

Light efficiency:



Light quality:



Color temperature:

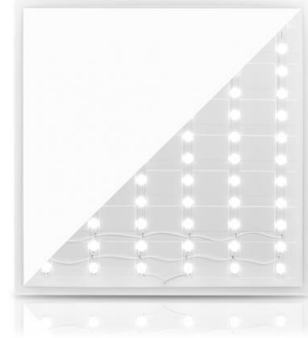


Output: 4475 lm

Peak: 1500 cd

Power: 33,4 W

PF: 0,96



Tracking number: [VT240916-002470](#)

Product name:

**272873**

Item number:

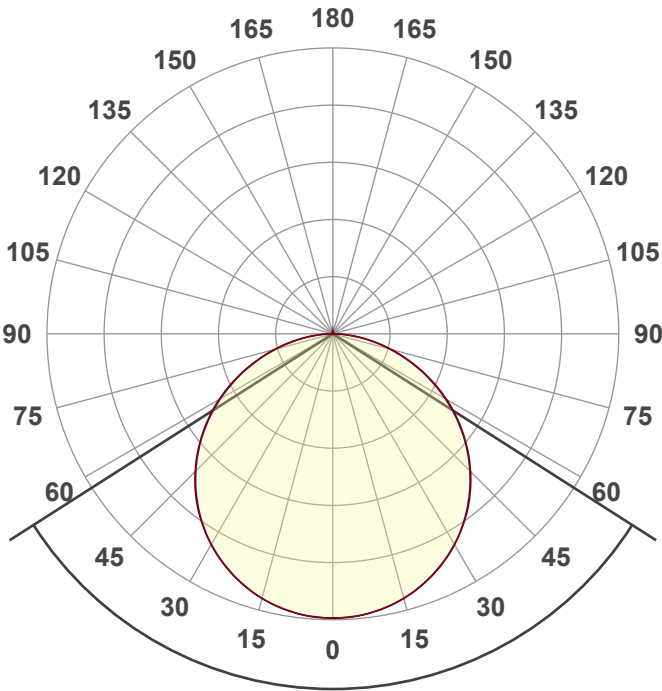
**272873**

Date and time:

**16-9-2024 15:13:08**

Description:

**BACK-LIT LED PANEEL | ARIEL | 60X60CM | 36W**

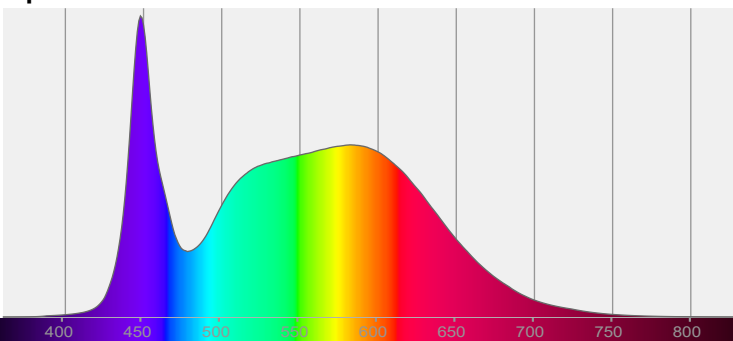


Beam angle **114,9°**

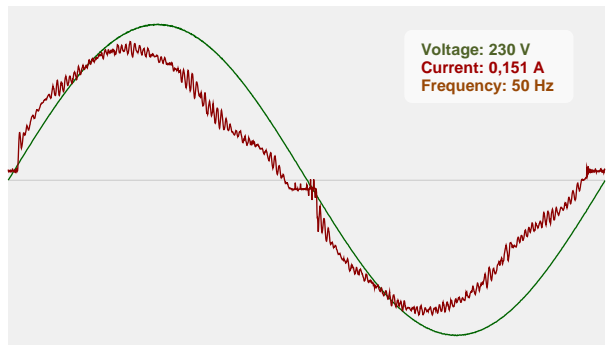


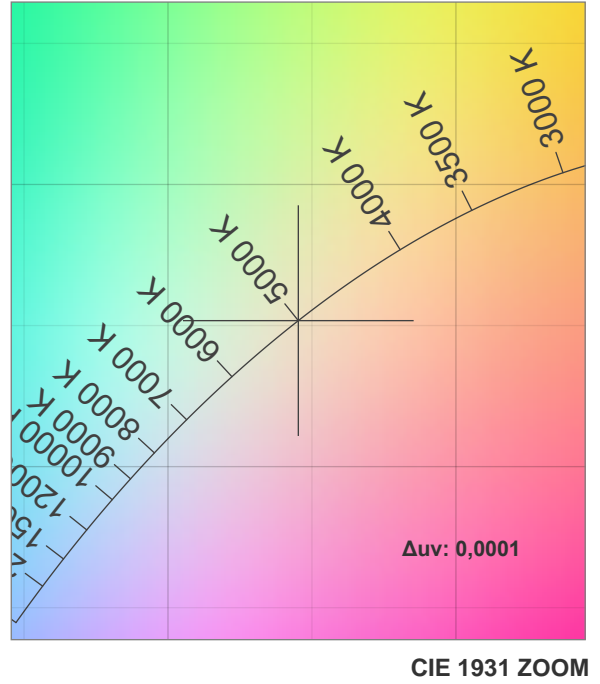
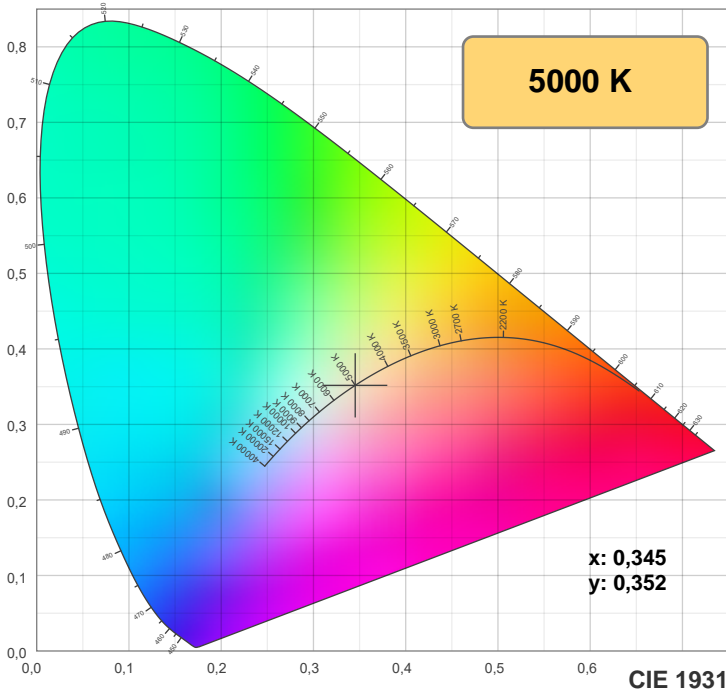
CIE 1931  
x: 0,345  
y: 0,352

Spectra



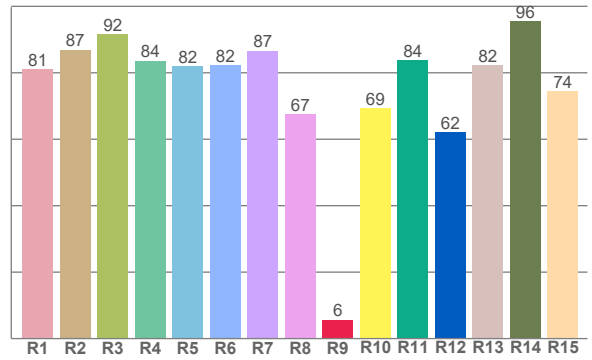
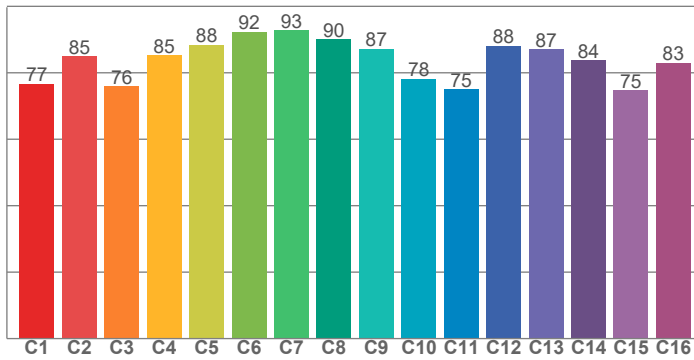
Power



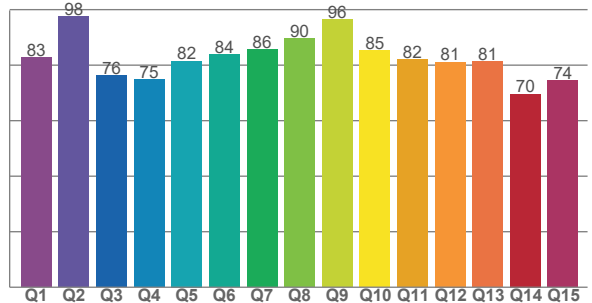


**TM-30: 83,6**

**CRI: 82,7 (R1-R8)**



**CQS: 81,3**



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
81,0	86,9	91,5	83,7	81,9	82,3	86,7	67,5	5,7	69,4	83,7	62,1	82,4	95,5	74,3

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
76,6	85,0	76,0	85,2	88,4	92,4	92,8	90,0	87,2	78,2	74,9	88,1	87,1	83,7	74,7	83,1

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
82,7	97,5	76,3	74,9	81,5	83,8	85,7	89,7	96,5	85,3	82,1	81,2	81,3	69,6	74,5

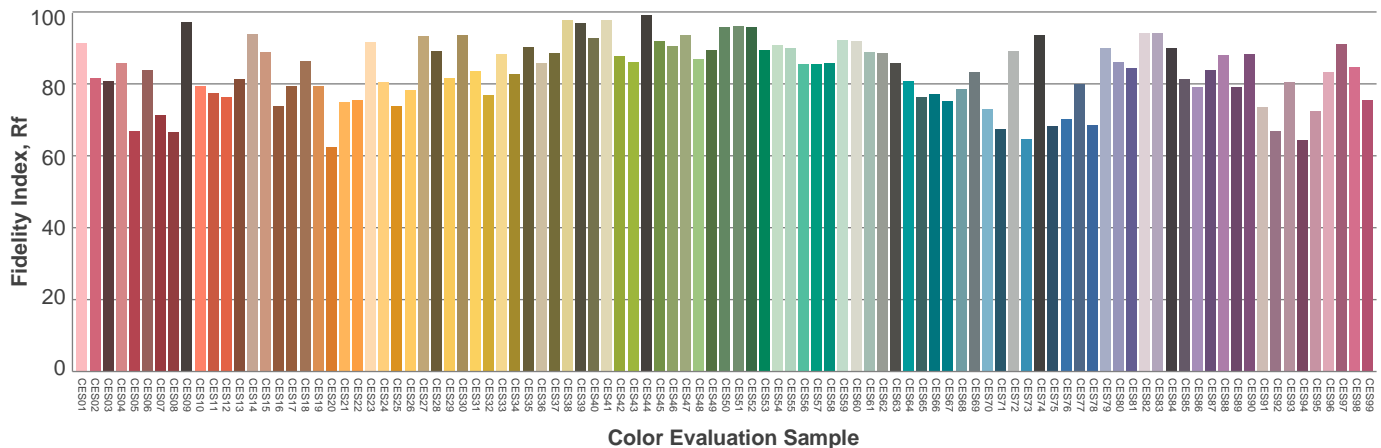
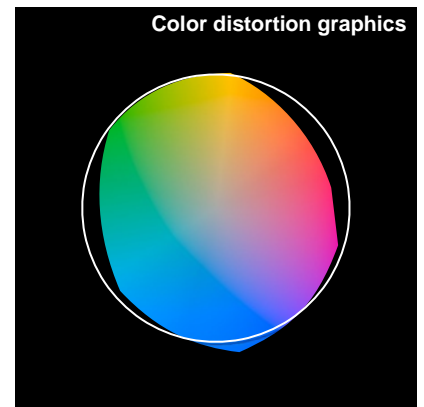
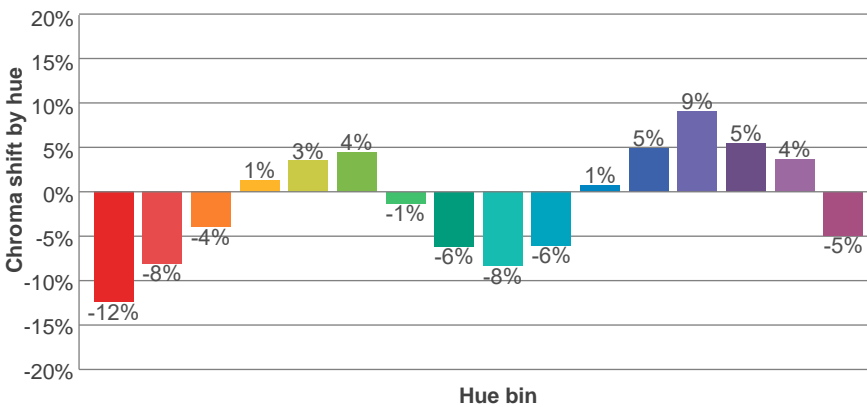
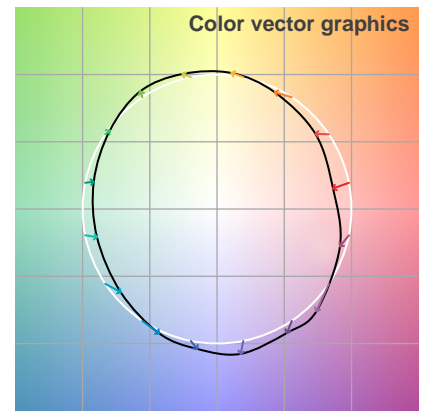
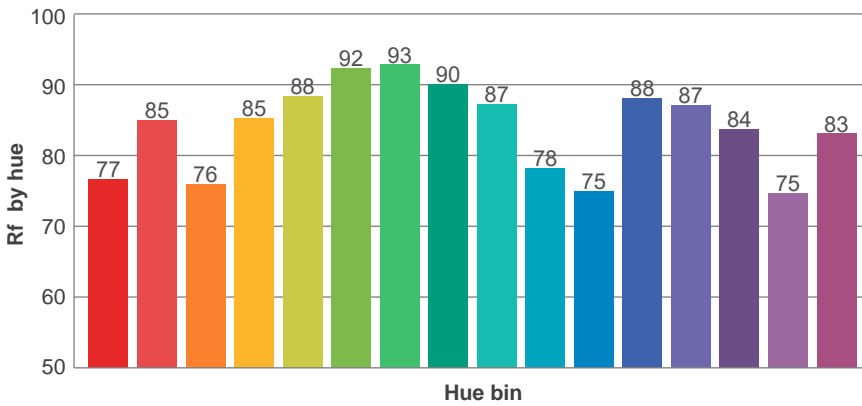
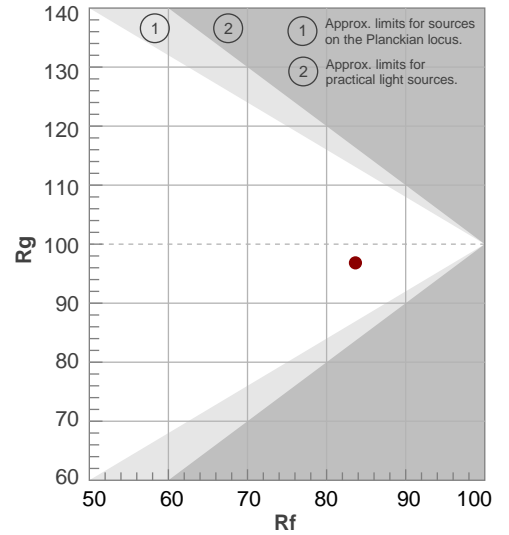
**Color parameters**

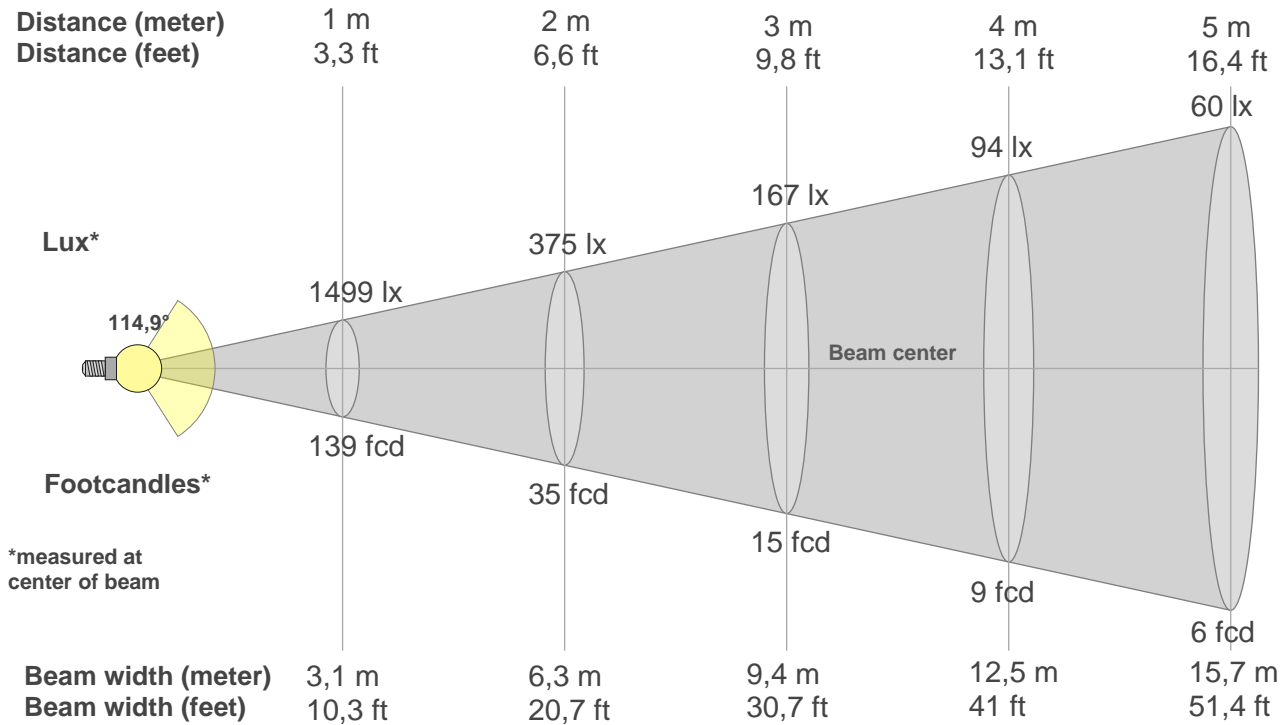
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color divition from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
5000 K	82,7	5,7	83,6	96,8	81,3	0,345	0,352	0,211	0,323	0,0001

**Rf 83,6**  
Fidelity index Rf

**Rg 96,8**  
Gamut index Rg

Hue Bin	R <sub>f</sub>	Shifts (%)	
		Chroma	Hue
1	77	-12%	-2%
2	85	-8%	6%
3	76	-4%	12%
4	85	1%	9%
5	88	3%	6%
6	92	4%	-1%
7	93	-1%	-4%
8	90	-6%	-2%
9	87	-8%	3%
10	78	-6%	12%
11	75	1%	15%
12	88	5%	6%
13	87	9%	-4%
14	84	5%	-8%
15	75	4%	-22%
16	83	-5%	-9%





**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
1499lx	375lx	167lx	94lx	60lx	42lx	31lx	23lx	19lx	15lx	12lx	10lx	9lx	8lx	7lx	6lx	5lx	5lx	4lx	4lx
139,2fc	34,8fcd	15,5fcd	8,7fcd	5,6fcd	3,9fcd	2,8fcd	2,2fcd	1,7fcd	1,4fcd	1,2fcd	1fcd	0,8fcd	0,7fcd	0,6fcd	0,5fcd	0,5fcd	0,4fcd	0,4fcd	0,3fcd

**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°
1499	1492	1473	1443	1401	1347	1282	1207	1122	1026	921	810	692	569	444	321	204	100	28	5
100%	100%	98%	96%	93%	90%	86%	81%	75%	68%	61%	54%	46%	38%	30%	21%	14%	7%	2%	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°
1499	1492	1473	1442	1399	1345	1280	1204	1117	1021	916	804	684	561	436	312	196	93	26	7
100%	100%	98%	96%	93%	90%	85%	80%	75%	68%	61%	54%	46%	37%	29%	21%	13%	6%	2%	0%

**Intensities in 180° c-plane**

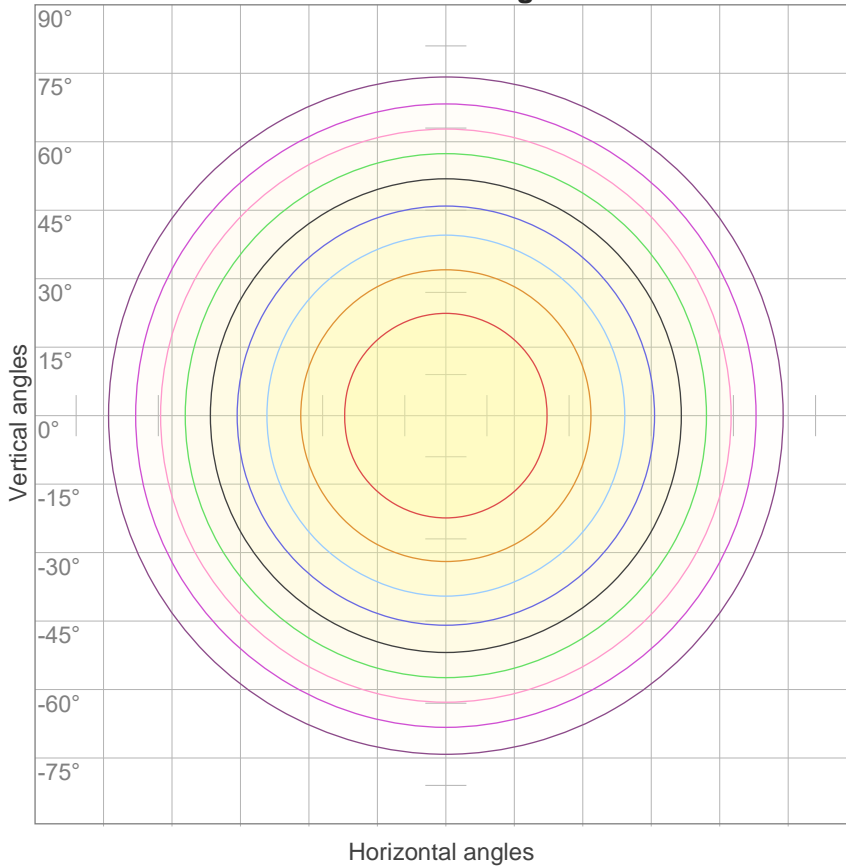
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
1499	1492	1473	1443	1401	1347	1282	1207	1122	1026	921	810	692	569	444	321	204	100	28	5
100%	100%	98%	96%	93%	90%	86%	81%	75%	68%	61%	54%	46%	38%	30%	21%	14%	7%	2%	0%

**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°
1499	1492	1473	1442	1399	1345	1280	1204	1117	1021	916	804	684	561	436	312	196	93	26	7
100%	100%	98%	96%	93%	90%	85%	80%	75%	68%	61%	54%	46%	37%	29%	21%	13%	6%	2%	0%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
<b>114,9°</b>	<b>164,5°</b>	<b>177,3°</b>	<b>76,8%</b>	<b>51,9%</b>

**iso-candela diagram**



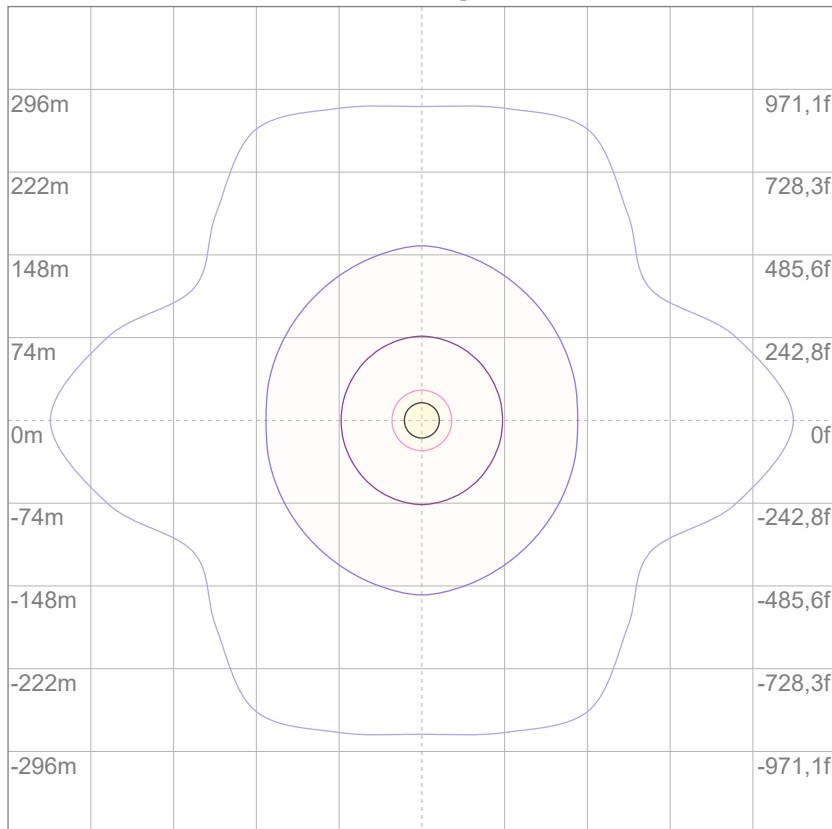
10%	150 cd
20%	300 cd
30%	450 cd
40%	599 cd
50%	749 cd
60%	899 cd
70%	1049 cd
80%	1199 cd
90%	1349 cd

Conditions:

Number of c-planes: 12

Candela at center: 1499 cd

**iso-lux diagram**



3%	0,450 lx
5%	0,749 lx
10%	1,50 lx
30%	4,50 lx
50%	7,49 lx

Conditions:

Number of c-planes: 12

Lux at center: 15,0 lx

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

**Glare evaluation according to UGR**

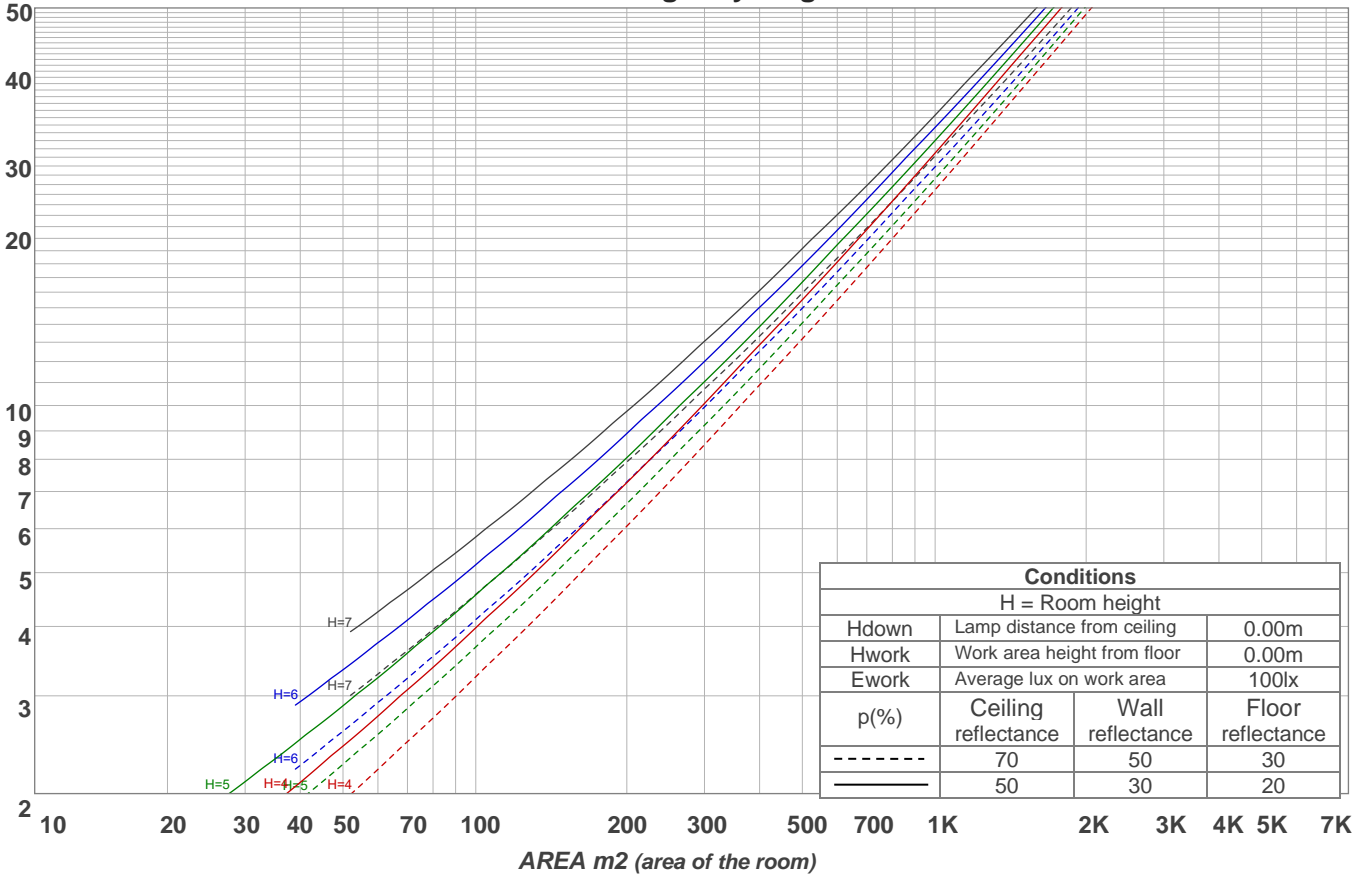
p Ceiling		70	70	50	50	30	70	70	50	50	30
p Walls		50	30	50	30	30	50	30	50	30	30
p Floor		20	20	20	20	20	20	20	20	20	20
Room size X Y		Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
2H	2H	17,8	19,1	18,1	19,4	19,6	17,8	19,0	18,1	19,4	19,6
	3H	19,4	20,6	19,8	20,9	21,2	19,3	20,6	19,7	20,9	21,1
	4H	20,0	21,2	20,5	21,5	21,8	20,0	21,2	20,4	21,5	21,8
	6H	20,6	21,7	20,9	22,0	22,4	20,5	21,6	20,9	21,9	22,3
	8H	20,8	21,8	21,2	22,2	22,6	20,7	21,7	21,1	22,1	22,5
	12H	20,9	21,9	21,3	22,3	22,7	20,8	21,8	21,2	22,2	22,6
4H	2H	18,4	19,7	18,9	19,9	20,2	18,4	19,6	18,8	19,9	20,2
	3H	20,3	21,3	20,7	21,6	22,1	20,2	21,3	20,6	21,6	22,1
	4H	21,0	21,9	21,5	22,4	22,9	20,9	21,9	21,4	22,3	22,9
	6H	21,6	22,5	22,2	22,9	23,3	21,6	22,5	22,1	22,8	23,2
	8H	21,9	22,7	22,4	23,1	23,5	21,8	22,6	22,3	23,0	23,4
	12H	22,1	22,7	22,6	23,2	23,7	21,9	22,6	22,5	23,1	23,6
8H	4H	21,3	22,1	21,8	22,5	22,9	21,3	22,1	21,8	22,5	22,9
	6H	22,1	22,7	22,6	23,2	23,8	22,0	22,7	22,6	23,1	23,7
	8H	22,5	23,0	23,0	23,5	24,2	22,4	22,9	22,9	23,5	24,1
	12H	22,7	23,2	23,3	23,7	24,3	22,6	23,1	23,2	23,6	24,2
12H	4H	21,3	22,0	21,8	22,4	22,9	21,3	22,0	21,8	22,4	22,9
	6H	22,2	22,7	22,7	23,3	23,9	22,1	22,7	22,7	23,2	23,9
	8H	22,6	23,0	23,2	23,5	24,2	22,5	22,9	23,1	23,5	24,1
Variation of the observer position for the luminaire distance S											
S = 1.0H		0,1 / -0,1					0,1 / -0,1				
S = 1.5H		0,1 / -0,2					0,1 / -0,2				
S = 2.0H		0,4 / -0,4					0,4 / -0,4				
CIE 117-1995. Corrected glare indices referring to 4475 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	20	20	20	0
<b>RCR</b>	<b>(RCR: Room Cavity Ratio)</b>																				
	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	103	99	95	105	101	97	93	96	93	90	92	90	87	89	86	84	82			
2	98	90	83	77	95	88	81	76	84	79	74	81	76	72	77	74	70	68			
3	89	79	70	64	87	77	69	63	74	67	62	71	65	60	68	63	59	57			
4	82	69	60	54	79	68	60	53	65	58	52	63	57	52	61	55	51	48			
5	75	62	53	46	73	61	52	46	58	51	45	56	50	45	54	49	44	42			
6	69	56	47	40	67	55	46	40	53	45	39	51	44	39	49	43	39	36			
7	64	50	42	35	62	50	41	35	48	40	35	46	40	35	45	39	34	32			
8	60	46	37	31	58	45	37	31	44	36	31	42	36	31	41	35	31	29			
9	56	42	34	28	54	42	34	28	40	33	28	39	33	28	38	32	28	26			
10	52	39	31	26	51	38	31	25	37	30	25	36	30	25	35	29	25	23			

LAMPS (number of lamps)

**Luminaire budgetary diagram**



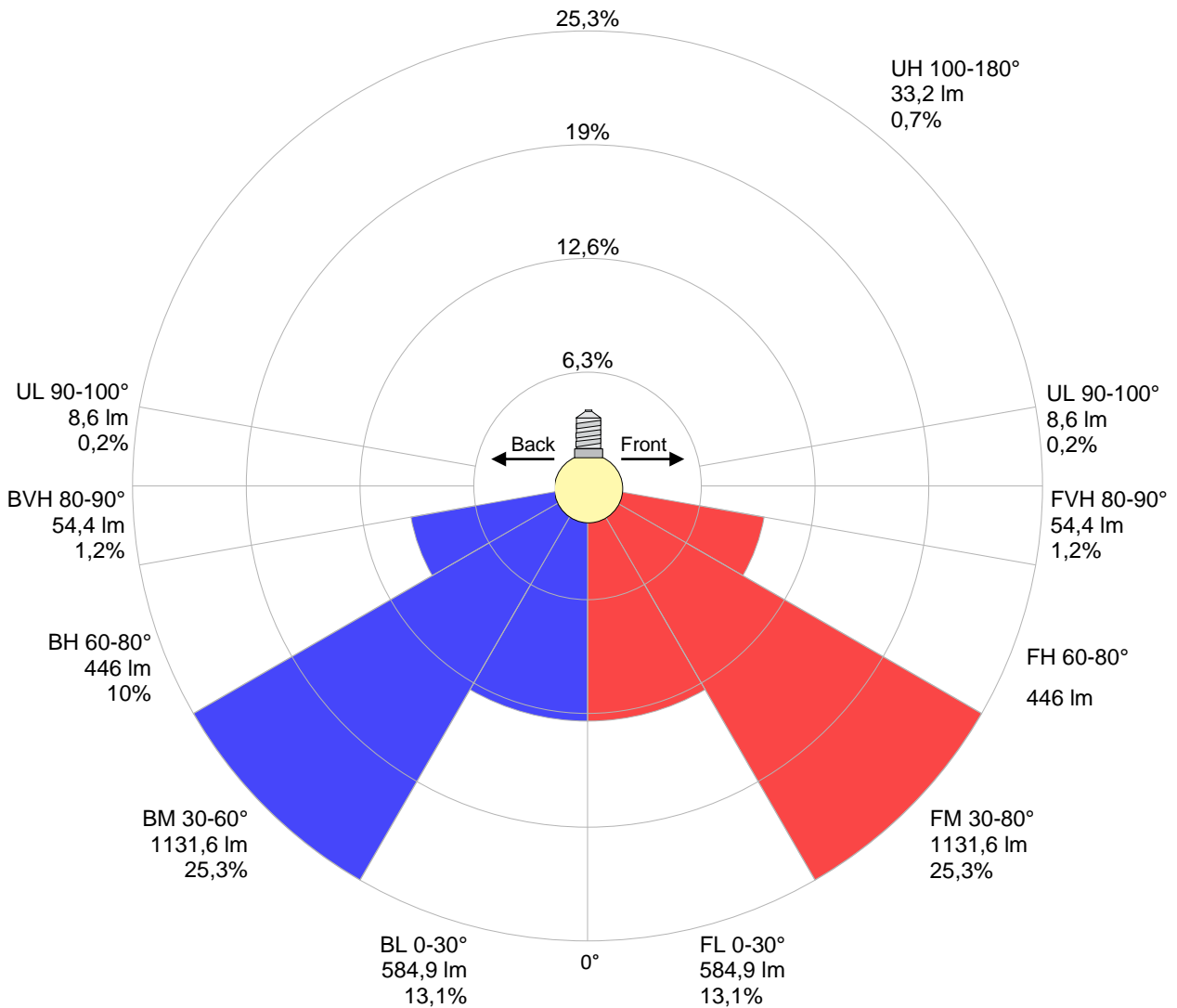
**Zonal Lumen Summary**

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
{LUM0-10}	408 lm	621 lm	755 lm	790 lm	721 lm	558 lm	334 lm	107 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
7,24 lm	5,60 lm	5,87 lm	5,68 lm	5,15 lm	4,56 lm	3,44 lm	2,20 lm	0,746 lm

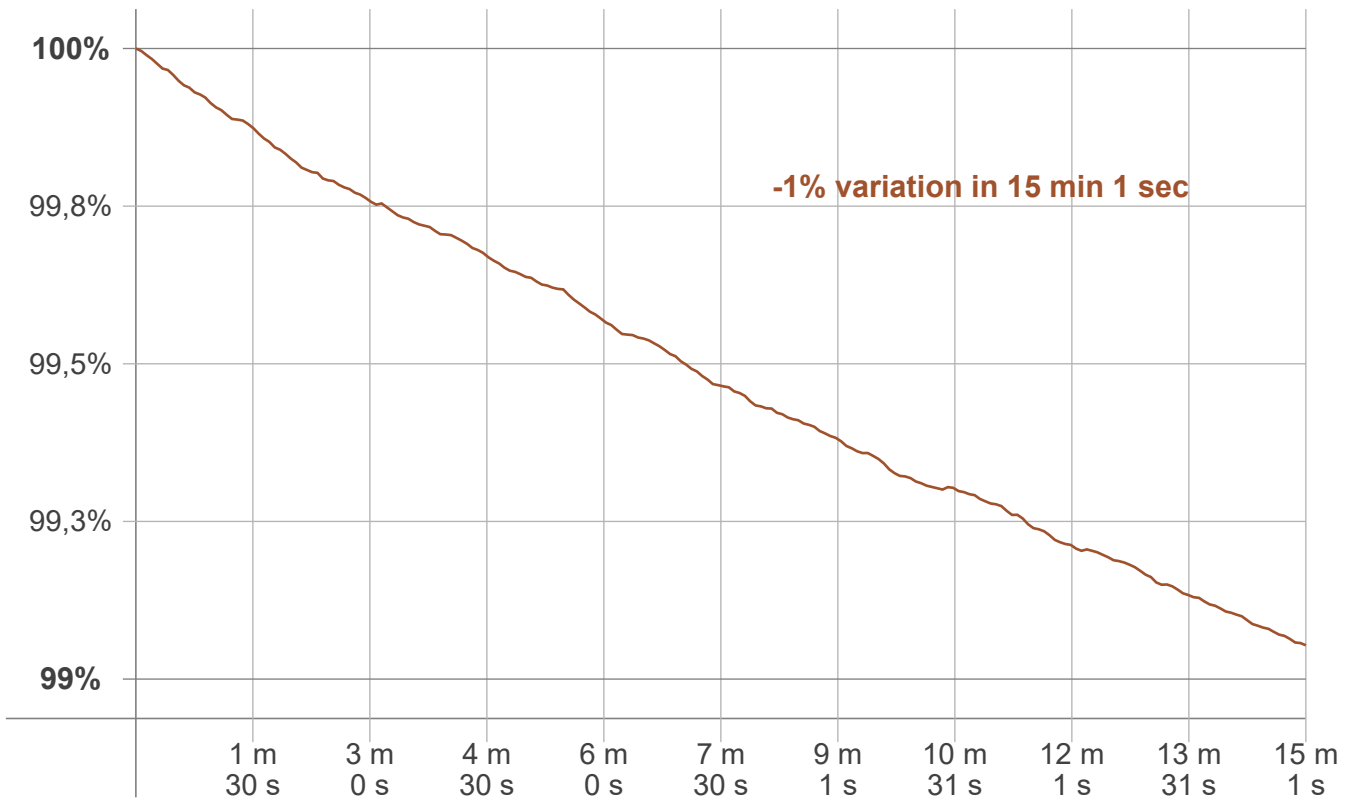
LCS table

BUG rating:	B2 U2 G1	
<b>Forward light</b>	Lumens	Lumens %
Low(0-30):	584,9	13,1%
Medium(30-60):	1131,6	25,3%
High(60-80):	446	10%
Very high(80-90):	54,4	1,2%
<b>Back light</b>		
Low(0-30):	584,9	13,1%
Medium(30-60):	1131,6	25,3%
High(60-80):	446	10%
Very high(80-90):	54,4	1,2%
<b>Uplight</b>		
Low(90-100):	8,6	0,2%
High(100-180):	33,2	0,7%

LCS graph



**Warmup curve**



**Warmup result**

<b>Warmup time:</b>	<b>Lamp stabilized in 15 min 1 sec</b>
<b>Warmup variation</b>	<b>-1,0%</b>

**Warmup conditions**

<b>Stable period:</b>	<b>15 min</b>
<b>Stable change max:</b>	<b>2,0%</b>
<b>Minimum time:</b>	<b>15 min</b>

**Color temperature change**

<b>CCT start</b>	<b>CCT change</b>	<b>CCT end</b>
<b>4992 K</b>	<b>+8 K</b>	<b>5000 K</b>

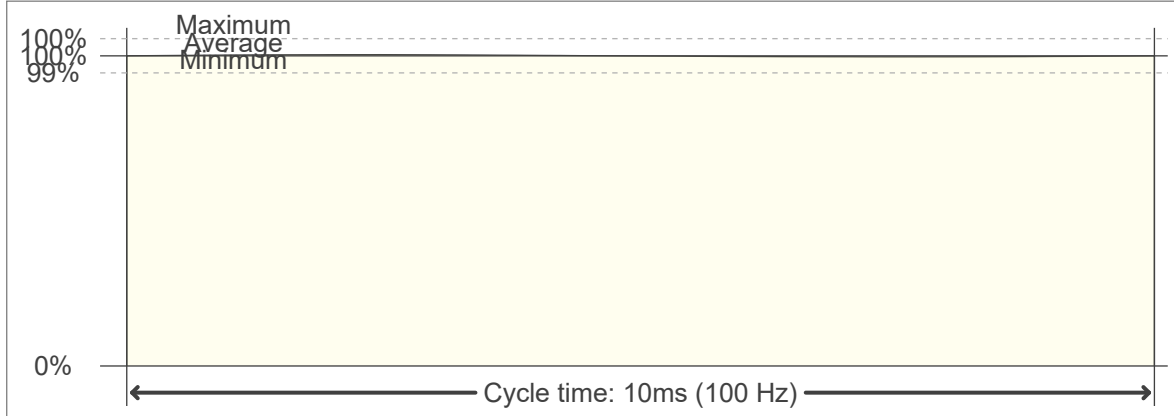
**Output change**

<b>Output start</b>	<b>Output change</b>	<b>Output end</b>
<b>4518 lm</b>	<b>-42 lm</b>	<b>4475 lm</b>

**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:	0,4 %	JA8/10 90Hz	0,03 %
SVM: (Visual flicker)	0,01	JA8/10 200Hz	0,39 %
PstLM	0,02	JA8/10 400Hz	0,4 %
Mp	0,01	JA8/10 1000Hz	0,4 %

**Flicker conditions:**

Sample rate:	20000 samples/second
--------------	----------------------