

Light efficiency:

133 Lumen/Watt

Output: 28413 lm

Light quality:

CRI: 83.1

Peak: 11078 cd

Color temperature:

5274 K

Power: 213.1 W

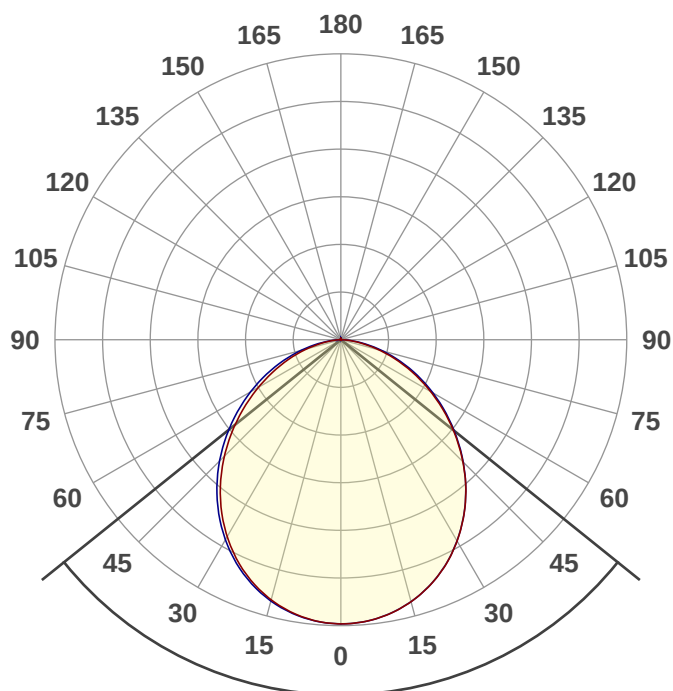
PF: 1.0

Product name:

LHBD2-50K3-220W-H

Date and time:

5/26/2020 2:28:49 PM



Beam angle

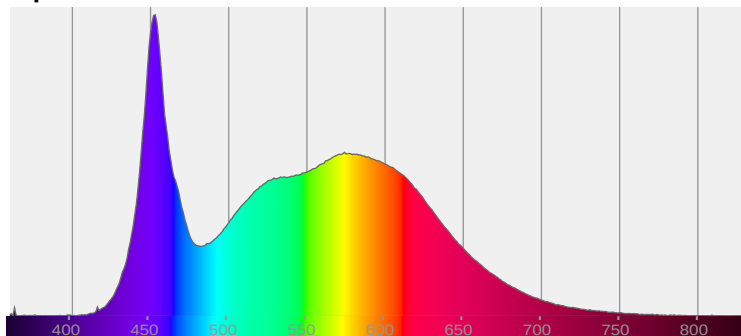
102.4°

CIE 1931

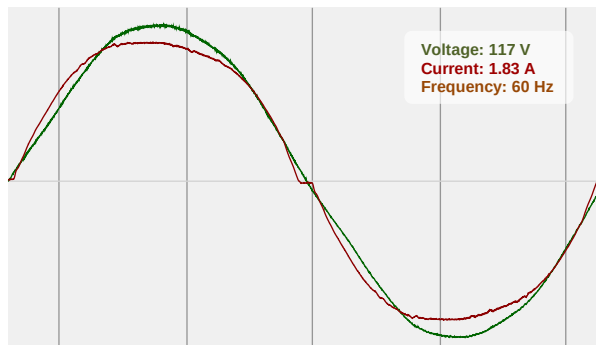
x: 0.338

y: 0.346

Spectra



Power



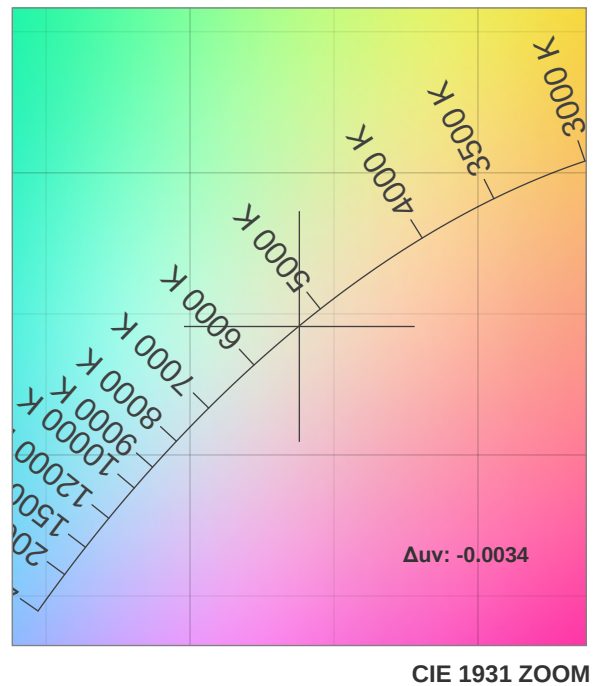
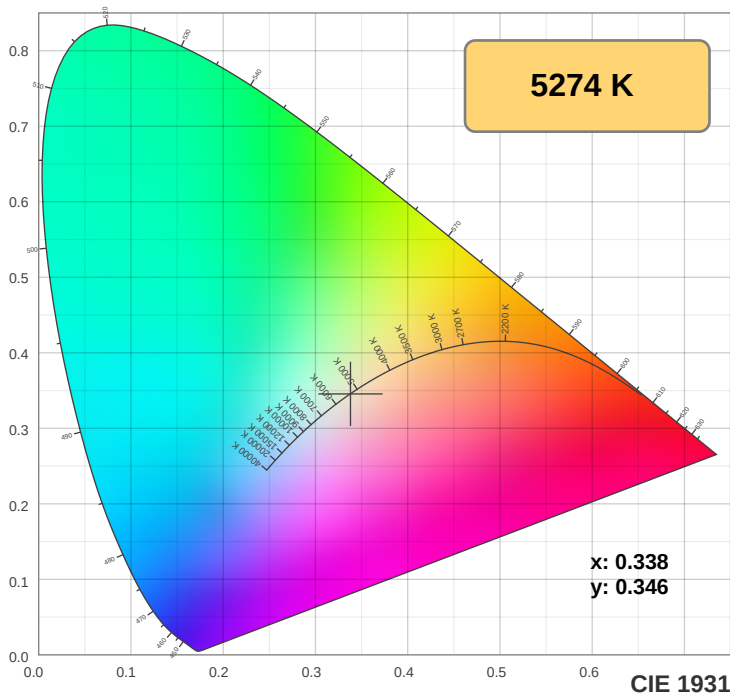
T 314.743.3067

F 314.972.6202

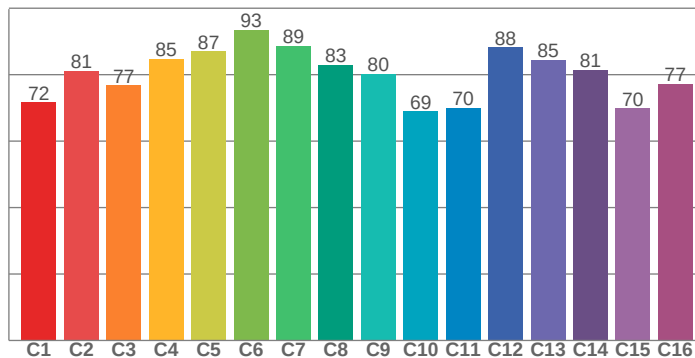
email: commercial-sales@superbrightleds.com

www.superbrightleds.com/

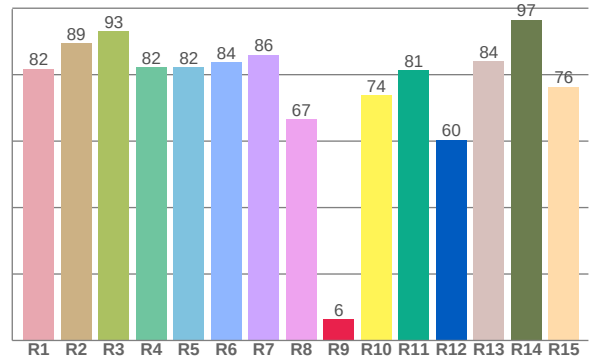
Color Specifications



TM30: 80.3



CRI: 83.1 (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
81.8	89.4	93.1	82.2	82.2	83.8	86.0	66.7	6.4	73.8	81.3	60.4	84.1	96.5	76.4

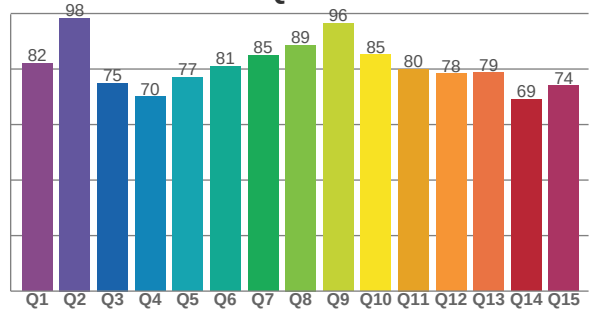
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
71.7	81.1	76.8	84.8	87.1	93.4	88.8	82.9	80.2	69.0	70.0	88.3	84.5	81.5	69.8	77.2

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
82.1	98.4	75.0	70.0	77.1	81.0	85.0	88.7	96.5	85.2	80.0	78.3	78.7	69.1	74.0

CQS: 79.5



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 deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
5274 K	83.1	6.4	80.3	93.9	79.5	0.338	0.346	0.209	0.320	-0.0034



TM30 Report

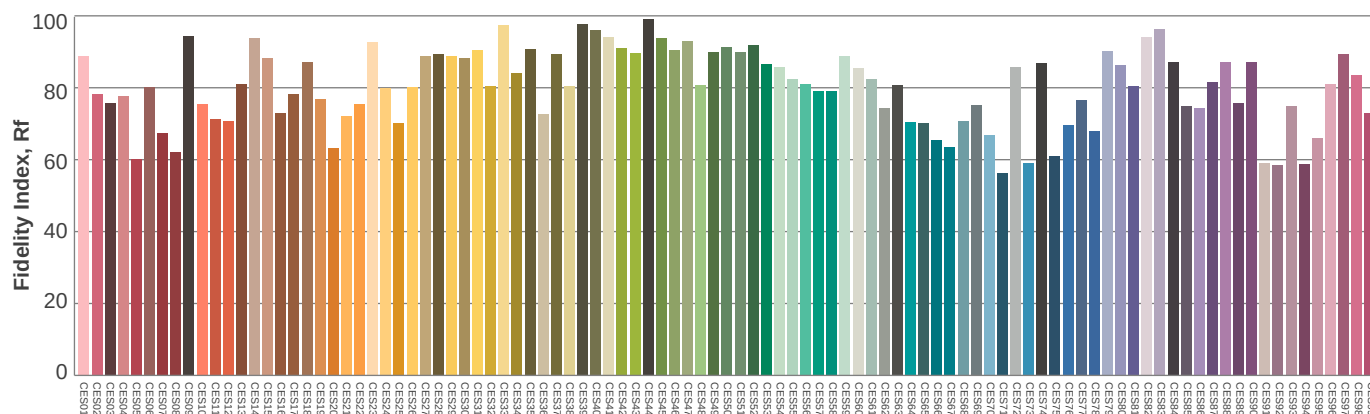
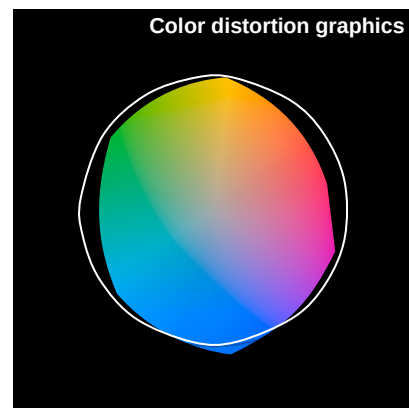
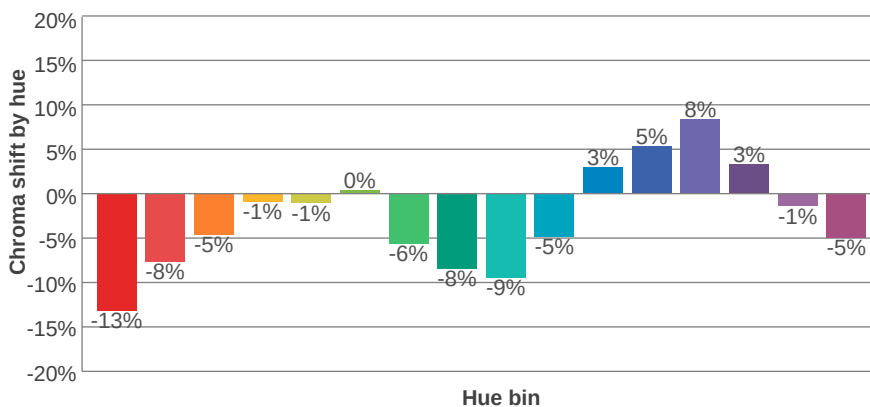
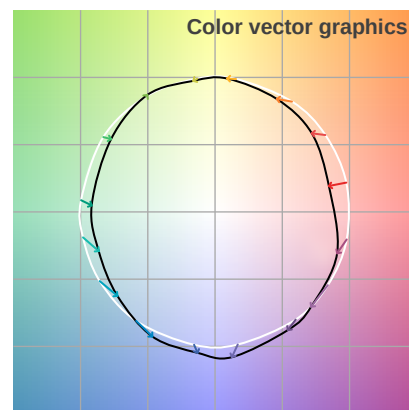
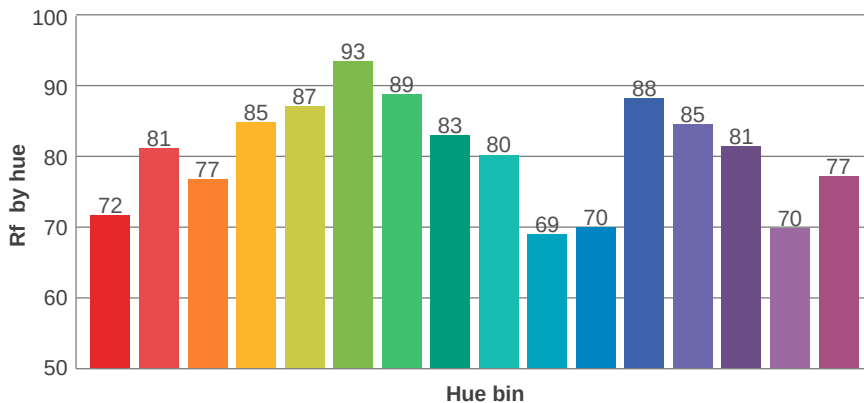
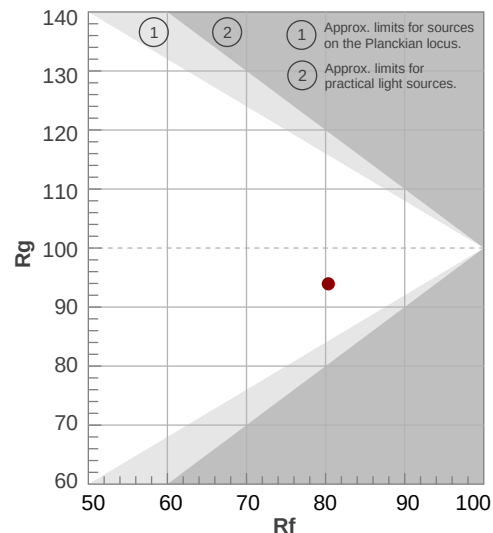
Rf 80.3

Fidelity index Rf

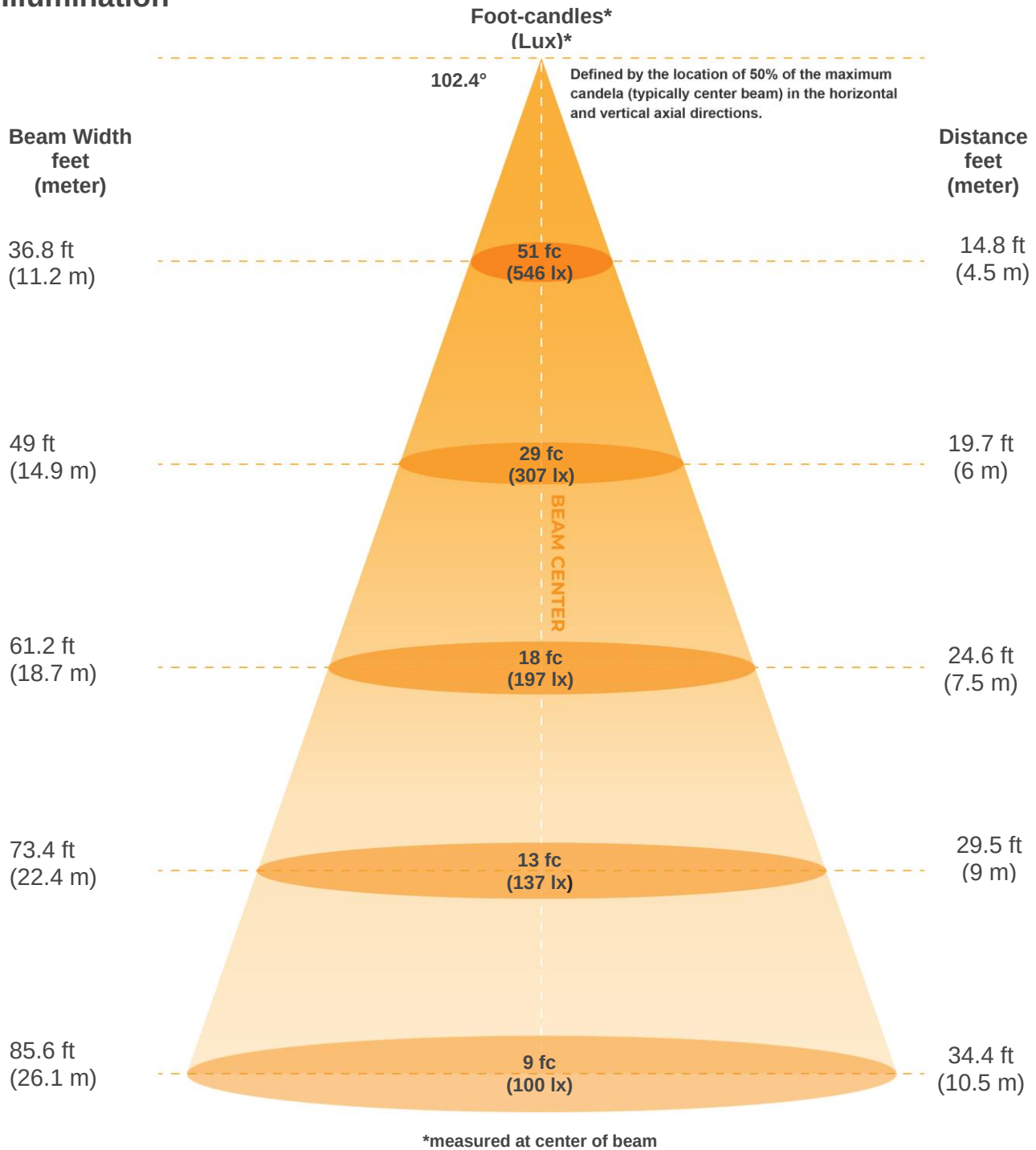
Rg 93.9

Gammut index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	72	-13%	0%
2	81	-8%	7%
3	77	-5%	10%
4	85	-1%	7%
5	87	-1%	3%
6	93	0%	-1%
7	89	-6%	-2%
8	83	-8%	2%
9	80	-9%	12%
10	69	-5%	16%
11	70	3%	16%
12	88	5%	4%
13	85	8%	-6%
14	81	3%	-9%
15	70	-1%	-20%
16	77	-5%	-11%



Illumination



Beam intensities from 1-20m

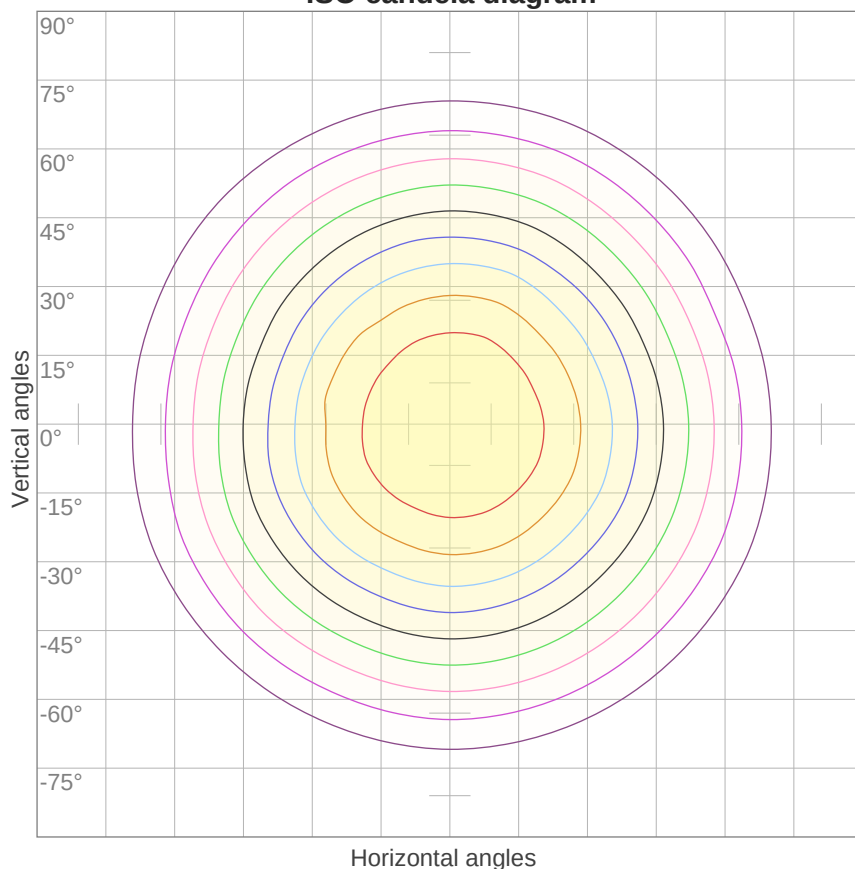
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
3.3ft	6.6ft	9.8ft	13.1ft	16.4ft	19.7ft	23ft	26.2ft	29.5ft	32.8ft	36.1ft	39.4ft	42.7ft	45.9ft	49.2ft	52.5ft	55.8ft	59.1ft	62.3ft	65.6ft
11063lx	2766lx	1229lx	691lx	443lx	307lx	226lx	173lx	137lx	111lx	91lx	77lx	65lx	56lx	49lx	43lx	38lx	34lx	31lx	28lx
1027.8f	256.9fc	114.2fc	64.2fcd	41.1fcd	28.5fcd	21fcd	16.1fcd	12.7fcd	10.3fcd	8.5fcd	7.1fcd	6.1fcd	5.2fcd	4.6fcd	4fcd	3.6fcd	3.2fcd	2.8fcd	2.6fcd

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
102.4°	156.6°	172.2°	81.1%	57.1%



ISO Diagrams

ISO candela diagram



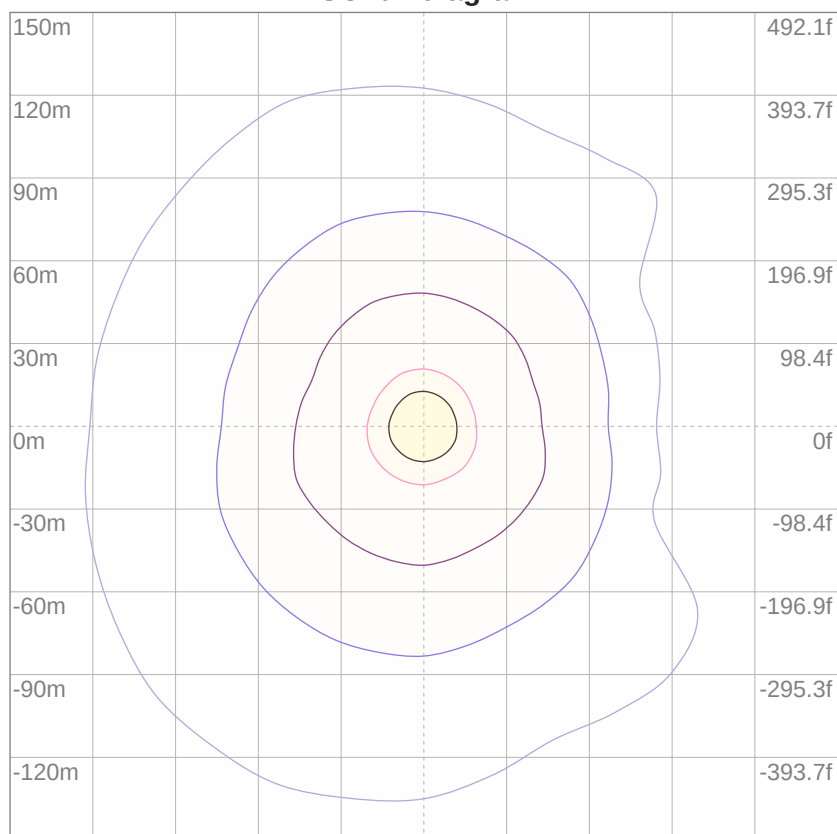
10%	1106 cd
20%	2213 cd
30%	3319 cd
40%	4425 cd
50%	5532 cd
60%	6638 cd
70%	7744 cd
80%	8850 cd
90%	9957 cd

Conditions:

Number of c-planes: 16

Candela at center: 11063 cd

ISO lux diagram



3%	3.32 lx
5%	5.53 lx
10%	11.1 lx
30%	33.2 lx
50%	55.3 lx

Conditions:

Number of c-planes: 16

Lux at center: 111 lx

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



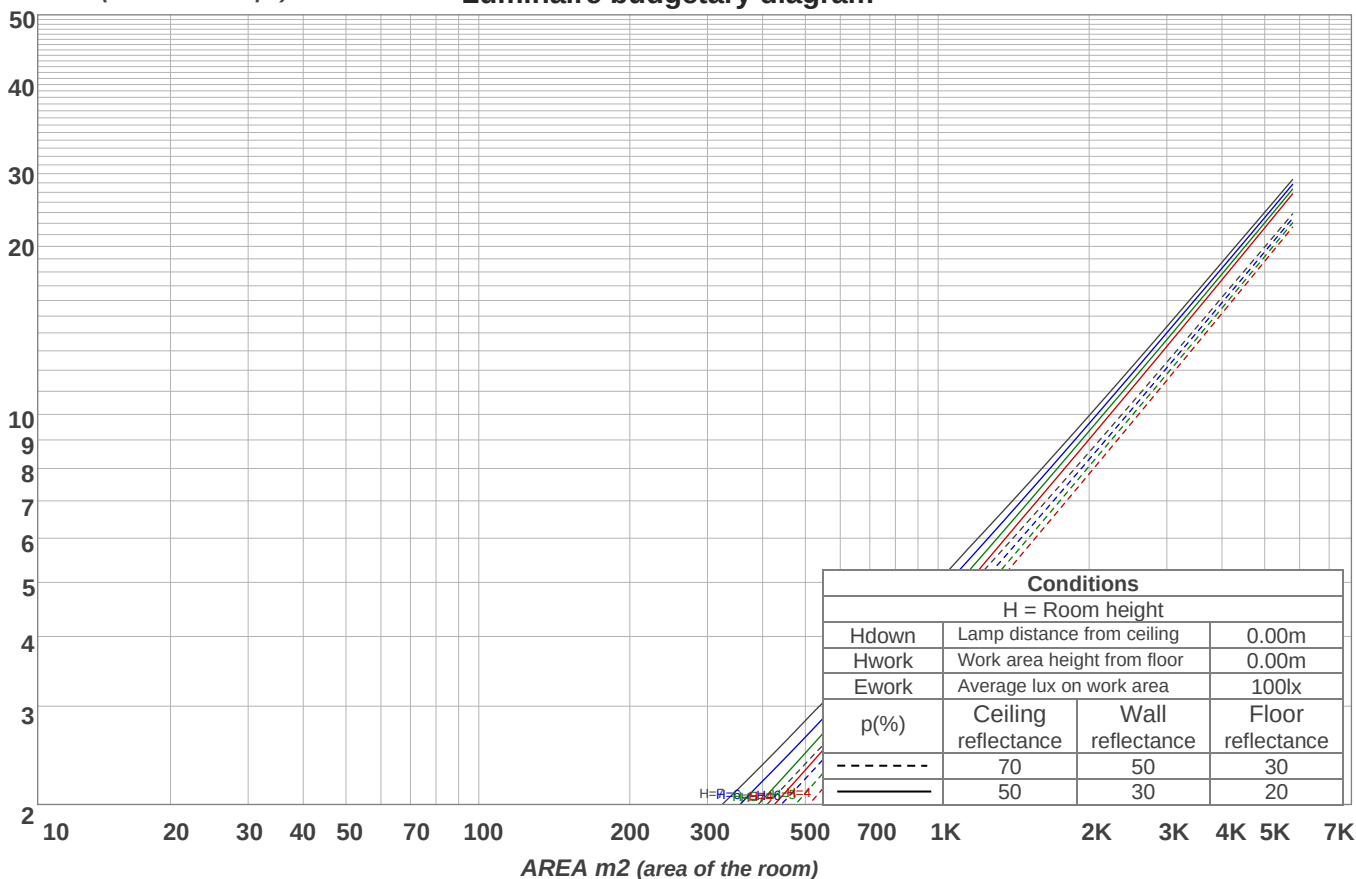
Light Planning

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	99
1	109	105	100	97	106	102	98	95	98	95	92	94	91	89	90	88	86	84
2	100	92	85	79	97	90	84	79	86	81	77	83	78	75	80	76	73	71
3	91	81	73	67	89	79	72	66	76	70	65	73	68	64	71	66	62	60
4	84	72	63	57	81	71	63	56	68	61	56	66	60	55	63	58	54	52
5	77	64	56	49	75	63	55	49	61	54	48	59	53	48	57	52	47	45
6	71	58	49	43	69	57	49	43	55	48	42	54	47	42	52	46	42	40
7	66	53	44	38	64	52	44	38	50	43	38	49	42	37	48	42	37	35
8	62	48	40	34	60	48	40	34	46	39	34	45	38	34	44	38	33	31
9	58	44	36	31	56	44	36	31	43	36	31	41	35	30	40	35	30	28
10	54	41	33	28	53	40	33	28	39	33	28	38	32	28	38	32	28	26

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°
1045 lm	2970 lm	4422 lm	5164 lm	5109 lm	4345 lm	3100 lm	1658 lm	437 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
23.3 lm	19.9 lm	22.0 lm	23.2 lm	22.9 lm	20.9 lm	16.6 lm	10.8 lm	3.81 lm

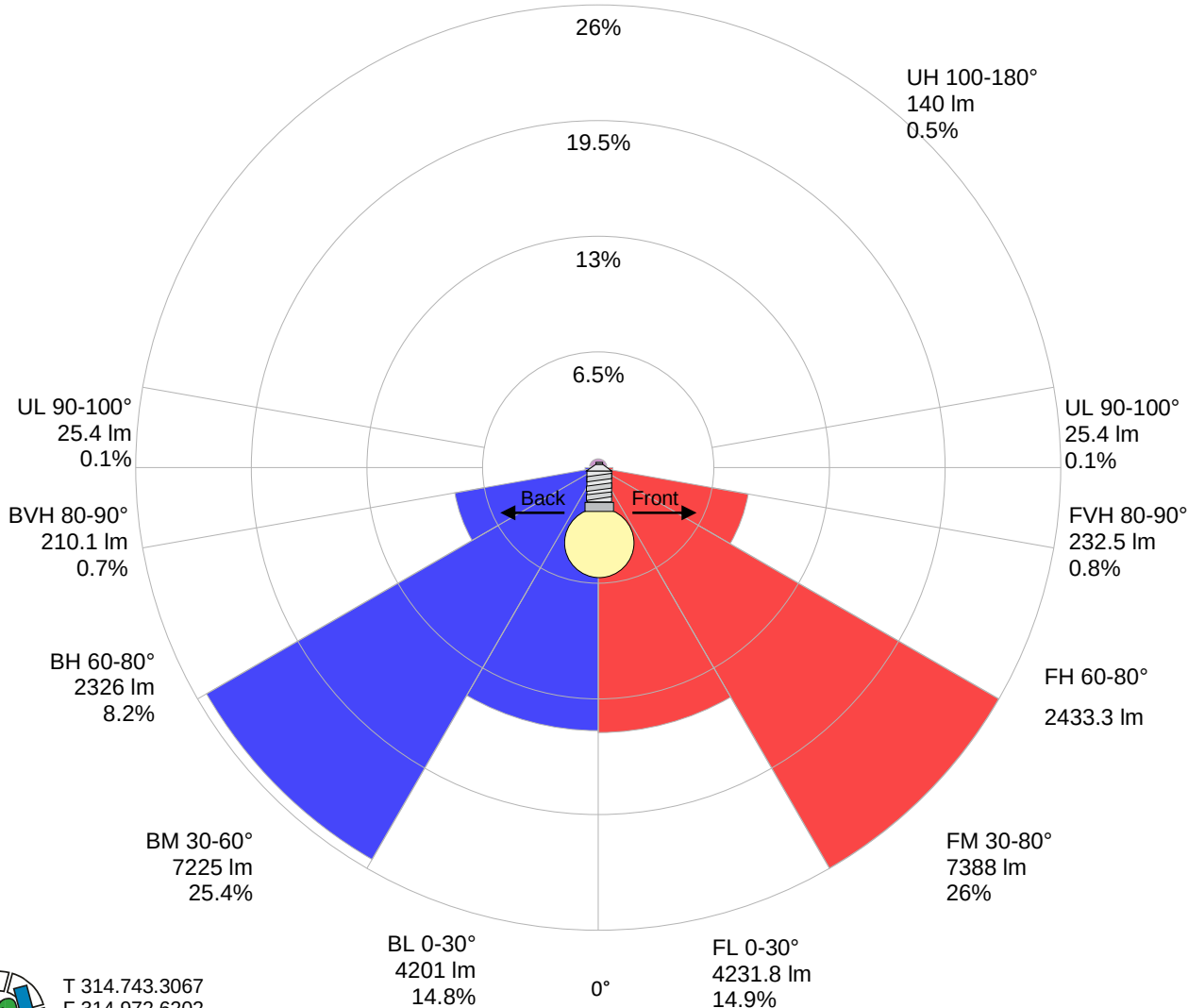


Road Report

LCS table

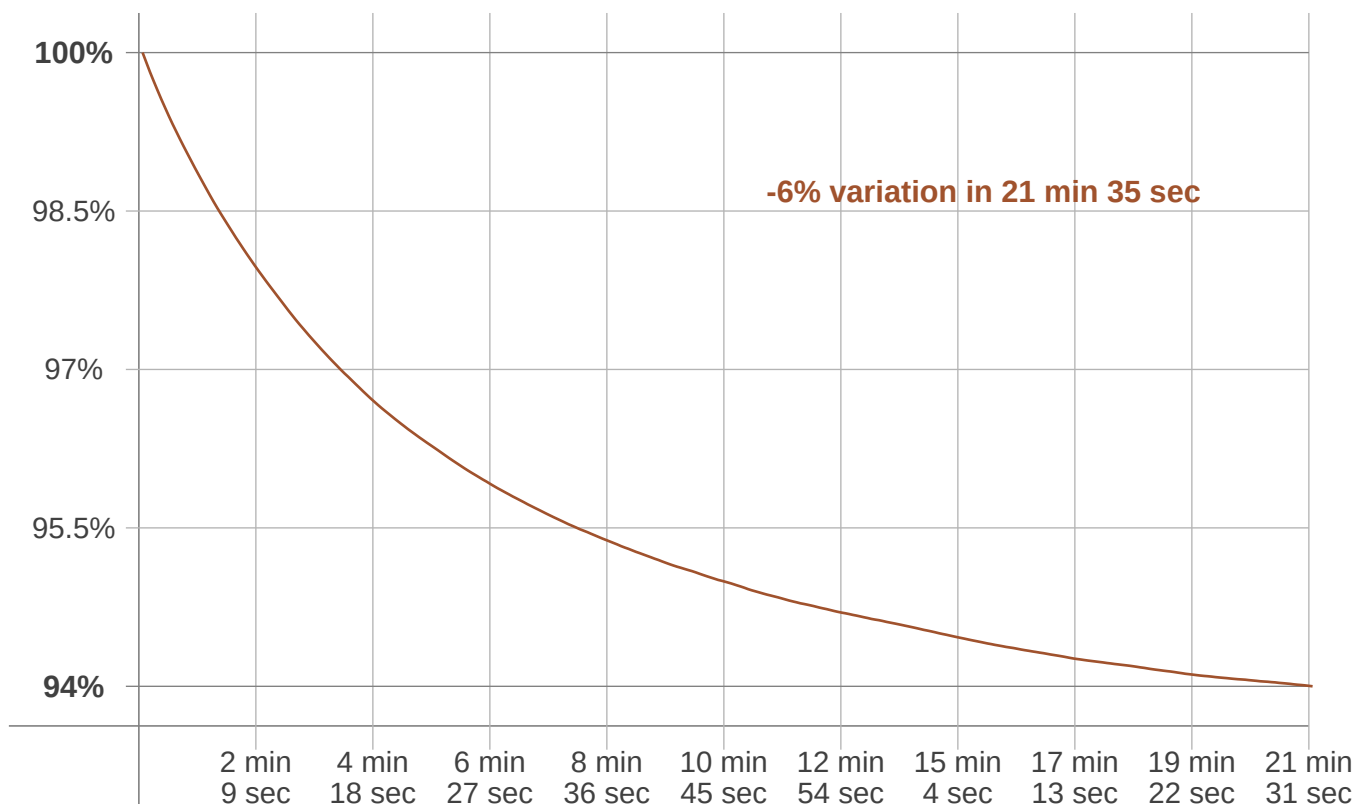
BUG rating:	B4 U3 G3	
Forward light	Lumens	Lumens %
Low(0-30):	4231.8	14.9%
Medium(30-60):	7388	26%
High(60-80):	2433.3	8.6%
Very high(80-90):	232.5	0.8%
Back light		
Low(0-30):	4201	14.8%
Medium(30-60):	7225	25.4%
High(60-80):	2326	8.2%
Very high(80-90):	210.1	0.7%
Uplight		
Low(90-100):	25.4	0.1%
High(100-180):	140	0.5%

LCS graph



Stabilization

Warmup curve



Warmup result

Warmup time:	21 min 35 sec
Warmup variation	-6.1%

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
5134 K	+140 K	5274 K

Output change

Output start	Output change	Output end
30189 lm	-1776 lm	28413 lm

