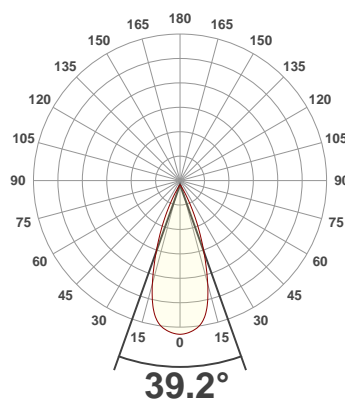
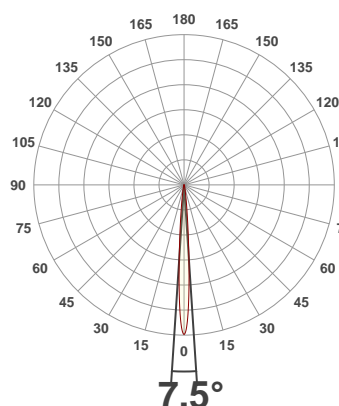




PRODUCT INFORMATION

SERIAL NUMBER:	LL-20191009-839
DATE OF MEASUREMENT:	2019-10-09
SIZE (dia. x h):	440 mm x 92 mm

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

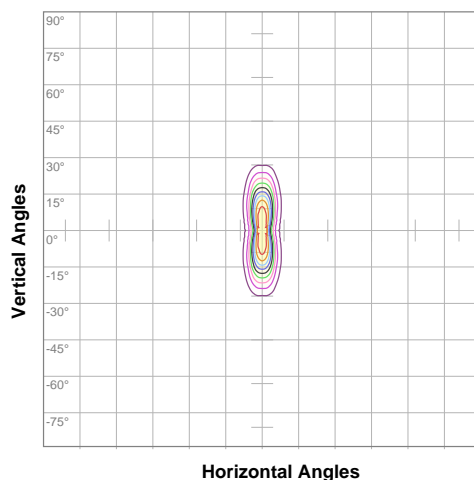


TOTAL LUMEN OUTPUT:	19431 lm
EFFICACY:	99 lm/W
PEAK INTENSITY:	140181 cd
COLOR RENDERING INDEX (CRI):	83.2
COLOR TEMPERATURE (CCT):	3929K
FIDELITY INDEX (TM30rf):	84.4
GAMUT INDEX (TM30Rg):	96.6

BEAM OUTPUT DATA

BEAM ANGLE (FWHM) C0/180:	7.5°
BEAM ANGLE (FWHM) C90/270:	39.2°
FIELD ANGLE (10%) C0/180:	15.9°
FIELD ANGLE (10%) C90/270:	59.8°
NUMBER OF PLANES MEASURED:	36

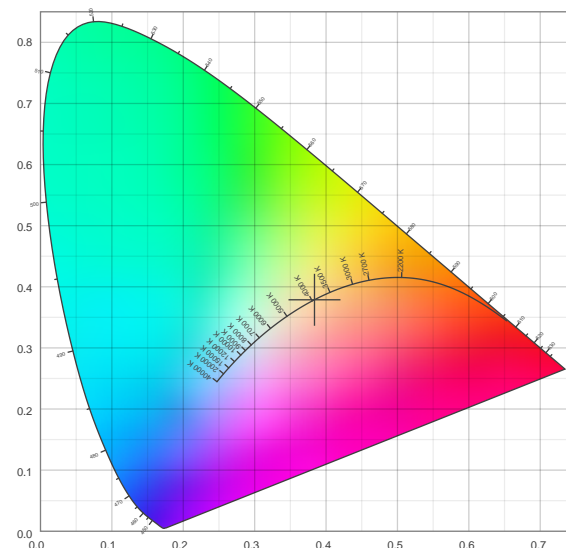
ISO CANDELA DIAGRAM | DATA



10%	13904 cd
20%	27808 cd
30%	41711 cd
40%	55615 cd
50%	69519 cd
60%	83423 cd
70%	97327 cd
80%	111230 cd
90%	125134 cd

INPUT POWER:	196.9 W
POWER FACTOR:	1.0
OPTICAL POWER:	58.7 mW
PEAK WAVELENGTH:	450 nm
DOMINANT WAVELENGTH:	582 nm

CIE 1931:



SPECTRA | CIE 1931 ZOOM



x:	0.384
y:	0.379
u:	0.227
v:	0.335
Δuv:	-0.0001

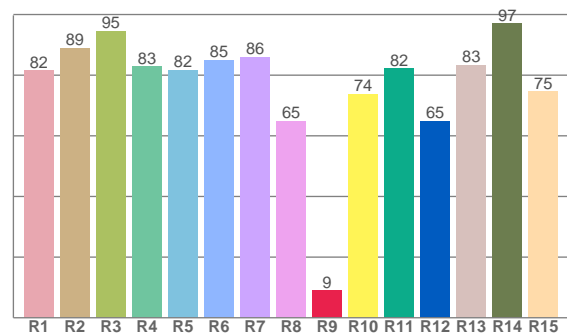
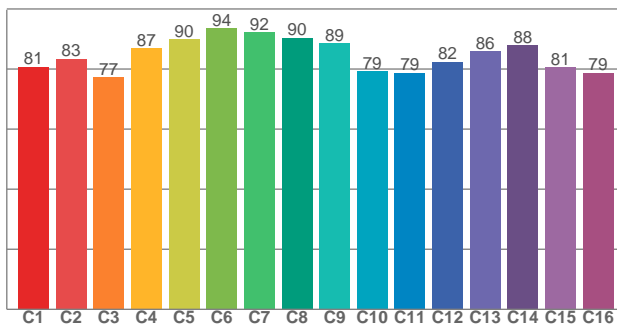
ZONAL LUMEN SUMMARY

0°-10° 7073 lm	10°-20° 7699 lm	20°-30° 3297 lm	30°-40° 786 lm	40°-50° 283 lm	50°-60° 173 lm	60°-70° 100.0 lm	70°-80° 21.1 lm	80°-90° 0.524 lm
90°-100° 0.002 lm	100°-110° 0.002 lm	110°-120° 0.002 lm	120°-130° 0.002 lm	130°-140° 0.017 lm	140°-150° 0.000 lm	150°-160° 0.000 lm	160°-170° 0.000 lm	170°-180° 0.000 lm

COLOR DETAILS

TM30: 84.4

CRI: 83.2 (R1-R8)



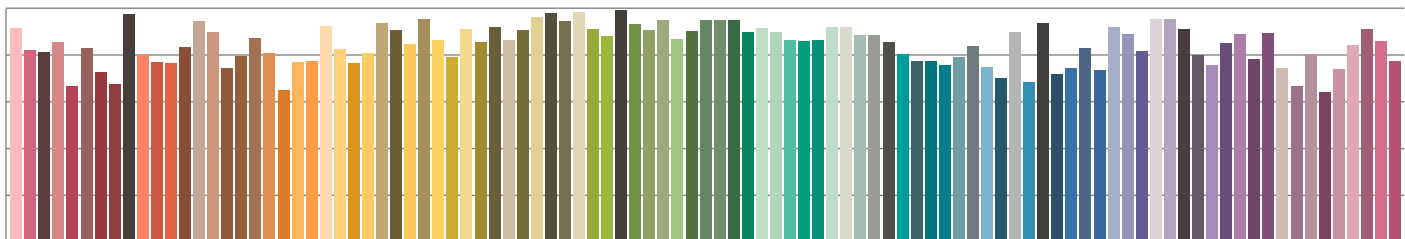
TM30 C values, 16 binned values out of total of 99 C values

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
80.7	83.4	77.2	87.0	89.8	93.5	92.2	90.4	88.6	79.1	78.8	82.4	85.9	87.9	80.6	78.7

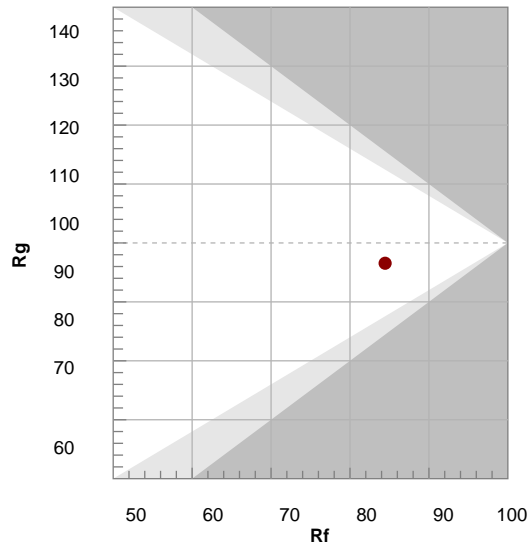
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
81.6	88.9	94.5	82.9	81.7	84.9	86.0	64.8	8.9	73.7	82.2	64.9	83.4	97.0	74.7

TM30 COLOR EVALUATION SAMPLE



TM30 DETAILS

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	81	-12%	-1%
2	83	-7%	6%
3	77	-4%	12%
4	87	1%	8%
5	90	3%	5%
6	94	3%	-2%
7	92	-2%	-4%
8	90	-5%	-2%
9	89	-7%	4%
10	79	-7%	10%
11	79	2%	14%
12	82	5%	8%
13	86	8%	-5%
14	88	9%	-7%
15	81	0%	-14%
16	79	-5%	-12%



FIDELITY INDEX

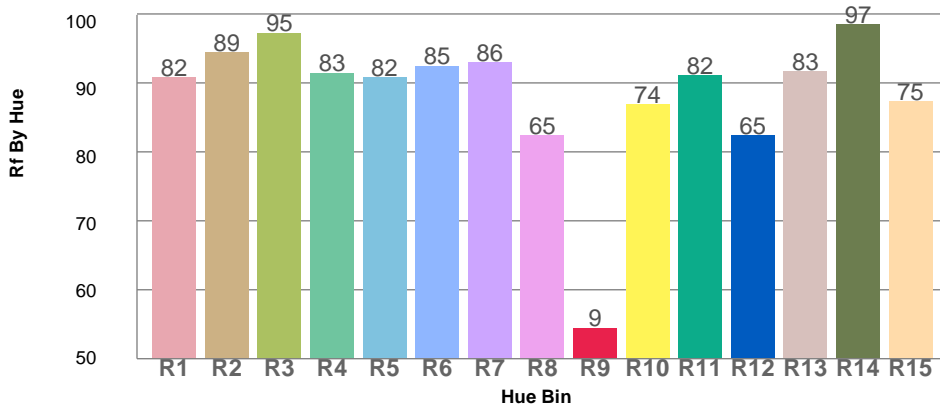
R_f 84.4

GAMUT INDEX

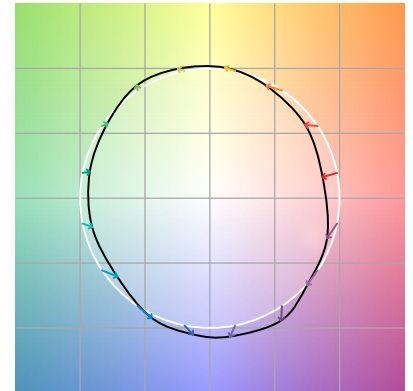
R_g 96.6

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

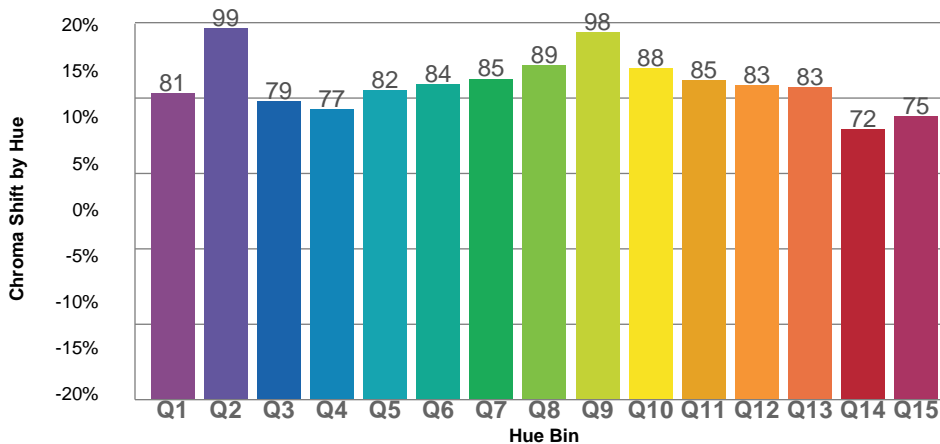
TM30 OVER 50



COLOR VECTOR GRAPHICS



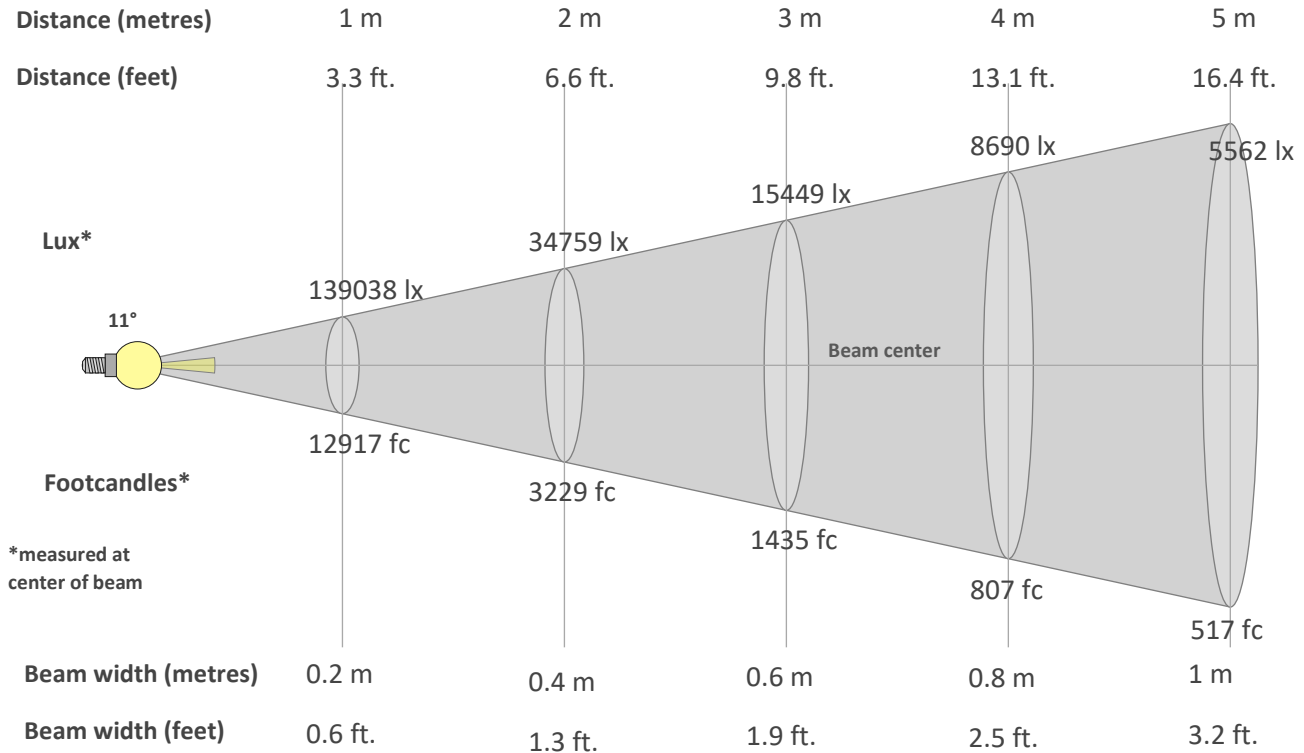
TM30 CHROMA SHIFT



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
139038lx	34759lx	15449lx	8690lx	5562lx	3862lx	2838lx	2172lx	1717lx	1390lx	1149lx	966lx	823lx	709lx	618lx	543lx	481lx	429lx	385lx	348lx
12917fc	3229.3fc	1435.2fc	807.3fc	516.7fc	358.8fc	263.6fc	201.8fc	159.5fc	129.2fc	106.8fc	89.7fc	76.4fc	65.9fc	57.4fc	50.5fc	44.7fc	39.9fc	35.8fc	32.3fc

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°
139K	133K	115K	89K	63K	43K	29K	20K	14K	10K	7K	5K	4K	3K	3K	2K	2K	2K	2K	1K
100%	95%	82%	64%	45%	31%	21%	14%	10%	7%	5%	4%	3%	2%	2%	2%	1%	1%	1%	1%

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°
139K	139K	139K	138K	137K	136K	135K	134K	132K	130K	128K	124K	120K	115K	109K	103K	96K	88K	81K	74K
100%	100%	100%	99%	99%	98%	97%	96%	95%	94%	92%	89%	86%	83%	79%	74%	69%	64%	58%	53%

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°
139K	133K	115K	89K	63K	43K	29K	20K	14K	10K	7K	5K	4K	3K	3K	2K	2K	2K	2K	1K
100%	95%	82%	64%	45%	31%	21%	14%	10%	7%	5%	4%	3%	2%	2%	2%	1%	1%	1%	1%

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°
139K	139K	139K	138K	137K	136K	135K	134K	132K	130K	128K	124K	120K	115K	109K	103K	96K	88K	81K	74K
100%	100%	100%	99%	99%	98%	97%	96%	95%	94%	92%	89%	86%	83%	79%	74%	69%	64%	58%	53%