

# LM-79

## Test Report

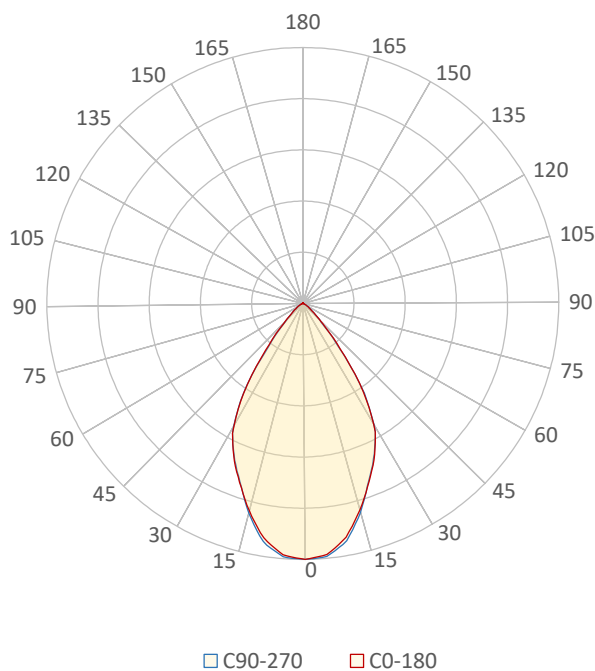
### LM79-RUBY-7-4000K-CRI80-FLOOD

#### General Description

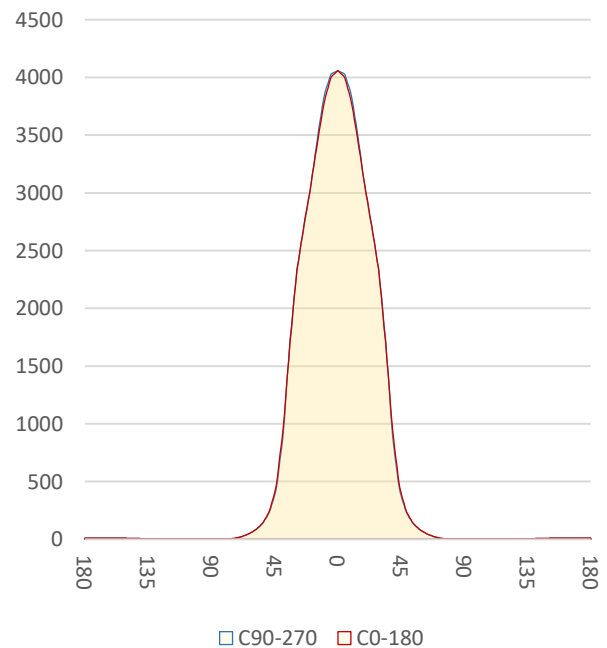
Item number	RU-17-X-X-03-3-X
Date and time	18-11-2016 16:30:15
CCT (Kelvin)	3908 K
Beam angle	63,3°
Luminous flux	3981 lm
Efficiency	96 lm/watt
Weighted energy	41,6 kWh/1000h
Power factor	0,95
CRI (RA)	82,1
Fidelity index Rf	Rf 84,2
Gammut index Rg	Rg 97,5
Peak	4080 cd



Polar diagram



Cartesian diagram



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Beam details	1m	2m	3m	4m	5m																			
<b>Lux*</b>	4058 lx	1015 lx	451 lx	254 lx	162 lx																			
<i>*measured at center of beam</i>																								
<b>Footcandles*</b>	377,0 fcd	94,3 fcd	41,9 fcd	23,6 fcd	15,1 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	20,3 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					
4058lx	1015lx	451lx	254lx	162lx	113lx	83lx	63lx	50lx	41lx	34lx	28lx	24lx	21lx	18lx	16lx	14lx	13lx	11lx	10lx					
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					
377fcd	94,3fcd	41,9fcd	23,6fcd	15,1fcd	10,5fcd	7,7fcd	5,9fcd	4,7fcd	3,8fcd	3,1fcd	2,6fcd	2,2fcd	1,9fcd	1,7fcd	1,5fcd	1,3fcd	1,2fcd	1fcd	0,9fcd					
<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°					
4058	4080	4027	3974	3887	3772	3651	3479	3307	3152	3006	2863	2727	2591	2426	2253	2027	1703	1380	1084					
100%	101%	99%	98%	96%	93%	90%	86%	81%	78%	74%	71%	67%	64%	60%	56%	50%	42%	34%	27%					
<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°					
4058	4037	4037	3990	3917	3826	3671	3516	3341	3160	2993	2852	2710	2565	2419	2226	1978	1728	1384	1041					
100%	99%	99%	98%	97%	94%	90%	87%	82%	78%	74%	70%	67%	63%	60%	55%	49%	43%	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°					
4058	4080	4027	3974	3887	3772	3651	3479	3307	3152	3006	2863	2727	2591	2426	2253	2027	1703	1380	1084					
100%	101%	99%	98%	96%	93%	90%	86%	81%	78%	74%	71%	67%	64%	60%	56%	50%	42%	34%	27%					
<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°					
4058	4037	4037	3990	3917	3826	3671	3516	3341	3160	2993	2852	2710	2565	2419	2226	1978	1728	1384	1041					
100%	99%	99%	98%	97%	94%	90%	87%	82%	78%	74%	70%	67%	63%	60%	55%	49%	43%	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°					88,9°					112,8°					98,1%					92,6%				



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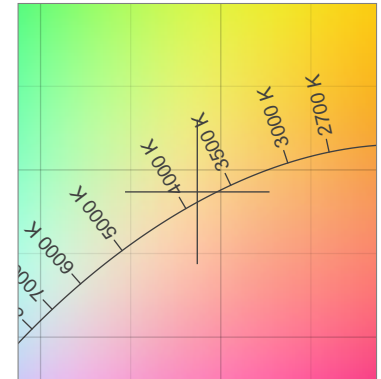
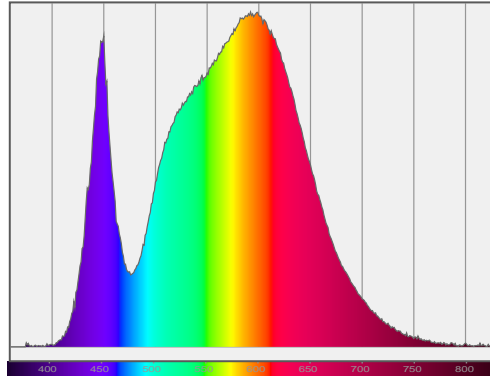
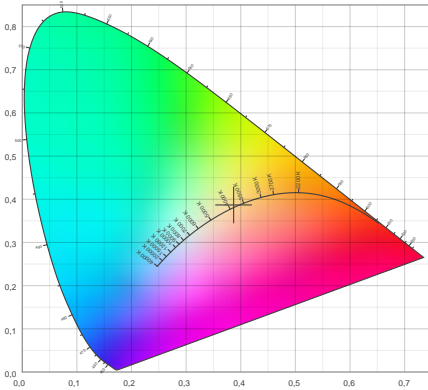
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### LM79-RUBY-7-4000K-CRI80-FLOOD

#### Color details



CIE 1931

x: 0,387



Spectra

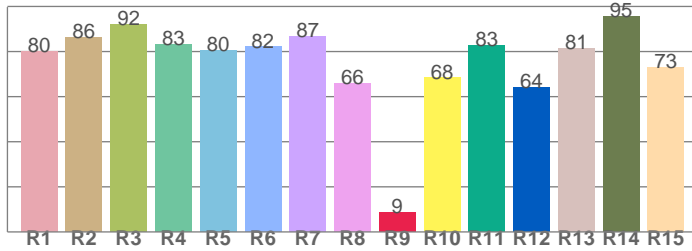
CIE 1931 ZOOM

3908 K

y: 0,387

$\Delta uv$ : 0,0028

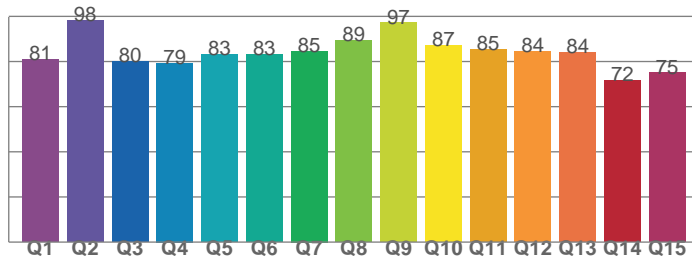
CRI: **82,1** (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
80,2	86,3	92,1	83,2	80,3	82,1	86,7	65,8
R9	R10	R11	R12	R13	R14	R15	
8,6	68,3	82,7	64,0	81,2	95,5	72,9	

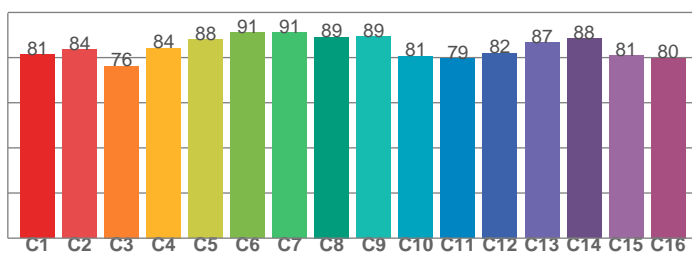
CQS: **82,8**



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
80,9	98,2	80,1	79,3	83,1	83,1	84,7	89,4
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
97,1	87,2	85,3	84,4	84,0	71,7	75,0	

TM30: **84,2**



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

C1	C2	C3	C4	C5	C6	C7	C8
81,3	83,6	76,2	84,3	88,0	91,0	91,2	89,2
C9	C10	C11	C12	C13	C14	C15	
89,3	80,7	79,5	82,0	86,6	88,3	81,0	

#### 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	$\Delta uv$
3908 K	82,1	8,6	84,2	97,5	82,8	0,387	0,387	0,225	0,338	0,0028



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# LM79-RUBY-7-4000K-CRI80-FLOOD

### TM30 details

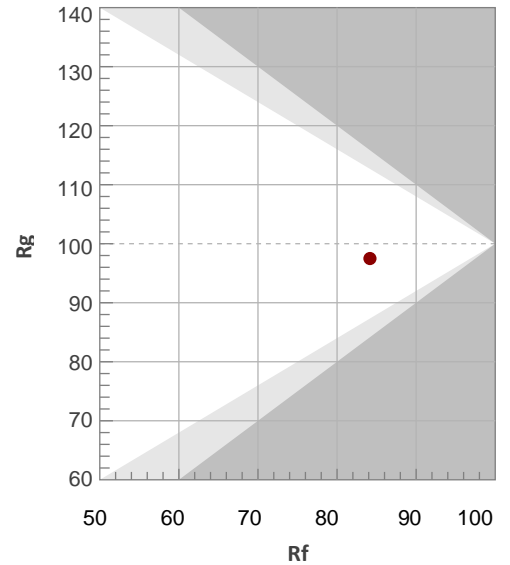
Rf 84,2

Fidelity index Rf

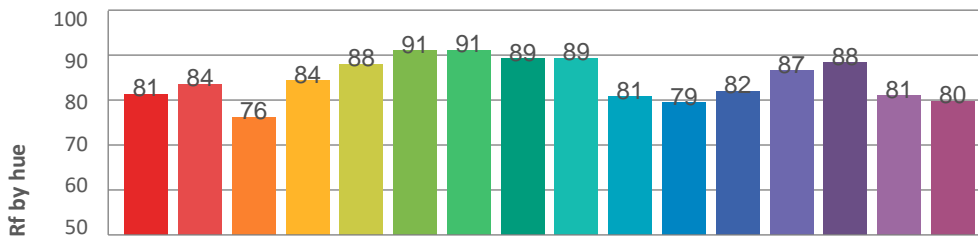
Rg 97,5

Gamut index Rg

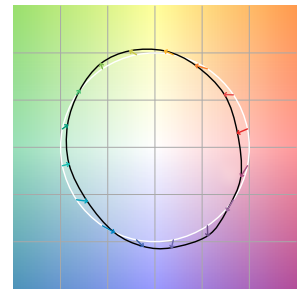
Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	81	-11%	-2%
2	84	-8%	6%
3	76	-4%	12%
4	84	2%	10%
5	88	5%	6%
6	91	6%	-2%
7	91	0%	-6%
8	89	-5%	-5%
9	89	-7%	0%
10	81	-9%	8%
11	79	-1%	14%
12	82	5%	8%
13	87	8%	-4%
14	88	9%	-6%
15	81	1%	-14%
16	80	-5%	-12%



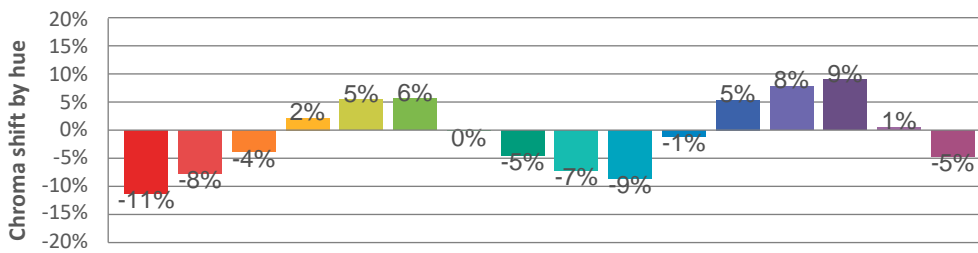
### Hue binH



### Color vector graphics



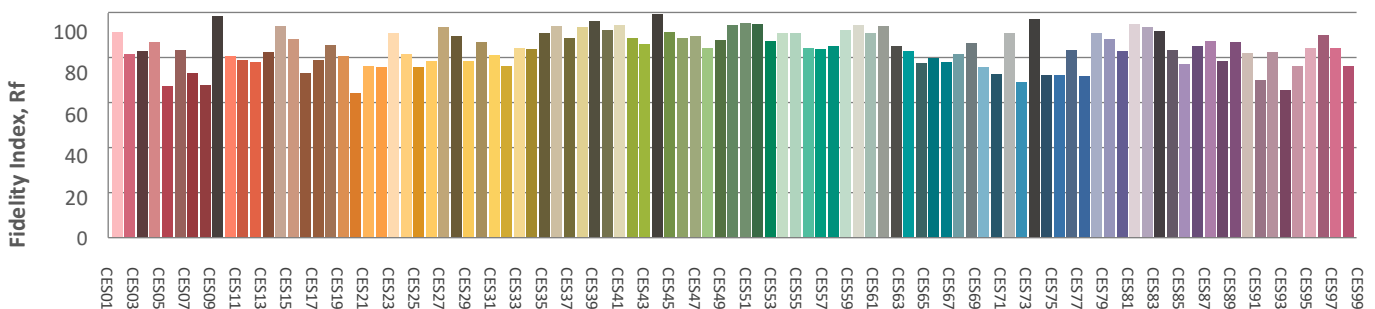
### Hue bin



### 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				
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

#### Variation of the observer position for the luminaire distance S

n/a	n/a	n/a
n/a	n/a	n/a
n/a	n/a	n/a
Standard table	n/a	n/a
Correction summand	n/a	n/a

#### Corrected glare indices referring to 3981lm total luminous flux



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