

LM-79

Test Report

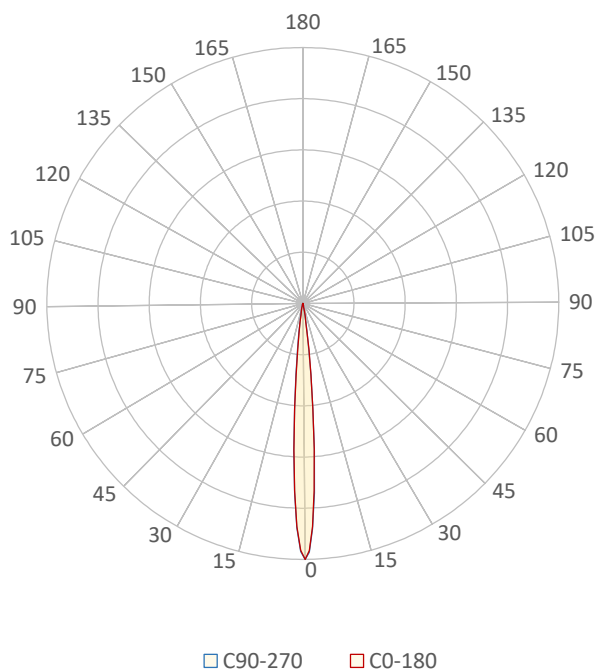
LM79-JADE-ZOOM-3000K-CRI90-SPOT

General Discription

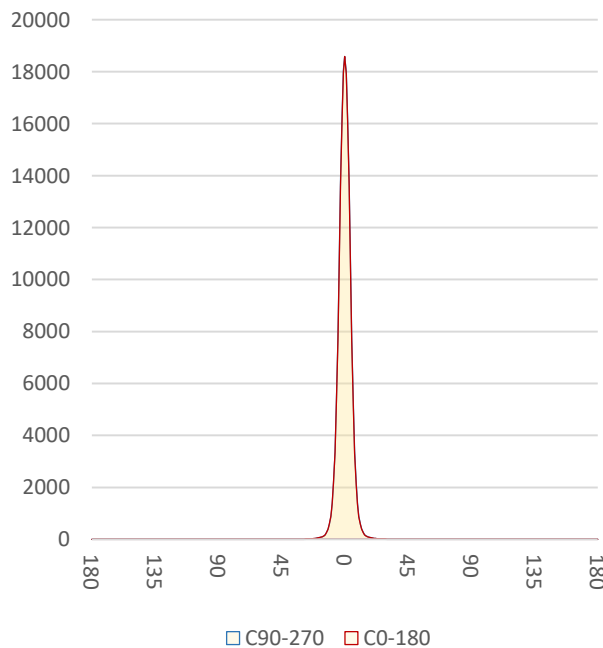
Item number	
Date and time	25-3-2019 16:33:52
CCT (Kelvin)	3010 K
Beam angle	8,9°
Luminous flux	575 lm
Efficiency	24 lm/watt
Weighted energy	23,6 kWh/1000h
Power factor	0,97
CRI (RA)	92,2
Fidelity index Rf	Rf 90,1
Gammut index Rg	Rg 101,8
Peak	18642 cd



Polar diagram



Cartesian diagram



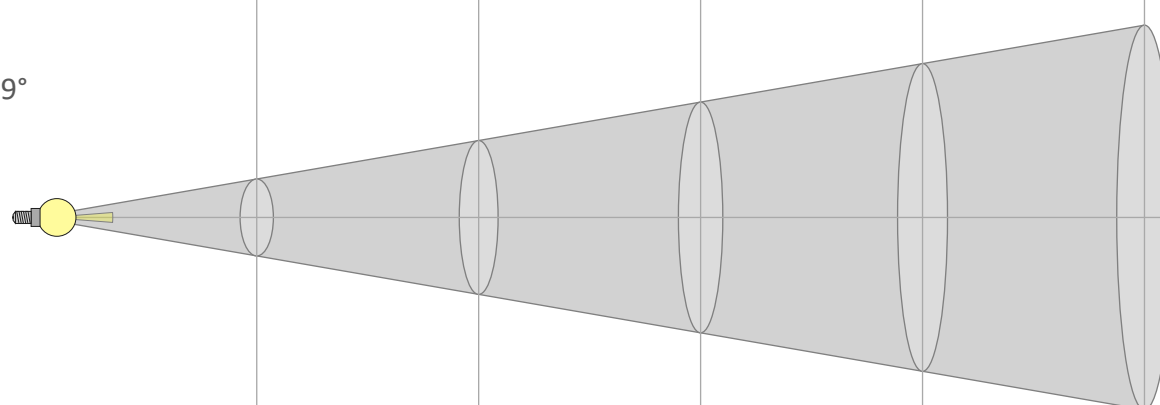
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Beam details					1m		2m		3m		4m		5m						
Lux*					18585 lx		4646 lx		2065 lx		1162 lx		743 lx						
8,9° 																			
*measured at center of beam																			
Footcandles*					1726,6 fcd		431,7 fcd		191,8 fcd		107,9 fcd		69,1 fcd						
Beam width (meter)					0,2 m		0,3 m		0,5 m		0,6 m		0,8 m						
Beam width (Feet)					0,5 ft		1 ft		1,5 ft		2 ft		2,6 ft						
Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
18585lx	4646lx	2065lx	1162lx	743lx	516lx	379lx	290lx	229lx	186lx	154lx	129lx	110lx	95lx	83lx	73lx	64lx	57lx	51lx	46lx
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
1726,6fcd	431,7fcd	191,8fcd	107,9fcd	69,1fcd	48fcd	35,2fcd	27fcd	21,3fcd	17,3fcd	14,3fcd	12fcd	10,2fcd	8,8fcd	7,7fcd	6,7fcd	6fcd	5,3fcd	4,8fcd	4,3fcd
Intensities in 0° c-plane																			
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
18,6K	17,9K	16,2K	13,6K	10,6K	7,7K	5,2K	3,4K	2,2K	1,4K	0,9K	0,6K	0,4K	0,3K	0,2K	0,1K	0,1K	0,1K	0,1K	0,1K
100%	97%	87%	73%	57%	41%	28%	18%	12%	7%	5%	3%	2%	1%	1%	1%	1%	0%	0%	0%
Intensities in 90° c-plane																			
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
18,6K	18,1K	16,4K	13,8K	10,7K	7,7K	5,2K	3,4K	2,1K	1,3K	0,9K	0,6K	0,4K	0,3K	0,2K	0,1K	0,1K	0,1K	0,1K	0,1K
100%	97%	88%	74%	58%	42%	28%	18%	11%	7%	5%	3%	2%	1%	1%	1%	1%	0%	0%	0%
Intensities in 180° c-plane																			
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
18,6K	17,9K	16,2K	13,6K	10,6K	7,6K	5,1K	3,3K	2,1K	1,3K	0,9K	0,6K	0,4K	0,3K	0,2K	0,1K	0,1K	0,1K	0,1K	0,1K
100%	96%	87%	73%	57%	41%	27%	18%	11%	7%	5%	3%	2%	1%	1%	1%	1%	0%	0%	0%
Intensities in 270° c-plane																			
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
18,6K	18,0K	16,3K	13,7K	10,7K	7,8K	5,2K	3,4K	2,2K	1,4K	0,9K	0,6K	0,4K	0,3K	0,2K	0,1K	0,1K	0,1K	0,1K	0,1K
100%	97%	88%	74%	58%	42%	28%	18%	12%	8%	5%	3%	2%	1%	1%	1%	1%	0%	0%	0%
Beam angle 50%				Field angle 10%				Cutoff angle 2,5%				Intensity ratio in 120° cone				Intensity ratio in 90° cone			
8,9°				16,6°				23,1°				98,8%				98,5%			



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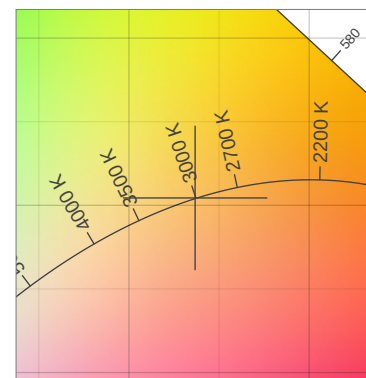
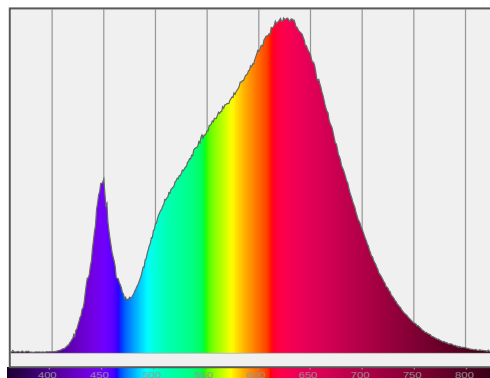
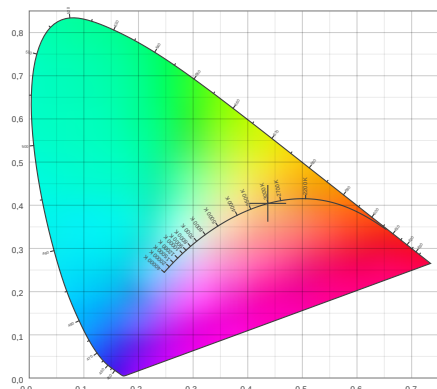
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Color details



CIE 1931

x: 0,437

3010 K

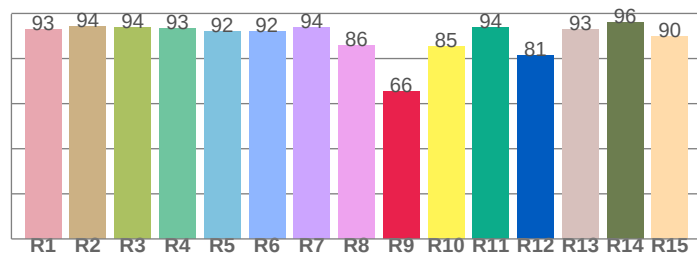
y: 0,404

Spectra

CIE 1931 ZOOM

Δuv : 0,0002

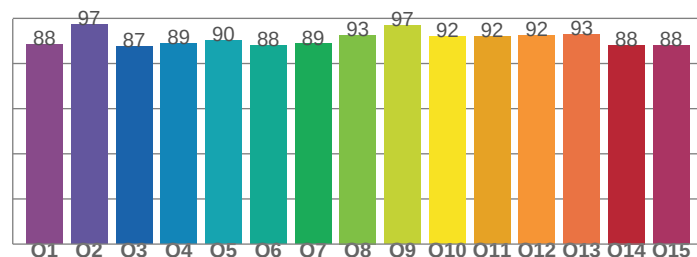
CRI: 92,2 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
92,8	94,1	94,0	93,3	92,0	92,3	93,7	85,8
R9	R10	R11	R12	R13	R14	R15	
65,6	85,5	94,0	81,5	92,8	96,0	89,8	

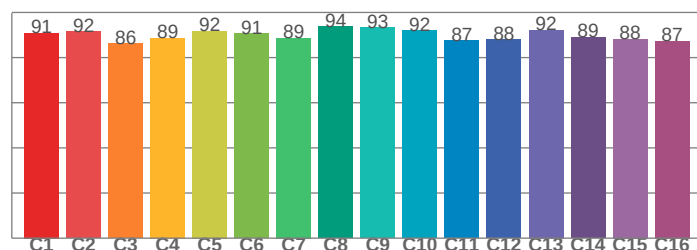
CQS: 90,4



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
88,3	97,4	87,4	89,0	90,2	88,1	88,7	92,7
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
96,7	92,0	92,1	92,5	92,9	88,2	88,1	

TM30: 90,1



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

C1	C2	C3	C4	C5	C6	C7	C8
90,9	91,7	86,2	88,7	91,7	90,7	88,6	93,7
C9	C10	C11	C12	C13	C14	C15	
93,2	91,9	87,4	88,1	92,2	89,0	88,2	

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
3010 K	92,2	65,6	90,1	101,8	90,4	0,437	0,404	0,250	0,348	0,0002



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TM30 details

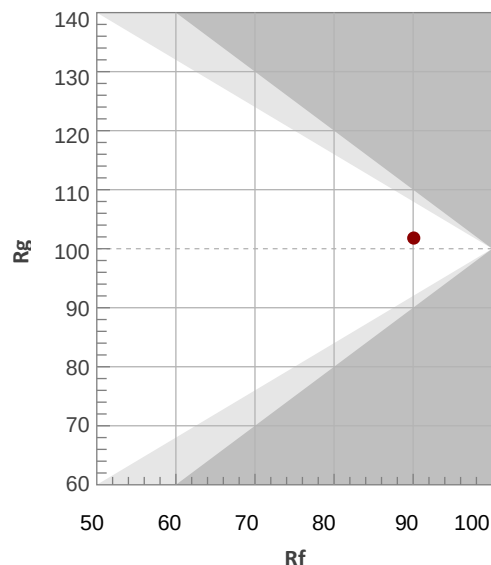
Rf 90,1

Fidelity index Rf

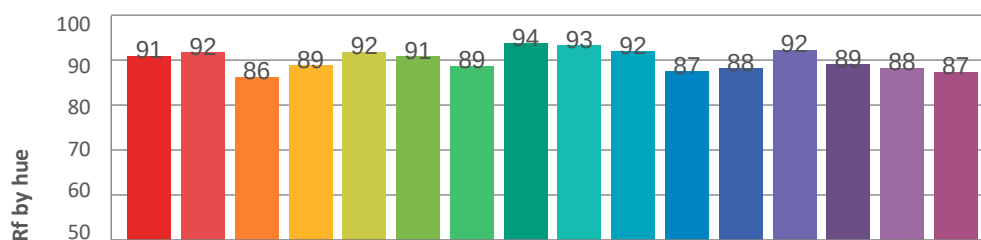
Rg 101,8

Gamut index Rg

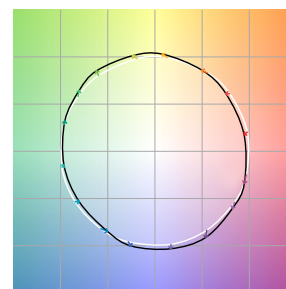
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	91	-4%	-2%
2	92	-3%	3%
3	86	-1%	6%
4	89	3%	6%
5	92	4%	4%
6	91	5%	-1%
7	89	3%	-6%
8	94	0%	-4%
9	93	-3%	-2%
10	92	-4%	2%
11	87	-1%	8%
12	88	4%	4%
13	92	5%	-1%
14	89	6%	-5%
15	88	2%	-7%
16	87	0%	-9%



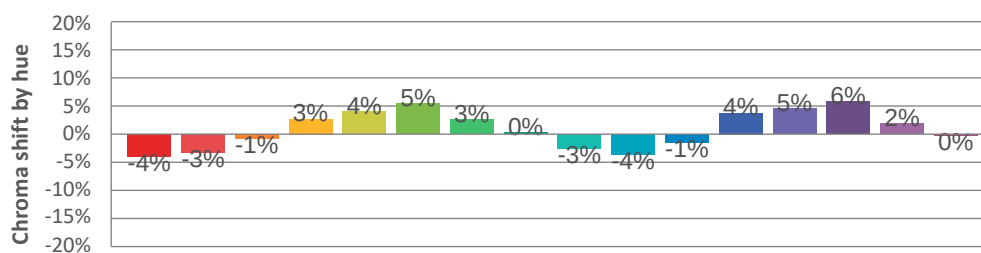
Hue binH



Color vector graphics



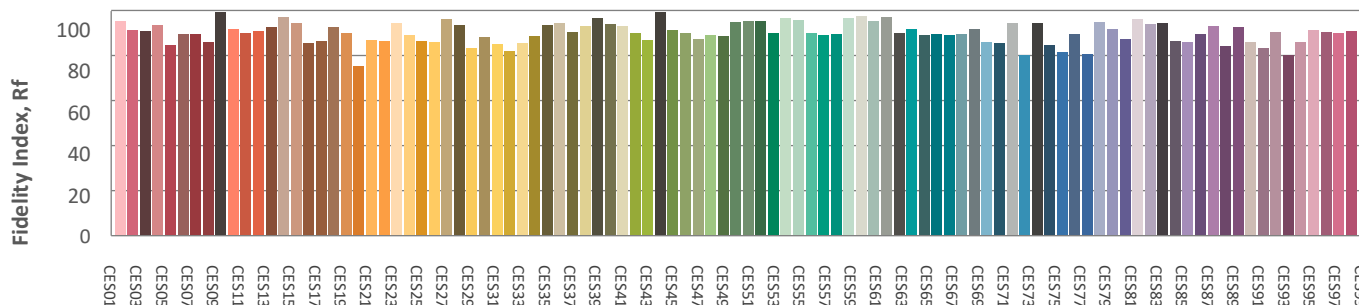
Hue bin



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	-5,5	-4,8	-5,2	-4,6	-4,4	-5,3	-4,6	-5,0	-4,4	-4,2
	3H	-4,0	-3,4	-3,7	-3,1	-2,9	-1,7	-1,1	-1,4	-0,9	-0,6
	4H	-2,2	-1,6	-1,9	-1,4	-1,1	0,0	0,6	0,3	0,8	1,1
	6H	-1,3	-0,8	-0,9	-0,5	-0,2	2,1	2,6	2,4	2,9	3,2
	8H	-0,5	-0,0	-0,2	0,3	0,6	3,2	3,7	3,5	4,0	4,3
	12H	0,6	1,1	1,0	1,4	1,7	4,3	4,7	4,6	5,1	5,4
4H	2H	-5,1	-4,6	-4,8	-4,3	-4,0	-4,7	-4,2	-4,4	-3,9	-3,6
	3H	-2,7	-2,3	-2,4	-1,9	-1,6	-0,6	-0,1	-0,2	0,2	0,5
	4H	-0,8	-0,4	-0,4	-0,0	0,3	1,3	1,7	1,7	2,0	2,4
	6H	0,4	0,7	0,8	1,1	1,5	3,6	3,9	4,0	4,3	4,7
	8H	1,3	1,5	1,7	1,9	2,4	4,8	5,0	5,2	5,4	5,9
	12H	2,5	2,8	3,0	3,2	3,6	6,0	6,2	6,4	6,6	7,1
8H	4H	0,1	0,4	0,5	0,8	1,2	1,9	2,2	2,3	2,6	3,0
	6H	1,6	1,8	2,0	2,2	2,7	4,4	4,6	4,9	5,1	5,5
	8H	2,7	2,8	3,1	3,3	3,8	5,7	5,9	6,2	6,4	6,9
	12H	4,1	4,2	4,6	4,7	5,2	7,2	7,3	7,7	7,8	8,3
12H	4H	0,4	0,6	0,8	1,0	1,4	2,0	2,2	2,4	2,7	3,1
	6H	2,0	2,2	2,5	2,6	3,1	4,6	4,8	5,1	5,2	5,7
	8H	3,2	3,4	3,7	3,8	4,3	6,0	6,2	6,5	6,6	7,1
Variation of the observer position for the luminaire distance S											
S = 1,0H		+0,2 / -0,1					+0,2 / -0,2				
S = 1,5H		+0,3 / -0,4					+0,3 / -0,3				
S = 2,0H		+0,6 / -0,8					+0,3 / -0,7				
Standard table		BK11					---				
Correction summand		-13,8					---				
Corrected glare indices referring to 575lm total luminous flux											



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