

Light efficiency:

75 Lumen/Watt

Output: 1578 lm

Light quality:

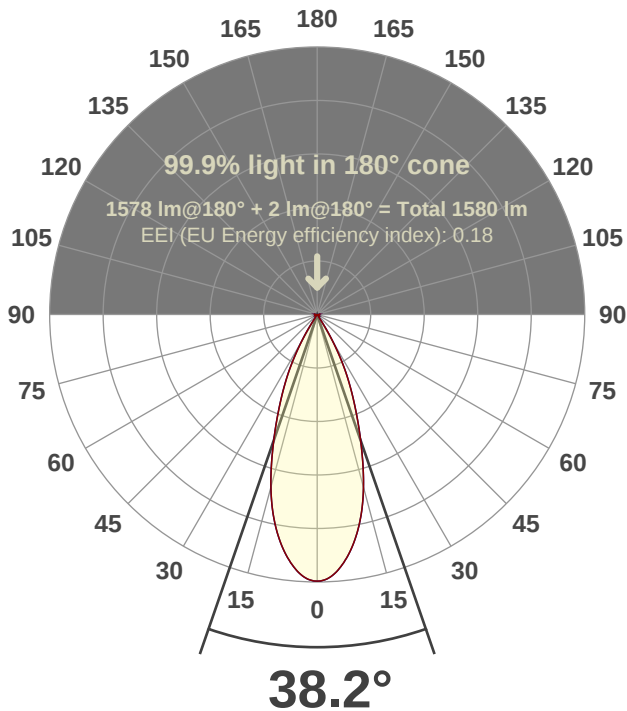
CRI: 92.8

Peak: 3685 cd

Power: 21.0 W



Beam angle



Test number:

CR4D-R-OR-C20-30k-40 (GRO-CZ20-FL-RD)

Luminaire Model:

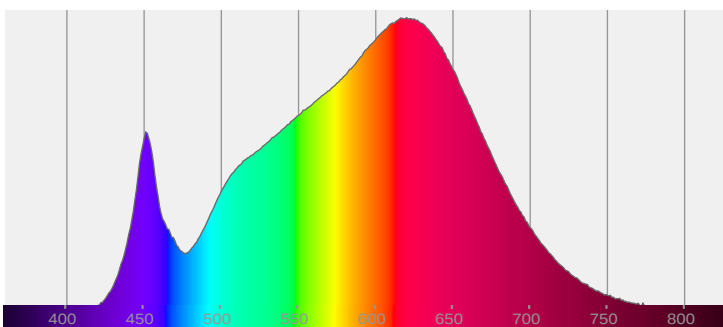
Core 4" Round Open Regress C20 30K 40°

Date and time:

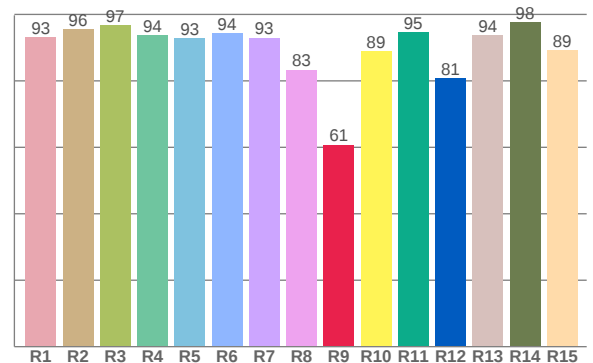
6/14/2017 5:17:09 PM

LUM: 1578

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	60.7	91.9	100.3	91.1	0.428	0.401	0.247	0.346	-0.0002

R_f 91.9

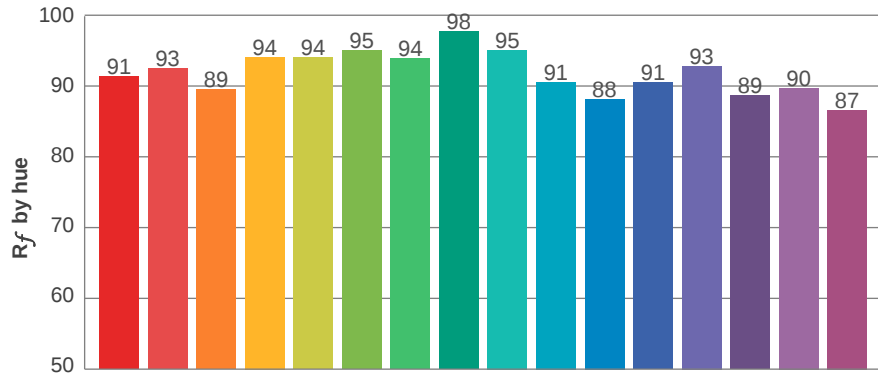
Fidelity index R_f

R_g 100.3

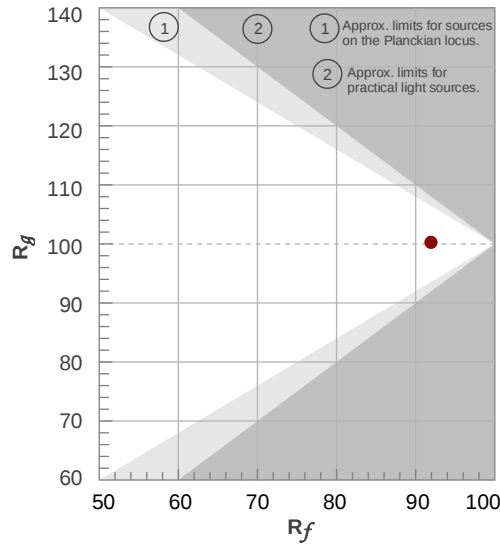
Gammut index R_g

TM30: 91.9

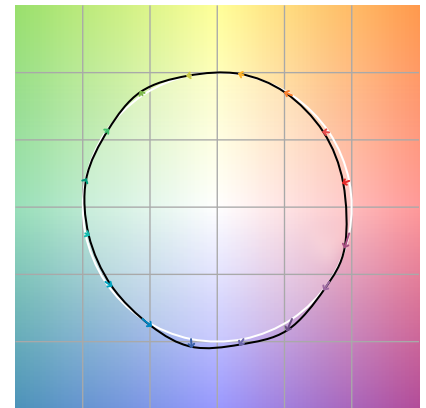
TM-30Color



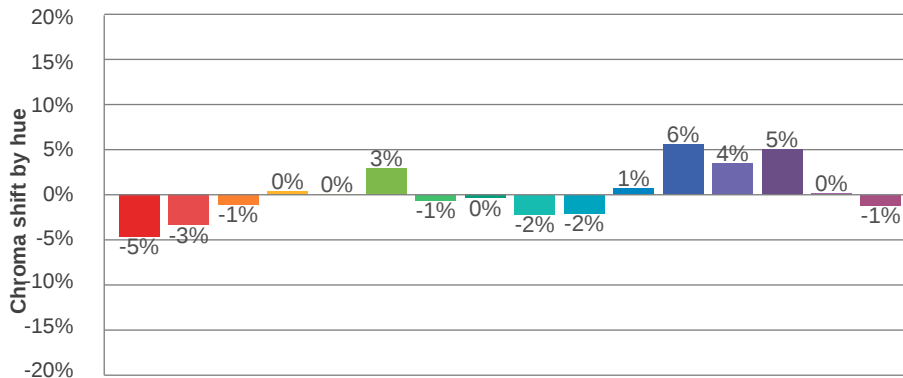
Hue Bin	R_f	Graphic shifts (%)	
		Chroma	Hue
1	91	-5%	-1%
2	93	-3%	3%
3	89	-1%	5%
4	94	0%	3%
5	94	0%	3%
6	95	3%	0%
7	94	-1%	-3%
8	98	0%	-1%
9	95	-2%	2%
10	91	-2%	5%
11	88	1%	8%
12	91	6%	2%
13	93	4%	-3%
14	89	5%	-8%
15	90	0%	-7%
16	87	-1%	-11%



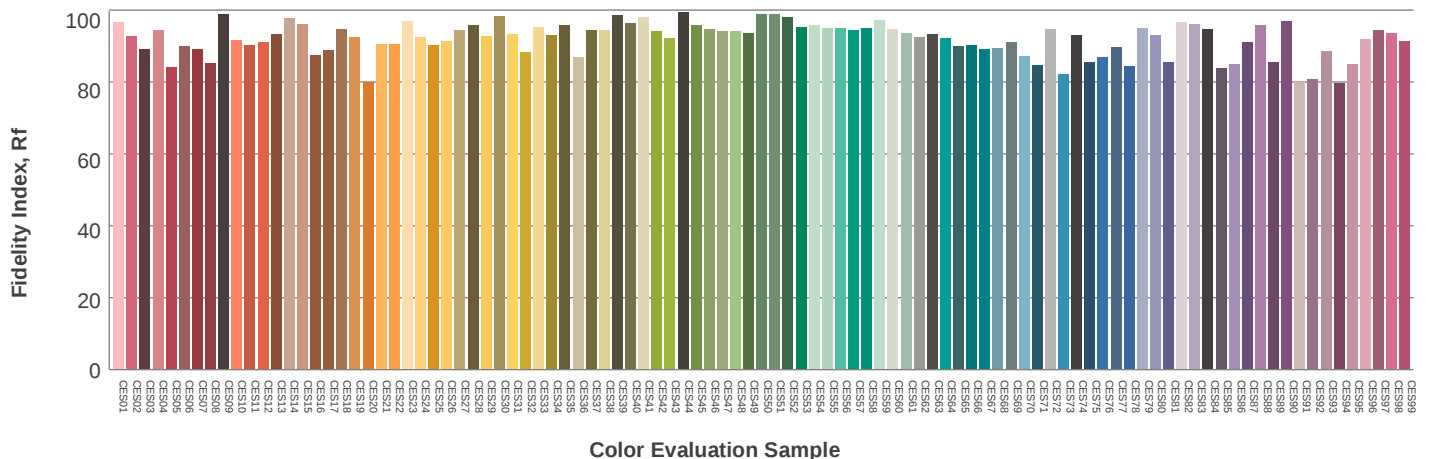
Color vector graphics



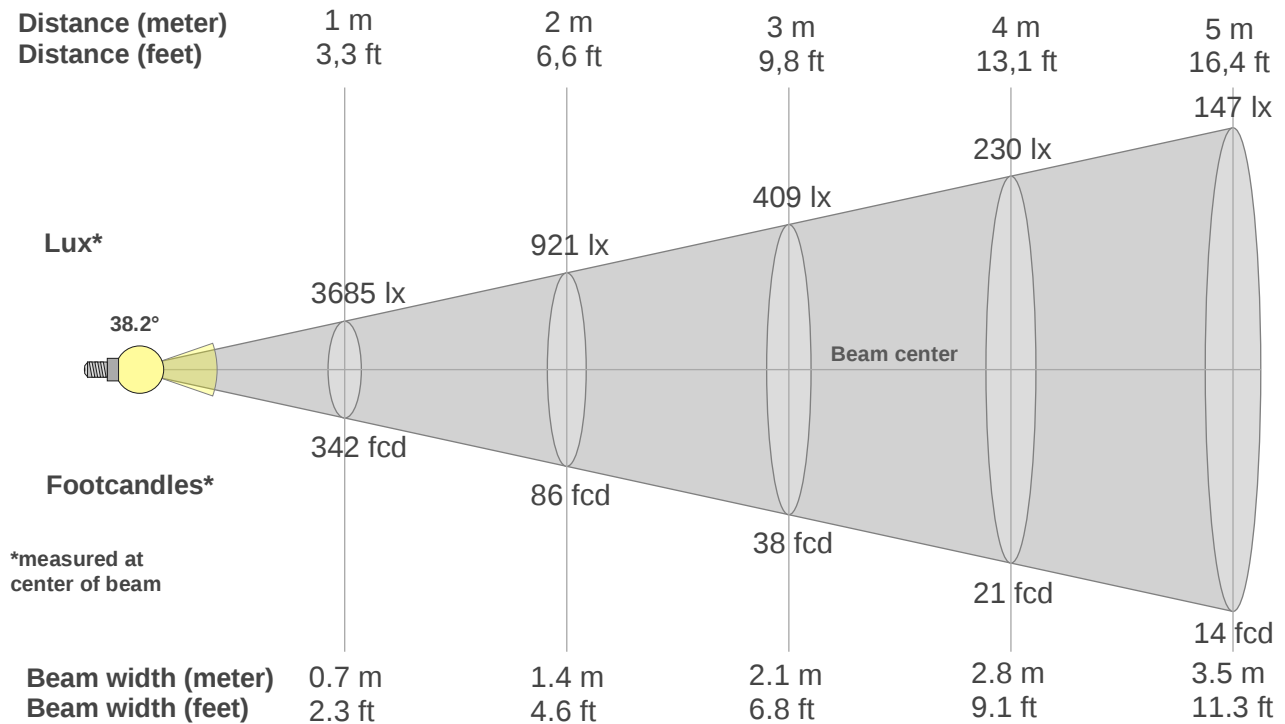
Color distortion



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
3685lx	921lx	409lx	230lx	147lx	102lx	75lx	58lx	45lx	37lx	30lx	26lx	22lx	19lx	16lx	14lx	13lx	11lx	10lx	9lx
342.3fcd	85.6fcd	38fcd	21.4fcd	13.7fcd	9.5fcd	7fcd	5.3fcd	4.2fcd	3.4fcd	2.8fcd	2.4fcd	2fcd	1.7fcd	1.5fcd	1.3fcd	1.2fcd	1.1fcd	0.9fcd	0.9fcd

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°
3685	3660	3581	3457	3298	3106	2882	2621	2325	2009	1707	1427	1178	947	710	477	271	97	44	37
100%	99%	97%	94%	90%	84%	78%	71%	63%	55%	46%	39%	32%	26%	19%	13%	7%	3%	1%	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°
3685	3660	3581	3457	3298	3106	2882	2621	2325	2009	1707	1427	1178	947	710	477	271	97	44	37
100%	99%	97%	94%	90%	84%	78%	71%	63%	55%	46%	39%	32%	26%	19%	13%	7%	3%	1%	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°
3685	3660	3581	3457	3298	3106	2882	2621	2325	2009	1707	1427	1178	947	710	477	271	97	44	37
100%	99%	97%	94%	90%	84%	78%	71%	63%	55%	46%	39%	32%	26%	19%	13%	7%	3%	1%	1%

Intensities in 270° c-plane

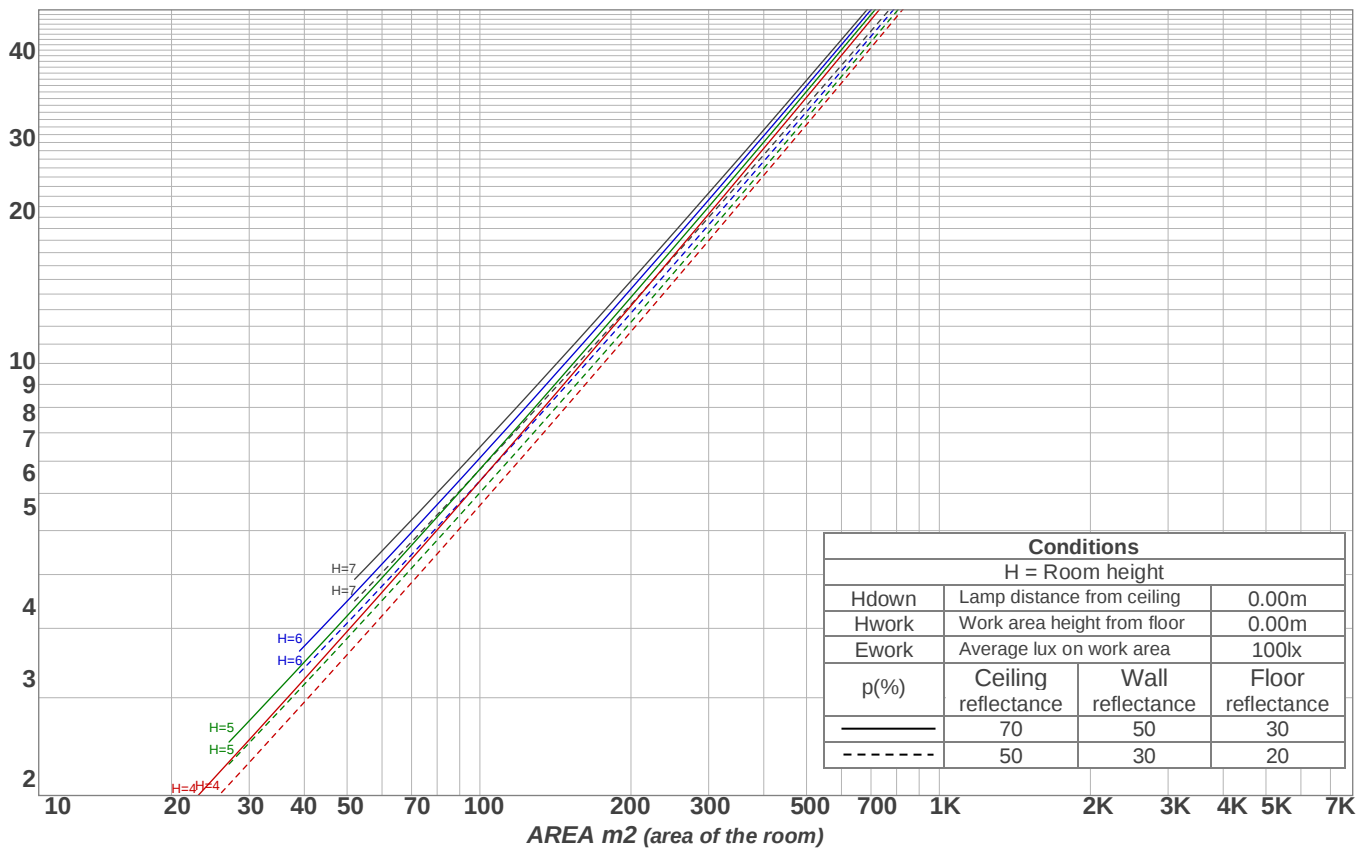
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
3685	3660	3581	3457	3298	3106	2882	2621	2325	2009	1707	1427	1178	947	710	477	271	97	44	37
100%	99%	97%	94%	90%	84%	78%	71%	63%	55%	46%	39%	32%	26%	19%	13%	7%	3%	1%	1%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
38.2°	62°	68.2°	99.7%	98.9%

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	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95
2	110	106	103	100	108	104	101	99	101	99	97	98	96	95	96	94	93	91
3	106	101	96	93	104	99	95	92	97	94	91	94	92	90	92	90	88	87
4	102	96	91	88	100	95	90	87	93	89	86	91	88	85	89	86	84	83
5	98	91	87	83	97	90	86	83	89	85	82	87	84	81	86	83	81	79
6	94	87	82	79	93	87	82	79	85	81	78	84	80	78	83	80	77	76
7	91	84	79	75	90	83	78	75	82	78	75	81	77	74	80	76	74	73
8	88	80	75	72	87	80	75	72	79	75	72	78	74	71	77	74	71	70
9	85	77	72	69	84	77	72	69	76	72	69	75	71	68	74	71	68	67
10	82	74	69	66	81	74	69	66	73	69	66	72	68	66	72	68	66	65

Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
323 lm	672 lm	478 lm	80.2 lm	15.2 lm	6.06 lm	1.49 lm	1.10 lm	0.905 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	23.9	24.4	24.0	24.6	24.8	23.9	24.4	24.0	24.6	24.8
	3H	23.6	24.3	24.0	24.5	24.6	23.6	24.3	24.0	24.5	24.6
	4H	23.6	24.2	24.0	24.4	24.6	23.6	24.2	24.0	24.4	24.6
	6H	23.6	24.1	23.9	24.4	24.8	23.6	24.1	23.9	24.4	24.8
	8H	23.6	24.1	23.9	24.4	24.8	23.6	24.1	23.9	24.4	24.8
	12H	23.6	24.0	23.9	24.4	24.8	23.6	24.0	23.9	24.4	24.8
4H	2H	23.6	24.2	23.9	24.4	24.6	23.6	24.2	23.9	24.4	24.6
	3H	23.5	24.0	23.8	24.3	24.7	23.5	24.0	23.8	24.3	24.7
	4H	23.4	23.8	23.8	24.2	24.7	23.4	23.8	23.8	24.2	24.7
	6H	23.3	23.8	23.8	24.2	24.5	23.3	23.8	23.8	24.2	24.5
	8H	23.3	23.8	23.9	24.1	24.5	23.3	23.8	23.9	24.1	24.5
	12H	23.3	23.7	23.8	24.1	24.6	23.3	23.7	23.8	24.1	24.6
8H	4H	23.3	23.7	23.8	24.0	24.4	23.3	23.7	23.8	24.0	24.4
	6H	23.3	23.6	23.8	24.0	24.5	23.3	23.6	23.8	24.0	24.5
	8H	23.4	23.6	23.9	24.1	24.7	23.4	23.6	23.9	24.1	24.7
	12H	23.4	23.6	24.0	24.1	24.7	23.4	23.6	24.0	24.1	24.7
12H	4H	23.2	23.5	23.7	23.9	24.4	23.2	23.5	23.7	23.9	24.4
	6H	23.3	23.5	23.8	24.0	24.6	23.3	23.5	23.8	24.0	24.6
	8H	23.3	23.5	23.9	24.0	24.6	23.3	23.5	23.9	24.0	24.6
Corrected glare indices referring to 1578 lm total luminous flux											