

LM-79

Test Report

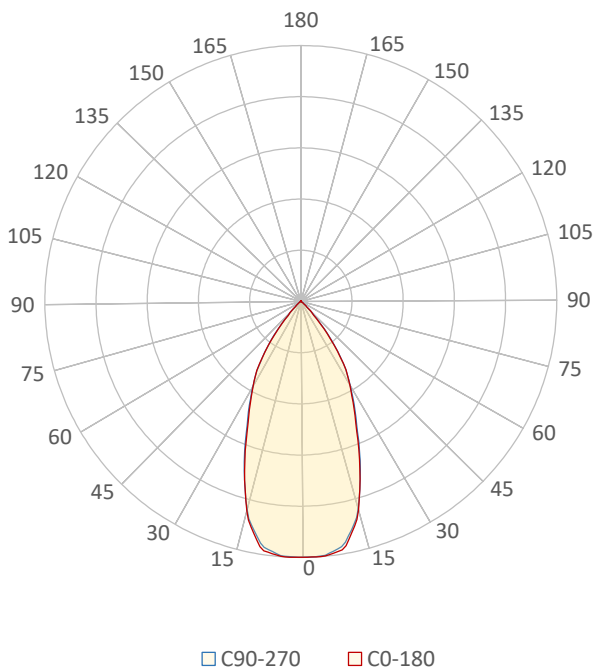
LM79-RUBY-7-4000K-CRI80-MEDIUM

General Description

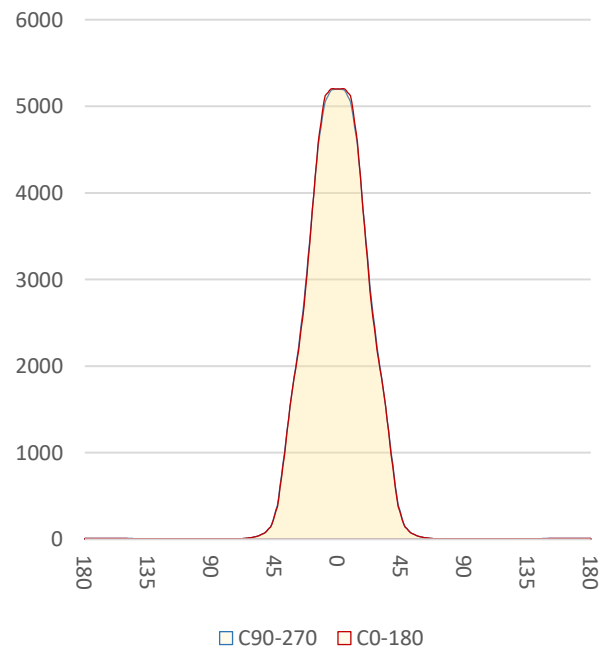
Item number	RU-17-X-X-03-2-X
Date and time	18-11-2016 16:27:57
CCT (Kelvin)	3890 K
Beam angle	49,8°
Luminous flux	4043 lm
Efficiency	97 lm/watt
Weighted energy	41,8 kWh/1000h
Power factor	0,95
CRI (RA)	82,1
Fidelity index Rf	Rf 84,2
Gammut index Rg	Rg 97,5
Peak	5207 cd



Polar diagram



Cartesian diagram



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info@cls-led.com
www.cls-led.com

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Beam details	1m	2m	3m	4m	5m																			
Lux*	5200 lx	1300 lx	578 lx	325 lx	208 lx																			
*measured at center of beam																								
Footcandles*	483,0 fcd	120,8 fcd	53,7 fcd	30,2 fcd	19,3 fcd																			
Beam width (meter)	0,9 m	1,8 m	2,8 m	3,7 m	4,6 m																			
Beam width (Feet)	3 ft	6 ft	9,1 ft	12,1 ft	15,1 ft																			
Beam intensities																								
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m					
5200lx	1300lx	578lx	325lx	208lx	144lx	106lx	81lx	64lx	52lx	43lx	36lx	31lx	27lx	23lx	20lx	18lx	16lx	14lx	13lx					
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					
483fcd	120,8fcd	53,7fcd	30,2fcd	19,3fcd	13,4fcd	9,9fcd	7,5fcd	6fcd	4,8fcd	4fcd	3,4fcd	2,9fcd	2,5fcd	2,1fcd	1,9fcd	1,7fcd	1,5fcd	1,3fcd	1,2fcd					
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°					
5200	5197	5203	5184	5144	5075	4825	4576	4214	3812	3419	3045	2671	2420	2179	1961	1764	1556	1262	968					
100%	100%	100%	100%	99%	98%	93%	88%	81%	73%	66%	59%	51%	47%	42%	38%	34%	30%	24%	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°					
5200	5207	5197	5183	5134	5002	4870	4551	4208	3836	3432	3037	2740	2443	2205	1995	1777	1536	1295	997					
100%	100%	100%	100%	99%	96%	94%	88%	81%	74%	66%	58%	53%	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°					
5200	5197	5203	5184	5144	5075	4825	4576	4214	3812	3419	3045	2671	2420	2179	1961	1764	1556	1262	968					
100%	100%	100%	100%	99%	98%	93%	88%	81%	73%	66%	59%	51%	47%	42%	38%	34%	30%	24%	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°					
5200	5207	5197	5183	5134	5002	4870	4551	4208	3836	3432	3037	2740	2443	2205	1995	1777	1536	1295	997					
100%	100%	100%	100%	99%	96%	94%	88%	81%	74%	66%	58%	53%	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				
49,4°					82,8°					96,3°					98,8%					96,2%				



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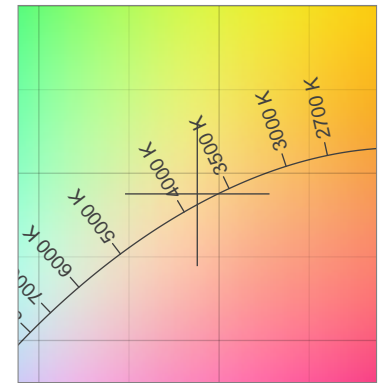
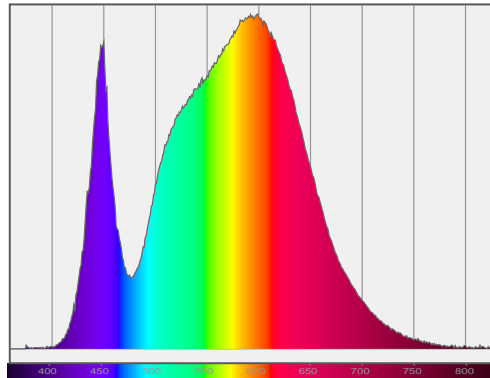
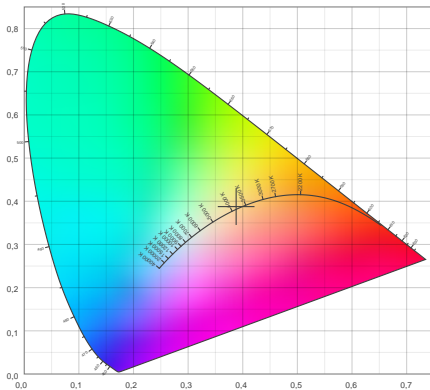
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Color details



CIE 1931

x: 0,388



Spectra

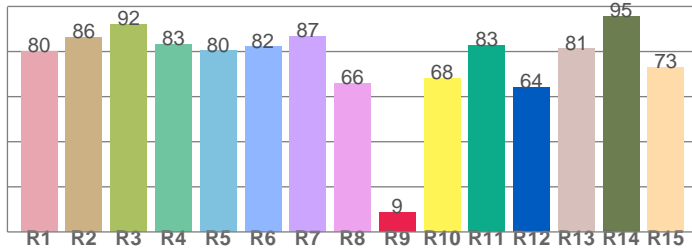
CIE 1931 ZOOM

3890 K

y: 0,388

Δuv : 0,0029

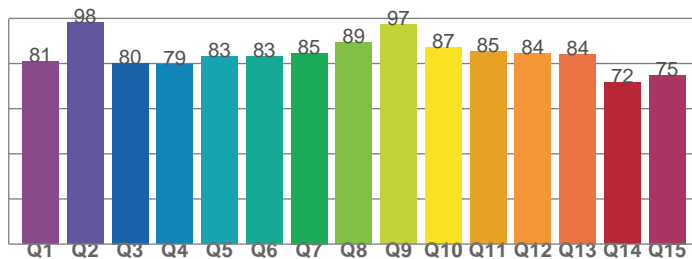
CRI: 82,1 (R1-R8)



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

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

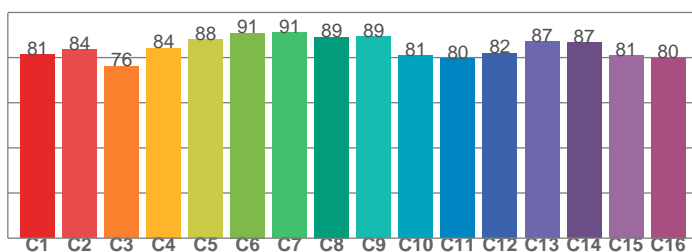
CQS: 82,8



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
80,8	98,2	80,2	79,5	83,2	83,1	84,6	89,4
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
97,2	87,3	85,4	84,4	84,1	71,7	74,9	

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	90,9	91,1	89,1
C9	C10	C11	C12	C13	C14	C15	
89,3	80,8	79,6	82,1	87,2	86,6	80,9	

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	Δuv
3890 K	82,1	8,5	84,2	97,5	82,8	0,388	0,388	0,226	0,338	0,0029



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 info@cls-led.com
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TM30 details

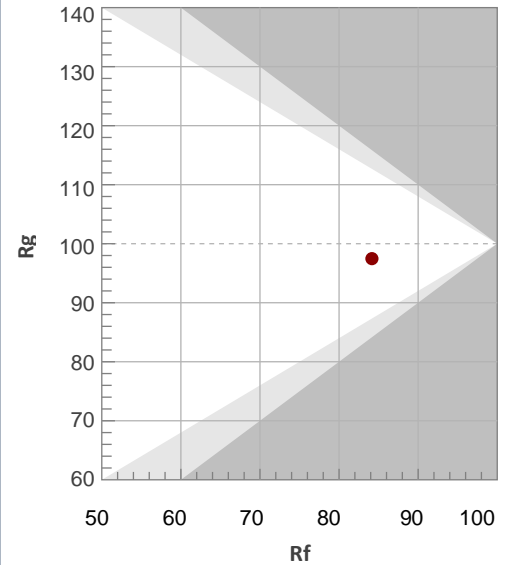
Rf 84,2

Fidelity index Rf

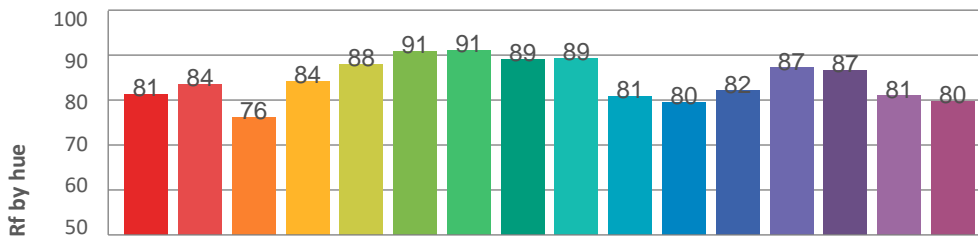
Rg 97,5

Gamut index Rg

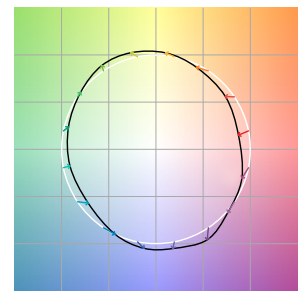
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	81	-11%	-2%
2	84	-8%	6%
3	76	-4%	12%
4	84	2%	10%
5	88	6%	6%
6	91	6%	-2%
7	91	0%	-6%
8	89	-5%	-5%
9	89	-7%	-1%
10	81	-9%	7%
11	80	-1%	14%
12	82	5%	8%
13	87	7%	-3%
14	87	10%	-8%
15	81	1%	-14%
16	80	-5%	-12%



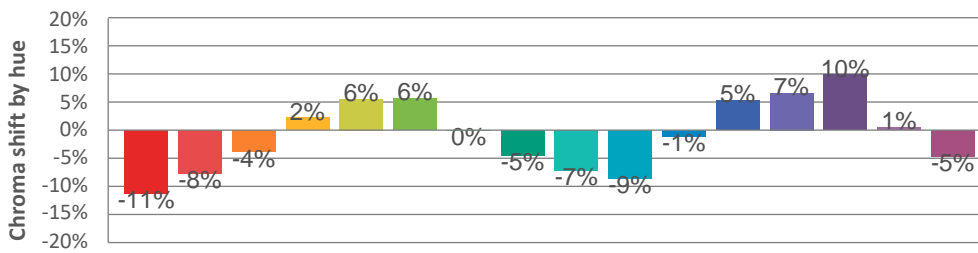
Hue binH



Color vector graphics



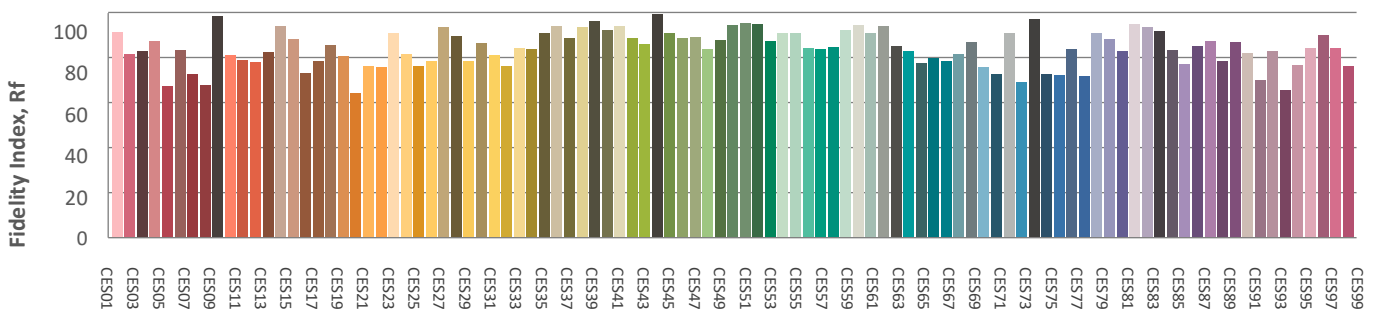
Hue bin



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

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 4043lm total luminous flux



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