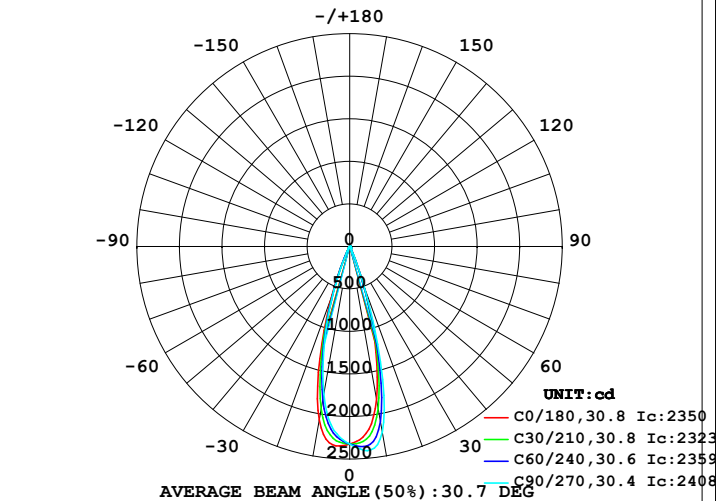


LUMINAIRE PHOTOMETRIC TEST REPORT

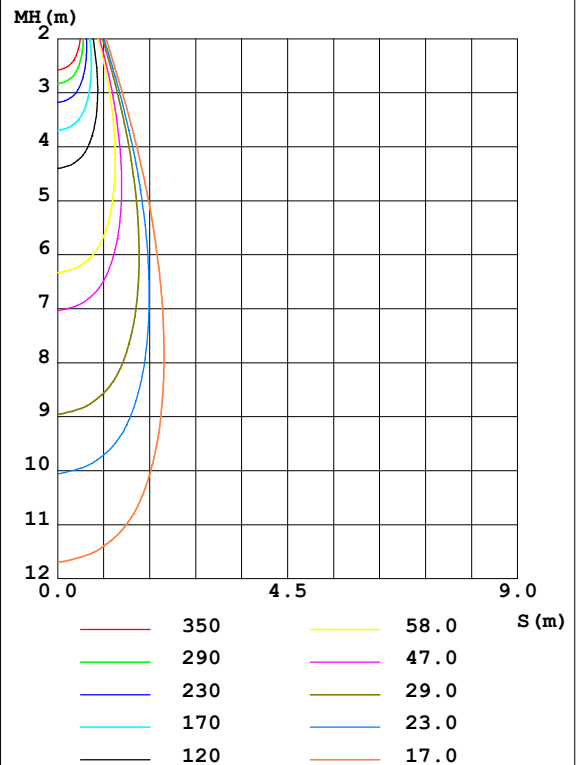
Test:U:225.0V I:0.0410A P:9.110W PF:0.9680 Freq:0Hz Lamp Flux:640.254x1 lm		
NAME: ALST45-09G30-F	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:38	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 70.28 lm/W			
MODEL	3000K CRI90	I _{max} (cd)	2423	S/MH(C0/180)	0.50
NOMINAL POWER(W)	9	LOR(%)	100.0	S/MH(C90/270)	0.48
RATED VOLTAGE(V)	220-240	TOTAL FLUX(lm)	640.25	η UP,DN(C0-180)	0.0,51.9
NOMINAL FLUX(lm)	640.254	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,48.1
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: 2020-11-09

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	1820	2011	2211	2230	2069	1862	1759	1686	0- 10	207.8	207.8	32.5, 32.5
20	458.6	464.7	491.9	569.2	607.2	532.4	545.0	433.0	10- 20	329.0	536.8	83.8, 83.8
30	35.76	36.33	37.42	43.74	52.37	47.67	45.08	45.14	20- 30	77.60	614.4	96, 96
40	14.55	13.83	14.47	18.24	19.81	18.98	16.86	16.45	30- 40	17.12	631.5	98.6, 98.6
50	3.165	2.804	3.010	4.870	4.933	4.446	4.170	4.787	40- 50	7.110	638.6	99.7, 99.7
60	0.2749	0.2063	0.1731	0.3477	0.4361	0.4860	0.4013	0.4209	50- 60	1.561	640.2	100, 100
70	0	0	0	0	0	0.0431	0	0.0197	60- 70	0.0740	640.2	100, 100
80	0	0	0	0	0	0	0	0	70- 80	0.0010	640.2	100, 100
90	0.0586	0.0782	0.0587	0.0588	0	0	0	0	80- 90	0.0088	640.3	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): 636.15 lm

%lum = 99.4%

%lamp = 99.4%

Conical surface Flux(120deg): 640.17 lm

%lum = 100.0%

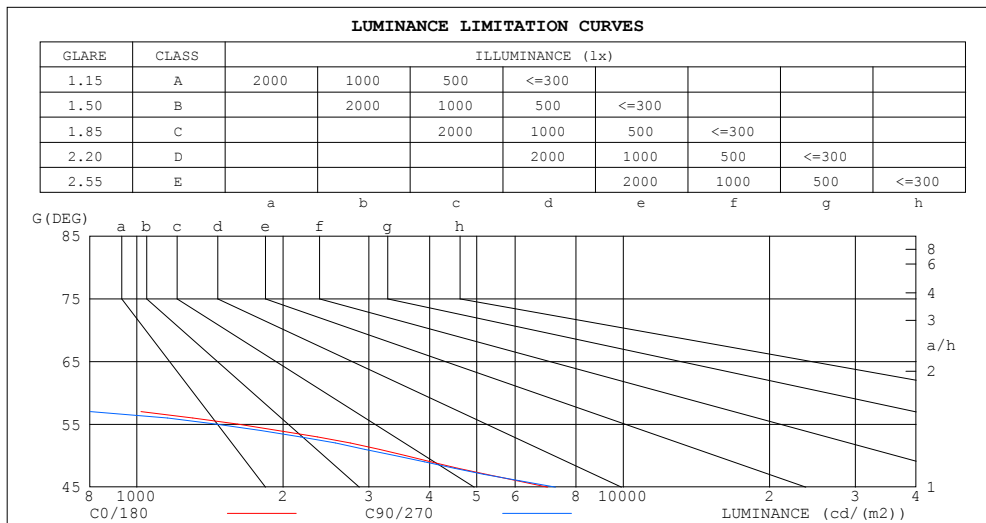
%lamp = 100.0%

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:AE
 Test Date:2020-11-09

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:225.0V I:0.0410A P:9.110W PF:0.9680 Freq:0Hz Lamp Flux:640.254x1 lm		
NAME: ALST45-09G30-F	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:38	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	0	0
80	0	0
75	0	0
70	0	0
65	0	0
60	398	250
55	1611	1454
50	3561	3386
45	6983	7254

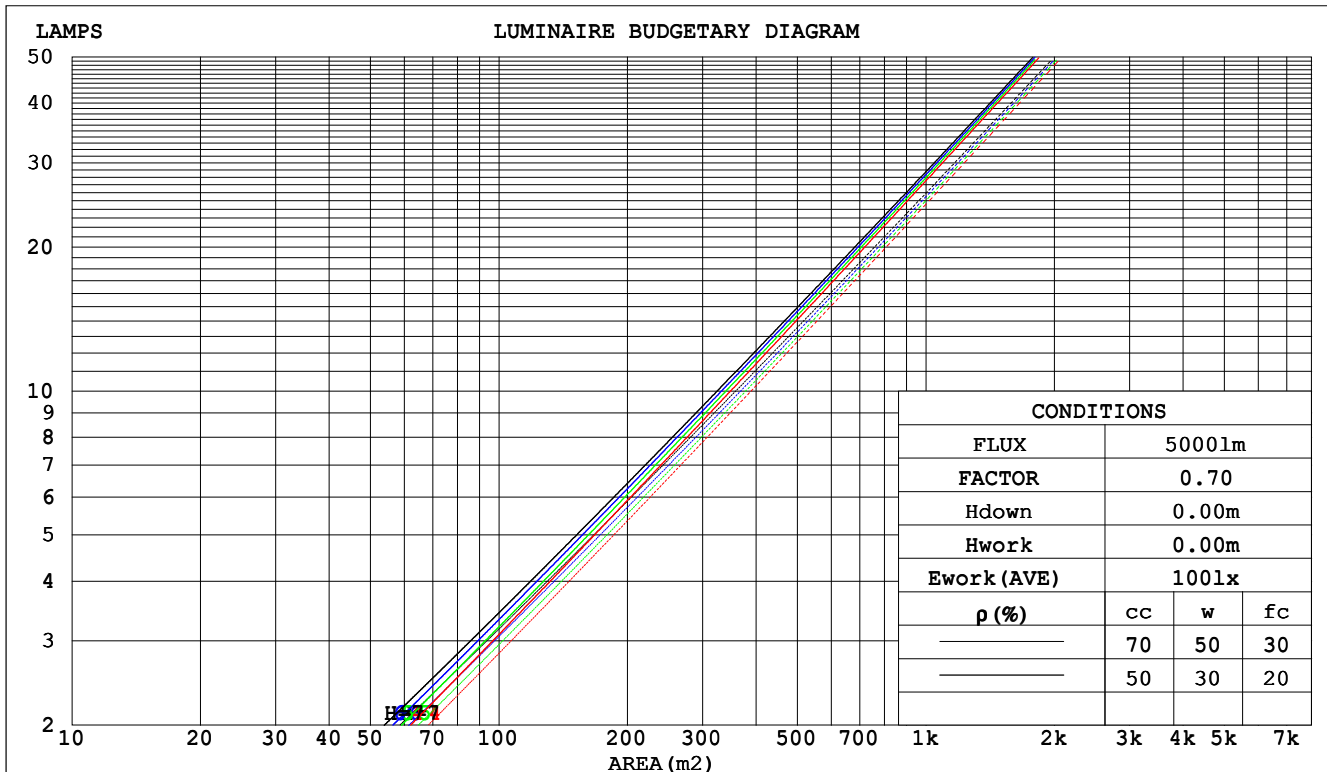
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:AE
Test Date:2020-11-09

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:225.0V I:0.0410A P:9.110W PF:0.9680 Freq:0Hz Lamp Flux:640.254x1 lm		
NAME: ALST45-09G30-F	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:38	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	1.09	1.11	1.09	1.08	1.07	1.06	1.04	1.03	1.02	1.01	.00	.99	.98	.97
2.0	1.08	1.05	1.02	1.06	1.03	1.01	1.03	1.01	.99	1.00	.98	.97	.97	.96	.95	.93
3.0	1.03	.00	.97	1.02	.99	.96	.99	.97	.95	.97	.95	.93	.95	.93	.92	.90
4.0	.99	.95	.92	.98	.95	.92	.96	.93	.91	.94	.92	.90	.93	.90	.89	.88
5.0	.96	.92	.88	.95	.91	.88	.93	.90	.87	.92	.89	.87	.90	.88	.86	.85
6.0	.92	.88	.85	.92	.88	.85	.90	.87	.84	.89	.86	.84	.88	.85	.83	.82
7.0	.89	.85	.82	.89	.85	.82	.88	.84	.82	.87	.84	.81	.86	.83	.81	.80
8.0	.87	.83	.80	.86	.82	.80	.85	.82	.79	.84	.81	.79	.84	.81	.79	.78
9.0	.84	.80	.77	.84	.80	.77	.83	.79	.77	.82	.79	.77	.81	.79	.77	.76
10.0	.82	.78	.75	.81	.78	.75	.81	.77	.75	.80	.77	.75	.79	.77	.74	.74



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:AE
 Test Date:2020-11-09

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:225.0V I:0.0410A P:9.110W PF:0.9680 Freq:0Hz Lamp Flux:640.254x1 lm					
NAME: ALST45-09G30-F			TYPE:		WEIGHT:
SPEC.:			DIM.:		SERIAL No.:
MFR.:			SUR.:38		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	.136	.077	.024	.129	.074	.023	.117	.067	.021	.106	.061	.020	.095	.055	.018	
2.0	.126	.069	.021	.120	.066	.020	.110	.061	.019	.101	.057	.018	.092	.052	.016	
3.0	.117	.062	.019	.113	.060	.018	.104	.057	.017	.096	.053	.016	.089	.049	.015	
4.0	.110	.057	.017	.106	.056	.016	.099	.053	.016	.092	.050	.015	.086	.047	.014	
5.0	.104	.053	.015	.100	.052	.015	.094	.049	.014	.089	.047	.014	.083	.045	.013	
6.0	.098	.049	.014	.095	.048	.014	.090	.046	.013	.085	.044	.013	.081	.042	.013	
7.0	.093	.046	.013	.091	.045	.013	.086	.044	.013	.082	.042	.012	.078	.041	.012	
8.0	.089	.044	.012	.087	.043	.012	.083	.041	.012	.079	.040	.012	.076	.039	.011	
9.0	.085	.041	.012	.083	.041	.011	.080	.039	.011	.076	.038	.011	.073	.037	.011	
10.0	.082	.039	.011	.080	.039	.011	.077	.038	.011	.074	.037	.010	.071	.036	.010	

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	.127	.098	.093	.088	.057	.054	.051	.018	.017	.017	
2.0	.150	.133	.118	.129	.114	.102	.088	.079	.071	.051	.046	.042	.016	.015	.014	
3.0	.135	.113	.096	.116	.098	.083	.080	.068	.058	.046	.040	.034	.015	.013	.011	
4.0	.123	.098	.079	.105	.085	.069	.072	.059	.048	.042	.035	.029	.013	.011	.009	
5.0	.112	.086	.066	.096	.074	.057	.066	.052	.041	.038	.030	.024	.012	.010	.008	
6.0	.103	.076	.056	.089	.065	.049	.061	.046	.034	.035	.027	.020	.011	.009	.007	
7.0	.096	.067	.048	.082	.058	.041	.057	.041	.029	.033	.024	.017	.011	.008	.006	
8.0	.089	.061	.041	.077	.053	.036	.053	.037	.025	.031	.022	.015	.010	.007	.005	
9.0	.083	.055	.036	.072	.048	.031	.050	.034	.022	.029	.020	.013	.009	.006	.004	
10.0	.079	.050	.031	.068	.044	.027	.047	.031	.019	.027	.018	.012	.009	.006	.004	

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:AE
Test Date:2020-11-09

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:225.0V I:0.0410A P:9.110W PF:0.9680 Freq:0Hz Lamp Flux:640.254x1 lm											
NAME: ALST45-09G30-F					TYPE:			WEIGHT:			
SPEC.:					DIM.:			SERIAL No.:			
MFR.:					SUR.:38			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	8.8	9.4	9.0	9.6	9.7	8.6	9.3	8.8	9.4	9.6	
	3H	8.7	9.3	8.9	9.4	9.6	8.5	9.1	8.7	9.3	9.5
	4H	8.6	9.2	8.8	9.4	9.6	8.4	9.0	8.7	9.2	9.4
	6H	8.5	9.0	8.8	9.3	9.5	8.3	8.9	8.6	9.1	9.3
	8H	8.4	9.0	8.7	9.2	9.5	8.3	8.8	8.6	9.1	9.3
	12H	8.4	8.9	8.7	9.2	9.4	8.2	8.8	8.6	9.0	9.3
4H	2H	8.6	9.2	8.8	9.4	9.6	8.4	9.0	8.7	9.2	9.4
	3H	8.4	8.9	8.7	9.2	9.4	8.3	8.8	8.6	9.0	9.3
	4H	8.3	8.8	8.7	9.1	9.4	8.2	8.6	8.5	8.9	9.2
	6H	8.2	8.6	8.6	9.0	9.3	8.1	8.5	8.4	8.8	9.1
	8H	8.2	8.5	8.5	8.9	9.2	8.0	8.4	8.4	8.7	9.1
	12H	8.1	8.5	8.5	8.8	9.2	7.9	8.3	8.4	8.7	9.1
8H	4H	8.2	8.5	8.5	8.9	9.2	8.0	8.4	8.4	8.7	9.1
	6H	8.0	8.4	8.5	8.8	9.2	7.9	8.2	8.3	8.6	9.0
	8H	8.0	8.3	8.4	8.7	9.1	7.8	8.1	8.3	8.5	9.0
	12H	7.9	8.2	8.4	8.6	9.1	7.8	8.0	8.2	8.4	8.9
12H	4H	8.1	8.5	8.5	8.8	9.2	7.9	8.3	8.4	8.7	9.1
	6H	8.0	8.3	8.4	8.7	9.1	7.8	8.1	8.3	8.5	9.0
	8H	7.9	8.2	8.4	8.6	9.1	7.8	8.0	8.2	8.4	8.9
Variations with the observer position at spacings:											
S = 1.0H	+ 3.1 / -13.5					+ 2.8 / -15.0					
1.5H	+ 4.9 / - 9.2					+ 4.6 / - 9.8					
2.0H	+ 6.7 / -33.4					+ 7.0 / - 1.5					

CIE Pub.117, 640.3 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -1.5)

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:AE
Test Date:2020-11-09

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:225.0V I:0.0410A P:9.110W PF:0.9680 Freq:0Hz Lamp Flux:640.254x1 lm		
NAME: ALST45-09G30-F	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:38	Shielding Angle:

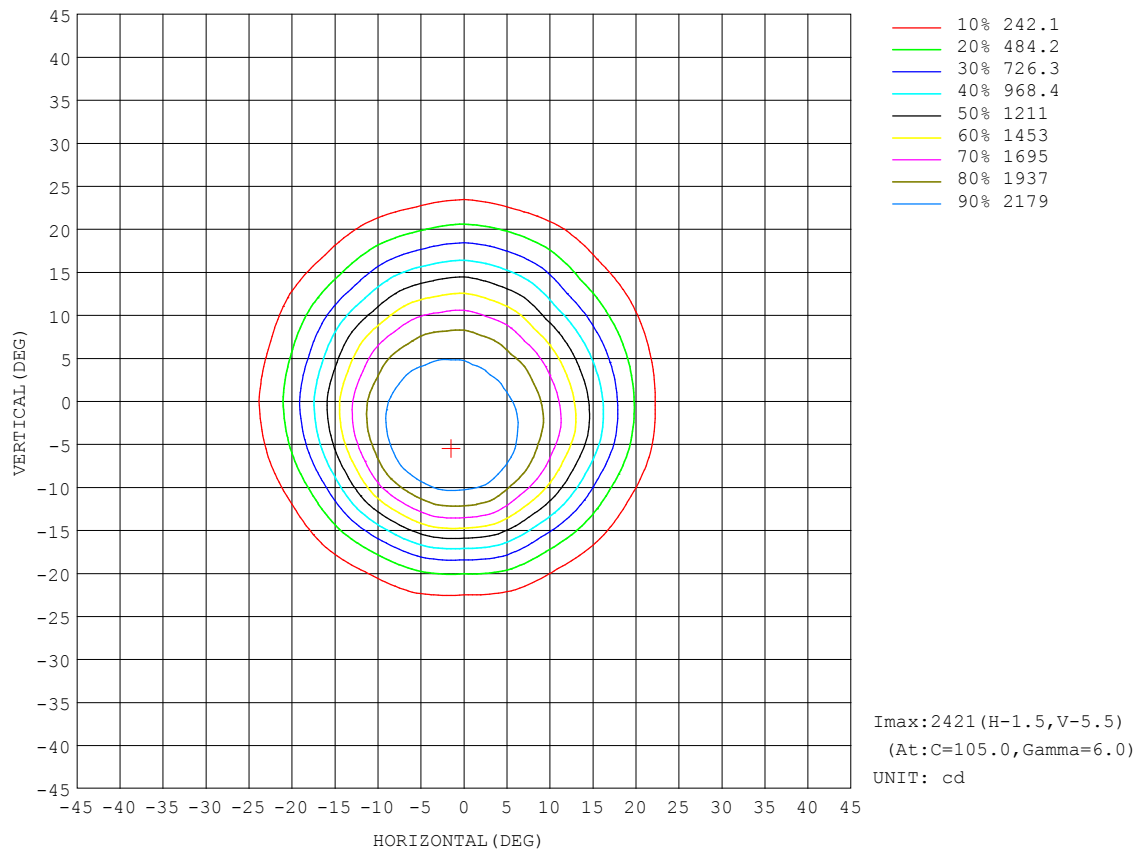
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	91	85	82	90	85	81	89	84	81	78
0.80	98	92	89	97	92	89	96	92	89	85
1.00	102	97	93	101	96	93	99	96	92	89
1.25	105	100	97	104	100	97	102	99	96	92
1.50	108	103	100	106	103	100	104	101	99	95
2.00	110	106	103	108	105	102	106	103	101	96
2.50	111	108	105	110	107	104	107	104	102	97
3.00	113	110	107	111	108	106	108	105	104	98
4.00	114	112	110	112	110	109	109	107	106	99
5.00	116	114	112	114	112	110	110	108	107	100
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:2020-11-09

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:225.0V I:0.0410A P:9.110W PF:0.9680 Freq:0Hz Lamp Flux:640.254x1 lm		
NAME: ALST45-09G30-F	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:38	Shielding Angle:

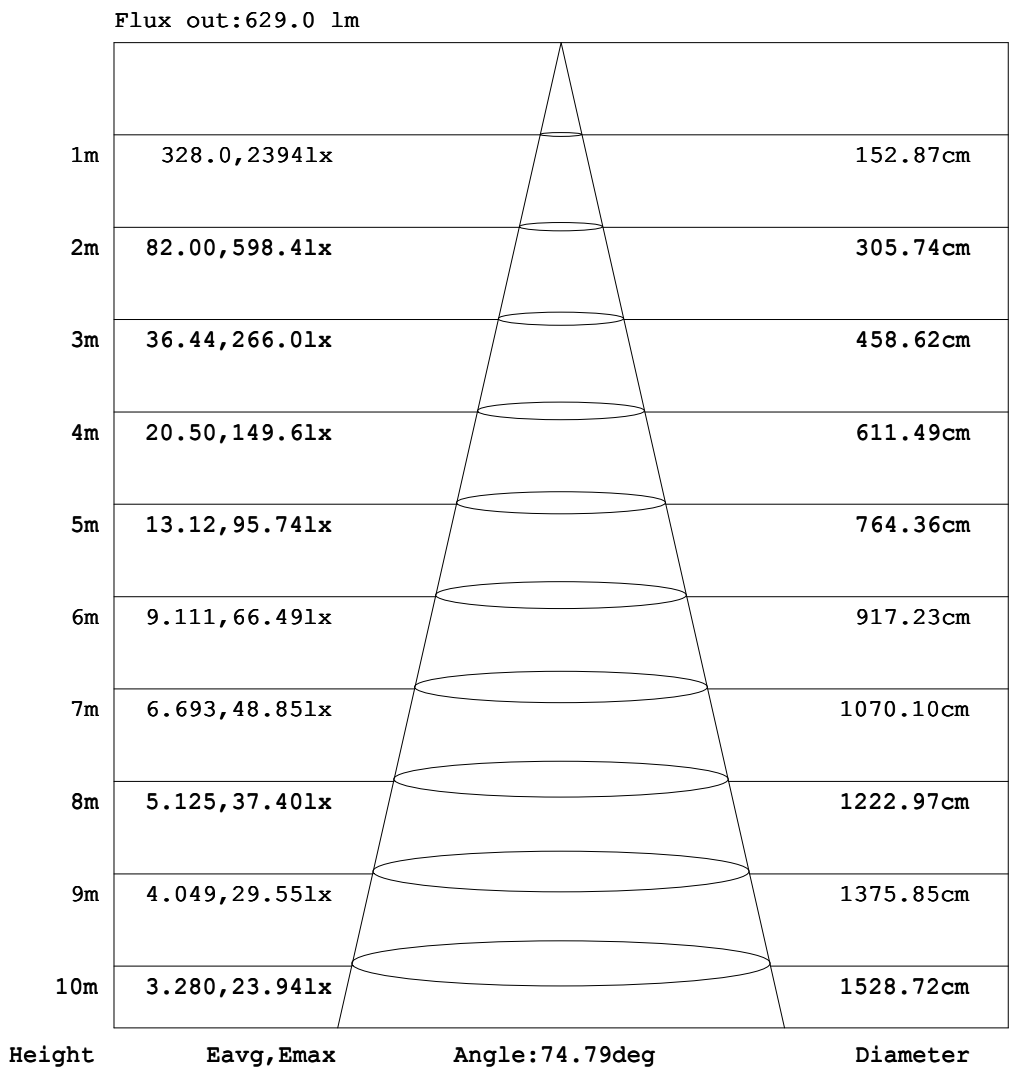


C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:AE
Test Date:2020-11-09

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:225.0V I:0.0410A P:9.110W PF:0.9680 Freq:0Hz Lamp Flux:640.254x1 lm		
NAME: ALST45-09G30-F	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:38	Shielding Angle:



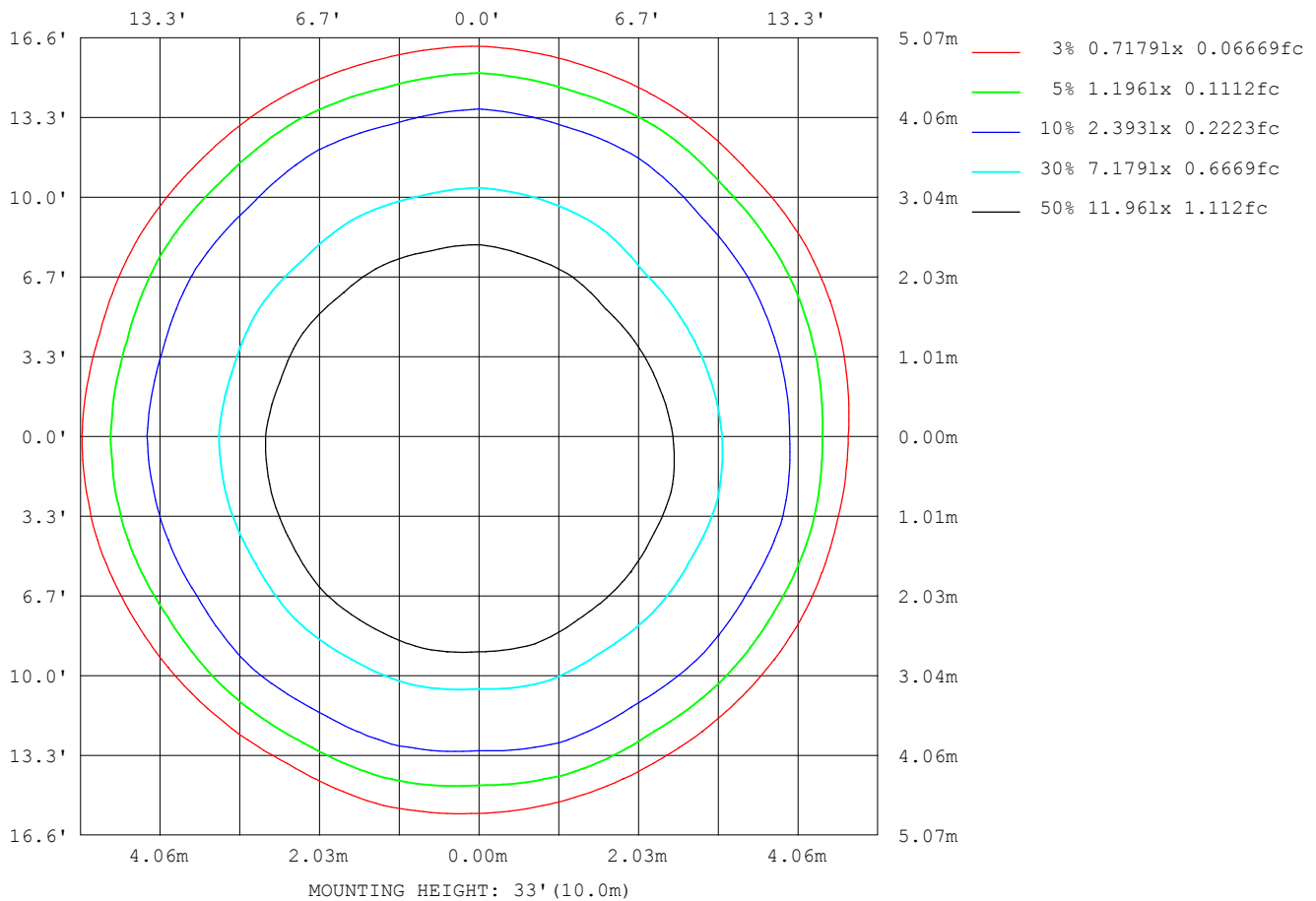
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:AE
 Test Date:2020-11-09

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:225.0V I:0.0410A P:9.110W PF:0.9680 Freq:0Hz Lamp Flux:640.254x1 lm		
NAME: ALST45-09G30-F	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:38	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:AE
Test Date:2020-11-09

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:225.0V I:0.0410A P:9.110W PF:0.9680 Freq:0Hz Lamp Flux:640.254x1 lm		
NAME: ALST45-09G30-F	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:38	Shielding Angle:

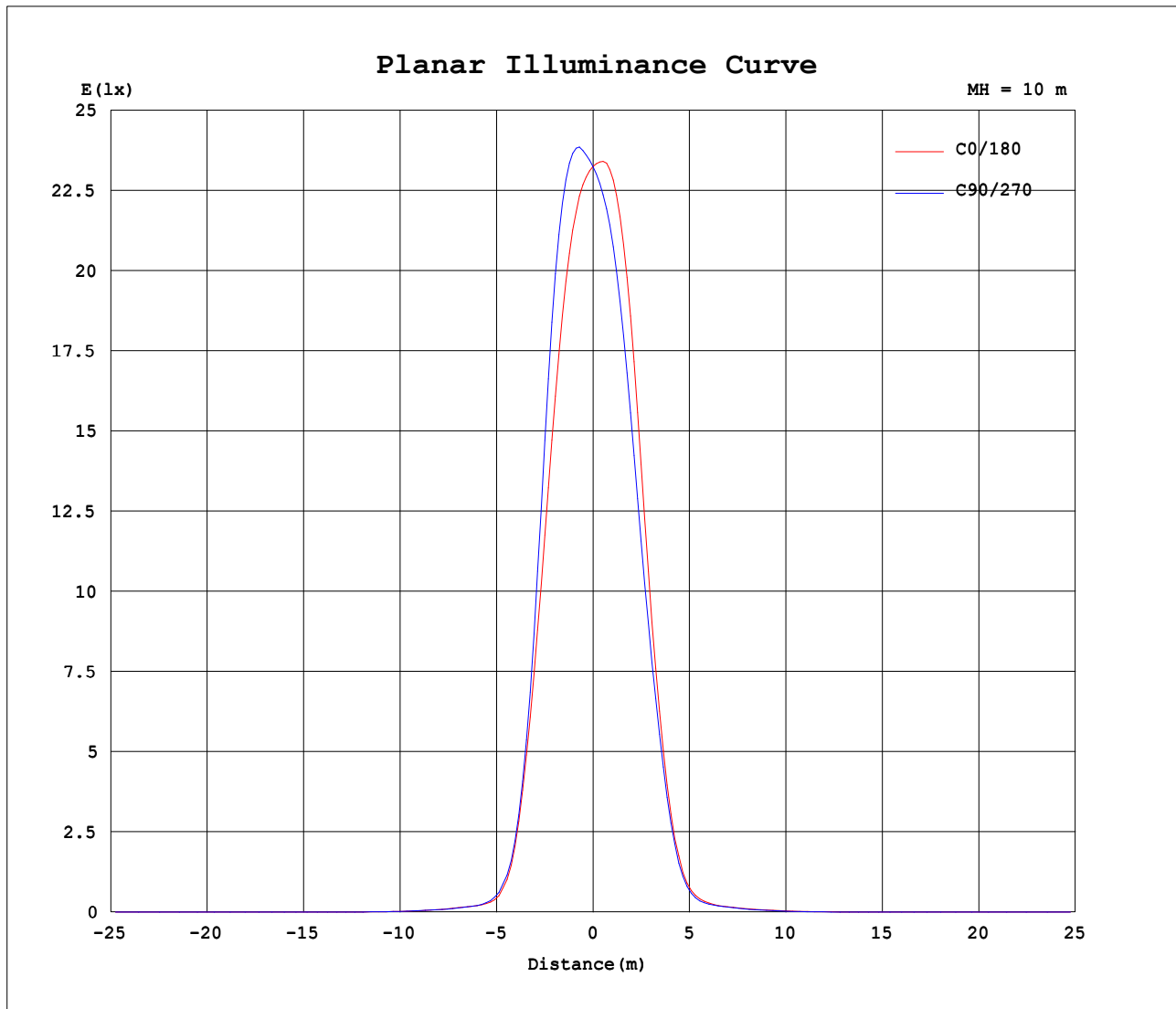
AvgL	cd/m2
L_0~180 (65) av	47
L_0~180 (75) av	0
L_0~180 (85) av	0
L_90~270 (65) av	40
L_90~270 (75) av	0
L_90~270 (85) av	0
L_45 (65) av	82
L_45 (75) av	0
L_45 (85) av	17

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:AE
 Test Date:2020-11-09

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: 2020-11-09

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:

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γ Interval: 1.0DEG
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