

LM-79

Test Report

LM79-RUBY-BRACKET-8-2700K-CRI80-MEDIUM-1210

General Description

Item number	RU-38-X-X-01-2-X
Date and time	21-11-2016 10:39:10
CCT (Kelvin)	2706 K
Beam angle	49,9°
Luminous flux	5206 lm
Efficiency	91 lm/watt
Weighted energy	57,0 kWh/1000h
Power factor	0,98
CRI (RA)	81,0
Fidelity index Rf	Rf 81,9
Gammut index Rg	Rg 96,1
Peak	6666 cd



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Beam details	1m	2m	3m	4m	5m																			
Lux*	6655 lx	1664 lx	739 lx	416 lx	266 lx																			
<i>*measured at center of beam</i>																								
Footcandles*	618,3 fcd	154,6 fcd	68,7 fcd	38,6 fcd	24,7 fcd																			
Beam width (meter)	0,9 m	1,9 m	2,8 m	3,7 m	4,7 m																			
Beam width (Feet)	3,1 ft	6,1 ft	9,2 ft	12,2 ft	15,3 ft																			
Beam intensities																								
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m					
6655lx	1664lx	739lx	416lx	266lx	185lx	136lx	104lx	82lx	67lx	55lx	46lx	39lx	34lx	30lx	26lx	23lx	21lx	18lx	17lx					
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					
618,3fcd	154,6fcd	68,7fcd	38,6fcd	24,7fcd	17,2fcd	12,6fcd	9,7fcd	7,6fcd	6,2fcd	5,1fcd	4,3fcd	3,7fcd	3,2fcd	2,7fcd	2,4fcd	2,1fcd	1,9fcd	1,7fcd	1,5fcd					
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°					
6655	6644	6633	6618	6564	6386	6208	5834	5388	4927	4417	3906	3507	3152	2817	2560	2302	1980	1631	1282					
100%	100%	100%	99%	99%	96%	93%	88%	81%	74%	66%	59%	53%	47%	42%	38%	35%	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°					
6655	6666	6647	6603	6541	6479	6149	5816	5403	4905	4407	3964	3524	3151	2855	2559	2273	1987	1657	1273					
100%	100%	100%	99%	98%	97%	92%	87%	81%	74%	66%	60%	53%	47%	43%	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°					
6655	6644	6633	6618	6564	6386	6208	5834	5388	4927	4417	3906	3507	3152	2817	2560	2302	1980	1631	1282					
100%	100%	100%	99%	99%	96%	93%	88%	81%	74%	66%	59%	53%	47%	42%	38%	35%	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°					
6655	6666	6647	6603	6541	6479	6149	5816	5403	4905	4407	3964	3524	3151	2855	2559	2273	1987	1657	1273					
100%	100%	100%	99%	98%	97%	92%	87%	81%	74%	66%	60%	53%	47%	43%	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				
49,9°					83,4°					96,6°					99,0%					96,4%				



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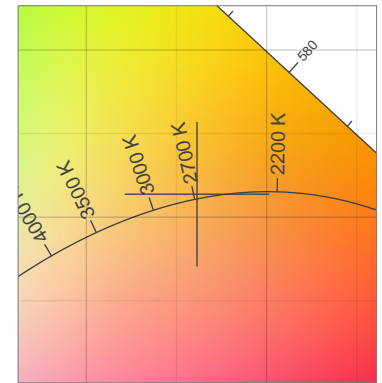
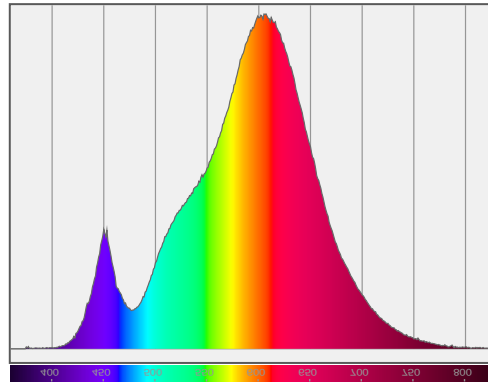
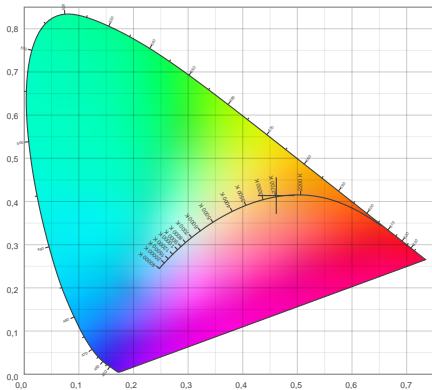
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Color details



CIE 1931

x: 0,461



Spectra

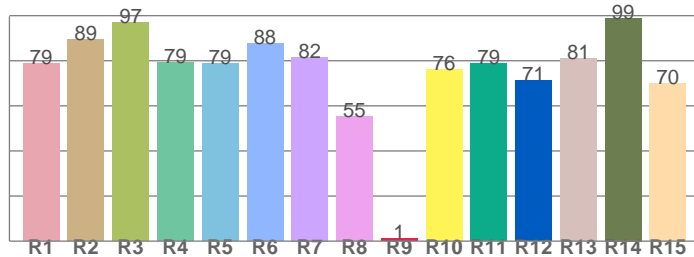
CIE 1931 ZOOM

2706 K

y: 0,414

Δuv : 0,0010

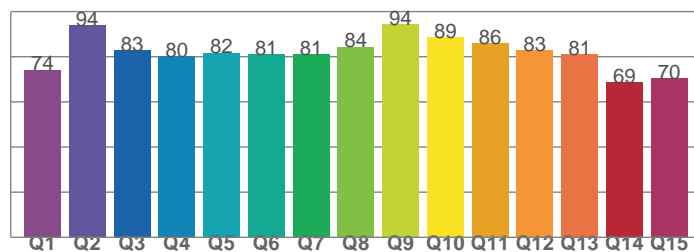
CRI: **81,0** (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
78,8	89,3	97,0	79,3	78,7	87,7	81,6	55,4
R9	R10	R11	R12	R13	R14	R15	
1,2	76,4	78,8	71,2	81,1	98,9	70,0	

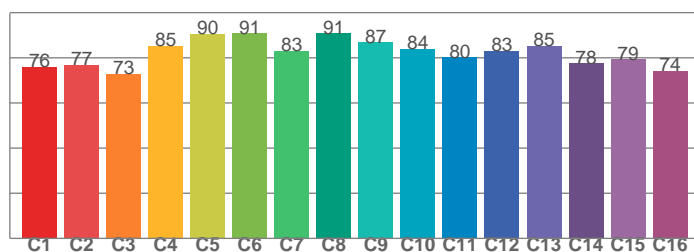
CQS: **80,6**



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
74,2	94,0	83,0	80,3	81,8	81,0	81,0	84,4
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
94,5	88,6	85,8	82,8	81,2	68,7	70,5	

TM30: **81,9**



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

C1	C2	C3	C4	C5	C6	C7	C8
75,9	76,9	72,7	85,2	90,4	90,9	83,1	90,8
C9	C10	C11	C12	C13	C14	C15	
86,8	83,9	80,1	82,9	85,3	77,6	79,3	

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
2706 K	81,0	1,2	81,9	96,1	80,6	0,461	0,414	0,262	0,353	0,0010



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TM30 details

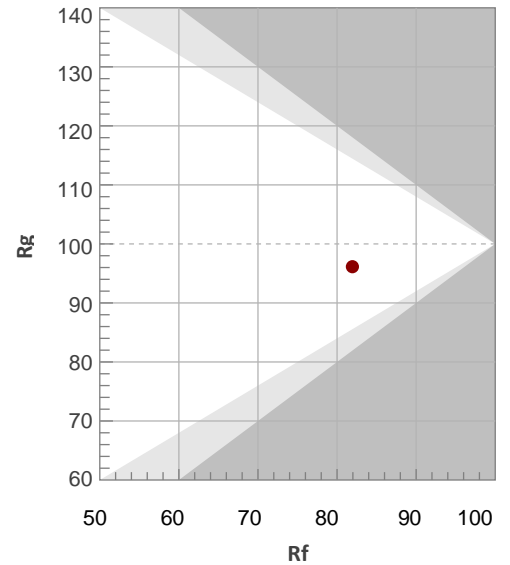
Rf 81,9

Fidelity index Rf

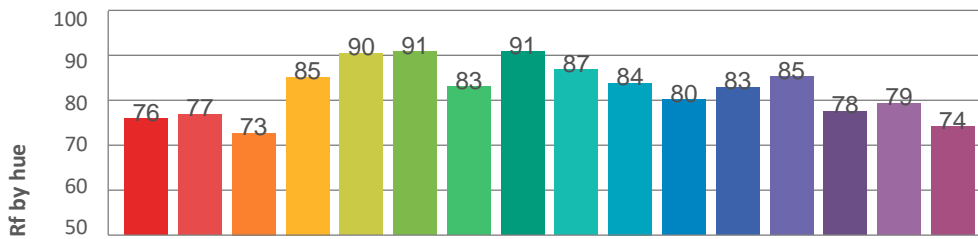
Rg 96,1

Gamut index Rg

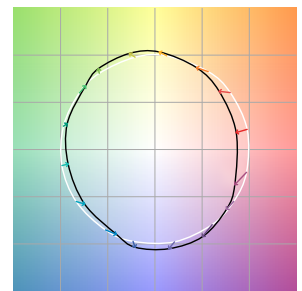
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	76	-12%	-1%
2	77	-9%	8%
3	73	-3%	13%
4	85	3%	9%
5	90	5%	5%
6	91	5%	-2%
7	83	-1%	-10%
8	91	-3%	-3%
9	87	-7%	0%
10	84	-6%	7%
11	80	-3%	12%
12	83	6%	3%
13	85	6%	-7%
14	78	5%	-16%
15	79	-2%	-11%
16	74	-10%	-15%



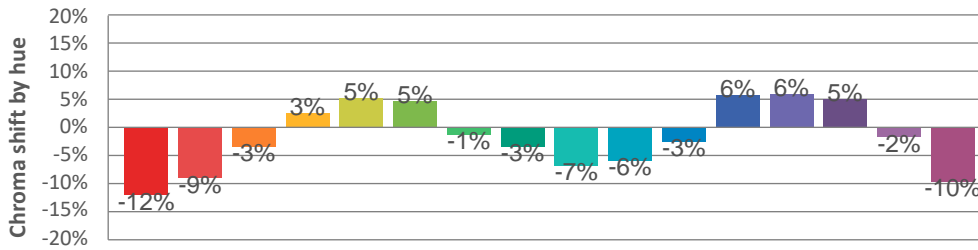
Hue binH



Color vector graphics



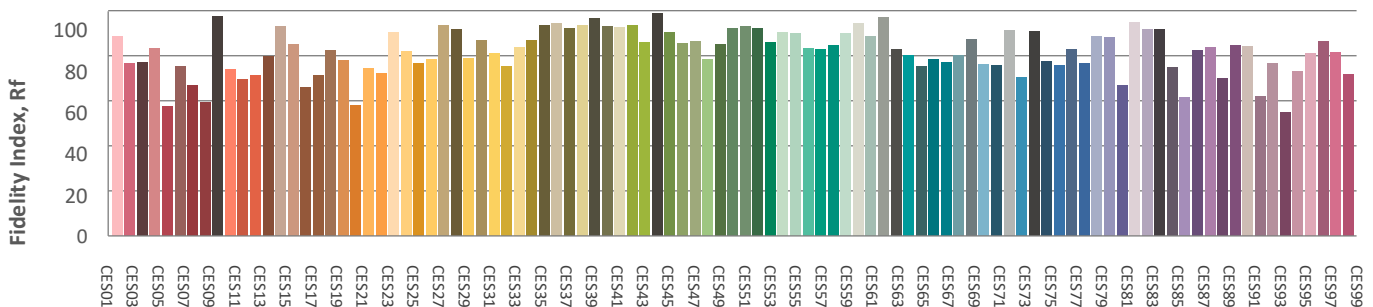
Hue bin



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	22,3	23,0	22,6	23,2	23,4	22,3	23,0	22,6	23,2	23,4
	3H	22,2	22,8	22,5	23,1	23,3	22,2	22,8	22,5	23,1	23,3
	4H	22,1	22,7	22,4	23,0	23,3	22,1	22,7	22,4	23,0	23,3
	6H	22,1	22,6	22,4	22,9	23,2	22,1	22,6	22,4	22,9	23,2
	8H	22,0	22,5	22,4	22,8	23,2	22,0	22,5	22,4	22,8	23,2
	12H	22,0	22,5	22,3	22,8	23,1	22,0	22,5	22,3	22,8	23,1
4H	2H	22,1	22,7	22,5	23,0	23,3	22,1	22,7	22,5	23,0	23,3
	3H	22,0	22,5	22,4	22,8	23,1	22,0	22,5	22,4	22,8	23,1
	4H	21,9	22,4	22,3	22,7	23,0	21,9	22,4	22,3	22,7	23,0
	6H	21,9	22,2	22,3	22,6	23,0	21,9	22,2	22,3	22,6	23,0
	8H	21,8	22,1	22,2	22,5	22,9	21,8	22,1	22,2	22,5	22,9
	12H	21,8	22,0	22,2	22,5	22,9	21,8	22,0	22,2	22,5	22,9
8H	4H	21,8	22,1	22,2	22,5	22,9	21,8	22,1	22,2	22,5	22,9
	6H	21,7	22,0	22,2	22,4	22,9	21,7	22,0	22,2	22,4	22,9
	8H	21,7	21,9	22,2	22,3	22,8	21,7	21,9	22,2	22,3	22,8
	12H	21,6	21,8	22,1	22,3	22,8	21,6	21,8	22,1	22,3	22,8
12H	4H	21,8	22,0	22,2	22,5	22,9	21,8	22,0	22,2	22,5	22,9
	6H	21,7	21,9	22,2	22,3	22,8	21,7	21,9	22,2	22,3	22,8
	8H	21,6	21,8	22,1	22,3	22,8	21,6	21,8	22,1	22,3	22,8

Variation of the observer position for the luminaire distance S

S = 1,0H	+4,6 / -10,9	+4,6 / -10,9
S = 1,5H	+7,4 / -14,0	+7,4 / -14,0
S = 2,0H	+9,4 / -17,3	+9,4 / -17,3
Standard table	BK00	BK00
Correction summand	3,7	3,7

Corrected glare indices referring to 5206lm total luminous flux



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