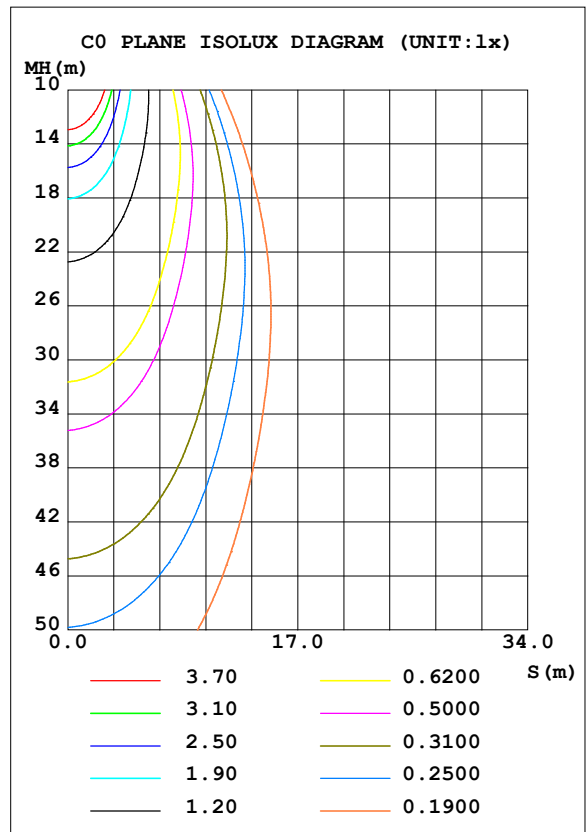
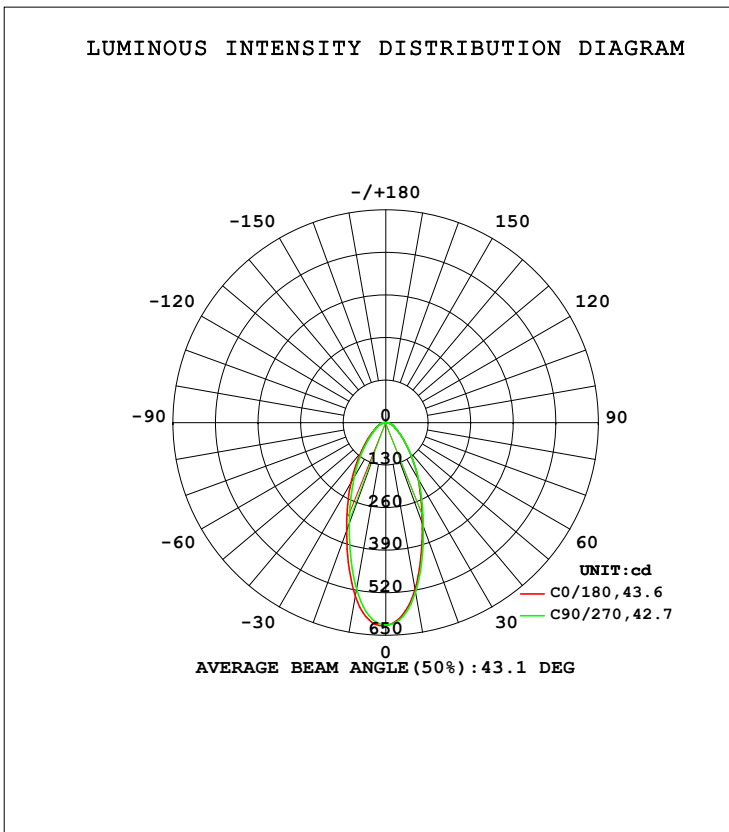


**LUMINAIRE PHOTOMETRIC TEST REPORT**

Test:U:120.3V I:0.0709A P:6.000W PF:0.7034 Freq:59.98Hz Lamp Flux:542.825x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: tospo	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 90.47 lm/W			
MODEL		Imax (cd)	620.8	S/MH (C0/180)	0.69
NOMINAL POWER (W)	6.5	LOR (%)	100.0	S/MH (C90/270)	0.65
RATED VOLTAGE (V)	120	TOTAL FLUX (lm)	542.82	$\eta$ UP, DN (C0-180)	0.0, 49.6
NOMINAL FLUX (lm)	542.825	CIE CLASS	DIRECT	$\eta$ UP, DN (C180-360)	0.0, 50.4
LAMPS INSIDE	1	$\eta$ up (%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE (V)	120	$\eta$ down (%)	100.0	CIBSE SHR MAX	0.75



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: Testing Room  
 Test Date: 2017-10-13

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System: EVERFINE GO-3000H\_V1 SYSTEM V2.0.361  
 Humidity: 65.0%  
 Test Distance: 11.330m [K=1.0000]  
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

$\gamma$	C0	C90	C180	C270				$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	517.3	525.4	538.3	516.3				0- 10	54.55	54.55	10,10
20	326.6	336.6	350.7	326.4				10- 20	118.4	173.0	31.9,31.9
30	197.9	200.9	213.7	194.4				20- 30	120.1	293.1	54,54
40	110.3	111.3	117.7	106.7				30- 40	95.11	388.2	71.5,71.5
50	60.63	60.40	64.39	57.97				40- 50	64.09	452.3	83.3,83.3
60	34.93	34.51	36.74	33.27				50- 60	41.38	493.7	90.9,90.9
70	20.98	20.94	22.16	20.34				60- 70	27.14	520.8	95.9,95.9
80	9.898	10.62	11.55	10.07				70- 80	16.66	537.5	99,99
90	0	0.1384	0.3342	0.0346				80- 90	5.373	542.8	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		

Conical surface Flux(90deg): 423.68 lm

%lum = 78.1%

%lamp = 78.1%

Conical surface Flux(120deg): 493.65 lm

%lum = 90.9%

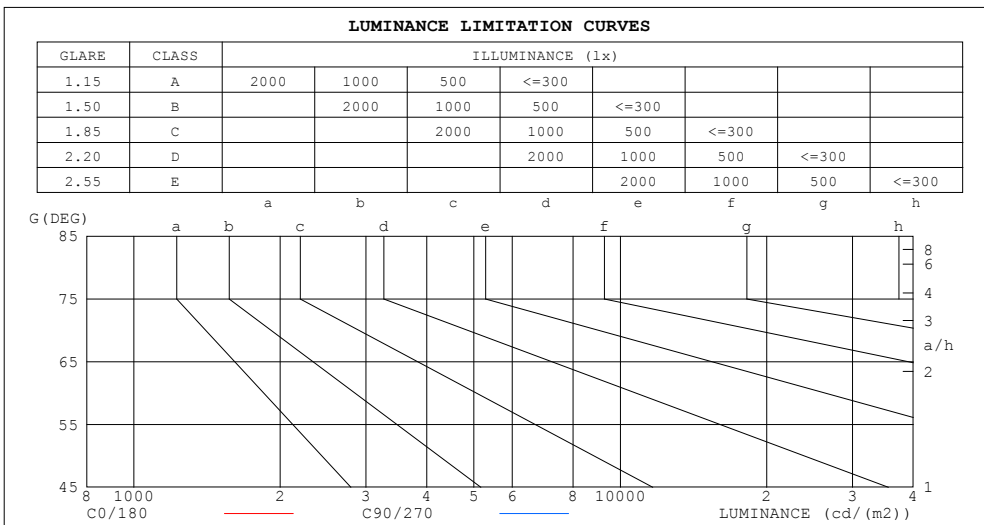
%lamp = 90.9%

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Testing Room  
 Test Date:2017-10-13

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-3000H\_V1 SYSTEM V2.0.361  
 Humidity:65.0%  
 Test Distance:11.330m [K=1.0000]  
 Remarks:

**LUMINANCE LIMITATION CURVES**

Test:U:120.3V I:0.0709A P:6.000W PF:0.7034 Freq:59.98Hz Lamp Flux:542.825x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: tospo	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	153	193
80	188	202
75	197	201
70	203	202
65	213	210
60	231	228
55	262	261
50	312	311
45	380	384

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Testing Room  
 Test Date:2017-10-13

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-3000H\_V1 SYSTEM V2.0.361  
 Humidity:65.0%  
 Test Distance:11.330m [K=1.0000]  
 Remarks:

WEC AND CCEC

Test:U:120.3V I:0.0709A P:6.000W PF:0.7034 Freq:59.98Hz Lamp Flux:542.825x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: tospo	SUR.:	Shielding Angle:

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients (WEC)									
0.0																
1.0	.232	.132	.042	.225	.128	.041	.212	.122	.039	.200	.115	.037	.189	.110	.035	
2.0	.219	.120	.037	.213	.117	.036	.202	.112	.035	.192	.108	.034	.182	.103	.033	
3.0	.205	.109	.033	.200	.107	.032	.190	.103	.031	.181	.099	.030	.173	.096	.030	
4.0	.192	.100	.029	.187	.098	.029	.179	.095	.028	.171	.092	.028	.164	.089	.027	
5.0	.179	.091	.026	.176	.090	.026	.168	.088	.026	.161	.085	.025	.155	.083	.025	
6.0	.169	.084	.024	.165	.083	.024	.159	.081	.024	.153	.079	.023	.147	.077	.023	
7.0	.159	.079	.022	.156	.078	.022	.150	.076	.022	.145	.074	.022	.140	.072	.021	
8.0	.150	.073	.021	.147	.073	.020	.142	.071	.020	.137	.070	.020	.133	.068	.020	
9.0	.142	.069	.019	.140	.068	.019	.135	.067	.019	.131	.065	.019	.127	.064	.019	
10.0	.135	.065	.018	.133	.064	.018	.128	.063	.018	.125	.062	.018	.121	.061	.017	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	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	.175	.157	.141	.150	.135	.121	.102	.093	.084	.059	.054	.049	.019	.017	.016	
2.0	.163	.132	.107	.139	.114	.092	.095	.079	.064	.055	.046	.038	.018	.015	.012	
3.0	.152	.114	.084	.130	.098	.072	.089	.068	.051	.052	.040	.030	.017	.013	.010	
4.0	.143	.100	.067	.122	.086	.058	.084	.060	.041	.049	.035	.024	.016	.011	.008	
5.0	.134	.089	.055	.115	.077	.048	.079	.054	.034	.046	.031	.020	.015	.010	.007	
6.0	.127	.080	.046	.109	.069	.040	.075	.048	.028	.044	.028	.017	.014	.009	.006	
7.0	.120	.072	.039	.103	.063	.034	.071	.044	.024	.042	.026	.014	.013	.008	.005	
8.0	.114	.066	.033	.098	.057	.029	.068	.040	.021	.040	.024	.012	.013	.008	.004	
9.0	.109	.061	.029	.094	.053	.025	.065	.037	.018	.038	.022	.011	.012	.007	.004	
10.0	.104	.057	.026	.089	.049	.022	.062	.035	.016	.036	.020	.009	.012	.007	.003	

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Testing Room  
 Test Date:2017-10-13

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-3000H\_V1 SYSTEM V2.0.361  
 Humidity:65.0%  
 Test Distance:11.330m [K=1.0000]  
 Remarks:

**UGR(Unified Glare Rating) Table**

Test:U:120.3V I:0.0709A P:6.000W PF:0.7034 Freq:59.98Hz Lamp Flux:542.825x1 lm										
NAME:					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.: tospo					SUR.:			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	8.5	9.7	8.8	9.9	10.1	8.5	9.7	8.8	9.9	10.1
3H	9.5	10.6	9.8	10.8	11.0	9.5	10.5	9.7	10.8	11.0
4H	10.0	11.0	10.2	11.2	11.4	10.0	11.0	10.2	11.2	11.4
6H	10.3	11.3	10.7	11.6	11.8	10.4	11.4	10.7	11.6	11.9
8H	10.5	11.4	10.8	11.7	12.0	10.6	11.5	10.9	11.8	12.0
12H	10.6	11.5	10.9	11.7	12.0	10.7	11.6	11.0	11.9	12.1
4H 2H	8.9	9.9	9.2	10.1	10.4	8.9	9.9	9.2	10.1	10.3
3H	10.1	10.9	10.4	11.2	11.5	10.0	10.9	10.4	11.2	11.5
4H	10.7	11.5	11.0	11.8	12.1	10.7	11.5	11.0	11.8	12.1
6H	11.2	11.9	11.6	12.3	12.6	11.3	12.0	11.7	12.3	12.7
8H	11.4	12.1	11.8	12.4	12.8	11.5	12.2	11.9	12.5	12.9
12H	11.5	12.1	12.0	12.5	12.9	11.7	12.3	12.1	12.7	13.1
8H 4H	10.9	11.6	11.3	11.9	12.3	10.9	11.6	11.3	11.9	12.3
6H	11.6	12.2	12.0	12.6	13.0	11.7	12.2	12.1	12.6	13.0
8H	11.9	12.4	12.3	12.8	13.2	12.0	12.5	12.4	12.9	13.3
12H	12.1	12.5	12.6	13.0	13.4	12.3	12.7	12.7	13.1	13.6
12H 4H	10.9	11.5	11.3	11.9	12.3	10.9	11.5	11.3	11.9	12.3
6H	11.7	12.2	12.1	12.6	13.0	11.7	12.2	12.2	12.6	13.1
8H	12.0	12.4	12.5	12.9	13.3	12.1	12.5	12.6	13.0	13.4
Variations with the observer position at spacings:										
S = 1.0H	+ 0.4 / - 0.5					+ 0.4 / - 0.5				
1.5H	+ 0.4 / - 0.3					+ 0.4 / - 0.3				
2.0H	+ 0.7 / - 0.5					+ 0.7 / - 0.5				

CIE Pub.117, 542.8 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -2.1)

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Testing Room  
 Test Date:2017-10-13

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-3000H\_V1 SYSTEM V2.0.361  
 Humidity:65.0%  
 Test Distance:11.330m [K=1.0000]  
 Remarks:

**UTILIZATION FACTORS TABLE**

Test:U:120.3V I:0.0709A P:6.000W PF:0.7034 Freq:59.98Hz Lamp Flux:542.825x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: tospo	SUR.:	Shielding Angle:

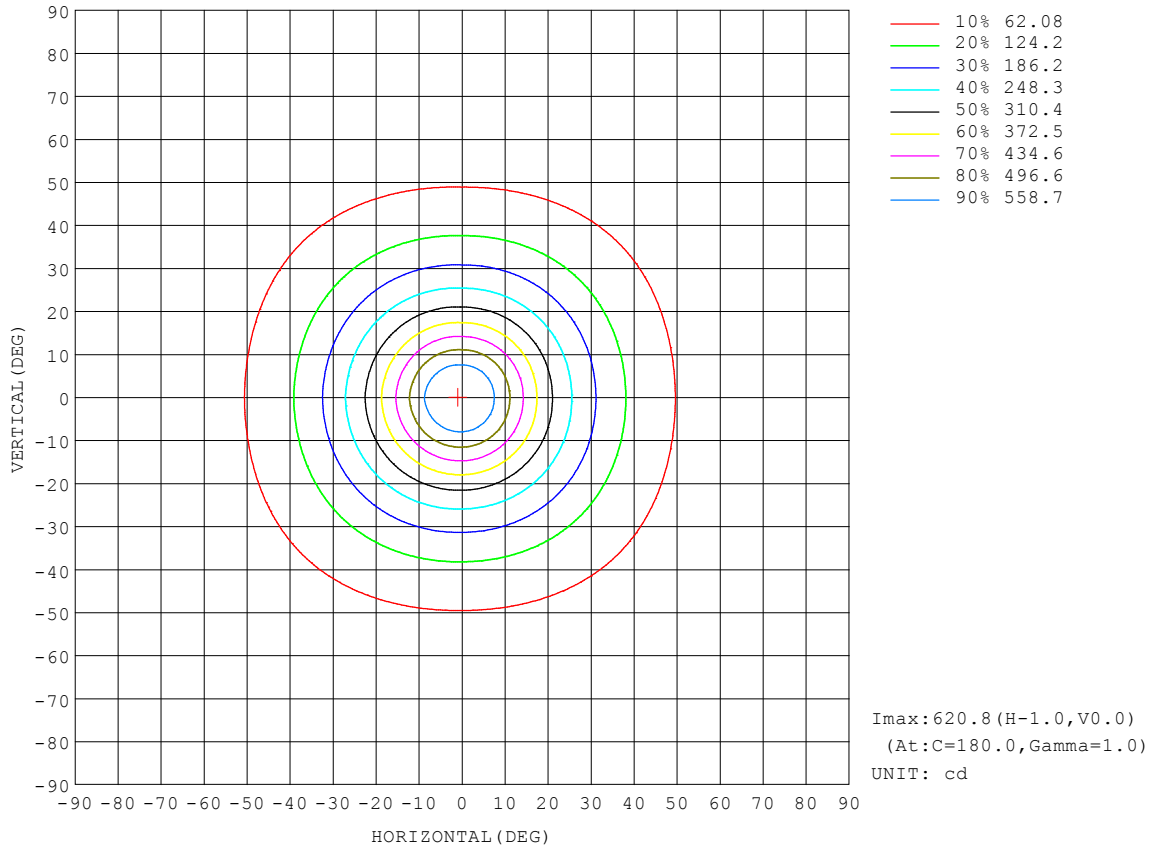
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	74	65	60	73	65	60	72	65	60	55
0.80	83	74	69	82	74	69	80	73	68	63
1.00	89	81	76	88	80	75	86	81	75	70
1.25	94	87	82	93	86	81	91	85	81	75
1.50	98	91	86	97	90	86	94	89	85	79
2.00	103	97	92	101	96	91	98	93	90	83
2.50	105	100	95	103	98	95	100	96	93	86
3.00	108	103	99	106	101	98	102	98	95	88
4.00	110	106	103	108	105	102	104	101	99	91
5.00	112	109	106	110	107	104	106	103	101	93
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:Testing Room  
 Test Date:2017-10-13

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-3000H\_V1 SYSTEM V2.0.361  
 Humidity:65.0%  
 Test Distance:11.330m [K=1.0000]  
 Remarks:

**ISOCANDELA DIAGRAM**

Test:U:120.3V I:0.0709A P:6.000W PF:0.7034 Freq:59.98Hz Lamp Flux:542.825x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: tospo	SUR.:	Shielding Angle:

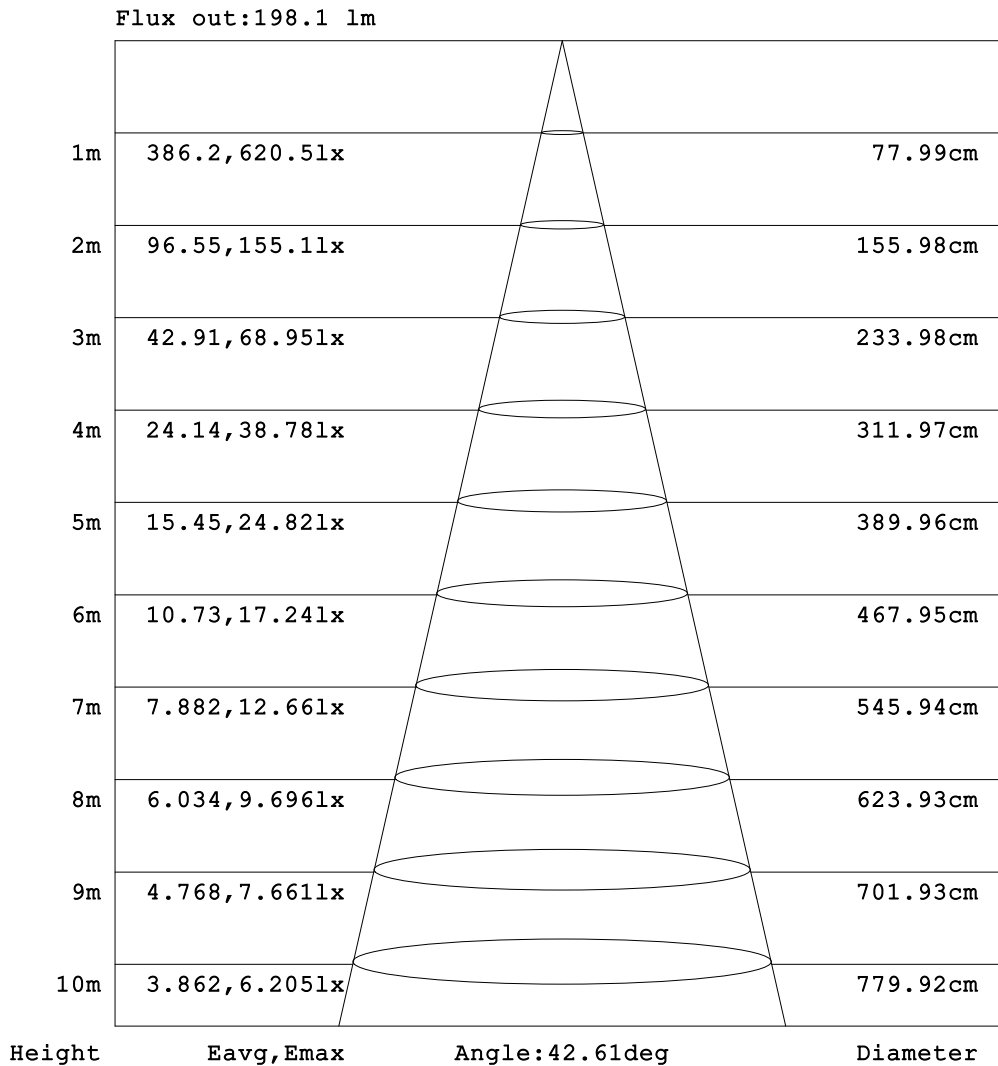


C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Testing Room  
 Test Date:2017-10-13

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-3000H\_V1 SYSTEM V2.0.361  
 Humidity:65.0%  
 Test Distance:11.330m [K=1.0000]  
 Remarks:

**AAI Figure**

Test:U:120.3V I:0.0709A P:6.000W PF:0.7034 Freq:59.98Hz Lamp Flux:542.825x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: tospo	SUR.:	Shielding Angle:



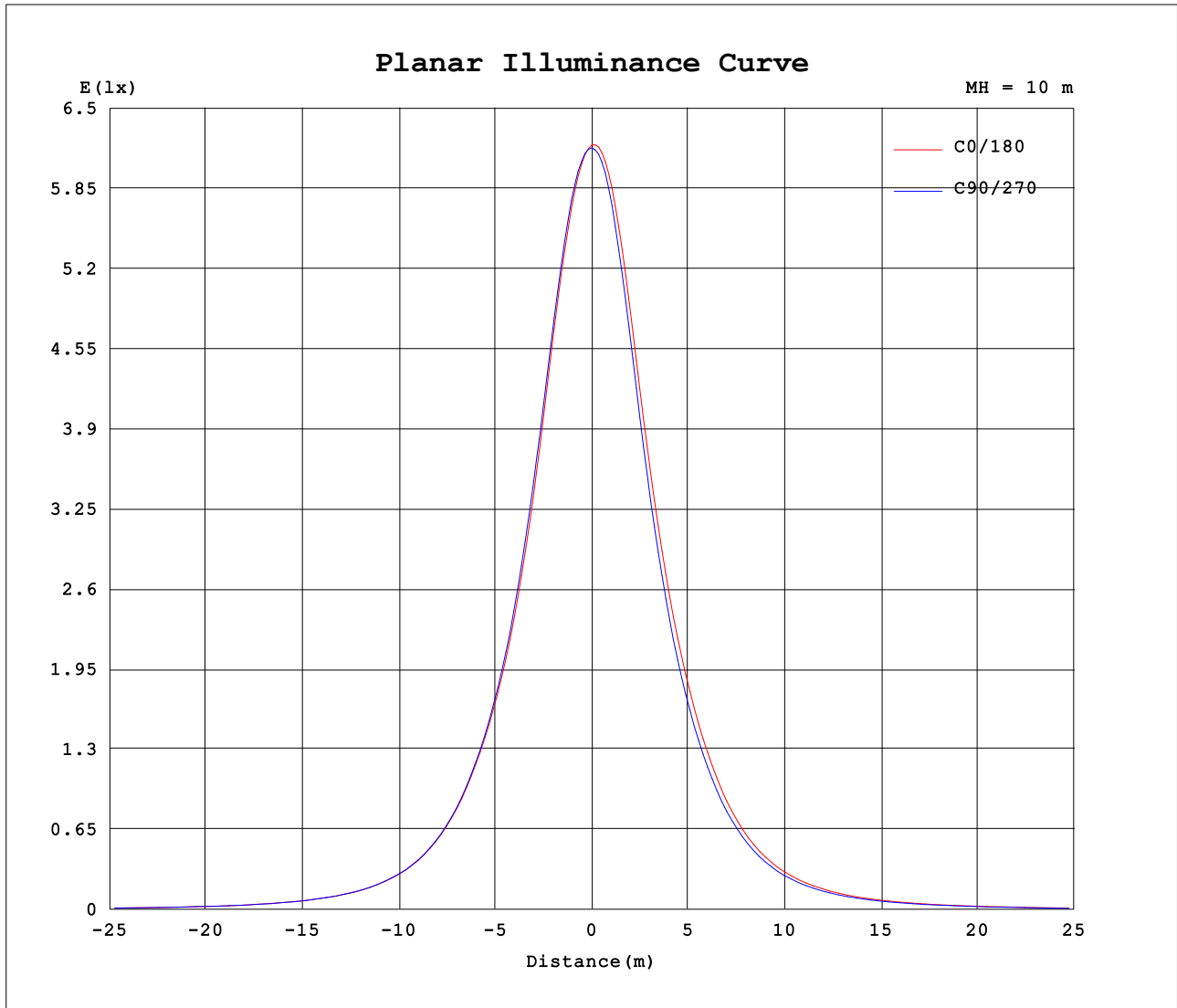
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: Testing Room  
 Test Date: 2017-10-13

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-3000H\_V1 SYSTEM V2.0.361  
 Humidity: 65.0%  
 Test Distance: 11.330m [K=1.0000]  
 Remarks:



**Planar Illuminance Curve**



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: Testing Room  
 Test Date: 2017-10-13

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System: EVERFINE GO-3000H\_V1 SYSTEM V2.0.361  
 Humidity: 65.0%  
 Test Distance: 11.330m [K=1.0000]  
 Remarks:

