

# LM-79

## Test Report

### LM79-RUBY-BRACKET-6-4000K-CRI80-FLOOD

#### General Discription

Item number	RU-36-X-X-03-3-X
Date and time	18-11-2016 15:32:48
CCT (Kelvin)	3849 K
Beam angle	63,6°
Luminous flux	3001 lm
Efficiency	105 lm/watt
Weighted energy	28,6 kWh/1000h
Power factor	0,99
CRI (RA)	82,4
Fidelity index Rf	Rf 82,6
Gammut index Rg	Rg 97,7
Peak	3079 cd



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Beam details	1m	2m	3m	4m	5m																			
<b>Lux*</b>	3078 lx	770 lx	342 lx	192 lx	123 lx																			
<i>*measured at center of beam</i>																								
<b>Footcandles*</b>	286,0 fcd	71,5 fcd	31,8 fcd	17,9 fcd	11,4 fcd																			
<b>Beam width (meter)</b>	1,2 m	2,5 m	3,7 m	5 m	6,2 m																			
<b>Beam width (Feet)</b>	4,1 ft	8,1 ft	12,2 ft	16,3 ft	20,4 ft																			
<b>Beam intensities</b>																								
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m					
3078lx	770lx	342lx	192lx	123lx	86lx	63lx	48lx	38lx	31lx	25lx	21lx	18lx	16lx	14lx	12lx	11lx	10lx	9lx	8lx					
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					
286fcd	71,5fcd	31,8fcd	17,9fcd	11,4fcd	7,9fcd	5,8fcd	4,5fcd	3,5fcd	2,9fcd	2,4fcd	2fcd	1,7fcd	1,5fcd	1,3fcd	1,1fcd	1fcd	0,9fcd	0,8fcd	0,7fcd					
<b>Intensities in 0° c-plane</b>																								
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°					
3078	3079	3045	3000	2943	2850	2758	2632	2496	2367	2256	2144	2036	1930	1810	1661	1511	1277	1022	789					
100%	100%	99%	97%	96%	93%	90%	85%	81%	77%	73%	70%	66%	63%	59%	54%	49%	41%	33%	26%					
<b>Intensities in 90° c-plane</b>																								
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°					
3078	3077	3052	3019	2971	2885	2798	2674	2538	2410	2300	2190	2079	1969	1846	1693	1540	1297	1033	793					
100%	100%	99%	98%	97%	94%	91%	87%	82%	78%	75%	71%	68%	64%	60%	55%	50%	42%	34%	26%					
<b>Intensities in 180° c-plane</b>																								
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°					
3078	3079	3045	3000	2943	2850	2758	2632	2496	2367	2256	2144	2036	1930	1810	1661	1511	1277	1022	789					
100%	100%	99%	97%	96%	93%	90%	85%	81%	77%	73%	70%	66%	63%	59%	54%	49%	41%	33%	26%					
<b>Intensities in 270° c-plane</b>																								
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°					
3078	3077	3052	3019	2971	2885	2798	2674	2538	2410	2300	2190	2079	1969	1846	1693	1540	1297	1033	793					
100%	100%	99%	98%	97%	94%	91%	87%	82%	78%	75%	71%	68%	64%	60%	55%	50%	42%	34%	26%					
<b>Beam angle 50%</b>					<b>Field angle 10%</b>					<b>Cutoff angle 2,5%</b>					<b>Intensity ratio in 120° cone</b>					<b>Intensity ratio in 90° cone</b>				
63,6°					88,8°					112,6°					98,2%					92,9%				



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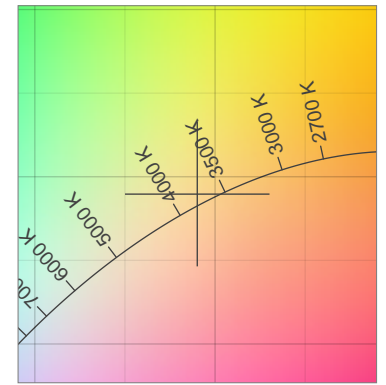
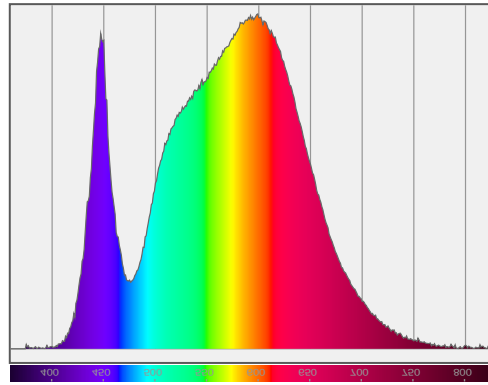
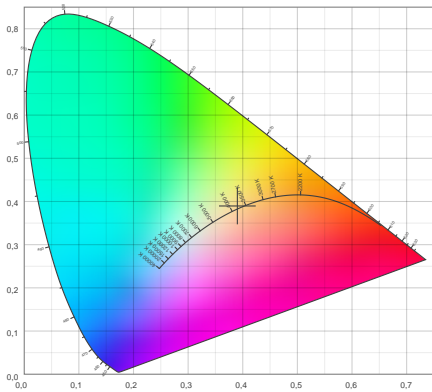
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### Color details



CIE 1931

x: 0,390



Spectra

CIE 1931 ZOOM

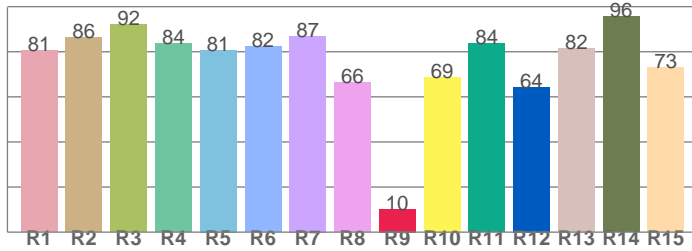
3849 K

y: 0,390

$\Delta uv$ : 0,0032

**CRI: 82,4 (R1-R8)**

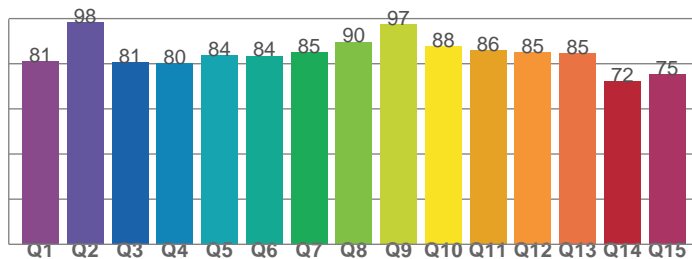
*CRI values, R1-R8 are used to calculate final CRI value*



R1	R2	R3	R4	R5	R6	R7	R8
80,6	86,4	92,2	83,7	80,7	82,4	87,0	66,3
R9	R10	R11	R12	R13	R14	R15	
10,3	68,9	83,5	64,3	81,6	95,6	73,2	

**CQS: 83,3**

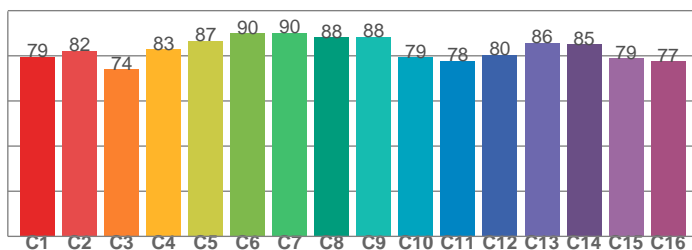
*CQS values*



Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
81,0	98,3	80,7	80,3	83,8	83,5	85,1	89,7
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
97,3	87,7	86,1	85,2	84,7	72,3	75,4	

**TM30: 82,6**

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



C1	C2	C3	C4	C5	C6	C7	C8
79,5	82,2	74,0	82,8	86,7	89,9	90,3	88,1
C9	C10	C11	C12	C13	C14	C15	
88,4	79,2	77,6	80,2	85,8	85,1	78,9	

### 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	$\Delta uv$
3849 K	82,4	10,3	82,6	97,7	83,3	0,390	0,390	0,226	0,339	0,0032



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### LM79-RUBY-BRACKET-6-4000K-CRI80-FLOOD

#### TM30 details

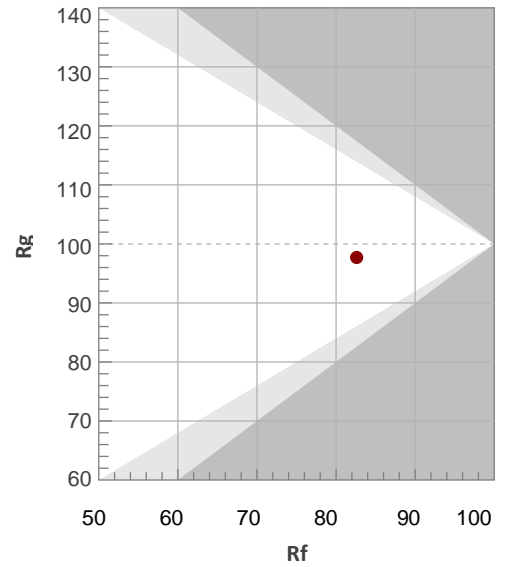
Rf 82,6

Fidelity index Rf

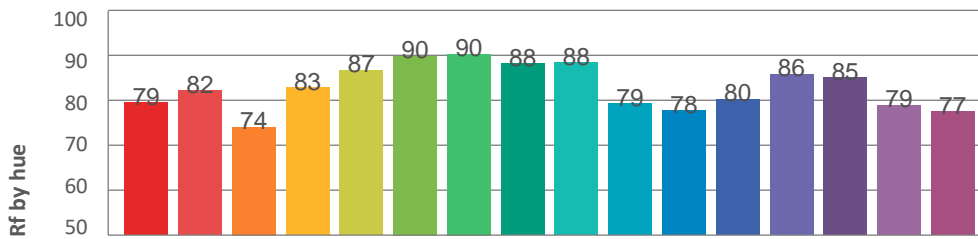
Rg 97,7

Gamut index Rg

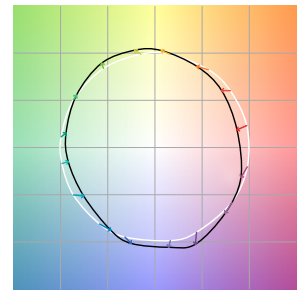
Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	79	-11%	-2%
2	82	-8%	5%
3	74	-4%	12%
4	83	2%	10%
5	87	5%	6%
6	90	6%	-1%
7	90	0%	-6%
8	88	-4%	-5%
9	88	-7%	-1%
10	79	-8%	7%
11	78	-1%	14%
12	80	5%	8%
13	86	7%	-3%
14	85	10%	-8%
15	79	1%	-13%
16	77	-4%	-12%



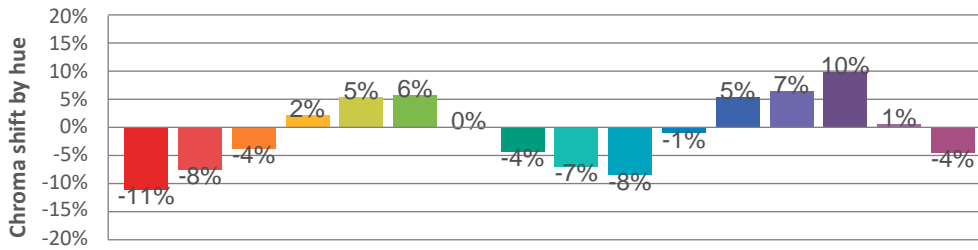
#### Hue binH



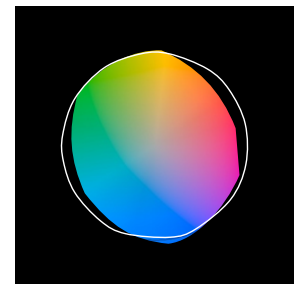
#### Color vector graphics



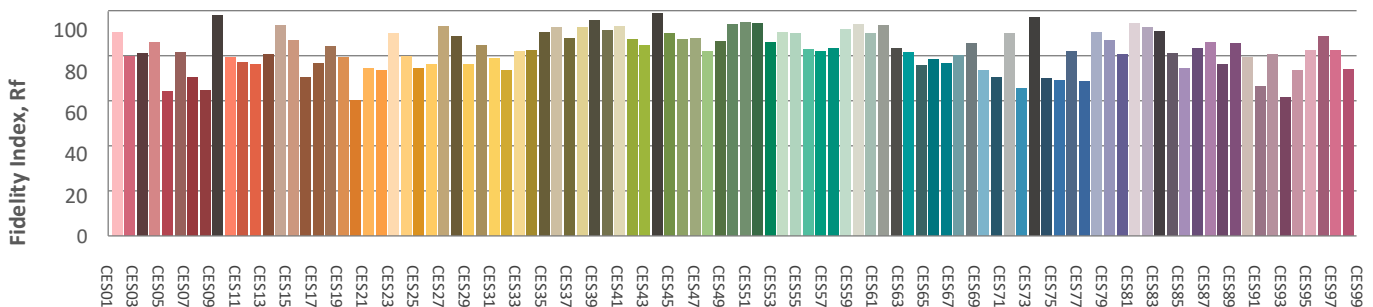
#### Hue bin



#### 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	21,9	22,6	22,1	22,8	23,0	21,9	22,6	22,1	22,8	23,0
	3H	21,8	22,5	22,1	22,7	22,9	21,8	22,5	22,1	22,7	22,9
	4H	21,7	22,3	22,0	22,6	22,9	21,7	22,3	22,0	22,6	22,9
	6H	21,6	22,2	22,0	22,5	22,8	21,6	22,2	22,0	22,5	22,8
	8H	21,6	22,2	21,9	22,5	22,8	21,6	22,2	21,9	22,5	22,8
	12H	21,6	22,1	21,9	22,4	22,7	21,6	22,1	21,9	22,4	22,7
4H	2H	21,7	22,4	22,0	22,6	22,9	21,7	22,4	22,0	22,6	22,9
	3H	21,6	22,2	22,0	22,5	22,8	21,6	22,2	22,0	22,5	22,8
	4H	21,6	22,0	22,0	22,4	22,7	21,6	22,0	22,0	22,4	22,7
	6H	21,5	21,9	21,9	22,3	22,7	21,5	21,9	21,9	22,3	22,7
	8H	21,5	21,8	21,9	22,2	22,6	21,5	21,8	21,9	22,2	22,6
	12H	21,4	21,7	21,9	22,1	22,6	21,4	21,7	21,9	22,1	22,6
8H	4H	21,5	21,8	21,9	22,2	22,6	21,5	21,8	21,9	22,2	22,6
	6H	21,4	21,6	21,8	22,1	22,5	21,4	21,6	21,8	22,1	22,5
	8H	21,3	21,6	21,8	22,0	22,5	21,3	21,6	21,8	22,0	22,5
	12H	21,3	21,5	21,8	22,0	22,5	21,3	21,5	21,8	22,0	22,5
12H	4H	21,4	21,7	21,9	22,1	22,6	21,4	21,7	21,9	22,1	22,6
	6H	21,3	21,6	21,8	22,0	22,5	21,3	21,6	21,8	22,0	22,5
	8H	21,3	21,5	21,8	21,9	22,5	21,3	21,5	21,8	21,9	22,5
Variation of the observer position for the luminaire distance S											
S = 1,0H	+4,1 / -5,8					+4,1 / -5,8					
S = 1,5H	+6,7 / -8,3					+6,7 / -8,3					
S = 2,0H	+8,7 / -10,7					+8,7 / -10,7					
Standard table	BK00					BK00					
Correction summand	3,3					3,3					
Corrected glare indices referring to 3001lm total luminous flux											



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