

Light efficiency:



Output: 933 lm

Light quality:

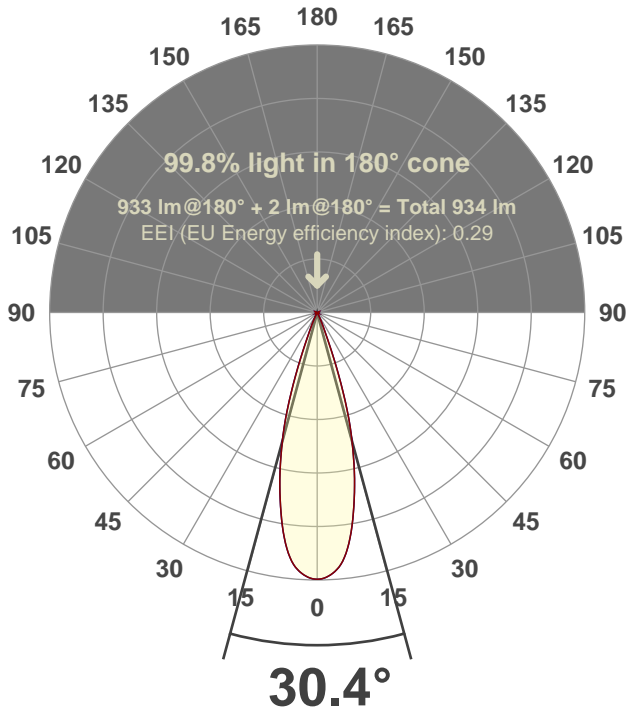


Peak: 3732 cd

Power: 21.0 W



Beam angle



Test number:

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

Luminaire Model:

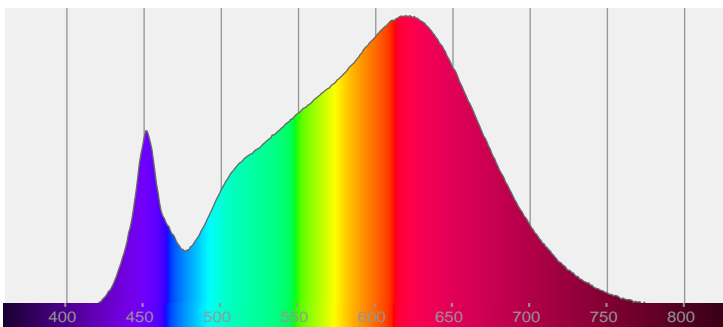
Core 4" Round Flat C20 30K 40°

Date and time:

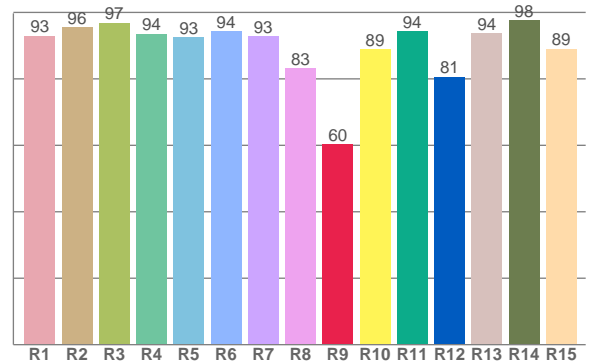
6/14/2017 5:32:31 PM

LUM: 933

Spectra



CRI: 92.7 (R1-R8)



Color parameters

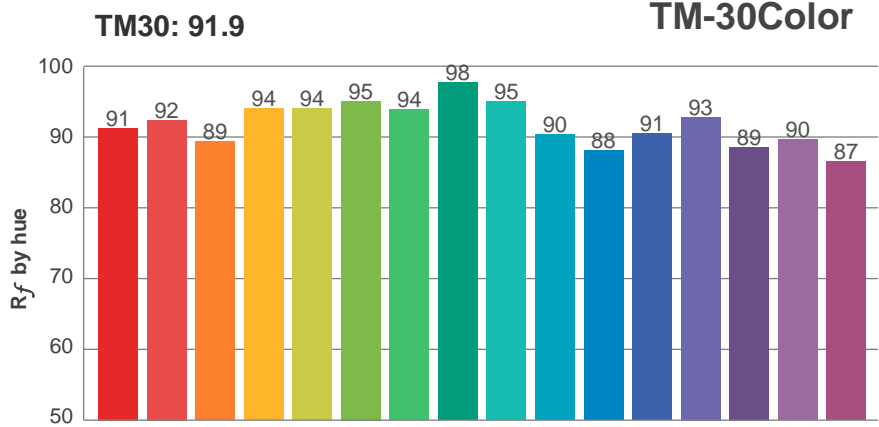
Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color deviation from black body
CRI	CRI R9	TM30 R _f	TM30 R _g	CQS	x	y	u	v	Δuv
92.7	60.3	91.9	100.2	91.0	0.428	0.401	0.247	0.346	-0.0002

R_f 91.9

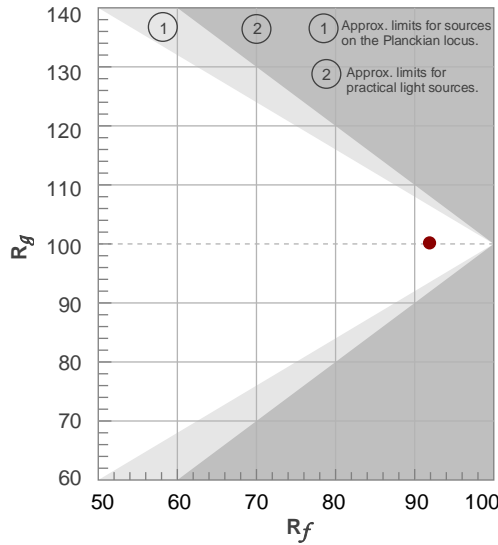
Fidelity index R_f

R_g 100.2

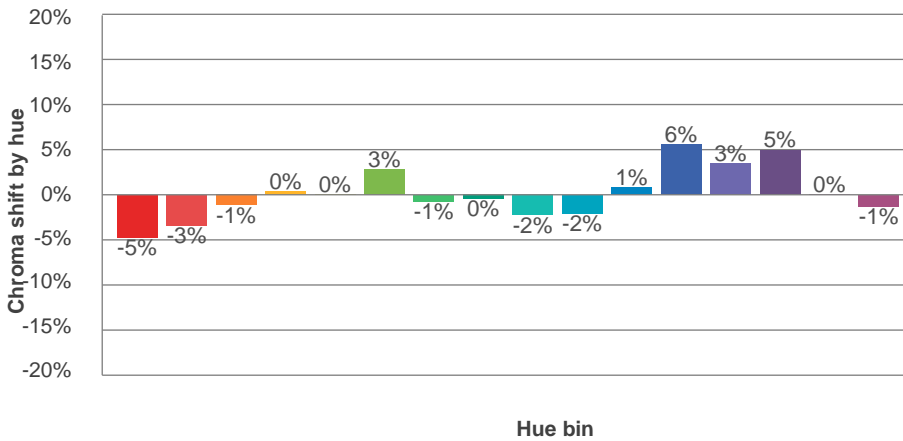
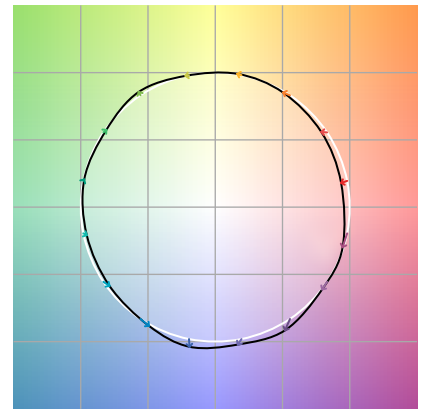
Gammut index R_g



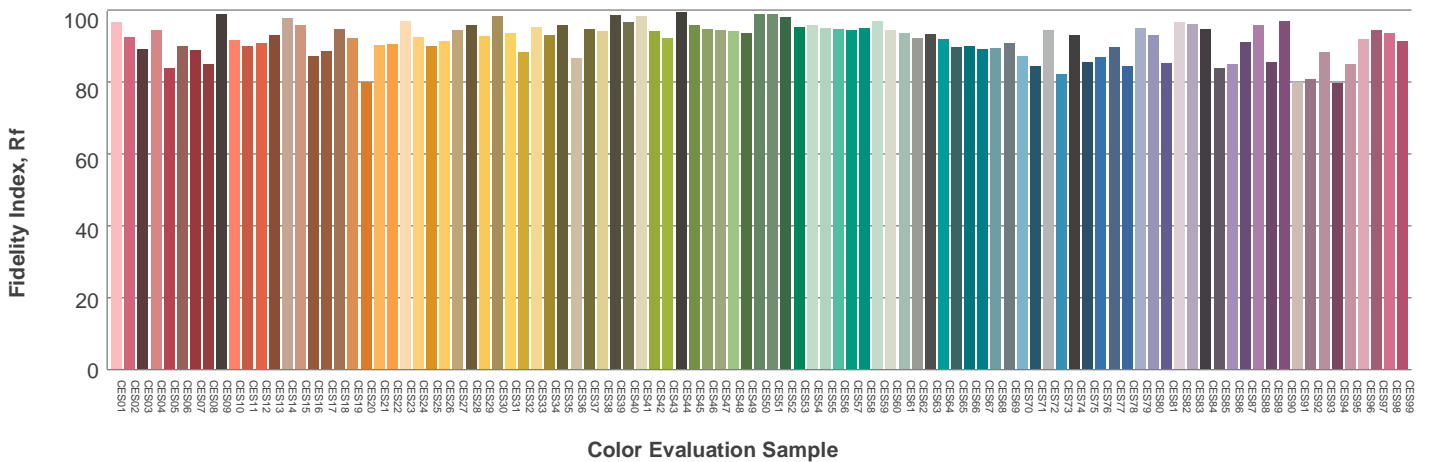
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	91	-5%	-1%
2	92	-3%	3%
3	89	-1%	5%
4	94	0%	3%
5	94	0%	3%
6	95	3%	0%
7	94	-1%	-3%
8	98	0%	-1%
9	95	-2%	2%
10	90	-2%	5%
11	88	1%	8%
12	91	6%	2%
13	93	3%	-3%
14	89	5%	-8%
15	90	0%	-7%
16	87	-1%	-11%



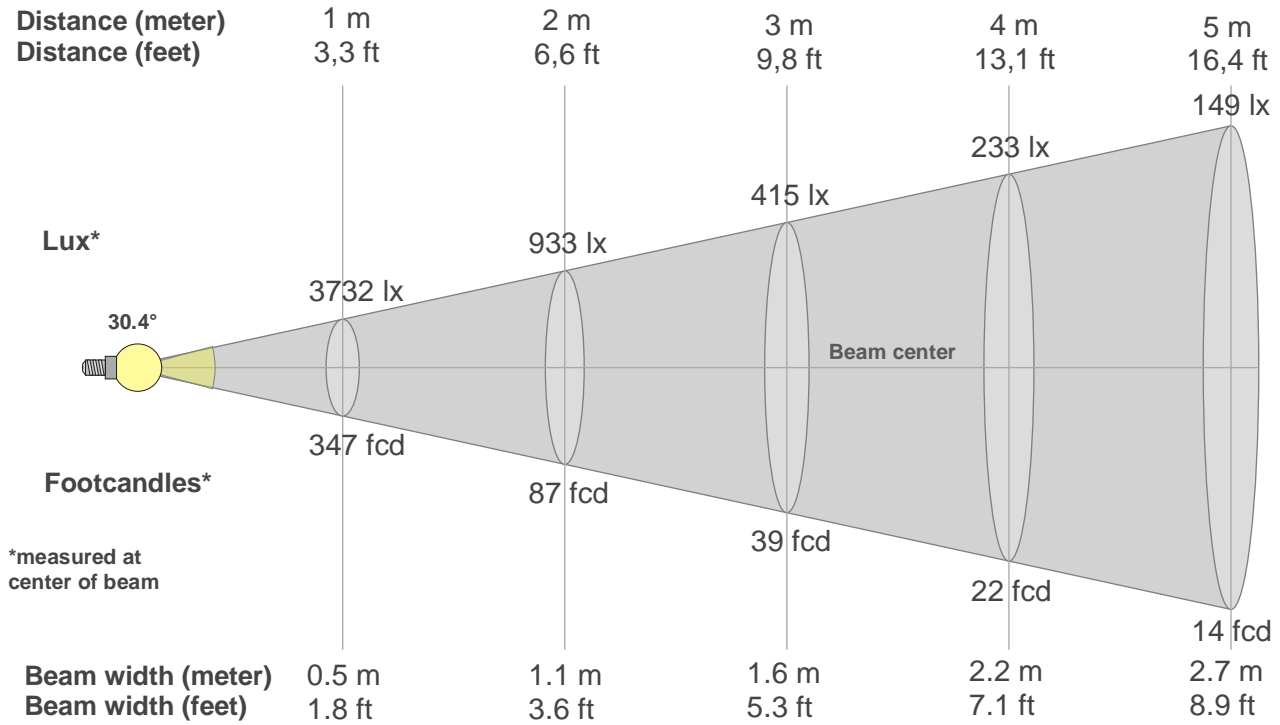
Color vector graphics



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
3732lx	933lx	415lx	233lx	149lx	104lx	76lx	58lx	46lx	37lx	31lx	26lx	22lx	19lx	17lx	15lx	13lx	12lx	10lx	9lx
346.7fc	86.7fcd	38.5fcd	21.7fcd	13.9fcd	9.6fcd	7.1fcd	5.4fcd	4.3fcd	3.5fcd	2.9fcd	2.4fcd	2.1fcd	1.8fcd	1.5fcd	1.4fcd	1.2fcd	1.1fcd	1fcd	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°
3732	3705	3627	3482	3233	2896	2519	2115	1694	1197	694	334	189	111	62	34	22	17	13	11
100%	99%	97%	93%	87%	78%	67%	57%	45%	32%	19%	9%	5%	3%	2%	1%	1%	0%	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°
3732	3705	3627	3482	3233	2896	2519	2115	1694	1197	694	334	189	111	62	34	22	17	13	11
100%	99%	97%	93%	87%	78%	67%	57%	45%	32%	19%	9%	5%	3%	2%	1%	1%	0%	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°
3732	3705	3627	3482	3233	2896	2519	2115	1694	1197	694	334	189	111	62	34	22	17	13	11
100%	99%	97%	93%	87%	78%	67%	57%	45%	32%	19%	9%	5%	3%	2%	1%	1%	0%	0%	0%

Intensities in 270° c-plane

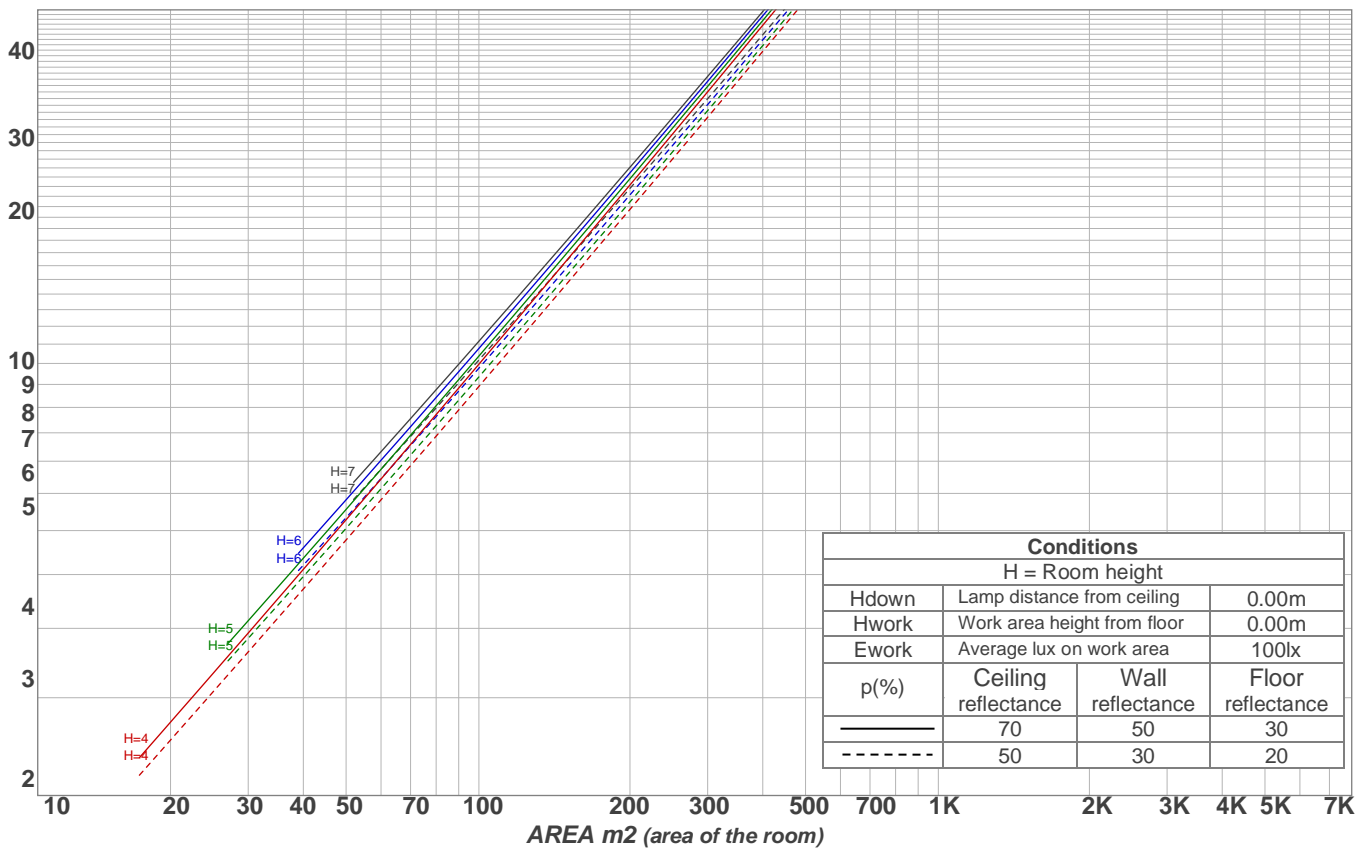
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
3732	3705	3627	3482	3233	2896	2519	2115	1694	1197	694	334	189	111	62	34	22	17	13	11
100%	99%	97%	93%	87%	78%	67%	57%	45%	32%	19%	9%	5%	3%	2%	1%	1%	0%	0%	0%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
30.4°	43.5°	53.3°	98.3%	97.9%

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	50	30	10	0
Floor reflectance	20	20	20	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	100	100	100
1	115	113	111	109	112	110	109	107	106	105	104	103	102	101	99	99	98	96	96	96	96
2	111	107	104	102	109	106	103	101	103	100	98	100	98	96	97	96	94	94	94	94	94
3	108	103	99	96	106	102	98	96	99	96	94	97	95	93	95	93	91	91	91	91	91
4	104	99	95	92	103	98	94	92	96	93	91	94	92	90	93	90	89	88	88	88	88
5	102	96	92	89	100	95	91	88	93	90	88	92	89	87	90	88	86	86	86	86	86
6	99	93	89	86	98	92	88	85	91	87	85	89	87	84	88	86	84	84	84	84	84
7	96	90	86	83	95	89	85	83	88	85	82	87	84	82	86	84	82	82	82	82	82
8	94	87	83	81	93	87	83	80	86	82	80	85	82	80	84	82	79	79	79	79	79
9	91	85	81	78	91	85	81	78	84	80	78	83	80	78	82	80	77	77	77	77	77
10	89	83	79	76	88	82	79	76	82	78	76	81	78	76	80	78	76	76	76	76	76

Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
319 lm	495 lm	87.6 lm	10.3 lm	3.90 lm	2.29 lm	3.80 lm	5.38 lm	5.31 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	14.5	14.9	14.6	15.1	15.3	14.5	14.9	14.6	15.1	15.3
	3H	18.2	18.8	18.6	18.9	19.1	18.2	18.8	18.6	18.9	19.1
	4H	20.6	21.2	21.0	21.4	21.6	20.6	21.2	21.0	21.4	21.6
	6H	23.6	24.1	23.9	24.4	24.7	23.6	24.1	23.9	24.4	24.7
	8H	25.3	25.7	25.6	26.1	26.4	25.3	25.7	25.6	26.1	26.4
	12H	27.1	27.5	27.4	27.8	28.3	27.1	27.5	27.4	27.8	28.3
4H	2H	15.5	16.1	15.9	16.3	16.5	15.5	16.1	15.9	16.3	16.5
	3H	19.8	20.2	20.1	20.5	20.9	19.8	20.2	20.1	20.5	20.9
	4H	22.3	22.6	22.7	23.1	23.6	22.3	22.6	22.7	23.1	23.6
	6H	25.3	25.8	25.8	26.1	26.5	25.3	25.8	25.8	26.1	26.5
	8H	27.1	27.5	27.6	27.8	28.2	27.1	27.5	27.6	27.8	28.2
	12H	28.9	29.2	29.4	29.6	30.1	28.9	29.2	29.4	29.6	30.1
8H	4H	23.3	23.8	23.9	24.1	24.5	23.3	23.8	23.9	24.1	24.5
	6H	26.7	26.9	27.2	27.4	27.9	26.7	26.9	27.2	27.4	27.9
	8H	28.6	28.8	29.1	29.3	30.0	28.6	28.8	29.1	29.3	30.0
	12H	30.6	30.8	31.2	31.3	31.9	30.6	30.8	31.2	31.3	31.9
12H	4H	23.7	24.0	24.2	24.4	24.9	23.7	24.0	24.2	24.4	24.9
	6H	27.2	27.4	27.7	27.9	28.5	27.2	27.4	27.7	27.9	28.5
	8H	29.2	29.4	29.8	29.9	30.5	29.2	29.4	29.8	29.9	30.5
Corrected glare indices referring to 933 lm total luminous flux											