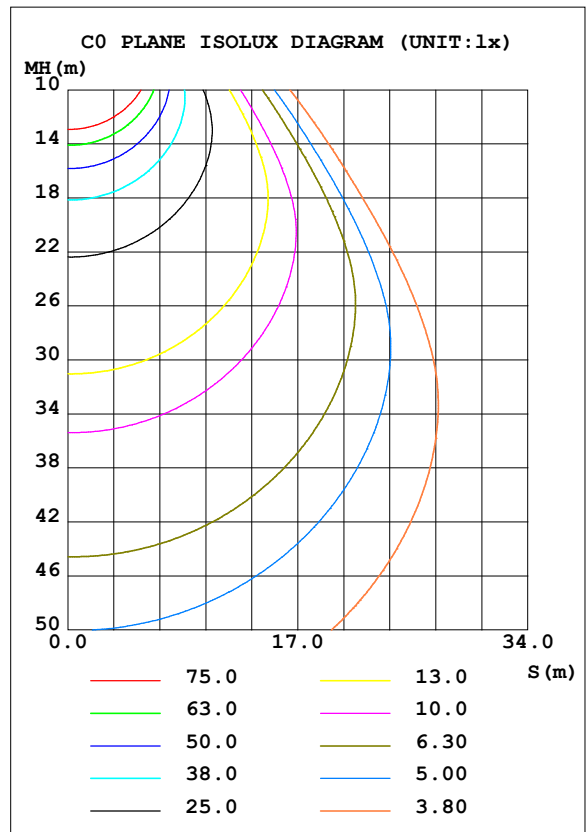
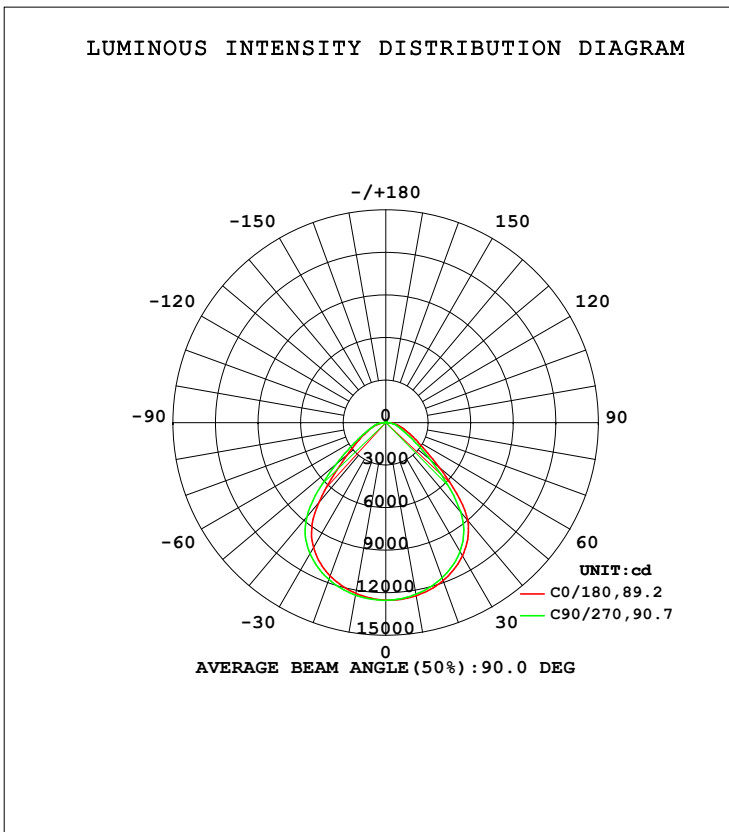


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:120.4V I:1.325A P:158.9W PF:0.9966 Freq:59.98Hz Lamp Flux:26276.3x1 lm		
NAME: ASD-WHB5A-PRO-160-160W-5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP.	SUR.:0.5*0.3	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 165.32 lm/W			
MODEL	ASD-WHB5A-PRO-160	I <sub>max</sub> (cd)	12530	S/MH (C0/180)	1.21
NOMINAL POWER (W)	160	LOR (%)	100.0	S/MH (C90/270)	1.26
RATED VOLTAGE (V)	120-277	TOTAL FLUX (lm)	26276	<input type="checkbox"/> UP, DN (C0-180)	0.5, 50.0
NOMINAL FLUX (lm)	26276.3	CIE CLASS	DIRECT	<input type="checkbox"/> UP, DN (C180-360)	0.5, 49.0
LAMPS INSIDE	1	<input type="checkbox"/> up (%)	1.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	120	<input type="checkbox"/> down (%)	99.0	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature: 27DEG  
 Operators: lianghaizhu  
 Test Date: 2023-08-26

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	1239	1236	1229	1226	1223	1227	1235	1238	0- 10	1185	1185	4.51,4.51
20	1185	1177	1164	1157	1150	1160	1176	1182	10- 20	3403	4588	17.5,17.5
30	1083	1071	1048	1033	1019	1039	1069	1077	20- 30	5154	9742	37.1,37.1
40	899.2	874.0	821.4	773.1	732.9	784.9	866.3	885.3	30- 40	5992	15734	59.9,59.9
50	492.4	469.6	415.5	376.5	358.3	386.8	460.0	478.1	40- 50	4814	20548	78.2,78.2
60	248.1	225.0	190.5	183.9	191.1	189.6	209.9	227.9	50- 60	2700	23248	88.5,88.5
70	137.9	124.1	102.7	106.1	105.9	109.8	109.8	126.7	60- 70	1537	24785	94.3,94.3
80	70.61	65.45	53.20	50.00	45.32	51.71	59.90	66.96	70- 80	910.8	25696	97.8,97.8
90	7.423	3.192	0.9645	0.9842	1.007	0.9970	2.607	5.883	80- 90	315.4	26011	99,99
100	1.308	1.403	1.579	1.617	1.645	1.604	1.494	1.392	90-100	14.24	26026	99,99
110	2.139	2.262	2.514	2.555	2.604	2.534	2.379	2.235	100-110	20.38	26046	99.1,99.1
120	3.221	3.376	3.680	3.730	3.820	3.740	3.555	3.378	110-120	29.32	26075	99.2,99.2
130	4.489	4.640	4.950	5.005	5.324	5.253	5.065	4.872	120-130	37.89	26113	99.4,99.4
140	5.702	5.871	6.144	6.213	6.912	6.864	6.687	6.517	130-140	43.73	26157	99.5,99.5
150	6.853	7.044	7.300	7.357	8.314	8.236	8.095	7.938	140-150	43.91	26201	99.7,99.7
160	8.212	8.430	8.722	8.693	9.655	9.547	9.455	9.315	150-160	38.21	26239	99.9,99.9
170	9.764	9.917	10.14	10.09	10.71	10.58	10.56	10.43	160-170	27.24	26266	100,100
180	10.81	10.78	10.88	10.81	10.81	10.79	10.88	10.81	170-180	10.06	26276	100,100
DEG	LUMINOUS INTENSITY:×10cd									UNIT:lm		

Conical surface Flux(90deg): 18437 lm

%lum = 70.2%

%lamp = 70.2%

Conical surface Flux(120deg): 23248 lm

%lum = 88.5%

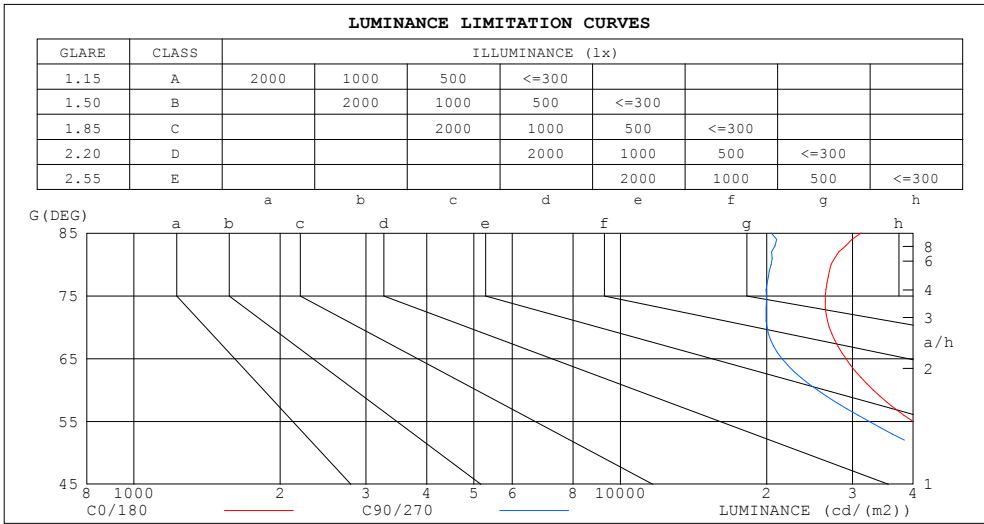
%lamp = 88.5%

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:27DEG  
 Operators:lianghaizhu  
 Test Date:2023-08-26

□ 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:120.4V I:1.325A P:158.9W PF:0.9966 Freq:59.98Hz Lamp Flux:26276.3x1 lm		
NAME: ASD-WHB5A-PRO-160-160W-5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP.	SUR.:0.5*0.3	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	31279	20429
80	27107	20425
75	26386	19963
70	26882	20027
65	29061	21487
60	33081	25400
55	39898	32453
50	51065	43089
45	66779	57889

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:27DEG  
 Operators:lianghaizhu  
 Test Date:2023-08-26

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:120.4V I:1.325A P:158.9W PF:0.9966 Freq:59.98Hz Lamp Flux:26276.3x1 lm		
NAME: ASD-WHB5A-PRO-160-160W-5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP.	SUR.:0.5*0.3	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 .147 .047	.251 .143 .045	.237 .136 .044	.225 .130 .042	.213 .124 .040	
2.0	.246 .135 .041	.239 .132 .041	.228 .127 .039	.217 .122 .038	.207 .117 .037	
3.0	.231 .123 .037	.225 .121 .036	.215 .116 .035	.205 .112 .034	.196 .109 .034	
4.0	.216 .112 .033	.211 .111 .033	.202 .107 .032	.194 .104 .031	.186 .101 .031	
5.0	.203 .103 .030	.198 .102 .030	.190 .099 .029	.183 .096 .029	.176 .094 .028	
6.0	.190 .095 .027	.186 .094 .027	.179 .092 .027	.172 .090 .026	.166 .087 .026	
7.0	.179 .088 .025	.176 .087 .025	.169 .085 .025	.163 .084 .024	.157 .082 .024	
8.0	.169 .082 .023	.166 .082 .023	.160 .080 .023	.154 .078 .023	.149 .077 .022	
9.0	.160 .077 .022	.157 .076 .021	.152 .075 .021	.147 .073 .021	.142 .072 .021	
10.0	.151 .072 .020	.149 .072 .020	.144 .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	.198 .198 .198	.169 .169 .169	.116 .116 .116	.066 .066 .066	.021 .021 .021	
1.0	.184 .164 .146	.158 .141 .126	.108 .097 .087	.062 .056 .051	.020 .018 .016	
2.0	.174 .140 .111	.149 .120 .096	.102 .083 .067	.059 .048 .039	.019 .016 .013	
3.0	.165 .122 .088	.141 .105 .076	.097 .073 .053	.056 .043 .031	.018 .014 .010	
4.0	.157 .108 .071	.134 .093 .062	.092 .065 .044	.053 .038 .026	.017 .012 .008	
5.0	.149 .097 .059	.128 .084 .051	.088 .059 .036	.051 .035 .022	.016 .011 .007	
6.0	.142 .089 .050	.122 .077 .044	.084 .054 .031	.049 .032 .018	.016 .010 .006	
7.0	.136 .082 .044	.117 .071 .038	.081 .050 .027	.047 .029 .016	.015 .010 .005	
8.0	.130 .076 .039	.112 .066 .034	.077 .046 .024	.045 .027 .014	.015 .009 .005	
9.0	.124 .071 .035	.107 .062 .030	.074 .043 .022	.043 .026 .013	.014 .008 .004	
10.0	.119 .067 .032	.103 .058 .028	.071 .041 .020	.042 .024 .012	.013 .008 .004	

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:27DEG  
 Operators:lianghaizhu  
 Test Date:2023-08-26

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:120.4V I:1.325A P:158.9W PF:0.9966 Freq:59.98Hz Lamp Flux:26276.3x1 lm										
NAME: ASD-WHB5A-PRO-160-160W-5000K					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.: ASD LIGHTING CORP.					SUR.:0.5*0.3			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	24.6	25.9	24.9	26.1	26.3
3H	25.9	27.2	26.2	27.4	27.6	25.1	26.3	25.4	26.5	26.8
4H	26.3	27.5	26.6	27.7	28.0	25.4	26.5	25.7	26.8	27.1
6H	26.7	27.7	27.0	28.0	28.3	25.7	26.7	26.0	27.0	27.3
8H	26.8	27.9	27.2	28.2	28.5	25.8	26.8	26.1	27.1	27.4
12H	27.0	28.0	27.3	28.3	28.6	25.9	26.8	26.2	27.2	27.5
4H 2H	25.4	26.5	25.7	26.8	27.1	24.8	26.0	25.1	26.2	26.5
3H	26.3	27.3	26.7	27.6	27.9	25.5	26.5	25.9	26.8	27.2
4H	26.8	27.7	27.2	28.1	28.4	26.0	26.9	26.4	27.2	27.6
6H	27.3	28.1	27.8	28.5	28.9	26.4	27.2	26.8	27.6	28.0
8H	27.6	28.3	28.0	28.7	29.1	26.6	27.3	27.0	27.7	28.1
12H	27.8	28.5	28.3	28.9	29.3	26.7	27.4	27.2	27.8	28.2
8H 4H	27.0	27.7	27.4	28.1	28.5	26.2	26.9	26.6	27.3	27.7
6H	27.7	28.3	28.1	28.7	29.1	26.8	27.4	27.3	27.8	28.3
8H	28.0	28.6	28.5	29.0	29.5	27.1	27.6	27.6	28.1	28.5
12H	28.4	28.8	28.8	29.3	29.8	27.4	27.8	27.8	28.3	28.8
12H 4H	27.0	27.6	27.4	28.0	28.5	26.2	26.9	26.7	27.3	27.7
6H	27.7	28.3	28.2	28.7	29.2	26.9	27.4	27.4	27.9	28.3
8H	28.1	28.6	28.6	29.0	29.5	27.2	27.7	27.7	28.2	28.7
Variations with the observer position at spacings:										
S = 1.0H	+ 0.6 / - 0.6					+ 0.7 / - 0.8				
1.5H	+ 0.3 / - 0.4					+ 0.4 / - 0.6				
2.0H	+ 1.3 / - 0.7					+ 1.3 / - 1.0				

CIE Pub.117, 26276 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 11.4)

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:27DEG  
 Operators:lianghaizhu  
 Test Date:2023-08-26

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:120.4V I:1.325A P:158.9W PF:0.9966 Freq:59.98Hz Lamp Flux:26276.3x1 lm		
NAME: ASD-WHB5A-PRO-160-160W-5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP.	SUR.:0.5*0.3	Shielding Angle:

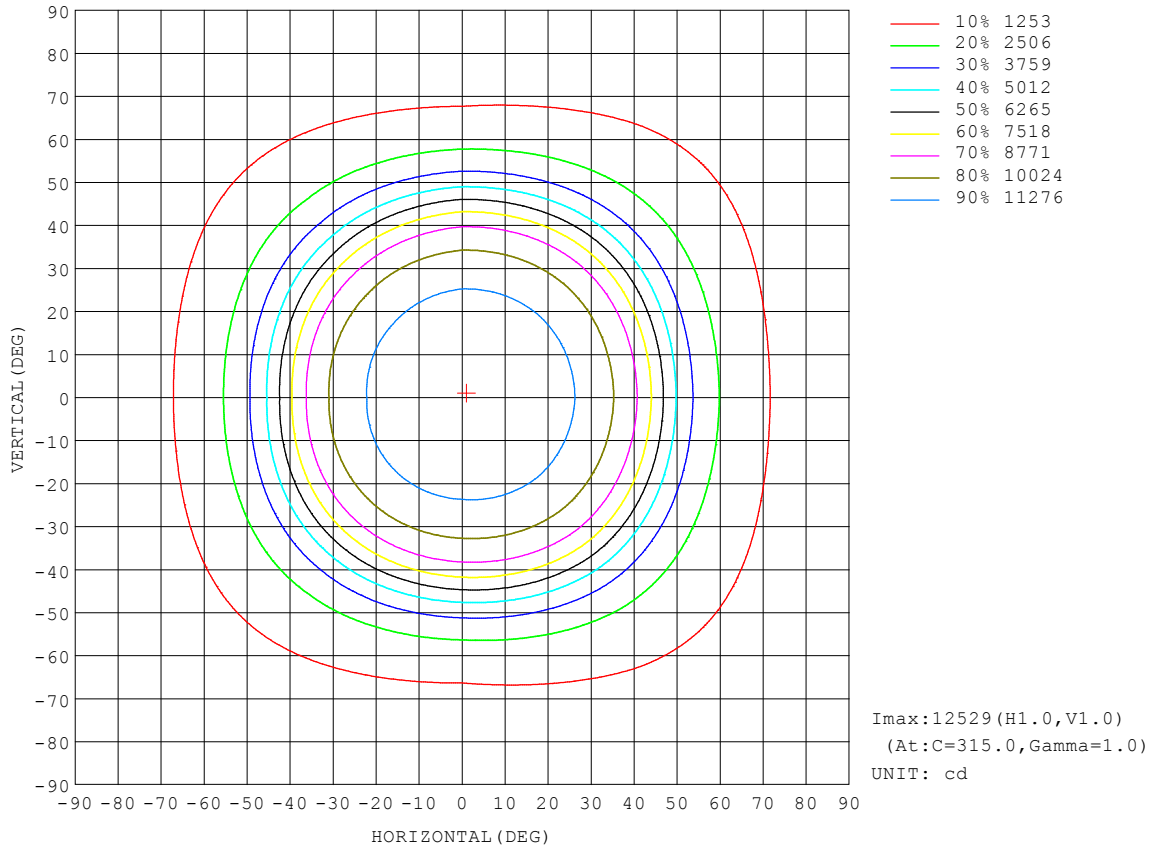
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	66	56	51	66	56	50	65	56	50	45
0.80	76	66	60	75	66	60	74	65	60	54
1.00	84	75	69	83	74	68	81	75	68	62
1.25	90	82	76	89	81	75	86	79	75	68
1.50	94	86	81	93	86	80	90	84	79	73
2.00	100	93	88	98	92	87	95	90	85	78
2.50	103	97	92	101	95	91	97	93	89	81
3.00	106	100	96	103	98	94	100	95	92	84
4.00	109	104	100	106	102	99	102	99	96	88
5.00	111	107	103	108	105	102	104	101	98	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:2023-08-26

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:120.4V I:1.325A P:158.9W PF:0.9966 Freq:59.98Hz Lamp Flux:26276.3x1 lm		
NAME: ASD-WHB5A-PRO-160-160W-5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP.	SUR.:0.5*0.3	Shielding Angle:

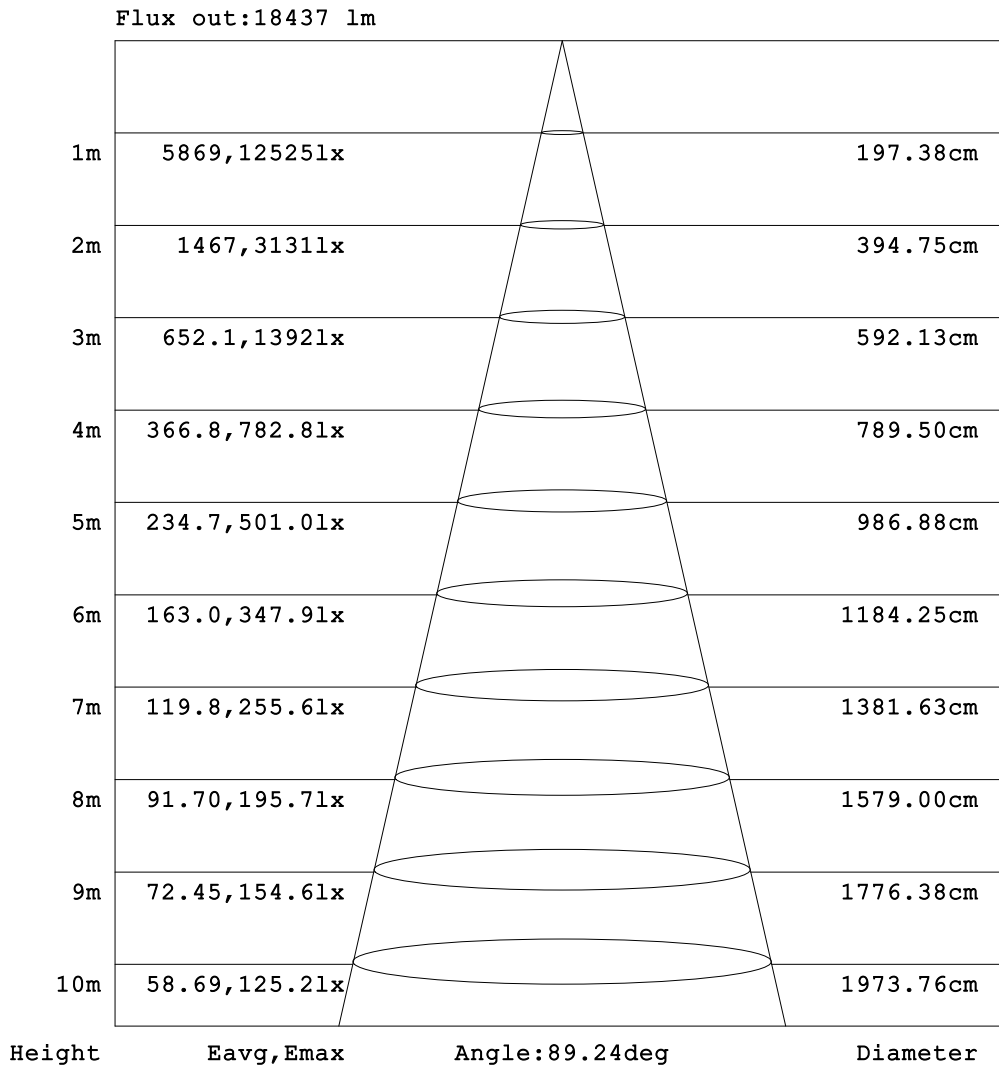


C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:27DEG  
 Operators:lianghaizhu  
 Test Date:2023-08-26

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:120.4V I:1.325A P:158.9W PF:0.9966 Freq:59.98Hz Lamp Flux:26276.3x1 lm		
NAME: ASD-WHB5A-PRO-160-160W-5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP.	SUR.:0.5*0.3	Shielding Angle:



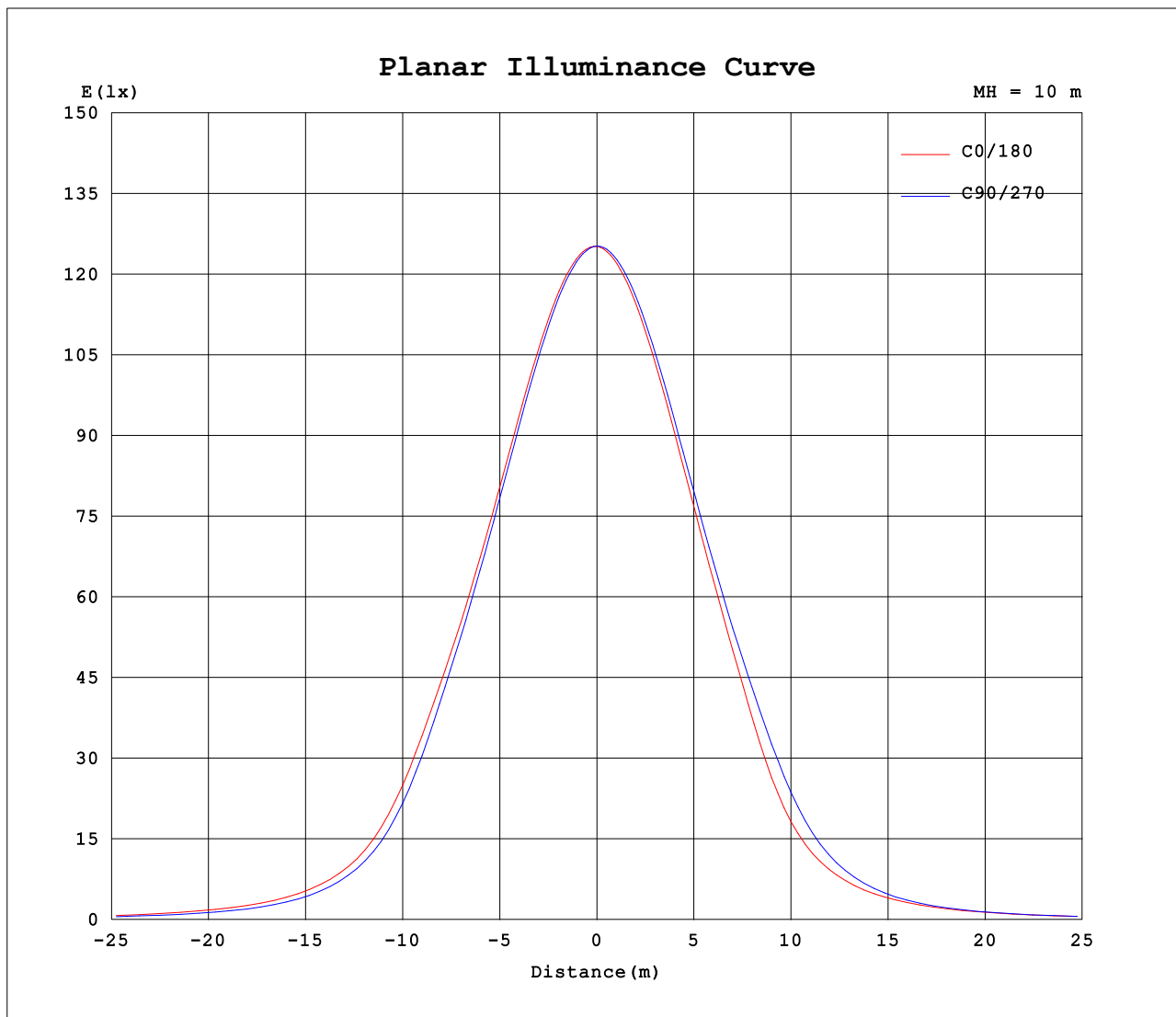
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:27DEG  
 Operators:lianghaizhu  
 Test Date:2023-08-26

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: 2023-08-26

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:120.4V I:1.325A P:158.9W PF:0.9966 Freq:59.98Hz Lamp Flux:26276.3x1 lm		
NAME: ASD-WHB5A-PRO-160-160W-5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP.	SUR.:0.5*0.3	Shielding Angle:

Table--1

UNIT: x10cd

C (DEG) □ (DEG)	0	45	90	135	180	225	270	315											
0	1252	1252	1252	1252	1252	1252	1252	1252											
5	1250	1249	1246	1244	1242	1245	1249	1250											
10	1239	1236	1229	1226	1223	1227	1235	1238											
15	1217	1212	1202	1197	1192	1199	1211	1215											
20	1185	1177	1164	1157	1150	1160	1176	1182											
25	1141	1131	1114	1103	1094	1108	1130	1137											
30	1083	1071	1048	1033	1019	1039	1069	1077											
35	1007	991	959	934	912	942	987	999											
40	899	874	821	773	733	785	866	885											
45	708	681	614	557	516	569	671	692											
50	492	470	415	377	358	387	460	478											
55	343	321	279	259	258	266	309	326											
60	248	225	191	184	191	190	210	228											
65	184	163	136	137	142	142	147	166											
70	138	124	103	106	106	110	110	127											
75	102	94.2	77.5	78.4	75.0	81.4	84.0	96.8											
80	70.6	65.5	53.2	50.0	45.3	51.7	59.9	67.0											
85	40.9	37.2	26.7	19.7	12.5	22.1	34.8	37.8											
90	7.42	3.19	0.96	0.98	1.01	1.00	2.61	5.88											
95	1.02	1.09	1.22	1.26	1.29	1.26	1.17	1.09											
100	1.31	1.40	1.58	1.62	1.65	1.60	1.49	1.39											
105	1.68	1.79	2.01	2.06	2.09	2.03	1.90	1.77											
110	2.14	2.26	2.51	2.56	2.60	2.53	2.38	2.24											
115	2.65	2.79	3.06	3.12	3.18	3.11	2.93	2.77											
120	3.22	3.38	3.68	3.73	3.82	3.74	3.56	3.38											
125	3.85	4.00	4.31	4.36	4.54	4.46	4.27	4.08											
130	4.49	4.64	4.95	5.01	5.32	5.25	5.07	4.87											
135	5.11	5.27	5.56	5.63	6.13	6.06	5.89	5.69											
140	5.70	5.87	6.14	6.21	6.91	6.86	6.69	6.52											
145	6.27	6.46	6.70	6.78	7.66	7.61	7.43	7.28											
150	6.85	7.04	7.30	7.36	8.31	8.24	8.09	7.94											
155	7.49	7.69	7.97	7.98	8.95	8.86	8.74	8.58											
160	8.21	8.43	8.72	8.69	9.66	9.55	9.45	9.32											
165	8.99	9.20	9.49	9.42	10.3	10.2	10.1	9.95											
170	9.76	9.92	10.1	10.1	10.7	10.6	10.6	10.4											
175	10.4	10.5	10.6	10.6	10.9	10.8	10.8	10.7											
180	10.8	10.8	10.9	10.8	10.8	10.8	10.9	10.8											

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:27DEG  
 Operators:lianghaizhu  
 Test Date:2023-08-26

□ 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: