

Light efficiency:

46 Lumen/Watt

Output: 967 lm

Light quality:

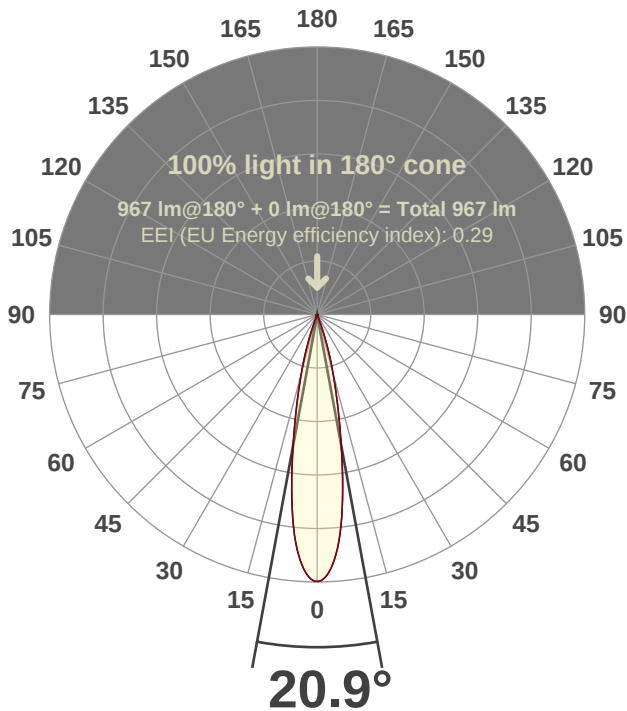
CRI: 92.8

Peak: 6544 cd

Power: 21.2 W



Beam angle



Test number:

CR4D-R-FL-C20-30k-24 (GRF-CZ20-NF-RD)

Luminaire Model:

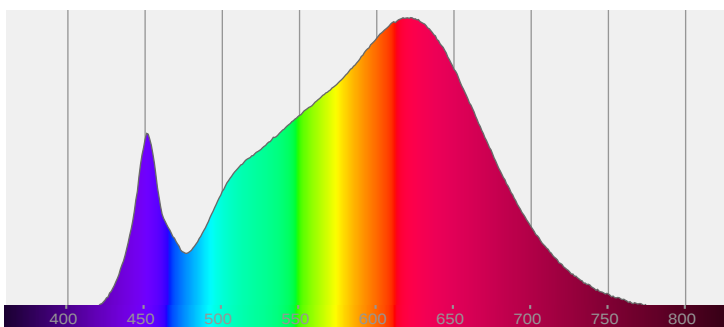
Core 4" Round Flat C20 30K 24°

Date and time:

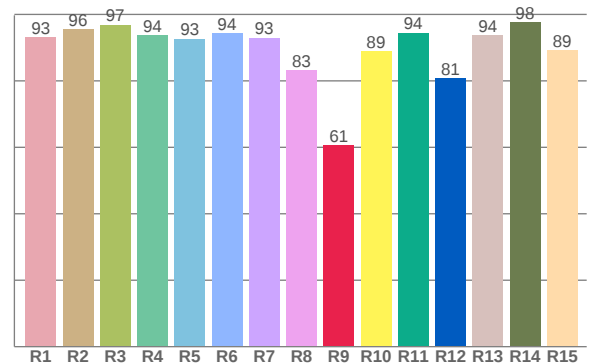
6/6/2017 11:15:56 AM

LUM: 967

Spectra



CRI: 92.8 (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
	92.8	60.5	91.9	100.2	91.0	0.429	0.401	0.247	0.346	-0.0002

R_f 91.9

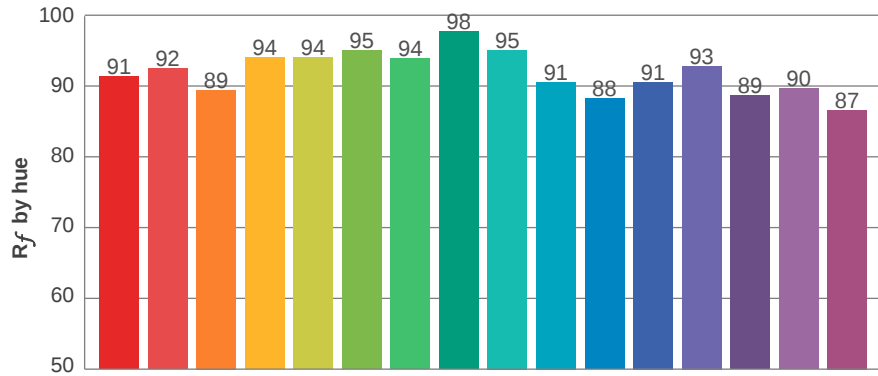
Fidelity index R_f

R_g 100.2

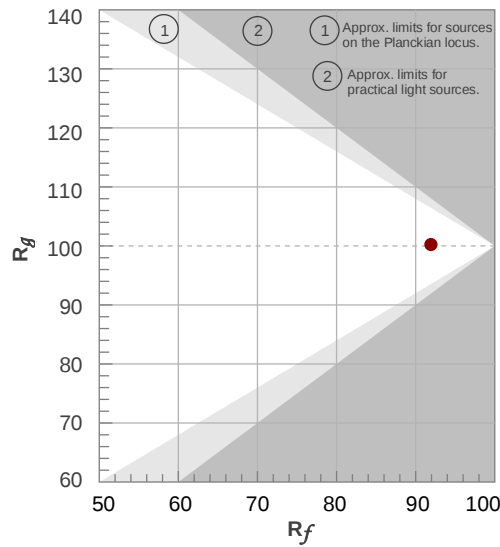
Gammut index R_g

TM30: 91.9

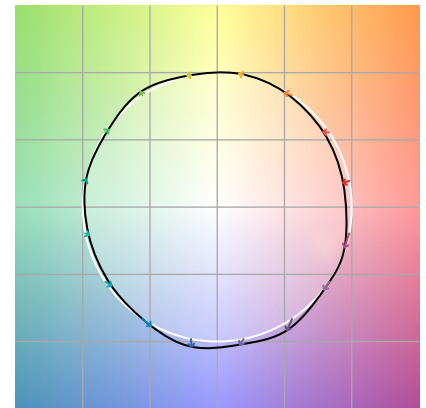
TM-30Color



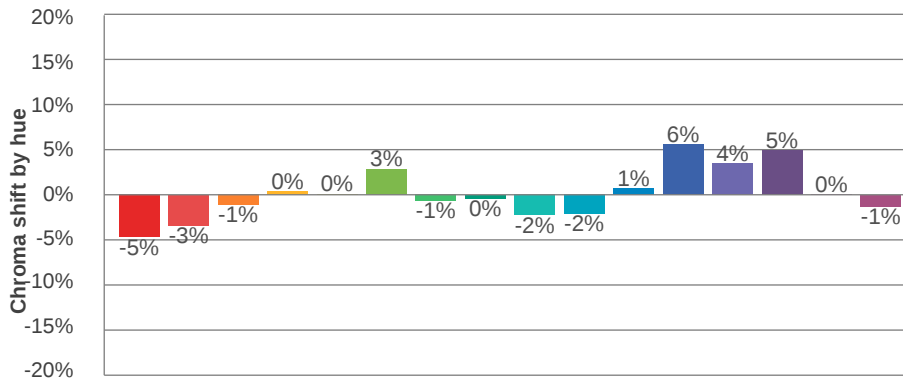
Hue Bin	R_f	Graphic shifts (%)	
		Chroma	Hue
1	91	-5%	-1%
2	92	-3%	3%
3	89	-1%	5%
4	94	0%	3%
5	94	0%	3%
6	95	3%	0%
7	94	-1%	-3%
8	98	0%	-1%
9	95	-2%	2%
10	91	-2%	5%
11	88	1%	8%
12	91	6%	2%
13	93	4%	-3%
14	89	5%	-8%
15	90	0%	-7%
16	87	-1%	-11%



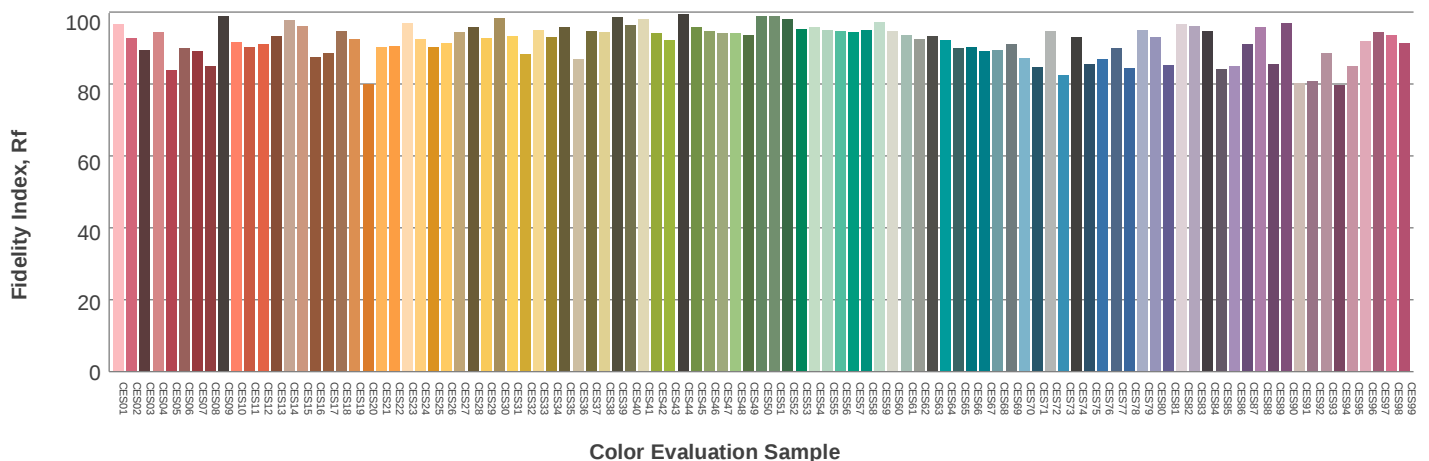
Color vector graphics



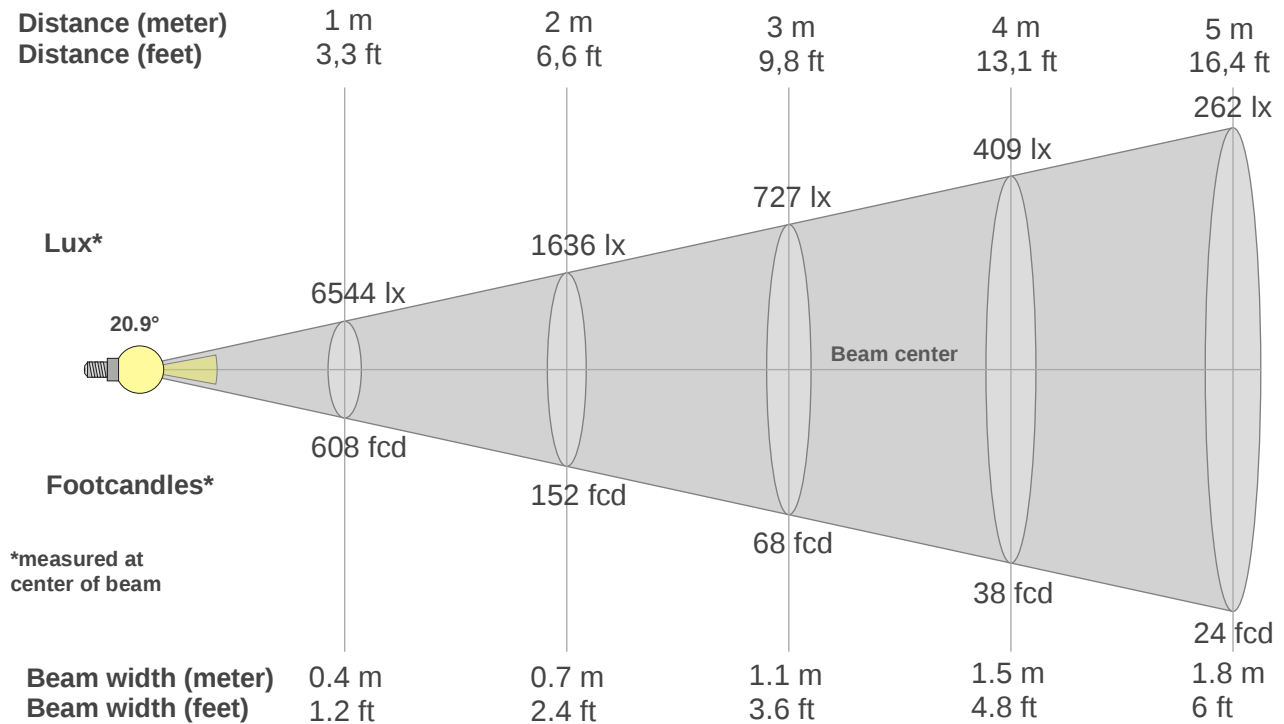
Color distortion



Hue bin



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
6544lx	1636lx	727lx	409lx	262lx	182lx	134lx	102lx	81lx	65lx	54lx	45lx	39lx	33lx	29lx	26lx	23lx	20lx	18lx	16lx
608fcd	152fcd	67.6fcd	38fcd	24.3fcd	16.9fcd	12.4fcd	9.5fcd	7.5fcd	6.1fcd	5fcd	4.2fcd	3.6fcd	3.1fcd	2.7fcd	2.4fcd	2.1fcd	1.9fcd	1.7fcd	1.5fcd

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°
6544	6513	6415	6252	6027	5741	5386	4961	4486	3986	3482	3011	2578	2189	1842	1533	1267	1010	760	530
100%	100%	98%	96%	92%	88%	82%	76%	69%	61%	53%	46%	39%	33%	28%	23%	19%	15%	12%	8%

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°
6544	6513	6415	6252	6027	5741	5386	4961	4486	3986	3482	3011	2578	2189	1842	1533	1267	1010	760	530
100%	100%	98%	96%	92%	88%	82%	76%	69%	61%	53%	46%	39%	33%	28%	23%	19%	15%	12%	8%

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°
6544	6513	6415	6252	6027	5741	5386	4961	4486	3986	3482	3011	2578	2189	1842	1533	1267	1010	760	530
100%	100%	98%	96%	92%	88%	82%	76%	69%	61%	53%	46%	39%	33%	28%	23%	19%	15%	12%	8%

Intensities in 270° c-plane

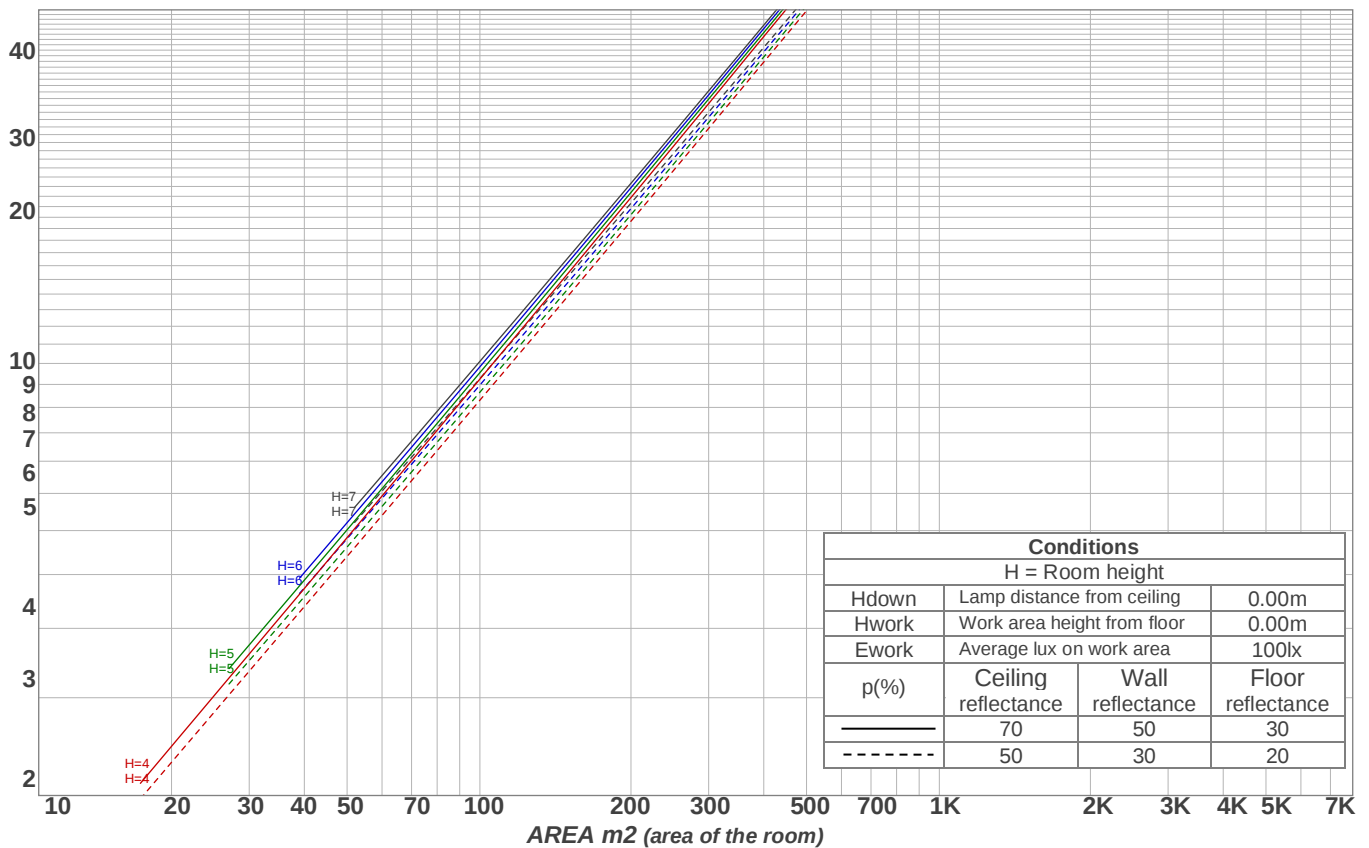
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
6544	6513	6415	6252	6027	5741	5386	4961	4486	3986	3482	3011	2578	2189	1842	1533	1267	1010	760	530
100%	100%	98%	96%	92%	88%	82%	76%	69%	61%	53%	46%	39%	33%	28%	23%	19%	15%	12%	8%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
20.9°	36.9°	42.4°	98.2%	97.7%

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	113	111	109	108	107	106	104	103	102	101	100	99	98	97
2	112	108	105	103	110	107	104	102	104	102	100	101	99	98	98	97	96	94
3	109	104	101	98	107	103	100	98	101	98	96	98	96	95	96	95	93	92
4	106	101	98	95	104	100	97	94	98	95	93	96	94	92	95	93	91	90
5	103	98	95	92	102	97	94	91	96	93	91	94	92	90	93	91	89	88
6	101	96	92	89	100	95	92	89	94	91	89	93	90	88	91	89	87	86
7	99	93	90	87	98	93	89	87	92	89	87	91	88	86	90	88	86	85
8	97	91	88	85	96	91	87	85	90	87	85	89	86	85	88	86	84	83
9	95	89	86	84	94	89	86	83	88	85	83	88	85	83	87	85	83	82
10	93	88	84	82	93	87	84	82	87	84	82	86	83	81	86	83	81	81

Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
474 lm	423 lm	34.1 lm	11.5 lm	4.48 lm	2.98 lm	4.75 lm	6.36 lm	6.40 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	15.8	16.1	15.9	16.3	16.5	15.8	16.1	15.9	16.3	16.5
	3H	19.5	20.1	19.9	20.2	20.4	19.5	20.1	19.9	20.2	20.4
	4H	21.8	22.3	22.2	22.5	22.7	21.8	22.3	22.2	22.5	22.7
	6H	24.7	25.1	25.0	25.4	25.7	24.7	25.1	25.0	25.4	25.7
	8H	26.3	26.7	26.6	27.1	27.4	26.3	26.7	26.6	27.1	27.4
	12H	28.0	28.4	28.3	28.7	29.2	28.0	28.4	28.3	28.7	29.2
4H	2H	16.8	17.3	17.2	17.6	17.8	16.8	17.3	17.2	17.6	17.8
	3H	21.1	21.5	21.4	21.8	22.2	21.1	21.5	21.4	21.8	22.2
	4H	23.4	23.8	23.8	24.2	24.7	23.4	23.8	23.8	24.2	24.7
	6H	26.4	26.8	26.9	27.1	27.5	26.4	26.8	26.9	27.1	27.5
	8H	28.1	28.5	28.6	28.8	29.2	28.1	28.5	28.6	28.8	29.2
	12H	29.8	30.1	30.3	30.5	31.0	29.8	30.1	30.3	30.5	31.0
8H	4H	24.5	24.9	25.0	25.2	25.6	24.5	24.9	25.0	25.2	25.6
	6H	27.7	27.9	28.2	28.4	28.9	27.7	27.9	28.2	28.4	28.9
	8H	29.6	29.8	30.1	30.3	31.0	29.6	29.8	30.1	30.3	31.0
	12H	31.5	31.7	32.1	32.2	32.8	31.5	31.7	32.1	32.2	32.8
12H	4H	24.8	25.1	25.3	25.5	26.0	24.8	25.1	25.3	25.5	26.0
	6H	28.2	28.4	28.7	28.9	29.5	28.2	28.4	28.7	28.9	29.5
	8H	30.2	30.3	30.8	30.8	31.4	30.2	30.3	30.8	30.8	31.4
Corrected glare indices referring to 967 lm total luminous flux											