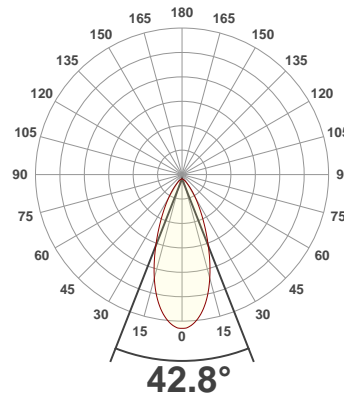
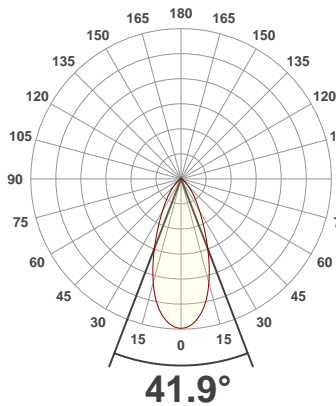




**PRODUCT INFORMATION**

SERIAL NUMBER:	LL-200228-0342
DATE OF MEASUREMENT:	2020-02-28
SIZE (dia. x h):	310 mm x 85 mm

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

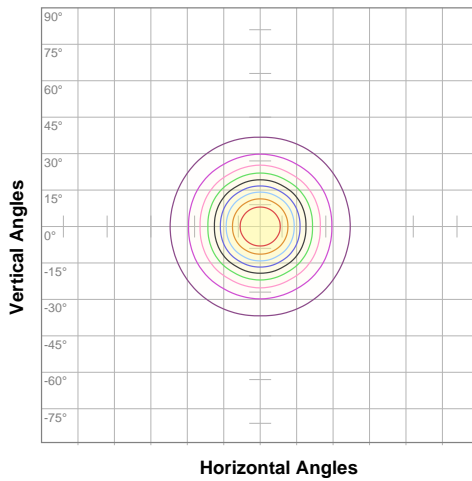


TOTAL LUMEN OUTPUT:	10059 lm
EFFICACY:	104 lm/W
PEAK INTENSITY:	14988 cd
COLOR RENDERING INDEX (CRI):	81.3
COLOR TEMPERATURE (CCT):	3811K
FIDELITY INDEX (TM30Rf):	82.3
GAMUT INDEX (TM30Rg):	97.9

**BEAM OUTPUT DATA**

BEAM ANGLE (FWHM)   C0/180:	41.9°
BEAM ANGLE (FWHM)   C90/270:	42.8°
FIELD ANGLE (10%)   C0/180:	82.5°
FIELD ANGLE (10%)   C90/270:	81.9°
NUMBER OF PLANES MEASURED:	12

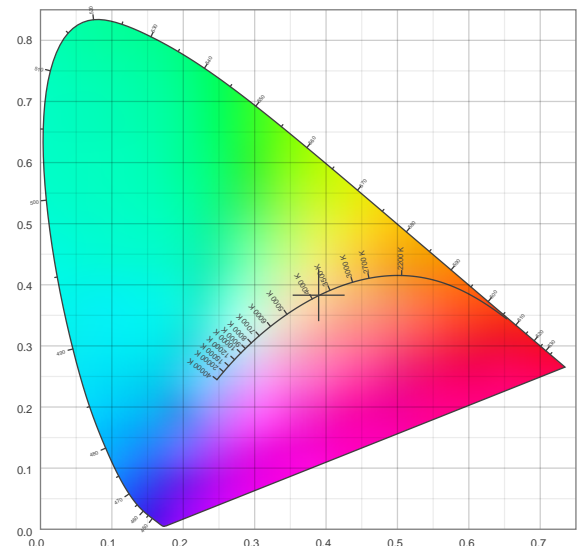
**ISO CANDELA DIAGRAM | DATA**



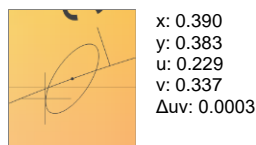
10%	1497 cd
20%	2995 cd
30%	4492 cd
40%	5989 cd
50%	7487 cd
60%	8984 cd
70%	10482 cd
80%	11979 cd
90%	13476 cd

INPUT POWER:	96.8 W
POWER FACTOR:	1.0
OPTICAL POWER:	30.4 mW
PEAK WAVELENGTH:	448 nm
DOMINANT WAVELENGTH:	582 nm

**CIE 1931:**



**SPECTRA | CIE 1931 ZOOM**



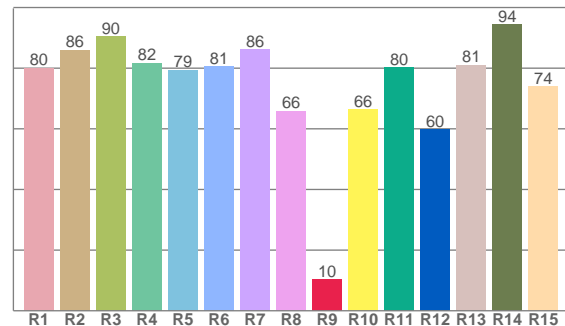
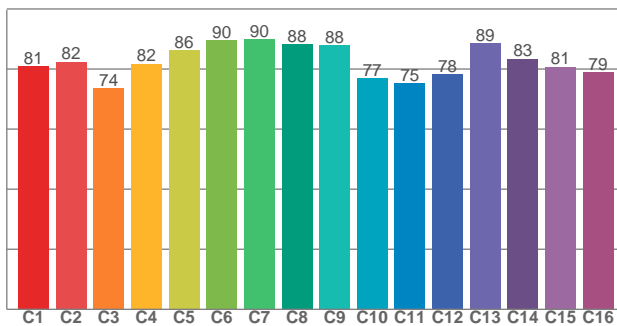
ZONAL LUMEN SUMMARY

0°-10° 1326 lm	10°-20° 2919 lm	20°-30° 2658 lm	30°-40° 1643 lm	40°-50° 828 lm	50°-60° 383 lm	60°-70° 198 lm	70°-80° 91.3 lm	80°-90° 13.1 lm
90°-100° 0.001 lm	100°-110° 0.001 lm	110°-120° 0.002 lm	120°-130° 0.001 lm	130°-140° 0.000 lm	140°-150° 0.000 lm	150°-160° 0.000 lm	160°-170° 0.000 lm	170°-180° 0.001 lm

COLOR DETAILS

TM30: 82.3

CRI: 81.3 (R1-R8)



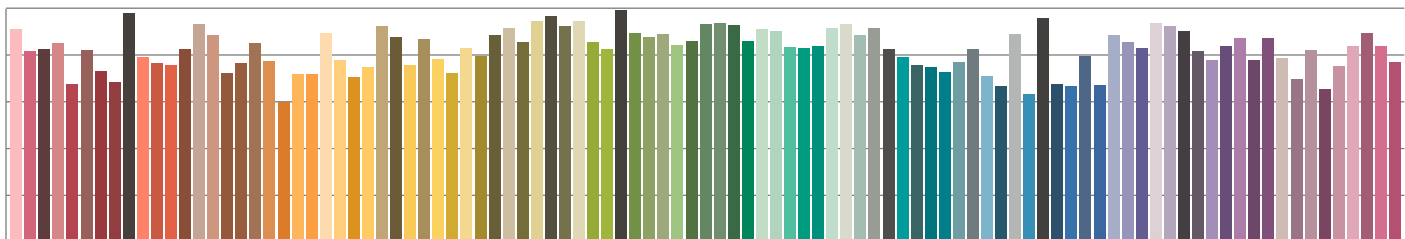
TM30 C values, 16 binned values out of total of 99 C values

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
80.9	82.4	73.5	81.8	86.1	89.5	89.9	88.3	88.0	76.9	75.2	78.3	88.5	83.3	80.7	79.0

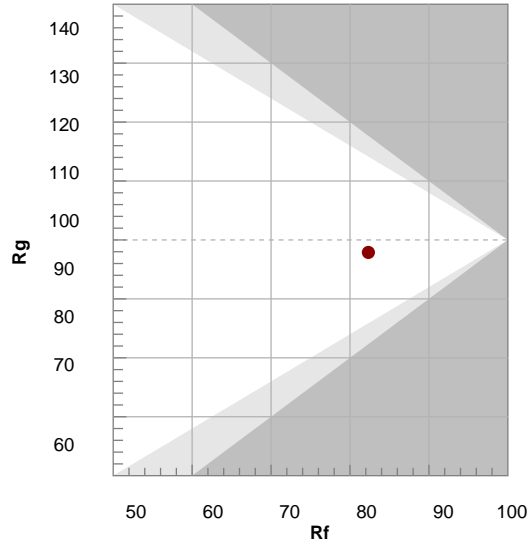
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
80.0	85.9	90.4	81.8	79.5	80.5	86.2	65.9	10.3	66.3	80.2	59.7	81.0	94.3	74.0

TM30 COLOR EVALUATION SAMPLE



TM30 DETAILS

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



FIDELITY INDEX

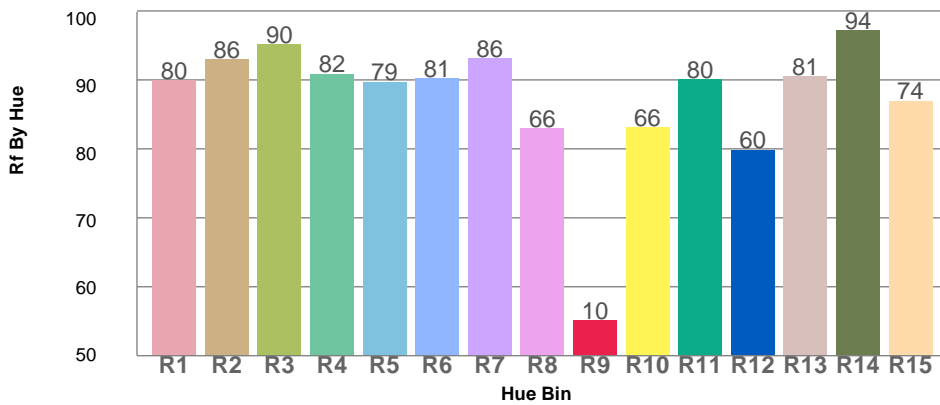
**R<sub>f</sub> 82.3**

GAMUT INDEX

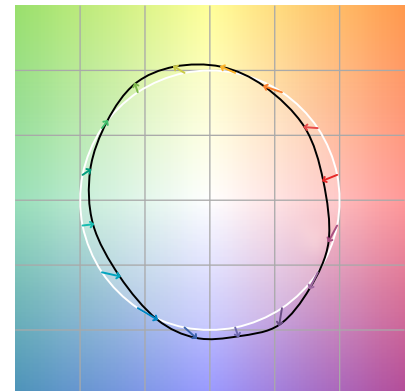
**R<sub>g</sub> 97.9**

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

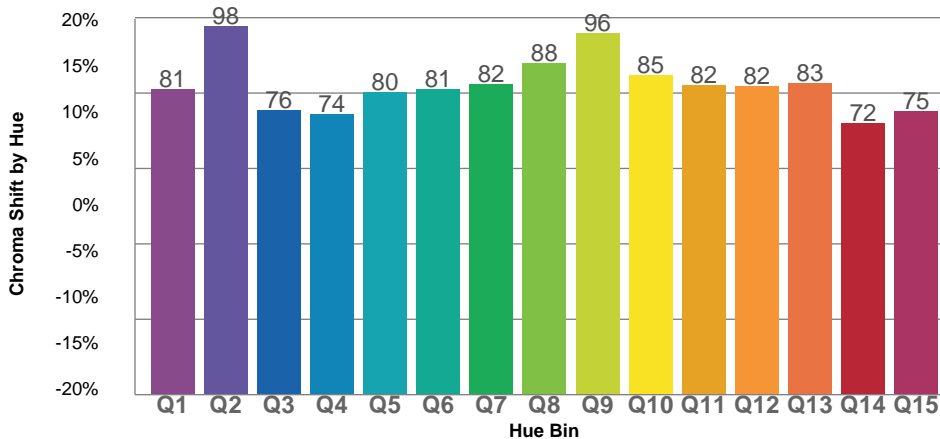
TM30 OVER 50



COLOR VECTOR GRAPHICS



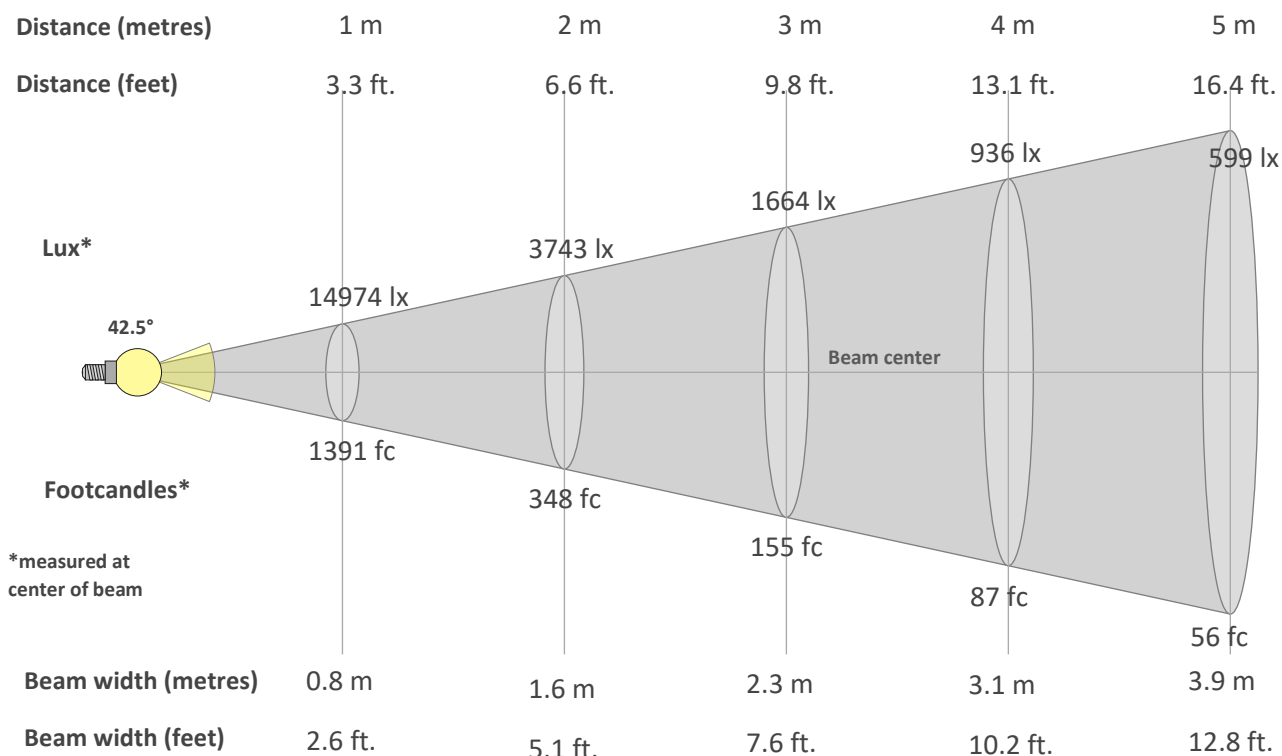
TM30 CHROMA SHIFT



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
14974lx	3743lx	1664lx	936lx	599lx	416lx	306lx	234lx	185lx	150lx	124lx	104lx	89lx	76lx	67lx	58lx	52lx	46lx	41lx	37lx
1391.1fc	347.8fc	154.6fc	86.9fc	55.6fc	38.6fc	28.4fc	21.7fc	17.2fc	13.9fc	11.5fc	9.7fc	8.2fc	7.1fc	6.2fc	5.4fc	4.8fc	4.3fc	3.9fc	3.5fc

**Intensity in 0° c-plane**

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
15.0K	14.9K	14.7K	14.3K	13.8K	13.1K	12.3K	11.3K	10.2K	9.1K	8.0K	6.9K	6.0K	5.1K	4.3K	3.7K	3.2K	2.7K	2.3K	2.0K
100%	99%	98%	95%	92%	87%	82%	75%	68%	61%	53%	46%	40%	34%	29%	25%	21%	18%	16%	13%

**Intensity in 90° c-plane**

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
15.0K	14.9K	14.6K	14.2K	13.7K	13.0K	12.2K	11.3K	10.3K	9.3K	8.2K	7.2K	6.2K	5.3K	4.6K	3.9K	3.3K	2.8K	2.3K	2.0K
100%	99%	98%	95%	91%	87%	82%	76%	69%	62%	55%	48%	41%	36%	30%	26%	22%	19%	16%	13%

**Intensity in 180° c-plane**

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
15.0K	14.9K	14.7K	14.3K	13.8K	13.1K	12.3K	11.3K	10.2K	9.1K	8.0K	6.9K	6.0K	5.1K	4.3K	3.7K	3.2K	2.7K	2.3K	2.0K
100%	99%	98%	95%	92%	87%	82%	75%	68%	61%	53%	46%	40%	34%	29%	25%	21%	18%	16%	13%

**Intensity in 270° c-plane**

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
15.0K	14.9K	14.6K	14.2K	13.7K	13.0K	12.2K	11.3K	10.3K	9.3K	8.2K	7.2K	6.2K	5.3K	4.6K	3.9K	3.3K	2.8K	2.3K	2.0K
100%	99%	98%	95%	91%	87%	82%	76%	69%	62%	55%	48%	41%	36%	30%	26%	22%	19%	16%	13%