

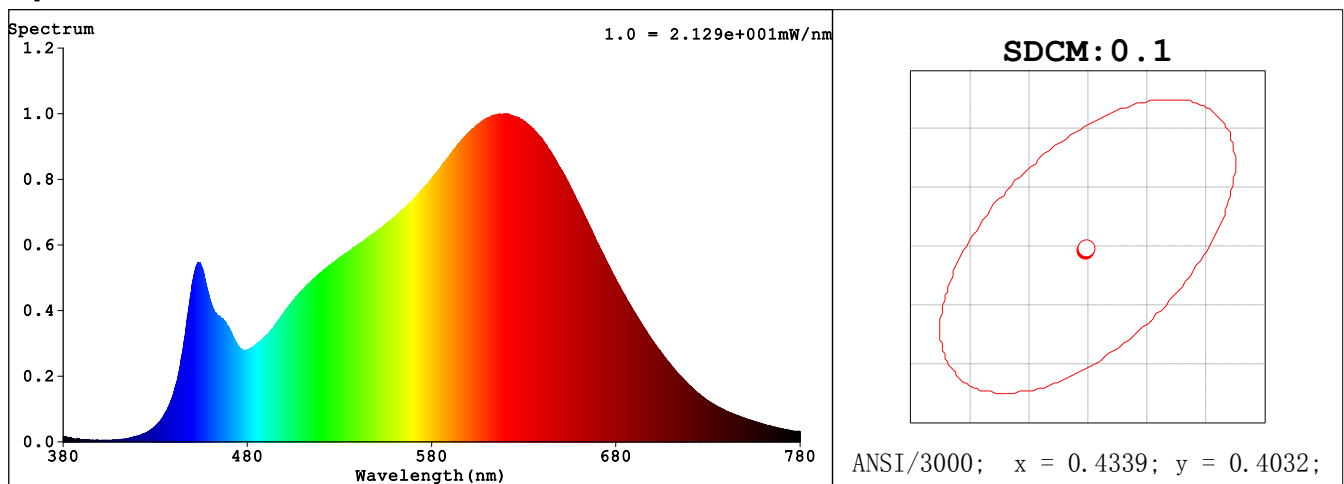
Spectrum Test Report

Sample	:	Date	:	2019-12-07
Specification	:	Sam. Status	:	
Sample No.	:	Standard	:	
Manufacturer	:	Instrument	:	HaasSuite(EVERFINE)
Assessor	:	Test by	:	DAMIN
Remark	:			
Device SN	:			

Test Condition

Temperature	:	24.7Deg	RH	:	65.0%
WL Range	:	380nm-780nm	IP	:	57976 (88%)
Test Mode	:	Fast Test	T	:	201 ms
Sensitivity	:	High			

Spectrum



Colorimetric Parameters

Chromaticity Coordinate: $x = 0.4339$ $y = 0.4031$ / $u' = 0.2490$ $v' = 0.5205$ ($duv=3.10e-05$)
 CCT= 3044K Prcp WL: $L_d=582.6nm$ Purity=51.2%
 Peak WL: $L_p=621nm$ FWHM: =162.7nm Ratio:R=24.1% G=72.7% B=3.2%
 Render Index: $R_a = 93.3$

EEL: 0.16828 A+

R1 =94 R2 =98 R3 =99 R4 =93 R5 =93 R6 =97 R7 =91
 R8 =82 R9 =60 R10=94 R11=94 R12=81 R13=95 R14=100 R15=89
 LEVEL:OUT WHITE:ANSI_3000K

Photometric & Radiometric Parameters

Flux = 1099.7 lm Eff. : 78.67 lm/W $F_e = 3.7735 W$ Scotopic:1605.7 S/P:1.4601

Electrical parameters

V = 277.16 V I = 0.05471 A P = 13.98 W PF = 0.9221 F=59.98 Hz

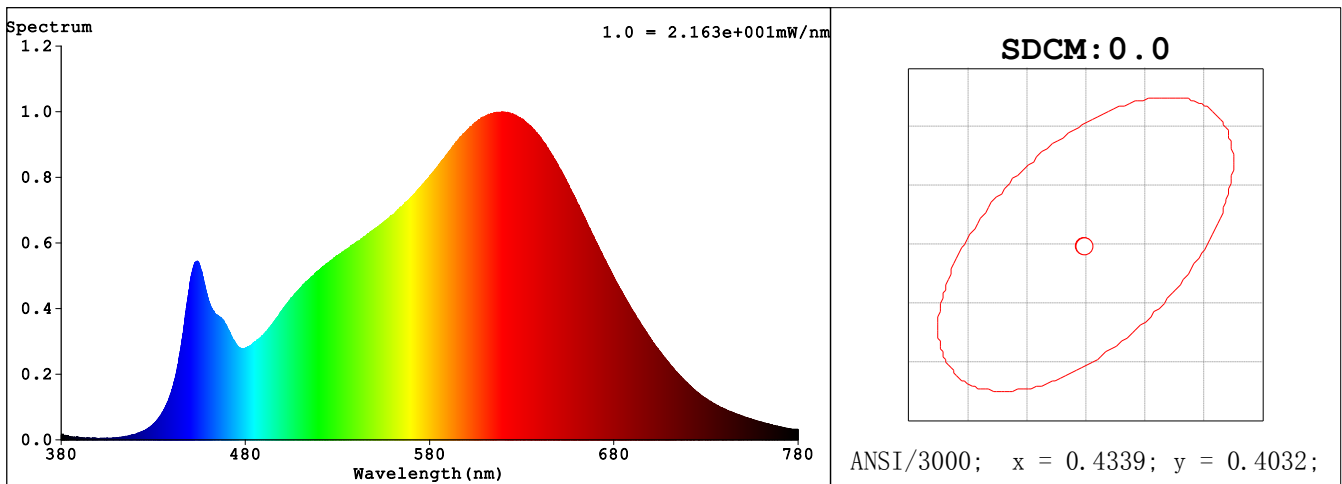
Spectrum Test Report

Sample	:	Date	: 2019-12-07
Specification	: SM7S15930UNVW	Sam. Status	:
Sample No.	: 120 1	Standard	:
Manufacturer	: TOSPO	Instrument	: HaasSuite(EVERFINE)
Assessor	: damin	Test by	: DAMIN
Remark	: ---		
Device SN	: 9#		

Test Condition

Temperature	: 24.7Deg	RH	: 65.0%
WL Range	: 380nm-780nm	IP	: 58885 (90%)
Test Mode	: Fast Test	T	: 201 ms
Sensitivity	: High		

Spectrum



Colorimetric Parameters

Chromaticity Coordinate: $x = 0.4339$ $y = 0.4032$ / $u' = 0.2490$ $v' = 0.5206$ ($duv=8.90e-05$)
 CCT= 3045K Prcp WL: $L_d=582.6nm$ Purity=51.3%
 Peak WL: $L_p=619nm$ FWHM: =162.6nm Ratio:R=24.1% G=72.8% B=3.2%
 Render Index: $R_a = 93.3$

EEl: 0.17244 A

R1 =94 R2 =98 R3 =99 R4 =93 R5 =93 R6 =97 R7 =91
 R8 =82 R9 =60 R10=94 R11=94 R12=81 R13=95 R14=100 R15=89
 LEVEL:OUT WHITE:ANSI_3000K

Photometric & Radiometric Parameters

Flux = 1118.8 lm Eff. : 77.01 lm/W Fe = 3.8377 W Scotpic:1633.2 S/P:1.4598

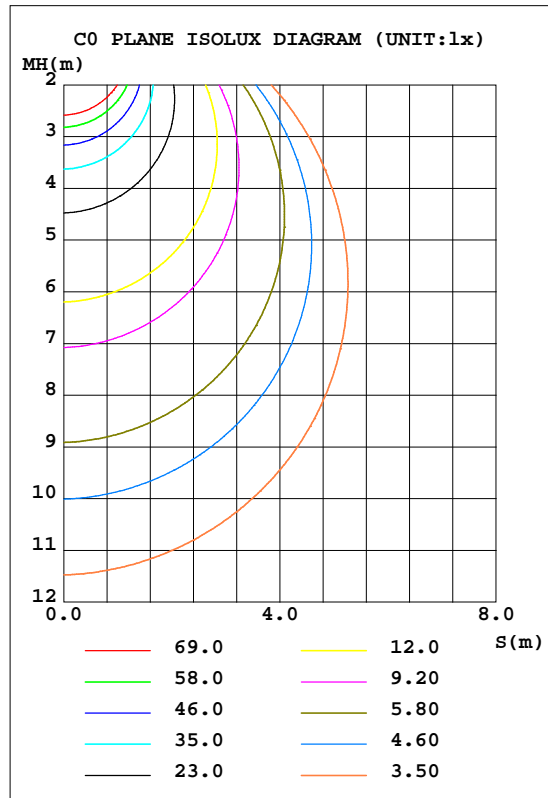
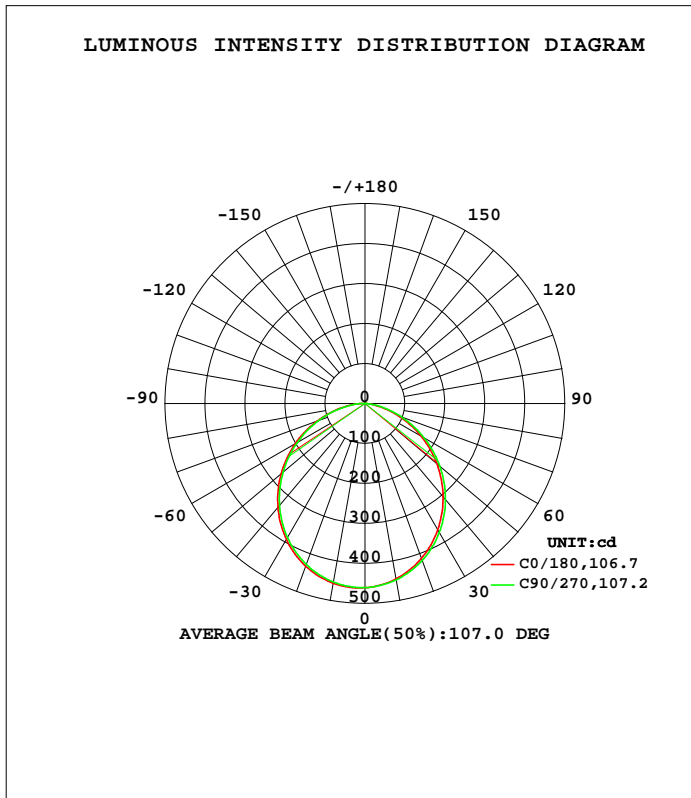
Electrical parameters

V = 120.17 V I = 0.1220 A P = 14.53 W PF = 0.9924 F=59.98 Hz

LUMINAIRE PHOTOMETRIC TEST REPORT

NAME:	TYPE:SM7S15930UNVW	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC.	SUR.:21cm*16cm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL		Imax(cd)	461.5	S/MH(C0/180)	1.27
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.25
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	1231.0	h UP, DN(C0-180)	0.0,46.7
NOMINAL FLUX(lm)	1230.99	CIE CLASS	DIRECT	h UP, DN(C180-360)	0.0,53.3
LAMPS INSIDE	1	h up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	120	h down(%)	100.0	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-12-07

Range: 0 - 90DEG
 Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.0.366
 Humidity:65.0%
 Test Distance:3.200m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

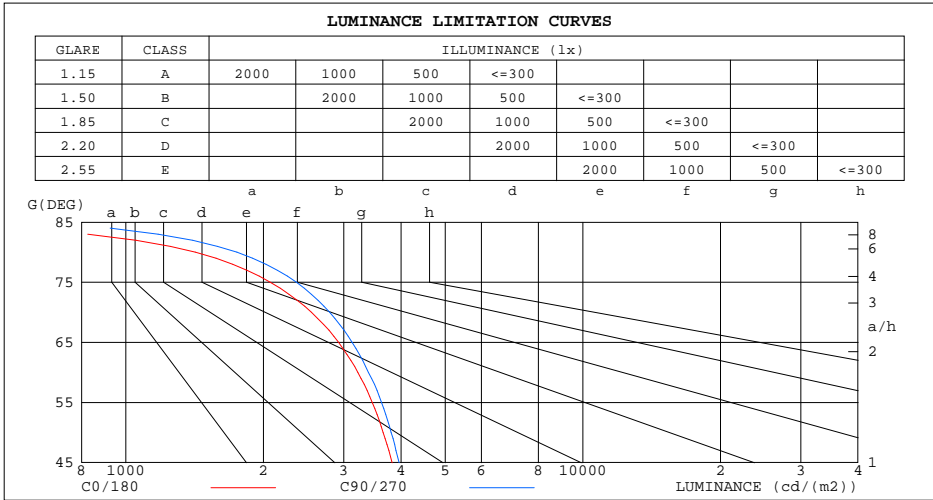
g	C0	C90	C180	C270					g	F zone	F total	%lum,lamp
10	445.6	448.0	456.6	453.7					0- 10	43.51	43.51	3.53,3.53
20	412.6	418.2	433.4	428.7					10- 20	123.9	167.4	13.6,13.6
30	364.4	372.4	393.2	387.6					20- 30	185.7	353.1	28.7,28.7
40	304.1	313.5	338.9	332.9					30- 40	220.3	573.4	46.6,46.6
50	235.2	244.8	274.0	267.6					40- 50	223.5	796.8	64.7,64.7
60	161.0	169.9	201.9	195.6					50- 60	196.0	992.8	80.7,80.7
70	87.15	95.58	126.3	121.5					60- 70	143.1	1136	92.3,92.3
80	24.66	30.40	55.66	52.64					70- 80	77.09	1213	98.5,98.5
90	0.3792	0.3647	2.385	1.267					80- 90	18.00	1231	100,100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-12-07

g Range: 0 - 90DEG
 Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.0.366
 Humidity:65.0%
 Test Distance:3.200m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

NAME:	TYPE:SM7S15930UNVW	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC.	SUR.:21cm*16cm	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-12-07

G Range: 0 - 90DEG
 G Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.0.366
 Humidity:65.0%
 Test Distance:3.200m [K=1.0000]
 Remarks:

WEC AND CCEC

NAME:	TYPE:SM7S15930UNVW	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC.	SUR.:21cm*16cm	Shielding Angle:

rcc	80%			70%			50%			30%			10%			0
rw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
rfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.299	.170	.054	.292	.166	.053	.279	.160	.051	.267	.154	.049	.255	.148	.048	
2.0	.284	.155	.048	.277	.153	.047	.266	.148	.046	.255	.143	.045	.245	.139	.044	
3.0	.264	.140	.042	.258	.138	.042	.248	.134	.041	.238	.131	.040	.230	.127	.039	
4.0	.244	.127	.037	.239	.125	.037	.230	.122	.036	.222	.119	.036	.214	.116	.035	
5.0	.226	.115	.033	.222	.114	.033	.214	.111	.033	.206	.109	.032	.199	.107	.032	
6.0	.210	.105	.030	.207	.104	.030	.199	.102	.030	.193	.100	.029	.186	.098	.029	
7.0	.196	.097	.027	.193	.096	.027	.186	.094	.027	.180	.092	.027	.175	.091	.027	
8.0	.183	.090	.025	.180	.089	.025	.175	.087	.025	.169	.086	.025	.164	.084	.025	
9.0	.172	.083	.023	.169	.083	.023	.164	.081	.023	.159	.080	.023	.155	.079	.023	
10.0	.162	.078	.022	.159	.077	.021	.155	.076	.021	.150	.075	.021	.146	.074	.021	

rcc	80%			70%			50%			30%			10%			0
rw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
rfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.180	.156	.135	.154	.134	.116	.105	.092	.080	.060	.053	.047	.019	.017	.015	
2.0	.171	.132	.099	.147	.114	.086	.100	.079	.060	.058	.046	.035	.019	.015	.011	
3.0	.163	.114	.075	.140	.099	.065	.096	.068	.046	.056	.040	.027	.018	.013	.009	
4.0	.156	.101	.059	.134	.087	.051	.092	.061	.036	.053	.036	.021	.017	.012	.007	
5.0	.148	.090	.048	.127	.078	.042	.088	.055	.029	.051	.032	.017	.016	.010	.006	
6.0	.141	.082	.040	.121	.071	.034	.084	.050	.024	.049	.029	.015	.016	.010	.005	
7.0	.134	.075	.034	.116	.065	.029	.080	.046	.021	.046	.027	.012	.015	.009	.004	
8.0	.128	.069	.029	.110	.060	.025	.076	.042	.018	.044	.025	.011	.014	.008	.004	
9.0	.122	.064	.025	.105	.056	.022	.073	.039	.016	.042	.023	.009	.014	.008	.003	
10.0	.116	.060	.023	.100	.052	.020	.070	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-12-07

Range: 0 - 90DEG
 Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.0.366
 Humidity:65.0%
 Test Distance:3.200m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

NAME:		TYPE:SM7S15930UNVW					WEIGHT:				
SPEC.:		DIM.:					SERIAL No.:				
MFR.: RAB LIGHTING INC.		SUR.:21cm*16cm					Shielding Angle:				
ceiling/cavity		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
walls		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
working plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
x = 2H	y = 2H	16.1	17.6	16.4	17.8	18.0	16.3	17.8	16.6	18.0	18.2
	3H	17.3	18.6	17.5	18.9	19.1	17.5	18.9	17.8	19.1	19.4
	4H	17.6	18.9	17.9	19.2	19.4	17.9	19.3	18.3	19.5	19.8
	6H	17.8	19.0	18.1	19.3	19.6	18.2	19.4	18.5	19.7	19.9
	8H	17.8	19.0	18.1	19.2	19.5	18.2	19.4	18.5	19.7	19.9
	12H	17.7	18.9	18.1	19.2	19.5	18.2	19.3	18.5	19.6	19.9
4H	2H	16.6	17.9	16.9	18.2	18.4	16.8	18.1	17.1	18.3	18.6
	3H	17.9	19.1	18.3	19.4	19.7	18.2	19.3	18.5	19.6	19.9
	4H	18.4	19.5	18.8	19.8	20.1	18.7	19.7	19.1	20.1	20.4
	6H	18.6	19.6	19.0	19.9	20.3	19.0	19.9	19.4	20.3	20.6
	8H	18.7	19.5	19.1	19.9	20.3	19.1	19.9	19.5	20.3	20.7
	12H	18.6	19.4	19.1	19.8	20.2	19.0	19.8	19.5	20.2	20.6
8H	4H	18.6	19.4	19.0	19.8	20.2	18.8	19.7	19.2	20.1	20.5
	6H	18.9	19.6	19.3	20.0	20.4	19.2	19.9	19.7	20.4	20.8
	8H	19.0	19.6	19.4	20.0	20.5	19.3	20.0	19.8	20.4	20.8
	12H	18.9	19.5	19.4	19.9	20.4	19.3	19.9	19.8	20.3	20.8
12H	4H	18.6	19.4	19.0	19.7	20.1	18.8	19.6	19.2	20.0	20.4
	6H	18.9	19.5	19.4	20.0	20.4	19.2	19.9	19.7	20.3	20.7
	8H	19.0	19.5	19.4	20.0	20.4	19.3	19.9	19.8	20.3	20.8
Variations with the observer position at spacings:											
S = 1.0H		+ 0.2 / - 0.3					+ 0.2 / - 0.3				
1.5H		+ 0.2 / - 0.4					+ 0.2 / - 0.3				
2.0H		+ 0.3 / - 0.4					+ 0.4 / - 0.3				

CIE Pub.117, 1231 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 0.7)

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-12-07

g Range: 0 - 90DEG
 Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.0.366
 Humidity:65.0%
 Test Distance:3.200m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

NAME:	TYPE:SM7S15930UNVW	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC.	SUR.:21cm*16cm	Shielding Angle:

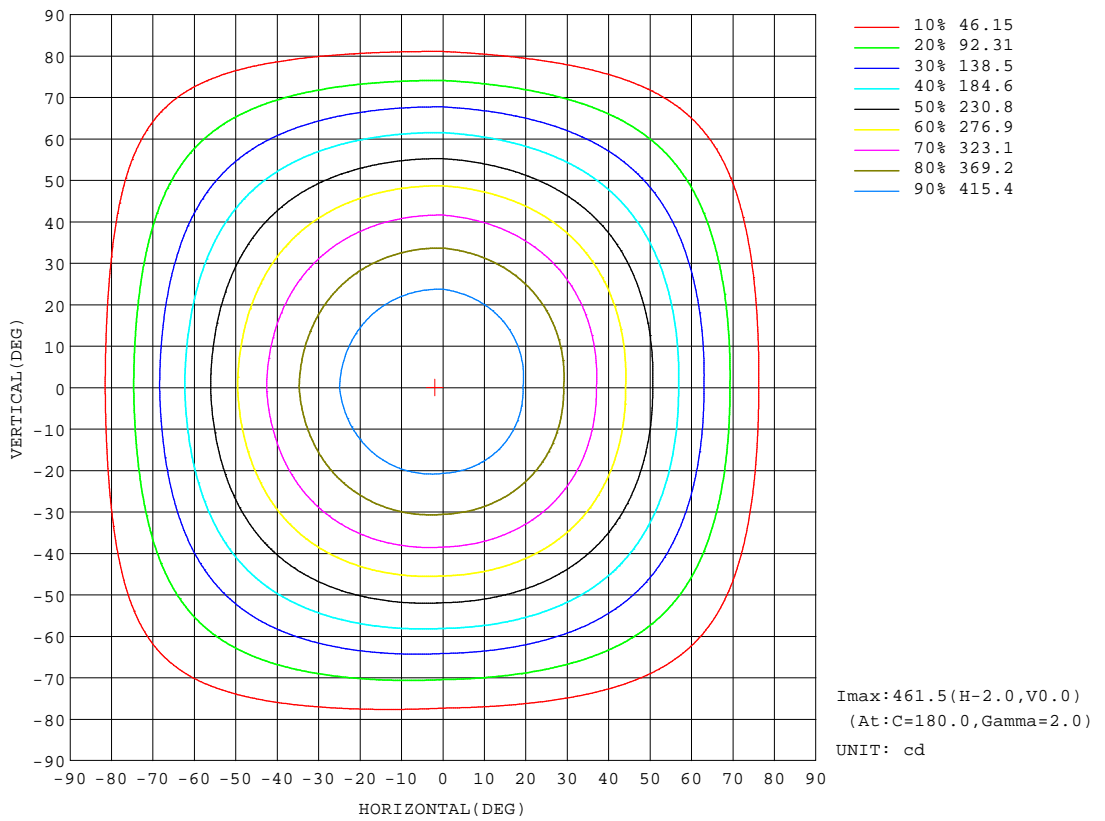
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	59	47	40	58	47	40	57	46	40	34
0.80	69	57	50	68	57	50	66	56	49	43
1.00	77	66	59	76	66	59	74	67	58	51
1.25	84	74	67	83	73	67	80	72	66	59
1.50	89	79	73	87	79	72	84	77	71	64
2.00	96	88	81	94	86	80	91	84	79	71
2.50	100	92	86	98	91	85	94	88	83	75
3.00	103	96	91	101	95	90	97	92	88	79
4.00	107	101	97	104	100	95	100	96	93	84
5.00	109	104	101	107	103	99	102	99	96	87
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-12-07

g Range: 0 - 90DEG
 Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.0.366
 Humidity:65.0%
 Test Distance:3.200m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

NAME:	TYPE:SM7S15930UNVW	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC.	SUR.:21cm*16cm	Shielding Angle:

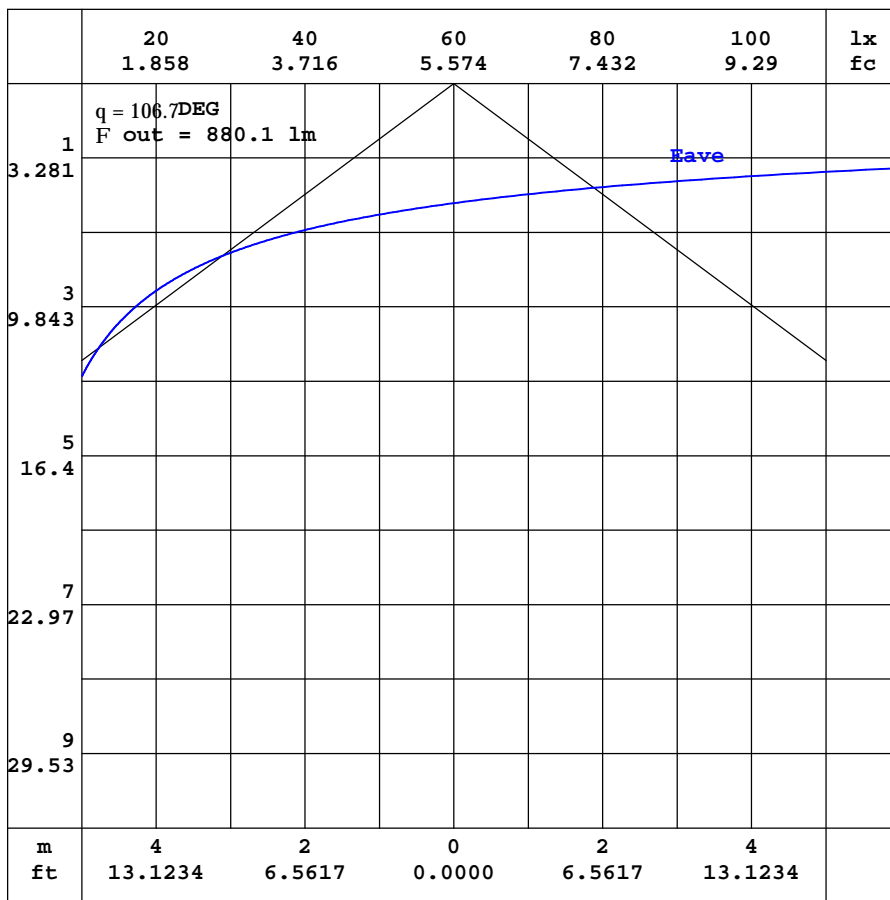


C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2019-12-07

Range: 0 - 90DEG
 Interval: 1.0DEG
 Test System: EVERFINE GO-SPEX500_V1 SYSTEM V2.0.366
 Humidity: 65.0%
 Test Distance: 3.200m [K=1.0000]
 Remarks:

AAI CURVES

NAME:	TYPE:SM7S15930UNVW	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC.	SUR.:21cm*16cm	Shielding Angle:

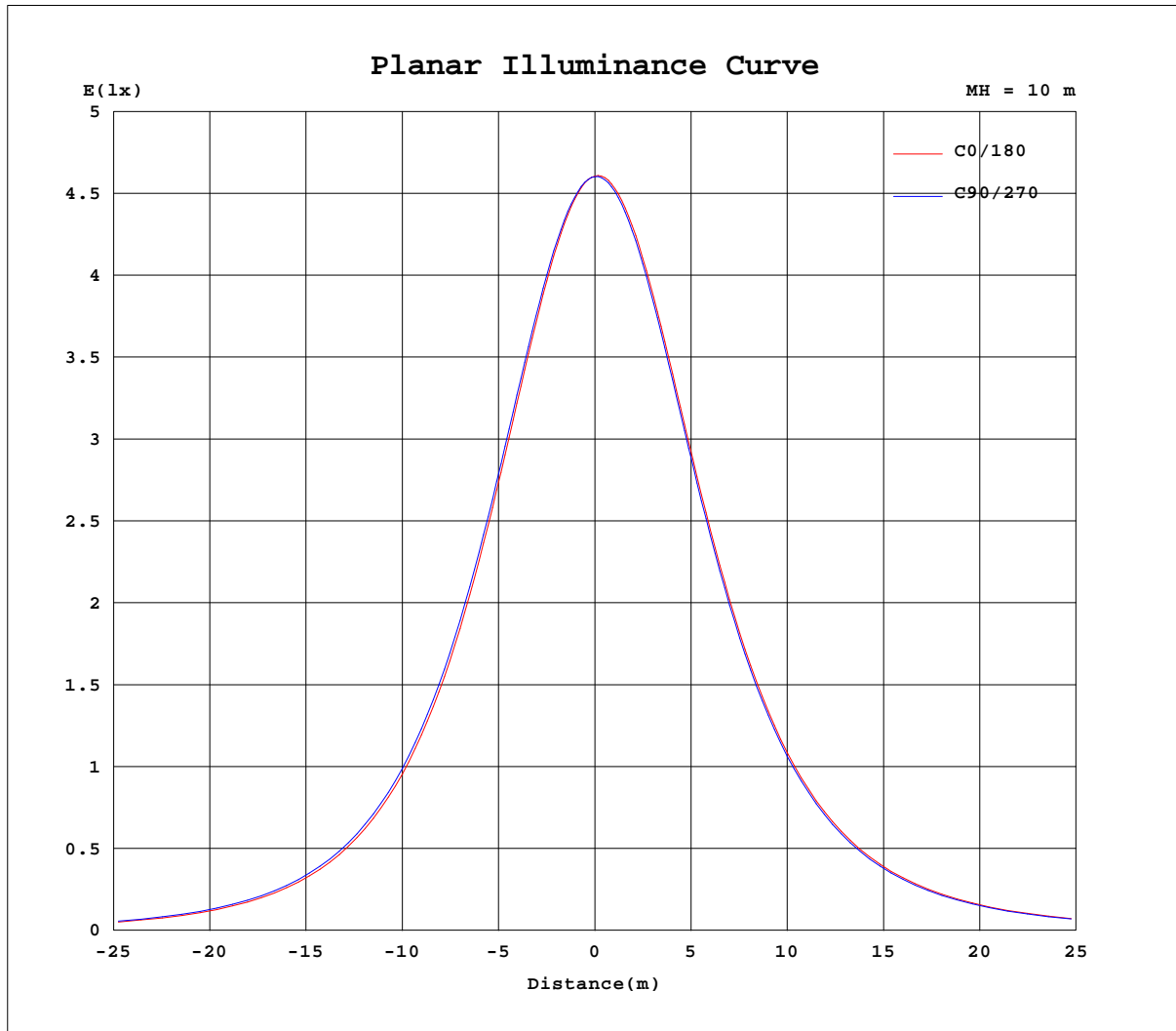


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-12-07

Range: 0 - 90DEG
 Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.0.366
 Humidity:65.0%
 Test Distance:3.200m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2019-12-07

Page Range: 0 - 90DEG
 Interval: 1.0DEG
 Test System: EVERFINE GO-SPEX500_V1 SYSTEM V2.0.366
 Humidity: 65.0%
 Test Distance: 3.200m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME:	TYPE:SM7S15930UNVW	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC.	SUR.:21cm*16cm	Shielding Angle:

Table--1

UNIT: cd

C(DEG) g (DEG)	0	90	180	270															
0	461	460	461	460															
5	456	457	461	459															
10	446	448	457	454															
15	431	435	447	443															
20	413	418	433	429															
25	390	397	415	410															
30	364	372	393	388															
35	336	344	368	362															
40	304	313	339	333															
45	271	280	308	301															
50	235	245	274	268															
55	199	208	239	232															
60	161	170	202	196															
65	124	132	164	158															
70	87.1	95.6	126	121															
75	53.6	61.1	89.7	85.7															
80	24.7	30.4	55.7	52.6															
85	1.72	5.35	24.2	23.7															
90	0.38	0.36	2.38	1.27															

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-12-07

Range: 0 - 90DEG
 Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.0.366
 Humidity:65.0%
 Test Distance:3.200m [K=1.0000]
 Remarks: