

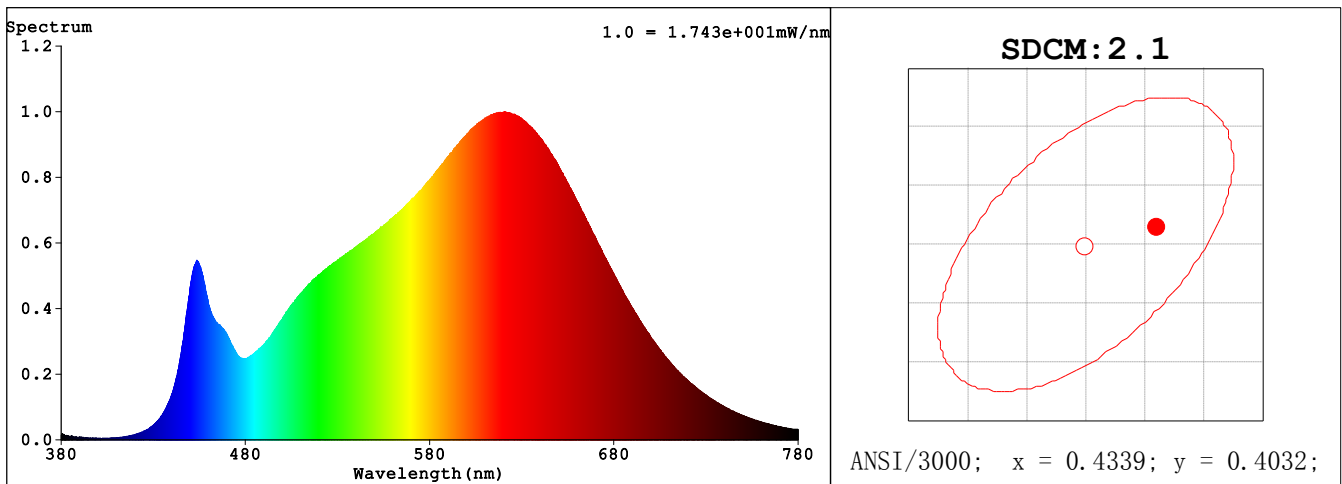
## Spectrum Test Report

Sample :	Date : 2019-12-14
Specification : WFR6R12930UNVWS	Sam. Status :
Sample No. : 1	Standard :
Manufacturer : RAB LIGHTING INC.	Instrument : HaasSuite(EVERFINE)
Assessor : damin	
Remark : ---	Test by : DAMIN
Device SN : 9#	

### Test Condition

Temprature : 25.6Deg	RH : 65.0%
WL Range : 380nm-780nm	IP : 52947 (81%)
Test Mode : Fast Test	T : 225 ms
Sensitivity : High	

### Spectrum



### Colorimetric Parameters

Chromaticity Coordinate:  $x = 0.4378$   $y = 0.4044$  /  $u' = 0.2510$   $v' = 0.5217$  ( $duv=2.01e-05$ )  
 CCT= 2988K Prcp WL: Ld=582.9nm Purity=52.8%  
 Peak WL: Lp=621nm FWHM: =160.9nm Ratio:R=24.4% G=72.6% B=3.0%  
 Render Index: Ra = 93.1

EEL: 0.16885 A+

R1 =93 R2 =97 R3 =99 R4 =93 R5 =93 R6 =96 R7 =91  
 R8 =82 R9 =59 R10=93 R11=94 R12=80 R13=95 R14=99 R15=89  
 LEVEL:OUT WHITE:ANSI\_3000K

### Photometric & Radiometric Parameters

Flux = 882.67 lm Eff. : 75.33 lm/W Fe = 3.0419 W Scotopic:1257.6 S/P:1.4247  
 Flux of emitted photons( $\mu\text{mol/s}$ ):15.049 Fluo. and blue light ratio:10.15 Fluorescent eff.:234.7

### Electrical parameters

V = 120.02 V I = 0.09834 A P = 11.72 W PF = 0.9928 F=59.98 Hz

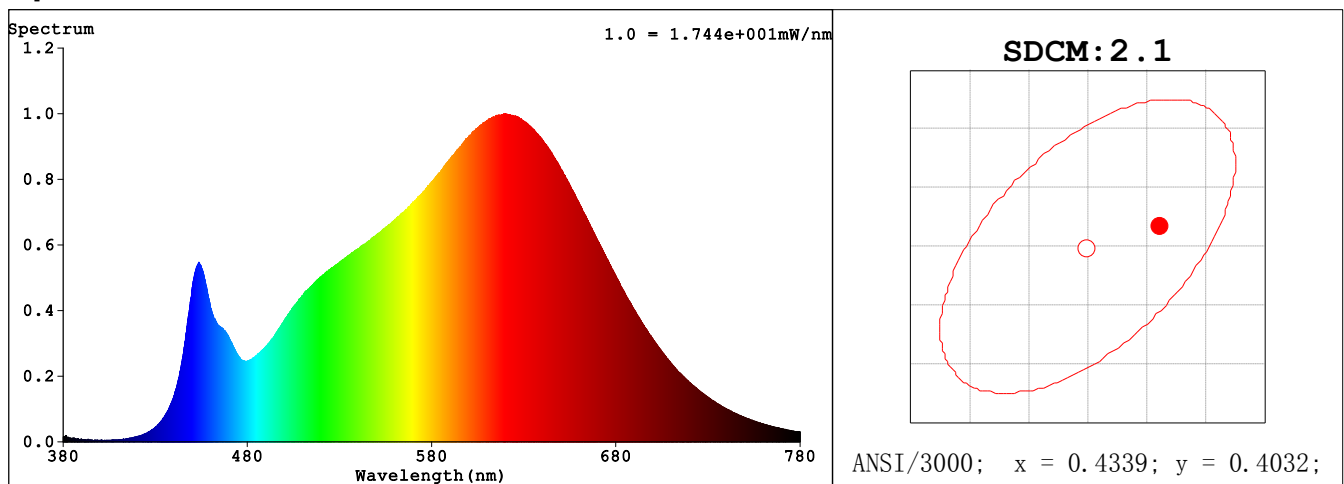
## Spectrum Test Report

Sample	:		Date	:	2019-12-14
Specification	:	WFR6R12930UNVWS	Sam. Status	:	
Sample No.	:	277 1	Standard	:	
Manufacturer	:	RAB LIGHTING INC.	Instrument	:	HaasSuite(EVERFINE)
Assessor	:	damin			
Remark	:	---	Test by	:	DAMIN
Device SN	:	9#			

### Test Condition

Temperature	:	25.6Deg	RH	:	65.0%
WL Range	:	380nm-780nm	IP	:	52959 (81%)
Test Mode	:	Fast Test	T	:	225 ms
Sensitivity	:	High			

### Spectrum



### Colorimetric Parameters

Chromaticity Coordinate:  $x = 0.4379$   $y = 0.4046$  /  $u' = 0.2510$   $v' = 0.5217$  ( $duv=7.41e-05$ )  
 CCT= 2988K Prcp WL: Ld=582.8nm Purity=52.9%  
 Peak WL: Lp=620nm FWHM: =161.2nm Ratio:R=24.4% G=72.6% B=3.0%  
 Render Index: Ra = 93.1

EEl: 0.17047 A

R1 =93 R2 =97 R3 =99 R4 =93 R5 =93 R6 =96 R7 =92  
 R8 =82 R9 =60 R10=93 R11=94 R12=80 R13=95 R14=99 R15=89  
 LEVEL:OUT WHITE:ANSI\_3000K

### Photometric & Radiometric Parameters

Flux = 882.58 lm Eff. : 74.61 lm/W Fe = 3.0409 W Scotopic:1257 S/P:1.4242  
 Flux of emitted photons( $\mu\text{mol/s}$ ):15.045 Fluo. and blue light ratio:10.31 Fluorescent eff.:216.9

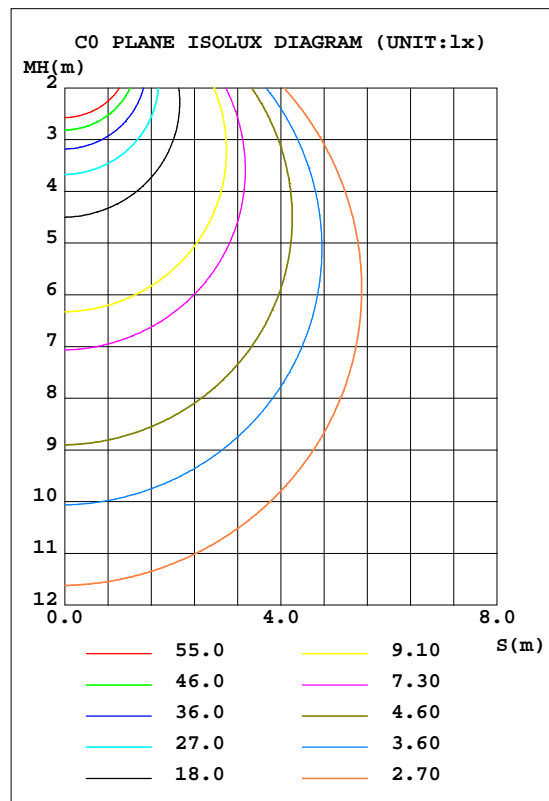
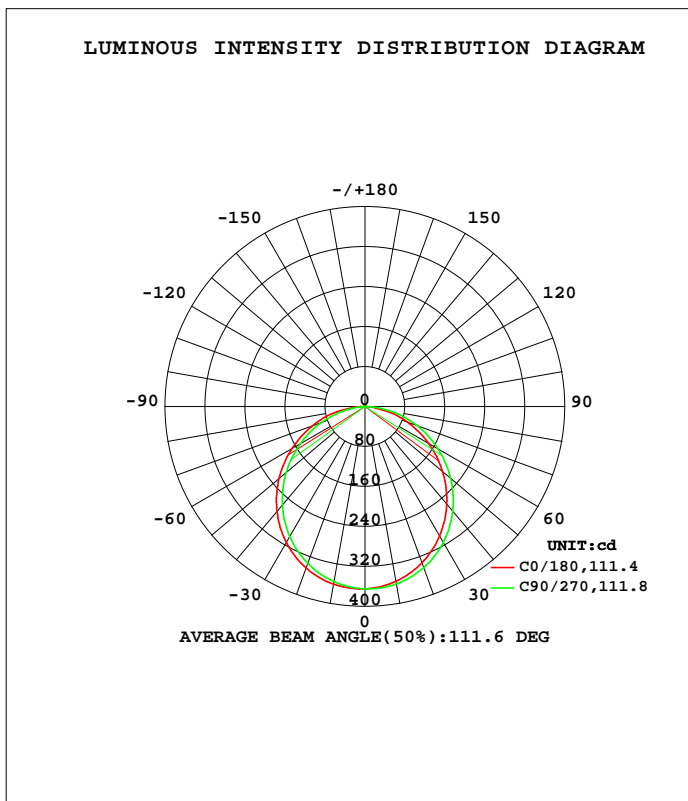
### Electrical parameters

V = 277.24 V I = 0.04612 A P = 11.83 W PF = 0.9256 F=59.98 Hz

LUMINAIRE PHOTOMETRIC TEST REPORT

NAME:	TYPE:WFR6R12930UNVWS	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC.	SUR.:21cm*16cm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL		Imax(cd)	365.1	S/MH(C0/180)	1.28
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.23
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	1033.5	h UP, DN(C0-180)	0.0,49.8
NOMINAL FLUX(lm)	1033.45	CIE CLASS	DIRECT	h UP, DN(C180-360)	0.0,50.2
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:2019-12-14

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:

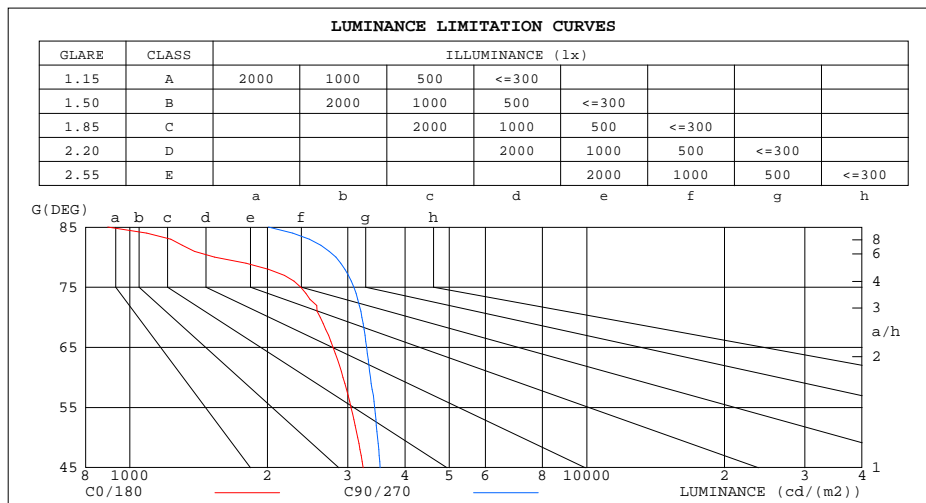
g	C0	C90	C180	C270					g	F zone	F total	%lum,lamp
10	355.3	360.7	361.1	355.9					0- 10	34.51	34.51	3.34,3.34
20	333.1	343.5	344.2	334.3					10- 20	98.79	133.3	12.9,12.9
30	299.0	313.9	314.8	300.9					20- 30	149.5	282.8	27.4,27.4
40	254.6	273.2	274.1	257.3					30- 40	179.6	462.4	44.7,44.7
50	202.8	223.9	224.7	206.0					40- 50	185.4	647.8	62.7,62.7
60	146.6	168.0	168.7	149.9					50- 60	167.0	814.8	78.8,78.8
70	89.34	110.1	110.9	91.49					60- 70	128.1	942.9	91.2,91.2
80	26.65	49.00	50.92	30.35					70- 80	74.59	1018	98.5,98.5
90	0.3718	0.3710	2.311	0.1011					80- 90	15.93	1033	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:2019-12-14

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**

<b>NAME:</b>	<b>TYPE:WFR6R12930UNVWS</b>	<b>WEIGHT:</b>
<b>SPEC.:</b>	<b>DIM.:</b>	<b>SERIAL No.:</b>
<b>MFR.: RAB LIGHTING INC.</b>	<b>SUR.:21cm*16cm</b>	<b>Shielding Angle:</b>



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2019-12-14

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:WFR6R12930UNVWS	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	.307	.175	.055	.300	.171	.054	.287	.165	.053	.275	.159	.051	.264	.153	.049	
2.0	.291	.159	.049	.285	.157	.048	.273	.152	.047	.262	.147	.046	.252	.143	.045	
3.0	.270	.143	.043	.264	.141	.043	.254	.137	.042	.244	.134	.041	.235	.130	.040	
4.0	.249	.129	.038	.244	.128	.038	.235	.125	.037	.226	.122	.037	.218	.119	.036	
5.0	.230	.117	.034	.226	.116	.034	.218	.113	.033	.210	.111	.033	.203	.108	.033	
6.0	.213	.107	.031	.210	.106	.030	.202	.104	.030	.196	.102	.030	.189	.100	.030	
7.0	.199	.098	.028	.195	.097	.028	.189	.095	.027	.183	.094	.027	.177	.092	.027	
8.0	.186	.091	.025	.183	.090	.025	.177	.088	.025	.171	.087	.025	.166	.085	.025	
9.0	.174	.084	.023	.171	.083	.023	.166	.082	.023	.161	.081	.023	.156	.079	.023	
10.0	.164	.078	.022	.161	.078	.022	.156	.077	.022	.152	.075	.021	.148	.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	.172	.132	.098	.147	.114	.085	.101	.079	.059	.058	.046	.035	.019	.015	.011	
3.0	.164	.114	.074	.141	.099	.064	.097	.068	.045	.056	.040	.027	.018	.013	.009	
4.0	.157	.101	.058	.135	.087	.051	.093	.061	.036	.054	.036	.021	.017	.012	.007	
5.0	.149	.091	.047	.128	.078	.041	.088	.055	.029	.051	.032	.017	.016	.010	.006	
6.0	.142	.082	.039	.122	.071	.034	.084	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.135	.075	.033	.116	.065	.029	.080	.046	.021	.047	.027	.012	.015	.009	.004	
8.0	.129	.070	.029	.111	.060	.025	.077	.042	.018	.045	.025	.011	.014	.008	.004	
9.0	.123	.065	.025	.106	.056	.022	.073	.039	.016	.043	.023	.009	.014	.008	.003	
10.0	.117	.060	.022	.101	.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:2019-12-14

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:WFR6R12930UNVWS					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	16.6	18.1	16.8	18.3	18.5	17.1	18.6	17.3	18.8	19.0
	3H	18.0	19.4	18.3	19.7	19.9	18.7	20.1	19.0	20.4	20.6
	4H	18.6	19.9	18.9	20.2	20.4	19.4	20.8	19.7	21.0	21.3
	6H	18.9	20.1	19.2	20.4	20.7	19.9	21.2	20.3	21.5	21.7
	8H	18.9	20.1	19.2	20.4	20.7	20.1	21.3	20.4	21.6	21.9
	12H	18.9	20.1	19.2	20.3	20.7	20.2	21.3	20.5	21.6	21.9
4H	2H	17.3	18.6	17.6	18.8	19.1	17.6	19.0	17.9	19.2	19.5
	3H	18.9	20.1	19.2	20.4	20.7	19.5	20.6	19.8	20.9	21.2
	4H	19.6	20.6	19.9	21.0	21.3	20.3	21.4	20.7	21.7	22.0
	6H	20.0	20.9	20.4	21.3	21.6	20.9	21.9	21.3	22.2	22.6
	8H	20.0	20.9	20.4	21.3	21.7	21.1	22.0	21.5	22.4	22.8
	12H	20.0	20.8	20.5	21.2	21.6	21.2	22.1	21.7	22.4	22.9
8H	4H	19.9	20.8	20.3	21.1	21.5	20.5	21.4	20.9	21.8	22.2
	6H	20.4	21.1	20.8	21.5	21.9	21.3	22.0	21.7	22.4	22.9
	8H	20.5	21.2	21.0	21.6	22.0	21.6	22.2	22.0	22.6	23.1
	12H	20.6	21.1	21.0	21.6	22.0	21.7	22.3	22.2	22.7	23.2
12H	4H	19.9	20.7	20.3	21.1	21.5	20.5	21.3	20.9	21.7	22.1
	6H	20.4	21.1	20.9	21.5	22.0	21.3	22.0	21.8	22.4	22.8
	8H	20.6	21.2	21.1	21.6	22.1	21.6	22.2	22.1	22.6	23.1
Variations with the observer position at spacings:											
S = 1.0H		+ 0.2 / - 0.2					+ 0.1 / - 0.2				
1.5H		+ 0.2 / - 0.4					+ 0.1 / - 0.3				
2.0H		+ 0.2 / - 0.3					+ 0.2 / - 0.2				

CIE Pub.117, 1033 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 0.1)

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2019-12-14

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:WFR6R12930UNVWS	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	46	39	57	46	39	56	45	39	32
0.80	68	56	49	67	56	49	65	55	48	41
1.00	76	65	58	75	64	57	73	66	57	50
1.25	83	73	66	82	72	65	79	71	64	57
1.50	88	78	71	86	77	71	83	76	70	62
2.00	95	87	80	93	85	79	90	83	78	70
2.50	99	91	85	97	90	84	93	87	82	74
3.00	102	95	90	100	94	89	96	91	87	78
4.00	106	101	96	104	99	95	100	96	92	83
5.00	109	104	100	106	102	98	102	98	95	86
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

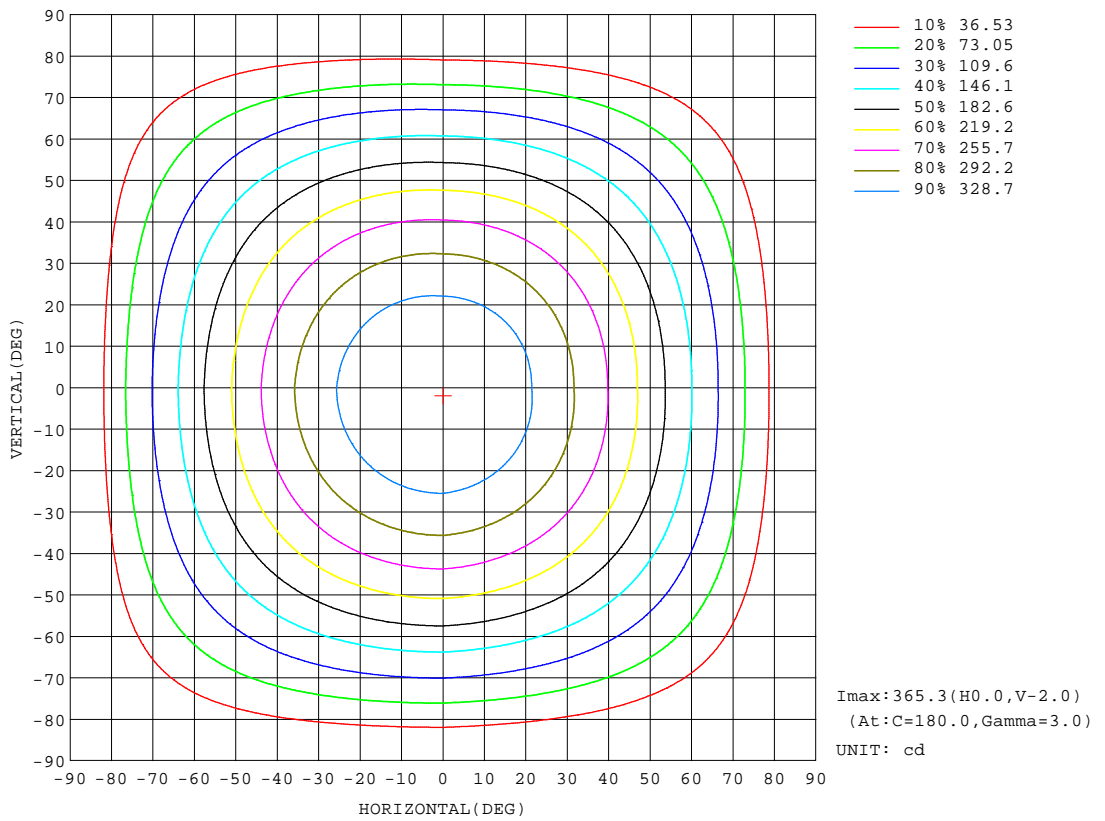
C Range: 0 - 360DEG  
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 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2019-12-14

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:WFR6R12930UNVWS	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC.	SUR.:21cm*16cm	Shielding Angle:



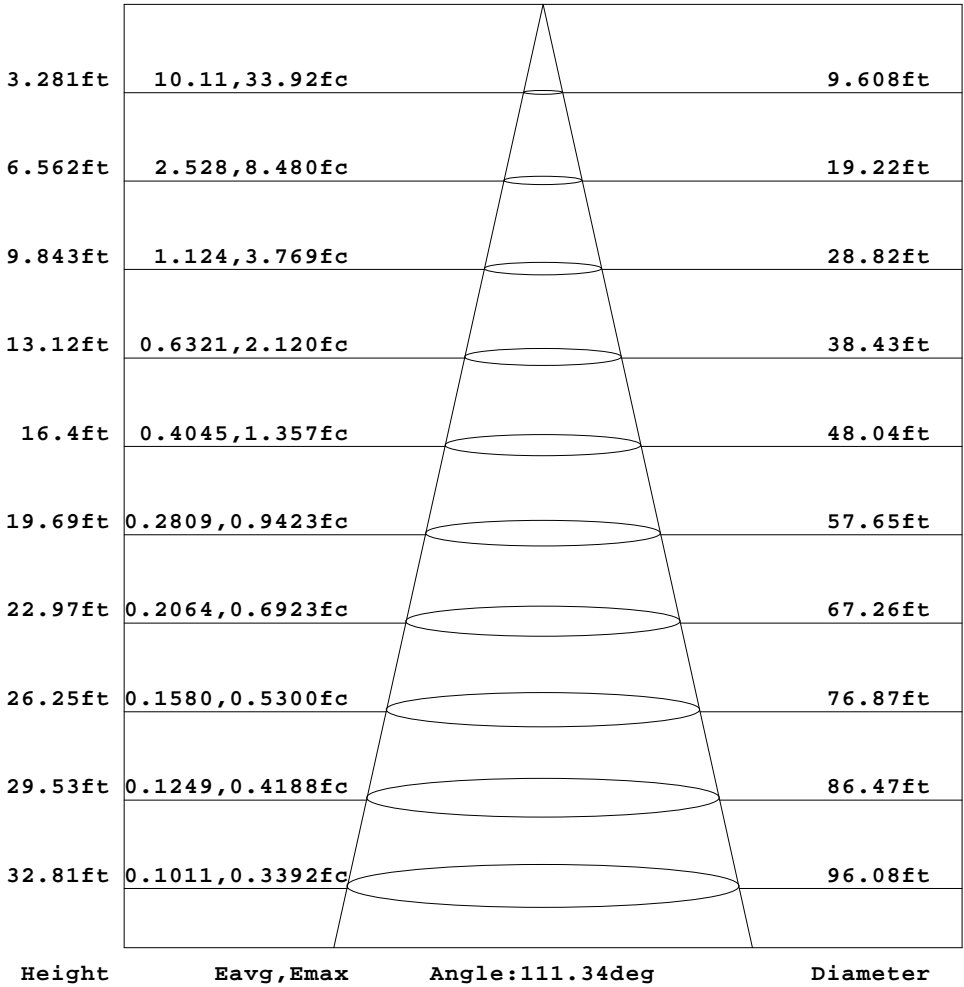
C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2019-12-14

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 Figure**

NAME:	TYPE:WFR6R12930UNVWS	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC.	SUR.:21cm*16cm	Shielding Angle:

Flux out:751.7 lm

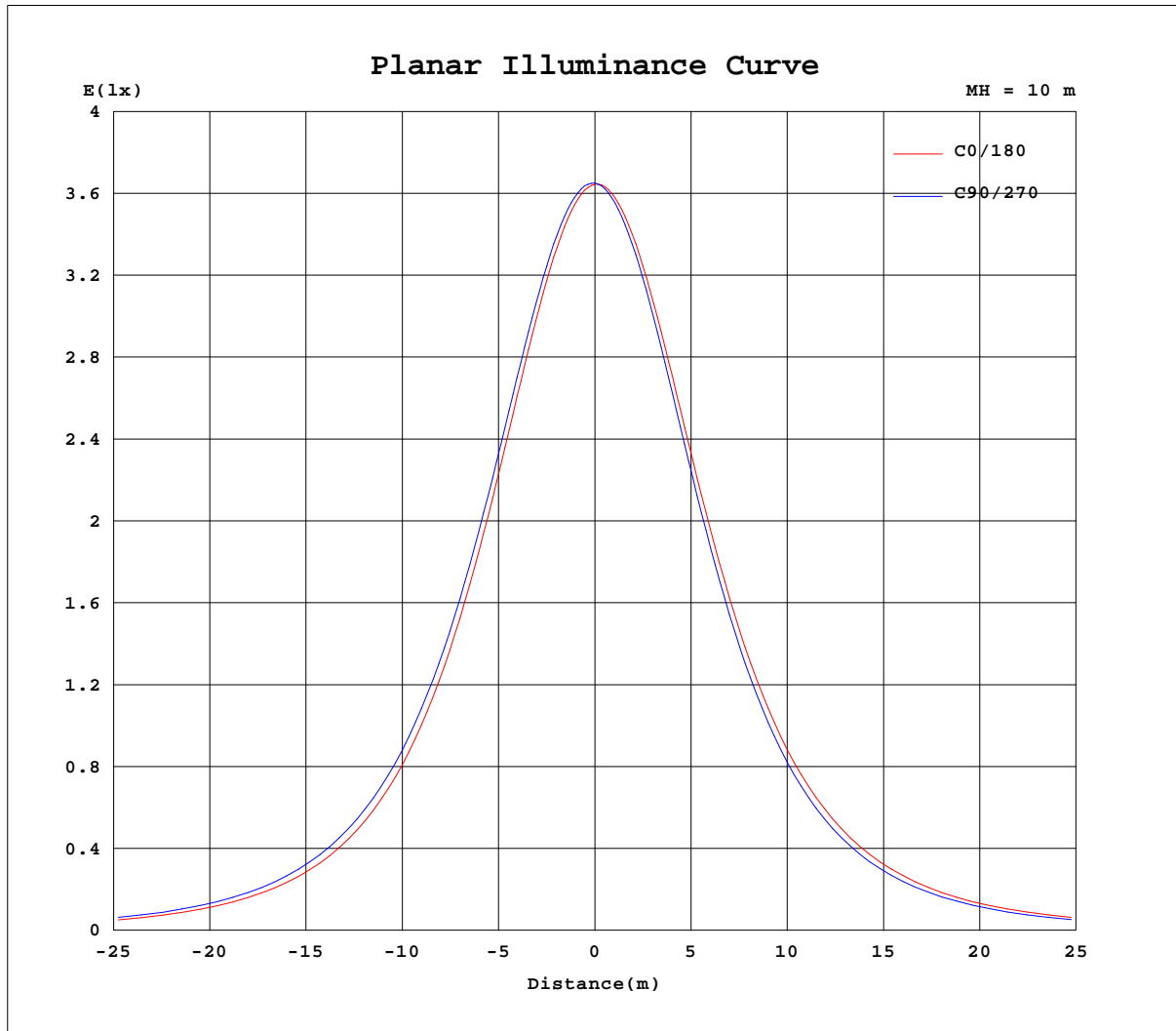


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2019-12-14

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: 2019-12-14

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:

