

Light efficiency:

146 Lumens/Watt

Light quality:

CRI: 83.9

Color temperature:

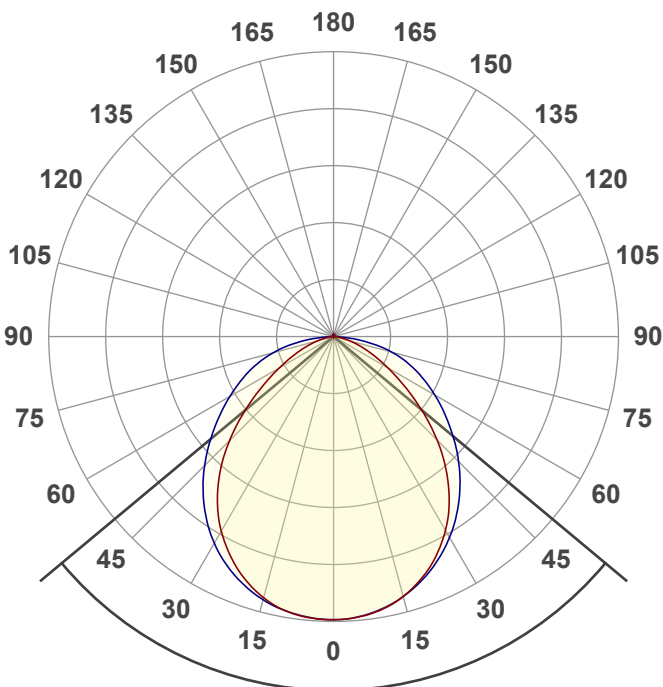
4131 K

Output: 4956 lm

Peak: 1962 cd

Power: 33.8 W

PF: 1.0



Product name:

TLFD-TW3C22-835BLE 40K 35W

Date and time:

3/18/2024 3:15:11 PM

Beam angle

100.4°

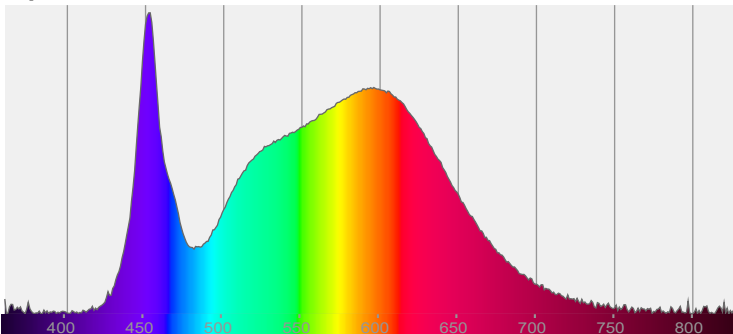


CIE 1931

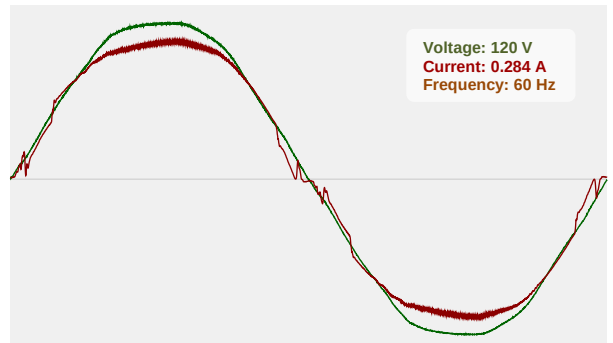
x: 0.375

y: 0.372

Spectra



Power



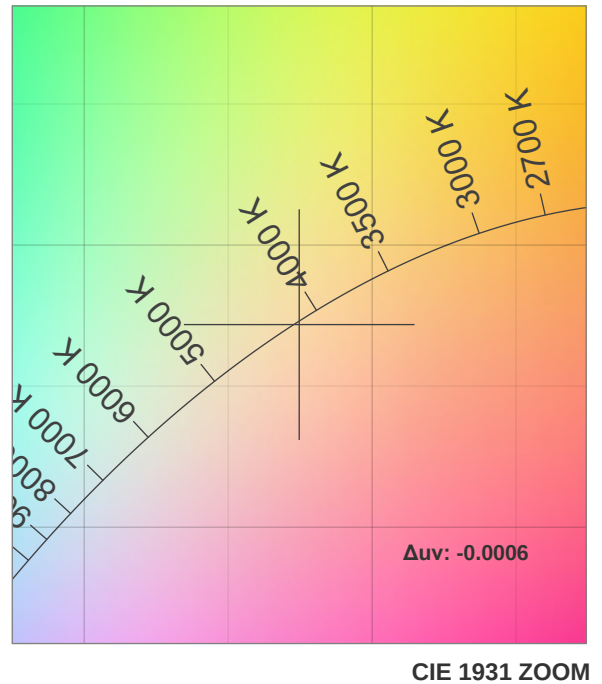
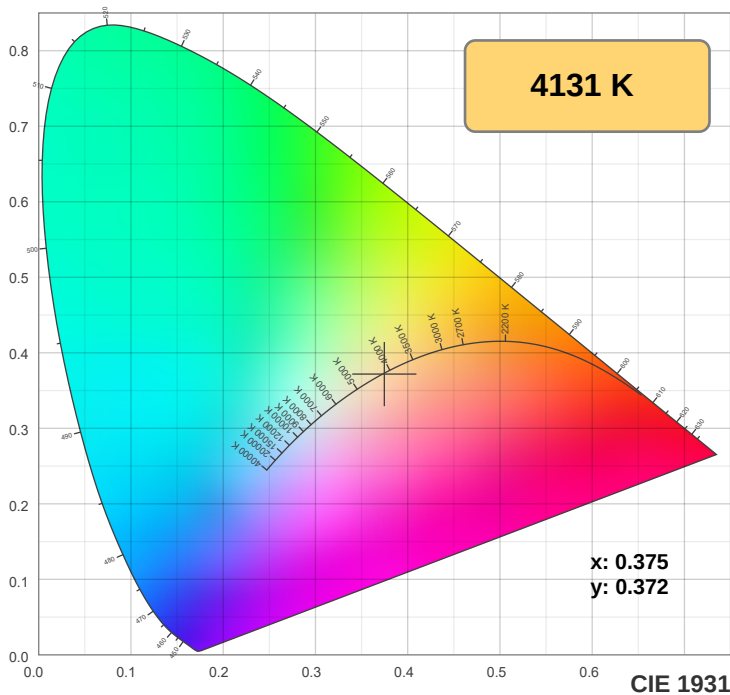
T 314.743.3067

F 314.972.6202

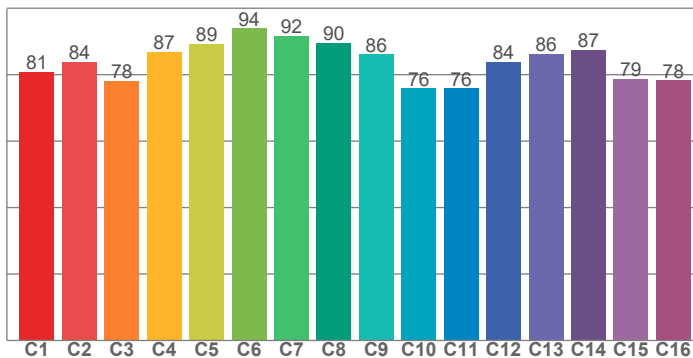
email: commercial-sales@superbrightleds.com

www.superbrightleds.com/

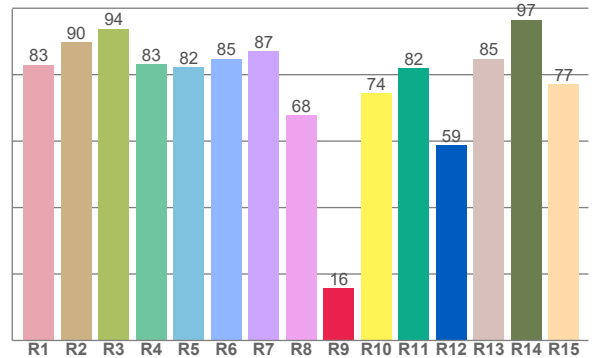
Color Specifications



TM30: 83.8



CRI: 83.9 (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
82.9	89.7	93.8	83.1	82.3	84.8	87.1	67.8	15.6	74.5	81.9	58.8	84.8	96.6	77.2

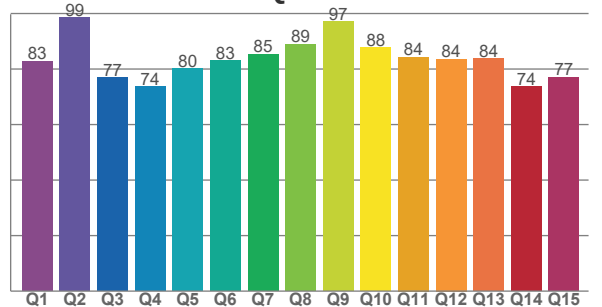
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
80.9	83.9	78.1	86.9	89.2	93.9	91.7	89.6	86.1	75.9	75.8	83.8	86.3	87.5	78.7	78.2

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
82.8	98.5	76.9	73.7	80.1	83.0	85.4	88.9	97.1	87.7	84.3	83.6	83.7	73.7	77.1

CQS: 82.3



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
4131 K	83.9	15.6	83.8	96.0	82.3	0.375	0.372	0.223	0.332	-0.0006



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TM30 Report

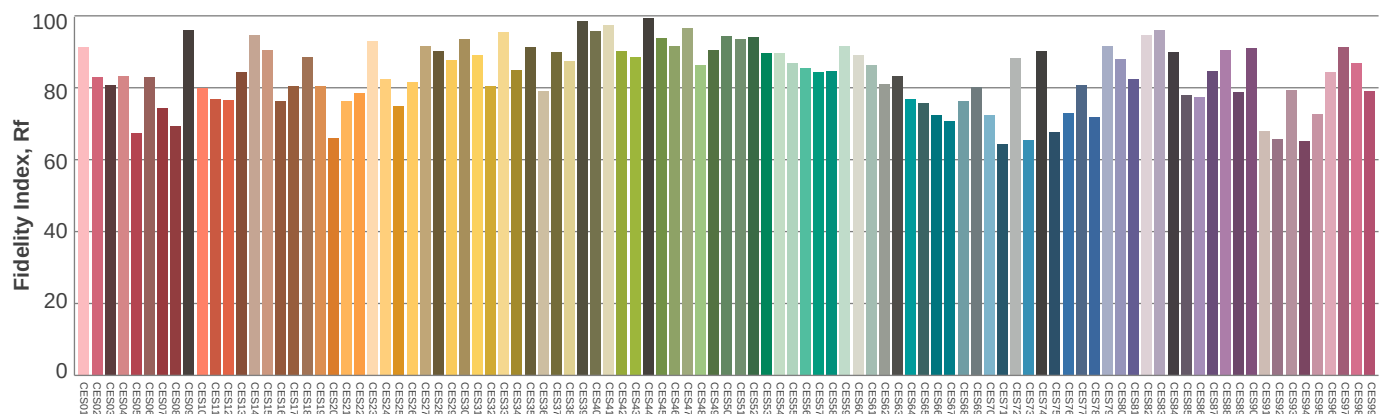
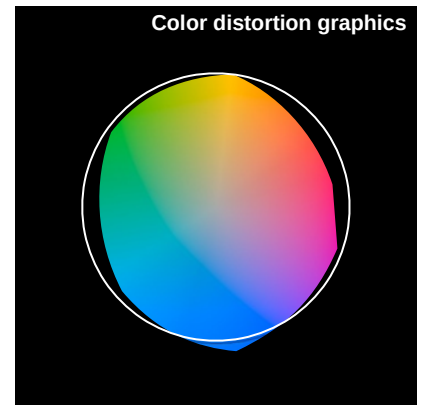
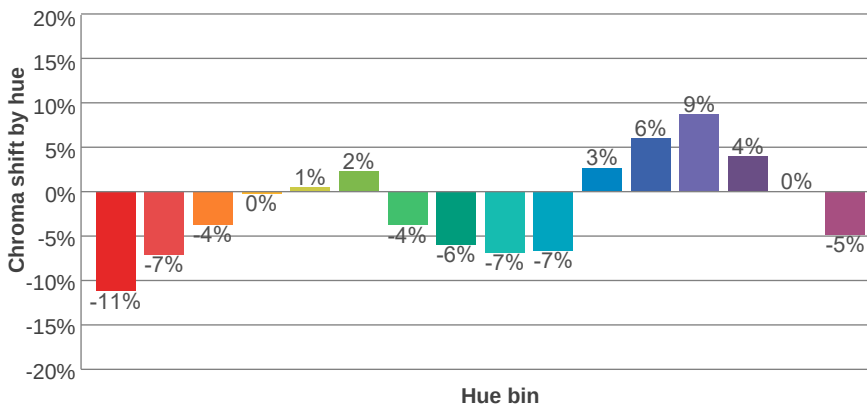
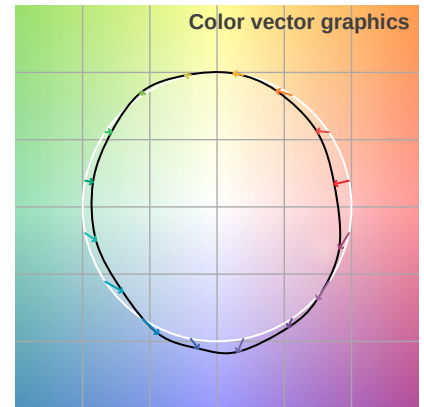
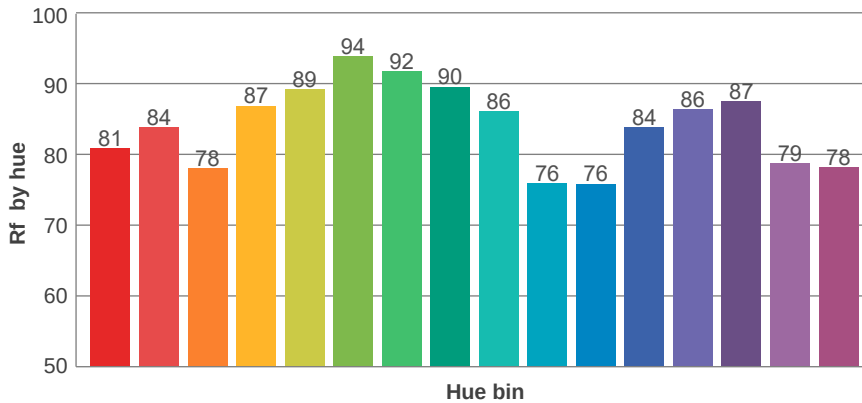
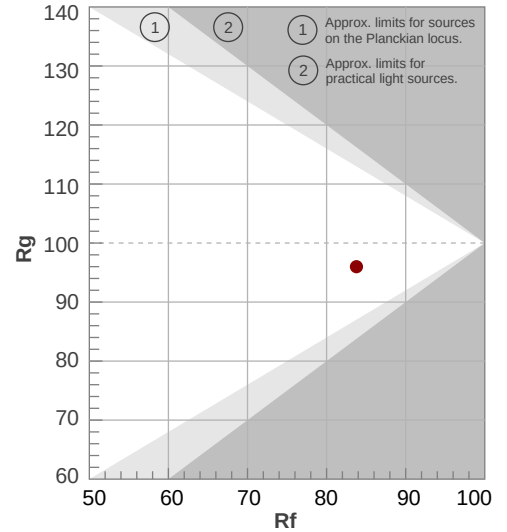
Rf 83.8

Fidelity index Rf

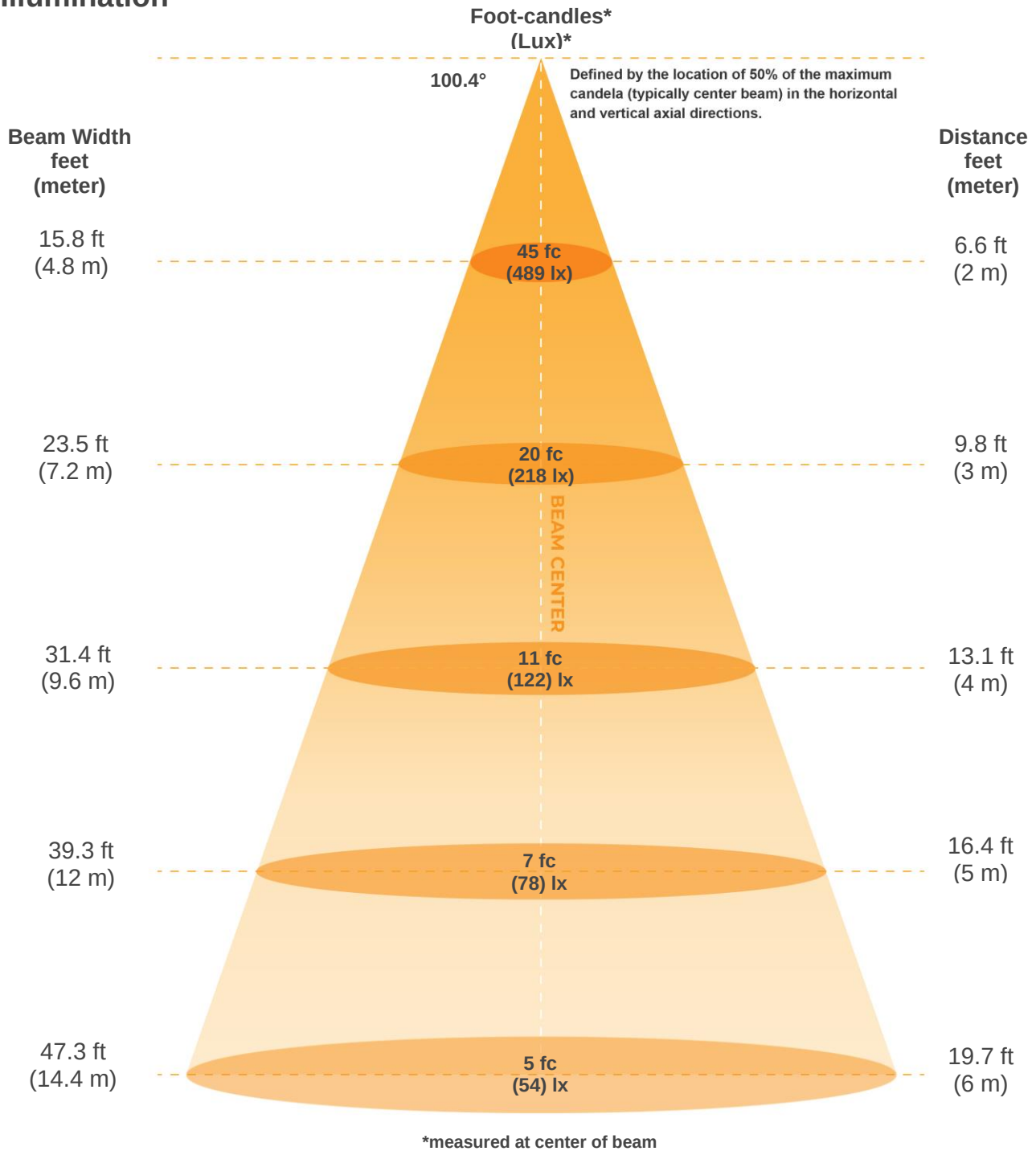
Rg 96.0

Gammut index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	81	-11%	0%
2	84	-7%	6%
3	78	-4%	11%
4	87	0%	7%
5	89	1%	4%
6	94	2%	-1%
7	92	-4%	-3%
8	90	-6%	0%
9	86	-7%	7%
10	76	-7%	13%
11	76	3%	16%
12	84	6%	7%
13	86	9%	-6%
14	87	4%	-6%
15	79	0%	-16%
16	78	-5%	-13%



Illumination



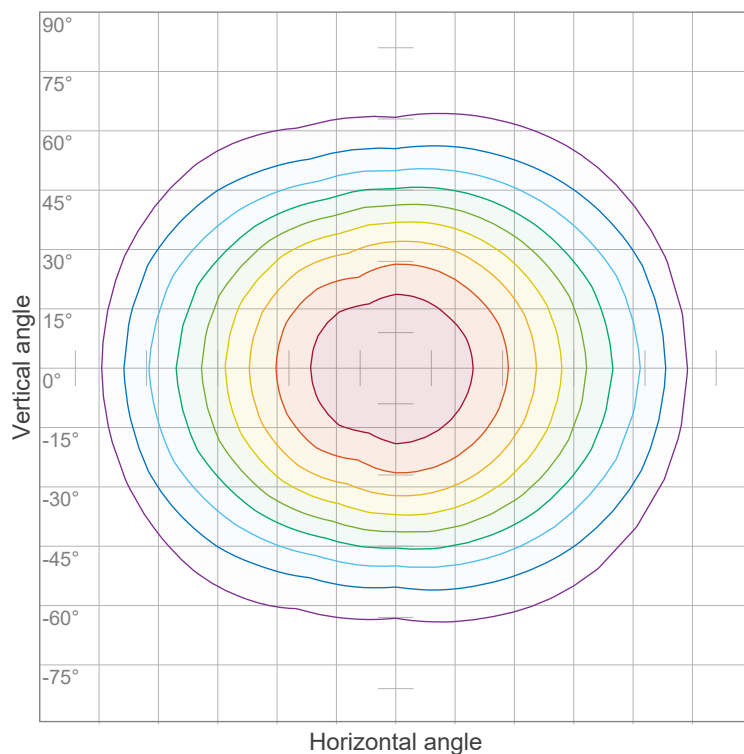
Beam intensities from 1-20m

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	1958	489	218	122	78	54	40	31	24	20	16	14	12	10	9	8	7	6	5	5
fc	181.9	45.5	20.2	11.4	7.3	5.1	3.7	2.8	2.2	1.8	1.5	1.3	1.1	0.9	0.8	0.7	0.6	0.6	0.5	0.5

Beam angle 50%	Field angle 10%	Cutoff Angle 2.5%	Intensity Ratio in 120° cone	Intensity Ratio in 90° cone
100.4°	156.3°	172.3°	80.9%	57.7%



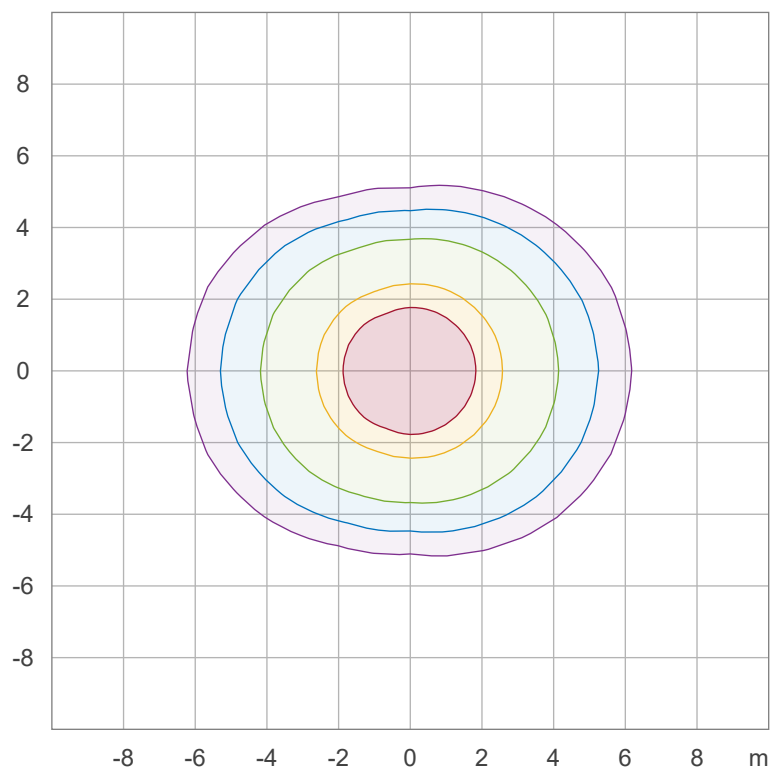
Iso-intensity Diagram (Iso-candela)



90 %	1765.6 cd
80 %	1569.4 cd
70 %	1373.2 cd
60 %	1177.0 cd
50 %	980.9 cd
40 %	784.7 cd
30 %	588.5 cd
20 %	392.3 cd
10 %	196.2 cd

Peak intensity: 1961.7 cd
Number of c-planes: 16

Iso-illuminance Diagram (Iso-lux)



50.0 %	108.8 lx
30.0 %	65.3 lx
10.0 %	21.8 lx
5.0 %	10.9 lx
3.0 %	6.5 lx

Peak illuminance: 217.7 lx
Mounting height: 3.0 m
Number of c-planes: 16



Light Planning – UGR table

Uncorrected, comprehensive UGR table according to 117-1995

Reflectances											
ρ Ceiling	70	70	50	50	30	70	70	50	50	30	
ρ Walls	50	30	50	30	30	50	30	50	30	30	
ρ Floor	20	20	20	20	20	20	20	20	20	20	
Room size H = mounting height above eye level											
X	Y	Viewed Crosswise (Viewing direction orthogonal to lamp length axis)				Viewed Endwise (Viewing direction parallel to lamp length axis)					
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Variations with the observer position for the luminaire spacings, S:											
n/a					n/a						
n/a					n/a						
n/a					n/a						

UGR data could not be calculated due to missing dimensions. Goto Edit->Photometric->Dimensions and set the fixture/lamp dimensions.

Coefficients of Utilization

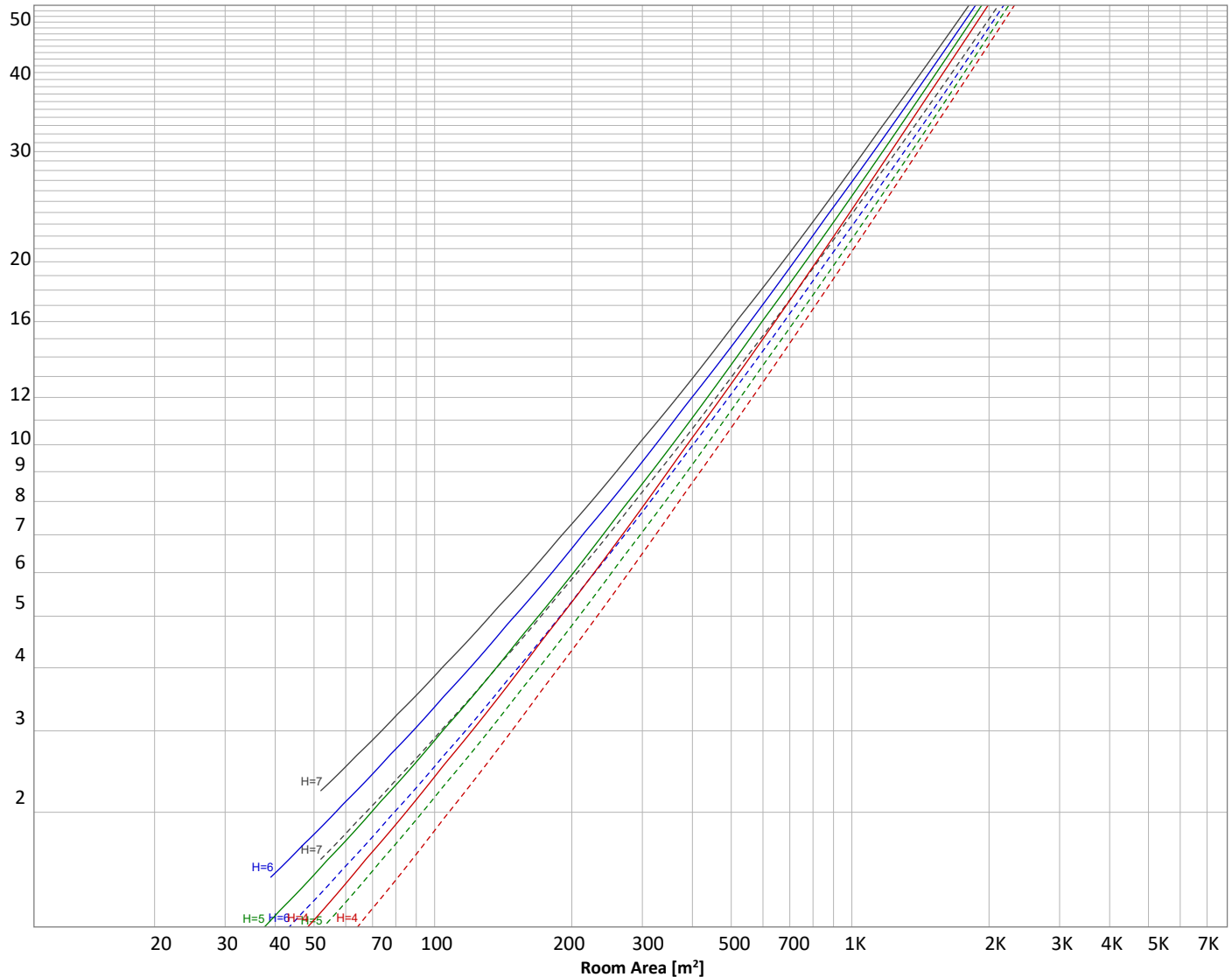
Ceiling reflectance	80			70			50			30			10			0		
Wall reflectance	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
Floor reflectance	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	0
RCR			(RCR: Room Cavity Ratio)															
			Room Values are expressed as percentage of Lumen delivered to the task surface															
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	101	101	101	99
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84
2	99	92	85	79	97	90	84	78	86	81	76	83	78	75	79	76	73	71
3	91	81	73	67	89	79	72	66	76	70	65	73	68	63	71	66	62	60
4	84	72	63	57	81	71	63	57	68	61	56	66	60	55	63	58	54	52
5	77	65	56	49	75	63	55	49	61	54	48	59	53	48	57	52	47	45
6	71	58	50	43	69	57	49	43	56	48	43	54	47	42	52	46	42	40
7	66	53	45	39	65	52	44	38	51	43	38	49	43	38	48	42	37	35
8	62	49	40	35	60	48	40	34	46	39	34	45	39	34	44	38	34	32
9	58	45	37	31	56	44	36	31	43	36	31	42	35	31	41	35	30	29
10	54	41	34	28	53	41	33	28	40	33	28	39	32	28	38	32	28	26



Luminaire budgetary diagram

Uncorrected, comprehensive UGR table according to 117-1995

LAMPS (number of lamps)



Conditions

H = Room height	Flux = 4956 lm	p(%)		
H _{down} = Lamp distance from ceiling =	0.00 m	Line type	Ceiling reflectance	Wall reflectance
H _{work} = Work area height from floor =	0.00 m	-----	70	50
E _{work} = Average lux on work area =	100 lx	————	50	30
				Floor reflectance
				20

Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
185 lm	527 lm	782 lm	910 lm	882 lm	721 lm	511 lm	305 lm	91.8 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
6.36 lm	5.59 lm	5.60 lm	5.73 lm	5.35 lm	4.84 lm	3.89 lm	2.44 lm	0.842 lm

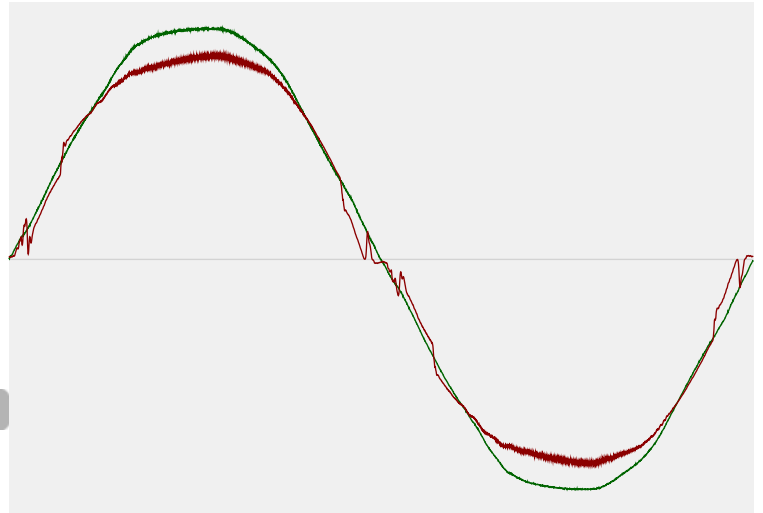


Power Details

Input Power

Power feed to light source	33.8 W
Frequency of input power	60 Hz
RMS Input voltage feed, V_{RMS}	120 V
RMS Input current feed, I_{RMS}	0.284 A
Volt-Ampere or apparent power = $V_{RMS} * I_{RMS}$	33.93 VA
Displacement factor of AC power feed	1.0
Power factor of AC current feed	1.0
Total harmonic distortion of the current	7.44%
Total harmonic distortion of the voltage	2.31%

Input Power Curve



Efficiency

Radiated power efficiency 45.1%



Lumen efficiency 146 lm/W



Stabilization Details

Warmup Conditions

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

Color Temperature Change

CCT start	4164 K
CCT shift	-33 K
CCT end	4131 K

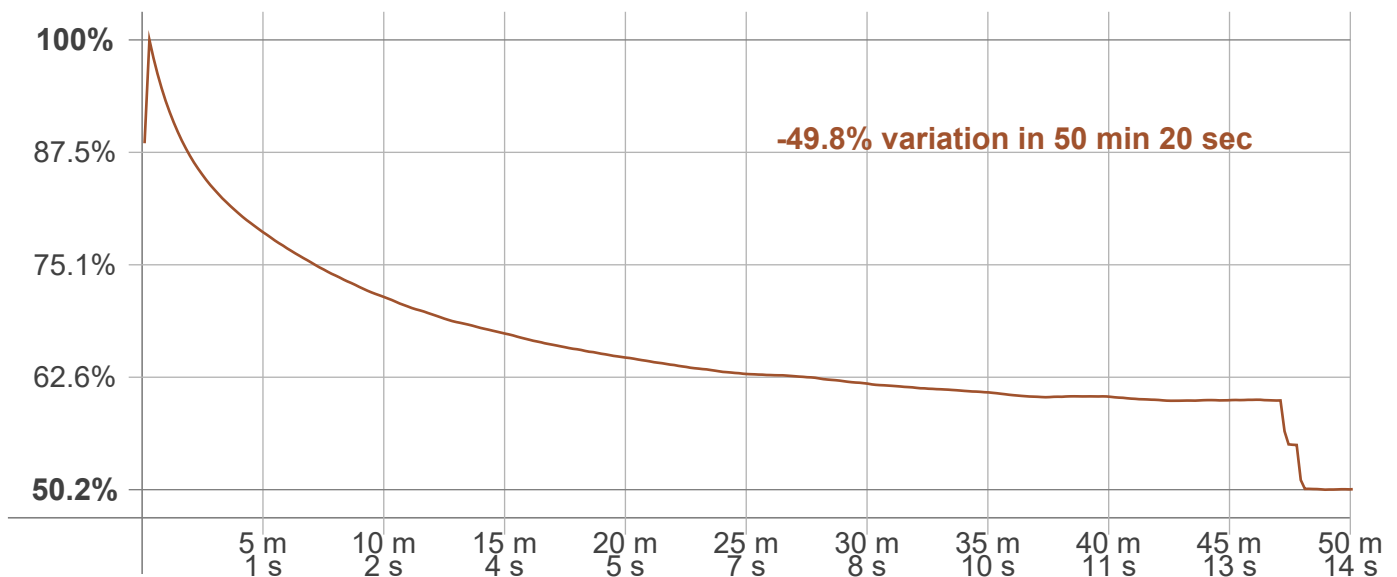
Warmup Result

Total warmup time	Not completed
Warmup variation	-50.9%

Output Change

Output start	4583 lm
Output change	+373 lm
Output end	4956 lm

Stabilization Curve



Flicker /TLA details



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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 19.23 %
Flicker index 0.06

Flicker indices per California Energy Commission (CEC) 2016b

JA8/10 40 Hz 0.19 %
JA8/10 90 Hz 0.68 %
JA8/10 200 Hz 19.18 %
JA8/10 400 Hz 19.44 %
JA8/10 1000 Hz 19.23 %

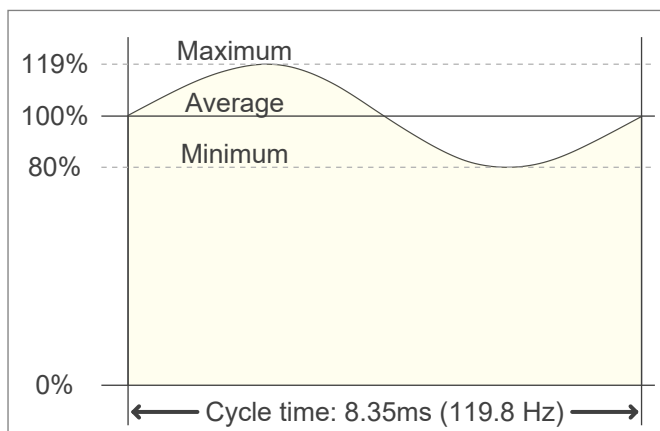
TLA indices (re IEC TR 61547-1, IEC 61000-3-3 and IEC 61000-4-15)

PstLM value ($F < 80$ Hz) 0.07
SVM value ($80 < F < 2000$ Hz) 0.68

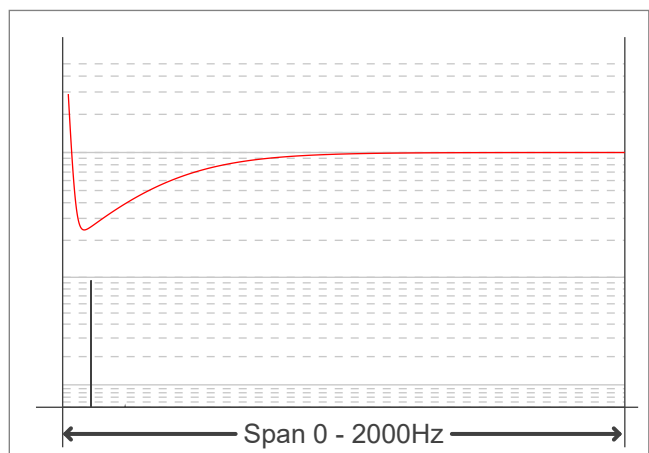
Flicker indices according to Lighting Research Center (2015)

Perception metric, Assist Mp 0.06

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



Flicker FFT (flicker curve in frequency domain)



IEEE 1789 Frequency/modulation plot

