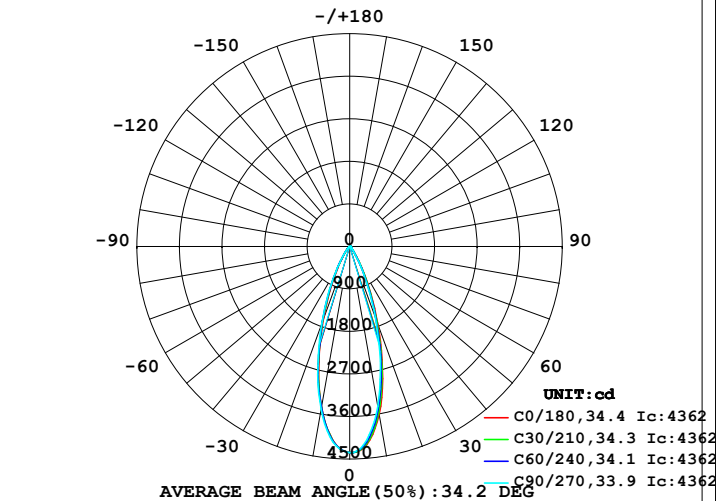


## LUMINAIRE PHOTOMETRIC TEST REPORT

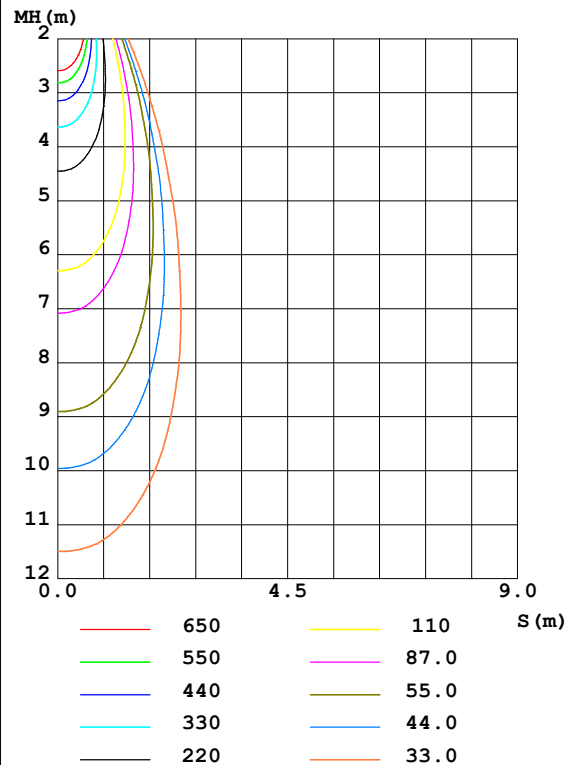
Test:U:225.1V I:0.1080A P:22.50W PF:0.9230 Freq:0Hz Lamp Flux:1757.25x1 lm					
NAME: ALST70-23G30-F		TYPE:		WEIGHT:	
SPEC.:		DIM.:		SERIAL No.:	
MFR.:		SUR.:60		Shielding Angle:	

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 78.10 lm/W
MODEL	3000K CRI90	I <sub>max</sub> (cd)	4364	S/MH (C0/180)	0.55	
NOMINAL POWER (W)	23	LOR (%)	100.0	S/MH (C90/270)	0.57	
RATED VOLTAGE (V)	220-240	TOTAL FLUX (lm)	1757.2	η UP, DN (C0-180)	0.0, 49.0	
NOMINAL FLUX (lm)	1757.25	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 51.0	
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.50	
TEST VOLTAGE (V)	230	η down (%)	100.0	CIBSE SHR MAX	0.60	

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: AE  
 Test Date: 2020-11-06

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity: 65.0%  
 Test Distance: 7.240m [K=1.0000]  
 Remarks:

## ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	3603	3549	3435	3416	3446	3431	3498	3572	0- 10	374.5	374.5	21.3,21.3
20	1728	1688	1593	1581	1629	1668	1730	1792	10- 20	704.7	1079	61.4,61.4
30	499.0	477.7	434.2	445.9	474.2	501.4	530.5	514.4	20- 30	445.1	1524	86.7,86.7
40	117.4	113.0	105.5	111.1	118.9	124.2	125.7	120.1	30- 40	152.7	1677	95.4,95.4
50	34.79	32.92	31.06	31.65	33.51	34.74	36.84	37.41	40- 50	49.70	1727	98.3,98.3
60	10.79	10.31	9.977	10.60	10.70	10.84	11.57	11.38	50- 60	18.79	1745	99.3,99.3
70	4.964	4.845	4.845	5.363	5.257	5.400	5.458	5.178	60- 70	7.213	1753	99.7,99.7
80	1.452	1.387	1.374	1.426	1.288	1.349	1.412	1.380	70- 80	3.413	1756	99.9,99.9
90	1.370	1.405	1.420	1.424	0.8417	0.8297	0.8217	0.8372	80- 90	1.160	1757	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): 1708.3 lm

%lum = 97.2%

%lamp = 97.2%

Conical surface Flux(120deg): 1745.5 lm

%lum = 99.3%

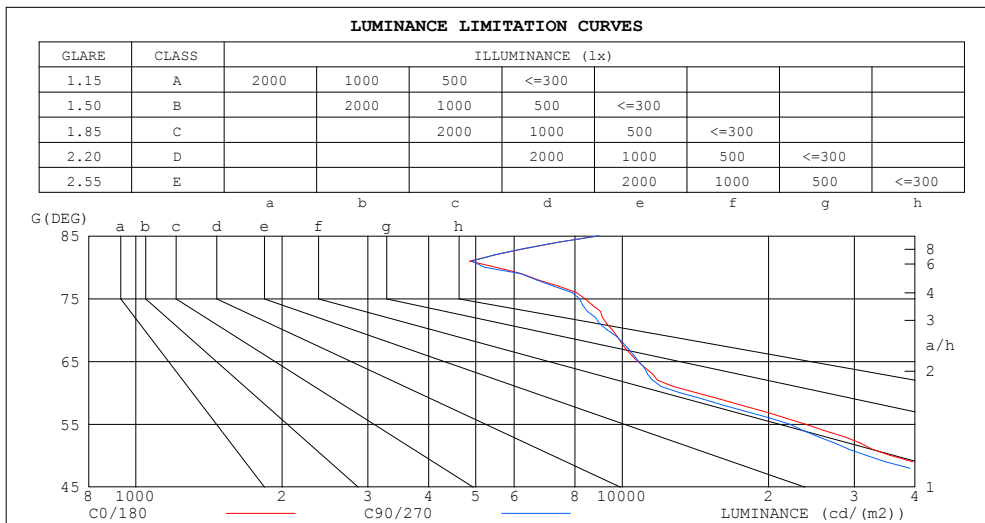
%lamp = 99.3%

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:AE  
 Test Date:2020-11-06

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity:65.0%  
 Test Distance:7.240m [K=1.0000]  
 Remarks:

## LUMINANCE LIMITATION CURVES

Test:U:225.1V I:0.1080A P:22.50W PF:0.9230 Freq:0Hz Lamp Flux:1757.25x1 lm		
NAME: ALST70-23G30-F	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	8930	8955
80	5503	5209
75	8381	8170
70	9550	9326
65	10756	10810
60	14196	13137
55	23760	22058
50	35609	31808
45	55322	50486

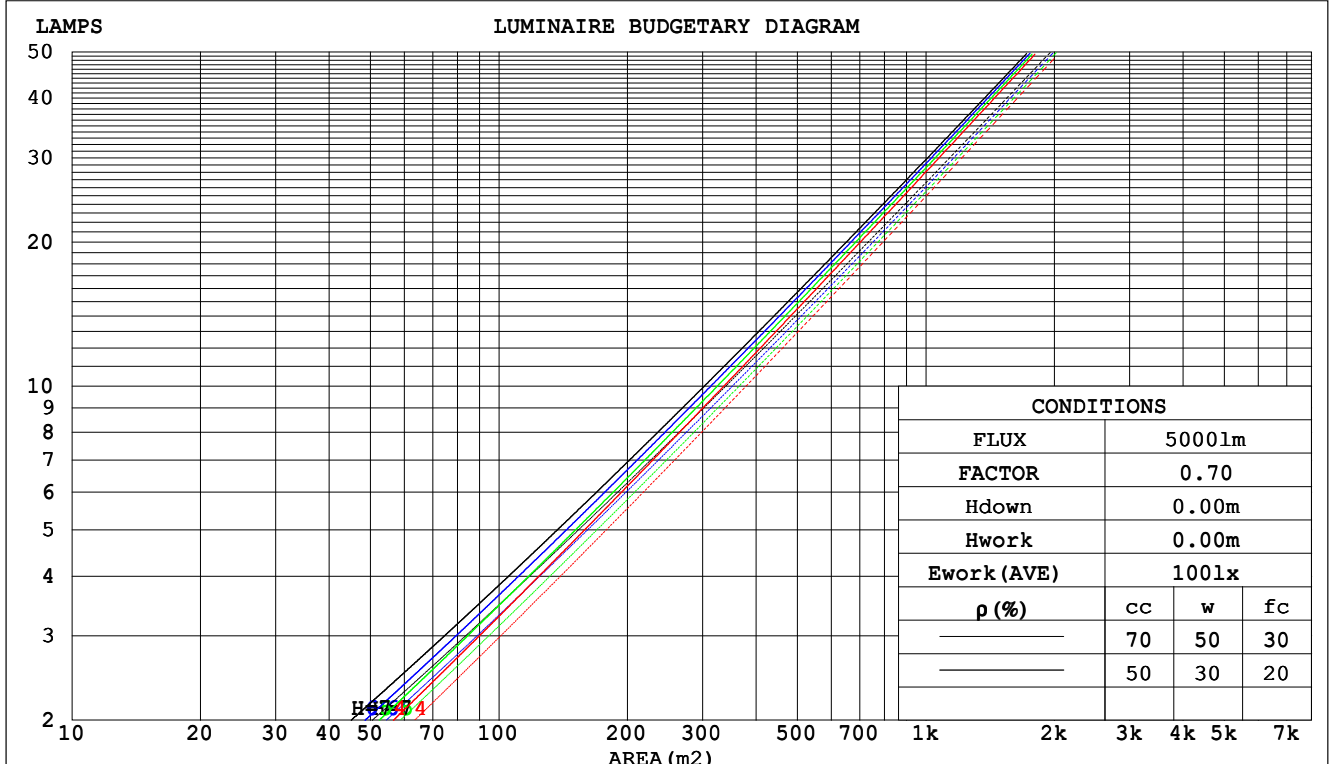
C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:AE  
Test Date:2020-11-06

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:7.240m [K=1.0000]  
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:225.1V I:0.1080A P:22.50W PF:0.9230 Freq:0Hz Lamp Flux:1757.25x1 lm		
NAME: ALST70-23G30-F	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1.0	1.12	1.10	1.08	1.10	1.08	1.06	1.06	1.04	1.03	1.02	1.01	.00	.99	.98	.97	.95
2.0	1.05	1.02	.99	1.04	1.01	.98	1.01	.98	.96	.98	.96	.94	.95	.93	.92	.90
3.0	.00	.95	.92	.98	.94	.91	.96	.93	.90	.93	.91	.88	.91	.89	.87	.86
4.0	.95	.90	.86	.93	.89	.86	.91	.88	.85	.90	.86	.84	.88	.85	.83	.82
5.0	.90	.85	.81	.89	.85	.81	.87	.83	.80	.86	.82	.80	.84	.81	.79	.78
6.0	.86	.81	.77	.85	.80	.77	.84	.80	.76	.82	.79	.76	.81	.78	.75	.74
7.0	.82	.77	.73	.81	.77	.73	.80	.76	.73	.79	.75	.73	.78	.75	.72	.71
8.0	.79	.74	.70	.78	.73	.70	.77	.73	.70	.76	.72	.69	.75	.72	.69	.68
9.0	.75	.70	.67	.75	.70	.67	.74	.70	.67	.73	.69	.67	.72	.69	.66	.65
10.0	.72	.68	.64	.72	.67	.64	.71	.67	.64	.71	.67	.64	.70	.66	.64	.63



C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:AE  
 Test Date:2020-11-06

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity:65.0%  
 Test Distance:7.240m [K=1.0000]  
 Remarks:

## WEC AND CCEC

Test:U:225.1V I:0.1080A P:22.50W PF:0.9230 Freq:0Hz Lamp Flux:1757.25x1 lm					
NAME: ALST70-23G30-F			TYPE:		WEIGHT:
SPEC.:			DIM.:		SERIAL No.:
MFR.:			SUR.:60		Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.158	.090	.028	.151	.086	.027	.138	.079	.025	.127	.073	.024	.116	.067	.022	
2.0	.148	.081	.025	.143	.079	.024	.132	.074	.023	.123	.069	.022	.114	.064	.020	
3.0	.140	.074	.022	.135	.072	.022	.126	.069	.021	.118	.065	.020	.111	.061	.019	
4.0	.132	.069	.020	.128	.067	.020	.121	.064	.019	.114	.061	.018	.107	.058	.018	
5.0	.125	.064	.018	.122	.063	.018	.115	.060	.018	.109	.058	.017	.104	.055	.017	
6.0	.119	.060	.017	.116	.059	.017	.111	.057	.016	.105	.055	.016	.100	.053	.016	
7.0	.114	.056	.016	.111	.055	.016	.106	.054	.015	.101	.052	.015	.097	.050	.015	
8.0	.108	.053	.015	.106	.052	.015	.102	.051	.015	.098	.050	.014	.094	.048	.014	
9.0	.104	.050	.014	.102	.050	.014	.098	.048	.014	.094	.047	.014	.091	.046	.013	
10.0	.100	.048	.013	.098	.047	.013	.094	.046	.013	.091	.045	.013	.088	.044	.013	

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	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	.145	.135	.126	.099	.093	.087	.057	.054	.051	.018	.017	.016	
2.0	.153	.133	.115	.131	.114	.100	.090	.079	.070	.052	.046	.041	.017	.015	.013	
3.0	.139	.113	.093	.120	.098	.080	.082	.068	.056	.047	.040	.033	.015	.013	.011	
4.0	.128	.098	.076	.110	.085	.066	.076	.059	.046	.044	.035	.027	.014	.011	.009	
5.0	.118	.086	.063	.102	.075	.055	.070	.052	.039	.041	.031	.023	.013	.010	.008	
6.0	.110	.077	.053	.095	.066	.046	.065	.047	.032	.038	.027	.019	.012	.009	.006	
7.0	.103	.069	.045	.089	.060	.039	.061	.042	.028	.036	.025	.016	.012	.008	.005	
8.0	.097	.062	.039	.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	.046	.026	.052	.032	.018	.030	.019	.011	.010	.006	.004	

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:AE  
Test Date:2020-11-06

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:7.240m [K=1.0000]  
Remarks:

## UGR(Unified Glare Rating) Table

Test:U:225.1V I:0.1080A P:22.50W PF:0.9230 Freq:0Hz Lamp Flux:1757.25x1 lm											
NAME: ALST70-23G30-F						TYPE:		WEIGHT:			
SPEC.:						DIM.:		SERIAL No.:			
MFR.:						SUR.: 60		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		17.6	18.4	17.8	18.5	18.7	17.0	17.8	17.2	18.0	18.1
	3H	17.5	18.3	17.8	18.4	18.6	17.0	17.7	17.2	17.9	18.1
	4H	17.5	18.2	17.8	18.4	18.6	17.0	17.7	17.2	17.9	18.1
	6H	17.4	18.1	17.7	18.3	18.6	16.9	17.6	17.2	17.8	18.0
	8H	17.4	18.0	17.7	18.3	18.5	16.9	17.5	17.2	17.8	18.0
	12H	17.4	18.0	17.7	18.3	18.5	16.8	17.5	17.2	17.7	18.0
4H	2H	17.4	18.1	17.7	18.3	18.5	16.9	17.6	17.1	17.8	18.0
	3H	17.4	18.0	17.7	18.3	18.5	16.9	17.5	17.2	17.7	18.0
	4H	17.4	17.9	17.7	18.2	18.5	16.9	17.4	17.2	17.7	18.0
	6H	17.3	17.8	17.7	18.2	18.5	16.8	17.3	17.2	17.6	18.0
	8H	17.3	17.8	17.7	18.1	18.5	16.8	17.2	17.2	17.6	18.0
	12H	17.3	17.7	17.7	18.1	18.5	16.8	17.2	17.2	17.6	17.9
8H	4H	17.3	17.7	17.7	18.1	18.4	16.8	17.2	17.1	17.6	17.9
	6H	17.2	17.6	17.7	18.0	18.4	16.7	17.1	17.2	17.5	17.9
	8H	17.2	17.5	17.7	18.0	18.4	16.7	17.0	17.2	17.5	17.9
	12H	17.2	17.5	17.7	17.9	18.4	16.7	17.0	17.2	17.4	17.9
12H	4H	17.2	17.6	17.6	18.0	18.4	16.7	17.1	17.1	17.5	17.9
	6H	17.2	17.5	17.6	17.9	18.4	16.7	17.0	17.1	17.4	17.9
	8H	17.2	17.4	17.6	17.9	18.4	16.7	16.9	17.1	17.4	17.9
Variations with the observer position at spacings:											
S = 1.0H	+ 2.5 / - 4.4					+ 2.3 / - 4.3					
1.5H	+ 4.0 / - 3.5					+ 3.8 / - 3.3					
2.0H	+ 3.8 / - 3.3					+ 3.7 / - 3.0					

CIE Pub.117, 1757 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 2.0)

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:AE  
Test Date:2020-11-06

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:7.240m [K=1.0000]  
Remarks:

### UTILIZATION FACTORS TABLE

Test:U:225.1V I:0.1080A P:22.50W PF:0.9230 Freq:0Hz Lamp Flux:1757.25x1 lm		
NAME: ALST70-23G30-F	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:

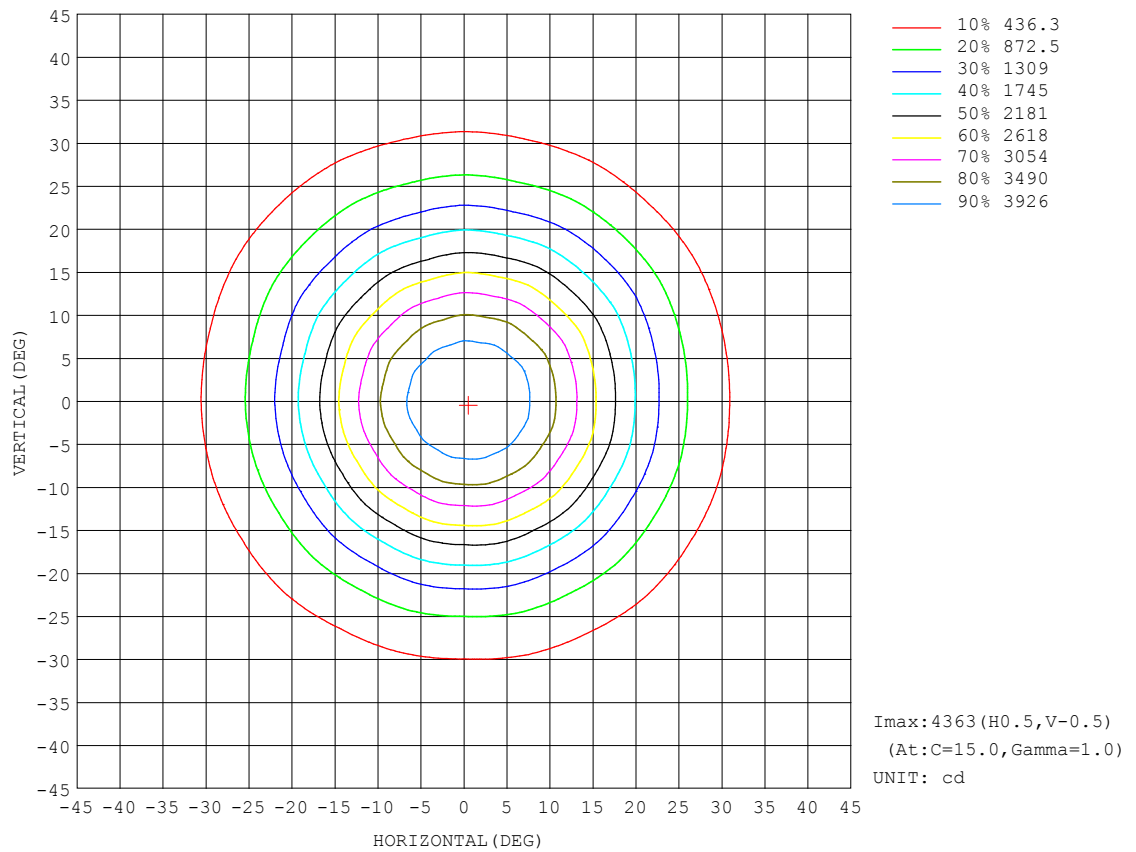
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	89	83	79	88	82	79	87	82	79	75
0.80	96	90	87	95	90	87	94	89	86	83
1.00	100	95	91	99	94	91	98	94	90	87
1.25	104	99	96	103	98	95	101	97	94	90
1.50	107	102	99	105	101	98	103	100	97	93
2.00	109	105	102	108	104	101	105	102	100	95
2.50	111	107	104	109	106	103	106	103	101	95
3.00	112	109	106	110	107	105	107	105	103	97
4.00	114	111	109	112	110	108	108	107	105	98
5.00	115	113	111	113	111	110	109	108	107	99
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:AE  
Test Date:2020-11-06

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:7.240m [K=1.0000]  
Remarks:

## ISOCANDELA DIAGRAM

Test:U:225.1V I:0.1080A P:22.50W PF:0.9230 Freq:0Hz Lamp Flux:1757.25x1 lm		
NAME: ALST70-23G30-F	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:



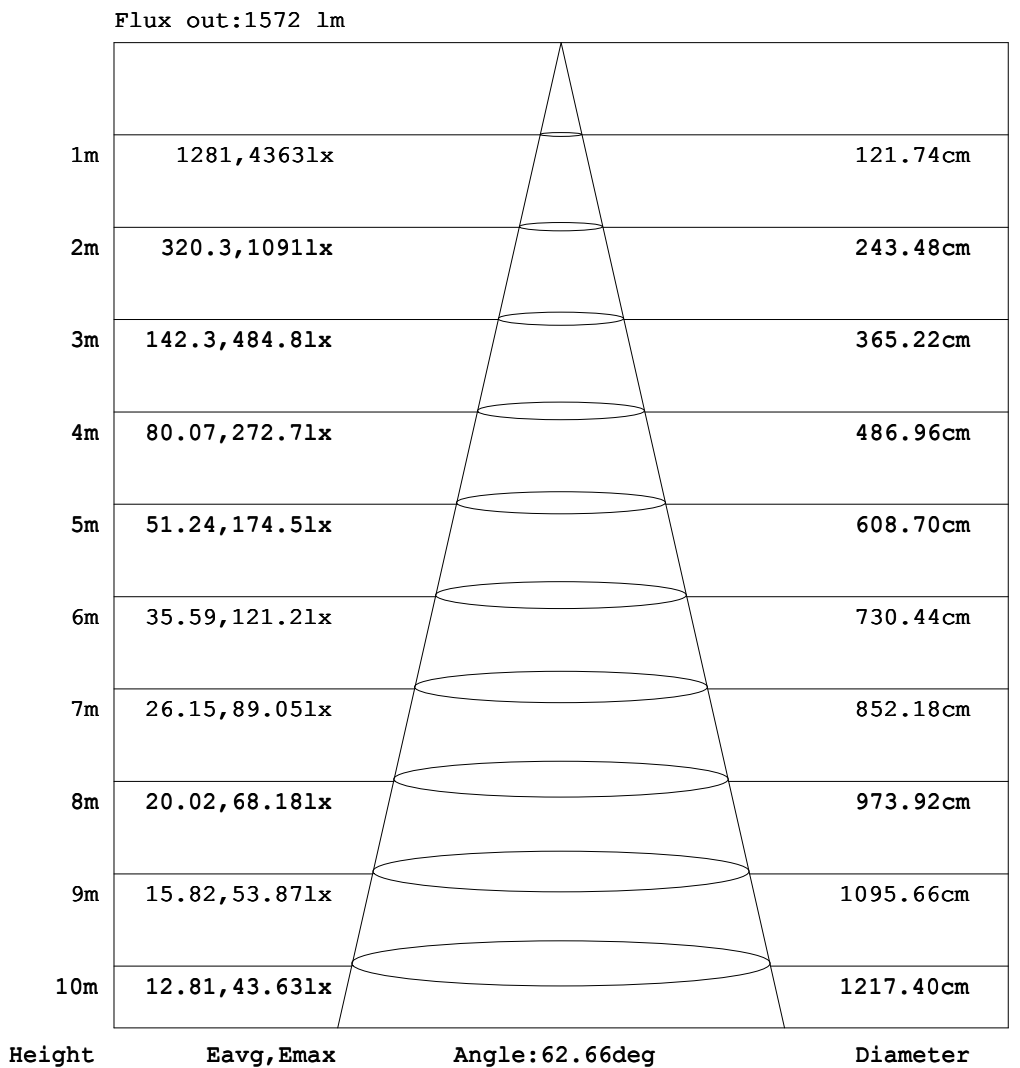
C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:AE  
Test Date:2020-11-06

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:7.240m [K=1.0000]  
Remarks:



### AAI Figure

Test:U:225.1V I:0.1080A P:22.50W PF:0.9230 Freq:0Hz Lamp Flux:1757.25x1 lm		
NAME: ALST70-23G30-F	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:



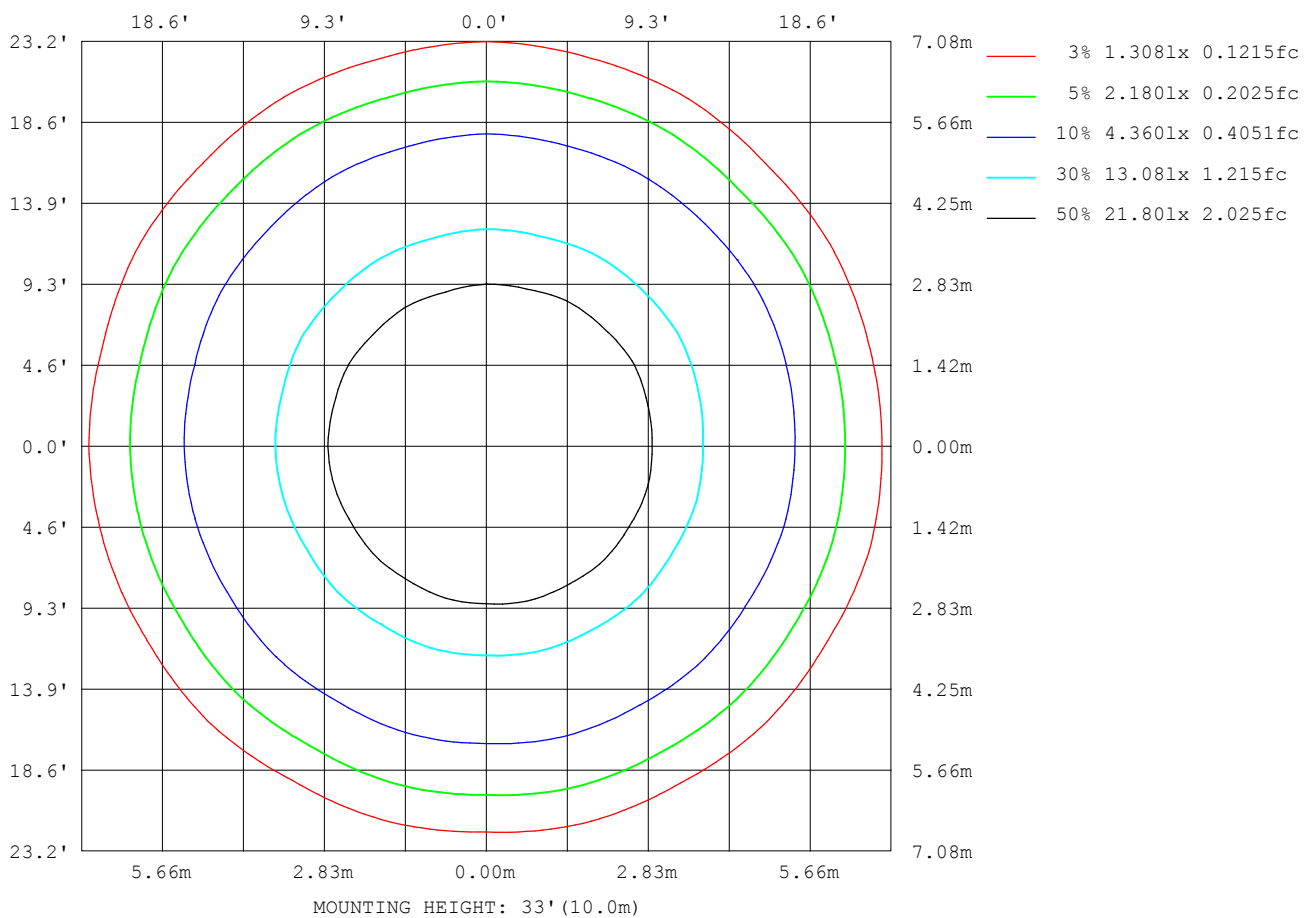
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:AE  
Test Date:2020-11-06

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:7.240m [K=1.0000]  
Remarks:

# ISOLUX DIAGRAM

Test:U:225.1V I:0.1080A P:22.50W PF:0.9230 Freq:0Hz Lamp Flux:1757.25x1 lm		
NAME: ALST70-23G30-F	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:AE  
Test Date:2020-11-06

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:7.240m [K=1.0000]  
Remarks:

## LED Avg.L Report

Test:U:225.1V I:0.1080A P:22.50W PF:0.9230 Freq:0Hz Lamp Flux:1757.25x1 lm		
NAME: ALST70-23G30-F	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:

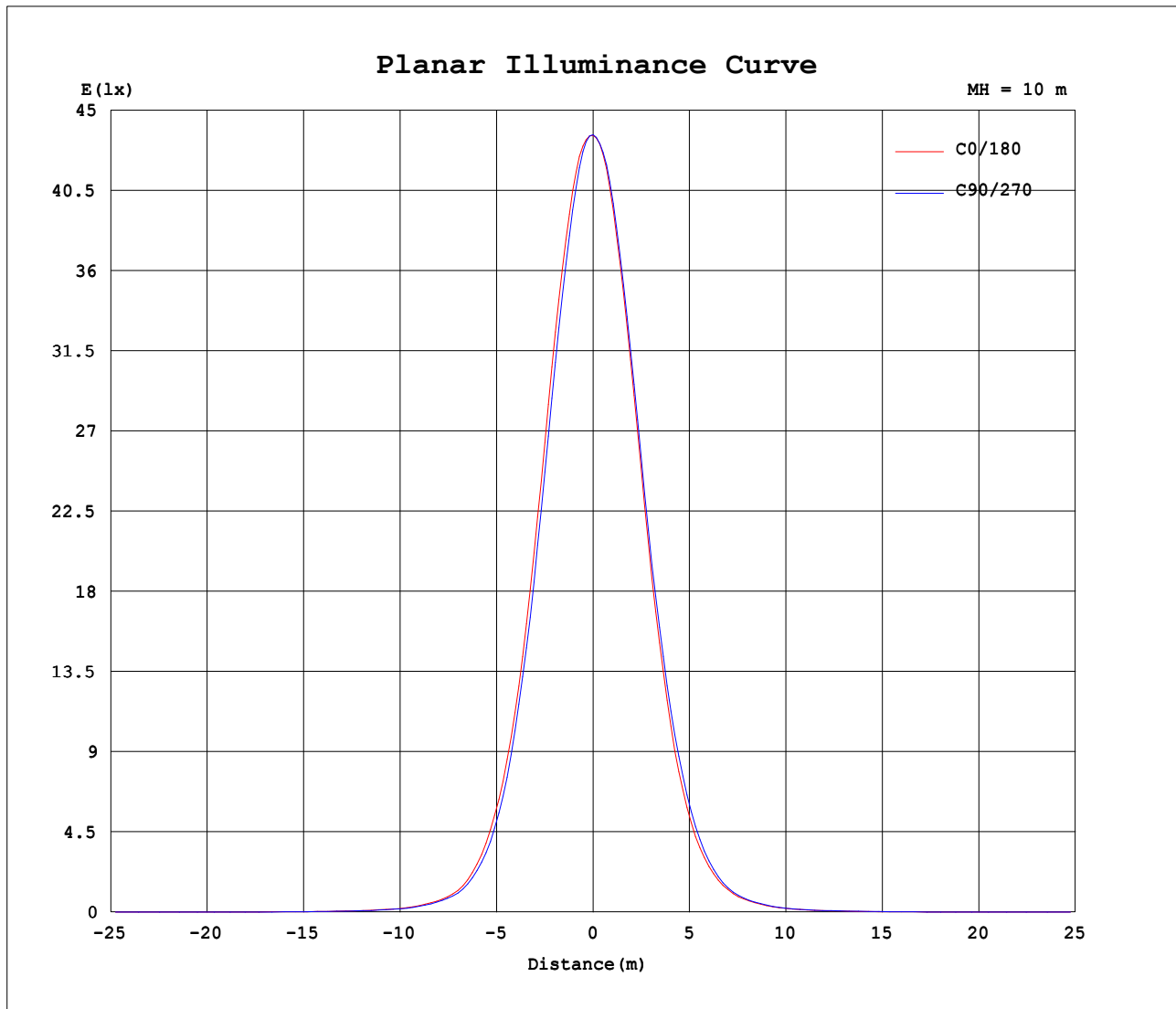
AvgL	cd/m2
L_0~180 (65) av	11073
L_0~180 (75) av	8225
L_0~180 (85) av	7678
L_90~270 (65) av	11164
L_90~270 (75) av	8374
L_90~270 (85) av	7580
L_45 (65) av	11263
L_45 (75) av	8364
L_45 (85) av	7790

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:AE  
 Test Date:2020-11-06

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity:65.0%  
 Test Distance:7.240m [K=1.0000]  
 Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: AE  
Test Date: 2020-11-06

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity: 65.0%  
Test Distance: 7.240m [K=1.0000]  
Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:7.240m [K=1.0000]
Remarks:

```

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:7.240m [K=1.0000]
Remarks:

```