

Light efficiency:

132 Lumen/Watt

Light quality:

CRI: 83.0

Color temperature:

4106 K

Output: 10839 lm

Peak: 1120 cd

Power: 82.1 W

PF: 0.99



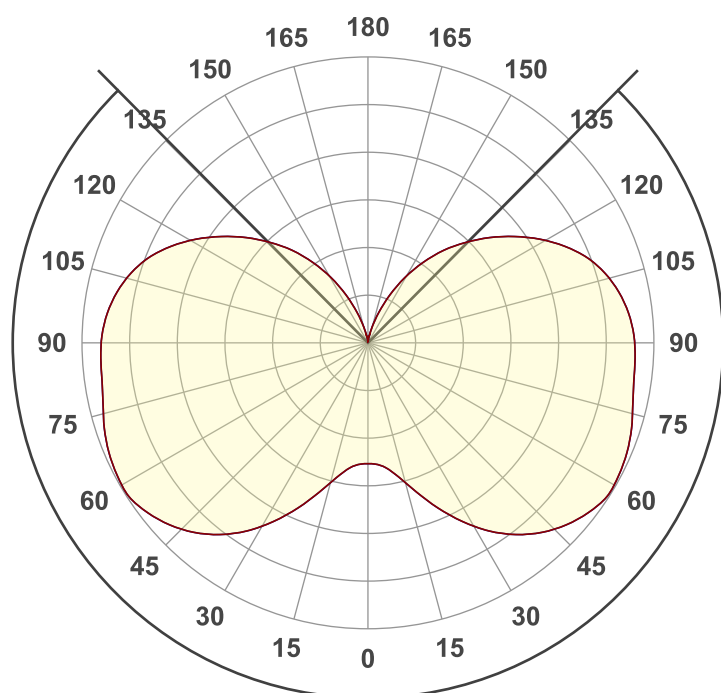
Tracking number: [n/a](#)

Product name:
CL-40K80-E39

Item number:
CL-40K80-E39

Date and time:
2/27/2019 1:25:35 PM

Description:
**4000K
80 Watts
E39 Base**



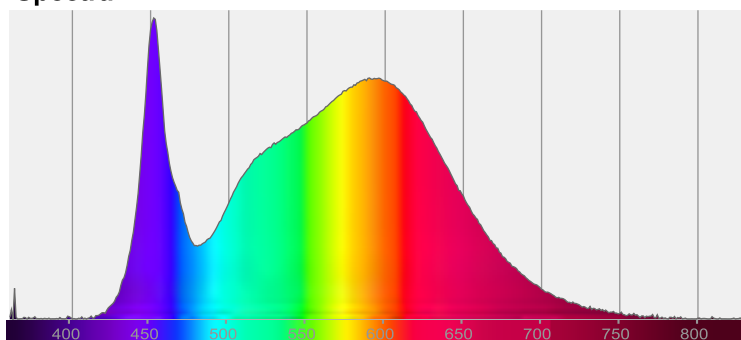
Beam angle

270.6°

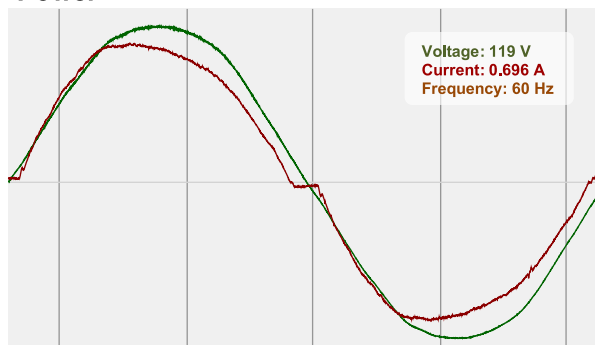


CIE 1931
x: 0.377
y: 0.377

Spectra



Power

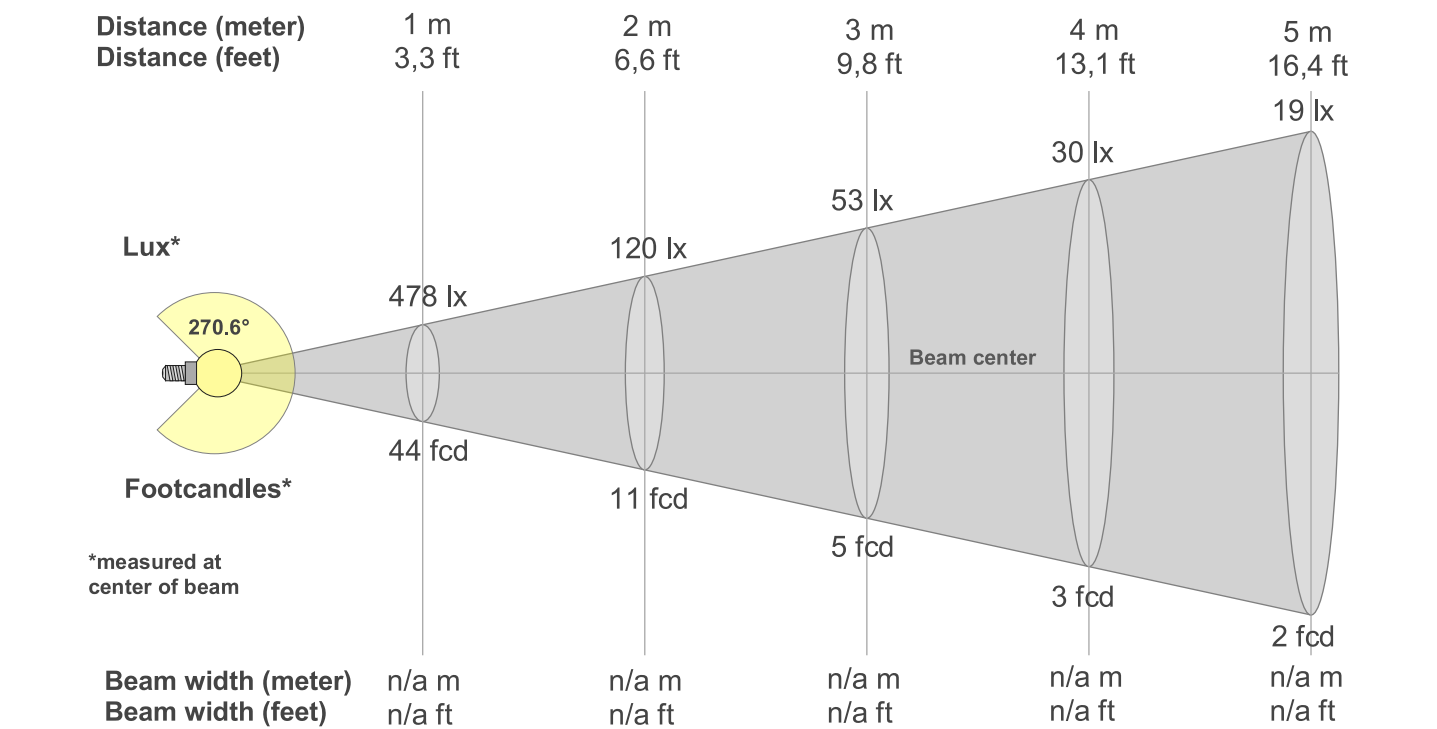


T 314.743.3067

F 314.972.6202

email: commercial-sales@superbrightleds.com

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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
478lx	120lx	53lx	30lx	19lx	13lx	10lx	7lx	6lx	5lx	4lx	3lx	3lx	2lx	2lx	2lx	2lx	1lx	1lx	1lx
44.4fcd	11.1fcd	4.9fcd	2.8fcd	1.8fcd	1.2fcd	0.9fcd	0.7fcd	0.5fcd	0.4fcd	0.4fcd	0.3fcd	0.3fcd	0.2fcd	0.2fcd	0.2fcd	0.2fcd	0.1fcd	0.1fcd	0.1fcd

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°
478	505	618	780	929	1037	1104	1116	1092	1060	1050	1021	958	851	713	565	412	251	106	21
100%	106%	129%	163%	194%	217%	231%	233%	228%	222%	219%	213%	200%	178%	149%	118%	86%	52%	22%	4%

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°
478	505	618	780	929	1037	1104	1116	1092	1060	1050	1021	958	851	713	565	412	251	106	21
100%	106%	129%	163%	194%	217%	231%	233%	228%	222%	219%	213%	200%	178%	149%	118%	86%	52%	22%	4%

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°
478	505	618	780	929	1037	1104	1116	1092	1060	1050	1021	958	851	713	565	412	251	106	21
100%	106%	129%	163%	194%	217%	231%	233%	228%	222%	219%	213%	200%	178%	149%	118%	86%	52%	22%	4%

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°
478	505	618	780	929	1037	1104	1116	1092	1060	1050	1021	958	851	713	565	412	251	106	21
100%	106%	129%	163%	194%	217%	231%	233%	228%	222%	219%	213%	200%	178%	149%	118%	86%	52%	22%	4%

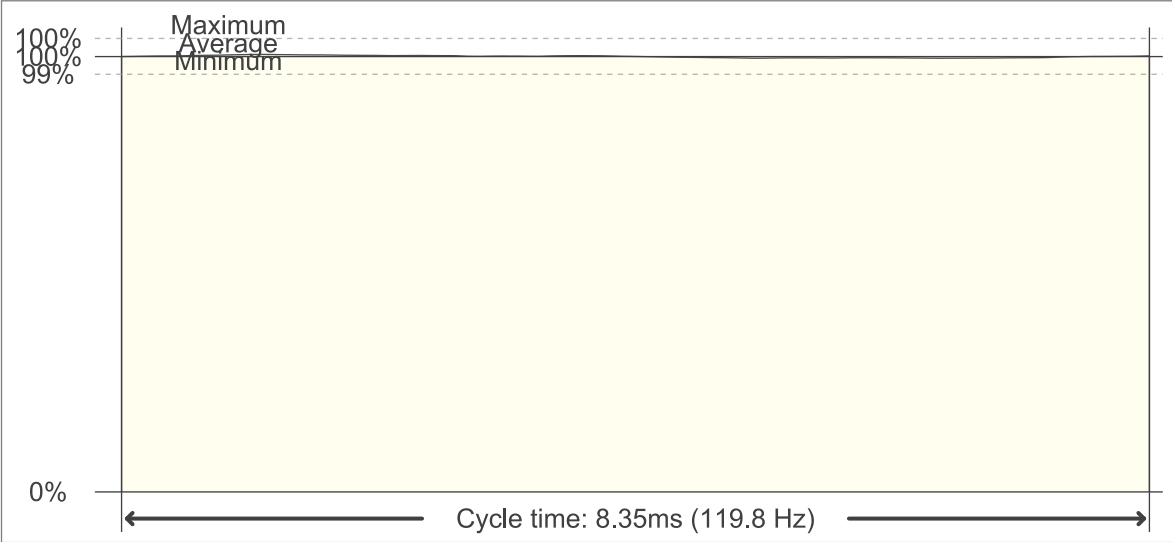
Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
270.6°	323°	339.3°	27.0%	13.9%

Flicker

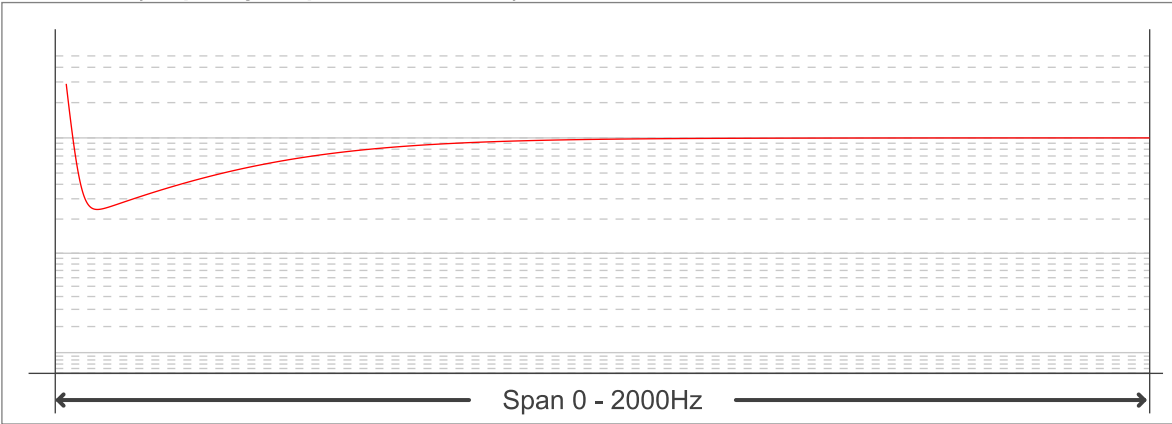
Flicker curve (complete sampled flicker signal)



Flicker frame (frame of one flicker period)



Flicker FFT (frequency scope of flicker curve)



Flicker results:

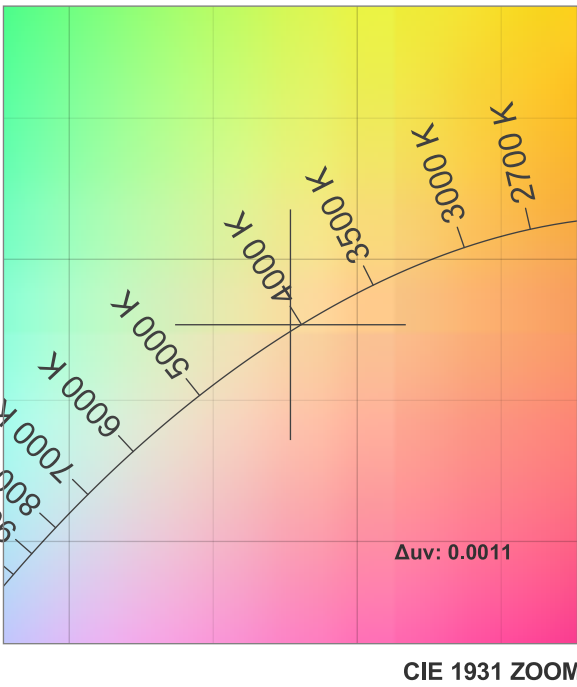
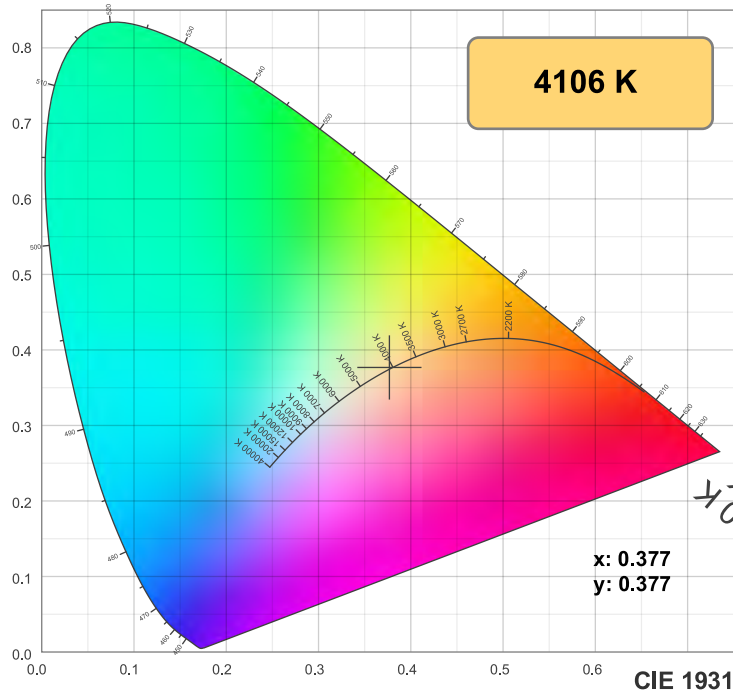
Flicker frequency:	119.76 Hz
Flicker index:	0
Flicker percentage:	0.53 %
SVM: (Visual flicker)	0.01

Flicker conditions:

Sample rate:	40000 samples/second
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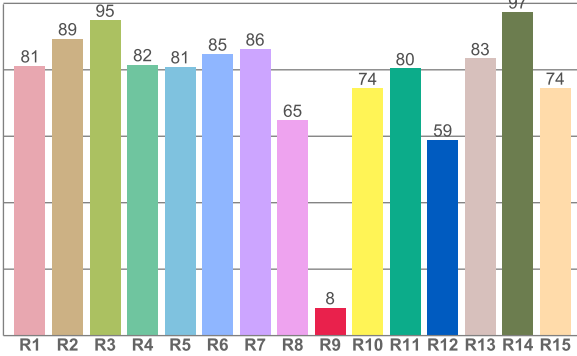
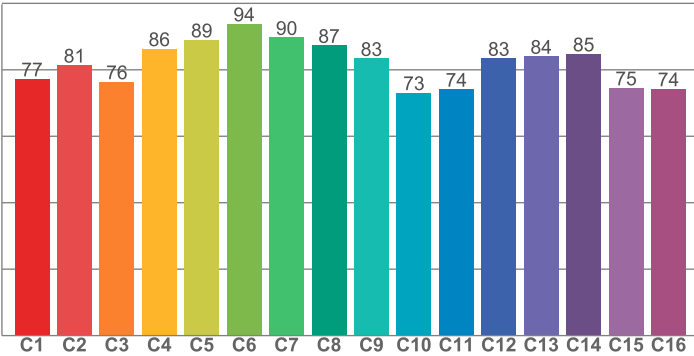


Color details



TM30: 81.7

CRI: 83.0 (R1-R8)



CRIR 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	89.4	95.0	81.6	80.9	84.8	86.3	64.8	8.4	74.4	80.4	58.9	83.4	97.4	74.5

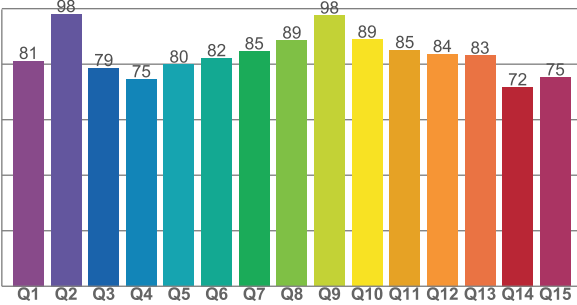
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
77.2	81.4	76.4	86.3	89.0	93.8	89.7	87.3	83.4	73.1	74.1	83.4	84.0	84.8	74.5	74.2

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
81.2	98.1	78.7	74.6	79.9	82.2	84.7	88.6	97.6	88.9	85.1	83.7	83.1	71.7	75.3

CQS: 82.0



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
4106 K	83.0	8.4	81.7	94.7	82.0	0.377	0.377	0.223	0.334	0.0011



TM30 details

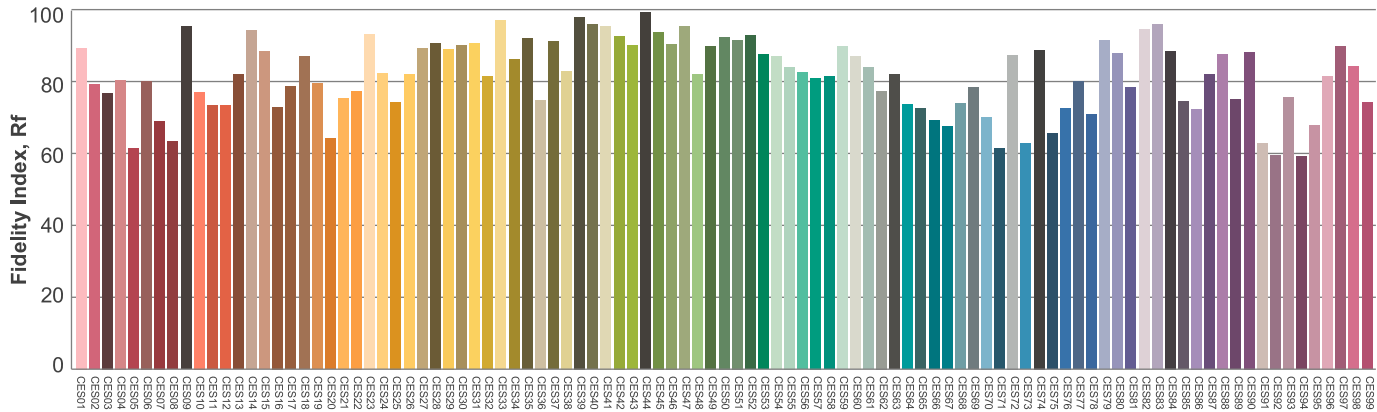
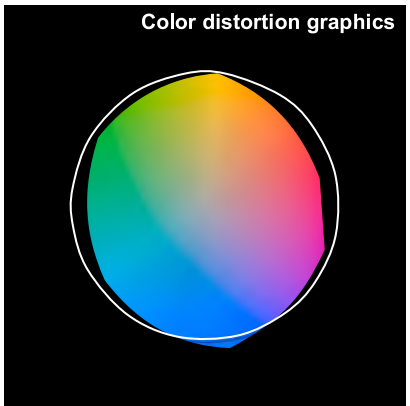
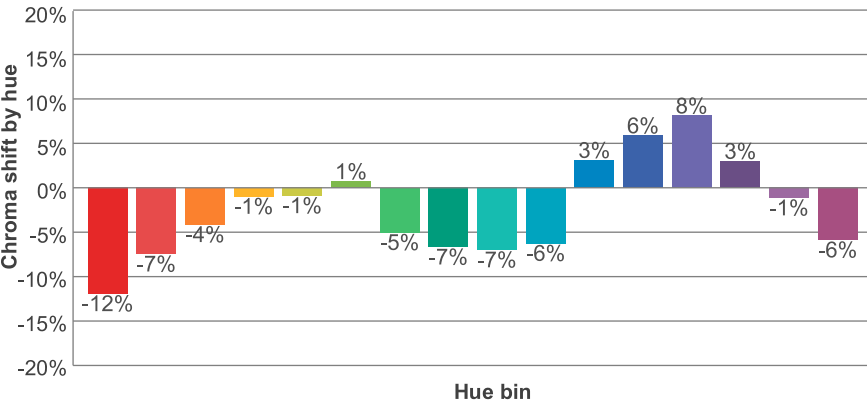
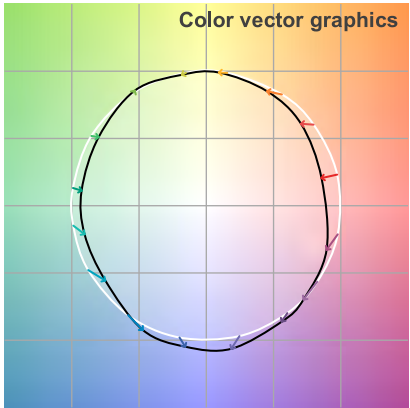
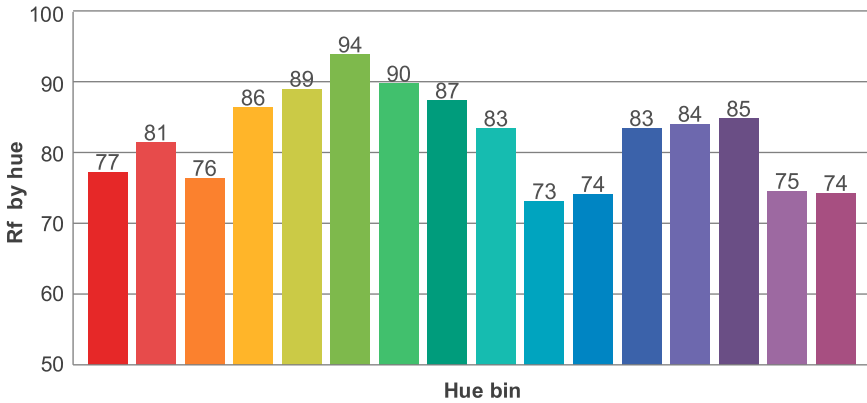
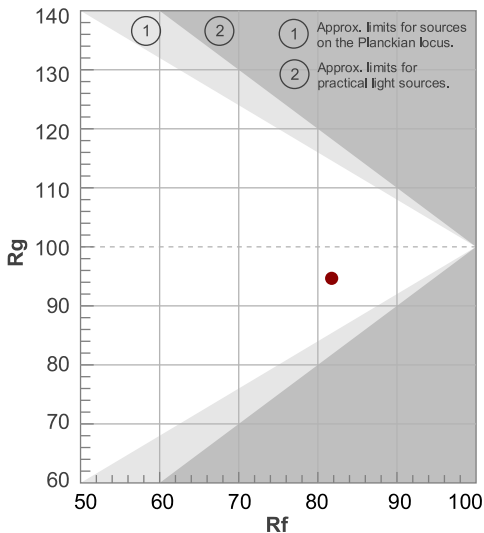
Rf 81.7

Fidelity index Rf

Rg 94.7

Gammut index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	77	-12%	0%
2	81	-7%	6%
3	76	-4%	10%
4	86	-1%	6%
5	89	-1%	3%
6	94	1%	-2%
7	90	-5%	-2%
8	87	-7%	1%
9	83	-7%	8%
10	73	-6%	14%
11	74	3%	15%
12	83	6%	6%
13	84	8%	-8%
14	85	3%	-7%
15	75	-1%	-17%
16	74	-6%	-13%



Color Evaluation Sample



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	30.8	31.9	33.0	30.0	31.1	30.8	31.9	33.0
	3H	33.2	34.2	34.1	35.1	36.2	33.2	34.2	34.1	35.1	36.2
	4H	35.0	35.9	35.9	36.8	37.9	35.0	35.9	35.9	36.8	37.9
	6H	37.0	37.9	37.9	38.7	39.9	37.0	37.9	37.9	38.7	39.9
	8H	38.1	38.9	39.0	39.8	41.0	38.1	38.9	39.0	39.8	41.0
	12H	39.4	40.2	40.3	41.1	42.2	39.4	40.2	40.3	41.1	42.2
4H	2H	31.1	32.0	31.9	32.9	34.0	31.1	32.0	31.9	32.9	34.0
	3H	34.4	35.2	35.3	36.1	37.3	34.4	35.2	35.3	36.1	37.3
	4H	36.4	37.1	37.3	38.0	39.2	36.4	37.1	37.3	38.0	39.2
	6H	38.5	39.1	39.4	40.1	41.3	38.5	39.1	39.4	40.1	41.3
	8H	39.7	40.3	40.6	41.2	42.4	39.7	40.3	40.6	41.2	42.4
	12H	41.1	41.6	42.0	42.6	43.8	41.1	41.6	42.0	42.6	43.8
8H	4H	37.1	37.7	38.0	38.6	39.8	37.1	37.7	38.0	38.6	39.8
	6H	39.5	40.0	40.4	41.0	42.2	39.5	40.0	40.4	41.0	42.2
	8H	40.9	41.3	41.8	42.3	43.6	40.9	41.3	41.8	42.3	43.6
	12H	42.5	42.9	43.5	43.9	45.1	42.5	42.9	43.5	43.9	45.1
12H	4H	37.3	37.9	38.2	38.8	40.0	37.3	37.9	38.2	38.8	40.0
	6H	39.8	40.3	40.8	41.3	42.5	39.8	40.3	40.8	41.3	42.5
	8H	41.3	41.7	42.3	42.7	44.0	41.3	41.7	42.3	42.7	44.0
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 10839 lm total luminous flux											



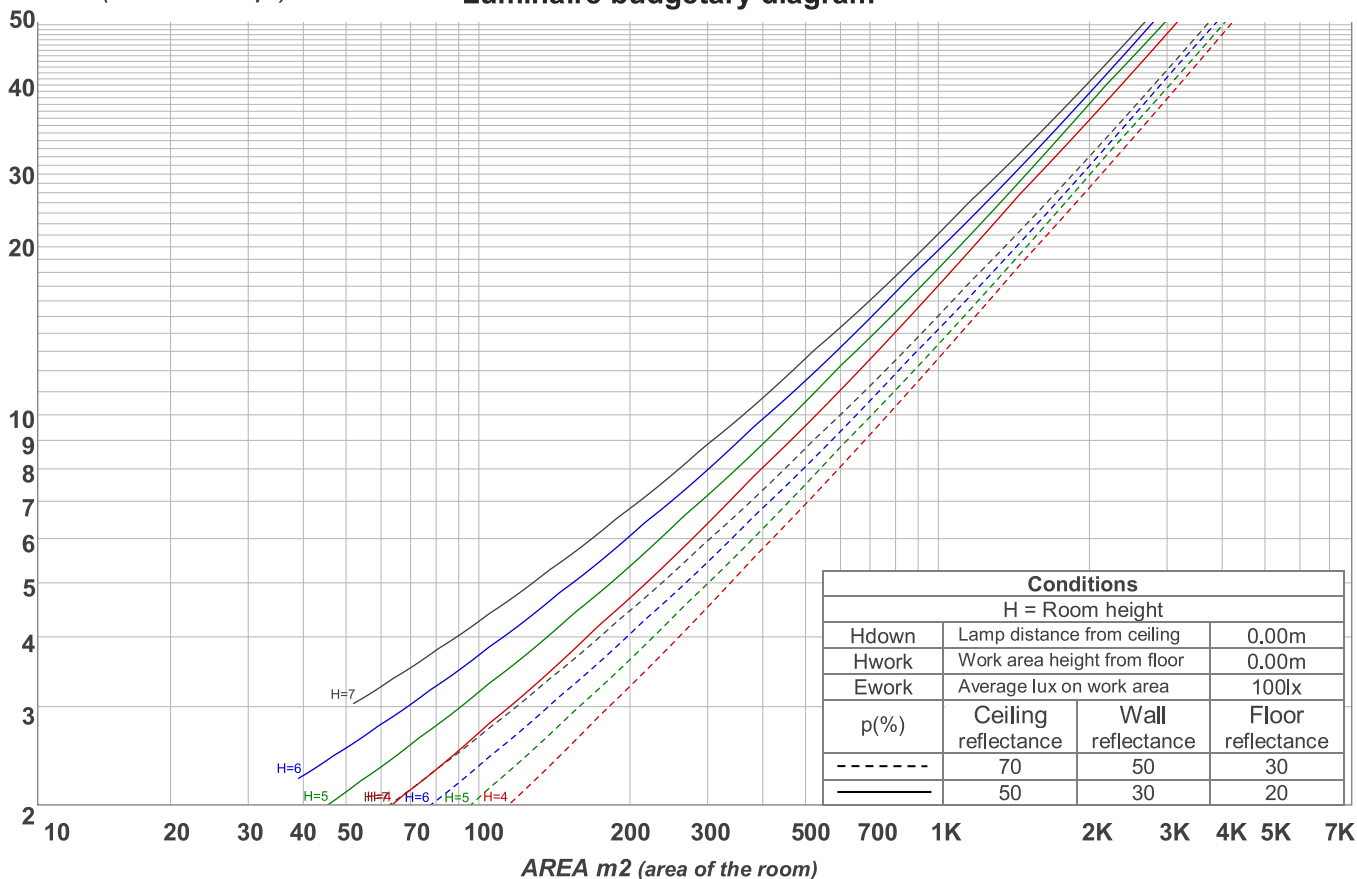
Light planning

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	109	109	109	109	102	102	102	102	88	88	88	75	75	75	64	64	64	58
1	94	88	82	76	87	81	76	71	69	65	61	58	55	52	48	45	43	38
2	84	73	65	58	77	68	60	54	57	51	46	48	43	39	39	35	32	28
3	75	63	53	46	69	58	49	43	49	42	36	41	35	31	33	29	25	21
4	68	54	45	37	62	50	41	34	42	35	30	35	29	25	28	24	20	16
5	62	48	38	31	56	44	35	29	37	30	24	31	25	20	25	20	16	13
6	56	42	33	26	52	39	30	24	33	26	21	27	22	17	22	17	14	11
7	52	38	28	22	48	35	26	21	30	23	18	25	19	15	20	15	12	9
8	48	34	25	19	44	31	23	18	27	20	15	22	17	13	18	14	10	8
9	45	31	22	17	41	29	21	15	24	18	13	20	15	11	16	12	9	7
10	41	28	20	15	38	26	19	14	22	16	12	19	13	10	15	11	8	6

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°
46.9 lm	165 lm	346 lm	575 lm	804 lm	994 lm	1103 lm	1142 lm	1151 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
1131 lm	1039 lm	871 lm	655 lm	439 lm	250 lm	103 lm	22.4 lm	1.31 lm



T 314.743.3067

F 314.972.6202

email: commercial-sales@superbrightleds.com

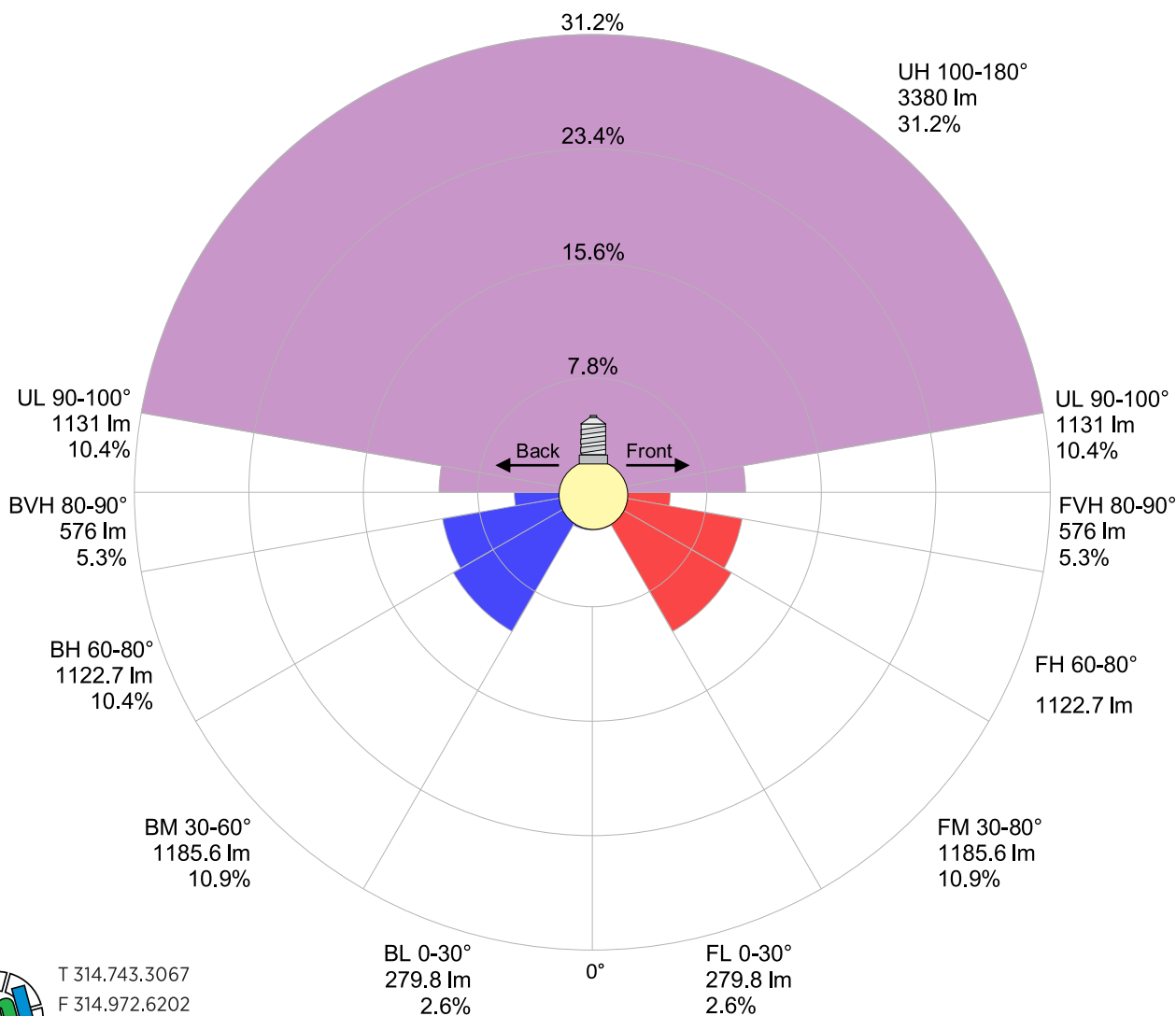
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Road report

LCS table

BUG rating:	B3 U5 G4	
Forward light	Lumens	Lumens %
Low(0-30):	279.8	2.6%
Medium(30-60):	1185.6	10.9%
High(60-80):	1122.7	10.4%
Very high(80-90):	576	5.3%
Back light		
Low(0-30):	279.8	2.6%
Medium(30-60):	1185.6	10.9%
High(60-80):	1122.7	10.4%
Very high(80-90):	576	5.3%
Uplight		
Low(90-100):	1131	10.4%
High(100-180):	3380	31.2%

LCS graph



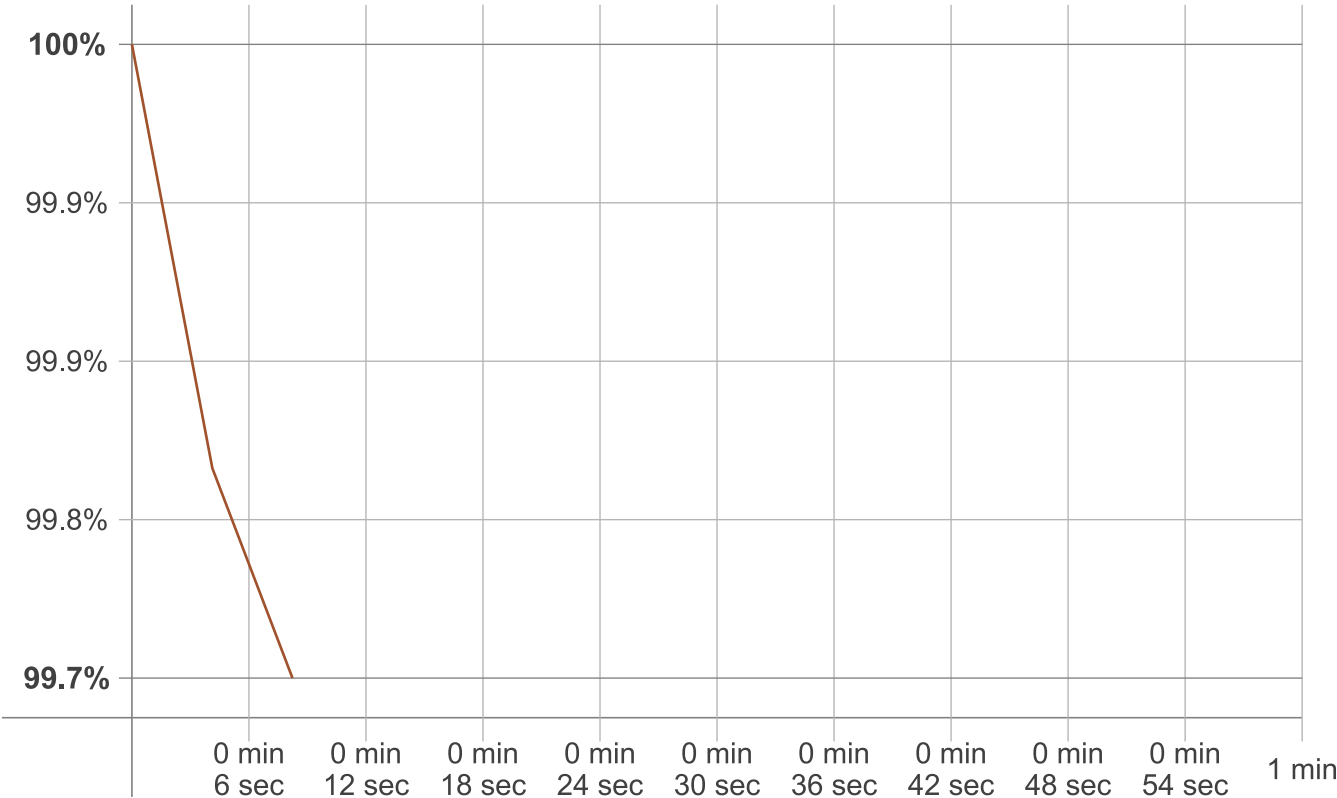
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Warmup curve



Warmup result

Warmup time:	Not completed
Warmup variation	-0.3%

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
4105 K	+1 K	4106 K

Output change

Output start	Output change	Output end
10869 lm	-29 lm	10839 lm

