LED Corn Bulb

CL-50K80-E39

Light efficiency:

134 Lumen/Watt

Light quality:

CRI: 82.5

Color temperature:

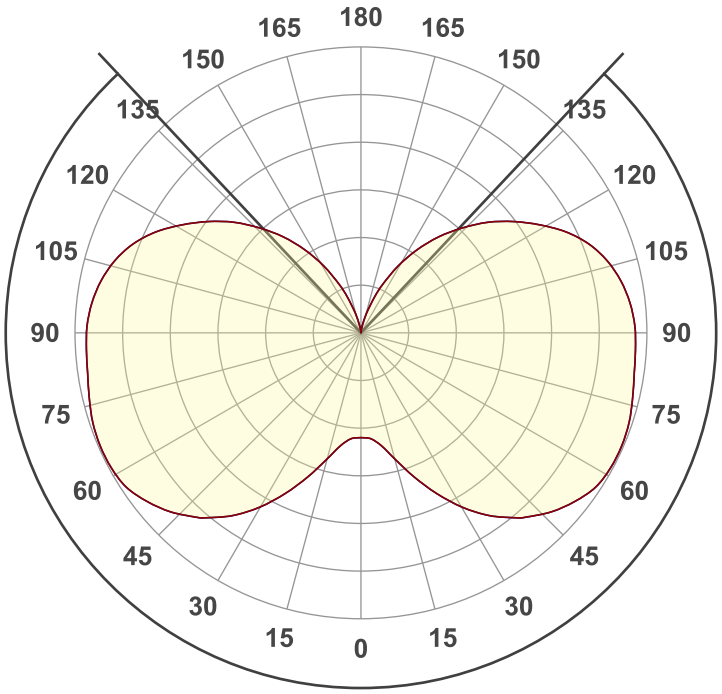
5150 K

Output: 11393 lm

Peak: 1161 cd

Power: 85.1 W

PF: 1.0



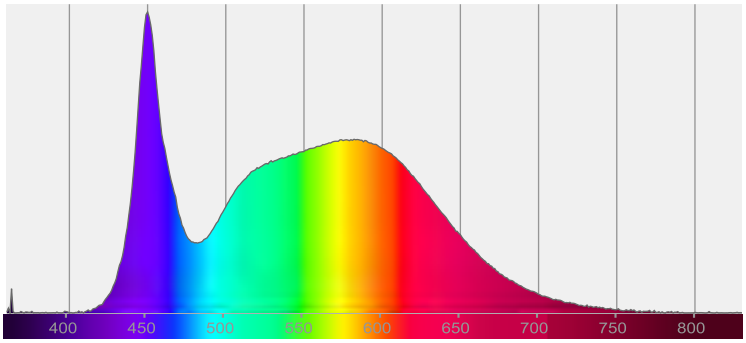
Beam angle 273.6°

CIE 1931
x: 0.342
y: 0.354

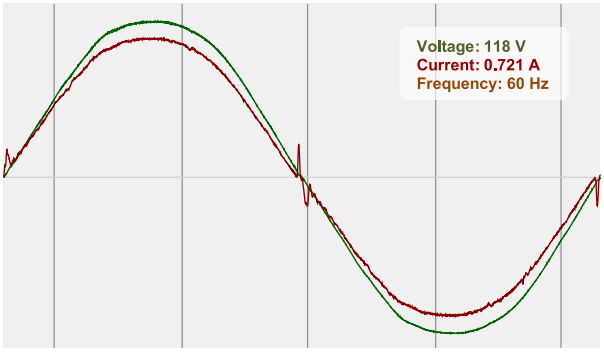
Product name:
CL-50K80-E39

Date and time:
2/28/2019 11:48:47 AM

Spectra



Power



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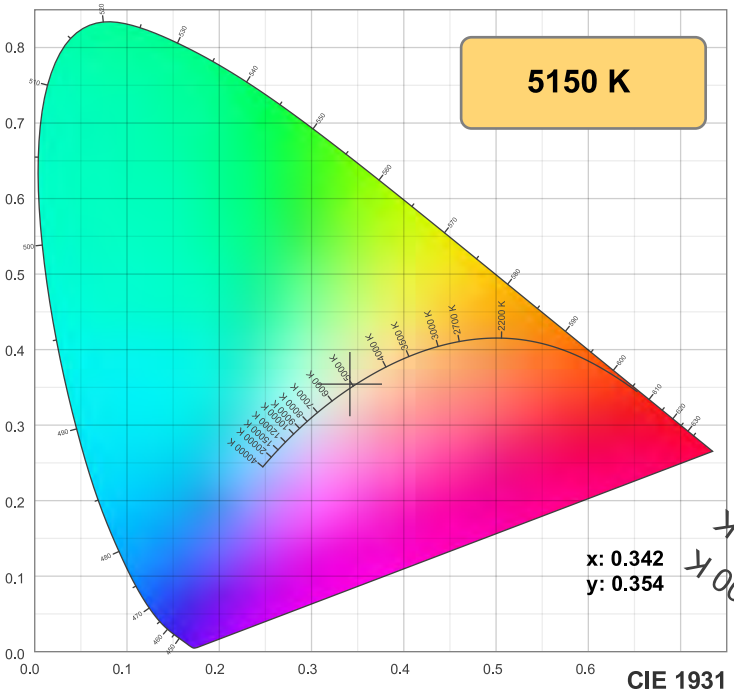
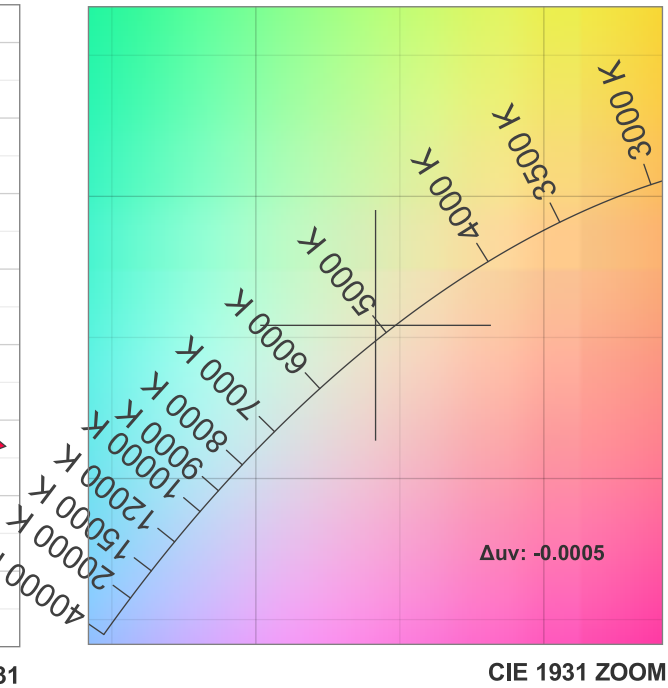
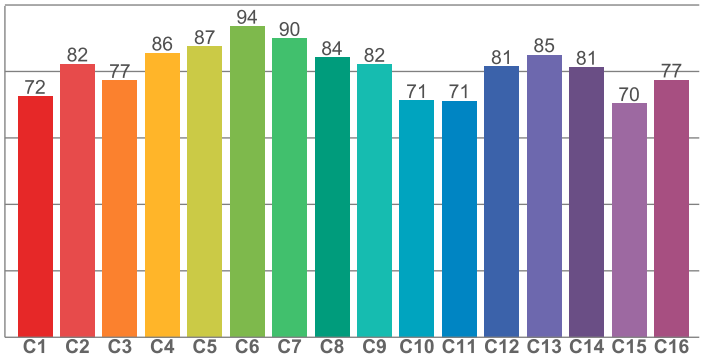
Color Details

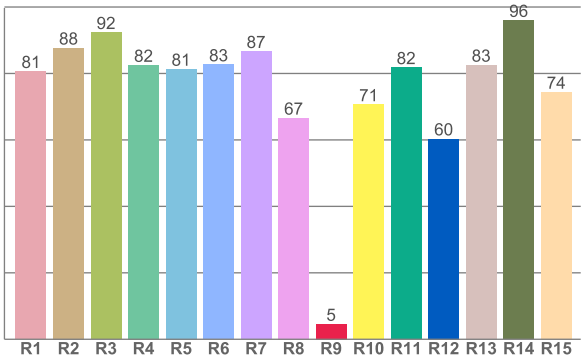




TM30: 81.1



CRI: 82.5 (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
80.6	87.7	92.4	82.5	81.3	82.6	86.6	66.6	4.5	70.6	81.8	60.3	82.5	96.0	74.4

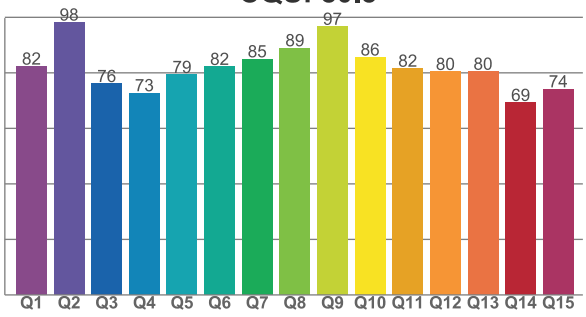
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
72.5	82.2	77.3	85.5	87.5	93.6	89.9	84.1	82.1	71.2	71.2	81.5	85.0	81.2	70.3	77.4

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
82.3	98.2	76.0	72.7	79.3	82.2	84.9	88.9	96.6	85.6	81.5	80.4	80.4	69.2	74.1

CQS: 80.5



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 diviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
5150 K	82.5	4.5	81.1	94.4	80.5	0.342	0.354	0.208	0.324	-0.0005

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TM30 Details

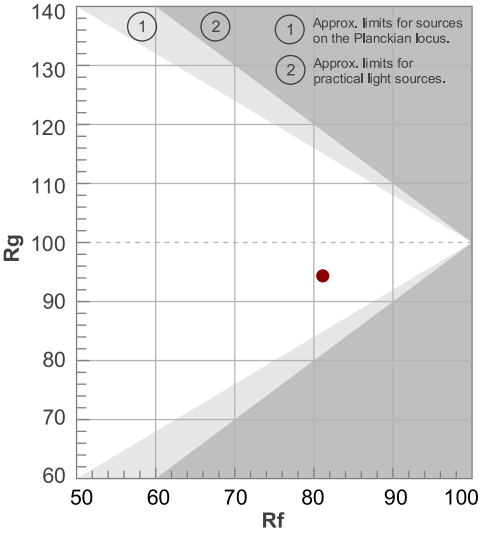
Rf 81.1

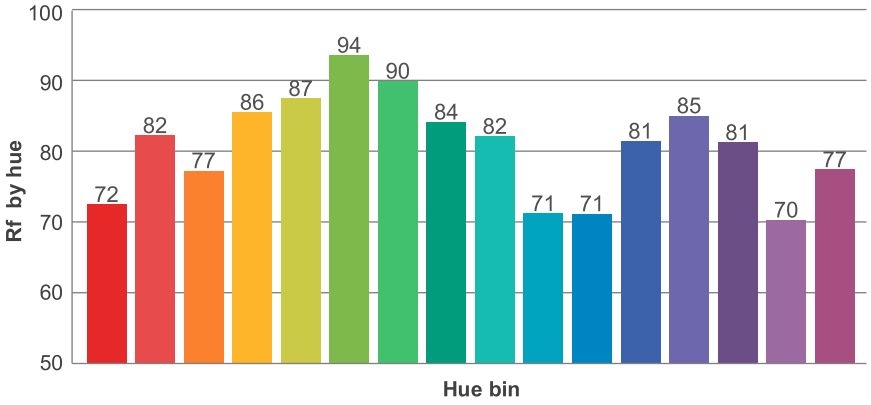
Fidelity index Rf

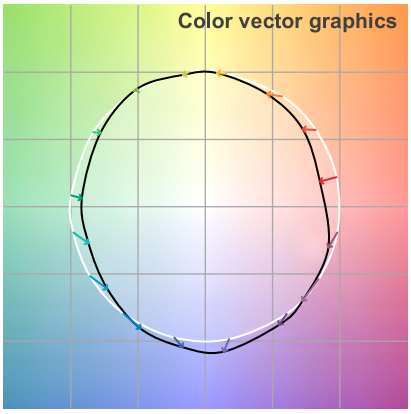
Rg 94.4

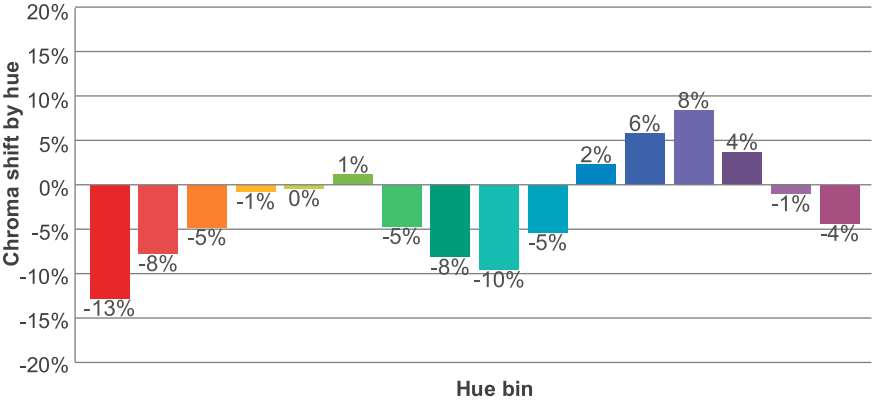
Gammut index Rg

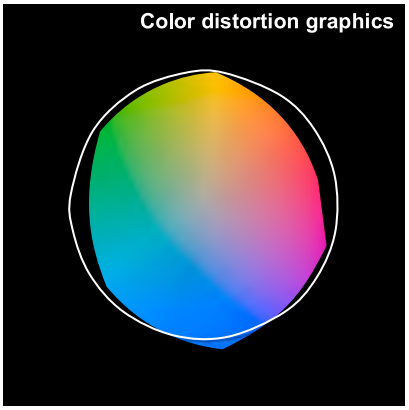
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	72	-13%	-1%
2	82	-8%	6%
3	77	-5%	10%
4	86	-1%	7%
5	87	0%	4%
6	94	1%	-1%
7	90	-5%	-3%
8	84	-8%	1%
9	82	-10%	10%
10	71	-5%	15%
11	71	2%	17%
12	81	6%	7%
13	85	8%	-6%
14	81	4%	-9%
15	70	-1%	-20%
16	77	-4%	-12%

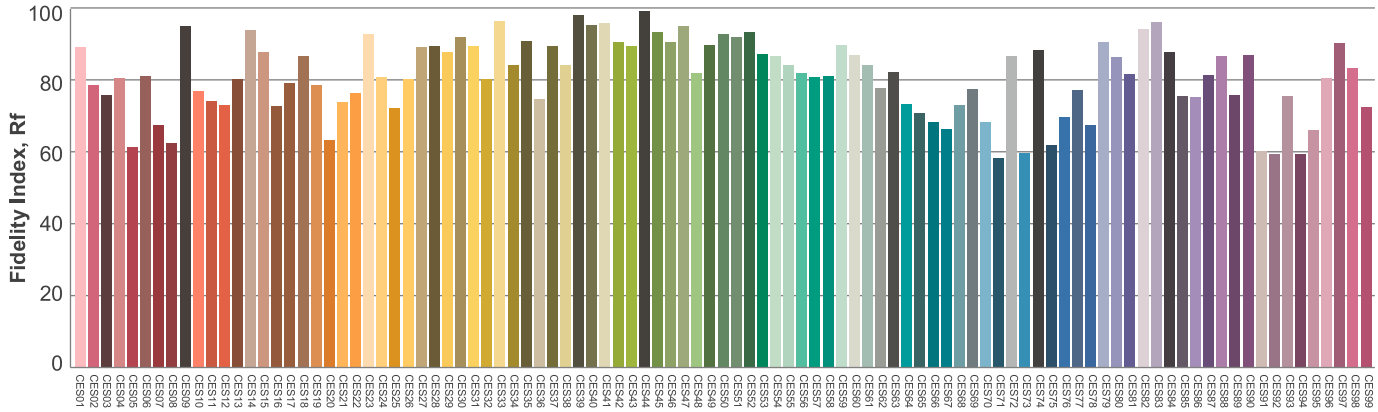












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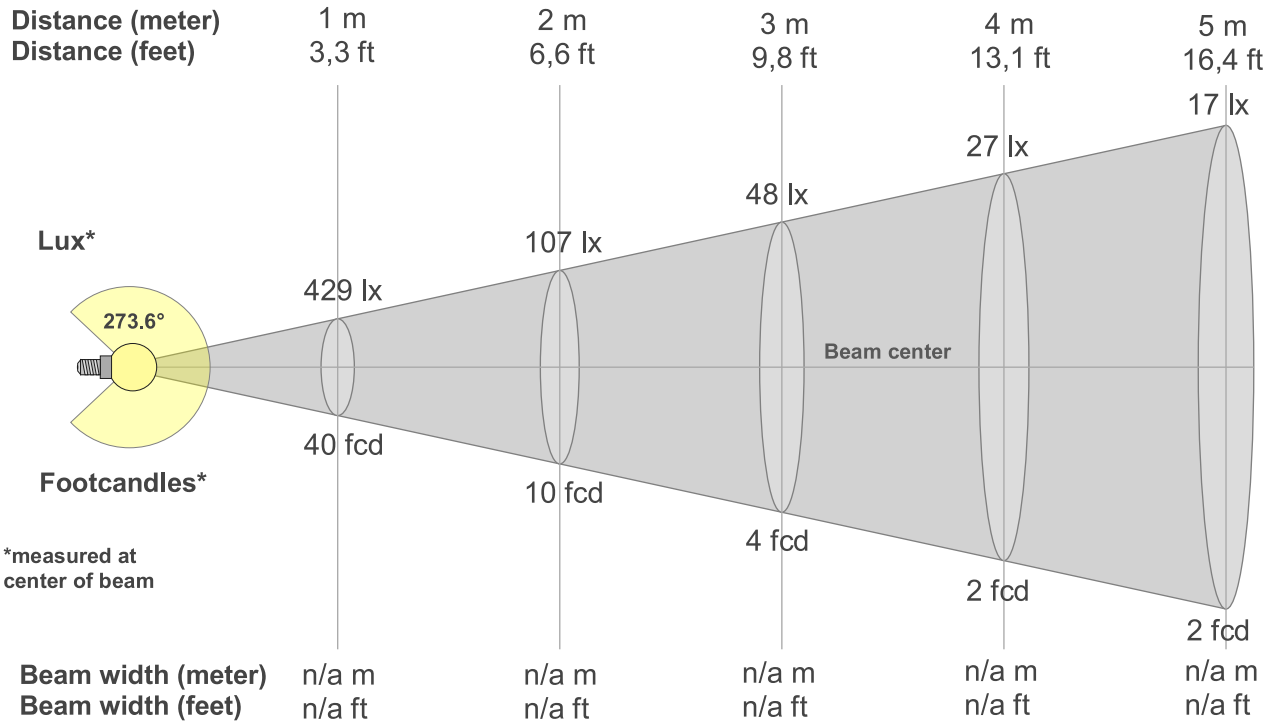
Beam Details



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
429lx	107lx	48lx	27lx	17lx	12lx	9lx	7lx	5lx	4lx	4lx	3lx	3lx	2lx	2lx	2lx	1lx	1lx	1lx	1lx
39.8fcd	10fcd	4.4fcd	2.5fcd	1.6fcd	1.1fcd	0.8fcd	0.6fcd	0.5fcd	0.4fcd	0.3fcd	0.3fcd	0.2fcd	0.2fcd	0.2fcd	0.2fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
273.6°	**323.8°**	**339.1°**	**25.8%**	**13.0%**

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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	30.0	31.1	30.9	32.0	33.0	30.0	31.1	30.9	32.0	33.0
	3H	33.3	34.3	34.2	35.2	36.3	33.3	34.3	34.2	35.2	36.3
	4H	35.2	36.1	36.0	37.0	38.1	35.2	36.1	36.0	37.0	38.1
	6H	37.2	38.0	38.1	38.9	40.1	37.2	38.0	38.1	38.9	40.1
	8H	38.3	39.1	39.2	40.0	41.2	38.3	39.1	39.2	40.0	41.2
	12H	39.6	40.4	40.5	41.3	42.5	39.6	40.4	40.5	41.3	42.5
4H	2H	31.1	32.1	32.0	32.9	34.1	31.1	32.1	32.0	32.9	34.1
	3H	34.6	35.3	35.4	36.3	37.4	34.6	35.3	35.4	36.3	37.4
	4H	36.5	37.2	37.4	38.2	39.3	36.5	37.2	37.4	38.2	39.3
	6H	38.7	39.3	39.6	40.3	41.5	38.7	39.3	39.6	40.3	41.5
	8H	39.9	40.5	40.8	41.4	42.7	39.9	40.5	40.8	41.4	42.7
	12H	41.3	41.8	42.2	42.8	44.0	41.3	41.8	42.2	42.8	44.0
8H	4H	37.3	37.9	38.2	38.8	40.0	37.3	37.9	38.2	38.8	40.0
	6H	39.7	40.2	40.7	41.2	42.4	39.7	40.2	40.7	41.2	42.4
	8H	41.1	41.6	42.1	42.5	43.8	41.1	41.6	42.1	42.5	43.8
	12H	42.7	43.1	43.7	44.1	45.4	42.7	43.1	43.7	44.1	45.4
12H	4H	37.5	38.0	38.4	39.0	40.2	37.5	38.0	38.4	39.0	40.2
	6H	40.0	40.5	41.0	41.5	42.7	40.0	40.5	41.0	41.5	42.7
	8H	41.6	42.0	42.5	42.9	44.2	41.6	42.0	42.5	42.9	44.2
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 11393 lm total luminous flux											

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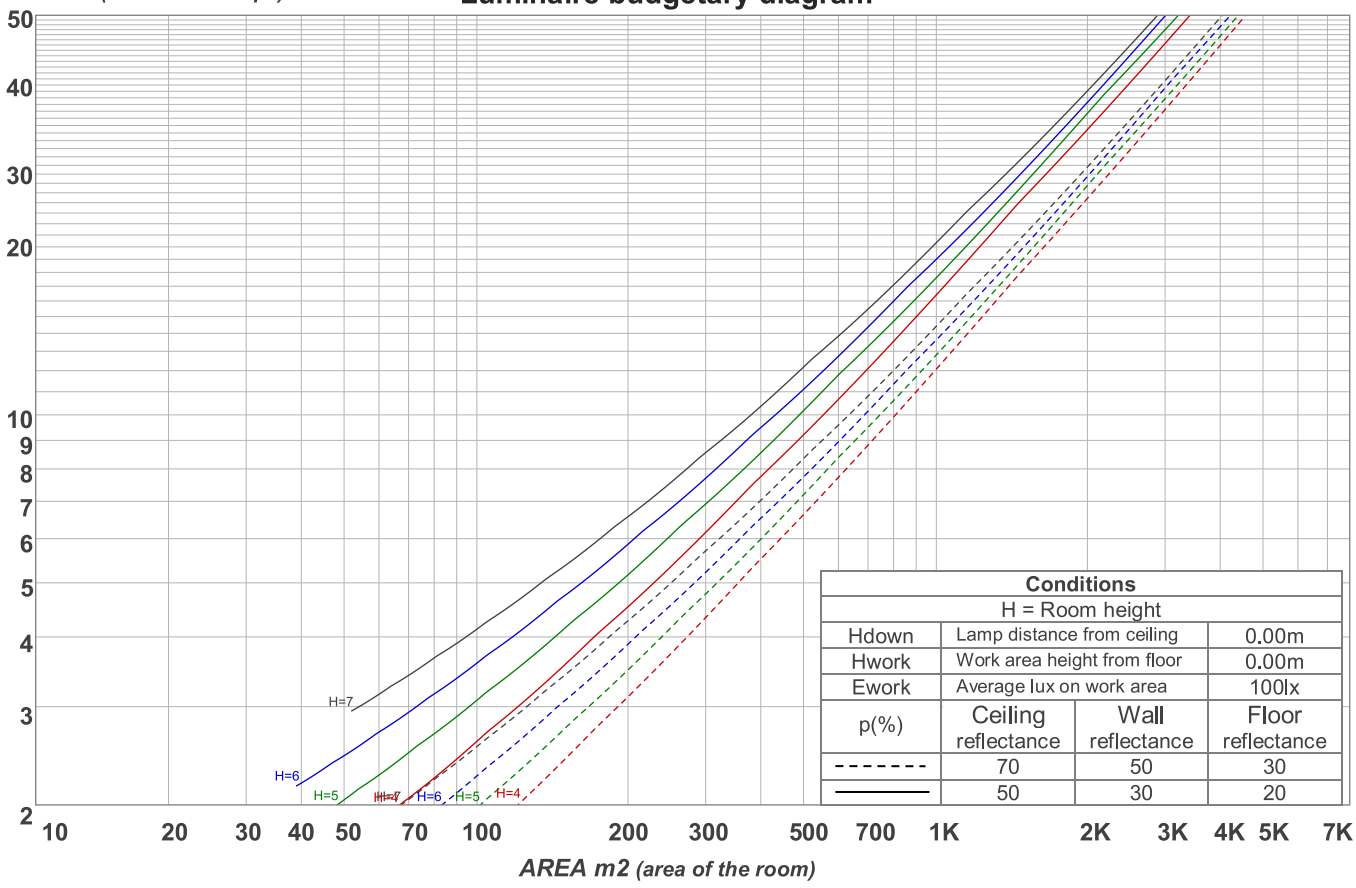
Light Planning

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	109	109	109	109	101	101	101	101	87	87	87	75	75	75	63	63	63	57
1	94	87	81	76	87	81	75	70	68	64	60	57	54	51	47	44	42	37
2	83	73	65	57	76	67	60	53	57	51	46	47	42	38	38	34	31	27
3	75	62	53	45	68	57	49	42	48	41	36	40	34	30	32	28	24	20
4	67	54	44	37	62	50	41	34	42	35	29	34	29	24	27	23	19	16
5	61	47	38	30	56	44	35	28	37	29	24	30	24	20	24	19	16	12
6	56	42	32	25	51	39	30	24	33	25	20	27	21	17	21	17	13	10
7	52	37	28	22	47	35	26	20	29	22	17	24	18	14	19	15	11	8
8	48	34	25	19	44	31	23	17	26	20	15	22	16	12	17	13	10	7
9	44	31	22	16	41	28	20	15	24	17	13	20	14	11	16	12	8	6
10	41	28	20	14	38	26	18	13	22	16	11	18	13	9	15	10	7	5

Luminaire budgetary diagram

LAMPS (number of lamps)



Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
42.7 lm	155 lm	337 lm	573 lm	810 lm	1018 lm	1152 lm	1212 lm	1228 lm

90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
1210 lm	1117 lm	942 lm	710 lm	478 lm	271 lm	111 lm	24.0 lm	1.33 lm

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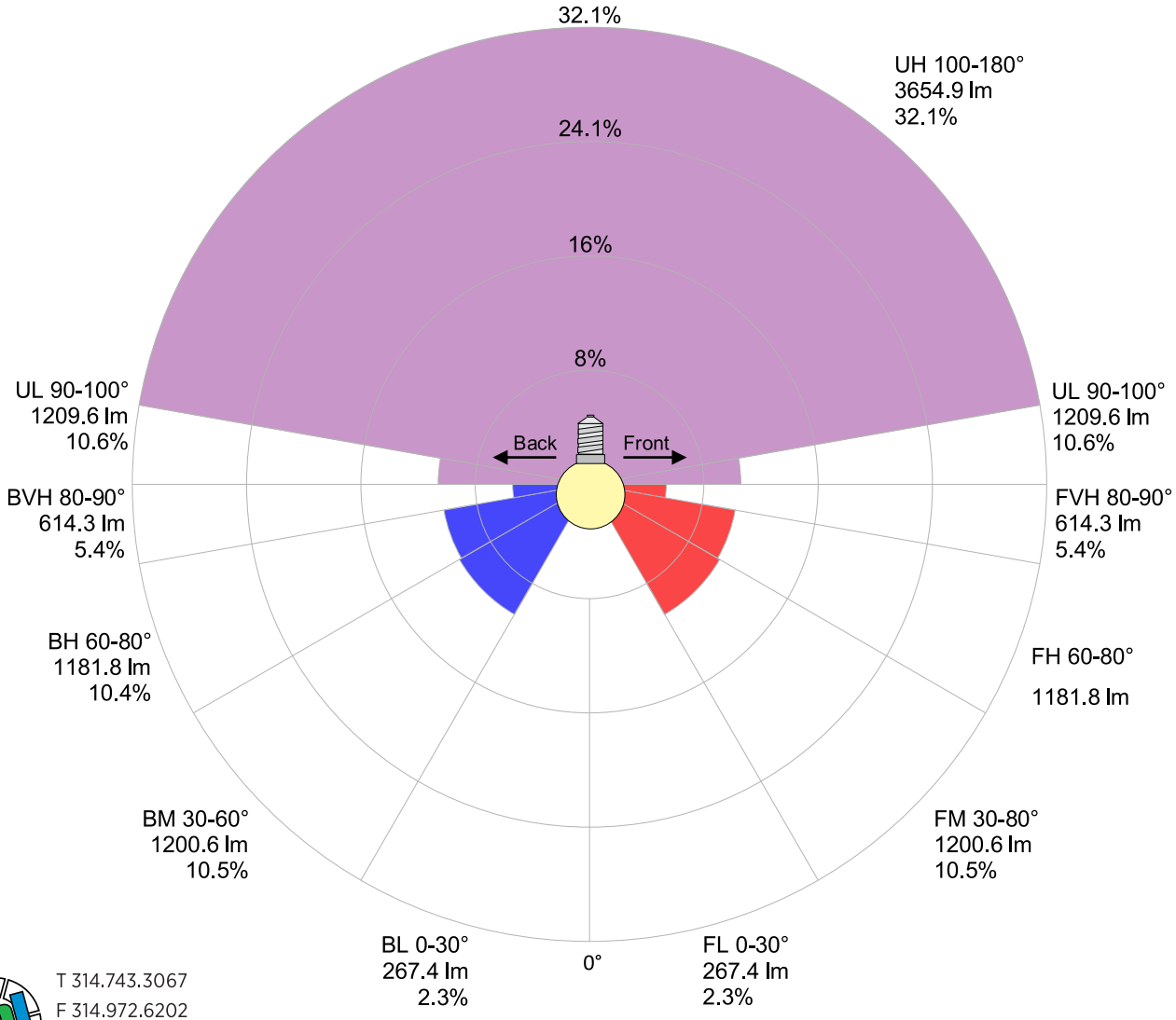
Road Report

LCS table

BUG rating:	B3 U5 G4	
Forward light	Lumens	Lumens %
Low(0-30):	267.4	2.3%
Medium(30-60):	1200.6	10.5%
High(60-80):	1181.8	10.4%
Very high(80-90):	614.3	5.4%
Back light		
Low(0-30):	267.4	2.3%
Medium(30-60):	1200.6	10.5%
High(60-80):	1181.8	10.4%
Very high(80-90):	614.3	5.4%
Uplight		
Low(90-100):	1209.6	10.6%
High(100-180):	3654.9	32.1%

LCS graph



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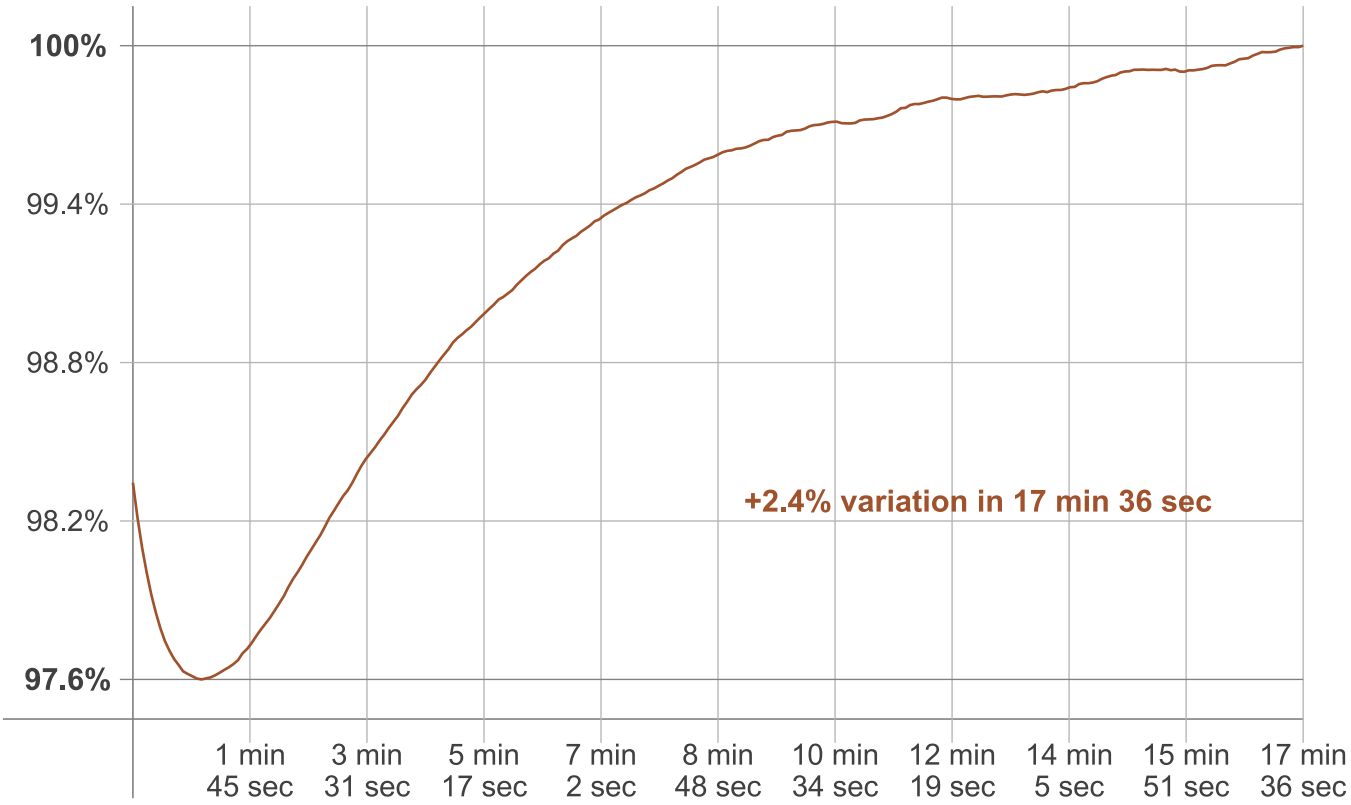
Stabilization

Warmup curve



Warmup result

Warmup time:	**17 min 36 sec**
Warmup variation	**+2.4%**

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
5102 K	+48 K	5150 K

Output change

Output start	Output change	Output end
11275 lm	+118 lm	11393 lm

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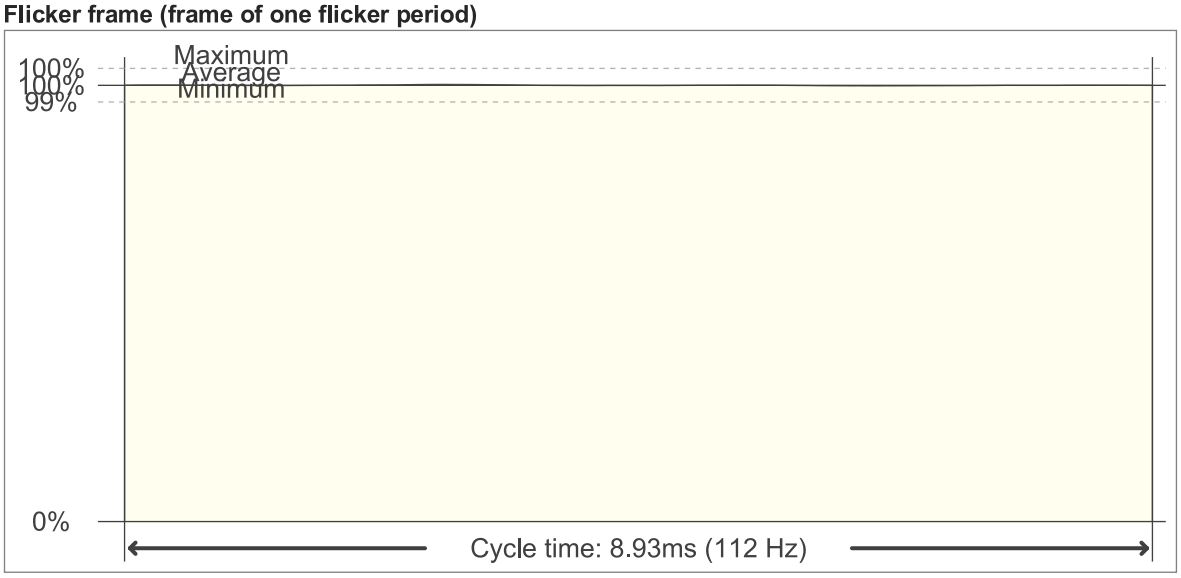
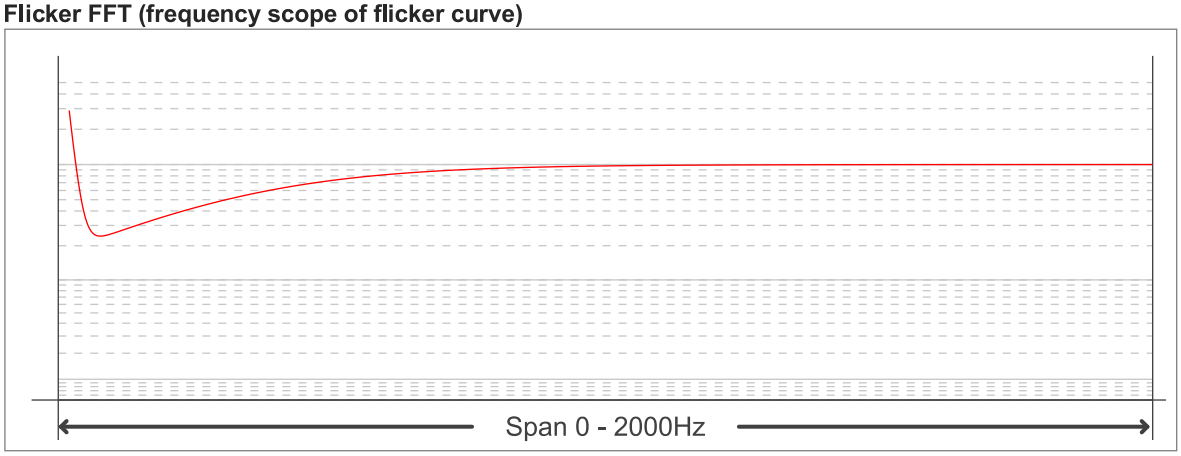
Flicker

Flicker curve (complete sampled flicker signal)

Flicker frame (frame of one flicker period)



Flicker FFT (frequency scope of flicker curve)



Flicker results:

Flicker frequency:	**112.04 Hz**
Flicker index:	**0**
Flicker percentage:	**0.29 %**
SVM: (Visual flicker)	**0**

Flicker conditions:

Sample rate:	**40000 samples/second**

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