

LM-79

Test Report

LM79-RUBY-BRACKET-5-3000K-CRI80-MEDIUM

General Discription

Item number	RU-35-X-X-02-2-X	
Date and time	10-3-2017 15:43:47	
CCT (Kelvin)	3055 K	
Beam angle	45,4°	
Luminous flux	1973 lm	
Efficiency	96 lm/watt	
Weighted energy	20,5 kWh/1000h	
Power factor	0,89	
CRI (RA)	82,1	
Fidelity index Rf	Rf 83,3	
Gammut index Rg	Rg 95,9	
Peak	2802 cd	



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Beam details					1m		2m		3m		4m		5m						
Lux*					2802 lx		701 lx		311 lx		175 lx		112 lx						
45,4°																			
*measured at center of beam																			
Footcandles*					260,3 fcd		65,1 fcd		28,9 fcd		16,3 fcd		10,4 fcd						
Beam width (meter)					0,8 m		1,7 m		2,5 m		3,3 m		4,2 m						
Beam width (Feet)					2,7 ft		5,5 ft		8,2 ft		11 ft		13,7 ft						
Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
2802lx	701lx	311lx	175lx	112lx	78lx	57lx	44lx	35lx	28lx	23lx	19lx	17lx	14lx	12lx	11lx	10lx	9lx	8lx	7lx
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
260,3fcd	65,1fcd	28,9fcd	16,3fcd	10,4fcd	7,2fcd	5,3fcd	4,1fcd	3,2fcd	2,6fcd	2,2fcd	1,8fcd	1,5fcd	1,3fcd	1,2fcd	1fcd	0,9fcd	0,8fcd	0,7fcd	0,7fcd
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°
2802	2802	2776	2740	2683	2555	2428	2244	2040	1839	1651	1463	1322	1198	1082	993	904	774	626	478
100%	100%	99%	98%	96%	91%	87%	80%	73%	66%	59%	52%	47%	43%	39%	35%	32%	28%	22%	17%
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°
2802	2802	2776	2740	2683	2555	2428	2244	2040	1839	1651	1463	1322	1198	1082	993	904	774	626	478
100%	100%	99%	98%	96%	91%	87%	80%	73%	66%	59%	52%	47%	43%	39%	35%	32%	28%	22%	17%
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°
2802	2802	2776	2740	2683	2555	2428	2244	2040	1839	1651	1463	1322	1198	1082	993	904	774	626	478
100%	100%	99%	98%	96%	91%	87%	80%	73%	66%	59%	52%	47%	43%	39%	35%	32%	28%	22%	17%
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°
2802	2802	2776	2740	2683	2555	2428	2244	2040	1839	1651	1463	1322	1198	1082	993	904	774	626	478
100%	100%	99%	98%	96%	91%	87%	80%	73%	66%	59%	52%	47%	43%	39%	35%	32%	28%	22%	17%
Beam angle 50%				Field angle 10%				Cutoff angle 2,5%				Intensity ratio in 120° cone				Intensity ratio in 90° cone			
45,4°				81,3°				93,9°				99,4%				97,2%			



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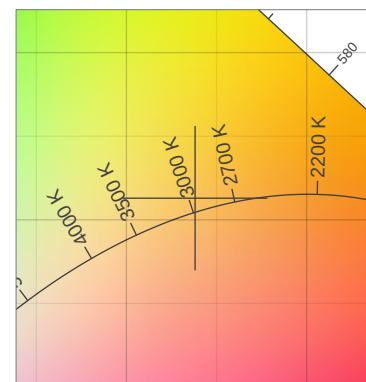
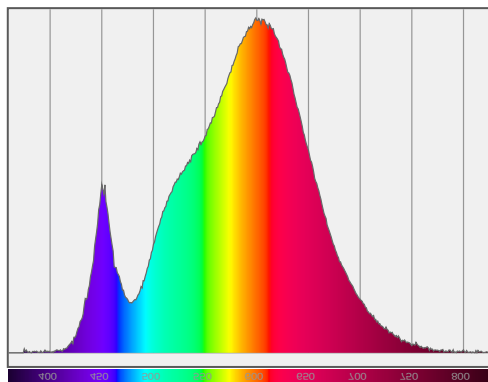
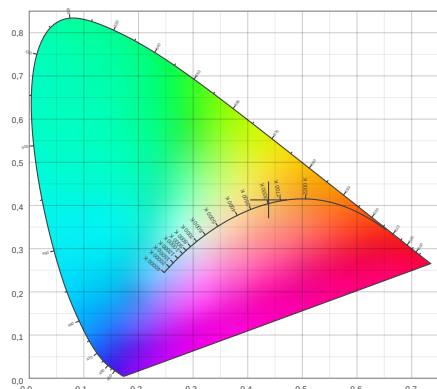
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Color details



CIE 1931

x: 0,438

3055 K

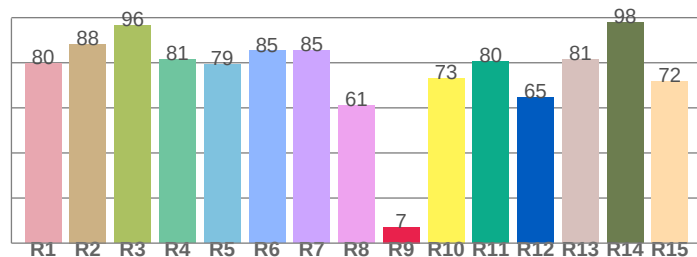
y: 0,413

Spectra

CIE 1931 ZOOM

Δuv : 0,0033

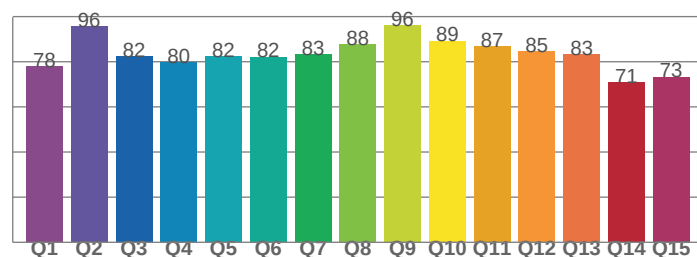
CRI: 82,1 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
79,8	88,3	96,5	81,4	79,3	85,3	85,3	60,9
R9	R10	R11	R12	R13	R14	R15	
7,2	73,2	80,4	64,9	81,5	97,8	71,7	

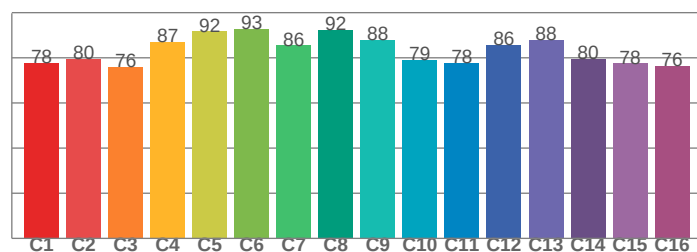
CQS: 82,2



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
78,0	95,6	82,4	79,9	82,3	82,2	83,3	87,6
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
96,2	89,3	86,7	84,7	83,4	70,7	73,4	

TM30: 83,3



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

C1	C2	C3	C4	C5	C6	C7	C8
77,9	79,6	76,0	87,0	91,7	92,7	85,5	92,3
C9	C10	C11	C12	C13	C14	C15	
87,8	79,1	77,8	85,7	87,9	79,6	77,5	

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
3055 K	82,1	7,2	83,3	95,9	82,2	0,438	0,413	0,248	0,350	0,0033



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TM30 details

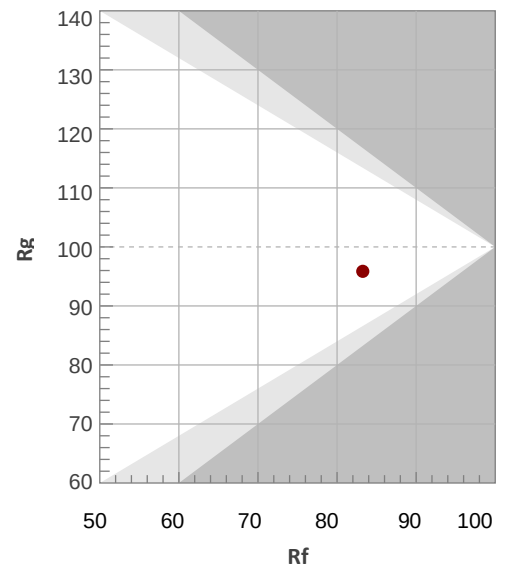
Rf 83,3

Fidelity index Rf

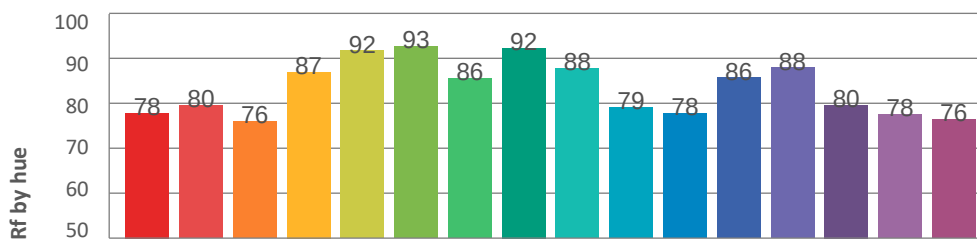
Rg 95,9

Gamut index Rg

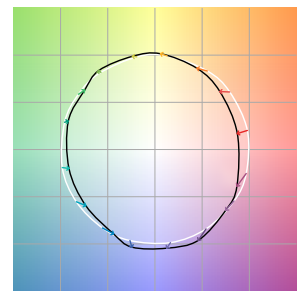
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	78	-11%	-1%
2	80	-8%	6%
3	76	-4%	11%
4	87	1%	7%
5	92	2%	5%
6	93	3%	-2%
7	86	-3%	-7%
8	92	-4%	-2%
9	88	-7%	2%
10	79	-6%	9%
11	78	-1%	13%
12	86	6%	3%
13	88	5%	-5%
14	80	6%	-14%
15	78	-2%	-13%
16	76	-7%	-15%



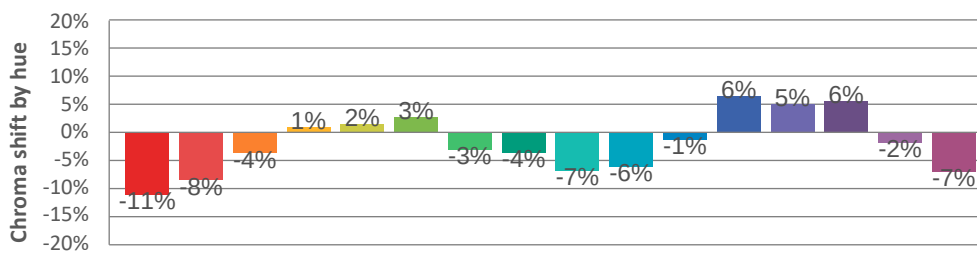
Hue binH



Color vector graphics



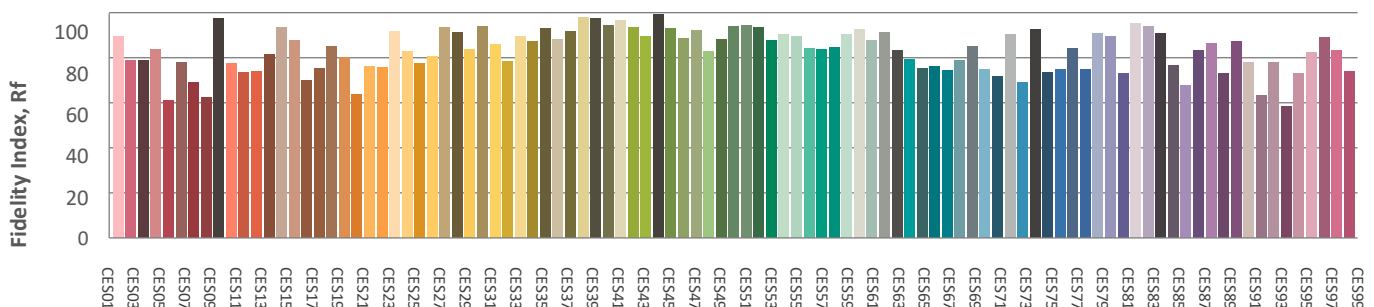
Hue bin



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	18,9	19,5	19,1	19,7	19,9	18,9	19,5	19,1	19,7	19,9
	3H	18,7	19,3	19,0	19,6	19,8	18,7	19,3	19,0	19,6	19,8
	4H	18,6	19,2	19,0	19,5	19,7	18,6	19,2	19,0	19,5	19,7
	6H	18,6	19,1	18,9	19,4	19,7	18,6	19,1	18,9	19,4	19,7
	8H	18,5	19,0	18,9	19,3	19,6	18,5	19,0	18,9	19,3	19,6
	12H	18,5	19,0	18,8	19,3	19,6	18,5	19,0	18,8	19,3	19,6
4H	2H	18,6	19,2	19,0	19,5	19,7	18,6	19,2	19,0	19,5	19,7
	3H	18,5	19,0	18,9	19,3	19,6	18,5	19,0	18,9	19,3	19,6
	4H	18,4	18,8	18,8	19,2	19,5	18,4	18,8	18,8	19,2	19,5
	6H	18,4	18,7	18,8	19,1	19,5	18,4	18,7	18,8	19,1	19,5
	8H	18,3	18,6	18,7	19,0	19,4	18,3	18,6	18,7	19,0	19,4
	12H	18,3	18,5	18,7	18,9	19,4	18,3	18,5	18,7	18,9	19,4
8H	4H	18,3	18,6	18,7	19,0	19,4	18,3	18,6	18,7	19,0	19,4
	6H	18,2	18,5	18,7	18,9	19,3	18,2	18,5	18,7	18,9	19,3
	8H	18,2	18,4	18,7	18,8	19,3	18,2	18,4	18,7	18,8	19,3
	12H	18,1	18,3	18,6	18,8	19,3	18,1	18,3	18,6	18,8	19,3
12H	4H	18,3	18,5	18,7	18,9	19,4	18,3	18,5	18,7	18,9	19,4
	6H	18,2	18,4	18,6	18,8	19,3	18,2	18,4	18,6	18,8	19,3
	8H	18,1	18,3	18,6	18,8	19,3	18,1	18,3	18,6	18,8	19,3
Variation of the observer position for the luminaire distance S											
S = 1,0H		+5,0 / -12,2					+5,0 / -12,2				
S = 1,5H		+7,8 / -20,6					+7,8 / -20,6				
S = 2,0H		+9,8 / -21,6					+9,8 / -21,6				
Standard table		BK00					BK00				
Correction summand		0,2					0,2				
Corrected glare indices referring to 1973lm total luminous flux											

