

LM-79

Test Report

LM79-RUBY-BRACKET-6-3000K-CRI80-MEDIUM

General Discription

Item number	RU-36-X-X-02-2-X	
Date and time	18-11-2016 14:33:38	
CCT (Kelvin)	2701 K	
Beam angle	49,3°	
Luminous flux	1950 lm	
Efficiency	68 lm/watt	
Weighted energy	28,5 kWh/1000h	
Power factor	0,99	
CRI (RA)	98,1	
Fidelity index Rf	Rf 95,5	
Gammut index Rg	Rg 102,1	
Peak	2506 cd	



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Beam details	1m	2m	3m	4m	5m																			
Lux*	2505 lx	626 lx	278 lx	157 lx	100 lx																			
<i>*measured at center of beam</i>																								
Footcandles*	232,7 fcd	58,2 fcd	25,9 fcd	14,5 fcd	9,3 fcd																			
Beam width (meter)	0,9 m	1,8 m	2,8 m	3,7 m	4,6 m																			
Beam width (Feet)	3 ft	6 ft	9 ft	12 ft	15 ft																			
Beam intensities																								
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m					
2505lx	626lx	278lx	157lx	100lx	70lx	51lx	39lx	31lx	25lx	21lx	17lx	15lx	13lx	11lx	10lx	9lx	8lx	7lx	6lx					
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					
232,7fcd	58,2fcd	25,9fcd	14,5fcd	9,3fcd	6,5fcd	4,7fcd	3,6fcd	2,9fcd	2,3fcd	1,9fcd	1,6fcd	1,4fcd	1,2fcd	1fcd	0,9fcd	0,8fcd	0,7fcd	0,6fcd	0,6fcd					
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°					
2505	2503	2503	2493	2474	2446	2323	2200	2034	1842	1654	1481	1308	1178	1064	954	855	756	617	469					
100%	100%	100%	100%	99%	98%	93%	88%	81%	74%	66%	59%	52%	47%	42%	38%	34%	30%	25%	19%					
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°					
2505	2506	2506	2495	2474	2444	2319	2195	2028	1835	1645	1473	1301	1171	1059	951	853	756	617	467					
100%	100%	100%	100%	99%	98%	93%	88%	81%	73%	66%	59%	52%	47%	42%	38%	34%	30%	25%	19%					
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°					
2505	2503	2503	2493	2474	2446	2323	2200	2034	1842	1654	1481	1308	1178	1064	954	855	756	617	469					
100%	100%	100%	100%	99%	98%	93%	88%	81%	74%	66%	59%	52%	47%	42%	38%	34%	30%	25%	19%					
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°					
2505	2506	2506	2495	2474	2444	2319	2195	2028	1835	1645	1473	1301	1171	1059	951	853	756	617	467					
100%	100%	100%	100%	99%	98%	93%	88%	81%	73%	66%	59%	52%	47%	42%	38%	34%	30%	25%	19%					
Beam angle 50%					Field angle 10%					Cutoff angle 2,5%					Intensity ratio in 120° cone					Intensity ratio in 90° cone				
49,3°					83,3°					96,4°					98,8%					96,2%				



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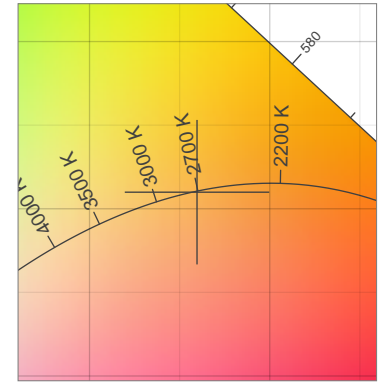
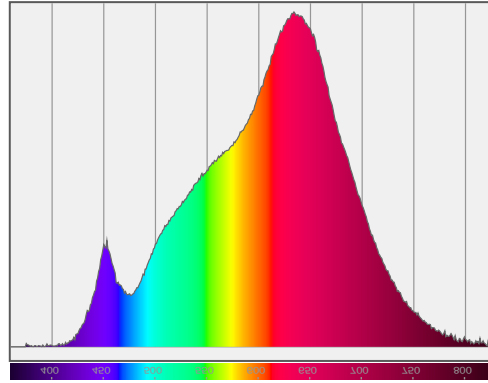
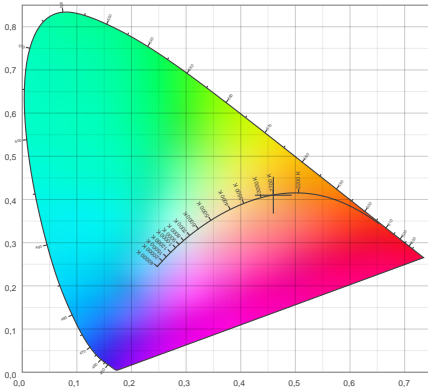
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Color details



CIE 1931

x: 0,460



Spectra

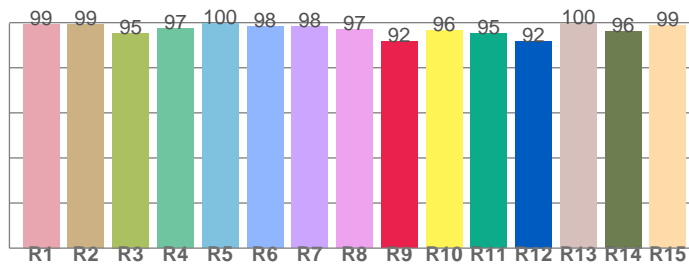
CIE 1931 ZOOM

2701 K

y: 0,410

Δuv : 0,0003

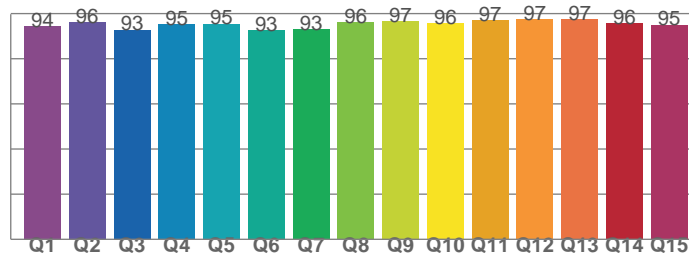
CRI: 98,1 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
99,4	99,2	95,4	97,3	99,6	98,4	98,2	97,0
R9	R10	R11	R12	R13	R14	R15	
91,6	96,4	95,2	91,8	99,7	96,3	98,7	

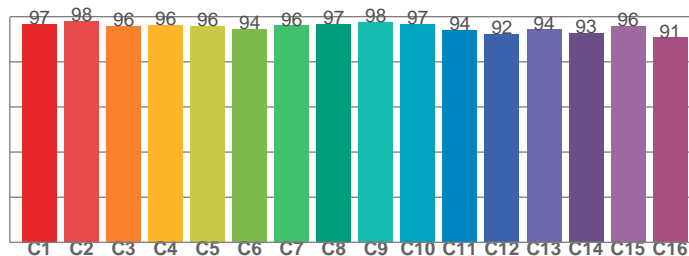
CQS: 94,9



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
94,5	96,2	92,8	95,1	95,5	92,8	93,0	96,0
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
96,6	95,8	96,9	97,5	97,4	95,5	95,0	

TM30: 95,5



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

C1	C2	C3	C4	C5	C6	C7	C8
96,8	98,2	96,0	96,3	95,9	94,5	96,0	96,6
C9	C10	C11	C12	C13	C14	C15	
97,5	96,6	94,2	92,4	94,4	92,8	96,0	

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
2701 K	98,1	91,6	95,5	102,1	94,9	0,460	0,410	0,263	0,351	0,0003



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TM30 details

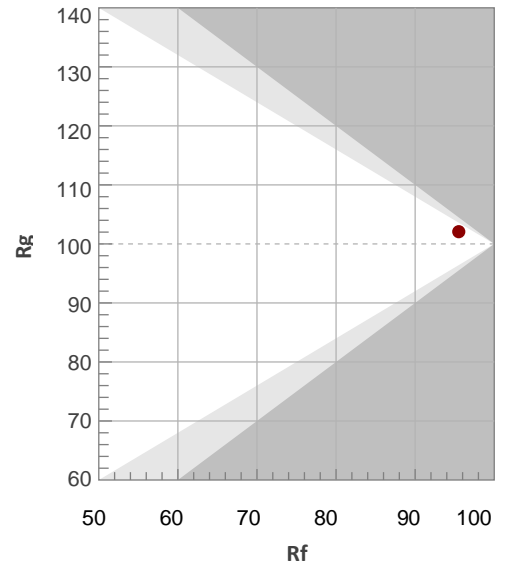
Rf 95,5

Fidelity index Rf

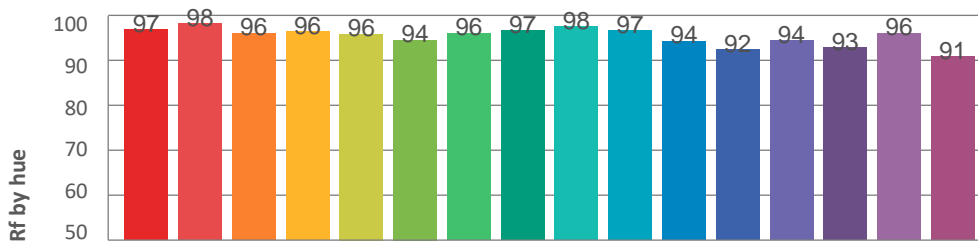
Rg 102,1

Gamut index Rg

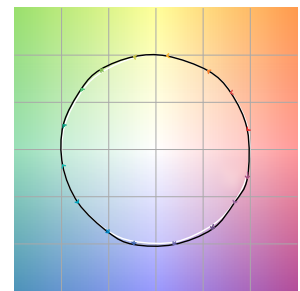
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	97	-1%	-1%
2	98	0%	0%
3	96	0%	2%
4	96	0%	1%
5	96	1%	2%
6	94	3%	2%
7	96	2%	-1%
8	97	2%	-1%
9	98	0%	0%
10	97	0%	1%
11	94	1%	3%
12	92	3%	0%
13	94	2%	-3%
14	93	3%	-4%
15	96	0%	-2%
16	91	1%	-6%



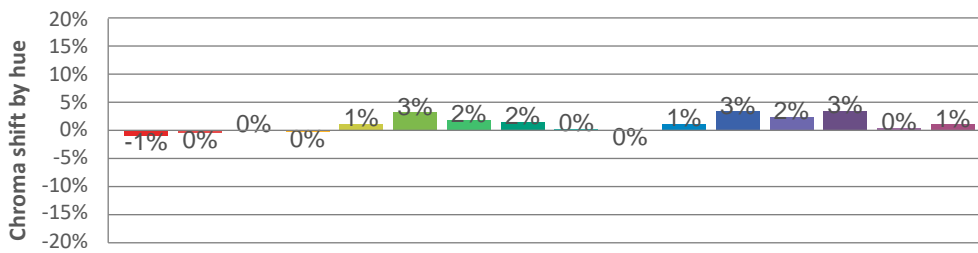
Hue binH



Color vector graphics



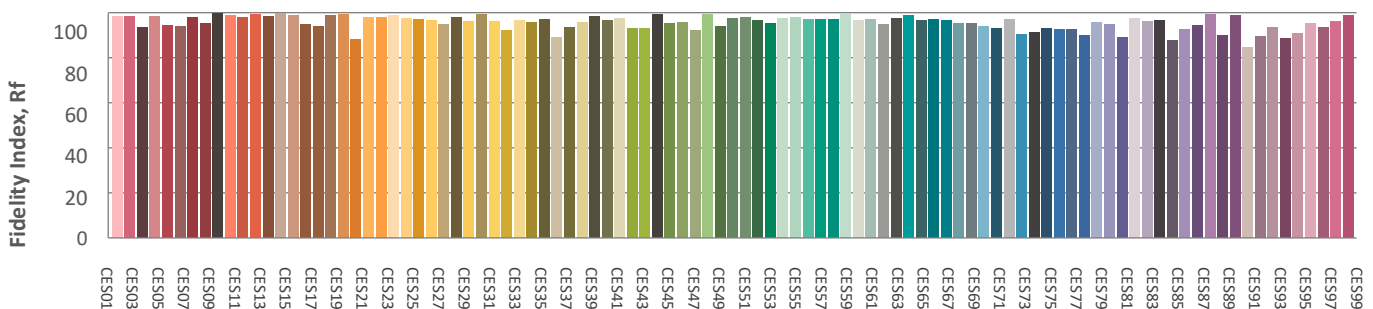
Hue bin



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	18,9	19,6	19,2	19,8	20,0	18,9	19,6	19,2	19,8	20,0
	3H	18,8	19,4	19,1	19,7	19,9	18,8	19,4	19,1	19,7	19,9
	4H	18,7	19,3	19,0	19,6	19,9	18,7	19,3	19,0	19,6	19,9
	6H	18,7	19,2	19,0	19,5	19,8	18,7	19,2	19,0	19,5	19,8
	8H	18,6	19,1	19,0	19,4	19,8	18,6	19,1	19,0	19,4	19,8
	12H	18,6	19,1	18,9	19,4	19,7	18,6	19,1	18,9	19,4	19,7
4H	2H	18,7	19,3	19,1	19,6	19,9	18,7	19,3	19,1	19,6	19,9
	3H	18,6	19,1	19,0	19,4	19,7	18,6	19,1	19,0	19,4	19,7
	4H	18,5	19,0	18,9	19,3	19,7	18,5	19,0	18,9	19,3	19,7
	6H	18,5	18,8	18,9	19,2	19,6	18,5	18,8	18,9	19,2	19,6
	8H	18,4	18,7	18,8	19,1	19,5	18,4	18,7	18,8	19,1	19,5
	12H	18,4	18,7	18,8	19,1	19,5	18,4	18,7	18,8	19,1	19,5
8H	4H	18,4	18,7	18,8	19,1	19,5	18,4	18,7	18,8	19,1	19,5
	6H	18,3	18,6	18,8	19,0	19,5	18,3	18,6	18,8	19,0	19,5
	8H	18,3	18,5	18,8	18,9	19,4	18,3	18,5	18,8	18,9	19,4
	12H	18,2	18,4	18,7	18,9	19,4	18,2	18,4	18,7	18,9	19,4
12H	4H	18,4	18,6	18,8	19,1	19,5	18,4	18,6	18,8	19,1	19,5
	6H	18,3	18,5	18,8	18,9	19,4	18,3	18,5	18,8	18,9	19,4
	8H	18,2	18,4	18,7	18,9	19,4	18,2	18,4	18,7	18,9	19,4
Variation of the observer position for the luminaire distance S											
S = 1,0H	+4,5 / -10,7					+4,5 / -10,7					
S = 1,5H	+7,3 / -13,3					+7,3 / -13,3					
S = 2,0H	+9,3 / -15,5					+9,3 / -15,5					
Standard table	BK00					BK00					
Correction summand	0,3					0,3					
Corrected glare indices referring to 1950lm total luminous flux											



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