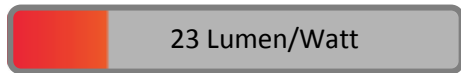


PHOTOMETRIC TEST REPORT

FOSSO SWITCHED LED POLISHED

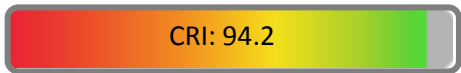
astro

LIGHT EFFICIENCY:



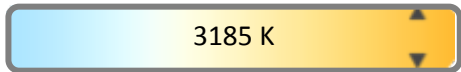
OUTPUT: 53.7 lm

LIGHT QUALITY:



PEAK: 501 cd

COLOR TEMPERATURE:



POWER: 2.3 W

PF: 0.4

Tracking number: [n/a](#)

Product name:

Fosso Switched LED Polished Chrome

Item number:

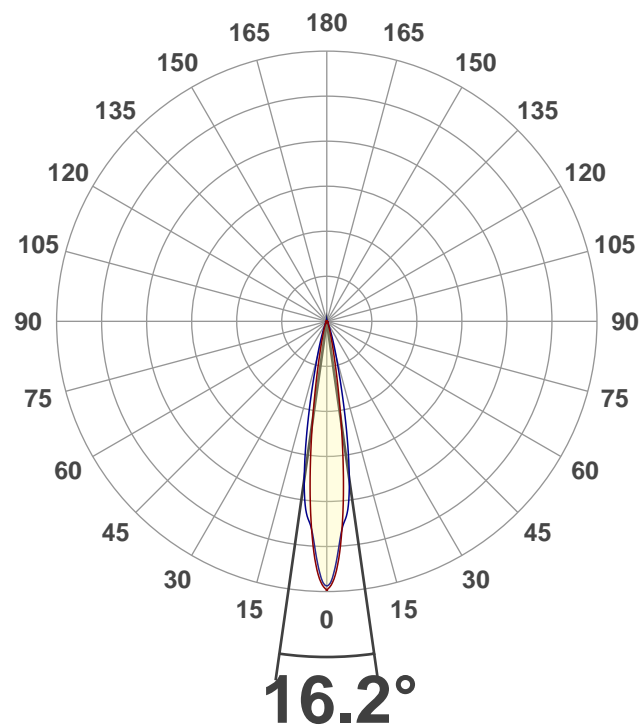
1138005

Date and time:

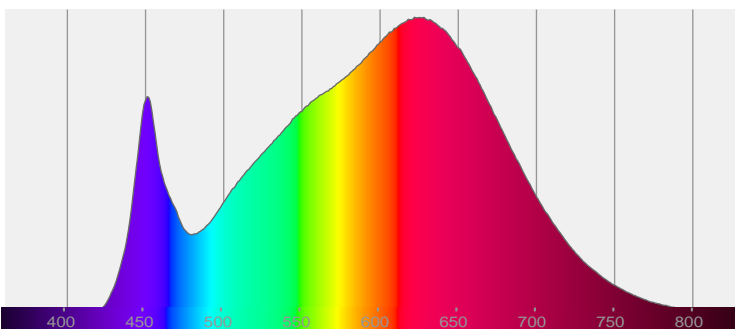
15/08/2019 13:04:21

Description:

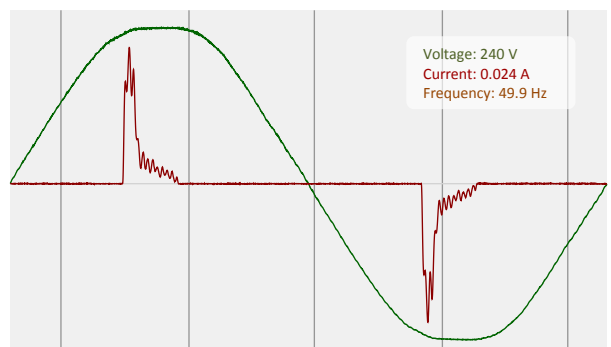
LED Reading Light

CIE 1931
x: 0.418
y: 0.384

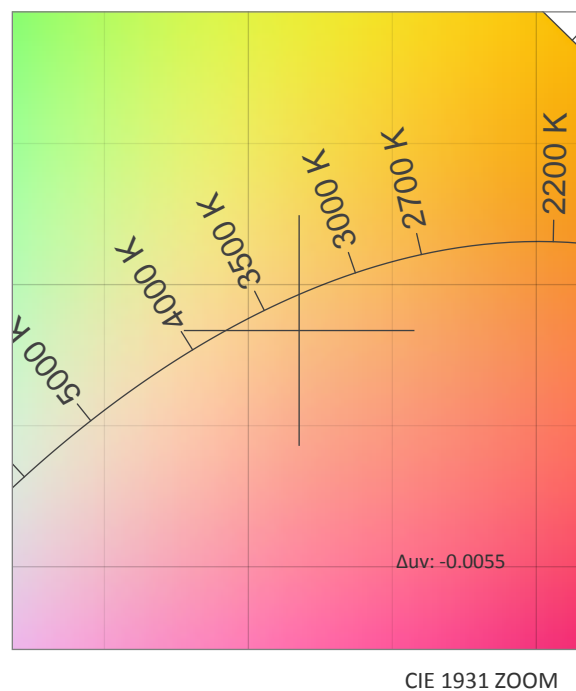
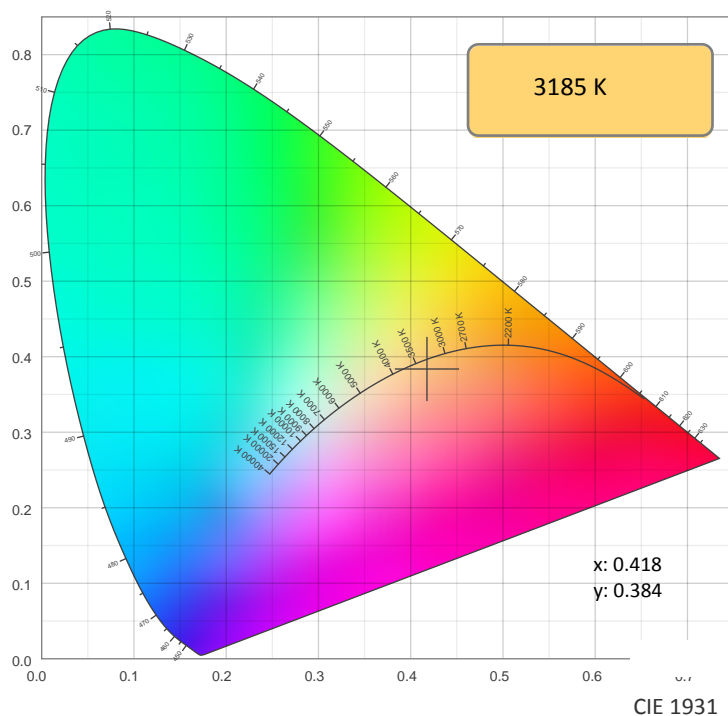
SPECTRA



POWER

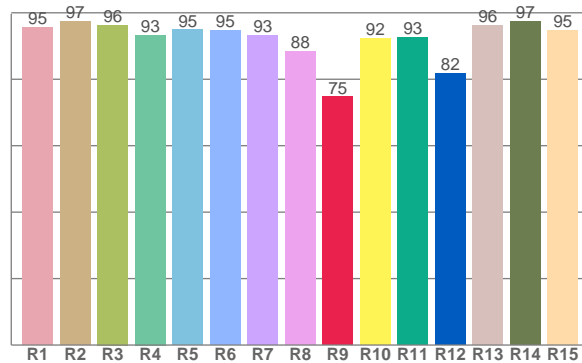
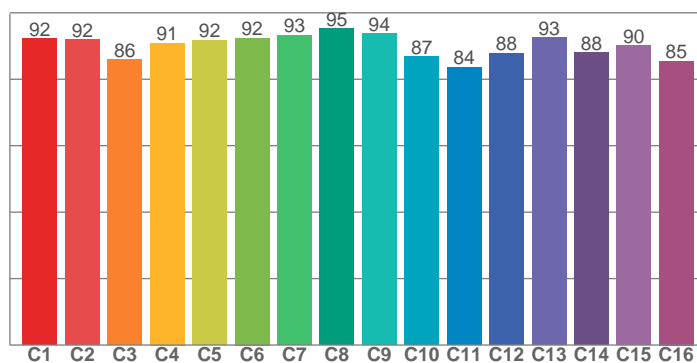


COLOR DETAILS



TM30: 90.1

CRI: 94.2 (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
95.5	97.3	96.3	93.3	94.8	94.6	93.2	88.2	74.7	92.2	92.7	81.7	96.2	97.4	94.8

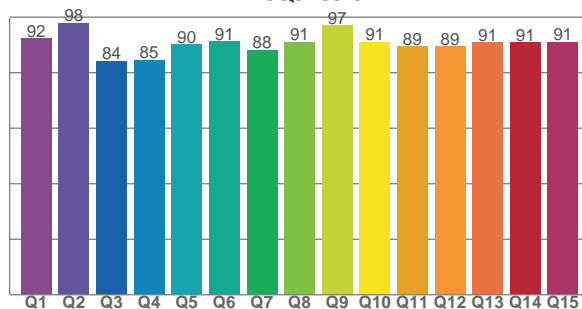
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
92.3	92.0	86.0	90.9	91.8	92.4	93.3	95.2	93.7	86.8	83.7	87.9	92.6	88.1	90.2	85.5

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
92.3	97.9	84.1	84.5	90.2	91.3	88.1	91.1	96.9	91.1	89.4	89.3	90.8	90.8	91.1

CQS: 89.9



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
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
3185 K	94.2	74.7	90.1	102.1	89.9	0.418	0.384	0.247	0.340	-0.0055

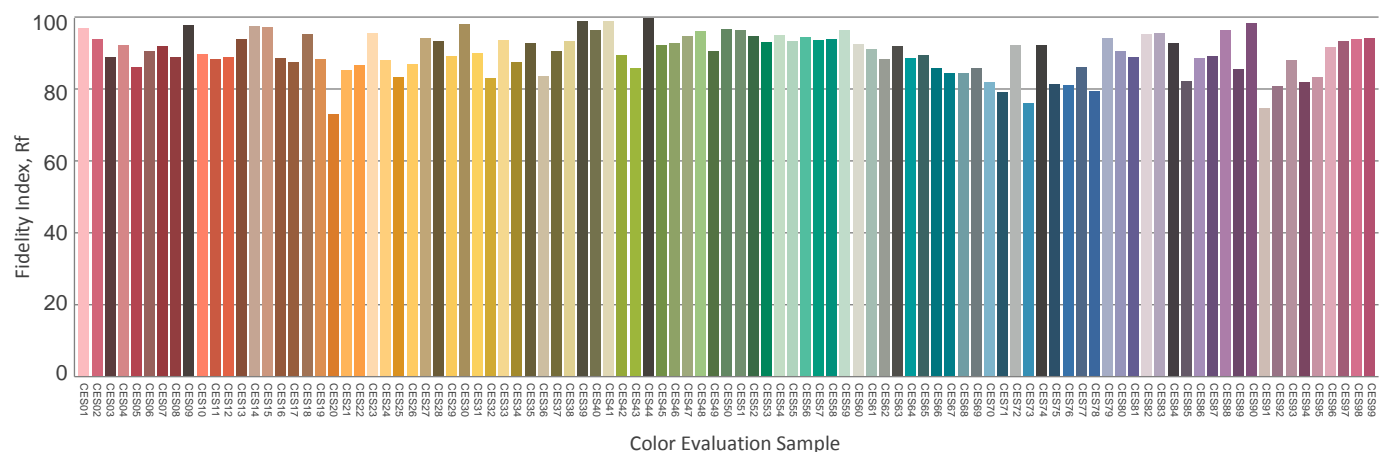
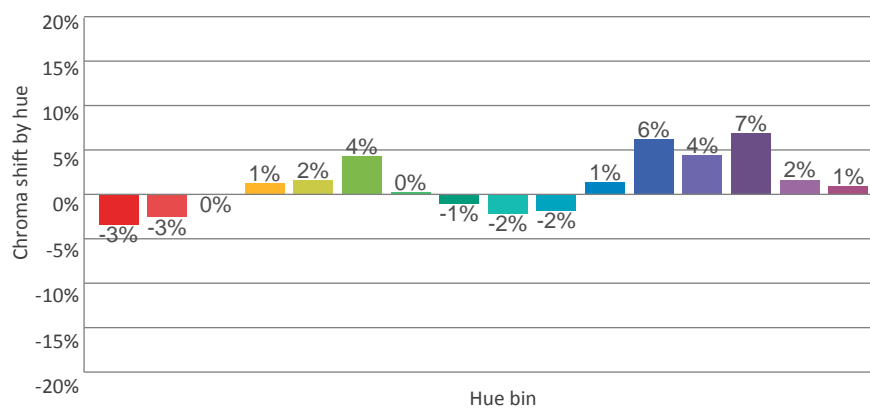
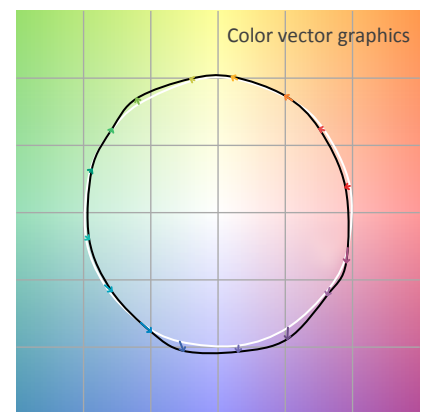
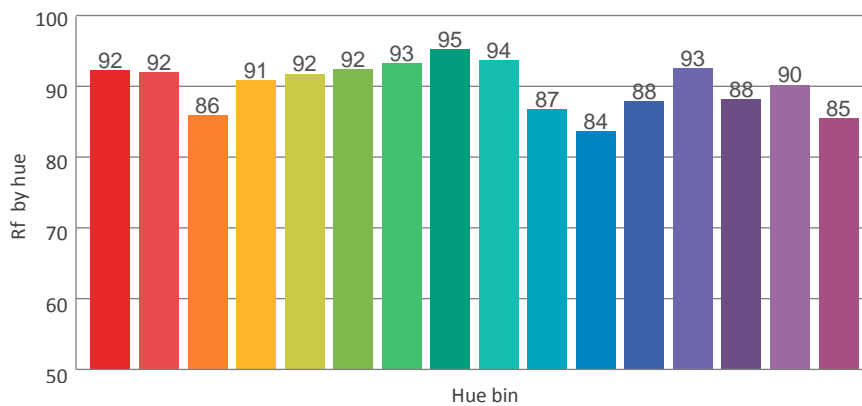
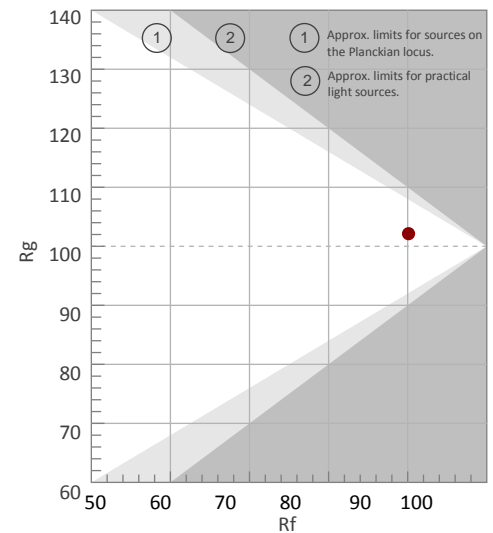
Rf 90.1

Fidelity index Rf

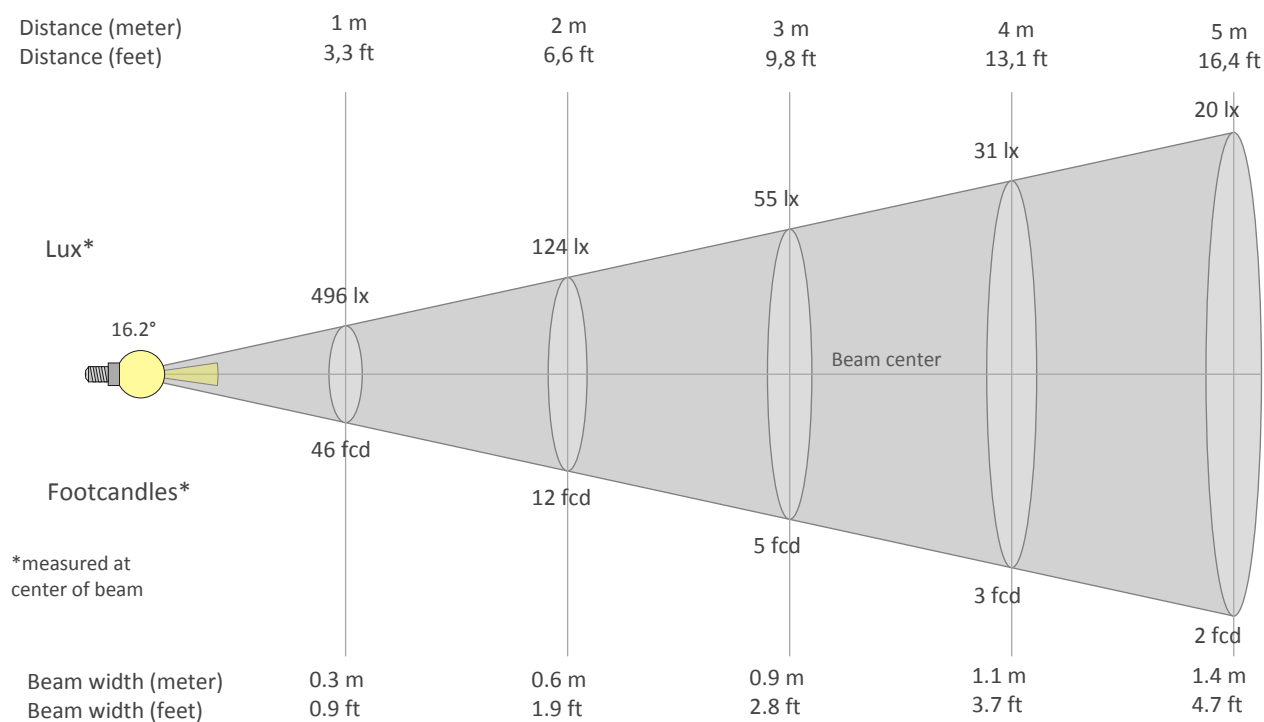
Rg 102.1

Gammut index Rg

Hue Bin	Graphic shifts (%)		
	R _f	Chroma	Hue
1	92	-3%	0%
2	92	-3%	3%
3	86	0%	6%
4	91	1%	4%
5	92	2%	3%
6	92	4%	-1%
7	93	0%	-3%
8	95	-1%	-2%
9	94	-2%	2%
10	87	-2%	7%
11	84	1%	10%
12	88	6%	4%
13	93	4%	-1%
14	88	7%	-5%
15	90	2%	-6%
16	85	1%	-11%



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
496lx	124lx	55lx	31lx	20lx	14lx	10lx	8lx	6lx	5lx	4lx	3lx	3lx	3lx	2lx	2lx	2lx	2lx	1lx	1lx
46.1fcd	11.5fcd	5.1fcd	2.9fcd	1.8fcd	1.3fcd	0.9fcd	0.7fcd	0.6fcd	0.5fcd	0.4fcd	0.3fcd	0.3fcd	0.2fcd	0.2fcd	0.2fcd	0.2fcd	0.1fcd	0.1fcd	0.1fcd

Intensities in 0° c-plane

0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
496	491	471	439	397	349	297	244	194	149	114	85	65	50	39	32	26	22	19	16
100%	99%	95%	88%	80%	70%	60%	49%	39%	30%	23%	17%	13%	10%	8%	6%	5%	4%	4%	3%

Intensities in 90° c-plane

0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
496	484	457	424	394	376	361	336	303	261	218	176	139	108	85	68	55	44	36	29
100%	98%	92%	85%	79%	76%	73%	68%	61%	53%	44%	35%	28%	22%	17%	14%	11%	9%	7%	6%

Intensities in 180° c-plane

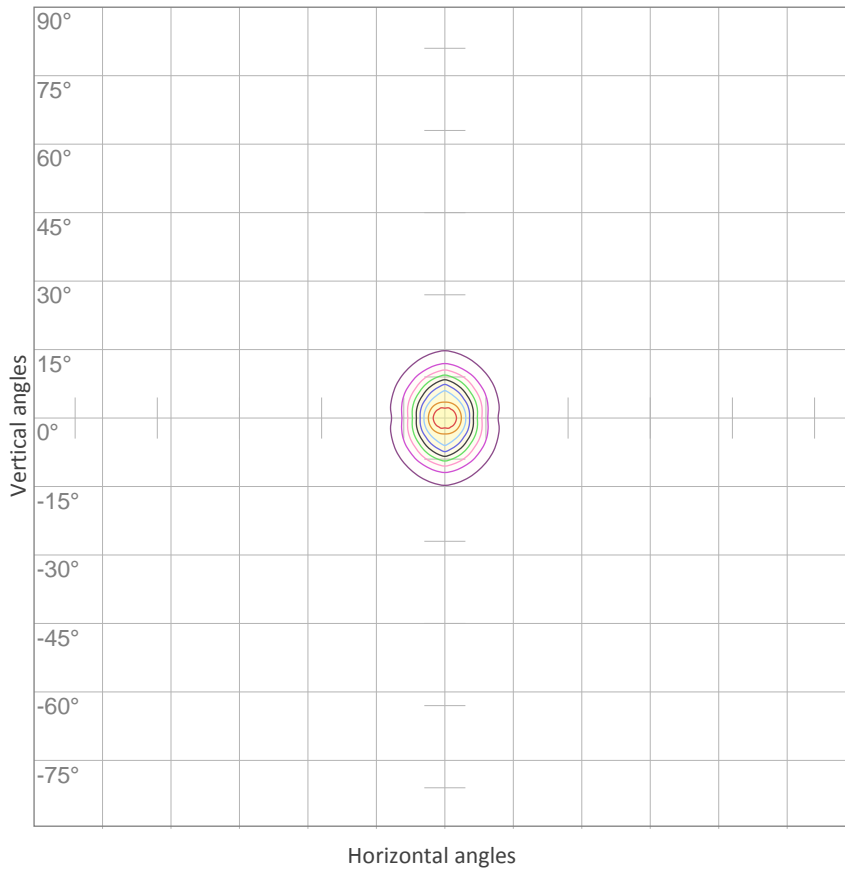
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
496	491	471	439	397	349	297	244	194	149	114	85	65	50	39	32	26	22	19	16
100%	99%	95%	88%	80%	70%	60%	49%	39%	30%	23%	17%	13%	10%	8%	6%	5%	4%	4%	3%

Intensities in 270° c-plane

0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
496	484	457	424	394	376	361	336	303	261	218	176	139	108	85	68	55	44	36	29
100%	98%	92%	85%	79%	76%	73%	68%	61%	53%	44%	35%	28%	22%	17%	14%	11%	9%	7%	6%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
16.2°	29.4°	44.2°	95.9%	92.8%

ISO CANDELA DIAGRAM



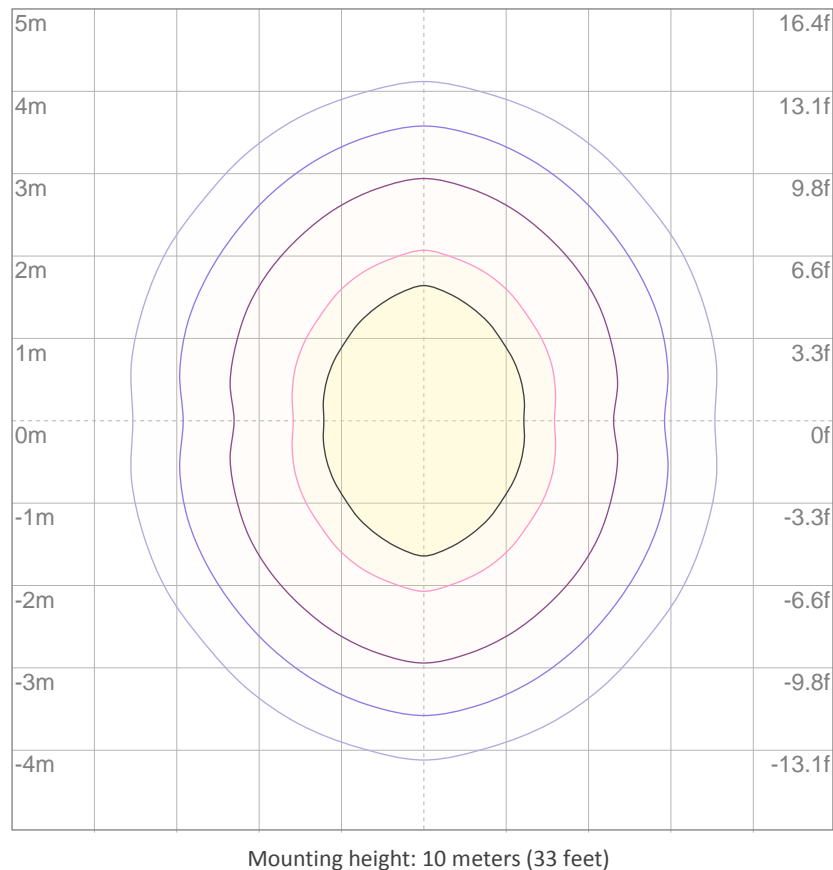
10%	50 cd
20%	99 cd
30%	149 cd
40%	198 cd
50%	248 cd
60%	298 cd
70%	347 cd
80%	397 cd
90%	447 cd

Conditions:

Number of c-planes: 8

Candela at center: 496 cd

ISO LUX DIAGRAM



3%	0.149 lx
5%	0.248 lx
10%	0.496 lx
30%	1.49 lx
50%	{LUX_10M50} lx

Conditions:

Number of c-planes: 8

Lux at center: 4.96 lx

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

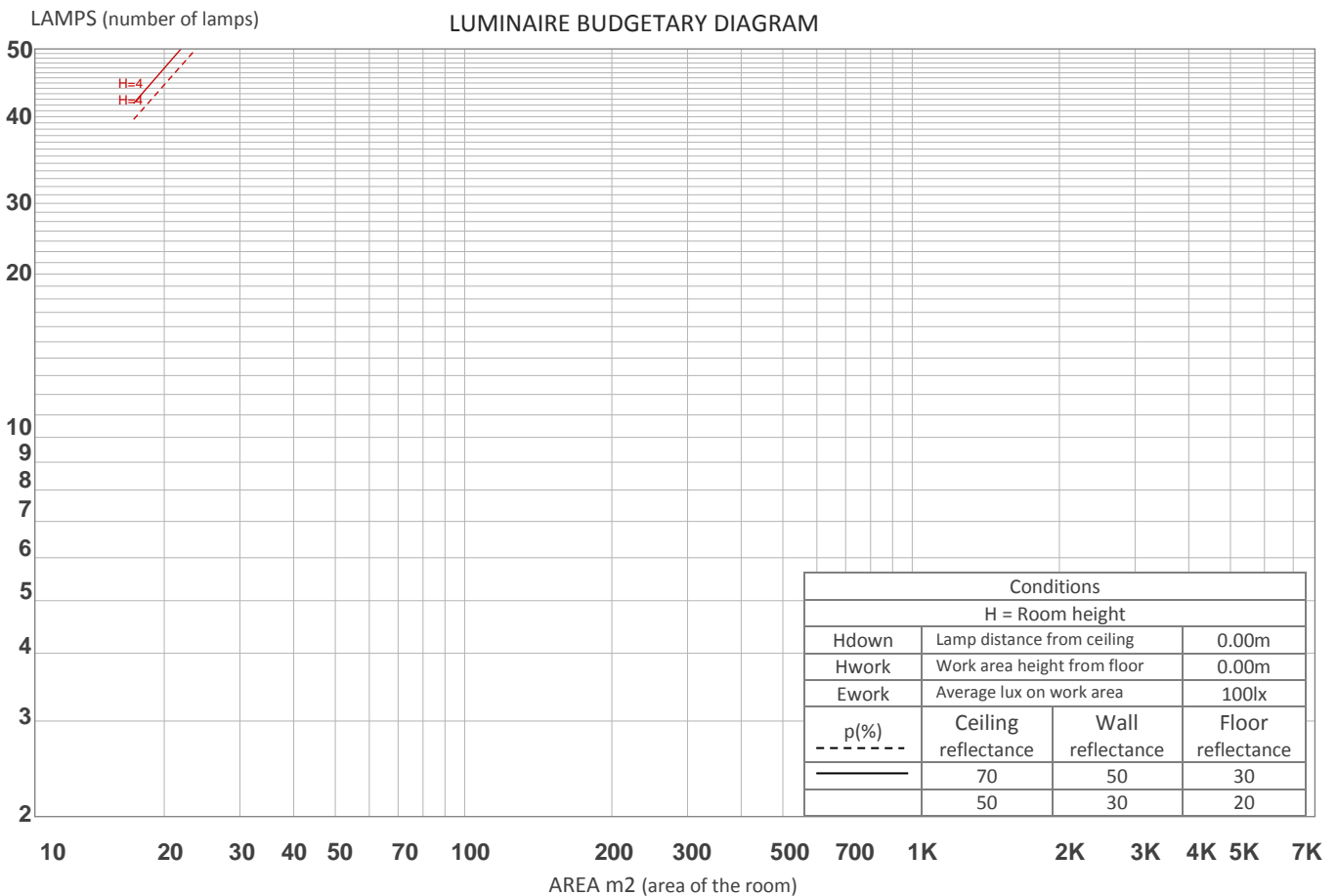
UGR

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	10.5	11.2	10.7	11.4	11.6	10.7	11.4	10.9	11.6	11.8
	3H	14.1	14.8	14.4	15.0	15.2	13.6	14.3	13.9	14.5	14.8
	4H	15.8	16.4	16.1	16.6	16.9	15.0	15.6	15.3	15.9	16.1
	6H	16.1	16.6	16.4	16.9	17.2	15.4	15.9	15.7	16.2	16.5
	8H	16.1	16.6	16.4	16.9	17.2	15.4	15.9	15.7	16.2	16.5
	12H	16.0	16.5	16.4	16.9	17.2	15.3	15.9	15.7	16.2	16.5
4H	2H	11.5	12.1	11.8	12.3	12.6	11.6	12.2	11.9	12.4	12.7
	3H	15.4	16.0	15.8	16.3	16.6	15.0	15.5	15.3	15.8	16.1
	4H	17.0	17.5	17.4	17.8	18.2	16.4	16.8	16.8	17.2	17.5
	6H	17.4	17.8	17.8	18.1	18.5	16.8	17.2	17.2	17.5	17.9
	8H	17.4	17.7	17.8	18.1	18.5	16.8	17.1	17.2	17.5	17.9
	12H	17.3	17.6	17.8	18.0	18.5	16.8	17.1	17.2	17.5	17.9
8H	4H	17.4	17.8	17.8	18.1	18.6	16.9	17.2	17.3	17.6	18.0
	6H	17.8	18.0	18.2	18.5	18.9	17.3	17.5	17.7	18.0	18.4
	8H	17.8	18.0	18.2	18.4	18.9	17.3	17.5	17.8	18.0	18.4
	12H	17.7	17.9	18.2	18.4	18.9	17.3	17.4	17.7	17.9	18.4
12H	4H	17.4	17.7	17.8	18.1	18.5	16.9	17.1	17.3	17.6	18.0
	6H	17.8	18.0	18.2	18.4	18.9	17.3	17.5	17.7	17.9	18.4
	8H	17.7	17.9	18.2	18.4	18.9	17.3	17.4	17.8	17.9	18.4
Variation of the observer position for the luminaire distance S											
S = 1.0H		+0.2 / -0.1					+0.1 / -0.1				
S = 1.5H		+0.2 / -0.3					+0.4 / -0.5				
S = 2.0H		+0.8 / -0.9					+0.6 / -0.7				
Standard table		---					---				
Correction summand		---					---				
Corrected glare indices referring to 53.7 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	115	112	110	108	112	110	108	107	106	105	103	102	101	100	99	98	97	95
2	111	107	103	101	108	105	102	100	102	99	97	99	97	95	96	95	93	92
3	107	102	98	95	105	101	97	95	98	95	93	96	94	92	94	92	90	89
4	104	98	94	91	102	97	94	91	95	92	90	93	91	89	92	89	88	86
5	101	95	91	88	100	94	90	87	93	89	87	91	88	86	90	87	85	84
6	98	92	88	85	97	92	88	85	90	87	84	89	86	84	88	85	83	82
7	96	90	86	83	95	89	85	83	88	85	82	87	84	82	86	83	81	80
8	94	88	84	81	93	87	83	81	86	83	80	85	82	80	85	82	80	79
9	92	86	82	79	91	85	82	79	84	81	79	84	81	79	83	80	78	77
10	90	84	80	78	89	84	80	78	83	80	77	82	79	77	82	79	77	76



ZONAL LUMEN SUMMARY

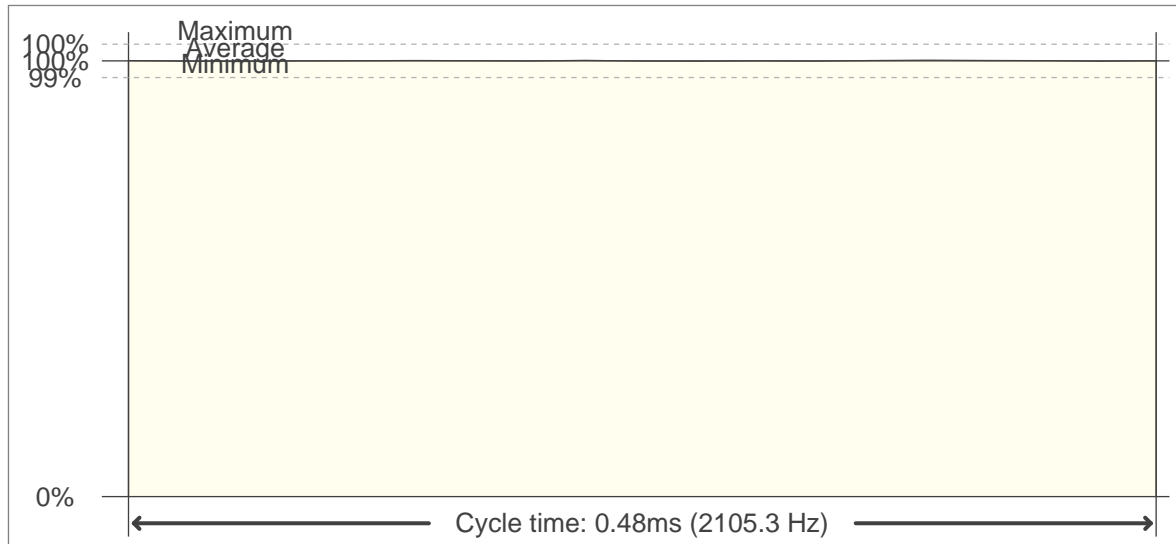
0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
27.9 lm	15.4 lm	4.24 lm	1.83 lm	1.03 lm	1.12 lm	0.862 lm	1.02 lm	0.152 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
0.023 lm	0.021 lm	0.023 lm	0.018 lm	0.018 lm	0.020 lm	0.032 lm	0.019 lm	0.004 lm

FLICKER

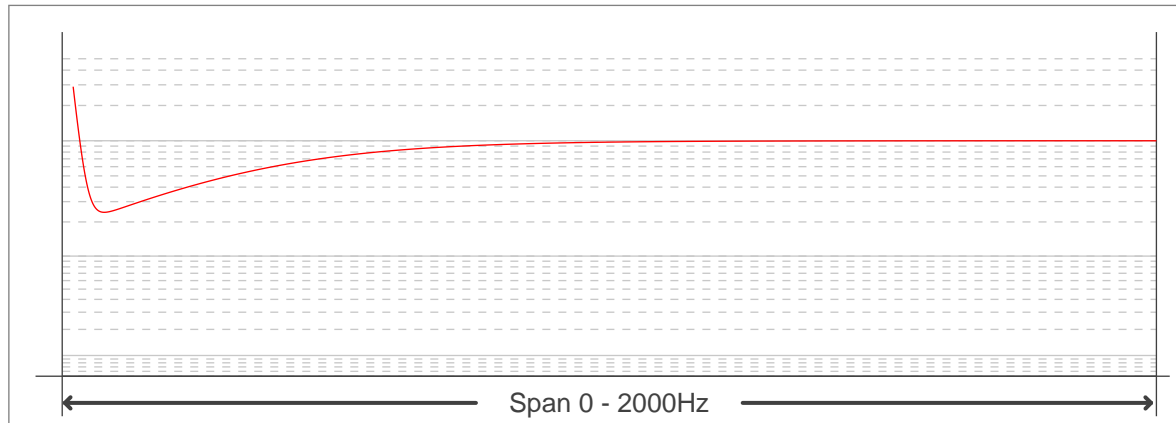
FLICKER CURVE (COMPLETE SAMPLED FLICKER)



FLICKER FRAME (FRAME OF ONE FLICKER PERIOD)



FLICKER FFT (FREQUENCY SCOPE OF FLICKER CURVE)



FLICKER RESULTS:

Flicker frequency:	2105.26 Hz
Flicker index:	0
Flicker percentage:	0.34 %
SVM: (Visual flicker)	0

FLICKER CONDITIONS:

Sample rate:	40000 samples/second
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