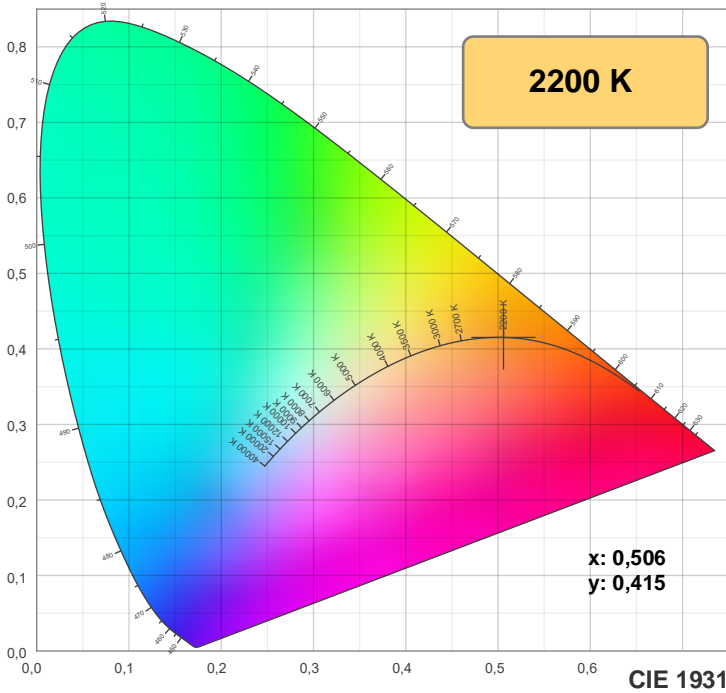
CIE 1931
x: 0,506
y: 0,415

Spectra



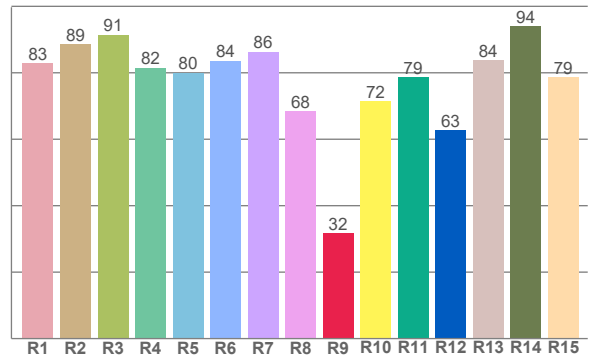
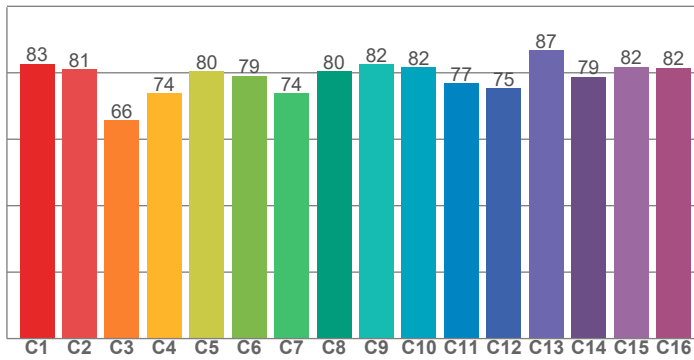
Power



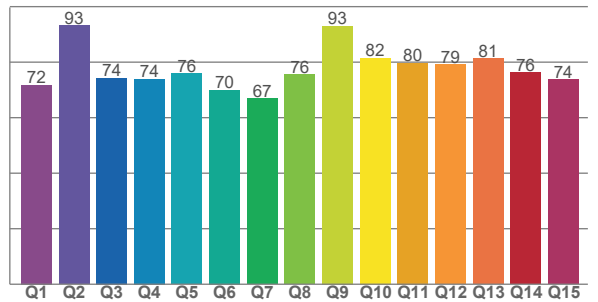


TM30: 79,0

CRI: 82,9 (R1-R8)



CQS: 76,4



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
82,8	88,6	91,5	81,6	80,0	83,6	86,3	68,5	31,7	71,6	78,8	62,7	83,7	93,9	78,8

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
82,7	81,0	65,7	73,8	80,4	79,1	73,8	80,4	82,5	81,6	76,8	75,3	86,8	78,8	81,7	81,6

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
71,7	93,3	74,4	74,0	75,9	70,0	66,9	75,6	93,0	81,6	79,7	79,2	81,3	76,2	73,8

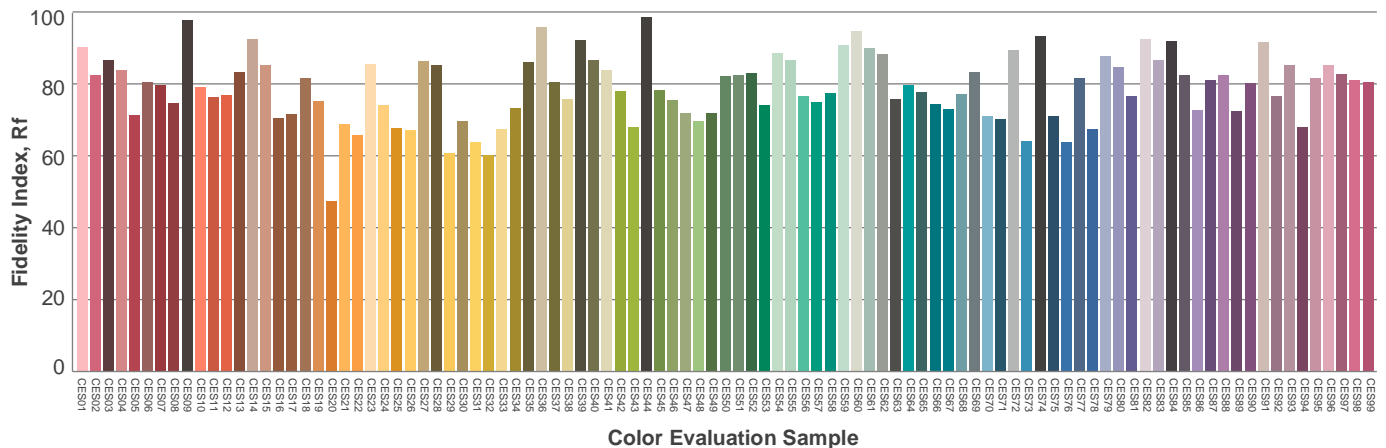
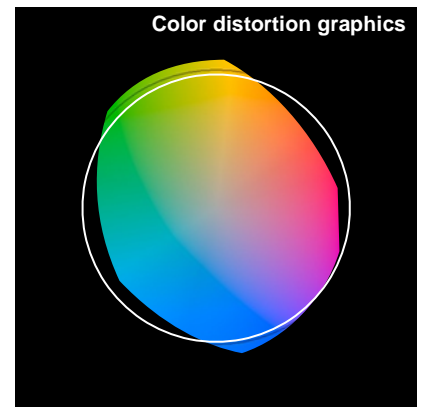
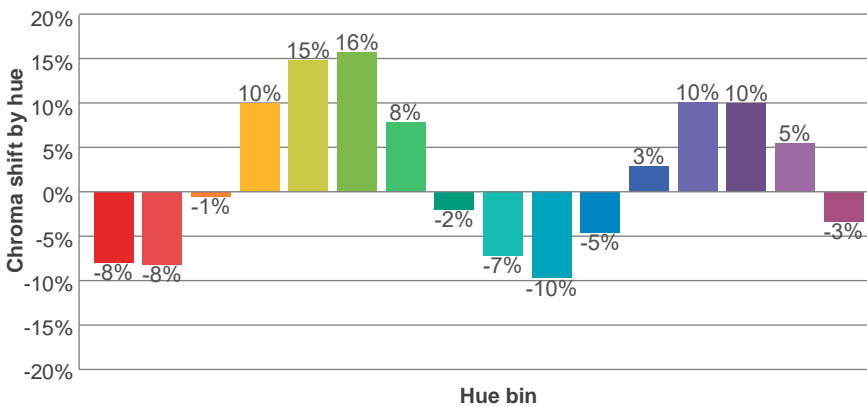
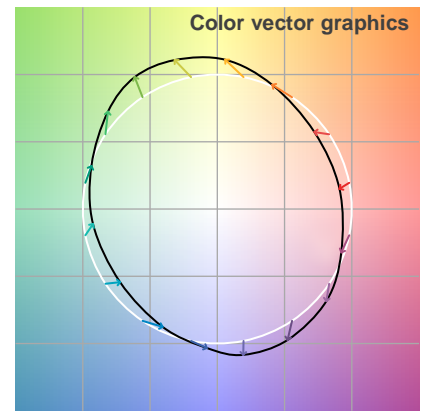
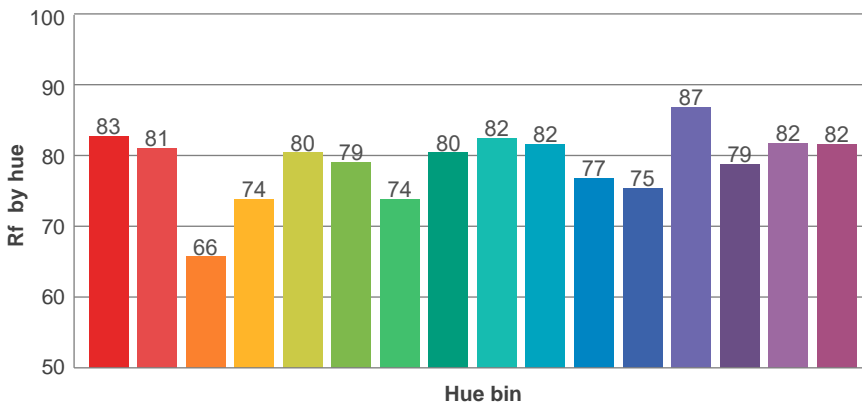
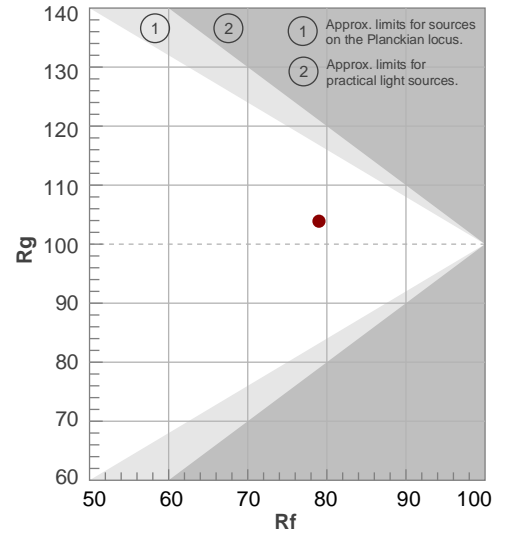
Color parameters

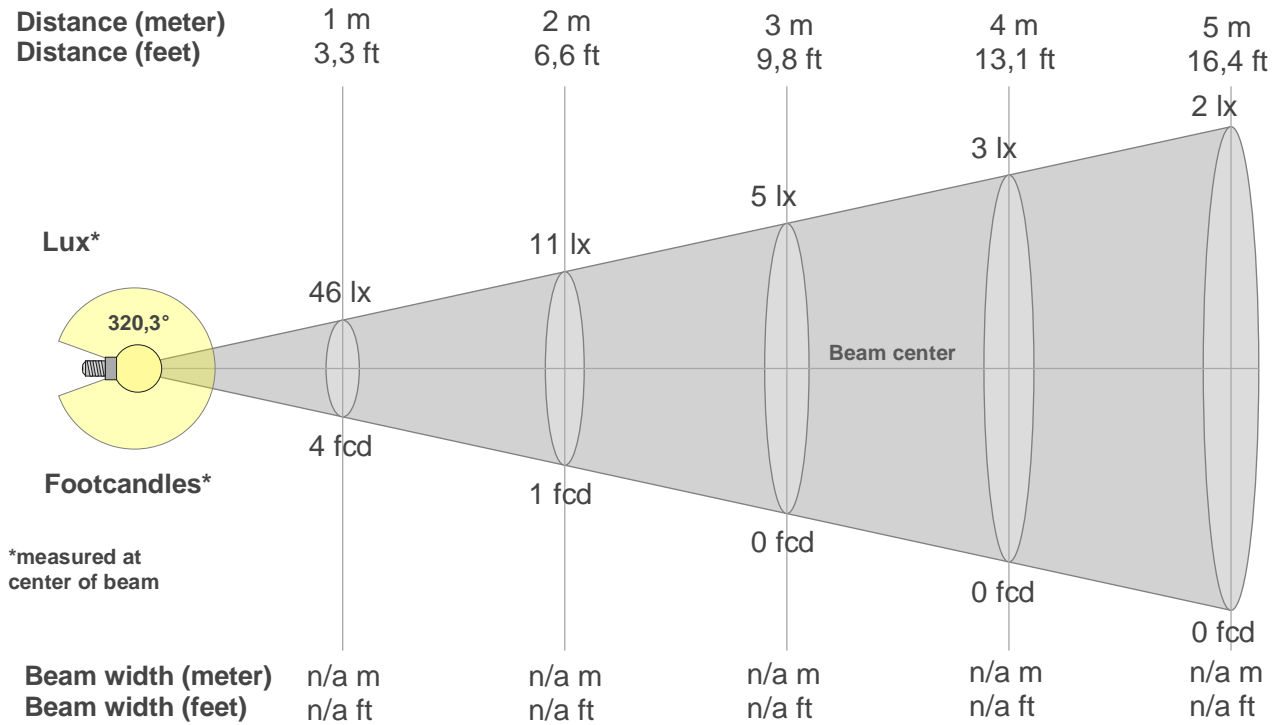
Color temperature	Color rendering Index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
2200 K	82,9	31,7	79,0	103,9	76,4	0,506	0,415	0,290	0,357	-0,0021

Rf 79,0
Fidelity index Rf

Rg 103,9
Gamut index Rg

Hue Bin	R _f	Shifts (%)	
		Chroma	Hue
1	83	-8%	-3%
2	81	-8%	7%
3	66	-1%	17%
4	74	10%	16%
5	80	15%	9%
6	79	16%	-3%
7	74	8%	-15%
8	80	-2%	-13%
9	82	-7%	-7%
10	82	-10%	5%
11	77	-5%	15%
12	75	3%	12%
13	87	10%	-2%
14	79	10%	-11%
15	82	5%	-12%
16	82	-3%	-14%





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
46lx	11lx	5lx	3lx	2lx	1lx	1lx	1lx	1lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx
4,3fcd	1,1fcd	0,5fcd	0,3fcd	0,2fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd

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°
45,7	40,8	35,5	33,4	32,5	28,8	25,4	22,6	22,0	21,3	20,6	19,8	18,2	17,9	19,4	20,9	23,0	24,0	24,7	7,5
100%	89%	78%	73%	71%	63%	56%	49%	48%	47%	45%	43%	40%	39%	43%	46%	50%	53%	54%	16%

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°
45,7	48,9	43,2	40,2	39,7	35,9	32,7	28,8	29,1	28,6	27,6	26,7	24,1	24,8	24,5	22,3	13,8	8,7	10,0	4,4
100%	107%	94%	88%	87%	78%	71%	63%	64%	62%	60%	58%	53%	54%	54%	49%	30%	19%	22%	10%

Intensities in 180° c-plane

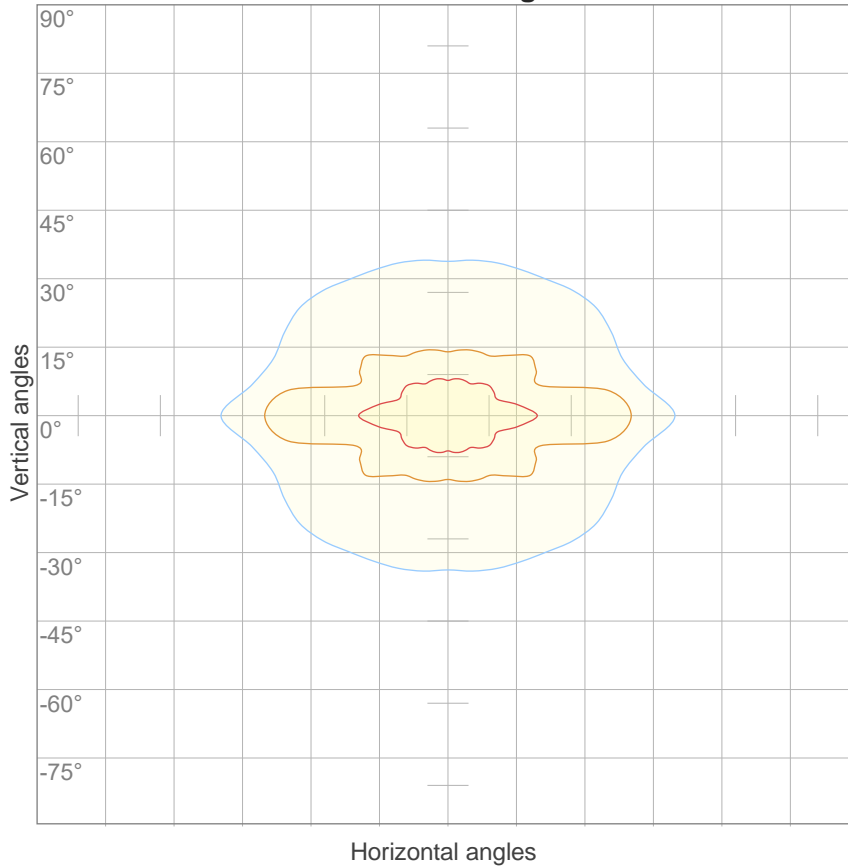
0°	9°	18°	27°	36°	45°	54°	63°	72°	81°	90°	99°	108°	117°	126°	135°	144°	153°	162°	171°
45,7	40,8	35,5	33,4	32,5	28,8	25,4	22,6	22,0	21,3	20,6	19,8	18,2	17,9	19,4	20,9	23,0	24,0	24,7	7,5
100%	89%	78%	73%	71%	63%	56%	49%	48%	47%	45%	43%	40%	39%	43%	46%	50%	53%	54%	16%

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°
45,7	48,9	43,2	40,2	39,7	35,9	32,7	28,8	29,1	28,6	27,6	26,7	24,1	24,8	24,5	22,3	13,8	8,7	10,0	4,4
100%	107%	94%	88%	87%	78%	71%	63%	64%	62%	60%	58%	53%	54%	54%	49%	30%	19%	22%	10%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
320,3°	344,3°	350,9°	32,7%	21,0%

iso-candela diagram



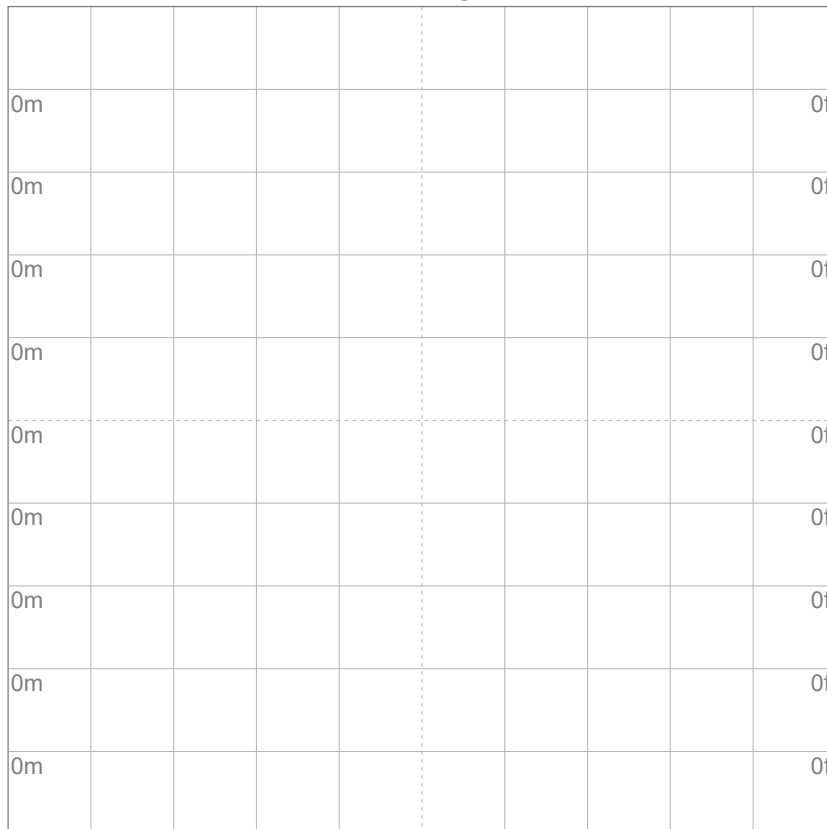
10%	5 cd
20%	9 cd
30%	14 cd
40%	18 cd
50%	23 cd
60%	27 cd
70%	32 cd
80%	37 cd
90%	41 cd

Conditions:

Number of c-planes: 20

Candela at center: 46 cd

iso-lux diagram



Mounting height: 10 meters (33 feet)

3%	13,7m lx
5%	22,9m lx
10%	45,7m lx
30%	0,137 lx
50%	0,229 lx

Conditions:

Number of c-planes: 20

Lux at center: 0,457 lx

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

Glare evaluation according to UGR

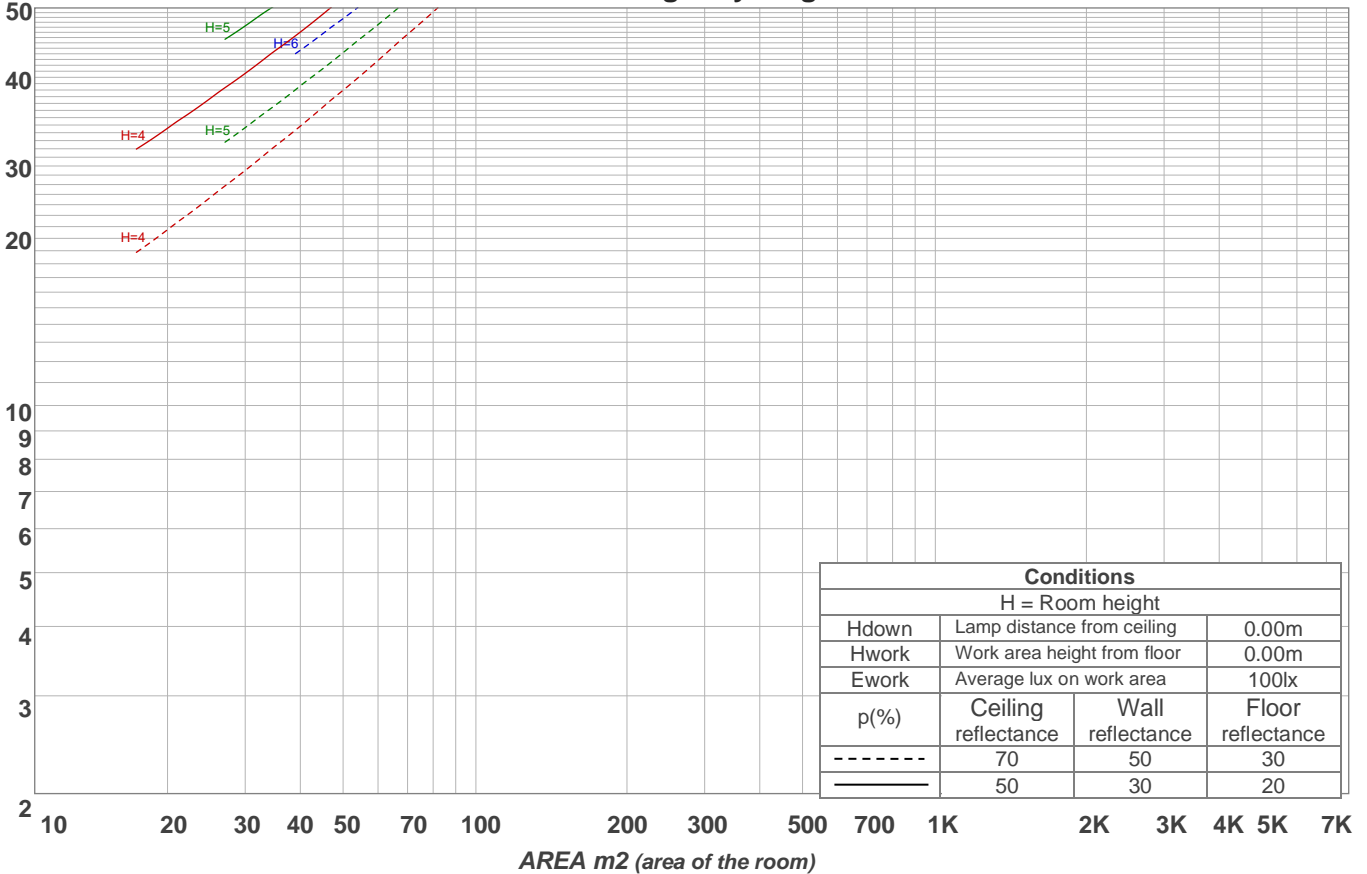
p Ceiling	70	70	50	50	30	70	70	50	50	30	
p Walls	50	30	50	30	30	50	30	50	30	30	
p Floor	20	20	20	20	20	20	20	20	20	20	
Room size X Y	Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis					
2H	2H	8,4	9,3	9,2	10,1	11,2	9,2	10,2	10,1	11,0	12,1
	3H	10,3	11,3	11,2	12,1	13,1	11,4	12,3	12,3	13,2	14,2
	4H	11,4	12,3	12,3	13,1	14,2	12,6	13,5	13,5	14,4	15,4
	6H	12,5	13,3	13,4	14,2	15,2	13,9	14,6	14,7	15,6	16,6
	8H	13,1	13,9	13,9	14,7	15,8	14,5	15,3	15,4	16,2	17,2
	12H	13,6	14,5	14,5	15,2	16,3	15,1	16,0	16,0	16,7	17,8
4H	2H	9,1	10,0	10,0	10,8	11,8	9,8	10,6	10,7	11,5	12,5
	3H	11,3	12,2	12,2	13,0	14,1	12,2	13,1	13,1	13,9	15,0
	4H	12,5	13,6	13,4	14,2	15,3	13,5	14,7	14,5	15,2	16,3
	6H	13,8	14,5	14,7	15,3	16,4	14,9	15,6	15,9	16,5	17,5
	8H	14,4	15,0	15,3	15,9	16,9	15,6	16,2	16,6	17,1	18,2
	12H	15,0	15,5	15,9	16,4	17,5	16,3	16,8	17,2	17,8	18,8
8H	4H	13,1	13,7	14,0	14,6	15,6	13,9	14,5	14,9	15,4	16,5
	6H	14,6	15,0	15,5	16,0	17,1	15,6	16,0	16,5	17,0	18,1
	8H	15,3	15,7	16,3	16,7	17,9	16,4	16,8	17,4	17,8	18,9
	12H	16,1	16,4	17,1	17,4	18,5	17,2	17,6	18,2	18,6	19,7
12H	4H	13,2	13,7	14,1	14,6	15,7	14,0	14,5	14,9	15,4	16,5
	6H	14,8	15,2	15,7	16,2	17,3	15,7	16,1	16,6	17,1	18,2
	8H	15,6	16,0	16,6	17,0	18,1	16,6	16,9	17,6	17,9	19,0
Variation of the observer position for the luminaire distance S											
S = 1.0H	0,1 / 0,0					0,0 / 0,0					
S = 1.5H	0,1 / -0,1					0,1 / -0,1					
S = 2.0H	0,1 / -0,2					0,2 / -0,2					
CIE 117-1995. Corrected glare indices referring to 312 lm total luminous flux											

Coefficients of Utilization

Ceiling reflectance	80				70				50			30			10			0	
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0	
Wall reflectance																			
Floor reflectance	20	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	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	57	
1	96	90	84	79	88	83	78	74	71	67	64	60	57	54	49	47	45	40	
2	86	76	69	62	79	71	64	58	60	55	50	51	46	43	42	38	36	31	
3	78	66	58	51	71	61	54	47	52	46	41	44	39	35	36	32	29	25	
4	71	58	49	42	65	54	46	39	46	39	34	39	33	29	32	28	24	21	
5	65	51	42	36	59	48	40	33	41	34	29	34	29	25	28	24	21	18	
6	59	46	37	31	55	43	35	29	37	30	25	31	26	22	26	21	18	15	
7	55	41	33	27	51	39	31	25	33	27	22	28	23	19	23	19	16	13	
8	51	37	29	23	47	35	27	22	30	24	19	26	20	17	21	17	14	12	
9	47	34	26	21	44	32	25	20	28	21	17	23	19	15	20	16	13	10	
10	44	31	24	18	41	29	22	17	25	19	15	22	17	13	18	14	11	9	

LAMPS (number of lamps)

Luminaire budgetary diagram



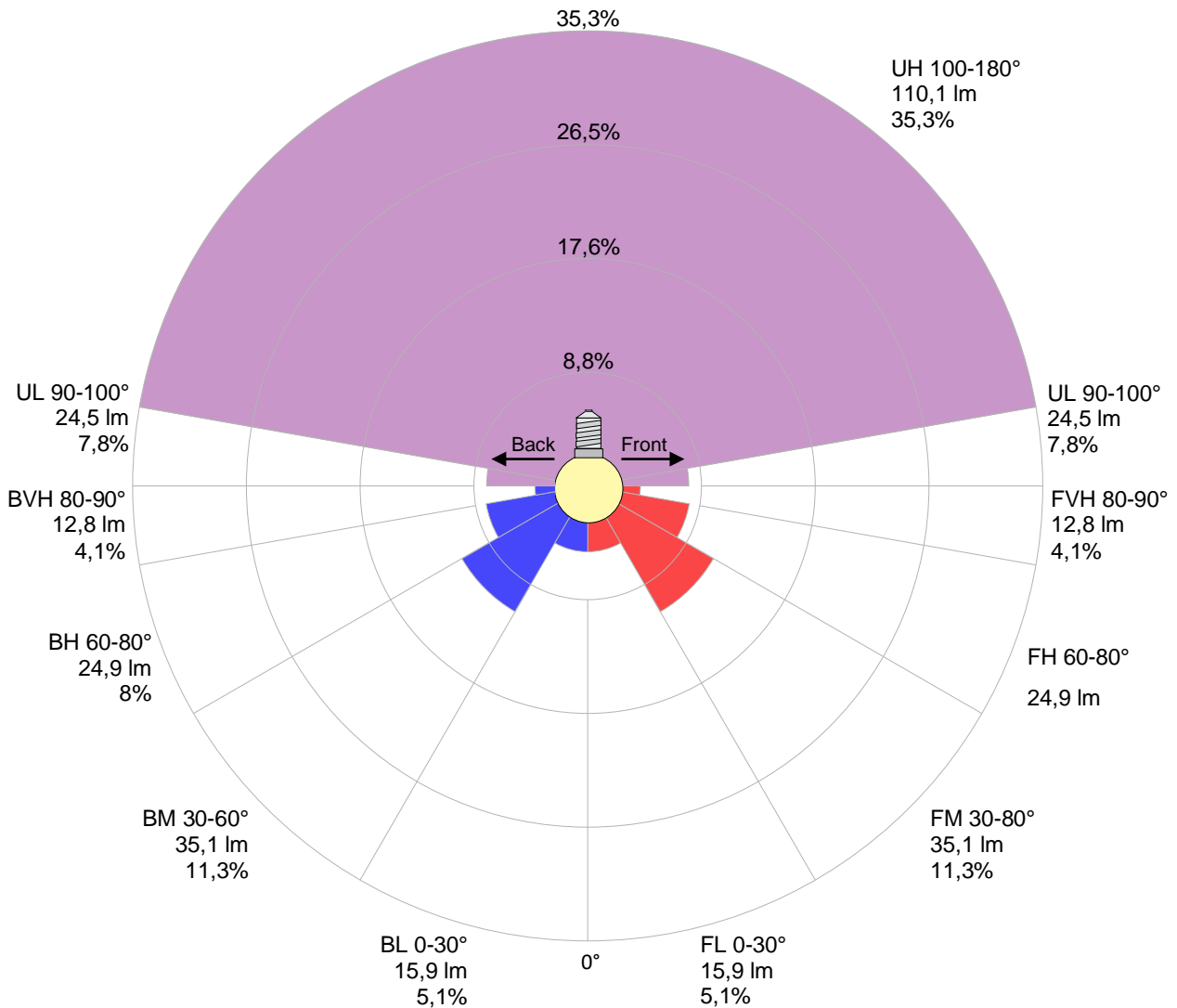
Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
{LUM0-10}	11,1 lm	16,5 lm	21,9 lm	24,0 lm	24,4 lm	24,2 lm	25,6 lm	25,5 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
24,4 lm	22,0 lm	19,8 lm	18,9 lm	17,4 lm	14,7 lm	11,1 lm	5,90 lm	0,329 lm

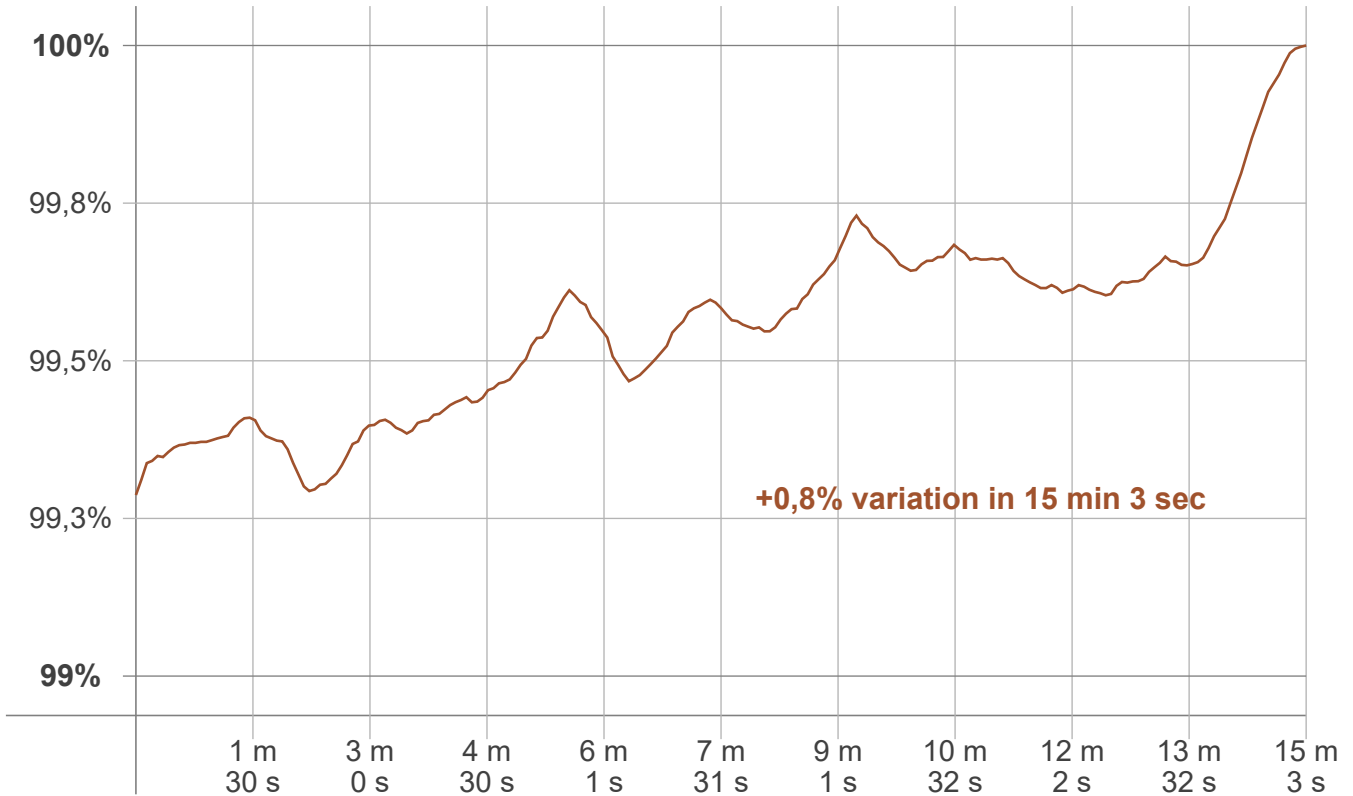
LCS table

BUG rating:	B0 U3 G1	
Forward light	Lumens	Lumens %
Low(0-30):	15,9	5,1%
Medium(30-60):	35,1	11,3%
High(60-80):	24,9	8%
Very high(80-90):	12,8	4,1%
Back light		
Low(0-30):	15,9	5,1%
Medium(30-60):	35,1	11,3%
High(60-80):	24,9	8%
Very high(80-90):	12,8	4,1%
Uplight		
Low(90-100):	24,5	7,8%
High(100-180):	110,1	35,3%

LCS graph



Warmup curve



Warmup result

Warmup time:	Lamp stabilized in 15 min 3 sec
Warmup variation	+0,8%

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
2199 K	+1 K	2200 K

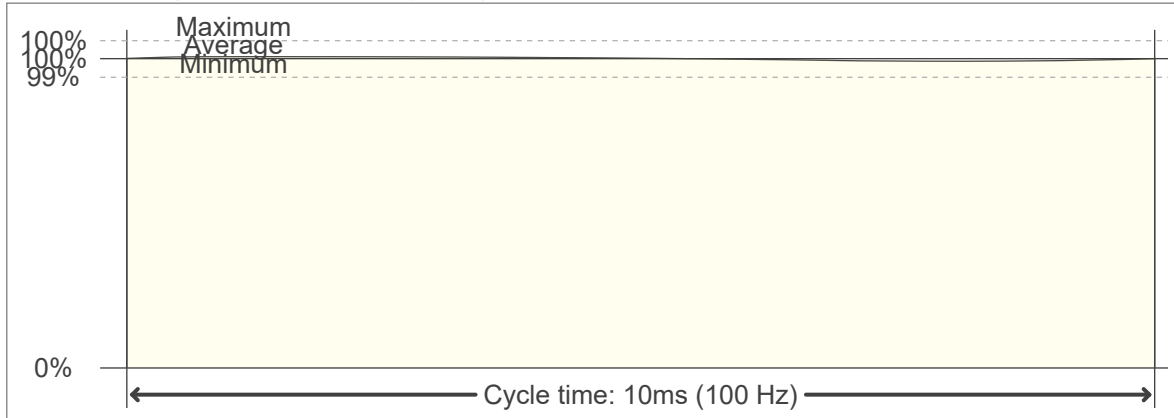
Output change

Output start	Output change	Output end
310 lm	+2 lm	312 lm

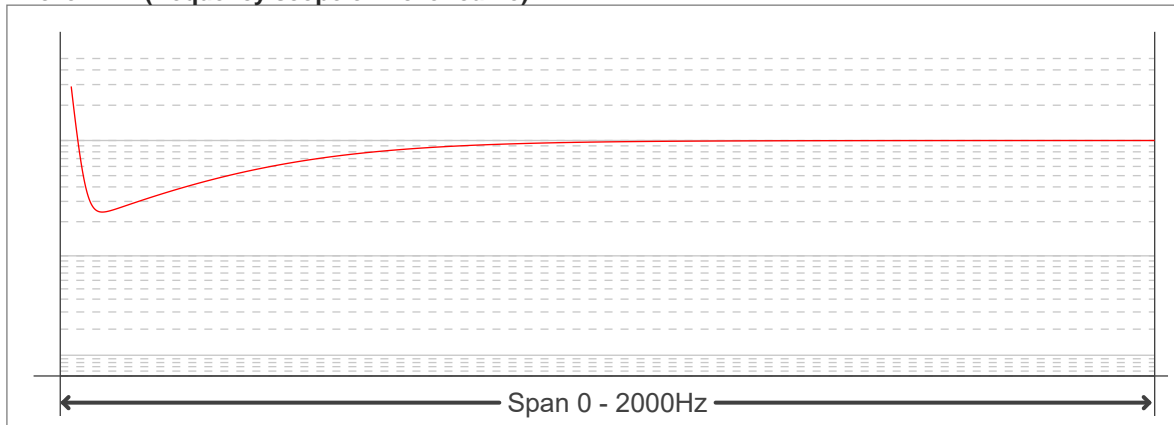
Flicker curve (complete sampled flicker signal)



Flicker frame (frame of one flicker period)



Flicker FFT (frequency scope of flicker curve)



Flicker results:

Flicker frequency:		100 Hz	
Flicker index:	0	JA8/10 40Hz	0,03 %
Flicker percentage:	0,77 %	JA8/10 90Hz	0,03 %
SVM: (Visual flicker)	0,03	JA8/10 200Hz	0,77 %
PstLM	0,06	JA8/10 400Hz	0,8 %
Mp	0,01	JA8/10 1000Hz	0,77 %

Flicker conditions:

Sample rate:	20000 samples/second
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