

# PHOTOMETRIC TEST REPORT

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OSCA SQUARE 90 LED MATT WHITE

astro

# OSCA SQUARE 90 LED MATT WHITE

astro

## LIGHT EFFICIENCY:

58 Lumen/Watt

## LIGHT QUALITY:

CRI: 82.8

## COLOR TEMPERATURE:

2631 K

OUTPUT: 463 lm

PEAK: 1051 cd

POWER: 7.9 W

PF: 0.98



Tracking number: [n/a](#)

Product name:

Osca Square 90 LED Matt White

Item number:

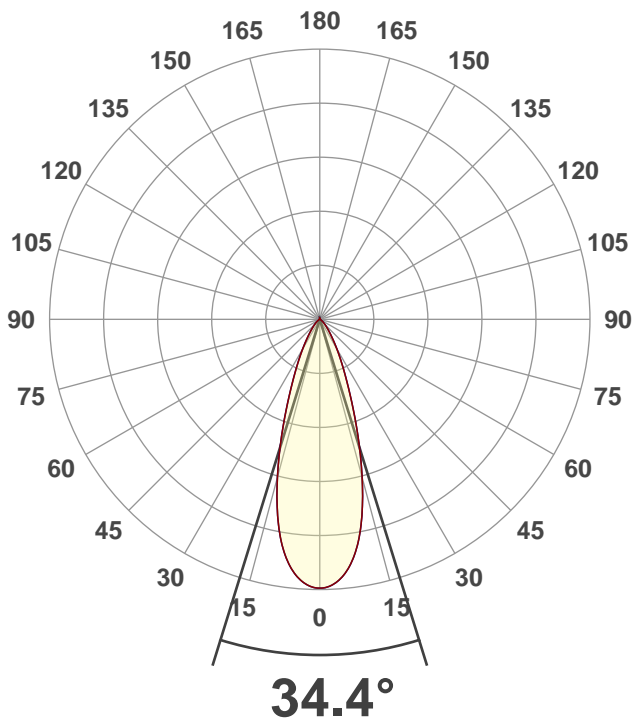
1252028

Date and time:

29/04/2021 11:24:21

Description:

IP20 LED Ceiling Light

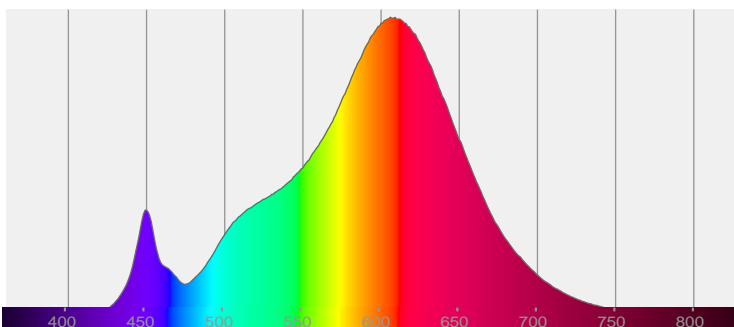


34.4°

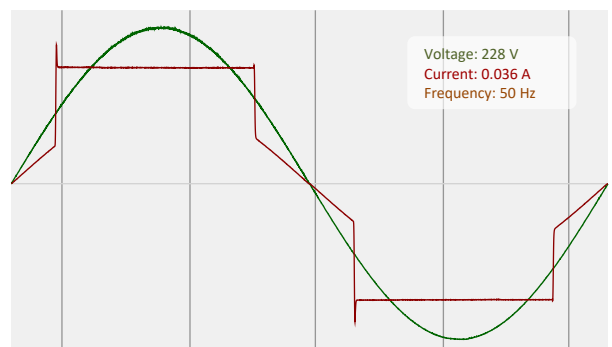


CIE 1931  
x: 0.467  
y: 0.414

## SPECTRA

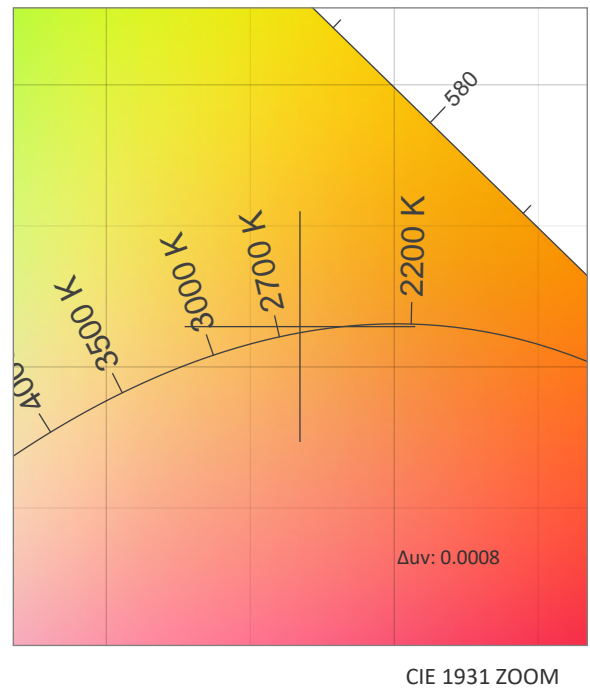
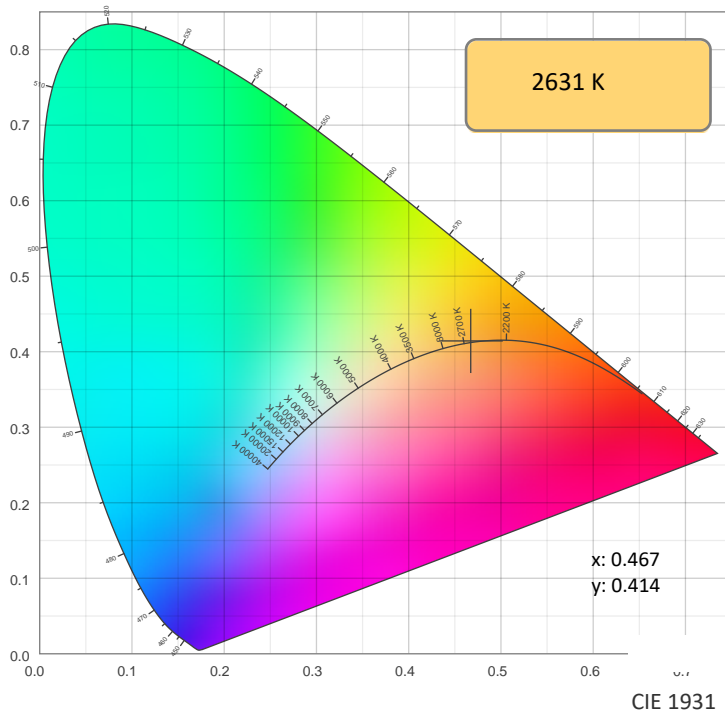


## POWER



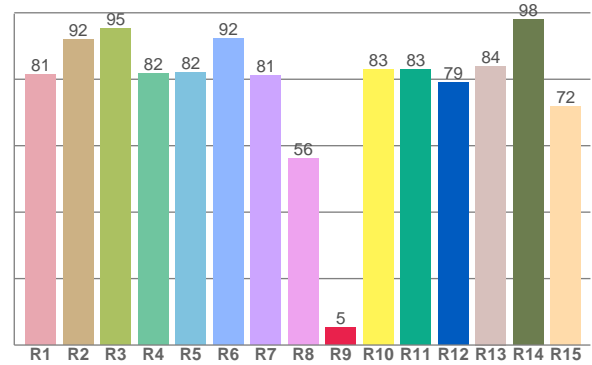
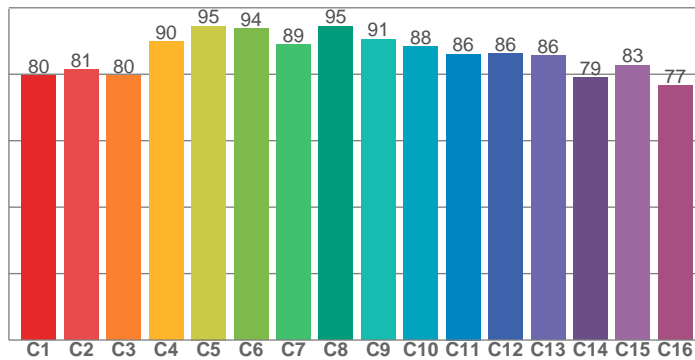
Voltage: 228 V  
Current: 0.036 A  
Frequency: 50 Hz

## COLOR DETAILS



TM30: 85.9

CRI: 82.8 (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
81.4	92.0	95.2	81.8	82.1	92.4	81.1	56.1	5.3	83.0	83.0	79.1	84.0	98.0	71.8

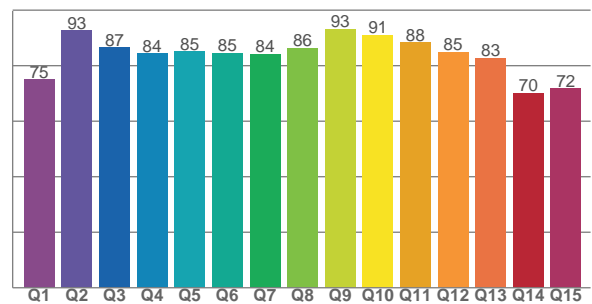
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
79.5	81.3	79.6	89.8	94.5	93.7	88.9	94.5	90.6	88.4	86.1	86.2	85.6	79.0	82.8	76.7

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
75.0	92.7	86.5	84.3	85.1	84.6	84.1	86.3	93.2	91.0	88.3	84.9	82.7	70.1	71.7

CQS: 82.4



## 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
2631 K	82.8	5.3	85.9	96.1	82.4	0.467	0.414	0.266	0.353	0.0008

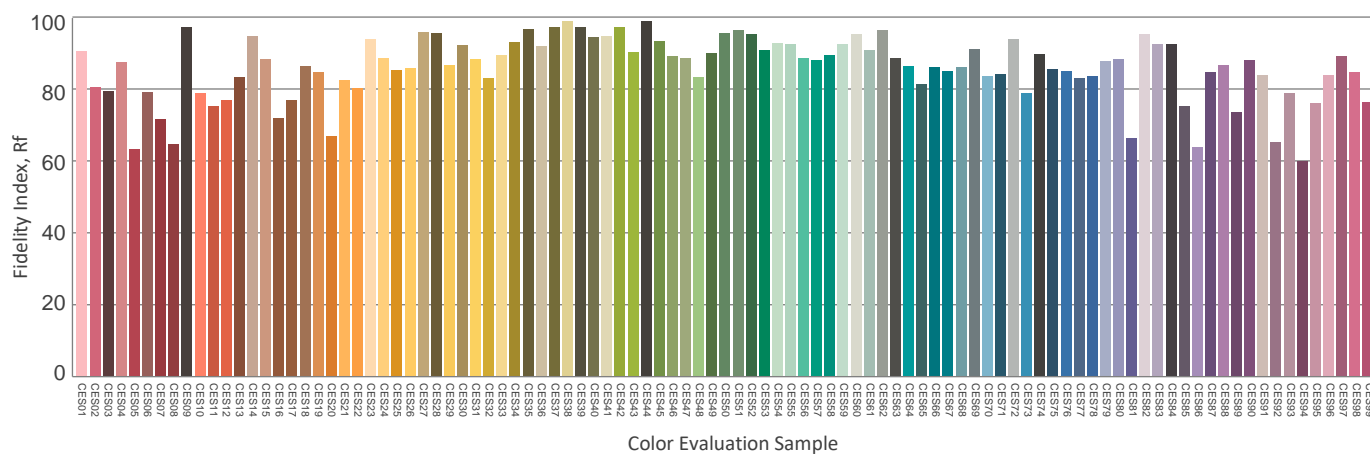
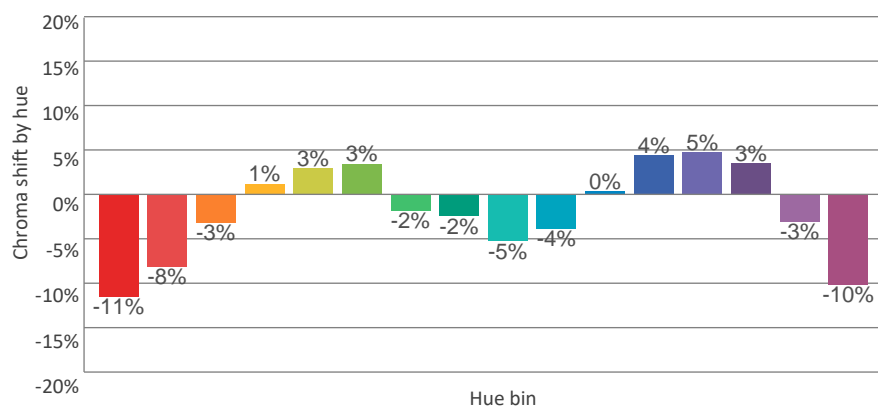
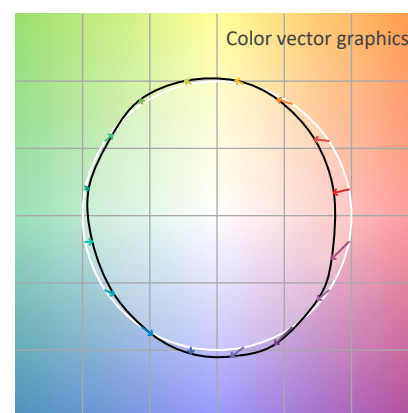
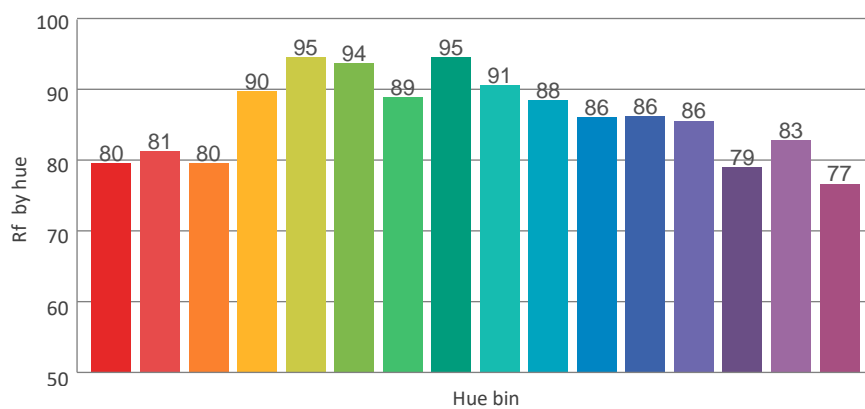
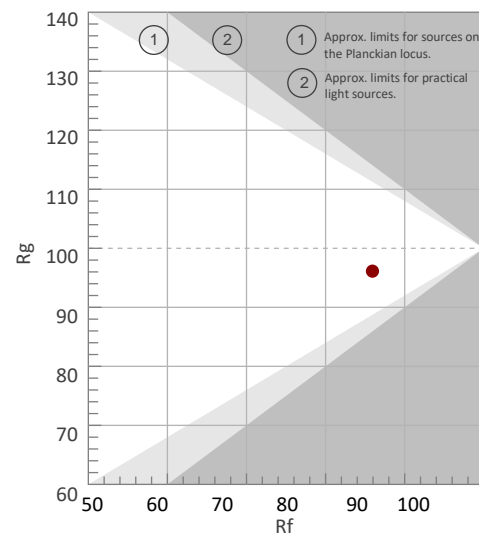
Rf 85.9

Fidelity index Rf

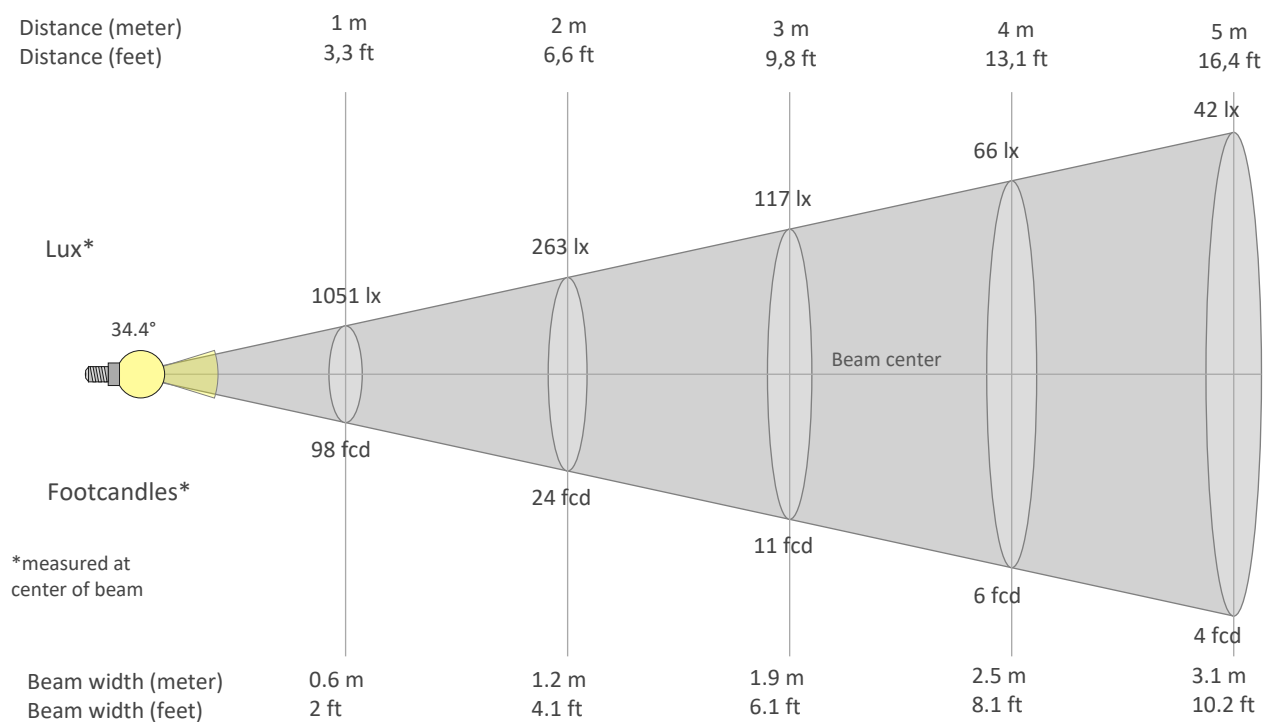
Rg 96.1

Gammut index Rg

Hue Bin	Graphic shifts (%)		
	R <sub>f</sub>	Chroma	Hue
1	80	-11%	0%
2	81	-8%	7%
3	80	-3%	11%
4	90	1%	6%
5	95	3%	4%
6	94	3%	-1%
7	89	-2%	-7%
8	95	-2%	-1%
9	91	-5%	1%
10	88	-4%	6%
11	86	0%	9%
12	86	4%	1%
13	86	5%	-10%
14	79	3%	-17%
15	83	-3%	-10%
16	77	-10%	-15%



## 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
1051lx	263lx	117lx	66lx	42lx	29lx	21lx	16lx	13lx	11lx	9lx	7lx	6lx	5lx	5lx	4lx	4lx	3lx	3lx	3lx
97.7fcd	24.4fcd	10.9fcd	6.1fcd	3.9fcd	2.7fcd	2fcd	1.5fcd	1.2fcd	1fcd	0.8fcd	0.7fcd	0.6fcd	0.5fcd	0.4fcd	0.4fcd	0.3fcd	0.3fcd	0.3fcd	0.2fcd

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°
1051	1045	1026	992	942	876	790	692	588	487	394	315	253	205	166	134	108	86	70	57
100%	99%	98%	94%	90%	83%	75%	66%	56%	46%	37%	30%	24%	19%	16%	13%	10%	8%	7%	5%

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°
1051	1045	1026	992	942	876	790	692	588	487	394	315	253	205	166	134	108	86	70	57
100%	99%	98%	94%	90%	83%	75%	66%	56%	46%	37%	30%	24%	19%	16%	13%	10%	8%	7%	5%

Intensities in 180° c-plane

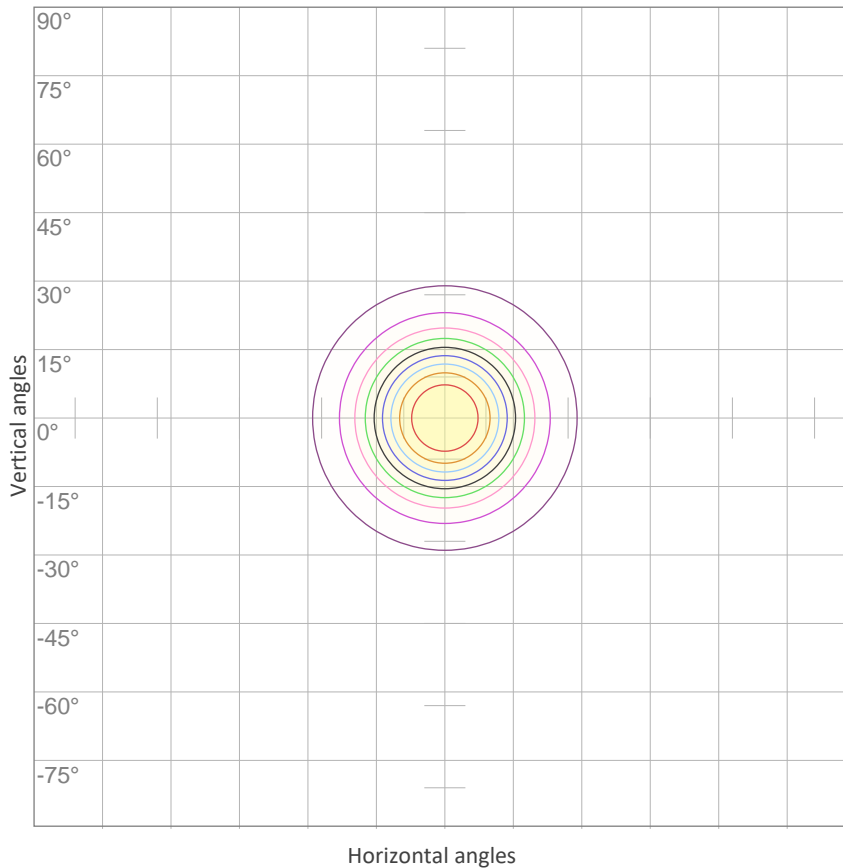
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
1051	1045	1026	992	942	876	790	692	588	487	394	315	253	205	166	134	108	86	70	57
100%	99%	98%	94%	90%	83%	75%	66%	56%	46%	37%	30%	24%	19%	16%	13%	10%	8%	7%	5%

Intensities in 270° c-plane

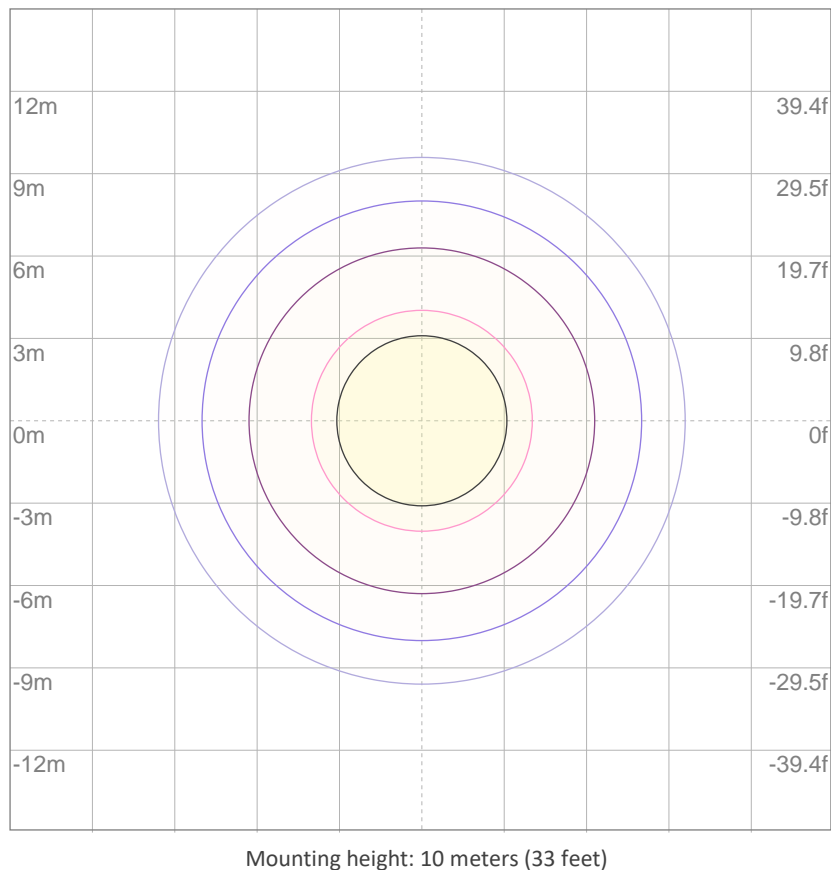
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
1051	1045	1026	992	942	876	790	692	588	487	394	315	253	205	166	134	108	86	70	57
100%	99%	98%	94%	90%	83%	75%	66%	56%	46%	37%	30%	24%	19%	16%	13%	10%	8%	7%	5%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
34.4°	64.4°	91.5°	98.1%	94.1%

ISO CANDELA DIAGRAM



ISO LUX DIAGRAM



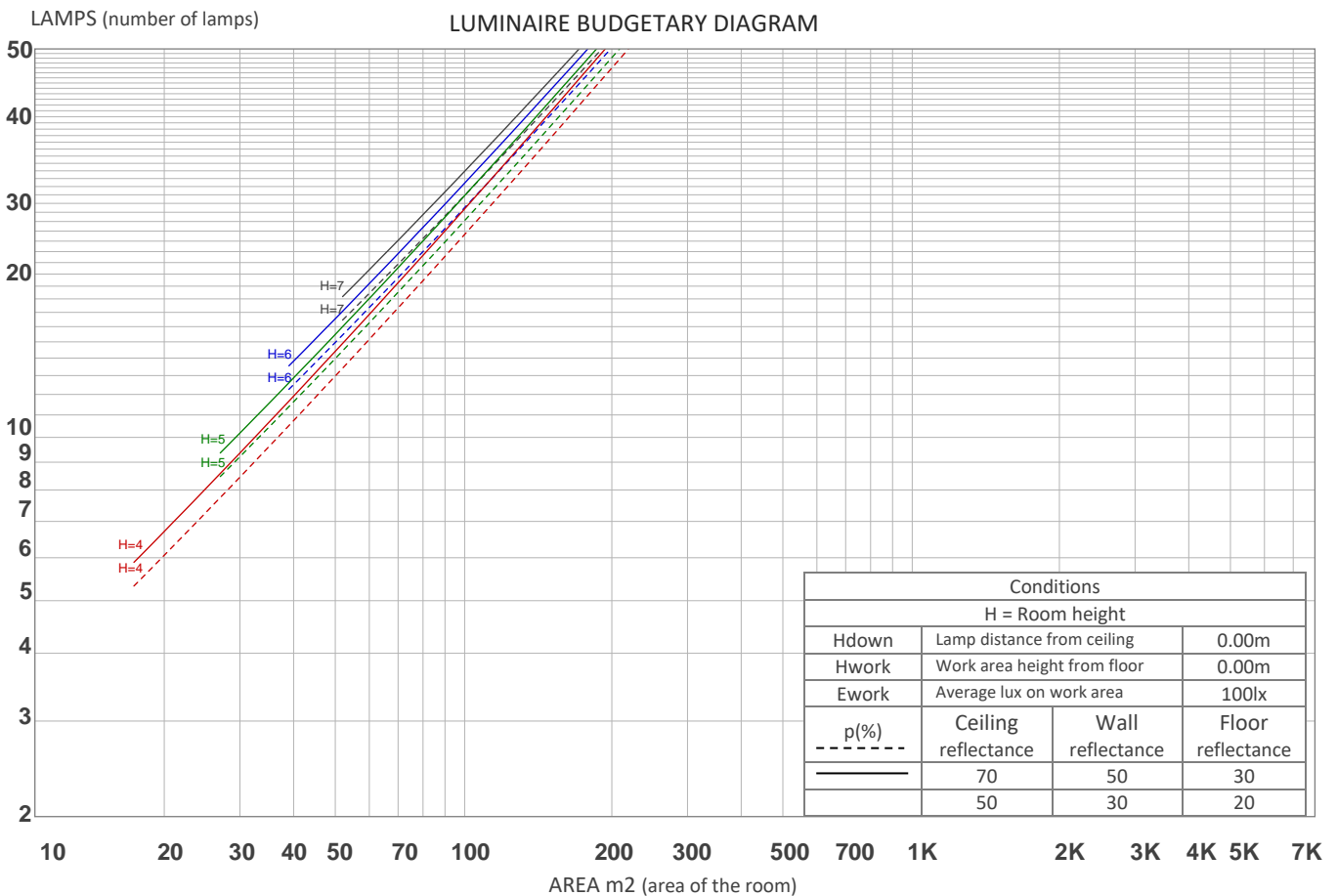
## UGR

## 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	13.9	14.5	14.0	14.7	14.9	13.9	14.5	14.0	14.7	14.9
	3H	13.7	14.4	14.1	14.6	14.8	13.7	14.4	14.1	14.6	14.8
	4H	13.7	14.3	14.1	14.6	14.8	13.7	14.3	14.1	14.6	14.8
	6H	13.7	14.2	14.0	14.5	14.9	13.7	14.2	14.0	14.5	14.9
	8H	13.7	14.2	14.0	14.5	14.9	13.7	14.2	14.0	14.5	14.9
	12H	13.6	14.1	14.0	14.5	14.9	13.6	14.1	14.0	14.5	14.9
4H	2H	13.6	14.3	14.0	14.5	14.8	13.6	14.3	14.0	14.5	14.8
	3H	13.6	14.1	14.0	14.5	14.9	13.6	14.1	14.0	14.5	14.9
	4H	13.5	14.0	14.0	14.4	15.0	13.5	14.0	14.0	14.4	15.0
	6H	13.5	14.0	14.0	14.4	14.7	13.5	14.0	14.0	14.4	14.7
	8H	13.5	14.0	14.0	14.3	14.7	13.5	14.0	14.0	14.3	14.7
	12H	13.4	13.8	13.9	14.2	14.7	13.4	13.8	13.9	14.2	14.7
8H	4H	13.4	13.9	13.9	14.3	14.6	13.4	13.9	13.9	14.3	14.6
	6H	13.4	13.8	14.0	14.2	14.8	13.4	13.8	14.0	14.2	14.8
	8H	13.5	13.7	14.0	14.2	14.9	13.5	13.7	14.0	14.2	14.9
	12H	13.4	13.6	14.0	14.1	14.8	13.4	13.6	14.0	14.1	14.8
12H	4H	13.4	13.7	13.9	14.2	14.6	13.4	13.7	13.9	14.2	14.6
	6H	13.4	13.7	14.0	14.2	14.9	13.4	13.7	14.0	14.2	14.9
	8H	13.4	13.6	14.0	14.1	14.7	13.4	13.6	14.0	14.1	14.7
Variation of the observer position for the luminaire distance S											
S = 1.0H		3.8 / -4.4					3.8 / -4.4				
S = 1.5H		6.2 / -6.5					6.2 / -6.5				
S = 2.0H		8.1 / -7.6					8.1 / -7.6				
Standard table		n/a					n/a				
Correction summand		n/a					n/a				
Corrected glare indices referring to 463 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	99
1	114	111	109	107	111	109	107	105	105	103	102	101	100	99	98	97	96	94
2	109	104	101	97	107	103	99	96	99	96	94	96	94	92	93	92	90	88
3	104	98	94	90	102	97	93	89	94	91	88	92	89	86	89	87	85	83
4	100	93	88	84	98	92	87	83	89	85	82	87	84	81	86	83	80	79
5	95	88	83	79	94	87	82	78	85	81	78	83	80	77	82	79	76	75
6	91	83	78	74	90	83	78	74	81	77	74	80	76	73	78	75	72	71
7	88	79	74	70	86	79	74	70	78	73	70	76	72	69	75	72	69	68
8	84	76	71	67	83	75	70	67	74	70	67	73	69	66	72	69	66	65
9	81	73	67	64	80	72	67	64	71	67	64	70	66	63	70	66	63	62
10	78	70	65	61	77	69	64	61	68	64	61	68	64	61	67	63	61	59



## ZONAL LUMEN SUMMARY

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
92.2 lm	173 lm	107 lm	50.0 lm	22.5 lm	9.34 lm	3.48 lm	2.07 lm	0.727 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
0.179 lm	0.169 lm	0.228 lm	0.314 lm	0.407 lm	0.459 lm	0.416 lm	0.268 lm	0.084 lm

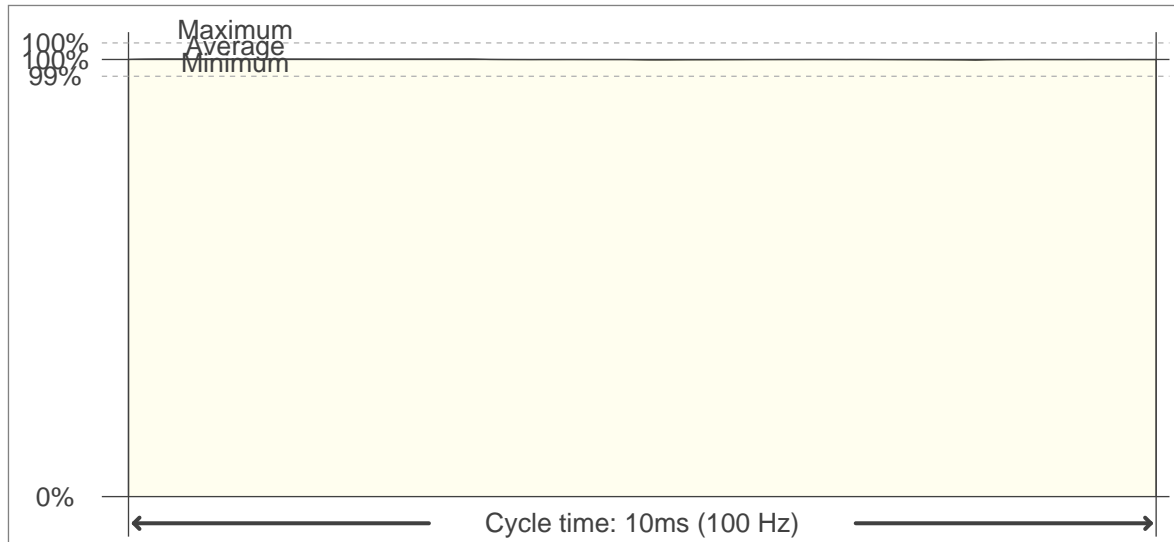


## FLICKER

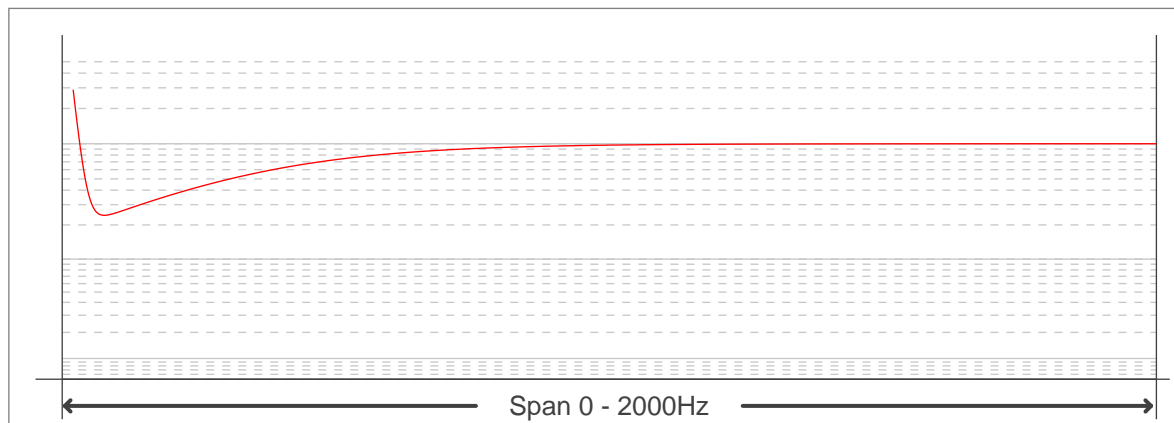
## FLICKER CURVE (COMPLETE SAMPLED FLICKER)



## FLICKER FRAME (FRAME OF ONE FLICKER PERIOD)



## FLICKER FFT (FREQUENCY SCOPE OF FLICKER CURVE)



## FLICKER RESULTS:

Flicker frequency:	100 Hz
Flicker index:	0
Flicker percentage:	0.17 %
SVM: (Visual flicker)	0

## FLICKER CONDITIONS:

Sample rate:	20000 samples/second
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