

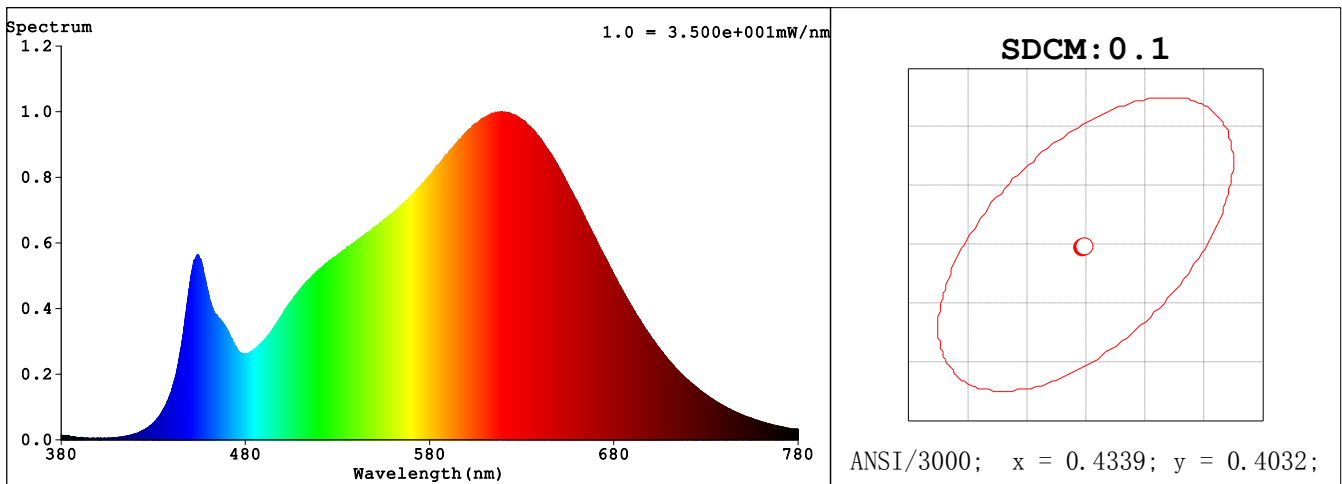
Spectrum Test Report

Sample :	Date : 2019-12-16
Specification : WFR8R24930UNVWB	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 : 24.3Deg	RH : 65.0%
WL Range : 380nm-780nm	IP : 50912 (78%)
Test Mode : Fast Test	T : 107 ms
Sensitivity : High	

Spectrum



Colorimetric Parameters

Chromaticity Coordinate: $x = 0.4338$ $y = 0.4032$ / $u' = 0.2489$ $v' = 0.5206$ ($duv=7.26e-05$)
 CCT= 3046K Prcp WL: Ld=582.6nm Purity=51.2%
 Peak WL: Lp=619nm FWHM: =163.9nm Ratio:R=24.0% G=72.9% B=3.1%
 Render Index: Ra = 93.0

EEl: 0.18142 A

R1 =93 R2 =97 R3 =99 R4 =92 R5 =93 R6 =96 R7 =92
 R8 =82 R9 =59 R10=92 R11=93 R12=80 R13=94 R14=99 R15=89
 LEVEL:OUT WHITE:ANSI_3000K

Photometric & Radiometric Parameters

Flux = 1800.0 lm Eff. : 75.09 lm/W Fe = 6.1891 W Scotopic:2607.4 S/P:1.4485
 Flux of emitted photons($\mu\text{mol/s}$):30.558 Fluo. and blue light ratio:9.889 Fluorescent eff.:231.9

Electrical parameters

V = 119.91 V I = 0.2021 A P = 23.97 W PF = 0.9890 F=59.98 Hz

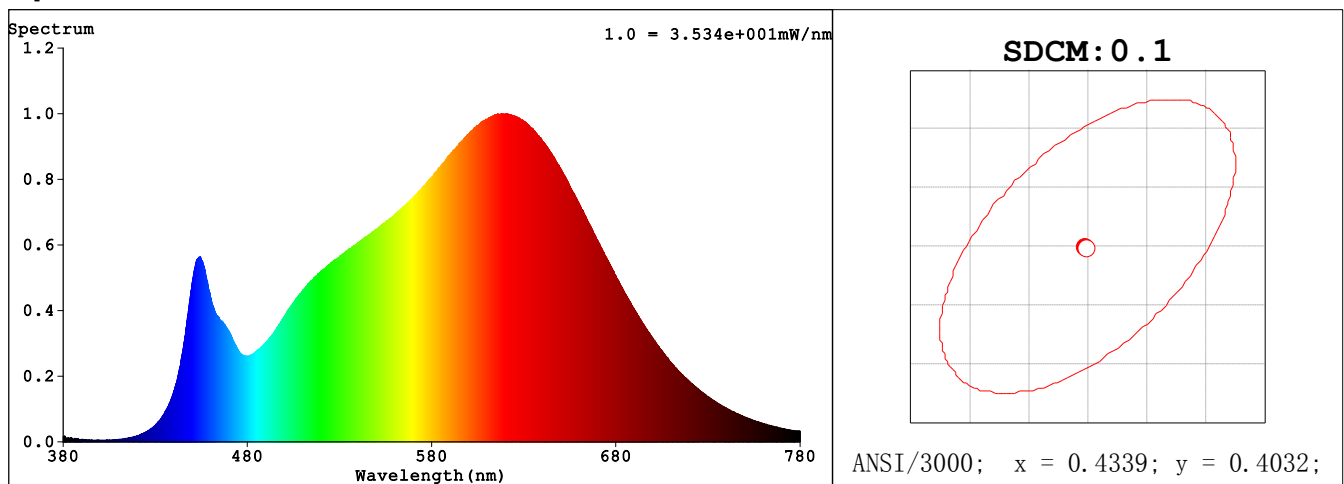
Spectrum Test Report

Sample :	Date : 2019-12-16
Specification : WFR8R24930UNVWB	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

Temprature : 24.3Deg	RH : 65.0%
WL Range : 380nm-780nm	IP : 51423 (78%)
Test Mode : Fast Test	T : 107 ms
Sensitivity : High	

Spectrum



Colorimetric Parameters

Chromaticity Coordinate: $x = 0.4338$ $y = 0.4033$ / $u' = 0.2489$ $v' = 0.5206$ ($duv=1.20e-04$)
 CCT= 3047K Prcp WL: Ld=582.6nm Purity=51.3%
 Peak WL: Lp=619nm FWHM: =164.4nm Ratio:R=24.0% G=73.0% B=3.1%
 Render Index: Ra = 92.9

EEl: 0.18021 A

R1 =93 R2 =97 R3 =99 R4 =92 R5 =93 R6 =96 R7 =92
 R8 =82 R9 =59 R10=92 R11=93 R12=80 R13=94 R14=99 R15=89
 LEVEL:OUT WHITE:ANSI_3000K

Photometric & Radiometric Parameters

Flux = 1829.2 lm Eff. : 75.59 lm/W Fe = 6.2876 W Scotopic:2648.7 S/P:1.448
 Flux of emitted photons($\mu\text{mol/s}$):31.045 Fluo. and blue light ratio:9.573 Fluorescent eff.:215.1

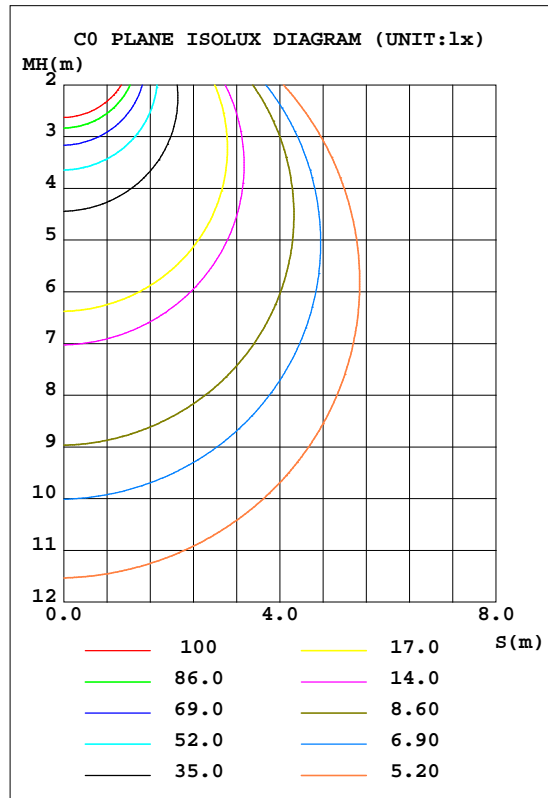
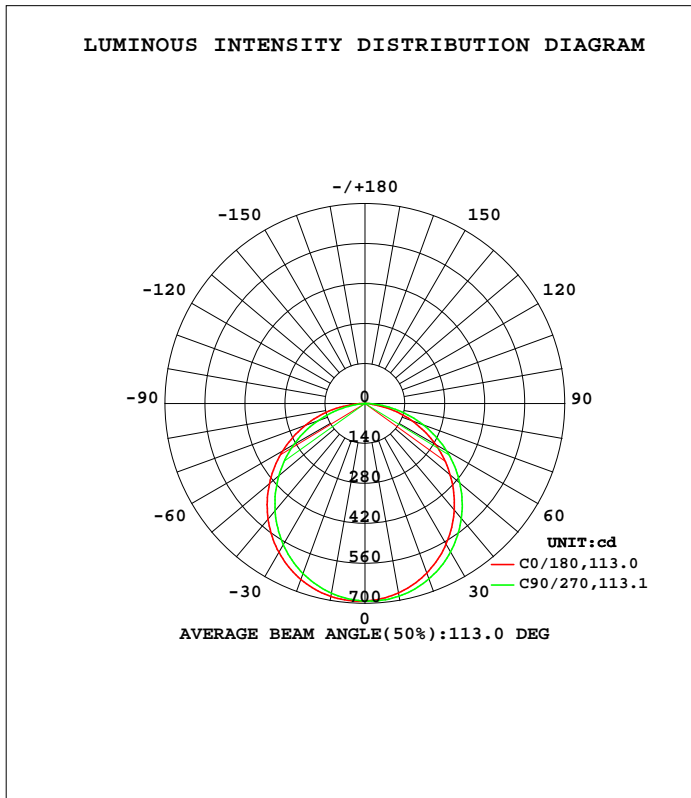
Electrical parameters

V = 277.05 V I = 0.09554 A P = 24.20 W PF = 0.9135 F=59.98 Hz

LUMINAIRE PHOTOMETRIC TEST REPORT

NAME:	TYPE:WFR8R24930UNVWB	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC.	SUR.:21cm*16cm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL		Imax(cd)	692.7	S/MH(C0/180)	1.29
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.23
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	1989.8	h UP, DN(C0-180)	0.0,49.8
NOMINAL FLUX(lm)	1989.81	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:2019-12-16

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:

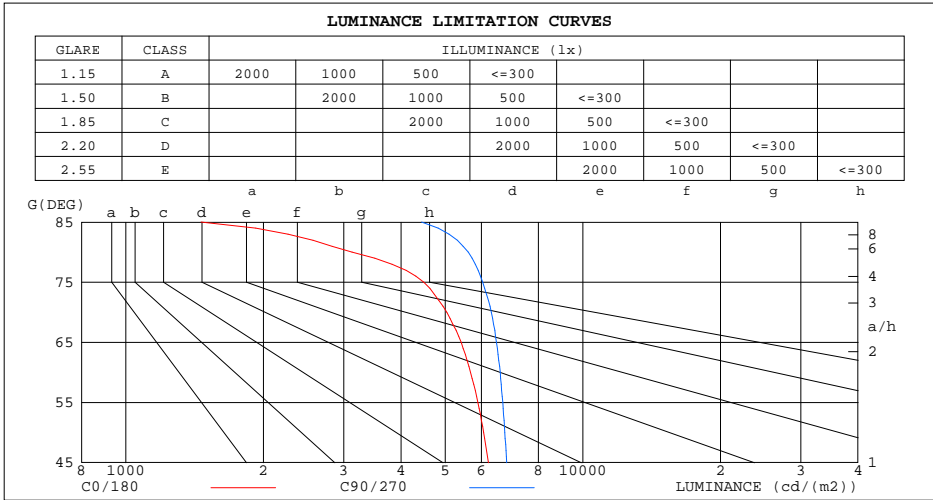
g	C0	C90	C180	C270					g	F zone	F total	%lum,lamp
10	673.6	684.9	686.0	674.7					0- 10	65.46	65.46	3.29,3.29
20	632.0	654.1	656.0	634.1					10- 20	187.6	253.1	12.7,12.7
30	568.5	600.2	602.5	571.8					20- 30	284.6	537.7	27,27
40	486.4	525.4	528.3	490.2					30- 40	343.3	881.0	44.3,44.3
50	390.3	433.6	436.8	394.0					40- 50	356.5	1238	62.2,62.2
60	284.3	329.5	333.0	287.6					50- 60	323.8	1561	78.5,78.5
70	172.4	215.6	221.4	173.6					60- 70	250.0	1811	91,91
80	54.35	97.39	103.0	58.14					70- 80	145.1	1956	98.3,98.3
90	0.8491	0.8494	4.299	0.3272					80- 90	33.42	1990	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:2019-12-16

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:WFR8R24930UNVWB	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:2019-12-16

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:WFR8R24930UNVWB	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	.310	.176	.056	.303	.173	.055	.290	.166	.053	.277	.160	.051	.266	.154	.050	
2.0	.293	.160	.049	.286	.158	.049	.275	.153	.047	.264	.148	.046	.254	.144	.045	
3.0	.271	.144	.043	.265	.142	.043	.255	.138	.042	.245	.134	.041	.237	.131	.041	
4.0	.250	.130	.038	.245	.128	.038	.236	.125	.037	.227	.122	.037	.219	.119	.036	
5.0	.231	.118	.034	.227	.116	.034	.219	.114	.034	.211	.111	.033	.204	.109	.033	
6.0	.214	.107	.031	.210	.106	.031	.203	.104	.030	.196	.102	.030	.190	.100	.030	
7.0	.199	.099	.028	.196	.098	.028	.189	.096	.028	.183	.094	.027	.178	.092	.027	
8.0	.186	.091	.026	.183	.090	.025	.177	.089	.025	.172	.087	.025	.167	.086	.025	
9.0	.174	.084	.024	.172	.084	.023	.166	.082	.023	.162	.081	.023	.157	.080	.023	
10.0	.164	.079	.022	.161	.078	.022	.157	.077	.022	.152	.076	.022	.148	.075	.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	.134	.154	.134	.116	.106	.092	.080	.061	.053	.047	.019	.017	.015	
2.0	.172	.132	.098	.148	.114	.085	.101	.079	.059	.058	.046	.035	.019	.015	.011	
3.0	.165	.114	.074	.141	.099	.064	.097	.069	.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	.150	.091	.047	.129	.078	.041	.089	.055	.029	.051	.032	.017	.017	.010	.006	
6.0	.142	.082	.039	.122	.071	.034	.084	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.136	.075	.033	.117	.065	.029	.081	.046	.020	.047	.027	.012	.015	.009	.004	
8.0	.129	.070	.029	.111	.060	.025	.077	.042	.018	.045	.025	.011	.014	.008	.003	
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:2019-12-16

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:

UGR(Unified Glare Rating) Table

NAME:		TYPE:WFR8R24930UNVWB					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	16.9	18.3	18.6	17.1	18.7	17.4	18.9	19.1
	3H	18.1	19.5	18.4	19.7	19.9	18.8	20.2	19.1	20.5	20.7
	4H	18.6	19.9	18.9	20.2	20.4	19.5	20.8	19.8	21.1	21.4
	6H	18.9	20.1	19.2	20.4	20.7	20.0	21.3	20.4	21.6	21.8
	8H	18.9	20.1	19.3	20.4	20.7	20.2	21.4	20.5	21.7	22.0
	12H	18.9	20.1	19.2	20.4	20.7	20.3	21.5	20.6	21.8	22.1
4H	2H	17.3	18.6	17.6	18.9	19.2	17.7	19.1	18.0	19.3	19.6
	3H	18.9	20.1	19.3	20.4	20.7	19.6	20.7	19.9	21.0	21.3
	4H	19.6	20.7	20.0	21.0	21.3	20.4	21.5	20.8	21.8	22.1
	6H	20.0	20.9	20.4	21.3	21.7	21.0	22.0	21.4	22.3	22.7
	8H	20.0	20.9	20.5	21.3	21.7	21.3	22.1	21.7	22.5	22.9
	12H	20.1	20.9	20.5	21.3	21.7	21.4	22.2	21.8	22.6	23.0
8H	4H	19.9	20.8	20.3	21.2	21.6	20.6	21.5	21.0	21.9	22.3
	6H	20.4	21.2	20.9	21.6	22.0	21.4	22.1	21.8	22.5	23.0
	8H	20.5	21.2	21.0	21.6	22.1	21.7	22.3	22.1	22.8	23.2
	12H	20.6	21.2	21.1	21.6	22.1	21.9	22.5	22.4	22.9	23.4
12H	4H	19.9	20.7	20.4	21.1	21.5	20.6	21.4	21.0	21.8	22.2
	6H	20.5	21.1	20.9	21.6	22.0	21.4	22.1	21.9	22.5	22.9
	8H	20.6	21.2	21.1	21.7	22.1	21.7	22.3	22.2	22.8	23.2
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 / - 0.4					+ 0.2 / - 0.3				

CIE Pub.117, 1990 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 2.4)

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-12-16

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:WFR8R24930UNVWB	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC.	SUR.:21cm*16cm	Shielding Angle:

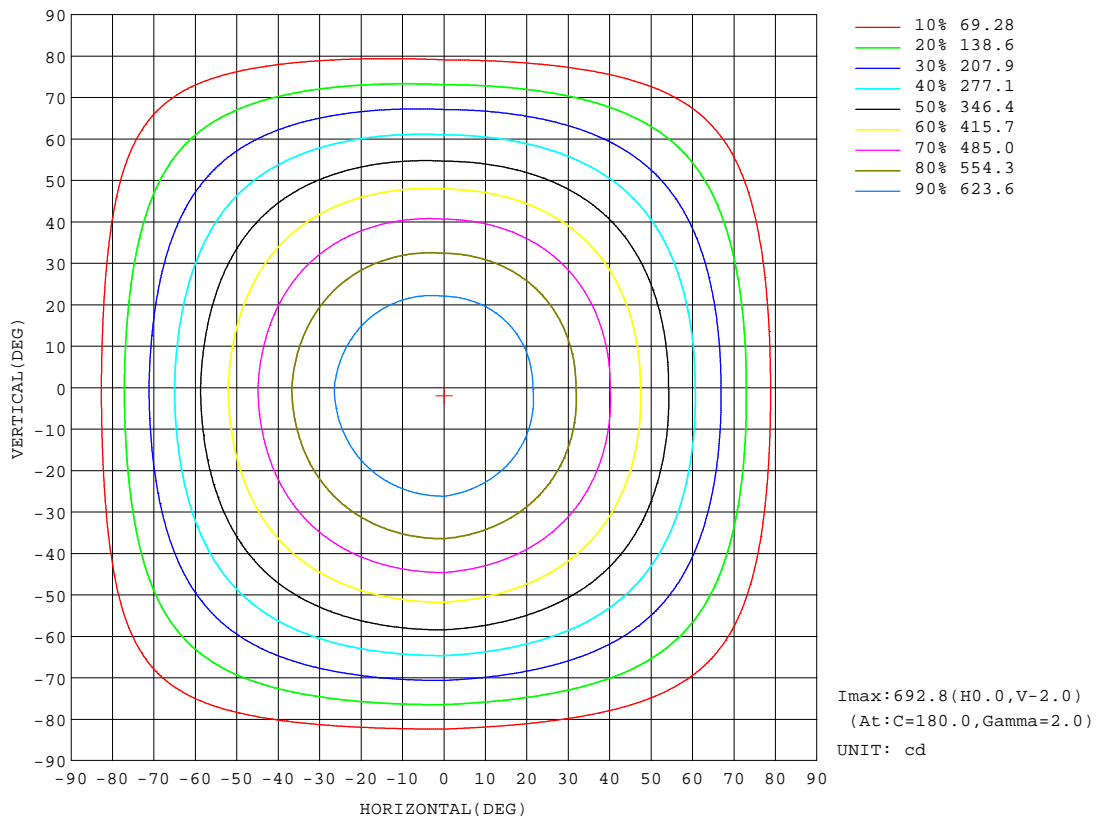
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	57	46	39	57	45	39	55	45	38	32
0.80	67	56	48	66	55	48	65	54	48	41
1.00	76	65	57	75	64	57	72	65	56	49
1.25	83	72	65	81	72	65	79	70	64	57
1.50	88	78	71	86	77	70	83	75	69	62
2.00	95	86	80	93	85	79	89	83	77	70
2.50	99	91	85	97	90	84	93	87	82	74
3.00	102	95	90	100	94	89	96	91	86	78
4.00	106	101	96	104	99	94	100	95	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
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-12-16

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:WFR8R24930UNVWB	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC.	SUR.:21cm*16cm	Shielding Angle:



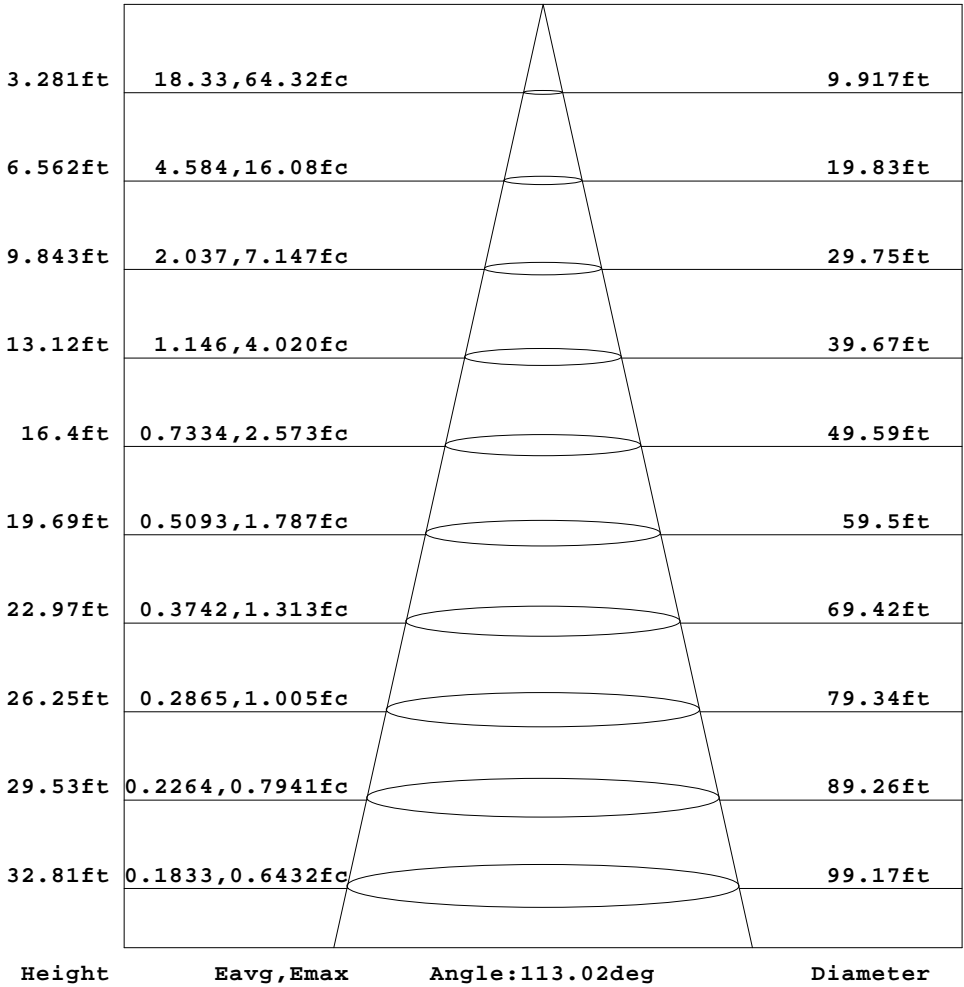
C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2019-12-16

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:WFR8R24930UNVWB	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC.	SUR.:21cm*16cm	Shielding Angle:

Flux out:1470 lm

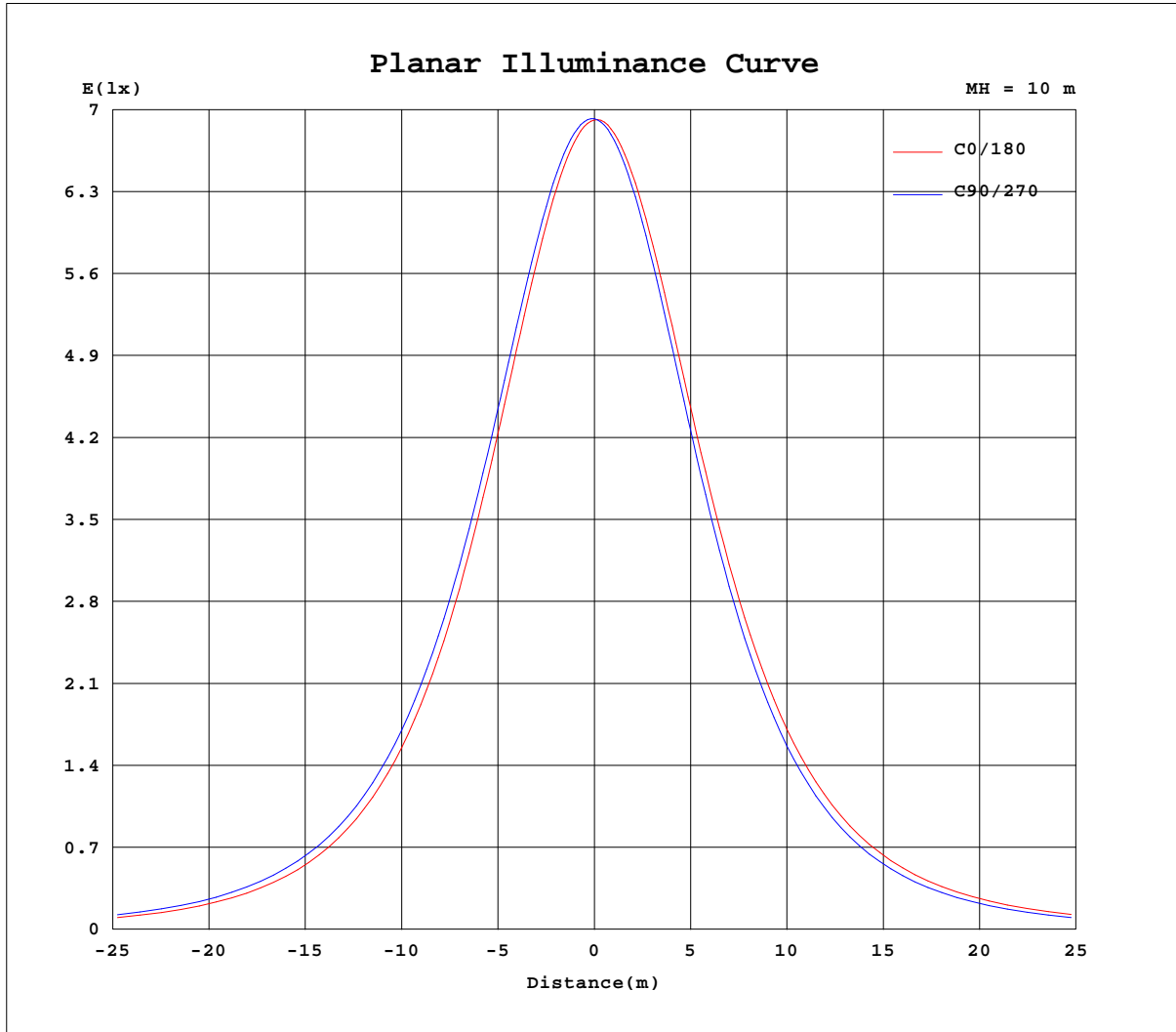


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2019-12-16

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: 2019-12-16

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:WFR8R24930UNVWB	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	692	692	692	692														
5	686	691	692	686														
10	674	685	686	675														
15	655	673	674	657														
20	632	654	656	634														
25	603	630	632	605														
30	569	600	602	572														
35	530	565	568	533														
40	486	525	528	490														
45	440	481	484	444														
50	390	434	437	394														
55	338	383	386	342														
60	284	330	333	288														
65	229	273	278	231														
70	172	216	221	174														
75	116	156	163	116														
80	54.3	97.4	103	58.1														
85	12.7	38.6	45.9	7.05														
90	0.85	0.85	4.30	0.33														

C Range: 0 - 360DEG	Range: 0 - 90DEG
C Interval: 90.0DEG	Interval: 1.0DEG
Test Speed: HIGH	Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.0.366
Temperature:25.3DEG	Humidity:65.0%
Operators:DAMIN	Test Distance:3.200m [K=1.0000]
Test Date:2019-12-16	Remarks: