

LM-79

Test Report

LM79-JADE-S-2700K-CRI90-SPOT

General Discription

Item number	J-SX-X-3-1-27-90-1
Date and time	27-1-2017 13:43:18
CCT (Kelvin)	2779 K
Beam angle	19,8°
Luminous flux	2541 lm
Efficiency	90 lm/watt
Weighted energy	28,2 kWh/1000h
Power factor	0,95
CRI (RA)	93,2
Fidelity index Rf	Rf 91,3
Gammut index Rg	Rg 100,5

NEW



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Beam details	1m	2m	3m	4m	5m
Lux*	10821 lx	2705 lx	1202 lx	676 lx	433 lx

*measured at center of beam

Footcandles*	1005,3 fcd	251,3 fcd	111,7 fcd	62,8 fcd	40,2 fcd
Beam width (meter)	0,3 m	0,7 m	1 m	1,4 m	1,7 m
Beam width (Feet)	1,1 ft	2,3 ft	3,4 ft	4,6 ft	5,7 ft

Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
10821lx	2705lx	1202lx	676lx	433lx	301lx	221lx	169lx	134lx	108lx	89lx	75lx	64lx	55lx	48lx	42lx	37lx	33lx	30lx	27lx
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
1005,3fcd	251,3fcd	111,7fcd	62,8fcd	40,2fcd	27,9fcd	20,5fcd	15,7fcd	12,4fcd	10,1fcd	8,3fcd	7fcd	5,9fcd	5,1fcd	4,5fcd	3,9fcd	3,5fcd	3,1fcd	2,8fcd	2,5fcd

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°
10,8K	10,5K	9,7K	8,3K	6,8K	5,3K	4,1K	3,0K	2,3K	1,8K	1,5K	1,3K	1,1K	1,0K	0,9K	0,9K	0,8K	0,7K	0,5K	0,4K
100%	97%	89%	77%	63%	49%	38%	28%	21%	17%	14%	12%	10%	9%	9%	8%	7%	6%	5%	4%

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°
10,8K	10,5K	9,7K	8,3K	6,8K	5,3K	4,1K	3,0K	2,3K	1,8K	1,5K	1,3K	1,1K	1,0K	0,9K	0,9K	0,8K	0,7K	0,5K	0,4K
100%	97%	89%	77%	63%	49%	38%	28%	21%	17%	14%	12%	10%	9%	9%	8%	7%	6%	5%	4%

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°
10,8K	10,5K	9,7K	8,3K	6,8K	5,3K	4,1K	3,0K	2,3K	1,8K	1,5K	1,3K	1,1K	1,0K	0,9K	0,9K	0,8K	0,7K	0,5K	0,4K
100%	97%	89%	77%	63%	49%	38%	28%	21%	17%	14%	12%	10%	9%	9%	8%	7%	6%	5%	4%

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°
10,8K	10,5K	9,7K	8,3K	6,8K	5,3K	4,1K	3,0K	2,3K	1,8K	1,5K	1,3K	1,1K	1,0K	0,9K	0,9K	0,8K	0,7K	0,5K	0,4K
100%	97%	89%	77%	63%	49%	38%	28%	21%	17%	14%	12%	10%	9%	9%	8%	7%	6%	5%	4%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
19,8°	49,2°	{C_ANG}°	97,9%	95,6%



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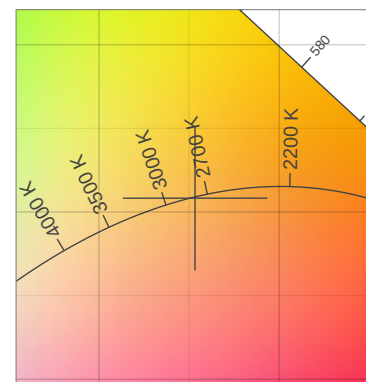
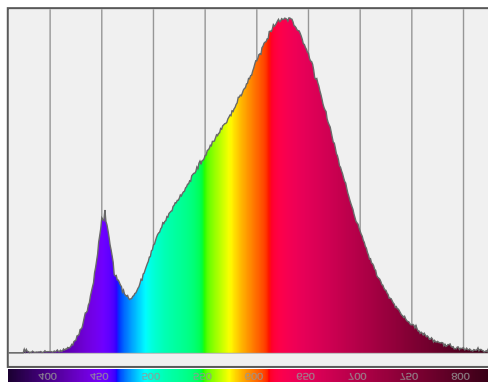
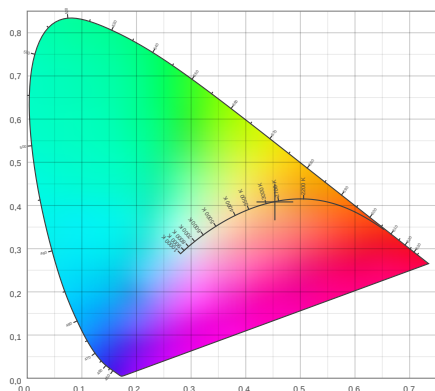
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Color details



CIE 1931

x: 0,453

2779 K

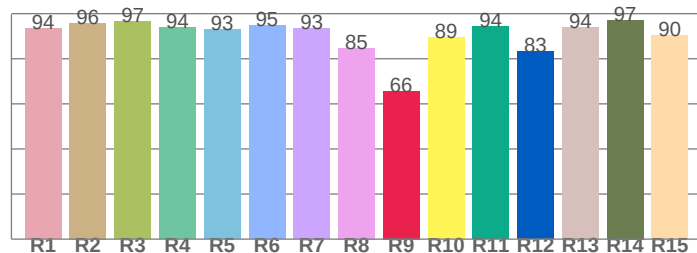
y: 0,408

Spectra

CIE 1931 ZOOM

Δuv : 0,0003

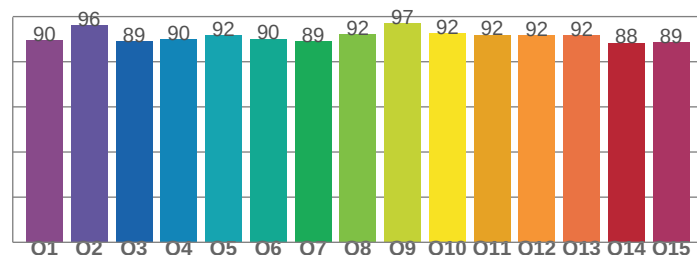
CRI: 93,2 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
93,5	95,9	96,6	93,7	93,0	94,9	93,5	84,8
R9	R10	R11	R12	R13	R14	R15	
65,7	89,3	94,3	83,1	94,0	97,2	90,3	

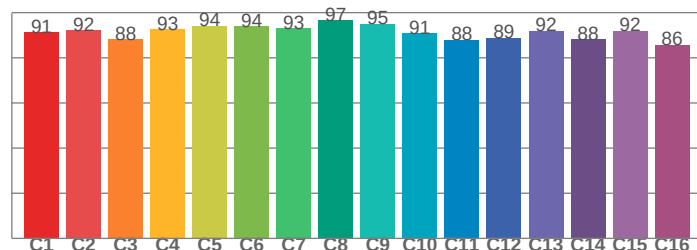
CQS: 90,9



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
89,7	96,1	89,1	89,9	91,6	90,2	89,2	92,0
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
97,0	92,5	92,0	91,7	91,9	88,4	88,6	

TM30: 91,3



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

C1	C2	C3	C4	C5	C6	C7	C8
91,2	92,1	88,2	92,6	94,2	93,8	93,0	96,5
C9	C10	C11	C12	C13	C14	C15	
94,9	90,8	88,0	88,9	91,9	88,1	91,9	

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
2779 K	93,2	65,7	91,3	100,5	90,9	0,453	0,408	0,259	0,350	0,0003



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TM30 details

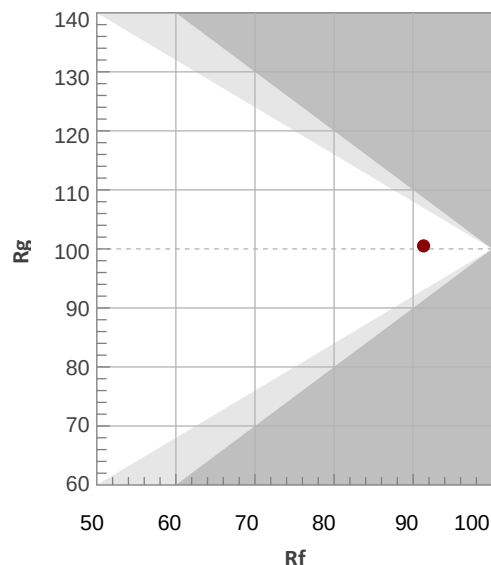
Rf 91,3

Fidelity index Rf

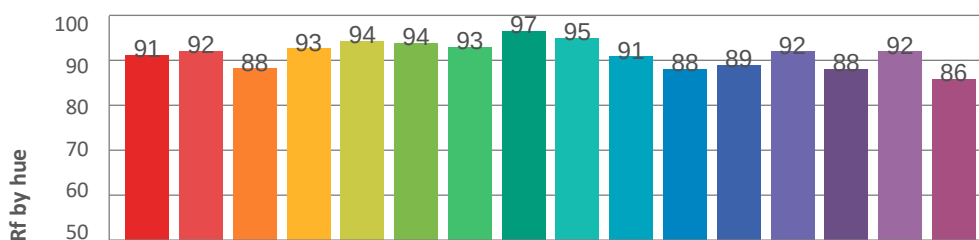
Rg 100,5

Gamut index Rg

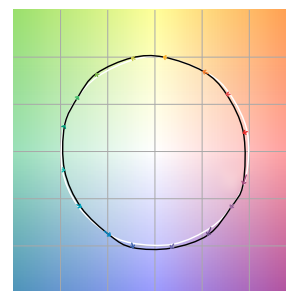
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	91	-4%	-1%
2	92	-3%	3%
3	88	-1%	5%
4	93	0%	3%
5	94	2%	3%
6	94	3%	0%
7	93	0%	-3%
8	97	-1%	-2%
9	95	-2%	1%
10	91	-2%	5%
11	88	0%	8%
12	89	5%	2%
13	92	4%	-4%
14	88	5%	-7%
15	92	0%	-4%
16	86	-1%	-10%



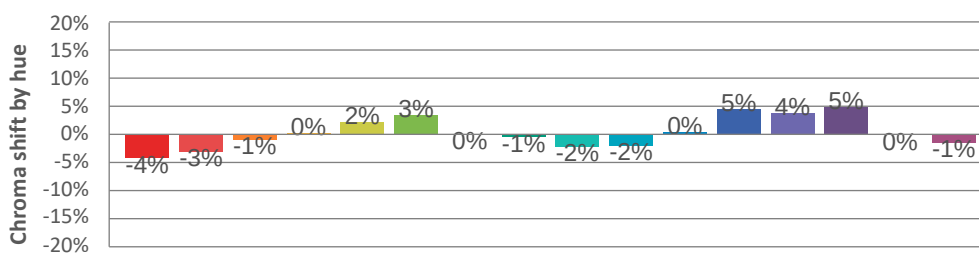
Hue binH



Color vector graphics



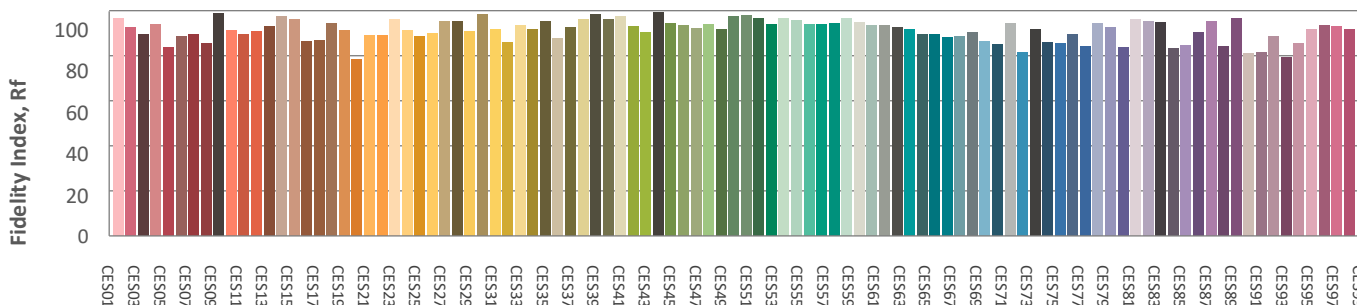
Hue bin



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	20,5	21,2	20,7	21,4	21,6	20,5	21,2	20,7	21,4	21,6
	3H	20,6	21,2	20,9	21,4	21,7	20,6	21,2	20,9	21,4	21,7
	4H	20,6	21,2	21,0	21,5	21,8	20,6	21,2	21,0	21,5	21,8
	6H	20,7	21,2	21,0	21,5	21,8	20,7	21,2	21,0	21,5	21,8
	8H	20,7	21,2	21,0	21,5	21,8	20,7	21,2	21,0	21,5	21,8
	12H	20,7	21,1	21,0	21,5	21,8	20,7	21,1	21,0	21,5	21,8
4H	2H	20,4	21,0	20,7	21,2	21,5	20,4	21,0	20,7	21,2	21,5
	3H	20,6	21,1	20,9	21,4	21,7	20,6	21,1	20,9	21,4	21,7
	4H	20,7	21,1	21,1	21,5	21,8	20,7	21,1	21,1	21,5	21,8
	6H	20,8	21,2	21,2	21,5	21,9	20,8	21,2	21,2	21,5	21,9
	8H	20,8	21,1	21,2	21,5	21,9	20,8	21,1	21,2	21,5	21,9
	12H	20,8	21,1	21,3	21,5	21,9	20,8	21,1	21,3	21,5	21,9
8H	4H	20,7	21,0	21,1	21,4	21,8	20,7	21,0	21,1	21,4	21,8
	6H	20,8	21,1	21,3	21,5	22,0	20,8	21,1	21,3	21,5	22,0
	8H	20,9	21,1	21,4	21,5	22,0	20,9	21,1	21,4	21,5	22,0
	12H	20,9	21,0	21,4	21,5	22,0	20,9	21,0	21,4	21,5	22,0
12H	4H	20,7	20,9	21,1	21,4	21,8	20,7	20,9	21,1	21,4	21,8
	6H	20,8	21,0	21,3	21,5	22,0	20,8	21,0	21,3	21,5	22,0
	8H	20,9	21,0	21,4	21,5	22,0	20,9	21,0	21,4	21,5	22,0
Variation of the observer position for the luminaire distance S											
S = 1,0H		+3,8 / -3,5					+3,8 / -3,5				
S = 1,5H		+6,4 / -3,9					+6,4 / -3,9				
S = 2,0H		+8,3 / -4,3					+8,3 / -4,3				
Standard table		BK01					BK01				
Correction summand		2,7					2,7				
Corrected glare indices referring to 2541lm total luminous flux											

