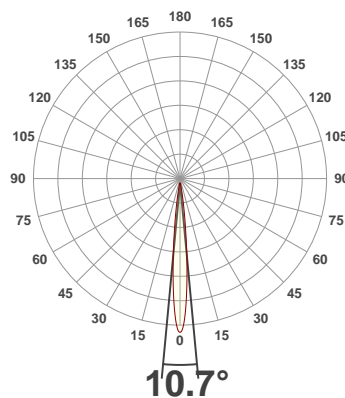
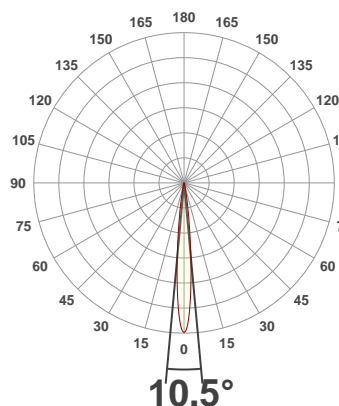




PRODUCT INFORMATION

SERIAL NUMBER:	LL-20191008-829
DATE OF MEASUREMENT:	2019-10-08
SIZE (dia. x h):	440 mm x 92 mm

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

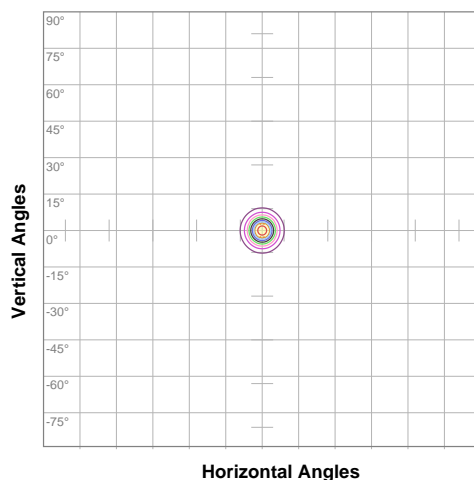


TOTAL LUMEN OUTPUT:	16182 lm
EFFICACY:	82 lm/W
PEAK INTENSITY:	345918 cd
COLOR RENDERING INDEX (CRI):	83.3
COLOR TEMPERATURE (CCT):	3934K
FIDELITY INDEX (TM30Rf):	84.5
GAMUT INDEX (TM30Rg):	96.4

BEAM OUTPUT DATA

BEAM ANGLE (FWHM) C0/180:	10.5°
BEAM ANGLE (FWHM) C90/270:	10.7°
FIELD ANGLE (10%) C0/180:	20.2°
FIELD ANGLE (10%) C90/270:	20.9°
NUMBER OF PLANES MEASURED:	12

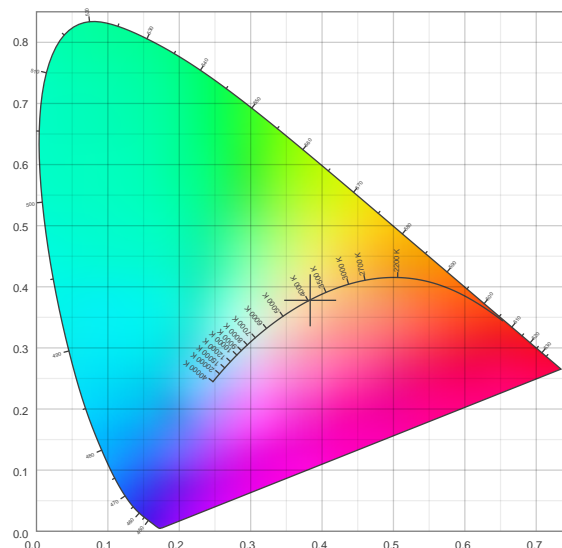
ISO CANDELA DIAGRAM | DATA



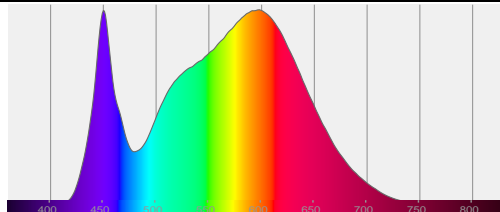
10%	34568 cd
20%	69136 cd
30%	103704 cd
40%	138272 cd
50%	172840 cd
60%	207408 cd
70%	241976 cd
80%	276544 cd
90%	311112 cd

INPUT POWER:	197.4 W
POWER FACTOR:	1.0
OPTICAL POWER:	49.0 mW
PEAK WAVELENGTH:	450 nm
DOMINANT WAVELENGTH:	582 nm

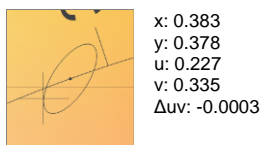
CIE 1931:



SPECTRA



CIE 1931 ZOOM



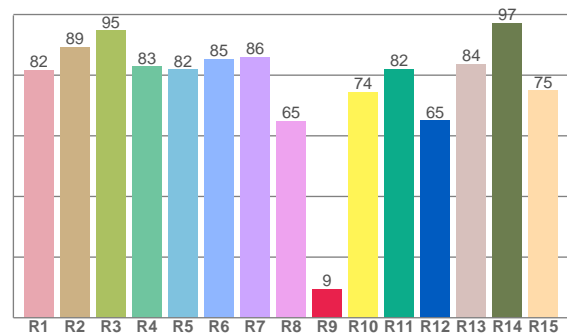
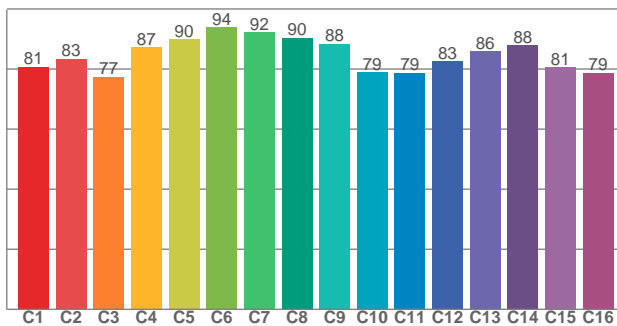
ZONAL LUMEN SUMMARY

0°-10° 12482 lm	10°-20° 2758 lm	20°-30° 605 lm	30°-40° 251 lm	40°-50° 67.0 lm	50°-60° 17.0 lm	60°-70° 1.59 lm	70°-80° 0.321 lm	80°-90° 0.038 lm
90°-100° 0.014 lm	100°-110° 0.014 lm	110°-120° 0.010 lm	120°-130° 0.009 lm	130°-140° 0.006 lm	140°-150° 0.004 lm	150°-160° 0.003 lm	160°-170° 0.002 lm	170°-180° 0.001 lm

COLOR DETAILS

TM30: 84.5

CRI: 83.3 (R1-R8)



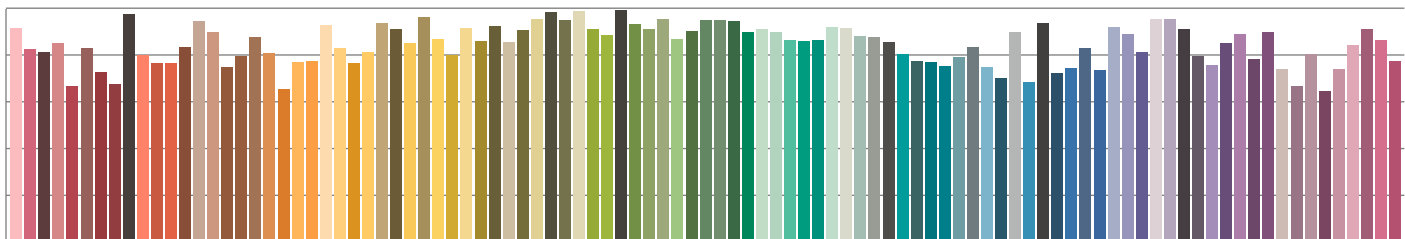
TM30 C values, 16 binned values out of total of 99 C values

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	77.4	87.2	90.0	93.8	92.2	90.3	88.4	78.9	78.8	82.6	85.9	87.9	80.6	78.7

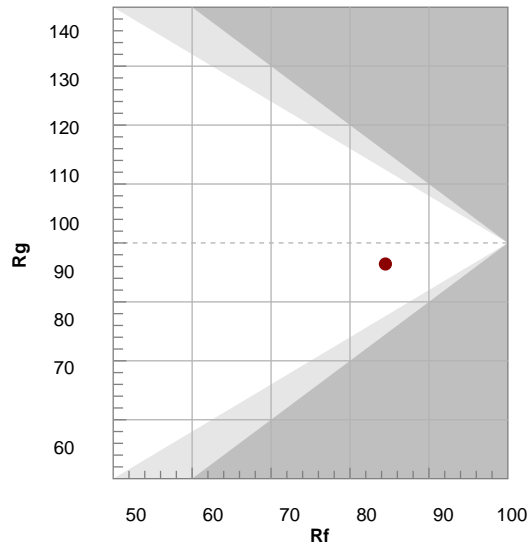
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
81.8	89.2	94.7	82.8	81.9	85.2	86.0	64.9	9.4	74.3	82.0	65.0	83.6	97.2	74.9

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	2%	5%
6	94	3%	-2%
7	92	-3%	-4%
8	90	-5%	-2%
9	88	-7%	4%
10	79	-7%	11%
11	79	2%	14%
12	83	5%	7%
13	86	7%	-6%
14	88	9%	-7%
15	81	-1%	-14%
16	79	-6%	-12%



FIDELITY INDEX

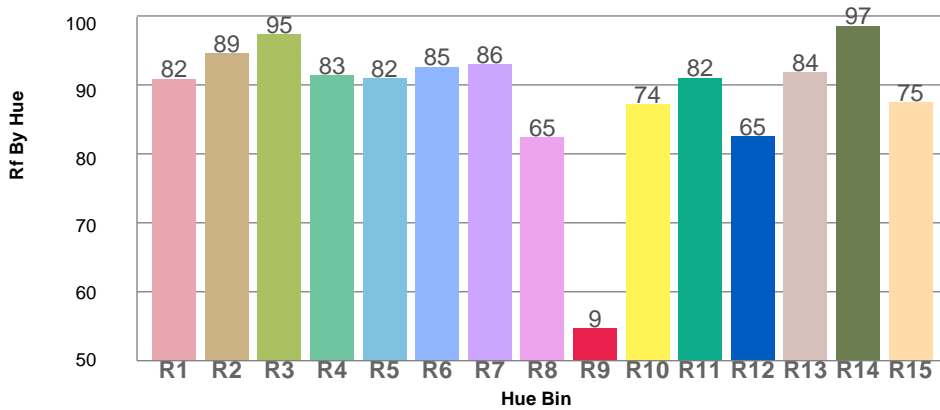
R_f 84.5

GAMUT INDEX

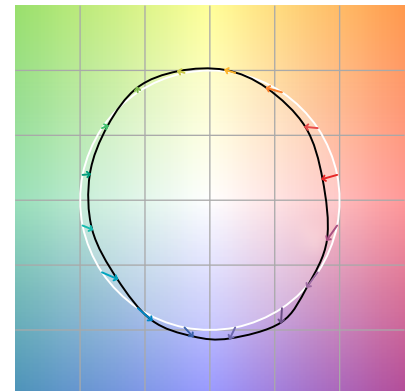
R_g 96.4

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

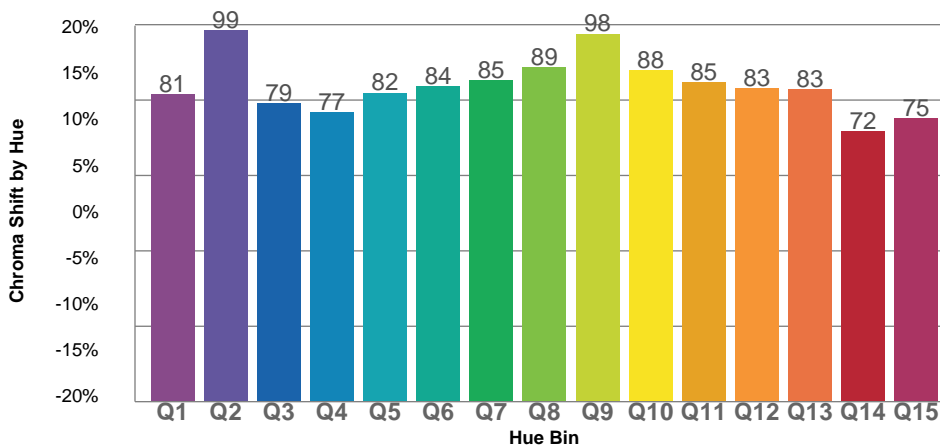
TM30 OVER 50



COLOR VECTOR GRAPHICS



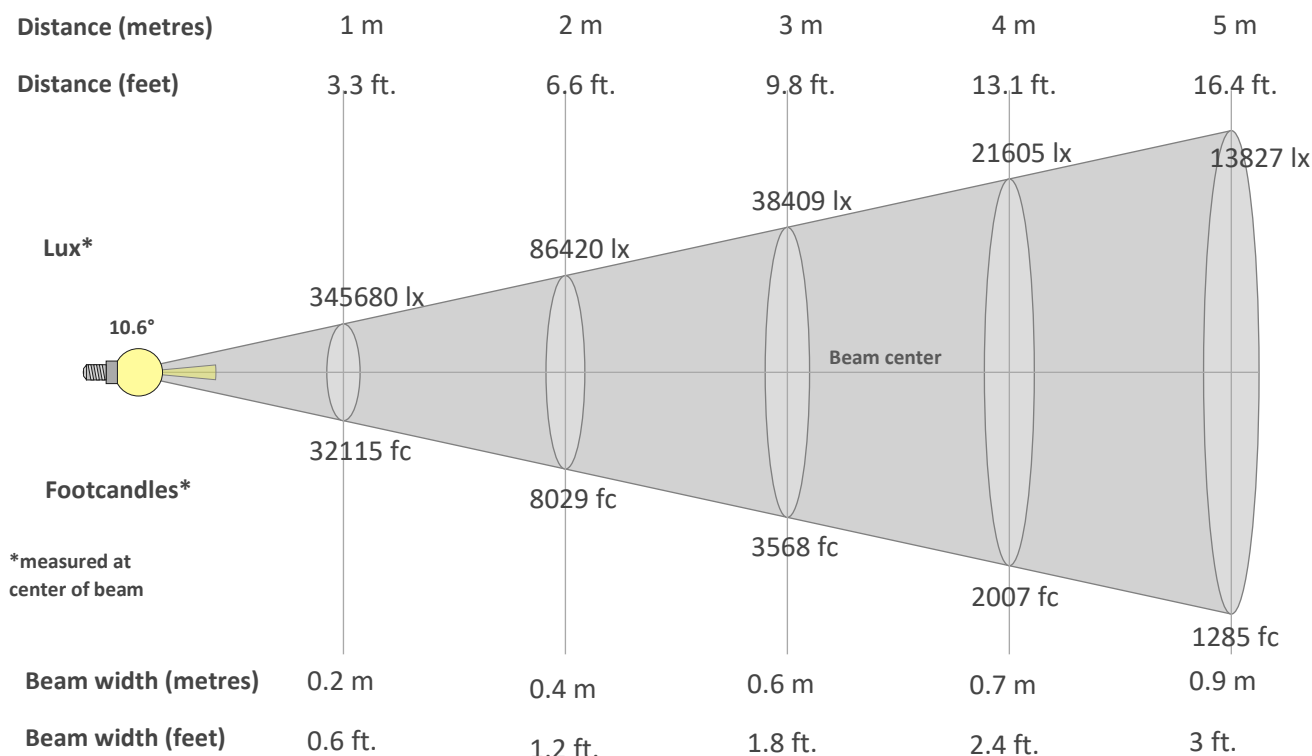
TM30 CHROMA SHIFT



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
345680lx	86420lx	38409lx	21605lx	13827lx	9602lx	7055lx	5401lx	4268lx	3457lx	2857lx	2401lx	2045lx	1764lx	1536lx	1350lx	1196lx	1067lx	958lx	864lx
32114.7fc	8028.7fc	3568.3fc	2007.2fc	1284.6fc	892.1fc	655.4fc	501.8fc	396.5fc	321.1fc	265.4fc	223fc	190fc	163.9fc	142.7fc	125.4fc	111.1fc	99.1fc	89fc	80.3fc

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°
346K	337K	311K	273K	229K	183K	139K	103K	73K	51K	36K	25K	18K	13K	9K	7K	6K	4K	4K	3K
100%	97%	90%	79%	66%	53%	40%	30%	21%	15%	10%	7%	5%	4%	3%	2%	2%	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°
346K	337K	312K	276K	232K	187K	145K	108K	79K	56K	40K	29K	21K	15K	11K	9K	7K	6K	4K	4K
100%	98%	90%	80%	67%	54%	42%	31%	23%	16%	12%	8%	6%	4%	3%	2%	2%	2%	1%	1%

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°
346K	337K	311K	273K	229K	183K	139K	103K	73K	51K	36K	25K	18K	13K	9K	7K	6K	4K	4K	3K
100%	97%	90%	79%	66%	53%	40%	30%	21%	15%	10%	7%	5%	4%	3%	2%	2%	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°
346K	337K	312K	276K	232K	187K	145K	108K	79K	56K	40K	29K	21K	15K	11K	9K	7K	6K	4K	4K
100%	98%	90%	80%	67%	54%	42%	31%	23%	16%	12%	8%	6%	4%	3%	2%	2%	2%	1%	1%