

Light efficiency:

56 Lumen/Watt

Light quality:

CRI: 80.5

Color temperature:

4137 K

Output: 3315 lm

Peak: 17236 cd

Power: 59.1 W

PF: 0.99



Product name:

Dyna Drum EO

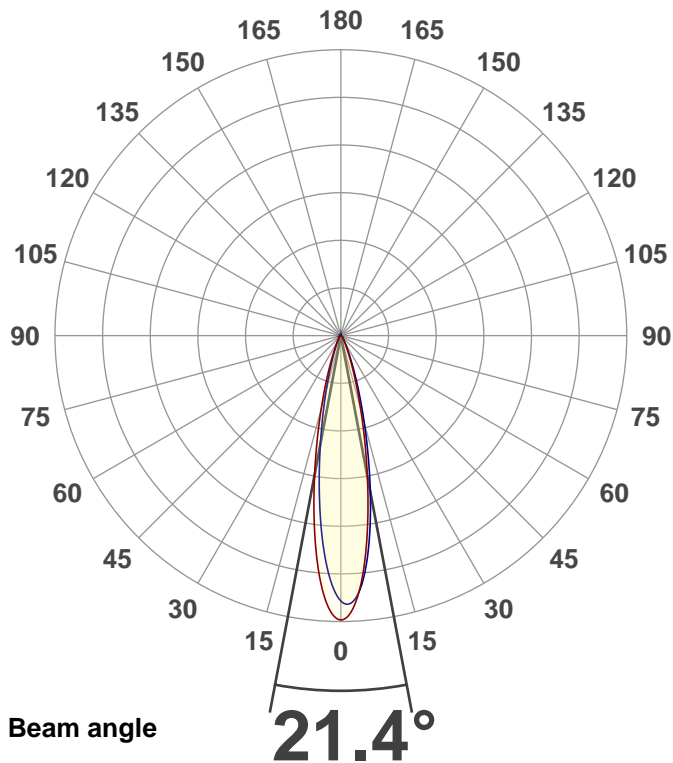
Item number:

20Deg 4000K

Date:

11/13/2018

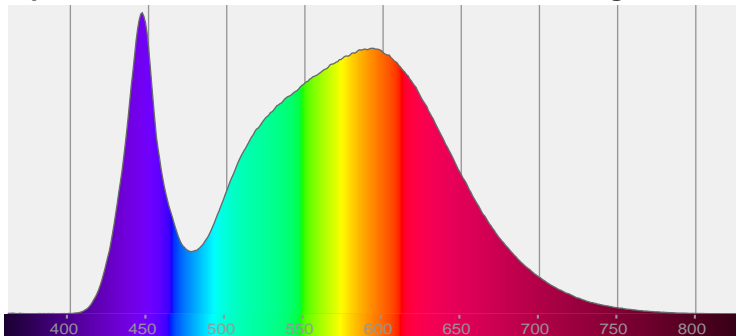
Description:



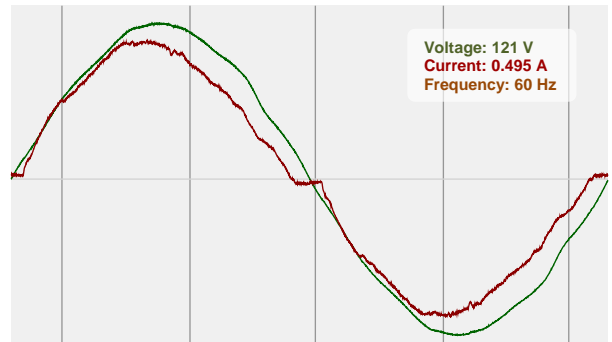
CIE 1931
x: 0.375
y: 0.374

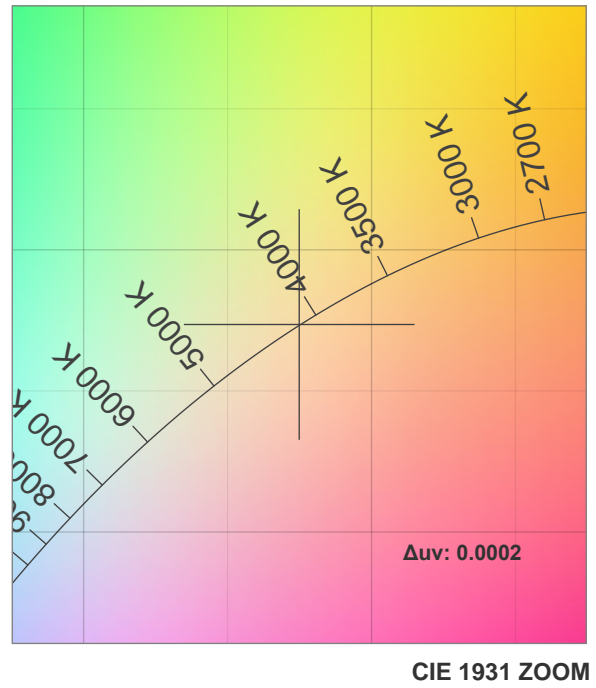
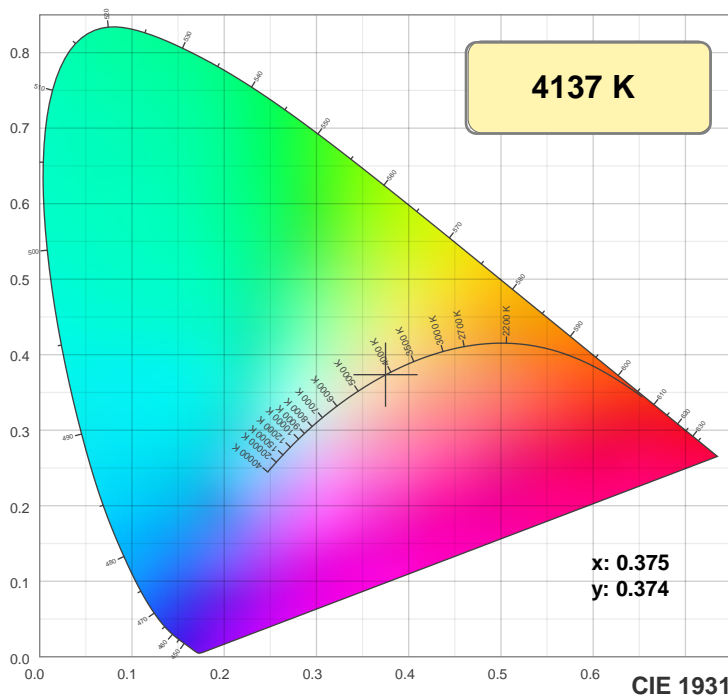
Spectra

Dominant Wavelength: 581nm

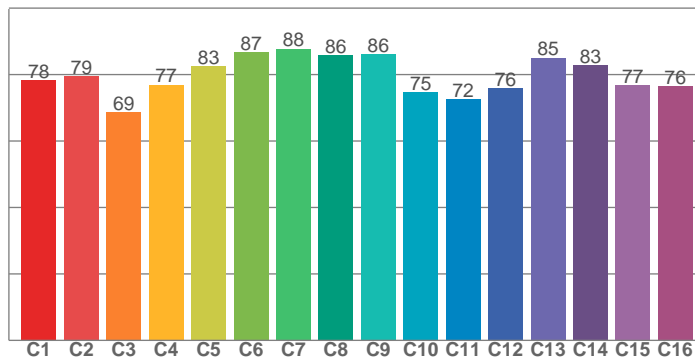


Power

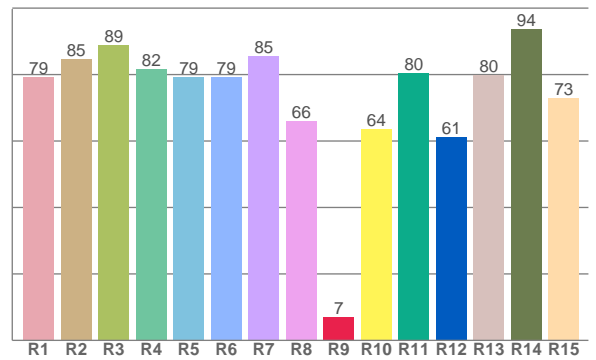




TM30: 79.3



CRI: 80.5 (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
79.2	84.6	88.9	81.5	79.2	79.1	85.4	65.9	6.9	63.6	80.4	61.1	79.9	93.6	73.0

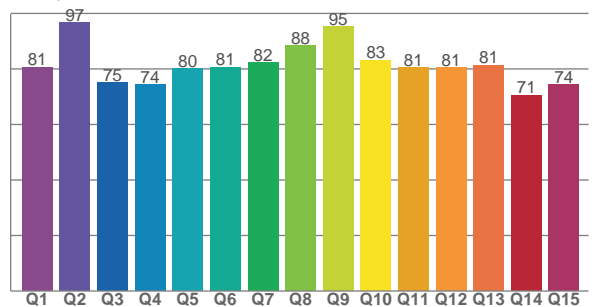
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
78.2	79.4	68.7	76.9	82.5	86.7	87.8	85.8	86.1	74.6	72.5	75.9	85.0	82.8	76.8	76.4

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
80.6	96.6	75.1	74.3	80.0	80.6	82.3	88.3	95.3	83.2	80.6	80.5	81.4	70.5	74.2

CQS: 80.3



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 divition from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
4137 K	80.5	6.9	79.3	98.0	80.3	0.375	0.374	0.223	0.333	0.0002

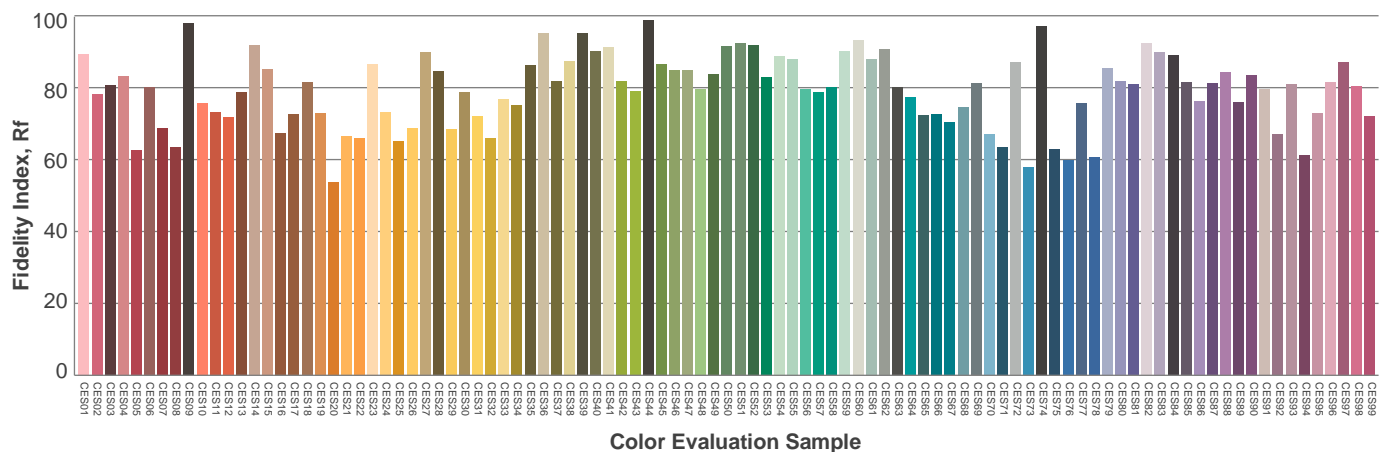
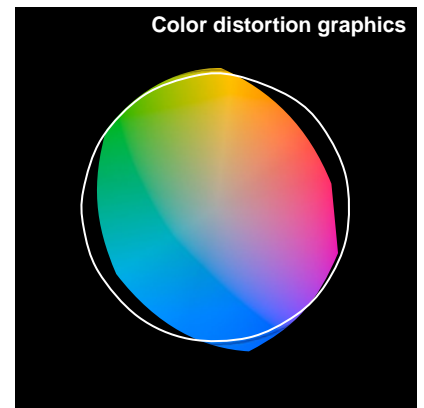
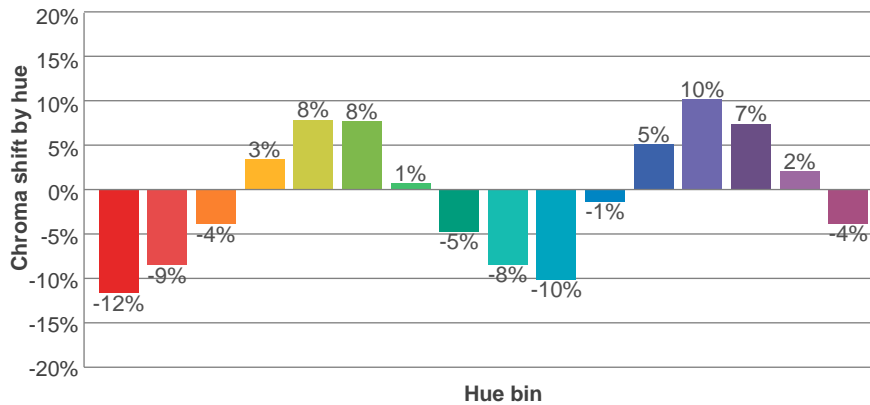
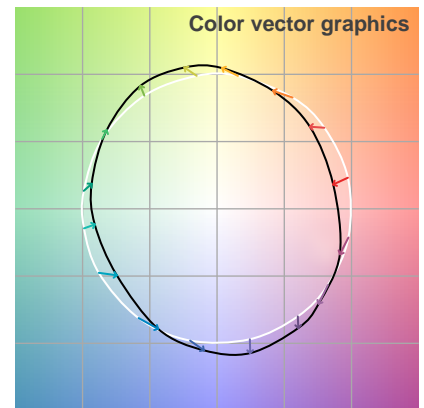
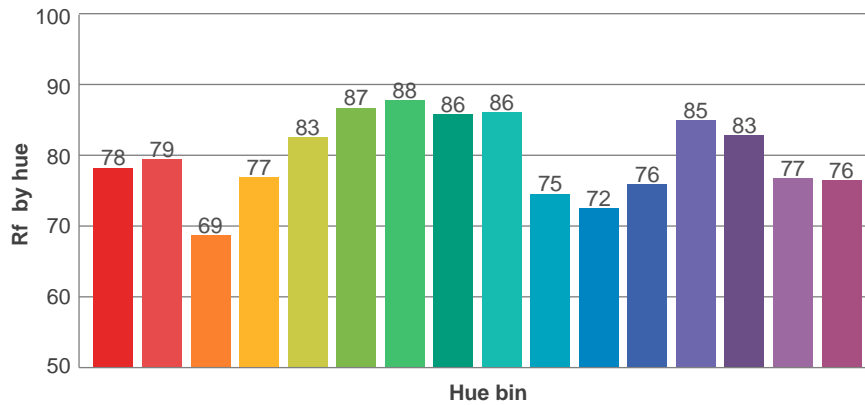
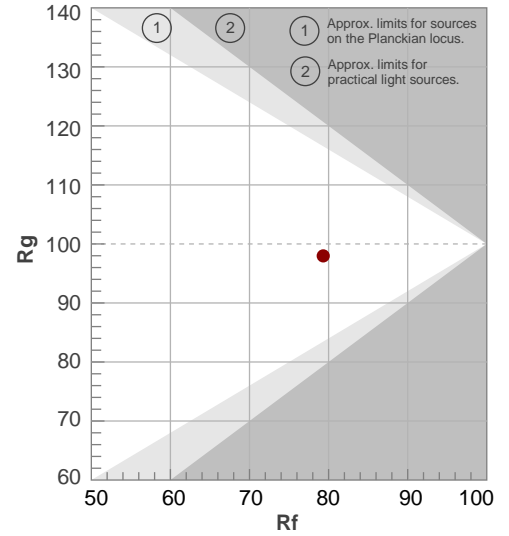
Rf 79.3

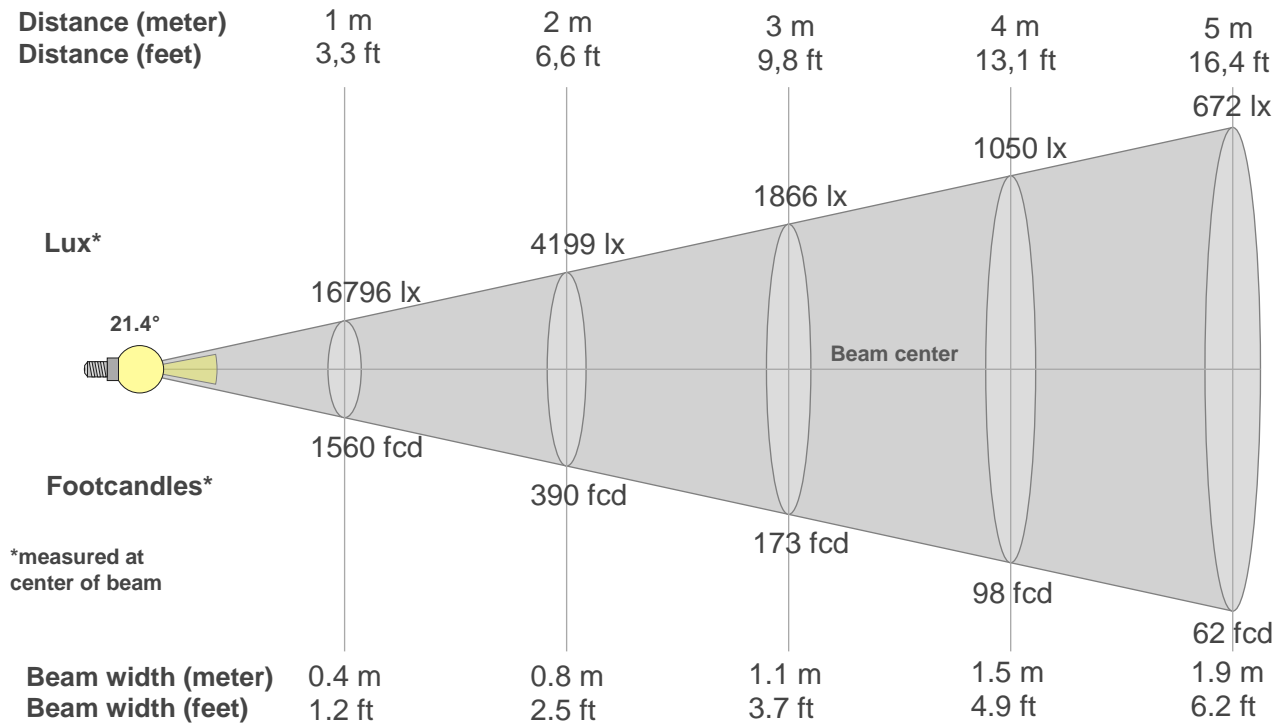
Fidelity index Rf

Rg 98.0

Gamut index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	78	-12%	-3%
2	79	-9%	7%
3	69	-4%	15%
4	77	3%	13%
5	83	8%	8%
6	87	8%	-2%
7	88	1%	-7%
8	86	-5%	-6%
9	86	-8%	-1%
10	75	-10%	9%
11	72	-1%	16%
12	76	5%	11%
13	85	10%	-2%
14	83	7%	-4%
15	77	2%	-15%
16	76	-4%	-13%





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
16796lx	4199lx	1866lx	1050lx	672lx	467lx	343lx	262lx	207lx	168lx	139lx	117lx	99lx	86lx	75lx	66lx	58lx	52lx	47lx	42lx
1560.4fcd	390.1fcd	173.4fcd	97.5fcd	62.4fcd	43.3fcd	31.8fcd	24.4fcd	19.3fcd	15.6fcd	12.9fcd	10.8fcd	9.2fcd	8fcd	6.9fcd	6.1fcd	5.4fcd	4.8fcd	4.3fcd	3.9fcd

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°
16.8K	16.8K	15.6K	13.8K	11.6K	9.4K	7.3K	5.5K	4.0K	2.8K	2.0K	1.4K	1.0K	0.7K	0.6K	0.4K	0.4K	0.3K	0.3K	0.2K
100%	100%	93%	82%	69%	56%	43%	33%	24%	17%	12%	8%	6%	4%	3%	3%	2%	2%	2%	1%

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°
16.8K	16.2K	15.6K	14.2K	12.4K	10.3K	8.3K	6.4K	4.7K	3.4K	2.4K	1.7K	1.2K	0.9K	0.7K	0.5K	0.4K	0.3K	0.3K	0.2K
100%	97%	93%	85%	74%	61%	49%	38%	28%	20%	15%	10%	7%	5%	4%	3%	2%	2%	2%	1%

Intensities in 180° c-plane

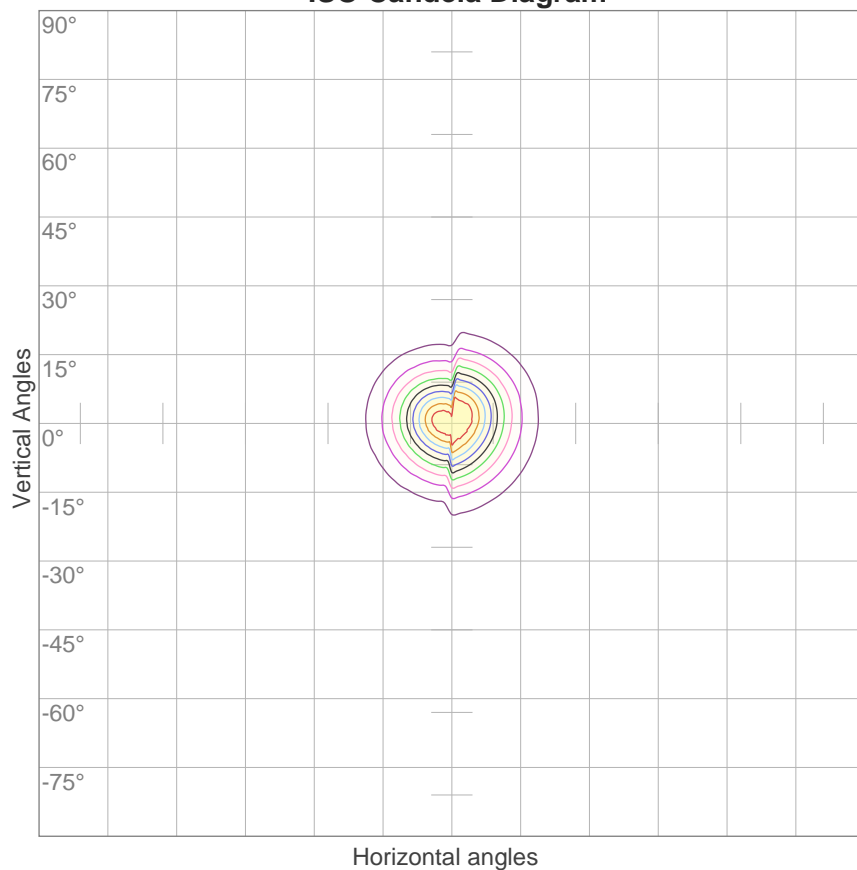
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
16.8K	16.8K	15.5K	13.7K	11.6K	9.3K	7.2K	5.4K	3.9K	2.8K	2.0K	1.4K	1.0K	0.7K	0.6K	0.4K	0.4K	0.3K	0.3K	0.2K
100%	100%	92%	82%	69%	55%	43%	32%	23%	17%	12%	8%	6%	4%	3%	3%	2%	2%	2%	1%

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°
16.8K	15.1K	13.5K	11.5K	9.4K	7.3K	5.5K	4.0K	2.9K	2.0K	1.4K	1.0K	0.7K	0.6K	0.4K	0.4K	0.3K	0.3K	0.2K	0.2K
100%	90%	80%	69%	56%	44%	33%	24%	17%	12%	8%	6%	4%	3%	3%	2%	2%	2%	1%	1%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
21.4°	41.5°	60.4°	98.9%	95.0%

ISO Candela Diagram



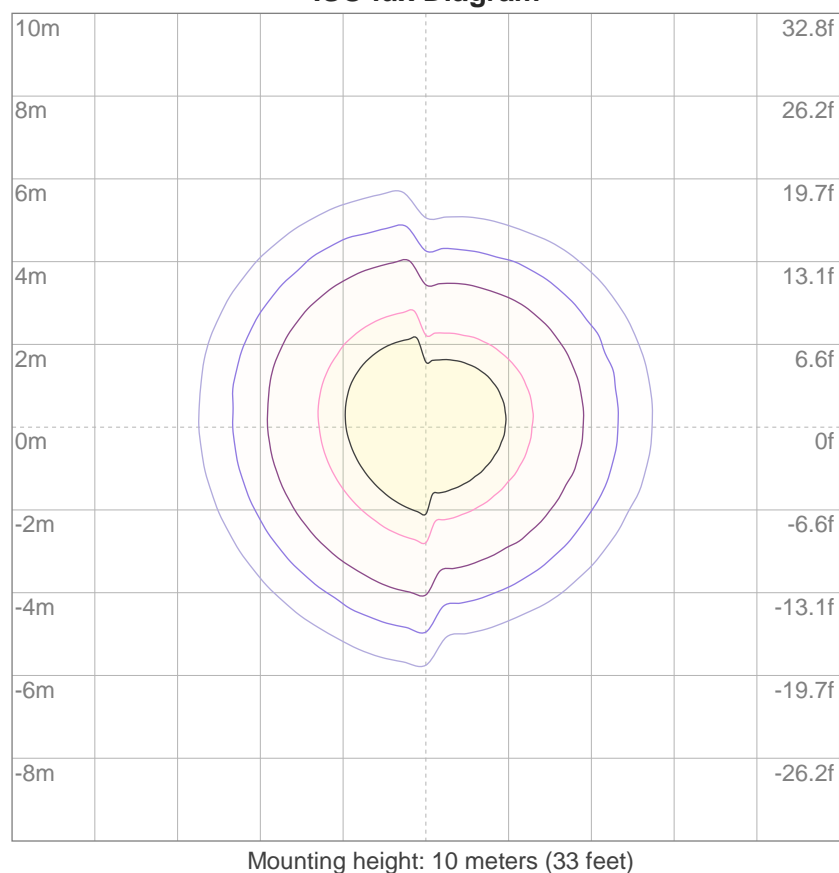
10%	1680 cd
20%	3359 cd
30%	5039 cd
40%	6718 cd
50%	8398 cd
60%	10078 cd
70%	11757 cd
80%	13437 cd
90%	15116 cd

Conditions:

Number of c-planes: 64

Candela at center: 16796 cd

ISO lux Diagram



3%	5.04 lx
5%	8.40 lx
10%	16.8 lx
30%	50.4 lx
50%	84.0 lx

Conditions:

Number of c-planes: 64

Lux at center: 168 lx

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

UGR

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	16.0	16.7	16.2	16.9	17.1	15.7	16.4	16.0	16.6	16.8
	3H	16.2	16.8	16.5	17.1	17.3	16.0	16.6	16.3	16.9	17.1
	4H	16.1	16.7	16.4	17.0	17.3	16.0	16.6	16.3	16.8	17.1
	6H	16.1	16.6	16.4	16.9	17.2	15.9	16.4	16.2	16.7	17.0
	8H	16.0	16.6	16.4	16.9	17.2	15.9	16.4	16.2	16.7	17.0
	12H	16.0	16.5	16.3	16.8	17.1	15.8	16.3	16.2	16.6	16.9
4H	2H	16.2	16.8	16.5	17.1	17.3	15.9	16.5	16.2	16.8	17.0
	3H	16.5	17.0	16.8	17.3	17.6	16.2	16.7	16.6	17.0	17.3
	4H	16.4	16.9	16.8	17.2	17.5	16.2	16.6	16.5	16.9	17.3
	6H	16.4	16.7	16.8	17.1	17.5	16.1	16.5	16.5	16.8	17.2
	8H	16.3	16.6	16.7	17.0	17.4	16.1	16.4	16.5	16.8	17.2
	12H	16.3	16.6	16.7	16.9	17.4	16.0	16.3	16.4	16.7	17.1
8H	4H	16.3	16.7	16.8	17.0	17.4	16.1	16.4	16.5	16.8	17.2
	6H	16.3	16.5	16.7	16.9	17.4	16.0	16.2	16.4	16.7	17.1
	8H	16.2	16.4	16.7	16.9	17.3	15.9	16.1	16.4	16.6	17.1
	12H	16.2	16.3	16.6	16.8	17.3	15.9	16.1	16.4	16.5	17.0
12H	4H	16.3	16.6	16.7	17.0	17.4	16.0	16.3	16.5	16.7	17.1
	6H	16.2	16.4	16.7	16.9	17.3	15.9	16.1	16.4	16.6	17.1
	8H	16.2	16.3	16.6	16.8	17.3	15.9	16.1	16.4	16.5	17.0
Variation of the observer position for the luminaire distance S											
S = 1.0H		+1.0 / -1.3					+1.2 / -1.2				
S = 1.5H		+2.3 / -2.8					+2.6 / -2.7				
S = 2.0H		+3.7 / -5.1					+4.0 / -5.3				
Standard table		BK01					BK01				
Correction summand		-1.7					-2.0				
Corrected glare indices referring to 3315 lm total luminous flux											

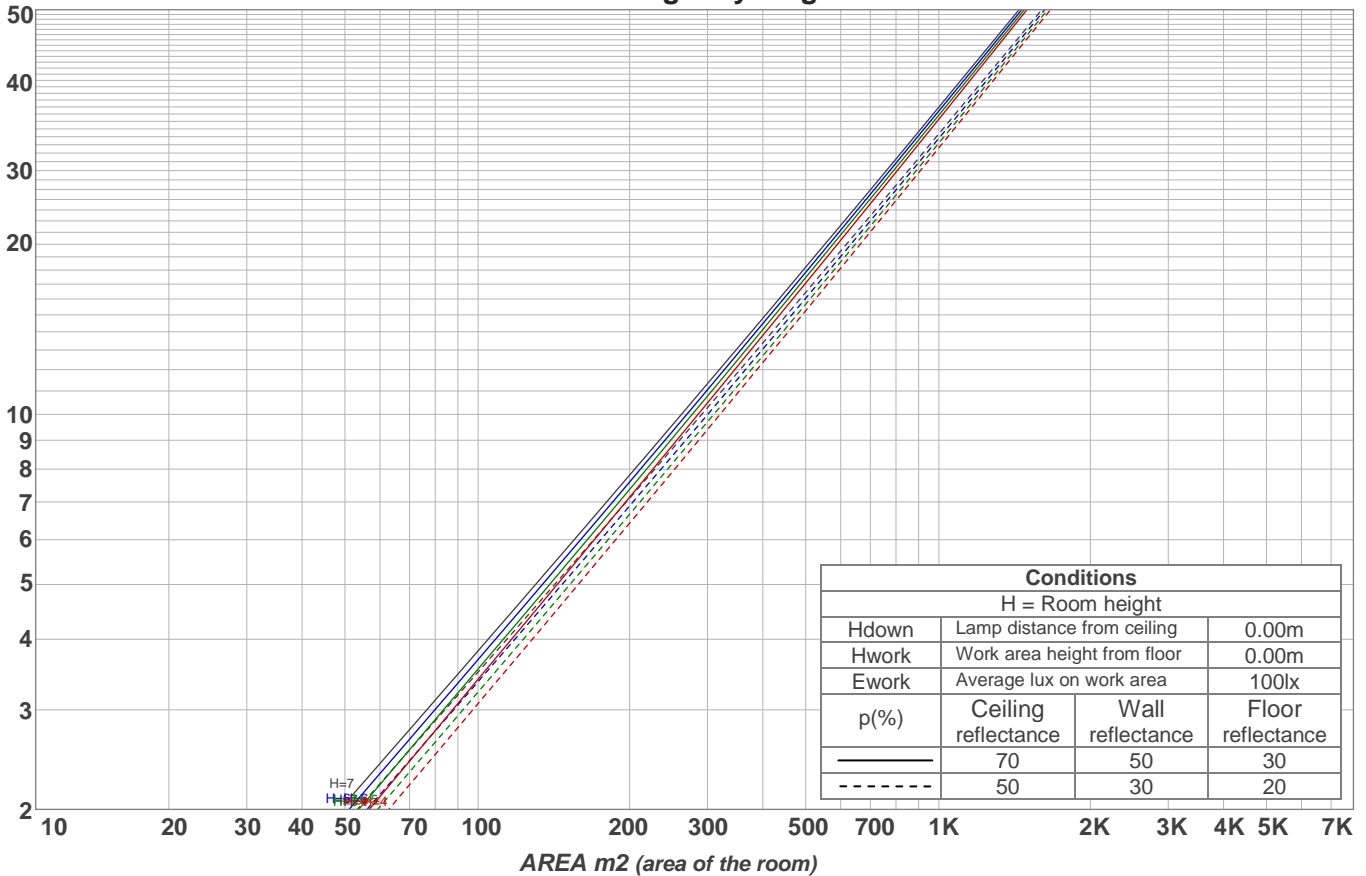
UGR data could be incorrect as lamp output is not symmetrical. Goto Edit->Photometric->Corrections and select Correct asymmetry.

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 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	115	112	110	109	112	110	108	107	106	105	104	103	102	100	99	98	98	96
2	110	107	103	101	108	105	102	99	102	99	97	99	97	95	96	95	93	92
3	107	101	98	94	105	100	97	94	98	95	92	95	93	91	93	91	89	88
4	103	97	93	89	101	96	92	89	94	91	88	92	89	87	90	88	86	85
5	99	93	89	85	98	92	88	85	91	87	84	89	86	84	88	85	83	82
6	96	90	85	82	95	89	85	82	88	84	81	86	83	81	85	82	80	79
7	93	87	82	79	92	86	82	79	85	81	78	84	80	78	83	80	78	77
8	91	84	79	76	90	83	79	76	82	79	76	81	78	76	81	78	75	74
9	88	81	77	74	87	81	77	74	80	76	74	79	76	73	78	75	73	72
10	86	79	75	72	85	78	74	72	78	74	72	77	74	71	76	73	71	70

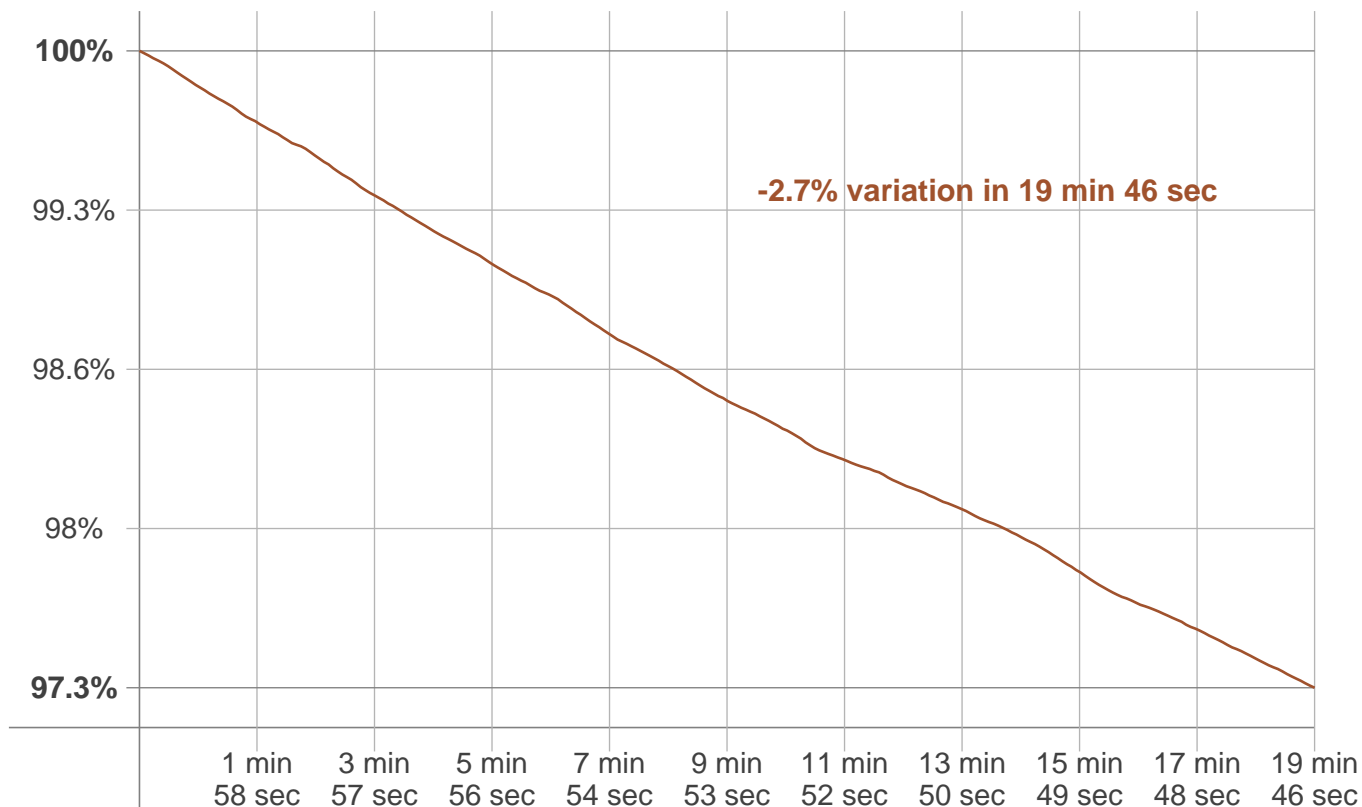
LAMPS (number of lamps)

Luminaire budgetary diagram



Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
1201 lm	1283 lm	422 lm	180 lm	117 lm	74.3 lm	33.4 lm	4.23 lm	0.042 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
0.001 lm	0.001 lm	0.001 lm	0.001 lm	0.002 lm	0.003 lm	0.005 lm	0.005 lm	0.001 lm

Warmup curve

Warmup result

Warmup time:	19 min 46 sec
Warmup variation	-2.7%

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
4124 K	+13 K	4137 K

Output change

Output start	Output change	Output end
3407 lm	-91 lm	3315 lm