

LM-79

Test Report

LM79-RUBY-BRACKET-5-4000K-CRI80-MEDIUM

General Description

Item number	RU-35-X-X-03-2-X
Date and time	10-3-2017 16:02:28
CCT (Kelvin)	3833 K
Beam angle	46,6°
Luminous flux	2190 lm
Efficiency	107 lm/watt
Weighted energy	20,5 kWh/1000h
Power factor	0,89
CRI (RA)	82,7
Fidelity index Rf	Rf 82,9
Gammut index Rg	Rg 97,6
Peak	3060 cd



CLS LED BV
info@cls-led.com
www.cls-led.com

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Beam details	1m	2m	3m	4m	5m																			
Lux*	3060 lx	765 lx	340 lx	191 lx	122 lx																			
<i>*measured at center of beam</i>																								
Footcandles*	284,3 fcd	71,1 fcd	31,6 fcd	17,8 fcd	11,4 fcd																			
Beam width (meter)	0,9 m	1,7 m	2,6 m	3,4 m	4,3 m																			
Beam width (Feet)	2,8 ft	5,7 ft	8,5 ft	11,3 ft	14,1 ft																			
Beam intensities																								
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m					
3060lx	765lx	340lx	191lx	122lx	85lx	62lx	48lx	38lx	31lx	25lx	21lx	18lx	16lx	14lx	12lx	11lx	9lx	8lx	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					
284,3fcd	71,1fcd	31,6fcd	17,8fcd	11,4fcd	7,9fcd	5,8fcd	4,4fcd	3,5fcd	2,8fcd	2,3fcd	2fcd	1,7fcd	1,5fcd	1,3fcd	1,1fcd	1fcd	0,9fcd	0,8fcd	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°					
3060	3060	3060	3015	2933	2841	2658	2475	2267	2045	1830	1649	1469	1333	1215	1099	990	881	699	499					
100%	100%	100%	99%	96%	93%	87%	81%	74%	67%	60%	54%	48%	44%	40%	36%	32%	29%	23%	16%					
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°					
3060	3060	3060	3015	2933	2841	2658	2475	2267	2045	1830	1649	1469	1333	1215	1099	990	881	699	499					
100%	100%	100%	99%	96%	93%	87%	81%	74%	67%	60%	54%	48%	44%	40%	36%	32%	29%	23%	16%					
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°					
3060	3060	3060	3015	2933	2841	2658	2475	2267	2045	1830	1649	1469	1333	1215	1099	990	881	699	499					
100%	100%	100%	99%	96%	93%	87%	81%	74%	67%	60%	54%	48%	44%	40%	36%	32%	29%	23%	16%					
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°					
3060	3060	3060	3015	2933	2841	2658	2475	2267	2045	1830	1649	1469	1333	1215	1099	990	881	699	499					
100%	100%	100%	99%	96%	93%	87%	81%	74%	67%	60%	54%	48%	44%	40%	36%	32%	29%	23%	16%					
Beam angle 50%					Field angle 10%					Cutoff angle 2,5%					Intensity ratio in 120° cone					Intensity ratio in 90° cone				
46,6°					81°					94,9°					99,2%					96,8%				



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 info@cls-led.com
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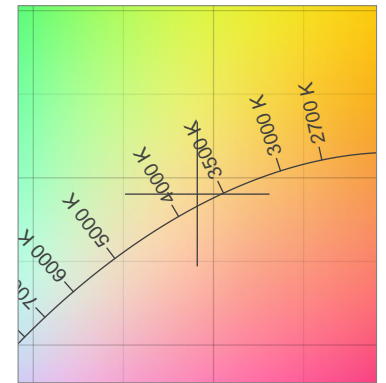
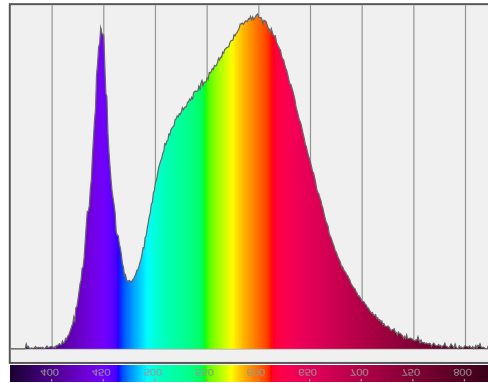
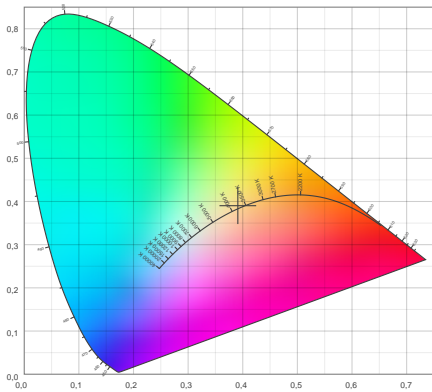
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Color details



CIE 1931

x: 0,391



Spectra

CIE 1931 ZOOM

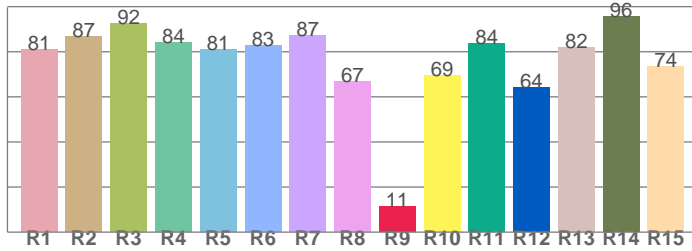
3833 K

y: 0,390

Δuv : 0,0033

CRI: 82,7 (R1-R8)

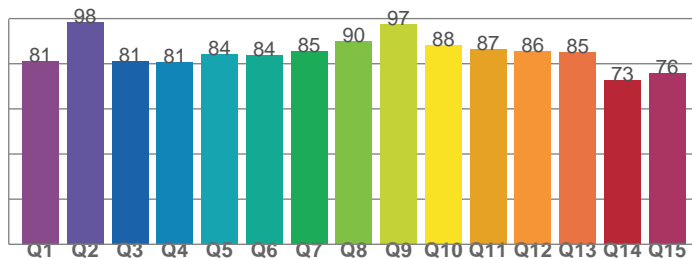
CRI values, R1-R8 are used to calculate final CRI value



R1	R2	R3	R4	R5	R6	R7	R8
80,9	86,7	92,4	84,0	81,0	82,8	87,2	66,7
R9	R10	R11	R12	R13	R14	R15	
11,4	69,5	83,8	64,3	81,9	95,7	73,6	

CQS: 83,6

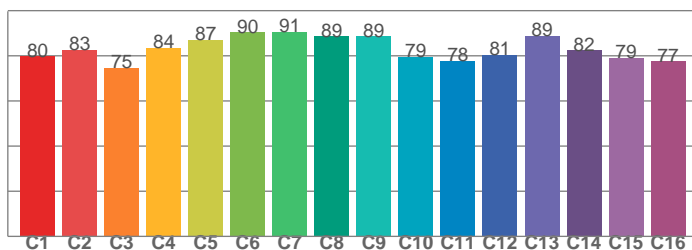
CQS values



Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
81,3	98,4	80,9	80,5	84,0	83,8	85,4	89,9
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
97,4	88,1	86,5	85,5	85,0	72,7	75,7	

TM30: 82,9

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



C1	C2	C3	C4	C5	C6	C7	C8
79,7	82,5	74,6	83,5	87,2	90,3	90,7	88,5
C9	C10	C11	C12	C13	C14	C15	
88,6	79,4	77,7	80,5	88,8	82,3	79,0	

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	Δuv
3833 K	82,7	11,4	82,9	97,6	83,6	0,391	0,390	0,227	0,339	0,0033



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TM30 details

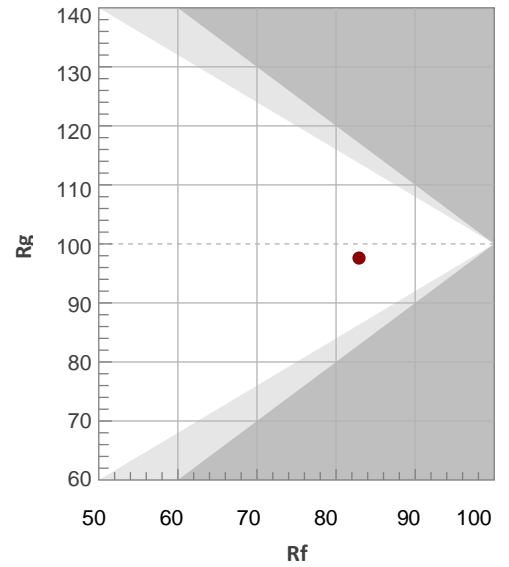
Rf 82,9

Fidelity index Rf

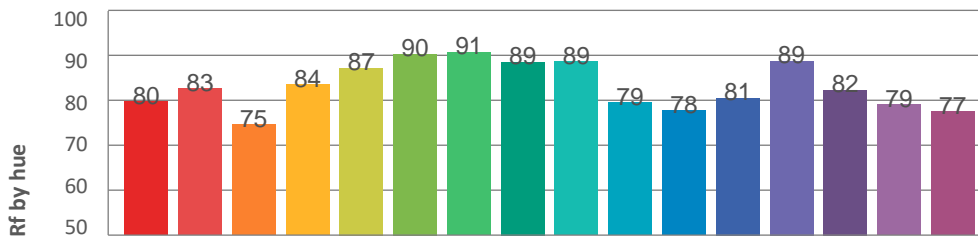
Rg 97,6

Gamut index Rg

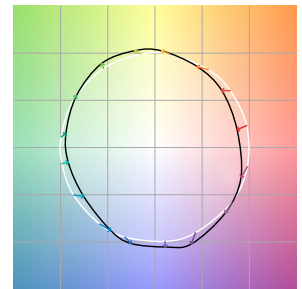
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	80	-11%	-2%
2	83	-7%	5%
3	75	-4%	12%
4	84	2%	9%
5	87	5%	6%
6	90	5%	-1%
7	91	0%	-6%
8	89	-4%	-5%
9	89	-7%	0%
10	79	-8%	7%
11	78	-1%	14%
12	81	5%	8%
13	89	6%	-1%
14	82	7%	-10%
15	79	1%	-13%
16	77	-4%	-12%



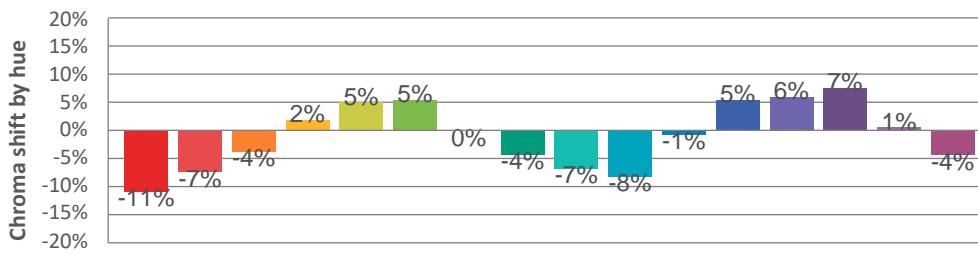
Hue binH



Color vector graphics



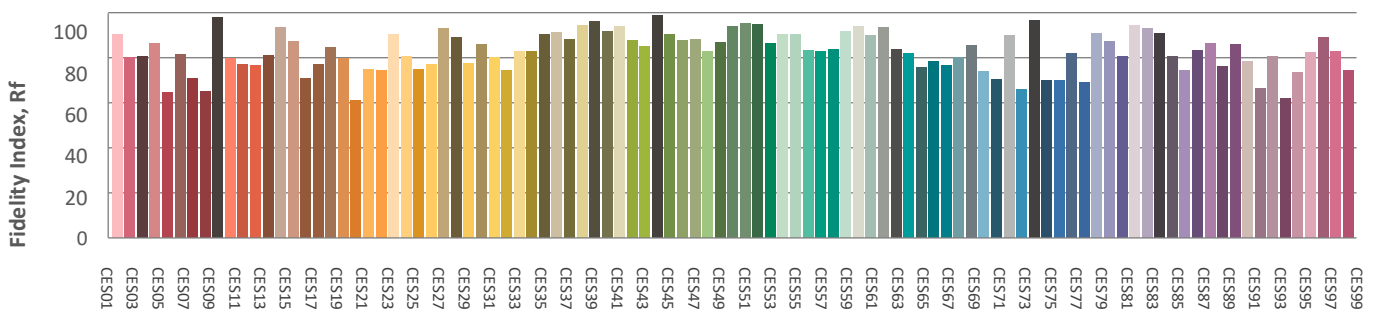
Hue bin



Color distortion graphics



Color Evaluation Sample



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 info@cls-led.com
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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	19,3	19,9	19,5	20,1	20,3	19,3	19,9	19,5	20,1	20,3
	3H	19,1	19,7	19,4	20,0	20,2	19,1	19,7	19,4	20,0	20,2
	4H	19,0	19,6	19,4	19,9	20,1	19,0	19,6	19,4	19,9	20,1
	6H	19,0	19,5	19,3	19,8	20,1	19,0	19,5	19,3	19,8	20,1
	8H	18,9	19,4	19,3	19,7	20,0	18,9	19,4	19,3	19,7	20,0
	12H	18,9	19,4	19,2	19,7	20,0	18,9	19,4	19,2	19,7	20,0
4H	2H	19,0	19,6	19,4	19,9	20,2	19,0	19,6	19,4	19,9	20,2
	3H	18,9	19,4	19,3	19,7	20,0	18,9	19,4	19,3	19,7	20,0
	4H	18,8	19,2	19,2	19,6	19,9	18,8	19,2	19,2	19,6	19,9
	6H	18,8	19,1	19,2	19,5	19,9	18,8	19,1	19,2	19,5	19,9
	8H	18,7	19,0	19,1	19,4	19,8	18,7	19,0	19,1	19,4	19,8
	12H	18,7	18,9	19,1	19,3	19,8	18,7	18,9	19,1	19,3	19,8
8H	4H	18,7	19,0	19,1	19,4	19,8	18,7	19,0	19,1	19,4	19,8
	6H	18,6	18,9	19,1	19,3	19,7	18,6	18,9	19,1	19,3	19,7
	8H	18,6	18,8	19,1	19,2	19,7	18,6	18,8	19,1	19,2	19,7
	12H	18,5	18,7	19,0	19,2	19,7	18,5	18,7	19,0	19,2	19,7
12H	4H	18,7	18,9	19,1	19,3	19,8	18,7	18,9	19,1	19,3	19,8
	6H	18,6	18,8	19,1	19,2	19,7	18,6	18,8	19,1	19,2	19,7
	8H	18,5	18,7	19,0	19,2	19,7	18,5	18,7	19,0	19,2	19,7
Variation of the observer position for the luminaire distance S											
S = 1,0H	+4,9 / -12,0					+4,9 / -12,0					
S = 1,5H	+7,6 / -19,1					+7,6 / -19,1					
S = 2,0H	+9,6 / -20,9					+9,6 / -20,9					
Standard table	BK00					BK00					
Correction summand	0,6					0,6					
Corrected glare indices referring to 2190lm total luminous flux											



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