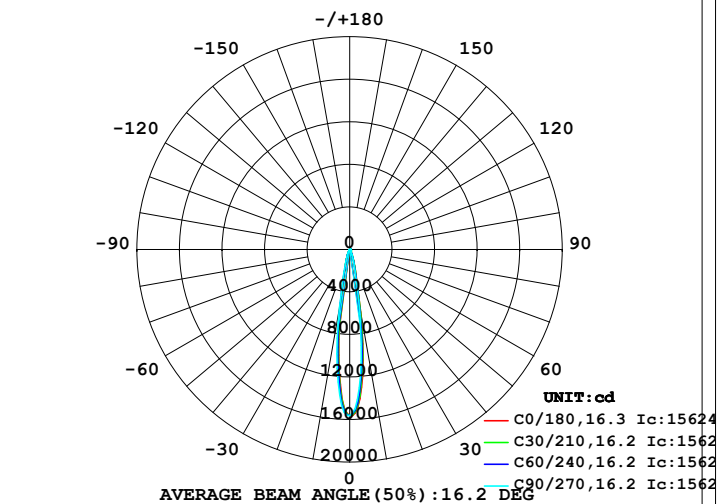


LUMINAIRE PHOTOMETRIC TEST REPORT

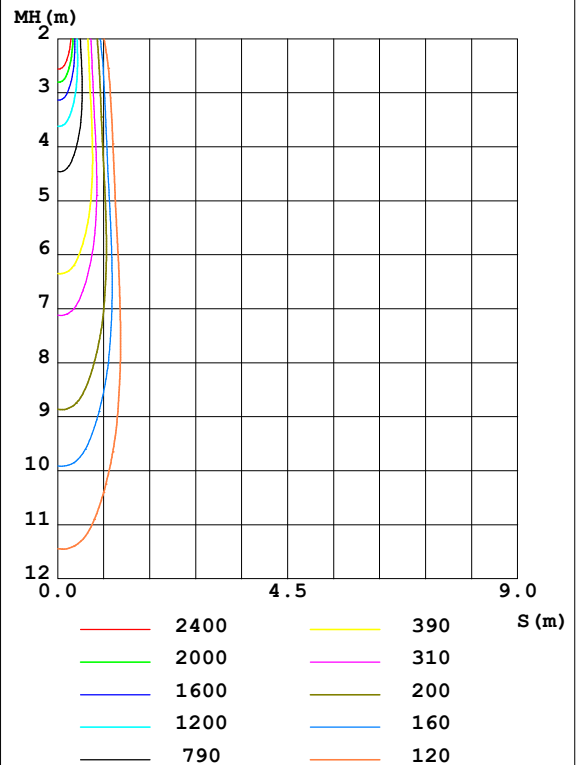
Test:U:225.1V I:0.1080A P:22.50W PF:0.9240 Freq:0Hz Lamp Flux:1861.97x1 lm		
NAME: ALST70-23G30-S	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 82.75 lm/W			
MODEL	3000K CRI90	I _{max} (cd)	15677	S/MH(C0/180)	0.26
NOMINAL POWER(W)	23	LOR(%)	100.0	S/MH(C90/270)	0.28
RATED VOLTAGE(V)	220-240	TOTAL FLUX(lm)	1862.0	η UP,DN(C0-180)	0.0,49.9
NOMINAL FLUX(lm)	1861.97	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.1
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	1.00

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:2020-10-29

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:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	597.7	569.3	485.1	449.3	450.2	466.1	558.2	598.1	0- 10	930.4	930.4	50,50
20	112.4	107.6	94.33	87.09	83.12	82.48	93.22	106.6	10- 20	583.0	1513	81.3,81.3
30	24.77	23.85	20.00	18.36	17.47	16.80	18.34	21.76	20- 30	222.9	1736	93.2,93.2
40	6.887	6.529	5.559	5.396	5.529	5.272	5.643	6.251	30- 40	68.58	1805	96.9,96.9
50	3.322	2.996	2.623	2.467	2.522	2.547	2.890	3.184	40- 50	30.21	1835	98.6,98.6
60	0.9916	0.9515	0.7370	0.6520	0.6406	0.6790	0.9763	1.079	50- 60	18.15	1853	99.5,99.5
70	0.3598	0.3682	0.3211	0.2913	0.3149	0.3179	0.3820	0.3956	60- 70	4.835	1858	99.8,99.8
80	0.1675	0.1624	0.1491	0.1349	0.1364	0.1475	0.1670	0.1782	70- 80	2.564	1861	99.9,99.9
90	0.1545	0.1540	0.1555	0.1604	0.0739	0.0758	0.0752	0.0785	80- 90	1.355	1862	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:×10cd									UNIT:lm		

Conical surface Flux(90deg): 1822.1 lm

%lum = 97.9%

%lamp = 97.9%

Conical surface Flux(120deg): 1853.2 lm

%lum = 99.5%

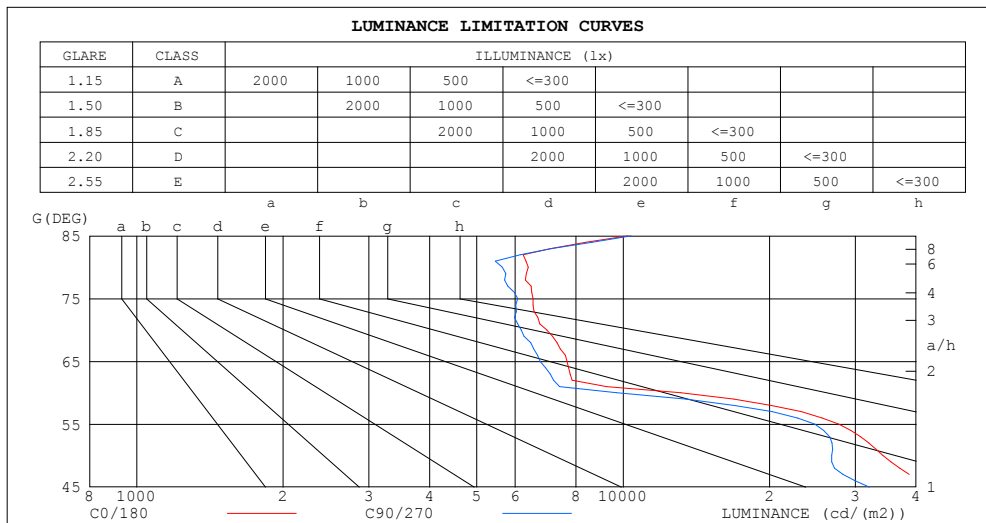
%lamp = 99.5%

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:AE
 Test Date:2020-10-29

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:

LUMINANCE LIMITATION CURVES

Test:U:225.1V I:0.1080A P:22.50W PF:0.9240 Freq:0Hz Lamp Flux:1861.97x1 lm		
NAME: ALST70-23G30-S	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	10225	10375
80	6385	5645
75	6525	6066
70	6965	6173
65	7660	6753
60	13130	9692
55	27729	24753
50	34216	26831
45	42788	32102

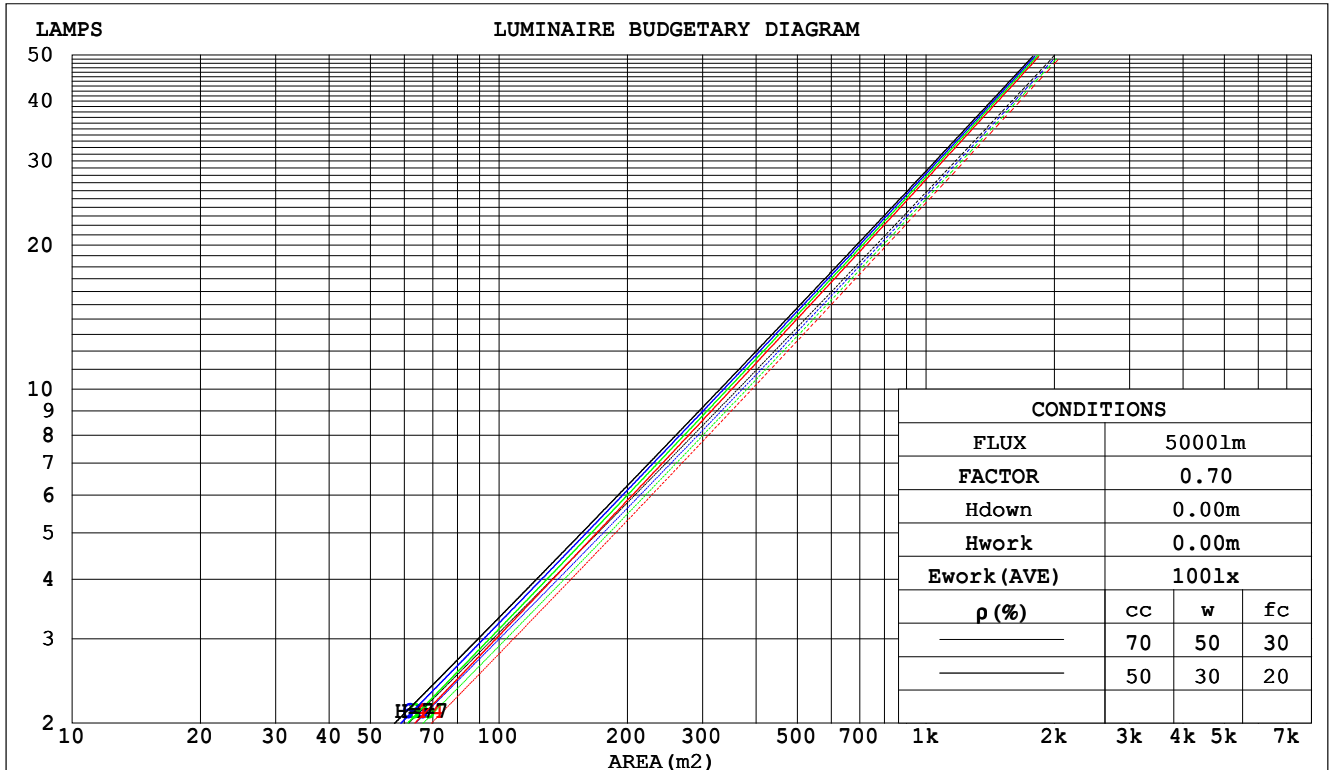
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:AE
Test Date:2020-10-29

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:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:225.1V I:0.1080A P:22.50W PF:0.9240 Freq:0Hz Lamp Flux:1861.97x1 lm		
NAME: ALST70-23G30-S	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	1.13	1.11	1.10	1.11	1.09	1.08	1.07	1.06	1.05	1.03	1.02	1.02	1.00	.99	.99	.97
2.0	1.08	1.05	1.03	1.07	1.04	1.02	1.03	1.01	.00	1.01	.99	.98	.98	.97	.96	.94
3.0	1.04	1.01	.98	1.03	.00	.97	1.00	.98	.96	.98	.96	.94	.96	.94	.93	.91
4.0	1.00	.97	.94	.99	.96	.93	.97	.94	.92	.96	.93	.91	.94	.92	.90	.89
5.0	.97	.93	.90	.96	.93	.90	.95	.92	.89	.93	.91	.89	.92	.90	.88	.87
6.0	.94	.90	.88	.94	.90	.87	.92	.89	.87	.91	.88	.86	.90	.88	.86	.85
7.0	.92	.88	.85	.91	.87	.85	.90	.87	.85	.89	.86	.84	.88	.86	.84	.83
8.0	.89	.86	.83	.89	.85	.83	.88	.85	.83	.87	.84	.82	.86	.84	.82	.81
9.0	.87	.84	.81	.87	.83	.81	.86	.83	.81	.85	.83	.80	.85	.82	.80	.79
10.0	.85	.82	.79	.85	.82	.79	.84	.81	.79	.84	.81	.79	.83	.81	.79	.78



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:AE
Test Date:2020-10-29

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:0.9240 Freq:0Hz Lamp Flux:1861.97x1 lm					
NAME: ALST70-23G30-S			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	.132	.075	.024	.125	.071	.023	.113	.065	.021	.101	.058	.019	.091	.053	.017	
2.0	.121	.066	.020	.116	.064	.020	.106	.059	.018	.096	.054	.017	.088	.050	.016	
3.0	.112	.060	.018	.108	.058	.017	.099	.054	.016	.092	.050	.015	.084	.047	.014	
4.0	.105	.054	.016	.101	.053	.016	.094	.050	.015	.087	.047	.014	.081	.044	.013	
5.0	.098	.050	.014	.095	.049	.014	.089	.046	.014	.083	.044	.013	.078	.042	.012	
6.0	.092	.046	.013	.089	.045	.013	.084	.043	.013	.079	.041	.012	.075	.039	.012	
7.0	.087	.043	.012	.085	.042	.012	.080	.041	.012	.076	.039	.011	.072	.037	.011	
8.0	.082	.040	.011	.080	.040	.011	.076	.038	.011	.073	.037	.011	.069	.036	.010	
9.0	.078	.038	.011	.077	.037	.010	.073	.036	.010	.070	.035	.010	.067	.034	.010	
10.0	.075	.036	.010	.073	.035	.010	.070	.034	.010	.067	.033	.009	.065	.032	.009	

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	.168	.158	.148	.144	.135	.128	.098	.093	.088	.057	.054	.051	.018	.017	.017	
2.0	.149	.133	.119	.128	.114	.103	.088	.079	.072	.051	.046	.042	.016	.015	.014	
3.0	.134	.113	.097	.115	.098	.084	.079	.068	.059	.046	.040	.035	.015	.013	.011	
4.0	.121	.098	.080	.104	.084	.069	.072	.059	.049	.041	.034	.029	.013	.011	.010	
5.0	.110	.085	.067	.095	.074	.058	.065	.052	.041	.038	.030	.024	.012	.010	.008	
6.0	.101	.075	.057	.087	.065	.049	.060	.046	.035	.035	.027	.021	.011	.009	.007	
7.0	.093	.067	.048	.080	.058	.042	.055	.041	.030	.032	.024	.018	.010	.008	.006	
8.0	.086	.060	.042	.074	.052	.037	.051	.037	.026	.030	.022	.015	.010	.007	.005	
9.0	.080	.054	.036	.069	.047	.032	.048	.033	.023	.028	.020	.013	.009	.006	.004	
10.0	.075	.049	.032	.065	.043	.028	.045	.030	.020	.026	.018	.012	.009	.006	.004	

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:AE
Test Date:2020-10-29

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:0.9240 Freq:0Hz Lamp Flux:1861.97x1 lm											
NAME: ALST70-23G30-S					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		14.4	15.0	14.6	15.1	15.3	13.5	14.1	13.7	14.2	14.4
	3H	14.4	14.9	14.6	15.1	15.3	13.5	14.0	13.7	14.2	14.4
	4H	14.4	14.9	14.6	15.1	15.3	13.5	14.0	13.7	14.2	14.4
	6H	14.3	14.9	14.6	15.1	15.3	13.5	14.0	13.7	14.2	14.4
	8H	14.3	14.8	14.6	15.1	15.3	13.5	13.9	13.7	14.2	14.4
	12H	14.3	14.8	14.6	15.1	15.3	13.5	14.0	13.8	14.2	14.5
4H	2H	14.3	14.8	14.5	15.0	15.2	13.4	14.0	13.7	14.2	14.4
	3H	14.3	14.8	14.6	15.1	15.3	13.5	14.0	13.8	14.2	14.5
	4H	14.3	14.8	14.7	15.1	15.4	13.5	14.0	13.8	14.2	14.5
	6H	14.4	14.7	14.7	15.1	15.4	13.5	13.9	13.9	14.2	14.6
	8H	14.3	14.7	14.7	15.1	15.4	13.5	13.9	13.9	14.3	14.6
	12H	14.4	14.7	14.8	15.1	15.5	13.6	13.9	14.0	14.3	14.7
8H	4H	14.2	14.6	14.6	15.0	15.3	13.4	13.8	13.8	14.1	14.5
	6H	14.3	14.6	14.7	15.0	15.4	13.5	13.8	13.9	14.2	14.6
	8H	14.3	14.6	14.8	15.0	15.4	13.5	13.8	14.0	14.2	14.7
	12H	14.4	14.6	14.9	15.1	15.5	13.7	13.9	14.1	14.3	14.8
12H	4H	14.2	14.5	14.6	14.9	15.3	13.4	13.7	13.8	14.1	14.5
	6H	14.2	14.5	14.7	14.9	15.4	13.5	13.7	13.9	14.1	14.6
	8H	14.3	14.5	14.8	15.0	15.4	13.5	13.8	14.0	14.2	14.7
Variations with the observer position at spacings:											
S = 1.0H	+ 1.6 / - 2.1					+ 1.3 / - 2.0					
1.5H	+ 2.2 / - 1.5					+ 1.7 / - 1.2					
2.0H	+ 2.5 / - 4.2					+ 1.9 / - 4.1					

CIE Pub.117, 1862 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 2.2)

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:AE
Test Date:2020-10-29

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:0.9240 Freq:0Hz Lamp Flux:1861.97x1 lm		
NAME: ALST70-23G30-S	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:

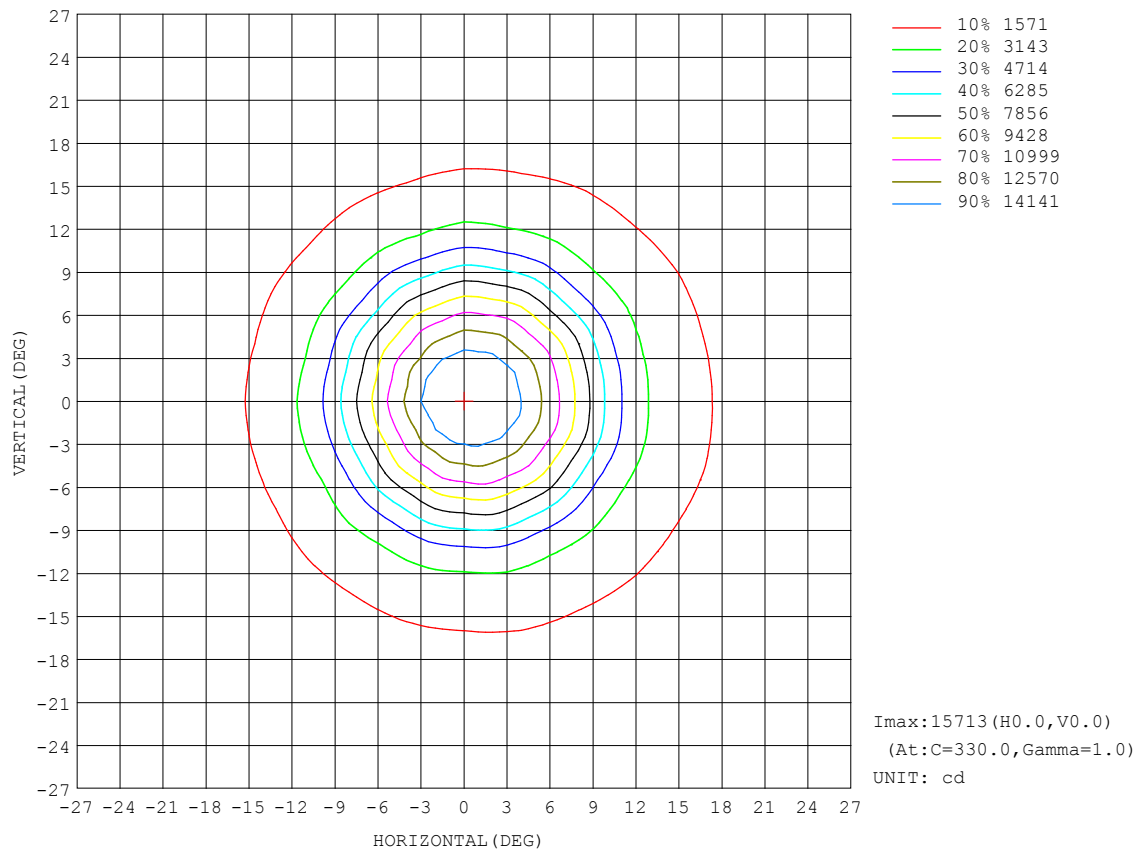
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	90	84	80	89	84	80	88	83	80	77
0.80	97	91	88	96	91	88	95	90	87	84
1.00	101	96	92	100	95	92	98	95	91	88
1.25	104	100	96	103	99	96	102	98	95	91
1.50	107	103	99	106	102	99	104	100	98	94
2.00	109	105	102	108	104	102	105	102	100	95
2.50	111	107	105	109	106	104	106	104	102	96
3.00	112	109	107	111	108	105	107	105	103	97
4.00	114	112	110	112	110	108	109	107	105	99
5.00	115	113	112	113	112	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:2020-10-29

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:

ISOCANDELA DIAGRAM

Test:U:225.1V I:0.1080A P:22.50W PF:0.9240 Freq:0Hz Lamp Flux:1861.97x1 lm		
NAME: ALST70-23G30-S	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:

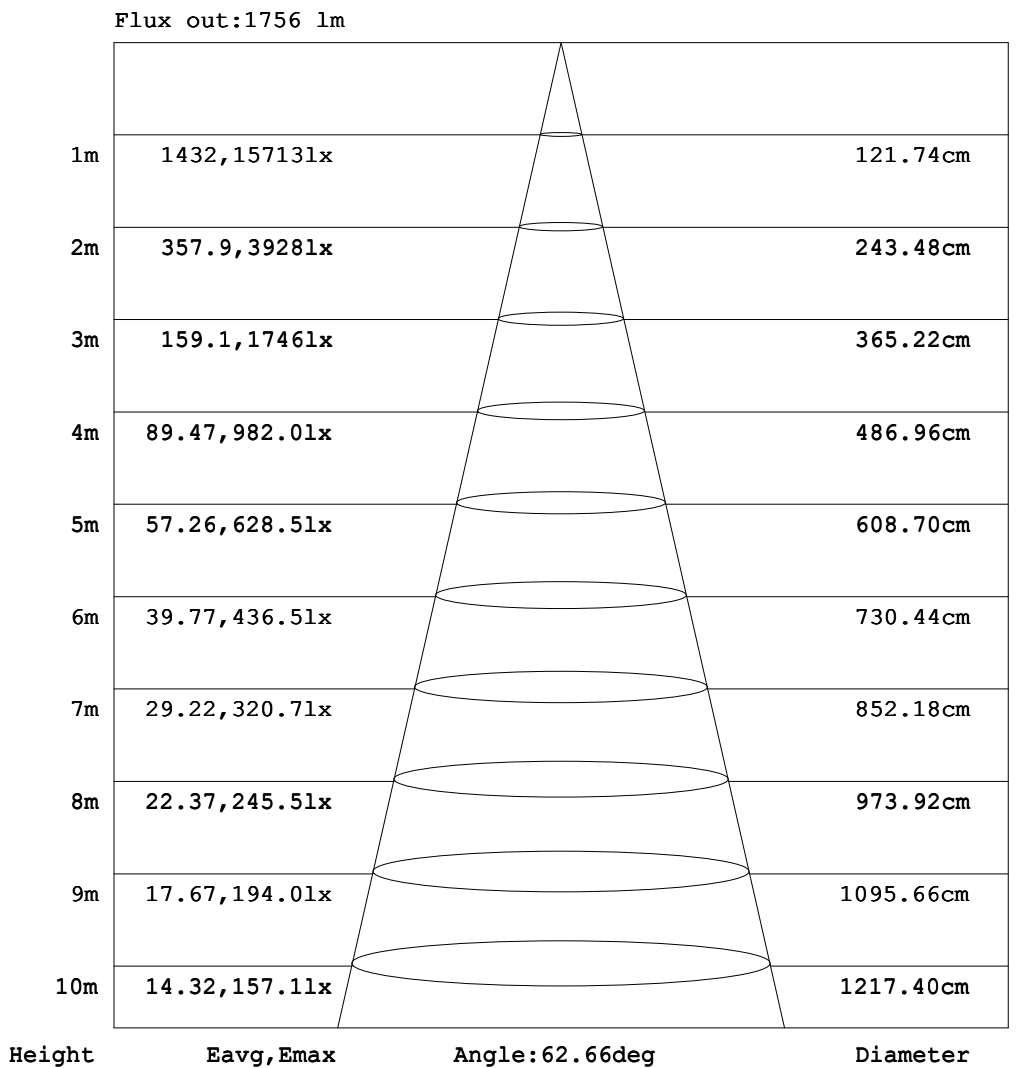


C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:AE
Test Date:2020-10-29

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:0.9240 Freq:0Hz Lamp Flux:1861.97x1 lm		
NAME: ALST70-23G30-S	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:



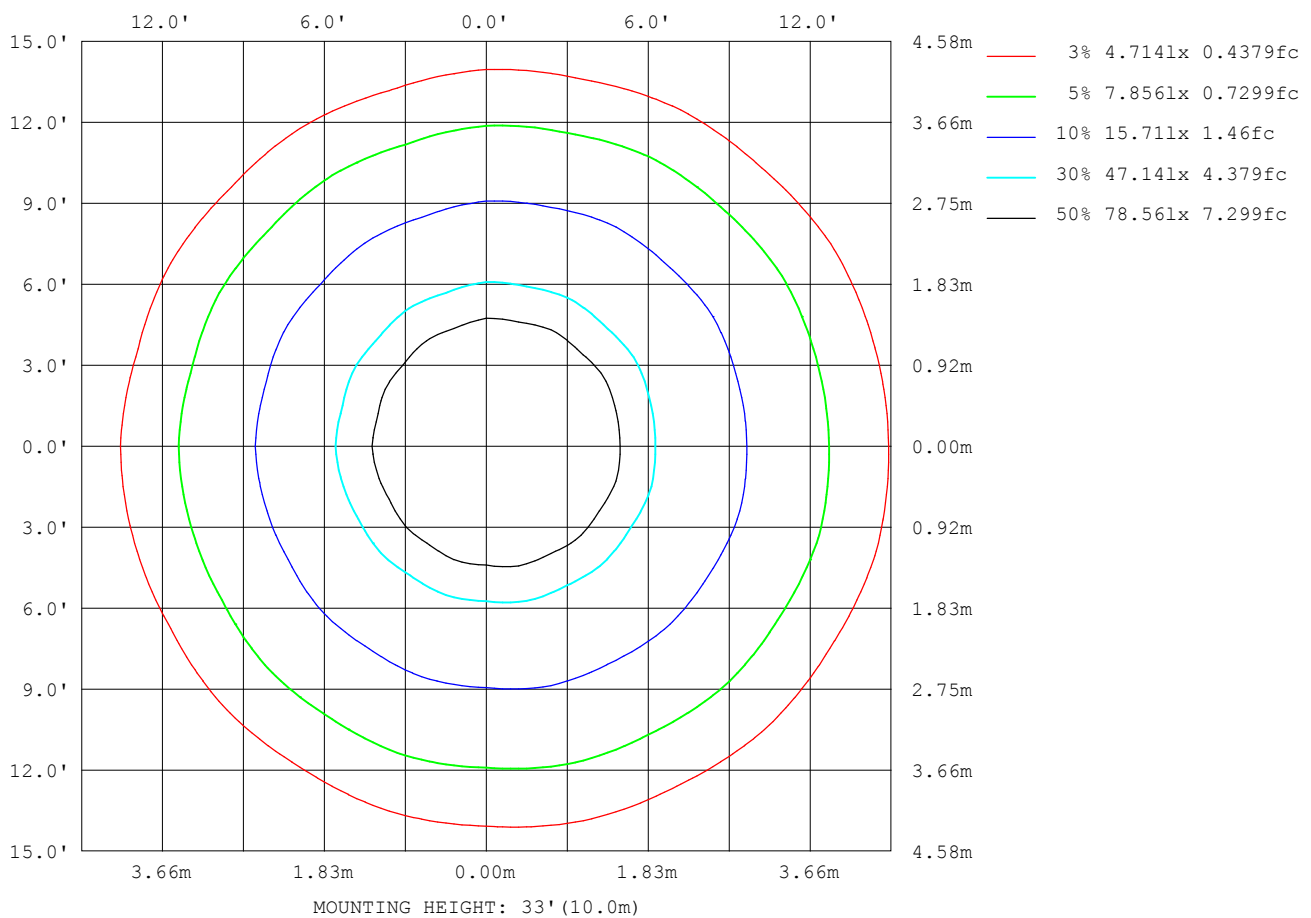
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:AE
Test Date:2020-10-29

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:0.9240 Freq:0Hz Lamp Flux:1861.97x1 lm		
NAME: ALST70-23G30-S	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:2020-10-29

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:0.9240 Freq:0Hz Lamp Flux:1861.97x1 lm		
NAME: ALST70-23G30-S	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:

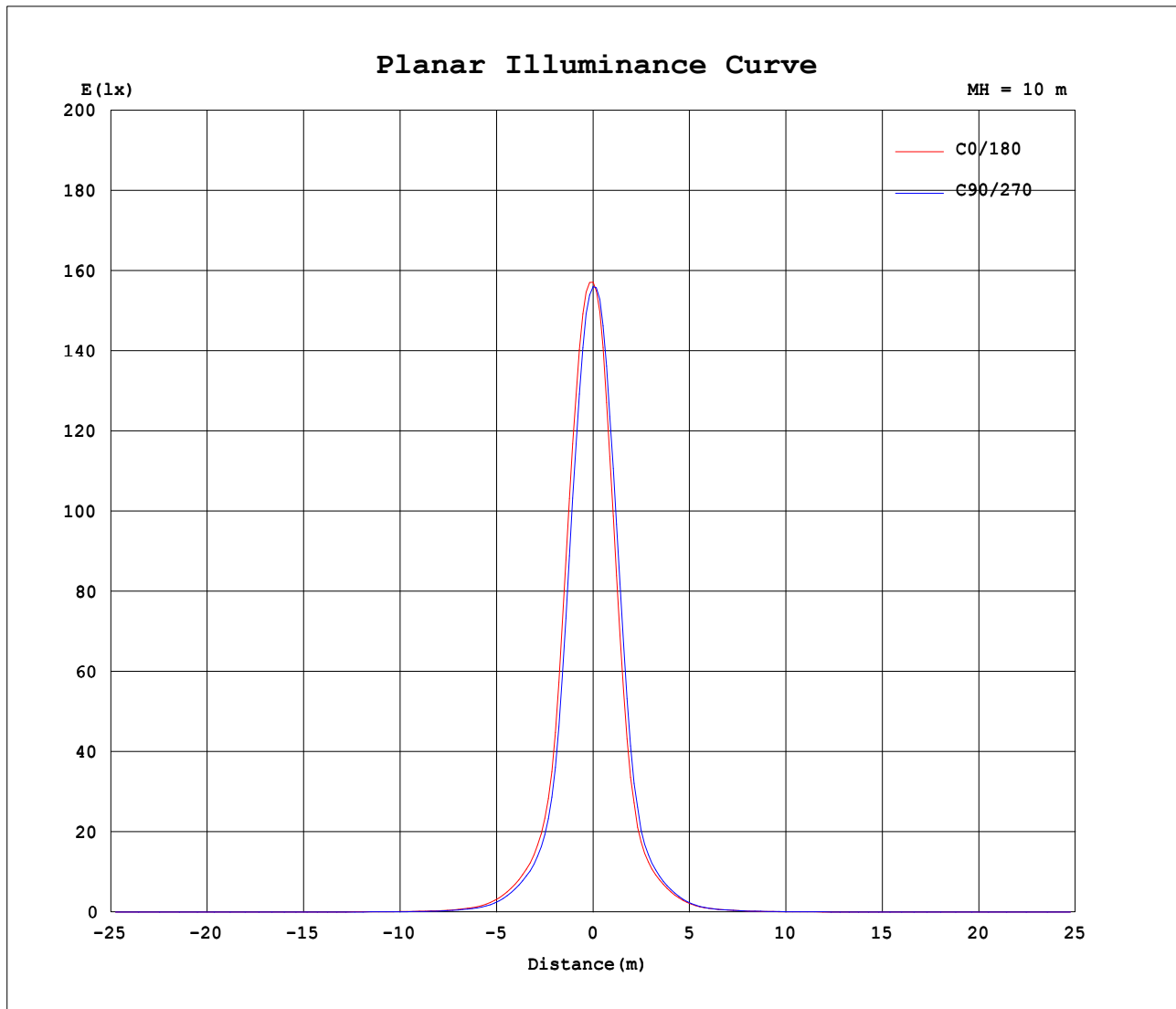
AvgL	cd/m2
L_0~180 (65) av	7292
L_0~180 (75) av	6122
L_0~180 (85) av	8784
L_90~270 (65) av	7488
L_90~270 (75) av	6347
L_90~270 (85) av	9111
L_45 (65) av	7463
L_45 (75) av	6194
L_45 (85) av	9327

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:AE
 Test Date:2020-10-29

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: 2020-10-29

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:

```

```

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:

```