

Light efficiency:



Output: 27132 lm

Light quality:



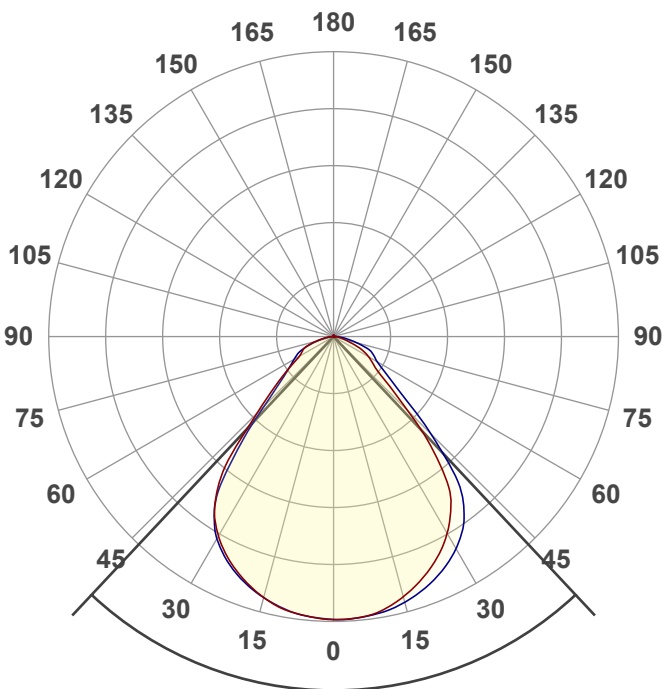
Peak: 13580 cd

Color temperature:



Power: 179 W

PF: 1.0



Product name:

LHBDP4-SW2B-SP230 40K 185W

Date and time:

4/16/2025 2:11:01 PM

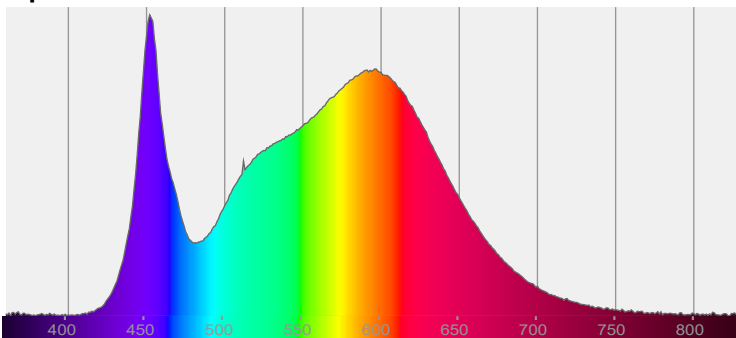
Beam angle

86.3°

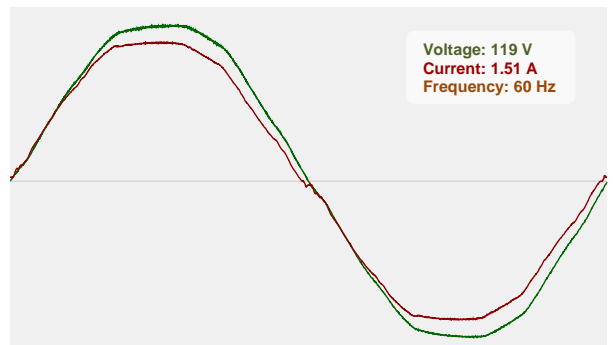


CIE 1931  
x: 0.378  
y: 0.372

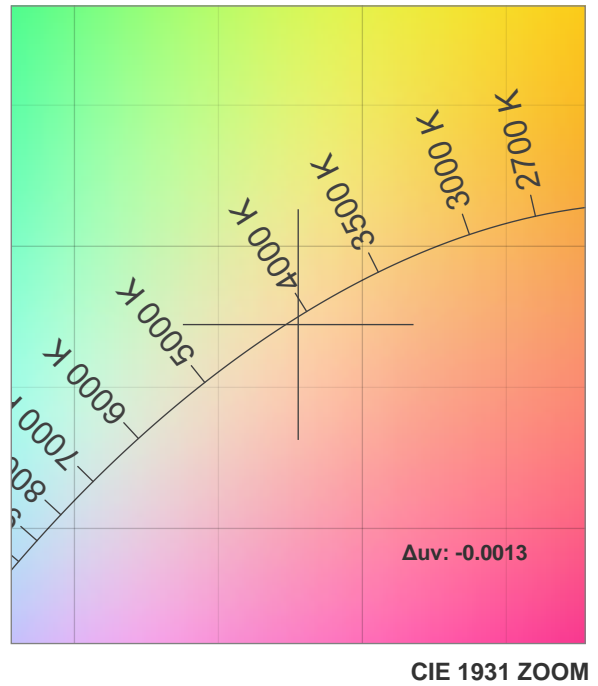
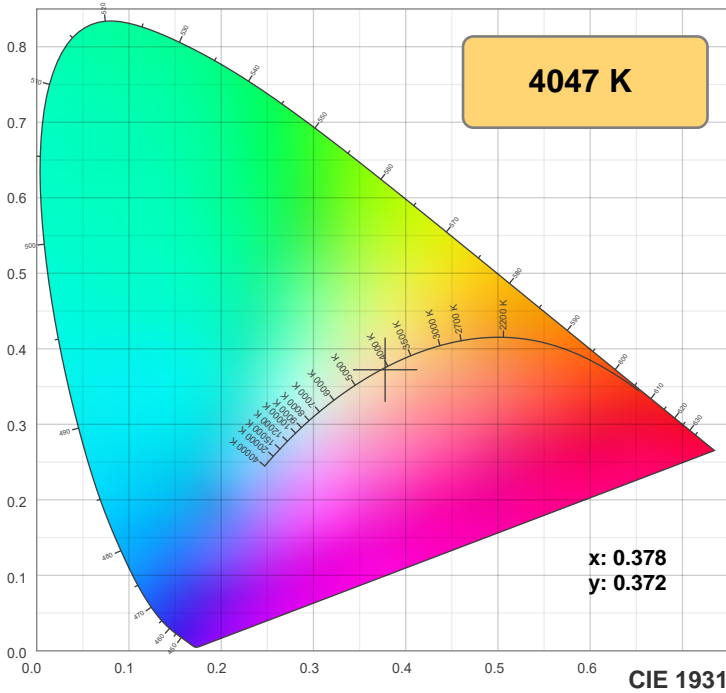
Spectra



Power

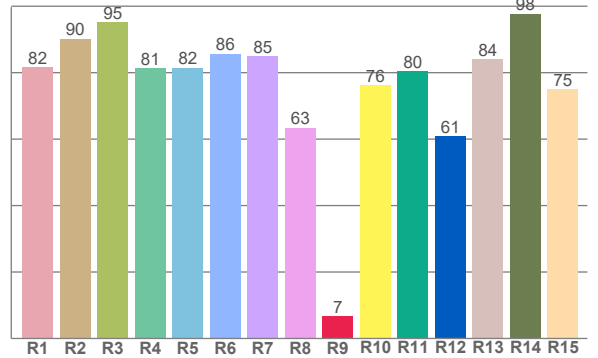
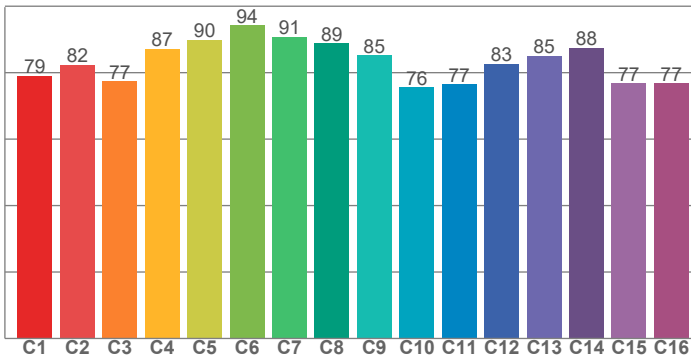


### Color Specifications



**TM30: 83.3**

**CRI: 83.0 (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
81.7	90.3	95.2	81.4	81.5	85.7	84.9	63.4	6.7	76.3	80.4	60.8	84.1	97.7	75.0

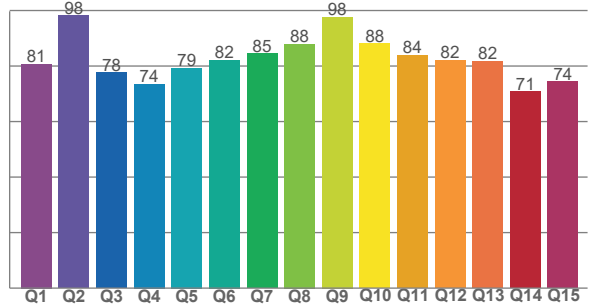
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
79.1	82.4	77.5	87.3	89.9	94.2	90.8	88.8	85.2	75.6	76.5	82.6	85.1	87.5	76.9	76.8

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
80.7	98.2	77.7	73.6	79.3	82.1	84.6	88.0	97.6	88.1	83.9	82.1	81.7	70.8	74.5

**CQS: 81.3**



### 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
4047 K	83.0	6.7	83.3	95.0	81.3	0.378	0.372	0.225	0.333	-0.0013

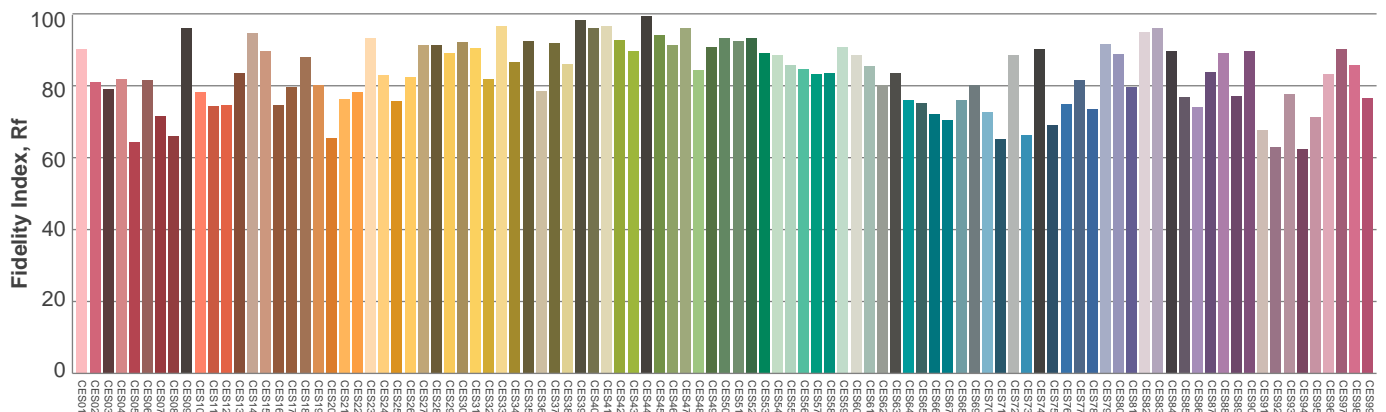
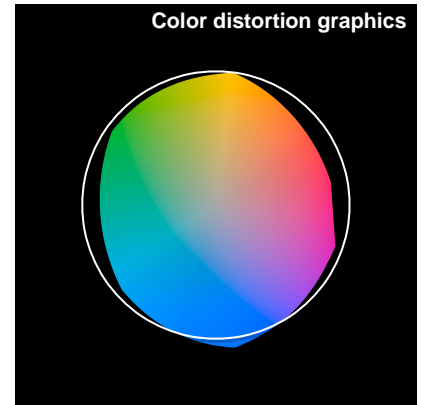
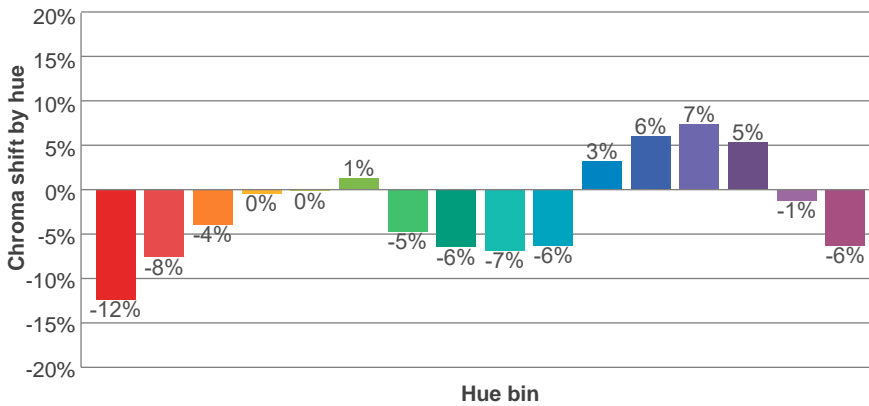
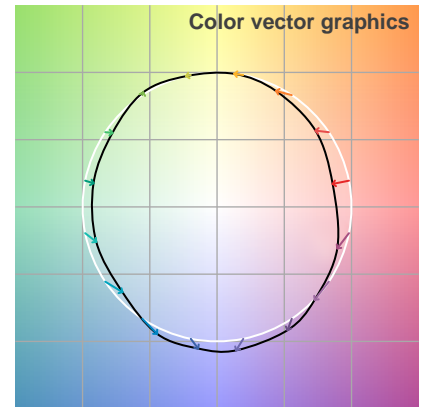
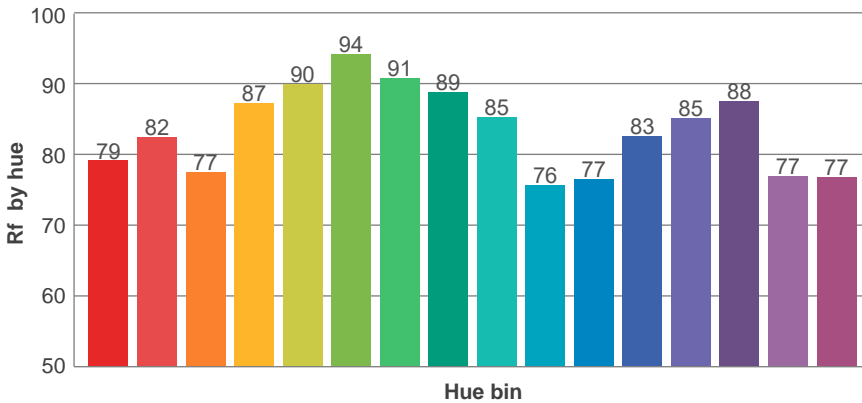
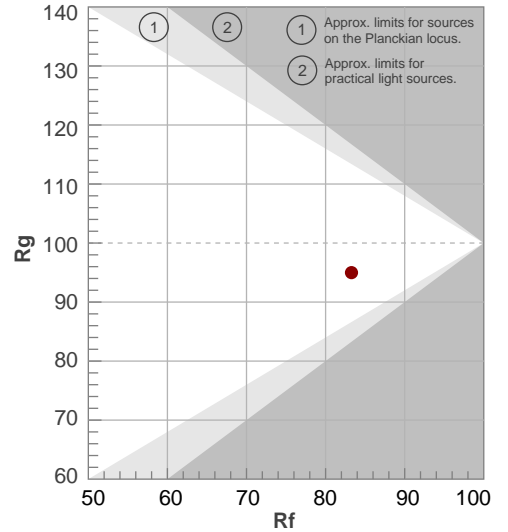


### TM30 Report

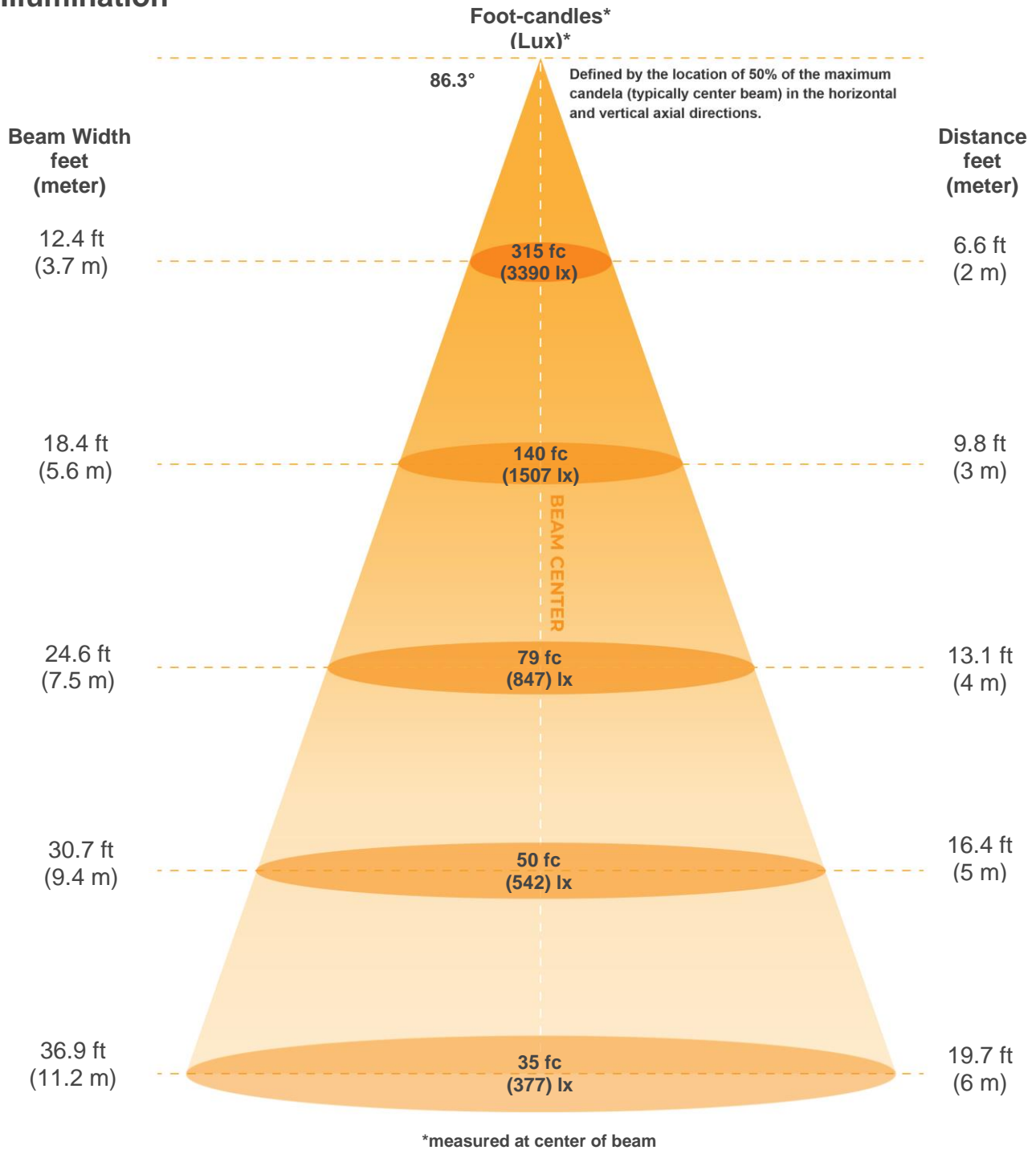
**Rf 83.3**  
Fidelity index Rf

**Rg 95.0**  
Gammut index Rg

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	79	-12%	0%
2	82	-8%	6%
3	77	-4%	11%
4	87	0%	7%
5	90	0%	4%
6	94	1%	-2%
7	91	-5%	-3%
8	89	-6%	1%
9	85	-7%	8%
10	76	-6%	14%
11	77	3%	15%
12	83	6%	7%
13	85	7%	-7%
14	88	5%	-7%
15	77	-1%	-17%
16	77	-6%	-13%



**Illumination**



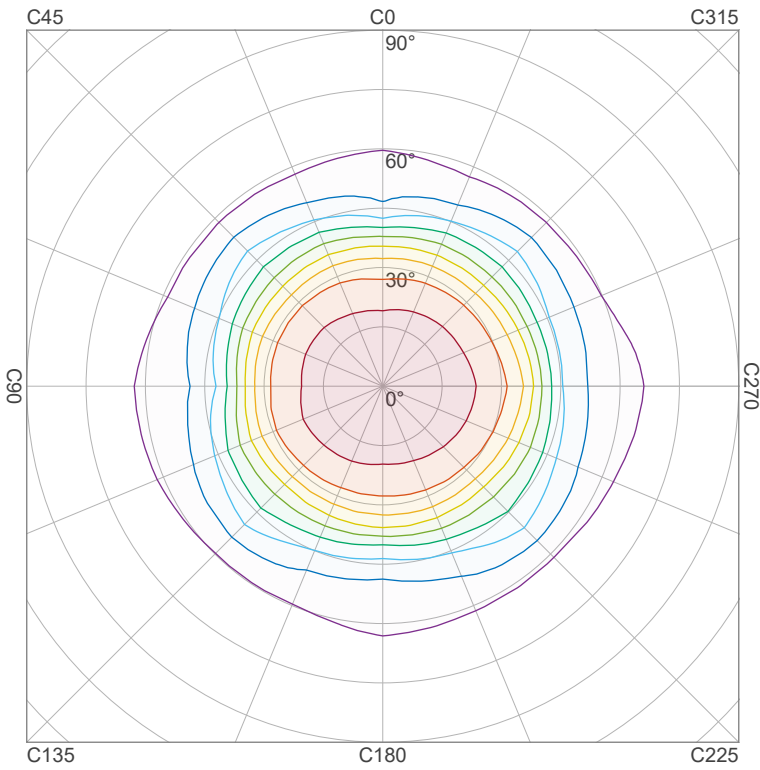
**Beam intensities from 1-20m**

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	13560	3390	1507	847	542	377	277	212	167	136	112	94	80	69	60	53	47	42	38	34
fc	1259.7	314.9	140	78.7	50.4	35	25.7	19.7	15.6	12.6	10.4	8.7	7.5	6.4	5.6	4.9	4.4	3.9	3.5	3.1

Beam angle 50%	Field angle 10%	Cutoff Angle 2.5%	Intensity Ratio in 120° cone	Intensity Ratio in 90° cone
<b>86.3°</b>	<b>134.7°</b>	<b>167.3°</b>	<b>89.3%</b>	<b>71.1%</b>

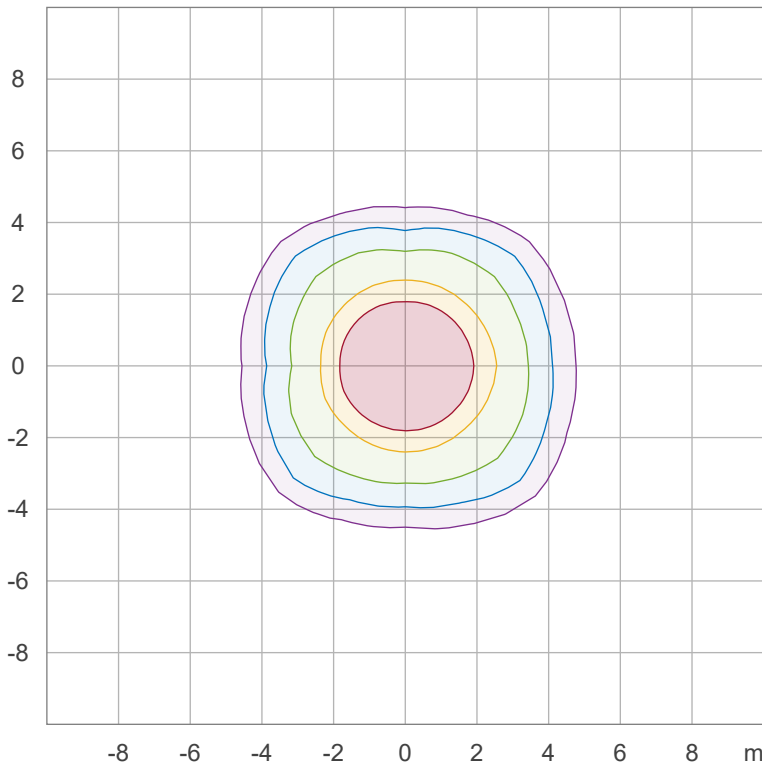


**Iso-intensity Diagram (Iso-candela)**



Peak intensity: 13579.0 cd  
 Number of c-planes: 16

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



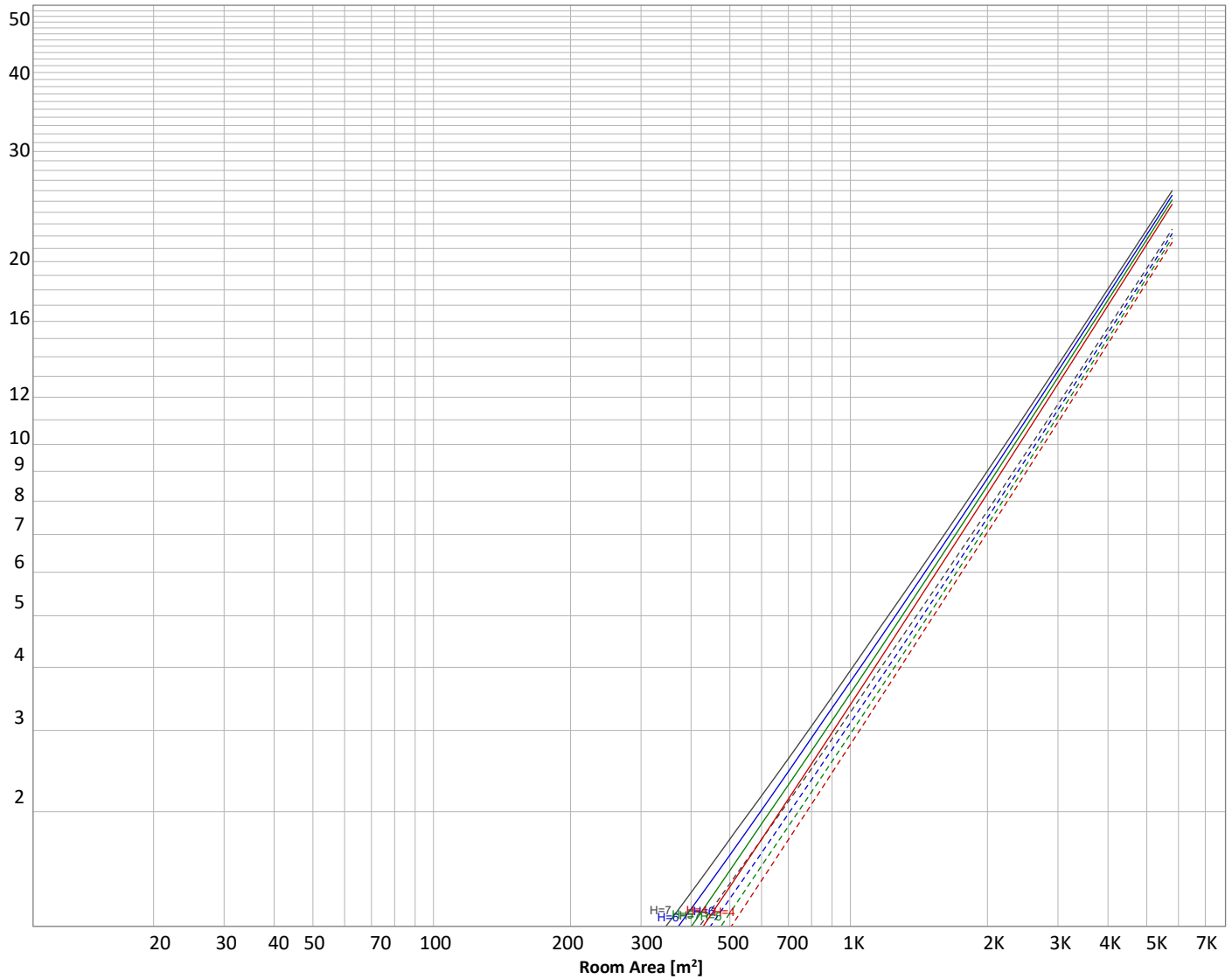
Peak illuminance: 1507.4 lx  
 Mounting height: 3.0 m  
 Number of c-planes: 16





**Luminaire budgetary diagram**

Uncorrected, comprehensive UGR table according to 117-1995  
 LAMPS (number of lamps)



**Conditions**

H = Room height	Flux = 27132 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°
1285 lm	3673 lm	5530 lm	6220 lm	4642 lm	2876 lm	1614 lm	778 lm	316 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
25.4 lm	20.9 lm	23.8 lm	27.3 lm	28.6 lm	27.5 lm	23.2 lm	15.6 lm	5.59 lm

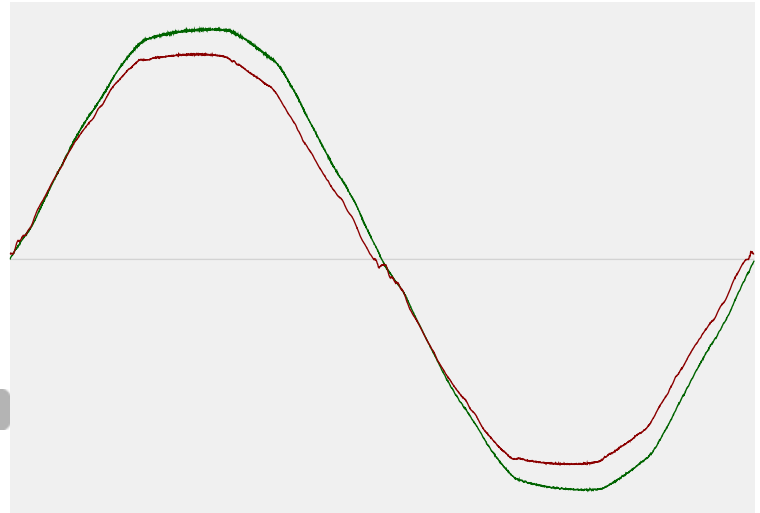


**Power Details**

**Input Power**

Power feed to light source	179 W
Frequency of input power	60 Hz
RMS Input voltage feed, $V_{RMS}$	119 V
RMS Input current feed, $I_{RMS}$	1.51 A
Volt-Ampere or apparent power = $V_{RMS} * I_{RMS}$	179.36 VA
Displacement factor of AC power feed	1.0
Power factor of AC current feed	1.0
Total harmonic distortion of the current	3.44%
Total harmonic distortion of the voltage	2.61%

**Input Power Curve**



**Efficiency**

Radiated power efficiency 46.0%



Lumen efficiency 152 lm/W



**Stabilization Details**

**Warmup Conditions**

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

**Color Temperature Change**

CCT start	4047 K
CCT shift	+0 K
CCT end	4047 K

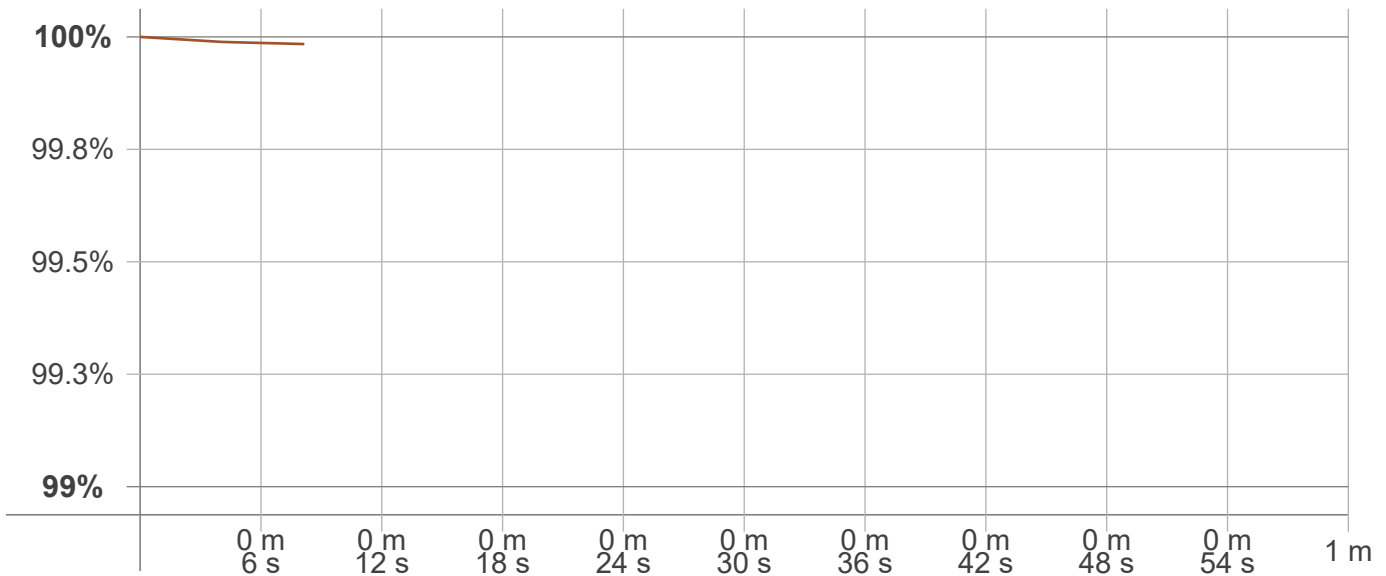
**Warmup Result**

Total warmup time	Not completed
Warmup variation	0.0%

**Output Change**

Output start	27137 lm
Output change	-4 lm
Output end	27132 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                    0.13 %  
 Flicker index                         0

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

JA8/10 40 Hz                         0.02 %  
 JA8/10 90 Hz                         0.03 %  
 JA8/10 200 Hz                       0.08 %  
 JA8/10 400 Hz                       0.09 %  
 JA8/10 1000 Hz                      0.12 %

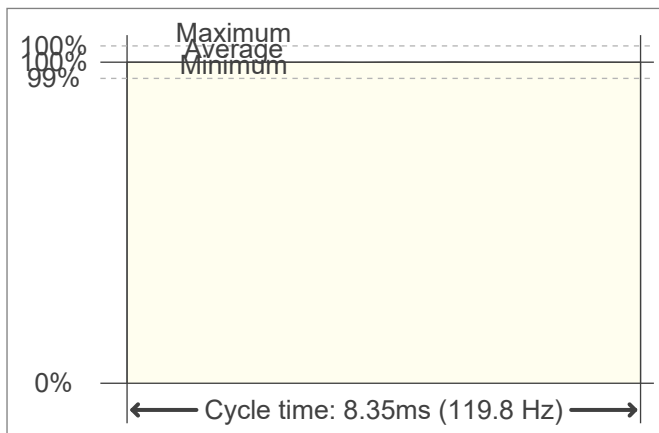
**TLA indices (re IEC TR 61547-1, IEC 61000-3-3 and IEC 61000-4-15)**

PstLM value (F < 80 Hz)            0.01  
 SVM value (80 < F < 2000 Hz)    0

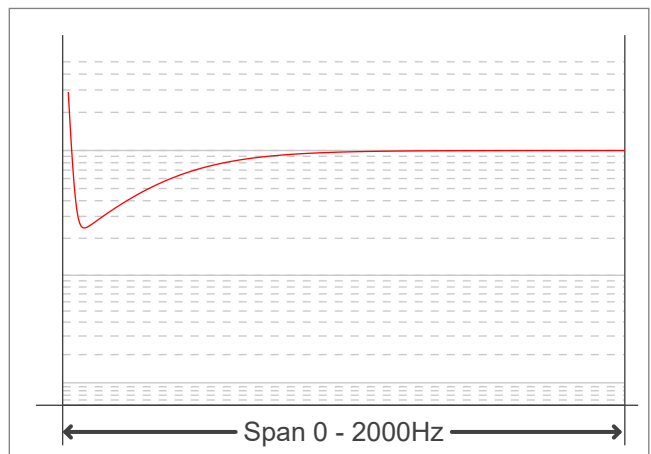
**Flicker indices according to Lighting Research Center (2015)**

Perception metric, Assist Mp        0.01

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



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



**IEEE 1789 Frequency/modulation plot**

