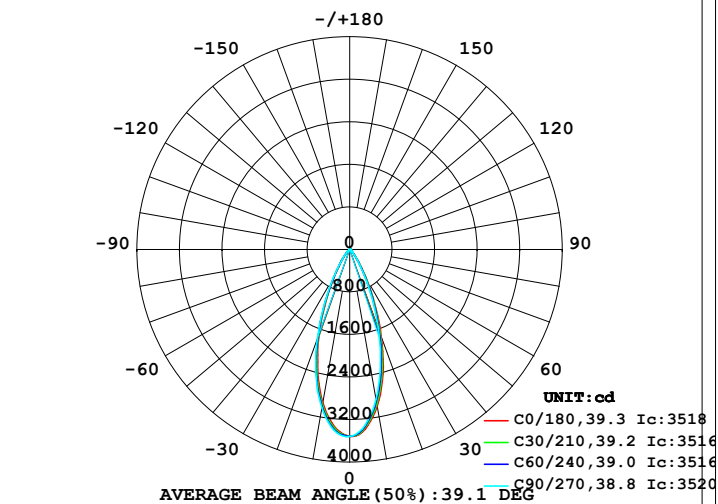


LUMINAIRE PHOTOMETRIC TEST REPORT

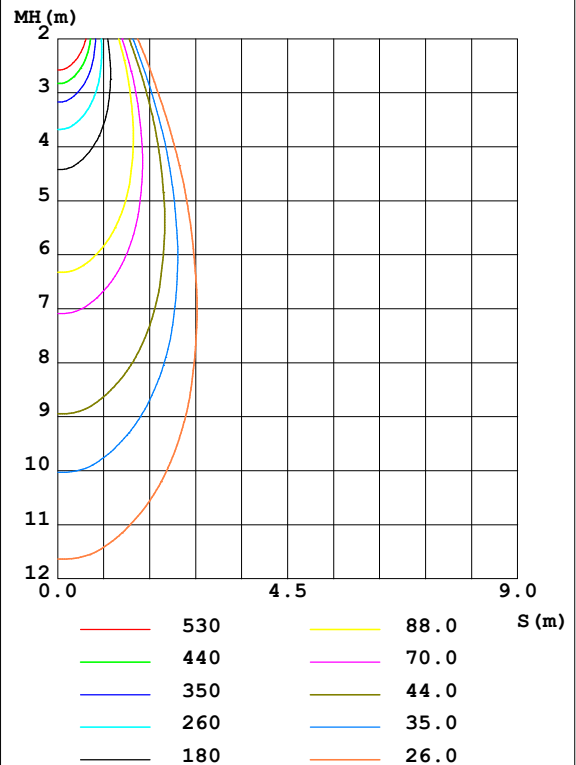
Test:U:225.1V I:0.1080A P:22.50W PF:0.9230 Freq:0Hz Lamp Flux:1738.49x1 lm					
NAME: ALST70-23G30-WF		TYPE:		WEIGHT:	
SPEC.:		DIM.:		SERIAL No.:	
MFR.:		SUR.:60		Shielding Angle:	

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 77.27 lm/W
MODEL	3000K CRI90	I _{max} (cd)	3522	S/MH(C0/180)	0.63	
NOMINAL POWER(W)	23	LOR(%)	100.0	S/MH(C90/270)	0.65	
RATED VOLTAGE(V)	220-240	TOTAL FLUX(lm)	1738.5	η UP,DN(C0-180)	0.0,48.7	
NOMINAL FLUX(lm)	1738.49	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,51.3	
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.50	
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	0.65	

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:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	2991	2934	2859	2866	2925	2967	3020	3022	0- 10	307.7	307.7	17.7,17.7
20	1740	1681	1585	1587	1681	1714	1782	1780	10- 20	646.6	954.3	54.9,54.9
30	618.0	589.4	537.0	543.9	568.8	577.8	630.3	639.5	20- 30	490.0	1444	83.1,83.1
40	163.5	152.0	139.3	147.7	155.8	152.6	161.3	164.8	30- 40	199.1	1643	94.5,94.5
50	42.52	39.76	36.01	37.37	37.60	37.55	40.60	42.08	40- 50	63.41	1707	98.2,98.2
60	11.46	11.12	10.30	10.13	10.22	10.99	12.40	12.03	50- 60	20.04	1727	99.3,99.3
70	5.030	5.163	4.929	4.731	4.630	5.009	5.339	4.980	60- 70	7.257	1734	99.7,99.7
80	1.450	1.352	1.244	1.232	1.089	1.274	1.510	1.380	70- 80	3.241	1737	99.9,99.9
90	1.369	1.393	1.433	1.428	0.9229	0.8802	0.8651	0.8647	80- 90	1.160	1738	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): 1684.1 lm

%lum = 96.9%

%lamp = 96.9%

Conical surface Flux(120deg): 1726.8 lm

%lum = 99.3%

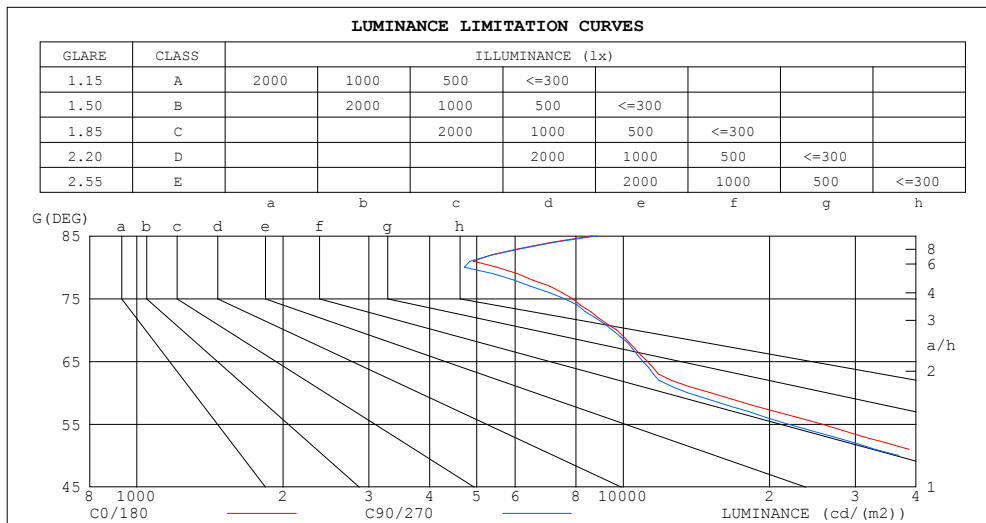
%lamp = 99.3%

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

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:0.9230 Freq:0Hz Lamp Flux:1738.49x1 lm		
NAME: ALST70-23G30-WF	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	8659	8836
80	5501	4716
75	7863	7567
70	9687	9484
65	11219	10981
60	15102	13553
55	25585	21813
50	43572	36869
45	77331	63021

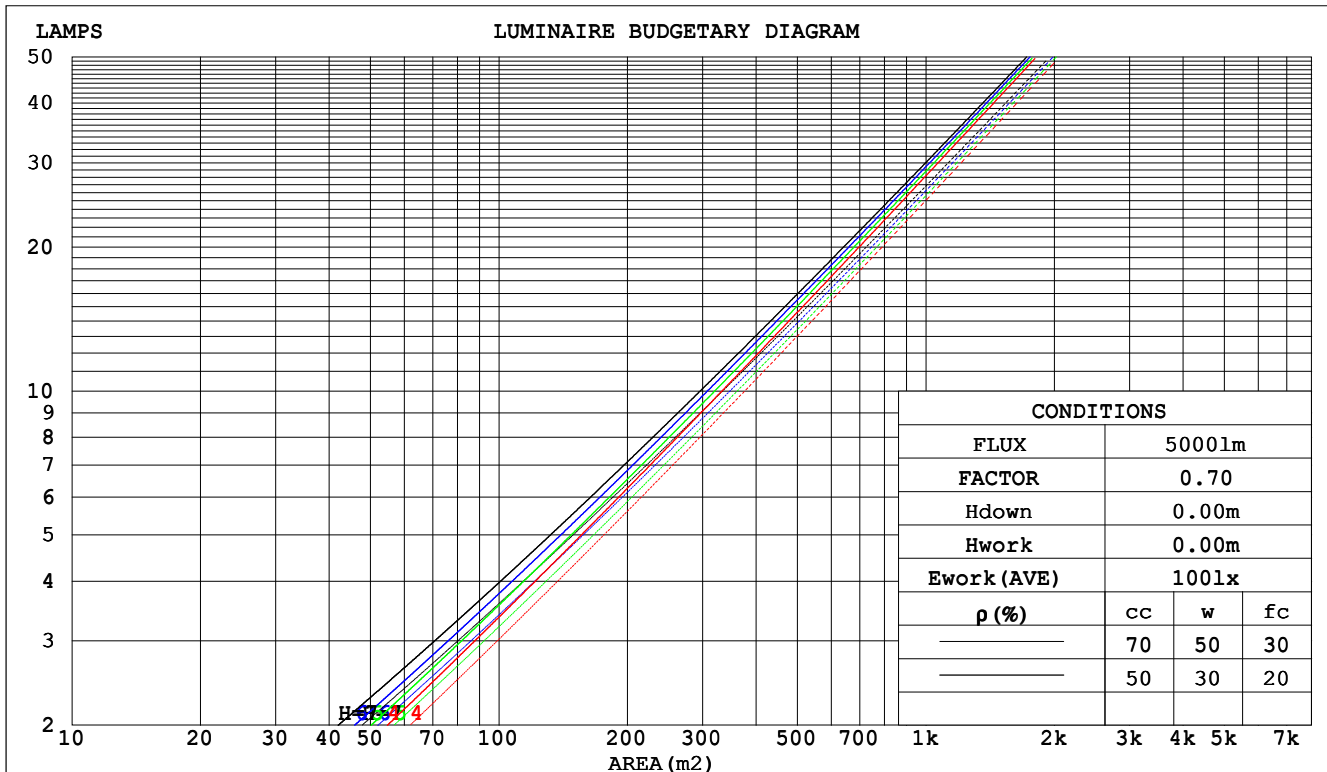
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:AE
Test Date:2020-11-06

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:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:225.1V I:0.1080A P:22.50W PF:0.9230 Freq:0Hz Lamp Flux:1738.49x1 lm		
NAME: ALST70-23G30-WF	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	1.11	1.09	1.07	1.09	1.07	1.05	1.05	1.04	1.02	1.02	1.00	.99	.98	.97	.96	.95
2.0	1.05	1.01	.98	1.03	.90	.97	.90	.97	.95	.97	.95	.93	.94	.92	.91	.89
3.0	.99	.94	.91	.97	.93	.90	.95	.91	.88	.92	.89	.87	.90	.88	.86	.84
4.0	.93	.88	.84	.92	.88	.84	.90	.86	.83	.88	.85	.82	.86	.83	.81	.80
5.0	.88	.83	.79	.87	.83	.79	.86	.81	.78	.84	.80	.78	.83	.79	.77	.76
6.0	.84	.79	.75	.83	.78	.74	.82	.77	.74	.80	.76	.73	.79	.76	.73	.72
7.0	.80	.74	.71	.79	.74	.71	.78	.73	.70	.77	.73	.70	.76	.72	.69	.68
8.0	.76	.71	.67	.76	.70	.67	.74	.70	.67	.74	.69	.66	.73	.69	.66	.65
9.0	.73	.67	.64	.72	.67	.64	.71	.67	.64	.70	.66	.63	.70	.66	.63	.62
10.0	.70	.64	.61	.69	.64	.61	.68	.64	.61	.68	.64	.61	.67	.63	.60	.59



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:1738.49x1 lm					
NAME: ALST70-23G30-WF			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	.164	.093	.029	.157	.090	.028	.144	.083	.026	.133	.077	.025	.122	.071	.023	
2.0	.155	.085	.026	.149	.082	.025	.139	.077	.024	.129	.073	.023	.120	.068	.021	
3.0	.147	.078	.023	.142	.076	.023	.133	.072	.022	.125	.068	.021	.117	.065	.020	
4.0	.139	.072	.021	.135	.071	.021	.127	.067	.020	.120	.065	.019	.114	.062	.019	
5.0	.132	.067	.019	.128	.066	.019	.122	.063	.019	.116	.061	.018	.110	.059	.018	
6.0	.126	.063	.018	.123	.062	.018	.117	.060	.017	.111	.058	.017	.106	.056	.017	
7.0	.120	.059	.017	.117	.058	.017	.112	.057	.016	.107	.055	.016	.103	.053	.016	
8.0	.115	.056	.016	.112	.055	.016	.108	.054	.015	.104	.052	.015	.100	.051	.015	
9.0	.110	.053	.015	.108	.052	.015	.104	.051	.015	.100	.050	.014	.096	.049	.014	
10.0	.105	.051	.014	.103	.050	.014	.100	.049	.014	.096	.048	.014	.093	.047	.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	.146	.135	.126	.100	.093	.087	.057	.054	.051	.018	.017	.016	
2.0	.154	.133	.115	.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	.130	.099	.075	.111	.085	.065	.077	.059	.046	.044	.035	.027	.014	.011	.009	
5.0	.120	.087	.062	.103	.075	.054	.071	.052	.038	.041	.031	.023	.013	.010	.007	
6.0	.112	.077	.052	.097	.067	.045	.067	.047	.032	.039	.028	.019	.012	.009	.006	
7.0	.106	.069	.044	.091	.060	.038	.063	.042	.027	.036	.025	.016	.012	.008	.005	
8.0	.100	.063	.038	.086	.055	.033	.059	.038	.023	.035	.023	.014	.011	.007	.005	
9.0	.094	.058	.033	.081	.050	.029	.056	.035	.020	.033	.021	.012	.011	.007	.004	
10.0	.090	.053	.029	.077	.046	.025	.054	.032	.018	.031	.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:1738.49x1 lm												
NAME: ALST70-23G30-WF					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	3H	19.4	20.2	19.7	20.4	20.6	18.7	19.5	19.0	19.7	19.9	
	4H	19.4	20.1	19.7	20.3	20.5	18.7	19.4	19.0	19.6	19.9	
	6H	19.3	20.0	19.6	20.2	20.5	18.6	19.3	18.9	19.5	19.8	
	8H	19.3	19.9	19.6	20.2	20.4	18.6	19.2	18.9	19.5	19.8	
	12H	19.2	19.9	19.6	20.1	20.4	18.5	19.2	18.9	19.5	19.7	
	4H	2H	19.3	20.1	19.6	20.3	20.5	18.6	19.4	18.9	19.6	19.8
		3H	19.3	19.9	19.6	20.2	20.4	18.6	19.2	18.9	19.5	19.8
		4H	19.2	19.8	19.6	20.1	20.4	18.5	19.1	18.9	19.4	19.7
		6H	19.1	19.7	19.5	20.0	20.3	18.5	19.0	18.8	19.3	19.7
		8H	19.1	19.6	19.5	19.9	20.3	18.4	18.9	18.8	19.3	19.6
		12H	19.1	19.5	19.5	19.9	20.3	18.4	18.8	18.8	19.2	19.6
	8H	4H	19.1	19.6	19.5	19.9	20.3	18.4	18.9	18.8	19.2	19.6
		6H	19.0	19.4	19.4	19.8	20.2	18.4	18.7	18.8	19.1	19.5
		8H	19.0	19.3	19.4	19.7	20.2	18.3	18.7	18.8	19.1	19.5
		12H	19.0	19.3	19.4	19.7	20.2	18.3	18.6	18.8	19.0	19.5
	12H	4H	19.0	19.5	19.4	19.8	20.2	18.4	18.8	18.8	19.2	19.6
		6H	19.0	19.3	19.4	19.7	20.2	18.3	18.6	18.7	19.1	19.5
		8H	18.9	19.2	19.4	19.7	20.1	18.3	18.6	18.7	19.0	19.5
	Variations with the observer position at spacings:											
S = 1.0H	+ 3.0 / - 6.1					+ 2.6 / - 5.9						
1.5H	+ 4.6 / - 5.1					+ 4.3 / - 4.8						
2.0H	+ 4.8 / - 4.3					+ 4.5 / - 3.7						

CIE Pub.117, 1738 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 1.9)

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:1738.49x1 lm		
NAME: ALST70-23G30-WF	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:

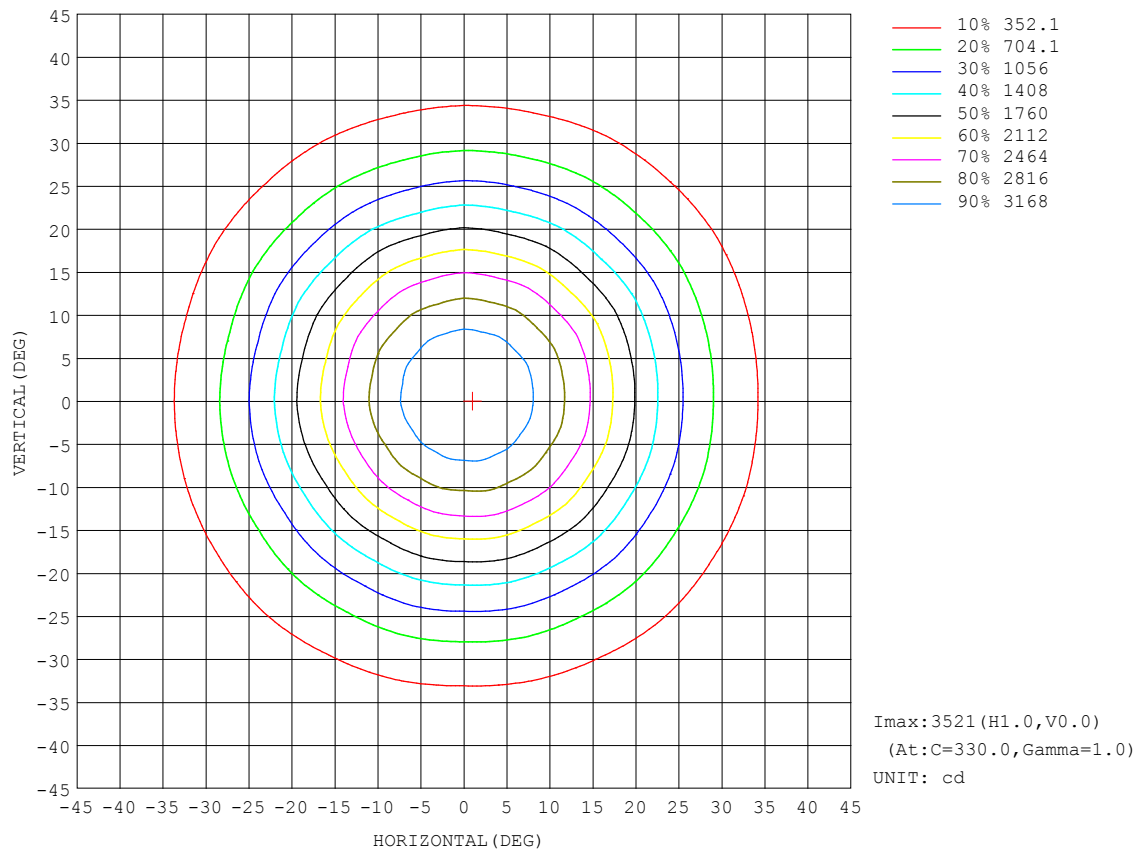
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	88	82	78	88	82	78	87	81	78	74
0.80	95	90	86	95	89	86	94	89	86	82
1.00	100	94	91	99	94	91	97	94	90	86
1.25	104	99	95	103	98	95	101	97	94	90
1.50	106	102	98	105	101	98	103	100	97	93
2.00	109	105	102	107	104	101	105	102	99	94
2.50	110	107	104	109	106	103	106	103	101	95
3.00	112	109	106	110	107	105	107	105	103	96
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

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:0.9230 Freq:0Hz Lamp Flux:1738.49x1 lm		
NAME: ALST70-23G30-WF	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:

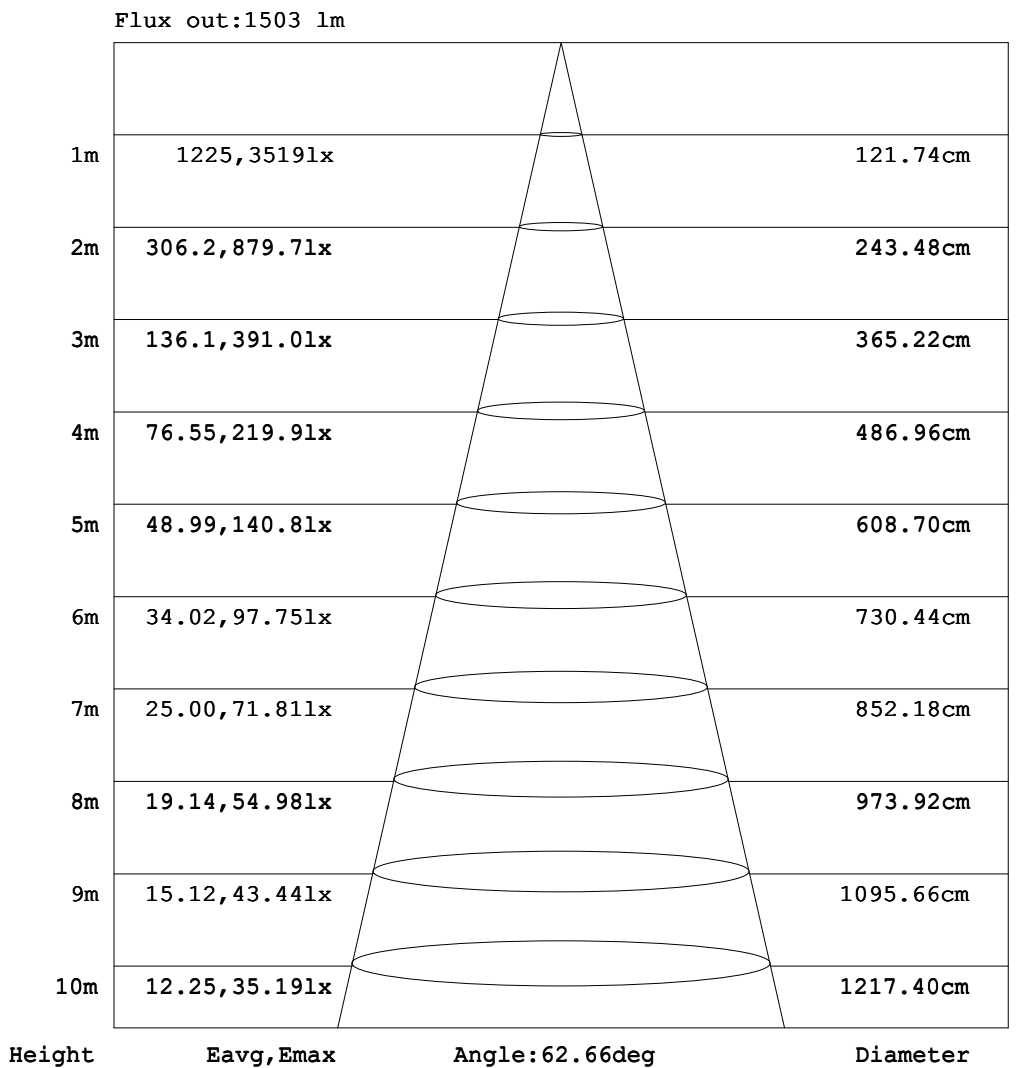


C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:AE
Test Date:2020-11-06

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:1738.49x1 lm		
NAME: ALST70-23G30-WF	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:



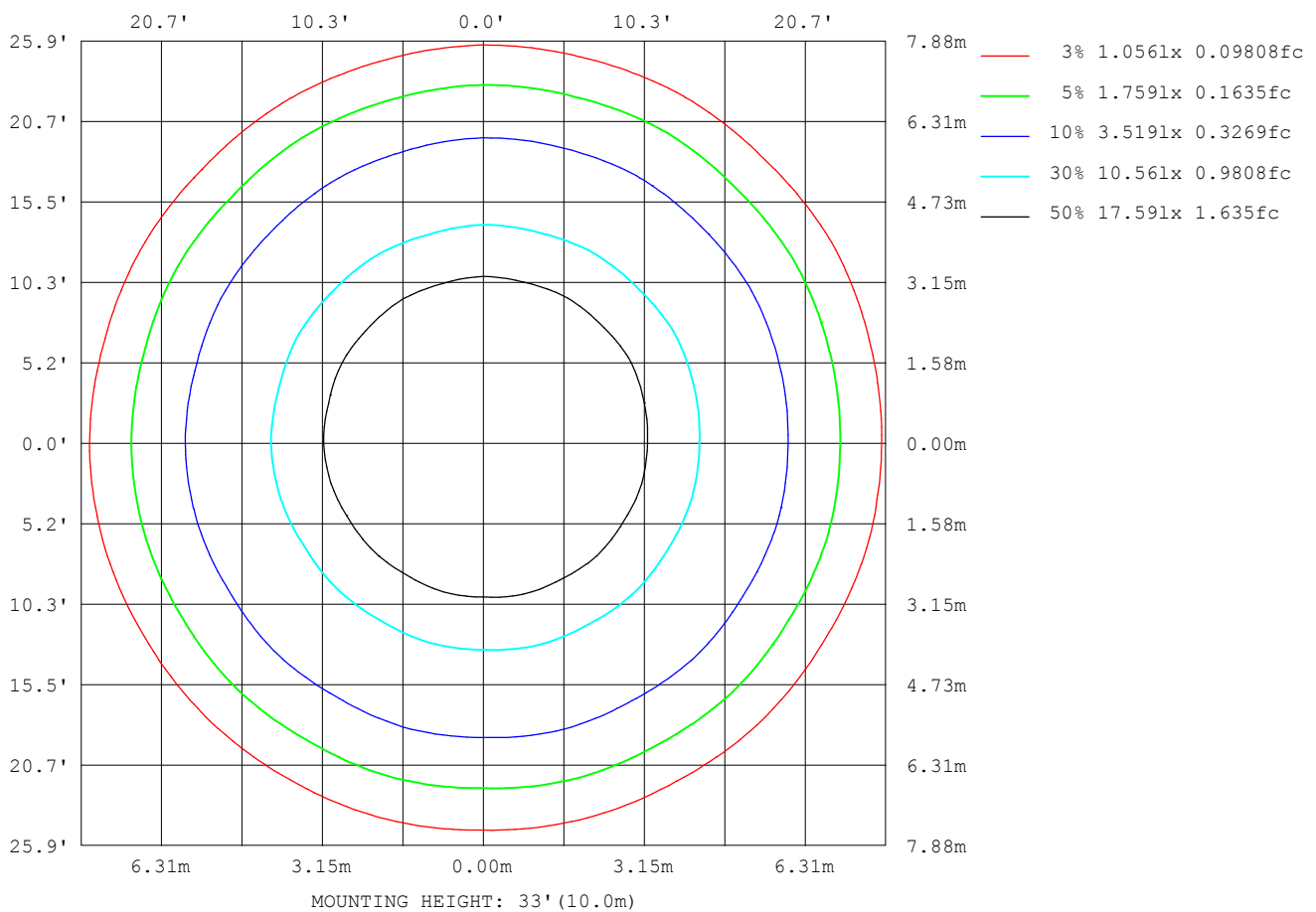
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:1738.49x1 lm		
NAME: ALST70-23G30-WF	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:1738.49x1 lm		
NAME: ALST70-23G30-WF	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:

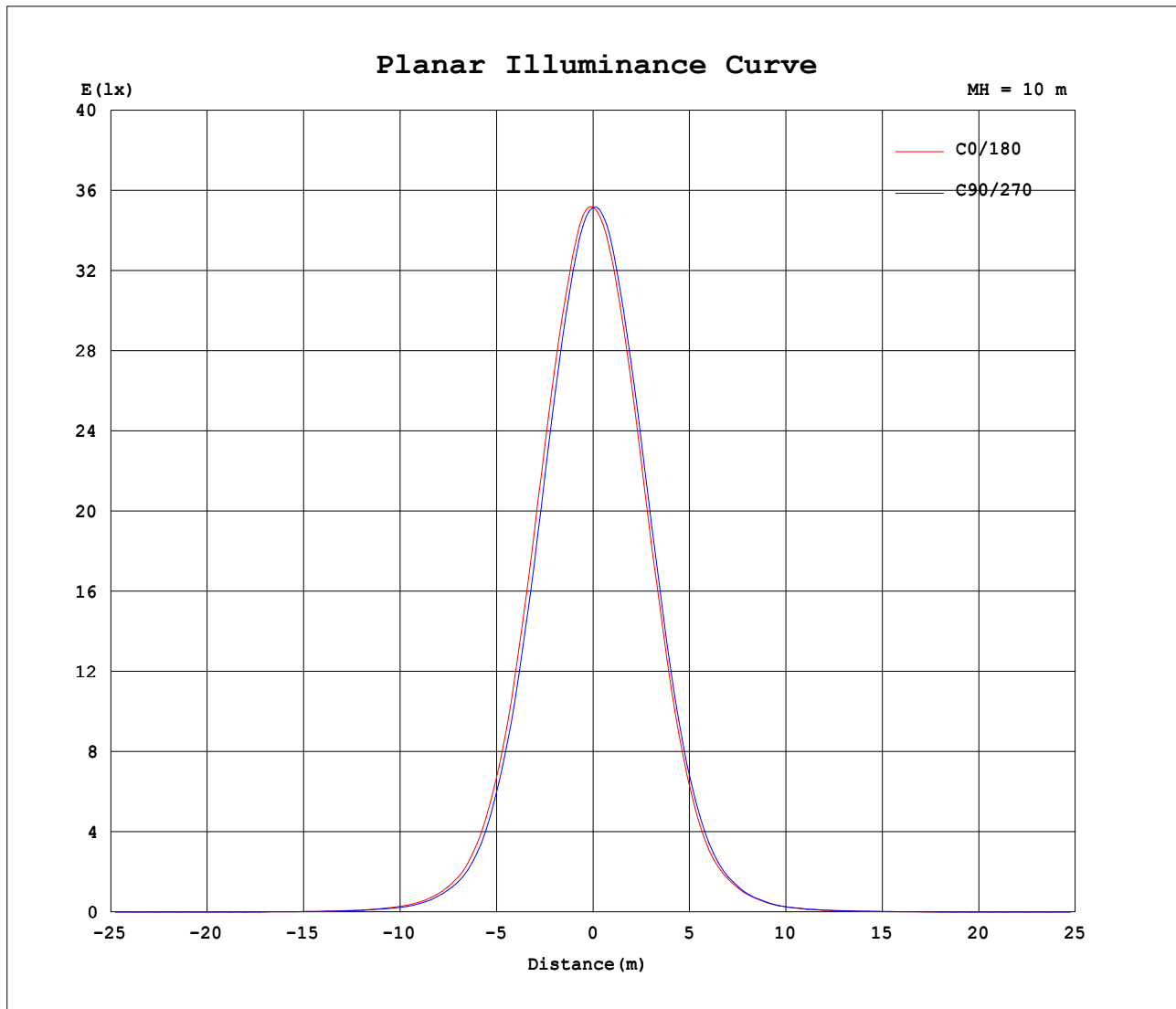
AvgL	cd/m2
L_0~180 (65) av	10717
L_0~180 (75) av	7471
L_0~180 (85) av	7562
L_90~270 (65) av	11488
L_90~270 (75) av	8186
L_90~270 (85) av	7668
L_45 (65) av	11074
L_45 (75) av	7785
L_45 (85) av	7781

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

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
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