

Light Efficiency:

40 Lumen/Watt

Light Quality:

CRI: 64.3

Color Temperature:

3338 K

Output: 17847 lm

Peak: 10912125

Power: 444 W

PF: 1.0

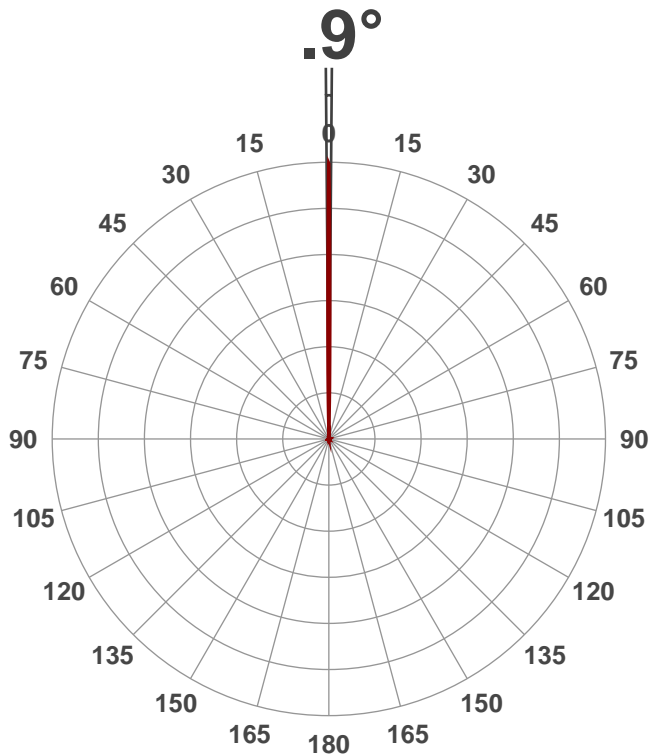


Product Name:
Proteus Beam

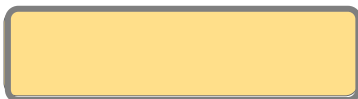
Test:
CTO

Date:
1/18/2018

Note:



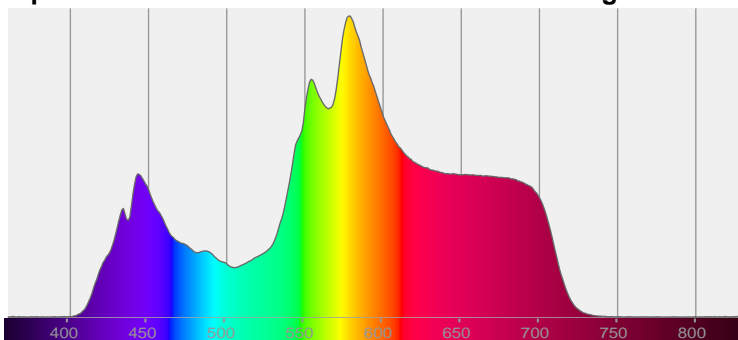
Beam Angle



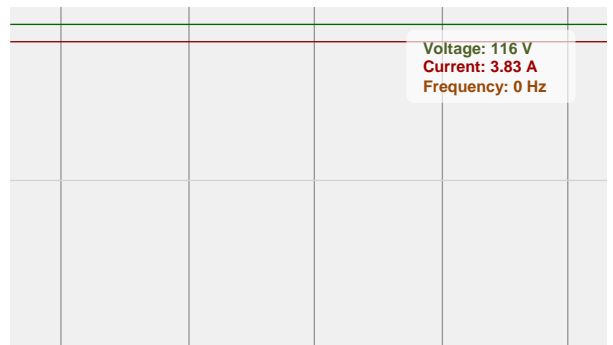
CIE 1931
x: 0.410
y: 0.382

Spectra

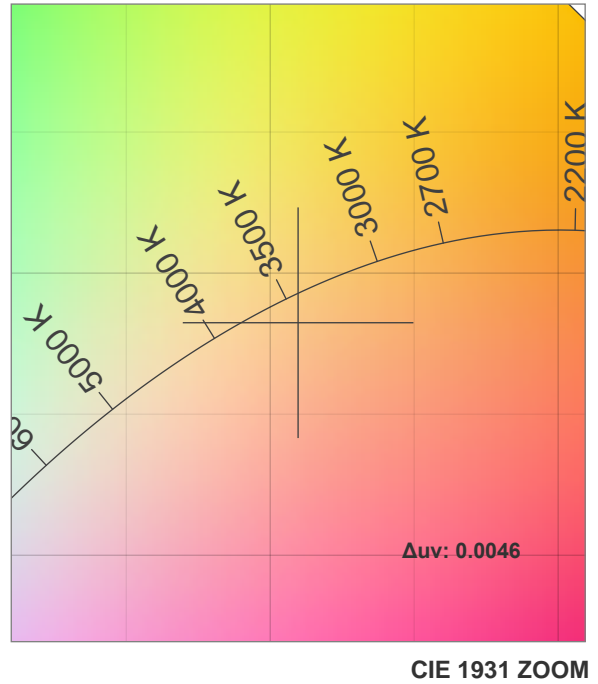
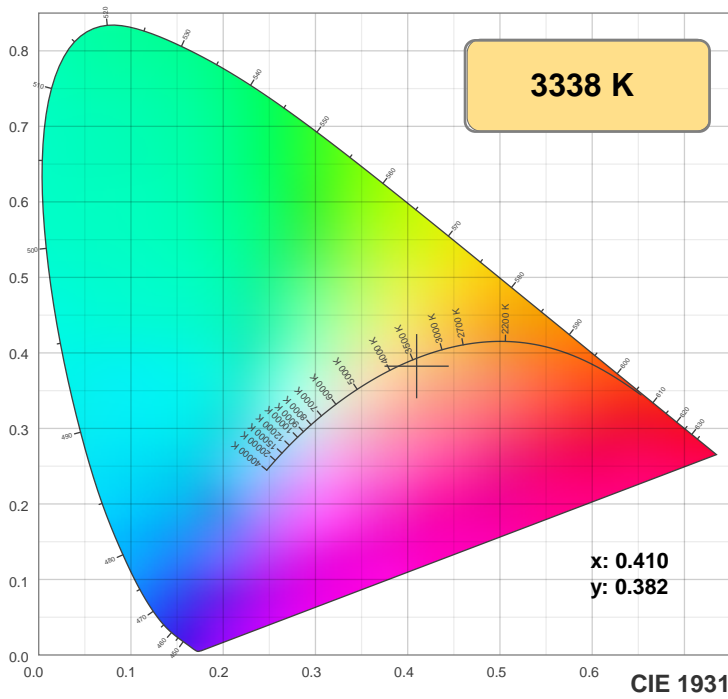
Dominant Wavelength: 585nm



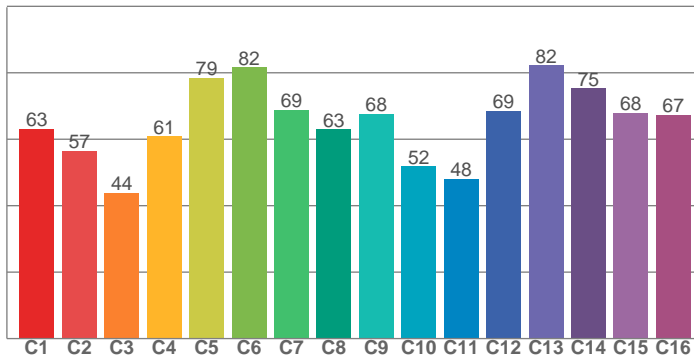
Power



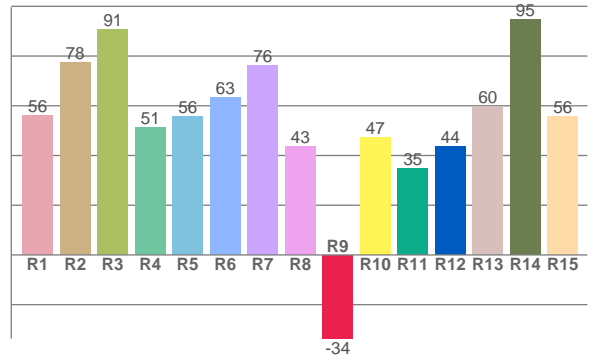
Color Details



TM30: 64.7



CRI: 64.3 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
56.0	77.5	90.7	51.3	55.6	63.2	76.2	43.5	-33.6	47.4	34.6	43.8	59.9	94.6	55.8

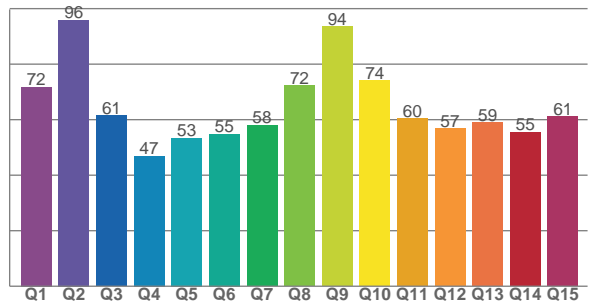
TM30 C Values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
63.1	56.5	43.9	60.9	78.5	81.6	68.9	63.0	67.6	51.9	48.1	68.6	82.2	75.4	68.0	67.4

CQS Q Values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
71.7	96.0	61.5	46.8	53.4	54.8	58.0	72.2	93.6	74.1	60.3	56.8	59.0	55.4	61.1

CQS: 62.3



Color Parameters

Color Temperature	Color Rendering Index	Red Component	Color Fidelity	Color Gamut	Color Quality Scale	Color Coordinate CIE 1931	Color Coordinate CIE 1931	Color Coordinate	Color Coordinate	Color Deviation from Black Body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
3338 K	64.3	-33.6	64.7	89.3	62.3	0.410	0.382	0.242	0.339	0.0046

TM30 Details

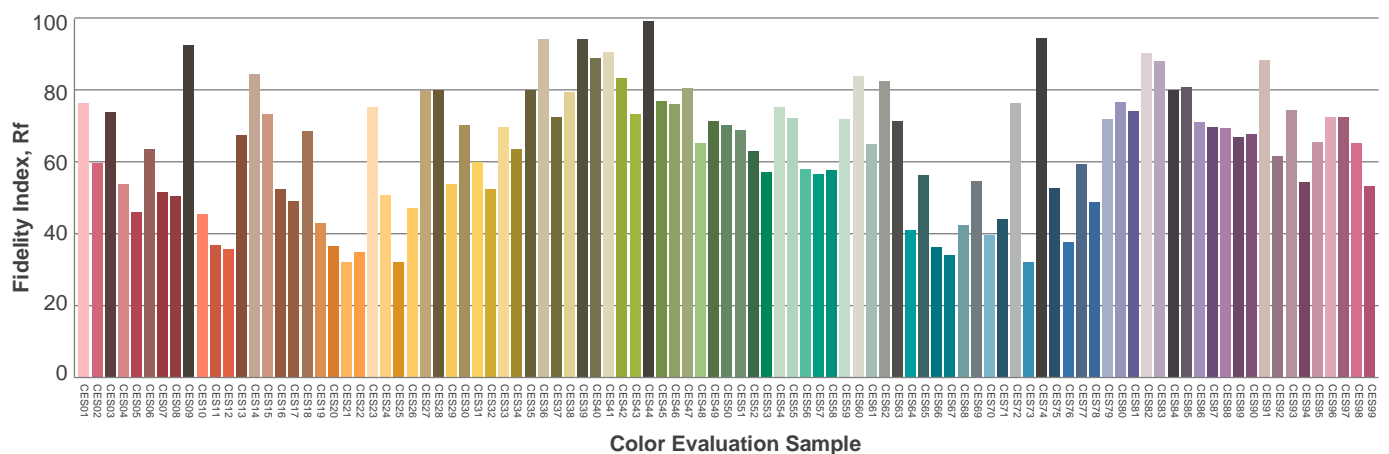
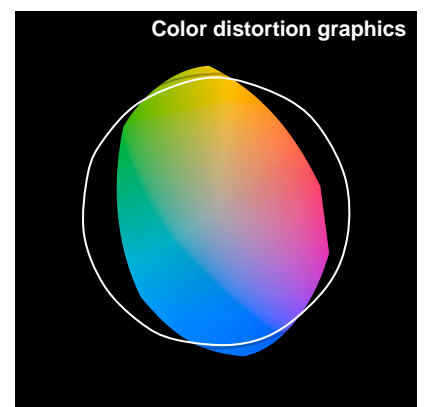
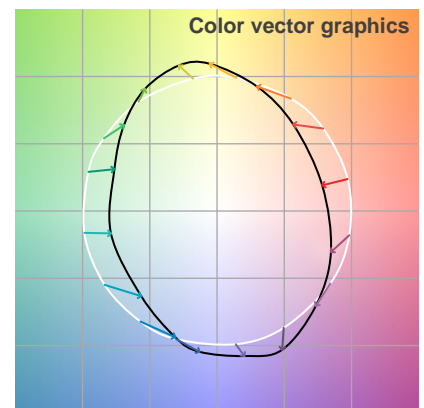
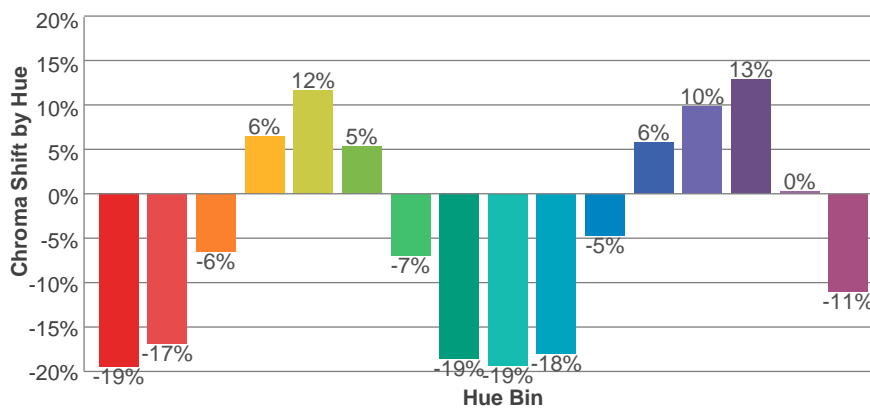
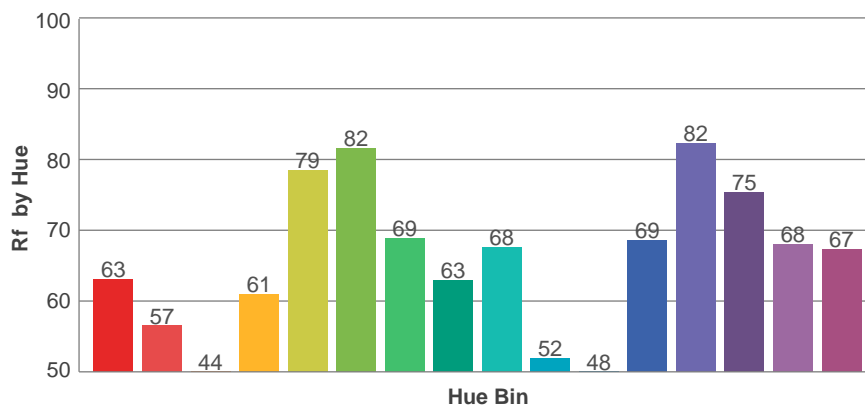
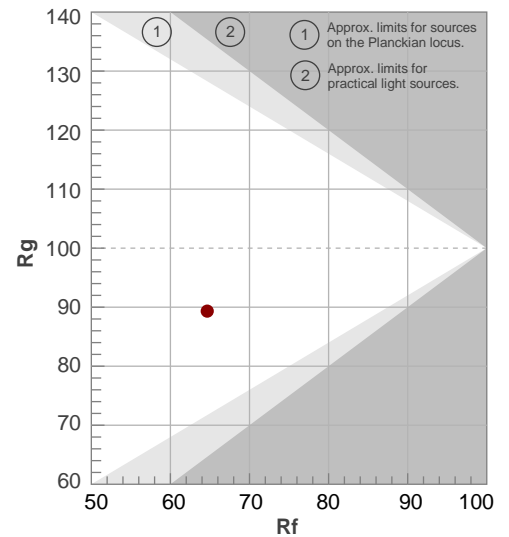
Rf 64.7

Fidelity Index Rf

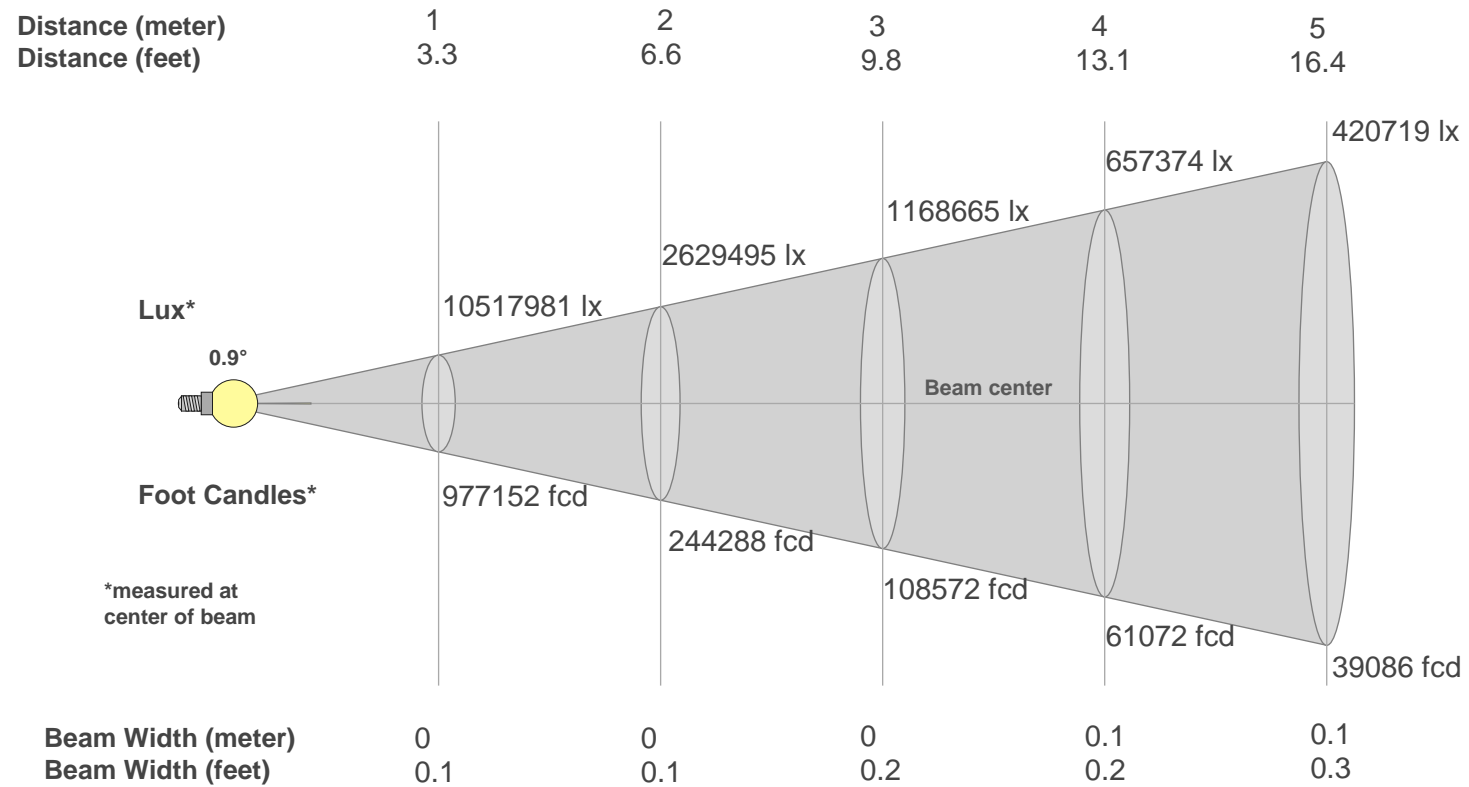
Rg 89.3

Gammut Index Rg

		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	63	-19%	-1%
2	57	-17%	15%
3	44	-6%	26%
4	61	6%	21%
5	79	12%	8%
6	82	5%	-9%
7	69	-7%	-16%
8	63	-19%	-6%
9	68	-19%	4%
10	52	-18%	22%
11	48	-5%	28%
12	69	6%	19%
13	82	10%	5%
14	75	13%	-10%
15	68	0%	-20%
16	67	-11%	-15%



Beam Details



Beam Intensities from 1-20m																				
M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Ft	3.3	6.6	9.8	13.1	16.4	19.7	23	26.2	29.5	32.8	36.1	39.4	42.7	45.9	49.2	52.5	55.8	59.1	62.3	65.6
Lx	10517981	2629495	1168665	657374	420719	292166	214653	164343	129852	105180	86925	73042	62237	53663	46747	41086	36394	32463	29136	26295
Fcd	977152.4	244288.1	108572.5	61072	39086.1	27143.1	19941.9	15268	12063.6	9771.5	8075.6	6785.8	5782	4985.5	4342.9	3817	3381.2	3015.9	2706.8	2442.9

Intensities in 0° C-plane																			
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
11M	2M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M
100%	18%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Intensities in 90° C-plane																				
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°	
11M	2M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	
100%	18%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	

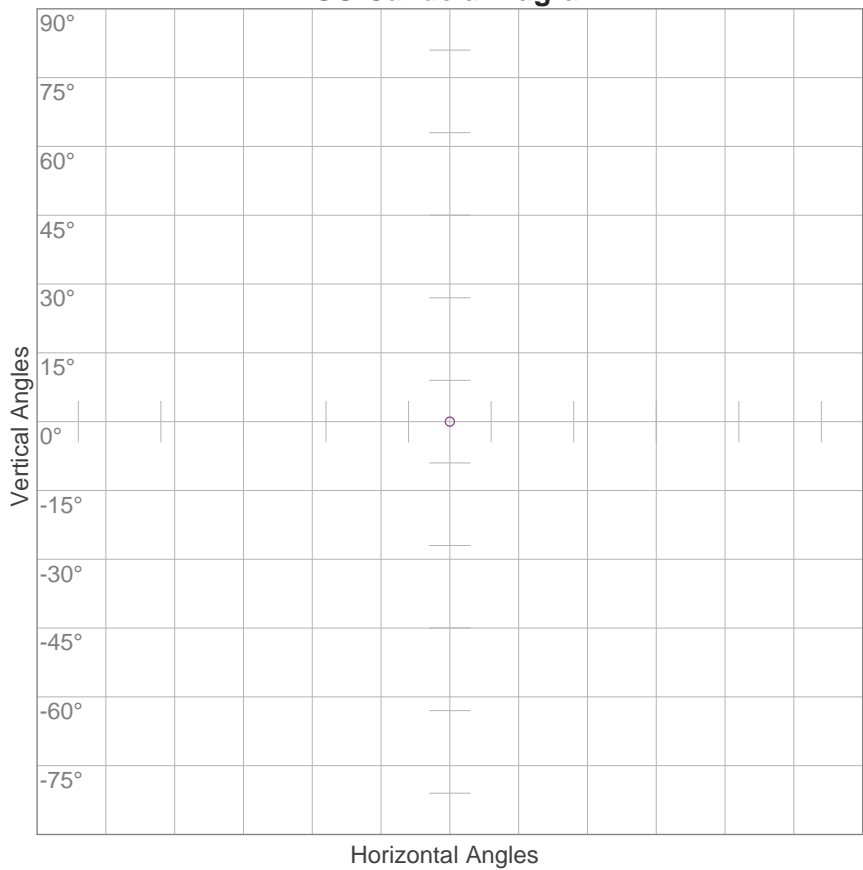
Intensities in 180° C-plane																			
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
11M	2M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M
100%	17%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Intensities in 270° C-plane																			
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
11M	2M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M
100%	17%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Beam Angle 50%	Field Angle 10%	Cutoff Angle 2,5%	Intensity Ratio in 120° Cone	Intensity Ratio in 90° Cone
0.9°	2.3°	2.6°	44.1%	36.3%

ISO Diagrams

ISO Candela Diagram



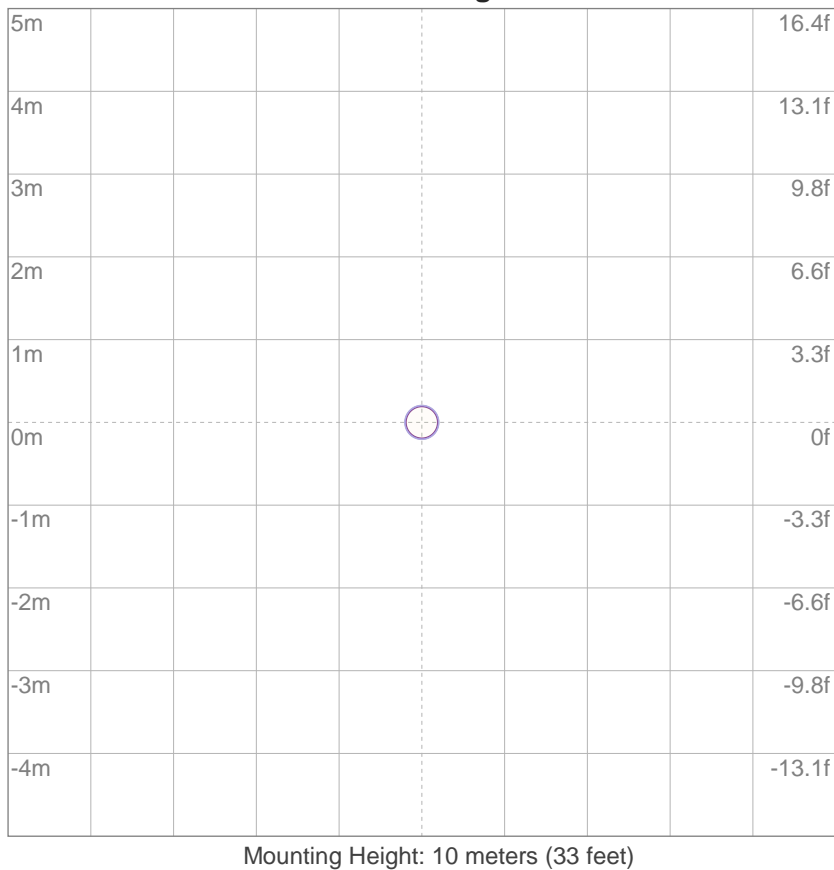
10%	1051798 cd
20%	2103596 cd
30%	3155394 cd
40%	4207192 cd
50%	5258990 cd
60%	6310788 cd
70%	7362586 cd
80%	8414384 cd
90%	9466183 cd

Conditions:

Number of c-planes: 2

Candela at center: 10517981 cd

ISO Lux Diagram



3%	3155 lx
5%	5259 lx
10%	10.5K lx
30%	31.6K lx
50%	52.6K lx

Conditions:

Number of c-planes: 2

Lux at center: 105K lx

*Lux distribution on a surface
when lamp is mounted at 10
meters from the surface.*

Light Planning

Coefficients of Utilization

Ceiling Reflectance	80				70				50			30			10			0
Wall Reflectance	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
Floor Reflectance	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	0
RCR	(RCR: Room Cavity Ratio) Room Values are expressed as percentage of Lumens delivered to the task surface																	
0	110	110	110	110	103	103	103	103	90	90	90	78	78	78	68	68	68	63
1	99	94	90	86	93	89	85	81	77	74	72	67	65	63	58	56	55	50
2	91	84	78	72	85	79	73	68	69	65	61	61	57	54	52	50	48	44
3	85	76	69	63	79	71	65	60	63	58	54	56	52	49	49	46	43	40
4	79	69	62	56	74	66	59	54	58	53	49	52	48	45	46	43	40	37
5	75	64	57	51	70	61	54	49	55	49	45	49	45	42	44	40	38	35
6	71	60	53	47	67	57	50	46	52	46	42	47	42	39	42	39	36	34
7	67	56	49	44	63	54	47	43	49	44	40	45	40	37	40	37	35	32
8	64	53	46	42	61	51	45	41	47	42	38	43	39	36	39	36	34	32
9	61	51	44	40	58	49	43	39	45	40	37	41	38	35	38	35	33	31
10	59	49	42	38	56	47	41	37	43	39	35	40	36	34	37	34	32	30

Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
4654 lm	304 lm	506 lm	650 lm	765 lm	984 lm	1002 lm	1113 lm	1181 lm

90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
1130 lm	1167 lm	1061 lm	977 lm	744 lm	711 lm	514 lm	284 lm	101 lm