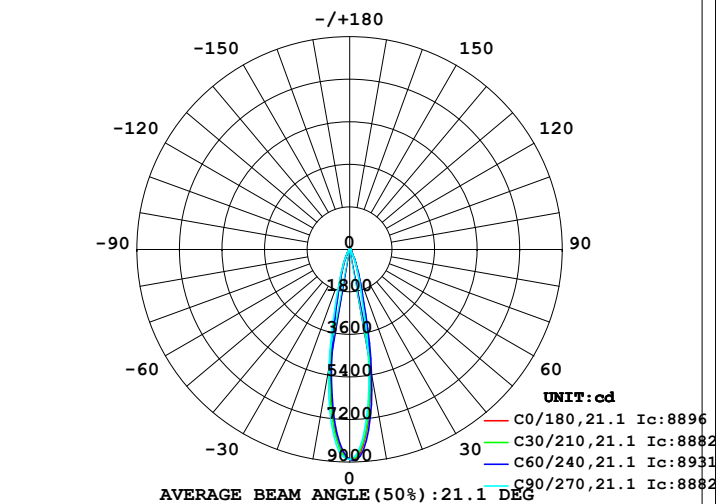


LUMINAIRE PHOTOMETRIC TEST REPORT

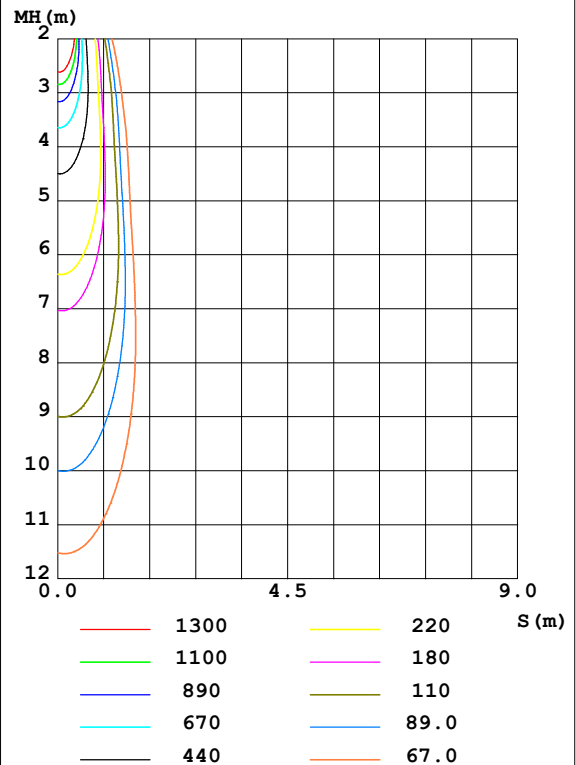
Test:U:225.0V I:0.0920A P:20.40W PF:0.9790 Freq:0Hz Lamp Flux:1666.17x1 lm					
NAME: ALS70-20G30-24		TYPE:		WEIGHT:	
SPEC.:		DIM.:		SERIAL No.:	
MFR.:		SUR.:60		Shielding Angle:	

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 81.67 lm/W
MODEL	3000K CRI90	I _{max} (cd)	8931	S/MH(C0/180)	0.35	
NOMINAL POWER(W)	20.4	LOR(%)	100.0	S/MH(C90/270)	0.37	
RATED VOLTAGE(V)	220-240	TOTAL FLUX(lm)	1666.2	η UP,DN(C0-180)	0.0,49.5	
NOMINAL FLUX(lm)	1666.17	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.5	
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	5001	4873	4545	4516	4593	4706	5072	5075	0- 10	641.1	641.1	38.5,38.5
20	1081	1061	969.2	974.7	1011	1029	1070	1087	10- 20	620.3	1261	75.7,75.7
30	292.3	284.7	257.2	256.7	267.0	267.4	285.5	289.4	20- 30	258.3	1520	91.2,91.2
40	78.11	76.49	68.71	67.71	71.69	73.71	77.33	77.25	30- 40	92.36	1612	96.7,96.7
50	24.13	23.54	21.24	21.44	22.67	22.92	24.00	23.64	40- 50	32.81	1645	98.7,98.7
60	7.894	7.911	6.416	6.638	6.776	7.211	8.292	8.069	50- 60	14.26	1659	99.6,99.6
70	2.604	2.549	2.452	2.599	2.748	2.764	2.694	2.731	60- 70	4.061	1663	99.8,99.8
80	1.255	1.161	1.124	1.102	1.088	1.140	1.156	1.241	70- 80	1.940	1665	99.9,99.9
90	1.305	1.319	1.311	1.314	0.6562	0.6651	0.6534	0.6688	80- 90	1.078	1666	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): 1632.6 lm

%lum = 98.0%

%lamp = 98.0%

Conical surface Flux(120deg): 1659.1 lm

%lum = 99.6%

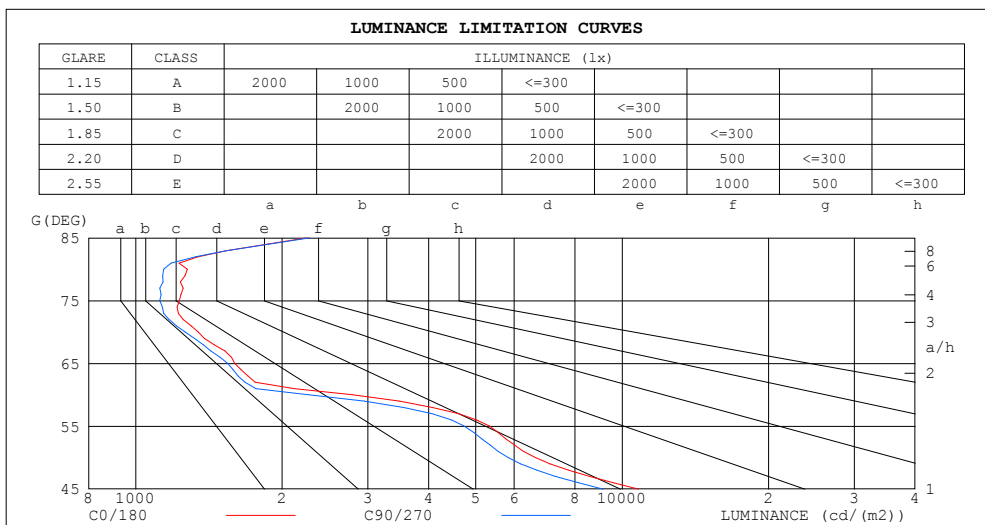
%lamp = 99.6%

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:0.0920A P:20.40W PF:0.9790 Freq:0Hz Lamp Flux:1666.17x1 lm		
NAME: ALS70-20G30-24	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	2247	2279
80	1276	1141
75	1229	1120
70	1344	1264
65	1597	1545
60	2787	2262
55	5334	4737
50	6629	5826
45	10795	9133

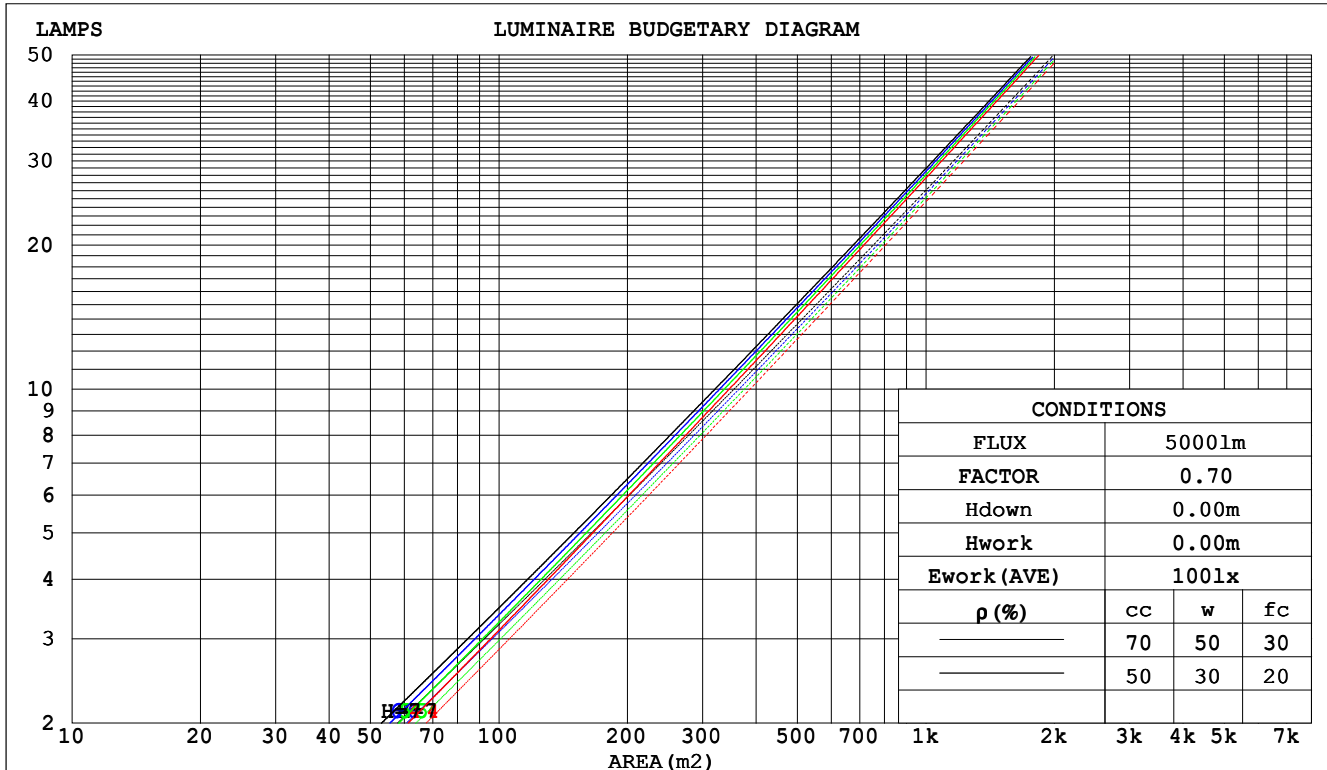
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:AE
Test Date:2020-11-09

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:0.0920A P:20.40W PF:0.9790 Freq:0Hz Lamp Flux:1666.17x1 lm		
NAME: ALS70-20G30-24	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	1.09	1.11	1.09	1.07	1.07	1.05	1.04	1.03	1.02	1.01	.00	.99	.98	.96
2.0	1.07	1.04	1.02	1.06	1.03	1.00	1.02	1.00	.98	.00	.98	.96	.97	.96	.94	.93
3.0	1.03	.99	.96	1.01	.98	.95	.99	.96	.94	.96	.94	.92	.94	.92	.91	.90
4.0	.98	.94	.91	.97	.94	.91	.95	.92	.90	.93	.91	.89	.92	.90	.88	.86
5.0	.95	.90	.87	.94	.90	.87	.92	.89	.86	.91	.88	.86	.89	.87	.85	.84
6.0	.91	.87	.84	.91	.87	.84	.89	.86	.83	.88	.85	.83	.87	.84	.82	.81
7.0	.88	.84	.81	.88	.84	.81	.87	.83	.80	.86	.82	.80	.85	.82	.80	.79
8.0	.86	.81	.78	.85	.81	.78	.84	.81	.78	.83	.80	.78	.82	.80	.77	.76
9.0	.83	.79	.76	.83	.79	.76	.82	.78	.76	.81	.78	.76	.80	.78	.75	.74
10.0	.81	.77	.74	.80	.77	.74	.80	.76	.74	.79	.76	.74	.78	.76	.73	.73



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:0.0920A P:20.40W PF:0.9790 Freq:0Hz Lamp Flux:1666.17x1 lm					
NAME: ALS70-20G30-24			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	.140	.080	.025	.134	.076	.024	.121	.070	.022	.110	.063	.020	.099	.058	.019	
2.0	.130	.071	.022	.125	.069	.021	.115	.064	.020	.105	.059	.018	.096	.055	.017	
3.0	.122	.065	.019	.117	.063	.019	.108	.059	.018	.101	.055	.017	.093	.052	.016	
4.0	.114	.059	.017	.110	.058	.017	.103	.055	.016	.096	.052	.016	.090	.049	.015	
5.0	.107	.055	.016	.104	.053	.016	.098	.051	.015	.092	.049	.014	.087	.046	.014	
6.0	.101	.051	.015	.099	.050	.014	.093	.048	.014	.088	.046	.013	.084	.044	.013	
7.0	.096	.048	.013	.094	.047	.013	.089	.045	.013	.085	.043	.013	.081	.042	.012	
8.0	.091	.045	.013	.089	.044	.012	.085	.043	.012	.082	.041	.012	.078	.040	.012	
9.0	.087	.042	.012	.085	.042	.012	.082	.040	.011	.078	.039	.011	.075	.038	.011	
10.0	.083	.040	.011	.082	.040	.011	.079	.039	.011	.076	.038	.011	.073	.037	.011	

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	.169	.158	.148	.144	.135	.127	.099	.093	.088	.057	.054	.051	.018	.017	.017	
2.0	.151	.133	.118	.129	.114	.102	.088	.079	.071	.051	.046	.042	.016	.015	.014	
3.0	.136	.113	.095	.117	.098	.083	.080	.068	.058	.046	.040	.034	.015	.013	.011	
4.0	.124	.098	.078	.106	.085	.068	.073	.059	.048	.042	.035	.028	.014	.011	.009	
5.0	.113	.086	.065	.097	.074	.057	.067	.052	.040	.039	.030	.024	.012	.010	.008	
6.0	.104	.076	.055	.090	.066	.048	.062	.046	.034	.036	.027	.020	.012	.009	.007	
7.0	.097	.068	.047	.083	.059	.041	.057	.041	.029	.033	.024	.017	.011	.008	.006	
8.0	.090	.061	.041	.078	.053	.035	.054	.037	.025	.031	.022	.015	.010	.007	.005	
9.0	.084	.055	.035	.073	.048	.031	.050	.034	.022	.029	.020	.013	.010	.007	.004	
10.0	.079	.050	.031	.068	.044	.027	.048	.031	.019	.028	.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:0.0920A P:20.40W PF:0.9790 Freq:0Hz Lamp Flux:1666.17x1 lm											
NAME: ALS70-20G30-24						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		10.6	11.3	10.8	11.5	11.6	10.3	11.0	10.5	11.1	11.3
	3H	10.6	11.2	10.8	11.4	11.6	10.3	10.9	10.5	11.1	11.3
	4H	10.5	11.1	10.8	11.3	11.5	10.2	10.8	10.5	11.0	11.2
	6H	10.5	11.0	10.8	11.3	11.5	10.2	10.7	10.4	11.0	11.2
	8H	10.4	11.0	10.7	11.2	11.5	10.1	10.7	10.4	10.9	11.2
	12H	10.4	11.0	10.7	11.2	11.5	10.1	10.7	10.4	10.9	11.2
4H	2H	10.5	11.1	10.8	11.3	11.5	10.2	10.8	10.5	11.0	11.2
	3H	10.4	11.0	10.7	11.2	11.5	10.1	10.7	10.4	10.9	11.2
	4H	10.4	10.9	10.7	11.2	11.5	10.1	10.6	10.4	10.9	11.2
	6H	10.4	10.8	10.7	11.1	11.4	10.1	10.5	10.4	10.8	11.1
	8H	10.3	10.7	10.7	11.1	11.4	10.0	10.4	10.4	10.8	11.1
	12H	10.3	10.7	10.7	11.1	11.5	10.1	10.4	10.5	10.8	11.2
8H	4H	10.3	10.7	10.7	11.0	11.4	10.0	10.4	10.4	10.7	11.1
	6H	10.2	10.6	10.7	11.0	11.4	9.9	10.3	10.4	10.7	11.1
	8H	10.2	10.5	10.7	10.9	11.4	9.9	10.2	10.4	10.7	11.1
	12H	10.3	10.5	10.8	11.0	11.5	10.0	10.3	10.5	10.7	11.2
12H	4H	10.2	10.6	10.6	10.9	11.3	9.9	10.3	10.3	10.7	11.0
	6H	10.2	10.5	10.6	10.9	11.3	9.9	10.2	10.3	10.6	11.0
	8H	10.2	10.5	10.7	10.9	11.4	9.9	10.2	10.4	10.6	11.1
Variations with the observer position at spacings:											
S = 1.0H	+ 2.4 / - 4.0					+ 1.9 / - 3.9					
1.5H	+ 3.8 / - 2.6					+ 3.2 / - 2.9					
2.0H	+ 3.6 / - 4.4					+ 3.0 / - 4.2					

CIE Pub.117, 1666 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 1.8)

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:0.0920A P:20.40W PF:0.9790 Freq:0Hz Lamp Flux:1666.17x1 lm		
NAME: ALS70-20G30-24	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:

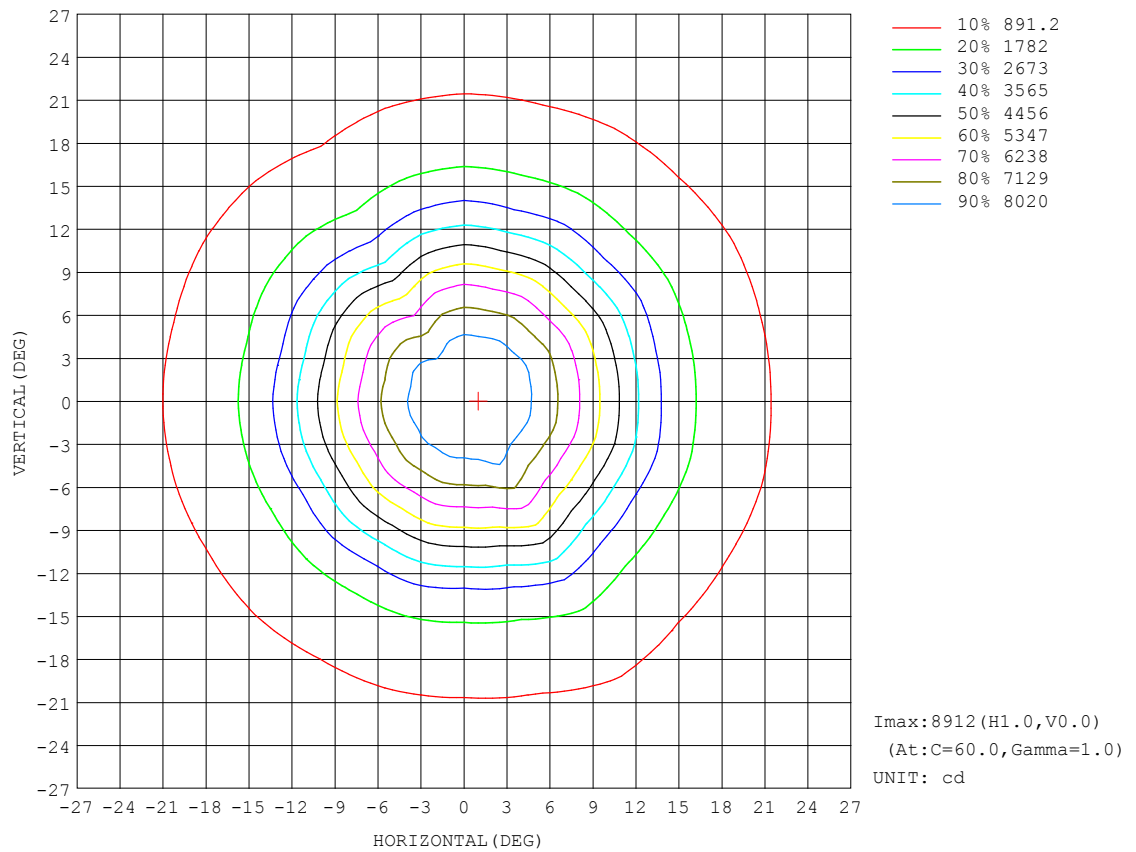
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	90	84	80	89	83	80	88	83	80	76
0.80	97	91	88	96	91	88	95	90	87	84
1.00	101	95	92	100	95	92	98	95	91	88
1.25	104	100	96	103	99	96	101	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	104	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	98
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:2020-11-09

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:0.0920A P:20.40W PF:0.9790 Freq:0Hz Lamp Flux:1666.17x1 lm		
NAME: ALS70-20G30-24	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:

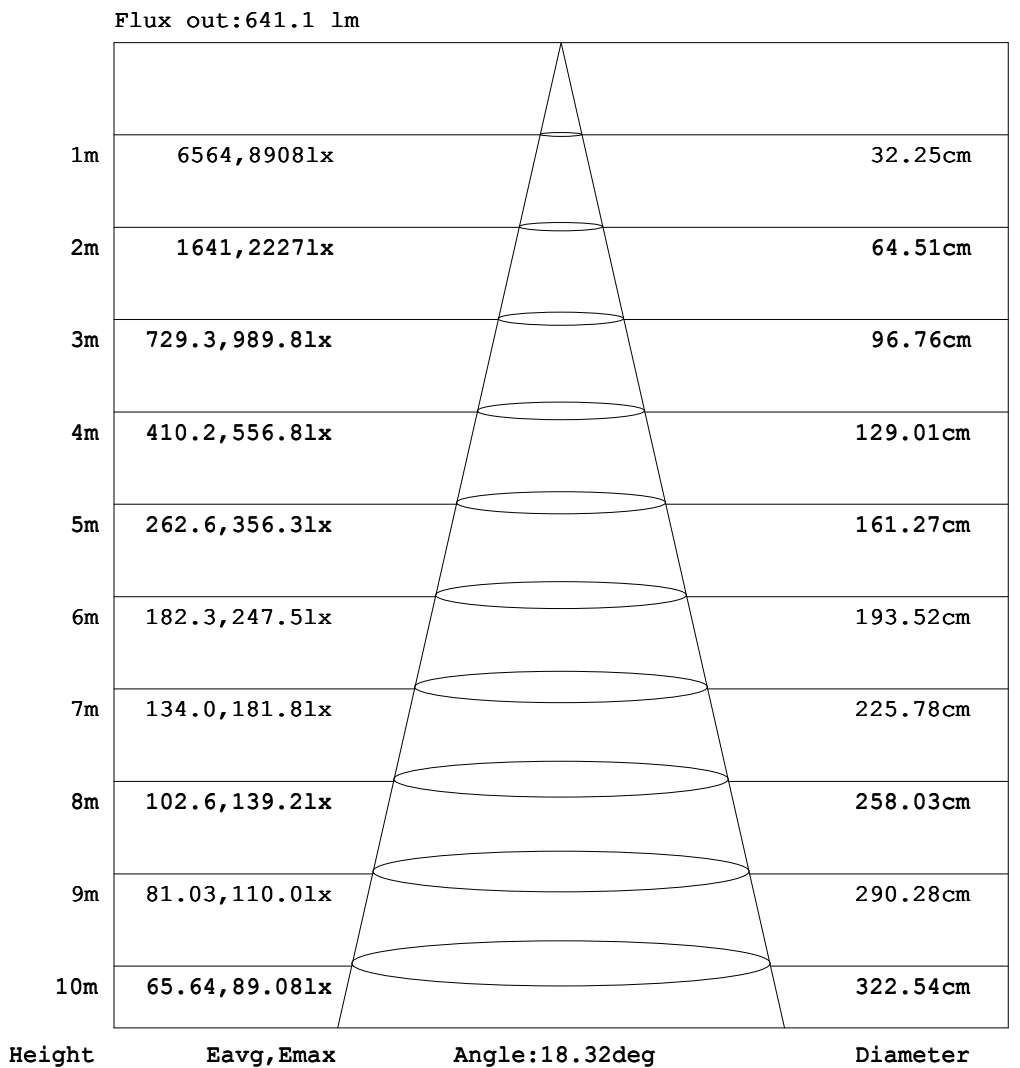


C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:AE
Test Date:2020-11-09

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:0.0920A P:20.40W PF:0.9790 Freq:0Hz Lamp Flux:1666.17x1 lm		
NAME: ALS70-20G30-24	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:



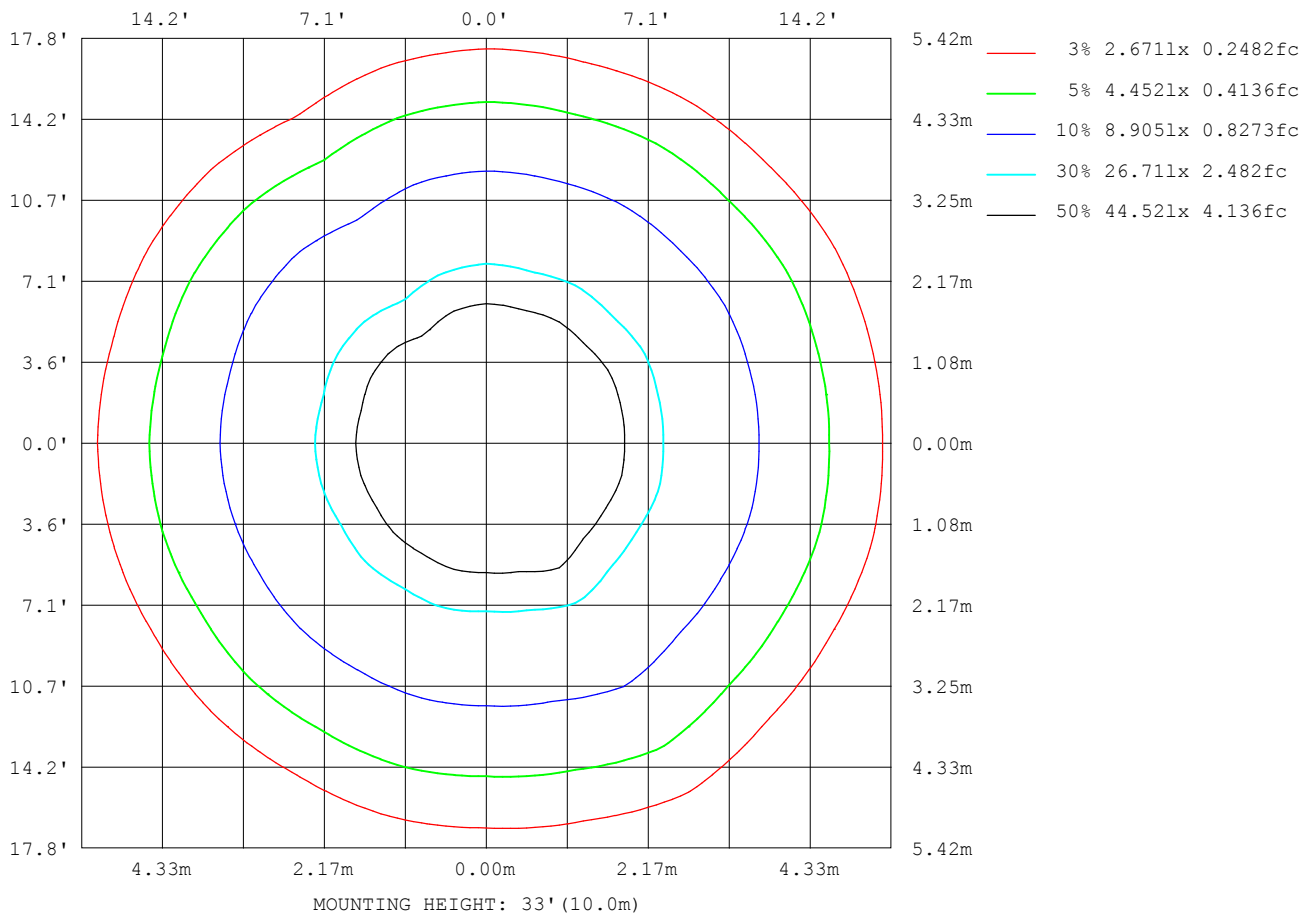
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

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:0.0920A P:20.40W PF:0.9790 Freq:0Hz Lamp Flux:1666.17x1 lm		
NAME: ALS70-20G30-24	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:2020-11-09

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:0.0920A P:20.40W PF:0.9790 Freq:0Hz Lamp Flux:1666.17x1 lm		
NAME: ALS70-20G30-24	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:

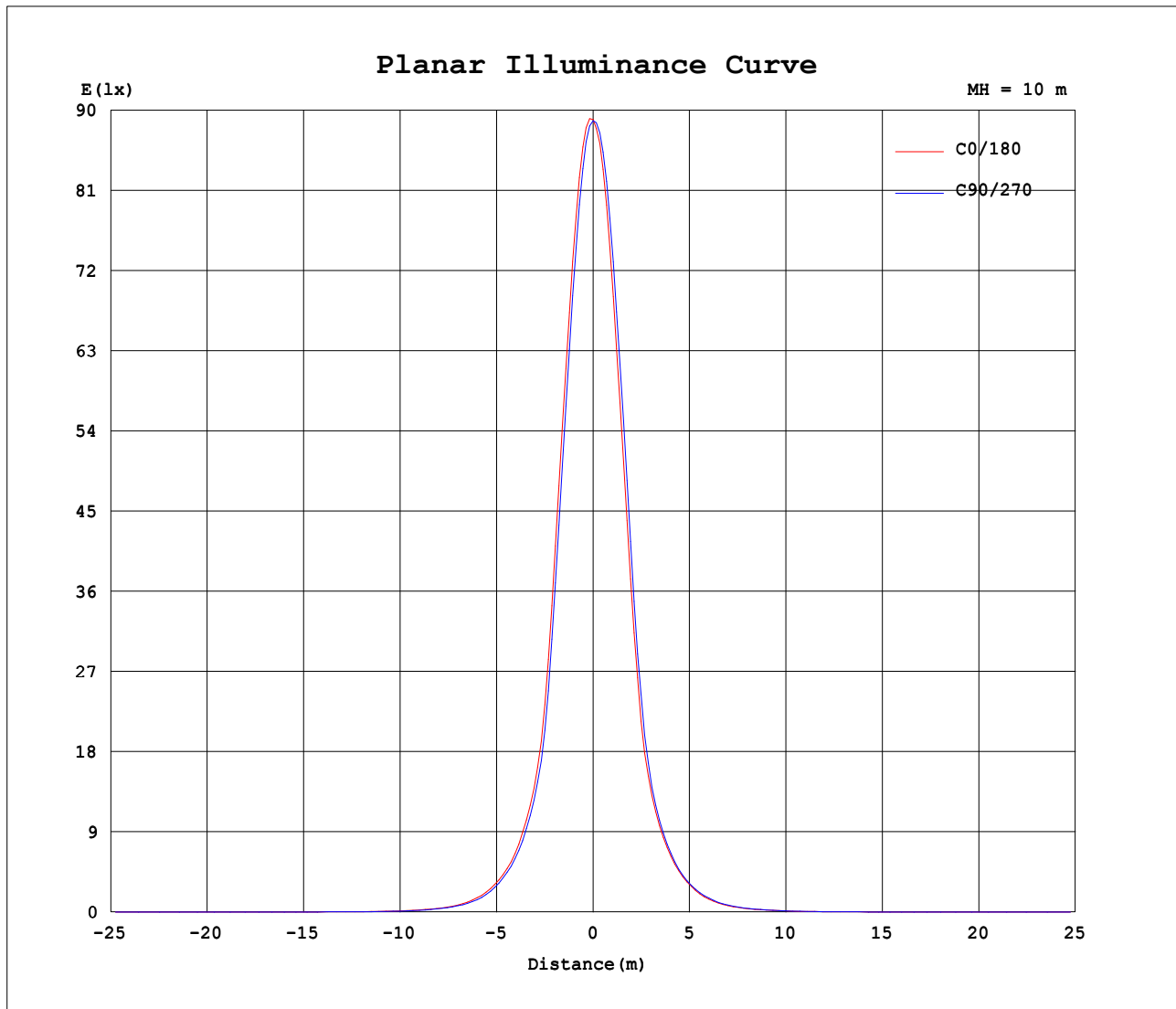
AvgL	cd/m2
L_0~180 (65) av	1616
L_0~180 (75) av	1242
L_0~180 (85) av	1915
L_90~270 (65) av	1573
L_90~270 (75) av	1198
L_90~270 (85) av	1945
L_45 (65) av	1626
L_45 (75) av	1236
L_45 (85) av	1996

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:

```

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: