

LM-79

Test Report

LM79-RUBY-BRACKET-8-3000K-CRI80-FLOOD

General Discription

Item number	RU-38-X-X-02-3-X	
Date and time	21-11-2016 10:54:06	
CCT (Kelvin)	3040 K	
Beam angle	63,7°	
Luminous flux	5263 lm	
Efficiency	92 lm/watt	
Weighted energy	57,1 kWh/1000h	
Power factor	0,98	
CRI (RA)	81,1	
Fidelity index Rf	Rf 82,5	
Gammut index Rg	Rg 95,1	
Peak	5383 cd	



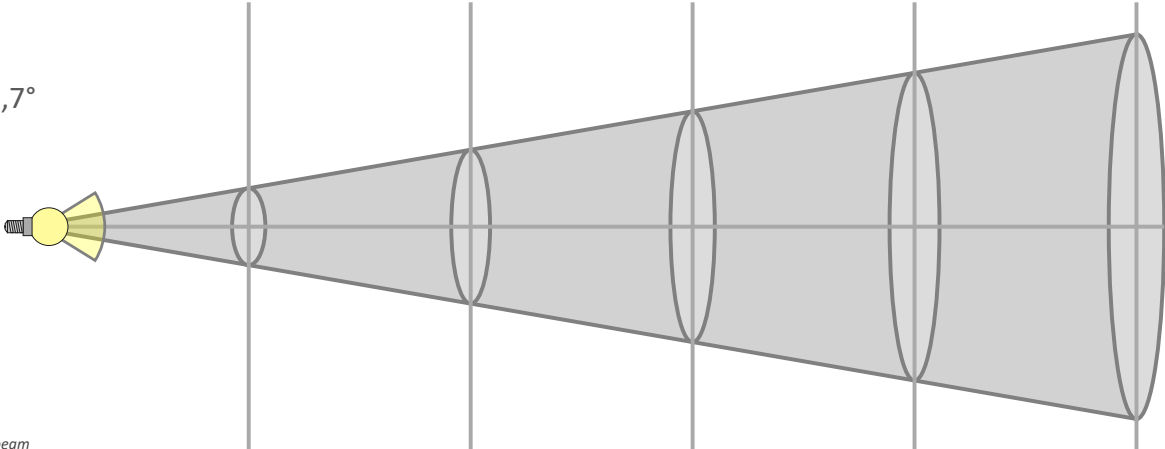
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Beam details					1m		2m		3m		4m		5m						
Lux*					5371 lx		1343 lx		597 lx		336 lx		215 lx						
63,7° 																			
*measured at center of beam																			
Footcandles*					499,0 fcd		124,7 fcd		55,4 fcd		31,2 fcd		20,0 fcd						
Beam width (meter)					1,2 m		2,5 m		3,7 m		5 m		6,2 m						
Beam width (Feet)					4,1 ft		8,2 ft		12,2 ft		16,3 ft		20,4 ft						
Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
5371lx	1343lx	597lx	336lx	215lx	149lx	110lx	84lx	66lx	54lx	44lx	37lx	32lx	27lx	24lx	21lx	19lx	17lx	15lx	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
499fcd	124,7fcd	55,4fcd	31,2fcd	20fcd	13,9fcd	10,2fcd	7,8fcd	6,2fcd	5fcd	4,1fcd	3,5fcd	3fcd	2,5fcd	2,2fcd	1,9fcd	1,7fcd	1,5fcd	1,4fcd	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°
5371	5359	5316	5261	5178	5039	4901	4677	4445	4229	4033	3837	3648	3458	3237	2994	2721	2278	1834	1433
100%	100%	99%	98%	96%	94%	91%	87%	83%	79%	75%	71%	68%	64%	60%	56%	51%	42%	34%	27%
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°
5371	5383	5331	5243	5140	5025	4821	4618	4395	4164	3945	3762	3579	3385	3189	2943	2609	2274	1826	1369
100%	100%	99%	98%	96%	94%	90%	86%	82%	78%	73%	70%	67%	63%	59%	55%	49%	42%	34%	25%
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°
5371	5359	5316	5261	5178	5039	4901	4677	4445	4229	4033	3837	3648	3458	3237	2994	2721	2278	1834	1433
100%	100%	99%	98%	96%	94%	91%	87%	83%	79%	75%	71%	68%	64%	60%	56%	51%	42%	34%	27%
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°
5371	5383	5331	5243	5140	5025	4821	4618	4395	4164	3945	3762	3579	3385	3189	2943	2609	2274	1826	1369
100%	100%	99%	98%	96%	94%	90%	86%	82%	78%	73%	70%	67%	63%	59%	55%	49%	42%	34%	25%
Beam angle 50%				Field angle 10%				Cutoff angle 2,5%				Intensity ratio in 120° cone				Intensity ratio in 90° cone			
63,7°				88,3°				112,4°				98,1%				92,8%			



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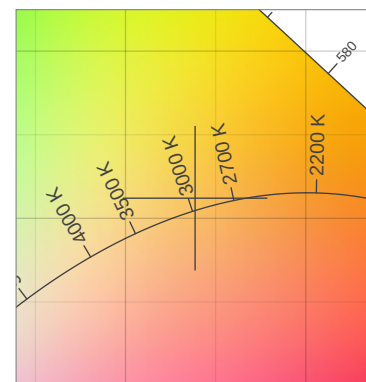
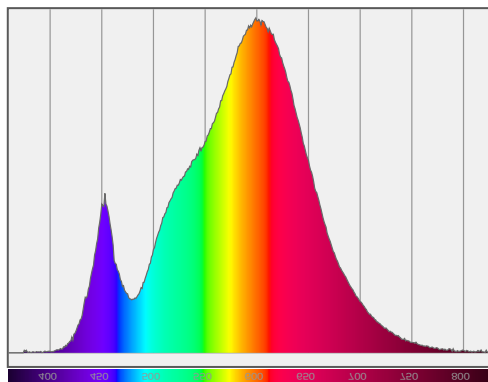
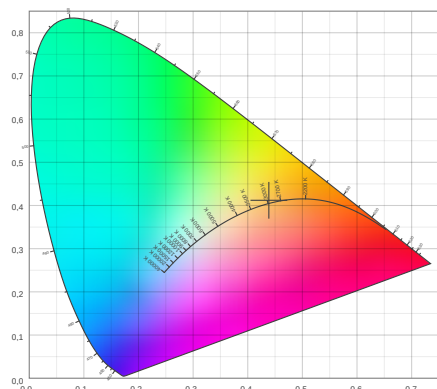
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Color details



CIE 1931

x: 0,439

3040 K

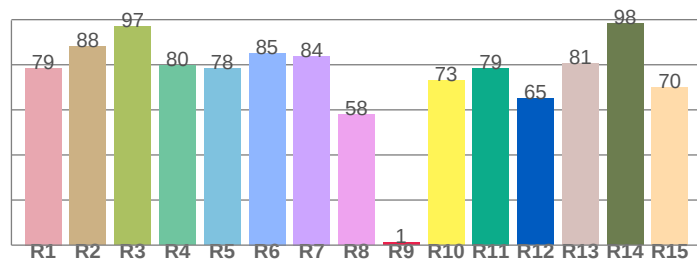
y: 0,412

Spectra

CIE 1931 ZOOM

Δuv : 0,0029

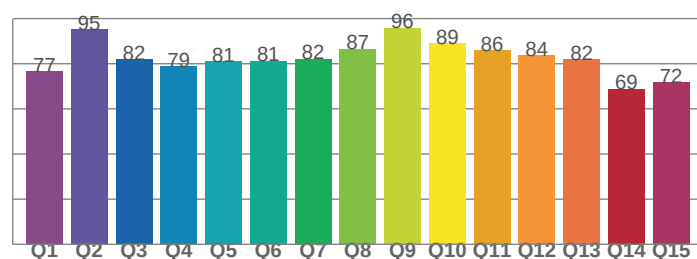
CRI: 81,1 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
78,6	88,1	96,9	79,8	78,3	85,2	83,9	58,0
R9	R10	R11	R12	R13	R14	R15	
1,1	73,0	78,5	65,1	80,6	98,3	70,0	

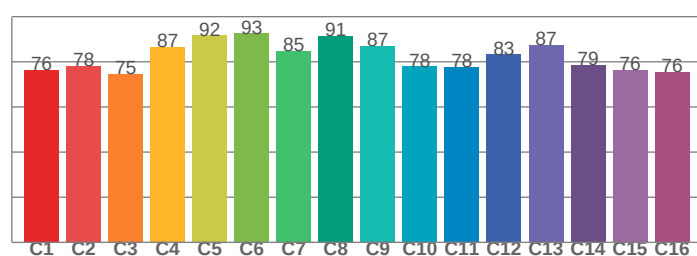
CQS: 81,2



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
76,7	95,3	82,1	78,9	81,2	81,3	82,2	86,6
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
95,9	88,9	86,0	83,6	82,1	68,9	71,7	

TM30: 82,5



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

C1	C2	C3	C4	C5	C6	C7	C8
76,3	78,0	74,7	86,7	91,8	92,6	84,8	91,5
C9	C10	C11	C12	C13	C14	C15	
87,0	77,9	77,8	83,3	87,4	78,7	76,3	

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
3040 K	81,1	1,1	82,5	95,1	81,2	0,439	0,412	0,248	0,350	0,0029



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TM30 details

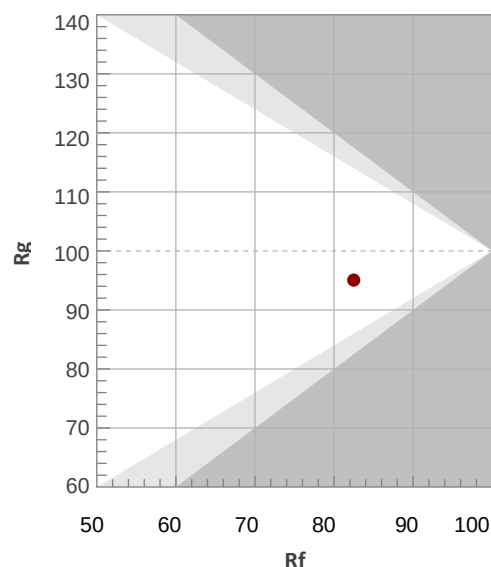
Rf 82,5

Fidelity index Rf

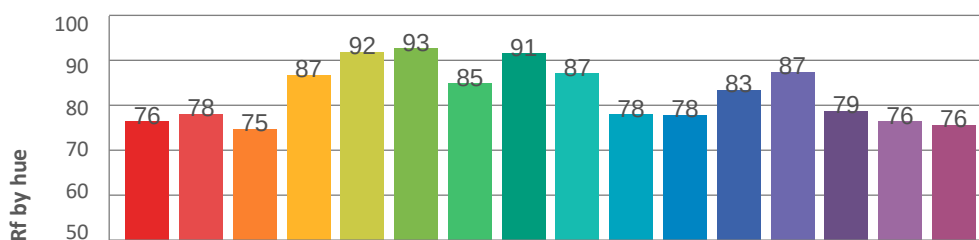
Rg 95,1

Gamut index Rg

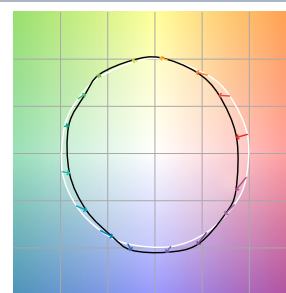
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	76	-12%	-1%
2	78	-9%	7%
3	75	-4%	11%
4	87	1%	8%
5	92	2%	4%
6	93	3%	-2%
7	85	-4%	-8%
8	91	-4%	-2%
9	87	-7%	3%
10	78	-6%	10%
11	78	-2%	14%
12	83	6%	5%
13	87	5%	-6%
14	79	5%	-14%
15	76	-2%	-14%
16	76	-8%	-15%



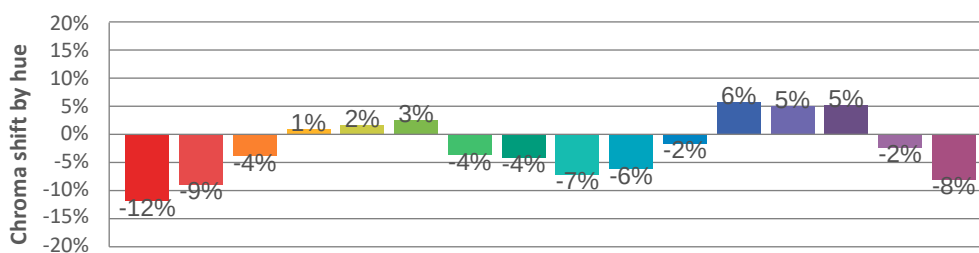
Hue binH



Color vector graphics



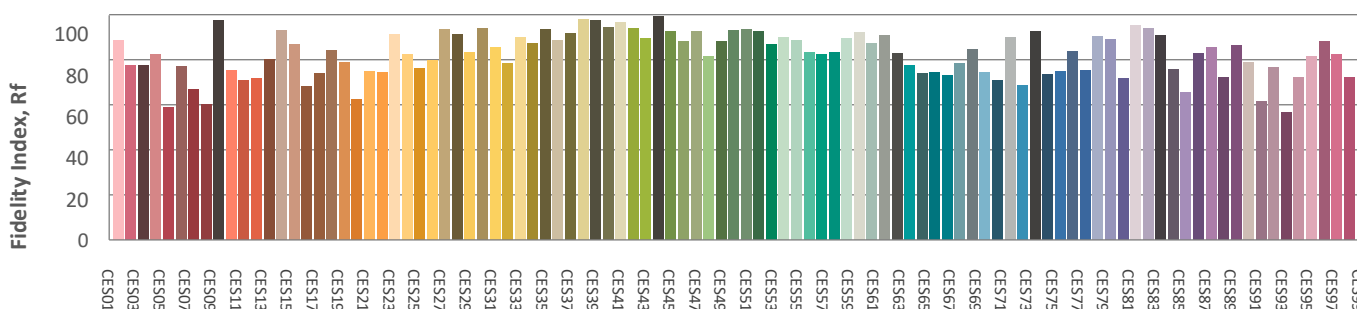
Hue bin



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				
2H	2H	23,8	24,6	24,1	24,8	25,0	23,8	24,6	24,1	24,8	25,0
	3H	23,7	24,4	24,0	24,6	24,9	23,7	24,4	24,0	24,6	24,9
	4H	23,7	24,3	24,0	24,6	24,8	23,7	24,3	24,0	24,6	24,8
	6H	23,6	24,2	23,9	24,5	24,8	23,6	24,2	23,9	24,5	24,8
	8H	23,6	24,1	23,9	24,4	24,7	23,6	24,1	23,9	24,4	24,7
	12H	23,5	24,0	23,9	24,4	24,7	23,5	24,0	23,9	24,4	24,7
4H	2H	23,7	24,3	24,0	24,6	24,8	23,7	24,3	24,0	24,6	24,8
	3H	23,6	24,1	23,9	24,4	24,8	23,6	24,1	23,9	24,4	24,8
	4H	23,5	24,0	23,9	24,3	24,7	23,5	24,0	23,9	24,3	24,7
	6H	23,5	23,8	23,9	24,2	24,6	23,5	23,8	23,9	24,2	24,6
	8H	23,4	23,8	23,8	24,1	24,6	23,4	23,8	23,8	24,1	24,6
	12H	23,4	23,7	23,8	24,1	24,5	23,4	23,7	23,8	24,1	24,5
8H	4H	23,4	23,8	23,8	24,1	24,6	23,4	23,8	23,8	24,1	24,6
	6H	23,3	23,6	23,8	24,0	24,5	23,3	23,6	23,8	24,0	24,5
	8H	23,3	23,5	23,8	24,0	24,4	23,3	23,5	23,8	24,0	24,4
	12H	23,2	23,4	23,7	23,9	24,4	23,2	23,4	23,7	23,9	24,4
12H	4H	23,4	23,7	23,8	24,1	24,5	23,4	23,7	23,8	24,1	24,5
	6H	23,3	23,5	23,8	24,0	24,4	23,3	23,5	23,8	24,0	24,4
	8H	23,2	23,4	23,7	23,9	24,4	23,2	23,4	23,7	23,9	24,4
Variation of the observer position for the luminaire distance S											
S = 1,0H		+4,1 / -6,0					+4,1 / -6,0				
S = 1,5H		+6,8 / -8,2					+6,8 / -8,2				
S = 2,0H		+8,8 / -10,7					+8,8 / -10,7				
Standard table		BK00					BK00				
Correction summand		5,3					5,3				
Corrected glare indices referring to 5263lm total luminous flux											

