

LM-79

Test Report

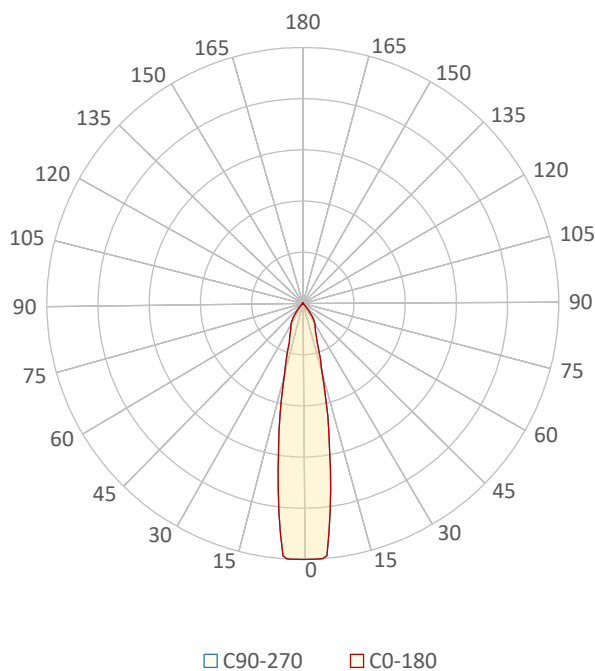
LM79-JADE-EXPO-3000K-CRI90-SPOT

General Description

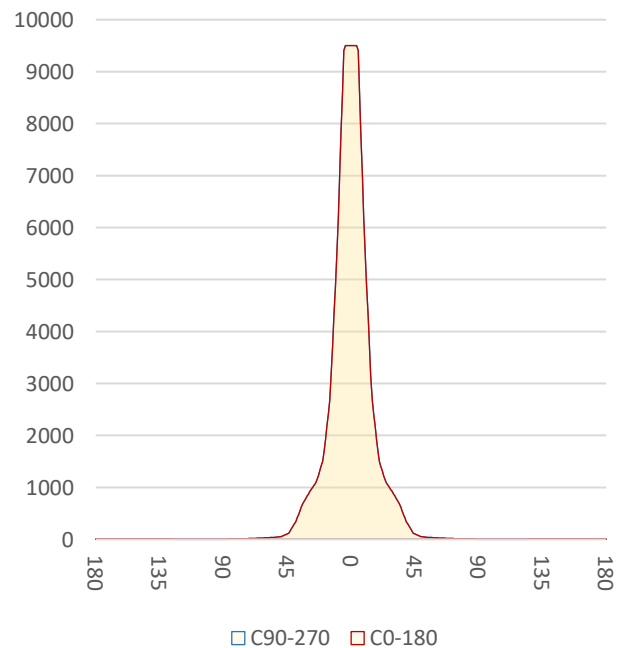
Item number	J-EX-X-3-1-30-90-1
Date and time	27-1-2017 13:58:32
CCT (Kelvin)	3114 K
Beam angle	22,5°
Luminous flux	2593 lm
Efficiency	93 lm/watt
Weighted energy	28,0 kWh/1000h
Power factor	0,95
CRI (RA)	92,2
Fidelity index Rf	Rf 90,3
Gammut index Rg	Rg 101,1
Peak	9502 cd



Polar diagram



Cartesian diagram



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Beam details	1m	2m	3m	4m	5m														
Lux*	9502 lx	2376 lx	1056 lx	594 lx	380 lx														
*measured at center of beam																			
Footcandles*	882,8 fcd	220,7 fcd	98,1 fcd	55,2 fcd	35,3 fcd														
Beam width (meter)	0,4 m	0,8 m	1,2 m	1,6 m	2 m														
Beam width (Feet)	1,3 ft	2,6 ft	3,9 ft	5,2 ft	6,5 ft														
Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
9502lx	2376lx	1056lx	594lx	380lx	264lx	194lx	148lx	117lx	95lx	79lx	66lx	56lx	48lx	42lx	37lx	33lx	29lx	26lx	24lx
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
882,8fcd	220,7fcd	98,1fcd	55,2fcd	35,3fcd	24,5fcd	18fcd	13,8fcd	10,9fcd	8,8fcd	7,3fcd	6,1fcd	5,2fcd	4,5fcd	3,9fcd	3,4fcd	3,1fcd	2,7fcd	2,4fcd	2,2fcd
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°
9502	9502	9502	8608	7011	5465	4301	3137	2425	1925	1502	1323	1144	1043	961	875	781	686	550	410
100%	100%	100%	91%	74%	58%	45%	33%	26%	20%	16%	14%	12%	11%	10%	9%	8%	7%	6%	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°
9502	9502	9502	8608	7011	5465	4301	3137	2425	1925	1502	1323	1144	1043	961	875	781	686	550	410
100%	100%	100%	91%	74%	58%	45%	33%	26%	20%	16%	14%	12%	11%	10%	9%	8%	7%	6%	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°
9502	9502	9502	8608	7011	5465	4301	3137	2425	1925	1502	1323	1144	1043	961	875	781	686	550	410
100%	100%	100%	91%	74%	58%	45%	33%	26%	20%	16%	14%	12%	11%	10%	9%	8%	7%	6%	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°
9502	9502	9502	8608	7011	5465	4301	3137	2425	1925	1502	1323	1144	1043	961	875	781	686	550	410
100%	100%	100%	91%	74%	58%	45%	33%	26%	20%	16%	14%	12%	11%	10%	9%	8%	7%	6%	4%
Beam angle 50%		Field angle 10%				Cutoff angle 2,5%				Intensity ratio in 120° cone				Intensity ratio in 90° cone					
22,5°		56,5°				82,5°				97,9%				95,5%					



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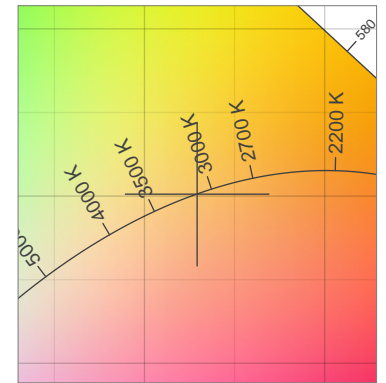
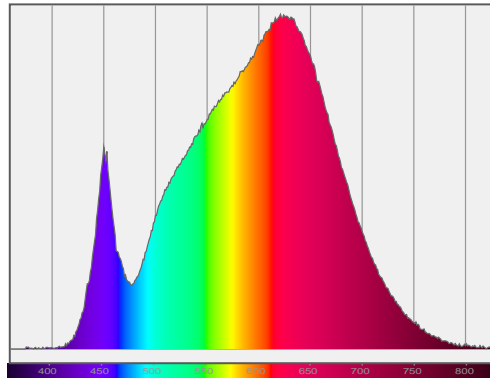
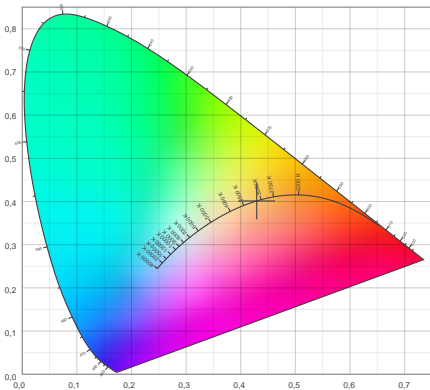
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Color details



CIE 1931

x: 0,429



Spectra

CIE 1931 ZOOM

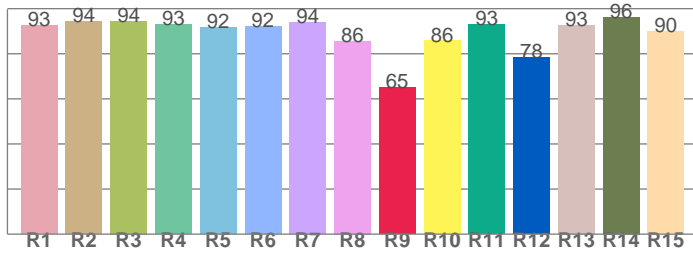
3114 K

y: 0,401

Δuv : 0,0001

CRI: 92,2 (R1-R8)

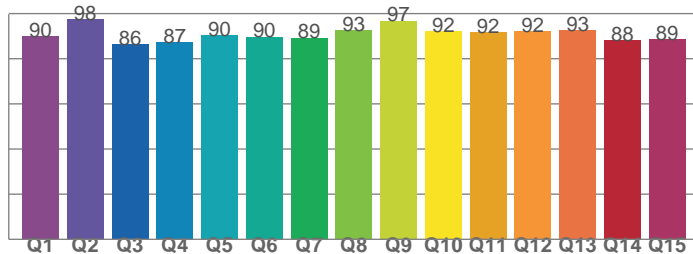
CRI values, R1-R8 are used to calculate final CRI value



R1	R2	R3	R4	R5	R6	R7	R8
92,6	94,3	94,5	93,0	91,8	92,1	94,0	85,6
R9	R10	R11	R12	R13	R14	R15	
65,2	85,7	93,1	78,4	92,8	96,3	89,9	

CQS: 90,4

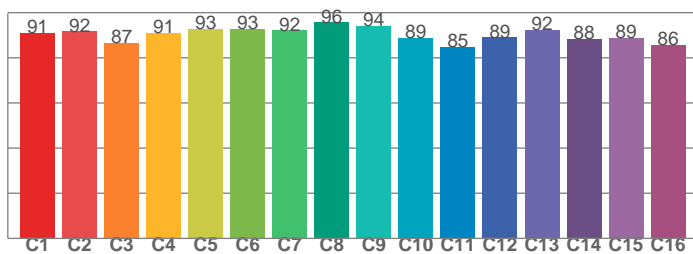
CQS values



Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
90,0	97,5	86,2	87,3	90,5	89,7	89,3	92,5
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
96,8	92,1	91,8	92,1	92,6	88,4	88,7	

TM30: 90,3

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



C1	C2	C3	C4	C5	C6	C7	C8
90,9	91,7	86,7	91,0	92,7	92,7	92,1	95,6
C9	C10	C11	C12	C13	C14	C15	
94,1	88,7	84,9	89,0	92,5	88,3	88,9	

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
3114 K	92,2	65,2	90,3	101,1	90,4	0,429	0,401	0,247	0,346	0,0001



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TM30 details

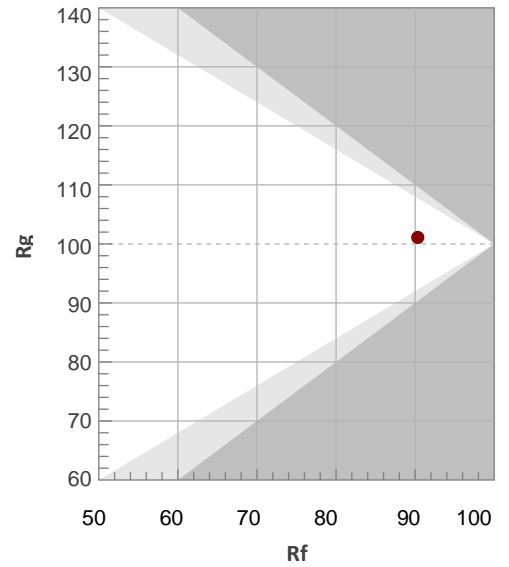
Rf 90,3

Fidelity index Rf

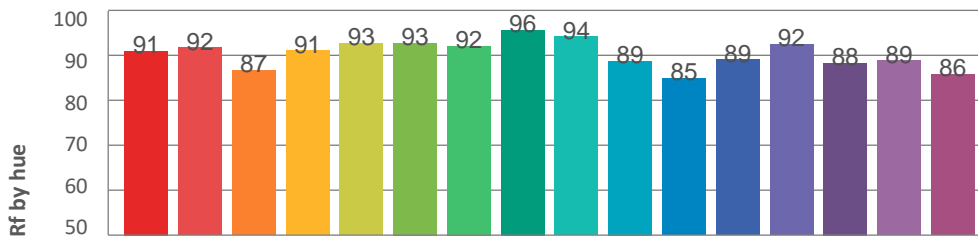
Rg 101,1

Gamut index Rg

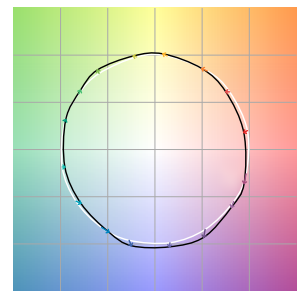
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	91	-4%	-1%
2	92	-3%	3%
3	87	-1%	6%
4	91	1%	5%
5	93	2%	3%
6	93	4%	0%
7	92	1%	-4%
8	96	-1%	-2%
9	94	-3%	1%
10	89	-3%	5%
11	85	0%	9%
12	89	5%	4%
13	92	4%	-1%
14	88	6%	-6%
15	89	1%	-6%
16	86	0%	-10%



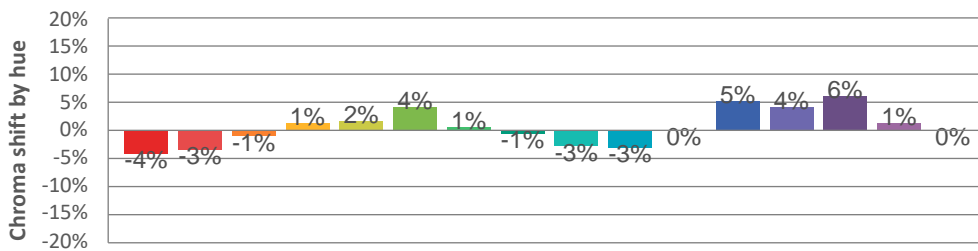
Hue binH



Color vector graphics



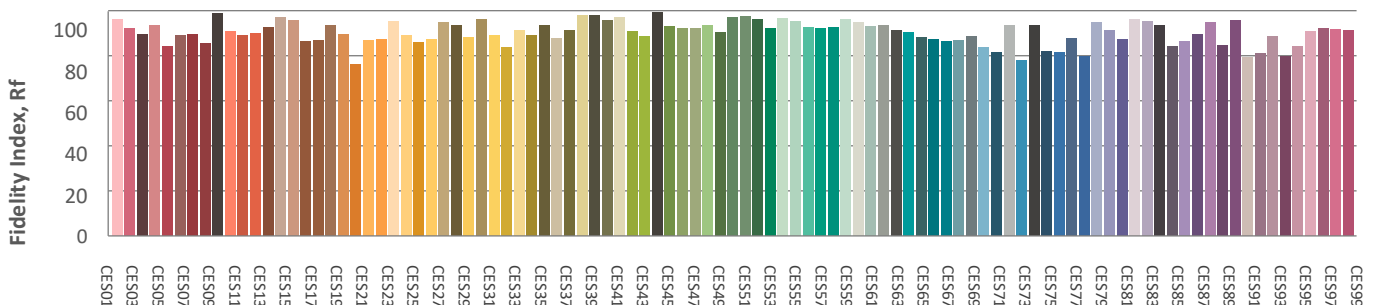
Hue bin



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	20,6	21,3	20,8	21,5	21,7	20,6	21,3	20,8	21,5	21,7
	3H	20,7	21,3	21,0	21,6	21,8	20,7	21,3	21,0	21,6	21,8
	4H	20,7	21,3	21,0	21,6	21,9	20,7	21,3	21,0	21,6	21,9
	6H	20,8	21,3	21,1	21,6	21,9	20,8	21,3	21,1	21,6	21,9
	8H	20,8	21,3	21,1	21,6	21,9	20,8	21,3	21,1	21,6	21,9
	12H	20,8	21,3	21,1	21,6	21,9	20,8	21,3	21,1	21,6	21,9
4H	2H	20,5	21,1	20,8	21,4	21,6	20,5	21,1	20,8	21,4	21,6
	3H	20,7	21,2	21,0	21,5	21,8	20,7	21,2	21,0	21,5	21,8
	4H	20,8	21,2	21,2	21,6	21,9	20,8	21,2	21,2	21,6	21,9
	6H	20,9	21,2	21,3	21,6	22,0	20,9	21,2	21,3	21,6	22,0
	8H	20,9	21,2	21,3	21,6	22,0	20,9	21,2	21,3	21,6	22,0
	12H	20,9	21,2	21,4	21,6	22,0	20,9	21,2	21,4	21,6	22,0
8H	4H	20,8	21,1	21,2	21,5	21,9	20,8	21,1	21,2	21,5	21,9
	6H	20,9	21,1	21,4	21,6	22,0	20,9	21,1	21,4	21,6	22,0
	8H	21,0	21,2	21,4	21,6	22,1	21,0	21,2	21,4	21,6	22,1
	12H	21,0	21,2	21,5	21,6	22,1	21,0	21,2	21,5	21,6	22,1
12H	4H	20,8	21,0	21,2	21,4	21,9	20,8	21,0	21,2	21,4	21,9
	6H	20,9	21,1	21,4	21,5	22,0	20,9	21,1	21,4	21,5	22,0
	8H	20,9	21,1	21,4	21,6	22,1	20,9	21,1	21,4	21,6	22,1
Variation of the observer position for the luminaire distance S											
S = 1,0H	+3,7 / -3,5					+3,7 / -3,5					
S = 1,5H	+6,2 / -3,9					+6,2 / -3,9					
S = 2,0H	+8,1 / -4,3					+8,1 / -4,3					
Standard table	BK01					BK01					
Correction summand	2,8					2,8					
Corrected glare indices referring to 2593lm total luminous flux											



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