

LM-79

Test Report

LM79-RUBY-5-3000K-CRI80-MEDIUM

General Description

Item number	
Date and time	10-3-2017 15:43:47
CCT (Kelvin)	3055 K
Beam angle	45,6°
Luminous flux	1971 lm
Efficiency	96 lm/watt
Weighted energy	20,5 kWh/1000h
Power factor	0,89
CRI (RA)	82,1
Fidelity index Rf	Rf 83,3
Gammut index Rg	Rg 95,9

NEW



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

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Beam details	1m	2m	3m	4m	5m														
Lux*	2800 lx	700 lx	311 lx	175 lx	112 lx														
<i>*measured at center of beam</i>																			
Footcandles*	260,1 fcd	65,0 fcd	28,9 fcd	16,3 fcd	10,4 fcd														
Beam width (meter)	0,8 m	1,7 m	2,5 m	3,4 m	4,2 m														
Beam width (Feet)	2,8 ft	5,5 ft	8,3 ft	11 ft	13,8 ft														
Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
2800lx	700lx	311lx	175lx	112lx	78lx	57lx	44lx	35lx	28lx	23lx	19lx	17lx	14lx	12lx	11lx	10lx	9lx	8lx	7lx
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
260,1fcd	65fcd	28,9fcd	16,3fcd	10,4fcd	7,2fcd	5,3fcd	4,1fcd	3,2fcd	2,6fcd	2,1fcd	1,8fcd	1,5fcd	1,3fcd	1,2fcd	1fcd	0,9fcd	0,8fcd	0,7fcd	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°
2800	2789	2760	2731	2642	2535	2406	2213	2019	1827	1636	1458	1325	1192	1091	1003	904	773	641	479
100%	100%	99%	98%	94%	91%	86%	79%	72%	65%	58%	52%	47%	43%	39%	36%	32%	28%	23%	17%
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°
2800	2789	2760	2731	2642	2535	2406	2213	2019	1827	1636	1458	1325	1192	1091	1003	904	773	641	479
100%	100%	99%	98%	94%	91%	86%	79%	72%	65%	58%	52%	47%	43%	39%	36%	32%	28%	23%	17%
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°
2800	2804	2798	2756	2714	2596	2449	2288	2072	1857	1663	1479	1309	1195	1081	984	895	792	627	462
100%	100%	100%	98%	97%	93%	87%	82%	74%	66%	59%	53%	47%	43%	39%	35%	32%	28%	22%	17%
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°
2800	2804	2798	2756	2714	2596	2449	2288	2072	1857	1663	1479	1309	1195	1081	984	895	792	627	462
100%	100%	100%	98%	97%	93%	87%	82%	74%	66%	59%	53%	47%	43%	39%	35%	32%	28%	22%	17%
Beam angle 50%		Field angle 10%				Cutoff angle 2,5%				Intensity ratio in 120° cone				Intensity ratio in 90° cone					
45,6°		81°				{C_ANG}°				99,4%				97,1%					



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

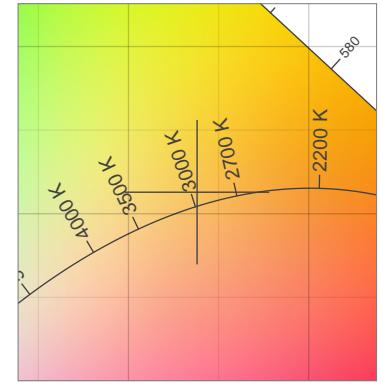
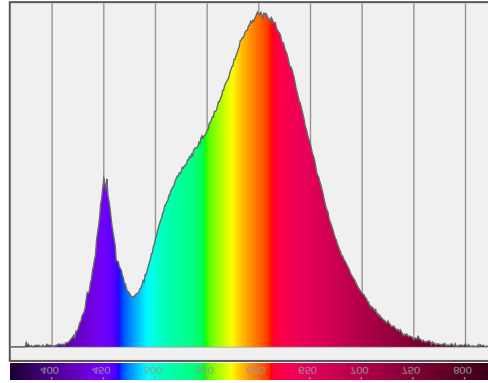
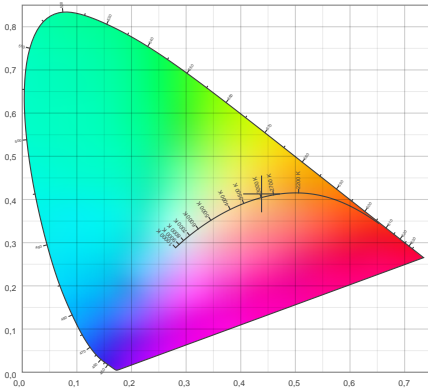
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Color details



CIE 1931

x: 0,438



Spectra

CIE 1931 ZOOM

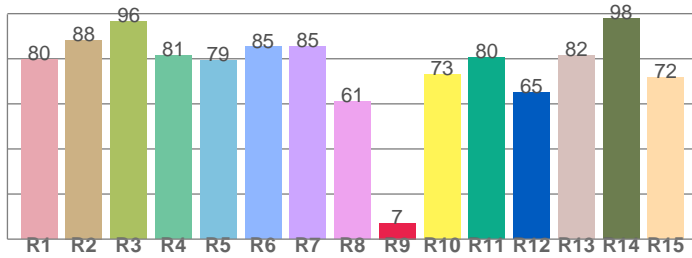
3055 K

y: 0,413

Δuv : 0,0033

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

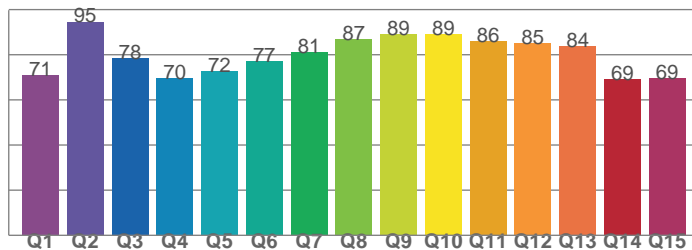
CRI values, R1-R8 are used to calculate final CRI value



R1	R2	R3	R4	R5	R6	R7	R8
79,8	88,3	96,5	81,4	79,4	85,3	85,3	60,9
R9	R10	R11	R12	R13	R14	R15	
7,2	73,2	80,4	64,9	81,5	97,8	71,7	

CQS: **78,5**

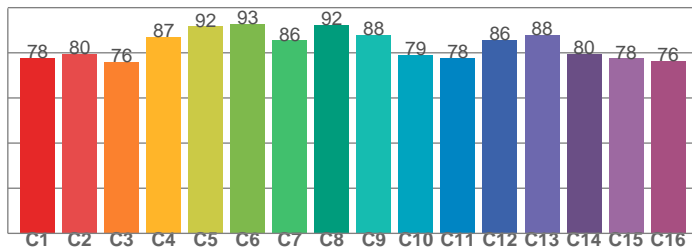
CQS values



Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
70,8	94,6	78,4	69,6	72,5	77,2	81,0	86,8
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
89,0	89,0	86,1	85,1	83,9	69,2	69,4	

TM30: **83,3**

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



C1	C2	C3	C4	C5	C6	C7	C8
77,9	79,6	76,0	87,0	91,7	92,7	85,5	92,3
C9	C10	C11	C12	C13	C14	C15	
87,8	79,1	77,8	85,7	87,9	79,6	77,5	

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
3055 K	82,1	7,2	83,3	95,9	78,5	0,438	0,413	0,248	0,350	0,0033



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TM30 details

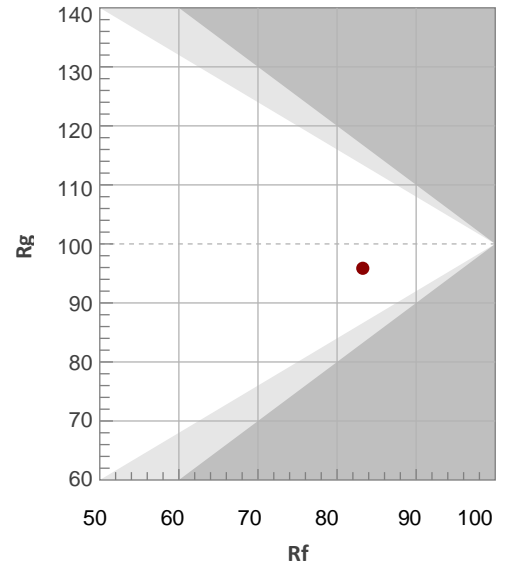
Rf 83,3

Fidelity index Rf

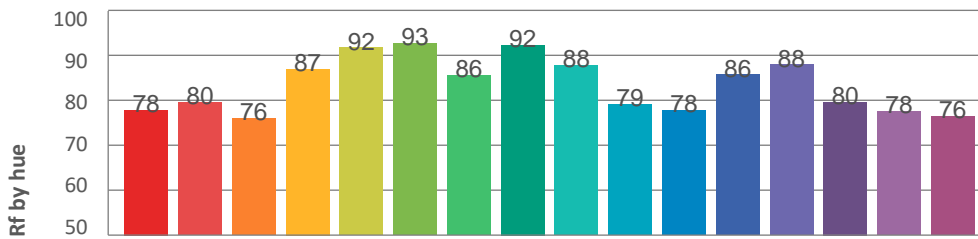
Rg 95,9

Gamut index Rg

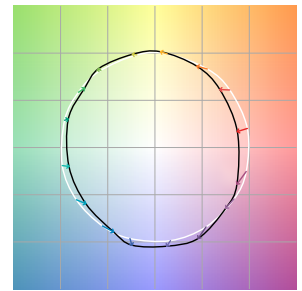
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	78	-11%	-1%
2	80	-8%	6%
3	76	-4%	11%
4	87	1%	7%
5	92	2%	5%
6	93	3%	-2%
7	86	-3%	-7%
8	92	-4%	-2%
9	88	-7%	2%
10	79	-6%	9%
11	78	-1%	13%
12	86	6%	3%
13	88	5%	-5%
14	80	6%	-14%
15	78	-2%	-13%
16	76	-7%	-15%



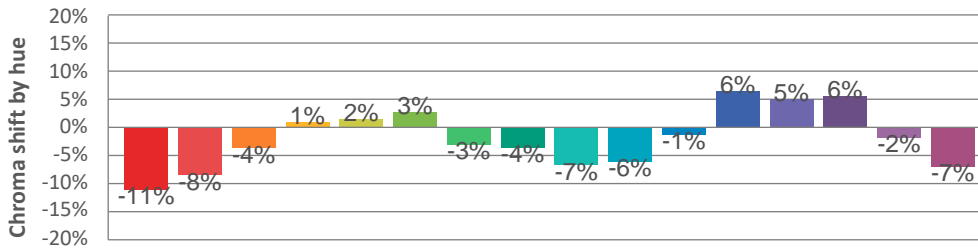
Hue binH



Color vector graphics



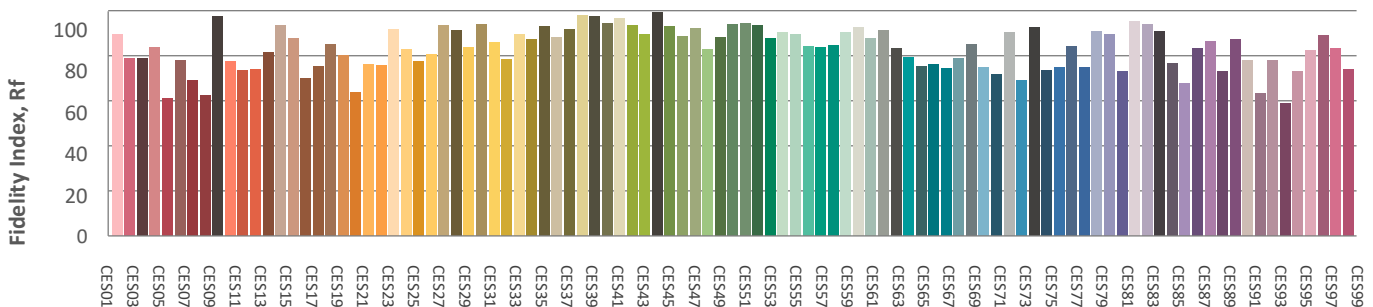
Hue bin



Color distortion graphics



Color Evaluation Sample



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 info@cls-led.com
 www.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	18,8	19,5	19,0	19,7	19,9	18,8	19,5	19,1	19,7	19,9
	3H	18,7	19,3	18,9	19,5	19,8	18,7	19,3	19,0	19,6	19,8
	4H	18,6	19,2	18,9	19,4	19,7	18,6	19,2	18,9	19,5	19,7
	6H	18,5	19,0	18,8	19,3	19,6	18,6	19,1	18,9	19,4	19,7
	8H	18,5	19,0	18,8	19,3	19,6	18,5	19,0	18,9	19,3	19,6
	12H	18,4	18,9	18,8	19,2	19,5	18,5	19,0	18,8	19,3	19,6
4H	2H	18,6	19,2	18,9	19,4	19,7	18,6	19,2	18,9	19,5	19,7
	3H	18,4	18,9	18,8	19,2	19,6	18,5	19,0	18,8	19,3	19,6
	4H	18,4	18,8	18,7	19,1	19,5	18,4	18,8	18,8	19,2	19,5
	6H	18,3	18,6	18,7	19,0	19,4	18,3	18,7	18,7	19,1	19,4
	8H	18,3	18,6	18,7	18,9	19,4	18,3	18,6	18,7	19,0	19,4
	12H	18,2	18,5	18,7	18,9	19,3	18,3	18,5	18,7	18,9	19,4
8H	4H	18,3	18,6	18,7	18,9	19,4	18,3	18,6	18,7	19,0	19,4
	6H	18,2	18,4	18,6	18,8	19,3	18,2	18,4	18,7	18,9	19,3
	8H	18,1	18,3	18,6	18,8	19,2	18,2	18,4	18,6	18,8	19,3
	12H	18,1	18,2	18,6	18,7	19,2	18,1	18,3	18,6	18,7	19,2
12H	4H	18,2	18,5	18,7	18,9	19,3	18,3	18,5	18,7	18,9	19,4
	6H	18,1	18,3	18,6	18,8	19,2	18,2	18,4	18,6	18,8	19,3
	8H	18,1	18,2	18,6	18,7	19,2	18,1	18,3	18,6	18,7	19,2
Variation of the observer position for the luminaire distance S											
S = 1,0H	+5,0 / -12,3					+4,9 / -12,4					
S = 1,5H	+7,8 / -21,3					+7,8 / -20,4					
S = 2,0H	+9,8 / -22,3					+9,8 / -21,6					
Standard table	BK00					BK00					
Correction summand	0,1					0,2					
Corrected glare indices referring to 1971lm total luminous flux											



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