

PHOTOMETRIC TEST REPORT

FOSSO SWITCHED LED BRONZE

astro

LIGHT EFFICIENCY:

48 Lumen/Watt

LIGHT QUALITY:

CRI: 95.6

COLOR TEMPERATURE:

3047 K

OUTPUT: 82.5 lm

PEAK: 342 cd

POWER: 1.7 W

PF: 0.44

Tracking number: [n/a](#)

Product name:

Fosso Switched LED Bronze

Item number:

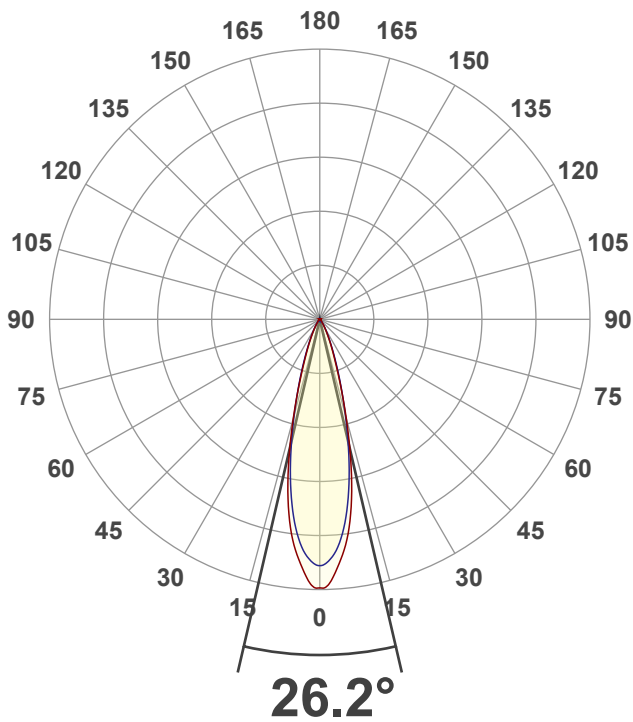
1138011

Date and time:

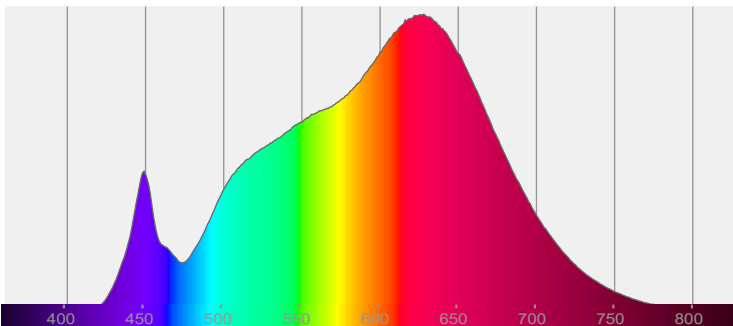
07/02/2022 15:59:56

Description:

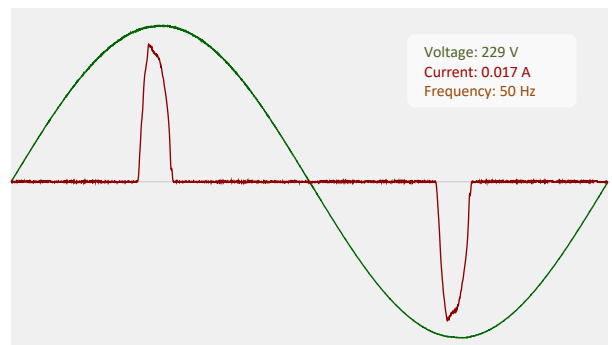
LED Reading Light

CIE 1931
x: 0.437
y: 0.410

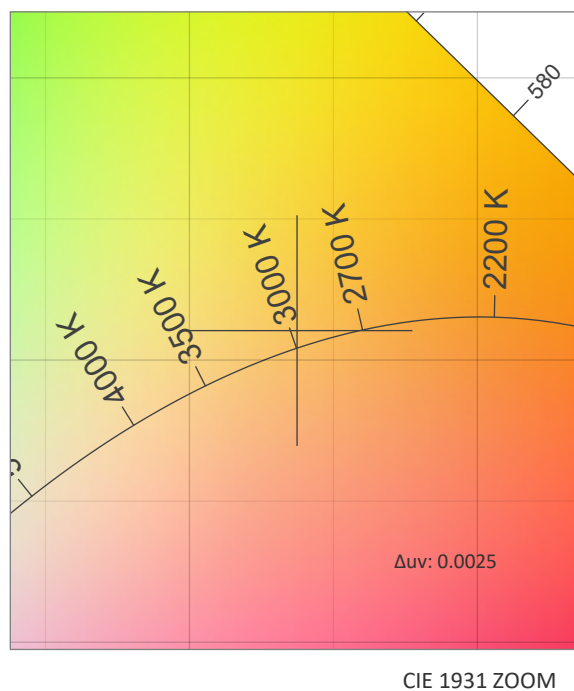
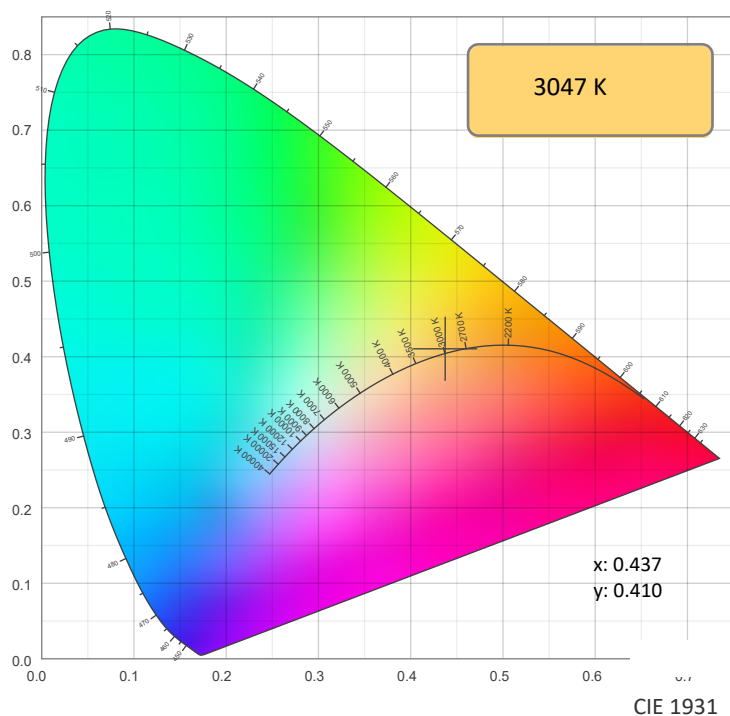
SPECTRA



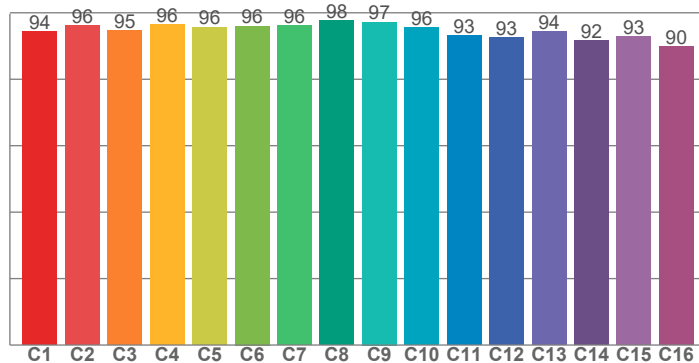
POWER



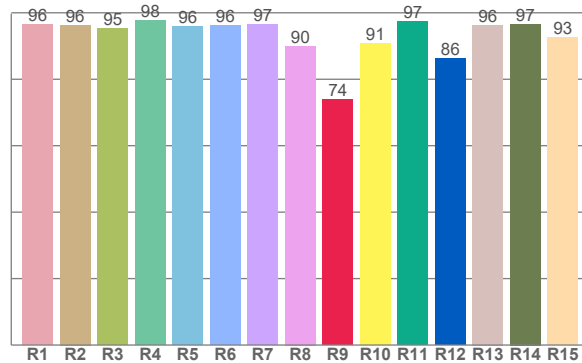
COLOR DETAILS



TM30: 94.8



CRI: 95.6 (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
96.5	96.3	95.3	97.6	96.0	96.2	96.5	90.0	74.0	90.9	97.3	86.1	96.3	96.6	92.6

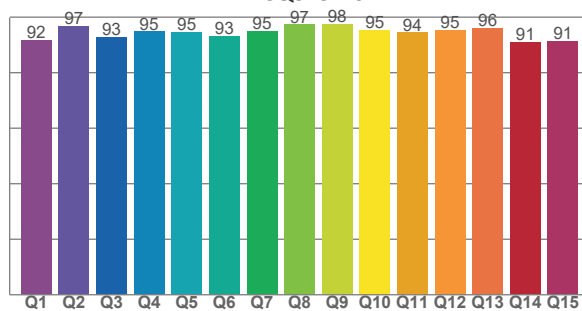
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
94.3	96.2	94.8	96.5	95.7	96.0	96.1	97.6	97.2	95.5	93.3	92.6	94.5	91.7	92.9	89.9

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
91.7	96.9	92.9	94.8	94.5	93.3	95.1	97.3	97.5	95.4	94.5	95.3	96.1	91.1	91.4

CQS: 94.0



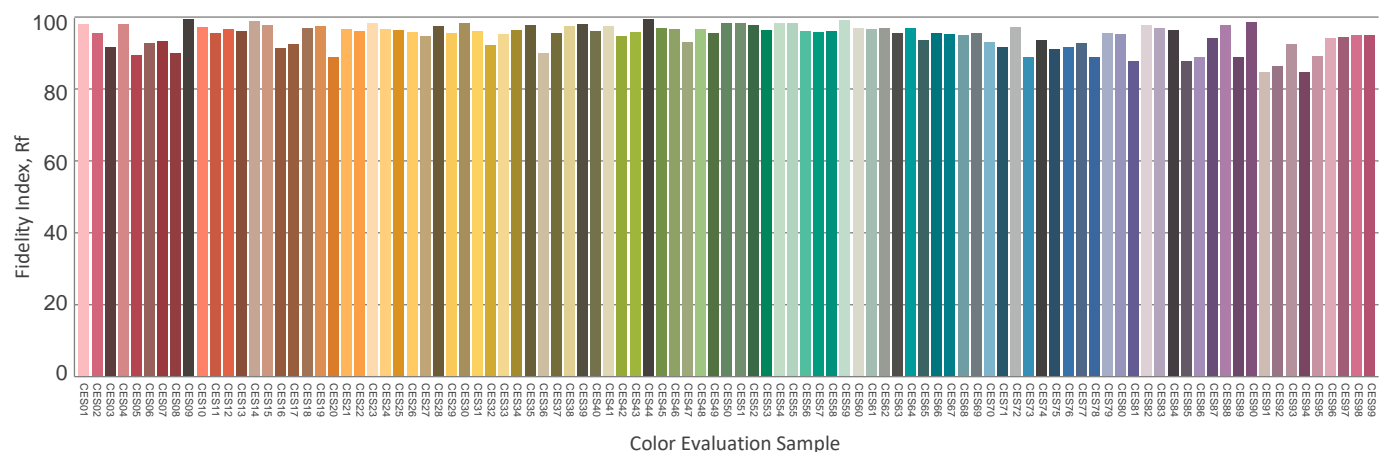
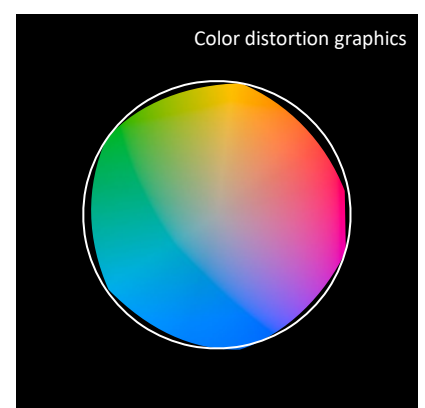
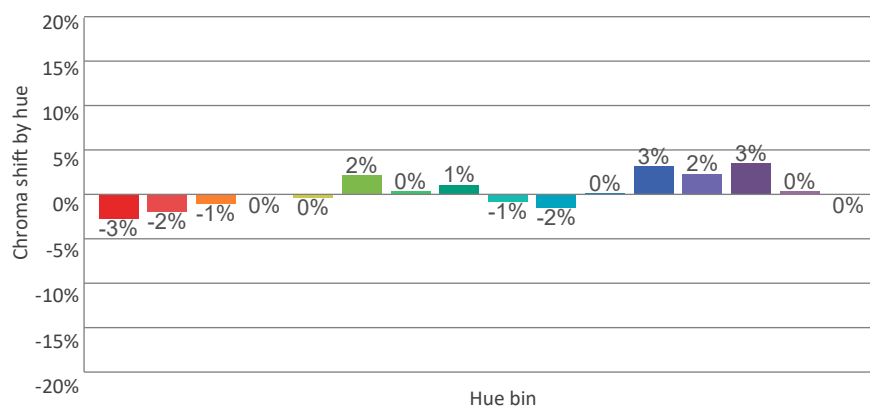
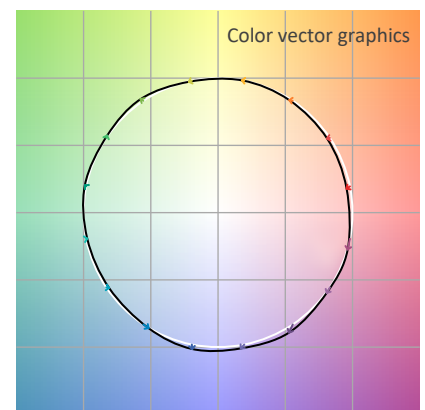
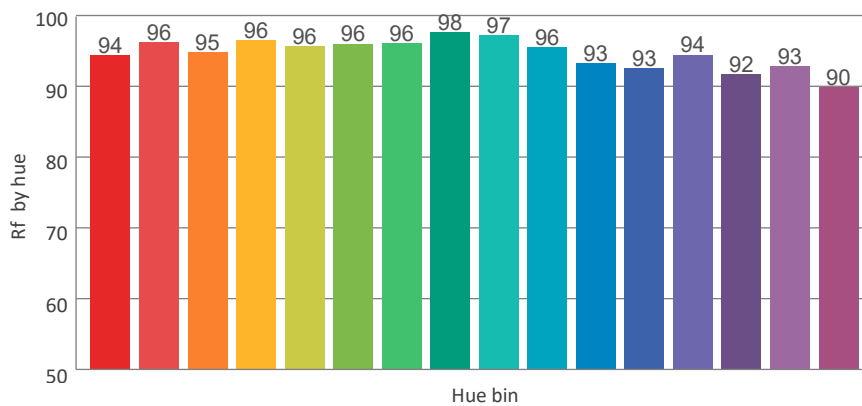
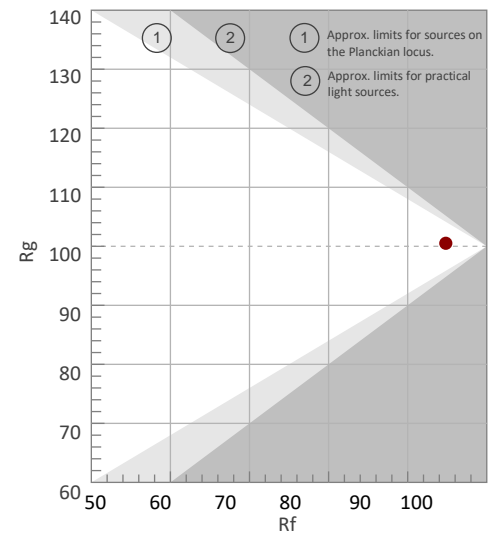
COLOR PARAMETERS

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
3047 K	95.6	74.0	94.8	100.5	94.0	0.437	0.410	0.248	0.349	0.0025

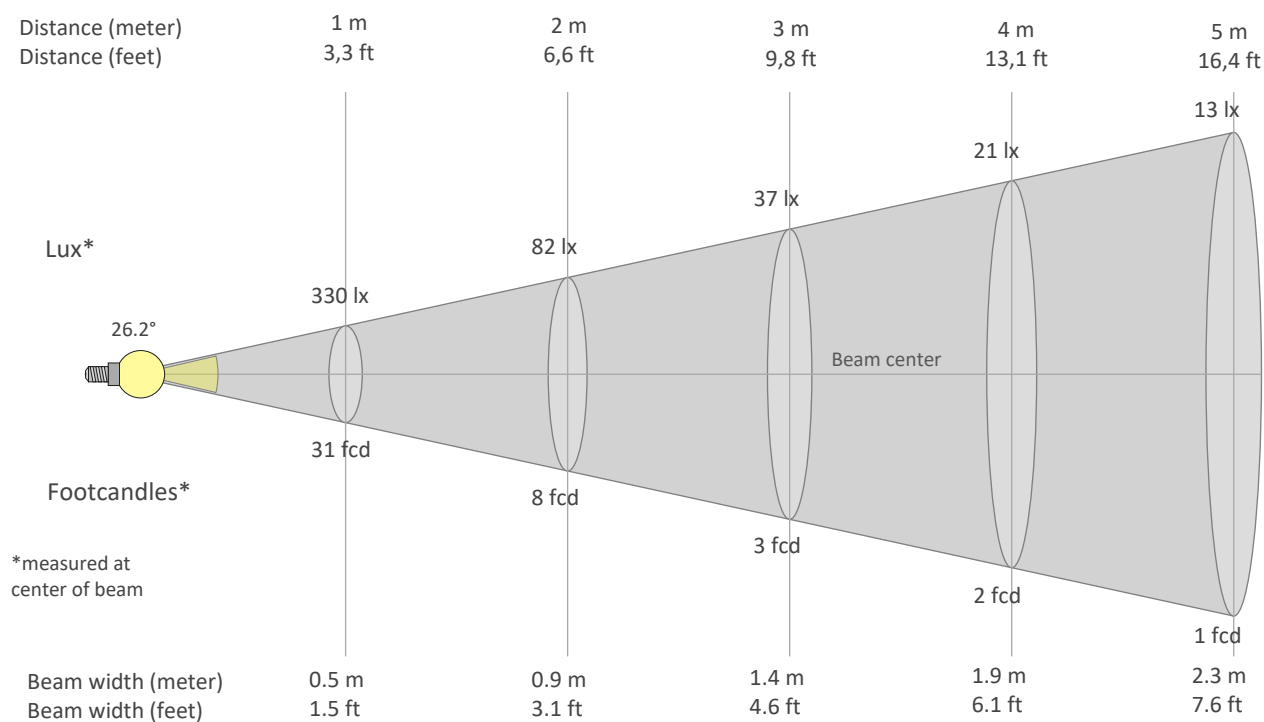
Rf 94.8
Fidelity index Rf

Rg 100.5
Gammut index Rg

Hue Bin	Graphic shifts (%)		
	Rf	Chroma	Hue
1	94	-3%	-1%
2	96	-2%	1%
3	95	-1%	2%
4	96	0%	2%
5	96	0%	2%
6	96	2%	1%
7	96	0%	-2%
8	98	1%	-1%
9	97	-1%	0%
10	96	-2%	2%
11	93	0%	5%
12	93	3%	1%
13	94	2%	-3%
14	92	3%	-6%
15	93	0%	-5%
16	90	0%	-8%



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
330lx	82lx	37lx	21lx	13lx	9lx	7lx	5lx	4lx	3lx	3lx	2lx	2lx	2lx	1lx	1lx	1lx	1lx	1lx	1lx
30.7fcd	7.7fcd	3.4fcd	1.9fcd	1.2fcd	0.9fcd	0.6fcd	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

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°
330	337	318	296	268	233	192	150	112	81	59	44	33	24	18	13	10	8	6	4
100%	102%	96%	90%	81%	71%	58%	45%	34%	24%	18%	13%	10%	7%	5%	4%	3%	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°
330	308	295	274	247	214	178	142	110	84	63	47	35	26	19	14	11	8	6	5
100%	93%	89%	83%	75%	65%	54%	43%	33%	25%	19%	14%	10%	8%	6%	4%	3%	2%	2%	1%

Intensities in 180° c-plane

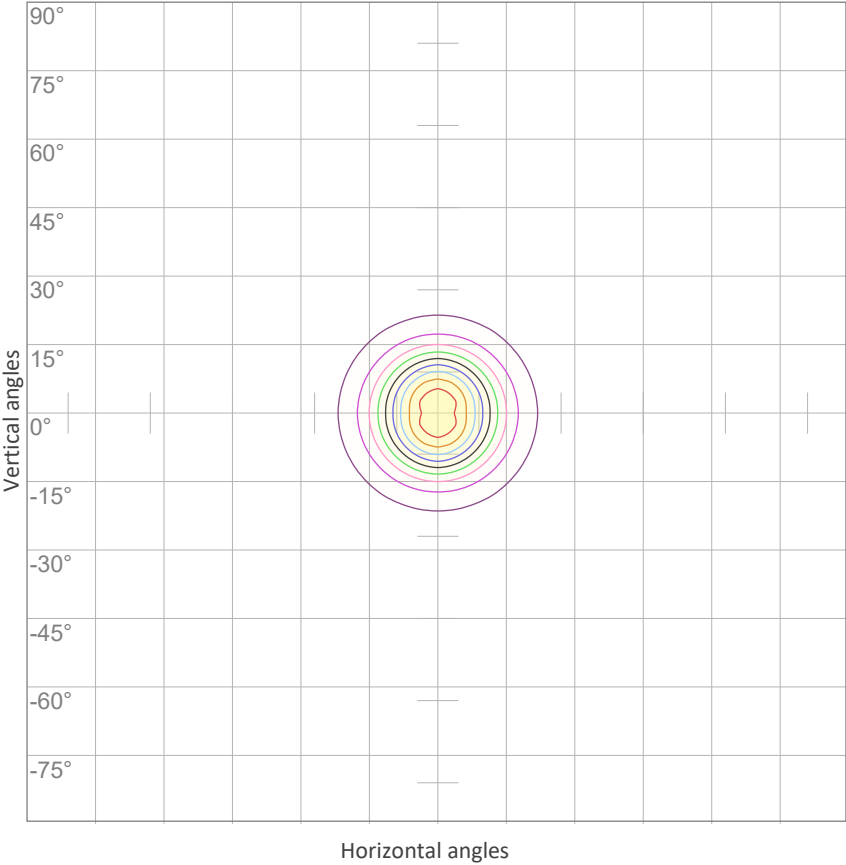
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
330	337	318	296	268	233	192	150	112	81	59	44	33	24	18	13	10	8	6	4
100%	102%	96%	90%	81%	71%	58%	45%	34%	24%	18%	13%	10%	7%	5%	4%	3%	2%	2%	1%

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°
330	308	295	274	247	214	178	142	110	84	63	47	35	26	19	14	11	8	6	5
100%	93%	89%	83%	75%	65%	54%	43%	33%	25%	19%	14%	10%	8%	6%	4%	3%	2%	2%	1%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
26.2°	48.4°	67.2°	99.2%	97.4%

ISO CANDELA DIAGRAM



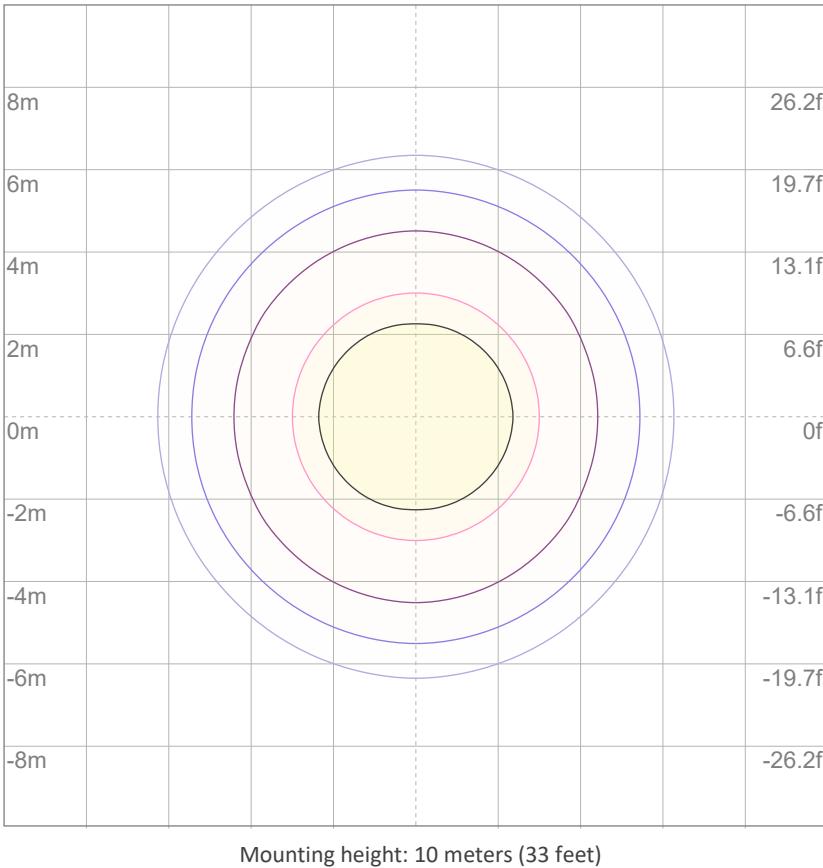
10%	33 cd
20%	66 cd
30%	99 cd
40%	132 cd
50%	165 cd
60%	198 cd
70%	231 cd
80%	264 cd
90%	297 cd

Conditions:

Number of c-planes: 8

Candela at center: 330 cd

ISO LUX DIAGRAM



3%	99.0m lx
5%	0.165 lx
10%	0.330 lx
30%	0.990 lx
50%	{LUX_10M50} lx

Conditions:

Number of c-planes: 8

Lux at center: 3.30 lx

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

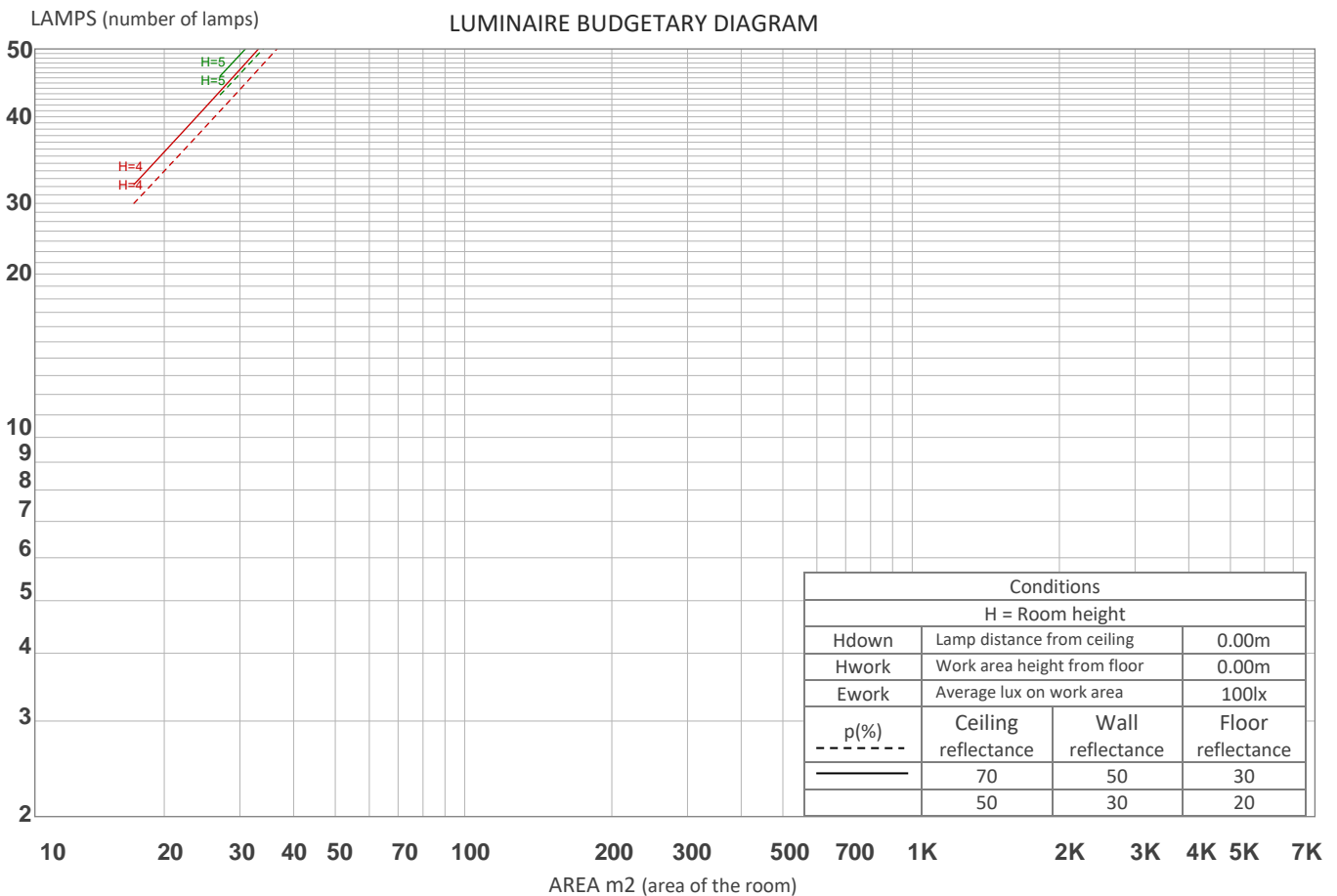
UGR

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	10.0	10.4	10.1	10.6	10.8	10.2	10.6	10.2	10.8	11.0
	3H	9.7	10.3	10.1	10.5	10.7	9.9	10.5	10.3	10.7	10.9
	4H	9.7	10.2	10.0	10.5	10.7	9.8	10.4	10.2	10.6	10.9
	6H	9.7	10.1	10.0	10.4	10.8	9.8	10.3	10.1	10.6	11.0
	8H	9.6	10.1	9.9	10.4	10.8	9.8	10.3	10.1	10.6	11.0
	12H	9.6	10.0	9.9	10.4	10.8	9.8	10.2	10.1	10.6	11.0
4H	2H	9.7	10.3	10.1	10.5	10.7	9.9	10.5	10.3	10.7	10.9
	3H	9.7	10.1	10.0	10.5	10.9	9.8	10.3	10.2	10.6	11.1
	4H	9.5	9.9	9.9	10.4	10.9	9.7	10.1	10.1	10.5	11.1
	6H	9.4	9.9	9.9	10.2	10.6	9.6	10.1	10.1	10.4	10.8
	8H	9.4	9.8	9.9	10.2	10.5	9.6	10.0	10.1	10.4	10.7
	12H	9.3	9.7	9.9	10.1	10.5	9.5	9.9	10.0	10.3	10.7
8H	4H	9.4	9.8	9.9	10.2	10.5	9.6	10.0	10.1	10.3	10.7
	6H	9.3	9.6	9.8	10.1	10.6	9.5	9.8	10.0	10.3	10.8
	8H	9.3	9.5	9.9	10.1	10.7	9.5	9.7	10.1	10.3	10.9
	12H	9.3	9.5	9.9	10.0	10.6	9.5	9.7	10.1	10.2	10.8
12H	4H	9.3	9.6	9.8	10.1	10.5	9.5	9.8	10.0	10.2	10.7
	6H	9.3	9.5	9.8	10.1	10.7	9.5	9.7	10.0	10.2	10.9
	8H	9.3	9.5	9.9	10.0	10.6	9.5	9.7	10.1	10.2	10.8
Variation of the observer position for the luminaire distance S											
S = 1.0H		4.0 / -4.3					4.1 / -4.3				
S = 1.5H		6.4 / -7.1					6.5 / -7.2				
S = 2.0H		8.3 / -9.1					8.4 / -9.0				
Standard table		n/a					n/a				
Correction summand		n/a					n/a				
Corrected glare indices referring to 82.5 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	109	112	110	108	107	106	105	103	102	101	100	99	98	97	96
2	110	107	103	101	108	105	102	100	102	99	97	99	97	95	96	95	93	92
3	107	102	98	95	105	100	97	94	98	95	92	95	93	91	93	91	89	88
4	103	97	93	90	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	81	87	84	81	86	83	80	85	82	80	79
7	93	86	82	79	92	86	81	78	84	81	78	83	80	78	82	79	77	76
8	90	83	79	76	89	83	79	76	82	78	75	81	77	75	80	77	75	74
9	88	80	76	73	87	80	76	73	79	75	73	78	75	73	78	75	72	71
10	85	78	74	71	84	78	73	71	77	73	70	76	73	70	76	72	70	69



ZONAL LUMEN SUMMARY

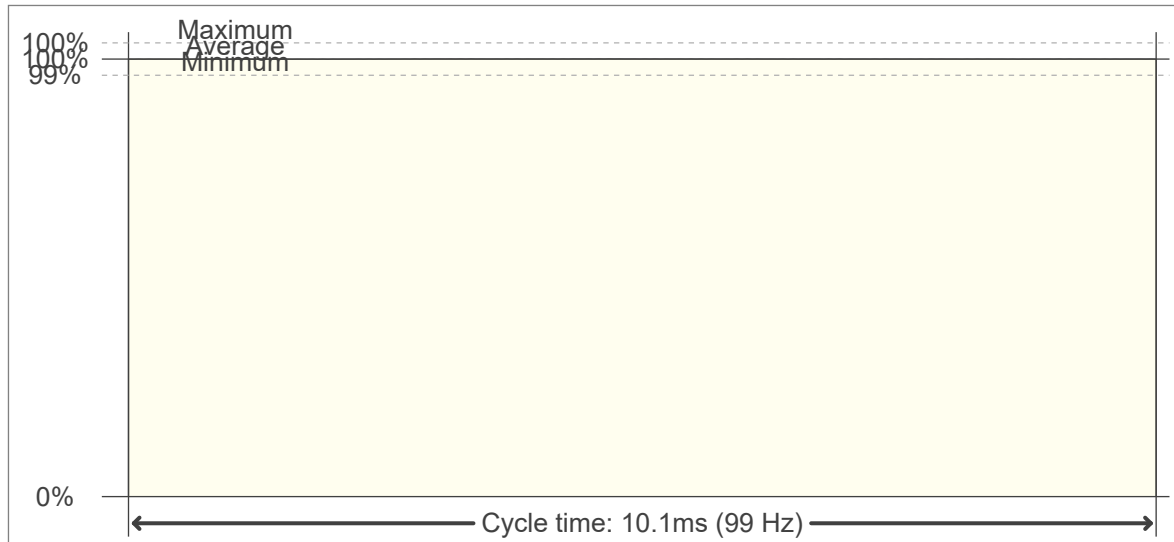
0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
25.1 lm	35.5 lm	14.3 lm	4.57 lm	1.77 lm	0.676 lm	0.259 lm	0.063 lm	0.032 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
0.030 lm	0.024 lm	0.028 lm	0.029 lm	0.033 lm	0.043 lm	0.057 lm	0.027 lm	0.010 lm

FLICKER

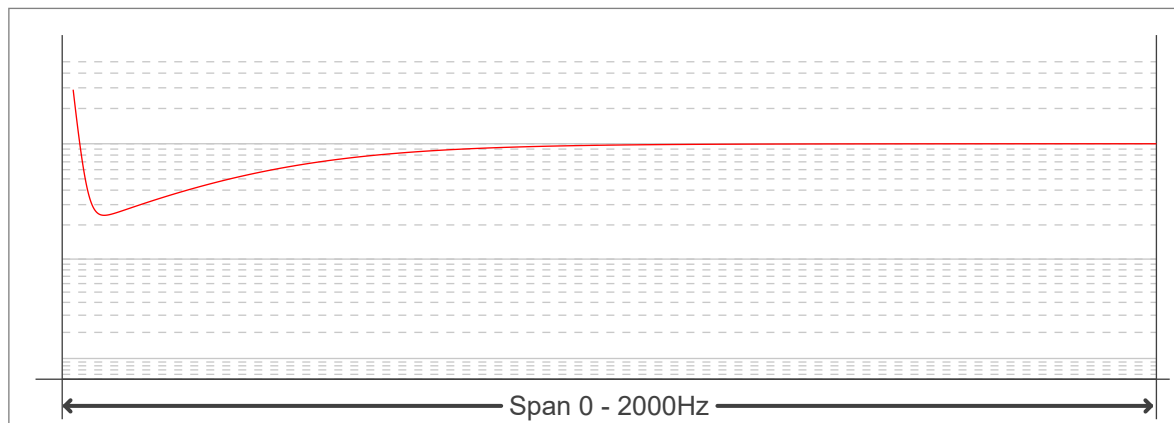
FLICKER CURVE (COMPLETE SAMPLED FLICKER)



FLICKER FRAME (FRAME OF ONE FLICKER PERIOD)



FLICKER FFT (FREQUENCY SCOPE OF FLICKER CURVE)



FLICKER RESULTS:

Flicker frequency:	99.01 Hz
Flicker index:	0
Flicker percentage:	0.08 %
SVM: (Visual flicker)	0

FLICKER CONDITIONS:

Sample rate:	20000 samples/second
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