

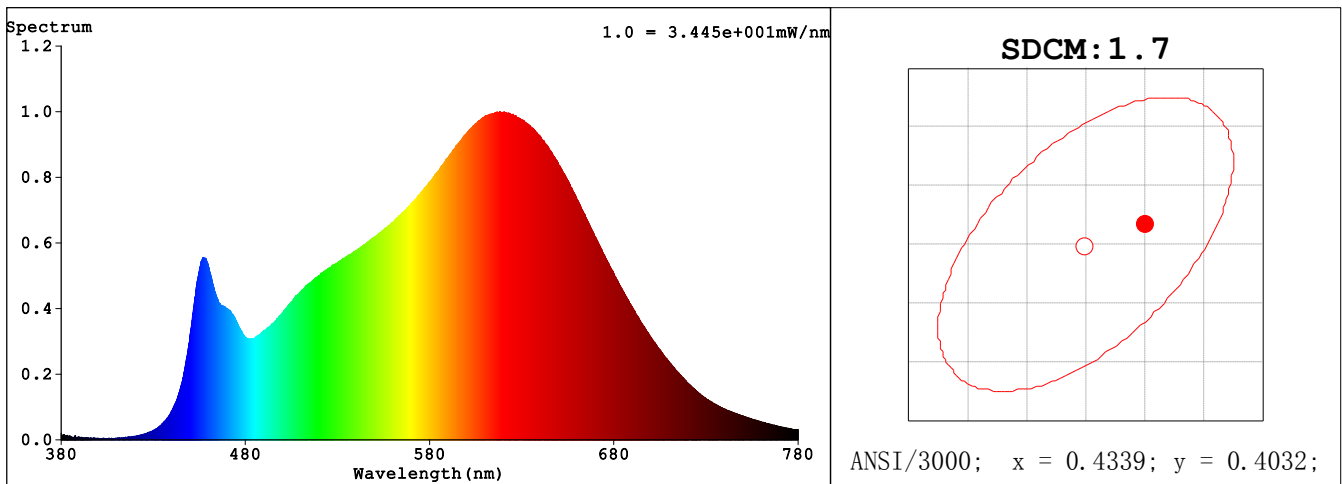
Spectrum Test Report

Sample	:	Date	:	2019-12-04
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	:	47484 (72%)
Test Mode	:	Fast Test	T	:	101 ms
Sensitivity	:	High			

Spectrum



Colorimetric Parameters

Chromaticity Coordinate: $x = 0.4372$ $y = 0.4046$ / $u' = 0.2505$ $v' = 0.5216$ ($duv=1.71e-04$)
 CCT= 2999K Prcp WL: $L_d=582.8nm$ Purity=52.7%
 Peak WL: $L_p=618nm$ FWHM: =160.9nm Ratio:R=24.5% G=72.1% B=3.4%
 Render Index: $R_a = 93.2$

EEL: 0.14915 A+

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

Photometric & Radiometric Parameters

Flux = 1741.2 lm Eff. : 91.33 lm/W Fe = 6.0312 W Scotpic:2556.5 S/P:1.4683

Electrical parameters

V = 119.95 V I = 0.1599 A P = 19.06 W PF = 0.9939 F=59.98 Hz

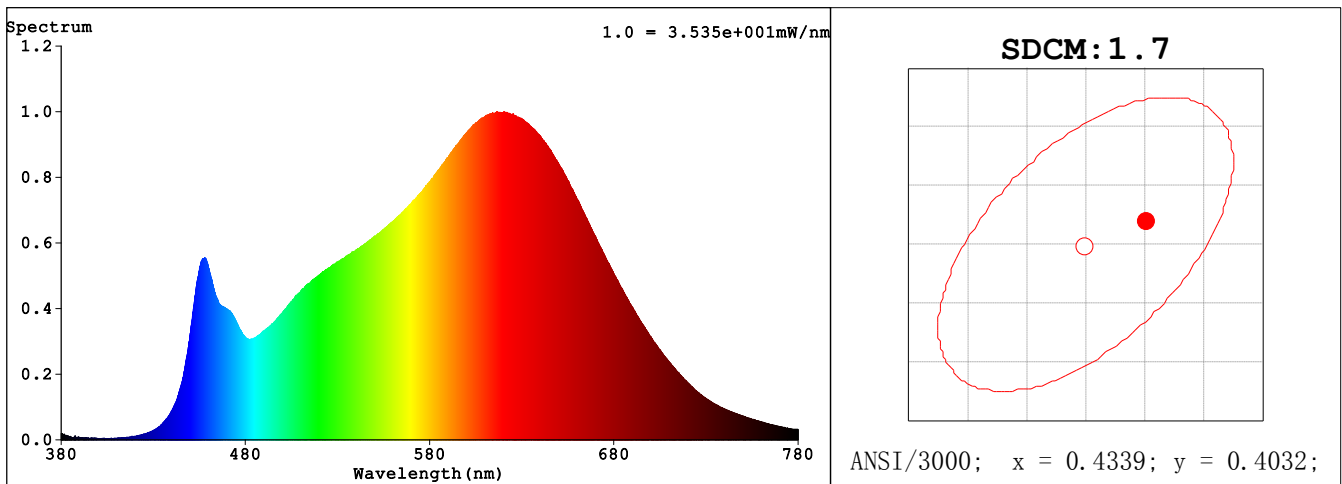
Spectrum Test Report

Sample	:	Date	:	2019-12-04
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	:	48808 (74%)
Test Mode	:	Fast Test	T	:	101 ms
Sensitivity	:	High			

Spectrum



Colorimetric Parameters

Chromaticity Coordinate: $x = 0.4373$ $y = 0.4048$ / $u' = 0.2505$ $v' = 0.5217$ ($duv=2.31e-04$)
 CCT= 3000K Prcp WL: $L_d=582.7nm$ Purity=52.7%
 Peak WL: $L_p=621nm$ FWHM: =161.2nm Ratio:R=24.5% G=72.1% B=3.4%
 Render Index: $R_a = 93.2$

EEL: 0.15056 A+

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

Photometric & Radiometric Parameters

Flux = 1786.5 lm Eff. : 90.48 lm/W $F_e = 6.1854 W$ Scotpic:2621.1 S/P:1.4672

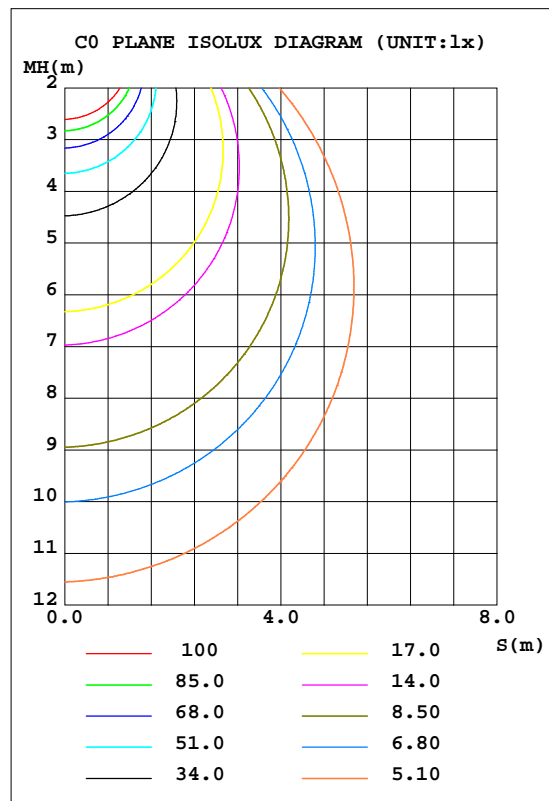
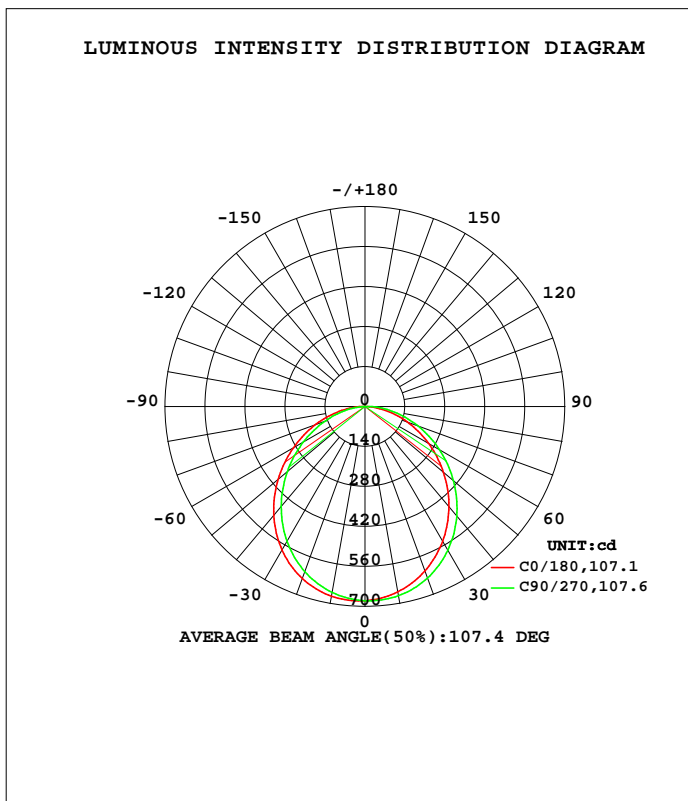
Electrical parameters

V = 277.04 V I = 0.07636 A P = 19.75 W PF = 0.9338 F=59.98 Hz

LUMINAIRE PHOTOMETRIC TEST REPORT

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

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL		Imax(cd)	681.2	S/MH(C0/180)	1.27
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.20
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	1858.1	h UP, DN(C0-180)	0.0, 50.5
NOMINAL FLUX(lm)	1858.09	CIE CLASS	DIRECT	h UP, DN(C180-360)	0.0, 49.5
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: 2019-12-19

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:

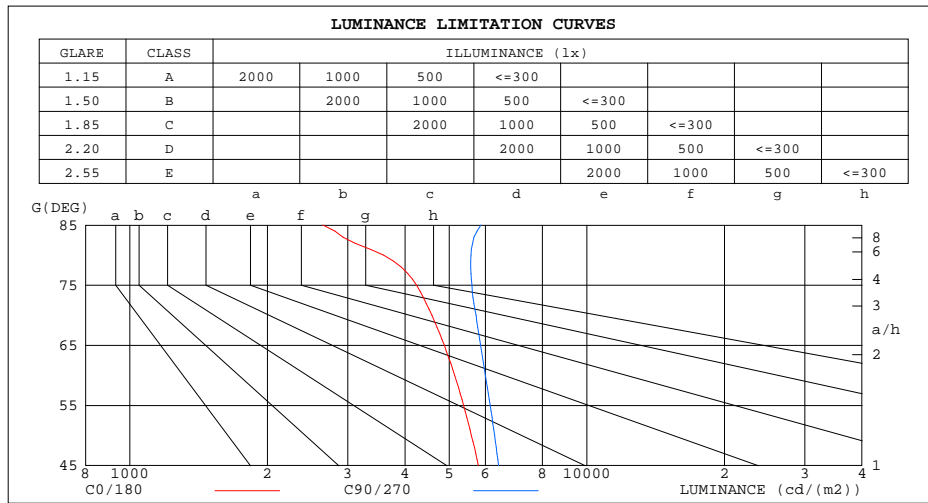
g	C0	C90	C180	C270					g	F zone	F total	%lum,lamp
10	659.3	672.7	674.5	661.3					0- 10	64.29	64.29	3.46,3.46
20	613.3	639.7	641.4	615.8					10- 20	183.5	247.8	13.3,13.3
30	544.4	580.8	580.9	546.0					20- 30	275.5	523.3	28.2,28.2
40	457.6	500.3	497.1	456.8					30- 40	326.8	850.1	45.7,45.7
50	359.2	404.2	397.2	355.2					40- 50	331.3	1181	63.6,63.6
60	256.7	300.3	289.6	249.7					50- 60	292.1	1474	79.3,79.3
70	156.7	195.9	182.5	147.6					60- 70	219.6	1693	91.1,91.1
80	62.36	96.89	83.47	55.73					70- 80	128.6	1822	98,98
90	0.6568	8.048	1.182	0.2554					80- 90	36.36	1858	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:2019-12-19

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



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	2644	5870
80	3593	5576
75	4243	5604
70	4585	5723
65	4877	5856
60	5137	6001
55	5375	6147
50	5592	6284
45	5793	6411

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2019-12-19

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:	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	.308	.175	.055	.301	.172	.054	.287	.165	.053	.275	.159	.051	.264	.153	.049	
2.0	.289	.159	.049	.283	.156	.048	.271	.151	.047	.261	.146	.046	.251	.142	.045	
3.0	.268	.142	.043	.262	.140	.042	.252	.137	.041	.242	.133	.041	.233	.129	.040	
4.0	.247	.128	.038	.242	.127	.037	.233	.124	.037	.225	.121	.036	.217	.118	.036	
5.0	.229	.116	.034	.224	.115	.034	.216	.113	.033	.209	.110	.033	.202	.108	.032	
6.0	.212	.106	.030	.208	.105	.030	.201	.103	.030	.194	.101	.030	.188	.099	.029	
7.0	.197	.098	.028	.194	.097	.028	.188	.095	.027	.182	.093	.027	.176	.091	.027	
8.0	.184	.090	.025	.181	.089	.025	.176	.088	.025	.170	.086	.025	.165	.085	.025	
9.0	.173	.084	.023	.170	.083	.023	.165	.082	.023	.160	.080	.023	.156	.079	.023	
10.0	.163	.078	.022	.160	.077	.022	.156	.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	.172	.132	.098	.147	.114	.085	.101	.079	.059	.058	.046	.035	.019	.015	.011	
3.0	.164	.114	.075	.141	.099	.065	.097	.068	.045	.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	.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	.128	.069	.029	.111	.060	.025	.077	.042	.018	.045	.025	.011	.014	.008	.004	
9.0	.122	.064	.025	.105	.056	.022	.073	.039	.016	.043	.023	.009	.014	.008	.003	
10.0	.117	.060	.023	.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:2019-12-19

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:					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	16.5	18.0	16.7	18.2	18.4	17.0	18.5	17.3	18.7	19.0	
3H	17.9	19.3	18.2	19.5	19.8	18.7	20.1	19.0	20.3	20.5	
4H	18.5	19.8	18.8	20.0	20.3	19.4	20.7	19.7	21.0	21.2	
6H	18.9	20.1	19.2	20.4	20.7	20.0	21.2	20.3	21.5	21.8	
8H	18.9	20.1	19.3	20.4	20.7	20.2	21.4	20.5	21.7	22.0	
12H	19.0	20.1	19.3	20.4	20.7	20.4	21.5	20.7	21.8	22.1	
4H 2H	17.2	18.5	17.5	18.7	19.0	17.6	18.9	17.9	19.2	19.4	
3H	18.8	19.9	19.1	20.2	20.5	19.4	20.6	19.8	20.9	21.2	
4H	19.5	20.5	19.8	20.9	21.2	20.2	21.3	20.6	21.6	22.0	
6H	20.0	20.9	20.4	21.3	21.6	21.0	21.9	21.4	22.3	22.6	
8H	20.1	21.0	20.5	21.4	21.8	21.3	22.2	21.7	22.5	22.9	
12H	20.2	21.0	20.6	21.4	21.8	21.5	22.3	22.0	22.7	23.1	
8H 4H	19.8	20.7	20.2	21.1	21.4	20.5	21.4	20.9	21.7	22.1	
6H	20.5	21.2	20.9	21.6	22.0	21.4	22.1	21.8	22.5	23.0	
8H	20.7	21.3	21.2	21.8	22.2	21.8	22.4	22.3	22.9	23.3	
12H	20.9	21.4	21.3	21.9	22.3	22.2	22.7	22.6	23.2	23.6	
12H 4H	19.8	20.7	20.3	21.0	21.4	20.5	21.3	20.9	21.7	22.1	
6H	20.6	21.2	21.0	21.6	22.1	21.4	22.1	21.9	22.5	23.0	
8H	20.8	21.4	21.3	21.8	22.3	21.9	22.4	22.4	22.9	23.4	
Variations with the observer position at spacings:											
S = 1.0H	+ 0.2 / - 0.2					+ 0.1 / - 0.2					
1.5H	+ 0.2 / - 0.3					+ 0.1 / - 0.3					
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3					

CIE Pub.117, 1858 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 2.2)

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-12-19

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

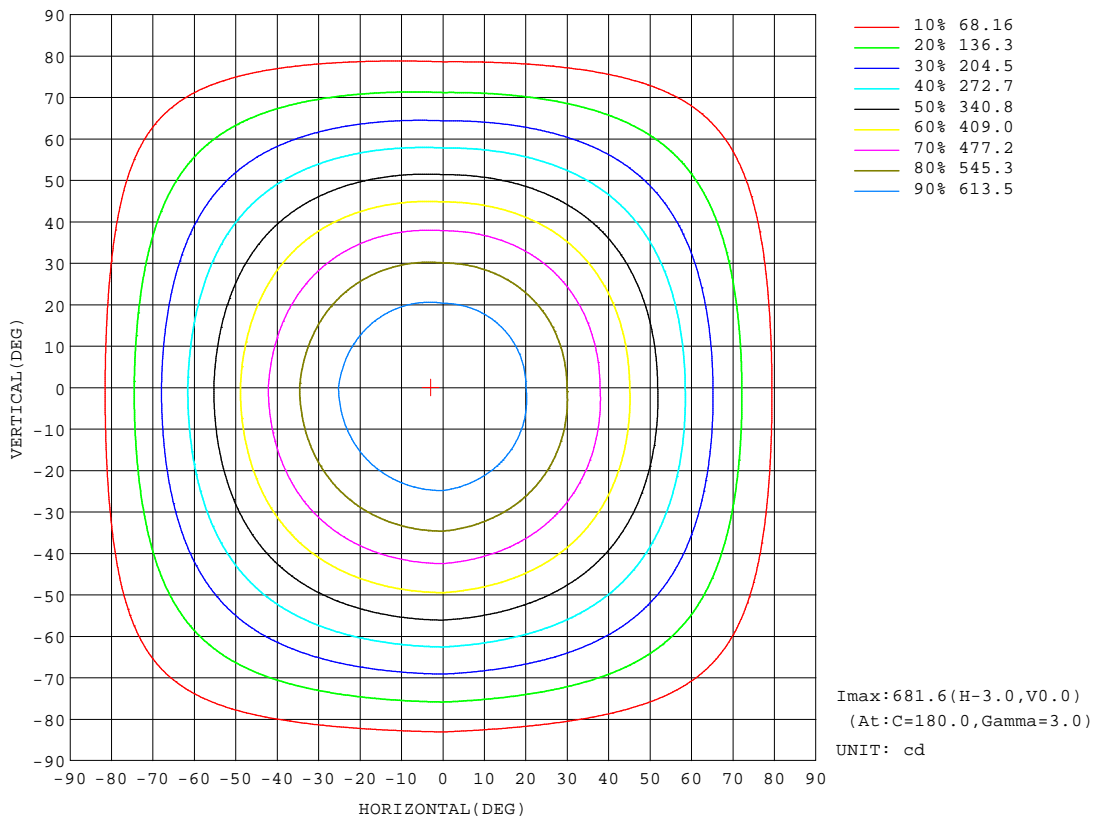
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	58	47	40	57	46	40	56	46	40	33
0.80	68	57	49	67	56	49	65	55	49	42
1.00	77	66	58	75	65	58	73	66	57	50
1.25	84	73	66	82	72	66	79	71	65	58
1.50	88	79	72	87	78	71	84	76	70	63
2.00	95	87	80	93	86	80	90	83	78	70
2.50	99	91	85	97	90	85	93	87	83	74
3.00	102	96	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
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2019-12-19

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



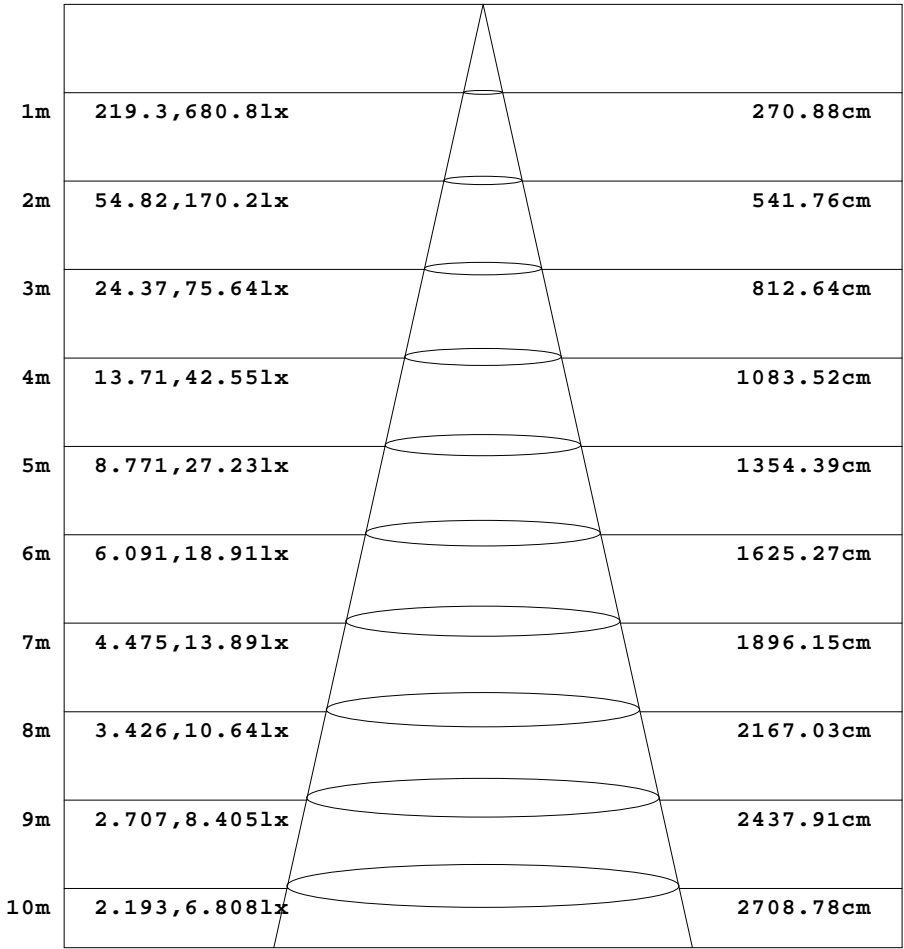
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2019-12-19

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

Flux out:1305 lm



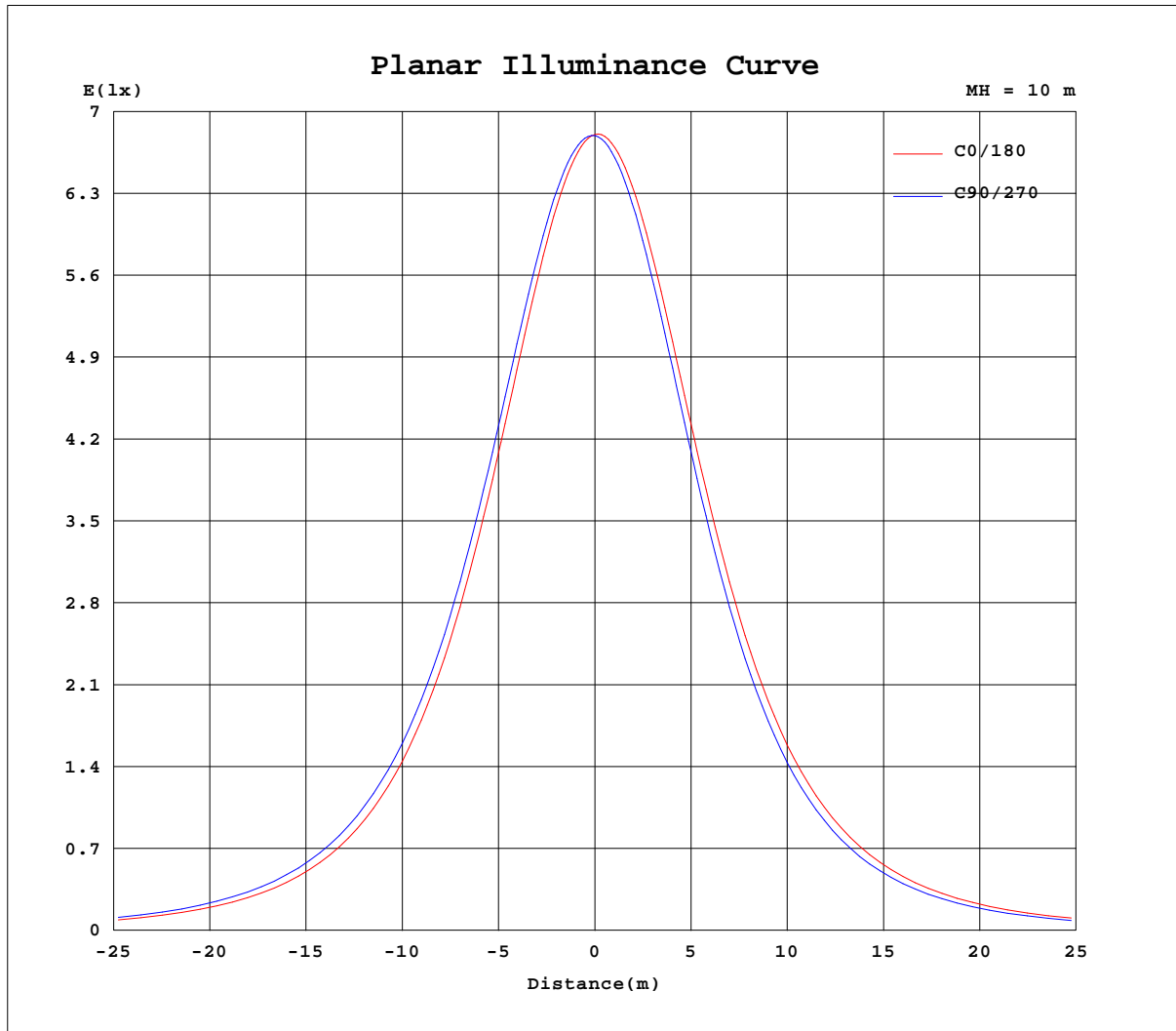
Height Eavg, Emax Angle:107.12deg Diameter

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: 2019-12-19

Range: 0 - 90DEG
 Interval: 1.0DEG
 Test System: EVERFINE GO-SPEX500_V1 SYSTEM V2.0.366
 Humidity: 65.0%
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 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
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 Operators: DAMIN
 Test Date: 2019-12-19

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:	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	680	680	680	680																
5	673	680	681	674																
10	659	673	674	661																
15	639	659	661	642																
20	613	640	641	616																
25	582	613	614	584																
30	544	581	581	546																
35	503	543	541	503																
40	458	500	497	457																
45	409	454	449	407																
50	359	404	397	355																
55	308	353	344	302																
60	257	300	290	250																
65	206	248	236	198																
70	157	196	182	148																
75	110	145	132	100																
80	62.4	96.9	83.5	55.7																
85	23.0	51.2	35.4	14.8																
90	0.66	8.05	1.18	0.26																

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-12-19

Range: 0 - 90DEG
 Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.0.366
 Humidity:65.0%
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