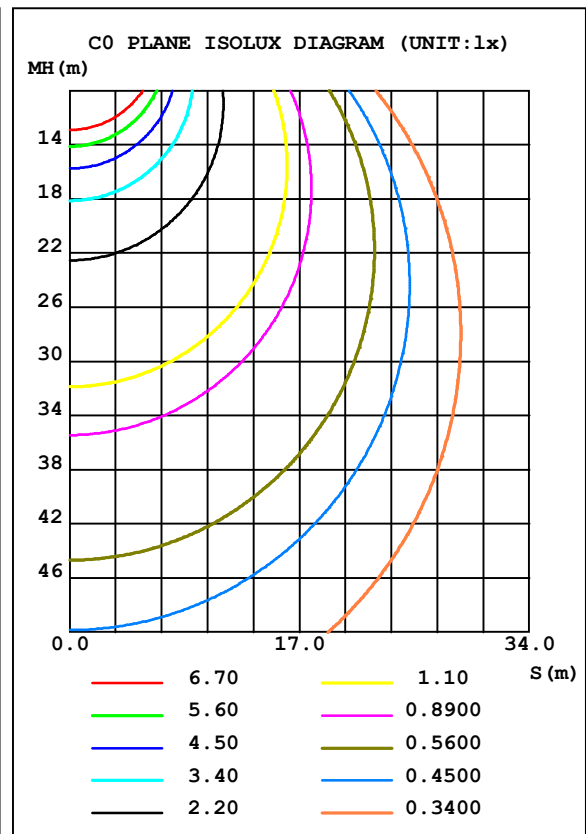
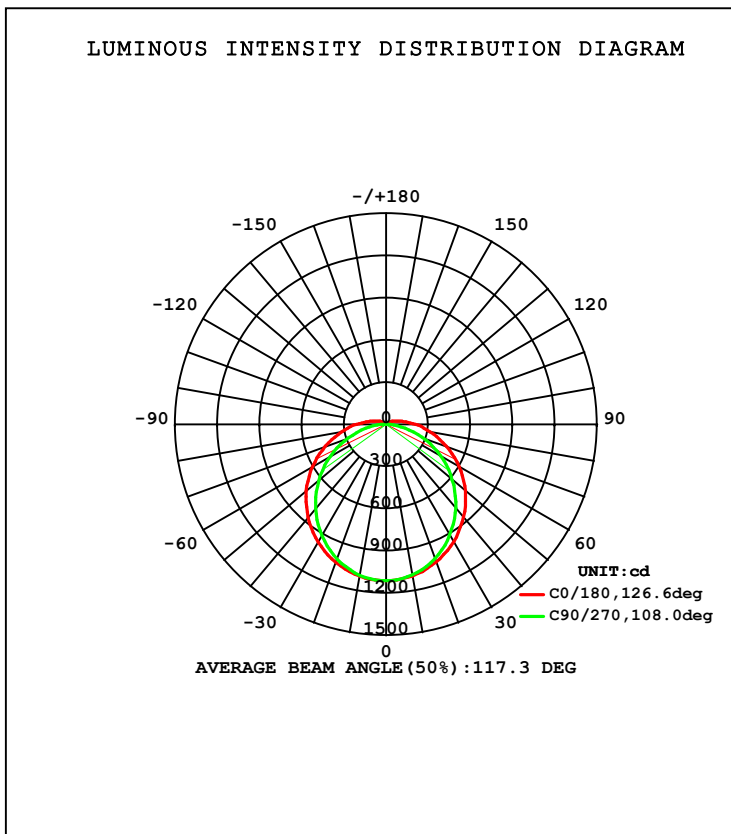


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:120.3V I:0.2686A P:32.07W PF:0.9922 Lamp Flux:3678.31x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting Corp	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 114.70 lm/W			
MODEL	ASD-LVP4N3140MHE	I _{max} (cd)	1112	S/MH (C0/180)	1.29
NOMINAL POWER (W)	32	LOR (%)	100.0	S/MH (C90/270)	1.22
RATED VOLTAGE (V)	120	TOTAL FLUX (lm)	3678.3	η UP, DN (C0-180)	2.9, 46.9
NOMINAL FLUX (lm)	3678.31	CIE CLASS	DIRECT	η UP, DN (C180-360)	2.9, 47.4
LAMPS INSIDE	1	η up (%)	5.7	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	120.2	η down (%)	94.3	CIBSE SHR MAX	1.35



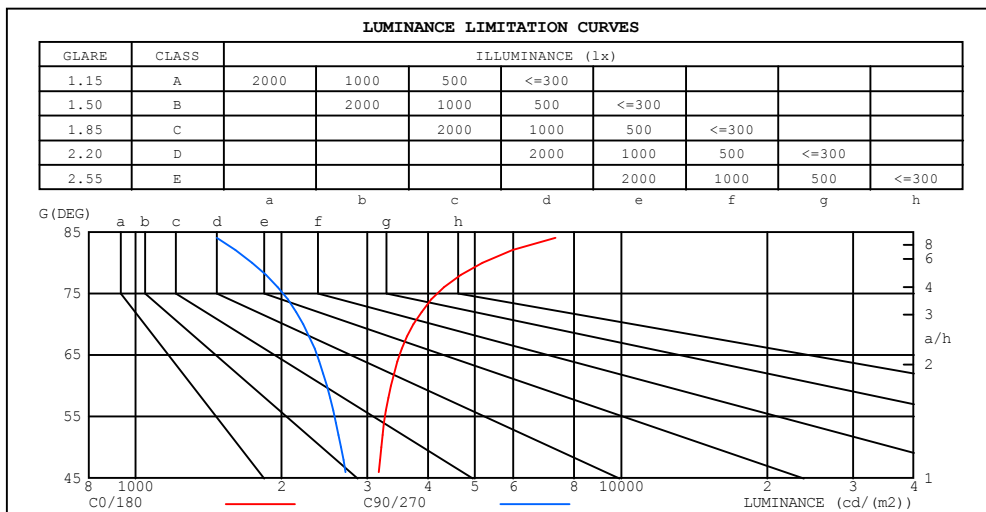
C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2015-10-15

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:

γ	C0	C90	C180	C270				γ	Φ zone	Φ total	%lum, lamp	
10	1094	1087	1096	1089				0- 10	105.2	105.2	2.86,2.86	
20	1044	1017	1046	1021				10- 20	301.0	406.1	11,11	
30	964.2	908.7	968.0	915.4				20- 30	456.0	862.2	23.4,23.4	
40	859.7	772.3	864.4	780.8				30- 40	552.1	1414	38.4,38.4	
50	737.3	616.9	741.8	626.8				40- 50	580.5	1995	54.2,54.2	
60	600.9	448.6	604.9	460.1				50- 60	542.3	2537	69,69	
70	457.5	274.2	460.7	286.7				60- 70	445.4	2982	81.1,81.1	
80	322.4	109.2	324.6	121.5				70- 80	309.9	3292	89.5,89.5	
90	210.1	13.11	211.9	16.52				80- 90	175.0	3467	94.3,94.3	
100	129.1	5.936	130.3	7.824				90-100	97.94	3565	96.9,96.9	
110	77.71	2.143	78.46	3.057				100-110	56.37	3622	98.5,98.5	
120	42.45	2.971	42.58	3.163				110-120	31.27	3653	99.3,99.3	
130	17.32	2.704	16.99	2.673				120-130	14.48	3667	99.7,99.7	
140	6.408	2.694	6.405	2.394				130-140	4.893	3672	99.8,99.8	
150	5.476	3.185	5.327	2.800				140-150	2.726	3675	99.9,99.9	
160	4.652	3.528	4.460	3.206				150-160	1.888	3677	100,100	
170	4.060	3.805	3.805	3.506				160-170	1.100	3678	100,100	
180	3.129	4.040	3.129	3.848				170-180	0.3627	3678	100,100	
DEG	LUMINOUS INTENSITY:cd								UNIT:lm			



LUMINANCE cd/ (m2)		
G (DEG)	C0/180	C90/270
85	8785	1761
80	5186	1737
75	4333	2192
70	3736	2215
65	3593	2477
60	3357	2479
55	3331	2652
50	3204	2651
45	3209	2782

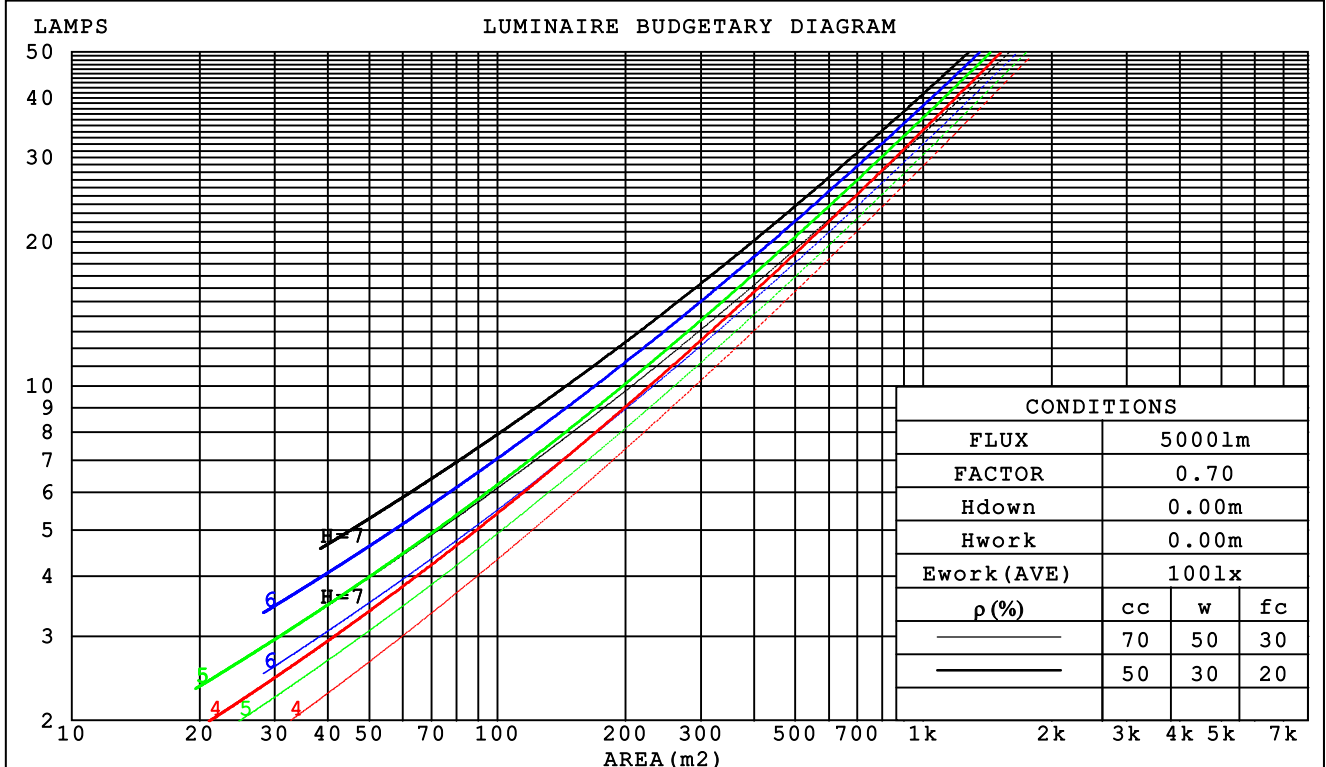
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2015-10-15

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:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:120.3V I:0.2686A P:32.07W PF:0.9922 Lamp Flux:3678.31x1 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	.58	.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	.45	.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	.36	.31	.29
8.0	.44	.35	.30	.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:0.2686A P:32.07W PF:0.9922 Lamp Flux:3678.31x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting Corp	SUR.:	PROTECTION ANGLE:

ρ _{cc}	80%			70%			50%			30%			10%			0
ρ _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ _{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients (WEC)									
0.0																
1.0	.348	.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 _{cc}	80%			70%			50%			30%			10%			0
ρ _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ _{fc}	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	.078	.078	.078	.025	.025	.025	
1.0	.227	.200	.175	.194	.172	.151	.133	.118	.104	.076	.068	.061	.024	.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	.051	.037	.022	.017	.012	
5.0	.196	.136	.091	.169	.118	.079	.116	.082	.056	.067	.048	.033	.022	.016	.011	
6.0	.189	.128	.084	.162	.111	.073	.112	.077	.051	.065	.046	.031	.021	.015	.010	
7.0	.182	.121	.078	.157	.105	.068	.108	.073	.048	.063	.043	.029	.020	.014	.009	
8.0	.175	.115	.074	.151	.100	.064	.104	.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	.163	.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:0.2686A P:32.07W PF:0.9922 Lamp Flux:3678.31x1 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	16.7	18.2	17.1	18.5	18.8	15.7	17.1	16.0	17.4	17.8
3H	18.8	20.2	19.2	20.5	20.9	17.1	18.5	17.5	18.8	19.2
4H	19.9	21.2	20.3	21.6	21.9	17.7	19.0	18.1	19.4	19.7
6H	21.0	22.3	21.5	22.7	23.1	18.1	19.3	18.5	19.7	20.1
8H	21.7	22.8	22.1	23.2	23.7	18.2	19.4	18.6	19.8	20.2
12H	22.4	23.5	22.8	23.9	24.3	18.2	19.4	18.7	19.8	20.2
4H 2H	17.3	18.6	17.7	18.9	19.3	16.5	17.8	16.9	18.1	18.5
3H	19.5	20.7	20.0	21.1	21.5	18.2	19.3	18.6	19.7	20.1
4H	20.8	21.8	21.3	22.3	22.7	18.9	19.9	19.3	20.4	20.8
6H	22.1	23.1	22.6	23.5	24.0	19.4	20.4	19.9	20.8	21.3
8H	22.8	23.7	23.3	24.2	24.7	19.6	20.5	20.1	21.0	21.5
12H	23.7	24.5	24.2	25.0	25.5	19.7	20.5	20.2	21.0	21.6
8H 4H	21.1	21.9	21.6	22.4	22.9	19.4	20.3	19.9	20.8	21.3
6H	22.6	23.4	23.1	23.9	24.4	20.2	21.0	20.8	21.5	22.0
8H	23.5	24.2	24.1	24.7	25.3	20.5	21.2	21.1	21.7	22.3
12H	24.6	25.1	25.1	25.7	26.3	20.8	21.4	21.4	21.9	22.5
12H 4H	21.1	21.9	21.6	22.4	22.9	19.6	20.4	20.1	20.9	21.4
6H	22.7	23.4	23.2	23.9	24.5	20.5	21.1	21.0	21.7	22.2
8H	23.7	24.2	24.2	24.8	25.4	20.9	21.5	21.5	22.0	22.6
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 3678 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:0.2686A P:32.07W PF:0.9922 Lamp Flux:3678.31x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting Corp	SUR.:	PROTECTION ANGLE:

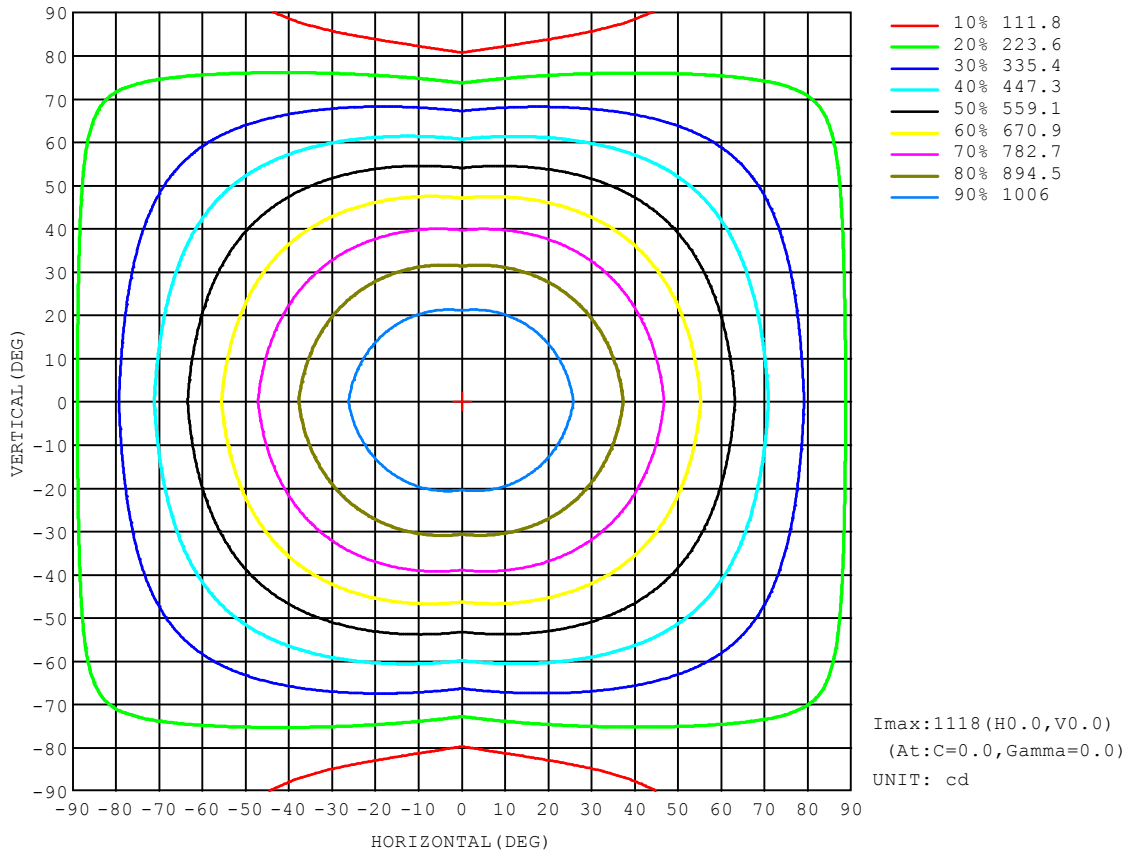
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	54	42	35	53	42	35	52	41	34	28
0.80	63	51	43	62	51	43	60	50	43	36
1.00	72	60	52	70	59	51	67	60	51	43
1.25	79	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

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:

ISOCANDELA DIAGRAM

Test:U:120.3V I:0.2686A P:32.07W PF:0.9922 Lamp Flux:3678.31x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting Corp	SUR.:	PROTECTION ANGLE:

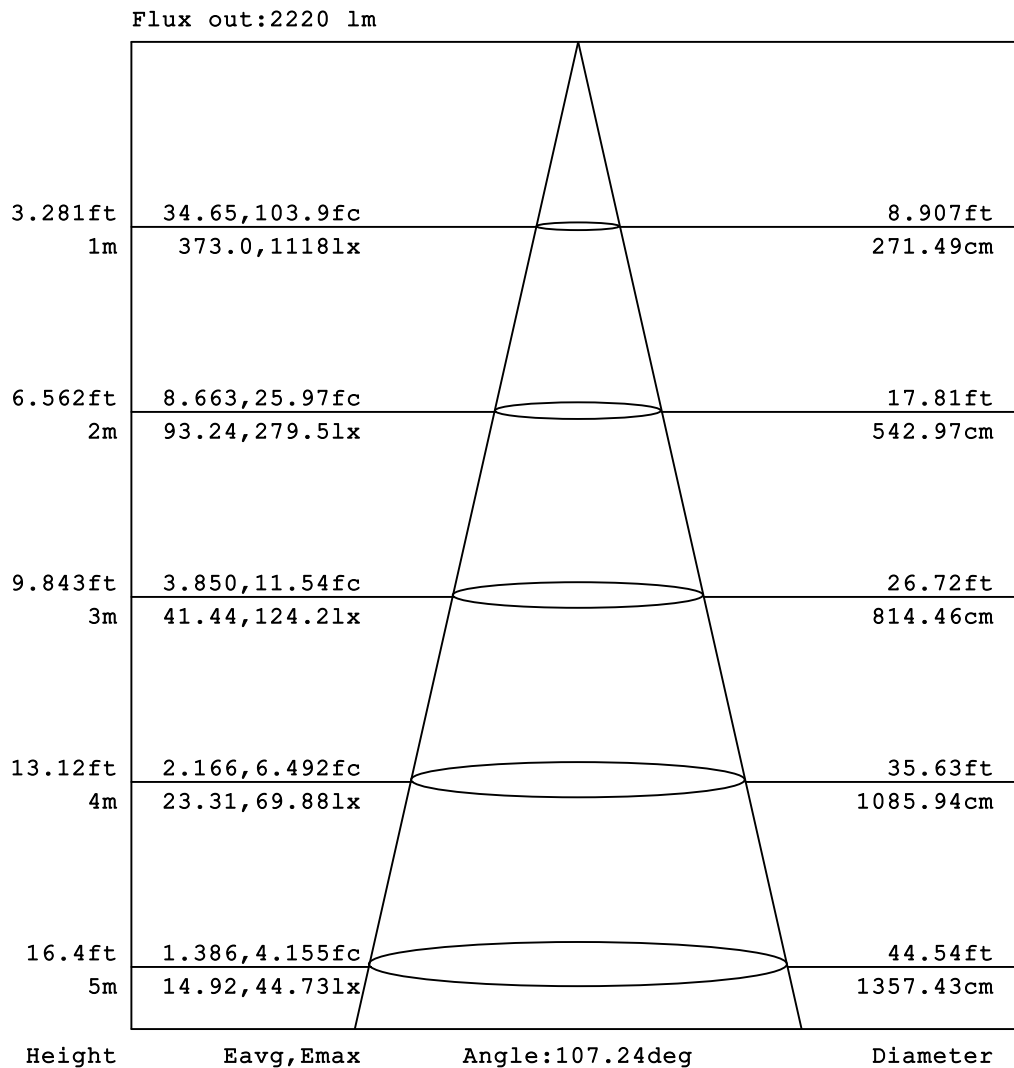


C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2015-10-15

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:0.2686A P:32.07W PF:0.9922 Lamp Flux:3678.31x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting Corp	SUR.:	PROTECTION ANGLE:



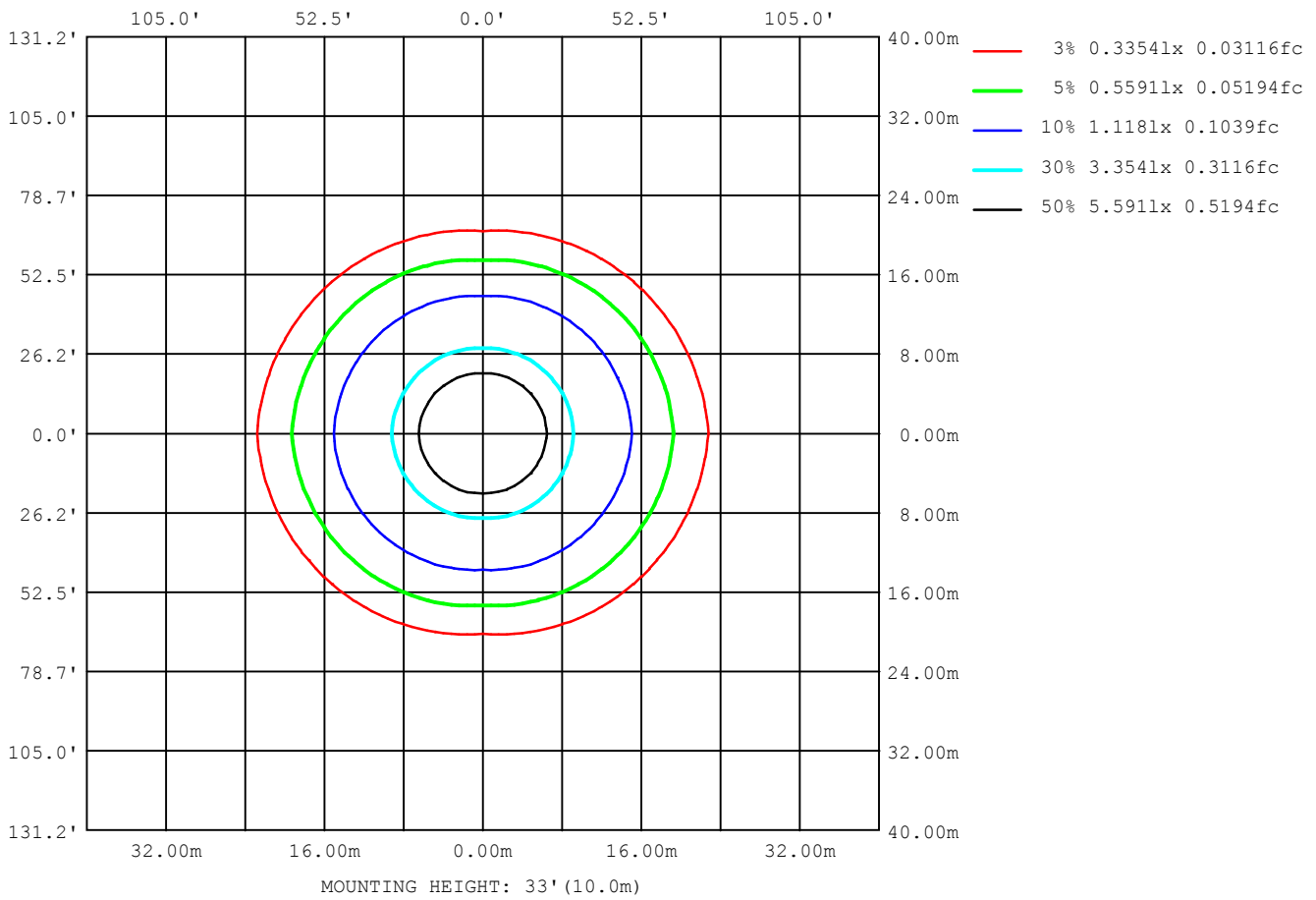
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

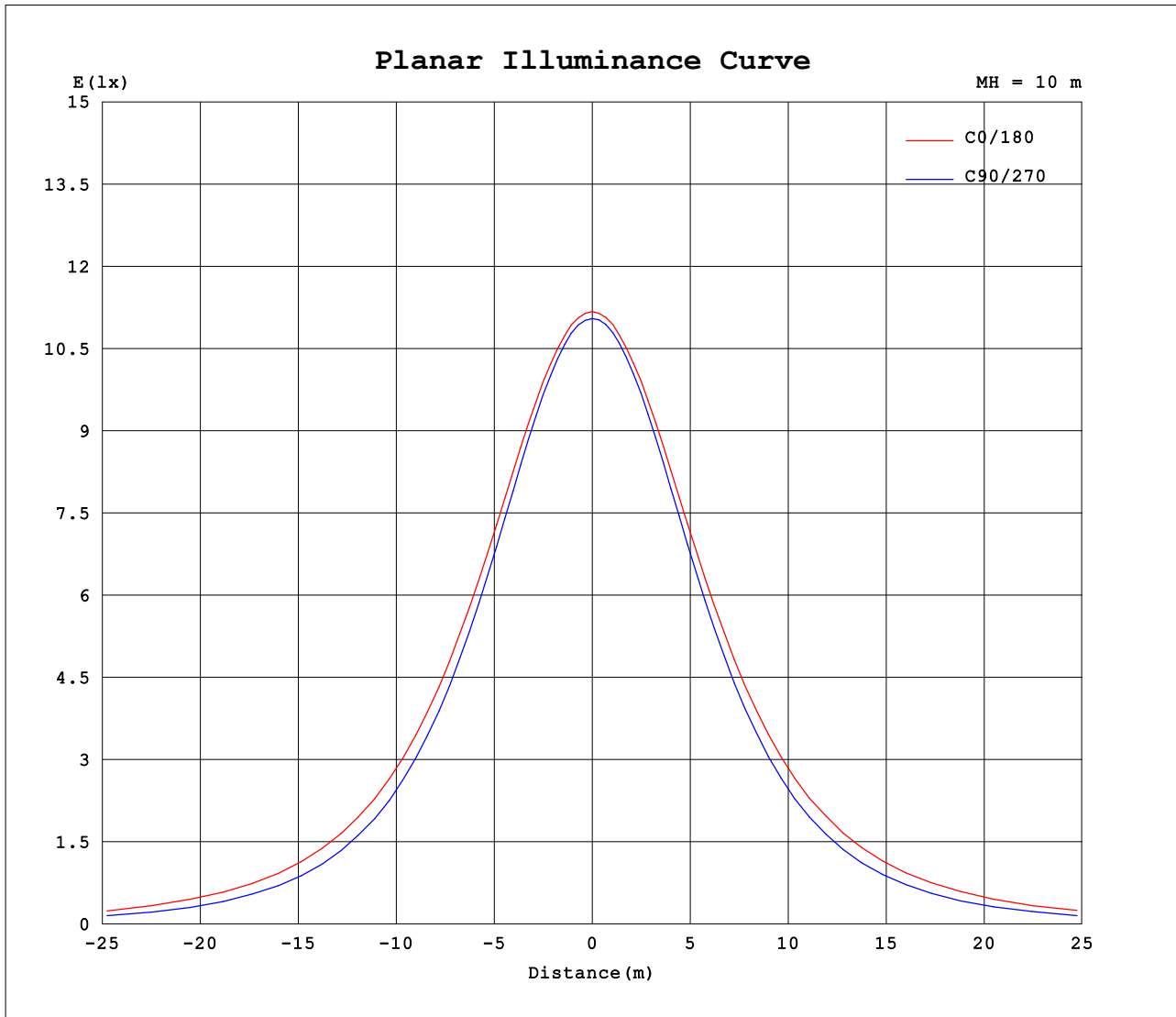
Test:U:120.3V I:0.2686A P:32.07W PF:0.9922 Lamp Flux:3678.31x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting Corp	SUR.:	PROTECTION ANGLE:



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:

Planar Illuminance Curve



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:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.3V I:0.2686A P:32.07W PF:0.9922 Lamp Flux:3678.31x1 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	1112	1112	1112	1112															
5	1109	1108	1110	1108															
10	1094	1087	1096	1089															
15	1078	1064	1080	1067															
20	1044	1017	1046	1021															
25	1015	977	1018	983															
30	964	909	968	915															
35	925	857	929	864															
40	860	772	864	781															
45	812	712	817	721															
50	737	617	742	627															
55	684	551	689	561															
60	601	449	605	460															
65	544	379	548	391															
70	458	274	461	287															
75	402	205	404	218															
80	322	109	325	121															
85	274	55.6	276	65.9															
90	210	13.1	212	16.5															
95	174	10.6	175	12.0															
100	129	5.94	130	7.82															
105	106	3.83	107	3.70															
110	77.7	2.14	78.5	3.06															
115	62.3	3.48	62.8	2.89															
120	42.5	2.97	42.6	3.16															
125	31.2	2.80	31.1	2.95															
130	17.3	2.70	17.0	2.67															
135	10.1	2.64	9.73	2.61															
140	6.41	2.69	6.40	2.39															
145	6.00	2.82	6.00	2.54															
150	5.48	3.19	5.33	2.80															
155	5.12	3.29	4.97	2.91															
160	4.65	3.53	4.46	3.21															
165	4.38	3.70	4.12	3.36															
170	4.06	3.81	3.81	3.51															
175	4.00	3.93	3.74	3.61															
180	3.13	4.04	3.13	3.85															

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: