

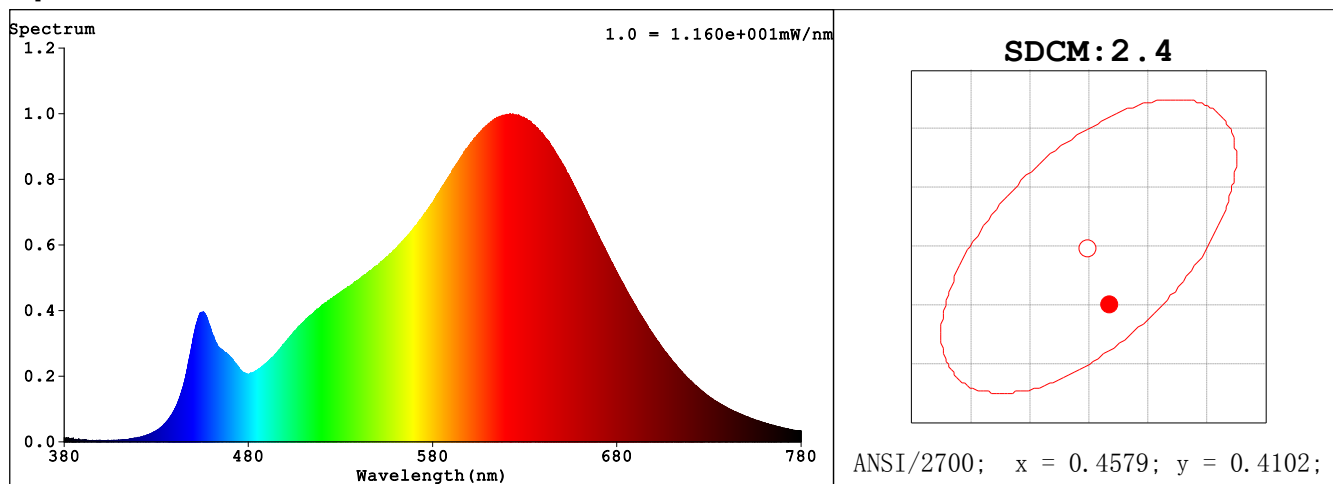
Spectrum Test Report

Sample	:		Date	:	2019-12-06
Specification	:	WFR3R8927120WS	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	:	52970 (81%)
Test Mode	:	Fast Test	T	:	339 ms
Sensitivity	:	High			

Spectrum



Colorimetric Parameters

Chromaticity Coordinate: $x = 0.4591$ $y = 0.4067$ / $u' = 0.2638$ $v' = 0.5257$ ($duv = -1.40e-03$)

CCT= 2680K Prcp WL: $L_d = 584.8nm$ Purity=59.9%

Peak WL: $L_p = 622nm$ FWHM: $= 140.2nm$ Ratio: R=26.8% G=70.6% B=2.7%

Render Index: $R_a = 92.8$

EEL: 0.17098 A

R1 =94 R2 =99 R3 =97 R4 =93 R5 =94 R6 =97 R7 =90
R8 =80 R9 =58 R10=96 R11=95 R12=86 R13=96 R14=99 R15=89
LEVEL:OUT WHITE:ANSI_2700K

Photometric & Radiometric Parameters

Flux = 533.96 lm Eff. : 67.16 lm/W $F_e = 1.8957 W$ Scotopic:696.24 S/P:1.3039

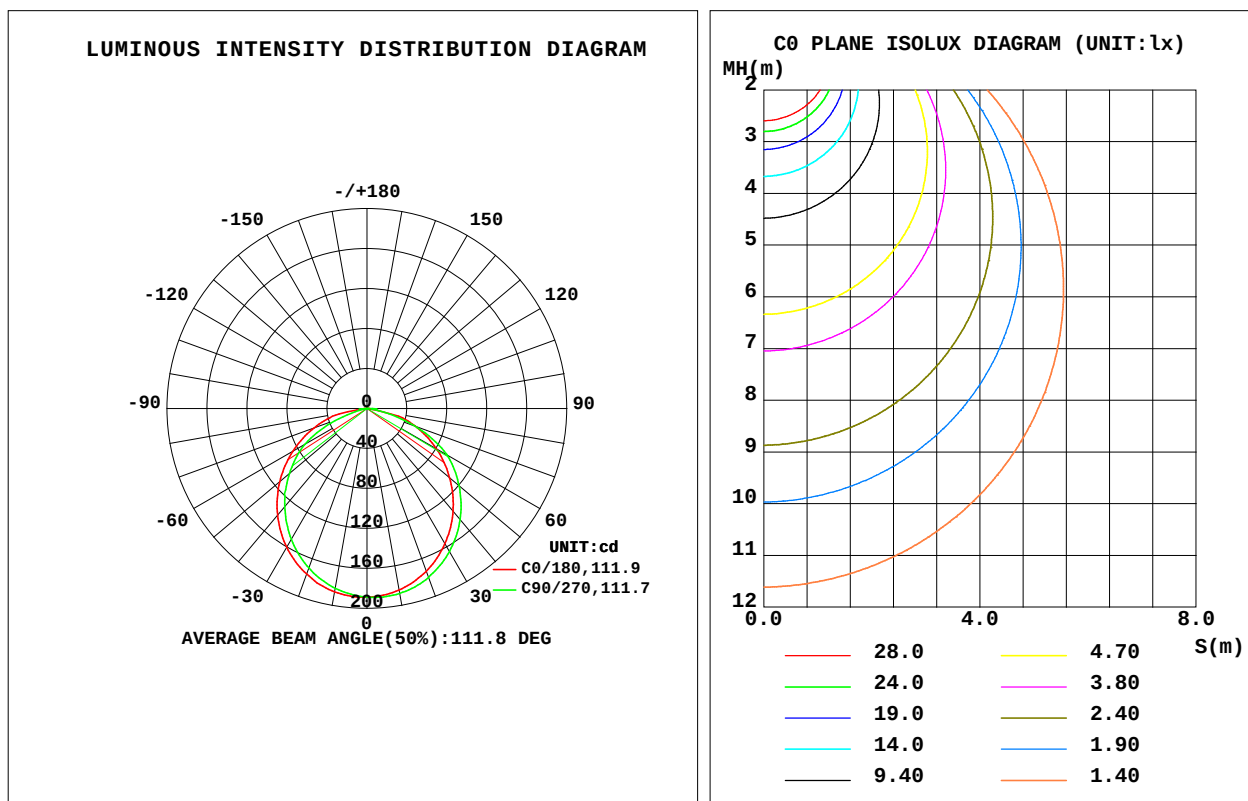
Electrical parameters

V = 120.14 V I = 0.06866 A P = 7.950 W PF = 0.9637 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 Eff: 63.82 lm/W			
MODEL		I _{max} (cd)	189.3	S/MH(C0/180)	1.26
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.20
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	518.56	h UP, DN(C0-180)	0.0, 51.4
NOMINAL FLUX(lm)	518.556	CIE CLASS	DIRECT	h UP, DN(C180-360)	0.0, 48.6
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 G0-SPEX500_V1 SYSTEM V2.0.366
 Humidity: 65.0%
 Test Distance: 3.200m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

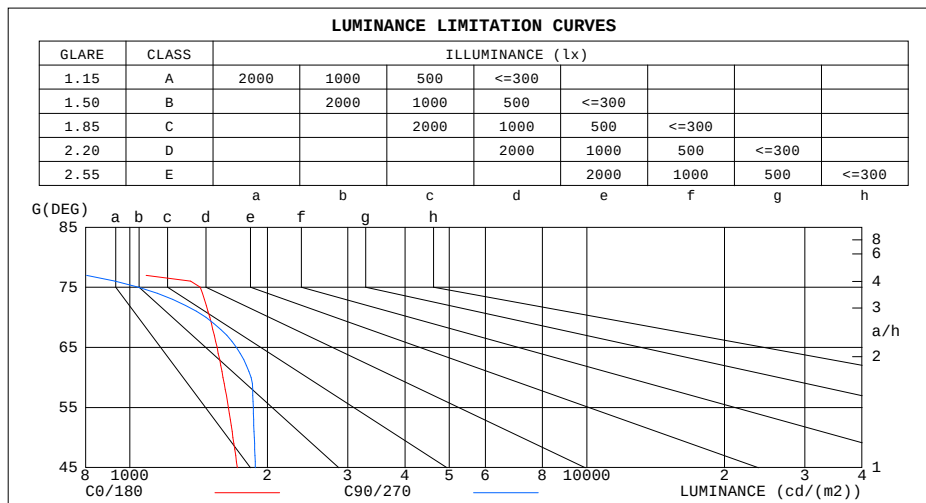
g	C0	C90	C180	C270					g	F zone	F total	%lum, lamp
10	184.4	187.9	186.3	182.7					0- 10	17.85	17.85	3.44, 3.44
20	173.4	179.9	176.3	169.9					10- 20	51.06	68.91	13.3, 13.3
30	156.1	165.2	160.6	151.4					20- 30	77.08	146.0	28.2, 28.2
40	134.0	145.0	139.4	128.1					30- 40	92.59	238.6	46, 46
50	108.1	120.4	113.9	101.4					40- 50	95.82	334.4	64.5, 64.5
60	80.01	92.08	85.69	71.61					50- 60	86.74	421.1	81.2, 81.2
70	51.18	50.22	56.14	30.00					60- 70	64.25	485.4	93.6, 93.6
80	0.1786	7.210	19.73	2.954					70- 80	29.16	514.5	99.2, 99.2
90	0.1757	0.1903	0.0485	0.1313					80- 90	4.007	518.6	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		

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Range: 0 - 90DEG
Interval: 1.0DEG
Test System: EVERFINE G0-SPEX500_V1 SYSTEM V2.0.366
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LUMINANCE LIMITATION CURVES

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SPEC.:	DIM.:	SERIAL No.:
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LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	303	1074
80	10	415
75	1425	1045
70	1496	1468
65	1552	1711
60	1600	1842
55	1644	1862
50	1682	1873
45	1718	1883

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WEC AND CCEC

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

r CC	80%			70%			50%			30%			10%			0
r W	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
r fc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio Wall Exitance Coefficients(WEC)															
0.0																
1.0	.292	.166	.053	.285	.162	.052	.271	.156	.050	.259	.150	.048	.248	.144	.046	
2.0	.280	.154	.047	.274	.151	.047	.263	.146	.045	.252	.141	.044	.242	.137	.043	
3.0	.262	.140	.042	.257	.138	.041	.247	.134	.041	.237	.130	.040	.228	.126	.039	
4.0	.244	.127	.037	.239	.125	.037	.230	.122	.036	.221	.119	.036	.214	.116	.035	
5.0	.226	.115	.033	.222	.114	.033	.214	.111	.033	.207	.109	.032	.200	.107	.032	
6.0	.211	.106	.030	.207	.105	.030	.200	.102	.030	.193	.100	.029	.187	.098	.029	
7.0	.197	.097	.028	.193	.096	.027	.187	.094	.027	.181	.093	.027	.175	.091	.027	
8.0	.184	.090	.025	.181	.089	.025	.175	.087	.025	.170	.086	.025	.165	.084	.025	
9.0	.173	.083	.023	.170	.083	.023	.165	.081	.023	.160	.080	.023	.155	.079	.023	
10.0	.162	.078	.022	.160	.077	.022	.155	.076	.021	.151	.075	.021	.147	.074	.021	

r CC	80%			70%			50%			30%			10%			0
r W	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
r fc	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	.105	.092	.081	.060	.053	.047	.019	.017	.015	
2.0	.171	.132	.099	.146	.114	.086	.100	.079	.060	.058	.046	.035	.019	.015	.011	
3.0	.163	.114	.075	.140	.099	.065	.096	.068	.046	.055	.040	.027	.018	.013	.009	
4.0	.156	.101	.059	.133	.087	.051	.092	.061	.036	.053	.036	.021	.017	.012	.007	
5.0	.148	.090	.048	.127	.078	.042	.088	.055	.029	.051	.032	.017	.016	.010	.006	
6.0	.141	.082	.040	.121	.071	.034	.084	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.135	.075	.034	.116	.065	.029	.080	.046	.021	.046	.027	.012	.015	.009	.004	
8.0	.128	.069	.029	.110	.060	.025	.076	.042	.018	.044	.025	.011	.014	.008	.004	
9.0	.122	.064	.025	.105	.056	.022	.073	.039	.016	.042	.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	17.1	18.6	17.4	18.8	19.0	17.6	19.1	17.9	19.3	19.5	
	3H	18.6	20.0	18.9	20.2	20.5	19.0	20.3	19.3	20.6	20.8
	4H	19.2	20.5	19.5	20.8	21.0	19.3	20.6	19.6	20.9	21.1
	6H	19.3	20.5	19.6	20.8	21.1	19.3	20.6	19.7	20.8	21.1
	8H	19.2	20.4	19.6	20.7	21.0	19.3	20.5	19.6	20.8	21.1
	12H	19.2	20.3	19.5	20.6	20.9	19.3	20.5	19.7	20.8	21.1
4H	2H	17.8	19.1	18.1	19.3	19.6	18.1	19.5	18.5	19.7	20.0
	3H	19.4	20.6	19.8	20.9	21.2	19.7	20.8	20.0	21.1	21.4
	4H	20.1	21.2	20.5	21.5	21.8	20.1	21.2	20.5	21.5	21.8
	6H	20.2	21.1	20.6	21.5	21.8	20.2	21.1	20.6	21.5	21.8
	8H	20.2	21.0	20.6	21.4	21.8	20.2	21.0	20.6	21.4	21.8
	12H	20.2	20.9	20.6	21.3	21.7	20.2	21.0	20.7	21.4	21.8
8H	4H	20.3	21.1	20.7	21.5	21.9	20.3	21.1	20.7	21.5	21.9
	6H	20.4	21.1	20.8	21.5	21.9	20.3	21.0	20.8	21.4	21.9
	8H	20.3	21.0	20.8	21.4	21.8	20.3	21.0	20.8	21.4	21.8
	12H	20.3	20.9	20.8	21.3	21.8	20.5	21.0	21.0	21.5	21.9
12H	4H	20.2	21.0	20.7	21.4	21.8	20.2	21.0	20.6	21.4	21.8
	6H	20.3	21.0	20.8	21.4	21.8	20.3	20.9	20.8	21.4	21.8
	8H	20.3	20.9	20.8	21.3	21.8	20.3	20.9	20.8	21.3	21.8
Variations with the observer position at spacings:											
S = 1.0H	+ 0.3 / - 0.3					+ 0.2 / - 0.2					
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3					
2.0H	+ 0.3 / - 0.5					+ 0.3 / - 0.5					

CIE Pub.117, 518.6 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -2.3)

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 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:

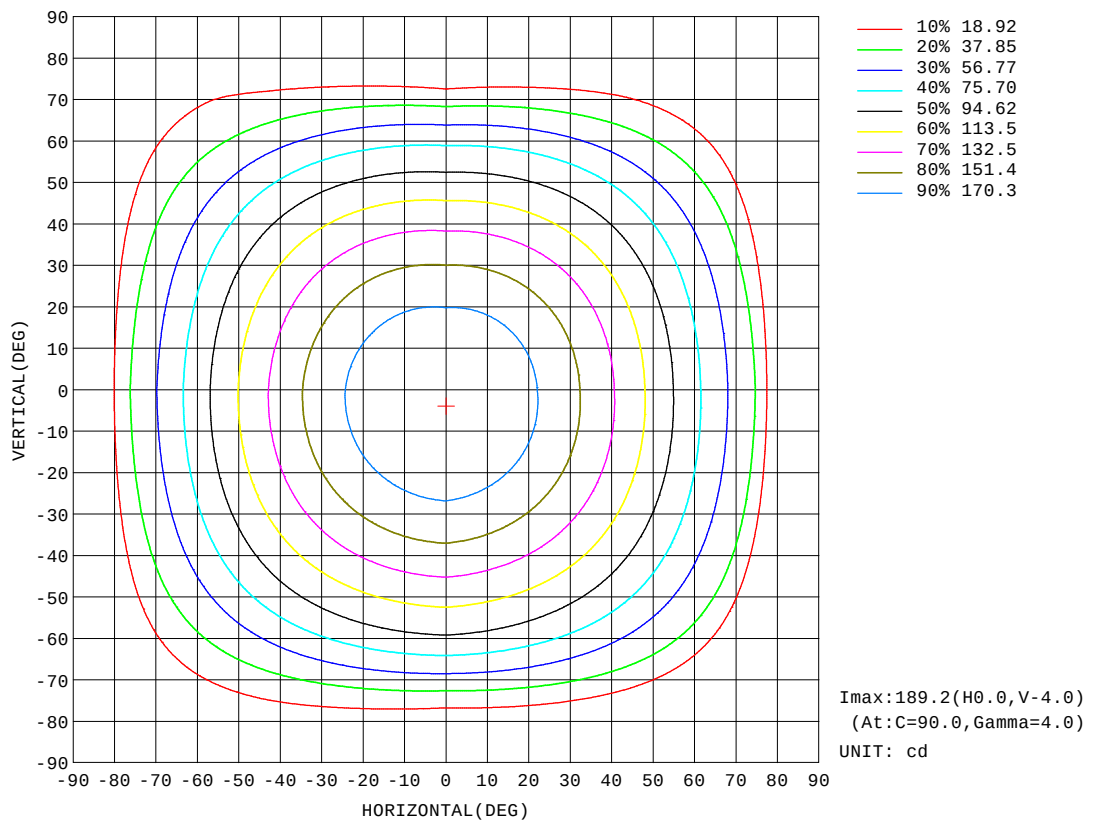
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	58	47	40	57	46	40	56	46	39	33
0.80	68	57	50	67	56	49	66	56	49	42
1.00	77	66	59	76	65	59	74	67	58	51
1.25	84	74	67	83	73	67	80	72	66	59
1.50	89	80	73	87	79	72	84	77	71	64
2.00	96	88	82	94	87	81	91	84	79	72
2.50	100	92	87	98	91	86	94	88	84	76
3.00	103	97	91	101	95	90	97	92	88	80
4.00	107	102	97	105	100	96	101	97	93	85
5.00	109	105	101	107	103	99	103	99	96	87
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

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ISOCANDELA DIAGRAM

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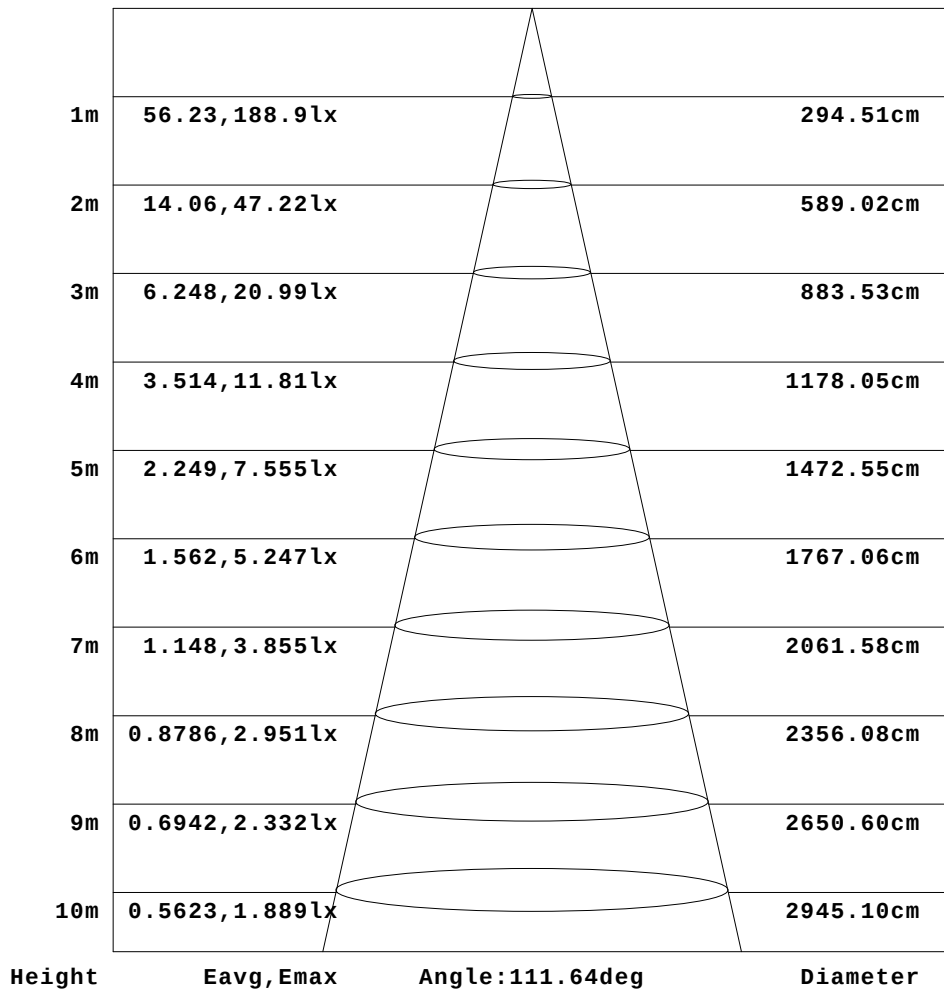
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AAI Figure

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Flux out:388.3 lm

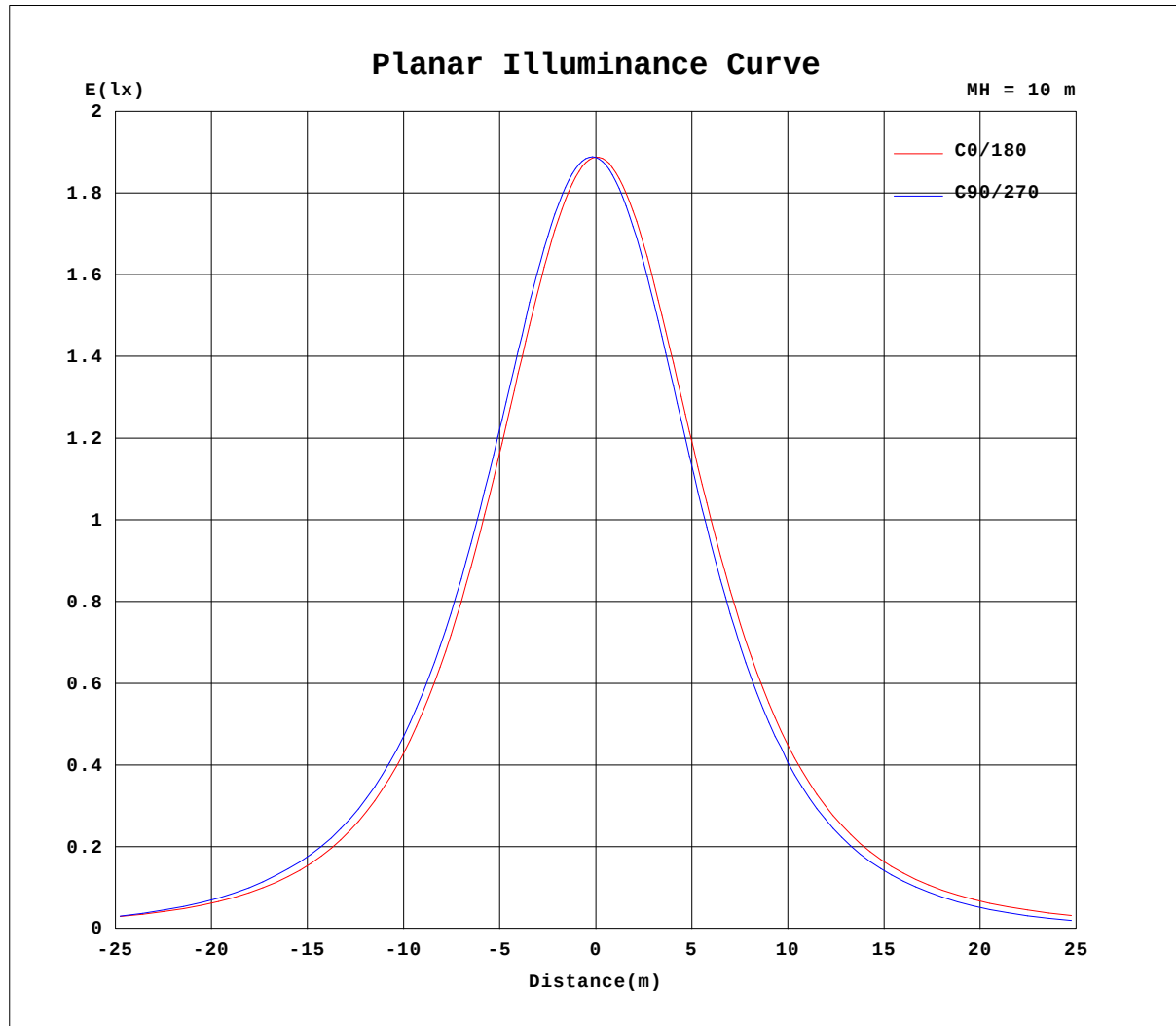


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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Planar Illuminance Curve



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