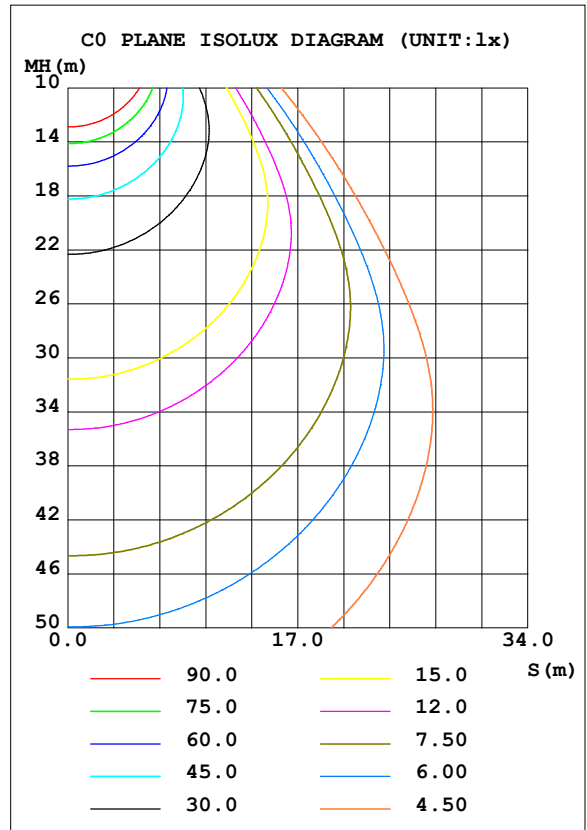
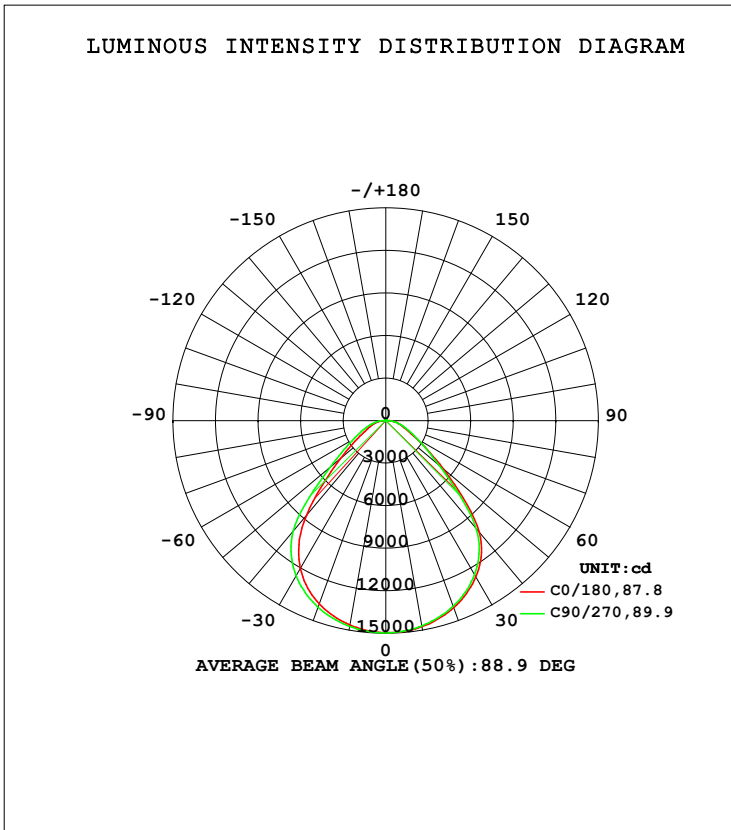


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:120.9V I:1.800A P:217.2W PF:0.9976 Freq:59.98Hz Lamp Flux:30734.4x1 lm		
NAME: ASD-WHB5A-A220DAC-20EM-220W-5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:0.5*0.3m	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 141.52 lm/W			
MODEL		I _{max} (cd)	14966	S/MH (C0/180)	1.20
NOMINAL POWER (W)	220	LOR (%)	100.0	S/MH (C90/270)	1.25
RATED VOLTAGE (V)	120	TOTAL FLUX (lm)	30734	<input type="checkbox"/> UP, DN (C0-180)	0.5, 49.9
NOMINAL FLUX (lm)	30734.4	CIE CLASS	DIRECT	<input type="checkbox"/> UP, DN (C180-360)	0.5, 49.1
LAMPS INSIDE	1	<input type="checkbox"/> up (%)	0.9	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	120	<input type="checkbox"/> down (%)	99.1	CIBSE SHR MAX	1.30



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 27DEG
 Operators: lianghaizhu
 Test Date: 2023-05-04

Range: 0 - 180DEG
 Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.364
 Humidity: 56%
 Test Distance: 6.500m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

mm	C0	C45	C90	C135	C180	C225	C270	C315	mm	□ zone	□ total	%lum, lamp
10	1475	1474	1469	1462	1463	1466	1473	1476	0- 10	1415	1415	4.61,4.61
20	1403	1400	1392	1373	1374	1381	1399	1404	10- 20	4055	5471	17.8,17.8
30	1272	1265	1253	1210	1205	1223	1264	1271	20- 30	6111	11582	37.7,37.7
40	1026	1012	992.7	903.5	869.8	923.8	1016	1025	30- 40	7037	18619	60.6,60.6
50	530.1	511.9	490.9	441.8	419.2	458.1	513.2	521.0	40- 50	5526	24146	78.6,78.6
60	245.7	245.8	256.6	220.8	199.4	225.7	265.2	252.2	50- 60	3070	27216	88.6,88.6
70	132.9	140.8	145.7	130.1	114.7	132.5	149.3	144.3	60- 70	1787	29002	94.4,94.4
80	74.55	74.32	71.28	64.47	58.01	66.55	74.00	74.76	70- 80	1086	30088	97.9,97.9
90	2.242	1.206	1.080	1.068	1.035	1.027	1.476	1.391	80- 90	363.3	30452	99.1,99.1
100	1.528	1.615	1.729	1.754	1.721	1.671	1.606	1.500	90-100	14.28	30466	99.1,99.1
110	2.488	2.600	2.782	2.827	2.776	2.694	2.611	2.438	100-110	22.37	30488	99.2,99.2
120	3.755	3.877	4.103	4.165	4.101	4.004	3.906	3.690	110-120	32.48	30521	99.3,99.3
130	5.203	5.308	5.528	5.600	5.571	5.451	5.347	5.130	120-130	41.74	30563	99.4,99.4
140	6.561	6.667	6.841	6.951	6.945	6.854	6.750	6.545	130-140	46.99	30610	99.6,99.6
150	7.799	7.899	8.047	8.163	8.259	8.130	8.028	7.840	140-150	46.29	30656	99.7,99.7
160	9.109	9.213	9.383	9.403	9.668	9.466	9.411	9.226	150-160	39.99	30696	99.9,99.9
170	10.50	10.49	10.62	10.58	10.86	10.65	10.66	10.48	160-170	28.20	30724	100,100
180	11.27	11.13	11.17	11.08	11.28	11.11	11.19	11.09	170-180	10.38	30734	100,100
DEG	LUMINOUS INTENSITY:×10cd									UNIT:lm		

Conical surface Flux(90deg): 21752 lm

%lum = 70.8%

%lamp = 70.8%

Conical surface Flux(120deg): 27216 lm

%lum = 88.6%

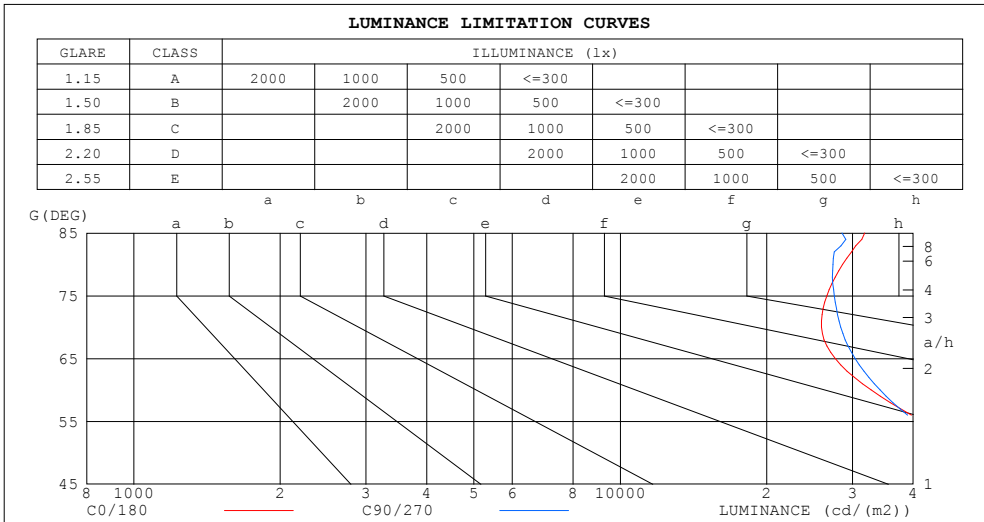
%lamp = 88.6%

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:27DEG
 Operators:lianghaizhu
 Test Date:2023-05-04

□ Range: 0 - 180DEG
 □ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.364
 Humidity:56%
 Test Distance:6.500m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:120.9V I:1.800A P:217.2W PF:0.9976 Freq:59.98Hz Lamp Flux:30734.4x1 lm		
NAME: ASD-WHB5A-A220DAC-20EM-220W-5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:0.5*0.3m	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	31819	28563
80	28620	27364
75	26585	27539
70	25904	28399
65	27655	30395
60	32765	34208
55	41769	40436
50	54975	50914
45	72967	68637

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:27DEG
 Operators:lianghaizhu
 Test Date:2023-05-04

Range: 0 - 180DEG
 Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.364
 Humidity:56%
 Test Distance:6.500m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:120.9V I:1.800A P:217.2W PF:0.9976 Freq:59.98Hz Lamp Flux:30734.4x1 lm		
NAME: ASD-WHB5A-A220DAC-20EM-220W-5000K	TYPE:	WEIGHT:
SPEC.	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:0.5*0.3m	Shielding Angle:

<input type="checkbox"/> cc	80%	70%	50%	30%	10%	0
<input type="checkbox"/> w	50% 30% 10%	50% 30% 10%	50% 30% 10%	50% 30% 10%	50% 30% 10%	0
<input type="checkbox"/> fc	20%	20%	20%	20%	20%	0
RCR	RCR:Room Cavity Ratio		Wall Exitance Coefficients (WEC)			
0.0						
1.0	.258 .146 .046	.250 .143 .045	.237 .136 .043	.224 .129 .042	.213 .123 .040	
2.0	.245 .134 .041	.239 .131 .040	.227 .126 .039	.216 .121 .038	.206 .116 .037	
3.0	.230 .122 .037	.224 .120 .036	.214 .116 .035	.205 .112 .034	.196 .108 .034	
4.0	.215 .112 .033	.210 .110 .033	.201 .107 .032	.193 .104 .031	.185 .101 .031	
5.0	.202 .103 .030	.198 .101 .030	.189 .099 .029	.182 .096 .029	.175 .093 .028	
6.0	.189 .095 .027	.186 .094 .027	.178 .091 .027	.172 .089 .026	.165 .087 .026	
7.0	.178 .088 .025	.175 .087 .025	.168 .085 .025	.162 .083 .024	.157 .081 .024	
8.0	.168 .082 .023	.165 .081 .023	.159 .080 .023	.154 .078 .022	.149 .076 .022	
9.0	.159 .077 .021	.156 .076 .021	.151 .075 .021	.146 .073 .021	.141 .072 .021	
10.0	.151 .072 .020	.148 .072 .020	.143 .070 .020	.139 .069 .020	.135 .068 .019	

<input type="checkbox"/> cc	80%	70%	50%	30%	10%	0
<input type="checkbox"/> w	50% 30% 10%	50% 30% 10%	50% 30% 10%	50% 30% 10%	50% 30% 10%	0
<input type="checkbox"/> fc	20%	20%	20%	20%	20%	0
RCR	RCR:Room Cavity Ratio		Ceiling Cavity Exitance Coefficients (CCEC)			
0.0	.197 .197 .197	.169 .169 .169	.115 .115 .115	.066 .066 .066	.021 .021 .021	
1.0	.184 .164 .146	.157 .140 .125	.108 .097 .087	.062 .056 .050	.020 .018 .016	
2.0	.173 .139 .111	.148 .120 .096	.102 .083 .067	.059 .048 .039	.019 .016 .013	
3.0	.164 .121 .087	.141 .105 .076	.096 .073 .053	.056 .042 .031	.018 .014 .010	
4.0	.156 .107 .071	.134 .093 .061	.092 .065 .043	.053 .038 .026	.017 .012 .008	
5.0	.148 .097 .059	.127 .084 .051	.088 .058 .036	.051 .034 .021	.016 .011 .007	
6.0	.141 .088 .050	.121 .076 .043	.084 .053 .031	.049 .031 .018	.016 .010 .006	
7.0	.135 .081 .043	.116 .070 .038	.080 .049 .027	.047 .029 .016	.015 .009 .005	
8.0	.129 .075 .038	.111 .065 .033	.077 .046 .024	.045 .027 .014	.014 .009 .005	
9.0	.123 .070 .034	.106 .061 .030	.074 .043 .021	.043 .025 .013	.014 .008 .004	
10.0	.118 .066 .031	.102 .057 .027	.071 .040 .019	.041 .024 .012	.013 .008 .004	

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:27DEG
 Operators:lianghaizhu
 Test Date:2023-05-04

Range: 0 - 180DEG
 Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.364
 Humidity:56%
 Test Distance:6.500m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:120.9V I:1.800A P:217.2W PF:0.9976 Freq:59.98Hz Lamp Flux:30734.4x1 lm										
NAME: ASD-WHB5A-A220DAC-20EM-220W-5000K					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.: ASD LIGHTING CORP					SUR.:0.5*0.3m			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	25.3	26.6	25.5	26.8	27.0	25.2	26.5	25.5	26.7	26.9
3H	25.8	27.1	26.1	27.3	27.5	25.9	27.1	26.2	27.3	27.6
4H	26.2	27.3	26.5	27.6	27.8	26.2	27.4	26.6	27.6	27.9
6H	26.5	27.6	26.9	27.9	28.2	26.6	27.7	26.9	27.9	28.2
8H	26.7	27.7	27.0	28.0	28.3	26.7	27.7	27.1	28.0	28.3
12H	26.8	27.8	27.2	28.1	28.4	26.8	27.8	27.2	28.1	28.4
4H 2H	25.4	26.6	25.8	26.8	27.1	25.4	26.5	25.7	26.8	27.0
3H	26.2	27.2	26.6	27.5	27.8	26.3	27.3	26.6	27.6	27.9
4H	26.7	27.6	27.1	28.0	28.3	26.8	27.7	27.2	28.0	28.4
6H	27.2	28.0	27.7	28.4	28.8	27.3	28.1	27.7	28.5	28.8
8H	27.5	28.2	27.9	28.6	29.0	27.5	28.2	27.9	28.6	29.0
12H	27.7	28.4	28.2	28.8	29.2	27.7	28.4	28.1	28.8	29.2
8H 4H	26.9	27.7	27.3	28.0	28.4	27.0	27.7	27.4	28.1	28.5
6H	27.6	28.2	28.1	28.6	29.1	27.6	28.3	28.1	28.7	29.1
8H	28.0	28.5	28.4	28.9	29.4	28.0	28.5	28.4	28.9	29.4
12H	28.3	28.8	28.8	29.2	29.7	28.3	28.7	28.7	29.2	29.7
12H 4H	26.9	27.6	27.4	28.0	28.4	27.0	27.7	27.4	28.1	28.5
6H	27.7	28.2	28.1	28.7	29.1	27.7	28.2	28.2	28.7	29.2
8H	28.1	28.6	28.6	29.0	29.5	28.1	28.5	28.6	29.0	29.5
Variations with the observer position at spacings:										
S = 1.0H	+ 0.6 / - 0.7					+ 0.6 / - 0.7				
1.5H	+ 0.5 / - 0.5					+ 0.5 / - 0.5				
2.0H	+ 1.3 / - 0.8					+ 1.2 / - 0.6				

CIE Pub.117, 30734 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 11.9)

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:27DEG
 Operators:lianghaizhu
 Test Date:2023-05-04

Range: 0 - 180DEG
 Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.364
 Humidity:56%
 Test Distance:6.500m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:120.9V I:1.800A P:217.2W PF:0.9976 Freq:59.98Hz Lamp Flux:30734.4x1 lm		
NAME: ASD-WHB5A-A220DAC-20EM-220W-5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:0.5*0.3m	Shielding Angle:

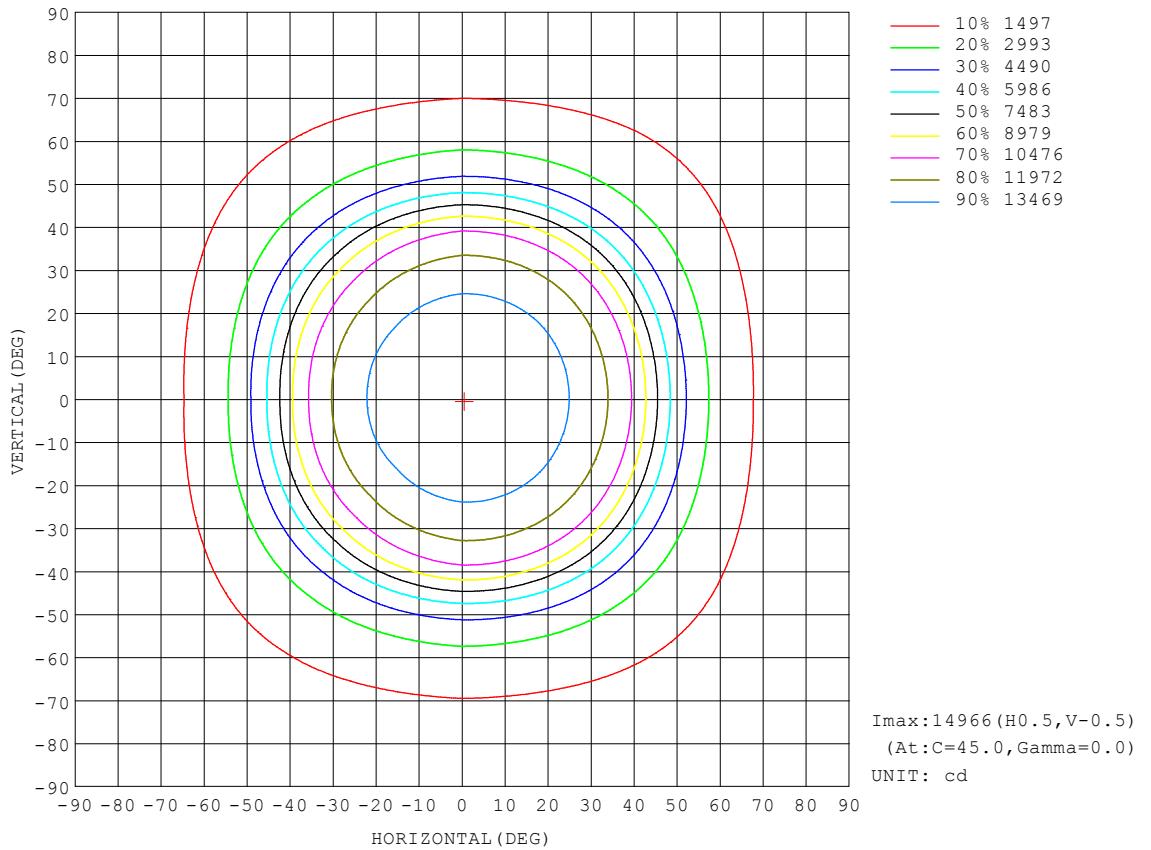
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	67	57	51	66	57	51	65	56	51	45
0.80	77	67	61	76	67	61	74	66	60	54
1.00	84	75	69	83	75	69	81	75	68	62
1.25	90	82	76	89	81	76	87	80	75	69
1.50	95	87	81	93	86	81	90	84	79	73
2.00	100	93	88	98	92	87	95	90	86	79
2.50	103	97	92	101	95	91	97	93	89	81
3.00	106	100	96	104	99	95	100	96	92	84
4.00	109	104	100	106	102	99	102	99	96	88
5.00	111	107	103	108	105	102	104	101	99	90
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:27DEG
 Operators:lianghaizhu
 Test Date:2023-05-04

Range: 0 - 180DEG
 Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.364
 Humidity:56%
 Test Distance:6.500m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:120.9V I:1.800A P:217.2W PF:0.9976 Freq:59.98Hz Lamp Flux:30734.4x1 lm		
NAME: ASD-WHB5A-A220DAC-20EM-220W-5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:0.5*0.3m	Shielding Angle:

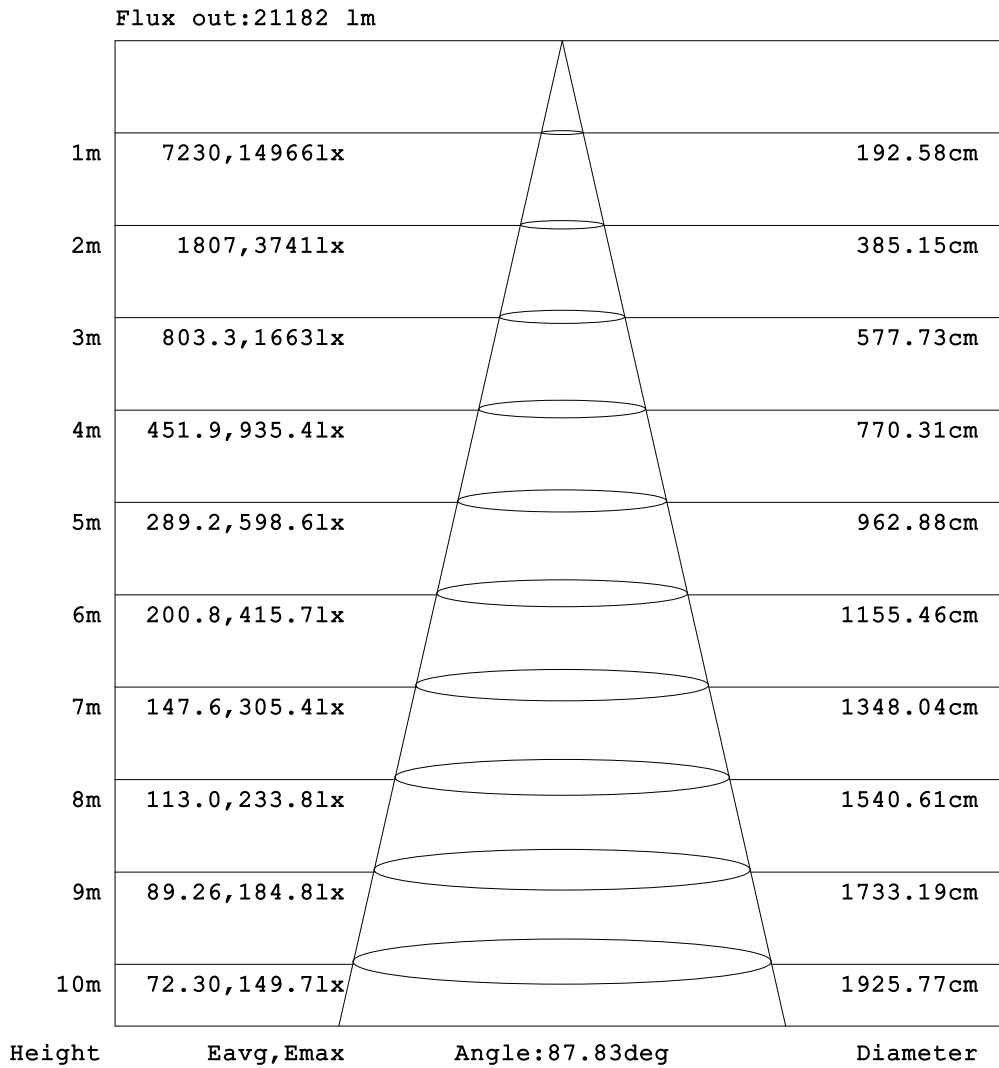


C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:27DEG
 Operators:lianghaizhu
 Test Date:2023-05-04

□ Range: 0 - 180DEG
 □ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.364
 Humidity:56%
 Test Distance:6.500m [K=1.0000]
 Remarks:

AAI Figure

Test:U:120.9V I:1.800A P:217.2W PF:0.9976 Freq:59.98Hz Lamp Flux:30734.4x1 lm		
NAME: ASD-WHB5A-A220DAC-20EM-220W-5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:0.5*0.3m	Shielding Angle:

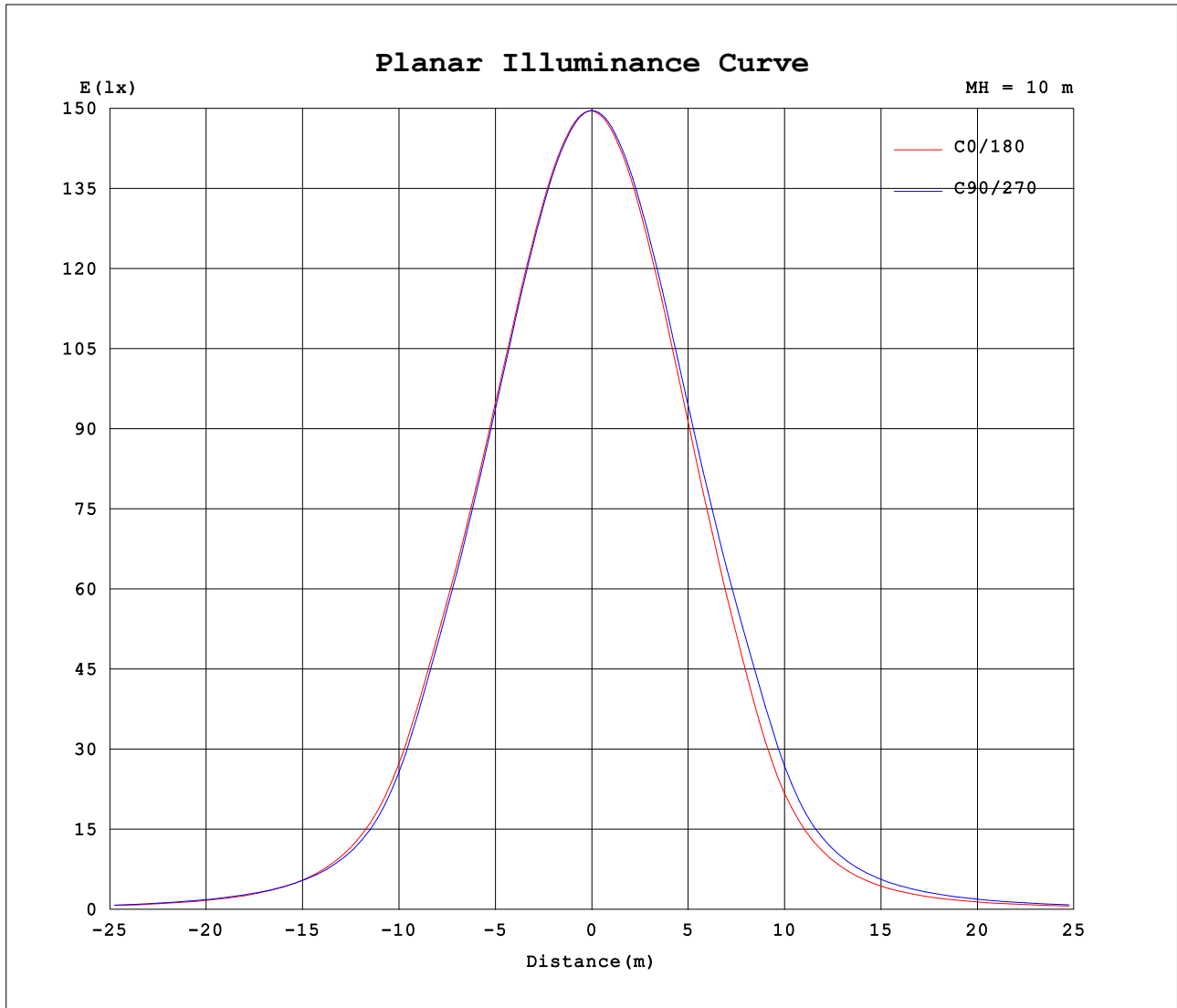


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:27DEG
 Operators:lianghaizhu
 Test Date:2023-05-04

Range: 0 - 180DEG
 Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.364
 Humidity:56%
 Test Distance:6.500m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 27DEG
Operators: lianghaizhu
Test Date: 2023-05-04

Range: 0 - 180DEG
 Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.364
Humidity: 56%
Test Distance: 6.500m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.9V I:1.800A P:217.2W PF:0.9976 Freq:59.98Hz Lamp Flux:30734.4x1 lm		
NAME: ASD-WHB5A-A220DAC-20EM-220W-5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:0.5*0.3m	Shielding Angle:

Table--1

UNIT: x10cd

C (DEG) □ (DEG)	0	45	90	135	180	225	270	315											
0	1495	1497	1496	1496	1495	1497	1496	1496											
5	1492	1492	1489	1486	1486	1488	1491	1493											
10	1475	1474	1469	1462	1463	1466	1473	1476											
15	1445	1444	1437	1425	1426	1431	1443	1447											
20	1403	1400	1392	1373	1374	1381	1399	1404											
25	1346	1341	1332	1303	1303	1313	1341	1347											
30	1272	1265	1253	1210	1205	1223	1264	1271											
35	1174	1163	1148	1084	1070	1101	1163	1172											
40	1026	1012	993	903	870	924	1016	1025											
45	774	755	728	648	616	672	761	770											
50	530	512	491	442	419	458	513	521											
55	359	350	348	307	285	317	362	357											
60	246	246	257	221	199	226	265	252											
65	175	182	193	166	147	169	199	186											
70	133	141	146	130	115	133	149	144											
75	103	108	107	97.8	87.3	100	110	110											
80	74.5	74.3	71.3	64.5	58.0	66.6	74.0	74.8											
85	41.6	40.5	37.3	27.6	18.9	30.0	40.6	39.1											
90	2.24	1.21	1.08	1.07	1.03	1.03	1.48	1.39											
95	1.19	1.26	1.34	1.36	1.34	1.30	1.25	1.17											
100	1.53	1.62	1.73	1.75	1.72	1.67	1.61	1.50											
105	1.97	2.06	2.22	2.25	2.21	2.14	2.06	1.93											
110	2.49	2.60	2.78	2.83	2.78	2.69	2.61	2.44											
115	3.09	3.21	3.41	3.47	3.41	3.32	3.23	3.03											
120	3.75	3.88	4.10	4.17	4.10	4.00	3.91	3.69											
125	4.48	4.58	4.81	4.88	4.83	4.71	4.61	4.39											
130	5.20	5.31	5.53	5.60	5.57	5.45	5.35	5.13											
135	5.90	6.00	6.21	6.28	6.27	6.16	6.06	5.84											
140	6.56	6.67	6.84	6.95	6.95	6.85	6.75	6.55											
145	7.18	7.29	7.44	7.58	7.60	7.50	7.38	7.20											
150	7.80	7.90	8.05	8.16	8.26	8.13	8.03	7.84											
155	8.44	8.53	8.70	8.76	8.95	8.79	8.71	8.51											
160	9.11	9.21	9.38	9.40	9.67	9.47	9.41	9.23											
165	9.82	9.90	10.1	10.0	10.3	10.1	10.1	9.90											
170	10.5	10.5	10.6	10.6	10.9	10.6	10.7	10.5											
175	11.0	10.9	11.0	11.0	11.2	11.0	11.0	10.9											
180	11.3	11.1	11.2	11.1	11.3	11.1	11.2	11.1											

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:27DEG
 Operators:lianghaizhu
 Test Date:2023-05-04

□ Range: 0 - 180DEG
 □ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.364
 Humidity:56%
 Test Distance:6.500m [K=1.0000]
 Remarks: