

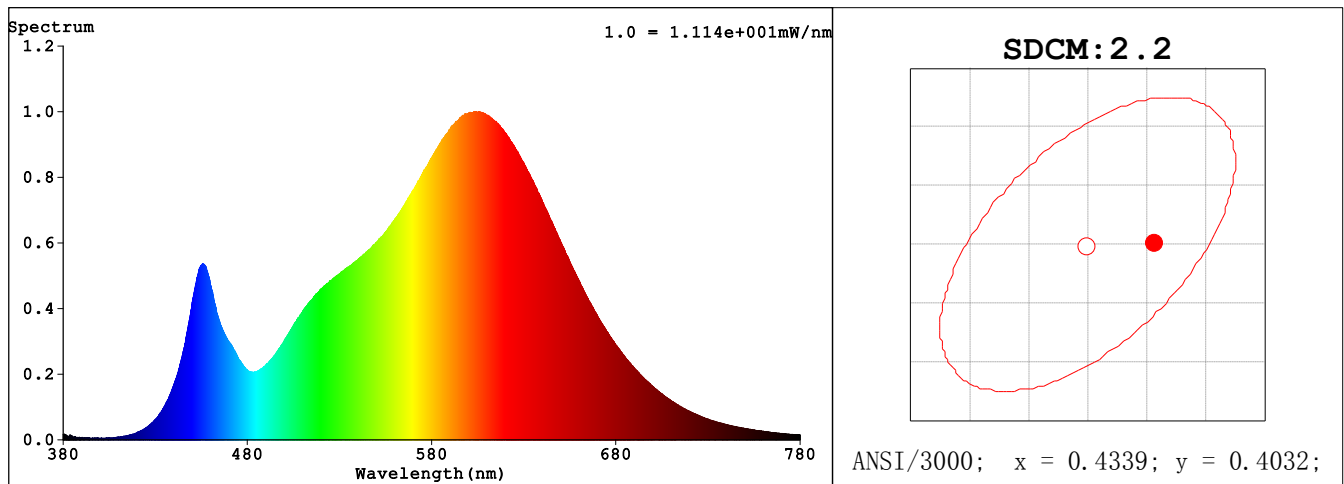
Spectrum Test Report

Sample :	Date : 2019-12-05
Specification : WFR3R8830120WS	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 : 24.2Deg	RH : 65.0%
WL Range : 380nm-780nm	IP : 53041 (81%)
Test Mode : Fast Test	T : 353 ms
Sensitivity : High	

Spectrum



Colorimetric Parameters

Chromaticity Coordinate: $x = 0.4376$ $y = 0.4034$ / $u' = 0.2513$ $v' = 0.5212$ ($duv = -3.54e-04$)
 CCT= 2983K Prcp WL: Ld=583.0nm Purity=52.4%
 Peak WL: Lp=603nm FWHM: =129.6nm Ratio:R=23.2% G=74.1% B=2.7%
 Render Index: Ra = 83.6

EEL: 0.16892 A+

R1 =83 R2 =92 R3 =96 R4 =81 R5 =82 R6 =91 R7 =83
 R8 =61 R9 =12 R10=82 R11=80 R12=72 R13=85 R14=99 R15=75
 LEVEL:OUT WHITE:ANSI_3000K

Photometric & Radiometric Parameters

Flux = 554.48 lm Eff. : 68.54 lm/W Fe = 1.7049 W Scotopic:750.74 S/P:1.3539

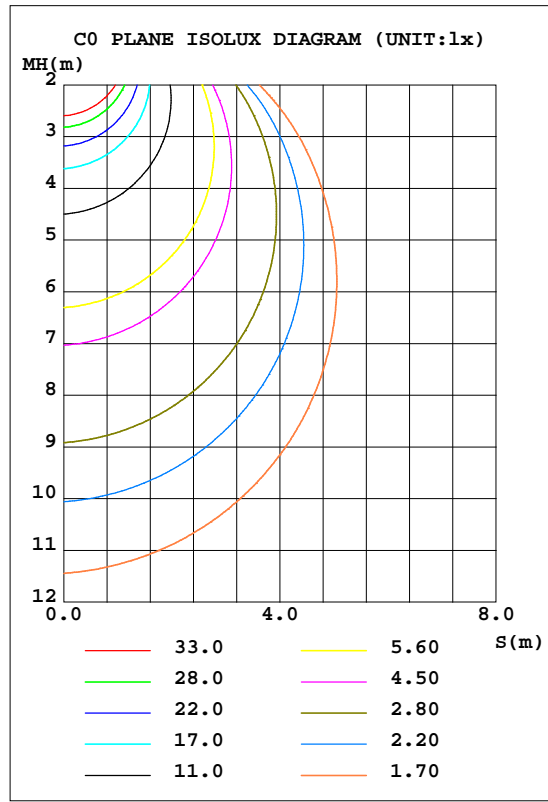
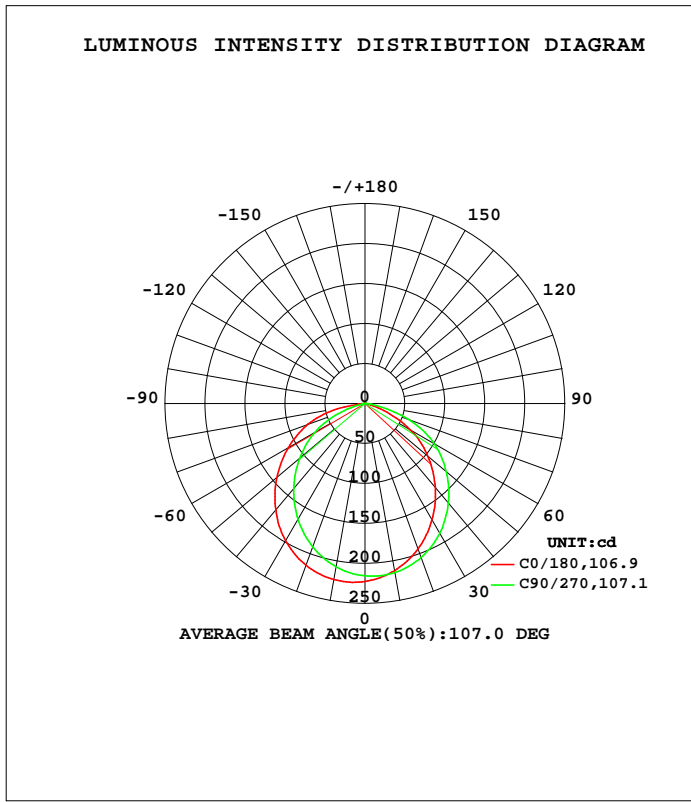
Electrical parameters

V = 120.14 V I = 0.06977 A P = 8.090 W PF = 0.9651 F=59.98 Hz

LUMINAIRE PHOTOMETRIC TEST REPORT

NAME:	TYPE:WFR3R8830120WS	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC.	SUR.:21cm*16cm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL		Imax(cd)	224.3	S/MH(C0/180)	1.32
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.17
RATED VOLTAGE(V)	12	TOTAL FLUX(lm)	571.08	h UP, DN(C0-180)	0.0,48.0
NOMINAL FLUX(lm)	571.078	CIE CLASS	DIRECT	h UP, DN(C180-360)	0.0,52.0
LAMPS INSIDE	1	h up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	12	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:2019-12-05

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:

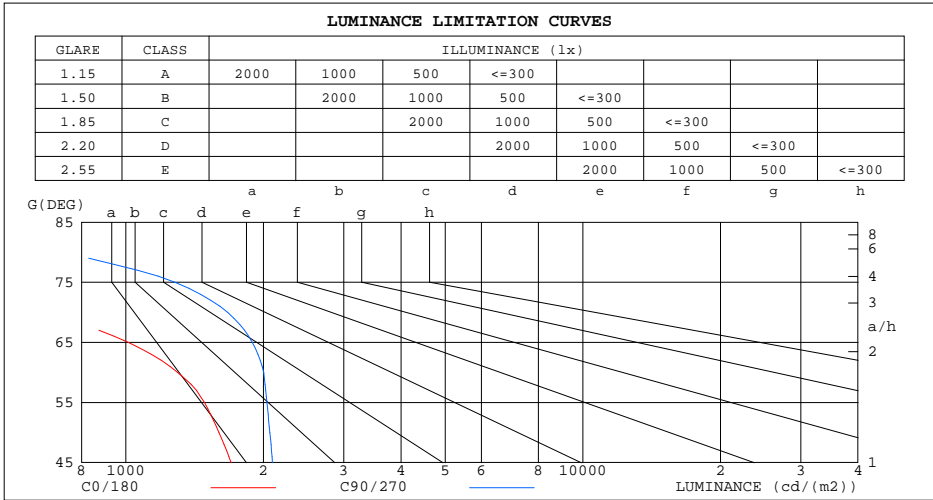
g	C0	C90	C180	C270					g	F zone	F total	%lum,lamp
10	212.4	214.7	223.6	207.4					0- 10	20.70	20.70	3.62,3.62
20	193.7	205.1	215.4	190.8					10- 20	58.93	79.62	13.9,13.9
30	167.9	187.3	198.4	167.5					20- 30	88.27	167.9	29.4,29.4
40	136.9	162.3	173.6	138.8					30- 40	104.6	272.5	47.7,47.7
50	102.8	132.8	143.9	106.6					40- 50	106.1	378.6	66.3,66.3
60	64.97	100.1	110.7	72.82					50- 60	93.63	472.2	82.7,82.7
70	21.73	57.11	75.80	31.72					60- 70	66.41	538.6	94.3,94.3
80	0.1711	12.13	26.79	2.331					70- 80	28.90	567.5	99.4,99.4
90	0.1848	0.3619	0.0919	0.1832					80- 90	3.529	571.1	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:2019-12-05

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:WFR3R8830120WS	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC.	SUR.:21cm*16cm	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	13	668
80	10	698
75	384	1279
70	635	1670
65	1014	1891
60	1299	2003
55	1487	2036
50	1599	2066
45	1699	2095

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2019-12-05

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:WFR3R8830120WS	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	.284	.162	.051	.277	.158	.050	.264	.152	.048	.252	.145	.047	.241	.140	.045	
2.0	.274	.150	.046	.268	.148	.046	.257	.143	.044	.246	.138	.043	.236	.134	.042	
3.0	.257	.137	.041	.252	.135	.041	.242	.131	.040	.232	.127	.039	.224	.124	.038	
4.0	.240	.125	.037	.235	.123	.036	.226	.120	.036	.218	.117	.035	.210	.114	.035	
5.0	.223	.114	.033	.219	.112	.033	.211	.110	.032	.203	.107	.032	.196	.105	.032	
6.0	.208	.104	.030	.204	.103	.030	.197	.101	.029	.190	.099	.029	.184	.097	.029	
7.0	.194	.096	.027	.191	.095	.027	.184	.093	.027	.178	.091	.027	.173	.090	.026	
8.0	.182	.089	.025	.179	.088	.025	.173	.086	.025	.168	.085	.025	.163	.084	.024	
9.0	.171	.083	.023	.168	.082	.023	.163	.081	.023	.158	.079	.023	.154	.078	.023	
10.0	.161	.077	.021	.158	.077	.021	.154	.075	.021	.149	.074	.021	.145	.073	.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	.179	.156	.136	.153	.134	.117	.104	.092	.081	.060	.053	.047	.019	.017	.015	
2.0	.170	.132	.100	.146	.114	.087	.100	.079	.060	.058	.046	.035	.018	.015	.012	
3.0	.162	.114	.076	.139	.099	.066	.095	.068	.046	.055	.040	.027	.018	.013	.009	
4.0	.155	.101	.060	.133	.087	.052	.091	.061	.037	.053	.036	.022	.017	.012	.007	
5.0	.147	.090	.048	.126	.078	.042	.087	.055	.030	.050	.032	.018	.016	.010	.006	
6.0	.140	.082	.040	.121	.071	.035	.083	.050	.025	.048	.029	.015	.016	.010	.005	
7.0	.134	.075	.034	.115	.065	.029	.079	.046	.021	.046	.027	.012	.015	.009	.004	
8.0	.127	.069	.029	.110	.060	.025	.076	.042	.018	.044	.025	.011	.014	.008	.004	
9.0	.121	.064	.026	.105	.056	.022	.072	.039	.016	.042	.023	.009	.014	.008	.003	
10.0	.116	.060	.023	.100	.052	.020	.069	.037	.014	.040	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-12-05

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:WFR3R8830120WS					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	15.9	17.4	16.2	17.6	17.8	17.3	18.8	17.6	19.0	19.2
	3H	16.5	17.9	16.8	18.1	18.3	18.7	20.0	19.0	20.3	20.5
	4H	16.5	17.8	16.8	18.1	18.3	19.1	20.4	19.4	20.6	20.9
	6H	16.4	17.7	16.8	17.9	18.2	19.2	20.4	19.5	20.6	20.9
	8H	16.4	17.6	16.7	17.8	18.1	19.2	20.3	19.5	20.6	20.9
	12H	16.3	17.5	16.7	17.8	18.1	19.1	20.3	19.5	20.6	20.9
4H	2H	16.5	17.8	16.9	18.1	18.3	17.7	19.0	18.0	19.2	19.5
	3H	17.3	18.4	17.6	18.7	19.0	19.1	20.3	19.5	20.6	20.9
	4H	17.4	18.4	17.8	18.7	19.1	19.6	20.6	20.0	20.9	21.3
	6H	17.3	18.2	17.7	18.6	18.9	19.8	20.7	20.2	21.0	21.4
	8H	17.3	18.1	17.7	18.5	18.9	19.8	20.6	20.2	21.0	21.4
	12H	17.2	18.0	17.7	18.4	18.8	19.8	20.5	20.2	20.9	21.3
8H	4H	17.5	18.4	17.9	18.7	19.1	19.6	20.4	20.0	20.8	21.2
	6H	17.5	18.2	17.9	18.6	19.0	19.8	20.5	20.2	20.9	21.3
	8H	17.4	18.0	17.9	18.5	18.9	19.8	20.4	20.3	20.9	21.3
	12H	17.4	17.9	17.9	18.4	18.9	19.9	20.4	20.3	20.8	21.3
12H	4H	17.5	18.3	17.9	18.6	19.0	19.6	20.3	20.0	20.7	21.1
	6H	17.5	18.1	17.9	18.5	18.9	19.8	20.4	20.2	20.8	21.2
	8H	17.4	18.0	17.9	18.4	18.9	19.8	20.3	20.3	20.8	21.2
Variations with the observer position at spacings:											
S = 1.0H		+ 0.4 / - 0.5					+ 0.2 / - 0.2				
1.5H		+ 0.4 / - 0.6					+ 0.2 / - 0.2				
2.0H		+ 0.4 / - 0.9					+ 0.4 / - 0.7				

CIE Pub.117, 571.1 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -1.9)

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-12-05

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:

UTILIZATION FACTORS TABLE

NAME:	TYPE:WFR3R8830120WS	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC.	SUR.:21cm*16cm	Shielding Angle:

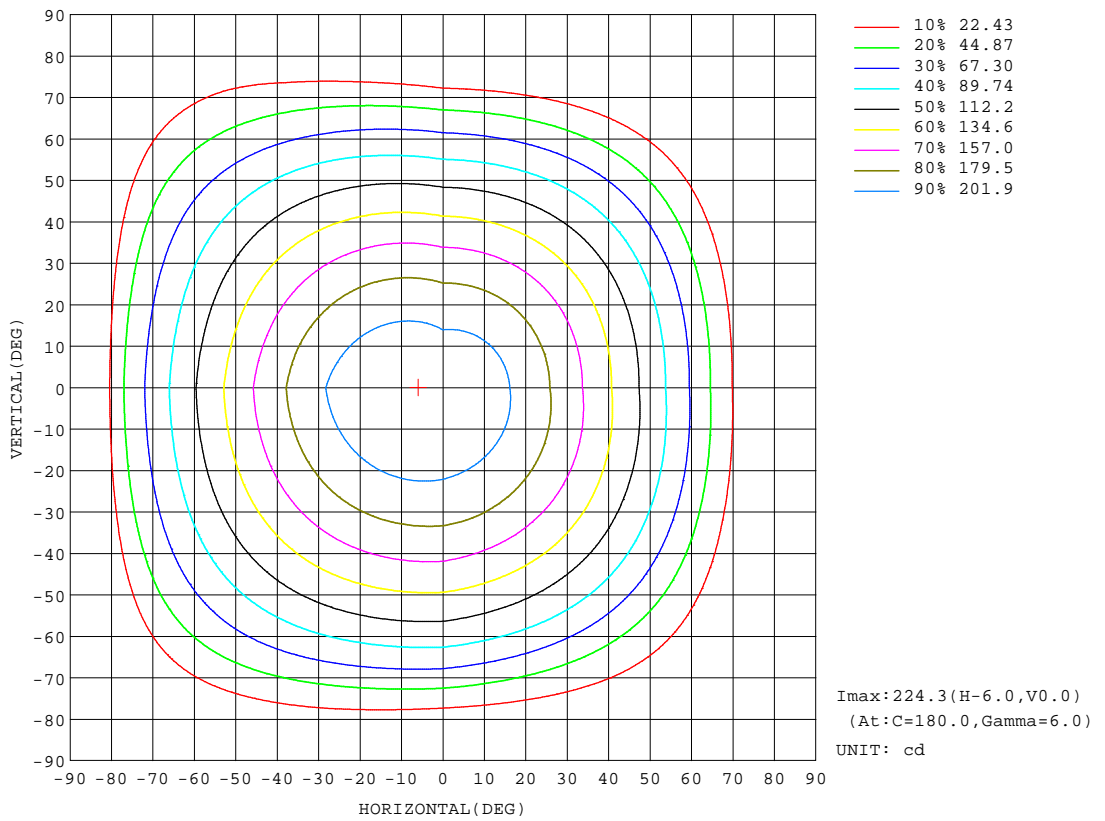
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	59	48	41	58	48	41	57	47	41	34
0.80	69	58	51	68	58	51	67	57	50	44
1.00	78	67	60	77	67	60	75	68	59	53
1.25	85	75	68	84	74	68	81	73	67	60
1.50	90	81	74	88	80	73	85	78	72	65
2.00	97	89	83	95	87	82	91	85	80	73
2.50	100	93	87	98	92	87	95	89	85	77
3.00	104	97	92	101	96	91	98	93	89	81
4.00	107	102	98	105	100	96	101	97	94	85
5.00	110	105	102	107	103	100	103	100	97	88
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:2019-12-05

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:WFR3R8830120WS	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC.	SUR.:21cm*16cm	Shielding Angle:

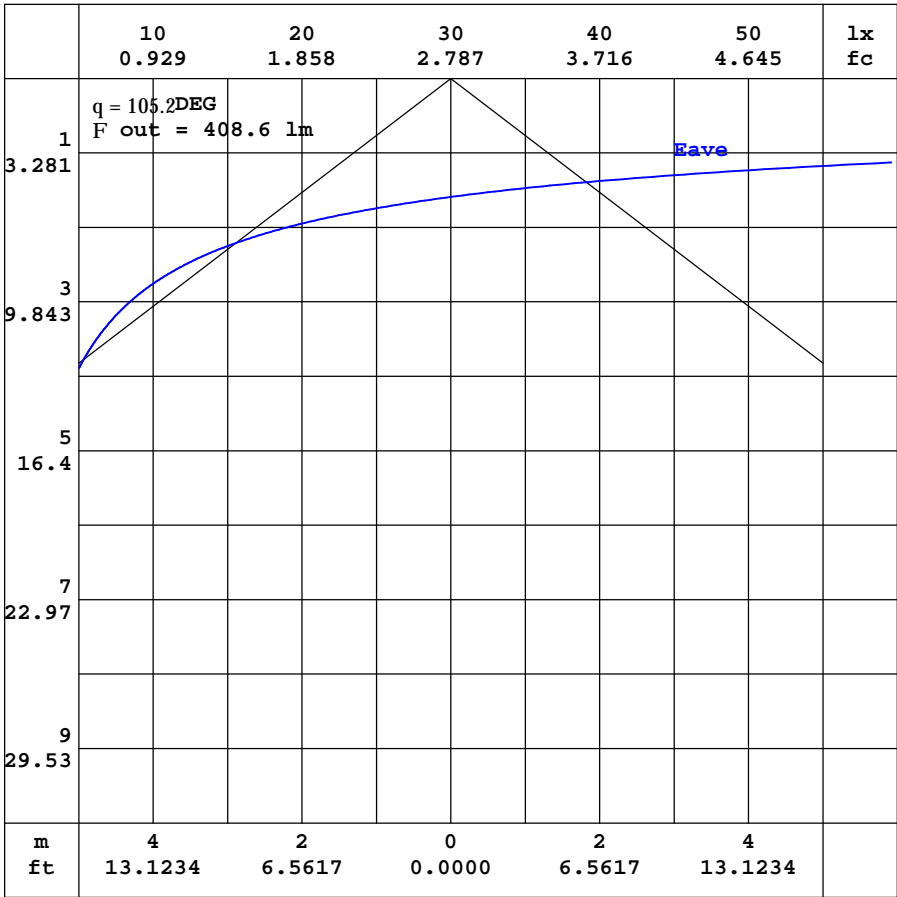


C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2019-12-05

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:WFR3R8830120WS	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC.	SUR.:21cm*16cm	Shielding Angle:

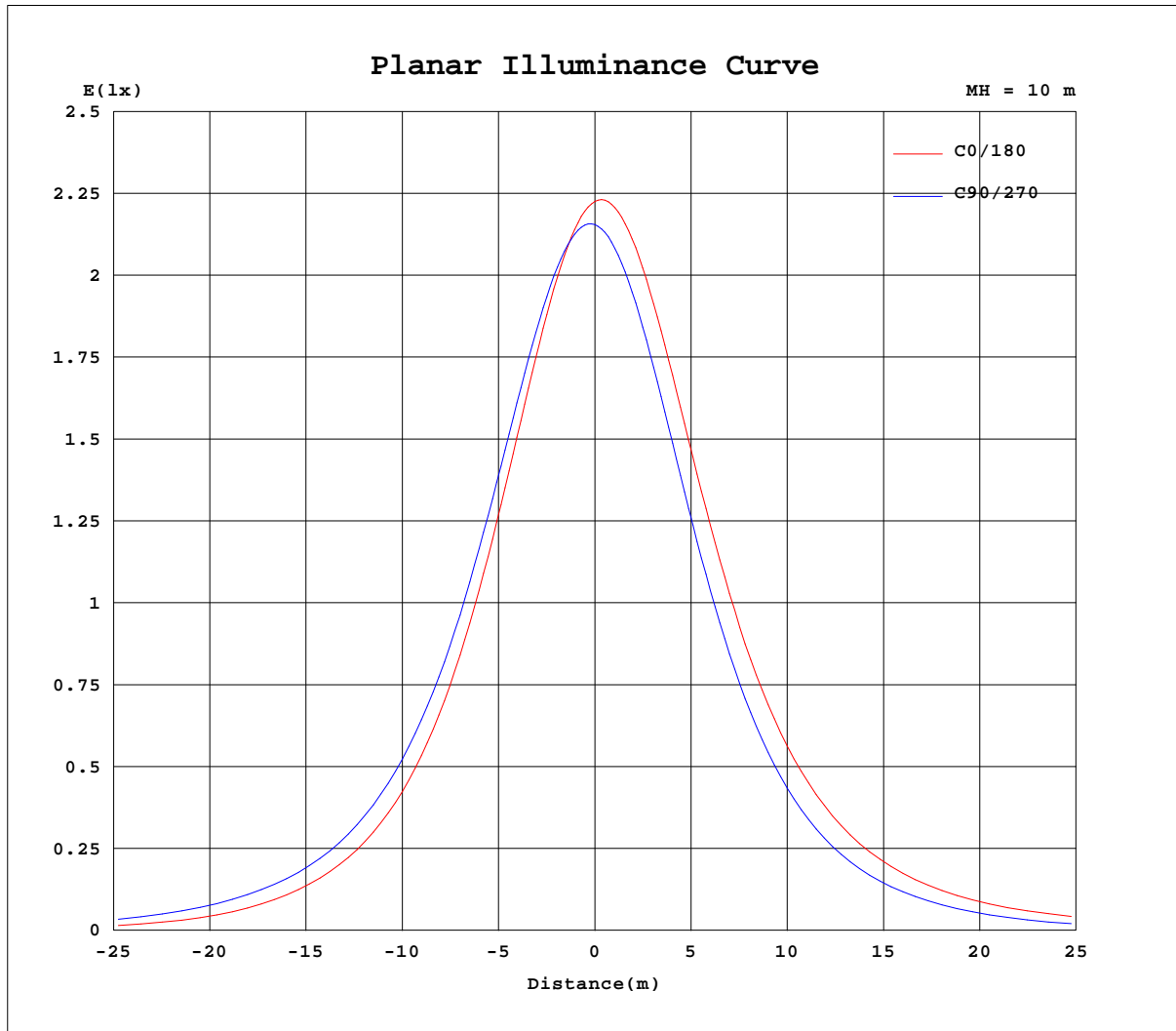


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-12-05

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: 2019-12-05

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:

