Light efficiency:

84 Lumen/Watt

Light quality:

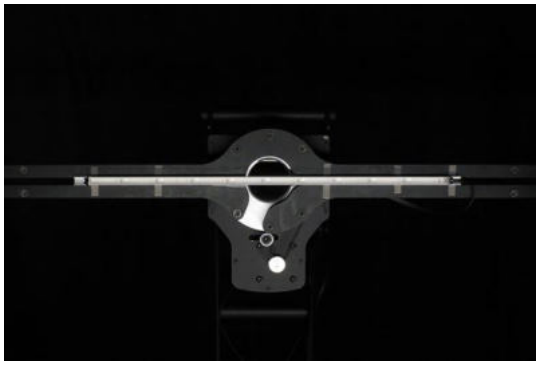
CRI: 95,7

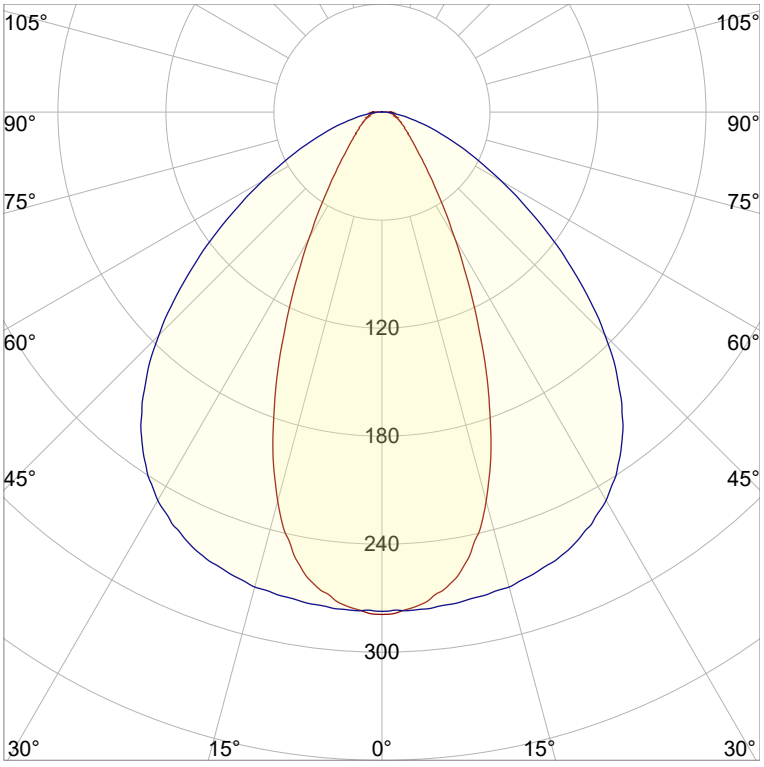
Color temperature:

2757 K

Output: 383 lm
Peak: 279 cd

Power: 4,6 W
PF: 1,0





Product name:
Horizon-0508-927-L3F-CSF

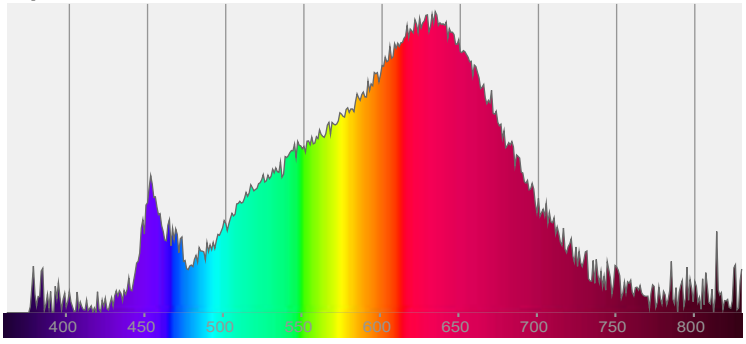
Item number:
FLNNP/L/01A0508/927/L3F/CSF

Date and time:
18.06.2020 08:57:15

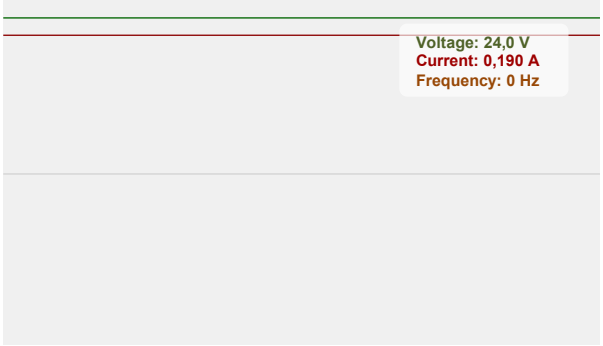
Description:
Rank: G08DW
Toleranzen:
Lumen +/-4%
Candela +/-2,5%
Colour Temp +/-35 K
CRI +/-0,7
Angular Resolution 1 Grad Step
Last Calibration 20.05.2020
Pruefer:
Peter Ulrich
Pruefort:
Lichtlabor
Gaustrasse13
55411 Bingen am Rhein

CIE 1931
x: 0,455
y: 0,408

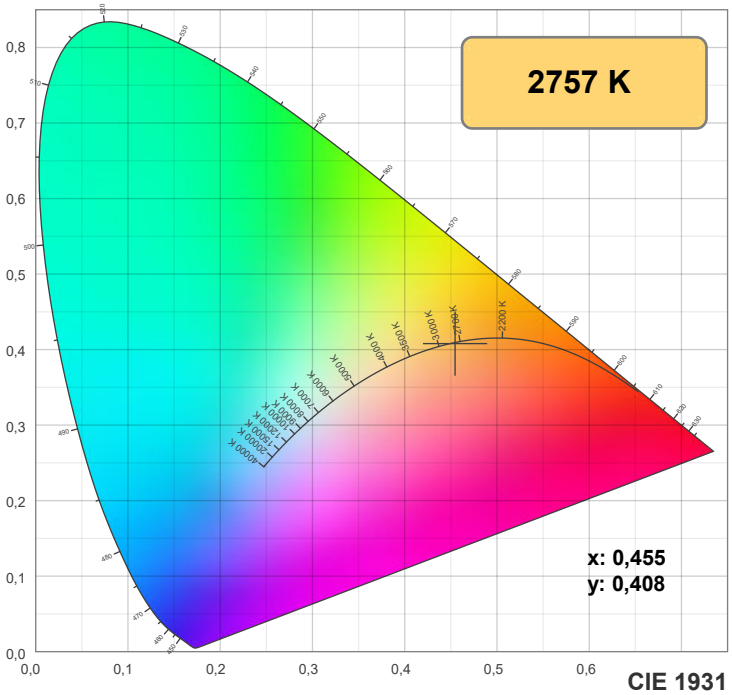
Spectra



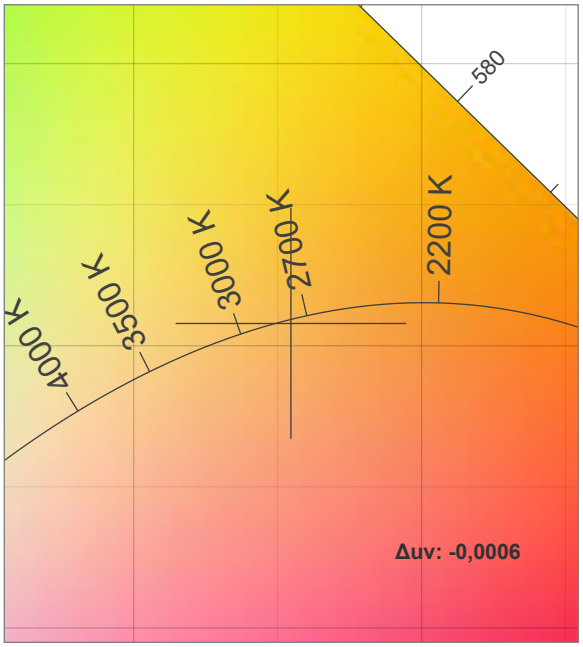
Power



Color details

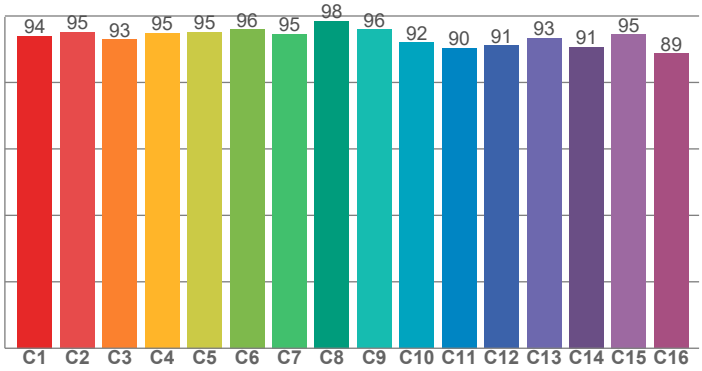


CIE 1931

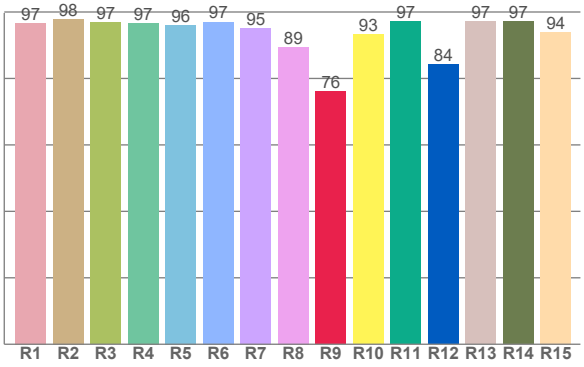


CIE 1931 ZOOM

TM30: 93,6



CRI: 95,7 (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
96,7	97,8	96,8	96,6	96,1	97,0	95,1	89,4	76,0	93,3	97,2	84,2	97,2	97,2	93,9

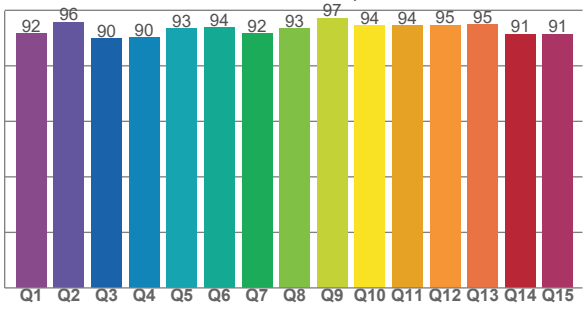
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
94,0	95,2	92,9	94,8	95,2	96,0	94,6	98,5	96,0	92,0	90,3	91,2	93,5	90,7	94,5	88,7

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
91,7	95,8	89,7	90,1	93,4	93,7	91,6	93,4	97,2	94,4	94,4	94,6	94,8	91,5	91,4

CQS: 92,7



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 diviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
2757 K	95,7	76,0	93,6	100,4	92,7	0,455	0,408	0,260	0,350	-0,0006

TM30 details

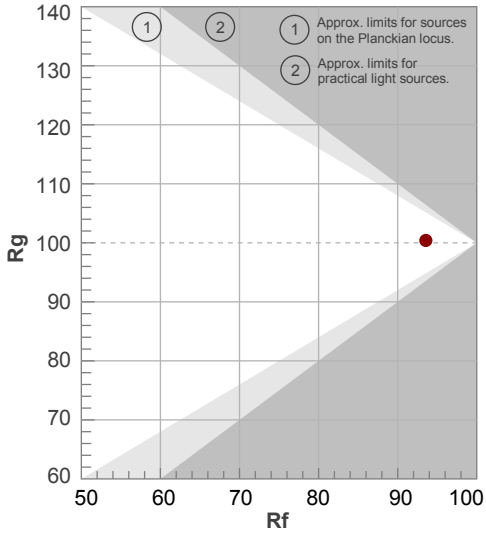
Rf 93,6

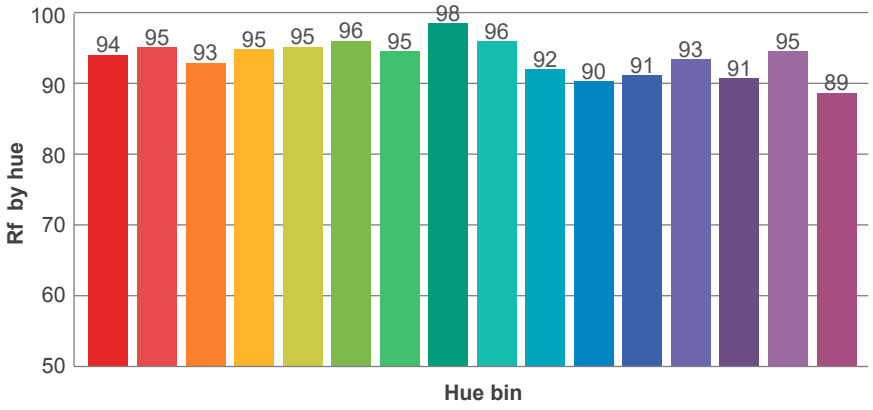
Fidelity index Rf

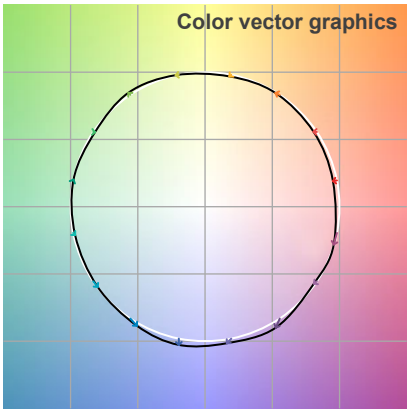
Rg 100,4

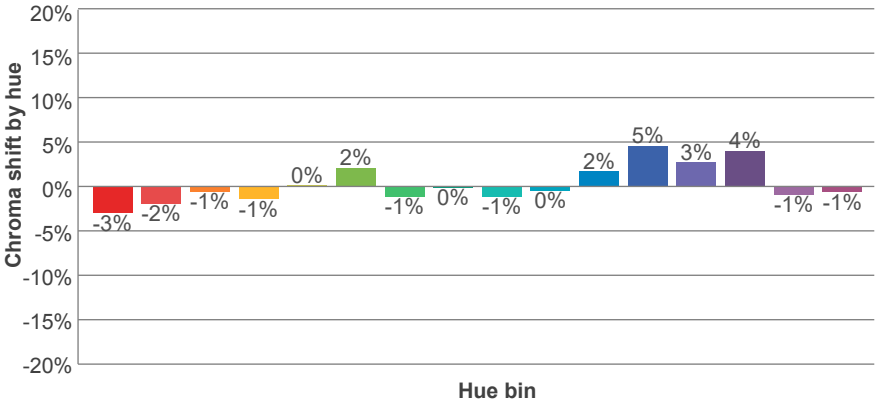
Gammut index Rg

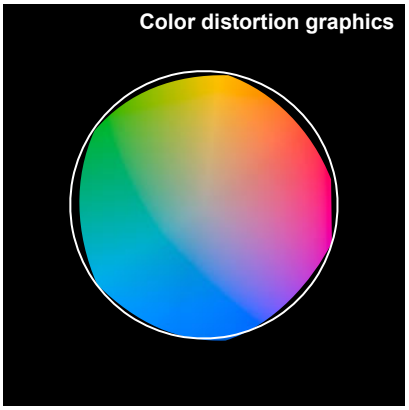
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	94	-3%	0%
2	95	-2%	2%
3	93	-1%	3%
4	95	-1%	1%
5	95	0%	2%
6	96	2%	0%
7	95	-1%	-1%
8	98	0%	-1%
9	96	-1%	2%
10	92	0%	5%
11	90	2%	7%
12	91	5%	1%
13	93	3%	-4%
14	91	4%	-6%
15	95	-1%	-3%
16	89	-1%	-9%

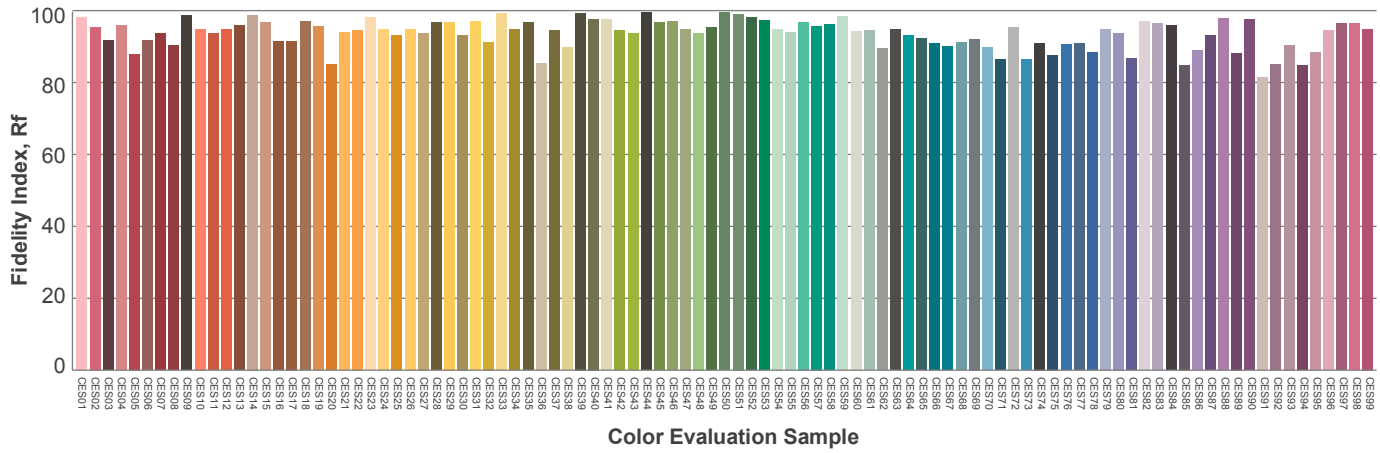




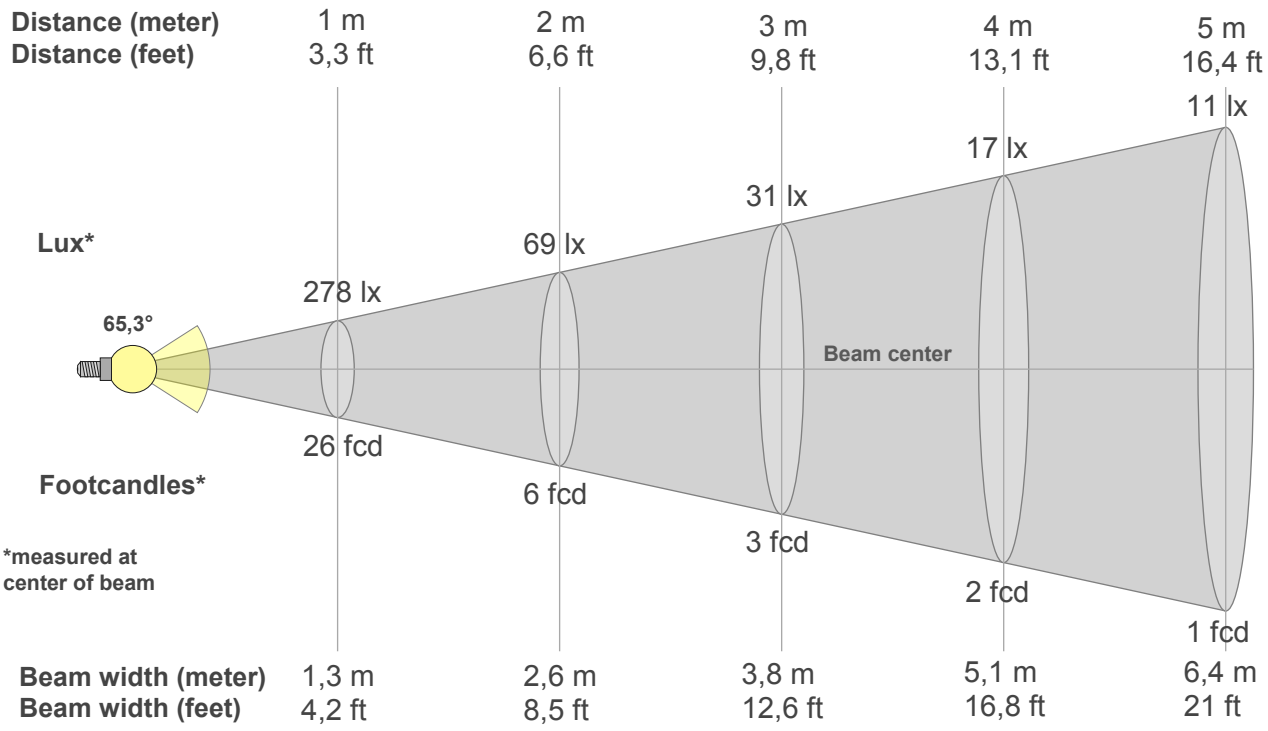








Beam details



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
278lx	69lx	31lx	17lx	11lx	8lx	6lx	4lx	3lx	3lx	2lx	2lx	2lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx
25,8fcd	6,4fcd	2,9fcd	1,6fcd	1fcd	0,7fcd	0,5fcd	0,4fcd	0,3fcd	0,3fcd	0,2fcd	0,2fcd	0,2fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd

Intensities in 0° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
278	273	257	224	175	123	81	52	35	25	19	15	13	11	9	7	6	5	4	0
100%	99%	93%	81%	63%	44%	29%	19%	13%	9%	7%	5%	5%	4%	3%	3%	2%	2%	1%	0%

Intensities in 90° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
278	277	275	273	268	261	249	231	206	175	140	107	77	53	34	21	11	5	2	0
100%	100%	99%	98%	97%	94%	90%	83%	74%	63%	51%	38%	28%	19%	12%	7%	4%	2%	1%	0%

Intensities in 180° c-plane

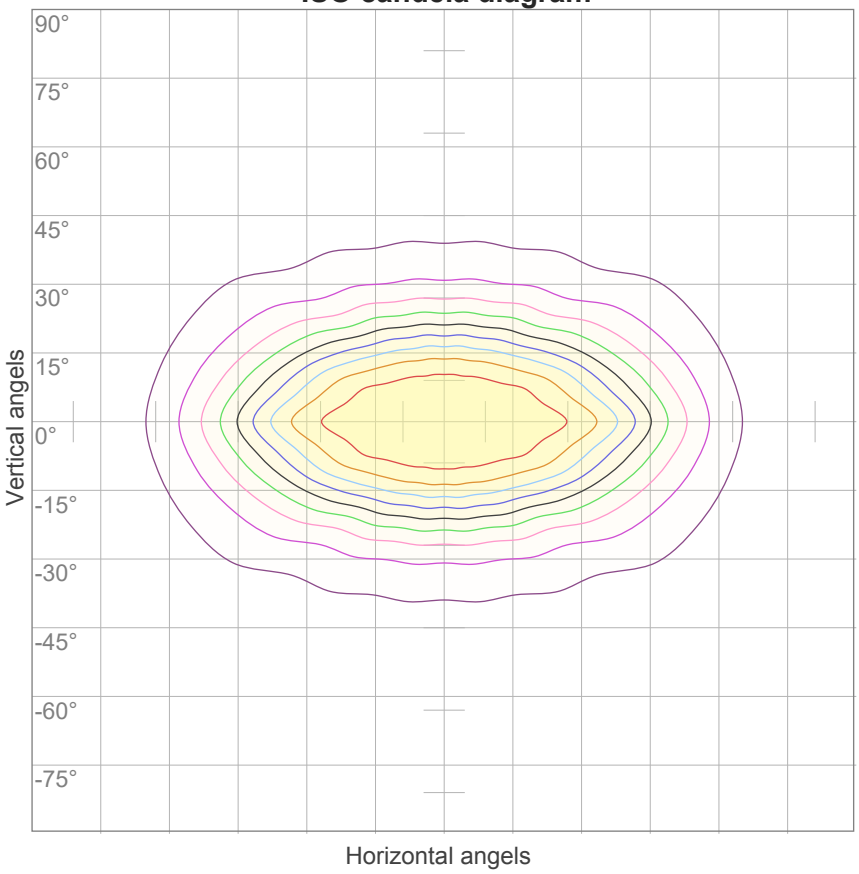
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
278	273	257	224	175	123	81	52	35	25	19	15	13	11	9	7	6	5	4	0
100%	99%	93%	81%	63%	44%	29%	19%	13%	9%	7%	5%	5%	4%	3%	3%	2%	2%	1%	0%

Intensities in 270° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
278	277	275	273	268	261	249	231	206	175	140	107	77	53	34	21	11	5	2	0
100%	100%	99%	98%	97%	94%	90%	83%	74%	63%	51%	38%	28%	19%	12%	7%	4%	2%	1%	0%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
65,3°	**111,1°**	**160,7°**	**89,5%**	**73,6%**

ISO candela diagram



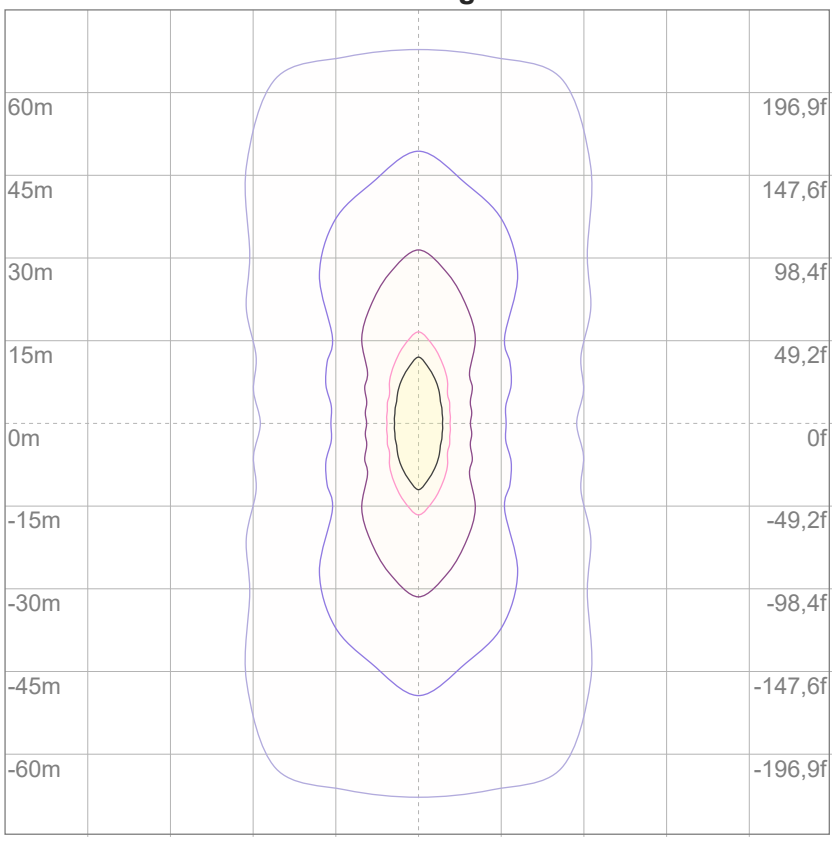
10%	28 cd
20%	56 cd
30%	83 cd
40%	111 cd
50%	139 cd
60%	167 cd
70%	194 cd
80%	222 cd
90%	250 cd

Conditions:

Number of c-planes: 16

Candela at center: 278 cd

ISO lux diagram



3%	83,3m lx
5%	0,139 lx
10%	0,278 lx
30%	0,833 lx
50%	1,39 lx

Conditions:

Number of c-planes: 16

Lux at center: 2,78 lx

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

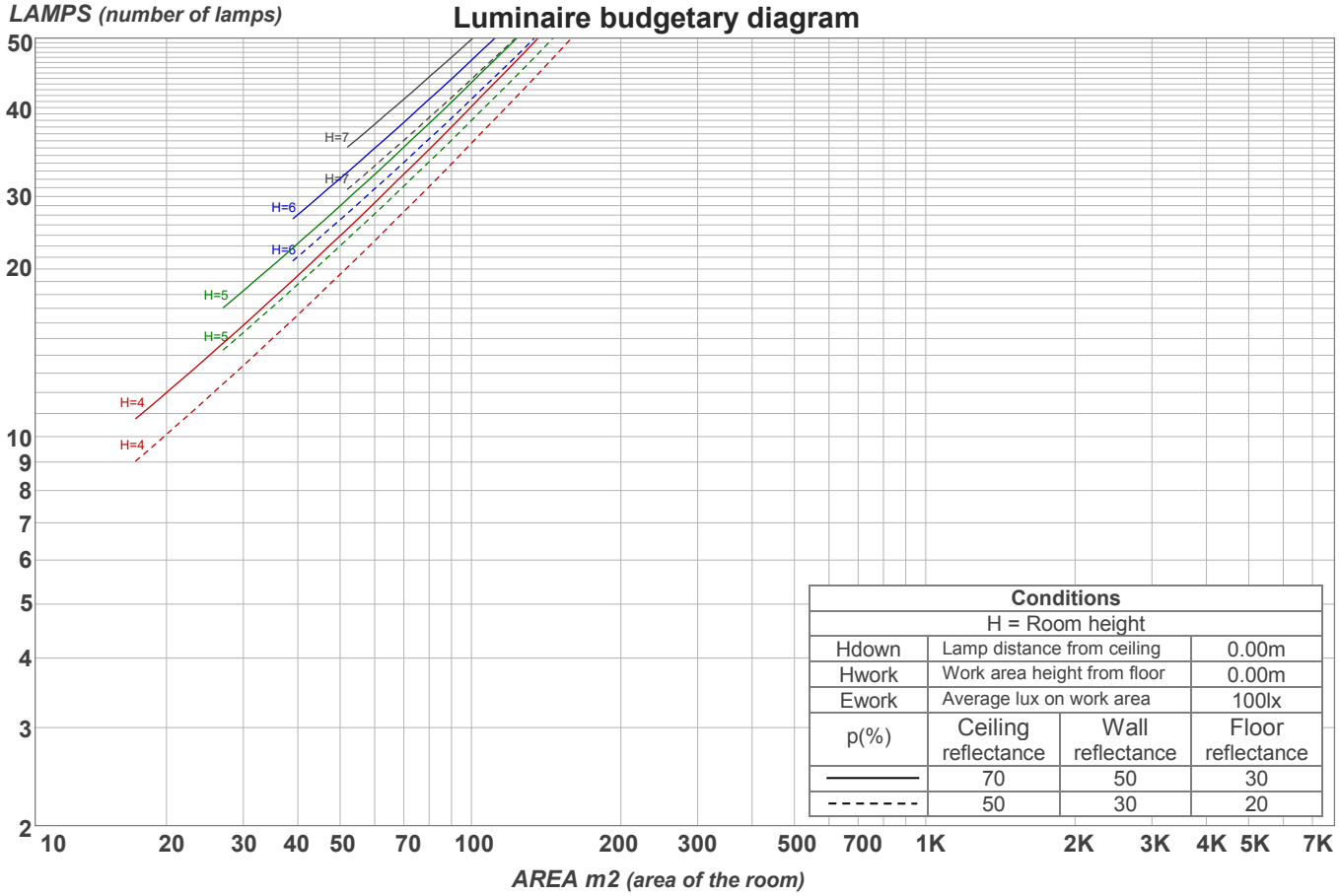
Glare Evaluation According to UGR

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	13,8	14,7	13,9	15,0	15,2	23,2	24,2	23,4	24,4	24,6
	3H	14,4	15,4	14,8	15,7	15,9	24,0	25,1	24,4	25,3	25,5
	4H	14,8	15,8	15,2	16,0	16,3	24,4	25,4	24,8	25,6	25,9
	6H	15,3	16,2	15,6	16,4	16,8	24,7	25,5	25,0	25,8	26,2
	8H	15,5	16,3	15,8	16,7	17,1	24,7	25,5	25,0	25,9	26,3
	12H	15,7	16,5	16,1	16,9	17,3	24,7	25,5	25,1	25,9	26,3
4H	2H	14,8	15,8	15,2	16,1	16,3	23,0	23,9	23,4	24,2	24,4
	3H	15,7	16,5	16,1	16,8	17,3	24,0	24,8	24,4	25,2	25,6
	4H	16,1	16,8	16,5	17,3	17,8	24,4	25,1	24,8	25,6	26,1
	6H	16,6	17,4	17,1	17,7	18,1	24,7	25,5	25,2	25,8	26,2
	8H	16,9	17,5	17,4	17,9	18,3	24,8	25,5	25,3	25,9	26,2
	12H	17,2	17,7	17,7	18,1	18,6	24,9	25,5	25,4	25,9	26,3
8H	4H	16,6	17,3	17,2	17,7	18,0	24,3	25,0	24,8	25,4	25,7
	6H	17,3	17,8	17,8	18,3	18,8	24,7	25,2	25,2	25,7	26,2
	8H	17,7	18,1	18,2	18,7	19,3	24,9	25,3	25,4	25,9	26,5
	12H	18,1	18,5	18,7	19,0	19,6	25,1	25,4	25,6	25,9	26,5
12H	4H	16,7	17,3	17,2	17,7	18,2	24,3	24,8	24,8	25,2	25,7
	6H	17,5	18,0	18,1	18,5	19,1	24,8	25,2	25,3	25,7	26,3
	8H	18,0	18,3	18,5	18,8	19,4	24,9	25,3	25,5	25,8	26,4
Variation of the observer position for the luminaire distance S											
S = 1.0H		0,6 / -0,5					0,6 / -0,7				
S = 1.5H		1,0 / -0,7					1,7 / -1,6				
S = 2.0H		1,3 / -1,0					3,0 / -2,6				
Standard table		n/a					n/a				
Correction summand		n/a					n/a				
Corrected glare indices referring to 383 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	102	102	102	100
1	111	107	103	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88
2	103	96	91	86	101	95	89	85	91	87	83	88	84	81	85	82	80	78
3	96	87	81	75	94	86	80	75	83	78	73	80	76	72	78	74	71	69
4	89	79	72	67	87	78	71	66	76	70	65	74	69	64	72	67	64	62
5	83	73	65	60	82	72	65	59	70	63	59	68	62	58	66	61	58	56
6	78	67	59	54	76	66	59	54	64	58	53	63	57	53	61	56	52	51
7	73	62	54	49	72	61	54	49	60	53	49	58	53	48	57	52	48	46
8	69	57	50	45	68	57	50	45	56	49	45	54	49	44	53	48	44	42
9	65	53	46	41	64	53	46	41	52	46	41	51	45	41	50	45	41	39
10	62	50	43	38	60	50	43	38	49	42	38	48	42	38	47	42	38	36

Luminaire budgetary diagram

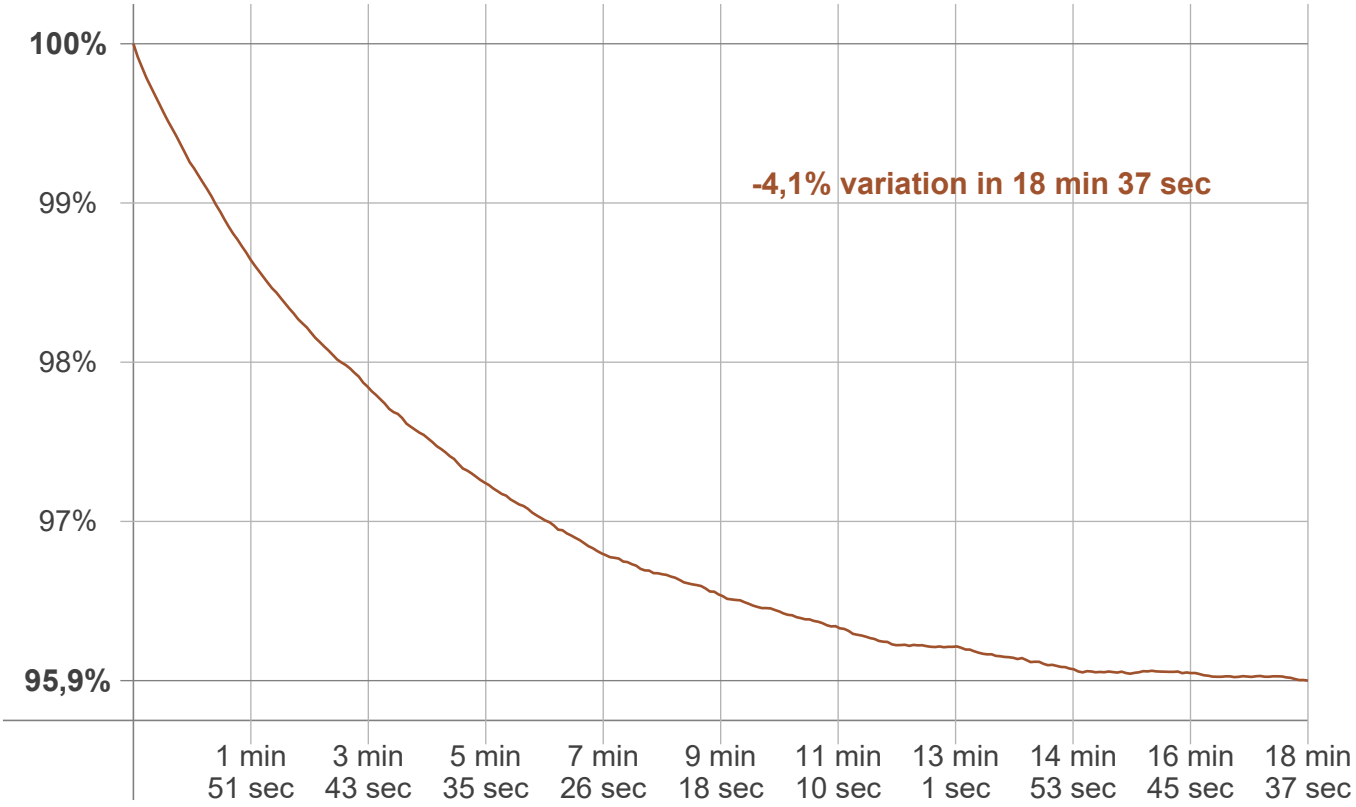


Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
26,0 lm	69,0 lm	84,3 lm	73,5 lm	54,2 lm	36,1 lm	22,1 lm	12,2 lm	6,09 lm

90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
0,017 lm	0,000 lm	0,000 lm	0,000 lm	0,000 lm	0,000 lm	0,000 lm	0,000 lm	0,000 lm

Warmup curve



Warmup result

Warmup time:	**Lamp stabilized in 18 min 37 sec**
Warmup variation	**-4,1%**

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
2767 K	-10 K	2757 K

Output change

Output start	Output change	Output end
398 lm	-15 lm	383 lm