

LM-79

Test Report

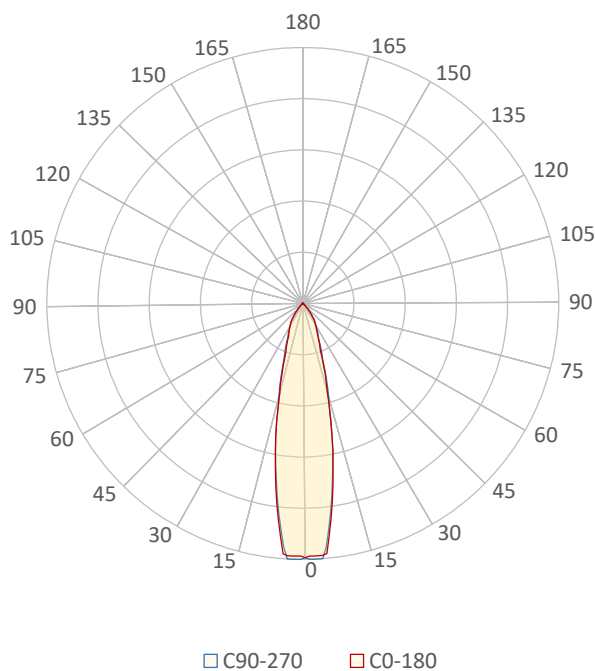
LM79-JADE-COLOUR-FLOW-SPOT [white leds on]

General Discription

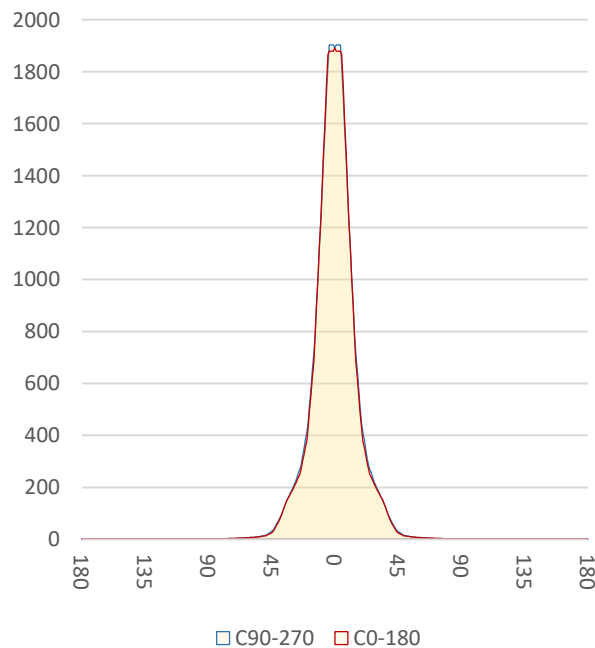
Item number	J-SXX-1-C-C470-1
Date and time	30-11-2018 16:00:54
CCT (Kelvin)	3808 K
Beam angle	25°
Luminous flux	605 lm
Efficiency	101 lm/watt
Weighted energy	6,0 kWh/1000h
Power factor	1,0
CRI (RA)	83,5
Fidelity index Rf	Rf 83,8
Gammut index Rg	Rg 96,9
Peak	1903 cd



Polar diagram



Cartesian diagram



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Beam details	1m	2m	3m	4m	5m
Lux*	1891 lx	473 lx	210 lx	118 lx	76 lx

*measured at center of beam

Footcandles*	175,7 fcd	43,9 fcd	19,5 fcd	11,0 fcd	7,0 fcd
Beam width (meter)	0,4 m	0,9 m	1,3 m	1,8 m	2,2 m
Beam width (Feet)	1,5 ft	2,9 ft	4,4 ft	5,9 ft	7,3 ft

Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
1891lx	473lx	210lx	118lx	76lx	53lx	39lx	30lx	23lx	19lx	16lx	13lx	11lx	10lx	8lx	7lx	7lx	6lx	5lx	5lx
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
175,7fcd	43,9fcd	19,5fcd	11fcd	7fcd	4,9fcd	3,6fcd	2,7fcd	2,2fcd	1,8fcd	1,5fcd	1,2fcd	1fcd	0,9fcd	0,8fcd	0,7fcd	0,6fcd	0,5fcd	0,5fcd	0,4fcd

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°
1891	1879	1879	1740	1487	1237	1010	783	619	492	378	324	270	237	214	191	171	151	124	94
100%	99%	99%	92%	79%	65%	53%	41%	33%	26%	20%	17%	14%	13%	11%	10%	9%	8%	7%	5%

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°
1891	1903	1903	1698	1458	1226	1008	789	648	513	412	348	284	253	223	197	174	150	123	96
100%	101%	101%	90%	77%	65%	53%	42%	34%	27%	22%	18%	15%	13%	12%	10%	9%	8%	6%	5%

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°
1891	1879	1879	1740	1487	1237	1010	783	619	492	378	324	270	237	214	191	171	151	124	94
100%	99%	99%	92%	79%	65%	53%	41%	33%	26%	20%	17%	14%	13%	11%	10%	9%	8%	7%	5%

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°
1891	1903	1903	1698	1458	1226	1008	789	648	513	412	348	284	253	223	197	174	150	123	96
100%	101%	101%	90%	77%	65%	53%	42%	34%	27%	22%	18%	15%	13%	12%	10%	9%	8%	6%	5%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
25,1°	60,9°	84,7°	97,1%	94,4%



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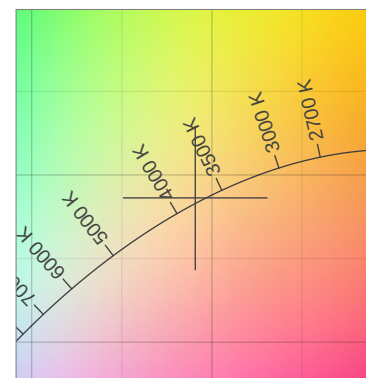
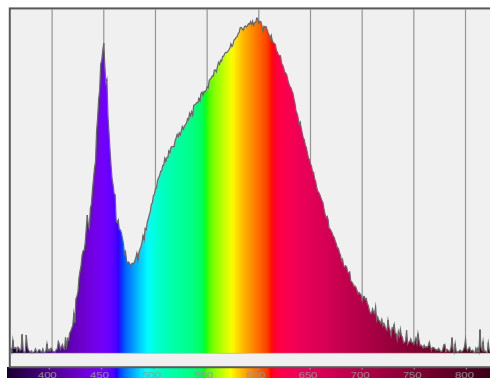
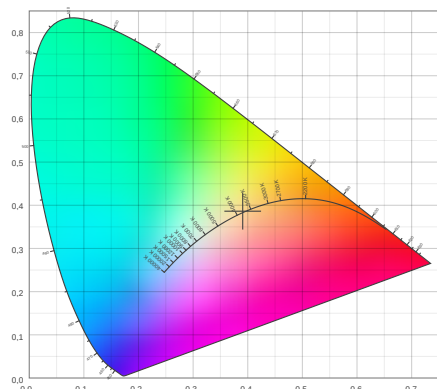
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Color details



CIE 1931

x: 0,391



Spectra

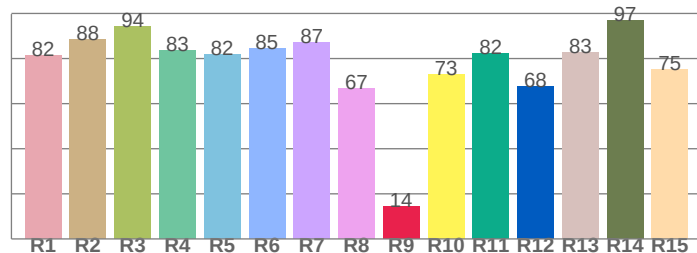
CIE 1931 ZOOM

3808 K

y: 0,386

Δuv : 0,0015

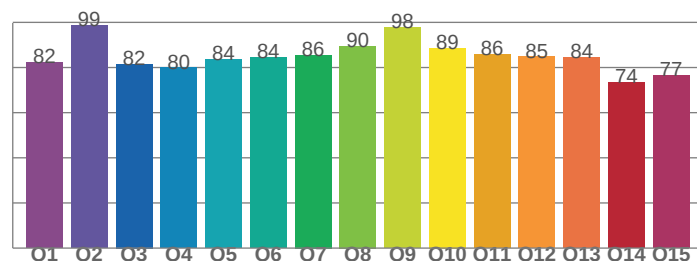
CRI: 83,5 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
81,5	88,4	94,3	83,5	81,7	84,6	87,2	66,9
R9	R10	R11	R12	R13	R14	R15	
14,4	73,0	82,4	67,7	82,9	96,8	75,1	

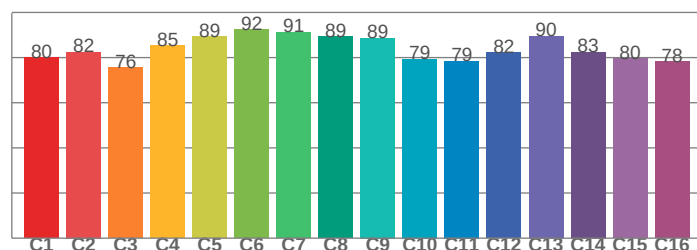
CQS: 83,7



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
82,1	98,5	81,6	79,9	83,6	84,3	85,5	89,5
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
97,7	88,7	85,9	84,7	84,3	73,5	76,5	

TM30: 83,8



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

C1	C2	C3	C4	C5	C6	C7	C8
80,0	82,5	75,6	85,2	89,2	92,4	91,2	89,4
C9	C10	C11	C12	C13	C14	C15	
88,7	79,4	78,6	82,1	89,5	82,5	79,6	

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
3808 K	83,5	14,4	83,8	96,9	83,7	0,391	0,386	0,228	0,338	0,0015



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TM30 details

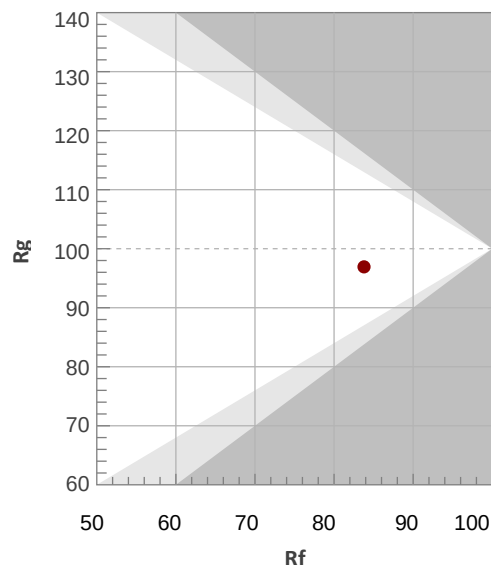
Rf 83,8

Fidelity index R_f

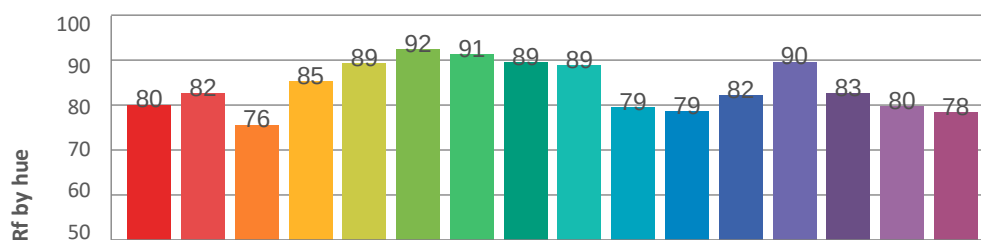
Rg 96,9

Gammut index Rg

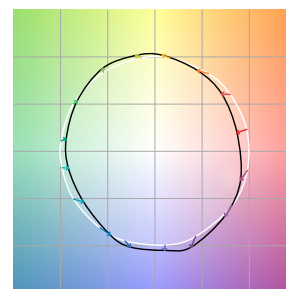
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	80	-11%	-1%
2	82	-7%	6%
3	76	-4%	11%
4	85	1%	8%
5	89	4%	5%
6	92	4%	-2%
7	91	-2%	-5%
8	89	-5%	-3%
9	89	-7%	2%
10	79	-7%	8%
11	79	0%	13%
12	82	5%	6%
13	90	5%	-2%
14	83	7%	-11%
15	80	0%	-13%
16	78	-5%	-11%



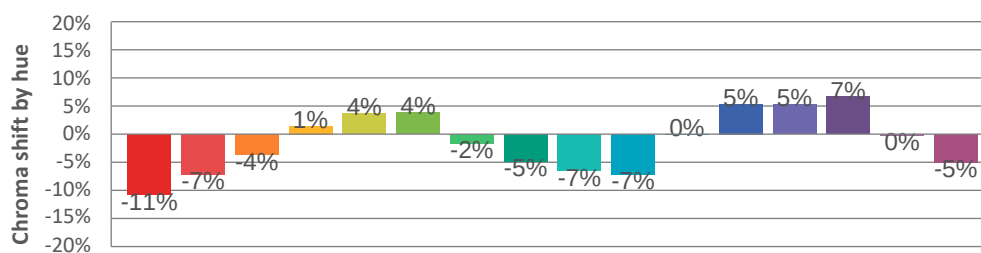
Hue binH



Color vector graphics



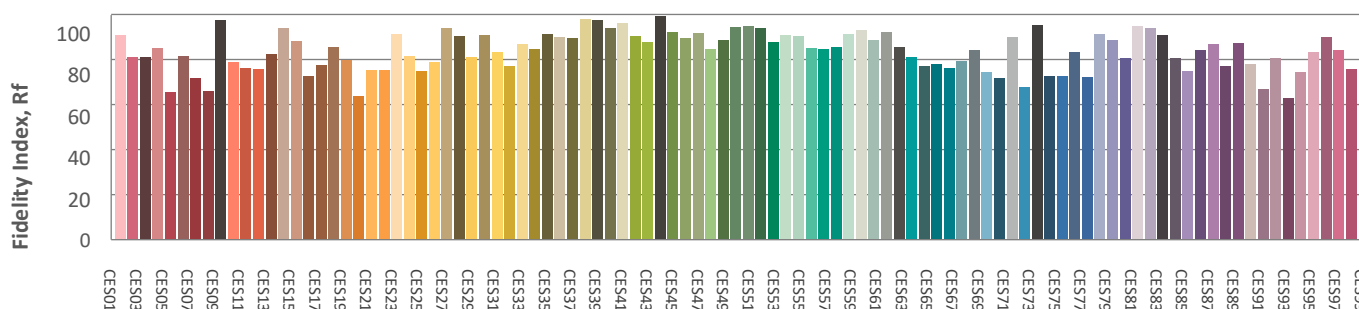
Hue bin



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	15,4	16,1	15,7	16,4	16,6	15,6	16,3	15,9	16,5	16,7
	3H	15,5	16,2	15,8	16,4	16,7	15,7	16,3	16,0	16,6	16,8
	4H	15,6	16,2	15,9	16,5	16,8	15,8	16,4	16,1	16,6	16,9
	6H	15,7	16,2	16,0	16,5	16,8	15,8	16,4	16,2	16,7	17,0
	8H	15,7	16,3	16,1	16,6	16,9	15,9	16,4	16,3	16,7	17,1
	12H	15,8	16,3	16,1	16,6	16,9	16,0	16,5	16,3	16,8	17,1
4H	2H	15,4	16,0	15,7	16,2	16,5	15,5	16,1	15,8	16,4	16,7
	3H	15,5	16,1	15,9	16,4	16,7	15,7	16,2	16,1	16,5	16,9
	4H	15,7	16,1	16,1	16,5	16,8	15,8	16,3	16,2	16,6	17,0
	6H	15,9	16,2	16,3	16,6	17,0	16,0	16,4	16,4	16,8	17,2
	8H	16,0	16,3	16,4	16,7	17,1	16,1	16,4	16,6	16,8	17,3
	12H	16,1	16,3	16,5	16,8	17,2	16,3	16,5	16,7	17,0	17,4
8H	4H	15,7	16,0	16,1	16,4	16,9	15,8	16,2	16,3	16,6	17,0
	6H	16,0	16,2	16,4	16,6	17,1	16,1	16,4	16,6	16,8	17,3
	8H	16,1	16,3	16,6	16,8	17,3	16,3	16,5	16,8	16,9	17,4
	12H	16,3	16,5	16,8	16,9	17,5	16,5	16,7	17,0	17,1	17,7
12H	4H	15,7	16,0	16,1	16,4	16,8	15,8	16,1	16,3	16,5	17,0
	6H	16,0	16,2	16,4	16,6	17,1	16,1	16,3	16,6	16,8	17,3
	8H	16,2	16,3	16,7	16,8	17,3	16,3	16,5	16,8	17,0	17,5
Variation of the observer position for the luminaire distance S											
S = 1,0H		+3,0 / -2,7					+2,9 / -2,6				
S = 1,5H		+5,4 / -3,2					+5,3 / -3,1				
S = 2,0H		+7,3 / -3,5					+7,2 / -3,5				
Standard table		BK02					BK02				
Correction summand		-1,7					-1,6				
Corrected glare indices referring to 605lm total luminous flux											



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