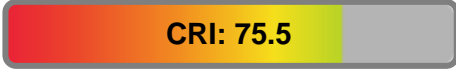


Light efficiency:



Output: 46685 lm

Light quality:



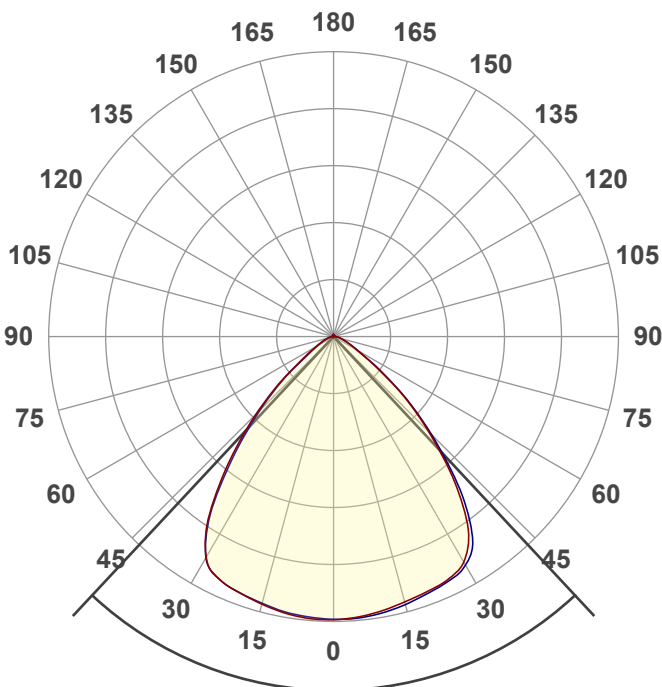
Peak: 24812 cd

Color temperature:



Power: 292 W

PF: 1.0



Product name:
**HBUD3-SW3B300S-HDGLY 40K 300W
with Reflector**

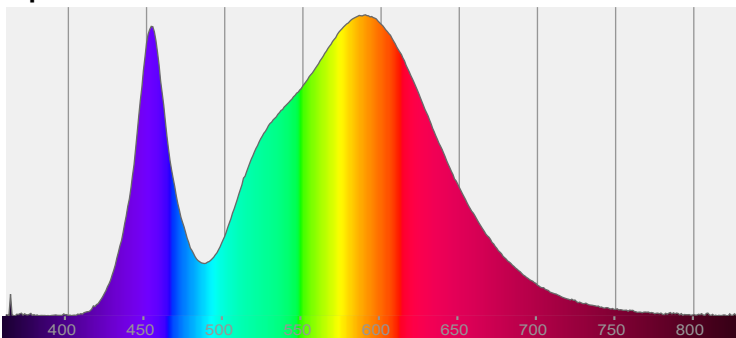
Date and time:
8/29/2024 1:33:57 PM

Beam angle **86°**

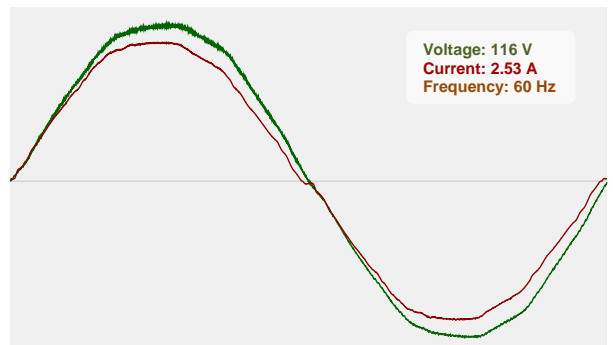


CIE 1931
x: 0.389
y: 0.379

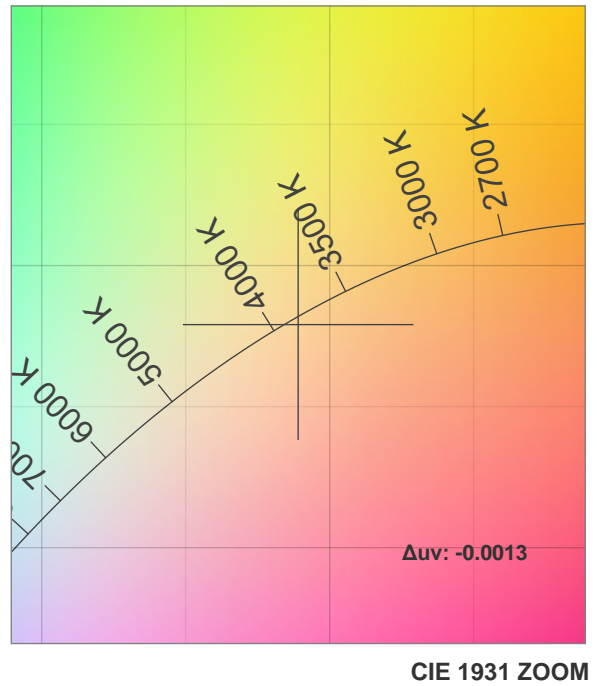
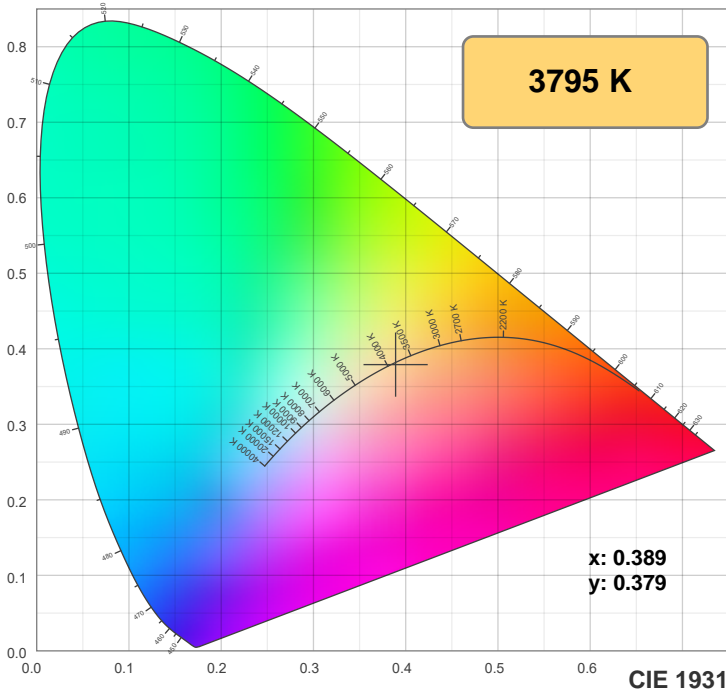
Spectra



Power

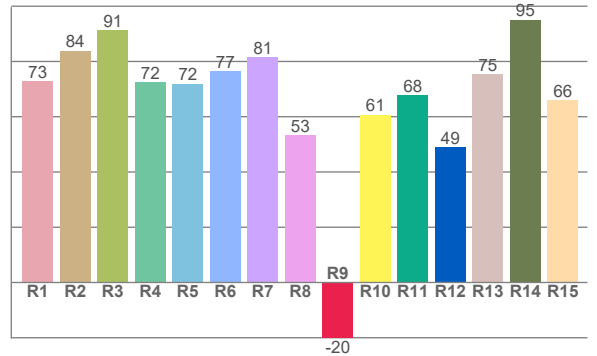
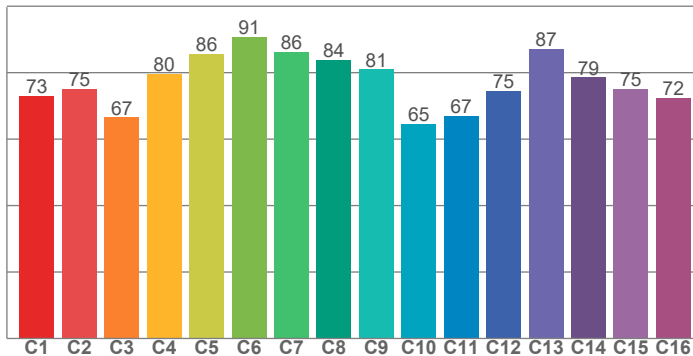


Color Specifications



TM30: 77.2

CRI: 75.5 (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
72.8	83.9	91.4	72.5	72.0	76.5	81.4	53.3	-20.3	60.8	67.9	48.9	75.3	95.1	65.9

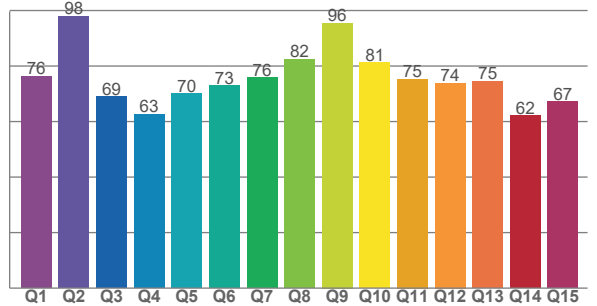
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
73.1	75.1	66.5	79.7	85.6	90.9	86.3	83.8	81.0	64.6	67.0	74.6	87.2	78.6	75.1	72.5

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
76.3	97.9	69.0	62.7	70.0	72.9	75.9	82.5	95.5	81.1	75.3	73.9	74.5	62.1	67.1

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
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
3795 K	75.5	-20.3	77.2	93.5	73.8	0.389	0.379	0.230	0.336	-0.0013

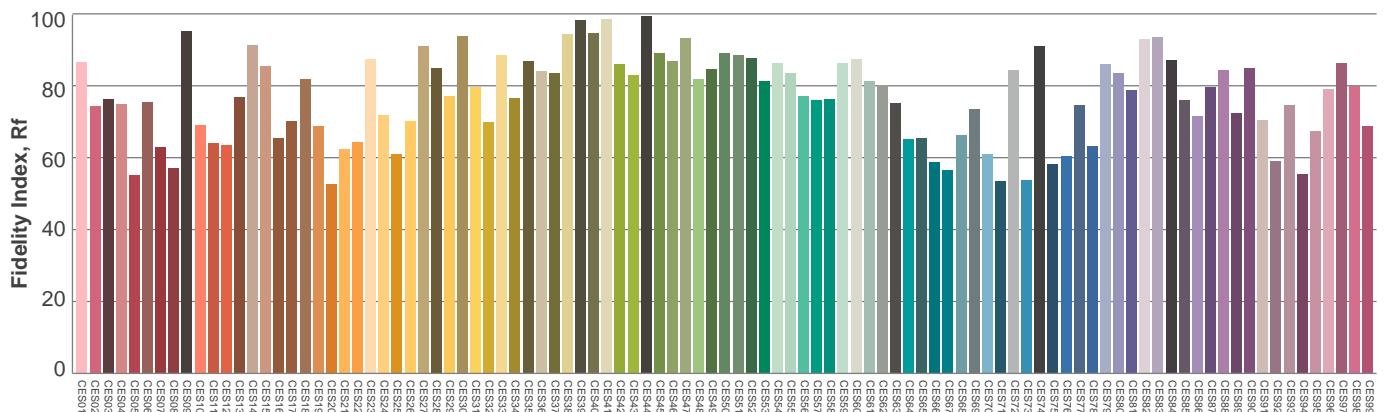
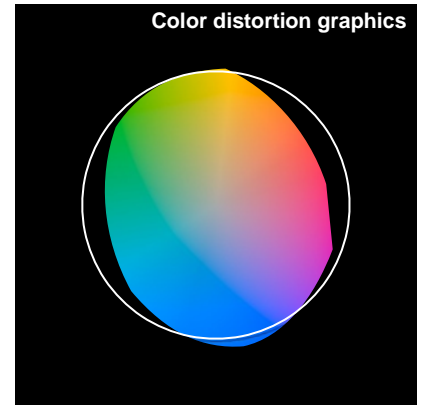
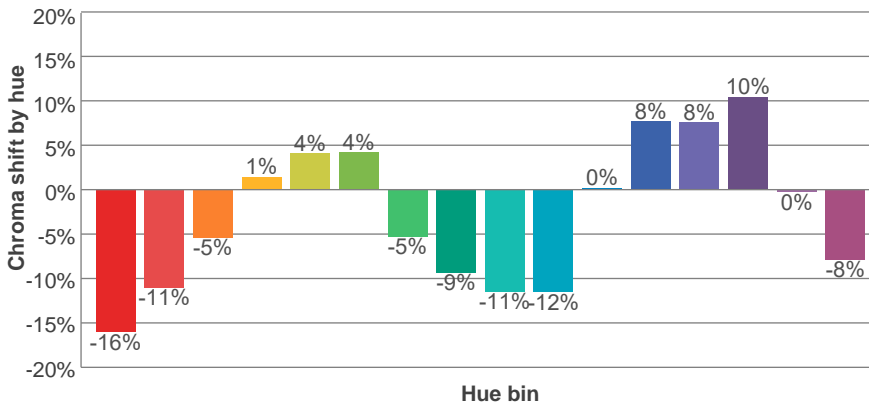
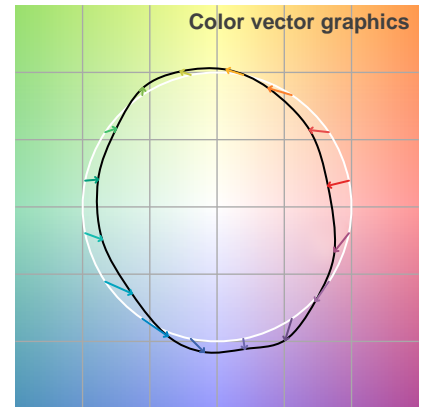
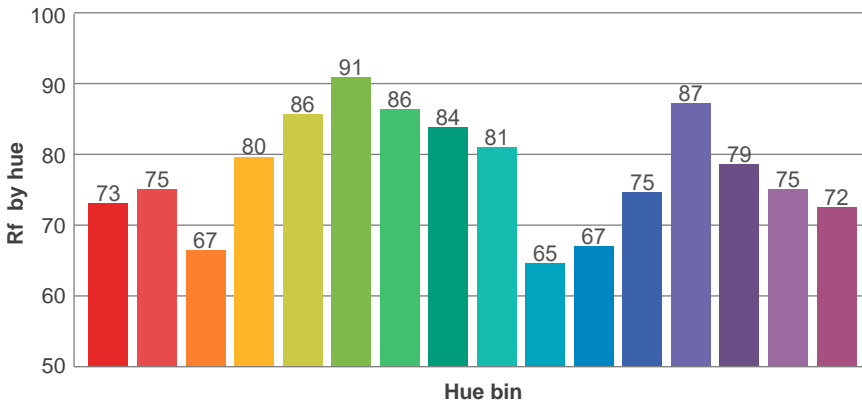
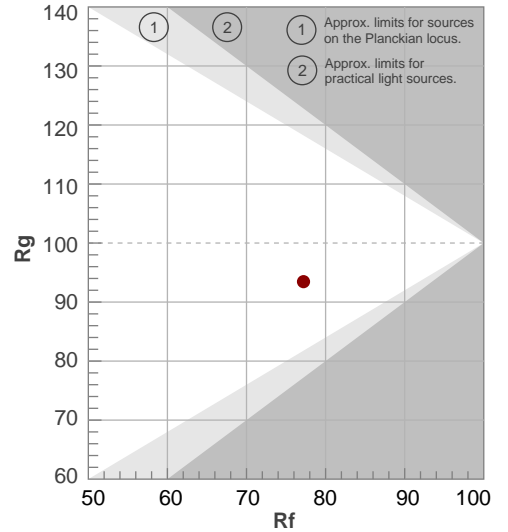


TM30 Report

Rf 77.2
Fidelity index Rf

Rg 93.5
Gammut index Rg

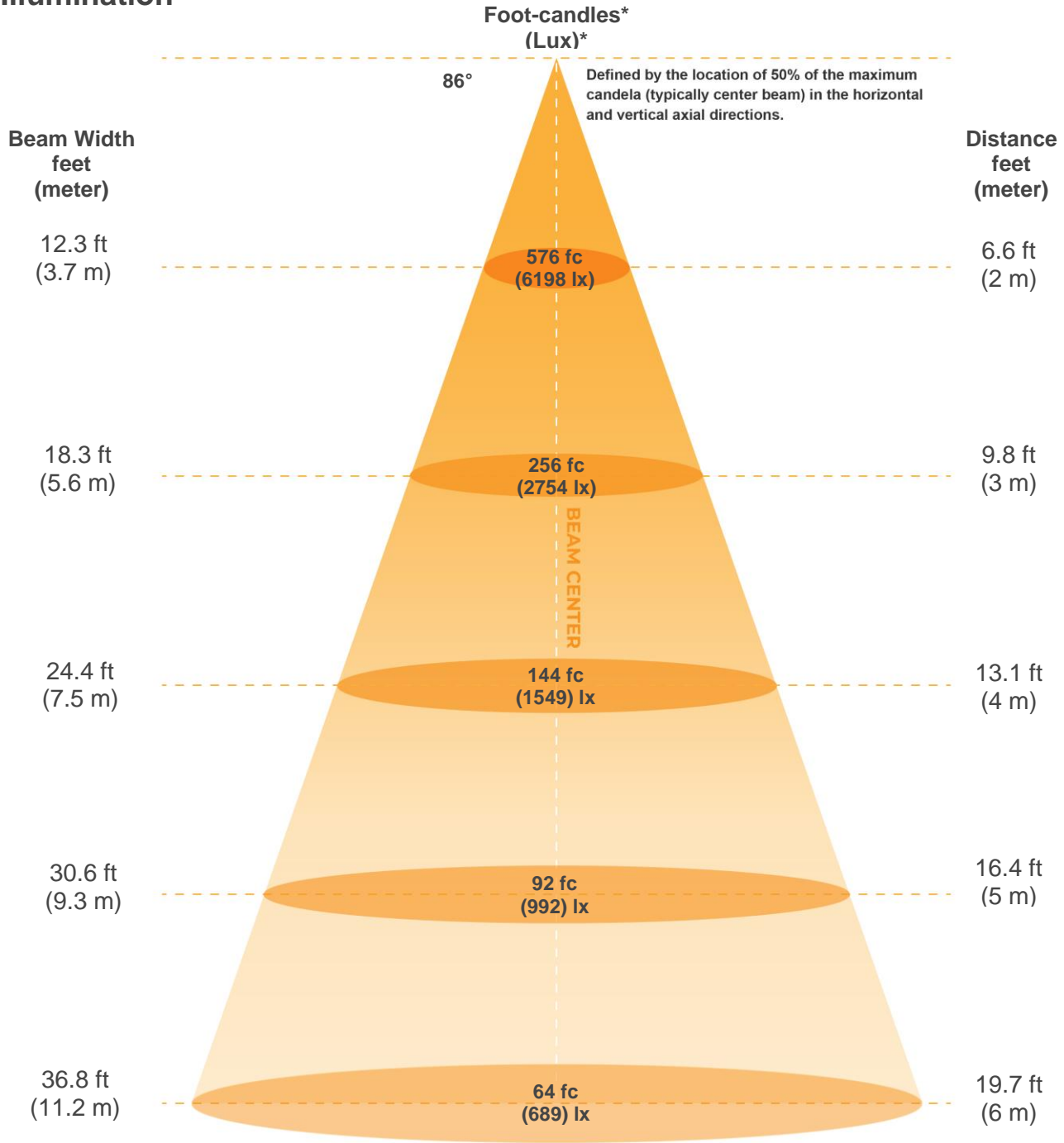
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	73	-16%	-1%
2	75	-11%	9%
3	67	-5%	17%
4	80	1%	13%
5	86	4%	7%
6	91	4%	-3%
7	86	-5%	-7%
8	84	-9%	-3%
9	81	-11%	7%
10	65	-12%	18%
11	67	0%	23%
12	75	8%	12%
13	87	8%	0%
14	79	10%	-13%
15	75	0%	-18%
16	72	-8%	-15%



Color Evaluation Sample



Illumination



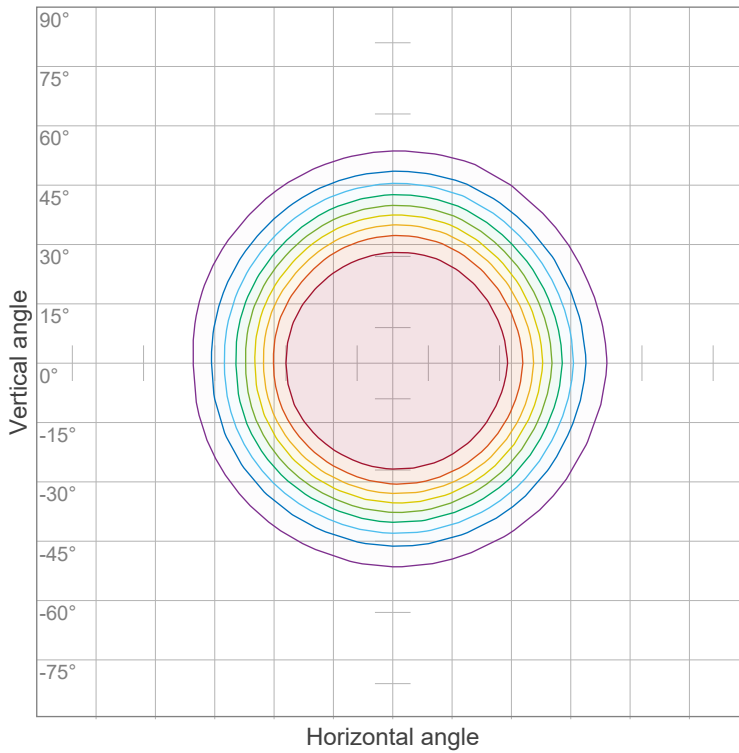
Beam intensities from 1-20m

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	24790	6198	2754	1549	992	689	506	387	306	248	205	172	147	126	110	97	86	77	69	62
fc	2303.1	575.8	255.9	143.9	92.1	64	47	36	28.4	23	19	16	13.6	11.8	10.2	9	8	7.1	6.4	5.8

Beam angle 50%	Field angle 10%	Cutoff Angle 2.5%	Intensity Ratio in 120° cone	Intensity Ratio in 90° cone
86°	116.4°	148.5°	93.9%	79.0%



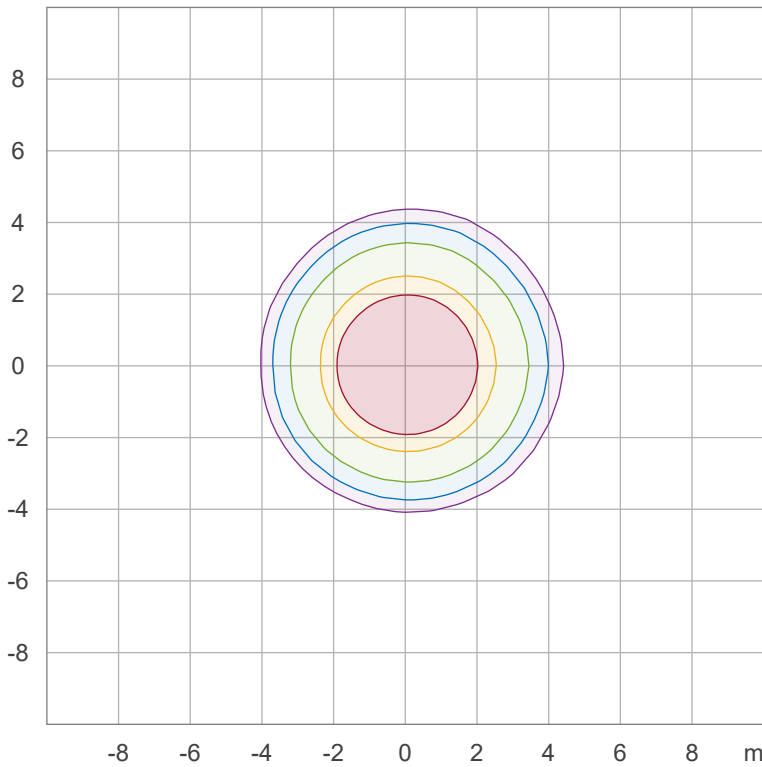
Iso-intensity Diagram (Iso-candela)



90 %	22324.9 cd
80 %	19844.3 cd
70 %	17363.8 cd
60 %	14883.2 cd
50 %	12402.7 cd
40 %	9922.2 cd
30 %	7441.6 cd
20 %	4961.1 cd
10 %	2480.5 cd

Peak intensity: 24805.4 cd
 Number of c-planes: 16

Iso-illuminance Diagram (Iso-lux)



50.0 %	1377.4 lx
30.0 %	826.5 lx
10.0 %	275.5 lx
5.0 %	137.7 lx
3.0 %	82.6 lx

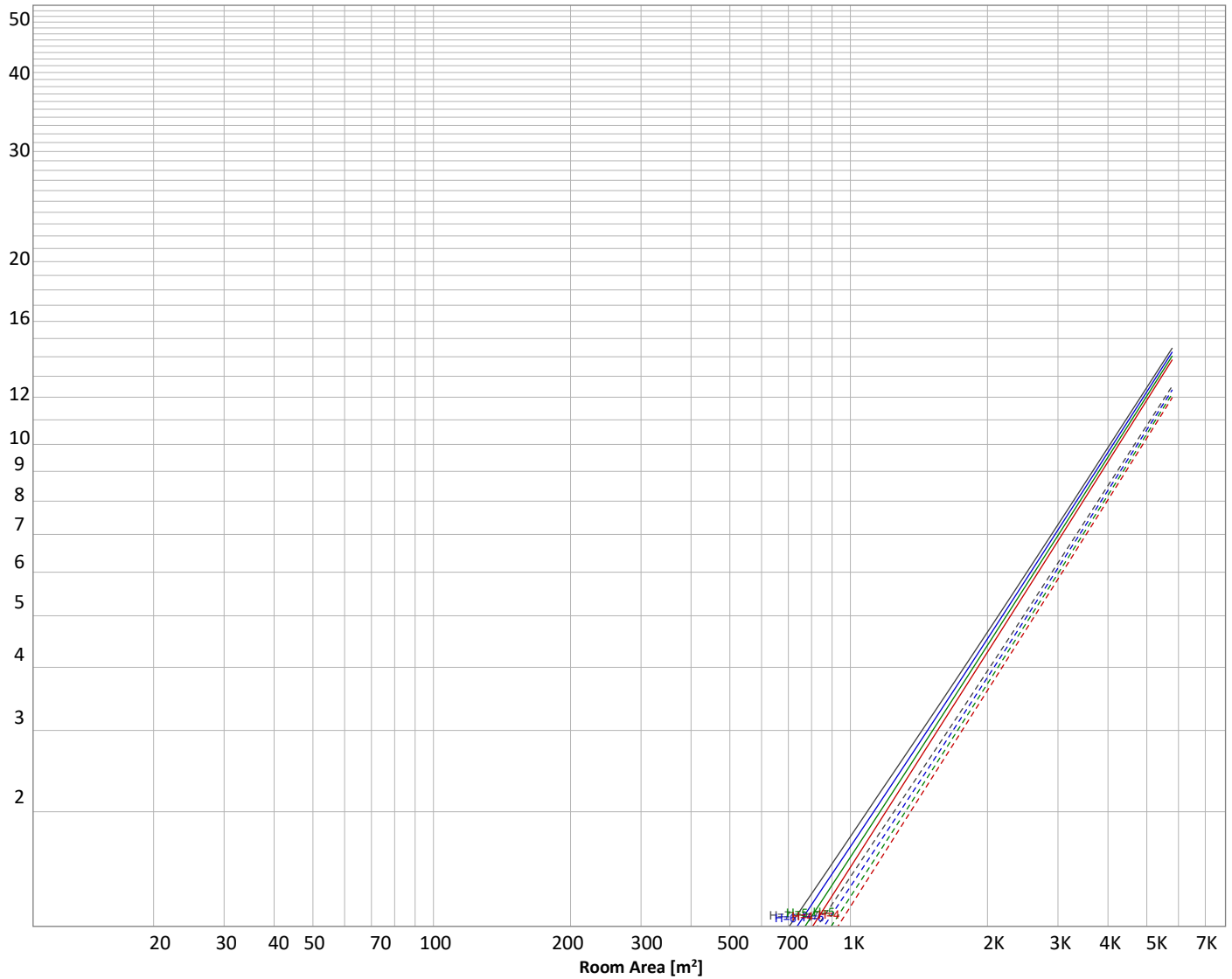
Peak illuminance: 2754.9 lx
 Mounting height: 3.0 m
 Number of c-planes: 16



Luminaire budgetary diagram

Uncorrected, comprehensive UGR table according to 117-1995

LAMPS (number of lamps)



Conditions

H = Room height	Flux = 46685 lm	p(%)			
H _{down} = Lamp distance from ceiling =	0.00 m	Line type	Ceiling reflectance	Wall reflectance	Floor reflectance
H _{work} = Work area height from floor =	0.00 m	-----	70	50	30
E _{work} = 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°
2352 lm	6853 lm	10835 lm	12095 lm	8242 lm	3459 lm	1364 lm	638 lm	220 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
76.9 lm	82.1 lm	106 lm	98.3 lm	85.1 lm	72.6 lm	56.2 lm	38.3 lm	14.1 lm

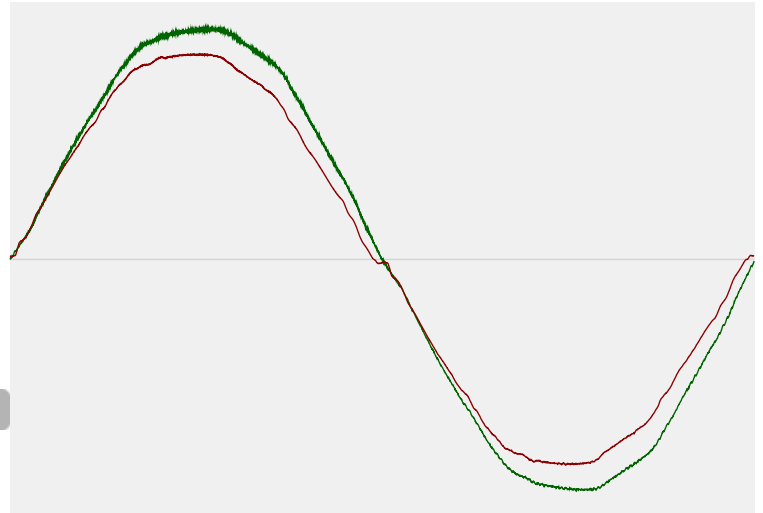


Power Details

Input Power

Power feed to light source	292 W
Frequency of input power	60 Hz
RMS Input voltage feed, V_{RMS}	116 V
RMS Input current feed, I_{RMS}	2.53 A
Volt-Ampere or apparent power = $V_{RMS} * I_{RMS}$	292.59 VA
Displacement factor of AC power feed	1.0
Power factor of AC current feed	1.0
Total harmonic distortion of the current	3.34%
Total harmonic distortion of the voltage	2%

Input Power Curve



Efficiency

Radiated power efficiency 46.6%

Lumen efficiency 160 lm/W

Stabilization Details

Warmup Conditions

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

Color Temperature Change

CCT start	3705 K
CCT shift	+90 K
CCT end	3795 K

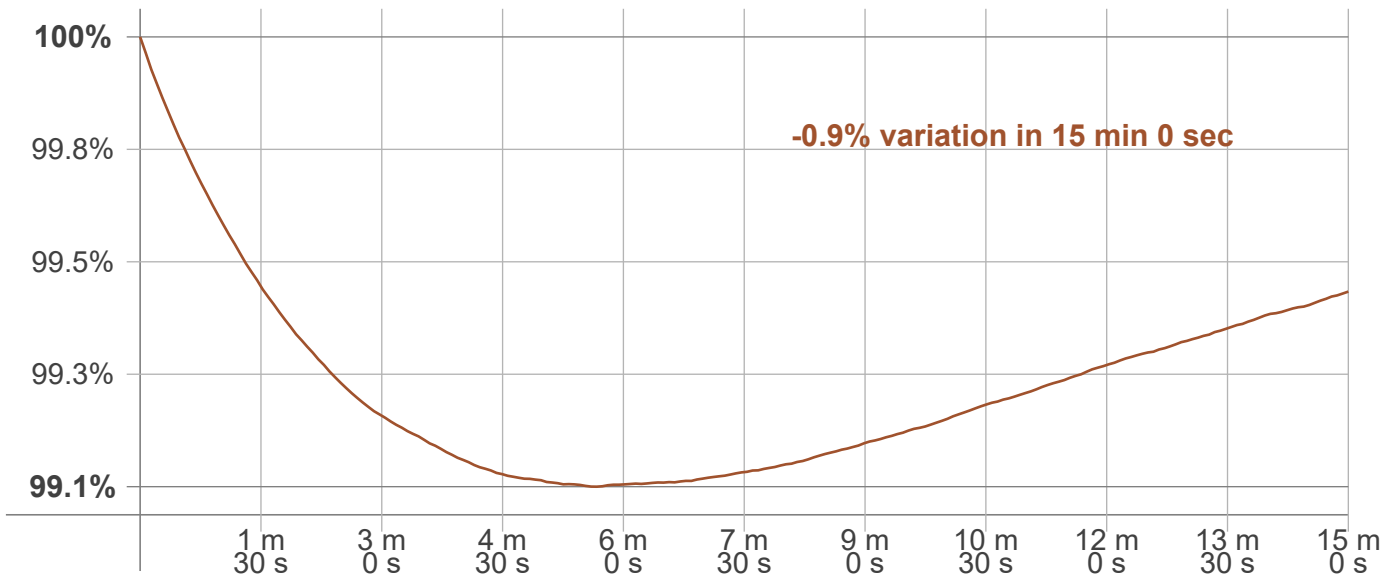
Warmup Result

Total warmup time	Lamp stabilized in 15 min 0 sec
Warmup variation	-0.9%

Output Change

Output start	46943 lm
Output change	-257 lm
Output end	46685 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 115.61 Hz
 Percent Flicker 0.05 %
 Flicker index 0

Flicker indices per California Energy Commission (CEC) 2016b

JA8/10 40 Hz 0 %
 JA8/10 90 Hz 0.01 %
 JA8/10 200 Hz 0.04 %
 JA8/10 400 Hz 0.04 %
 JA8/10 1000 Hz 0.04 %

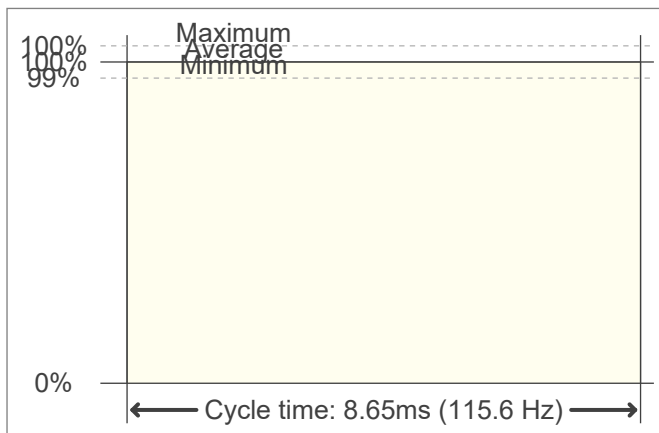
TLA indices (re IEC TR 61547-1, IEC 61000-3-3 and IEC 61000-4-15)

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

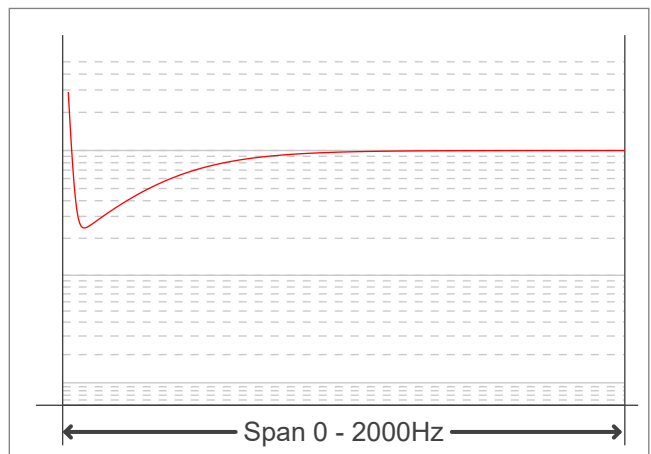
Flicker indices according to Lighting Research Center (2015)

Perception metric, Assist Mp 0

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



Flicker FFT (flicker curve in frequency domain)



IEEE 1789 Frequency/modulation plot

