

Light efficiency:

137 Lumens/Watt

Light quality:

CRI: 81.0

Color temperature:

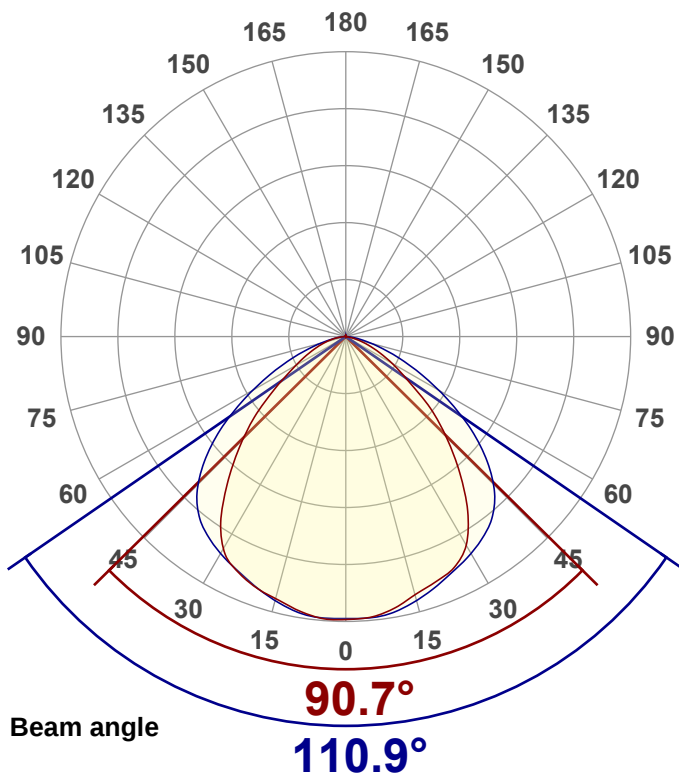
5002 K

Output: 20653 lm

Peak: 7958 cd

Power: 151.2 W

PF: 1.0



Product name:

AFLD2-50K150-110-x

Date and time:

8/14/2023 10:19:09 AM

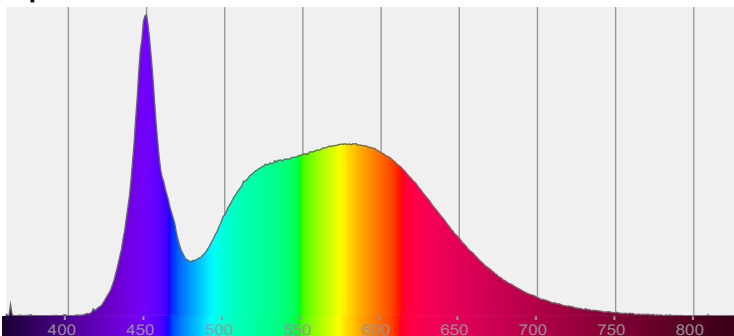


CIE 1931

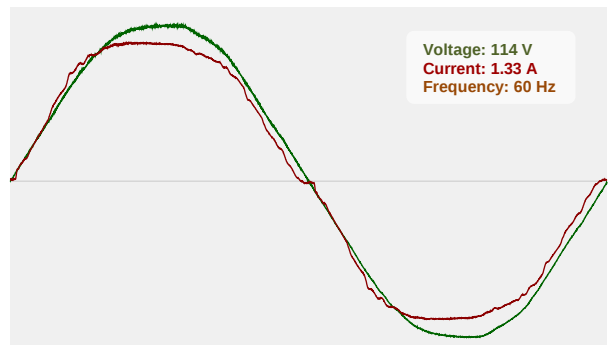
x: 0.346

y: 0.359

Spectra



Power



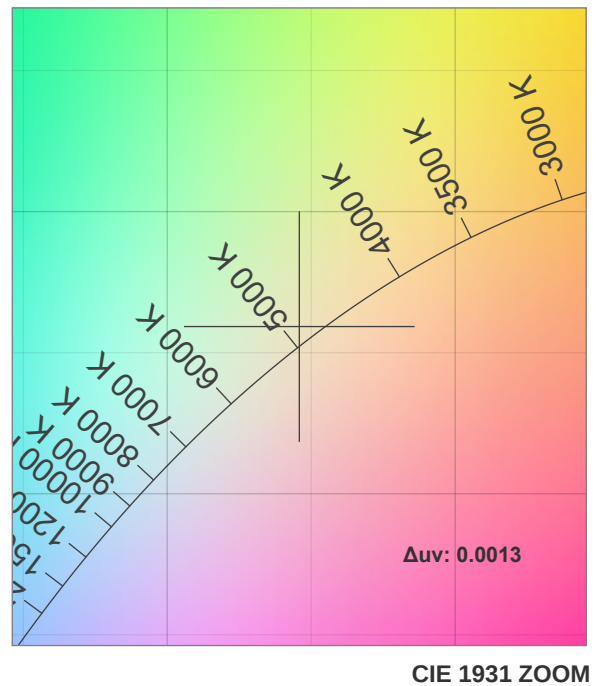
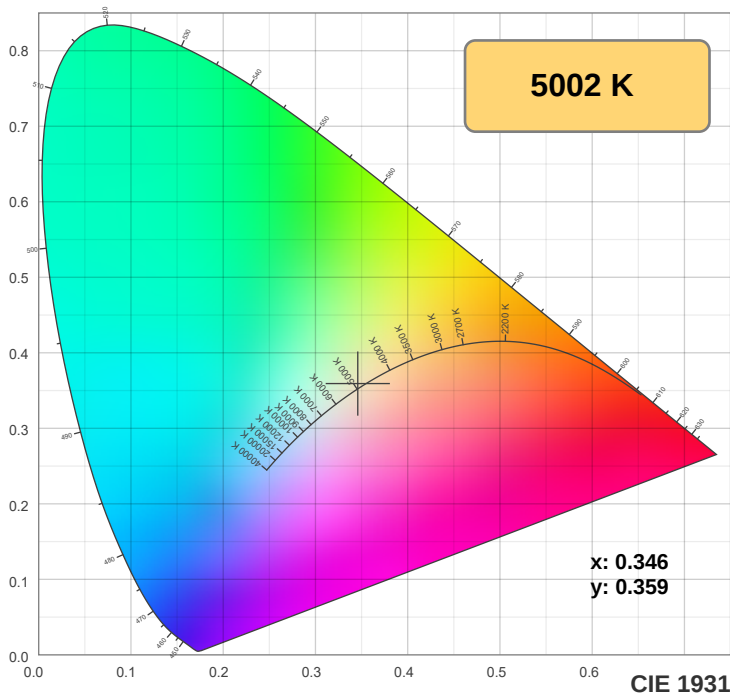
T 314.743.3067

F 314.972.6202

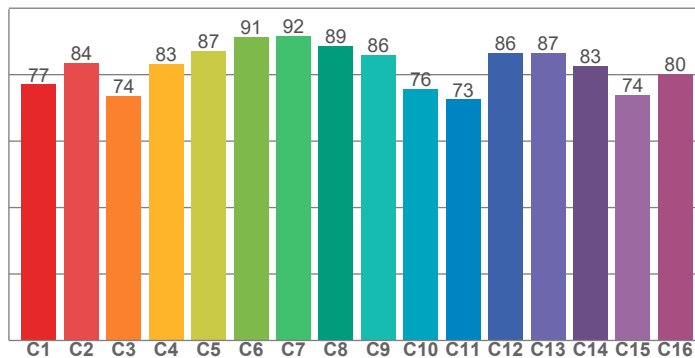
email: commercial-sales@superbrightleds.com

www.superbrightleds.com/

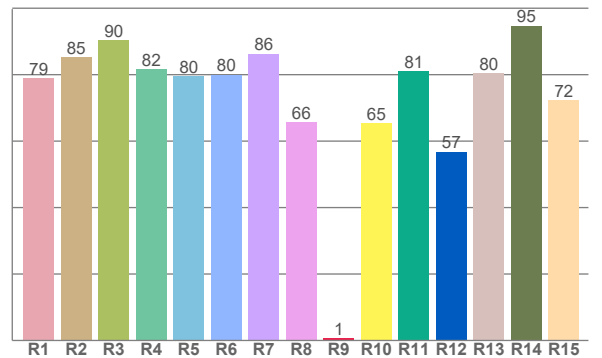
Color Specifications



TM30: 82.2



CRI: 81.0 (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
78.9	85.3	90.3	81.7	79.5	79.9	86.3	65.8	0.6	65.5	81.0	56.8	80.3	94.8	72.2

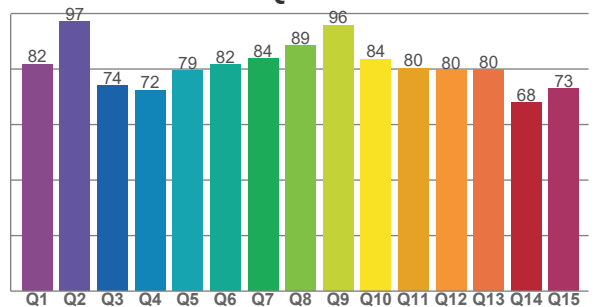
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
77.1	83.6	73.6	83.3	87.2	91.3	91.7	88.7	86.1	75.7	72.6	86.5	86.5	82.6	74.0	80.3

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
81.8	97.2	74.1	72.3	79.3	81.6	83.7	88.5	95.8	83.6	80.3	79.5	79.9	67.9	73.0

CQS: 79.7



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
5002 K	81.0	0.6	82.2	96.7	79.7	0.346	0.359	0.209	0.326	0.0013



TM30 Report

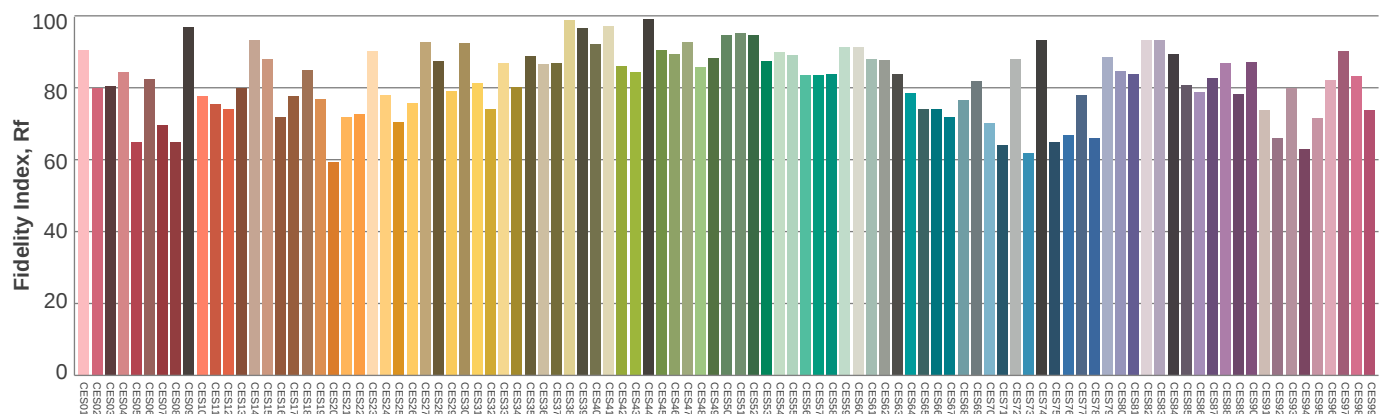
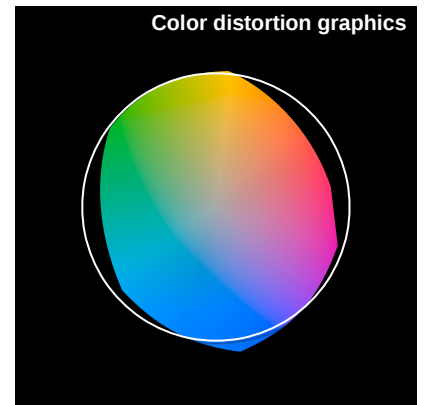
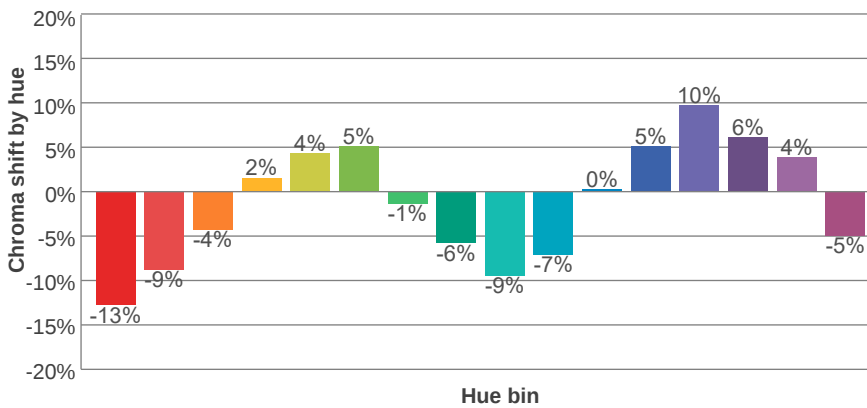
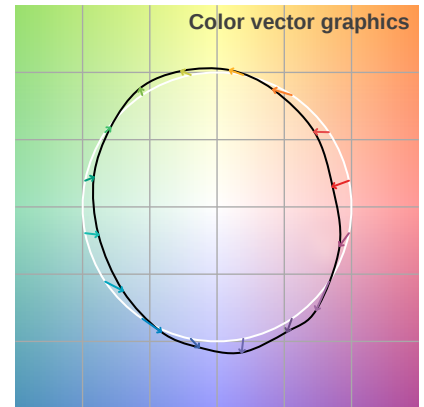
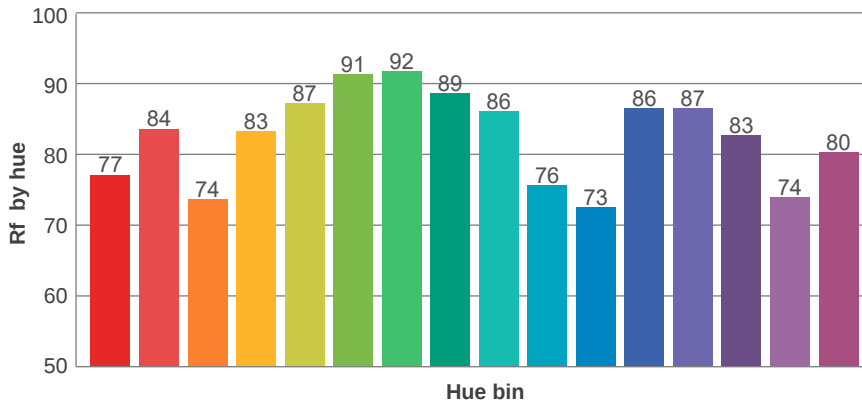
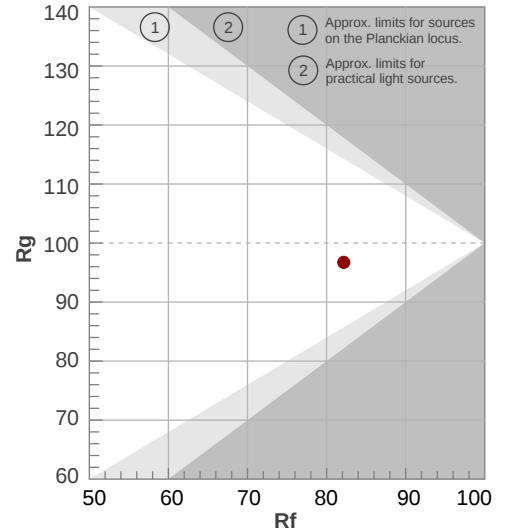
Rf 82.2

Fidelity index Rf

Rg 96.7

Gammut index Rg

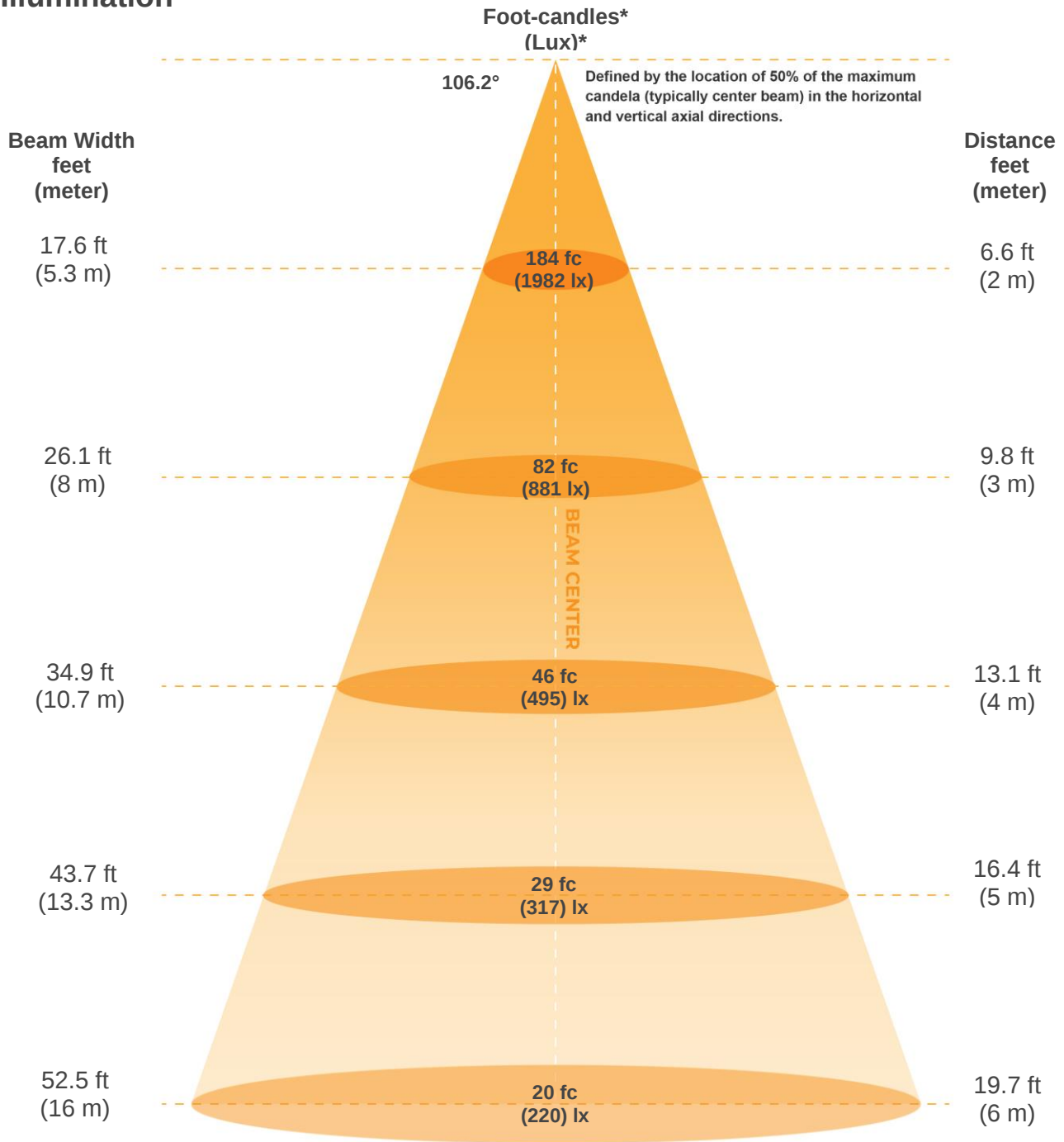
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	77	-13%	-2%
2	84	-9%	6%
3	74	-4%	14%
4	83	2%	11%
5	87	4%	6%
6	91	5%	-1%
7	92	-1%	-5%
8	89	-6%	-4%
9	86	-9%	3%
10	76	-7%	13%
11	73	0%	17%
12	86	5%	7%
13	87	10%	-3%
14	83	6%	-8%
15	74	4%	-23%
16	80	-5%	-11%



Color Evaluation Sample



Illumination



*measured at center of beam

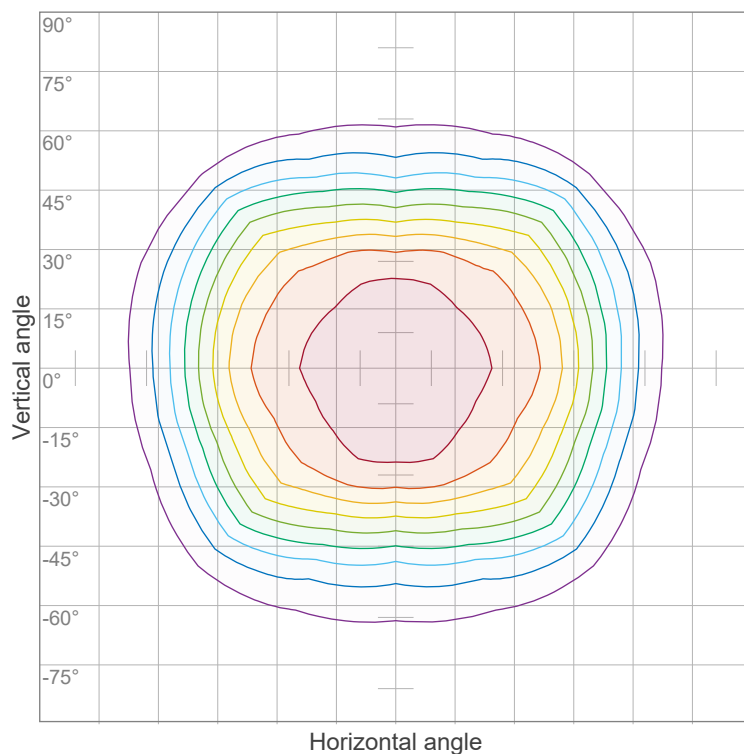
Beam intensities from 1-20m

m	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
ft	3.3	6.6	9.8	13.1	16.4	19.7	23	26.2	29.5	32.8	36.1	39.4	42.7	45.9	49.2	52.5	55.8	59.1	62.3	65.6
lux	7927	1982	881	495	317	220	162	124	98	79	66	55	47	40	35	31	27	24	22	20
fc	736.5	184.1	81.8	46	29.5	20.5	15	11.5	9.1	7.4	6.1	5.1	4.4	3.8	3.3	2.9	2.5	2.3	2	1.8

Beam angle H	Beam Angle V	Field angle H 10%	Field Angle V 10%	Cutoff Angle 2.5%	Intensity Ratio in 120°	Intensity Ratio in 90°
110.9°	90.7°	149.5°	138.6°	166.3°	84.9%	59.8%



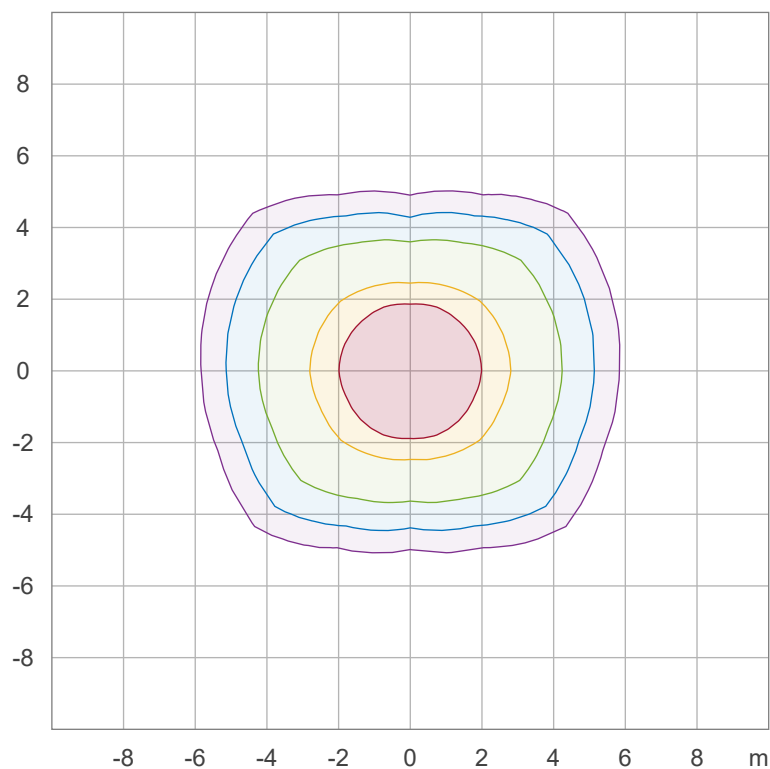
Iso-intensity Diagram (Iso-candela)



90 %	7161.9 cd
80 %	6366.1 cd
70 %	5570.4 cd
60 %	4774.6 cd
50 %	3978.8 cd
40 %	3183.1 cd
30 %	2387.3 cd
20 %	1591.5 cd
10 %	795.8 cd

Peak intensity: 7957.7 cd
Number of c-planes: 16

Iso-illuminance Diagram (Iso-lux)



50.0 %	441.6 lx
30.0 %	265.0 lx
10.0 %	88.3 lx
5.0 %	44.2 lx
3.0 %	26.5 lx

Peak illuminance: 883.2 lx
Mounting height: 3.0 m
Number of c-planes: 16



Outdoor Light Planning

Lumen per Zone

Zone (y)	Lumen	% Total
0-10°	752 lm	3.6%
10-20°	2155 lm	10.4%
20-30°	3317 lm	16.1%
30-40°	4054 lm	19.6%
40-50°	4029 lm	19.5%
50-60°	3236 lm	15.7%
60-70°	1998 lm	9.7%
70-80°	869 lm	4.2%
80-90°	170 lm	0.8%
90-100°	10 lm	0.0%
100-110°	8 lm	0.0%
110-120°	9 lm	0.0%
120-130°	10 lm	0.0%
130-140°	11 lm	0.1%
140-150°	10 lm	0.0%
150-160°	8 lm	0.0%
160-170°	5 lm	0.0%
170-180°	2 lm	0.0%
Total	20653 lm	100.0%

Intensity peaks

Max intensity	7958 cd
Intensity, 90°	6 cd
Intensity, 0°	7927 cd

Zonal Lumen summary

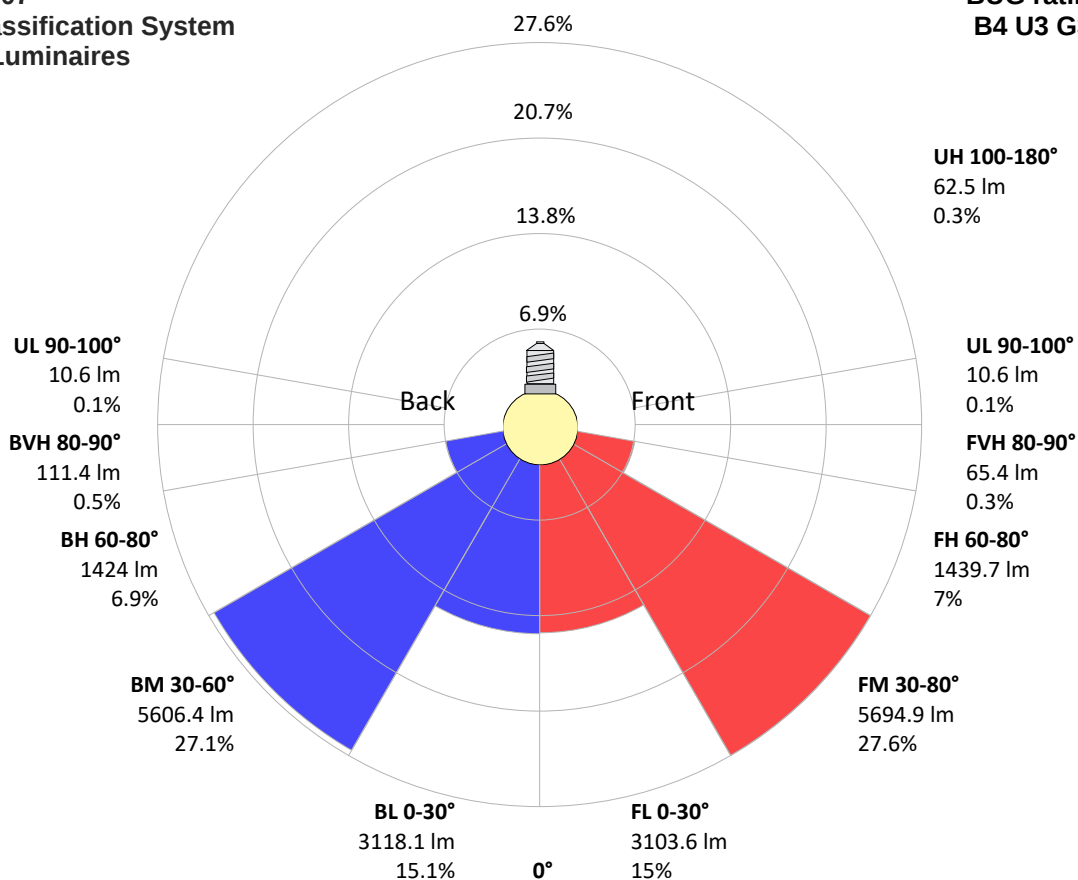
Zone (y)	Lumen	% Total
0-30°	6224 lm	30.1%
0-40°	10278 lm	49.8%
0-60°	17543 lm	84.9%
60-90°	3037 lm	14.7%
70-100°	1049 lm	5.1%
90-120°	26 lm	0.1%
0-90°	20581 lm	99.7%
90-180°	72 lm	0.3%
0-180°	20653 lm	100.0%

BUG rating

	Lumen	% Total
Forward light		
Low(0-30°)	3104 lm	15.0%
Medium(30-60°)	5695 lm	27.6%
High(60-80°)	1440 lm	7.0%
Very high(80-90°)	65 lm	0.3%
Back light		
Low(0-30°)	3118 lm	15.1%
Medium(30-60°)	5606 lm	27.1%
High(60-80°)	1424 lm	6.9%
Very high(80-90°)	111 lm	0.5%
Uplight		
Low(90-100°)	11 lm	0.1%
High(100-180°)	62 lm	0.3%

IESNA TM-15-07 Luminaire Classification System For Outdoor Luminaires

BUG rating
B4 U3 G3

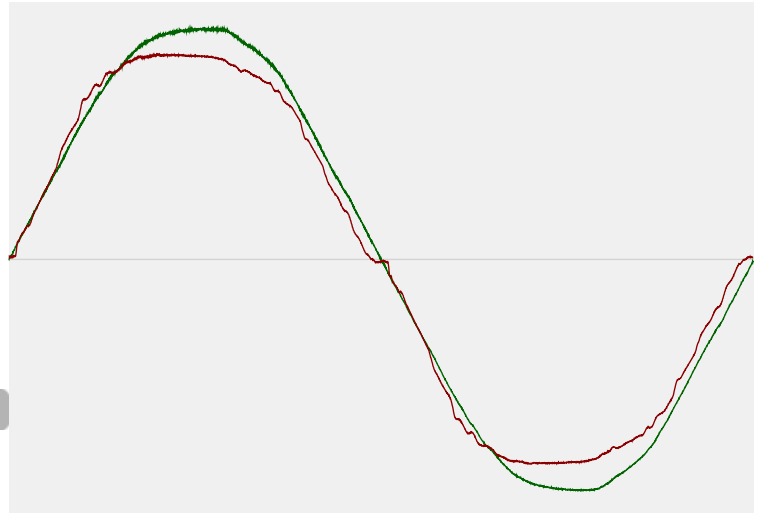


Power Details

Input Power

Power feed to light source	151.2 W
Frequency of input power	60 Hz
RMS Input voltage feed, V_{RMS}	114 V
RMS Input current feed, I_{RMS}	1.33 A
Volt-Ampere or apparent power = $V_{RMS} * I_{RMS}$	151.68 VA
Displacement factor of AC power feed	1.0
Power factor of AC current feed	1.0
Total harmonic distortion of the current	6.36%
Total harmonic distortion of the voltage	1.9%

Input Power Curve



Efficiency

Radiated power efficiency 41.5%



Lumen efficiency 137 lm/W



Stabilization Details

Warmup Conditions

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

Color Temperature Change

CCT start	4998 K
CCT shift	+4 K
CCT end	5002 K

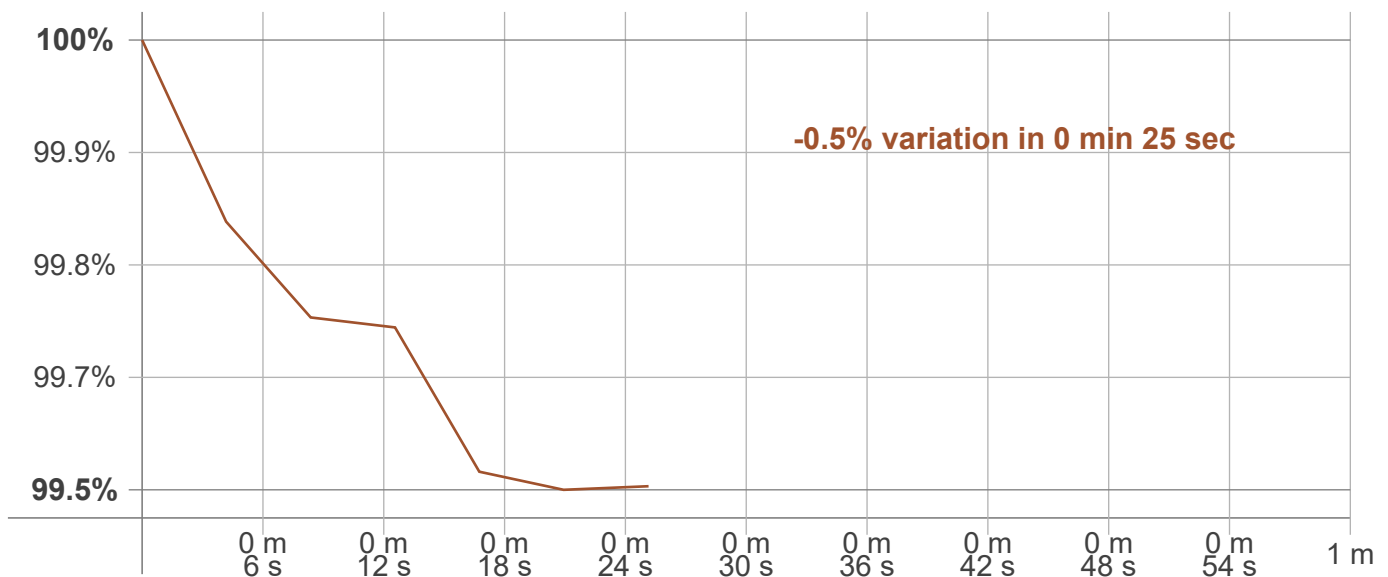
Warmup Result

Total warmup time	Not completed
Warmup variation	-0.5%

Output Change

Output start	20713 lm
Output change	-60 lm
Output end	20653 lm

Stabilization Curve



Flicker /TLA details



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

Flicker Meter Type Viso Systems LabFlicker
Frequency of input power 60 Hz
Flicker/TLA sample rate 20000 samples/s

Measurement time
PstLM 180 sec
All other indices 1.2 sec

Flicker indices according to Illuminating Engineering Society (IES)

Flicker frequency 119.76 Hz
Percent Flicker 22.4 %
Flicker index 0.07

Flicker indices per California Energy Commission (CEC) 2016b

JA8/10 40 Hz 0.24 %
JA8/10 90 Hz 1.5 %
JA8/10 200 Hz 22.34 %
JA8/10 400 Hz 23.31 %
JA8/10 1000 Hz 22.67 %

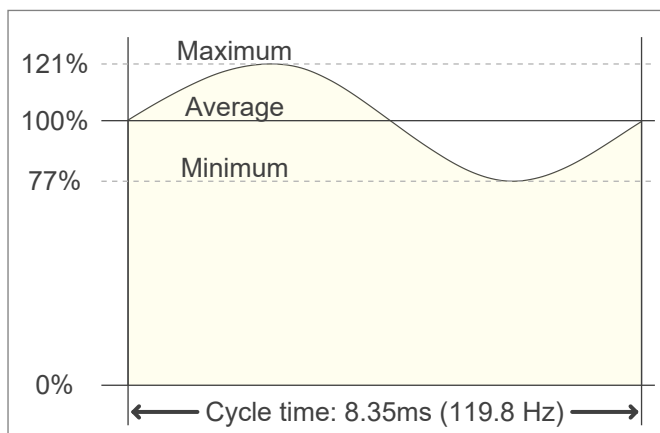
TLA indices (re IEC TR 61547-1, IEC 61000-3-3 and IEC 61000-4-15)

PstLM value ($F < 80$ Hz) 0.09
SVM value ($80 < F < 2000$ Hz) 0.79

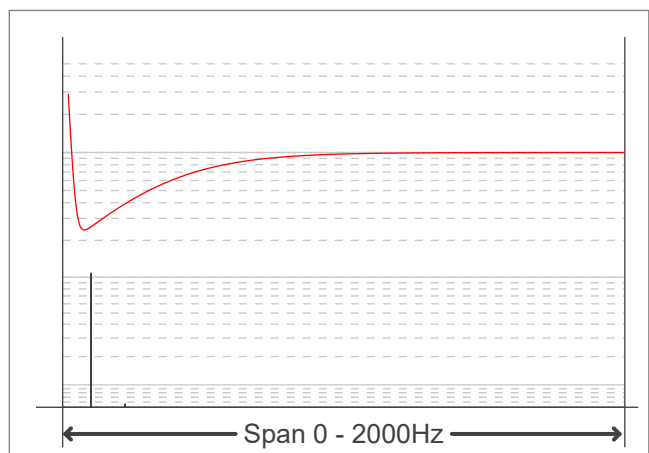
Flicker indices according to Lighting Research Center (2015)

Perception metric, Assist Mp 0.05

Flicker frame (frame of one flicker period in time domain)



Flicker FFT (flicker curve in frequency domain)



IEEE 1789 Frequency/modulation plot

