

LM-79

Test Report

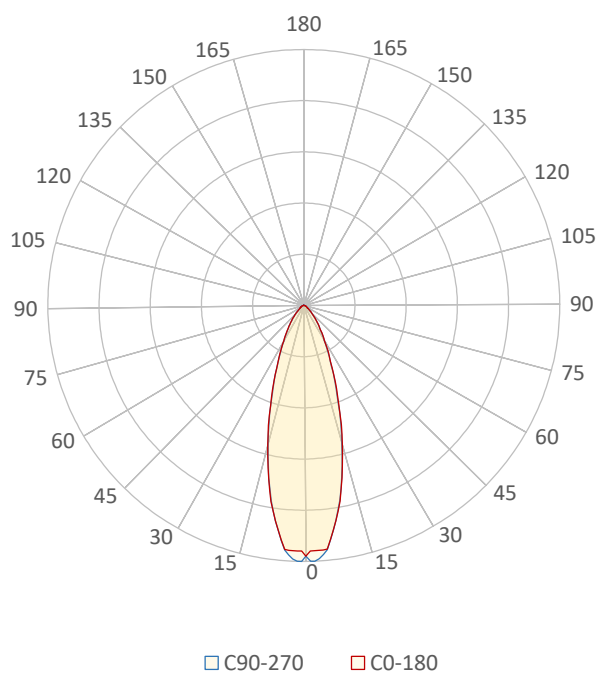
LM79-JADE-EXPO-2700K-CRI90-SPOT+ 33° beamshaper

General Discription

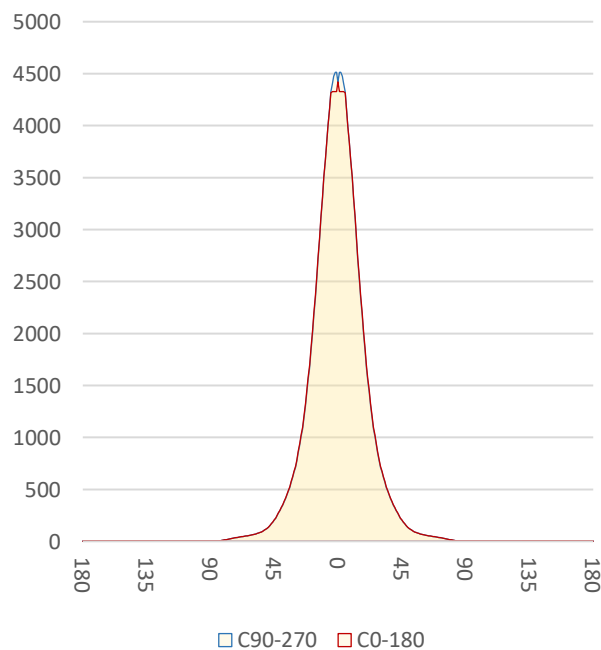
Item number	J-EX-X-3-1-27-90-1
Date and time	16-10-2017 13:21:22
CCT (Kelvin)	2766 K
Beam angle	33,7°
Luminous flux	2230 lm
Efficiency	81 lm/watt
Weighted energy	27,7 kWh/1000h
Power factor	0,93
CRI (RA)	93,2
Fidelity index Rf	Rf 91,5
Gammut index Rg	Rg 101,1
Peak	4513 cd



Polar diagram



Cartesian diagram



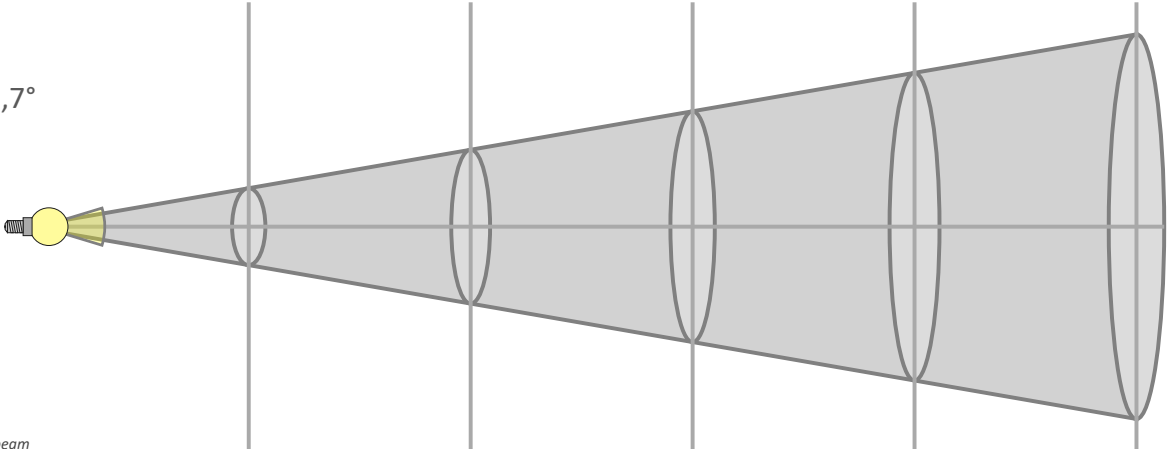
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info@cls-led.com
www.cls-led.com

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Beam details					1m		2m		3m		4m		5m						
Lux*					4421 lx		1105 lx		491 lx		276 lx		177 lx						
33,7° 																			
*measured at center of beam																			
Footcandles*					410,7 fcd		102,7 fcd		45,6 fcd		25,7 fcd		16,4 fcd						
Beam width (meter)					0,6 m		1,2 m		1,8 m		2,4 m		3 m						
Beam width (Feet)					2 ft		4 ft		6 ft		8 ft		9,9 ft						
Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
4421lx	1105lx	491lx	276lx	177lx	123lx	90lx	69lx	55lx	44lx	37lx	31lx	26lx	23lx	20lx	17lx	15lx	14lx	12lx	11lx
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
410,7fcd	102,7fcd	45,6fcd	25,7fcd	16,4fcd	11,4fcd	8,4fcd	6,4fcd	5,1fcd	4,1fcd	3,4fcd	2,9fcd	2,4fcd	2,1fcd	1,8fcd	1,6fcd	1,4fcd	1,3fcd	1,1fcd	1fcd
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°
4421	4329	4329	4154	3833	3506	3119	2731	2372	2028	1701	1453	1204	1022	864	723	624	525	452	385
100%	98%	98%	94%	87%	79%	71%	62%	54%	46%	38%	33%	27%	23%	20%	16%	14%	12%	10%	9%
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°
4421	4513	4404	4160	3830	3494	3100	2706	2344	2000	1673	1428	1183	1004	850	712	615	518	446	379
100%	102%	100%	94%	87%	79%	70%	61%	53%	45%	38%	32%	27%	23%	19%	16%	14%	12%	10%	9%
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°
4421	4329	4329	4154	3833	3506	3119	2731	2372	2028	1701	1453	1204	1022	864	723	624	525	452	385
100%	98%	98%	94%	87%	79%	71%	62%	54%	46%	38%	33%	27%	23%	20%	16%	14%	12%	10%	9%
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°
4421	4513	4404	4160	3830	3494	3100	2706	2344	2000	1673	1428	1183	1004	850	712	615	518	446	379
100%	102%	100%	94%	87%	79%	70%	61%	53%	45%	38%	32%	27%	23%	19%	16%	14%	12%	10%	9%
Beam angle 50%				Field angle 10%				Cutoff angle 2,5%				Intensity ratio in 120° cone				Intensity ratio in 90° cone			
33,7°				72,4°				103,1°				95,5%				89,1%			



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info@cls-led.com
www.cls-led.com

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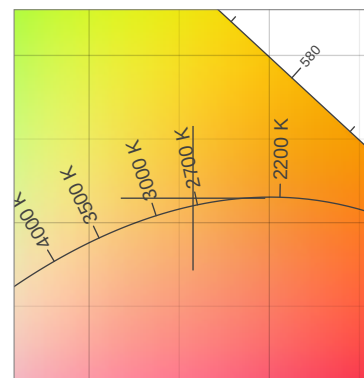
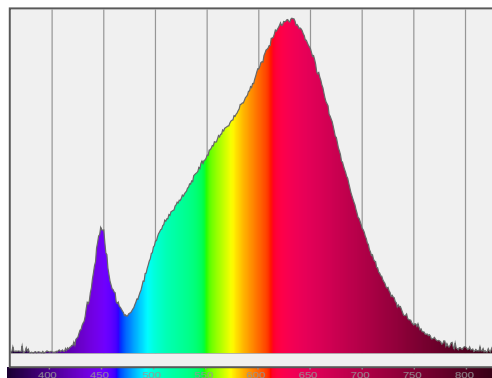
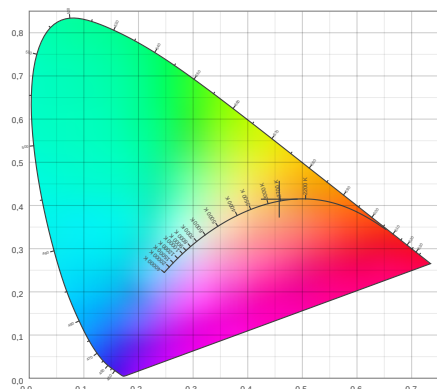
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beamshaper

Color details



CIE 1931

x: 0,458

2766 K

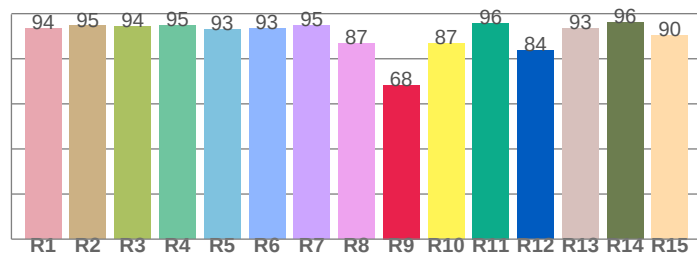
y: 0,415

Spectra

CIE 1931 ZOOM

Δuv : 0,0017

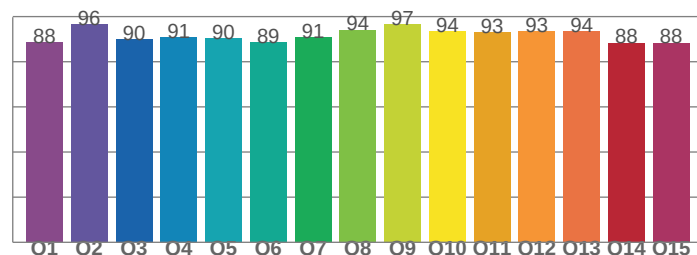
CRI: 93,2 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
93,6	94,6	94,4	94,8	92,8	93,4	94,8	86,9
R9	R10	R11	R12	R13	R14	R15	
68,4	86,8	95,9	83,6	93,5	96,0	90,3	

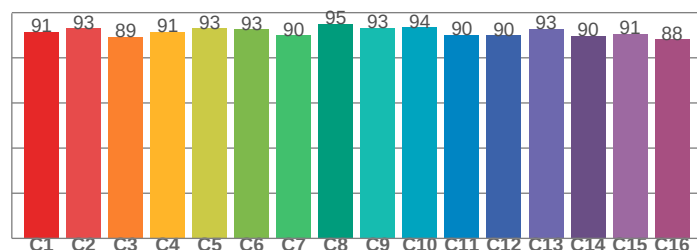
CQS: 91,2



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
88,5	96,5	90,1	91,0	90,5	88,6	90,9	94,2
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
96,6	93,6	93,1	93,3	93,6	88,4	88,4	

TM30: 91,5



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

C1	C2	C3	C4	C5	C6	C7	C8
91,5	93,0	89,1	91,3	92,9	92,5	89,9	95,1
C9	C10	C11	C12	C13	C14	C15	
93,4	93,5	90,2	89,9	92,7	89,8	90,6	

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
2766 K	93,2	68,4	91,5	101,1	91,2	0,458	0,415	0,259	0,352	0,0017



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info@cls-led.com
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beamshaper

TM30 details

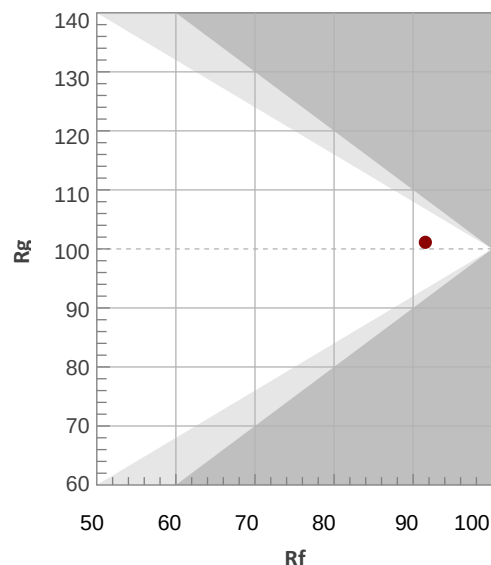
Rf 91,5

Fidelity index Rf

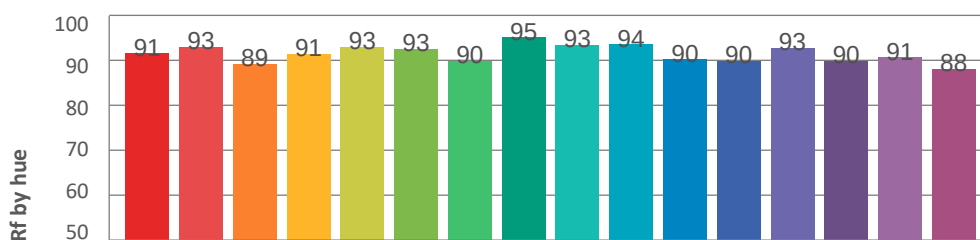
Rg 101,1

Gamut index Rg

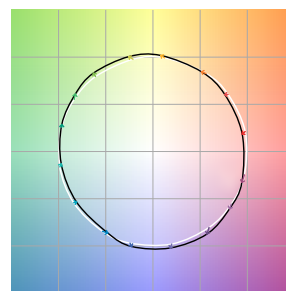
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	91	-4%	-2%
2	93	-3%	2%
3	89	-1%	5%
4	91	2%	4%
5	93	4%	4%
6	93	4%	0%
7	90	2%	-5%
8	95	0%	-3%
9	93	-2%	-3%
10	94	-3%	1%
11	90	-2%	6%
12	90	3%	2%
13	93	4%	-2%
14	90	5%	-6%
15	91	1%	-5%
16	88	-1%	-8%



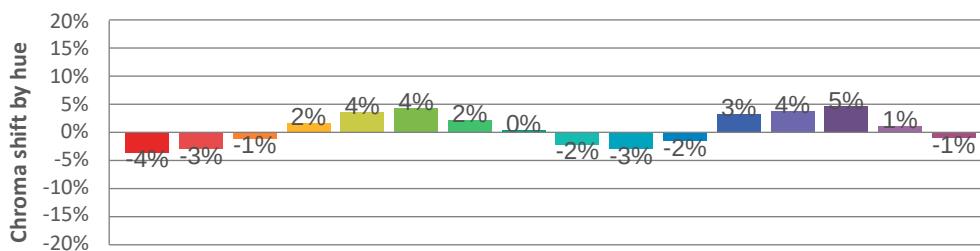
Hue binH



Color vector graphics



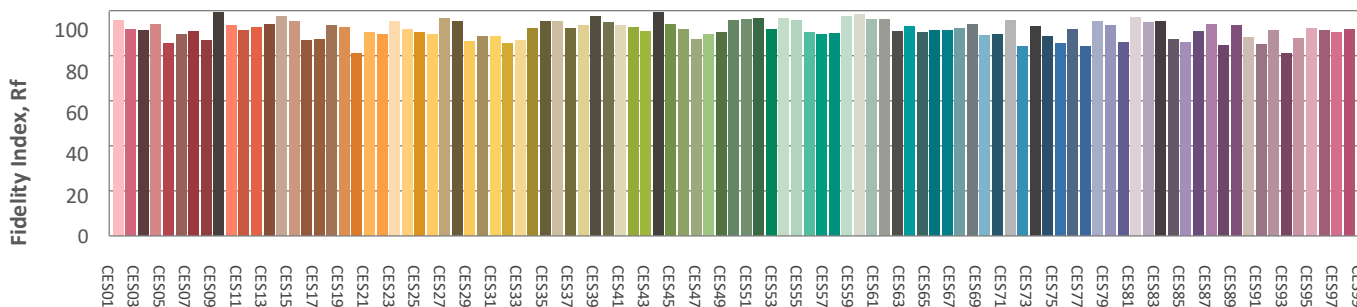
Hue bin



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	22,4	23,2	22,7	23,5	23,7	22,4	23,2	22,7	23,5	23,7
	3H	23,1	23,8	23,4	24,0	24,3	23,1	23,8	23,4	24,0	24,3
	4H	23,4	24,1	23,7	24,3	24,6	23,4	24,1	23,7	24,3	24,6
	6H	23,5	24,2	23,9	24,5	24,8	23,5	24,2	23,9	24,5	24,8
	8H	23,6	24,2	23,9	24,5	24,8	23,6	24,2	23,9	24,5	24,8
	12H	23,5	24,1	23,9	24,4	24,8	23,5	24,1	23,9	24,4	24,8
4H	2H	22,6	23,3	23,0	23,6	23,9	22,6	23,3	23,0	23,6	23,9
	3H	23,5	24,0	23,8	24,4	24,7	23,5	24,0	23,8	24,4	24,7
	4H	23,9	24,4	24,3	24,7	25,1	23,9	24,4	24,3	24,7	25,1
	6H	24,2	24,6	24,6	25,0	25,4	24,2	24,6	24,6	25,0	25,4
	8H	24,2	24,6	24,6	25,0	25,4	24,2	24,6	24,6	25,0	25,4
	12H	24,2	24,5	24,6	24,9	25,4	24,2	24,5	24,6	24,9	25,4
8H	4H	24,0	24,4	24,5	24,8	25,2	24,0	24,4	24,5	24,8	25,2
	6H	24,4	24,7	24,8	25,1	25,6	24,4	24,7	24,8	25,1	25,6
	8H	24,4	24,7	24,9	25,1	25,6	24,4	24,7	24,9	25,1	25,6
	12H	24,4	24,6	24,9	25,1	25,6	24,4	24,6	24,9	25,1	25,6
12H	4H	24,0	24,3	24,5	24,8	25,2	24,0	24,3	24,5	24,8	25,2
	6H	24,4	24,6	24,8	25,1	25,5	24,4	24,6	24,8	25,1	25,5
	8H	24,4	24,6	24,9	25,1	25,6	24,4	24,6	24,9	25,1	25,6

Variation of the observer position for the luminaire distance S

S = 1,0H	+1,2 / -1,1	+1,2 / -1,1
S = 1,5H	+2,6 / -1,5	+2,6 / -1,5
S = 2,0H	+4,1 / -1,9	+4,1 / -1,9
Standard table	BK03	BK03
Correction summand	6,6	6,6

Corrected glare indices referring to 2230lm total luminous flux



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