

Light efficiency:

132 Lumen/Watt

Light quality:

CRI: 82.3

Color temperature:

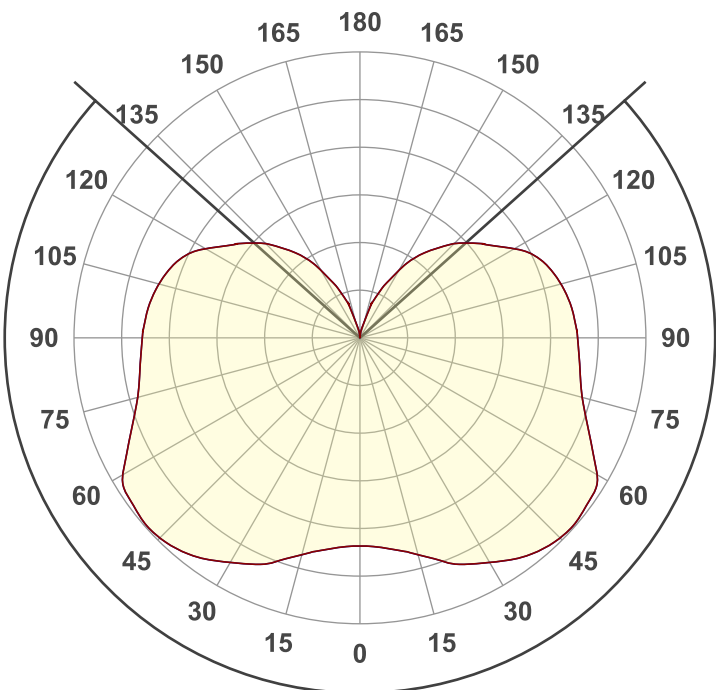
2978 K

Output: 2554 lm

Peak: 282 cd

Power: 19.4 W

PF: 0.98



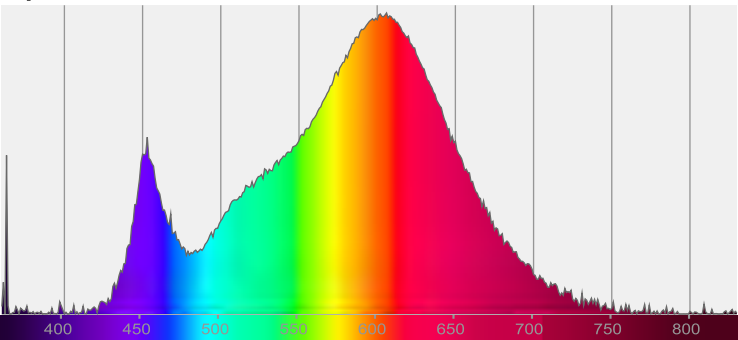
Product name:
CL-WW20
Item number:
CL-WW20
Date and time:
2/28/2019 2:21:39 PM

Beam angle **263.7°**

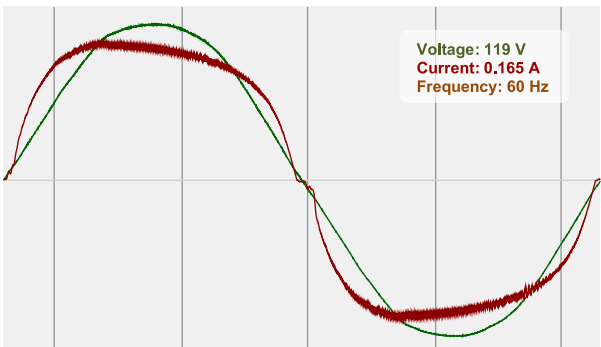


CIE 1931
x: 0.436
y: 0.398

Spectra

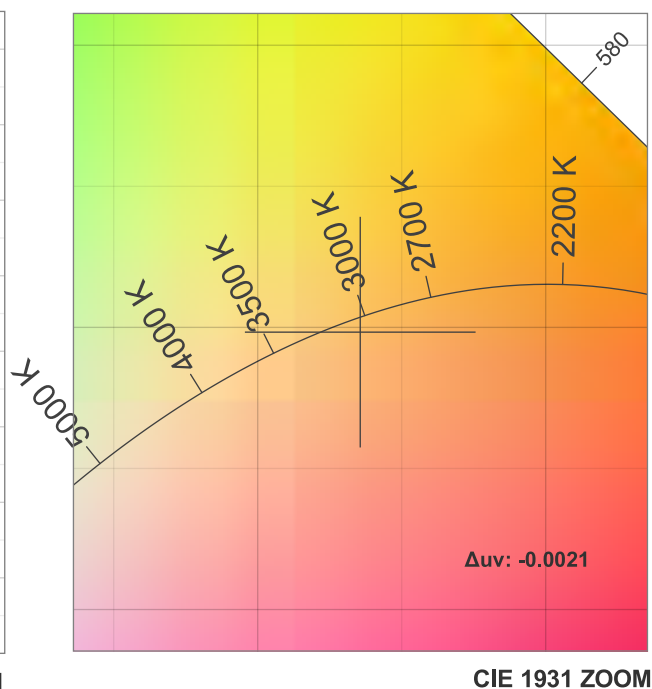
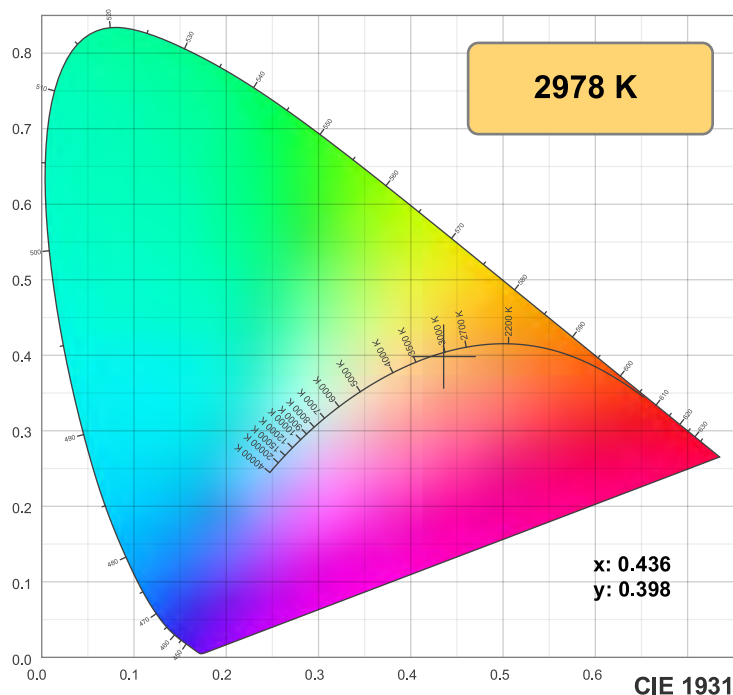


Power

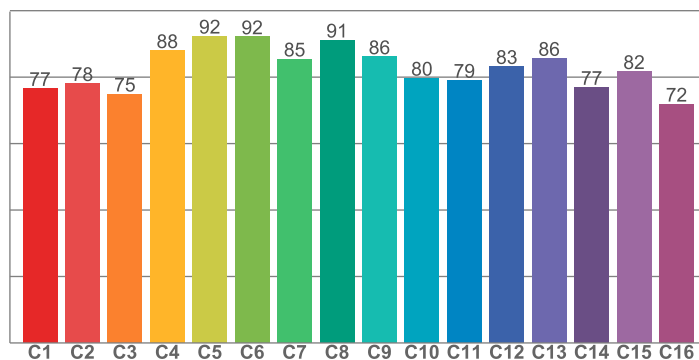


T 314.743.3067
F 314.972.6202
email: commercial-sales@superbrightleds.com
www.superbrightleds.com/

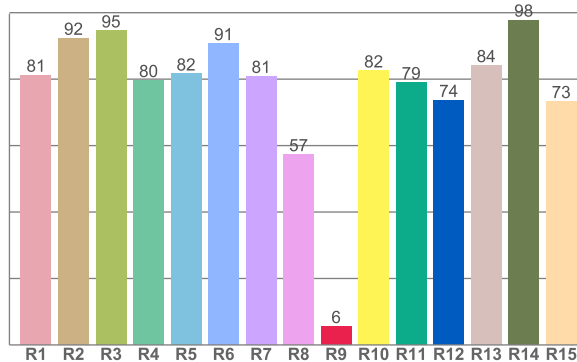
Color details



TM30: 82.4



CRI: 82.3 (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
81.2	92.3	94.5	79.6	81.6	90.7	80.9	57.3	5.6	82.5	79.0	73.6	84.1	97.8	73.3

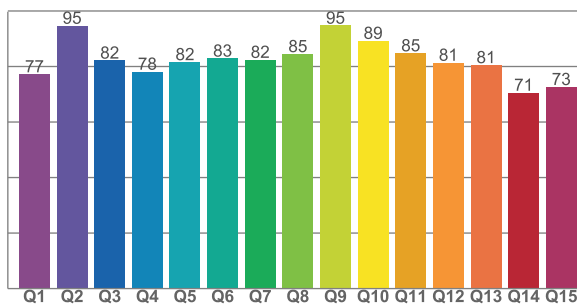
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
76.6	78.1	74.9	87.9	92.3	92.1	85.4	91.1	86.1	79.7	79.0	83.2	85.6	76.9	81.6	71.8

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
77.2	94.7	82.2	78.2	81.6	82.9	82.4	84.5	94.8	89.3	84.8	81.4	80.5	70.6	72.7

CQS: 81.2



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 division from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
2978 K	82.3	5.6	82.4	95.5	81.2	0.436	0.398	0.252	0.346	-0.0021



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F 314.972.6202

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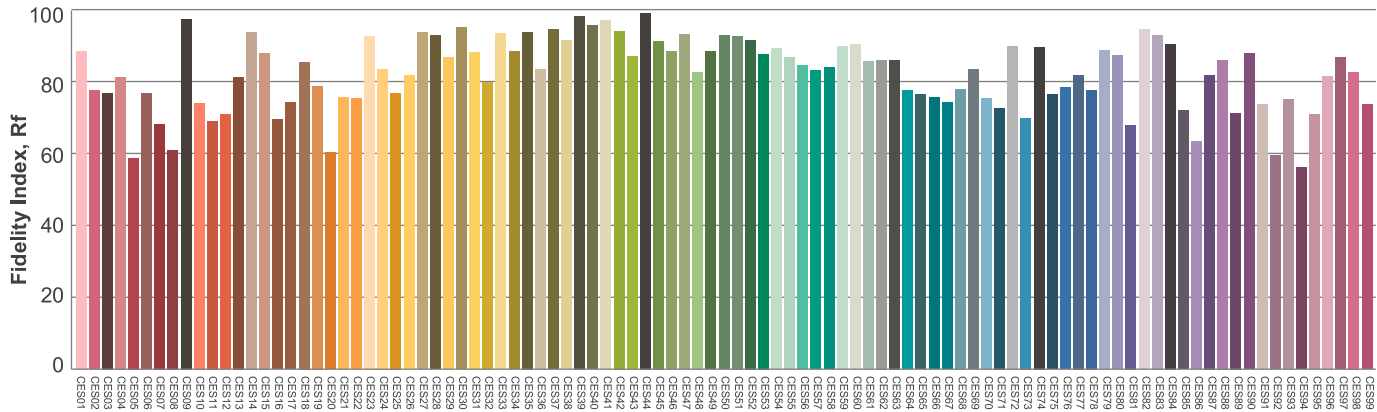
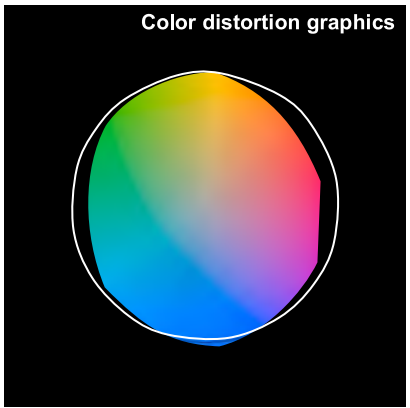
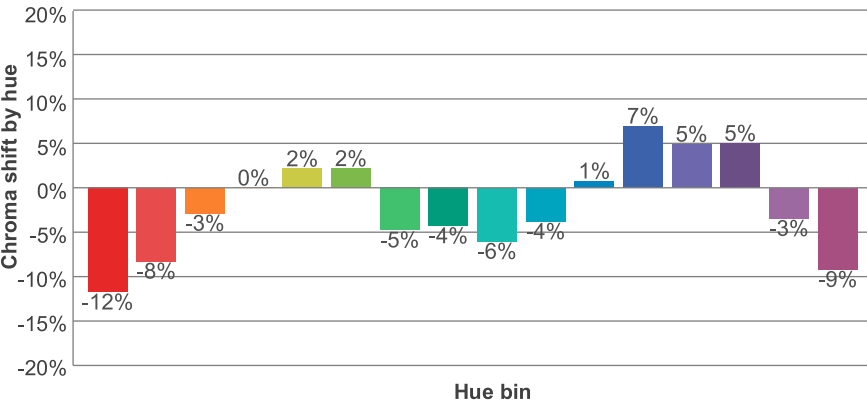
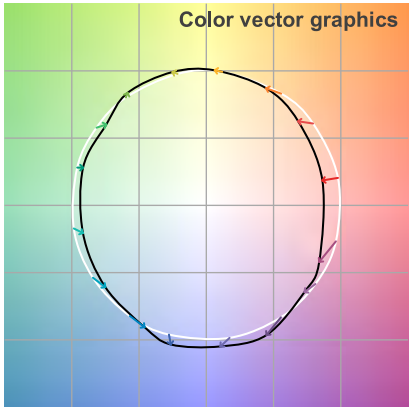
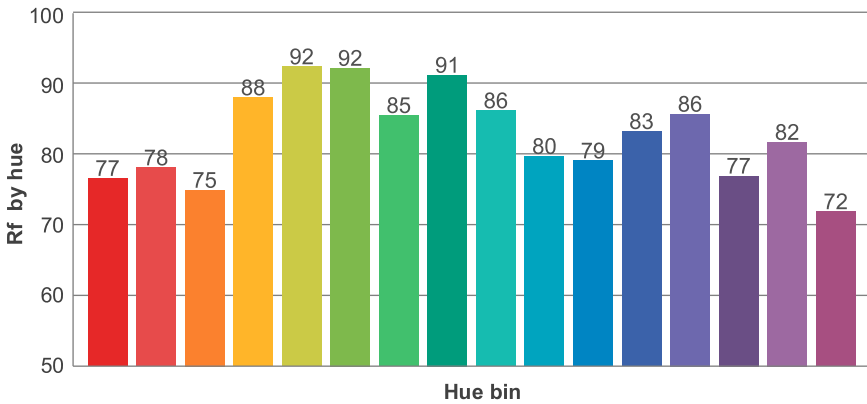
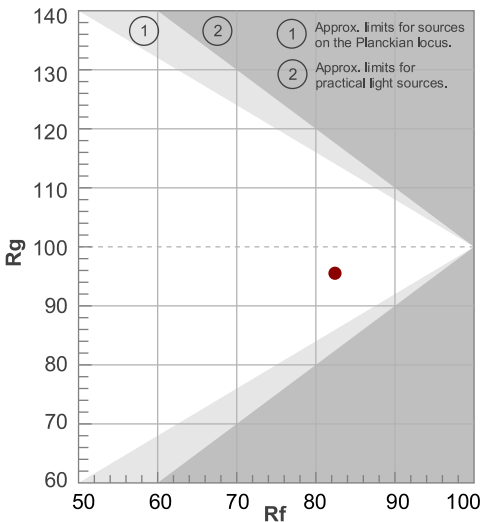
TM30 details

Rf 82.4

Rg 95.5

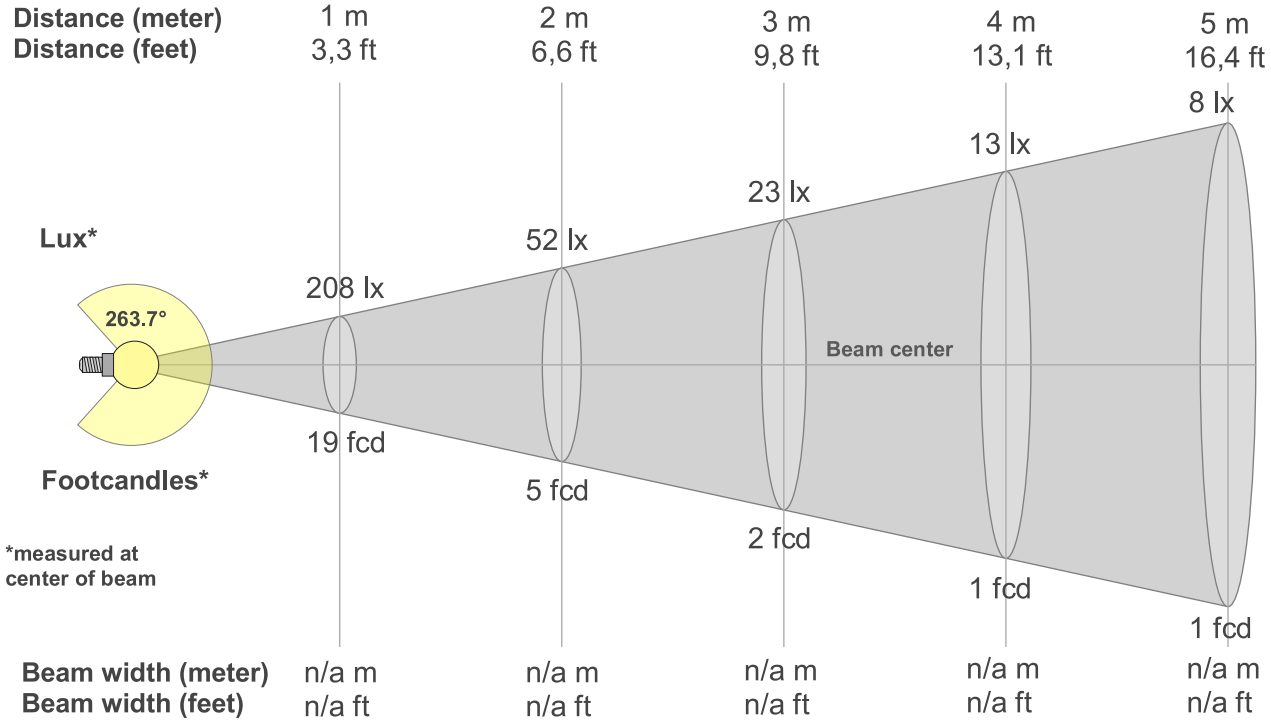
Gammut index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	77	-12%	0%
2	78	-8%	8%
3	75	-3%	12%
4	88	0%	6%
5	92	2%	3%
6	92	2%	-3%
7	85	-5%	-6%
8	91	-4%	-1%
9	86	-6%	5%
10	80	-4%	11%
11	79	1%	14%
12	83	7%	3%
13	86	5%	-8%
14	77	5%	-16%
15	82	-3%	-10%
16	72	-9%	-17%



Beam details

Distance (meter)
Distance (feet)



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
208lx	52lx	23lx	13lx	8lx	6lx	4lx	3lx	3lx	2lx	2lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx
19.3fcd	4.8fcd	2.1fcd	1.2fcd	0.8fcd	0.5fcd	0.4fcd	0.3fcd	0.2fcd	0.2fcd	0.2fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0fcd

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
263.7°	327°	339.8°	32.7%	18.4%



UGR

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	25.4	26.4	26.1	27.2	28.2	25.4	26.4	26.1	27.2	28.2
	3H	28.2	29.1	29.0	29.9	31.0	28.2	29.1	29.0	29.9	31.0
	4H	29.7	30.6	30.5	31.5	32.5	29.7	30.6	30.5	31.5	32.5
	6H	31.5	32.4	32.3	33.2	34.3	31.5	32.4	32.3	33.2	34.3
	8H	32.5	33.4	33.4	34.2	35.3	32.5	33.4	33.4	34.2	35.3
	12H	33.7	34.5	34.6	35.4	36.5	33.7	34.5	34.6	35.4	36.5
4H	2H	26.3	27.2	27.1	28.1	29.1	26.3	27.2	27.1	28.1	29.1
	3H	29.3	30.1	30.1	30.9	32.0	29.3	30.1	30.1	30.9	32.0
	4H	31.0	31.7	31.9	32.6	33.7	31.0	31.7	31.9	32.6	33.7
	6H	33.0	33.6	33.8	34.5	35.6	33.0	33.6	33.8	34.5	35.6
	8H	34.1	34.7	35.0	35.6	36.7	34.1	34.7	35.0	35.6	36.7
	12H	35.4	35.9	36.3	36.9	38.0	35.4	35.9	36.3	36.9	38.0
8H	4H	31.7	32.3	32.6	33.2	34.3	31.7	32.3	32.6	33.2	34.3
	6H	33.9	34.4	34.8	35.4	36.5	33.9	34.4	34.8	35.4	36.5
	8H	35.2	35.7	36.2	36.6	37.8	35.2	35.7	36.2	36.6	37.8
	12H	36.8	37.2	37.7	38.1	39.3	36.8	37.2	37.7	38.1	39.3
12H	4H	31.9	32.4	32.8	33.3	34.5	31.9	32.4	32.8	33.3	34.5
	6H	34.2	34.7	35.2	35.6	36.8	34.2	34.7	35.2	35.6	36.8
	8H	35.7	36.1	36.6	37.0	38.2	35.7	36.1	36.6	37.0	38.2
Variation of the observer position for the luminaire distance S											
S = 1.0H		+0.2 / -0.2					+0.2 / -0.2				
S = 1.5H		+0.3 / -0.3					+0.3 / -0.3				
S = 2.0H		+0.5 / -0.5					+0.5 / -0.5				
Standard table		---					---				
Correction summand		---					---				
Corrected glare indices referring to 2554 lm total luminous flux											



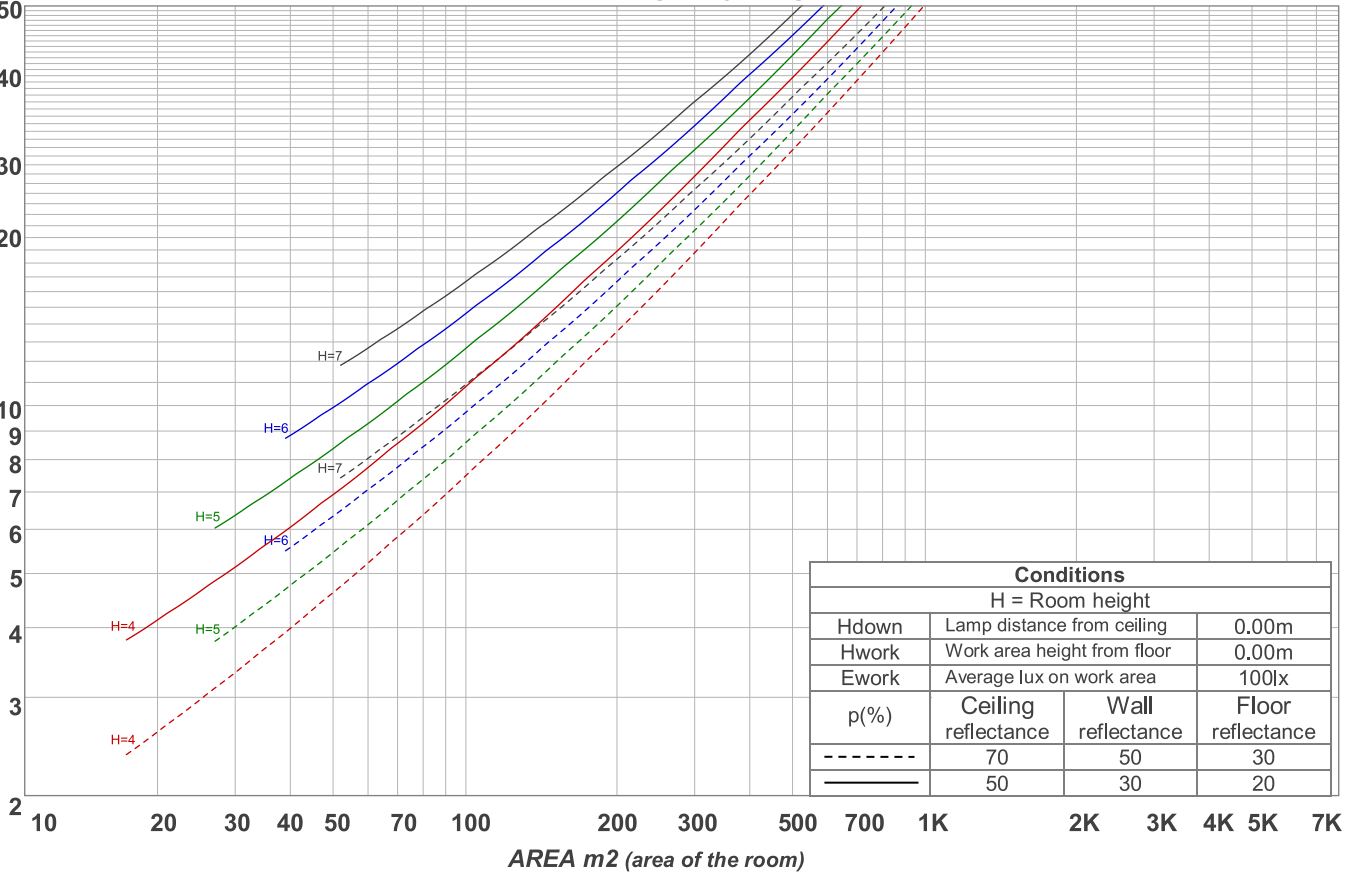
Light planning

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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67	61
1	96	89	84	78	89	83	78	74	72	68	64	61	58	55	52	49	47	42
2	85	75	67	60	79	70	63	57	60	55	50	51	47	43	43	39	36	32
3	77	65	56	48	71	60	52	45	52	45	40	44	39	34	36	32	29	25
4	70	56	47	39	64	52	44	37	45	38	32	38	32	28	32	27	24	20
5	63	50	40	33	58	46	38	31	40	33	27	34	28	23	28	23	20	16
6	58	44	35	28	54	41	33	26	35	28	23	30	24	20	25	20	17	14
7	54	39	30	24	49	37	29	23	32	25	20	27	21	17	23	18	14	12
8	49	36	27	21	46	33	25	20	29	22	17	25	19	15	21	16	13	10
9	46	32	24	18	43	30	23	17	26	20	15	22	17	13	19	14	11	9
10	43	30	22	16	40	28	20	15	24	18	13	21	15	12	17	13	10	8

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°
20.2 lm	63.7 lm	115 lm	169 lm	217 lm	250 lm	254 lm	242 lm	239 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
233 lm	218 lm	190 lm	145 lm	103 lm	61.5 lm	26.9 lm	7.12 lm	0.194 lm

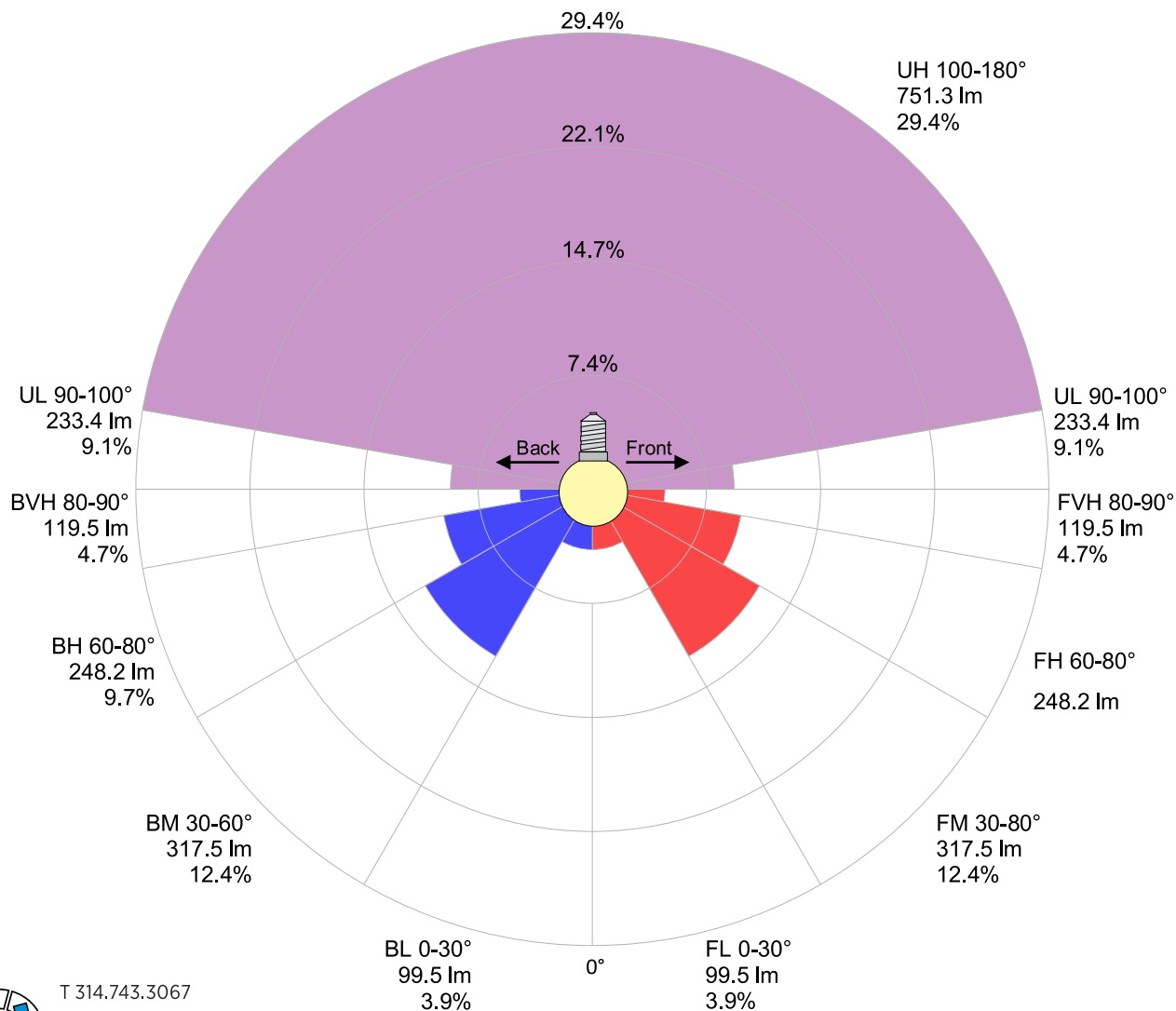


Road report

LCS table

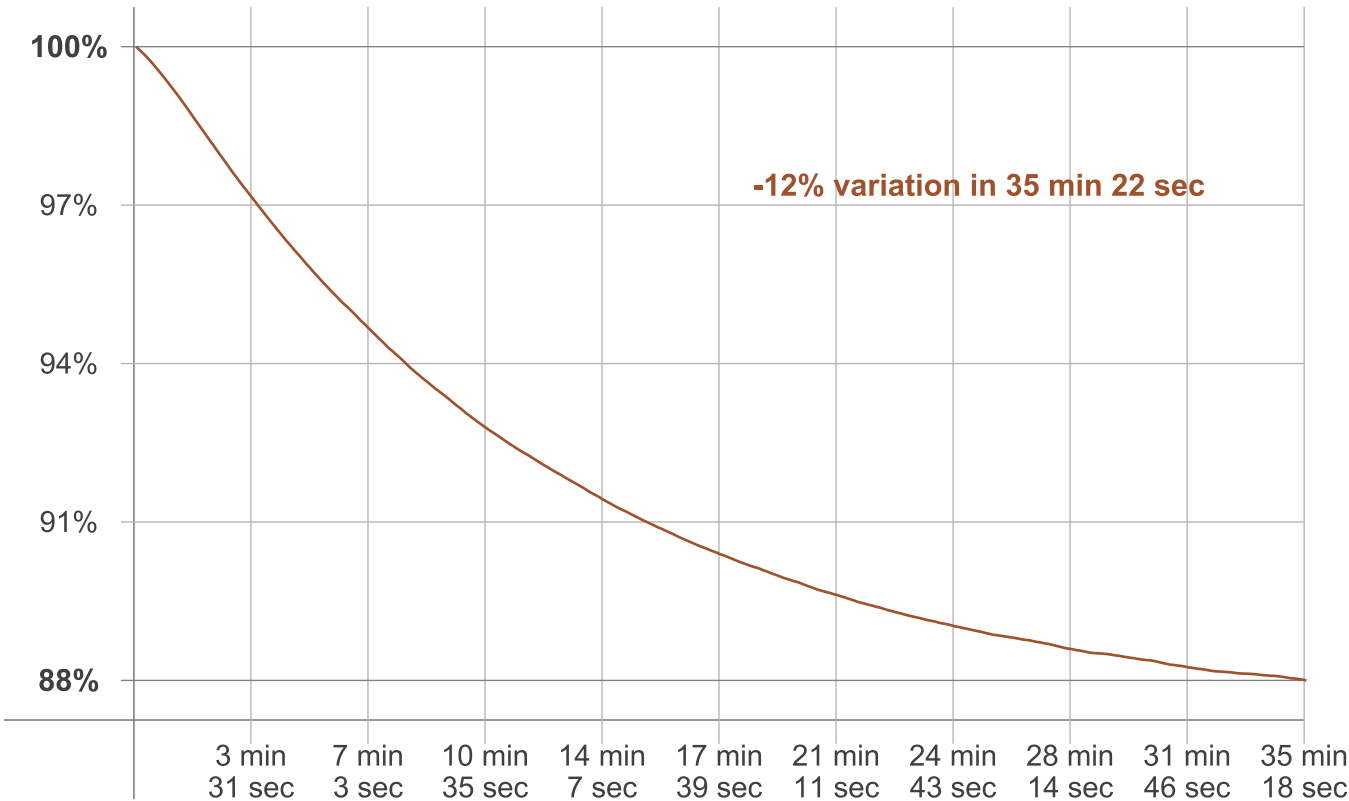
BUG rating:	B1 U4 G2	
Forward light	Lumens	Lumens %
Low(0-30):	99.5	3.9%
Medium(30-60):	317.5	12.4%
High(60-80):	248.2	9.7%
Very high(80-90):	119.5	4.7%
Back light		
Low(0-30):	99.5	3.9%
Medium(30-60):	317.5	12.4%
High(60-80):	248.2	9.7%
Very high(80-90):	119.5	4.7%
Uplight		
Low(90-100):	233.4	9.1%
High(100-180):	751.3	29.4%

LCS graph



Stabilization

Warmup curve



Warmup result

Warmup time:	35 min 22 sec
Warmup variation	-12.0%

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
2944 K	+34 K	2978 K

Output change

Output start	Output change	Output end
2897 lm	-342 lm	2554 lm

