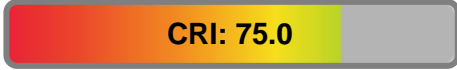


Light efficiency:



Output: 15092 lm

Light quality:



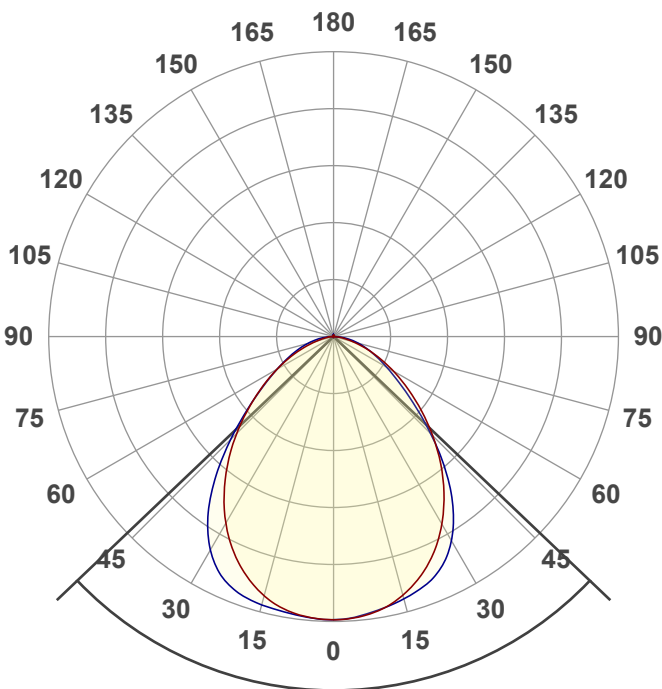
Peak: 6701 cd

Color temperature:



Power: 87.6 W

PF: 1.0



Product name:

**FLCKM2-SW3B150-BRK 90W 40K**

Date and time:

**11/12/2024 1:45:20 PM**

Beam angle

**92.8°**

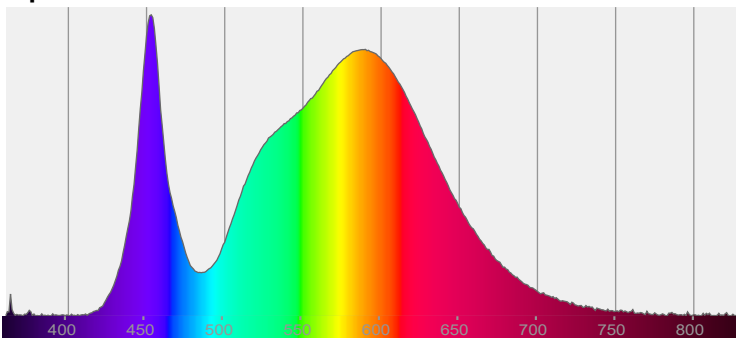


CIE 1931

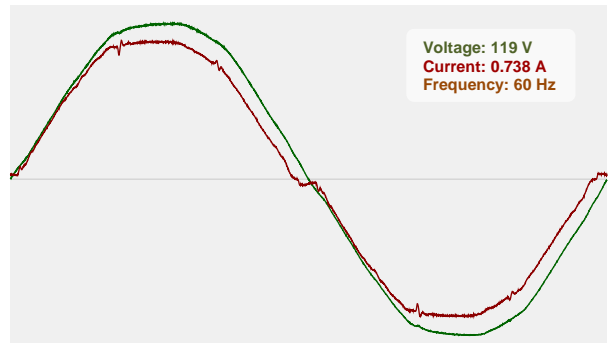
x: 0.386

y: 0.381

Spectra



Power



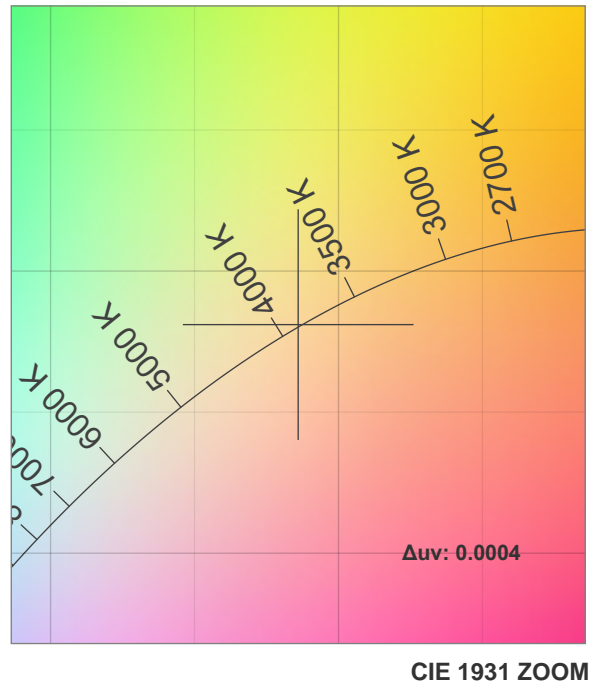
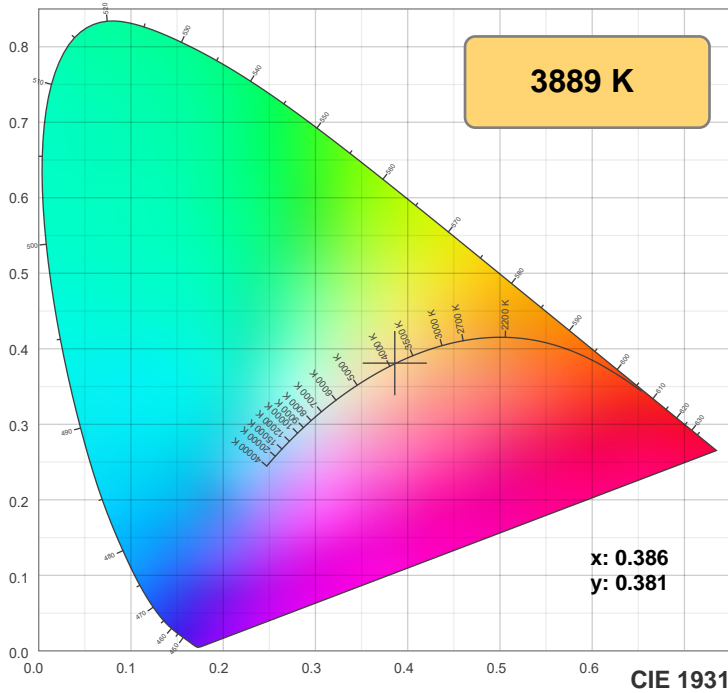
T 314.743.3067

F 314.972.6202

email: [commercial-sales@superbrightleds.com](mailto:commercial-sales@superbrightleds.com)

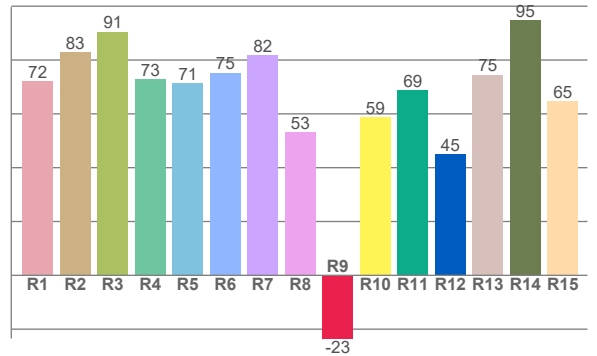
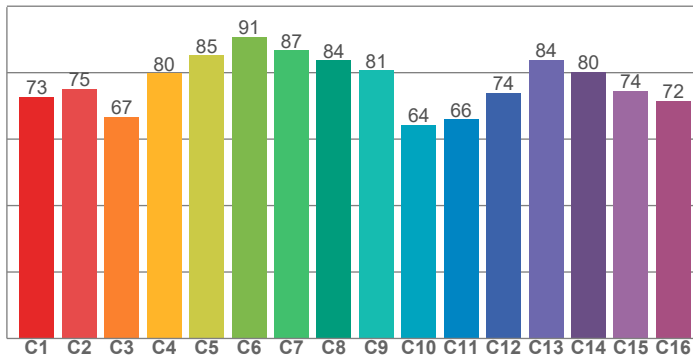
[www.superbrightleds.com/](http://www.superbrightleds.com/)

### Color Specifications



**TM30: 76.9**

**CRI: 75.0 (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
72.2	82.8	90.5	72.8	71.4	75.2	81.9	53.1	-23.5	58.6	68.8	44.9	74.5	94.7	64.6

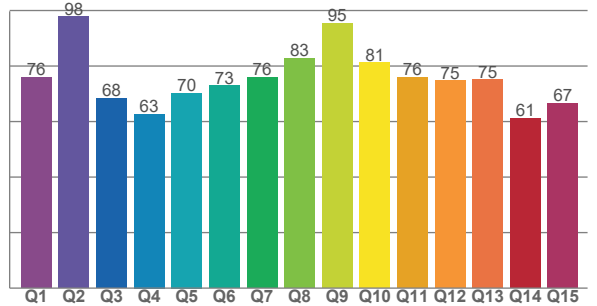
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
72.8	75.2	66.6	79.8	85.2	90.8	86.7	83.7	80.7	64.2	66.0	73.9	83.9	80.3	74.5	71.5

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
76.0	97.9	68.4	62.7	70.3	73.0	76.0	82.8	95.4	81.2	75.9	74.7	75.0	61.2	66.6

**CQS: 73.8**



### 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
<b>CCT</b>	<b>CRI</b>	<b>CRI R9</b>	<b>TM30 Rf</b>	<b>TM30 Rg</b>	<b>CQS</b>	<b>x</b>	<b>y</b>	<b>u</b>	<b>v</b>	<b>Δuv</b>
<b>3889 K</b>	<b>75.0</b>	<b>-23.5</b>	<b>76.9</b>	<b>93.4</b>	<b>73.8</b>	<b>0.386</b>	<b>0.381</b>	<b>0.227</b>	<b>0.336</b>	<b>0.0004</b>

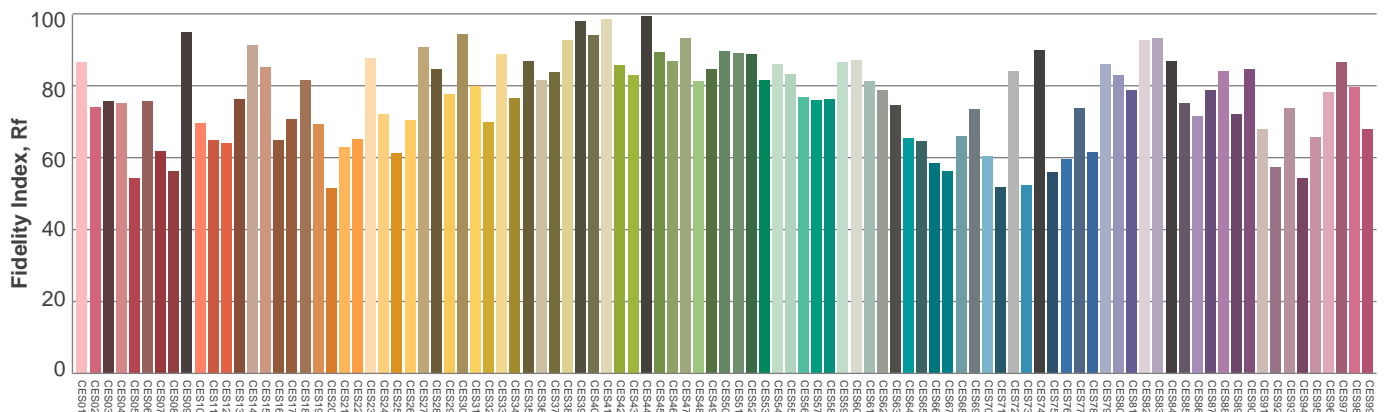
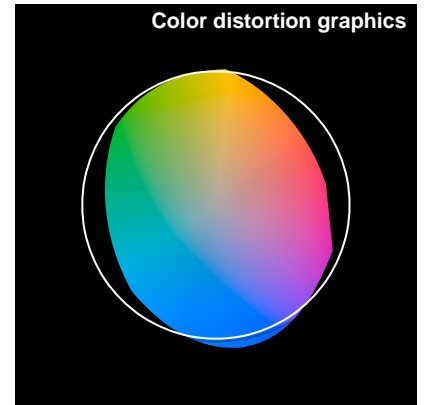
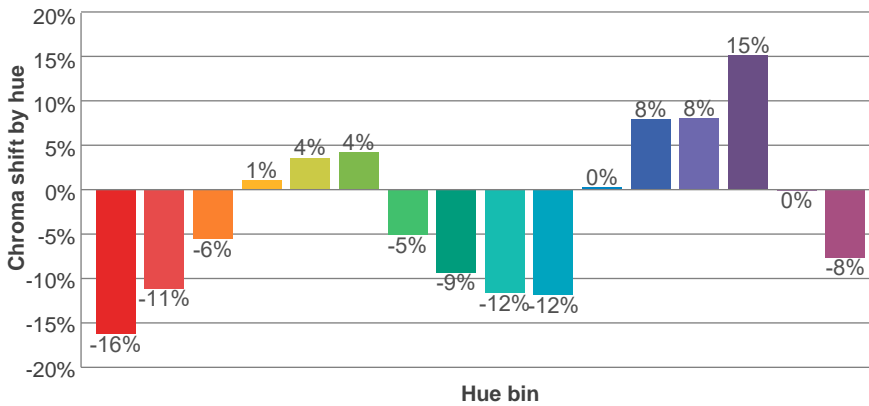
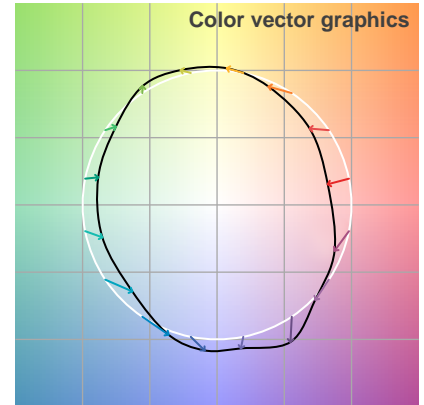
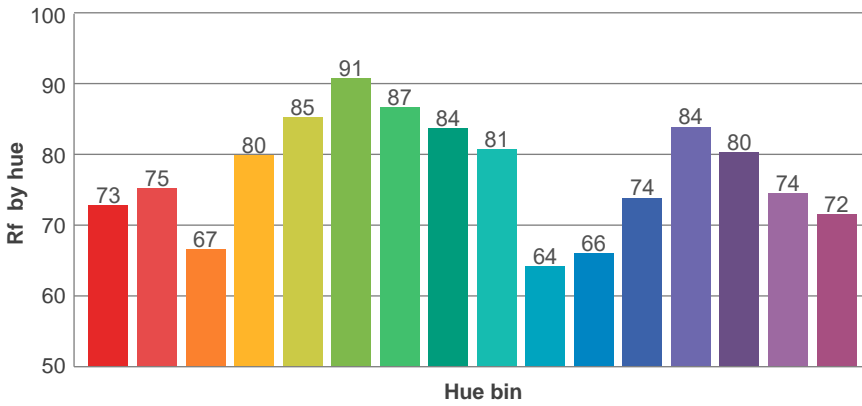
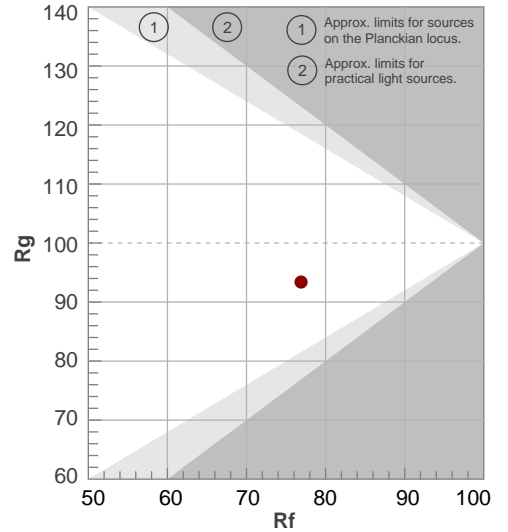


### TM30 Report

**Rf 76.9**  
Fidelity index Rf

**Rg 93.4**  
Gammut index Rg

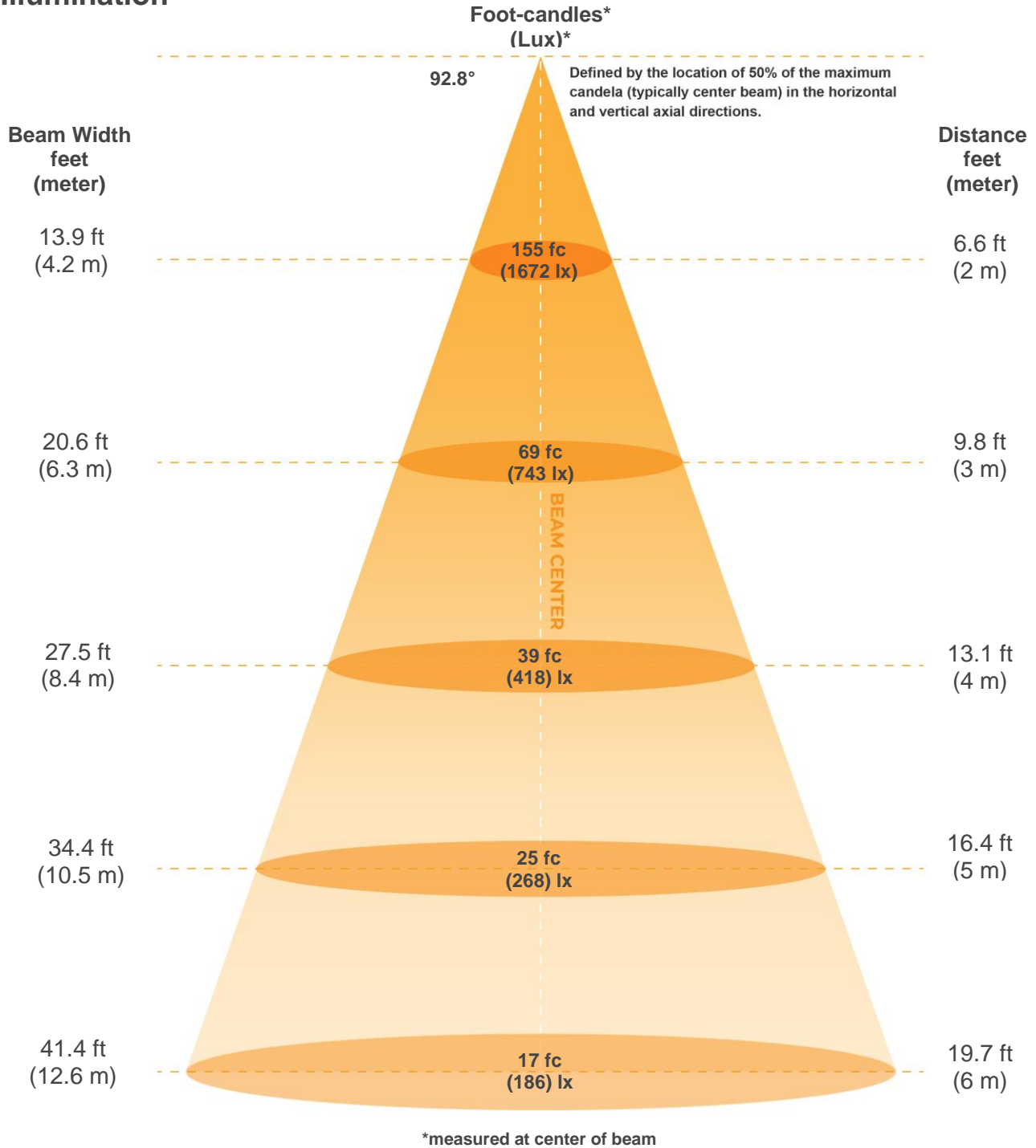
Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	73	-16%	-1%
2	75	-11%	9%
3	67	-6%	17%
4	80	1%	13%
5	85	4%	7%
6	91	4%	-3%
7	87	-5%	-7%
8	84	-9%	-3%
9	81	-12%	7%
10	64	-12%	18%
11	66	0%	24%
12	74	8%	12%
13	84	8%	-3%
14	80	15%	-11%
15	74	0%	-18%
16	72	-8%	-16%



Color Evaluation Sample



**Illumination**



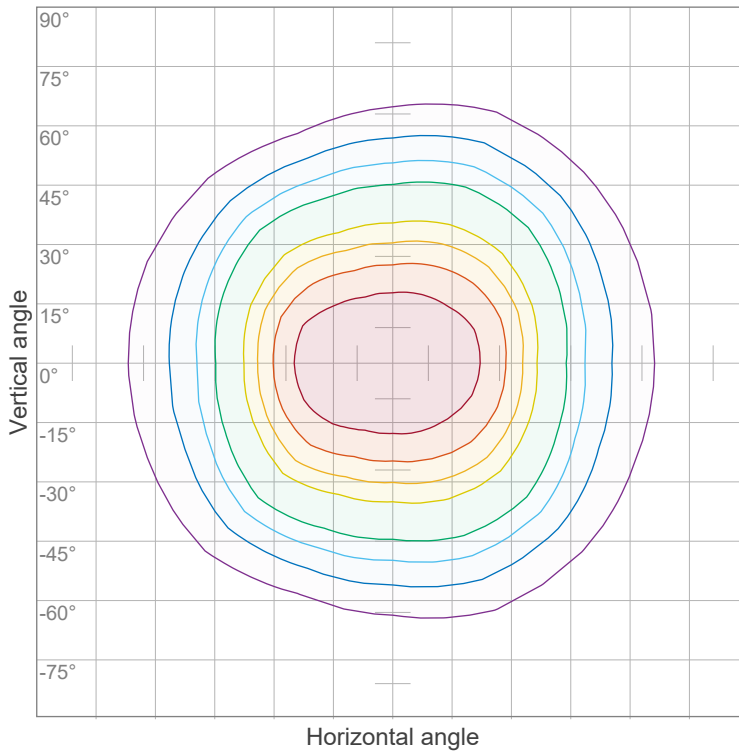
**Beam intensities from 1-20m**

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	6689	1672	743	418	268	186	137	105	83	67	55	46	40	34	30	26	23	21	19	17
fc	621.4	155.4	69	38.8	24.9	17.3	12.7	9.7	7.7	6.2	5.1	4.3	3.7	3.2	2.8	2.4	2.2	1.9	1.7	1.6

<b>Beam angle 50%</b>	<b>Field angle 10%</b>	<b>Cutoff Angle 2.5%</b>	<b>Intensity Ratio in 120° cone</b>	<b>Intensity Ratio in 90° cone</b>
<b>92.8°</b>	<b>147.1°</b>	<b>169°</b>	<b>85.7%</b>	<b>63.9%</b>



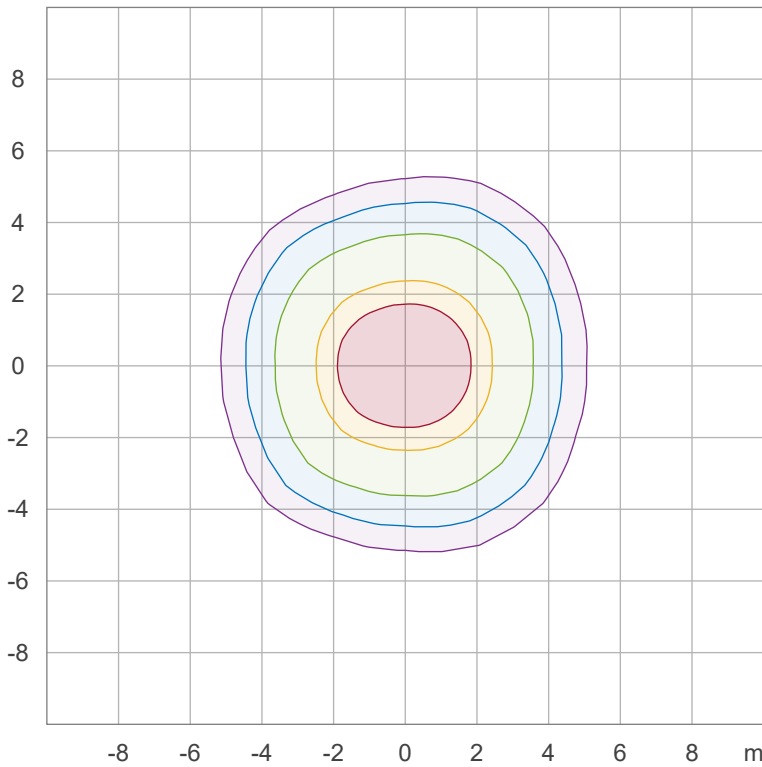
**Iso-intensity Diagram (Iso-candela)**



90 %	6028.4 cd
80 %	5358.6 cd
70 %	4688.7 cd
60 %	4018.9 cd
50 %	3349.1 cd
40 %	2679.3 cd
30 %	2009.5 cd
20 %	1339.6 cd
10 %	669.8 cd

Peak intensity: 6698.2 cd  
 Number of c-planes: 16

**Iso-illuminance Diagram (Iso-lux)**



50.0 %	372.0 lx
30.0 %	223.2 lx
10.0 %	74.4 lx
5.0 %	37.2 lx
3.0 %	22.3 lx

Peak illuminance: 743.9 lx  
 Mounting height: 3.0 m  
 Number of c-planes: 16

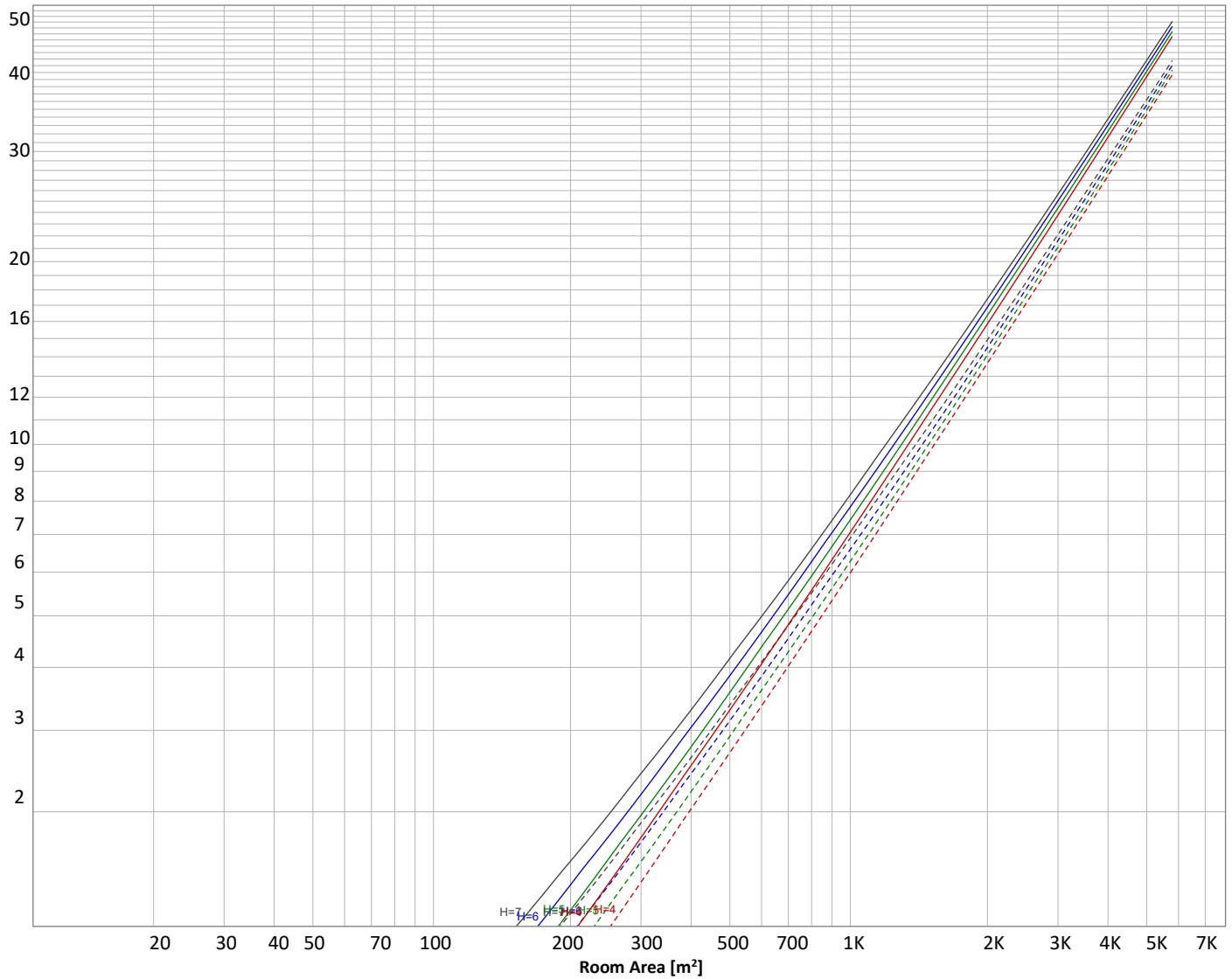




**Luminaire budgetary diagram**

Uncorrected, comprehensive UGR table according to 117-1995

LAMPS (number of lamps)



**Conditions**

H = Room height	Flux = 15092 lm				
H <sub>down</sub> = Lamp distance from ceiling =	0.00 m	Line type	Ceiling reflectance	Wall reflectance	Floor reflectance
H <sub>work</sub> = Work area height from floor =	0.00 m	-----	70	50	30
E <sub>work</sub> = Average lux on work area =	100 lx	-----	50	30	20

**Zonal Lumen Summary**

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
632 lm	1807 lm	2706 lm	3058 lm	2728 lm	1997 lm	1251 lm	628 lm	190 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
13.9 lm	10.6 lm	11.2 lm	13.0 lm	13.2 lm	12.6 lm	10.5 lm	7.07 lm	2.49 lm

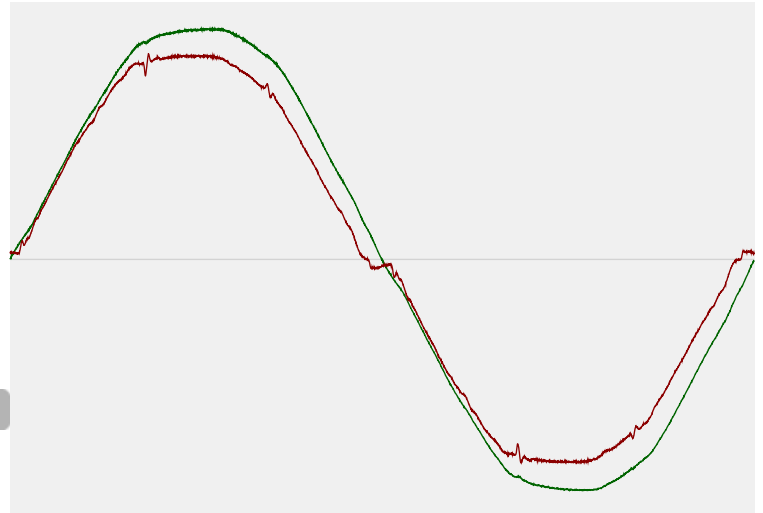


**Power Details**

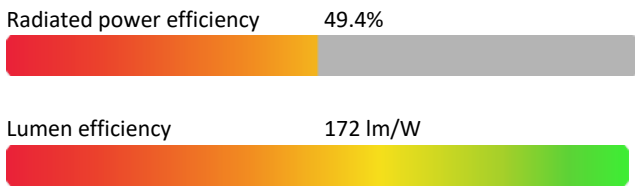
**Input Power**

Power feed to light source	87.6 W
Frequency of input power	60 Hz
RMS Input voltage feed, $V_{RMS}$	119 V
RMS Input current feed, $I_{RMS}$	0.738 A
Volt-Ampere or apparent power = $V_{RMS} * I_{RMS}$	88.01 VA
Displacement factor of AC power feed	1.0
Power factor of AC current feed	1.0
Total harmonic distortion of the current	6.28%
Total harmonic distortion of the voltage	2.43%

**Input Power Curve**



**Efficiency**



**Stabilization Details**

**Warmup Conditions**

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

**Color Temperature Change**

CCT start	3888 K
CCT shift	+1 K
CCT end	3889 K

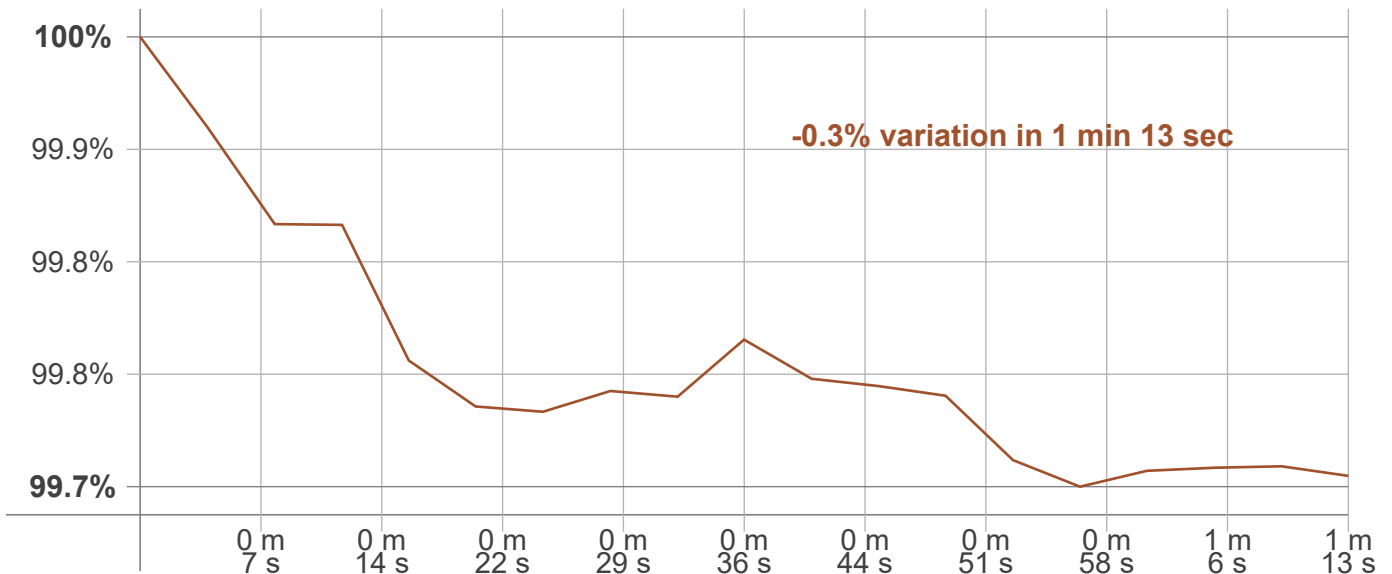
**Warmup Result**

Total warmup time	Not completed
Warmup variation	-0.3%

**Output Change**

Output start	15109 lm
Output change	-17 lm
Output end	15092 lm

**Stabilization Curve**



**Flicker /TLA details**



T 314.743.3067  
 F 314.972.6202  
 email: [commercial-sales@superbrightleds.com](mailto:commercial-sales@superbrightleds.com)  
[www.superbrightleds.com/](http://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                    1.51 %  
 Flicker index                        0

**Flicker indices per California Energy Commission (CEC) 2016b**

JA8/10 40 Hz                        0.3 %  
 JA8/10 90 Hz                        0.39 %  
 JA8/10 200 Hz                    1.04 %  
 JA8/10 400 Hz                    1.34 %  
 JA8/10 1000 Hz                    1.45 %

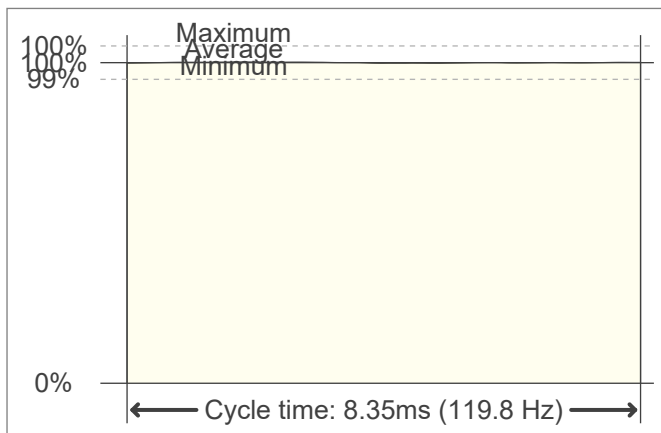
**TLA indices (re IEC TR 61547-1, IEC 61000-3-3 and IEC 61000-4-15)**

PstLM value (F < 80 Hz)            0.34  
 SVM value (80 < F < 2000 Hz)    0.02

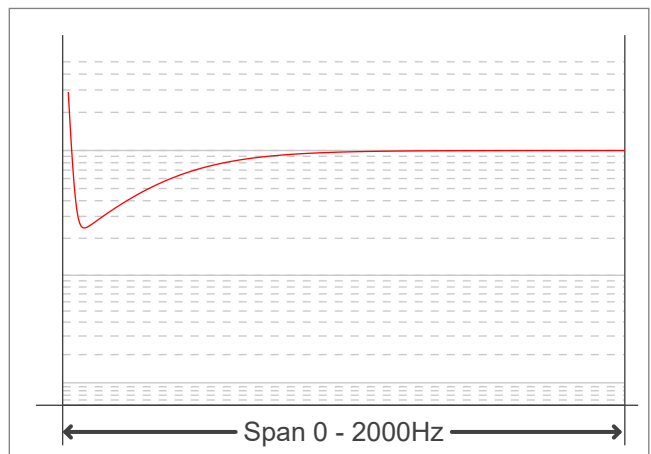
**Flicker indices according to Lighting Research Center (2015)**

Perception metric, Assist Mp        0.25

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



**Flicker FFT (flicker curve in frequency domain)**



**IEEE 1789 Frequency/modulation plot**

