

LM-79

Test Report

LM79-RUBY-BRACKET-7-3000K-CRI80-FLOOD

General Discription

Item number	RU-37-X-X-02-3-X	
Date and time	21-11-2016 09:06:58	
CCT (Kelvin)	3100 K	
Beam angle	63,7°	
Luminous flux	3562 lm	
Efficiency	86 lm/watt	
Weighted energy	41,6 kWh/1000h	
Power factor	0,95	
CRI (RA)	81,1	
Fidelity index Rf	Rf 82,5	
Gammut index Rg	Rg 95,6	
Peak	3662 cd	



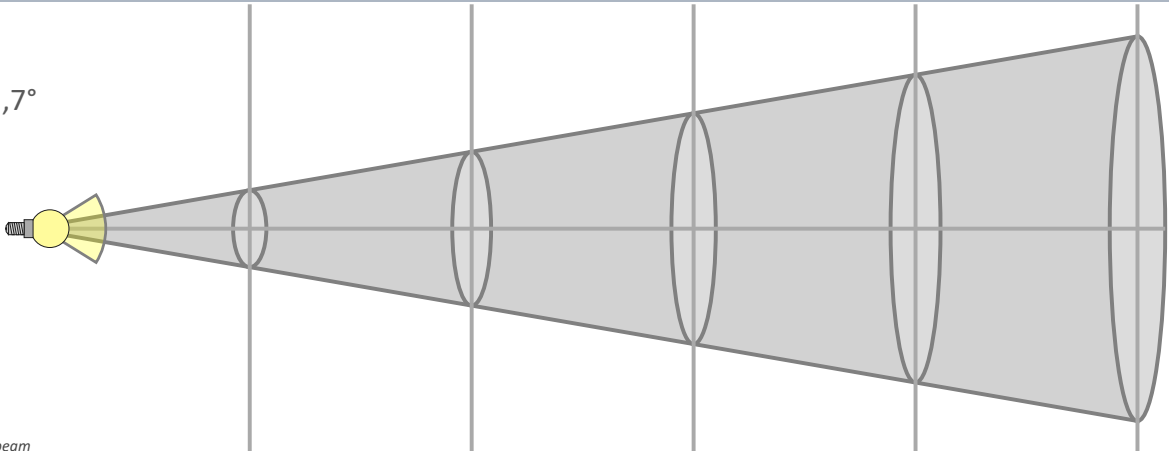
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Beam details					1m		2m		3m		4m		5m										
Lux*					3658 lx		915 lx		406 lx		229 lx		146 lx										
63,7° 																							
*measured at center of beam																							
Footcandles*					339,9 fcd		85,0 fcd		37,8 fcd		21,2 fcd		13,6 fcd										
Beam width (meter)					1,2 m		2,5 m		3,7 m		5 m		6,2 m										
Beam width (Feet)					4,1 ft		8,2 ft		12,2 ft		16,3 ft		20,4 ft										
Beam intensities																							
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m				
3658lx	915lx	406lx	229lx	146lx	102lx	75lx	57lx	45lx	37lx	30lx	25lx	22lx	19lx	16lx	14lx	13lx	11lx	10lx	9lx				
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				
339,9fcd	85fcd	37,8fcd	21,2fcd	13,6fcd	9,4fcd	6,9fcd	5,3fcd	4,2fcd	3,4fcd	2,8fcd	2,4fcd	2fcd	1,7fcd	1,5fcd	1,3fcd	1,2fcd	1fcd	0,9fcd	0,8fcd				
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°				
3658	3654	3621	3580	3515	3419	3320	3161	3001	2857	2721	2589	2463	2337	2192	2045	1824	1541	1256	965				
100%	100%	99%	98%	96%	93%	91%	86%	82%	78%	74%	71%	67%	64%	60%	56%	50%	42%	34%	26%				
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°				
3658	3662	3625	3579	3508	3406	3301	3135	2970	2823	2686	2553	2429	2306	2159	2009	1790	1513	1235	954				
100%	100%	99%	98%	96%	93%	90%	86%	81%	77%	73%	70%	66%	63%	59%	55%	49%	41%	34%	26%				
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°				
3658	3654	3621	3580	3515	3419	3320	3161	3001	2857	2721	2589	2463	2337	2192	2045	1824	1541	1256	965				
100%	100%	99%	98%	96%	93%	91%	86%	82%	78%	74%	71%	67%	64%	60%	56%	50%	42%	34%	26%				
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°				
3658	3662	3625	3579	3508	3406	3301	3135	2970	2823	2686	2553	2429	2306	2159	2009	1790	1513	1235	954				
100%	100%	99%	98%	96%	93%	90%	86%	81%	77%	73%	70%	66%	63%	59%	55%	49%	41%	34%	26%				
Beam angle 50%					Field angle 10%					Cutoff angle 2,5%					Intensity ratio in 120° cone					Intensity ratio in 90° cone			
63,7°					88,4°					112,1°					98,2%					92,8%			



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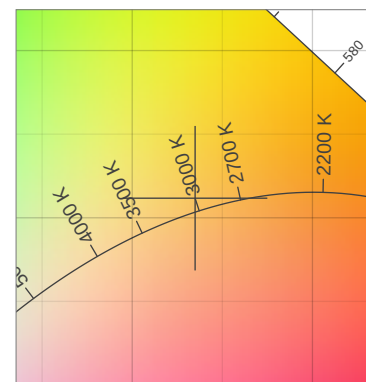
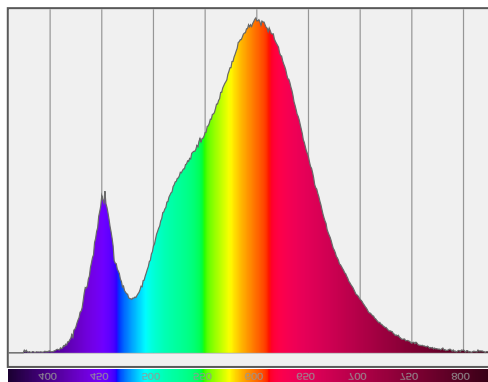
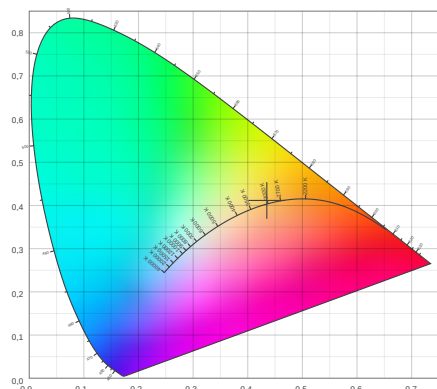
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Color details



CIE 1931

x: 0,435



Spectra

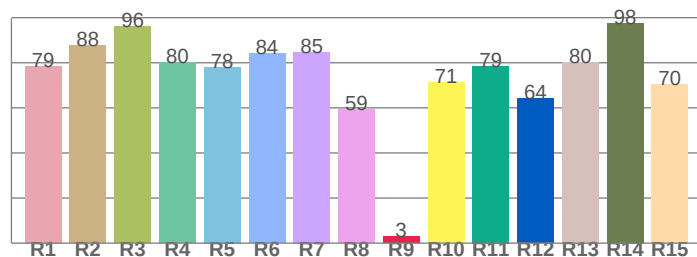
CIE 1931 ZOOM

3100 K

y: 0,412

Δuv : 0,0033

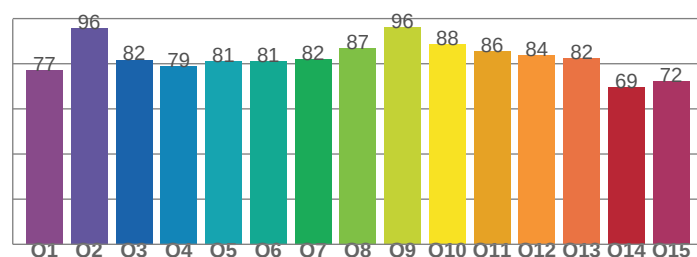
CRI: 81,1 (R1-R8)



CRI values, R1-R8 are used to calculate final CRI value

R1	R2	R3	R4	R5	R6	R7	R8
78,5	87,5	96,1	80,1	78,1	84,1	84,8	59,4
R9	R10	R11	R12	R13	R14	R15	
2,9	71,4	78,6	64,0	80,3	97,6	70,3	

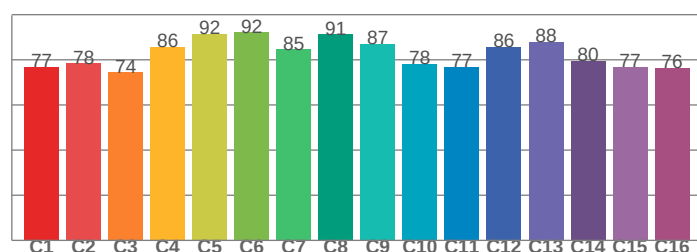
CQS: 81,3



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
77,2	95,8	81,7	78,8	81,1	81,0	82,1	86,9
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
96,1	88,5	85,7	83,6	82,3	69,4	72,2	

TM30: 82,5



TM30 values, 16 binned values out of total of 99 values

C1	C2	C3	C4	C5	C6	C7	C8
76,8	78,3	74,4	85,6	91,5	92,1	84,5	91,3
C9	C10	C11	C12	C13	C14	C15	
87,1	78,2	76,9	85,6	87,9	79,6	76,7	

Color parameters

Color temperature	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
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
3100 K	81,1	2,9	82,5	95,6	81,3	0,435	0,412	0,246	0,349	0,0033



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TM30 details

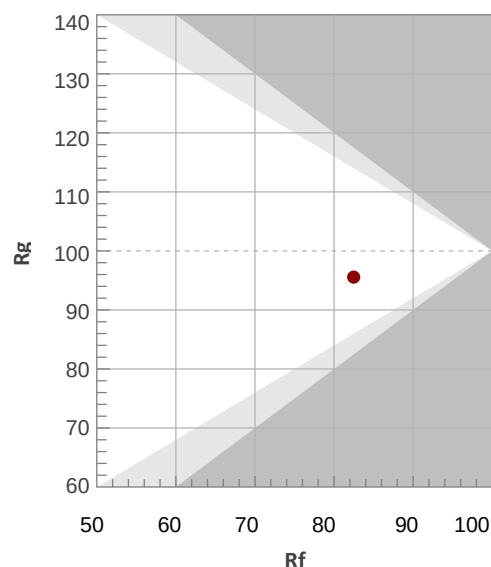
Rf 82,5

Fidelity index Rf

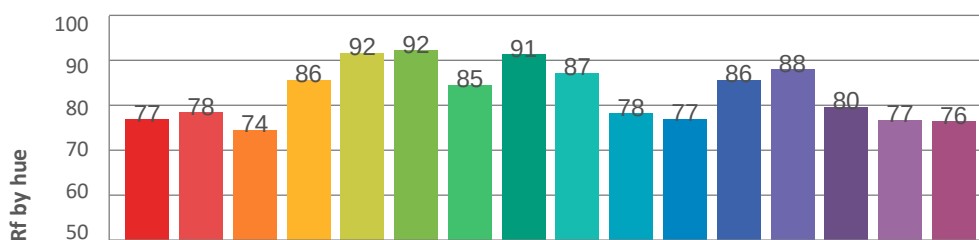
Rg 95,6

Gamut index Rg

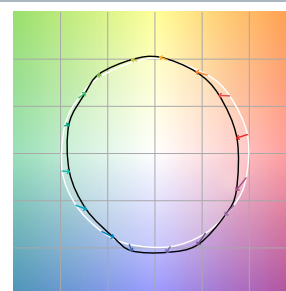
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	77	-12%	-1%
2	78	-9%	7%
3	74	-4%	11%
4	86	1%	8%
5	92	2%	5%
6	92	3%	-2%
7	85	-3%	-8%
8	91	-4%	-2%
9	87	-7%	2%
10	78	-7%	9%
11	77	-2%	14%
12	86	6%	4%
13	88	5%	-5%
14	80	6%	-14%
15	77	-2%	-13%
16	76	-8%	-15%



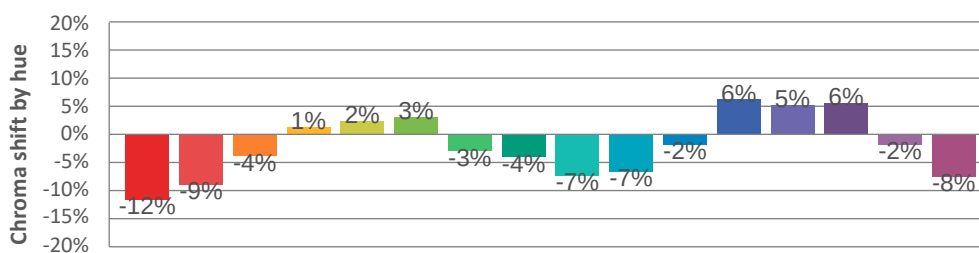
Hue binH



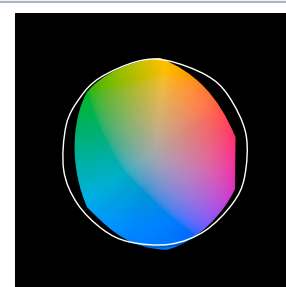
Color vector graphics



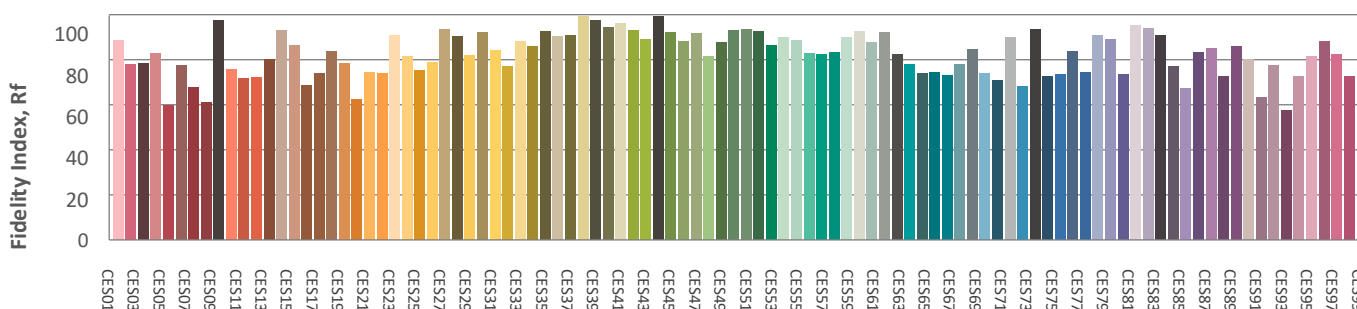
Hue bin



Color distortion graphics



Color Evaluation Sample



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Glare Evaluation According to 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	22,4	23,2	22,7	23,4	23,6	22,4	23,2	22,7	23,4	23,6
	3H	22,3	23,0	22,6	23,3	23,5	22,3	23,0	22,6	23,3	23,5
	4H	22,3	22,9	22,6	23,2	23,4	22,3	22,9	22,6	23,2	23,4
	6H	22,2	22,8	22,5	23,1	23,4	22,2	22,8	22,5	23,1	23,4
	8H	22,2	22,7	22,5	23,0	23,3	22,2	22,7	22,5	23,0	23,3
	12H	22,1	22,7	22,5	23,0	23,3	22,1	22,7	22,5	23,0	23,3
4H	2H	22,3	22,9	22,6	23,2	23,5	22,3	22,9	22,6	23,2	23,5
	3H	22,2	22,7	22,6	23,0	23,4	22,2	22,7	22,6	23,0	23,4
	4H	22,1	22,6	22,5	22,9	23,3	22,1	22,6	22,5	22,9	23,3
	6H	22,1	22,4	22,5	22,8	23,2	22,1	22,4	22,5	22,8	23,2
	8H	22,0	22,4	22,5	22,8	23,2	22,0	22,4	22,5	22,8	23,2
	12H	22,0	22,3	22,4	22,7	23,1	22,0	22,3	22,4	22,7	23,1
8H	4H	22,0	22,4	22,5	22,8	23,2	22,0	22,4	22,5	22,8	23,2
	6H	21,9	22,2	22,4	22,6	23,1	21,9	22,2	22,4	22,6	23,1
	8H	21,9	22,1	22,4	22,6	23,1	21,9	22,1	22,4	22,6	23,1
	12H	21,9	22,0	22,4	22,5	23,0	21,9	22,0	22,4	22,5	23,0
12H	4H	22,0	22,3	22,4	22,7	23,1	22,0	22,3	22,4	22,7	23,1
	6H	21,9	22,1	22,4	22,6	23,1	21,9	22,1	22,4	22,6	23,1
	8H	21,9	22,0	22,4	22,5	23,0	21,9	22,0	22,4	22,5	23,0
Variation of the observer position for the luminaire distance S											
S = 1,0H		+4,1 / -6,2					+4,1 / -6,2				
S = 1,5H		+6,8 / -8,5					+6,8 / -8,5				
S = 2,0H		+8,8 / -11,4					+8,8 / -11,4				
Standard table		BK00					BK00				
Correction summand		3,9					3,9				
Corrected glare indices referring to 3562lm total luminous flux											

