

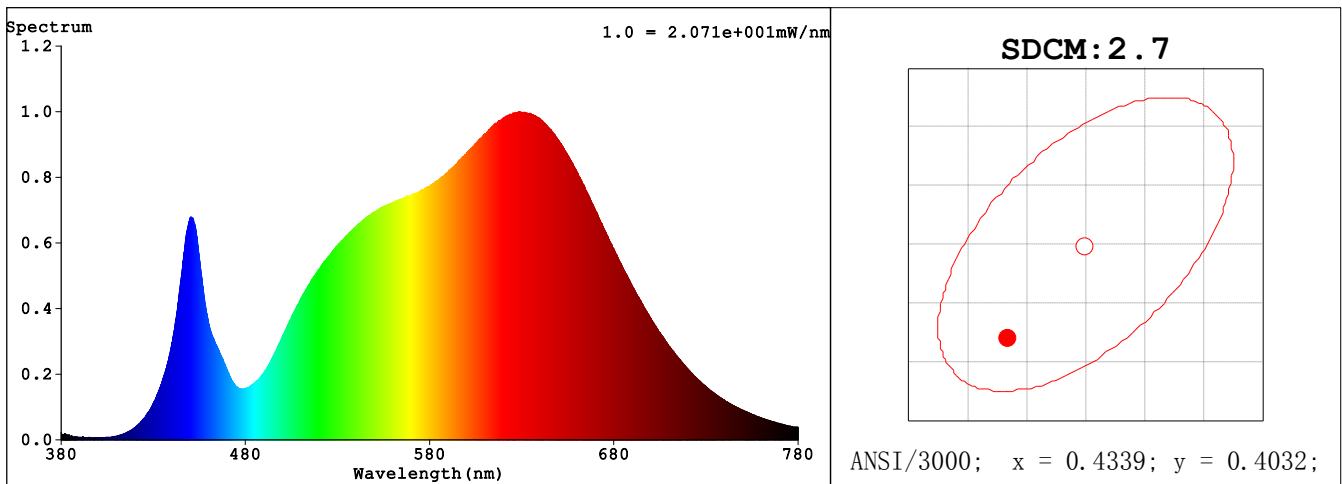
Spectrum Test Report

Sample	:	Date	:	2020-01-08
Specification	:	Sam. Status	:	
Sample No.	:	Standard	:	
Manufacturer	:	Instrument	:	HaasSuite(EVERFINE)
Assessor	:	Test by	:	DAMIN
Remark	:			
Device SN	:			

Test Condition

Temperature	:	24.6Deg	RH	:	65.0%
WL Range	:	380nm-780nm	IP	:	52799 (81%)
Test Mode	:	Fast Test	T	:	195 ms
Sensitivity	:	High	Stable Time(s)	:	0

Spectrum



Colorimetric Parameters

Chromaticity Coordinate: $x = 0.4297$ $y = 0.3975$ / $u' = 0.2487$ $v' = 0.5177$ ($duv = -1.61e-03$)
 CCT= 3072K Prcp WL: Ld=583.1nm Purity=48.3%
 Peak WL: Lp=629nm FWHM: =169.8nm Ratio:R=23.9% G=73.7% B=2.4%
 Render Index: Ra = 91.6

EEL: 0.15738 A+

R1 =93 R2 =93 R3 =90 R4 =92 R5 =92 R6 =90 R7 =94
 R8 =89 R9 =72 R10=82 R11=92 R12=73 R13=93 R14=93 R15=92
 LEVEL:OUT WHITE:ANSI_3000K

Photometric & Radiometric Parameters

Flux = 1075.4 lm Eff. : 83.79 lm/W Fe = 3.8288 W Scotopic:1499.6 S/P:1.3945
 Flux of emitted photons($\mu\text{mol/s}$):18.992 Fluo. and blue light ratio:9.182 Fluorescent eff.:264.2

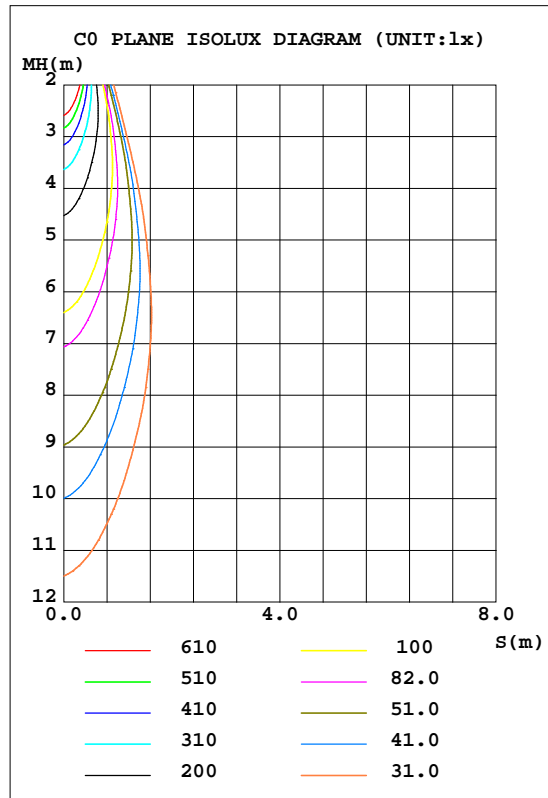
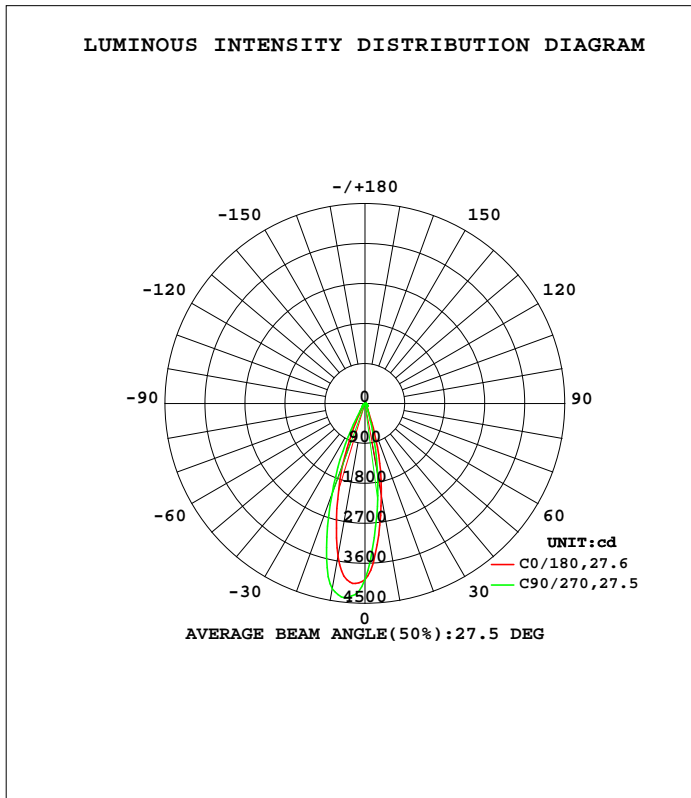
Electrical parameters

V = 120.01 V I = 0.1089 A P = 12.83 W PF = 0.9819 F=59.98 Hz

LUMINAIRE PHOTOMETRIC TEST REPORT

NAME:	TYPE:G4R14930120W	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC.	SUR.:21cm*16cm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 100.86 lm/W			
MODEL		I _{max} (cd)	4401	S/MH(C0/180)	0.55
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	0.64
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	1300.8	h UP, DN(C0-180)	0.0,28.7
NOMINAL FLUX(lm)	1300.81	CIE CLASS	DIRECT	h UP, DN(C180-360)	0.0,71.3
LAMPS INSIDE	1	h up(%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	120	h down(%)	100.0	CIBSE SHR MAX	0.50



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-01-08

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:

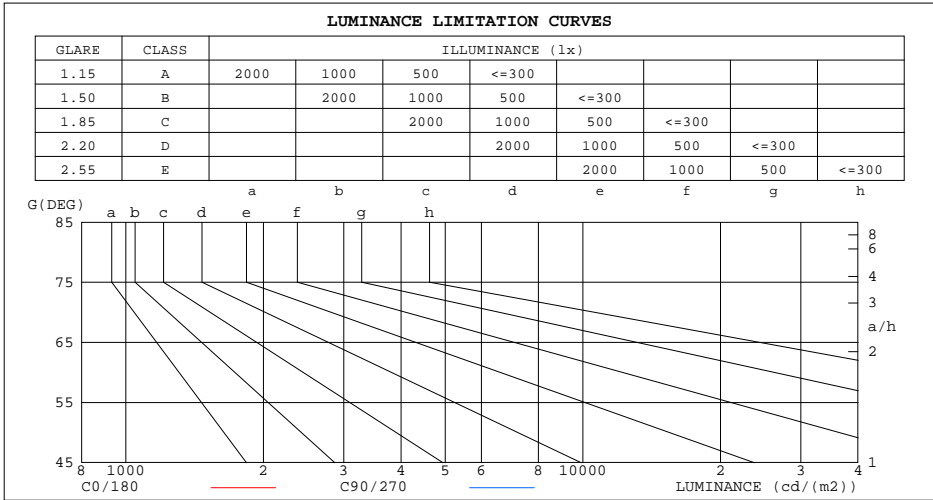
g	C0	C90	C180	C270					g	F zone	F total	%lum,lamp
10	2140	1672	3506	4234					0- 10	320.7	320.7	24.7,24.7
20	456.6	262.3	1476	2186					10- 20	526.4	847.2	65.1,65.1
30	95.83	82.89	211.7	427.9					20- 30	247.5	1095	84.1,84.1
40	68.96	67.41	80.28	110.4					30- 40	75.52	1170	90,90
50	43.71	41.76	62.75	72.23					40- 50	51.16	1221	93.9,93.9
60	24.69	25.26	36.45	47.01					50- 60	39.18	1260	96.9,96.9
70	15.82	14.33	21.14	24.07					60- 70	25.04	1286	98.8,98.8
80	2.845	1.352	10.58	9.067					70- 80	13.49	1299	99.9,99.9
90	0.0841	0.1149	0.0515	0.0020					80- 90	1.795	1301	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:2020-01-08

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:G4R14930120W	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC.	SUR.:21cm*16cm	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	19	78
80	169	75
75	402	322
70	478	405
65	489	465
60	510	488
55	582	529
50	703	628
45	806	760

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-01-08

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:

WEC AND CCEC

NAME:	TYPE:G4R14930120W	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	.166	.095	.030	.160	.091	.029	.147	.084	.027	.136	.078	.025	.125	.072	.023	
2.0	.156	.086	.026	.151	.083	.026	.140	.078	.024	.131	.073	.023	.122	.069	.022	
3.0	.146	.078	.023	.141	.076	.023	.133	.072	.022	.124	.068	.021	.117	.065	.020	
4.0	.137	.071	.021	.133	.070	.021	.125	.067	.020	.118	.064	.019	.112	.061	.019	
5.0	.129	.066	.019	.125	.064	.019	.119	.062	.018	.113	.060	.018	.107	.057	.017	
6.0	.122	.061	.017	.119	.060	.017	.113	.058	.017	.108	.056	.016	.103	.054	.016	
7.0	.115	.057	.016	.112	.056	.016	.107	.054	.016	.103	.053	.015	.098	.051	.015	
8.0	.109	.053	.015	.107	.053	.015	.103	.051	.015	.098	.050	.014	.095	.049	.014	
9.0	.104	.050	.014	.102	.050	.014	.098	.049	.014	.094	.047	.014	.091	.046	.013	
10.0	.099	.048	.013	.098	.047	.013	.094	.046	.013	.091	.045	.013	.088	.044	.013	

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	.170	.157	.146	.146	.135	.125	.100	.093	.087	.057	.054	.050	.018	.017	.016	
2.0	.154	.133	.114	.132	.114	.099	.090	.079	.069	.052	.046	.040	.017	.015	.013	
3.0	.141	.113	.092	.121	.098	.080	.083	.068	.056	.048	.040	.033	.015	.013	.011	
4.0	.129	.098	.075	.111	.085	.065	.076	.059	.046	.044	.035	.027	.014	.011	.009	
5.0	.119	.087	.062	.103	.075	.054	.071	.052	.038	.041	.031	.023	.013	.010	.007	
6.0	.111	.077	.052	.095	.067	.046	.066	.047	.032	.038	.027	.019	.012	.009	.006	
7.0	.104	.069	.045	.089	.060	.039	.062	.042	.028	.036	.025	.016	.012	.008	.005	
8.0	.097	.062	.038	.084	.054	.034	.058	.038	.024	.034	.022	.014	.011	.007	.005	
9.0	.092	.057	.033	.079	.049	.029	.055	.035	.021	.032	.021	.012	.010	.007	.004	
10.0	.087	.052	.029	.075	.045	.026	.052	.032	.018	.030	.019	.011	.010	.006	.004	

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-01-08

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:G4R14930120W					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	3.8	4.6	4.0	4.8	4.9	3.5	4.3	3.7	4.5	4.6
	3H	5.0	5.7	5.2	5.9	6.1	4.6	5.4	4.9	5.6	5.7
	4H	5.4	6.1	5.7	6.3	6.6	4.9	5.7	5.2	5.9	6.1
	6H	5.5	6.2	5.8	6.5	6.7	5.0	5.7	5.3	5.9	6.2
	8H	5.5	6.2	5.8	6.4	6.7	5.0	5.6	5.3	5.9	6.1
	12H	5.5	6.1	5.8	6.4	6.6	4.9	5.6	5.2	5.8	6.1
4H	2H	4.2	5.0	4.5	5.2	5.4	4.0	4.7	4.3	4.9	5.1
	3H	5.6	6.2	5.9	6.5	6.8	5.3	5.9	5.6	6.2	6.4
	4H	6.1	6.7	6.5	7.0	7.3	5.7	6.3	6.0	6.6	6.9
	6H	6.3	6.8	6.7	7.1	7.5	5.8	6.3	6.2	6.6	7.0
	8H	6.2	6.7	6.6	7.1	7.4	5.7	6.2	6.1	6.6	6.9
	12H	6.2	6.6	6.6	7.0	7.4	5.7	6.1	6.1	6.5	6.9
8H	4H	6.2	6.7	6.6	7.1	7.4	5.8	6.3	6.2	6.7	7.0
	6H	6.4	6.8	6.8	7.2	7.6	5.9	6.3	6.3	6.7	7.1
	8H	6.3	6.7	6.8	7.1	7.6	5.9	6.2	6.3	6.6	7.1
	12H	6.3	6.6	6.8	7.0	7.5	5.8	6.1	6.3	6.6	7.0
12H	4H	6.2	6.6	6.6	7.0	7.4	5.8	6.2	6.2	6.6	7.0
	6H	6.3	6.7	6.8	7.1	7.6	5.9	6.2	6.3	6.6	7.1
	8H	6.3	6.6	6.8	7.0	7.5	5.8	6.1	6.3	6.6	7.0
Variations with the observer position at spacings:											
S = 1.0H		+ 0.4 / - 0.5					+ 0.5 / - 0.5				
1.5H		+ 0.2 / - 0.3					+ 0.3 / - 0.5				
2.0H		+ 0.9 / - 0.6					+ 0.9 / - 0.6				

CIE Pub.117, 1301 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 0.9)

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-01-08

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:G4R14930120W	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC.	SUR.:21cm*16cm	Shielding Angle:

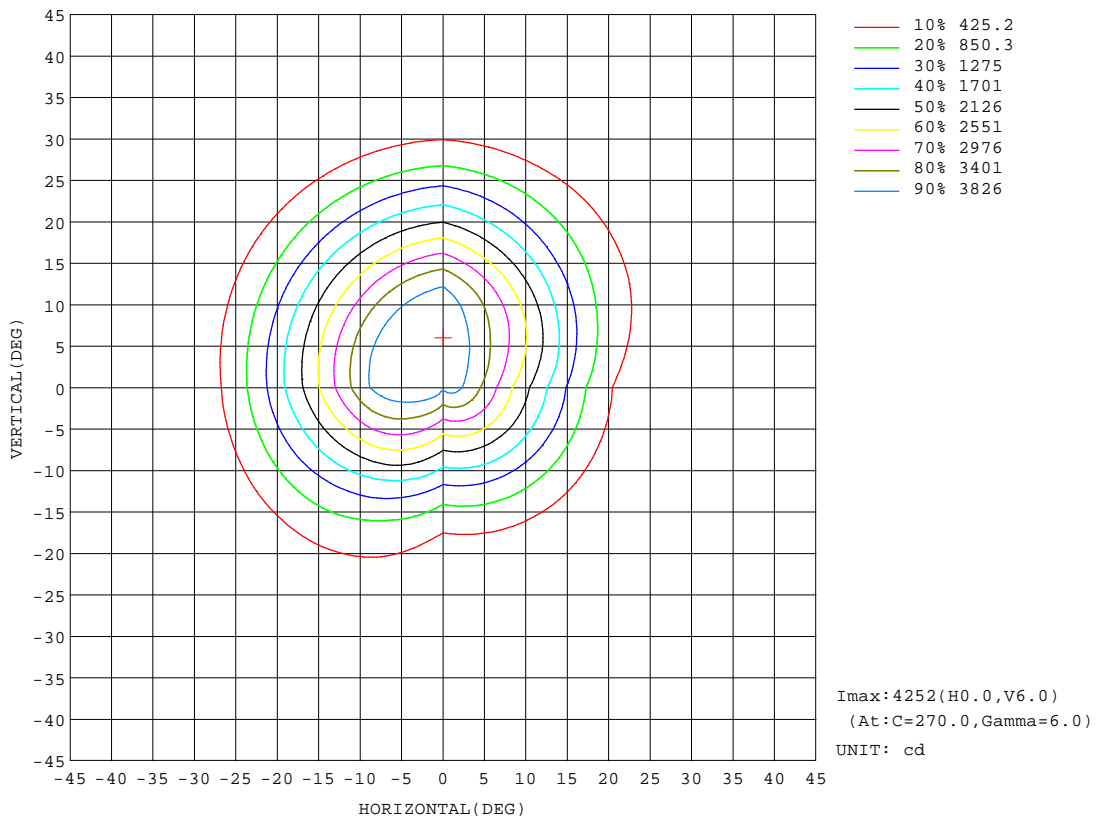
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	85	79	75	85	78	75	84	78	74	71
0.80	93	87	83	92	86	82	91	86	82	78
1.00	97	91	88	97	91	87	95	91	87	83
1.25	102	96	92	101	95	92	99	94	91	87
1.50	105	99	96	103	99	95	101	97	94	90
2.00	107	103	100	106	102	99	103	100	97	92
2.50	109	105	102	108	104	101	105	102	99	93
3.00	111	107	104	109	106	103	106	103	101	95
4.00	113	110	108	111	109	106	108	105	104	97
5.00	115	112	110	112	110	109	108	107	105	98
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:2020-01-08

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:G4R14930120W	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC.	SUR.:21cm*16cm	Shielding Angle:

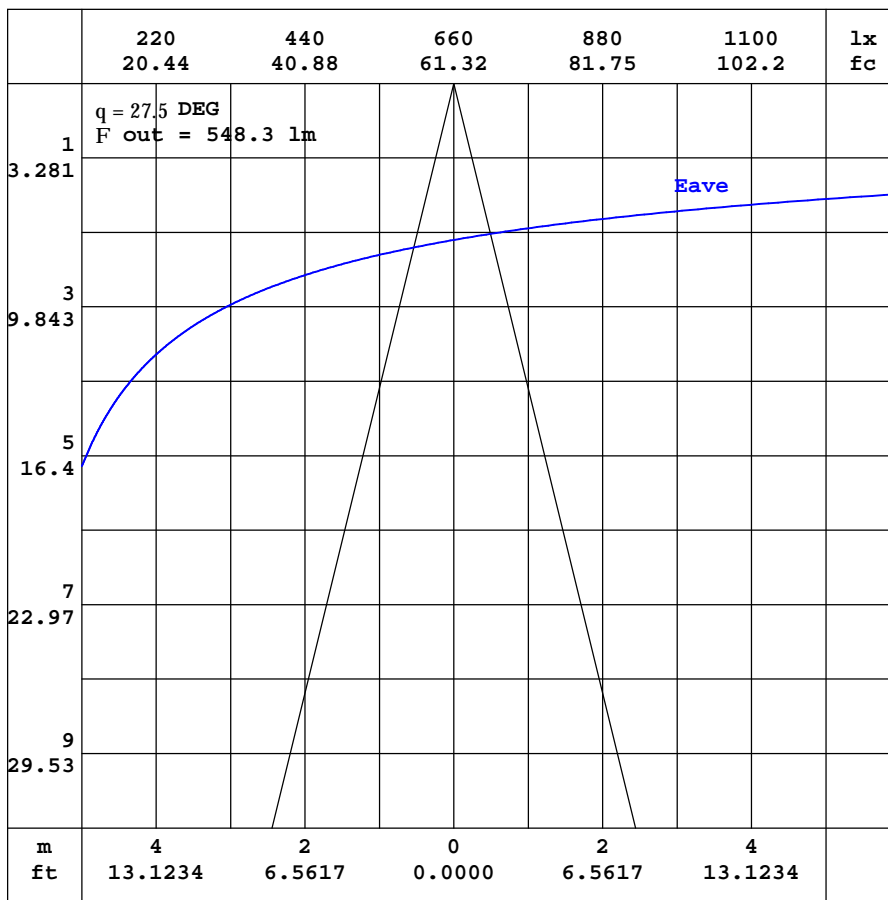


C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2020-01-08

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:G4R14930120W	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC.	SUR.:21cm*16cm	Shielding Angle:

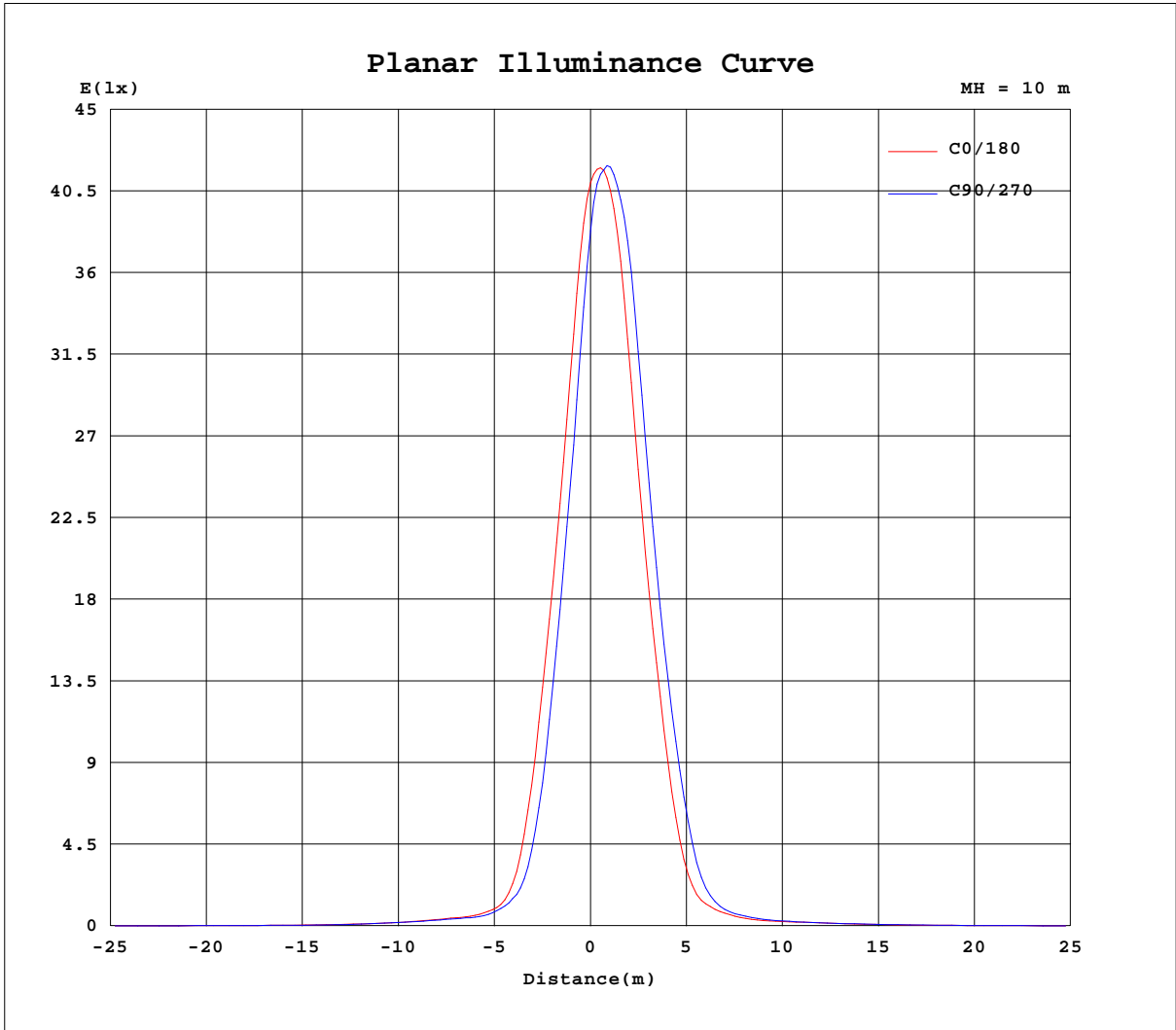


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-01-08

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: 2020-01-08

Page Range: 0 - 90DEG
Page 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:G4R14930120W	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	3962	3962	3962	3962														
5	3192	2774	4032	4386														
10	2140	1672	3506	4234														
15	1207	749	2451	3360														
20	457	262	1476	2186														
25	155	134	614	1192														
30	95.8	82.9	212	428														
35	80.5	76.4	124	174														
40	69.0	67.4	80.3	110														
45	55.1	55.7	69.8	82.3														
50	43.7	41.8	62.8	72.2														
55	32.3	31.4	51.4	59.6														
60	24.7	25.3	36.4	47.0														
65	20.0	20.3	26.7	32.8														
70	15.8	14.3	21.1	24.1														
75	10.1	8.62	16.3	17.6														
80	2.85	1.35	10.6	9.07														
85	0.16	0.71	3.59	0.14														
90	0.08	0.11	0.05	0.00														

C Range: 0 - 360DEG	C 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:2020-01-08	Remarks: