

Light efficiency:

44 Lumen/Watt

Output: 1334 lm

Light quality:

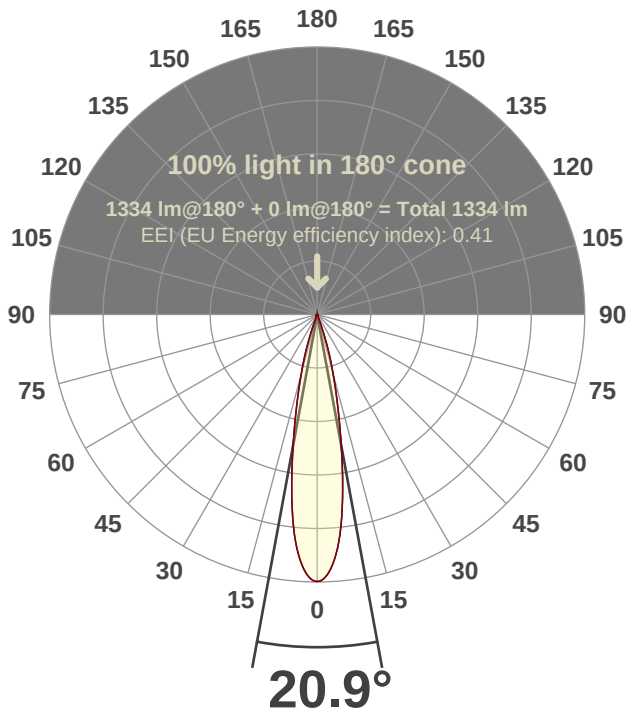
CRI: 92.8

Peak: 9031 cd

Power: 30.0 W



Beam angle



Test number:

CR4D-R-FL-C28-30k-24 (GRF-CZ20-NF-RD)

Luminaire Model:

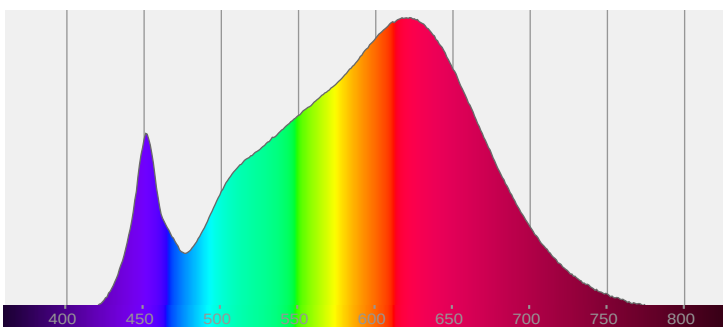
Core 4" Round Flat C28 30K 24°

Date and time:

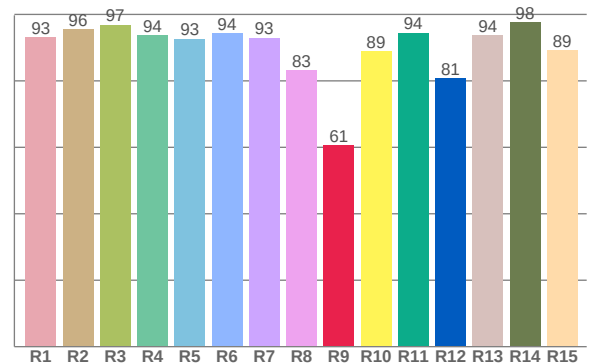
6/6/2017 11:15:56 AM

LUM: 1334

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

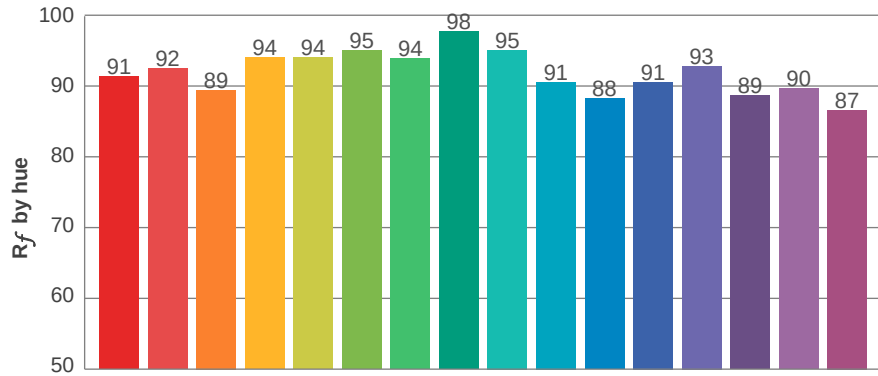
Fidelity index R_f

R_g 100.2

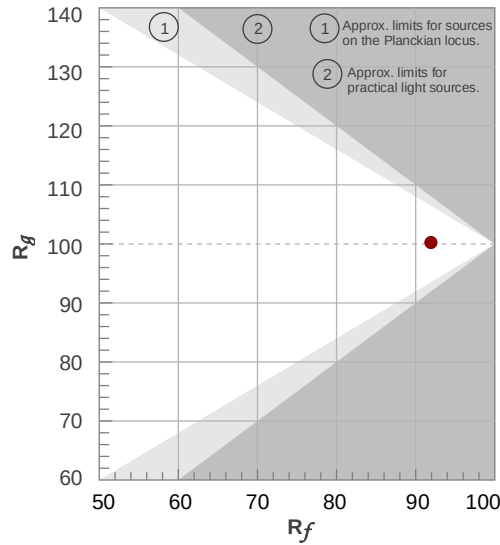
Gammut index R_g

TM30: 91.9

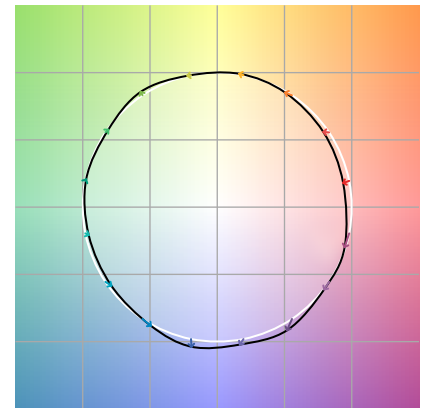
TM-30Color



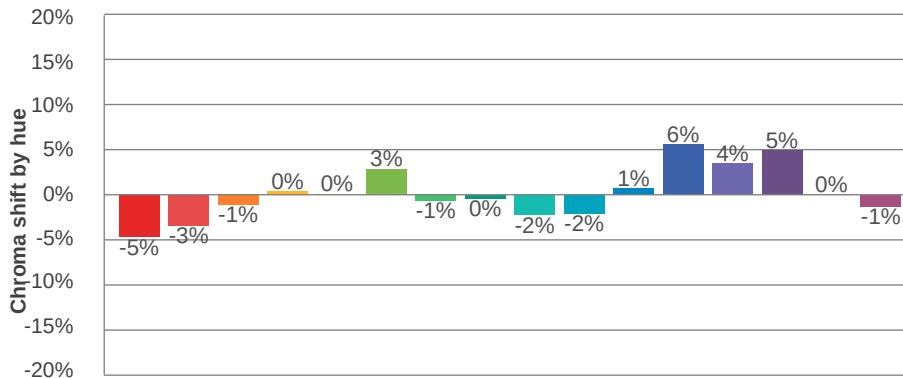
Hue Bin	R_f	Graphic shifts (%)	
		Chroma	Hue
1	91	-5%	-1%
2	92	-3%	3%
3	89	-1%	5%
4	94	0%	3%
5	94	0%	3%
6	95	3%	0%
7	94	-1%	-3%
8	98	0%	-1%
9	95	-2%	2%
10	91	-2%	5%
11	88	1%	8%
12	91	6%	2%
13	93	4%	-3%
14	89	5%	-8%
15	90	0%	-7%
16	87	-1%	-11%



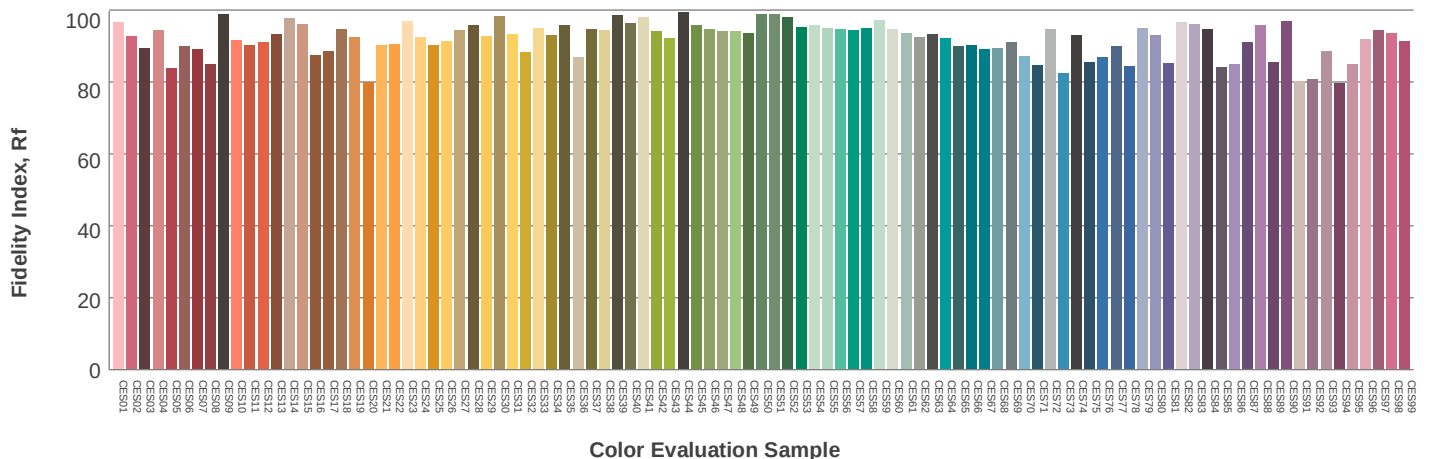
Color vector graphics



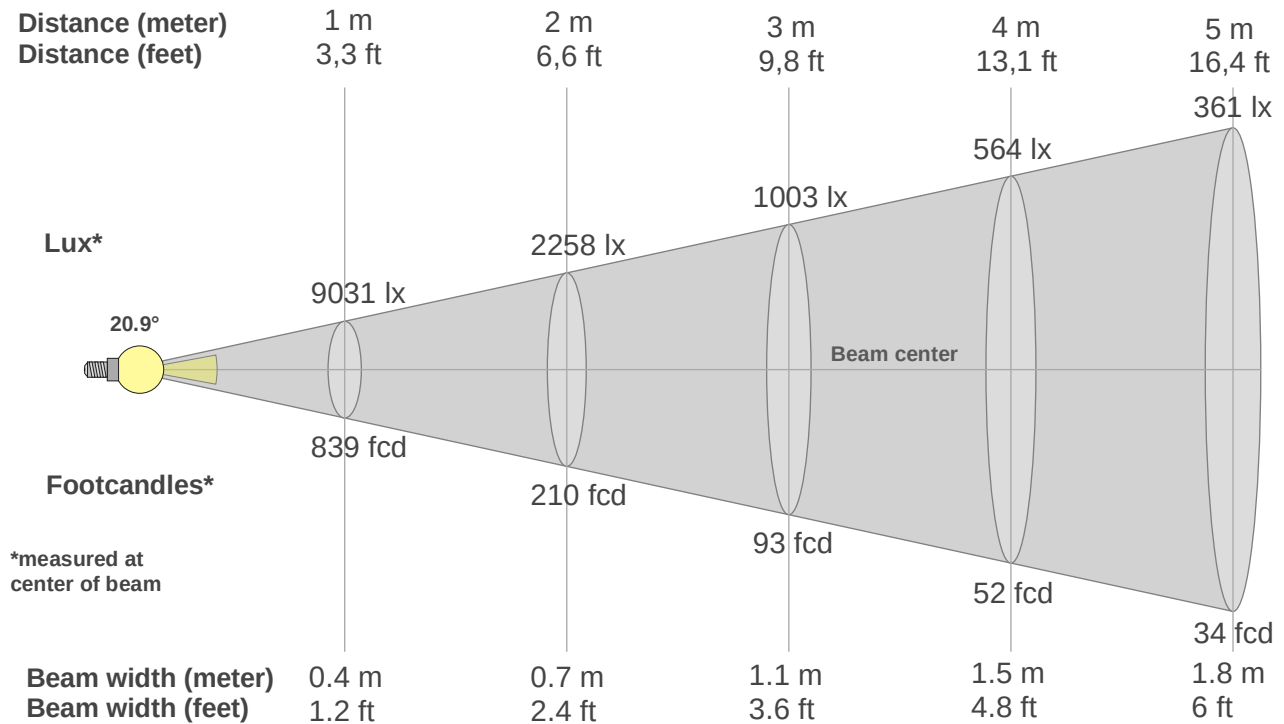
Color distortion



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
9031lx	2258lx	1003lx	564lx	361lx	251lx	184lx	141lx	111lx	90lx	75lx	63lx	53lx	46lx	40lx	35lx	31lx	28lx	25lx	23lx
839fcd	209.7fcd	93.2fcd	52.4fcd	33.6fcd	23.3fcd	17.1fcd	13.1fcd	10.4fcd	8.4fcd	6.9fcd	5.8fcd	5fcd	4.3fcd	3.7fcd	3.3fcd	2.9fcd	2.6fcd	2.3fcd	2.1fcd

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°
9031	8988	8852	8627	8317	7922	7432	6846	6191	5501	4805	4155	3557	3020	2542	2116	1748	1394	1048	731
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°
9031	8988	8852	8627	8317	7922	7432	6846	6191	5501	4805	4155	3557	3020	2542	2116	1748	1394	1048	731
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°
9031	8988	8852	8627	8317	7922	7432	6846	6191	5501	4805	4155	3557	3020	2542	2116	1748	1394	1048	731
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

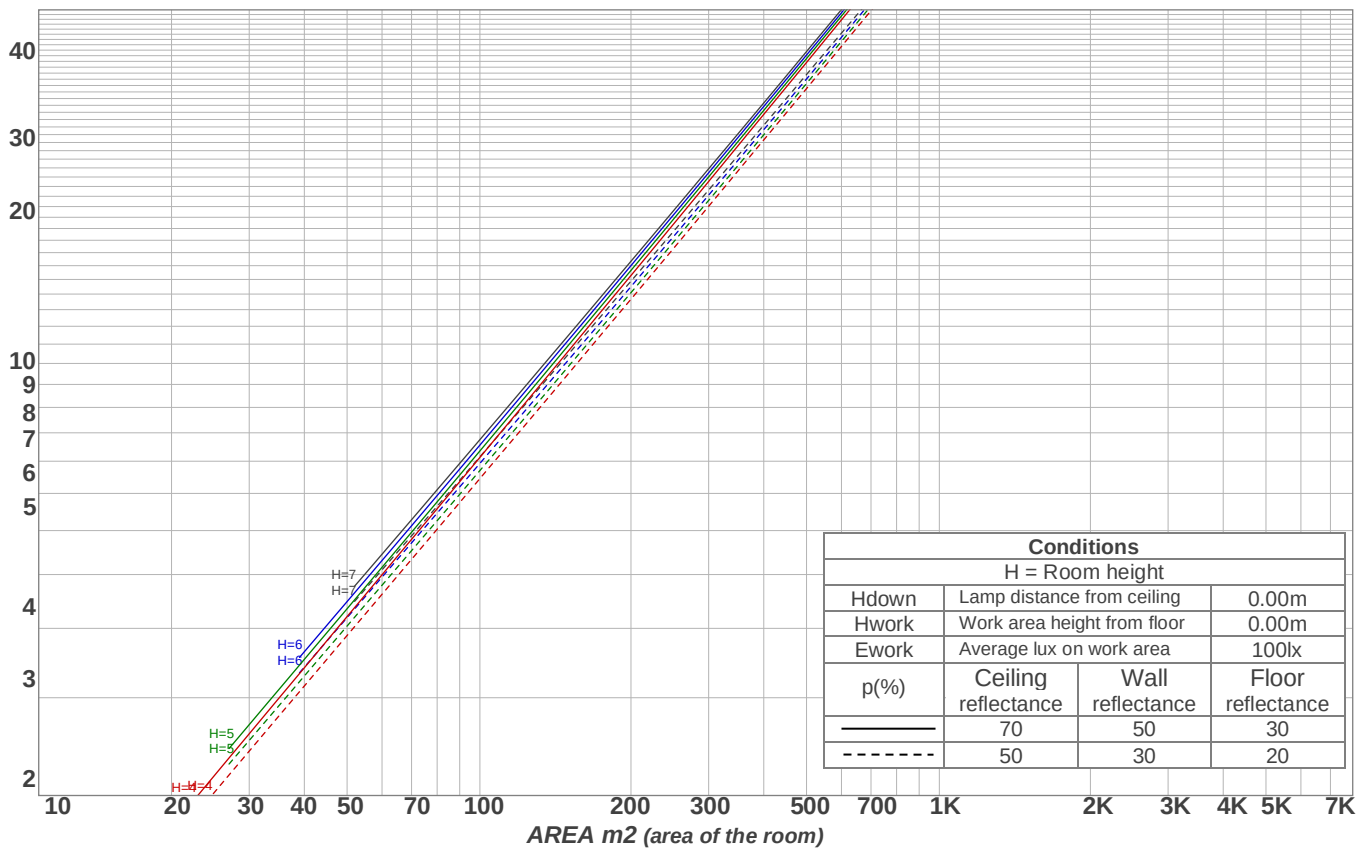
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
9031	8988	8852	8627	8317	7922	7432	6846	6191	5501	4805	4155	3557	3020	2542	2116	1748	1394	1048	731
100%	100%	98%	96%	92%	88%	82%	76%	69%	61%	53%	46%	39%	33%	28%	23%	19%	15%	12%	8%

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°
654 lm	583 lm	47.1 lm	15.8 lm	6.19 lm	4.12 lm	6.56 lm	8.78 lm	8.84 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	17.0	17.5	17.6	16.9	17.3	17.0	17.5	17.6
	3H	20.7	21.2	21.0	21.4	21.5	20.7	21.2	21.0	21.4	21.5
	4H	22.9	23.4	23.3	23.6	23.9	22.9	23.4	23.3	23.6	23.9
	6H	25.8	26.2	26.1	26.5	26.9	25.8	26.2	26.1	26.5	26.9
	8H	27.5	27.8	27.8	28.2	28.6	27.5	27.8	27.8	28.2	28.6
	12H	29.1	29.5	29.5	29.9	30.3	29.1	29.5	29.5	29.9	30.3
4H	2H	17.9	18.5	18.3	18.7	18.9	17.9	18.5	18.3	18.7	18.9
	3H	22.2	22.6	22.5	23.0	23.4	22.2	22.6	22.5	23.0	23.4
	4H	24.5	24.9	24.9	25.3	25.8	24.5	24.9	24.9	25.3	25.8
	6H	27.5	27.9	28.0	28.3	28.6	27.5	27.9	28.0	28.3	28.6
	8H	29.2	29.6	29.7	30.0	30.3	29.2	29.6	29.7	30.0	30.3
	12H	31.0	31.3	31.5	31.7	32.1	31.0	31.3	31.5	31.7	32.1
8H	4H	25.6	26.0	26.1	26.3	26.7	25.6	26.0	26.1	26.3	26.7
	6H	28.8	29.1	29.3	29.5	30.0	28.8	29.1	29.3	29.5	30.0
	8H	30.8	30.9	31.3	31.5	32.1	30.8	30.9	31.3	31.5	32.1
	12H	32.6	32.8	33.2	33.3	33.9	32.6	32.8	33.2	33.3	33.9
12H	4H	25.9	26.2	26.4	26.6	27.1	25.9	26.2	26.4	26.6	27.1
	6H	29.3	29.5	29.8	30.0	30.7	29.3	29.5	29.8	30.0	30.7
	8H	31.3	31.5	31.9	32.0	32.6	31.3	31.5	31.9	32.0	32.6
Corrected glare indices referring to 1334 lm total luminous flux											