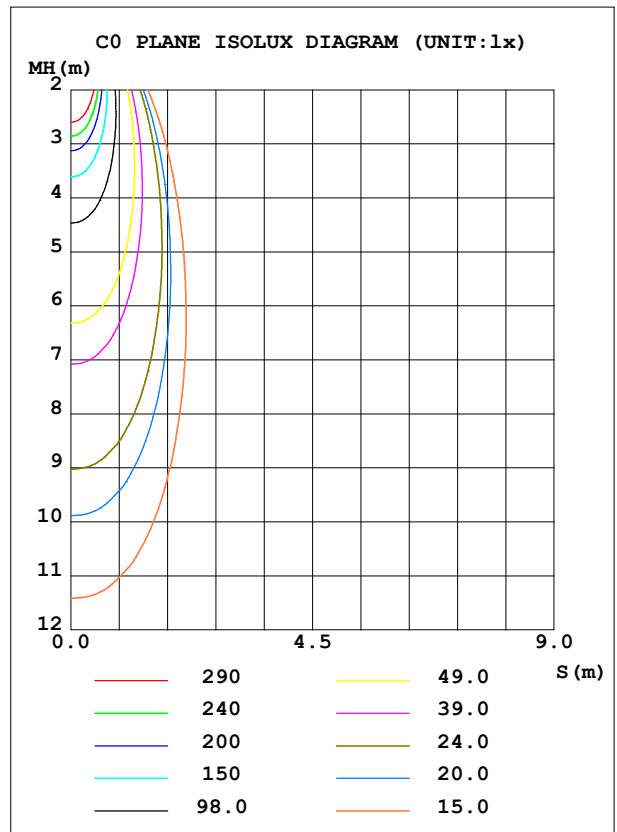
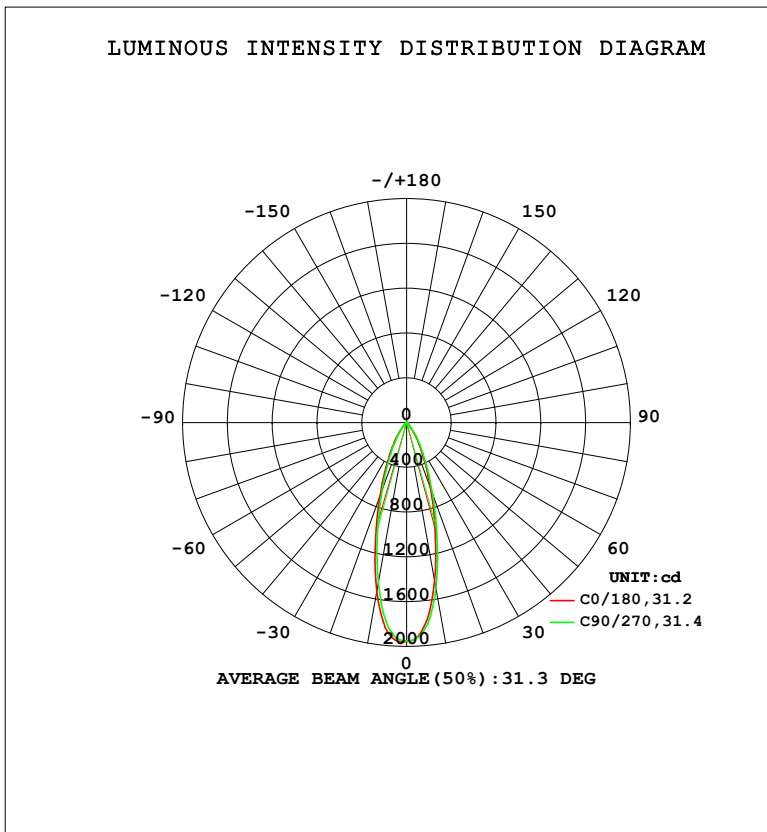


**LUMINAIRE PHOTOMETRIC TEST REPORT**

Test:U:119.82V I:0.0948A P:11.061W PF:0.9740 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:751.596x1 lm		
NAME: ASD-CD-TR-3D12AC-BK	TYPE:	WEIGHT:
SPEC.: 2700K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 67.95 lm/W
MODEL		I <sub>max</sub> (cd)	1960	S/MH (C0/180)		0.54
NOMINAL POWER (W)	12	LOR (%)	100.0	S/MH (C90/270)		0.51
RATED VOLTAGE (V)	120	TOTAL FLUX (lm)	751.60	η UP, DN (C0-180)		0.0, 50.8
NOMINAL FLUX (lm)	751.596	CIE CLASS	DIRECT	η UP, DN (C180-360)		0.0, 49.2
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM		0.50
TEST VOLTAGE (V)	120	η down (%)	100.0	CIBSE SHR MAX		0.55



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3 °C  
 Operators:  
 Test Date: 2023-04-15

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.460  
 Humidity: 65.0%  
 Test Distance: 3.090m [K=1.0000]  
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

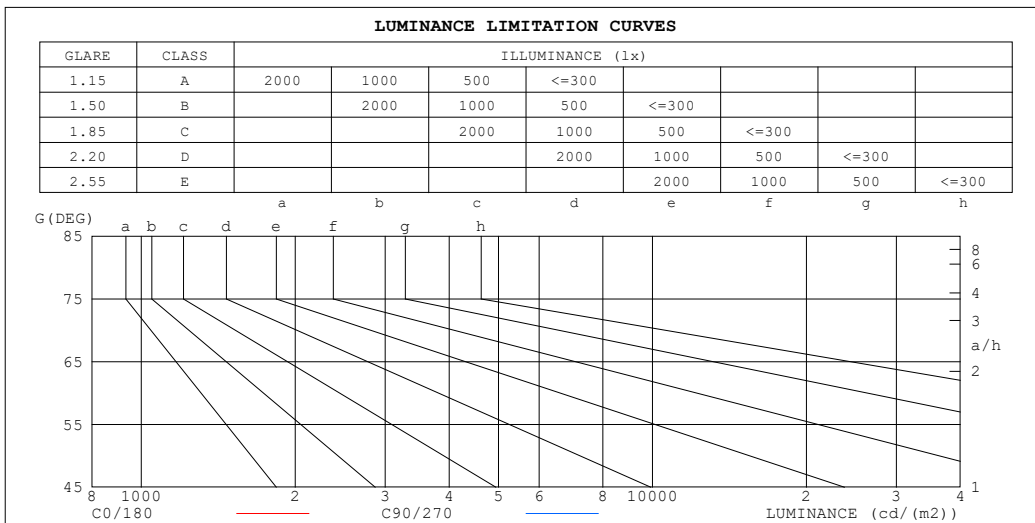
$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum,lamp
10	1442	1474	1510	1524	1536	1509	1458	1440	0- 10	164.7	164.7	21.9,21.9
20	627.1	654.1	680.6	699.9	697.8	671.7	641.4	625.0	10- 20	284.2	449.0	59.7,59.7
30	224.7	238.8	254.3	261.7	263.7	248.4	234.4	224.7	20- 30	190.0	638.9	85,85
40	53.18	54.99	63.11	73.51	64.54	59.40	57.40	52.77	30- 40	86.37	725.3	96.5,96.5
50	8.391	8.437	8.249	9.953	8.867	8.741	8.601	7.299	40- 50	18.98	744.3	99,99
60	3.575	3.987	3.762	4.409	4.300	3.907	3.539	3.467	50- 60	5.099	749.4	99.7,99.7
70	0.6366	0.6755	0.7043	0.6855	0.6417	0.6137	0.6538	0.7767	60- 70	1.931	751.3	100,100
80	0.0253	0.0190	0.0342	0.0283	0.0249	0.0167	0.0245	0.0149	70- 80	0.2633	751.6	100,100
90	0.0234	0.0145	0.0190	0.0153	0.0227	0.0171	0.0205	0.0153	80- 90	0.0235	751.6	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		

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:  
 Test Date:2023-04-15

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.460  
 Humidity:65.0%  
 Test Distance:3.090m [K=1.0000]  
 Remarks:

**LUMINANCE LIMITATION CURVES**

Test:U:119.82V I:0.0948A P:11.061W PF:0.9740 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:751.596x1 lm		
NAME: ASD-CD-TR-3D12AC-BK	TYPE:	WEIGHT:
SPEC.: 2700K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	2	3
80	1	2
75	1	8
70	17	19
65	33	40
60	64	68
55	87	83
50	117	115
45	240	244

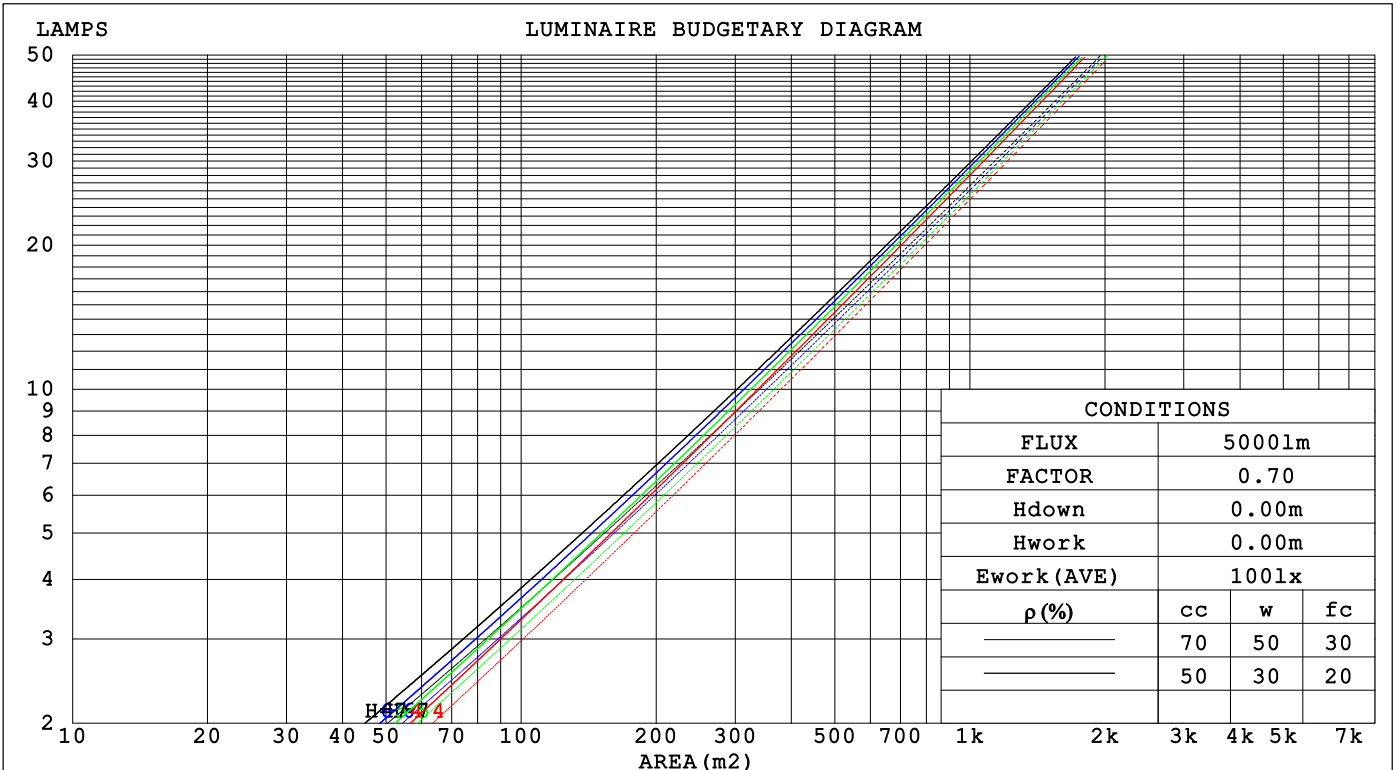
C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:  
 Test Date:2023-04-15

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.460  
 Humidity:65.0%  
 Test Distance:3.090m [K=1.0000]  
 Remarks:

**CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM**

Test:U:119.82V I:0.0948A P:11.061W PF:0.9740 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:751.596x1 lm		
NAME: ASD-CD-TR-3D12AC-BK	TYPE:	WEIGHT:
SPEC.: 2700K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	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	.95	.91	.96	.93	.90	.94	.91	.89	.91	.89	.87	.86
4.0	.95	.90	.86	.94	.89	.86	.91	.88	.85	.90	.86	.84	.88	.85	.83	.82
5.0	.90	.85	.81	.89	.84	.81	.87	.83	.80	.86	.82	.80	.84	.81	.79	.78
6.0	.86	.81	.77	.85	.80	.77	.84	.79	.76	.82	.79	.76	.81	.78	.75	.74
7.0	.82	.77	.73	.81	.77	.73	.80	.76	.73	.79	.75	.72	.78	.75	.72	.71
8.0	.78	.73	.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	.66	.72	.69	.66	.65
10.0	.72	.67	.64	.72	.67	.64	.71	.67	.64	.70	.66	.64	.70	.66	.64	.62



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:  
 Test Date:2023-04-15

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.460  
 Humidity:65.0%  
 Test Distance:3.090m [K=1.0000]  
 Remarks:

**WEC AND CCEC**

Test:U:119.82V I:0.0948A P:11.061W PF:0.9740 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:751.596x1 lm		
NAME: ASD-CD-TR-3D12AC-BK	TYPE:	WEIGHT:
SPEC.: 2700K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:

$\rho_{CC}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.156	.089	.028	.150	.085	.027	.137	.079	.025	.126	.072	.023	.115	.067	.021	
2.0	.148	.081	.025	.142	.078	.024	.132	.073	.023	.122	.068	.021	.113	.064	.020	
3.0	.139	.074	.022	.135	.072	.022	.126	.068	.021	.118	.065	.020	.110	.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	.017	.105	.055	.016	.101	.053	.016	
7.0	.114	.056	.016	.111	.055	.016	.106	.054	.015	.102	.052	.015	.097	.051	.015	
8.0	.109	.053	.015	.107	.052	.015	.102	.051	.015	.098	.050	.014	.094	.048	.014	
9.0	.104	.050	.014	.102	.050	.014	.098	.049	.014	.095	.047	.014	.091	.046	.013	
10.0	.100	.048	.013	.098	.047	.013	.095	.046	.013	.091	.045	.013	.088	.044	.013	

$\rho_{CC}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	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	.147	.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	.119	.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	.038	.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: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:  
 Test Date:2023-04-15

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.460  
 Humidity:65.0%  
 Test Distance:3.090m [K=1.0000]  
 Remarks:

**UGR(Unified Glare Rating) Table**

Test:U:119.82V I:0.0948A P:11.061W PF:0.9740 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:751.596x1 lm		
NAME: ASD-CD-TR-3D12AC-BK	TYPE:	WEIGHT:
SPEC.: 2700K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	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	3.3	4.1	3.5	4.3	4.4	3.9	4.7	4.1	4.8	5.0
3H	3.2	3.9	3.4	4.1	4.3	3.7	4.5	4.0	4.7	4.9
4H	3.1	3.8	3.3	4.0	4.2	3.7	4.4	3.9	4.6	4.8
6H	3.0	3.6	3.3	3.9	4.1	3.6	4.2	3.9	4.5	4.7
8H	2.9	3.6	3.2	3.8	4.1	3.5	4.2	3.8	4.4	4.7
12H	2.9	3.5	3.2	3.8	4.0	3.5	4.1	3.8	4.4	4.6
4H 2H	3.1	3.8	3.4	4.0	4.2	3.7	4.4	3.9	4.6	4.8
3H	2.9	3.5	3.2	3.8	4.1	3.5	4.1	3.8	4.4	4.7
4H	2.8	3.4	3.2	3.7	4.0	3.4	4.0	3.8	4.3	4.6
6H	2.7	3.2	3.1	3.6	3.9	3.3	3.8	3.7	4.1	4.5
8H	2.7	3.1	3.1	3.5	3.8	3.3	3.7	3.7	4.1	4.4
12H	2.6	3.0	3.0	3.4	3.8	3.2	3.6	3.6	4.0	4.4
8H 4H	2.7	3.1	3.1	3.5	3.9	3.3	3.7	3.7	4.1	4.4
6H	2.6	3.0	3.0	3.3	3.8	3.2	3.5	3.6	3.9	4.3
8H	2.5	2.9	3.0	3.3	3.7	3.1	3.4	3.6	3.9	4.3
12H	2.5	2.7	2.9	3.2	3.7	3.1	3.3	3.5	3.8	4.2
12H 4H	2.6	3.0	3.0	3.4	3.8	3.2	3.6	3.6	4.0	4.4
6H	2.5	2.9	3.0	3.3	3.7	3.1	3.4	3.6	3.9	4.3
8H	2.5	2.7	2.9	3.2	3.7	3.1	3.3	3.5	3.8	4.2

Variations with the observer position at spacings(CIE Pub.117):		
S = 1.0H	+ 3.4 / - 9.0	+ 4.1 / - 9.6
1.5H	+ 5.8 / - 7.0	+ 6.6 / - 8.0
2.0H	+ 4.9 / - 4.0	+ 5.1 / - 3.6

CIE Pub.117, 751.6 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -1.0)  
 Area: 0.111111 m2

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:  
 Test Date:2023-04-15

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.460  
 Humidity:65.0%  
 Test Distance:3.090m [K=1.0000]  
 Remarks:

**UTILIZATION FACTORS TABLE**

Test:U:119.82V I:0.0948A P:11.061W PF:0.9740 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:751.596x1 lm		
NAME: ASD-CD-TR-3D12AC-BK	TYPE:	WEIGHT:
SPEC.: 2700K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:

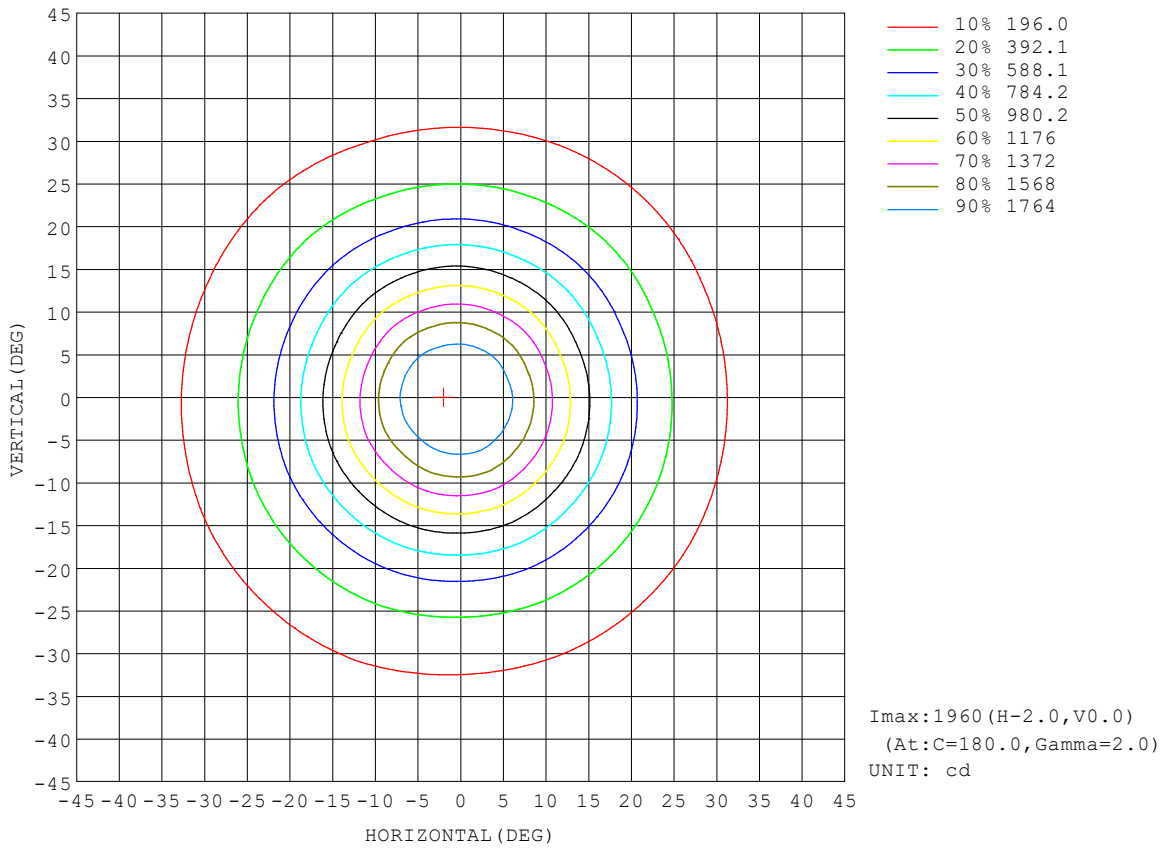
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	89	83	80	89	83	80	88	83	80	76
0.80	97	91	88	96	91	87	95	90	87	84
1.00	101	95	92	100	95	92	98	95	91	87
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	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	106	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: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:  
 Test Date:2023-04-15

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.460  
 Humidity:65.0%  
 Test Distance:3.090m [K=1.0000]  
 Remarks:

**ISOCANDELA DIAGRAM**

Test:U:119.82V I:0.0948A P:11.061W PF:0.9740 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:751.596x1 lm		
NAME: ASD-CD-TR-3D12AC-BK	TYPE:	WEIGHT:
SPEC.: 2700K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:



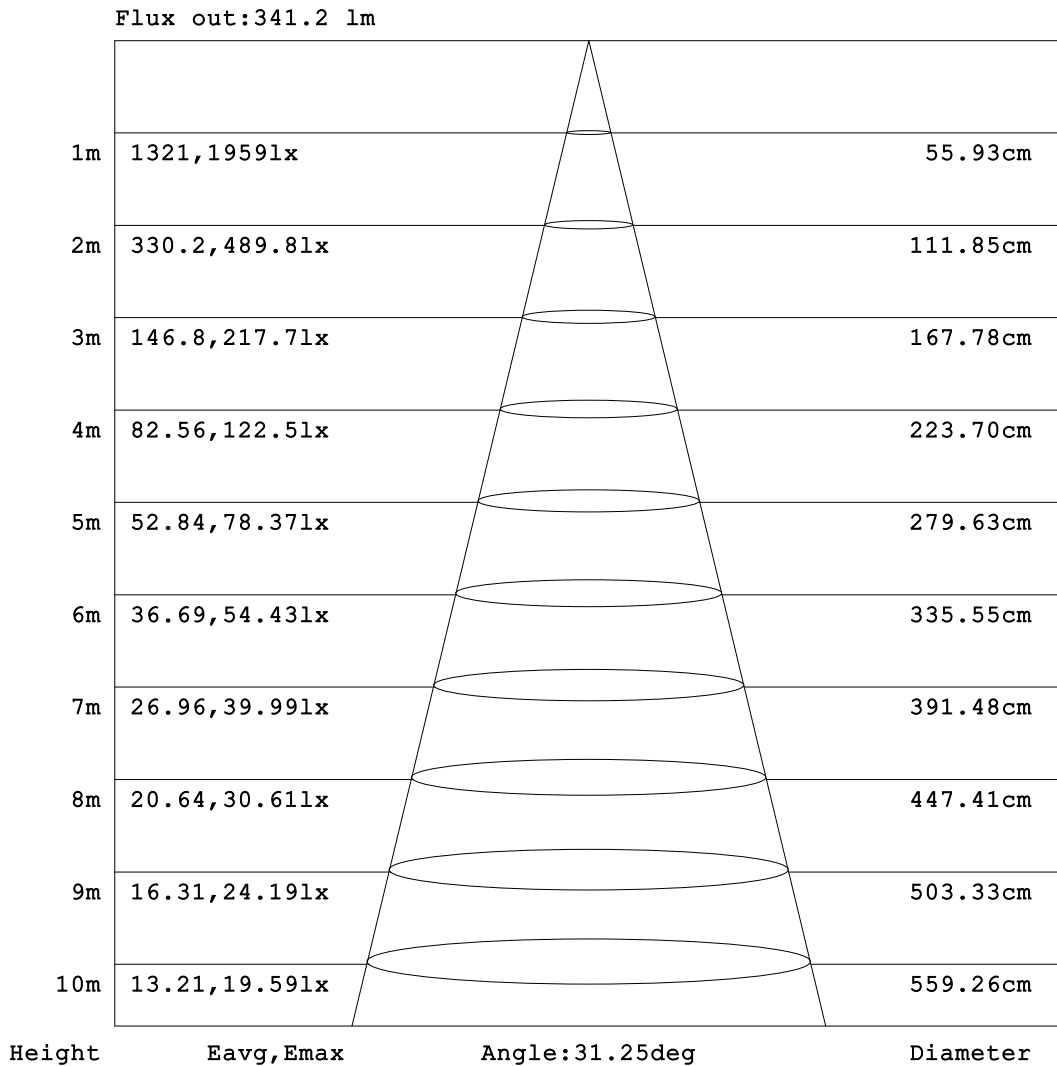
C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:  
 Test Date:2023-04-15

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.460  
 Humidity:65.0%  
 Test Distance:3.090m [K=1.0000]  
 Remarks:



**AAI Figure**

Test:U:119.82V I:0.0948A P:11.061W PF:0.9740 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:751.596x1 lm		
NAME: ASD-CD-TR-3D12AC-BK	TYPE:	WEIGHT:
SPEC.: 2700K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:



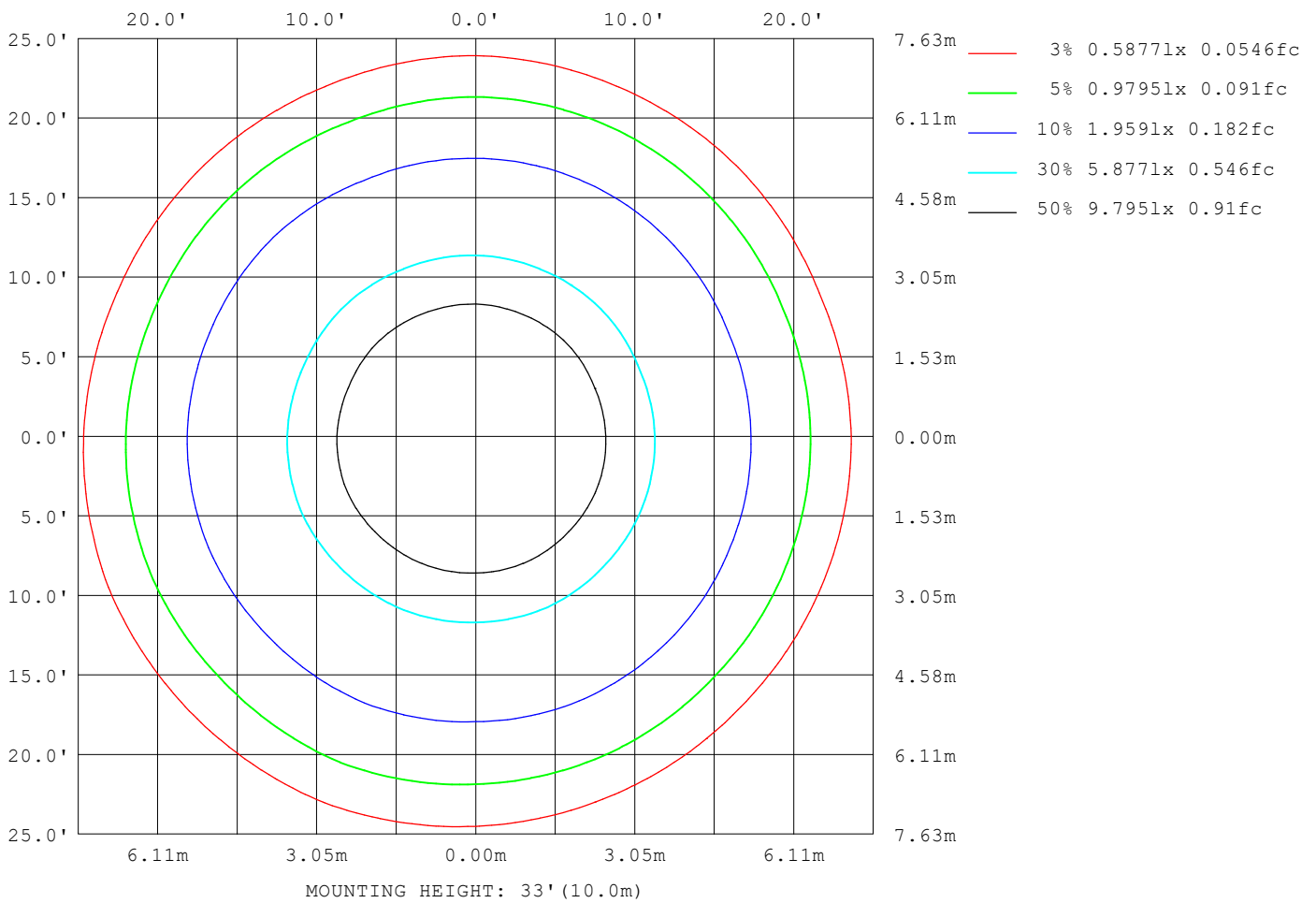
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:  
 Test Date:2023-04-15

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.460  
 Humidity:65.0%  
 Test Distance:3.090m [K=1.0000]  
 Remarks:

**ISOLUX DIAGRAM**

Test:U:119.82V I:0.0948A P:11.061W PF:0.9740 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:751.596x1 lm		
NAME: ASD-CD-TR-3D12AC-BK	TYPE:	WEIGHT:
SPEC.: 2700K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:  
 Test Date:2023-04-15

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.460  
 Humidity:65.0%  
 Test Distance:3.090m [K=1.0000]  
 Remarks:

**LED Avg.L Report**

Test:U:119.82V I:0.0948A P:11.061W PF:0.9740 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:751.596x1 lm		
NAME: ASD-CD-TR-3D12AC-BK	TYPE:	WEIGHT:
SPEC.: 2700K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:

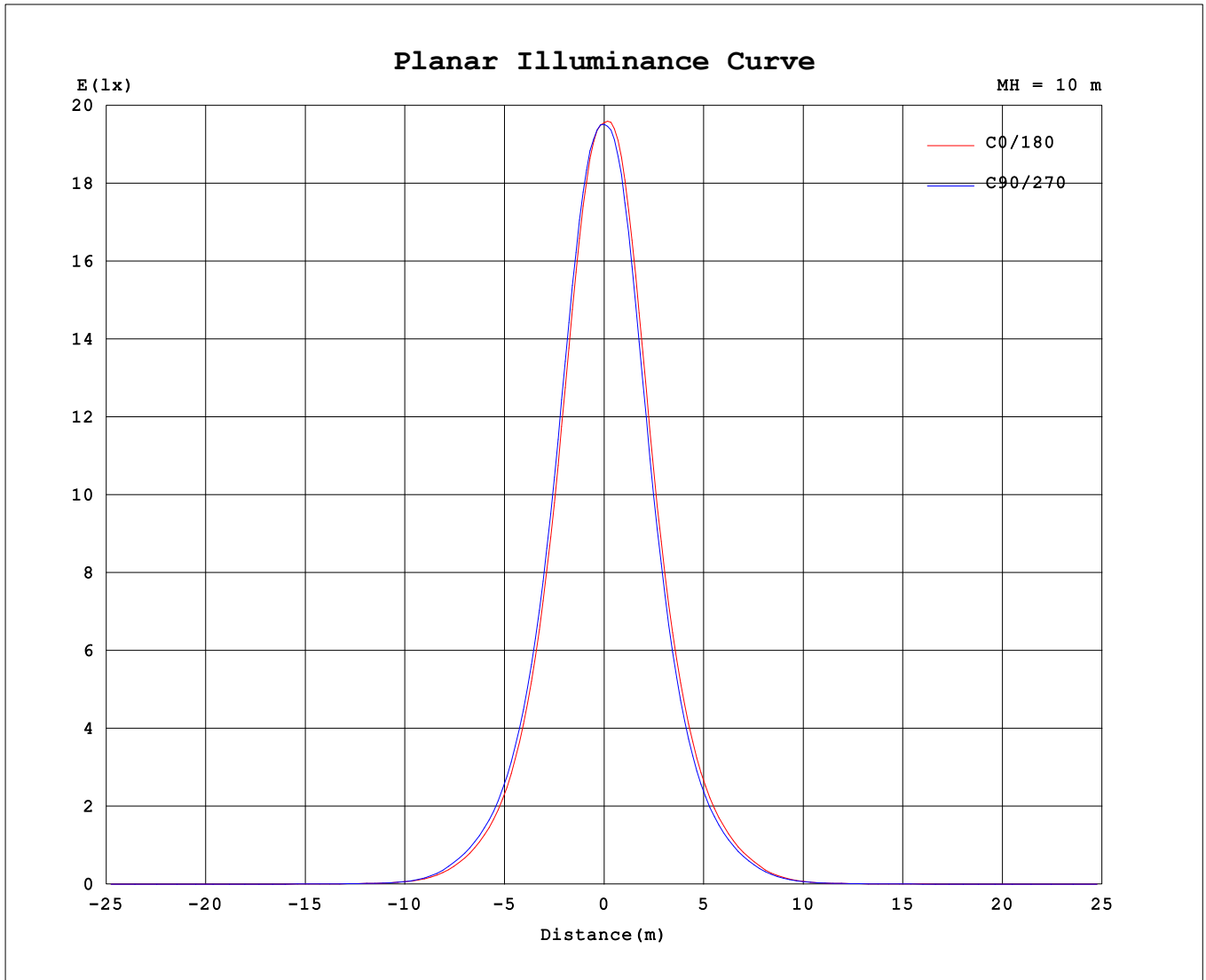
AvgL	cd/m2
L_0~180 (65) av	39
L_0~180 (75) av	2
L_0~180 (85) av	2
L_90~270 (65) av	36
L_90~270 (75) av	7
L_90~270 (85) av	3
L_45 (65) av	39
L_45 (75) av	5
L_45 (85) av	2

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3℃  
 Operators:  
 Test Date:2023-04-15

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.460  
 Humidity:65.0%  
 Test Distance:3.090m [K=1.0000]  
 Remarks:

**Planar Illuminance Curve**



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3 °C  
 Operators:  
 Test Date: 2023-04-15

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.460  
 Humidity: 65.0%  
 Test Distance: 3.090m [K=1.0000]  
 Remarks:

