

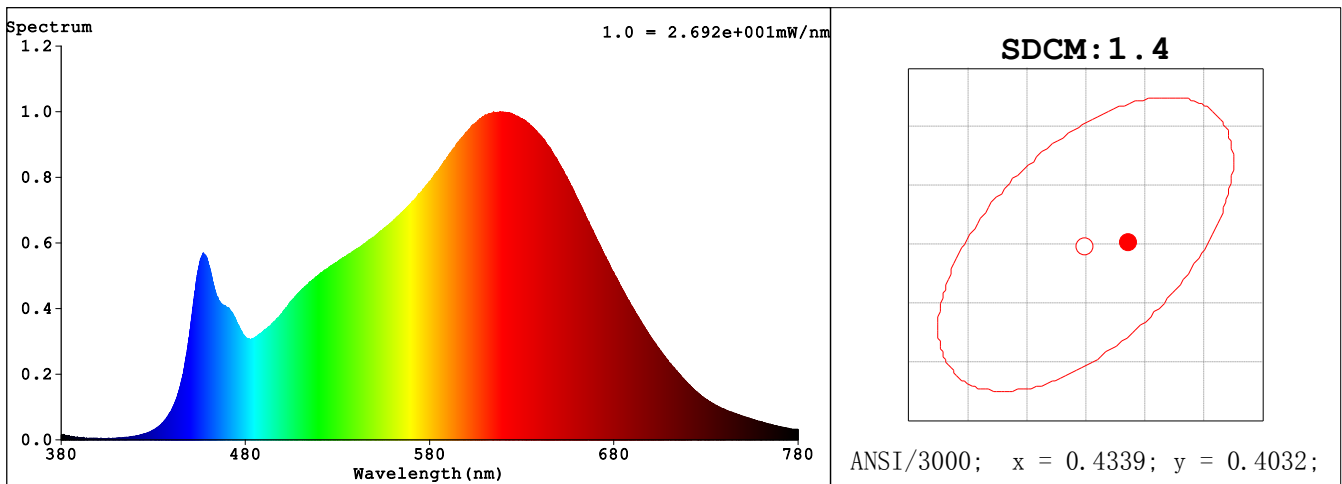
Spectrum Test Report

Sample	:	Date	:	2019-11-30
Specification	:	Sam. Status	:	
Sample No.	:	Standard	:	
Manufacturer	:	Instrument	:	HaasSuite(EVERFINE)
Assessor	:	Test by	:	DAMIN
Remark	:			
Device SN	:			

Test Condition

Temperature	:	24.4Deg	RH	:	65.0%
WL Range	:	380nm-780nm	IP	:	53206 (81%)
Test Mode	:	Fast Test	T	:	144 ms
Sensitivity	:	High			

Spectrum



Colorimetric Parameters

Chromaticity Coordinate: $x = 0.4363$ $y = 0.4035$ / $u' = 0.2504$ $v' = 0.5211$ ($duv = -1.56e-04$)
 CCT= 3006K Prcp WL: $L_d = 582.8nm$ Purity=52.1%
 Peak WL: $L_p = 619nm$ FWHM: =161.6nm Ratio:R=24.5% G=72.1% B=3.4%
 Render Index: $R_a = 93.3$

EEl: 0.19686 A

R1 =95 R2 =100 R3 =96 R4 =92 R5 =95 R6 =96 R7 =90
 R8 =82 R9 =63 R10=98 R11=94 R12=81 R13=97 R14=99 R15=91
 LEVEL:OUT WHITE:ANSI_3000K

Photometric & Radiometric Parameters

Flux = 1365.2 lm Eff. : 69.20 lm/W Fe = 4.7327 W Scotpic:2009.7 S/P:1.4721

Electrical parameters

V = 119.73 V I = 0.1658 A P = 19.73 W PF = 0.9943 F=59.98 Hz

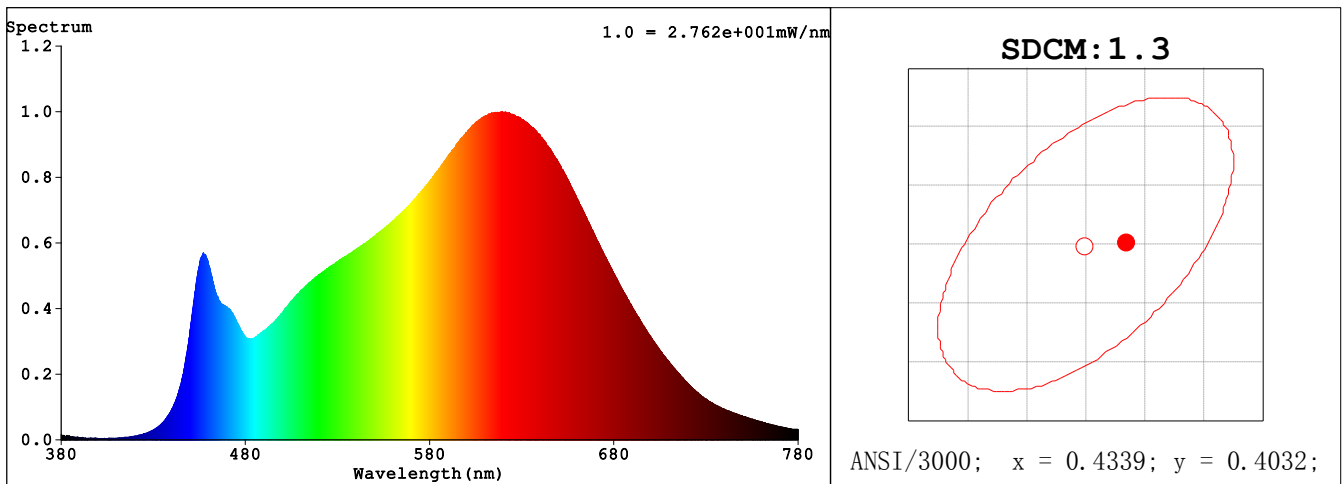
Spectrum Test Report

Sample	:	Date	:	2019-11-30
Specification	:	Sam. Status	:	
Sample No.	:	Standard	:	
Manufacturer	:	Instrument	:	HaasSuite(EVERFINE)
Assessor	:	Test by	:	DAMIN
Remark	:			
Device SN	:			

Test Condition

Temperature	:	24.5Deg	RH	:	65.0%
WL Range	:	380nm-780nm	IP	:	54505 (83%)
Test Mode	:	Fast Test	T	:	144 ms
Sensitivity	:	High			

Spectrum



Colorimetric Parameters

Chromaticity Coordinate: $x = 0.4362$ $y = 0.4035$ / $u' = 0.2504$ $v' = 0.5210$ ($duv = -1.46e-04$)
 CCT= 3007K Prcp WL: $L_d = 582.8nm$ Purity=52.0%
 Peak WL: $L_p = 619nm$ FWHM: =161.5nm Ratio:R=24.5% G=72.1% B=3.4%
 Render Index: $R_a = 93.3$

EEl: 0.19792 A

R1 =95 R2 =100 R3 =96 R4 =92 R5 =94 R6 =96 R7 =90
 R8 =82 R9 =63 R10=98 R11=94 R12=81 R13=97 R14=99 R15=91
 LEVEL:OUT WHITE:ANSI_3000K

Photometric & Radiometric Parameters

Flux = 1397.9 lm Eff. : 68.83 lm/W Fe = 4.8457 W Scotpic:2058.7 S/P:1.4727

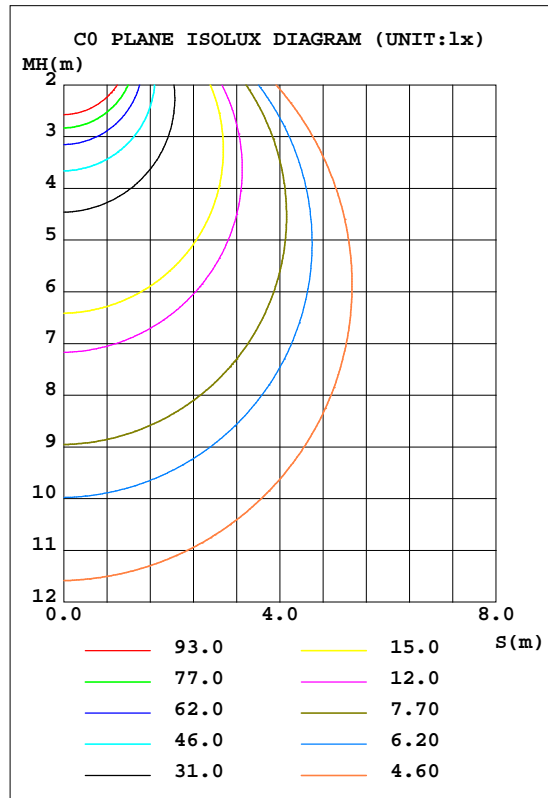
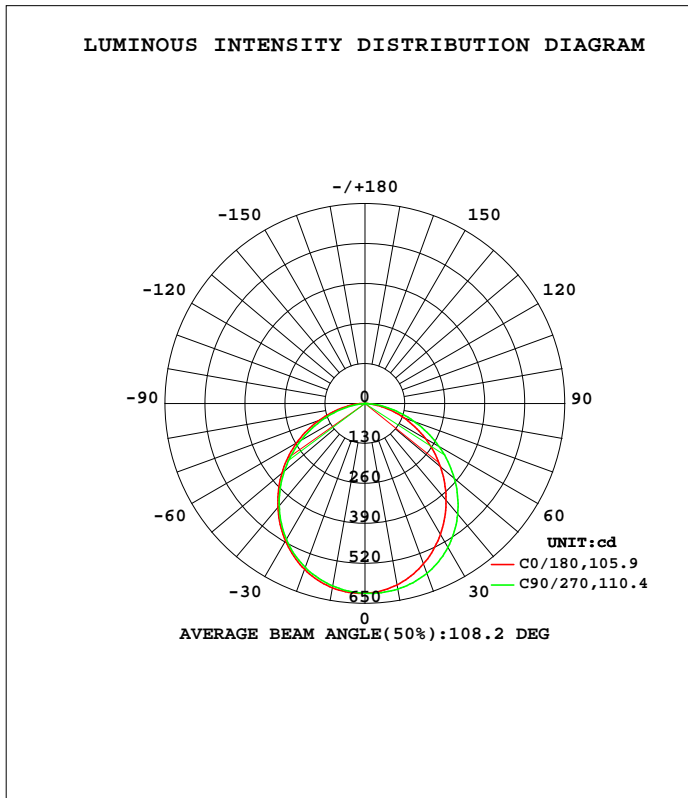
Electrical parameters

V = 277.08 V I = 0.07846 A P = 20.31 W PF = 0.9343 F=59.98 Hz

LUMINAIRE PHOTOMETRIC TEST REPORT

NAME:	TYPE:SM9S20930UNVTW	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC.	SUR.:21cm*16cm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 85.19 lm/W			
MODEL		I _{max} (cd)	617.6	S/MH(C0/180)	1.24
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.24
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	1677.2	h UP, DN(C0-180)	0.0,50.2
NOMINAL FLUX(lm)	1677.19	CIE CLASS	DIRECT	h UP, DN(C180-360)	0.0,49.8
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:2019-11-29

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:

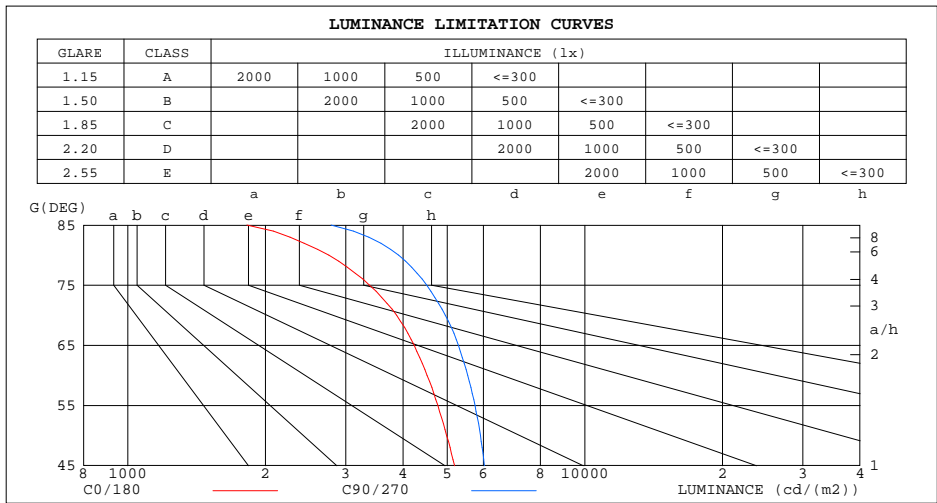
g	C0	C90	C180	C270					g	F zone	F total	%lum,lamp
10	599.0	612.7	608.8	602.5					0- 10	58.36	58.36	3.48,3.48
20	555.6	588.0	574.1	567.6					10- 20	166.8	225.2	13.4,13.4
30	491.1	540.1	516.5	510.8					20- 30	251.3	476.5	28.4,28.4
40	410.8	469.3	441.0	434.4					30- 40	299.4	775.9	46.3,46.3
50	320.6	379.8	352.7	342.7					40- 50	304.8	1081	64.4,64.4
60	225.9	277.2	257.6	241.0					50- 60	268.4	1349	80.4,80.4
70	132.5	169.3	157.0	137.4					60- 70	197.6	1547	92.2,92.2
80	47.83	67.98	65.94	43.59					70- 80	106.7	1653	98.6,98.6
90	0.5635	0.5758	0.5851	0.1889					80- 90	23.79	1677	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:2019-11-29

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:SM9S20930UNVTW	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:2019-11-29

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:SM9S20930UNVTW	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	.300	.170	.054	.293	.167	.053	.279	.160	.051	.267	.154	.049	.256	.148	.048	
2.0	.284	.156	.048	.278	.153	.047	.267	.148	.046	.256	.144	.045	.246	.139	.044	
3.0	.264	.141	.042	.259	.139	.042	.249	.135	.041	.239	.131	.040	.230	.128	.039	
4.0	.245	.127	.037	.240	.126	.037	.231	.122	.037	.222	.119	.036	.215	.117	.036	
5.0	.227	.116	.033	.223	.114	.033	.215	.112	.033	.207	.109	.032	.200	.107	.032	
6.0	.211	.106	.030	.207	.105	.030	.200	.102	.030	.193	.100	.029	.187	.098	.029	
7.0	.197	.097	.028	.193	.096	.027	.187	.094	.027	.181	.093	.027	.175	.091	.027	
8.0	.184	.090	.025	.181	.089	.025	.175	.087	.025	.170	.086	.025	.164	.084	.025	
9.0	.172	.083	.023	.170	.083	.023	.165	.081	.023	.160	.080	.023	.155	.079	.023	
10.0	.162	.078	.022	.160	.077	.022	.155	.076	.021	.151	.075	.021	.147	.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	.061	.053	.047	.019	.017	.015	
2.0	.171	.132	.099	.147	.114	.085	.101	.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	.041	.088	.055	.029	.051	.032	.017	.016	.010	.006	
6.0	.141	.082	.040	.121	.071	.034	.084	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.135	.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	.117	.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:2019-11-29

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:SM9S20930UNVTW					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	16.4	17.9	16.7	18.1	18.3	17.2	18.7	17.4	18.9	19.1
	3H	17.7	19.1	18.0	19.4	19.6	18.7	20.1	19.0	20.3	20.5
	4H	18.2	19.5	18.5	19.8	20.0	19.2	20.6	19.6	20.8	21.1
	6H	18.5	19.7	18.8	20.0	20.3	19.6	20.9	20.0	21.2	21.4
	8H	18.6	19.8	18.9	20.0	20.3	19.8	21.0	20.1	21.2	21.5
	12H	18.6	19.7	18.9	20.0	20.3	19.8	21.0	20.2	21.2	21.6
4H	2H	17.1	18.4	17.4	18.7	18.9	17.7	19.0	18.0	19.2	19.5
	3H	18.6	19.7	18.9	20.0	20.3	19.3	20.5	19.7	20.8	21.1
	4H	19.2	20.2	19.5	20.5	20.9	20.0	21.1	20.4	21.4	21.7
	6H	19.6	20.5	20.0	20.8	21.2	20.6	21.5	21.0	21.8	22.2
	8H	19.7	20.5	20.1	20.9	21.3	20.7	21.6	21.1	22.0	22.3
	12H	19.7	20.5	20.1	20.9	21.3	20.8	21.6	21.2	22.0	22.4
8H	4H	19.4	20.3	19.9	20.7	21.1	20.2	21.1	20.6	21.5	21.8
	6H	20.0	20.7	20.4	21.1	21.5	20.9	21.6	21.3	22.0	22.4
	8H	20.1	20.8	20.6	21.2	21.6	21.1	21.7	21.6	22.2	22.6
	12H	20.2	20.8	20.7	21.2	21.7	21.2	21.8	21.7	22.2	22.7
12H	4H	19.5	20.3	19.9	20.6	21.0	20.2	21.0	20.6	21.4	21.8
	6H	20.0	20.7	20.5	21.1	21.5	20.9	21.5	21.4	22.0	22.4
	8H	20.2	20.8	20.7	21.2	21.7	21.2	21.7	21.6	22.2	22.6
Variations with the observer position at spacings:											
S = 1.0H		+ 0.2 / - 0.3					+ 0.1 / - 0.2				
1.5H		+ 0.2 / - 0.4					+ 0.1 / - 0.3				
2.0H		+ 0.2 / - 0.4					+ 0.3 / - 0.3				

CIE Pub.117, 1677 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 1.8)

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-11-29

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:SM9S20930UNVTW	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC.	SUR.:21cm*16cm	Shielding Angle:

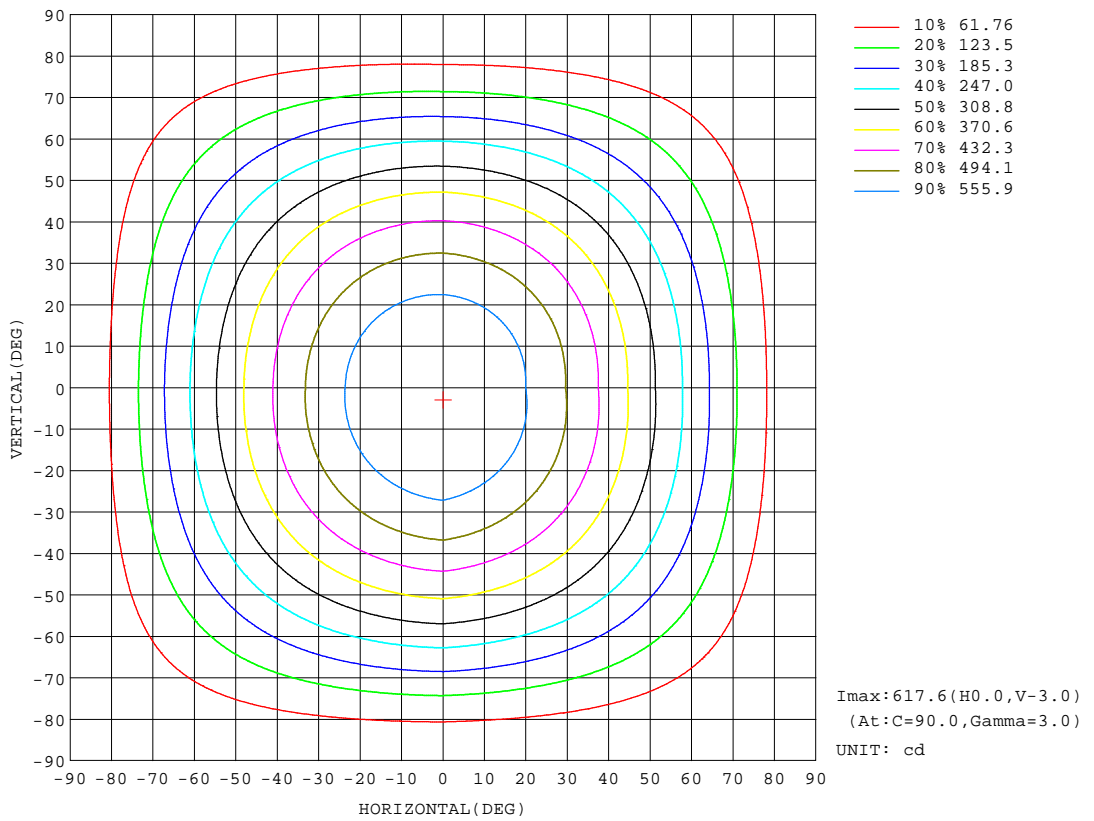
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	58	47	40	58	47	40	57	46	40	33
0.80	69	57	50	67	57	50	66	56	49	42
1.00	77	66	59	76	65	59	74	67	58	51
1.25	84	74	67	83	73	66	80	72	66	58
1.50	89	79	72	87	78	72	84	77	71	64
2.00	96	87	81	94	86	80	90	84	79	71
2.50	100	92	86	97	91	85	94	88	83	75
3.00	103	96	91	101	95	90	97	92	88	79
4.00	107	101	97	104	99	95	100	96	93	84
5.00	109	104	100	107	102	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:2019-11-29

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:SM9S20930UNVTW	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC.	SUR.:21cm*16cm	Shielding Angle:

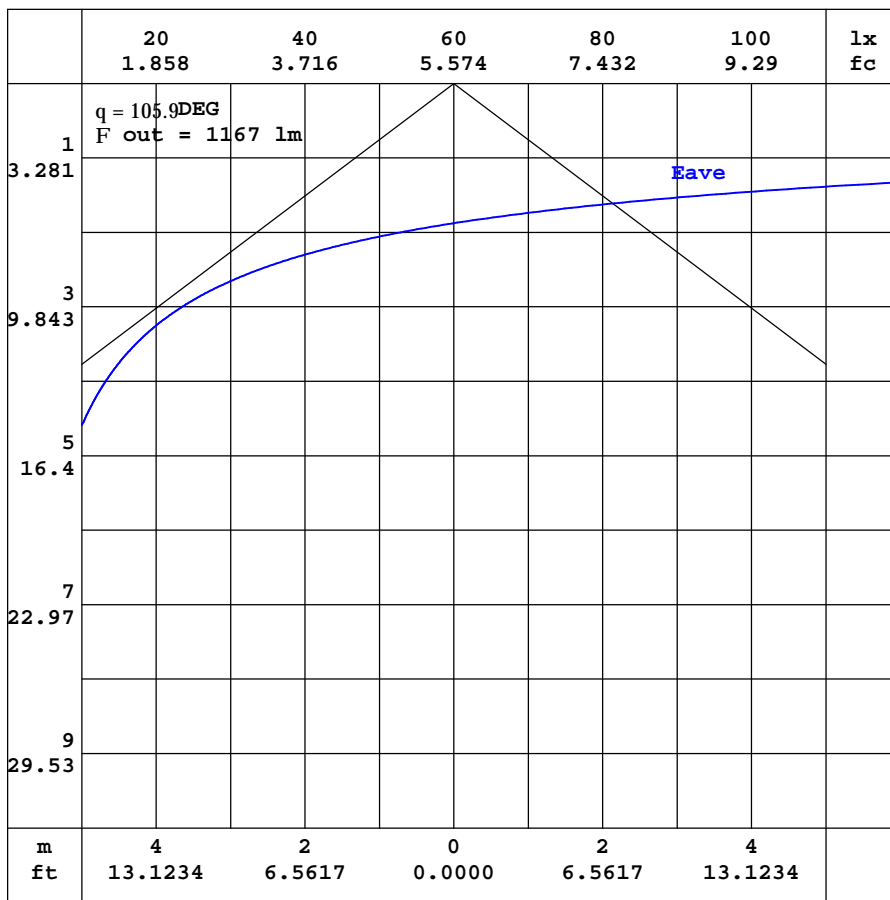


C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2019-11-29

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:SM9S20930UNVTW	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC.	SUR.:21cm*16cm	Shielding Angle:

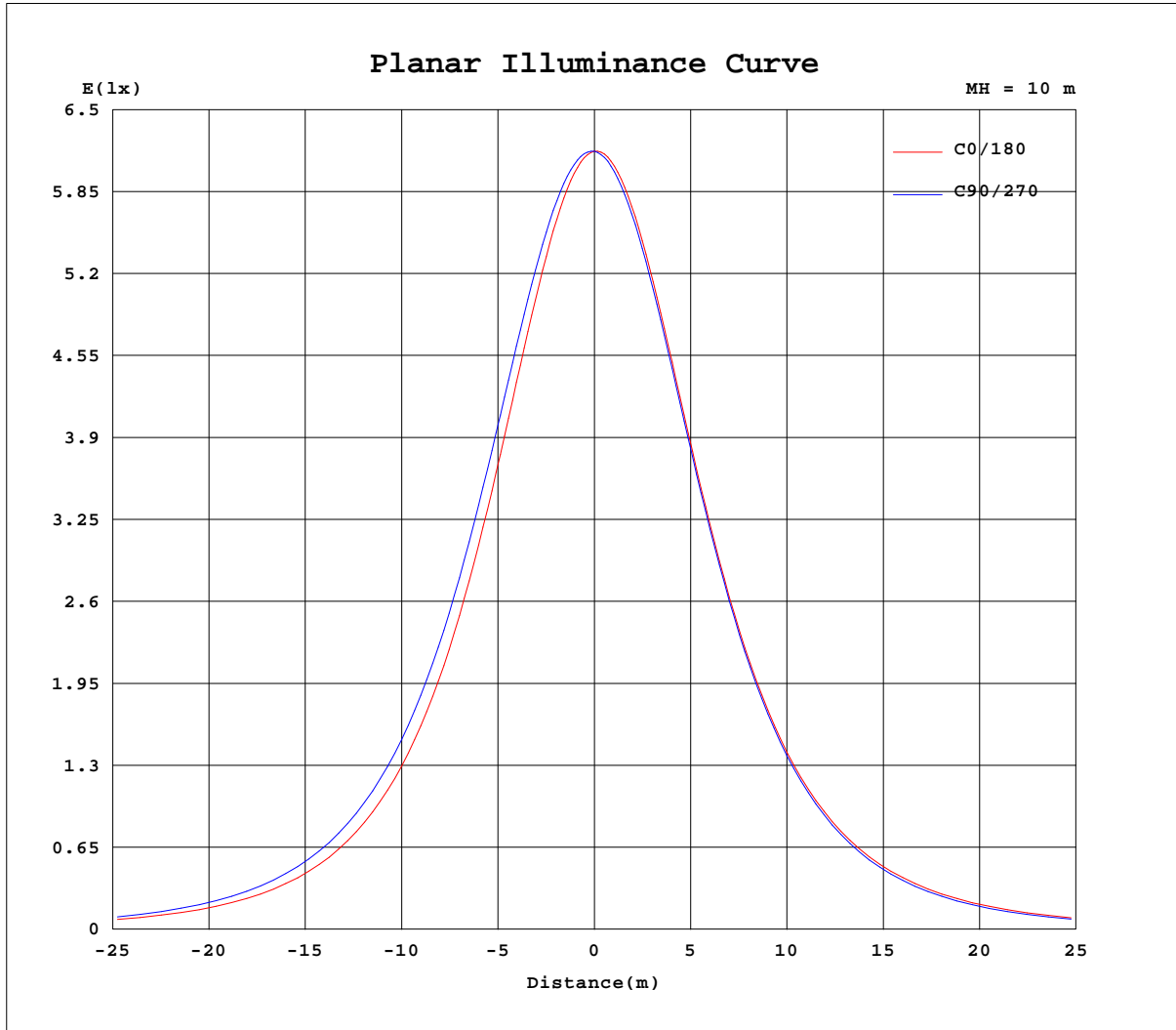


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-11-29

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: 2019-11-29

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:SM9S20930UNVTW	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC.	SUR.:21cm*16cm	Shielding Angle:

Table--1 UNIT: cd

C(DEC)	0	90	180	270														
0	617	617	617	617														
5	611	617	616	612														
10	599	613	609	603														
15	580	603	594	588														
20	556	588	574	568														
25	526	567	548	542														
30	491	540	517	511														
35	453	507	481	475														
40	411	469	441	434														
45	367	426	398	390														
50	321	380	353	343														
55	274	330	306	292														
60	226	277	258	241														
65	179	224	208	189														
70	133	169	157	137														
75	87.5	117	110	88.2														
80	47.8	68.0	65.9	43.6														
85	15.9	24.3	29.7	3.65														
90	0.56	0.58	0.59	0.19														

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-11-29

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: