



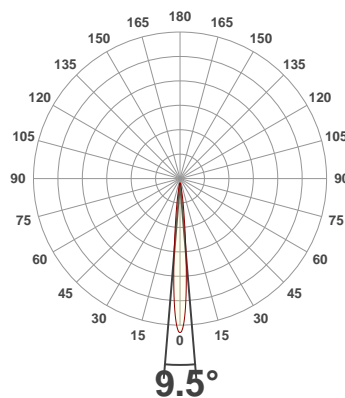
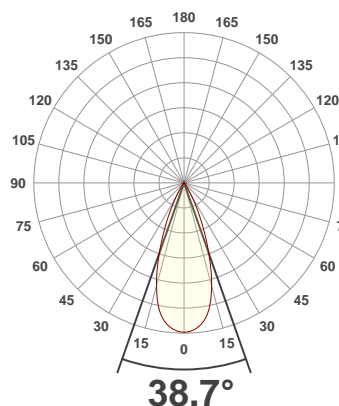
**PRODUCT INFORMATION**

SERIAL NUMBER:	LL-20191030-961
DATE OF MEASUREMENT:	2019-10-30
SIZE (dia. x h):	310 mm x 85 mm

**ANGULAR DISTRIBUTION AT C0/180**

**ANGULAR DISTRIBUTION AT C90/270**

**LIGHT OUTPUT DATA**

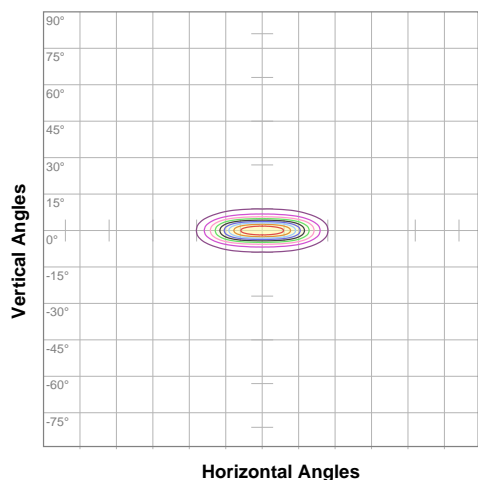


TOTAL LUMEN OUTPUT:	8946 lm
EFFICACY:	92 lm/W
PEAK INTENSITY:	62375 cd
COLOR RENDERING INDEX (CRI):	81.2
COLOR TEMPERATURE (CCT):	3785K
FIDELITY INDEX (TM30Rf):	82.3
GAMUT INDEX (TM30Rg):	98.0

**BEAM OUTPUT DATA**

BEAM ANGLE (FWHM)   C0/180:	38.7°
BEAM ANGLE (FWHM)   C90/270:	9.5°
FIELD ANGLE (10%)   C0/180:	60.2°
FIELD ANGLE (10%)   C90/270:	19.8°
NUMBER OF PLANES MEASURED:	36

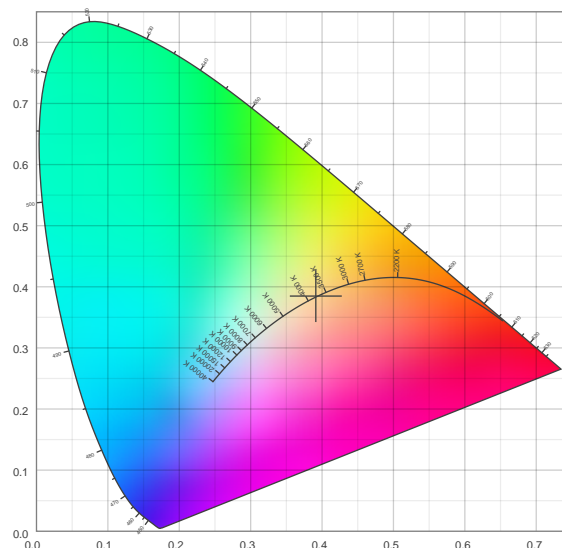
**ISO CANDELA DIAGRAM DATA**



10%	6233 cd
20%	12466 cd
30%	18698 cd
40%	24931 cd
50%	31164 cd
60%	37397 cd
70%	43630 cd
80%	49863 cd
90%	56095 cd

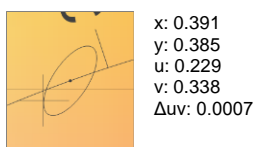
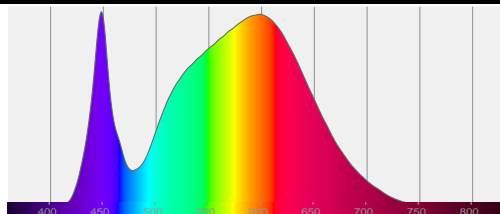
INPUT POWER:	97.0 W
POWER FACTOR:	1.0
OPTICAL POWER:	27.0 mW
PEAK WAVELENGTH:	448 nm
DOMINANT WAVELENGTH:	581 nm

**CIE 1931:**



**SPECTRA**

**CIE 1931 ZOOM**



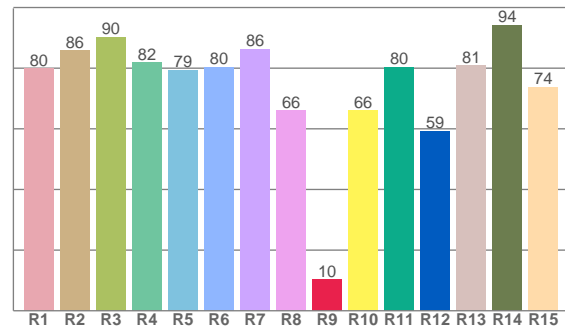
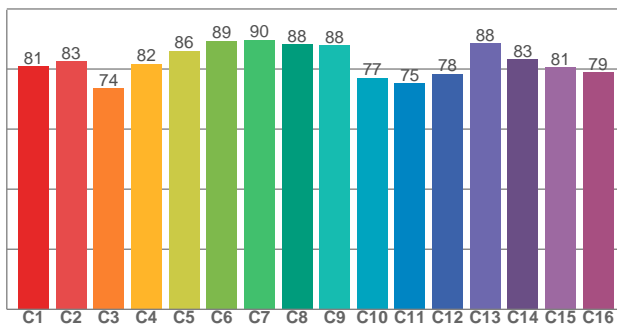
ZONAL LUMEN SUMMARY

0°-10° 3431 lm	10°-20° 3376 lm	20°-30° 1439 lm	30°-40° 381 lm	40°-50° 156 lm	50°-60° 98.4 lm	60°-70° 52.4 lm	70°-80° 11.9 lm	80°-90° 0.155 lm
90°-100° 0.007 lm	100°-110° 0.006 lm	110°-120° 0.003 lm	120°-130° 0.002 lm	130°-140° 0.001 lm	140°-150° 0.001 lm	150°-160° 0.001 lm	160°-170° 0.000 lm	170°-180° 0.000 lm

COLOR DETAILS

TM30: 82.3

CRI: 81.2 (R1-R8)



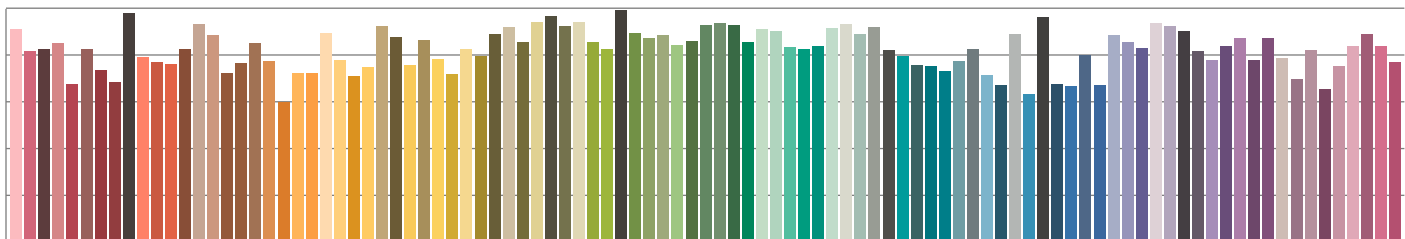
TM30 C values, 16 binned values out of total of 99 C values

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

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
81.0	82.6	73.6	81.7	86.0	89.4	89.8	88.2	88.0	77.0	75.3	78.4	88.5	83.3	80.7	78.9

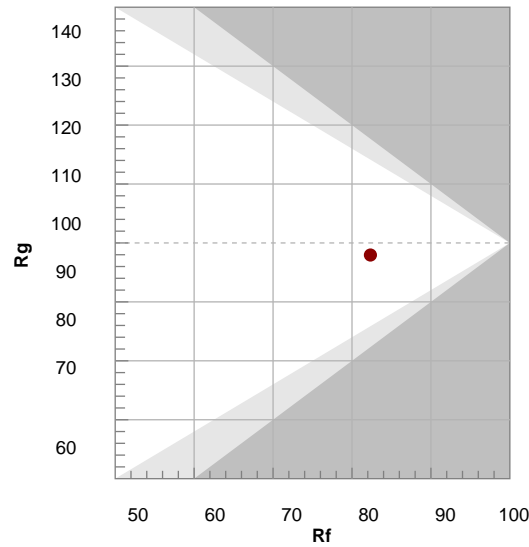
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
79.9	85.8	90.2	81.8	79.4	80.3	86.2	66.0	10.3	66.0	80.3	59.4	80.9	94.2	73.8

TM30 COLOR EVALUATION SAMPLE



TM30 DETAILS

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	81	-11%	-2%
2	83	-8%	6%
3	74	-4%	14%
4	82	3%	11%
5	86	6%	7%
6	89	7%	-2%
7	90	0%	-7%
8	88	-5%	-5%
9	88	-8%	0%
10	77	-10%	10%
11	75	-1%	17%
12	78	6%	10%
13	88	7%	1%
14	83	10%	-9%
15	81	2%	-14%
16	79	-4%	-13%



FIDELITY INDEX

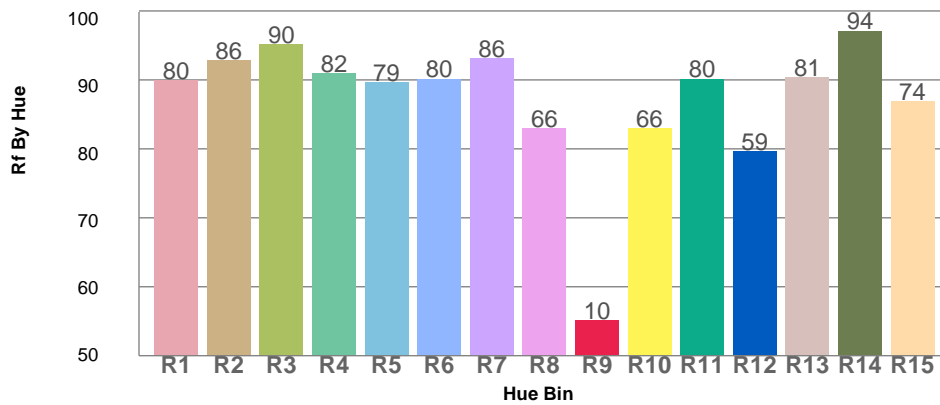
**R<sub>f</sub> 82.3**

GAMUT INDEX

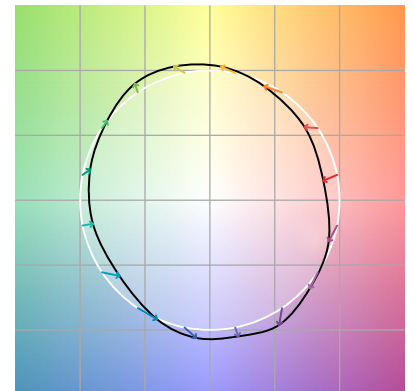
**R<sub>g</sub> 98.0**

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

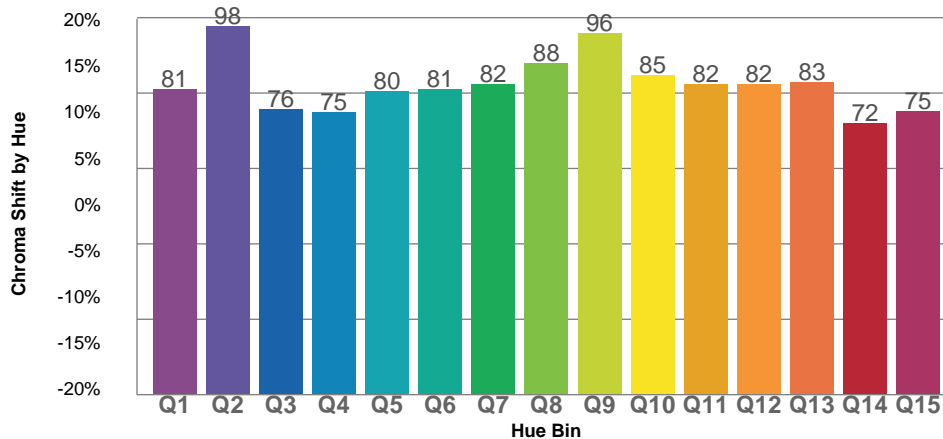
TM30 OVER 50



COLOR VECTOR GRAPHICS



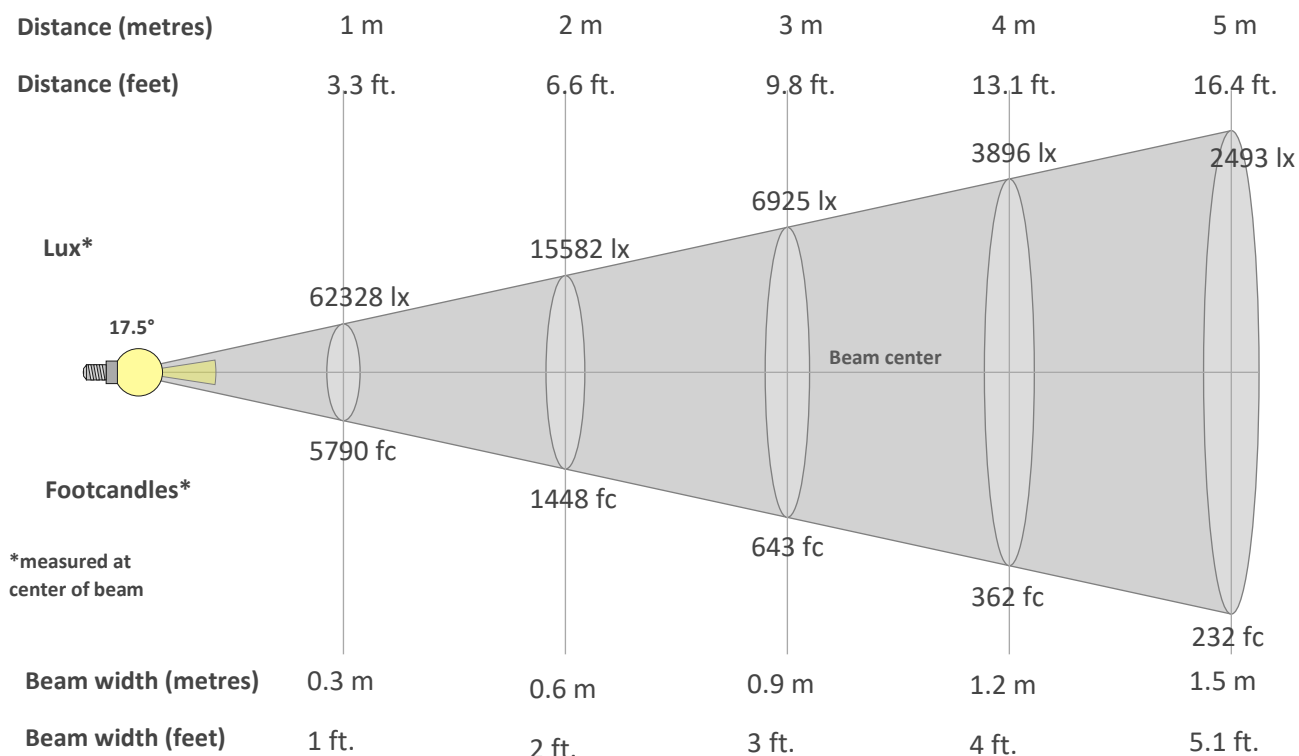
TM30 CHROMA SHIFT



COLOR DISTORTION GRAPHICS



**BEAM DETAILS**



\*measured at center of beam

**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
62328lx	15582lx	6925lx	3896lx	2493lx	1731lx	1272lx	974lx	769lx	623lx	515lx	433lx	369lx	318lx	277lx	243lx	216lx	192lx	173lx	156lx
5790.5fc	1447.6fc	643.4fc	361.9fc	231.6fc	160.8fc	118.2fc	90.5fc	71.5fc	57.9fc	47.9fc	40.2fc	34.3fc	29.5fc	25.7fc	22.6fc	20fc	17.9fc	16fc	14.5fc

**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°
62.3K	62.3K	62.1K	61.8K	61.4K	60.8K	60.1K	59.3K	58.3K	57.2K	55.8K	54.0K	52.0K	49.8K	47.1K	44.4K	41.6K	38.6K	35.4K	32.2K
100%	100%	100%	99%	98%	98%	96%	95%	94%	92%	89%	87%	83%	80%	76%	71%	67%	62%	57%	52%

**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°
62.3K	60.7K	55.9K	48.1K	38.4K	28.8K	20.7K	14.9K	10.9K	8.1K	6.0K	4.4K	3.3K	2.5K	2.0K	1.6K	1.4K	1.2K	1.1K	0.9K
100%	97%	90%	77%	62%	46%	33%	24%	18%	13%	10%	7%	5%	4%	3%	3%	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°
62.3K	62.3K	62.1K	61.8K	61.4K	60.8K	60.1K	59.3K	58.3K	57.2K	55.8K	54.0K	52.0K	49.8K	47.1K	44.4K	41.6K	38.6K	35.4K	32.2K
100%	100%	100%	99%	98%	98%	96%	95%	94%	92%	89%	87%	83%	80%	76%	71%	67%	62%	57%	52%

**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°
62.3K	60.7K	55.9K	48.1K	38.4K	28.8K	20.7K	14.9K	10.9K	8.1K	6.0K	4.4K	3.3K	2.5K	2.0K	1.6K	1.4K	1.2K	1.1K	0.9K
100%	97%	90%	77%	62%	46%	33%	24%	18%	13%	10%	7%	5%	4%	3%	3%	2%	2%	2%	2%