

Light efficiency:

45 Lumen/Watt

Output: 958 lm

Light quality:

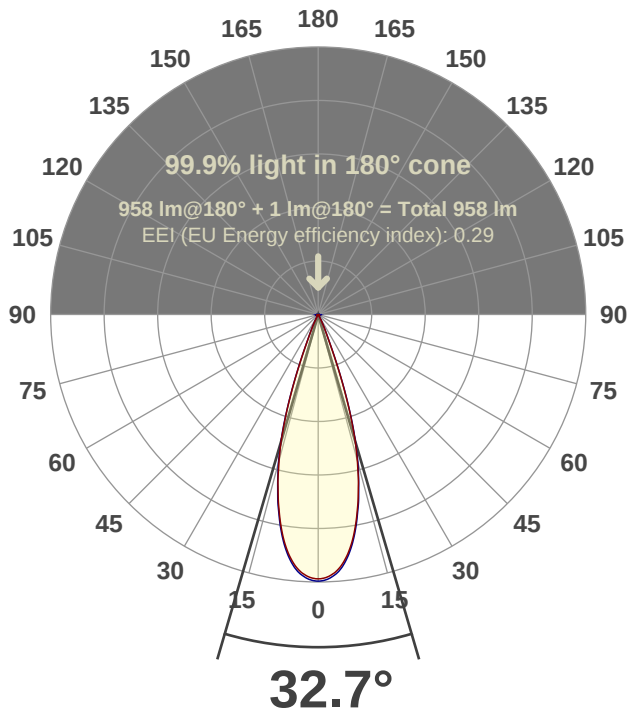
CRI: 92.4

Peak: 3169 cd

Power: 21.2 W



Beam angle



Test number:

CR4D-S-FL-C20-30k-40 (GRF-CZ20-FL-SQ)

Luminaire Model:

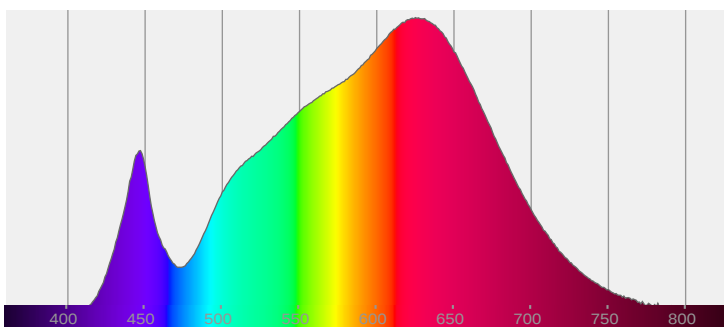
Core 4" Square Flat C20 30K 40°

Date and time:

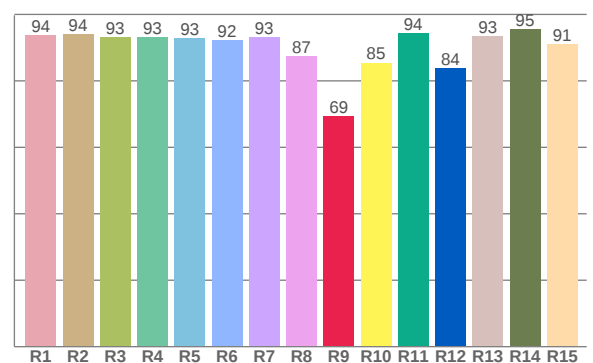
4/3/2017 1:23:47 PM

LUM: 958

Spectra



CRI: 92.4 (R1-R8)



Color parameters

	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
	CRI	CRI R9	TM30 R _f	TM30 R _g	CQS	x	y	u	v	Δuv
	92.4	69.3	90.3	103.2	90.2	0.429	0.399	0.247	0.346	-0.0007

R_f 90.3

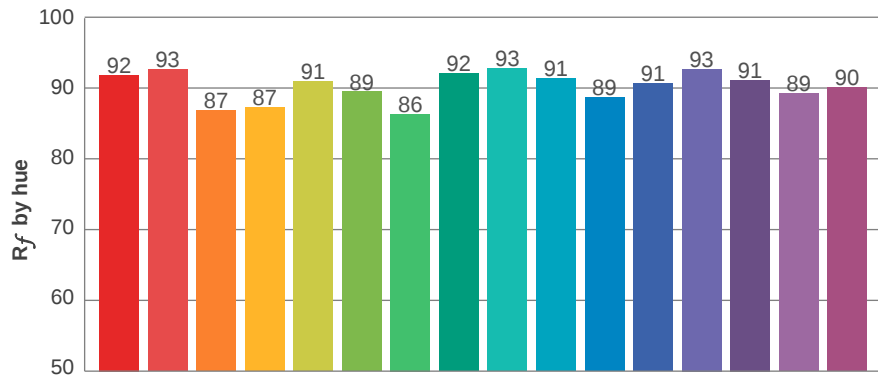
Fidelity index R_f

R_g 103.2

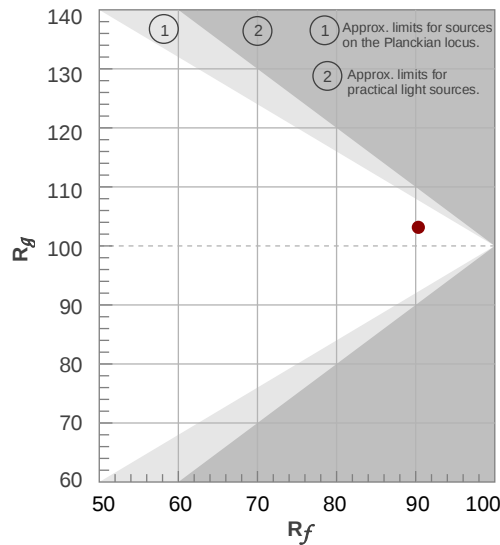
Gammut index R_g

TM30: 90.3

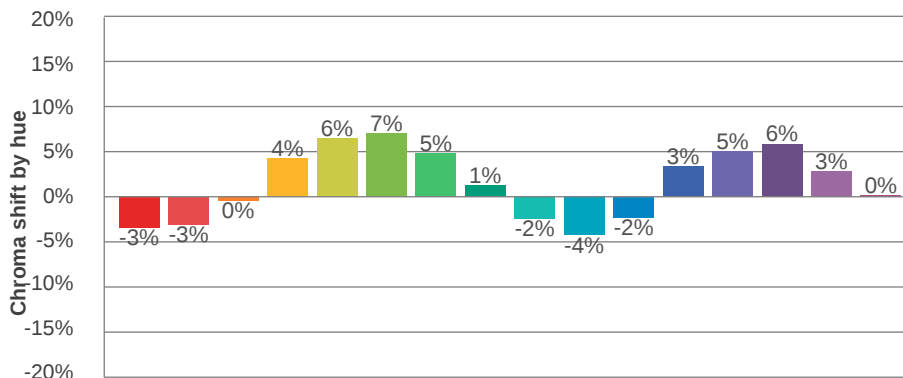
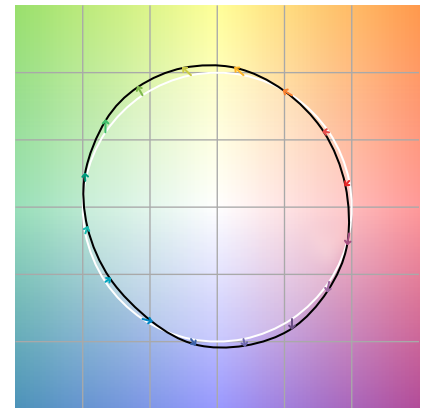
TM-30Color



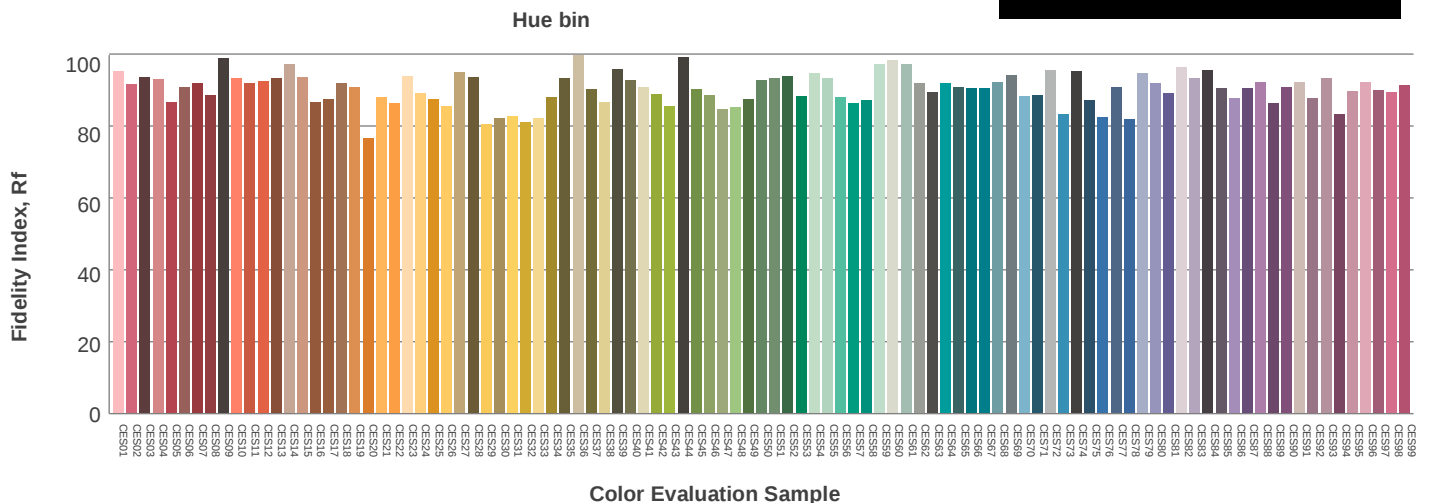
Hue Bin	R_f	Graphic shifts (%)	
		Chroma	Hue
1	92	-3%	-3%
2	93	-3%	3%
3	87	0%	7%
4	87	4%	7%
5	91	6%	5%
6	89	7%	-1%
7	86	5%	-7%
8	92	1%	-5%
9	93	-2%	-4%
10	91	-4%	0%
11	89	-2%	7%
12	91	3%	4%
13	93	5%	0%
14	91	6%	-4%
15	89	3%	-6%
16	90	0%	-8%



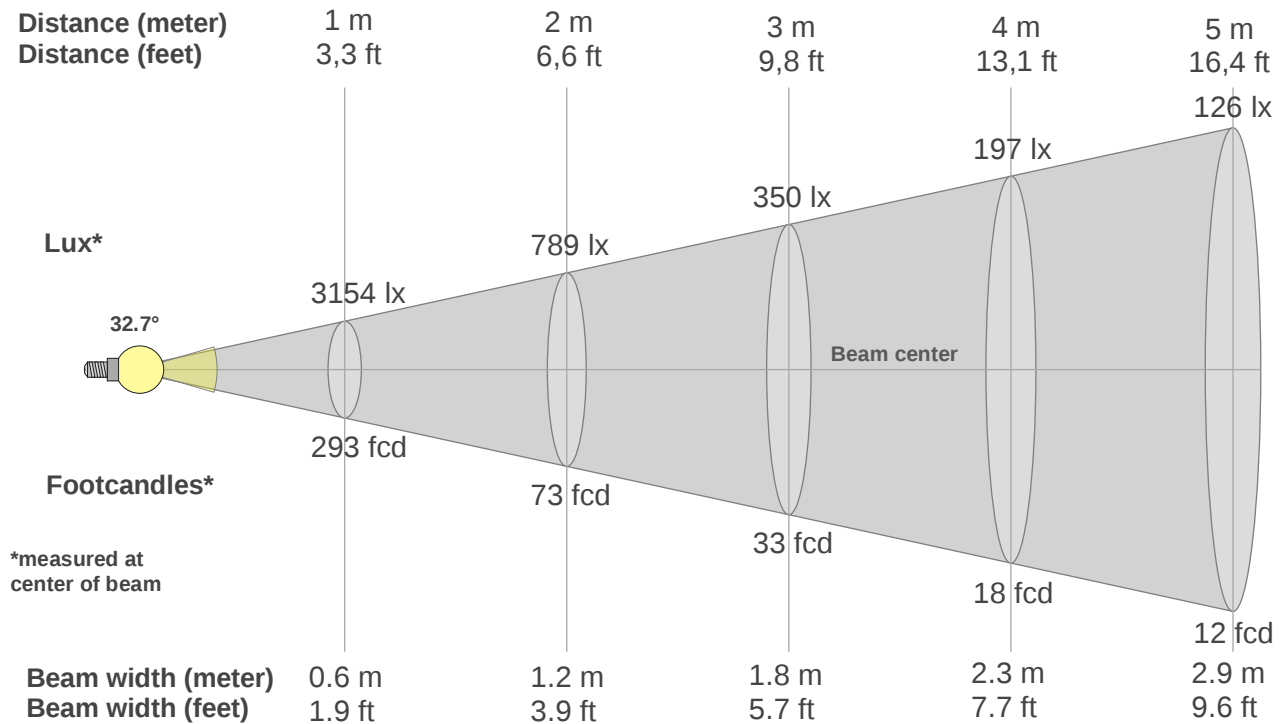
Color vector graphics



Color distortion



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
3154lx	789lx	350lx	197lx	126lx	88lx	64lx	49lx	39lx	32lx	26lx	22lx	19lx	16lx	14lx	12lx	11lx	10lx	9lx	8lx
293fcd	73.3fcd	32.6fcd	18.3fcd	11.7fcd	8.1fcd	6fcd	4.6fcd	3.6fcd	2.9fcd	2.4fcd	2fcd	1.7fcd	1.5fcd	1.3fcd	1.1fcd	1fcd	0.9fcd	0.8fcd	0.7fcd

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°
3154	3122	3061	2948	2780	2552	2281	1973	1634	1225	781	408	225	137	80	45	27	20	15	12
100%	99%	97%	93%	88%	81%	72%	63%	52%	39%	25%	13%	7%	4%	3%	1%	1%	1%	0%	0%

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°
3154	3150	3089	2976	2805	2576	2304	1988	1639	1237	789	411	226	137	80	45	27	20	15	12
100%	100%	98%	94%	89%	82%	73%	63%	52%	39%	25%	13%	7%	4%	3%	1%	1%	1%	0%	0%

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°
3154	3122	3061	2948	2780	2552	2281	1973	1634	1225	781	408	225	137	80	45	27	20	15	12
100%	99%	97%	93%	88%	81%	72%	63%	52%	39%	25%	13%	7%	4%	3%	1%	1%	1%	0%	0%

Intensities in 270° c-plane

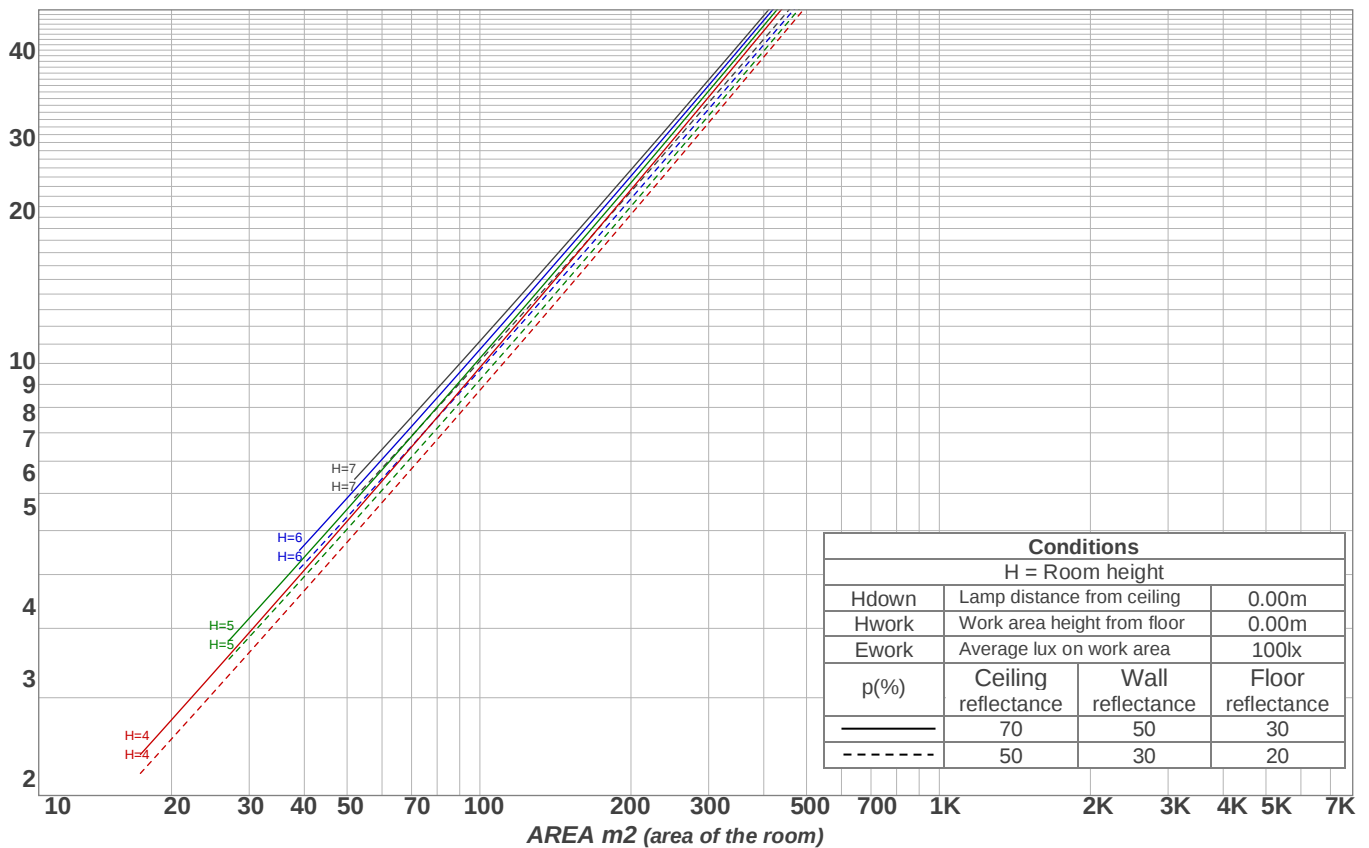
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
3154	3150	3089	2976	2805	2576	2304	1988	1639	1237	789	411	226	137	80	45	27	20	15	12
100%	100%	98%	94%	89%	82%	73%	63%	52%	39%	25%	13%	7%	4%	3%	1%	1%	1%	0%	0%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
32.7°	45.6°	56.1°	99.0%	98.4%

Light planning

Luminaire budgetary diagram

LAMPS (number of lamps)
50



Luminaire budgetary diagram

AREA m2 (area of the room)

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	113	111	109	112	110	109	107	106	105	104	103	102	101	99	99	98	96
2	111	107	104	101	109	105	103	100	102	100	98	99	98	96	97	95	94	93
3	107	102	99	96	105	101	98	95	99	96	93	96	94	92	94	92	91	89
4	104	98	94	91	102	97	93	90	95	92	89	93	91	88	92	89	87	86
5	100	94	90	87	99	94	90	87	92	89	86	90	88	85	89	87	85	83
6	97	91	87	84	96	90	86	83	89	85	83	88	85	82	87	84	82	81
7	95	88	84	81	93	87	83	80	86	83	80	85	82	80	84	81	79	78
8	92	85	81	78	91	85	81	78	84	80	77	83	80	77	82	79	77	76
9	89	82	78	75	88	82	78	75	81	78	75	80	77	75	80	77	75	74
10	87	80	76	73	86	80	76	73	79	75	73	78	75	73	78	75	72	72

Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
272 lm	500 lm	157 lm	11.6 lm	4.65 lm	3.79 lm	3.95 lm	2.89 lm	2.31 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
0.000 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

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	16.9	17.3	16.9	17.5	17.6	16.1	16.5	16.2	16.7	16.9
	3H	18.1	18.7	18.4	18.8	19.0	17.8	18.4	18.1	18.5	18.7
	4H	18.9	19.4	19.3	19.7	19.9	18.9	19.5	19.3	19.7	19.9
	6H	20.0	20.5	20.3	20.8	21.1	20.2	20.6	20.5	20.9	21.3
	8H	20.7	21.2	21.1	21.5	21.9	20.9	21.4	21.2	21.7	22.1
	12H	21.6	22.0	21.9	22.4	22.8	21.8	22.2	22.2	22.6	23.0
4H	2H	17.3	17.9	17.7	18.1	18.3	16.7	17.3	17.1	17.5	17.7
	3H	19.0	19.4	19.4	19.8	20.2	18.9	19.3	19.2	19.7	20.1
	4H	20.0	20.4	20.4	20.8	21.3	20.1	20.5	20.5	20.9	21.4
	6H	21.3	21.7	21.8	22.1	22.4	21.5	22.0	22.0	22.3	22.7
	8H	22.2	22.6	22.7	22.9	23.3	22.4	22.8	22.9	23.1	23.5
	12H	23.1	23.5	23.6	23.9	24.3	23.4	23.7	23.9	24.1	24.6
8H	4H	20.5	20.9	21.0	21.3	21.6	20.6	21.0	21.1	21.4	21.7
	6H	22.2	22.5	22.7	22.9	23.5	22.4	22.7	22.9	23.2	23.7
	8H	23.3	23.5	23.8	24.1	24.7	23.5	23.7	24.0	24.2	24.8
	12H	24.5	24.7	25.1	25.2	25.8	24.8	24.9	25.4	25.5	26.1
12H	4H	20.6	21.0	21.1	21.4	21.8	20.7	21.1	21.2	21.5	21.9
	6H	22.5	22.7	23.0	23.3	23.9	22.7	22.9	23.3	23.5	24.1
	8H	23.7	23.9	24.3	24.4	25.0	23.9	24.0	24.4	24.5	25.1
Corrected glare indices referring to 958 lm total luminous flux											