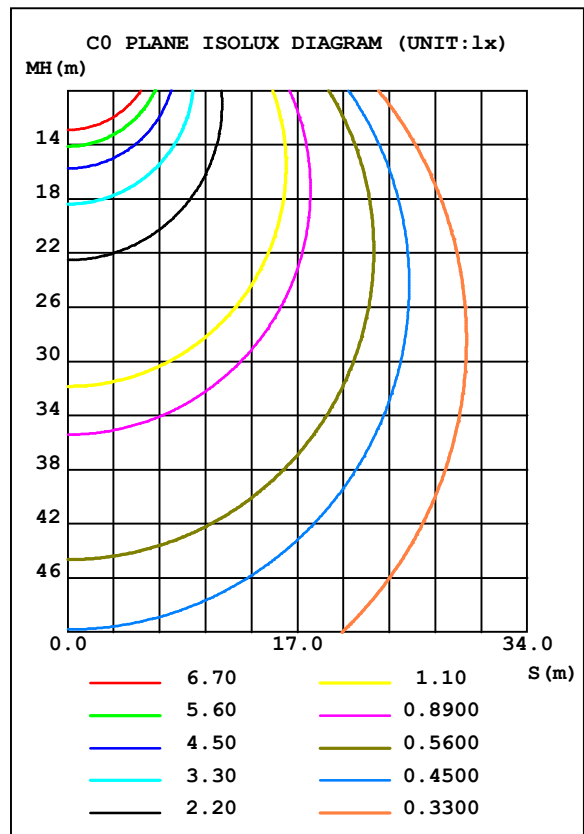
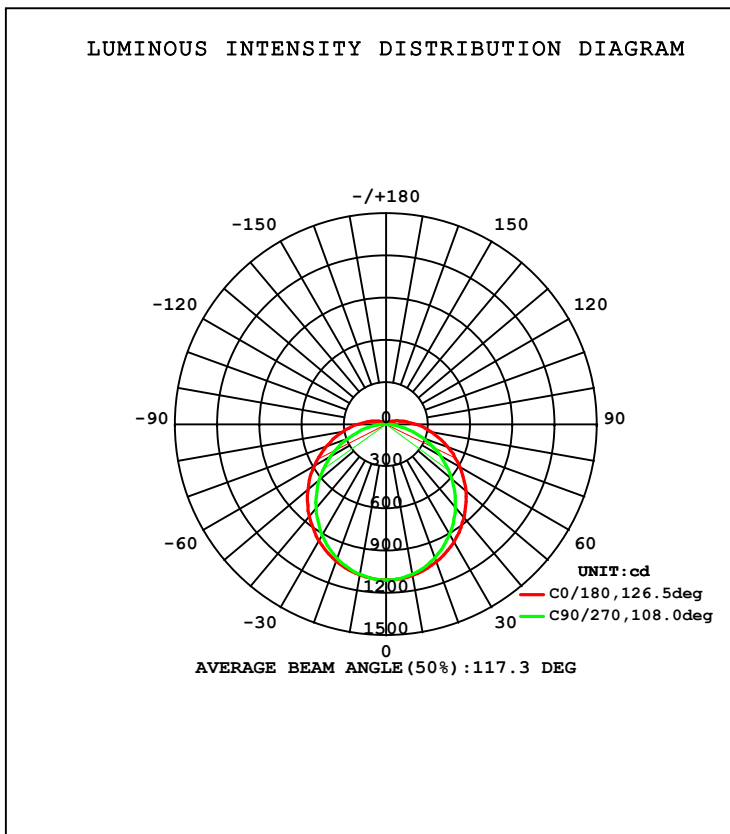


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:120.3V I:0.2683A P:32.03W PF:0.9923 Lamp Flux:3663.49x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting Corp	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 114.37 lm/W			
MODEL	ASD-LVP4N3135MHE	I <sub>max</sub> (cd)	1107	S/MH (C0/180)	1.30
NOMINAL POWER (W)	32	LOR (%)	100.0	S/MH (C90/270)	1.22
RATED VOLTAGE (V)	120	TOTAL FLUX (lm)	3663.5	η UP, DN (C0-180)	3.0, 47.2
NOMINAL FLUX (lm)	3663.49	CIE CLASS	DIRECT	η UP, DN (C180-360)	2.8, 47.0
LAMPS INSIDE	1	η up (%)	5.8	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	120.3	η down (%)	94.2	CIBSE SHR MAX	1.35



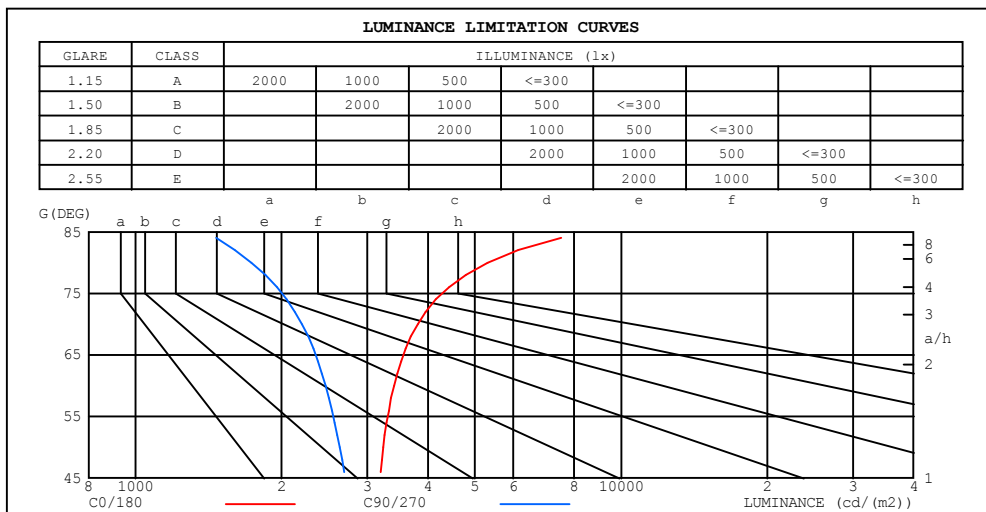
C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2015-10-15

γ Range: 0 - 180DEG  
 γ Interval: 2.0DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.281  
 Humidity: 65.0%  
 Test Distance: 18.400m [K=1.0000]  
 Remarks:

ZONAL FLUX DIAGRAM  
AND LUMINANCE LIMITATION CURVES

ZONAL FLUX DIAGRAM:

$\gamma$	C0	C90	C180	C270				$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp	
10	1092	1082	1088	1084				0- 10	104.7	104.7	2.86,2.86	
20	1043	1012	1037	1017				10- 20	299.6	404.2	11,11	
30	966.0	904.8	956.9	911.3				20- 30	454.0	858.2	23.4,23.4	
40	863.8	769.4	852.3	777.3				30- 40	549.6	1408	38.4,38.4	
50	742.8	614.4	729.1	624.2				40- 50	578.0	1986	54.2,54.2	
60	608.0	447.0	592.1	458.1				50- 60	540.0	2526	68.9,68.9	
70	465.3	273.4	448.4	285.3				60- 70	443.6	2969	81.1,81.1	
80	329.6	109.0	314.3	120.5				70- 80	308.7	3278	89.5,89.5	
90	216.0	13.13	204.1	16.41				80- 90	174.5	3453	94.2,94.2	
100	133.0	6.384	125.1	7.943				90-100	97.76	3550	96.9,96.9	
110	80.19	2.381	75.21	3.322				100-110	56.43	3607	98.5,98.5	
120	44.26	3.150	40.18	3.214				110-120	31.30	3638	99.3,99.3	
130	18.65	2.650	15.49	2.722				120-130	14.45	3653	99.7,99.7	
140	6.477	2.658	6.241	2.422				130-140	4.899	3657	99.8,99.8	
150	5.505	3.087	5.229	2.871				140-150	2.713	3660	99.9,99.9	
160	4.683	3.472	4.323	3.193				150-160	1.876	3662	100,100	
170	4.070	3.708	3.733	3.536				160-170	1.092	3663	100,100	
180	3.163	3.879	3.121	3.836				170-180	0.3572	3663	100,100	
DEG	LUMINOUS INTENSITY:cd								UNIT:lm			



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	9023	1757
80	5315	1730
75	4424	2180
70	3809	2203
65	3652	2463
60	3405	2463
55	3369	2636
50	3236	2634
45	3235	2764

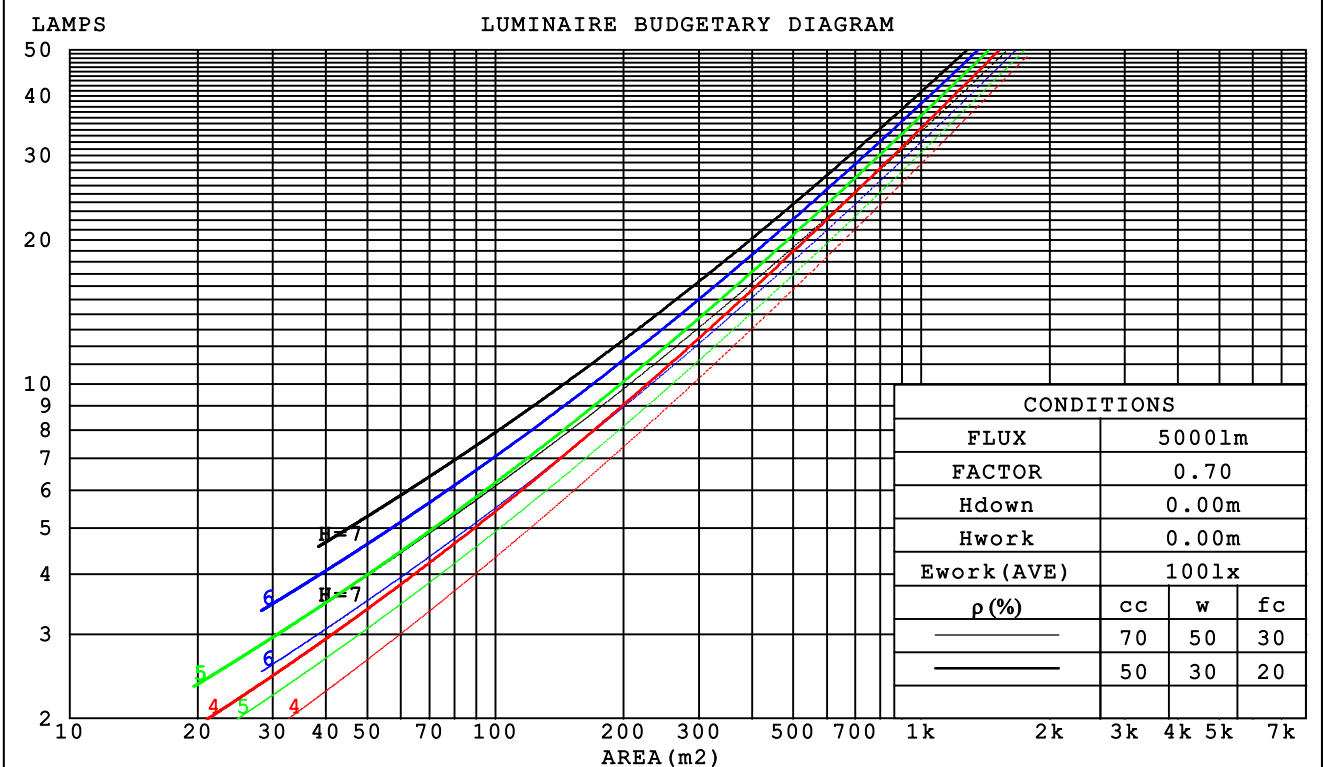
C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2015-10-15

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 2.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.281  
Humidity:65.0%  
Test Distance:18.400m [K=1.0000]  
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:120.3V I:0.2683A P:32.03W PF:0.9923 Lamp Flux:3663.49x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting Corp	SUR.:	PROTECTION 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	1.18	1.18	1.18	1.14	1.14	1.14	1.08	1.08	1.08	1.02	1.02	1.02	.97	.97	.97	.94
1.0	1.00	.96	.91	.98	.93	.89	.92	.89	.85	.87	.84	.82	.83	.80	.78	.76
2.0	.87	.79	.73	.84	.78	.72	.80	.74	.69	.76	.71	.67	.72	.68	.64	.62
3.0	.76	.67	.60	.74	.66	.59	.70	.63	.57	.66	.61	.56	.63	.58	.54	.52
4.0	.67	.58	.51	.65	.57	.50	.62	.54	.49	.59	.52	.47	.56	.51	.46	.44
5.0	.60	.50	.43	.58	.49	.43	.55	.48	.42	.53	.46	.41	.50	.44	.40	.38
6.0	.54	.44	.38	.52	.44	.37	.50	.42	.37	.48	.41	.36	.45	.40	.35	.33
7.0	.48	.39	.33	.47	.39	.33	.45	.38	.32	.43	.37	.32	.41	.35	.31	.29
8.0	.44	.35	.29	.43	.35	.29	.41	.34	.29	.40	.33	.28	.38	.32	.28	.26
9.0	.40	.32	.26	.40	.32	.26	.38	.31	.26	.37	.30	.25	.35	.29	.25	.23
10.0	.37	.29	.24	.37	.29	.24	.35	.28	.23	.34	.27	.23	.33	.27	.23	.21



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2015-10-15

γ Range: 0 - 180DEG  
 γ Interval: 2.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.281  
 Humidity:65.0%  
 Test Distance:18.400m [K=1.0000]  
 Remarks:

WEC AND CCEC

Test:U:120.3V I:0.2683A P:32.03W PF:0.9923 Lamp Flux:3663.49x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting Corp	SUR.:	PROTECTION ANGLE:

ρ <sub>cc</sub>	80%			70%			50%			30%			10%			0
ρ <sub>w</sub>	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ <sub>fc</sub>	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients (WEC)									
0.0																
1.0	.349	.198	.063	.340	.194	.062	.323	.185	.059	.307	.177	.057	.293	.170	.055	
2.0	.314	.172	.053	.306	.168	.052	.291	.162	.050	.277	.155	.049	.264	.149	.047	
3.0	.284	.151	.045	.277	.148	.045	.264	.143	.043	.251	.138	.042	.240	.133	.041	
4.0	.259	.134	.040	.252	.132	.039	.240	.128	.038	.229	.123	.037	.219	.119	.036	
5.0	.237	.121	.035	.231	.119	.035	.221	.115	.034	.211	.111	.033	.201	.108	.032	
6.0	.219	.110	.031	.213	.108	.031	.204	.104	.030	.195	.101	.030	.186	.098	.029	
7.0	.202	.100	.028	.198	.099	.028	.189	.096	.028	.181	.093	.027	.173	.090	.026	
8.0	.188	.092	.026	.184	.091	.026	.176	.088	.025	.169	.086	.025	.162	.083	.024	
9.0	.176	.085	.024	.172	.084	.024	.165	.082	.023	.158	.079	.023	.152	.077	.022	
10.0	.165	.079	.022	.162	.078	.022	.155	.076	.021	.149	.074	.021	.143	.072	.021	

ρ <sub>cc</sub>	80%			70%			50%			30%			10%			0
ρ <sub>w</sub>	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ <sub>fc</sub>	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients (CCEC)									
0.0	.234	.234	.234	.200	.200	.200	.137	.137	.137	.079	.079	.079	.025	.025	.025	
1.0	.227	.200	.176	.194	.172	.151	.133	.118	.104	.077	.068	.061	.025	.022	.020	
2.0	.220	.176	.140	.188	.152	.121	.129	.105	.084	.074	.061	.049	.024	.020	.016	
3.0	.212	.159	.117	.182	.137	.101	.125	.095	.071	.072	.056	.042	.023	.018	.014	
4.0	.204	.146	.102	.175	.126	.088	.120	.088	.062	.070	.052	.037	.022	.017	.012	
5.0	.197	.136	.091	.169	.118	.079	.116	.082	.056	.067	.048	.033	.022	.016	.011	
6.0	.189	.128	.084	.163	.111	.073	.112	.077	.052	.065	.046	.031	.021	.015	.010	
7.0	.182	.121	.078	.157	.105	.068	.108	.074	.048	.063	.043	.029	.020	.014	.009	
8.0	.176	.115	.074	.151	.100	.064	.105	.070	.046	.061	.041	.027	.020	.014	.009	
9.0	.169	.110	.070	.146	.096	.061	.101	.067	.044	.059	.040	.026	.019	.013	.009	
10.0	.164	.106	.068	.141	.092	.059	.098	.065	.042	.057	.038	.025	.018	.013	.008	

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2015-10-15

γ Range: 0 - 180DEG  
 γ Interval: 2.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.281  
 Humidity:65.0%  
 Test Distance:18.400m [K=1.0000]  
 Remarks:

Uncorrected UGR Table

Test:U:120.3V I:0.2683A P:32.03W PF:0.9923 Lamp Flux:3663.49x1 lm										
NAME:				TYPE:				WEIGHT:		
SPEC.:				DIM.:				SERIAL No.:027		
MFR.: ASD Lighting Corp				SUR.:				PROTECTION 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	16.8	18.3	17.1	18.6	18.9	15.7	17.1	16.0	17.5	17.8
3H	18.9	20.3	19.3	20.6	21.0	17.1	18.5	17.5	18.8	19.2
4H	20.0	21.3	20.4	21.7	22.1	17.7	19.0	18.1	19.4	19.8
6H	21.2	22.4	21.6	22.8	23.2	18.1	19.3	18.5	19.7	20.1
8H	21.8	23.0	22.2	23.4	23.8	18.2	19.4	18.6	19.8	20.2
12H	22.5	23.7	22.9	24.1	24.5	18.3	19.4	18.7	19.8	20.2
4H 2H	17.3	18.6	17.7	19.0	19.4	16.5	17.8	16.9	18.1	18.5
3H	19.7	20.8	20.1	21.2	21.6	18.2	19.3	18.6	19.7	20.2
4H	20.9	22.0	21.4	22.4	22.8	18.9	20.0	19.4	20.4	20.9
6H	22.3	23.2	22.7	23.7	24.1	19.5	20.4	19.9	20.9	21.4
8H	23.0	23.9	23.5	24.3	24.9	19.6	20.5	20.1	21.0	21.5
12H	23.8	24.7	24.4	25.1	25.7	19.7	20.6	20.3	21.1	21.6
8H 4H	21.2	22.1	21.7	22.5	23.0	19.5	20.4	20.0	20.8	21.3
6H	22.7	23.5	23.3	24.0	24.5	20.3	21.0	20.8	21.5	22.1
8H	23.7	24.3	24.2	24.8	25.4	20.6	21.3	21.1	21.8	22.4
12H	24.7	25.3	25.3	25.8	26.4	20.8	21.4	21.4	22.0	22.6
12H 4H	21.2	22.0	21.7	22.5	23.0	19.6	20.4	20.1	20.9	21.4
6H	22.8	23.5	23.4	24.0	24.6	20.5	21.2	21.1	21.7	22.3
8H	23.8	24.4	24.4	24.9	25.5	21.0	21.5	21.5	22.1	22.7
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.2				
1.5H	+ 0.2 / - 0.2					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.4				

CIE Pub.117 Corrected 3663 lm Total Lamp Luminous Flux. (8log(F/F0) = 4.5)

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2015-10-15

γ Range: 0 - 180DEG  
 γ Interval: 2.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.281  
 Humidity:65.0%  
 Test Distance:18.400m [K=1.0000]  
 Remarks:

**UTILIZATION FACTORS TABLE**

Test:U:120.3V I:0.2683A P:32.03W PF:0.9923 Lamp Flux:3663.49x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting Corp	SUR.:	PROTECTION ANGLE:

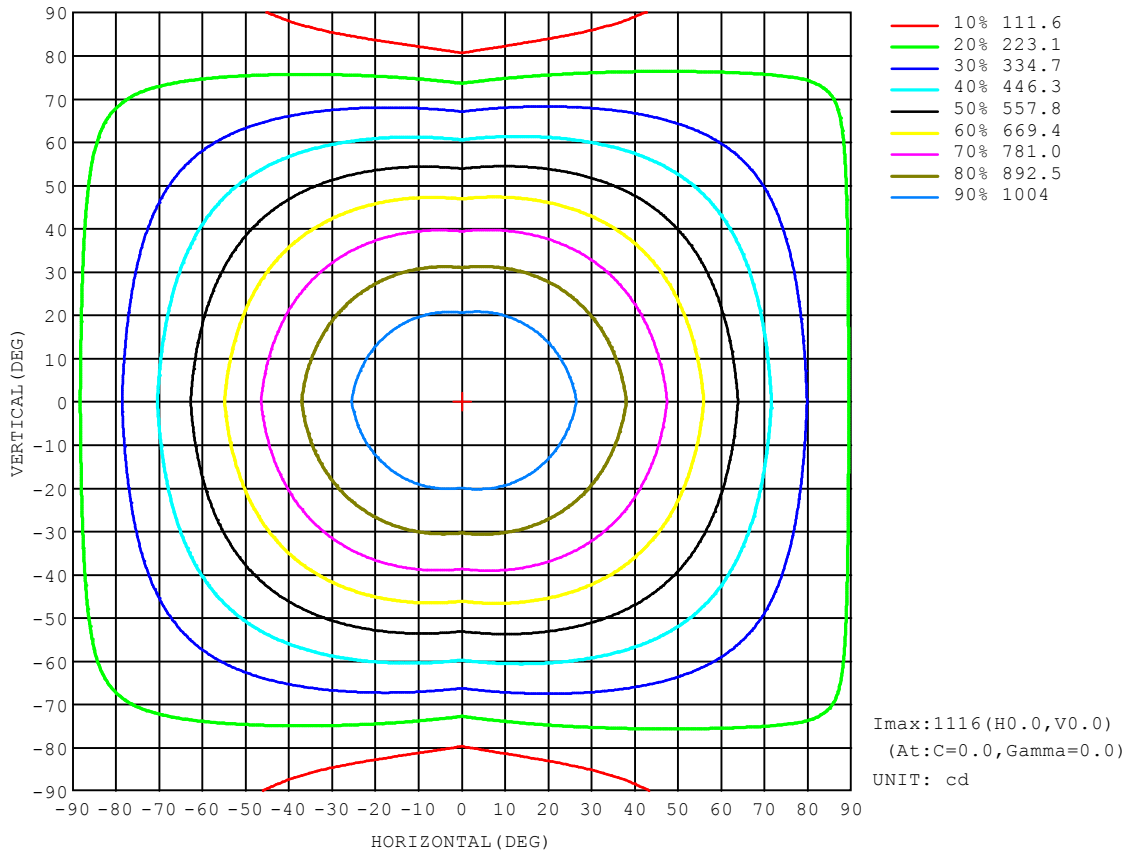
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	54	42	35	53	42	35	52	41	34	28
0.80	63	51	43	62	51	43	60	50	43	36
1.00	71	60	52	70	59	51	67	60	51	43
1.25	78	67	59	77	66	59	74	64	58	50
1.50	84	73	65	82	71	64	78	69	63	54
2.00	91	81	74	88	79	73	84	77	71	62
2.50	95	86	79	92	84	78	88	81	75	66
3.00	98	90	84	96	88	82	91	85	80	70
4.00	103	96	90	100	94	89	95	90	85	75
5.00	105	99	94	102	97	93	97	93	89	78
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:2015-10-15

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 2.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.281  
 Humidity:65.0%  
 Test Distance:18.400m [K=1.0000]  
 Remarks:

ISOCANDELA DIAGRAM

Test:U:120.3V I:0.2683A P:32.03W PF:0.9923 Lamp Flux:3663.49x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting Corp	SUR.:	PROTECTION ANGLE:

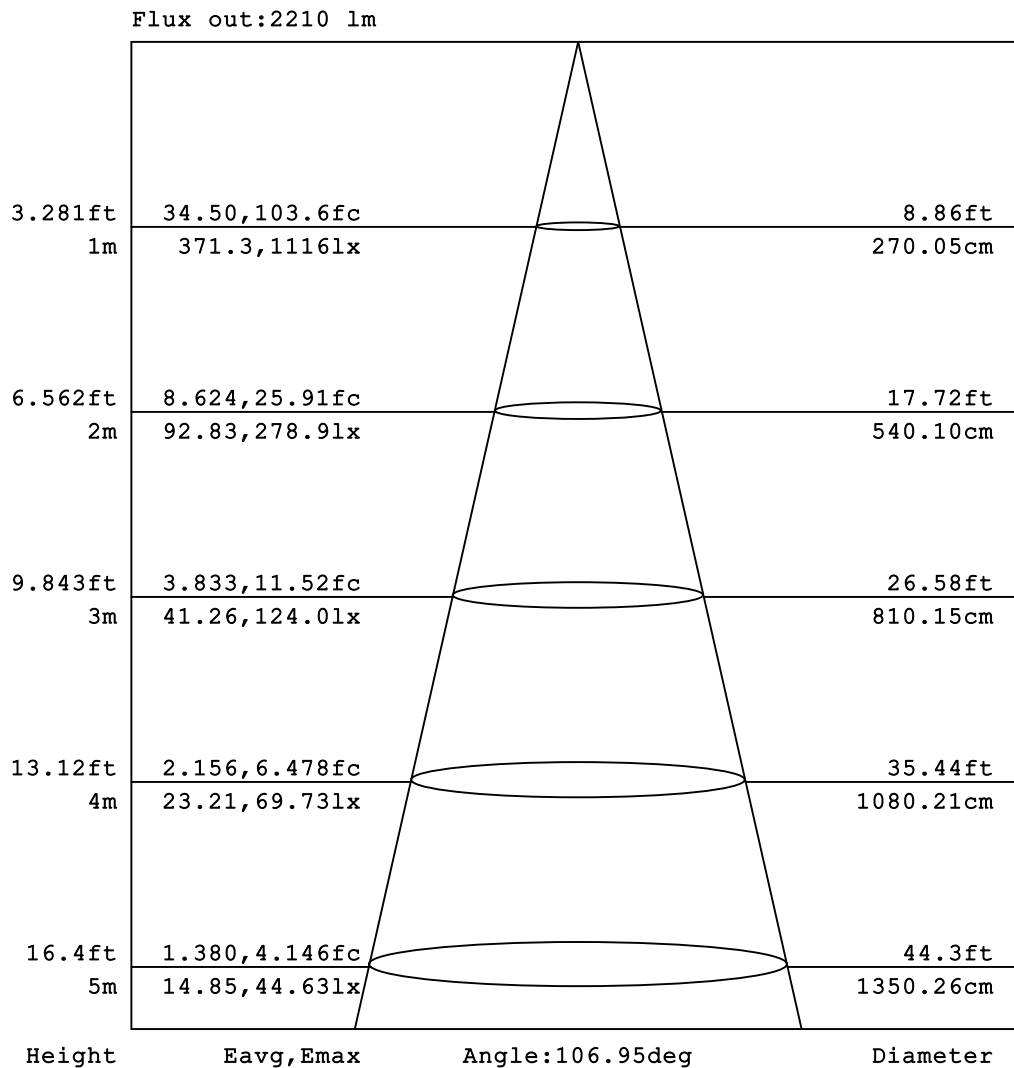


C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2015-10-15

γ Range: 0 - 180DEG  
 γ Interval: 2.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.281  
 Humidity:65.0%  
 Test Distance:18.400m [K=1.0000]  
 Remarks:

AAI Figure

Test:U:120.3V I:0.2683A P:32.03W PF:0.9923 Lamp Flux:3663.49x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting Corp	SUR.:	PROTECTION ANGLE:



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

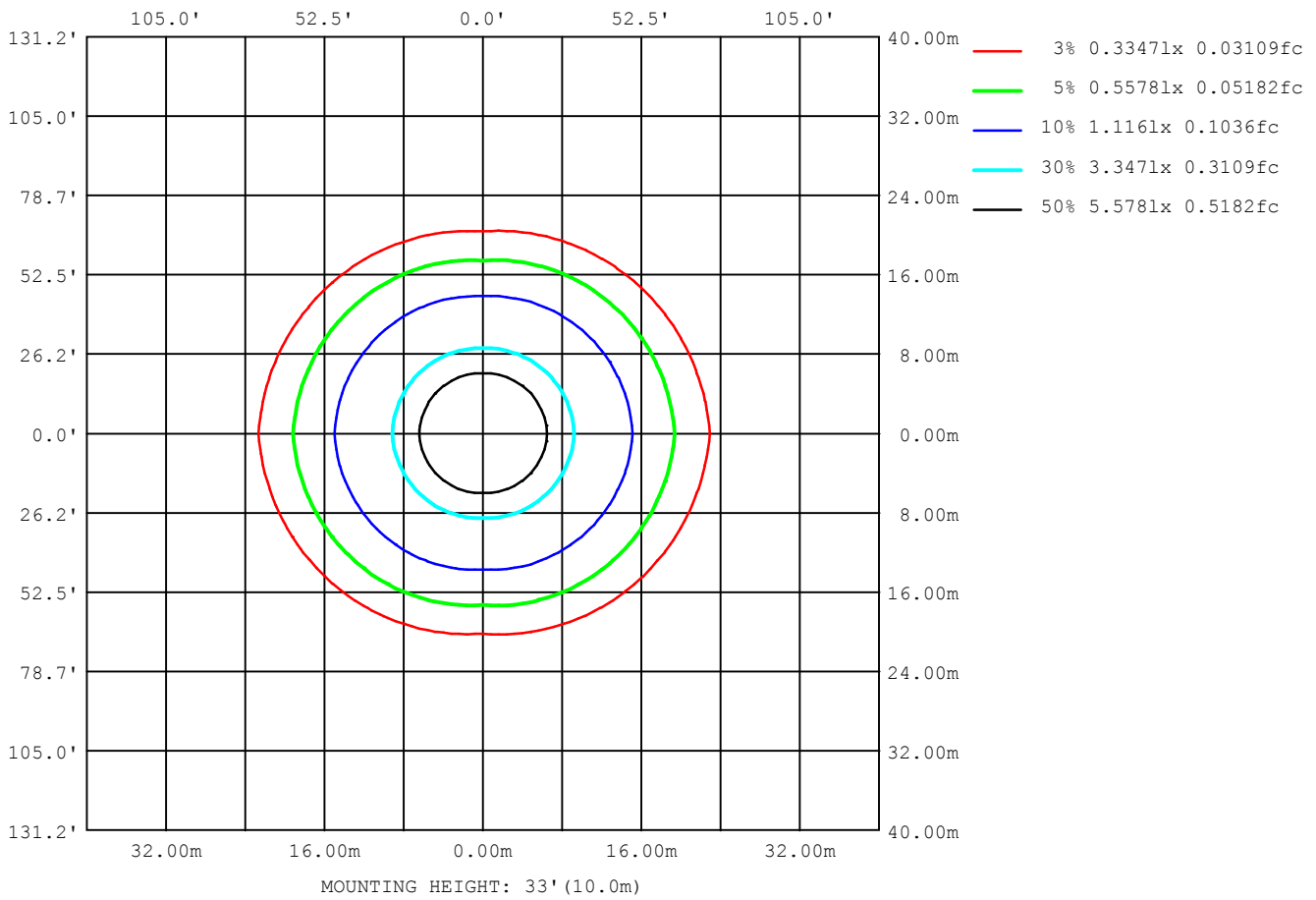
C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2015-10-15

γ Range: 0 - 180DEG  
 γ Interval: 2.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.281  
 Humidity:65.0%  
 Test Distance:18.400m [K=1.0000]  
 Remarks:



ISOLUX DIAGRAM

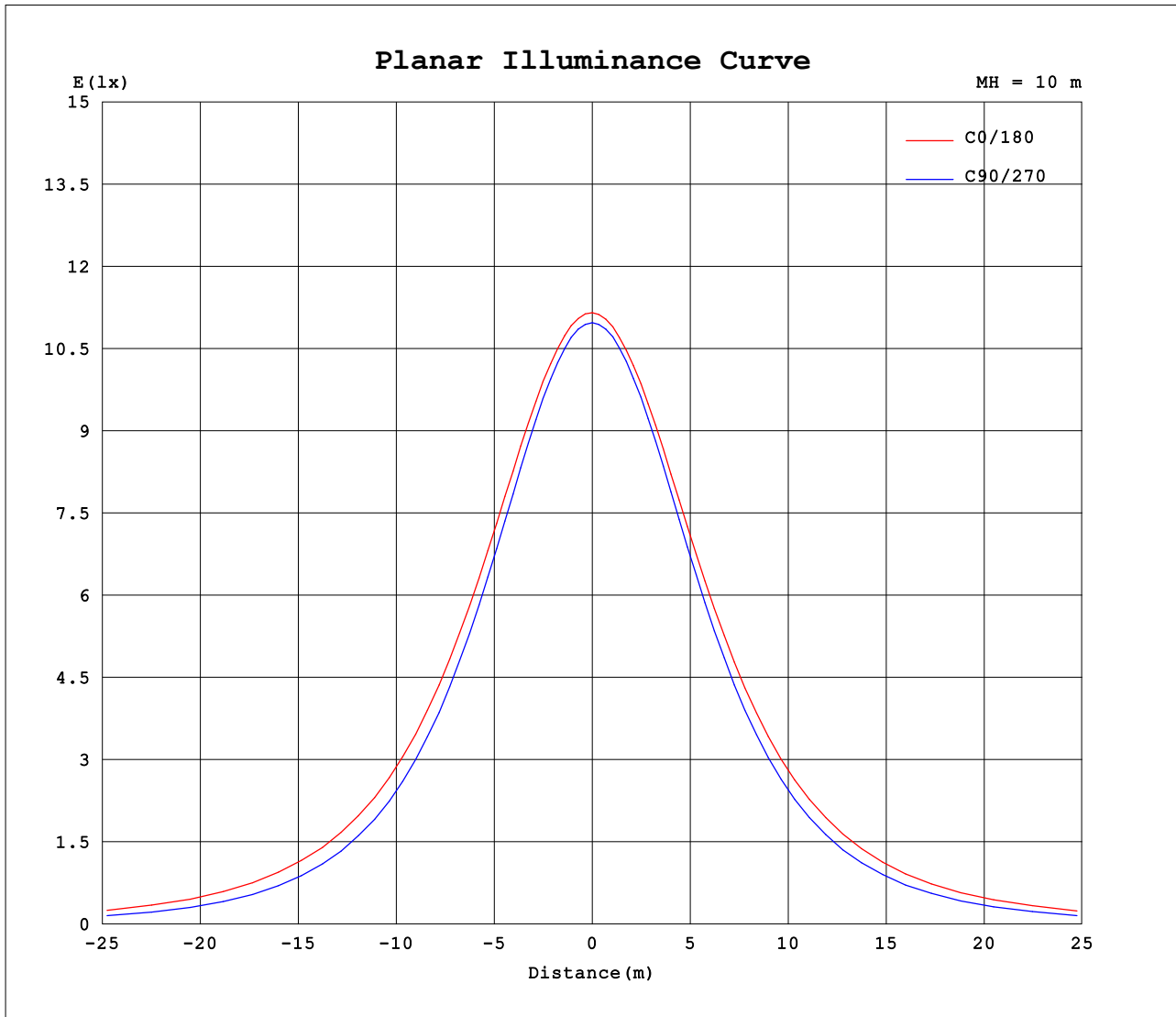
Test:U:120.3V I:0.2683A P:32.03W PF:0.9923 Lamp Flux:3663.49x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting Corp	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2015-10-15

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 2.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.281  
 Humidity:65.0%  
 Test Distance:18.400m [K=1.0000]  
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2015-10-15

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 2.0DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.281  
 Humidity: 65.0%  
 Test Distance: 18.400m [K=1.0000]  
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.3V I:0.2683A P:32.03W PF:0.9923 Lamp Flux:3663.49x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting Corp	SUR.:	PROTECTION ANGLE:

Table--1

UNIT: cd

C (DEG) \ γ (DEG)	0	90	180	270															
0	1107	1107	1107	1107															
5	1105	1103	1103	1103															
10	1092	1082	1088	1084															
15	1076	1059	1071	1062															
20	1043	1012	1037	1017															
25	1016	974	1008	978															
30	966	905	957	911															
35	928	854	918	861															
40	864	769	852	777															
45	817	709	805	718															
50	743	614	729	624															
55	690	549	676	559															
60	608	447	592	458															
65	551	378	535	389															
70	465	273	448	285															
75	409	205	393	217															
80	330	109	314	121															
85	281	55.6	267	65.4															
90	216	13.1	204	16.4															
95	179	10.6	169	12.0															
100	133	6.38	125	7.94															
105	109	4.35	102	3.99															
110	80.2	2.38	75.2	3.32															
115	64.5	3.81	59.9	3.11															
120	44.3	3.15	40.2	3.21															
125	32.9	2.83	29.2	3.02															
130	18.7	2.65	15.5	2.72															
135	11.1	2.62	8.77	2.61															
140	6.48	2.66	6.24	2.42															
145	6.07	2.79	5.86	2.55															
150	5.50	3.09	5.23	2.87															
155	5.15	3.24	4.87	2.91															
160	4.68	3.47	4.32	3.19															
165	4.41	3.60	4.03	3.36															
170	4.07	3.71	3.73	3.54															
175	3.96	3.79	3.67	3.60															
180	3.16	3.88	3.12	3.84															

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2015-10-15

γ Range: 0 - 180DEG  
 γ Interval: 2.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.281  
 Humidity:65.0%  
 Test Distance:18.400m [K=1.0000]  
 Remarks: