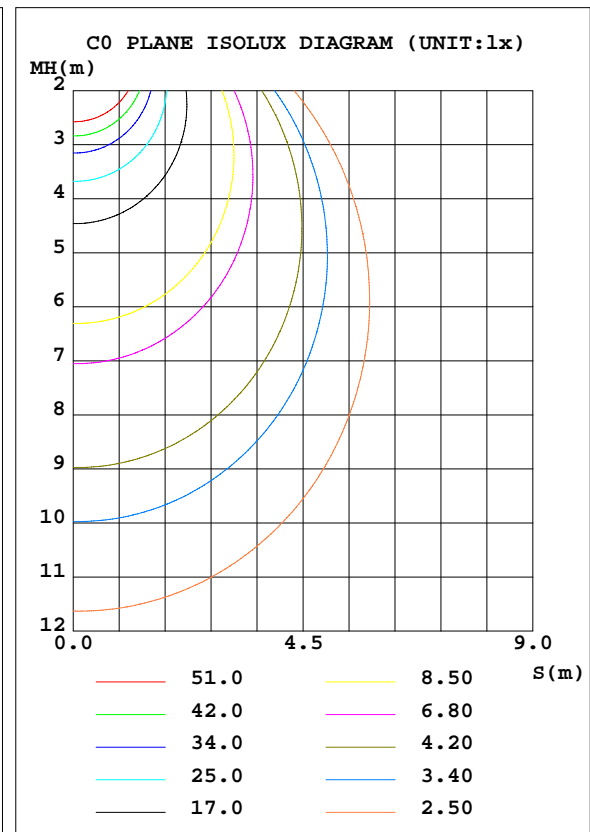
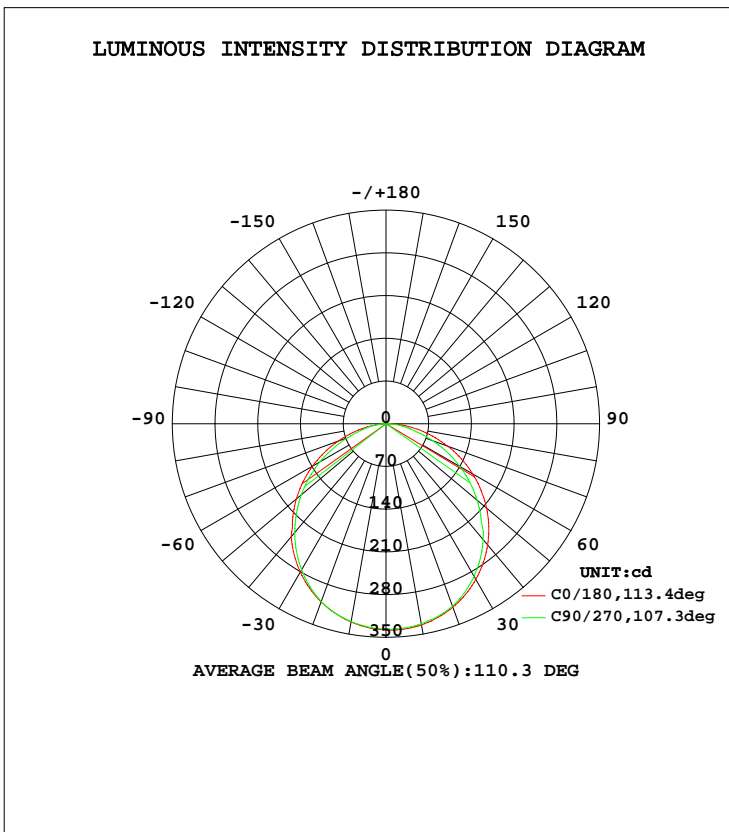


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:121.8V I:0.1060A P:12.40W PF:0.9530 Lamp Flux:941.531x1 lm		
NAME: led panel light	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 75.93 lm/W			
MODEL	ASD-MNPR-7D1230-W	I <sub>max</sub> (cd)	338.3	S/MH(C0/180)	1.24
NOMINAL POWER(W)	12W	LOR(%)	100.0	S/MH(C90/270)	1.23
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	941.53	η UP, DN(C0-180)	0.0,52.6
NOMINAL FLUX(lm)	941.531	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0,47.4
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	120	η down(%)	100.0	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2017-04-22

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
 Humidity:65.0%  
 Test Distance:8.600m [K=1.0000]  
 Remarks: 12W panel light

## ZONAL FLUX DIAGRAM

## ZONAL FLUX DIAGRAM:

$\gamma$	C0	C90	C180	C270				$\gamma$	$\Phi$ zone	$\Phi$ total	$\Phi$ lum,lamp
10	334.7	332.9	329.9	329.3				0- 10	31.93	31.93	3.39,3.39
20	319.9	318.2	310.6	310.2				10- 20	91.63	123.6	13.1,13.1
30	294.5	288.6	280.7	276.4				20- 30	138.8	262.4	27.9,27.9
40	259.0	247.8	241.8	232.6				30- 40	166.6	428.9	45.6,45.6
50	215.2	195.0	191.7	181.2				40- 50	170.3	599.2	63.6,63.6
60	163.9	139.7	139.0	125.1				50- 60	151.3	750.6	79.7,79.7
70	107.4	81.58	83.59	66.72				60- 70	112.2	862.8	91.6,91.6
80	52.24	33.35	31.49	25.57				70- 80	61.95	924.7	98.2,98.2
90	2.072	0	0	0				80- 90	16.78	941.5	100,100
100	0	0	0	0				90-100	0.0291	941.5	100,100
110	0	0	0	0				100-110	0	941.5	100,100
120	0	0	0	0				110-120	0	941.5	100,100
130	0	0	0	0				120-130	0	941.5	100,100
140	0	0	0	0				130-140	0	941.5	100,100
150	0	0	0	0				140-150	0	941.5	100,100
160	0	0	0	0				150-160	0	941.5	100,100
170	0	0	0	0				160-170	0	941.5	100,100
180	0	0	0	0				170-180	0	941.5	100,100
DEG	LUMINOUS INTENSITY:cd								UNIT:lm		

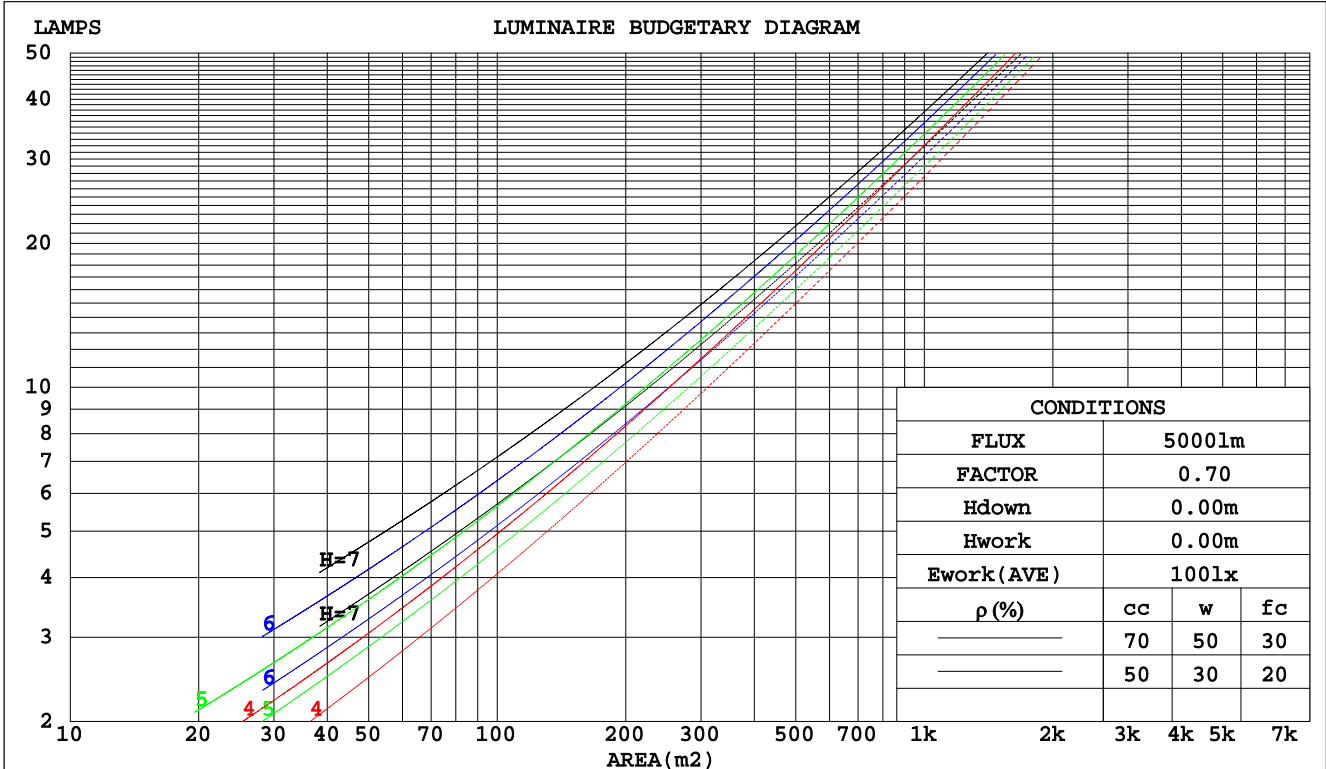
C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2017-04-22

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:8.600m [K=1.0000]  
Remarks: 12W panel light

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:121.8V I:0.1060A P:12.40W PF:0.9530 Lamp Flux:941.53lx1 lm		
NAME: led panel light	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pw																0
pfc																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	.00
1.0	1.04	.00	.96	1.02	.98	.94	.98	.94	.91	.94	.91	.89	.90	.88	.86	.84
2.0	.91	.84	.78	.89	.83	.77	.85	.80	.76	.82	.78	.74	.79	.75	.72	.70
3.0	.80	.72	.65	.78	.71	.65	.75	.69	.63	.72	.67	.62	.70	.65	.61	.59
4.0	.71	.62	.55	.69	.61	.55	.67	.60	.54	.65	.58	.53	.62	.57	.53	.50
5.0	.63	.54	.48	.62	.54	.47	.60	.53	.47	.58	.51	.46	.56	.50	.46	.44
6.0	.57	.48	.42	.56	.48	.41	.54	.47	.41	.52	.46	.41	.51	.45	.40	.38
7.0	.52	.43	.37	.51	.42	.37	.49	.42	.36	.48	.41	.36	.46	.40	.36	.34
8.0	.47	.39	.33	.46	.38	.33	.45	.38	.32	.44	.37	.32	.43	.37	.32	.30
9.0	.43	.35	.29	.43	.35	.29	.41	.34	.29	.40	.34	.29	.39	.33	.29	.27
10.0	.40	.32	.27	.39	.32	.27	.38	.31	.27	.37	.31	.26	.37	.31	.26	.25



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2017-04-22

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
 Humidity: 65.0%  
 Test Distance: 8.600m [K=1.0000]  
 Remarks: 12W panel light

WEC AND CCEC

Test:U:121.8V I:0.1060A P:12.40W PF:0.9530 Lamp Flux:941.531x1 lm		
NAME: led panel light	TYPE:LED	WEIGHT:
SPEC.:	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						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.305	.174	.055	.298	.170	.054	.285	.163	.052	.273	.157	.050	.261	.152	.049	
2.0	.288	.158	.048	.282	.155	.048	.270	.150	.047	.259	.145	.046	.249	.141	.044	
3.0	.267	.142	.043	.262	.140	.042	.251	.136	.041	.242	.132	.041	.233	.129	.040	
4.0	.247	.128	.038	.242	.127	.037	.233	.123	.037	.224	.120	.036	.216	.118	.036	
5.0	.229	.116	.034	.224	.115	.034	.216	.113	.033	.209	.110	.033	.201	.108	.032	
6.0	.212	.106	.030	.208	.105	.030	.201	.103	.030	.194	.101	.030	.188	.099	.029	
7.0	.198	.098	.028	.194	.097	.028	.188	.095	.027	.182	.093	.027	.176	.091	.027	
8.0	.185	.090	.025	.182	.089	.025	.176	.088	.025	.170	.086	.025	.165	.085	.025	
9.0	.173	.084	.023	.170	.083	.023	.165	.082	.023	.160	.080	.023	.156	.079	.023	
10.0	.163	.078	.022	.160	.077	.022	.156	.076	.021	.151	.075	.021	.147	.074	.021	

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						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.180	.156	.135	.154	.134	.116	.105	.092	.080	.061	.053	.047	.019	.017	.015	
2.0	.172	.132	.098	.147	.114	.085	.101	.079	.059	.058	.046	.035	.019	.015	.011	
3.0	.164	.114	.075	.141	.099	.065	.096	.069	.045	.056	.040	.027	.018	.013	.009	
4.0	.156	.101	.059	.134	.087	.051	.092	.061	.036	.053	.036	.021	.017	.012	.007	
5.0	.149	.091	.047	.128	.078	.041	.088	.055	.029	.051	.032	.017	.016	.010	.006	
6.0	.142	.082	.039	.122	.071	.034	.084	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.135	.075	.033	.116	.065	.029	.080	.046	.021	.047	.027	.012	.015	.009	.004	
8.0	.129	.069	.029	.111	.060	.025	.077	.042	.018	.045	.025	.011	.014	.008	.004	
9.0	.123	.065	.025	.106	.056	.022	.073	.039	.016	.043	.023	.009	.014	.008	.003	
10.0	.117	.060	.023	.101	.052	.020	.070	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2017-04-22

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
 Humidity:65.0%  
 Test Distance:8.600m [K=1.0000]  
 Remarks: 12W panel light

UGR(Unified Glare Rating) Table

Test:U:121.8V I:0.1060A P:12.40W PF:0.9530 Lamp Flux:941.53lx1 lm										
NAME: led panel light					TYPE:LED			WEIGHT:		
SPEC.:					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	17.3	18.8	17.5	19.0	19.2	16.7	18.2	17.0	18.4	18.6
3H	18.9	20.3	19.2	20.6	20.8	18.1	19.5	18.4	19.7	20.0
4H	19.6	21.0	20.0	21.2	21.5	18.6	19.9	18.9	20.2	20.4
6H	20.2	21.5	20.6	21.7	22.0	18.9	20.2	19.3	20.4	20.7
8H	20.5	21.7	20.8	21.9	22.2	19.0	20.3	19.4	20.5	20.8
12H	20.6	21.8	21.0	22.1	22.4	19.1	20.3	19.5	20.6	20.9
4H 2H	17.8	19.2	18.1	19.4	19.7	17.4	18.7	17.7	19.0	19.2
3H	19.7	20.8	20.0	21.1	21.4	19.0	20.1	19.3	20.4	20.7
4H	20.5	21.6	20.9	21.9	22.2	19.6	20.6	19.9	20.9	21.3
6H	21.2	22.2	21.6	22.5	22.9	20.0	21.0	20.4	21.3	21.7
8H	21.5	22.4	21.9	22.8	23.2	20.2	21.1	20.6	21.5	21.9
12H	21.8	22.6	22.2	23.0	23.4	20.4	21.2	20.8	21.5	22.0
8H 4H	20.7	21.6	21.1	22.0	22.4	19.9	20.8	20.3	21.1	21.5
6H	21.6	22.4	22.1	22.8	23.2	20.6	21.3	21.0	21.7	22.1
8H	22.0	22.7	22.5	23.1	23.6	20.8	21.5	21.3	21.9	22.4
12H	22.4	22.9	22.9	23.4	23.9	21.0	21.6	21.5	22.0	22.5
12H 4H	20.7	21.5	21.2	21.9	22.3	19.9	20.7	20.4	21.1	21.5
6H	21.7	22.3	22.1	22.7	23.2	20.7	21.3	21.1	21.7	22.2
8H	22.1	22.7	22.6	23.1	23.6	21.0	21.5	21.5	22.0	22.5
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.2					+ 0.2 / - 0.2				
1.5H	+ 0.1 / - 0.3					+ 0.2 / - 0.4				
2.0H	+ 0.1 / - 0.3					+ 0.2 / - 0.3				

CIE Pub.117 Corrected 941.5 lm Total Lamp Luminous Flux. (8log(F/F0) = -0.2)

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2017-04-22

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
 Humidity:65.0%  
 Test Distance:8.600m [K=1.0000]  
 Remarks: 12W panel light

## UTILIZATION FACTORS TABLE

Test:U:121.8V I:0.1060A P:12.40W PF:0.9530 Lamp Flux:941.531x1 lm		
NAME: led panel light	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:

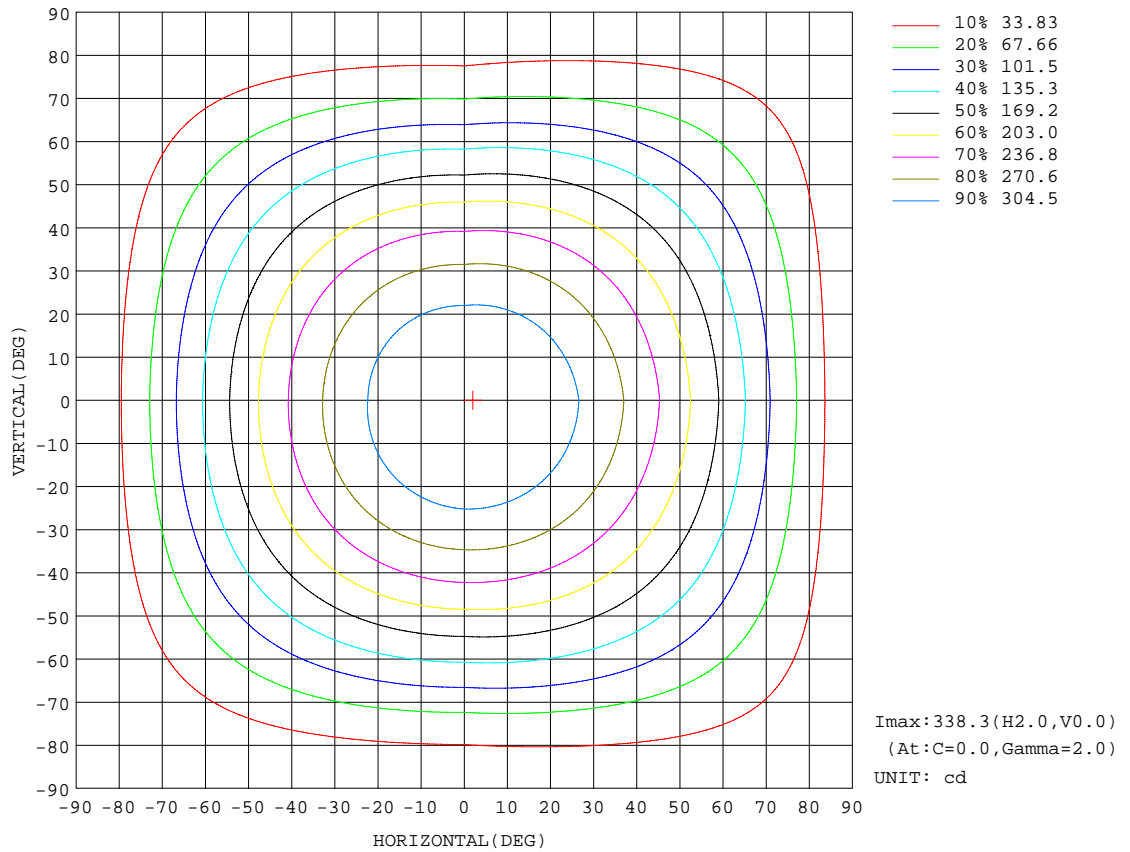
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	58	46	40	57	46	39	56	46	39	33
0.80	68	57	49	67	56	49	65	55	49	42
1.00	77	66	58	75	65	58	73	66	57	50
1.25	84	73	66	82	73	66	79	71	65	58
1.50	89	79	72	87	78	71	84	76	70	63
2.00	95	87	81	94	86	80	90	83	78	71
2.50	99	92	86	97	90	85	93	88	83	75
3.00	103	96	90	100	94	89	96	91	87	79
4.00	106	101	96	104	99	95	100	96	92	83
5.00	109	104	100	106	102	99	102	98	95	86
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2017-04-22

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
 Humidity:65.0%  
 Test Distance:8.600m [K=1.0000]  
 Remarks: 12W panel light

ISOCANDELA DIAGRAM

Test:U:121.8V I:0.1060A P:12.40W PF:0.9530 Lamp Flux:941.53lx1 lm		
NAME: led panel light	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:

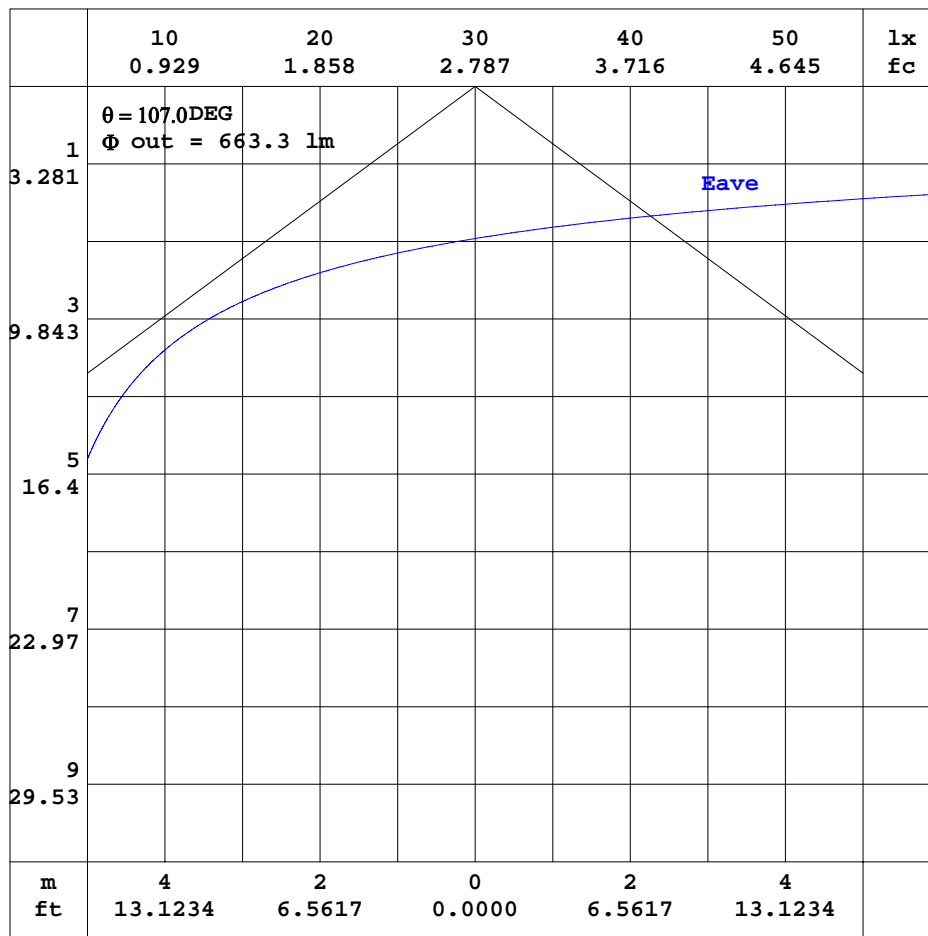


C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2017-04-22

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
 Humidity: 65.0%  
 Test Distance: 8.600m [K=1.0000]  
 Remarks: 12W panel light

AAI CURVES

Test:U:121.8V I:0.1060A P:12.40W PF:0.9530 Lamp Flux:941.53lx1 lm		
NAME: led panel light	TYPE:LED	WEIGHT:
SPEC.:	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.

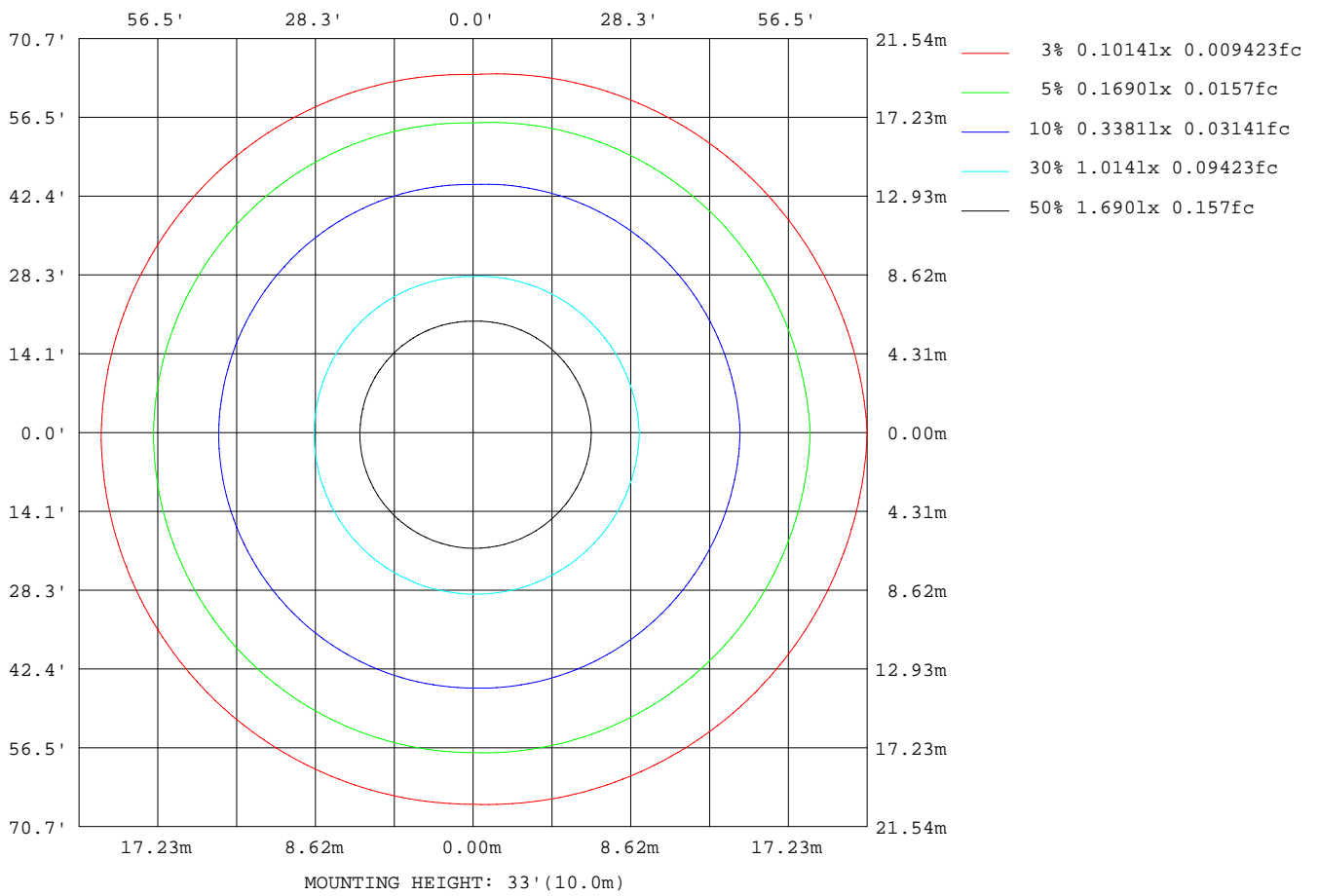
C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2017-04-22

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
 Humidity:65.0%  
 Test Distance:8.600m [K=1.0000]  
 Remarks: 12W panel light



ISOLUX DIAGRAM

Test:U:121.8V I:0.1060A P:12.40W PF:0.9530 Lamp Flux:941.53lx1 lm		
NAME: led panel light	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2017-04-22

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
 Humidity:65.0%  
 Test Distance:8.600m [K=1.0000]  
 Remarks: 12W panel light

## LED Avg.L Report

Test:U:121.8V I:0.1060A P:12.40W PF:0.9530 Lamp Flux:941.53lx1 lm		
NAME: led panel light	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:

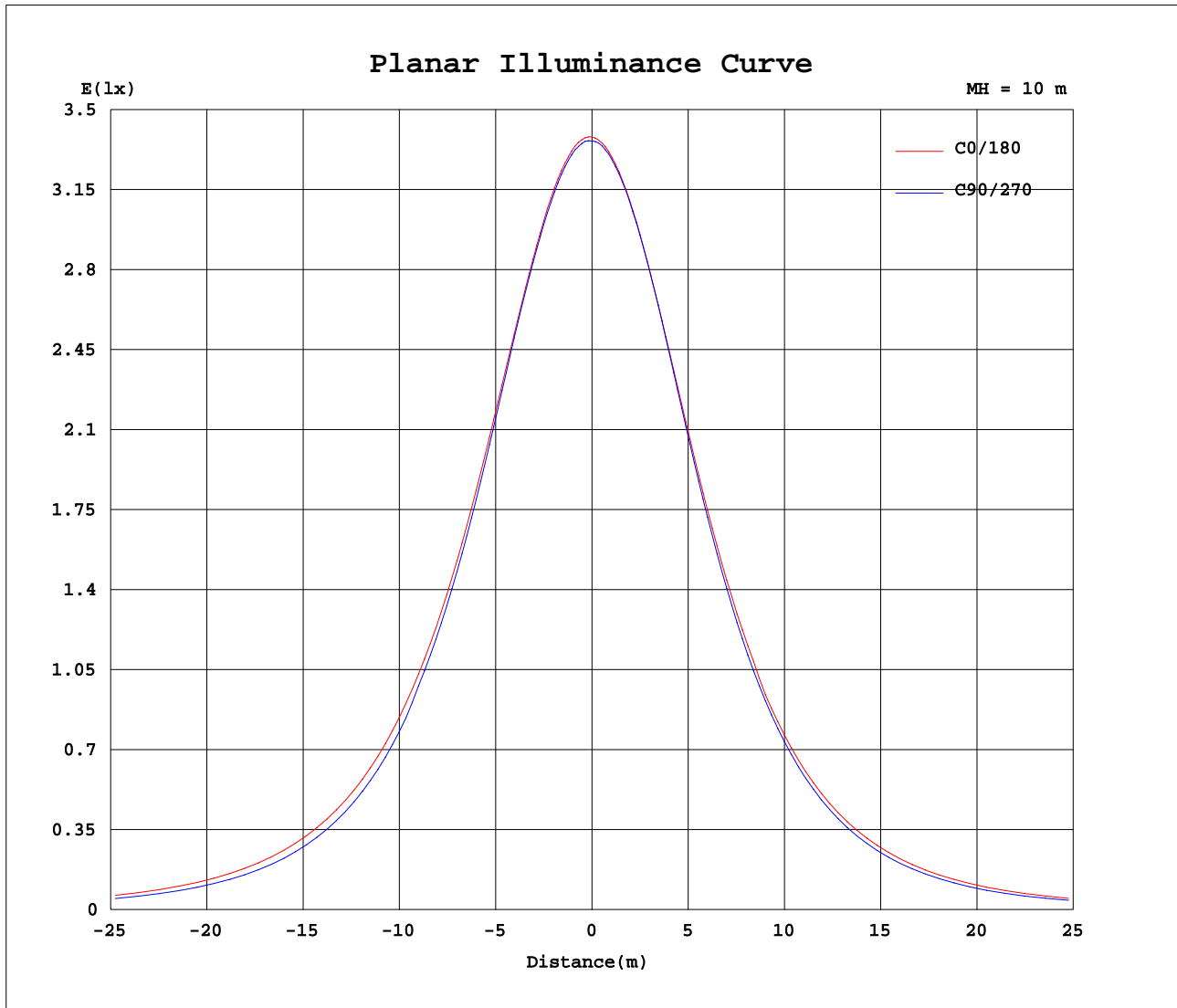
AvgL	cd/m2
L_0~180(65)av	2930
L_0~180(75)av	2620
L_0~180(85)av	1938
L_90~270(65)av	2435
L_90~270(75)av	1852
L_90~270(85)av	1334
L_45(65)av	2602
L_45(75)av	2113
L_45(85)av	1491

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2017-04-22

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:8.600m [K=1.0000]  
Remarks: 12W panel light

Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2017-04-22

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
 Humidity: 65.0%  
 Test Distance: 8.600m [K=1.0000]  
 Remarks: 12W panel light

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:121.8V I:0.1060A P:12.40W PF:0.9530 Lamp Flux:941.531x1 lm		
NAME: led panel light	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:

Table--1

UNIT: cd

C( DEG) γ (DEG)	0	90	180	270															
0	338	336	338	336															
5	338	336	335	334															
10	335	333	330	329															
15	329	327	322	321															
20	320	318	311	310															
25	309	305	297	295															
30	295	289	281	276															
35	278	269	262	256															
40	259	248	242	233															
45	238	221	216	208															
50	215	195	192	181															
55	190	168	166	154															
60	164	140	139	125															
65	136	111	111	95.0															
70	107	81.6	83.6	66.7															
75	78.9	53.0	56.7	42.8															
80	52.2	33.4	31.5	25.6															
85	26.6	15.0	7.19	8.22															
90	2.07	0.00	0.00	0.00															
95	0.00	0.00	0.00	0.00															
100	0.00	0.00	0.00	0.00															
105	0.00	0.00	0.00	0.00															
110	0.00	0.00	0.00	0.00															
115	0.00	0.00	0.00	0.00															
120	0.00	0.00	0.00	0.00															
125	0.00	0.00	0.00	0.00															
130	0.00	0.00	0.00	0.00															
135	0.00	0.00	0.00	0.00															
140	0.00	0.00	0.00	0.00															
145	0.00	0.00	0.00	0.00															
150	0.00	0.00	0.00	0.00															
155	0.00	0.00	0.00	0.00															
160	0.00	0.00	0.00	0.00															
165	0.00	0.00	0.00	0.00															
170	0.00	0.00	0.00	0.00															
175	0.00	0.00	0.00	0.00															
180	0.00	0.00	0.00	0.00															

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2017-04-22

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
 Humidity:65.0%  
 Test Distance:8.600m [K=1.0000]  
 Remarks: 12W panel light