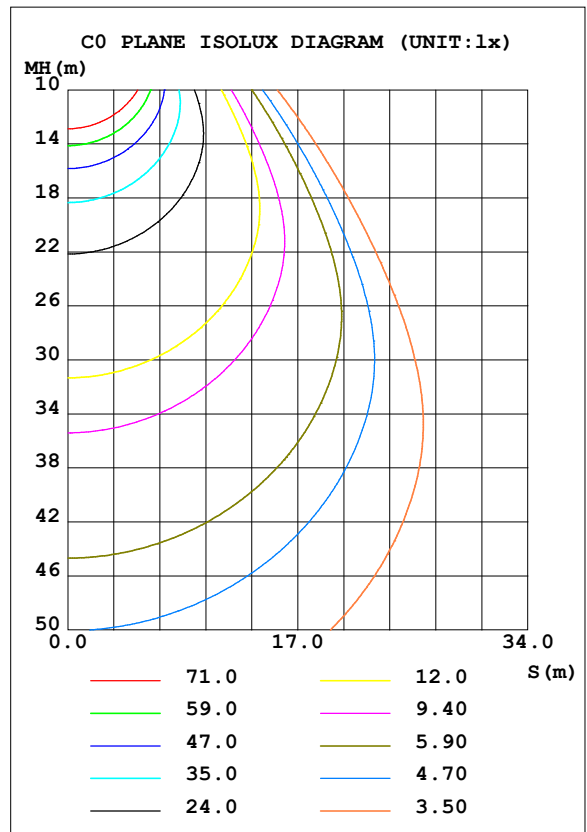
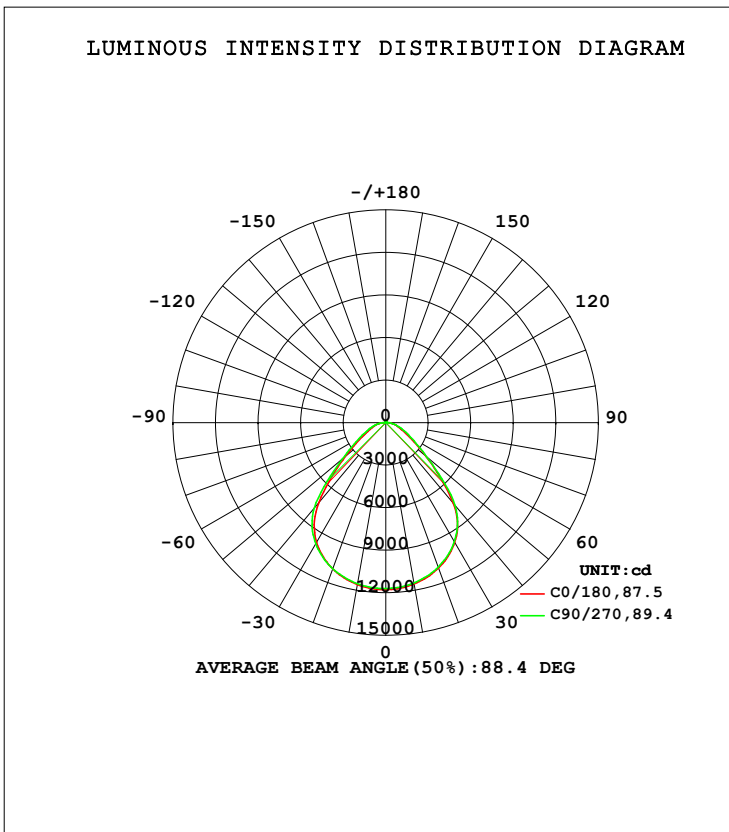


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:120.0V I:1.308A P:156.4W PF:0.9965 Freq:59.98Hz Lamp Flux:24087.4x1 lm		
NAME: ASD-WHB5A-160D50	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD Lighting Corp.	SUR.:0.36*0.25	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 154.06 lm/W			
MODEL	ASD-WHB5A-160D50	I <sub>max</sub> (cd)	11781	S/MH (C0/180)	1.23
NOMINAL POWER (W)	160	LOR (%)	100.0	S/MH (C90/270)	1.25
RATED VOLTAGE (V)	120-277	TOTAL FLUX (lm)	24087	<input type="checkbox"/> UP, DN (C0-180)	0.5, 49.2
NOMINAL FLUX (lm)	24087.4	CIE CLASS	DIRECT	<input type="checkbox"/> UP, DN (C180-360)	0.5, 49.8
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	1.30



C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature: 27DEG  
 Operators: lianghaizhu  
 Test Date: 2023-10-19

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	1155	1150	1148	1148	1159	1158	1154	1146	0- 10	1110	1110	4.61,4.61
20	1091	1084	1084	1086	1097	1099	1096	1084	10- 20	3180	4289	17.8,17.8
30	974.4	967.4	967.9	970.2	975.9	986.2	987.4	971.0	20- 30	4788	9077	37.7,37.7
40	738.9	745.2	760.5	749.1	732.1	762.6	784.8	747.4	30- 40	5496	14573	60.5,60.5
50	373.7	372.9	382.6	383.4	374.5	391.1	400.8	374.0	40- 50	4292	18865	78.3,78.3
60	178.9	185.5	199.9	191.1	181.2	195.1	209.7	185.5	50- 60	2432	21297	88.4,88.4
70	99.13	105.9	111.6	109.0	101.9	113.5	118.0	108.1	60- 70	1426	22723	94.3,94.3
80	51.98	52.25	51.96	55.29	53.06	57.13	56.95	53.18	70- 80	853.4	23577	97.9,97.9
90	1.028	0.9425	0.8843	1.088	0.9559	1.034	0.8421	0.8518	80- 90	277.9	23854	99,99
100	1.369	1.397	1.405	1.358	1.344	1.316	1.317	1.326	90-100	11.76	23866	99.1,99.1
110	2.191	2.230	2.266	2.184	2.168	2.134	2.159	2.144	100-110	18.44	23885	99.2,99.2
120	3.233	3.280	3.322	3.225	3.244	3.183	3.225	3.193	110-120	26.69	23911	99.3,99.3
130	4.407	4.441	4.510	4.378	4.472	4.369	4.444	4.379	120-130	34.26	23946	99.4,99.4
140	5.508	5.563	5.598	5.492	5.668	5.556	5.624	5.551	130-140	38.65	23984	99.6,99.6
150	6.499	6.606	6.614	6.498	6.744	6.644	6.722	6.646	140-150	38.18	24022	99.7,99.7
160	7.641	7.719	7.746	7.573	7.853	7.733	7.826	7.740	150-160	33.02	24055	99.9,99.9
170	8.754	8.716	8.774	8.620	8.956	8.775	8.855	8.759	160-170	23.33	24079	100,100
180	9.361	9.258	9.273	9.192	9.393	9.226	9.295	9.174	170-180	8.594	24087	100,100
DEG	LUMINOUS INTENSITY:×10cd									UNIT:lm		

Conical surface Flux(90deg): 16997 lm

%lum = 70.6%

%lamp = 70.6%

Conical surface Flux(120deg): 21297 lm

%lum = 88.4%

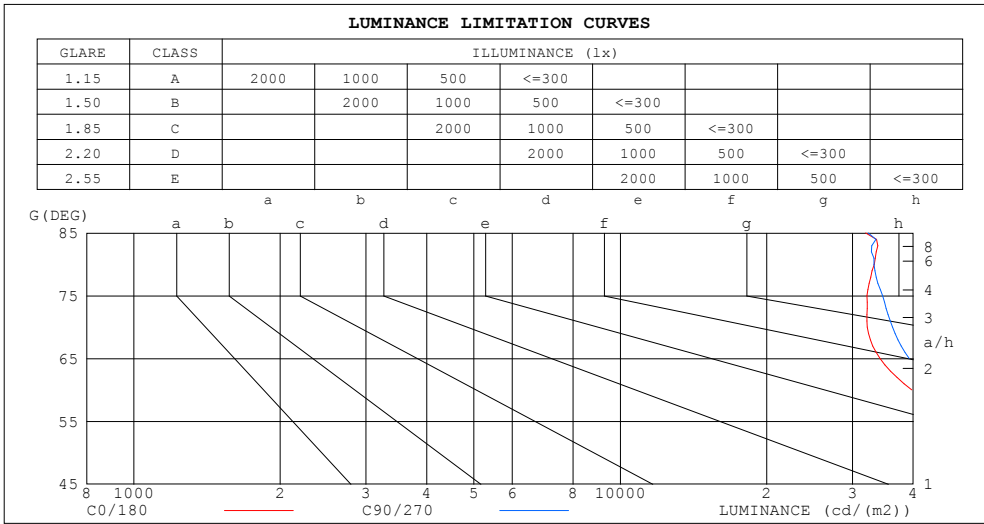
%lamp = 88.4%

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:27DEG  
 Operators:lianghaizhu  
 Test Date:2023-10-19

□ 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:120.0V I:1.308A P:156.4W PF:0.9965 Freq:59.98Hz Lamp Flux:24087.4x1 lm		
NAME: ASD-WHB5A-160D50	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD Lighting Corp.	SUR.:0.36*0.25	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	31963	32351
80	33261	33248
75	32123	34629
70	32205	36263
65	34215	39256
60	39757	44425
55	49727	52733
50	64604	66134
45	85079	88073

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:27DEG  
 Operators:lianghaizhu  
 Test Date:2023-10-19

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:120.0V I:1.308A P:156.4W PF:0.9965 Freq:59.98Hz Lamp Flux:24087.4x1 lm		
NAME: ASD-WHB5A-160D50	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD Lighting Corp.	SUR.:0.36*0.25	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 .041	.227 .126 .039	.216 .121 .038	.206 .117 .037	
3.0	.230 .122 .037	.225 .120 .036	.214 .116 .035	.205 .112 .034	.196 .108 .034	
4.0	.215 .112 .033	.211 .110 .033	.201 .107 .032	.193 .104 .031	.185 .101 .031	
5.0	.202 .103 .030	.198 .101 .030	.190 .099 .029	.182 .096 .029	.175 .093 .028	
6.0	.190 .095 .027	.186 .094 .027	.179 .092 .027	.172 .089 .026	.165 .087 .026	
7.0	.178 .088 .025	.175 .087 .025	.169 .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	.198 .198 .198	.169 .169 .169	.115 .115 .115	.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	.173 .140 .111	.149 .120 .096	.102 .083 .067	.059 .048 .039	.019 .016 .013	
3.0	.164 .122 .087	.141 .105 .076	.097 .073 .053	.056 .043 .031	.018 .014 .010	
4.0	.156 .108 .071	.134 .093 .062	.092 .065 .043	.053 .038 .026	.017 .012 .008	
5.0	.149 .097 .059	.128 .084 .051	.088 .059 .036	.051 .034 .021	.016 .011 .007	
6.0	.142 .088 .050	.122 .077 .044	.084 .054 .031	.049 .032 .018	.016 .010 .006	
7.0	.135 .081 .044	.116 .071 .038	.080 .049 .027	.047 .029 .016	.015 .010 .005	
8.0	.129 .076 .039	.111 .066 .034	.077 .046 .024	.045 .027 .014	.015 .009 .005	
9.0	.124 .071 .035	.107 .061 .030	.074 .043 .021	.043 .025 .013	.014 .008 .004	
10.0	.119 .066 .031	.102 .058 .027	.071 .041 .020	.041 .024 .012	.013 .008 .004	

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:27DEG  
 Operators:lianghaizhu  
 Test Date:2023-10-19

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:120.0V I:1.308A P:156.4W PF:0.9965 Freq:59.98Hz Lamp Flux:24087.4x1 lm										
NAME: ASD-WHB5A-160D50					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.: ASD Lighting Corp.					SUR.:0.36*0.25			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	25.7	27.0	26.0	27.2	27.4	25.9	27.2	26.2	27.4	27.6
3H	26.3	27.5	26.6	27.7	28.0	26.6	27.8	26.9	28.1	28.3
4H	26.6	27.8	26.9	28.0	28.3	27.0	28.1	27.3	28.4	28.6
6H	26.9	28.0	27.3	28.3	28.6	27.3	28.3	27.6	28.6	28.9
8H	27.1	28.1	27.4	28.4	28.7	27.4	28.4	27.7	28.7	29.0
12H	27.2	28.2	27.5	28.5	28.8	27.5	28.5	27.8	28.8	29.1
4H 2H	25.9	27.0	26.2	27.3	27.5	26.1	27.2	26.4	27.5	27.7
3H	26.7	27.7	27.1	28.0	28.3	27.0	28.0	27.3	28.3	28.6
4H	27.2	28.1	27.6	28.4	28.8	27.5	28.4	27.9	28.7	29.1
6H	27.7	28.5	28.1	28.8	29.2	27.9	28.7	28.3	29.1	29.5
8H	27.9	28.6	28.3	29.0	29.4	28.1	28.9	28.5	29.2	29.6
12H	28.1	28.7	28.5	29.1	29.6	28.3	29.0	28.7	29.4	29.8
8H 4H	27.4	28.1	27.8	28.5	28.9	27.6	28.4	28.1	28.8	29.2
6H	28.0	28.6	28.5	29.1	29.5	28.3	28.9	28.7	29.3	29.7
8H	28.3	28.9	28.8	29.3	29.8	28.5	29.1	29.0	29.5	30.0
12H	28.6	29.1	29.1	29.5	30.0	28.8	29.2	29.3	29.7	30.2
12H 4H	27.4	28.1	27.8	28.5	28.9	27.7	28.3	28.1	28.7	29.1
6H	28.1	28.6	28.6	29.1	29.5	28.3	28.8	28.8	29.3	29.8
8H	28.4	28.9	28.9	29.4	29.9	28.6	29.1	29.1	29.6	30.0
Variations with the observer position at spacings:										
S = 1.0H	+ 0.6 / - 0.7					+ 0.6 / - 0.7				
1.5H	+ 0.6 / - 0.4					+ 0.6 / - 0.5				
2.0H	+ 1.3 / - 0.8					+ 1.2 / - 0.7				

CIE Pub.117, 24087 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 11.1)

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:27DEG  
 Operators:lianghaizhu  
 Test Date:2023-10-19

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:120.0V I:1.308A P:156.4W PF:0.9965 Freq:59.98Hz Lamp Flux:24087.4x1 lm		
NAME: ASD-WHB5A-160D50	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD Lighting Corp.	SUR.:0.36*0.25	Shielding Angle:

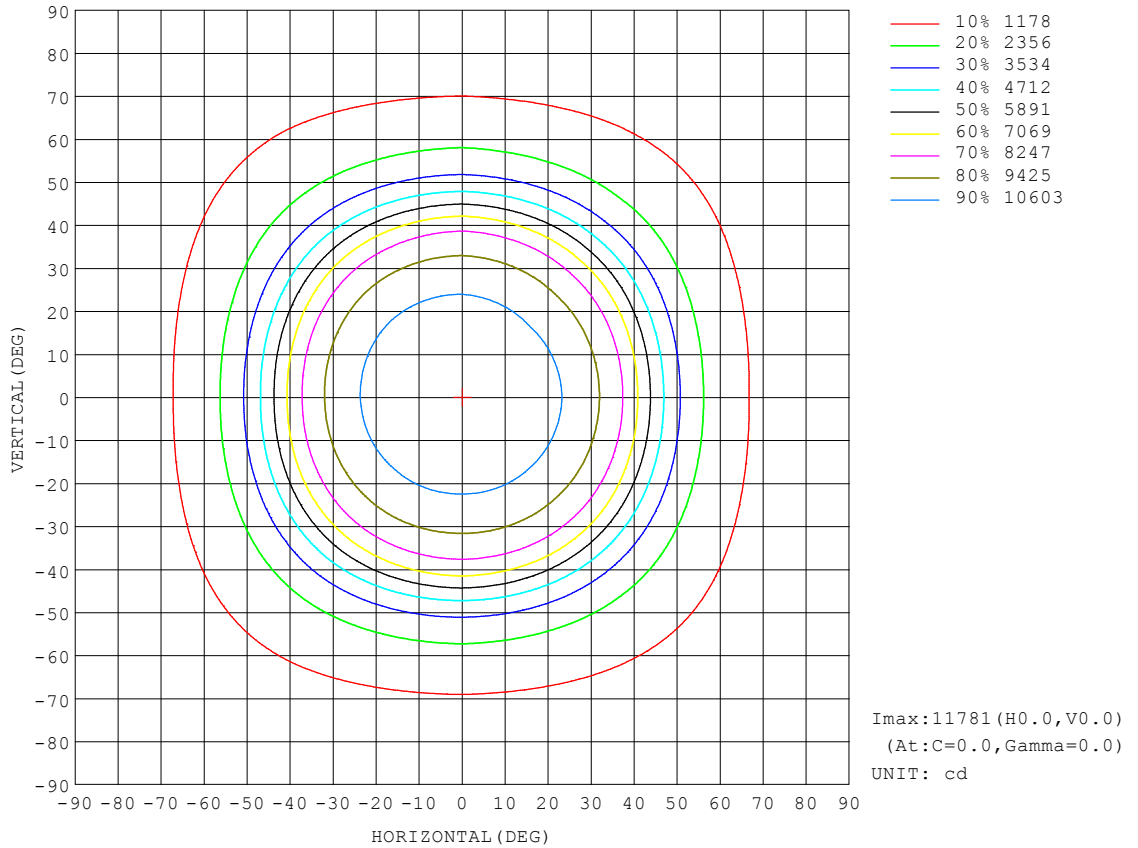
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	67	57	51	66	57	51	65	56	51	45
0.80	77	67	61	76	66	61	74	66	60	54
1.00	84	75	69	83	74	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:2023-10-19

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:120.0V I:1.308A P:156.4W PF:0.9965 Freq:59.98Hz Lamp Flux:24087.4x1 lm		
NAME: ASD-WHB5A-160D50	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD Lighting Corp.	SUR.:0.36*0.25	Shielding Angle:

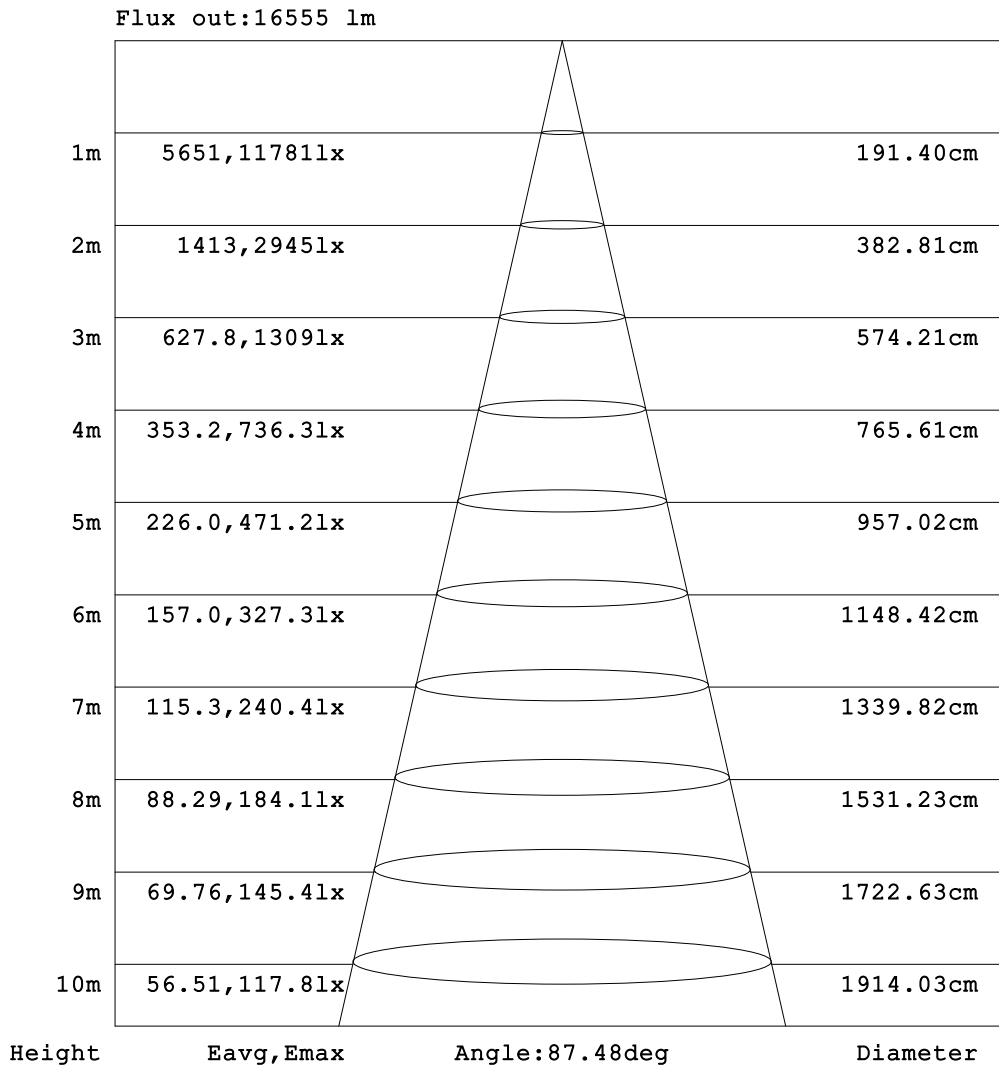


C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:27DEG  
 Operators:lianghaizhu  
 Test Date:2023-10-19

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:120.0V I:1.308A P:156.4W PF:0.9965 Freq:59.98Hz Lamp Flux:24087.4x1 lm		
NAME: ASD-WHB5A-160D50	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD Lighting Corp.	SUR.:0.36*0.25	Shielding Angle:



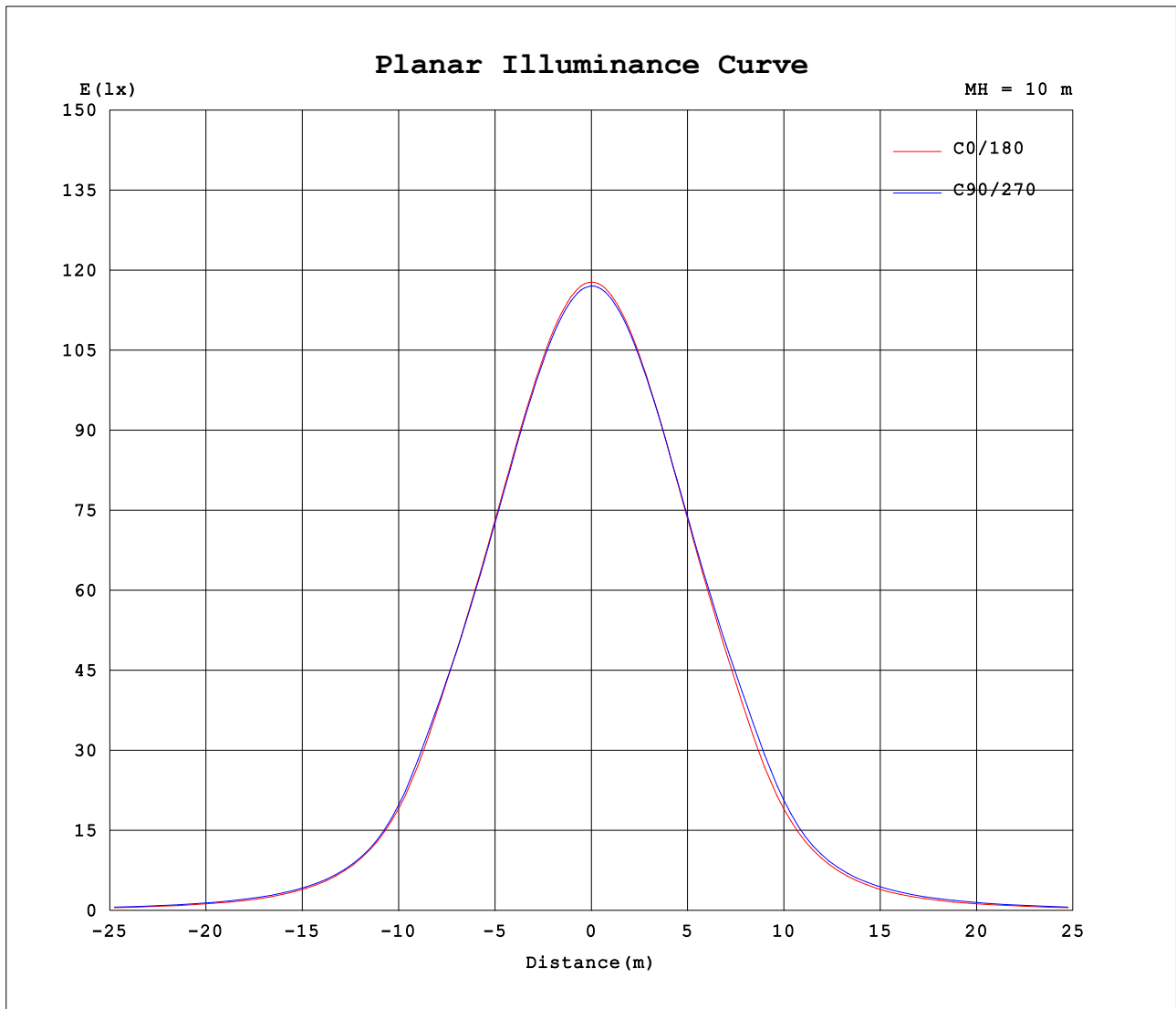
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:27DEG  
 Operators:lianghaizhu  
 Test Date:2023-10-19

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: 2023-10-19

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:120.0V I:1.308A P:156.4W PF:0.9965 Freq:59.98Hz Lamp Flux:24087.4x1 lm		
NAME: ASD-WHB5A-160D50	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD Lighting Corp.	SUR.:0.36*0.25	Shielding Angle:

Table--1

UNIT: x10cd

C (DEG) □ (DEG)	0	45	90	135	180	225	270	315										
0	1178	1174	1171	1167	1178	1174	1171	1167										
5	1172	1167	1164	1163	1174	1171	1167	1162										
10	1155	1150	1148	1148	1159	1158	1154	1146										
15	1129	1123	1121	1123	1134	1134	1130	1121										
20	1091	1084	1084	1086	1097	1099	1096	1084										
25	1041	1034	1033	1037	1045	1051	1049	1036										
30	974	967	968	970	976	986	987	971										
35	884	879	883	881	881	898	906	884										
40	739	745	760	749	732	763	785	747										
45	541	544	560	557	539	567	586	546										
50	374	373	383	383	374	391	401	374										
55	257	259	272	267	258	272	285	259										
60	179	185	200	191	181	195	210	186										
65	130	137	149	141	132	146	156	139										
70	99.1	106	112	109	102	113	118	108										
75	74.8	78.8	80.7	81.9	77.6	85.4	86.2	81.0										
80	52.0	52.3	52.0	55.3	53.1	57.1	57.0	53.2										
85	25.1	25.9	25.4	28.7	23.7	28.5	29.2	23.6										
90	1.03	0.94	0.88	1.09	0.96	1.03	0.84	0.85										
95	1.08	1.10	1.09	1.06	1.06	1.03	1.02	1.04										
100	1.37	1.40	1.40	1.36	1.34	1.32	1.32	1.33										
105	1.75	1.78	1.81	1.74	1.72	1.69	1.70	1.70										
110	2.19	2.23	2.27	2.18	2.17	2.13	2.16	2.14										
115	2.69	2.73	2.77	2.68	2.68	2.64	2.67	2.65										
120	3.23	3.28	3.32	3.23	3.24	3.18	3.23	3.19										
125	3.82	3.87	3.91	3.81	3.84	3.77	3.82	3.79										
130	4.41	4.44	4.51	4.38	4.47	4.37	4.44	4.38										
135	5.01	5.01	5.06	4.95	5.10	4.96	5.04	4.98										
140	5.51	5.56	5.60	5.49	5.67	5.56	5.62	5.55										
145	6.00	6.08	6.10	6.01	6.21	6.11	6.17	6.11										
150	6.50	6.61	6.61	6.50	6.74	6.64	6.72	6.65										
155	7.07	7.15	7.16	7.02	7.29	7.17	7.26	7.19										
160	7.64	7.72	7.75	7.57	7.85	7.73	7.83	7.74										
165	8.22	8.27	8.32	8.14	8.46	8.32	8.42	8.33										
170	8.75	8.72	8.77	8.62	8.96	8.78	8.86	8.76										
175	9.16	9.10	9.11	9.00	9.29	9.10	9.18	9.08										
180	9.36	9.26	9.27	9.19	9.39	9.23	9.30	9.17										

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:27DEG  
 Operators:lianghaizhu  
 Test Date:2023-10-19

□ 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: