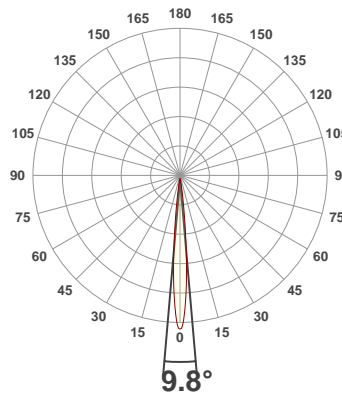
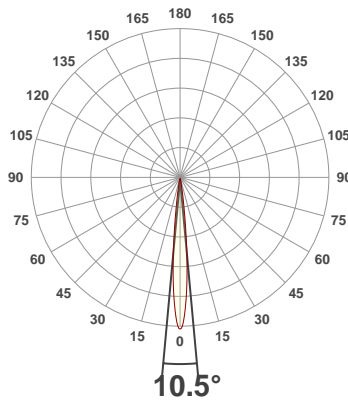




PRODUCT INFORMATION

| | |
|----------------------|--------------------------|
| SERIAL NUMBER: | LL-190625-272-BMS |
| DATE OF MEASUREMENT: | 2019-06-25 |
| SIZE (l x w. x h): | 298 mm x 71 mm x 59.5 mm |

ANGULAR DISTRIBUTION AT C0/180 | ANGULAR DISTRIBUTION AT C90/270 | LIGHT OUTPUT DATA

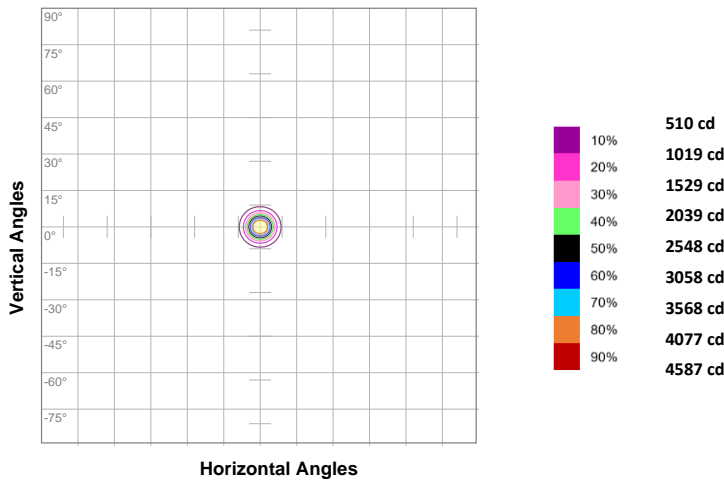


| | |
|------------------------------|---------|
| TOTAL LUMEN OUTPUT: | 242 lm |
| EFFICACY: | 20 lm/W |
| PEAK INTENSITY: | 5102 cd |
| COLOR RENDERING INDEX (CRI): | 0.0 |
| COLOR TEMPERATURE (CCT): | 0K |
| FIDELITY INDEX (TM30Rf): | 0.0 |
| GAMUT INDEX (TM30Rg): | 0.0 |

BEAM OUTPUT DATA

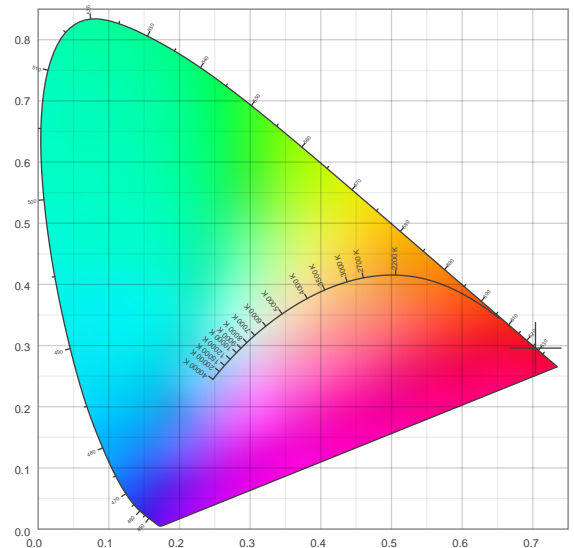
| | |
|------------------------------|-------|
| BEAM ANGLE (FWHM) C0/180: | 10.5° |
| BEAM ANGLE (FWHM) C90/270: | 9.8° |
| FIELD ANGLE (10%) C0/180: | 19.6° |
| FIELD ANGLE (10%) C90/270: | 18.6° |
| NUMBER OF PLANES MEASURED: | 8 |

ISOCANDELA DIAGRAM

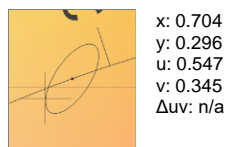
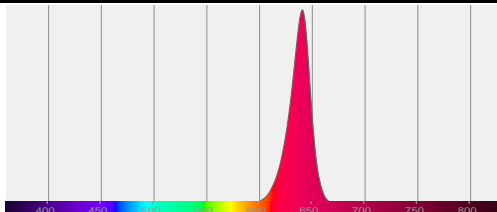


| | |
|----------------------|---------|
| INPUT POWER: | 12.2 W |
| POWER FACTOR: | 1.0 |
| OPTICAL POWER: | 1.62 mW |
| PEAK WAVELENGTH: | 641 nm |
| DOMINANT WAVELENGTH: | 627 nm |

CIE 1931

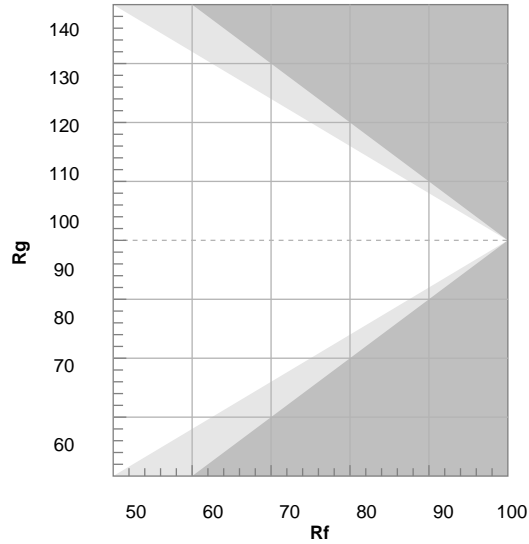


SPECTRAL DISTRIBUTION | CIE 1931 ZOOM



TM30 DETAILS

| Hue Bin | R _f | Graphic shifts (%) | |
|---------|----------------|--------------------|-----|
| | | Chroma | Hue |
| 1 | 0 | 0% | 0% |
| 2 | 0 | 0% | 0% |
| 3 | 0 | 0% | 0% |
| 4 | 0 | 0% | 0% |
| 5 | 0 | 0% | 0% |
| 6 | 0 | 0% | 0% |
| 7 | 0 | 0% | 0% |
| 8 | 0 | 0% | 0% |
| 9 | 0 | 0% | 0% |
| 10 | 0 | 0% | 0% |
| 11 | 0 | 0% | 0% |
| 12 | 0 | 0% | 0% |
| 13 | 0 | 0% | 0% |
| 14 | 0 | 0% | 0% |
| 15 | 0 | 0% | 0% |
| 16 | 0 | 0% | 0% |



FIDELITY INDEX

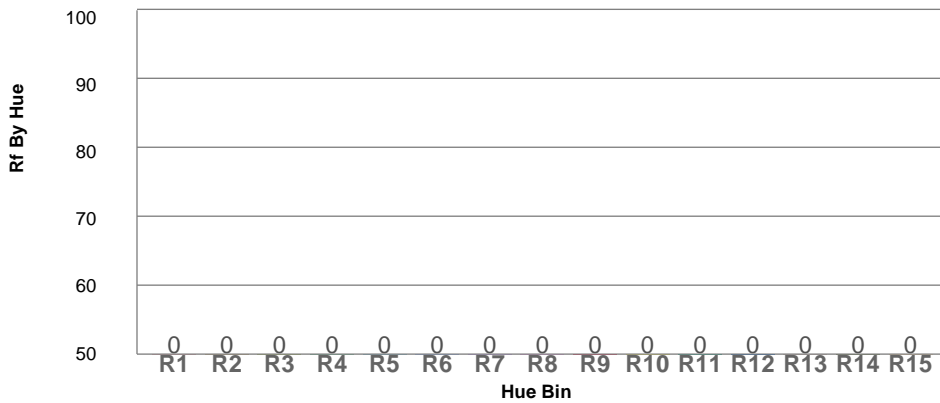
R_f 0.0

GAMUT INDEX

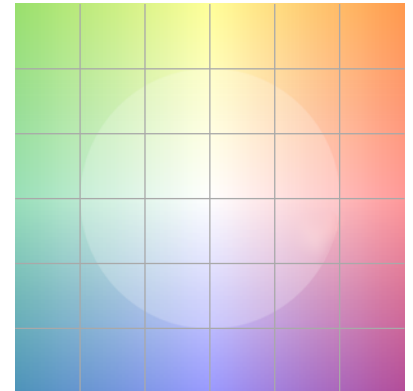
R_g 0.0

Approx. limits for sources on the Planckian locus.
 Approx. limits for practical light sources.

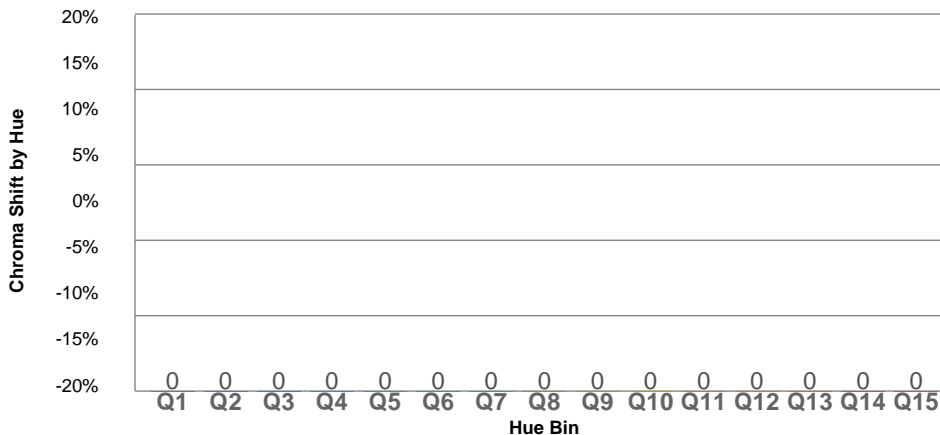
TM30 OVER 50



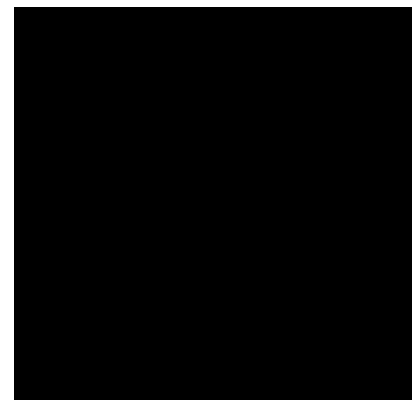
COLOR VECTOR GRAPHICS

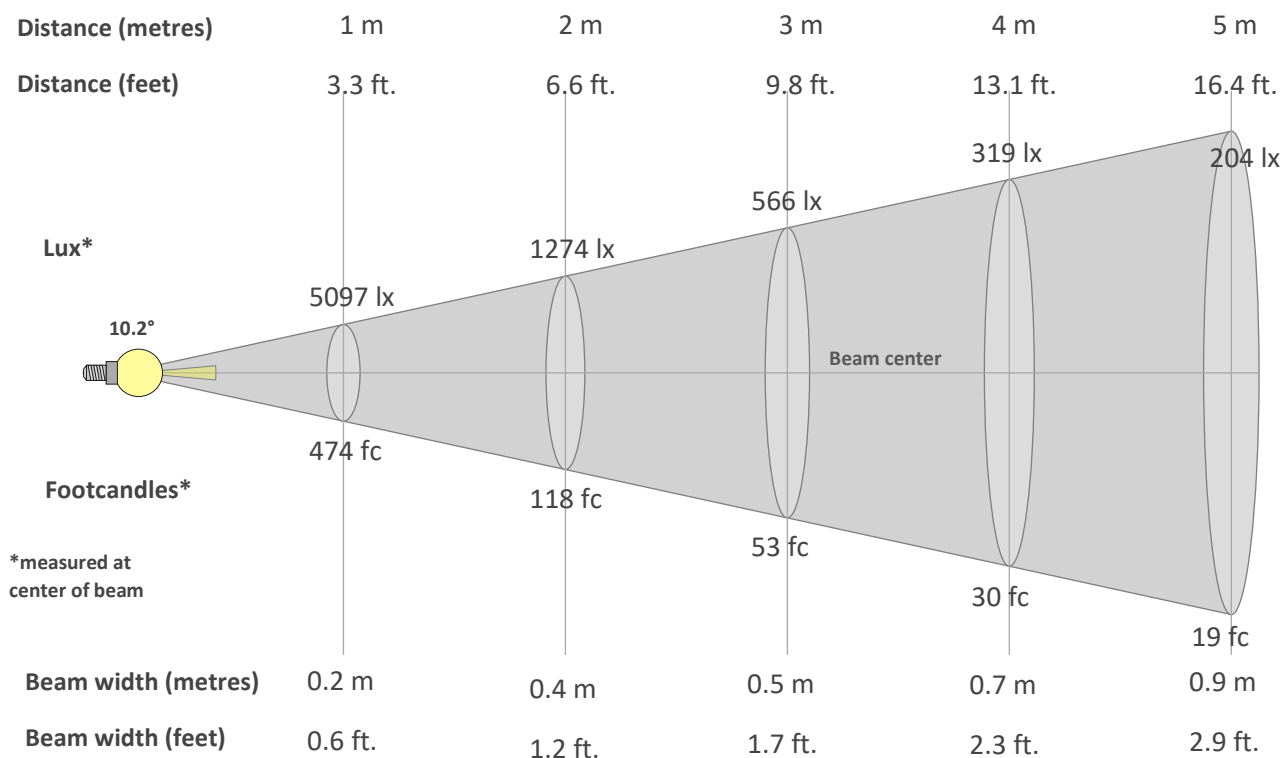


TM30 CHROMA SHIFT



COLOR DISTORTION GRAPHICS



BEAM DETAILS

Beam intensity from 1-20m

| 1m | 2m | 3m | 4m | 5m | 6m | 7m | 8m | 9m | 10m | 11m | 12m | 13m | 14m | 15m | 16m | 17m | 18m | 19m | 20m |
|---------|---------|--------|--------|--------|--------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 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 |
| 5097lx | 1274lx | 566lx | 319lx | 204lx | 142lx | 104lx | 80lx | 63lx | 51lx | 42lx | 35lx | 30lx | 26lx | 23lx | 20lx | 18lx | 16lx | 14lx | 13lx |
| 473.5fc | 118.4fc | 52.6fc | 29.6fc | 18.9fc | 13.2fc | 9.7fc | 7.4fc | 5.8fc | 4.7fc | 3.9fc | 3.3fc | 2.8fc | 2.4fc | 2.1fc | 1.8fc | 1.6fc | 1.5fc | 1.3fc | 1.2fc |

Intensity in 0° c-plane

| 0° | 1° | 2° | 3° | 4° | 5° | 6° | 7° | 8° | 9° | 10° | 11° | 12° | 13° | 14° | 15° | 16° | 17° | 18° | 19° |
|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 5097 | 4963 | 4570 | 4033 | 3398 | 2704 | 2015 | 1418 | 972 | 673 | 475 | 343 | 253 | 193 | 160 | 140 | 125 | 115 | 104 | 92 |
| 100% | 97% | 90% | 79% | 67% | 53% | 40% | 28% | 19% | 13% | 9% | 7% | 5% | 4% | 3% | 3% | 2% | 2% | 2% | 2% |

Intensity in 90° c-plane

| 0° | 1° | 2° | 3° | 4° | 5° | 6° | 7° | 8° | 9° | 10° | 11° | 12° | 13° | 14° | 15° | 16° | 17° | 18° | 19° |
|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 5097 | 4965 | 4525 | 3932 | 3238 | 2485 | 1794 | 1242 | 839 | 569 | 400 | 292 | 218 | 168 | 135 | 114 | 101 | 92 | 87 | 80 |
| 100% | 97% | 89% | 77% | 64% | 49% | 35% | 24% | 16% | 11% | 8% | 6% | 4% | 3% | 3% | 2% | 2% | 2% | 2% | 2% |

Intensity in 180° c-plane

| 0° | 1° | 2° | 3° | 4° | 5° | 6° | 7° | 8° | 9° | 10° | 11° | 12° | 13° | 14° | 15° | 16° | 17° | 18° | 19° |
|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 5097 | 4963 | 4570 | 4033 | 3398 | 2704 | 2015 | 1418 | 972 | 673 | 475 | 343 | 253 | 193 | 160 | 140 | 125 | 115 | 104 | 92 |
| 100% | 97% | 90% | 79% | 67% | 53% | 40% | 28% | 19% | 13% | 9% | 7% | 5% | 4% | 3% | 3% | 2% | 2% | 2% | 2% |

Intensity in 270° c-plane

| 0° | 1° | 2° | 3° | 4° | 5° | 6° | 7° | 8° | 9° | 10° | 11° | 12° | 13° | 14° | 15° | 16° | 17° | 18° | 19° |
|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 5097 | 4965 | 4525 | 3932 | 3238 | 2485 | 1794 | 1242 | 839 | 569 | 400 | 292 | 218 | 168 | 135 | 114 | 101 | 92 | 87 | 80 |
| 100% | 97% | 89% | 77% | 64% | 49% | 35% | 24% | 16% | 11% | 8% | 6% | 4% | 3% | 3% | 2% | 2% | 2% | 2% | 2% |