

LM-79

Test Report

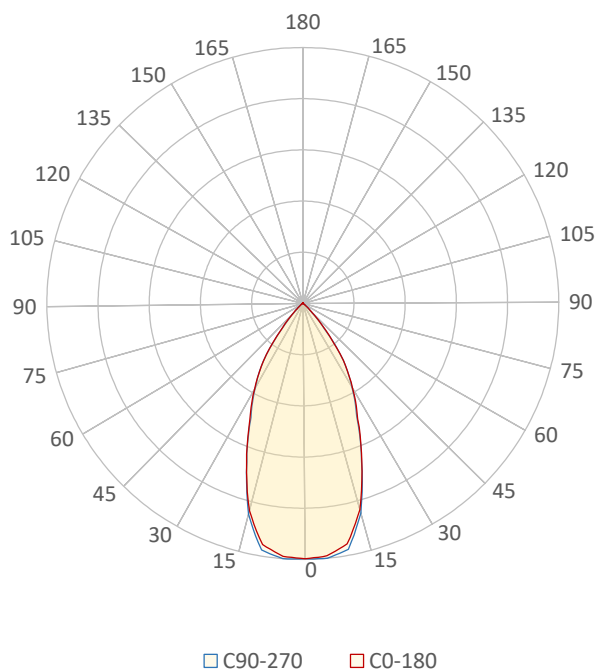
LM79-RUBY-7-3000K-CRI80-MEDIUM

General Description

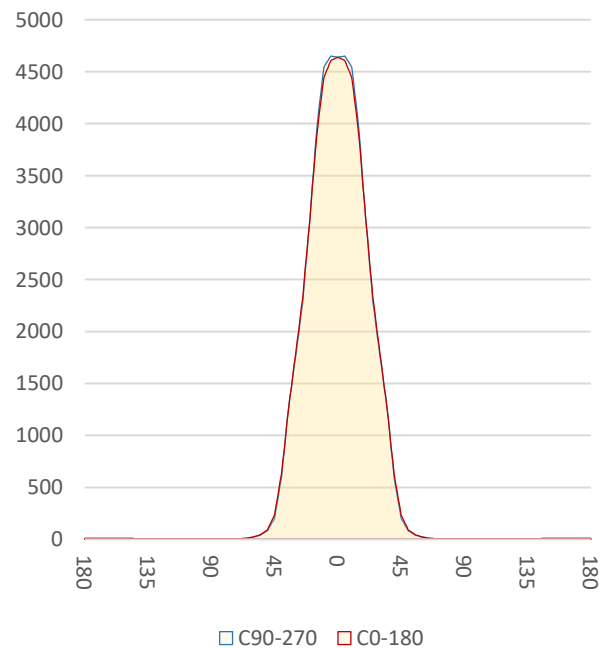
Item number	RU-17-X-X-02-2-X
Date and time	21-11-2016 09:04:43
CCT (Kelvin)	3091 K
Beam angle	49,2°
Luminous flux	3621 lm
Efficiency	87 lm/watt
Weighted energy	41,7 kWh/1000h
Power factor	0,95
CRI (RA)	81,1
Fidelity index Rf	Rf 84,4
Gammut index Rg	Rg 95,6
Peak	4655 cd



Polar diagram



Cartesian diagram



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Beam details	1m	2m	3m	4m	5m																			
Lux*	4639 lx	1160 lx	515 lx	290 lx	186 lx																			
*measured at center of beam																								
Footcandles*	430,9 fcd	107,7 fcd	47,9 fcd	26,9 fcd	17,2 fcd																			
Beam width (meter)	0,9 m	1,9 m	2,8 m	3,7 m	4,6 m																			
Beam width (Feet)	3 ft	6,1 ft	9,1 ft	12,2 ft	15,2 ft																			
Beam intensities																								
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m					
4639lx	1160lx	515lx	290lx	186lx	129lx	95lx	72lx	57lx	46lx	38lx	32lx	27lx	24lx	21lx	18lx	16lx	14lx	13lx	12lx					
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					
430,9fcd	107,7fcd	47,9fcd	26,9fcd	17,2fcd	12fcd	8,8fcd	6,7fcd	5,3fcd	4,3fcd	3,6fcd	3fcd	2,5fcd	2,2fcd	1,9fcd	1,7fcd	1,5fcd	1,3fcd	1,2fcd	1,1fcd					
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°					
4639	4619	4611	4603	4522	4441	4275	4015	3756	3413	3067	2751	2467	2184	1984	1789	1585	1371	1157	898					
100%	100%	99%	99%	97%	96%	92%	87%	81%	74%	66%	59%	53%	47%	43%	39%	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°					
4639	4655	4655	4633	4599	4542	4312	4081	3773	3414	3058	2741	2425	2173	1966	1761	1569	1377	1138	865					
100%	100%	100%	100%	99%	98%	93%	88%	81%	74%	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°					
4639	4619	4611	4603	4522	4441	4275	4015	3756	3413	3067	2751	2467	2184	1984	1789	1585	1371	1157	898					
100%	100%	99%	99%	97%	96%	92%	87%	81%	74%	66%	59%	53%	47%	43%	39%	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°					
4639	4655	4655	4633	4599	4542	4312	4081	3773	3414	3058	2741	2425	2173	1966	1761	1569	1377	1138	865					
100%	100%	100%	100%	99%	98%	93%	88%	81%	74%	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				
49,7°					83,2°					97,3°					98,9%					96,2%				



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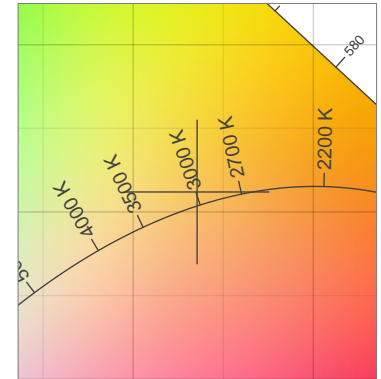
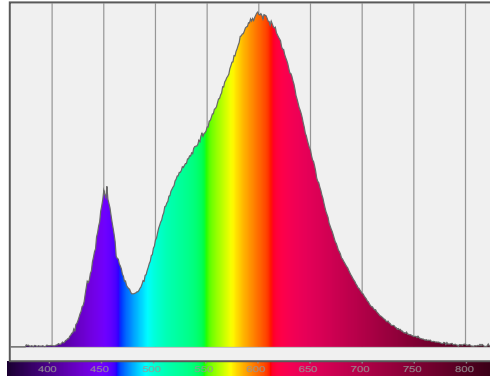
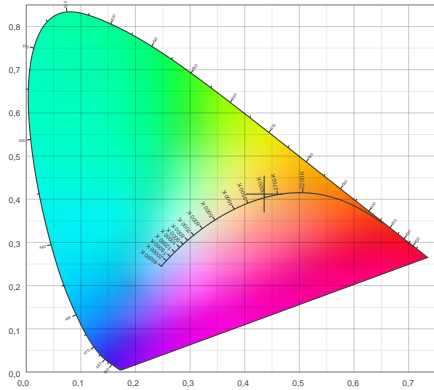
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Color details



CIE 1931

x: 0,435



Spectra

CIE 1931 ZOOM

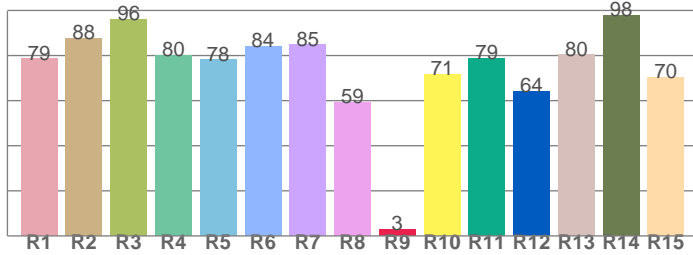
3091 K

y: 0,412

Δuv : 0,0033

CRI: 81,1 (R1-R8)

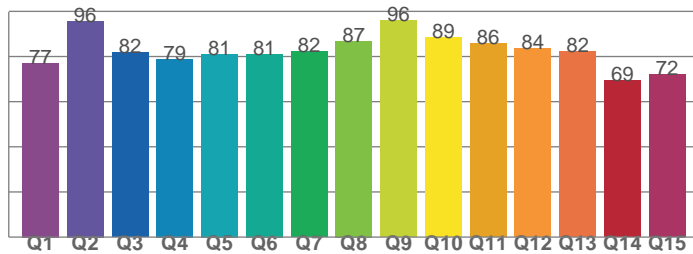
CRI values, R1-R8 are used to calculate final CRI value



R1	R2	R3	R4	R5	R6	R7	R8
78,5	87,5	96,1	80,1	78,1	84,2	84,7	59,3
R9	R10	R11	R12	R13	R14	R15	
2,9	71,5	78,7	64,2	80,3	97,7	70,3	

CQS: 81,3

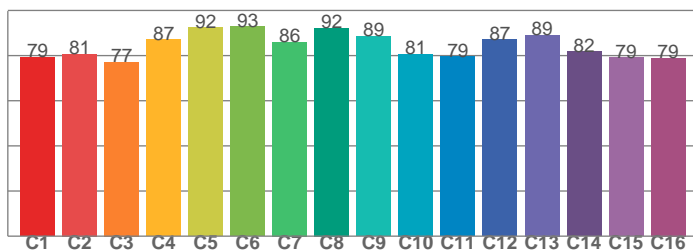
CQS values



Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
77,1	95,8	81,8	78,9	81,2	81,1	82,2	86,9
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
96,1	88,5	85,8	83,6	82,3	69,4	72,1	

TM30: 84,4

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



C1	C2	C3	C4	C5	C6	C7	C8
79,3	80,6	77,2	87,1	92,4	92,9	86,1	92,3
C9	C10	C11	C12	C13	C14	C15	
88,6	80,7	79,5	87,2	89,2	81,7	79,1	

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
3091 K	81,1	2,9	84,4	95,6	81,3	0,435	0,412	0,246	0,349	0,0033



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TM30 details

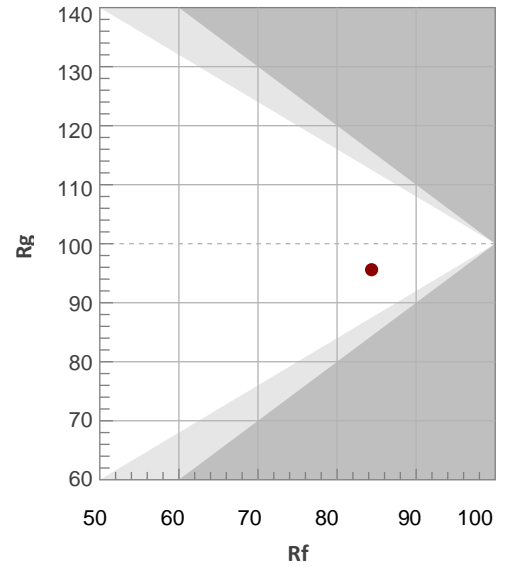
Rf 84,4

Fidelity index Rf

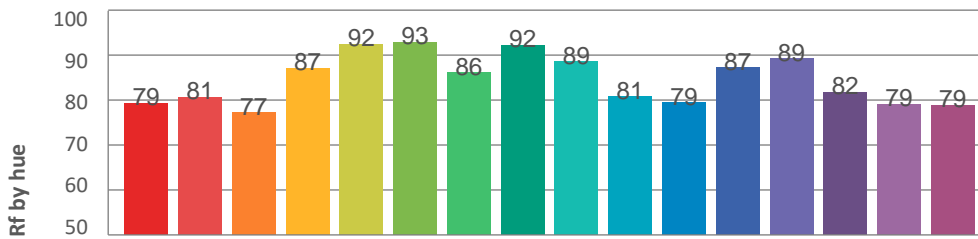
Rg 95,6

Gamut index Rg

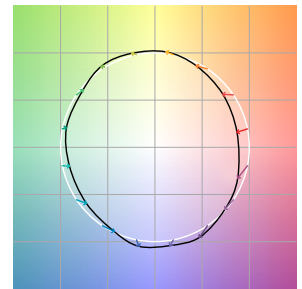
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	79	-12%	-1%
2	81	-9%	7%
3	77	-4%	11%
4	87	1%	8%
5	92	2%	5%
6	93	3%	-2%
7	86	-3%	-8%
8	92	-4%	-2%
9	89	-7%	2%
10	81	-7%	9%
11	79	-2%	14%
12	87	6%	4%
13	89	5%	-5%
14	82	6%	-14%
15	79	-2%	-14%
16	79	-8%	-15%



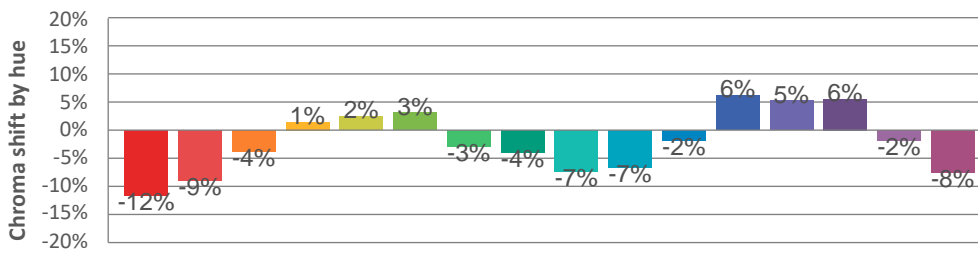
Hue binH



Color vector graphics



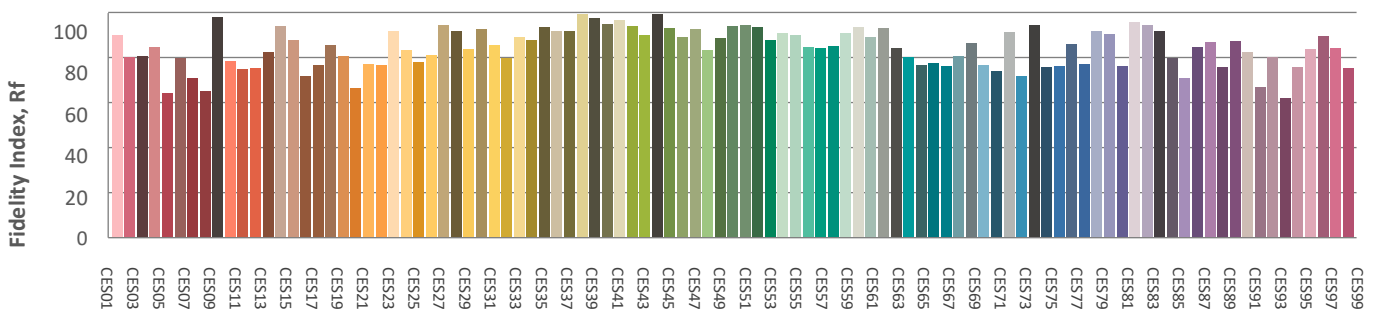
Hue bin



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				
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 3621lm total luminous flux										



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