Light efficiency:

21 Lumen/Watt

Light quality:

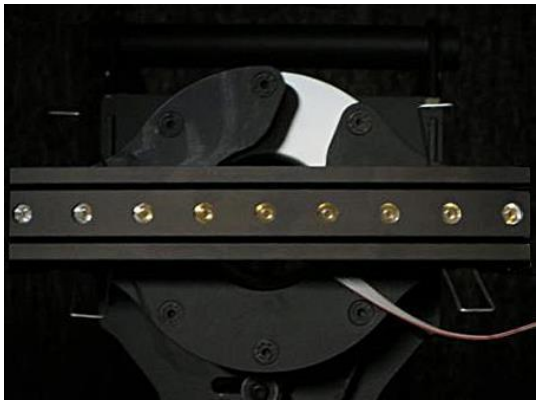
CRI: 91,9

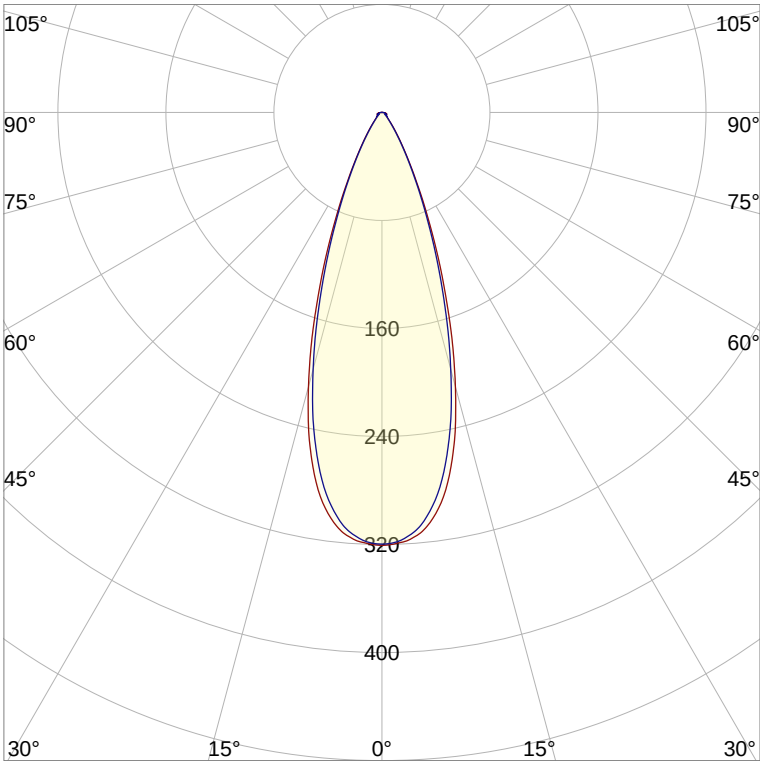
Color temperature:

2678 K

Output: 145 lm
Peak: 321 cd

Power: 7,0 W
PF: 0,81





CIE 1931
x: 0,462
y: 0,412

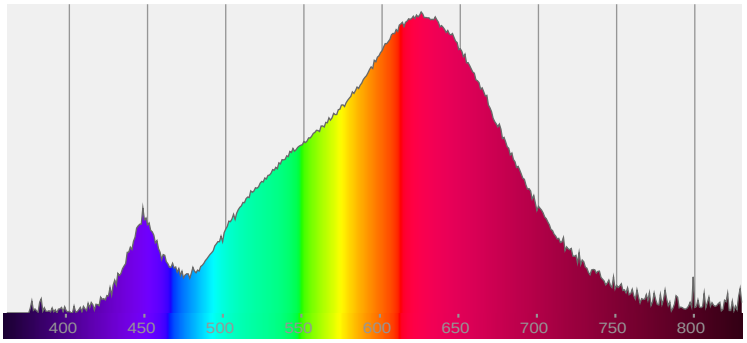
Product name:
FLNP-F4C-C-258-W-927-10773-ALA

Item number:
FLNP-F4C-C-258-W-927-10773-ALA

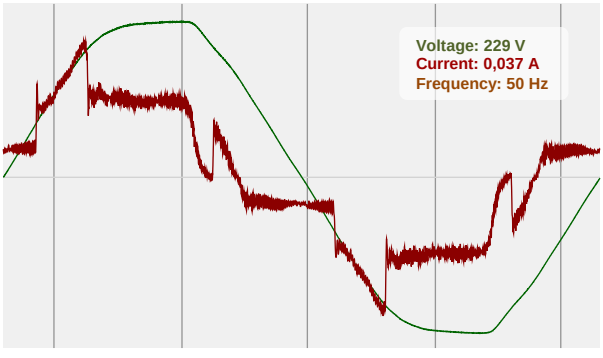
Date and time:
12.02.2019 11:45:29

Description:
Toleranzen:
Lumen +/-4%
Candela +/-2,5%
Colour Temp +/-35 Grad K
CRI +/-0,7
Angular Resolution 1 Grad step
Last Calibration 06-06-2018
Pruefer:
Mourad Benzineb
Master of Engineering
Pruefort:
Lichtlabor
Gaustrasse13-15
55411 Bingen am Rhein

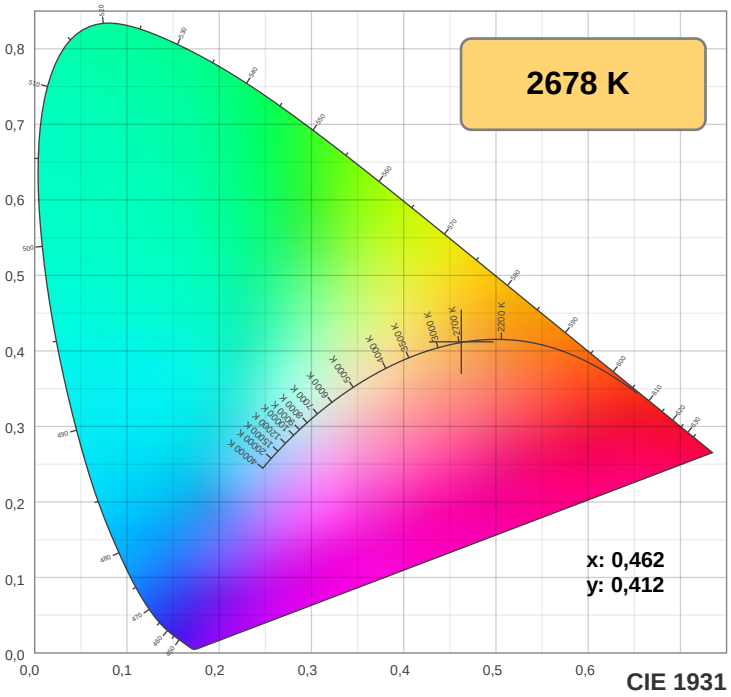
Spectra



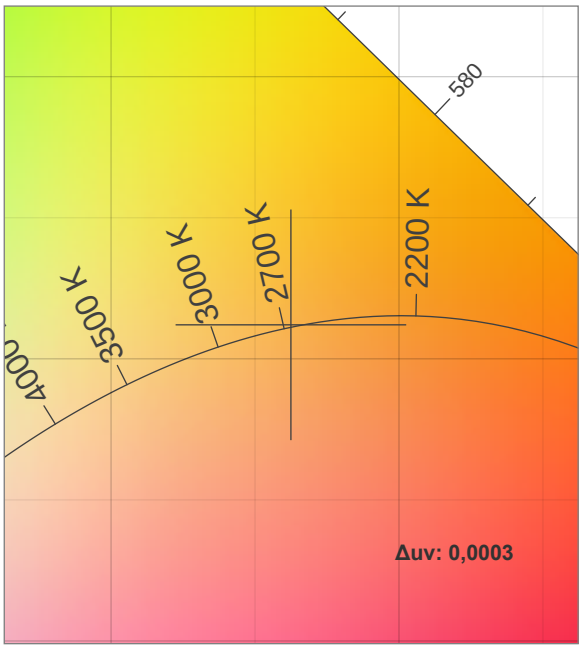
Power



Color details

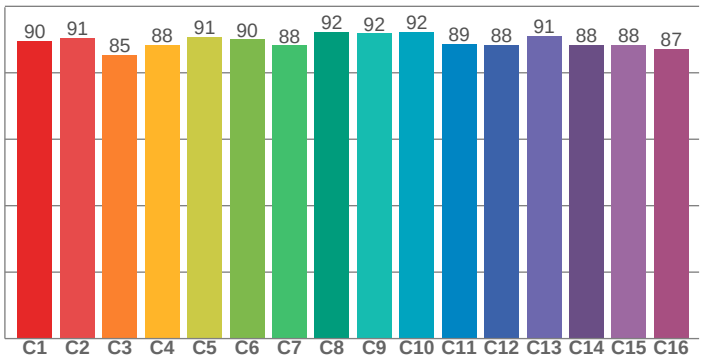


CIE 1931

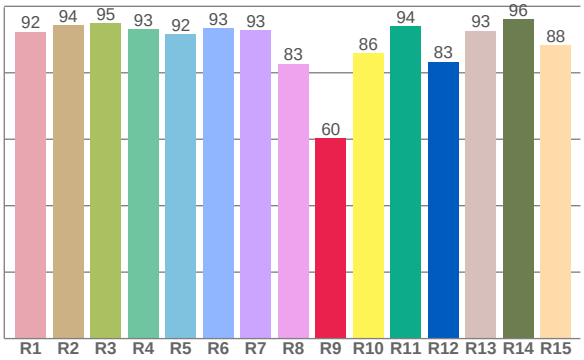


CIE 1931 ZOOM

TM30: 89,5



CRI: 91,9 (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
92,4	94,4	94,8	93,1	91,6	93,3	92,8	82,7	60,2	85,9	94,0	83,3	92,7	96,1	88,3

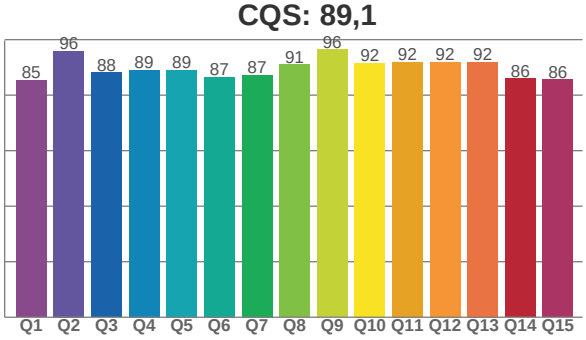
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
89,7	90,5	85,5	88,4	90,9	90,1	88,2	92,3	91,9	92,3	88,7	88,5	91,1	88,5	88,3	87,2

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
85,4	95,9	88,1	89,0	89,0	86,6	87,2	91,0	96,4	91,6	91,9	91,9	92,0	86,0	85,6

CQS: 89,1



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 diviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
2678 K	91,9	60,2	89,5	101,6	89,1	0,462	0,412	0,264	0,352	0,0003

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TM30 details

Rf 89,5

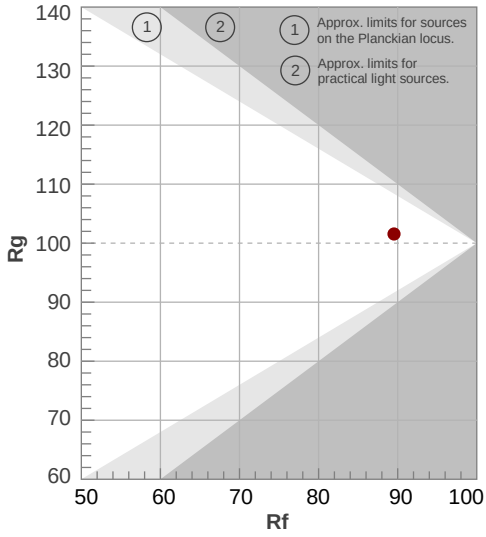
Fidelity index Rf

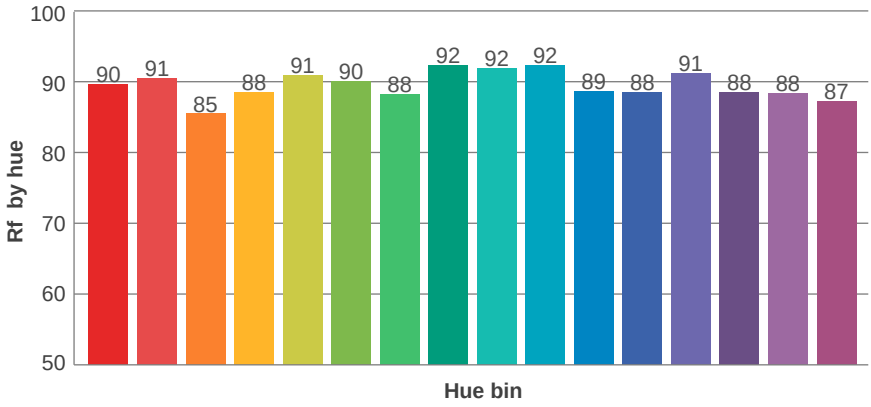
Rg 101,6

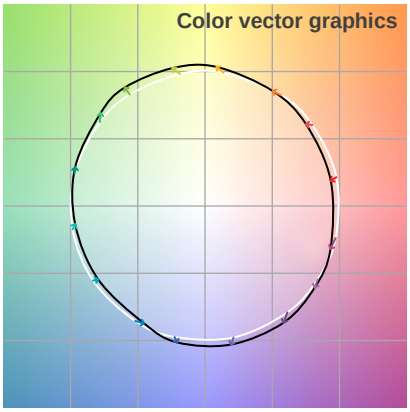
Gammut index Rg

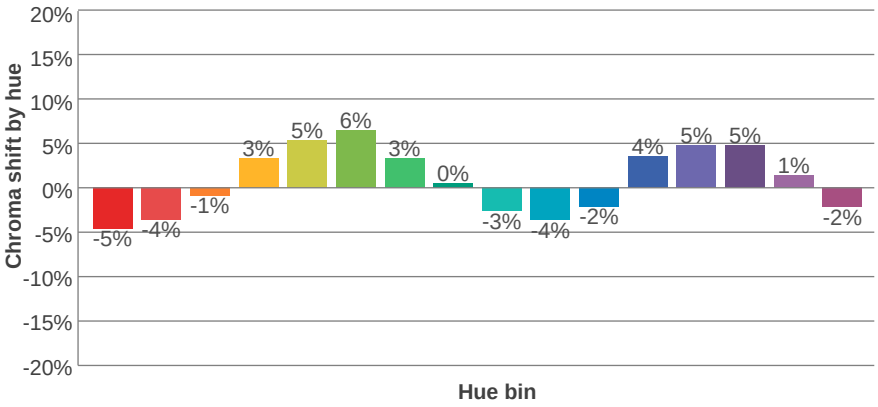
{TM30_BIN_VALUES_START}

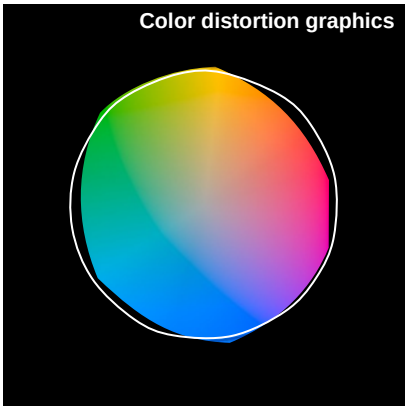
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1		%	%
2		%	%
3		%	%
4		%	%
5		%	%
6		%	%
7		%	%
8		%	%
9		%	%
10		%	%
11		%	%
12		%	%
13		%	%
14		%	%
15		%	%
16		%	%

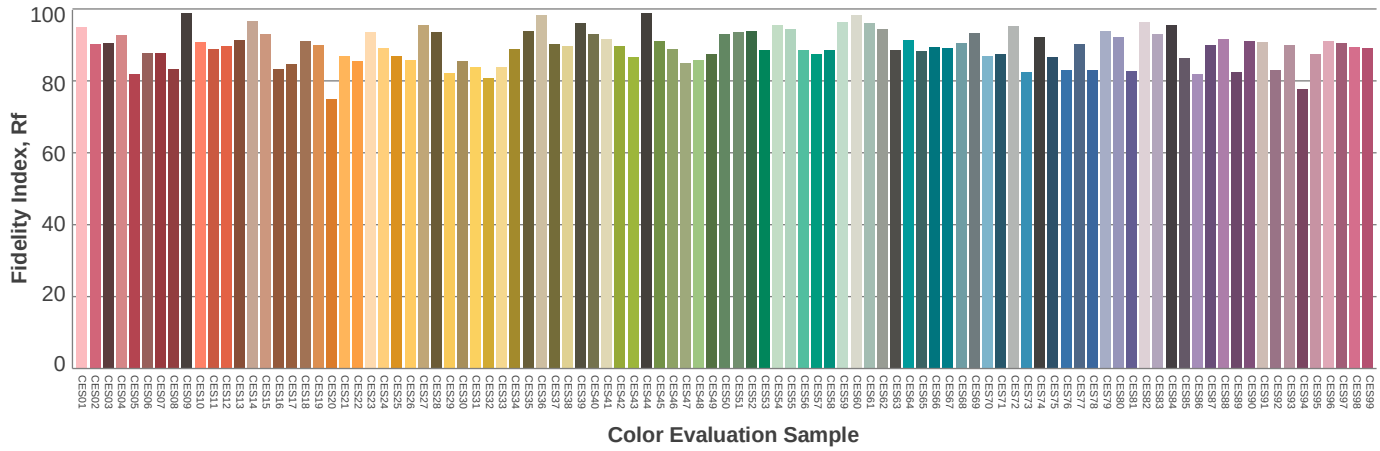












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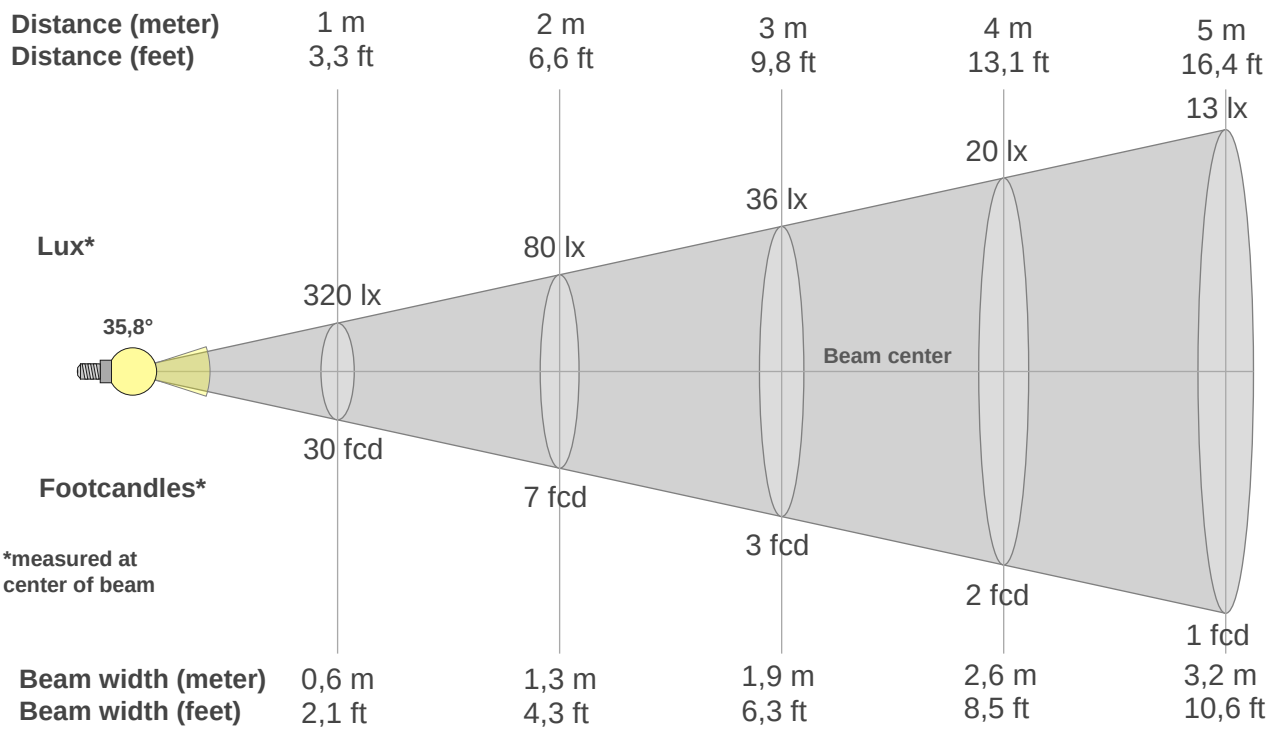
Beam details



Beam intensities from 1-20m

m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
lx	lx	lx	lx	lx	lx	lx	lx	lx	lx	lx	lx	lx	lx	lx	lx	lx	lx	lx	lx
fcd	fcd	fcd	fcd	fcd	fcd	fcd	fcd	fcd	fcd	fcd	fcd	fcd	fcd	fcd	fcd	fcd	fcd	fcd	fcd

{BEAM_INT_TABLE_END}

Intensities in 0° c-plane

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
320	319	316	309	297	279	255	226	194	162	132	104	81	61	47	35	27	21	16	13
100%	100%	99%	97%	93%	87%	80%	71%	61%	51%	41%	33%	25%	19%	15%	11%	8%	7%	5%	4%

Intensities in 90° c-plane

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
320	318	313	303	288	267	242	212	182	151	122	97	76	58	44	34	26	19	15	12
100%	99%	98%	95%	90%	84%	76%	66%	57%	47%	38%	30%	24%	18%	14%	11%	8%	6%	5%	4%

Intensities in 180° c-plane

{INT_TABLE_180_START}

°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%

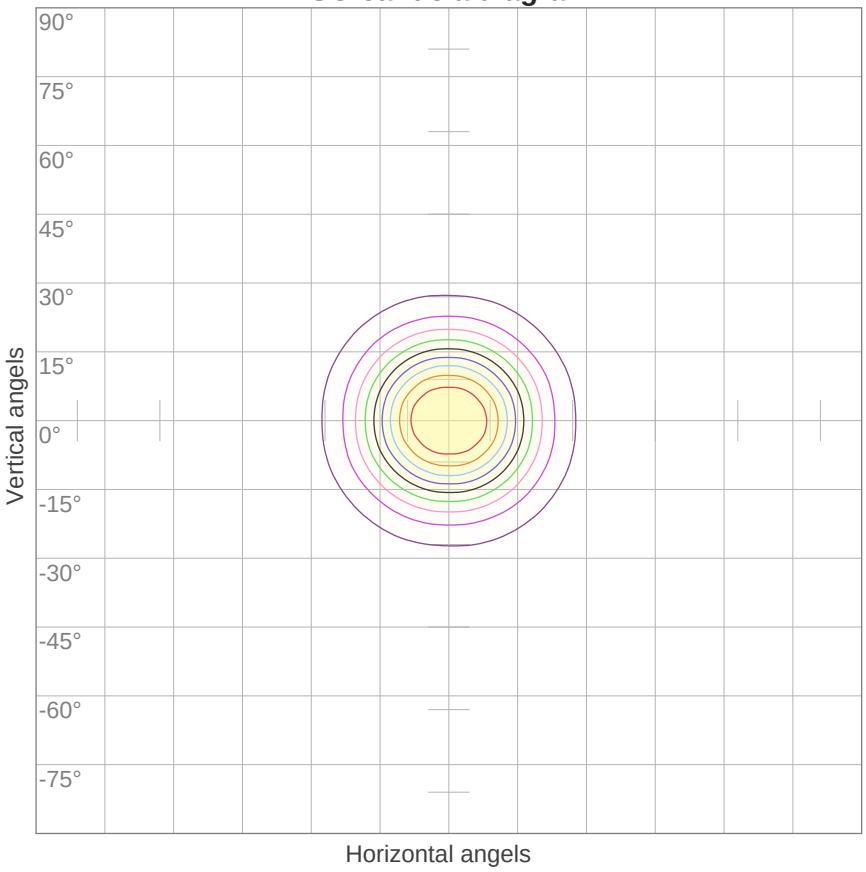
Intensities in 270° c-plane

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
320	318	313	303	288	267	242	212	182	151	122	97	76	58	44	34	26	19	15	12
100%	99%	98%	95%	90%	84%	76%	66%	57%	47%	38%	30%	24%	18%	14%	11%	8%	6%	5%	4%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
35,8°	**61,8°**	**84,1°**	**95,0%**	**91,4%**

ISO Diagrams

ISO candela diagram



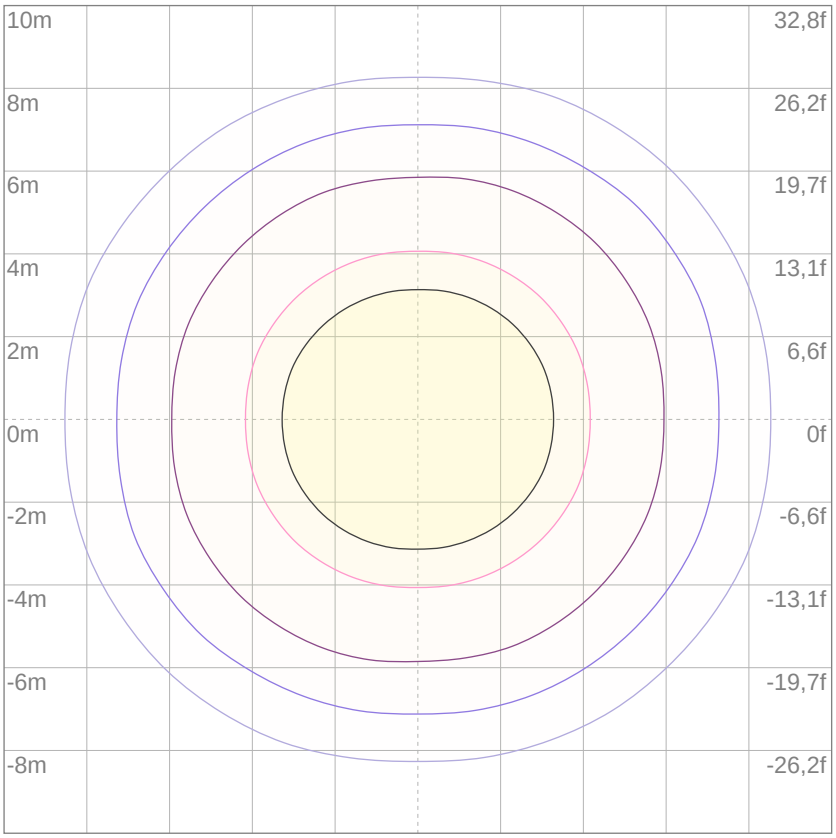
10%	32 cd
20%	64 cd
30%	96 cd
40%	128 cd
50%	160 cd
60%	192 cd
70%	224 cd
80%	256 cd
90%	288 cd

Conditions:

Number of c-planes: 16

Candela at center: 320 cd

ISO lux diagram



3%	96,0m lx
5%	0,160 lx
10%	0,320 lx
30%	0,960 lx
50%	1,60 lx

Conditions:

Number of c-planes: 16

Lux at center: 3,20 lx

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

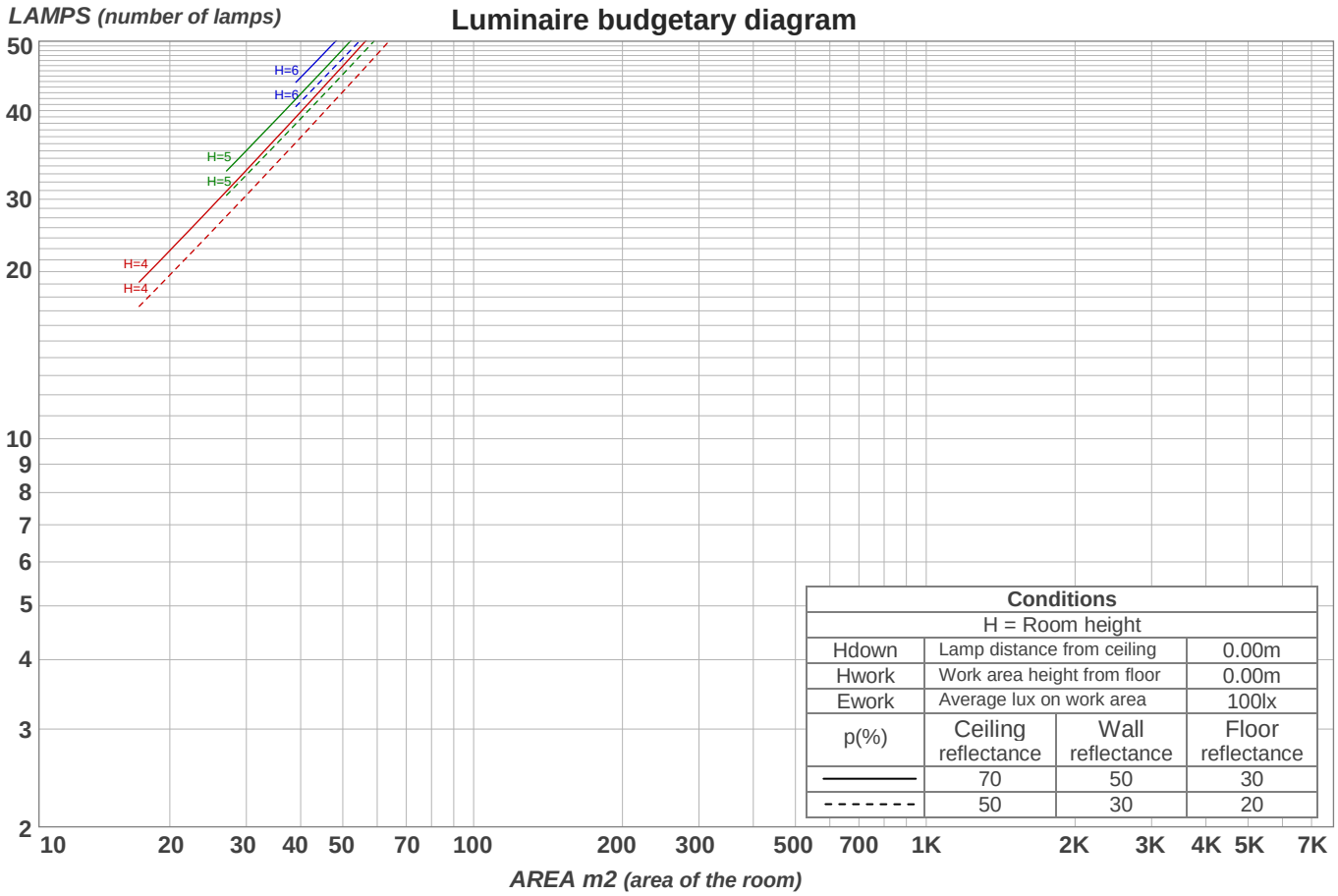
Glare Evaluation According to UGR

p Ceiling		70	70	50	50	30	70	70	50	50	30
p Walls		50	30	50	30	30	50	30	50	30	30
p Floor		20	20	20	20	20	20	20	20	20	20
Room size X	Y	Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
2H	2H	8,4	9,1	8,6	9,3	9,5	8,1	8,8	8,3	9,0	9,2
	3H	10,2	10,9	10,5	11,2	11,4	9,6	10,3	9,9	10,5	10,7
	4H	11,2	11,9	11,5	12,1	12,4	10,6	11,2	10,9	11,5	11,7
	6H	12,2	12,8	12,5	13,1	13,4	11,6	12,2	11,9	12,5	12,8
	8H	12,6	13,2	12,9	13,5	13,8	12,1	12,6	12,4	12,9	13,2
	12H	12,9	13,4	13,2	13,7	14,0	12,4	13,0	12,8	13,3	13,6
4H	2H	8,8	9,5	9,1	9,7	10,0	8,5	9,2	8,8	9,4	9,7
	3H	10,9	11,5	11,3	11,8	12,1	10,4	10,9	10,7	11,2	11,5
	4H	12,1	12,6	12,5	13,0	13,3	11,6	12,1	12,0	12,4	12,8
	6H	13,3	13,7	13,7	14,1	14,5	12,9	13,3	13,3	13,7	14,1
	8H	13,9	14,2	14,3	14,6	15,0	13,5	13,8	13,9	14,2	14,6
	12H	14,2	14,5	14,6	14,9	15,3	13,9	14,2	14,3	14,6	15,0
8H	4H	12,6	13,0	13,0	13,3	13,7	12,1	12,5	12,6	12,9	13,3
	6H	14,0	14,3	14,5	14,7	15,2	13,7	14,0	14,2	14,4	14,9
	8H	14,7	14,9	15,1	15,3	15,8	14,4	14,6	14,8	15,0	15,5
	12H	15,1	15,3	15,6	15,8	16,3	14,9	15,1	15,4	15,6	16,1
12H	4H	12,7	13,0	13,1	13,4	13,8	12,3	12,6	12,7	13,0	13,4
	6H	14,2	14,4	14,7	14,9	15,3	13,9	14,1	14,4	14,6	15,0
	8H	14,9	15,1	15,4	15,5	16,0	14,6	14,8	15,1	15,2	15,7
Variation of the observer position for the luminaire distance S											
S = 1,0H		+0,5 / -0,2					+0,4 / -0,2				
S = 1,5H		+1,1 / -0,4					+1,1 / -0,4				
S = 2,0H		+2,0 / -0,4					+1,8 / -0,5				
Standard table		BK09					BK08				
Correction summand		-1,9					-3,1				
Corrected glare indices referring to 145 lm total luminous flux											

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 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	113	110	108	106	111	108	106	104	104	102	101	100	99	97	97	95	94	93
2	108	103	99	96	106	101	98	95	98	95	93	95	93	91	92	90	89	87
3	103	97	92	88	101	96	91	88	93	89	86	90	87	85	88	86	83	82
4	99	92	86	82	97	90	86	82	88	84	81	86	83	80	84	81	79	77
5	95	87	81	78	93	86	81	77	84	80	76	82	79	76	81	78	75	74
6	91	83	77	73	89	82	77	73	80	76	72	79	75	72	78	74	71	70
7	87	79	73	70	86	78	73	69	77	72	69	76	72	69	74	71	68	67
8	84	75	70	66	83	75	70	66	74	69	66	73	69	66	72	68	65	64
9	81	72	67	63	80	72	67	63	71	66	63	70	66	63	69	65	63	61
10	78	69	64	61	77	69	64	61	68	64	60	67	63	60	67	63	60	59

Luminaire budgetary diagram



Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
28,5 lm	{LUM10-20}	{LUM20-30}	{LUM30-40}	{LUM40-50}	{LUM50-60}	{LUM60-70}	{LUM70-80}	{LUM80-90}

90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
{LUM90-	{LUM100-	0,242 lm	{LUM120-	{LUM130-	{LUM140-	{LUM150-	{LUM160-	{LUM170-

Stabilization

Warmup curve

Warmup result

Warmup time:	**15 min 2 sec**
Warmup variation	**+0,6%**

Warmup conditions

Stable period:	**15 min**
Stable change max:	**2,0%**
Minimum time:	**15 min**

Color temperature change

CCT start	CCT change	CCT end
2680 K	**{WU_CHNG_CCT} K**	**2678 K**

Output change

Output start	Output change	Output end
145 lm	**lm**	**145 lm**