

LM-79

Test Report

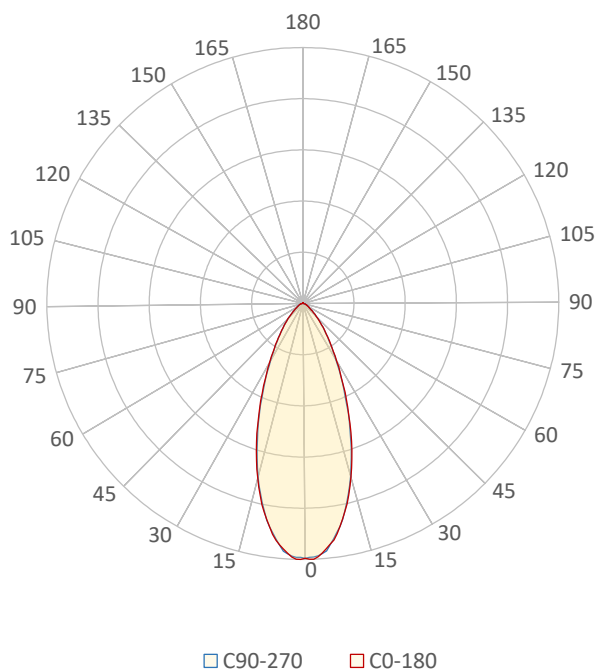
LM79-JADE-EXPO-2700K-CRI90-SPOT+ 42° beamshaper

General Discription

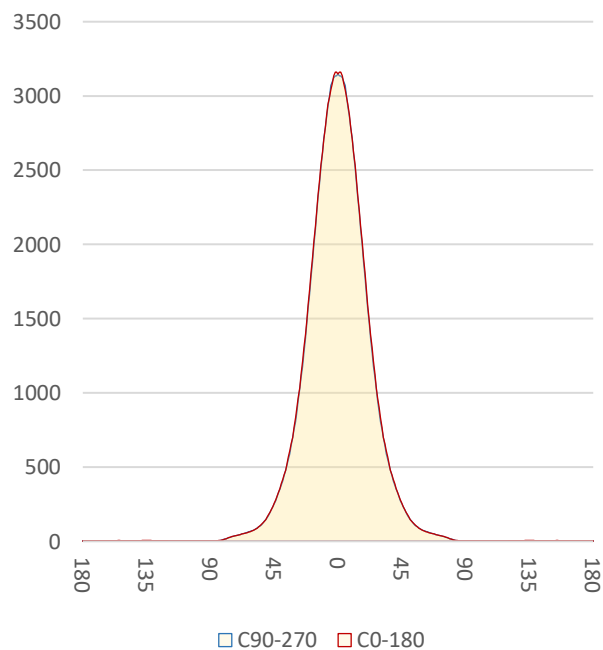
Item number	J-EX-X-3-1-27-90-1
Date and time	16-10-2017 13:25:53
CCT (Kelvin)	2765 K
Beam angle	42,1°
Luminous flux	2195 lm
Efficiency	80 lm/watt
Weighted energy	27,6 kWh/1000h
Power factor	0,93
CRI (RA)	93,1
Fidelity index Rf	Rf 91,6
Gammut index Rg	Rg 101,0
Peak	3161 cd



Polar diagram



Cartesian diagram



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Beam details	1m	2m	3m	4m	5m																			
Lux*	3148 lx	787 lx	350 lx	197 lx	126 lx																			
<i>*measured at center of beam</i>																								
Footcandles*	292,5 fcd	73,1 fcd	32,5 fcd	18,3 fcd	11,7 fcd																			
Beam width (meter)	0,8 m	1,5 m	2,3 m	3,1 m	3,9 m																			
Beam width (Feet)	2,5 ft	5,1 ft	7,6 ft	10,1 ft	12,6 ft																			
Beam intensities																								
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m					
3148lx	787lx	350lx	197lx	126lx	87lx	64lx	49lx	39lx	31lx	26lx	22lx	19lx	16lx	14lx	12lx	11lx	10lx	9lx	8lx					
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					
292,5fcd	73,1fcd	32,5fcd	18,3fcd	11,7fcd	8,1fcd	6fcd	4,6fcd	3,6fcd	2,9fcd	2,4fcd	2fcd	1,7fcd	1,5fcd	1,3fcd	1,1fcd	1fcd	0,9fcd	0,8fcd	0,7fcd					
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°					
3148	3161	3087	2993	2875	2705	2535	2332	2124	1913	1700	1487	1305	1125	967	834	701	612	522	448					
100%	100%	98%	95%	91%	86%	81%	74%	67%	61%	54%	47%	41%	36%	31%	26%	22%	19%	17%	14%					
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°					
3148	3136	3098	3000	2859	2713	2514	2315	2103	1884	1669	1469	1269	1102	948	806	699	591	513	442					
100%	100%	98%	95%	91%	86%	80%	74%	67%	60%	53%	47%	40%	35%	30%	26%	22%	19%	16%	14%					
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°					
3148	3161	3087	2993	2875	2705	2535	2332	2124	1913	1700	1487	1305	1125	967	834	701	612	522	448					
100%	100%	98%	95%	91%	86%	81%	74%	67%	61%	54%	47%	41%	36%	31%	26%	22%	19%	17%	14%					
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°					
3148	3136	3098	3000	2859	2713	2514	2315	2103	1884	1669	1469	1269	1102	948	806	699	591	513	442					
100%	100%	98%	95%	91%	86%	80%	74%	67%	60%	53%	47%	40%	35%	30%	26%	22%	19%	16%	14%					
Beam angle 50%					Field angle 10%					Cutoff angle 2,5%					Intensity ratio in 120° cone					Intensity ratio in 90° cone				
42,1°					84,9°					117,7°					95,0%					86,9%				



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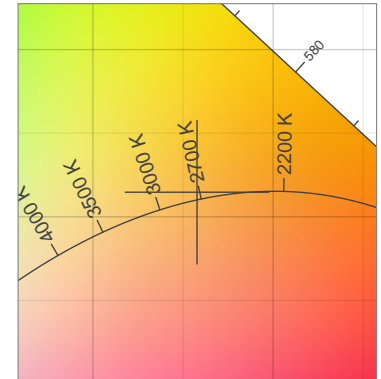
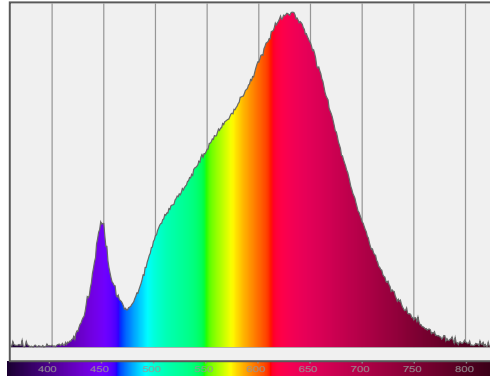
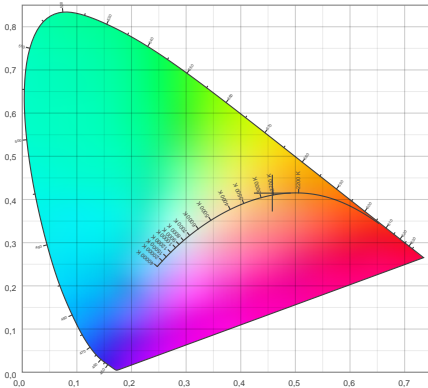
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Color details



CIE 1931

x: 0,458



Spectra

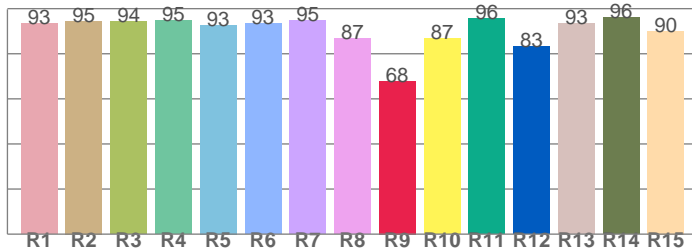
CIE 1931 ZOOM

2765 K

y: 0,415

Δuv : 0,0017

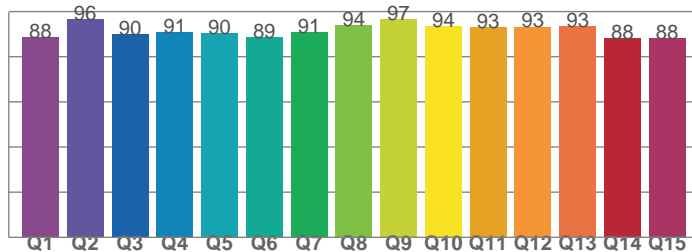
CRI: 93,1 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
93,5	94,6	94,4	94,8	92,7	93,4	94,8	86,7
R9	R10	R11	R12	R13	R14	R15	
68,0	86,8	95,8	83,3	93,4	96,1	90,1	

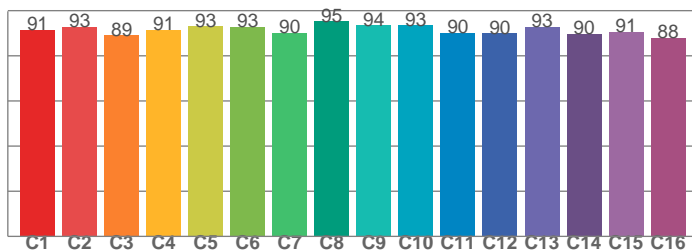
CQS: 91,2



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
88,5	96,4	90,0	90,9	90,5	88,7	90,9	94,1
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
96,6	93,5	93,0	93,3	93,5	88,3	88,3	

TM30: 91,6



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

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

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
2765 K	93,1	68,0	91,6	101,0	91,2	0,458	0,415	0,259	0,352	0,0017



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TM30 details

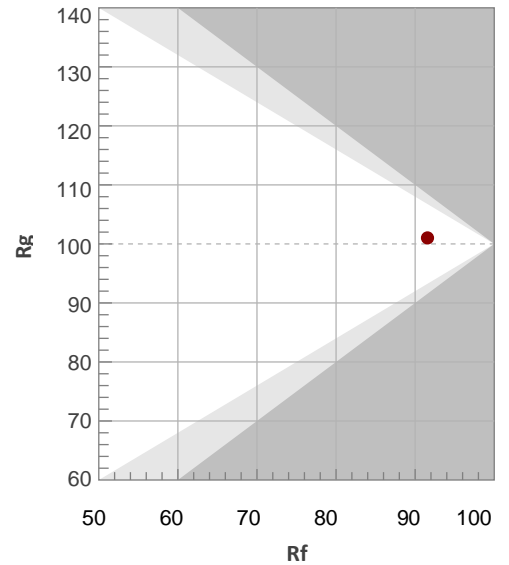
Rf 91,6

Fidelity index Rf

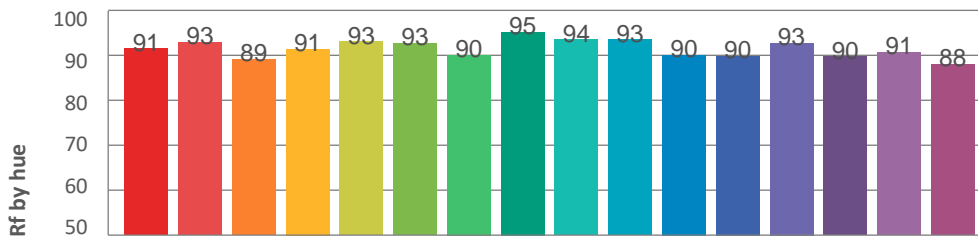
Rg 101,0

Gamut index Rg

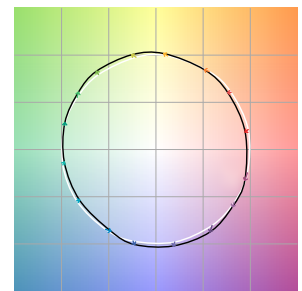
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	91	-4%	-2%
2	93	-3%	2%
3	89	-1%	5%
4	91	2%	4%
5	93	3%	4%
6	93	4%	0%
7	90	2%	-5%
8	95	0%	-3%
9	94	-2%	-3%
10	93	-3%	1%
11	90	-2%	6%
12	90	3%	2%
13	93	4%	-2%
14	90	5%	-6%
15	91	1%	-5%
16	88	-1%	-8%



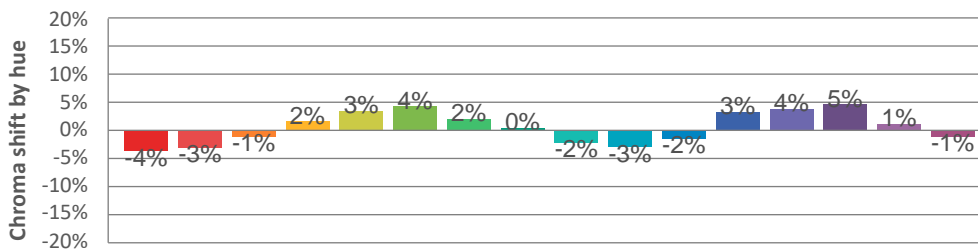
Hue binH



Color vector graphics



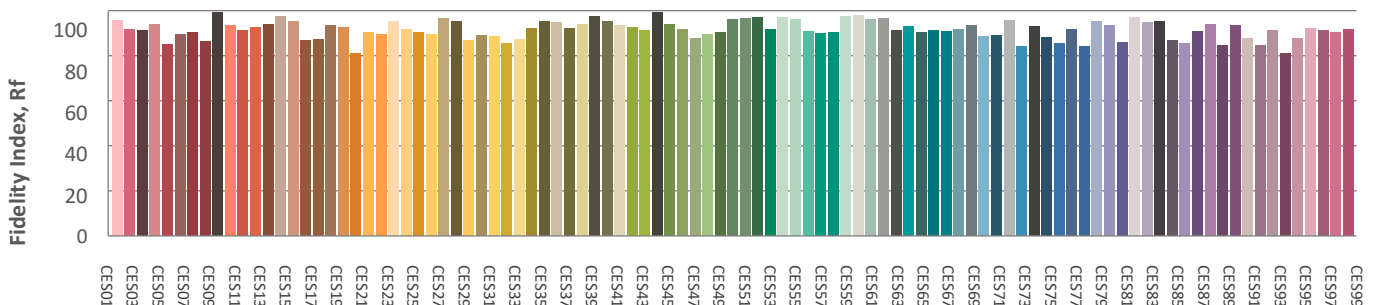
Hue bin



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	23,7	24,5	24,0	24,8	25,0	23,7	24,5	24,0	24,8	25,0
	3H	24,2	25,0	24,5	25,2	25,5	24,2	25,0	24,5	25,2	25,5
	4H	24,5	25,2	24,8	25,5	25,8	24,5	25,2	24,8	25,5	25,8
	6H	24,6	25,3	25,0	25,6	25,9	24,6	25,3	25,0	25,6	25,9
	8H	24,7	25,3	25,0	25,6	25,9	24,7	25,3	25,0	25,6	25,9
	12H	24,6	25,2	25,0	25,5	25,9	24,6	25,2	25,0	25,5	25,9
4H	2H	23,9	24,6	24,2	24,8	25,1	23,9	24,6	24,2	24,8	25,1
	3H	24,6	25,2	24,9	25,5	25,8	24,6	25,2	24,9	25,5	25,8
	4H	25,0	25,5	25,4	25,8	26,2	25,0	25,5	25,4	25,8	26,2
	6H	25,2	25,6	25,6	26,0	26,4	25,2	25,6	25,6	26,0	26,4
	8H	25,2	25,6	25,7	26,0	26,4	25,2	25,6	25,7	26,0	26,4
	12H	25,2	25,6	25,7	26,0	26,4	25,2	25,6	25,7	26,0	26,4
8H	4H	25,1	25,5	25,5	25,9	26,3	25,1	25,5	25,5	25,9	26,3
	6H	25,4	25,7	25,8	26,1	26,6	25,4	25,7	25,8	26,1	26,6
	8H	25,4	25,7	25,9	26,1	26,6	25,4	25,7	25,9	26,1	26,6
	12H	25,4	25,6	25,9	26,1	26,6	25,4	25,6	25,9	26,1	26,6
12H	4H	25,1	25,4	25,5	25,8	26,3	25,1	25,4	25,5	25,8	26,3
	6H	25,4	25,6	25,8	26,1	26,6	25,4	25,6	25,8	26,1	26,6
	8H	25,4	25,6	25,9	26,1	26,6	25,4	25,6	25,9	26,1	26,6

Variation of the observer position for the luminaire distance S

S = 1,0H	+1,1 / -1,2	+1,1 / -1,2
S = 1,5H	+2,5 / -1,8	+2,5 / -1,8
S = 2,0H	+4,0 / -2,2	+4,0 / -2,2
Standard table	BK03	BK03
Correction summand	7,7	7,7

Corrected glare indices referring to 2195lm total luminous flux



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