

LM-79

Test Report

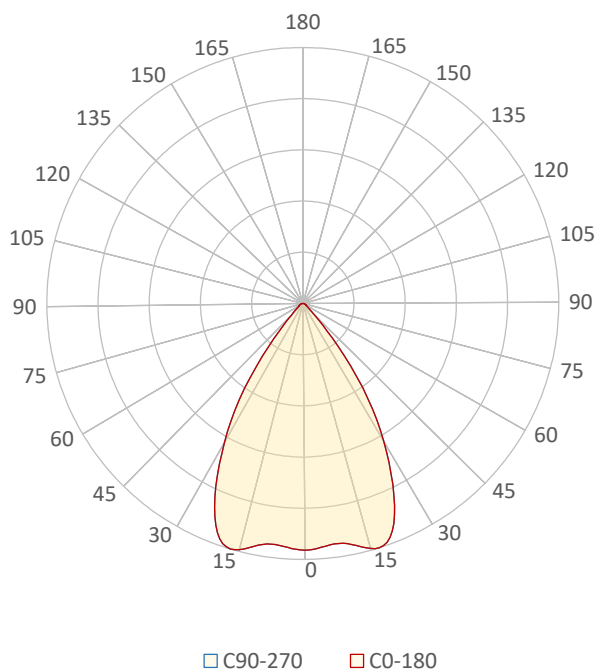
LM79-JADE-HP-3000K-CRI95-WIDE

General Discription

| | |
|-------------------|--------------------|
| Item number | |
| Date and time | 22-1-2021 16:15:29 |
| CCT (Kelvin) | 2992 K |
| Beam angle | 65,8° |
| Luminous flux | 3021 lm |
| Efficiency | 76 lm/watt |
| Weighted energy | 39,7 kWh/1000h |
| Power factor | 0,97 |
| CRI (RA) | 96,5 |
| Fidelity index Rf | Rf 94,5 |
| Gammut index Rg | Rg 105,0 |
| Peak | 2770 cd |



Polar diagram



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| Beam details | 1m | 2m | 3m | 4m | 5m | | | | | | | | | | | | | | | | | | | |
|------------------------------------|-----------|----------|----------|----------|------------------------|--------|--------|--------|--------|--------------------------|--------|--------|--------|--------|-------------------------------------|--------|--------|--------|--------|------------------------------------|--|--|--|--|
| Lux* | 2670 lx | 668 lx | 297 lx | 167 lx | 107 lx | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| *measured at center of beam | | | | | | | | | | | | | | | | | | | | | | | | |
| Footcandles* | 248,1 fcd | 62,0 fcd | 27,6 fcd | 15,5 fcd | 9,9 fcd | | | | | | | | | | | | | | | | | | | |
| Beam width (meter) | 1,3 m | 2,6 m | 3,9 m | 5,2 m | 6,5 m | | | | | | | | | | | | | | | | | | | |
| Beam width (Feet) | 4,2 ft | 8,5 ft | 12,7 ft | 17 ft | 21,2 ft | | | | | | | | | | | | | | | | | | | |
| Beam intensities | | | | | | | | | | | | | | | | | | | | | | | | |
| 1m | 2m | 3m | 4m | 5m | 6m | 7m | 8m | 9m | 10m | 11m | 12m | 13m | 14m | 15m | 16m | 17m | 18m | 19m | 20m | | | | | |
| 2670lx | 668lx | 297lx | 167lx | 107lx | 74lx | 54lx | 42lx | 33lx | 27lx | 22lx | 19lx | 16lx | 14lx | 12lx | 10lx | 9lx | 8lx | 7lx | 7lx | | | | | |
| 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 | | | | | |
| 248,1fcd | 62fcd | 27,6fcd | 15,5fcd | 9,9fcd | 6,9fcd | 5,1fcd | 3,9fcd | 3,1fcd | 2,5fcd | 2,1fcd | 1,7fcd | 1,5fcd | 1,3fcd | 1,1fcd | 1fcd | 0,9fcd | 0,8fcd | 0,7fcd | 0,6fcd | | | | | |
| 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° | | | | | |
| 2670 | 2663 | 2646 | 2630 | 2626 | 2644 | 2683 | 2731 | 2766 | 2762 | 2702 | 2579 | 2401 | 2188 | 1959 | 1726 | 1493 | 1250 | 985 | 720 | | | | | |
| 100% | 100% | 99% | 98% | 98% | 99% | 100% | 102% | 104% | 103% | 101% | 97% | 90% | 82% | 73% | 65% | 56% | 47% | 37% | 27% | | | | | |
| 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° | | | | | |
| 2670 | 2663 | 2646 | 2630 | 2626 | 2644 | 2683 | 2731 | 2766 | 2762 | 2702 | 2579 | 2401 | 2188 | 1959 | 1726 | 1493 | 1250 | 985 | 720 | | | | | |
| 100% | 100% | 99% | 98% | 98% | 99% | 100% | 102% | 104% | 103% | 101% | 97% | 90% | 82% | 73% | 65% | 56% | 47% | 37% | 27% | | | | | |
| 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° | | | | | |
| 2670 | 2663 | 2646 | 2630 | 2626 | 2644 | 2683 | 2731 | 2766 | 2762 | 2702 | 2579 | 2401 | 2188 | 1959 | 1726 | 1493 | 1250 | 985 | 720 | | | | | |
| 100% | 100% | 99% | 98% | 98% | 99% | 100% | 102% | 104% | 103% | 101% | 97% | 90% | 82% | 73% | 65% | 56% | 47% | 37% | 27% | | | | | |
| 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° | | | | | |
| 2670 | 2663 | 2646 | 2630 | 2626 | 2644 | 2683 | 2731 | 2766 | 2762 | 2702 | 2579 | 2401 | 2188 | 1959 | 1726 | 1493 | 1250 | 985 | 720 | | | | | |
| 100% | 100% | 99% | 98% | 98% | 99% | 100% | 102% | 104% | 103% | 101% | 97% | 90% | 82% | 73% | 65% | 56% | 47% | 37% | 27% | | | | | |
| Beam angle 50% | | | | | Field angle 10% | | | | | Cutoff angle 2,5% | | | | | Intensity ratio in 120° cone | | | | | Intensity ratio in 90° cone | | | | |
| 65,8° | | | | | 85,5° | | | | | 104,6° | | | | | 97,9% | | | | | 94,5% | | | | |



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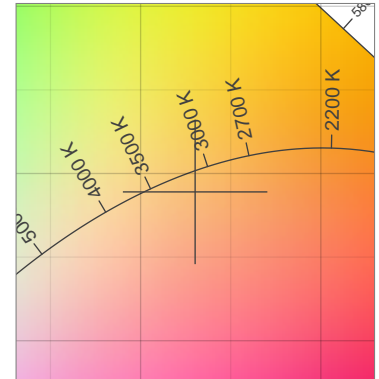
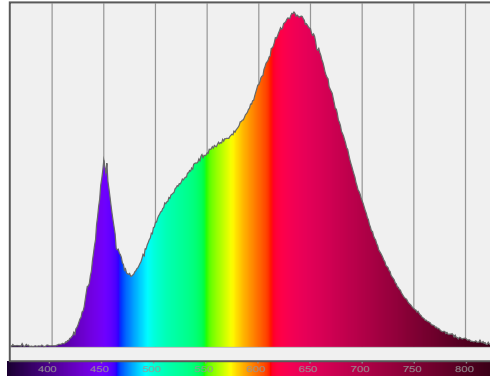
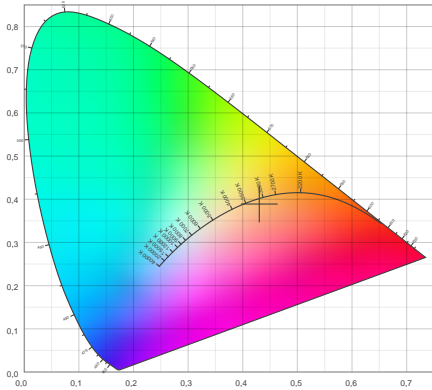
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Color details



CIE 1931

x: 0,430



Spectra

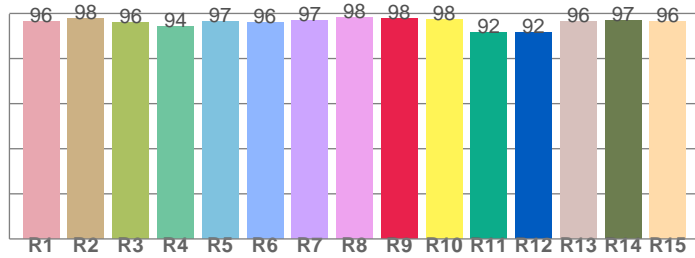
CIE 1931 ZOOM

2992 K

y: 0,389

Δuv : -0,0052

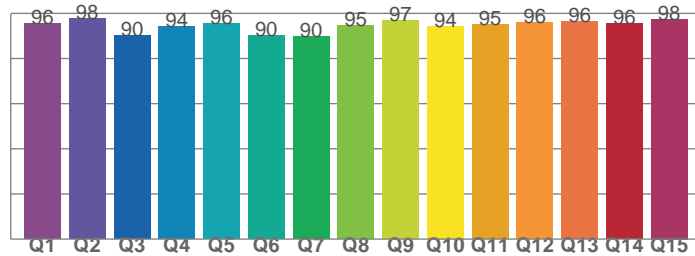
CRI: 96,5 (R1-R8)



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

| R1 | R2 | R3 | R4 | R5 | R6 | R7 | R8 |
|------|------|------|------|------|------|------|------|
| 96,3 | 97,9 | 96,0 | 94,3 | 96,5 | 95,8 | 97,0 | 98,1 |
| R9 | R10 | R11 | R12 | R13 | R14 | R15 | |
| 97,7 | 97,5 | 91,7 | 91,6 | 96,4 | 96,7 | 96,4 | |

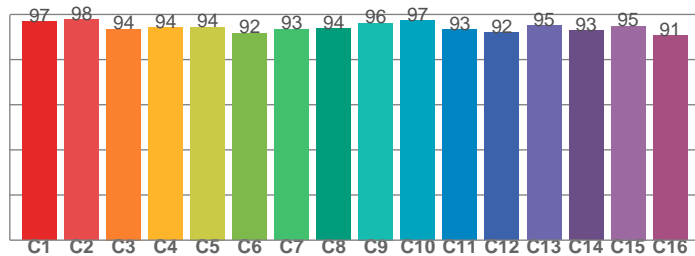
CQS: 93,9



CQS values

| Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 |
|------|------|------|------|------|------|------|------|
| 95,6 | 97,8 | 90,3 | 94,3 | 95,6 | 90,2 | 89,9 | 94,7 |
| Q9 | Q10 | Q11 | Q12 | Q13 | Q14 | Q15 | |
| 96,9 | 94,4 | 95,1 | 95,8 | 96,5 | 95,5 | 97,5 | |

TM30: 94,5



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

| C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 |
|------|------|------|------|------|------|------|------|
| 96,9 | 97,8 | 93,6 | 94,1 | 94,5 | 91,7 | 93,5 | 93,8 |
| C9 | C10 | C11 | C12 | C13 | C14 | C15 | |
| 96,2 | 97,2 | 93,2 | 92,1 | 95,0 | 93,0 | 94,9 | |

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 |
| 2992 K | 96,5 | 97,7 | 94,5 | 105,0 | 93,9 | 0,430 | 0,389 | 0,253 | 0,343 | -0,0052 |



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TM30 details

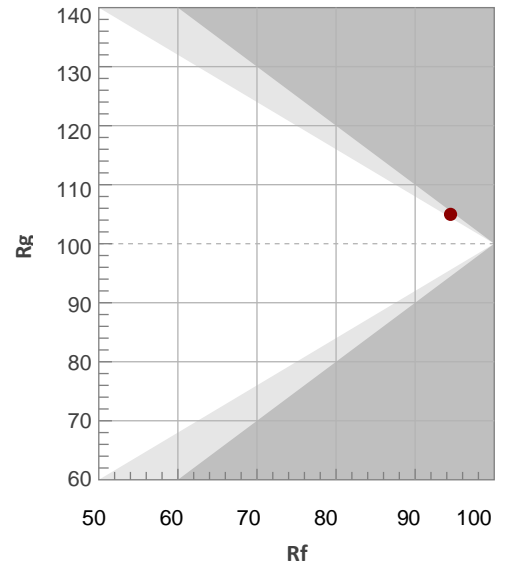
Rf 94,5

Fidelity index Rf

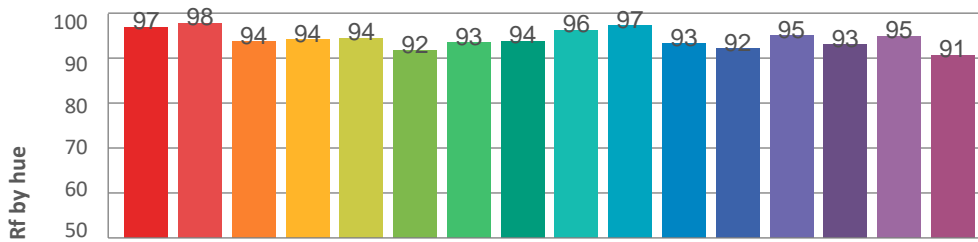
Rg 105,0

Gamut index Rg

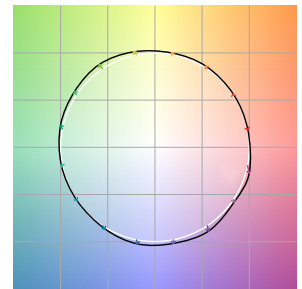
| Hue Bin | R _f | Graphic shifts (%) | |
|---------|----------------|--------------------|-----|
| | | Chroma | Hue |
| 1 | 97 | 0% | -1% |
| 2 | 98 | 0% | 1% |
| 3 | 94 | 1% | 3% |
| 4 | 94 | 2% | 2% |
| 5 | 94 | 4% | 3% |
| 6 | 92 | 6% | 0% |
| 7 | 93 | 4% | -2% |
| 8 | 94 | 3% | -3% |
| 9 | 96 | 1% | -1% |
| 10 | 97 | 0% | 1% |
| 11 | 93 | 1% | 4% |
| 12 | 92 | 4% | 2% |
| 13 | 95 | 4% | -1% |
| 14 | 93 | 5% | -2% |
| 15 | 95 | 2% | -2% |
| 16 | 91 | 3% | -7% |



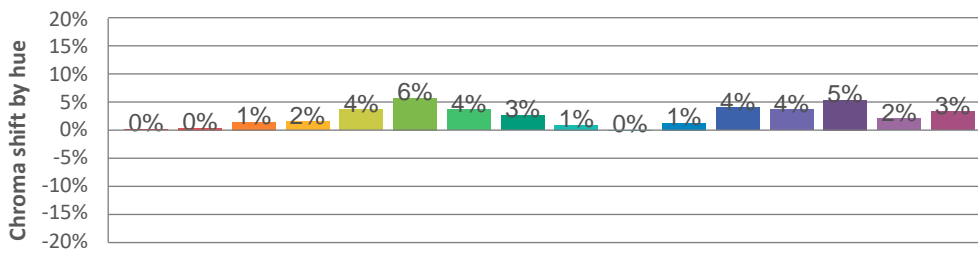
Hue binH



Color vector graphics



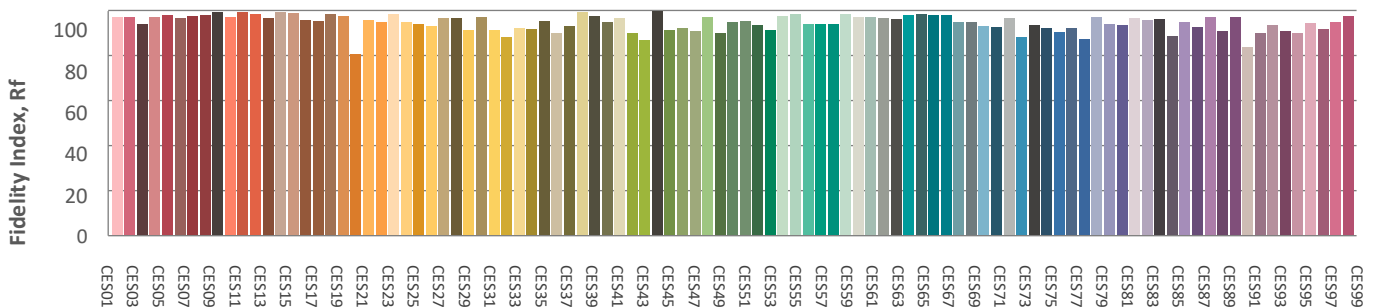
Hue bin



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 | 24,2 | 24,9 | 24,3 | 25,1 | 25,3 | 24,2 | 24,9 | 24,3 | 25,1 | 25,3 |
| | 3H | 24,1 | 24,9 | 24,4 | 25,1 | 25,3 | 24,1 | 24,9 | 24,4 | 25,1 | 25,3 |
| | 4H | 24,1 | 24,9 | 24,5 | 25,1 | 25,4 | 24,1 | 24,9 | 24,5 | 25,1 | 25,4 |
| | 6H | 24,2 | 24,9 | 24,5 | 25,1 | 25,5 | 24,2 | 24,9 | 24,5 | 25,1 | 25,5 |
| | 8H | 24,2 | 24,8 | 24,5 | 25,1 | 25,5 | 24,2 | 24,8 | 24,5 | 25,1 | 25,5 |
| | 12H | 24,1 | 24,7 | 24,5 | 25,1 | 25,5 | 24,1 | 24,7 | 24,5 | 25,1 | 25,5 |
| 4H | 2H | 23,9 | 24,7 | 24,3 | 24,9 | 25,1 | 23,9 | 24,7 | 24,3 | 24,9 | 25,1 |
| | 3H | 24,1 | 24,7 | 24,4 | 25,0 | 25,5 | 24,1 | 24,7 | 24,4 | 25,0 | 25,5 |
| | 4H | 24,1 | 24,7 | 24,5 | 25,1 | 25,6 | 24,1 | 24,7 | 24,5 | 25,1 | 25,6 |
| | 6H | 24,2 | 24,8 | 24,7 | 25,1 | 25,5 | 24,2 | 24,8 | 24,7 | 25,1 | 25,5 |
| | 8H | 24,2 | 24,7 | 24,7 | 25,0 | 25,4 | 24,2 | 24,7 | 24,7 | 25,0 | 25,4 |
| | 12H | 24,1 | 24,6 | 24,6 | 25,0 | 25,4 | 24,1 | 24,6 | 24,6 | 25,0 | 25,4 |
| 8H | 4H | 24,1 | 24,6 | 24,6 | 25,0 | 25,3 | 24,1 | 24,6 | 24,6 | 25,0 | 25,3 |
| | 6H | 24,2 | 24,6 | 24,7 | 25,0 | 25,6 | 24,2 | 24,6 | 24,7 | 25,0 | 25,6 |
| | 8H | 24,3 | 24,6 | 24,8 | 25,1 | 25,7 | 24,3 | 24,6 | 24,8 | 25,1 | 25,7 |
| | 12H | 24,2 | 24,5 | 24,8 | 25,0 | 25,6 | 24,2 | 24,5 | 24,8 | 25,0 | 25,6 |
| 12H | 4H | 24,0 | 24,4 | 24,5 | 24,9 | 25,3 | 24,0 | 24,4 | 24,5 | 24,9 | 25,3 |
| | 6H | 24,2 | 24,5 | 24,7 | 25,0 | 25,7 | 24,2 | 24,5 | 24,7 | 25,0 | 25,7 |
| | 8H | 24,2 | 24,5 | 24,8 | 25,0 | 25,6 | 24,2 | 24,5 | 24,8 | 25,0 | 25,6 |
| Variation of the observer position for the luminaire distance S | | | | | | | | | | | |
| S = 1.0H | 4,2 / -4,0 | | | | | 4,2 / -4,0 | | | | | |
| S = 1.5H | 6,8 / -4,3 | | | | | 6,8 / -4,3 | | | | | |
| S = 2.0H | 8,7 / -4,6 | | | | | 8,7 / -4,6 | | | | | |
| Standard table | n/a | | | | | n/a | | | | | |
| Correction summand | n/a | | | | | n/a | | | | | |
| Corrected glare indices referring to 3021lm total luminous flux | | | | | | | | | | | |