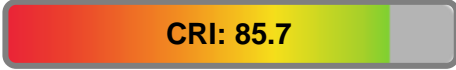


Light efficiency:



Output: 21022 lm

Light quality:



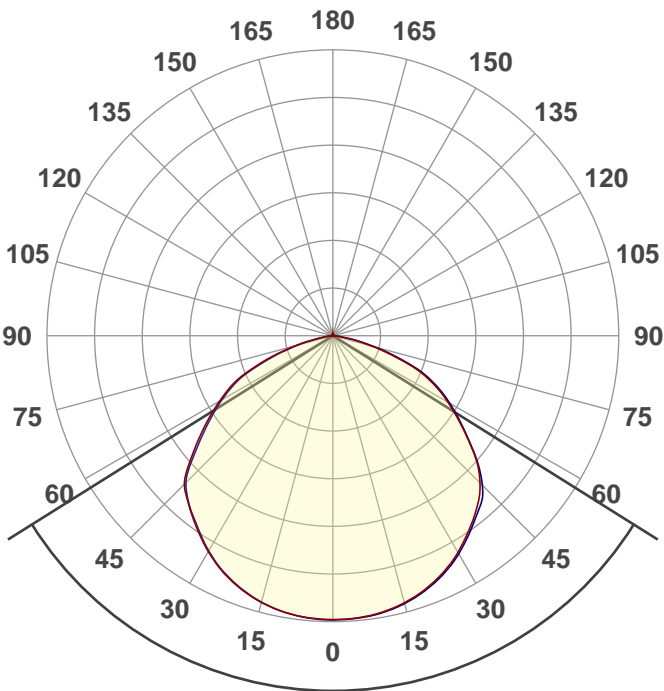
Peak: 7173 cd

Color temperature:



Power: 151.1 W

PF: 1.0



Product name:

UHBD2-50K150H-110

Date and time:

5/27/2020 12:04:49 PM

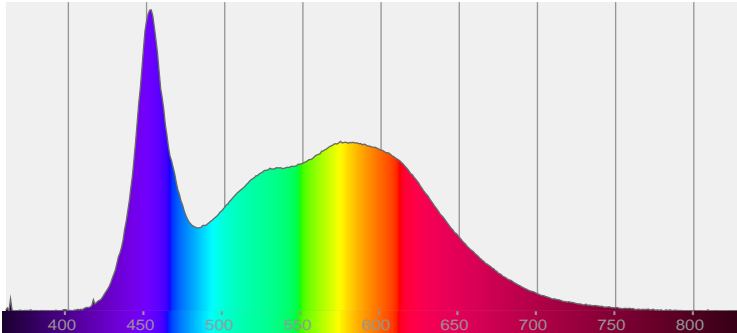
Beam angle

115.8°

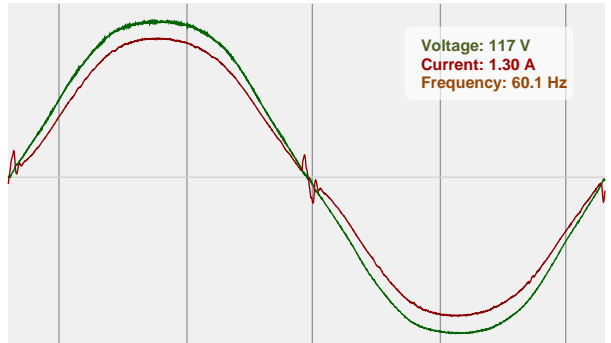


CIE 1931  
x: 0.335  
y: 0.339

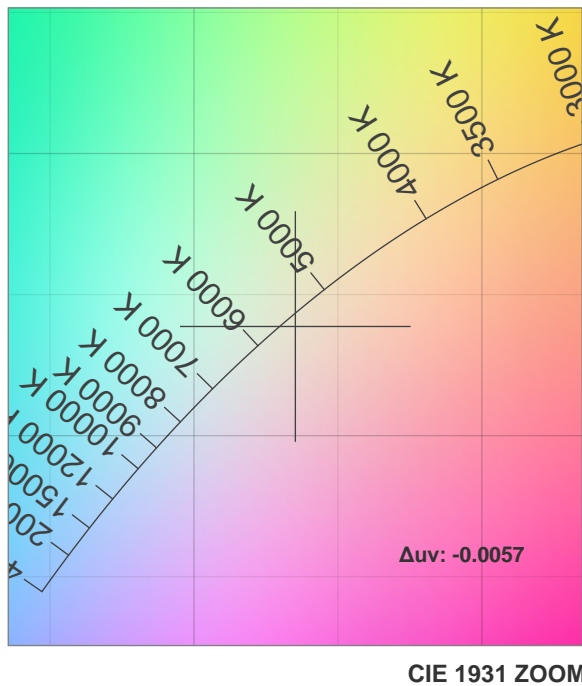
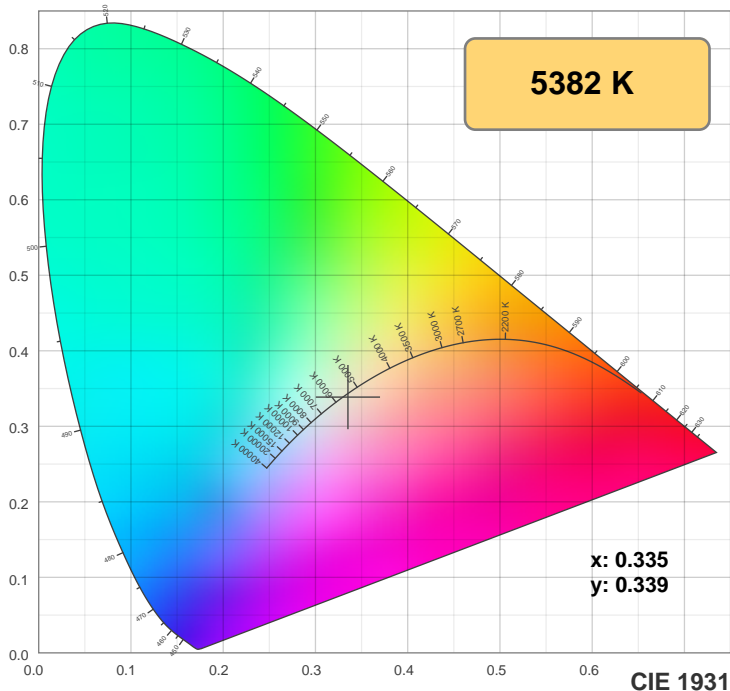
Spectra



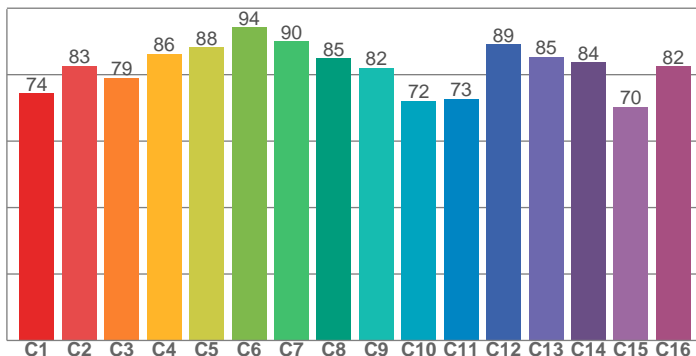
Power



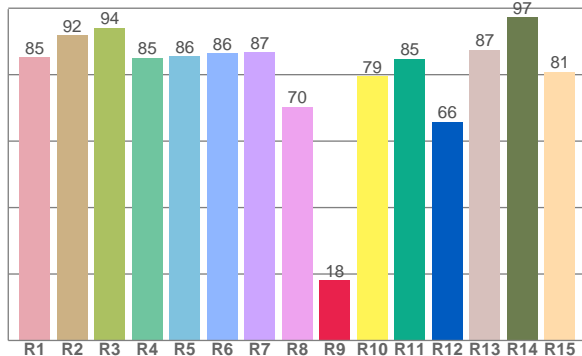
## Color Specifications



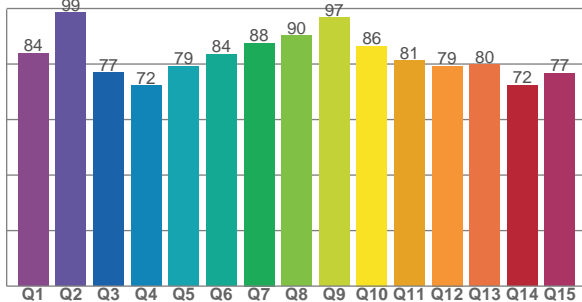
**TM30: 82.2**



**CRI: 85.7 (R1-R8)**



**CQS: 81.4**



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
85.3	91.8	94.1	85.2	85.6	86.4	86.8	70.4	18.2	79.5	84.8	65.8	87.5	97.3	80.8

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
74.4	82.7	79.0	86.3	88.2	94.2	90.0	84.9	82.1	72.1	72.7	89.2	85.3	83.7	70.2	82.5

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
83.9	98.5	76.9	72.2	79.2	83.5	87.5	90.2	96.8	86.5	81.3	79.3	79.7	72.3	76.7

## 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 division from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
5382 K	85.7	18.2	82.2	95.3	81.4	0.335	0.339	0.210	0.318	-0.0057

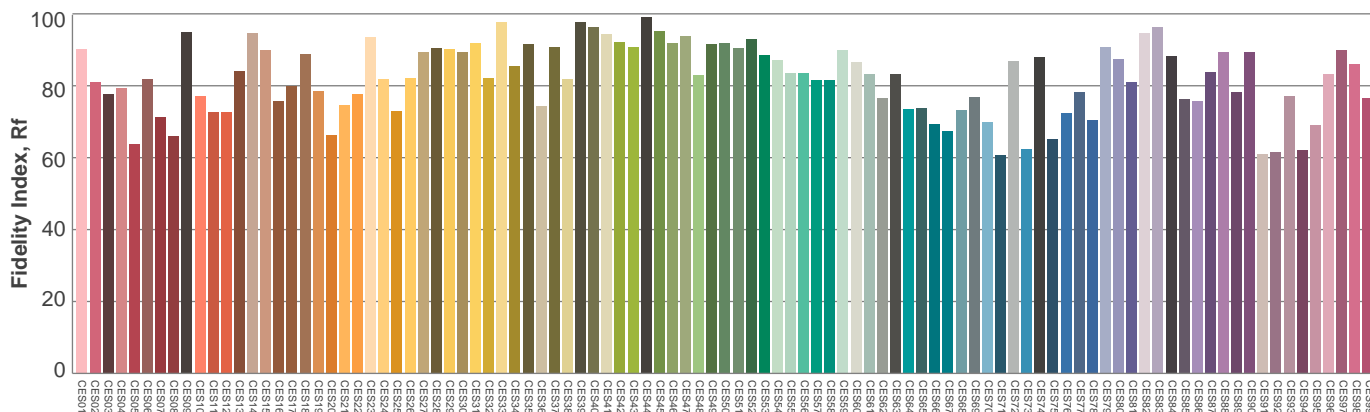
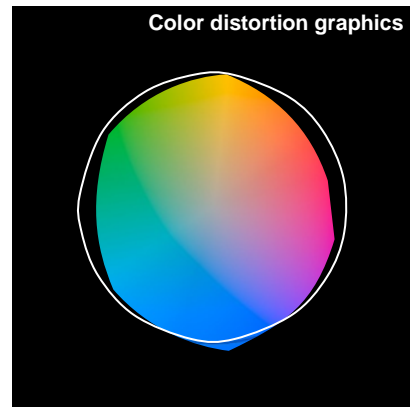
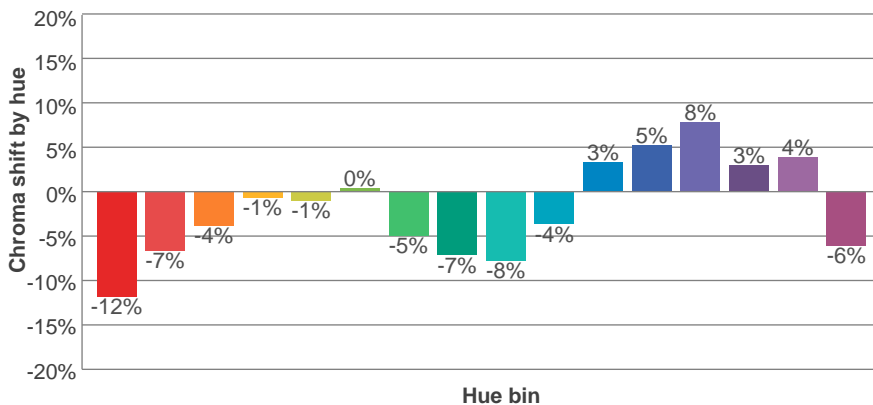
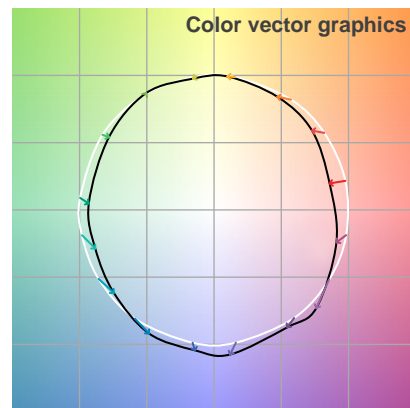
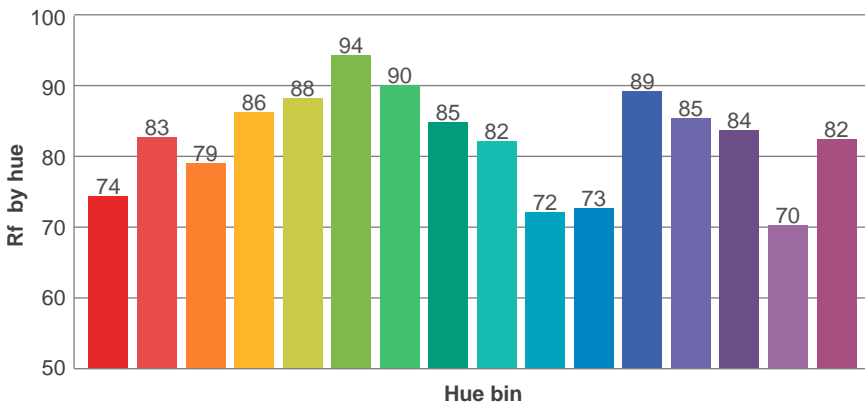
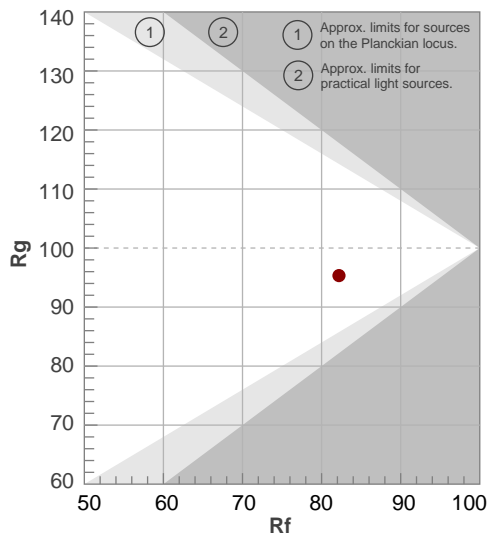


## TM30 Report

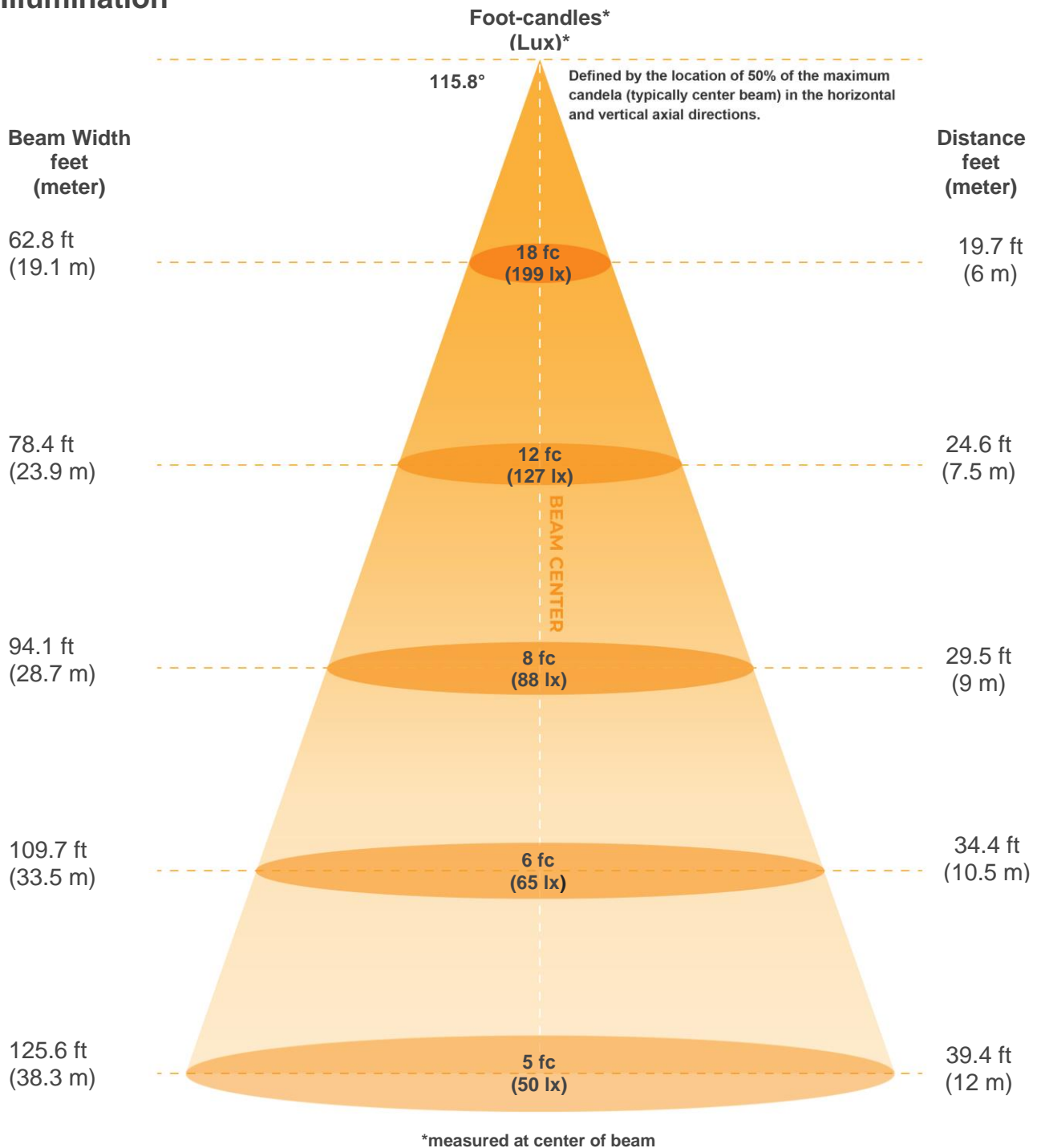
**Rf 82.2**  
Fidelity index Rf

**Rg 95.3**  
Gammut index Rg

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	74	-12%	0%
2	83	-7%	6%
3	79	-4%	10%
4	86	-1%	6%
5	88	-1%	3%
6	94	0%	-1%
7	90	-5%	-1%
8	85	-7%	3%
9	82	-8%	12%
10	72	-4%	15%
11	73	3%	15%
12	89	5%	3%
13	85	8%	-6%
14	84	3%	-8%
15	70	4%	-23%
16	82	-6%	-7%



## Illumination



### Beam intensities from 1-20m

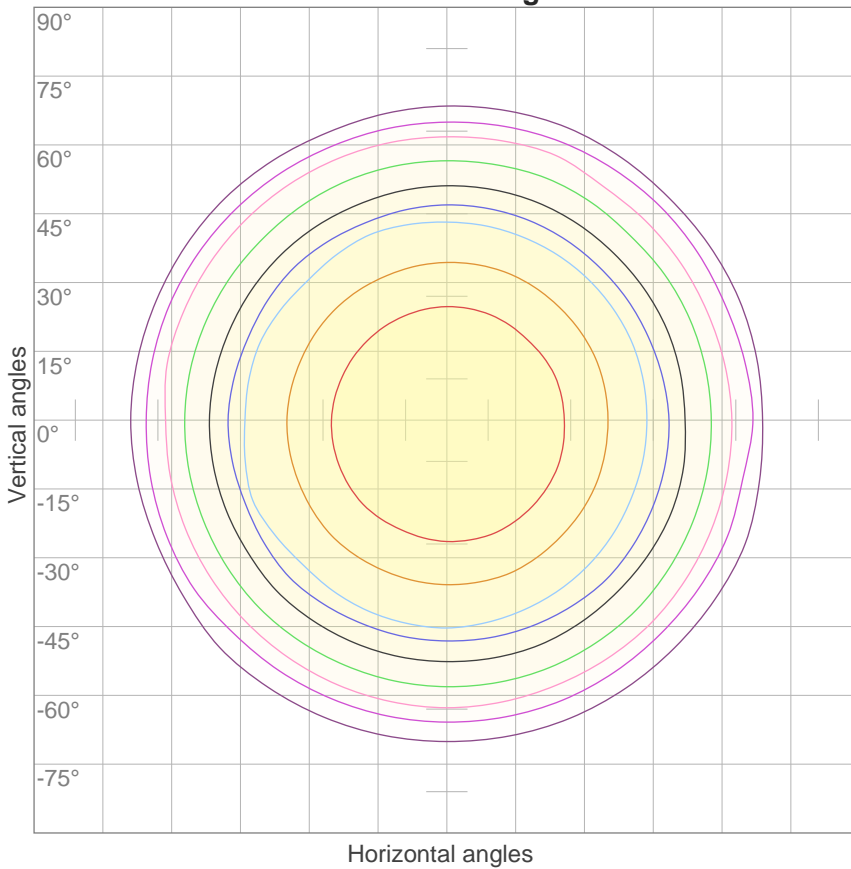
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
3.3ft	6.6ft	9.8ft	13.1ft	16.4ft	19.7ft	23ft	26.2ft	29.5ft	32.8ft	36.1ft	39.4ft	42.7ft	45.9ft	49.2ft	52.5ft	55.8ft	59.1ft	62.3ft	65.6ft
7161lx	1790lx	796lx	448lx	286lx	199lx	146lx	112lx	88lx	72lx	59lx	50lx	42lx	37lx	32lx	28lx	25lx	22lx	20lx	18lx
665.3fc	166.3fc	73.9fcd	41.6fcd	26.6fcd	18.5fcd	13.6fcd	10.4fcd	8.2fcd	6.7fcd	5.5fcd	4.6fcd	3.9fcd	3.4fcd	3fcd	2.6fcd	2.3fcd	2.1fcd	1.8fcd	1.7fcd

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
115.8°	154.6°	165.5°	80.9%	54.5%



ISO Diagrams

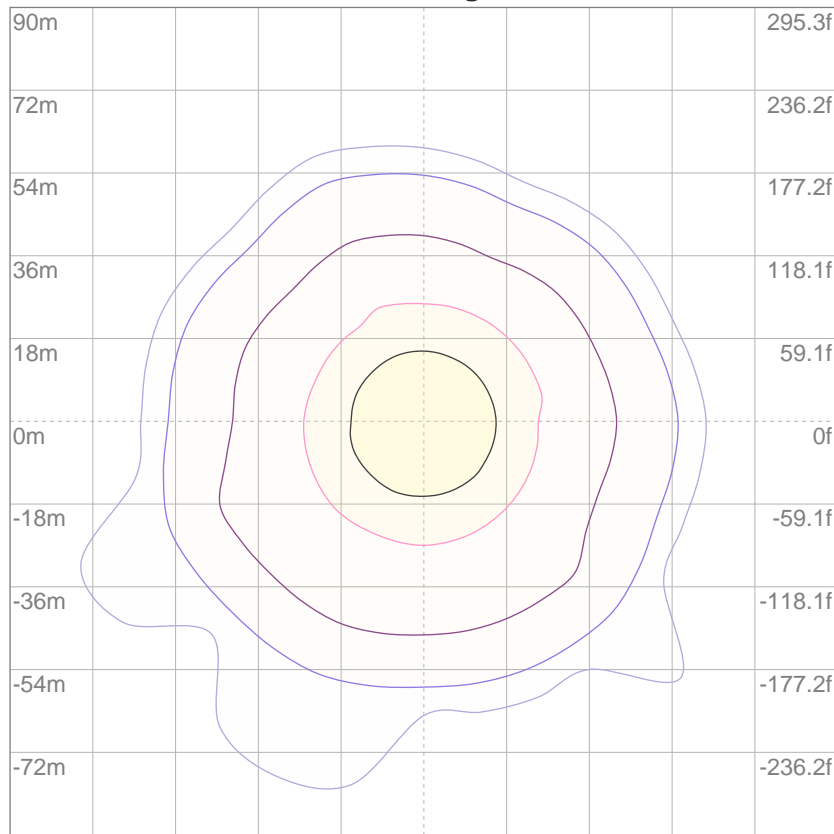
ISO candela diagram



10%	716 cd
20%	1432 cd
30%	2148 cd
40%	2865 cd
50%	3581 cd
60%	4297 cd
70%	5013 cd
80%	5729 cd
90%	6445 cd

**Conditions:**  
 Number of c-planes: 16  
 Candela at center: 7161 cd

ISO lux diagram



3%	2.15 lx
5%	3.58 lx
10%	7.16 lx
30%	21.5 lx
50%	35.8 lx

**Conditions:**  
 Number of c-planes: 16  
 Lux at center: 71.6 lx

*Lux distribution on a surface when lamp is mounted at 10 meters from the surface.*



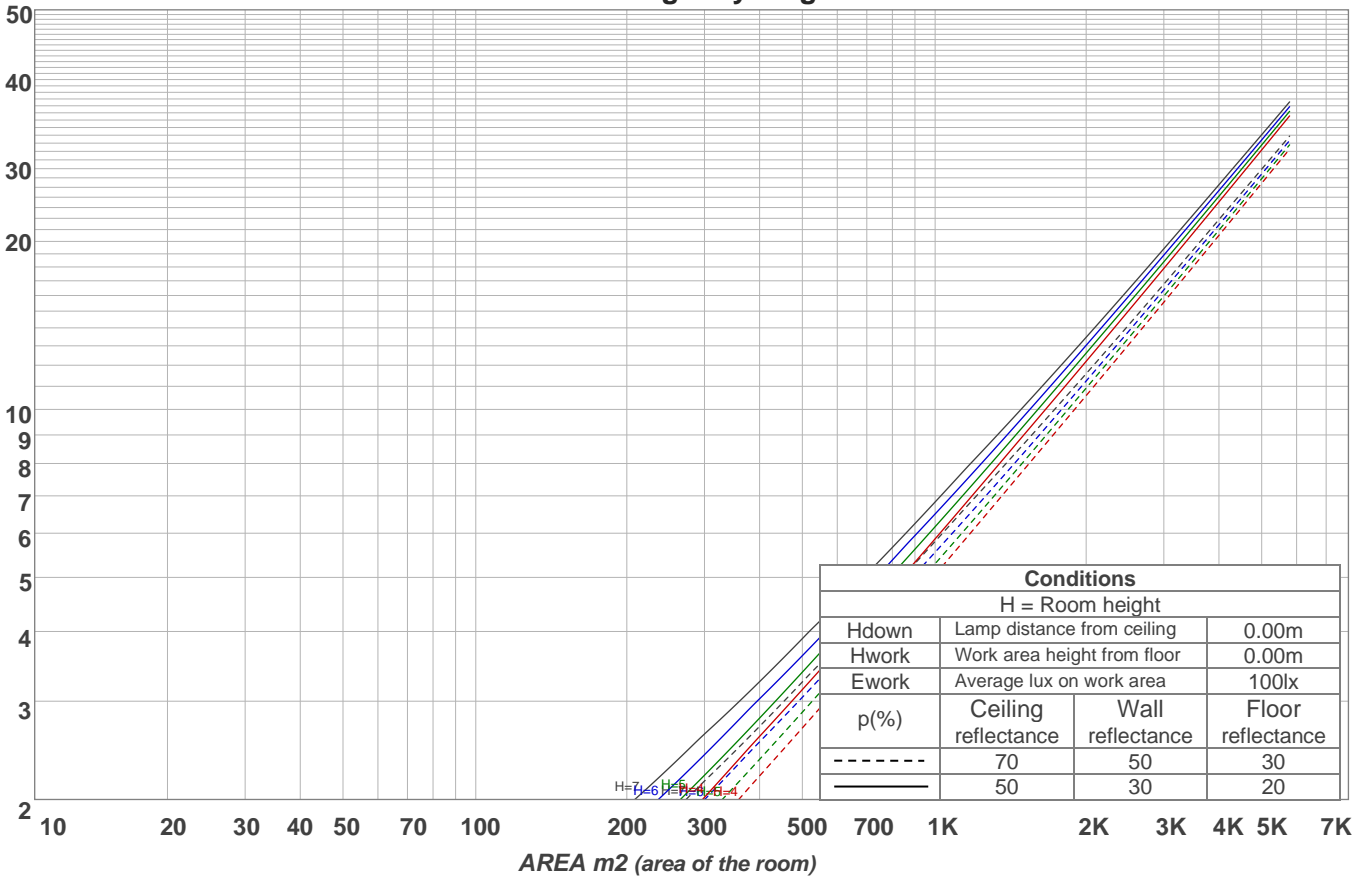
## Light Planning

### 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	20	0
<b>RCR</b>	<b>(RCR: Room Cavity Ratio)</b>																		
	Room Values are expressed as percentage of Lumens 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	105	101	97	107	102	99	95	98	95	92	94	92	89	90	88	87	85	
2	99	92	85	79	97	90	84	78	86	81	76	83	78	75	80	76	73	71	
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	60	
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	57	53	51	
5	76	63	55	48	74	62	54	48	60	53	47	58	52	46	56	50	46	44	
6	70	57	48	42	68	56	48	41	54	47	41	52	46	41	51	45	40	38	
7	65	52	43	37	63	51	42	37	49	42	36	48	41	36	46	40	36	34	
8	61	47	39	33	59	46	38	33	45	38	32	44	37	32	42	36	32	30	
9	57	43	35	29	55	42	35	29	41	34	29	40	34	29	39	33	29	27	
10	53	40	32	27	52	39	32	26	38	31	26	37	31	26	36	30	26	24	

LAMPS (number of lamps)

### Luminaire budgetary diagram



### Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
680 lm	1969 lm	3036 lm	3749 lm	4033 lm	3537 lm	2640 lm	1125 lm	125 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
12.3 lm	16.0 lm	20.7 lm	20.0 lm	17.9 lm	16.2 lm	13.0 lm	8.57 lm	3.01 lm

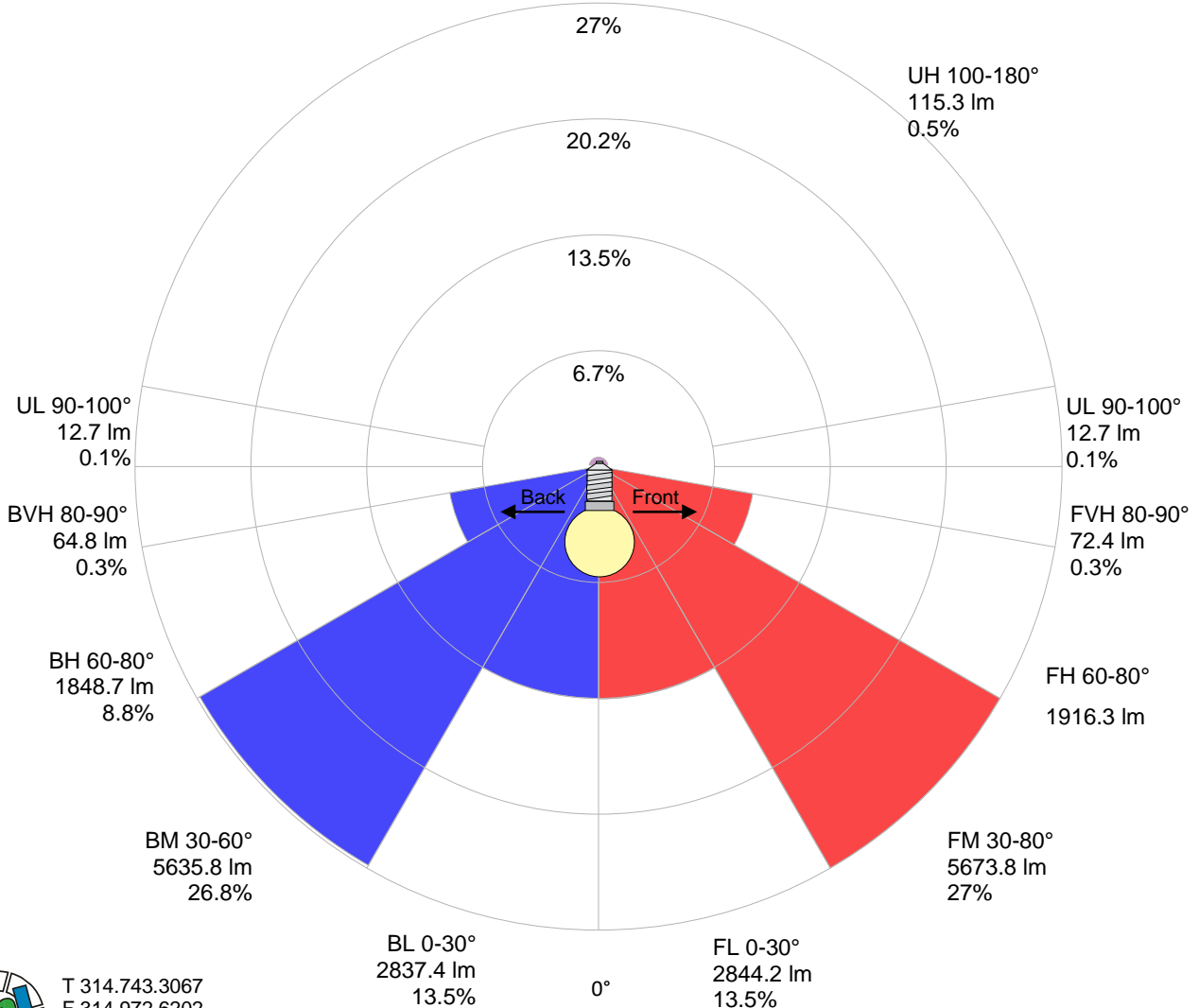


**Road Report**

**LCS table**

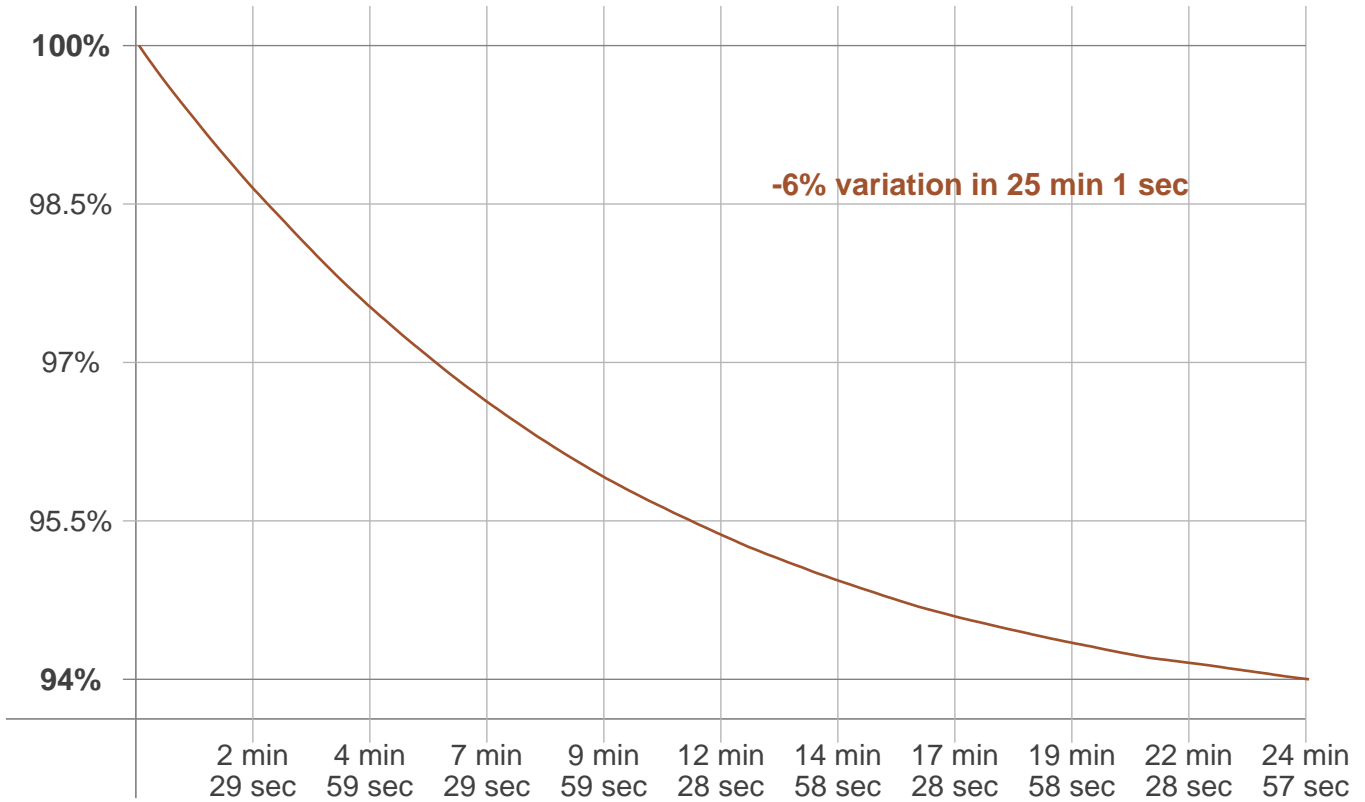
BUG rating:	B4 U3 G3	
<b>Forward light</b>	Lumens	Lumens %
Low(0-30):	2844.2	13.5%
Medium(30-60):	5673.8	27%
High(60-80):	1916.3	9.1%
Very high(80-90):	72.4	0.3%
<b>Back light</b>		
Low(0-30):	2837.4	13.5%
Medium(30-60):	5635.8	26.8%
High(60-80):	1848.7	8.8%
Very high(80-90):	64.8	0.3%
<b>Uplight</b>		
Low(90-100):	12.7	0.1%
High(100-180):	115.3	0.5%

**LCS graph**



**Stabilization**

**Warmup curve**



**Warmup result**

<b>Warmup time:</b>	<b>25 min 1 sec</b>
<b>Warmup variation</b>	<b>-6.0%</b>

**Warmup conditions**

<b>Stable period:</b>	<b>15 min</b>
<b>Stable change max:</b>	<b>2.0%</b>
<b>Minimum time:</b>	<b>15 min</b>

**Color temperature change**

CCT start	CCT change	CCT end
5240 K	+142 K	5382 K

**Output change**

Output start	Output change	Output end
22341 lm	-1319 lm	21022 lm





## Flicker

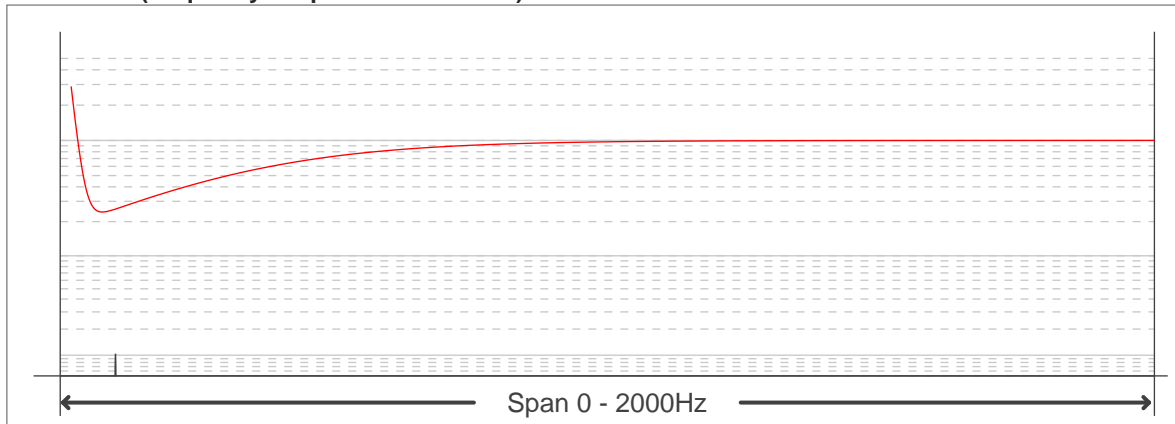
Flicker curve (complete sampled flicker signal)



Flicker frame (frame of one flicker period)



Flicker FFT (frequency scope of flicker curve)



**Flicker results:**

<b>Flicker frequency:</b>	<b>120.12 Hz</b>
<b>Flicker index:</b>	<b>0.01</b>
<b>Flicker percentage:</b>	<b>2.18 %</b>
<b>SVM: (Visual flicker)</b>	<b>0.07</b>

**Flicker conditions:**

<b>Sample rate:</b>	<b>40000 samples/second</b>
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