

Light efficiency:

144 Lumens/Watt

Output: 7735 lm

Light quality:

CRI: 85.3

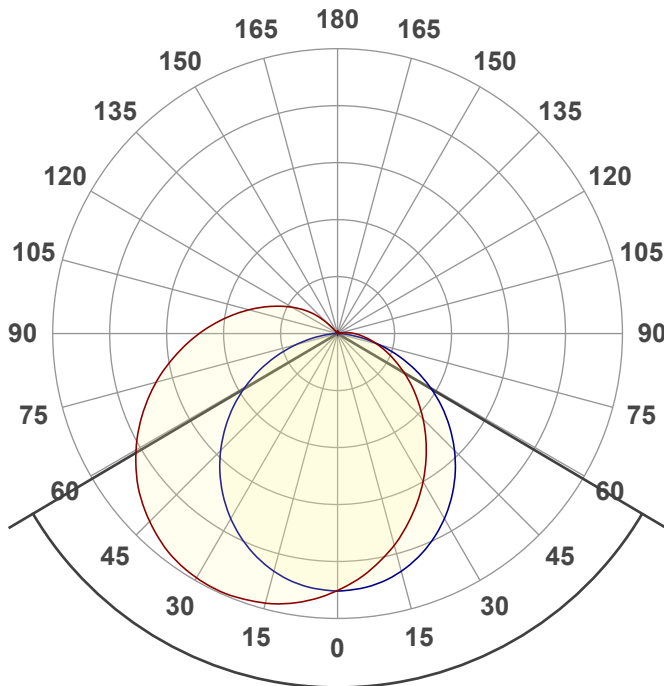
Peak: 2269 cd

Color temperature:

4156 K

Power: 53.6 W

PF: 1.0



Product name:  
**CRN4-SW3C-SP55 (55 W)**

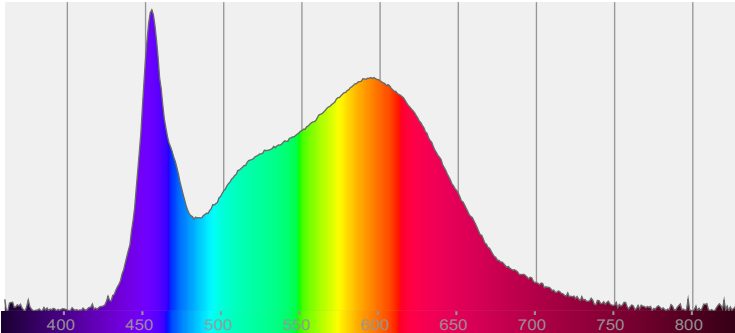
Date and time:  
**3/22/2024 10:31:49 AM**

Beam angle **118.8°**

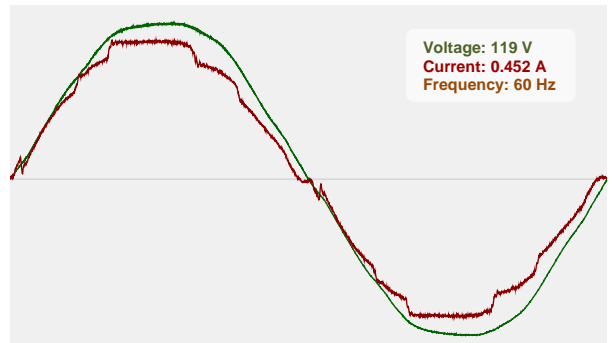


CIE 1931  
x: 0.373  
y: 0.370

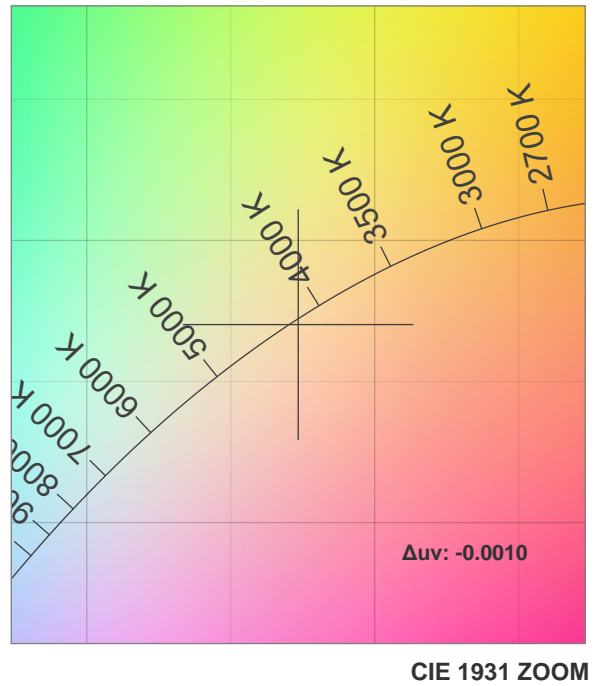
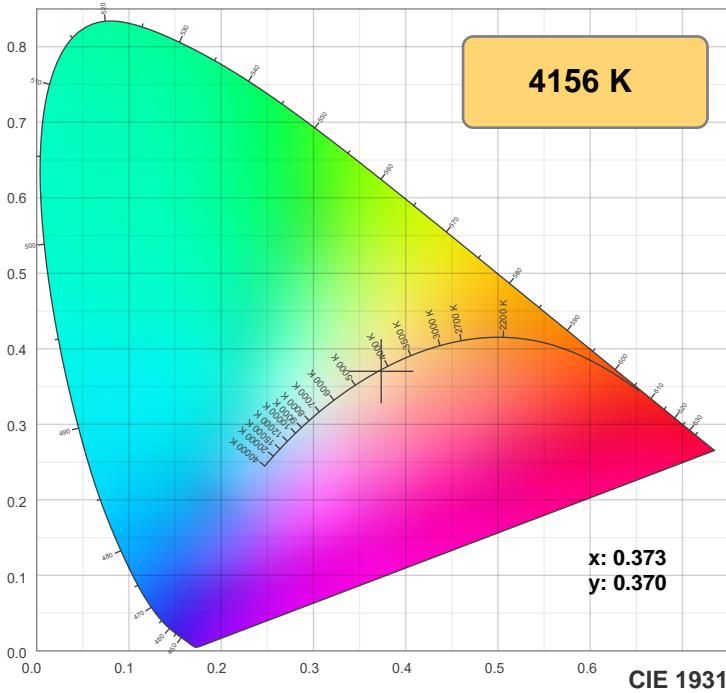
Spectra



Power

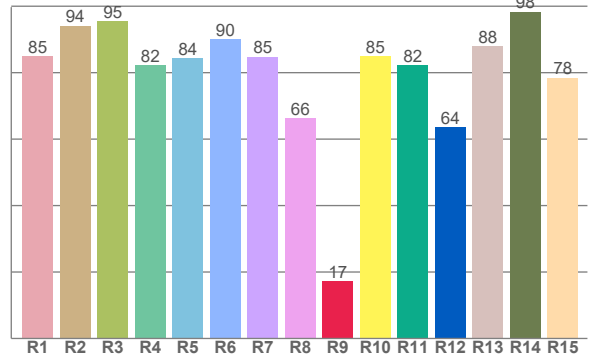
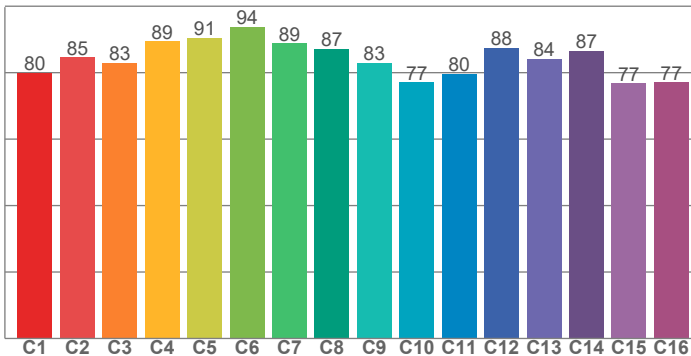


### Color Specifications



**TM30: 84.2**

**CRI: 85.3 (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
84.9	94.1	95.4	82.3	84.4	90.0	84.8	66.3	17.2	85.0	82.2	63.5	88.0	98.3	78.4

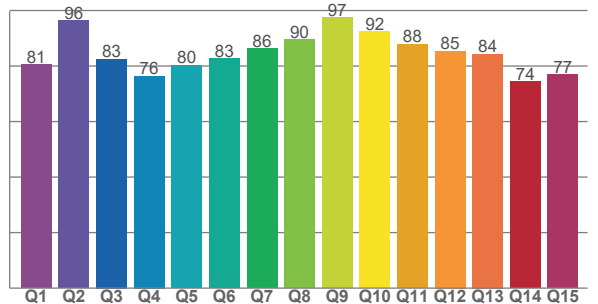
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
79.9	84.6	82.9	89.5	90.5	93.8	88.8	87.2	83.0	77.1	79.7	87.5	84.2	86.6	76.7	77.1

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
80.5	96.4	82.5	76.4	80.3	82.7	86.3	89.6	97.5	92.4	87.8	85.4	84.3	74.3	77.0

**CQS: 83.5**



### 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>
4156 K	85.3	17.2	84.2	93.6	83.5	0.373	0.370	0.223	0.332	-0.0010

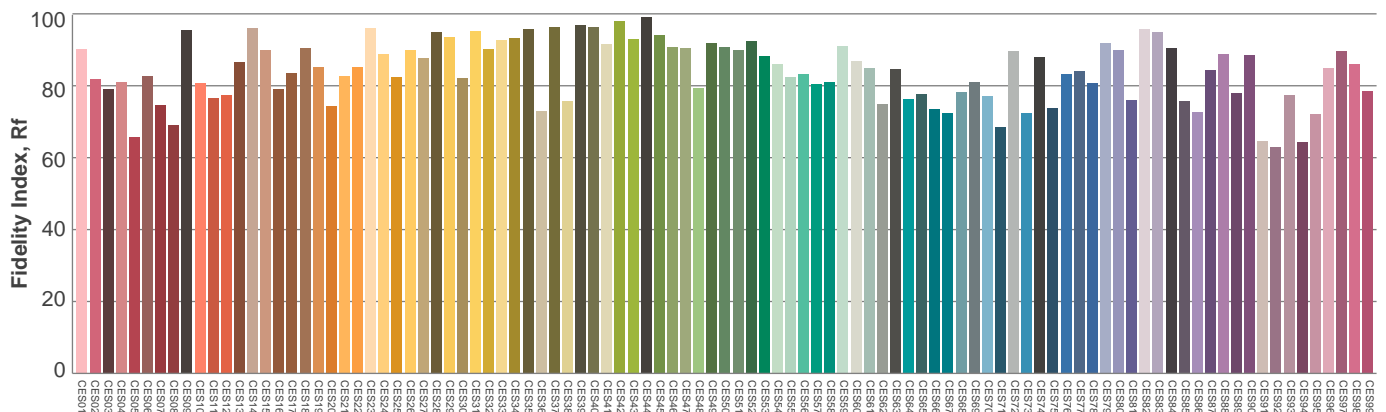
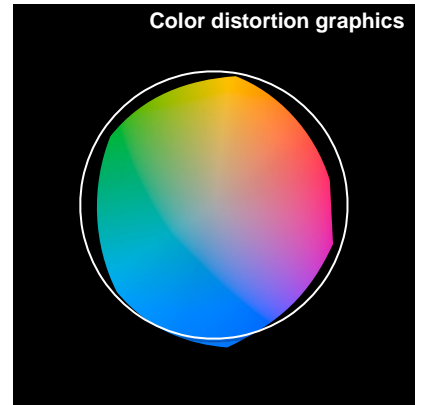
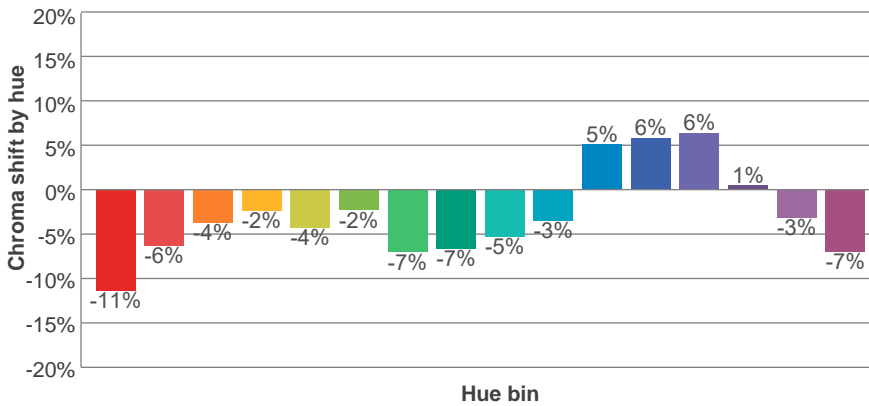
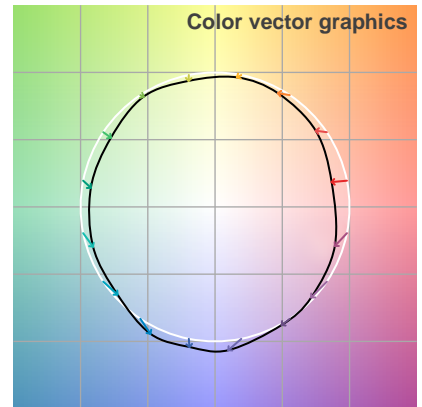
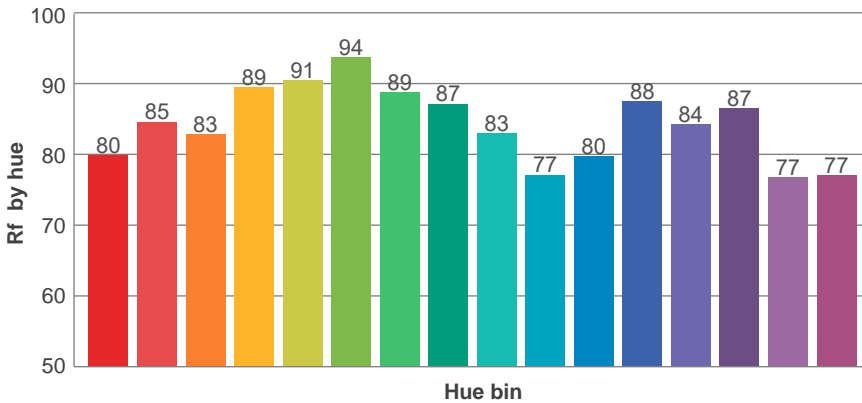
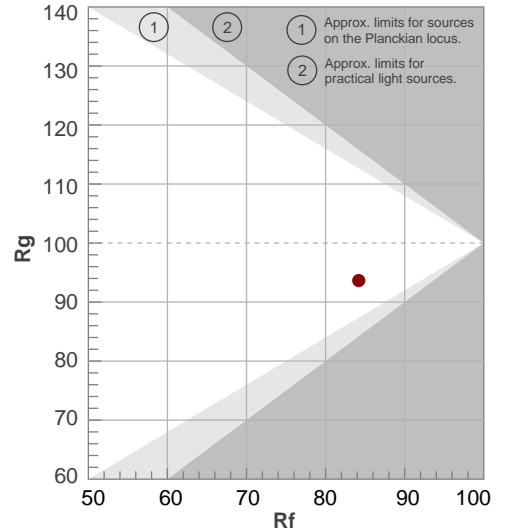


### TM30 Report

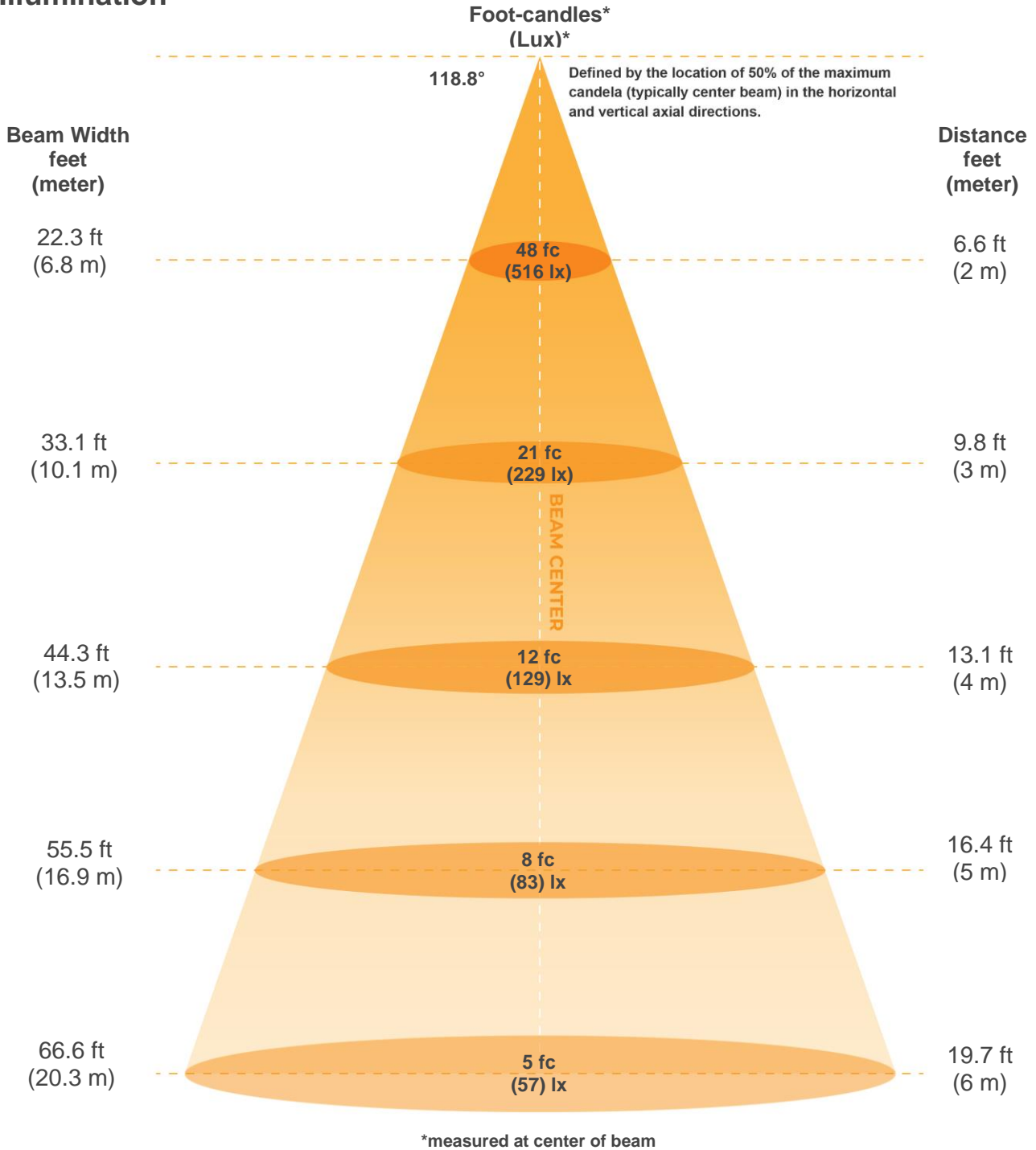
**Rf 84.2**  
Fidelity index Rf

**Rg 93.6**  
Gammut index Rg

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	80	-11%	1%
2	85	-6%	5%
3	83	-4%	8%
4	89	-2%	3%
5	91	-4%	1%
6	94	-2%	-1%
7	89	-7%	0%
8	87	-7%	4%
9	83	-5%	11%
10	77	-3%	14%
11	80	5%	12%
12	88	6%	2%
13	84	6%	-11%
14	87	1%	-8%
15	77	-3%	-16%
16	77	-7%	-11%



**Illumination**



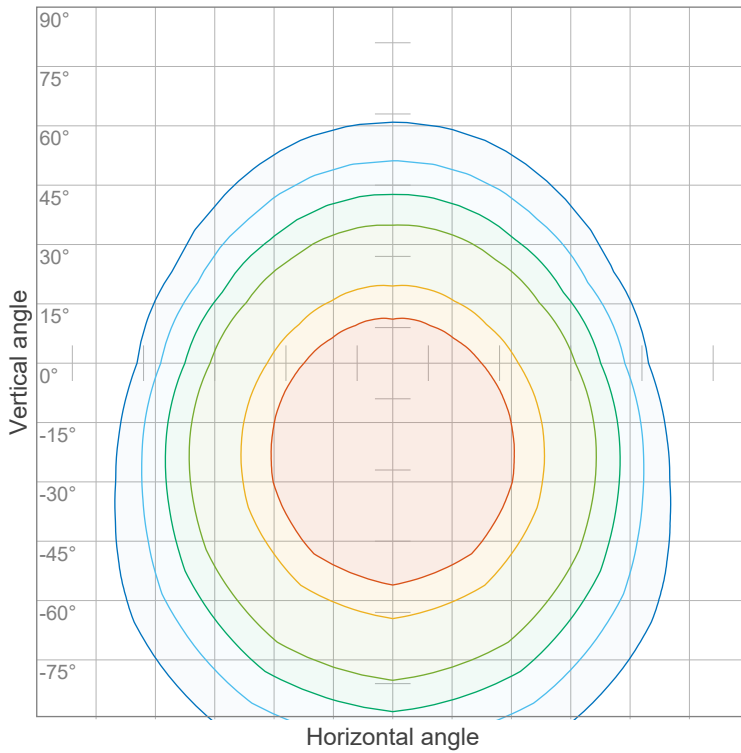
**Beam intensities from 1-20m**

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	2063	516	229	129	83	57	42	32	25	21	17	14	12	11	9	8	7	6	6	5
fc	191.7	47.9	21.3	12	7.7	5.3	3.9	3	2.4	1.9	1.6	1.3	1.1	1	0.9	0.7	0.7	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
118.8°	191.7°	215.2°	62.4%	41.5%



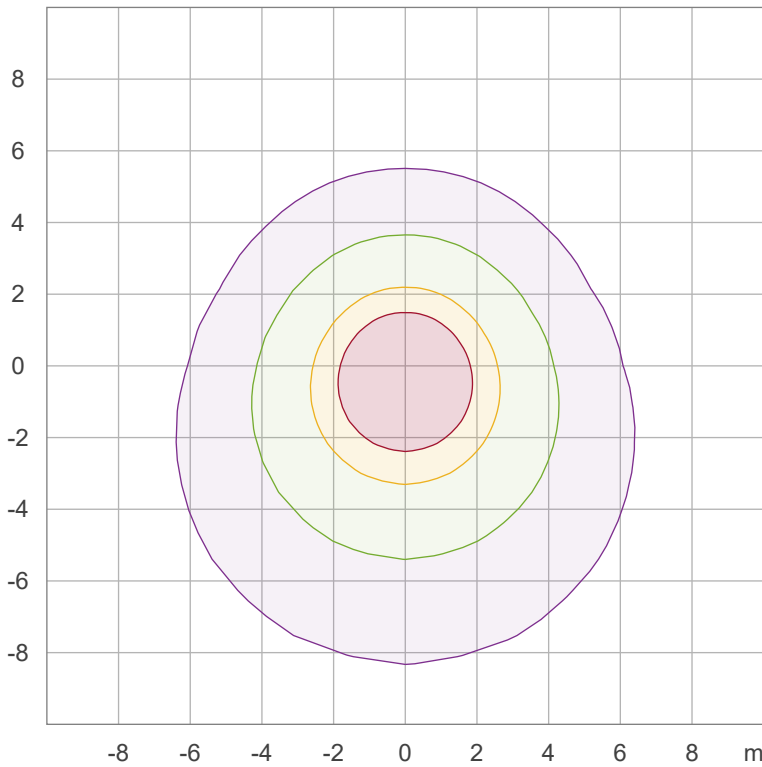
**Iso-intensity Diagram (Iso-candela)**



90 %	2041.7 cd
80 %	1814.8 cd
70 %	1588.0 cd
60 %	1361.1 cd
50 %	1134.3 cd
40 %	907.4 cd
30 %	680.6 cd
20 %	453.7 cd
10 %	226.9 cd

Peak intensity: 2268.5 cd  
 Number of c-planes: 16

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



50.0 %	117.3 lx
30.0 %	70.4 lx
10.0 %	23.5 lx
5.0 %	11.7 lx
3.0 %	7.0 lx

Peak illuminance: 234.7 lx  
 Mounting height: 3.0 m  
 Number of c-planes: 16



**Light Planning – UGR table**

Uncorrected, comprehensive UGR table according to 117-1995

Reflectances		70	70	50	50	30	70	70	50	50	30
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		Viewed Crosswise (Viewing direction orthogonal to lamp length axis)					Viewed Endwise (Viewing direction parallel to lamp length axis)				
X	Y	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
n/a	n/a	n/a

UGR data could not be calculated due to missing/wrong symmetry. Goto Edit->Photometric->Corrections and select Correct asymmetry.

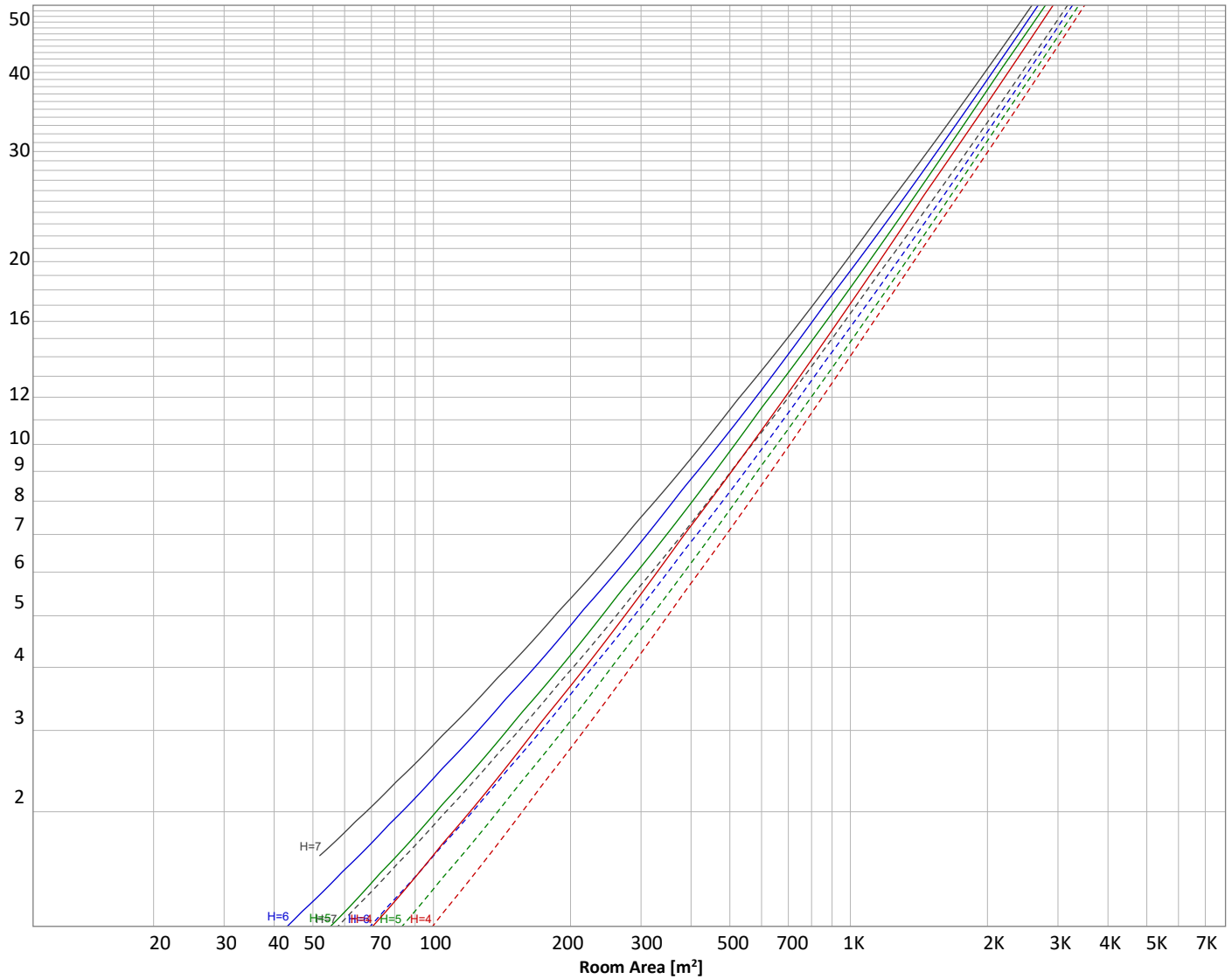
**Coefficients of Utilization**

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	117	117	117	117	113	113	113	113	105	105	105	99	99	99	93	93	93	90
1	104	98	93	88	100	95	90	86	89	85	81	83	80	77	78	75	73	70
2	94	84	77	70	90	82	75	69	76	71	65	71	67	62	67	63	60	57
3	85	74	65	58	82	71	63	56	67	60	54	62	57	52	59	54	50	47
4	78	65	55	48	74	63	54	47	59	51	46	55	49	44	52	47	42	40
5	71	58	48	41	68	56	47	40	53	45	39	49	43	38	47	41	36	34
6	66	52	42	36	63	50	41	35	47	40	34	45	38	33	42	36	32	29
7	61	47	38	31	58	45	37	31	43	35	30	41	34	29	38	33	28	26
8	56	43	34	28	54	41	33	27	39	32	27	37	31	26	35	29	25	23
9	53	39	31	25	51	38	30	25	36	29	24	34	28	23	32	27	23	21
10	49	36	28	22	48	35	27	22	33	26	22	32	25	21	30	25	20	19



### Luminaire budgetary diagram

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



#### Conditions

H = Room height	Flux = 7735 lm	ρ(%)			
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°
195 lm	561 lm	854 lm	1043 lm	1111 lm	1062 lm	917 lm	710 lm	496 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
330 lm	214 lm	131 lm	68.5 lm	22.8 lm	8.56 lm	6.38 lm	4.02 lm	1.36 lm

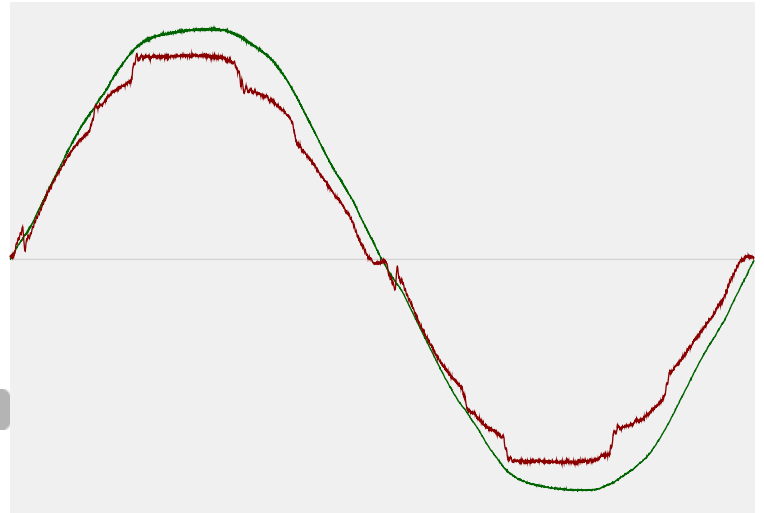


**Power Details**

**Input Power**

Power feed to light source	53.6 W
Frequency of input power	60 Hz
RMS Input voltage feed, $V_{RMS}$	119 V
RMS Input current feed, $I_{RMS}$	0.452 A
Volt-Ampere or apparent power = $V_{RMS} * I_{RMS}$	53.76 VA
Displacement factor of AC power feed	1.0
Power factor of AC current feed	1.0
Total harmonic distortion of the current	5.09%
Total harmonic distortion of the voltage	2.5%

**Input Power Curve**



**Efficiency**

Radiated power efficiency 44.6%

Lumen efficiency 144 lm/W

**Stabilization Details**

**Warmup Conditions**

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

**Color Temperature Change**

CCT start	4130 K
CCT shift	+26 K
CCT end	4156 K

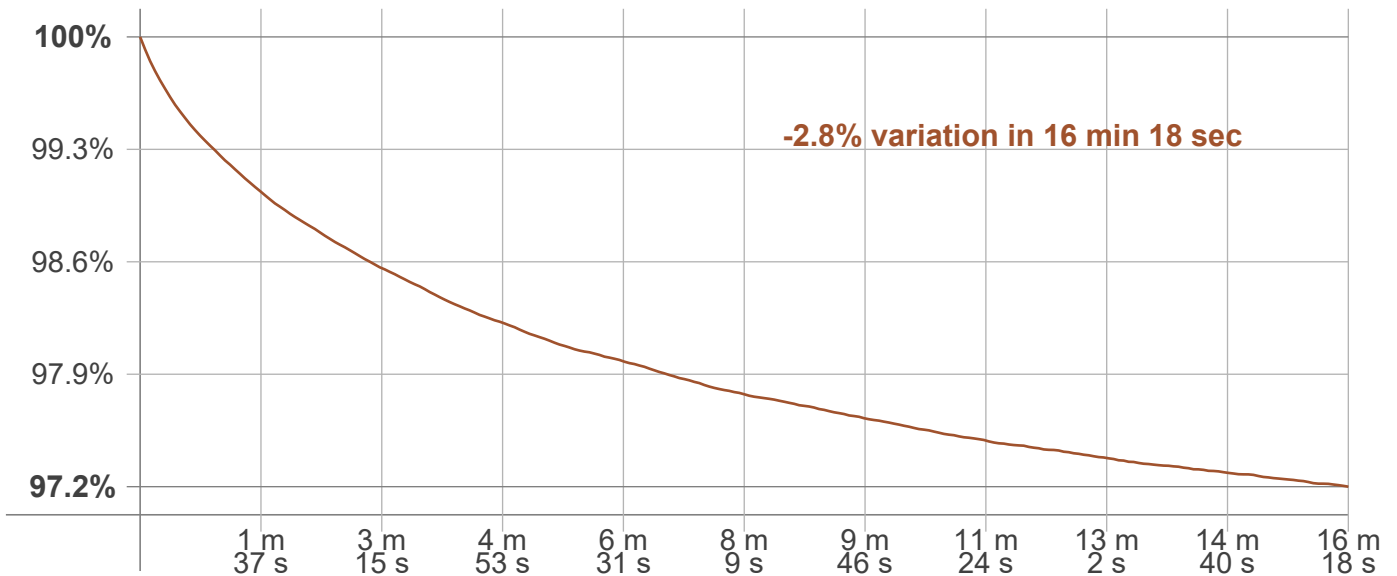
**Warmup Result**

Total warmup time	Lamp stabilized in 16 min 18 sec
Warmup variation	-2.8%

**Output Change**

Output start	7938 lm
Output change	-203 lm
Output end	7735 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                    0.98 %  
 Flicker index                         0

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

JA8/10 40 Hz                         0.11 %  
 JA8/10 90 Hz                         0.23 %  
 JA8/10 200 Hz                        0.74 %  
 JA8/10 400 Hz                        0.95 %  
 JA8/10 1000 Hz                       0.98 %

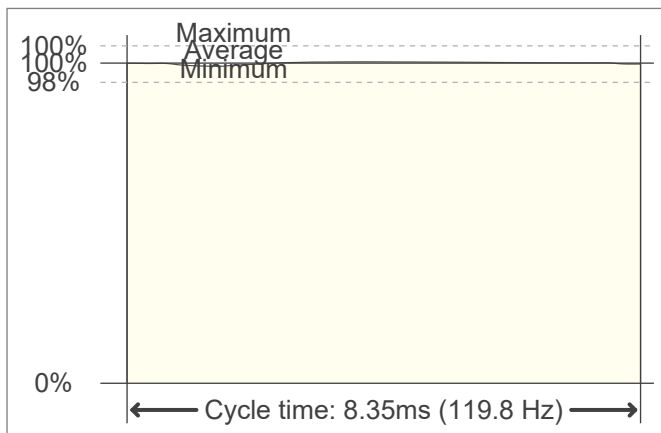
**TLA indices (re IEC TR 61547-1, IEC 61000-3-3 and IEC 61000-4-15)**

PstLM value (F < 80 Hz)            0.08  
 SVM value (80 < F < 2000 Hz)    0.02

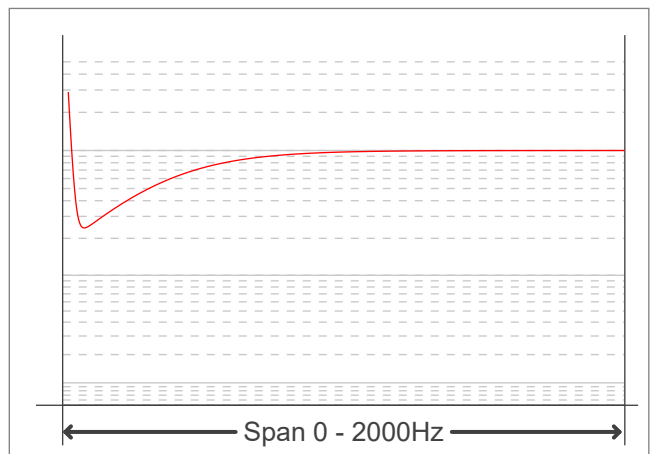
**Flicker indices according to Lighting Research Center (2015)**

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**

