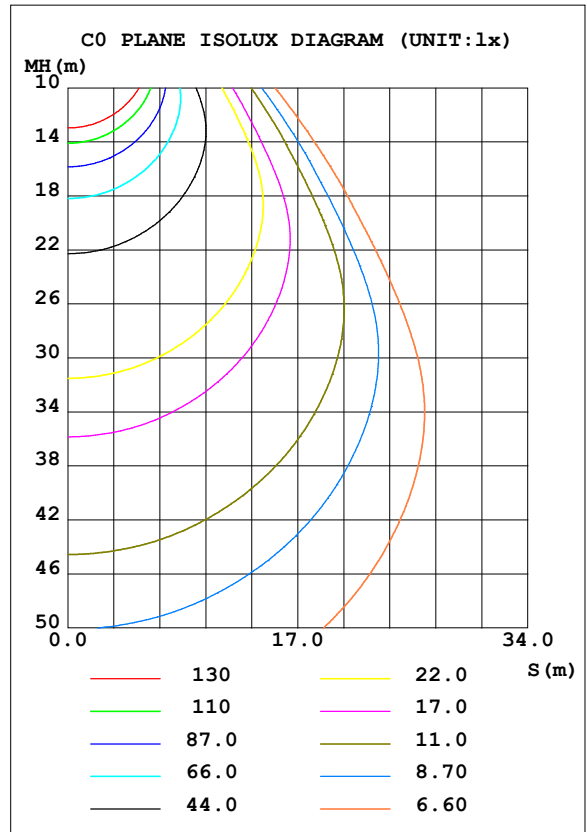
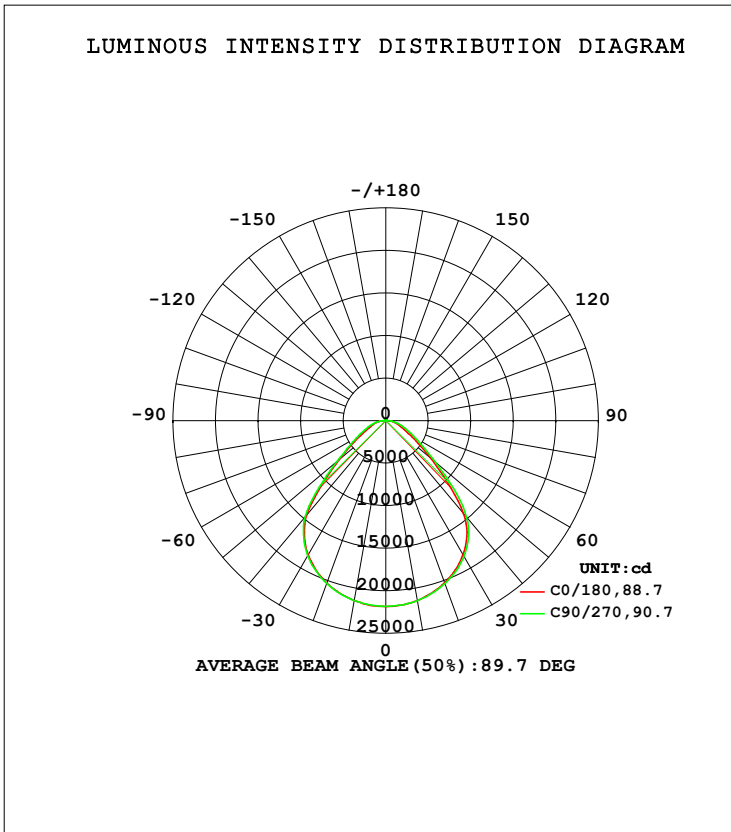


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:121.1V I:2.658A P:321.0W PF:0.9974 Freq:59.98Hz Lamp Flux:45468.9x1 lm		
NAME: ASD-WHB5A-A320DAC-320W-3500K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:1.0*0.3m	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 141.65 lm/W			
MODEL		I <sub>max</sub> (cd)	21845	S/MH (C0/180)	1.24
NOMINAL POWER (W)	320	LOR (%)	100.0	S/MH (C90/270)	1.24
RATED VOLTAGE (V)	120	TOTAL FLUX (lm)	45469	<input type="checkbox"/> UP, DN (C0-180)	0.5, 49.6
NOMINAL FLUX (lm)	45468.9	CIE CLASS	DIRECT	<input type="checkbox"/> UP, DN (C180-360)	0.5, 49.5
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	1.35



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

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	2146	2141	2148	2145	2145	2150	2145	2141	0- 10	2066	2066	4.54,4.54
20	2028	2027	2037	2038	2031	2040	2034	2025	10- 20	5923	7989	17.6,17.6
30	1818	1818	1842	1840	1823	1840	1835	1816	20- 30	8948	16937	37.2,37.2
40	1421	1436	1479	1493	1447	1468	1476	1414	30- 40	10418	27355	60.2,60.2
50	697.4	708.1	767.4	768.3	717.5	756.8	747.4	696.3	40- 50	8326	35681	78.5,78.5
60	318.5	342.4	394.1	365.5	329.4	364.2	384.0	334.9	50- 60	4593	40275	88.6,88.6
70	175.5	198.7	222.4	209.1	182.3	209.7	217.1	195.1	60- 70	2640	42914	94.4,94.4
80	94.42	99.03	109.8	111.0	99.54	109.6	104.8	96.63	70- 80	1604	44518	97.9,97.9
90	1.510	1.570	1.852	1.870	1.479	1.703	1.520	1.503	80- 90	538.6	45057	99.1,99.1
100	2.466	2.560	2.582	2.451	2.347	2.373	2.523	2.478	90-100	21.31	45078	99.1,99.1
110	3.965	4.071	4.104	3.947	3.804	3.822	4.035	3.963	100-110	33.58	45112	99.2,99.2
120	5.853	5.954	5.987	5.820	5.672	5.671	5.908	5.841	110-120	48.28	45160	99.3,99.3
130	7.883	7.949	7.975	7.830	7.745	7.692	7.931	7.856	120-130	61.29	45221	99.5,99.5
140	9.652	9.829	9.841	9.689	9.617	9.671	9.910	9.832	130-140	68.05	45290	99.6,99.6
150	11.37	11.64	11.60	11.35	11.43	11.45	11.76	11.73	140-150	66.66	45356	99.8,99.8
160	13.27	13.47	13.47	13.14	13.39	13.32	13.66	13.63	150-160	57.47	45414	99.9,99.9
170	15.19	15.15	15.24	14.94	15.24	15.05	15.36	15.20	160-170	40.40	45454	100,100
180	15.95	15.82	16.06	15.82	15.96	15.82	16.06	15.82	170-180	14.83	45469	100,100
DEG	LUMINOUS INTENSITY:×10cd									UNIT:lm		

Conical surface Flux(90deg): 32067 lm

%lum = 70.5%

%lamp = 70.5%

Conical surface Flux(120deg): 40275 lm

%lum = 88.6%

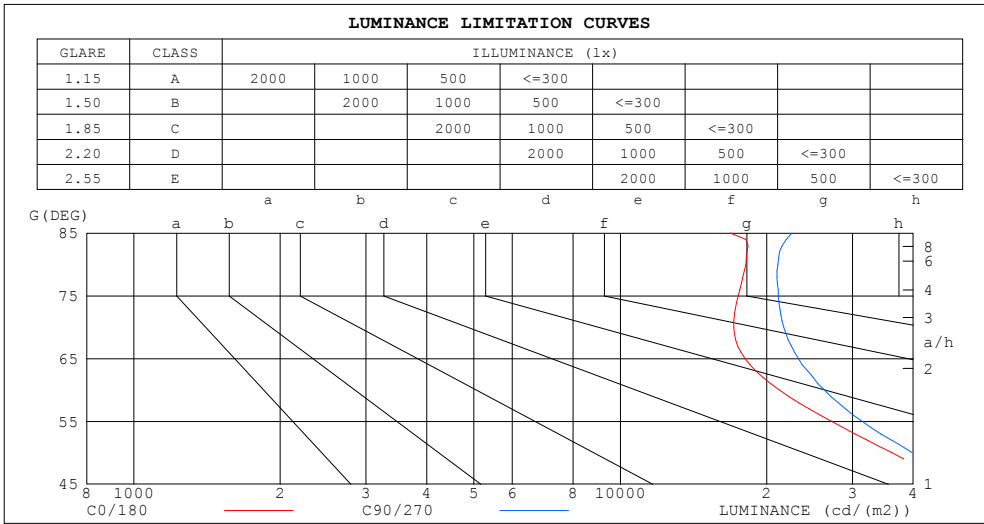
%lamp = 88.6%

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

□ 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:121.1V I:2.658A P:321.0W PF:0.9974 Freq:59.98Hz Lamp Flux:45468.9x1 lm		
NAME: ASD-WHB5A-A320DAC-320W-3500K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:1.0*0.3m	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	16817	22556
80	18125	21076
75	17481	21123
70	17100	21679
65	18052	23249
60	21232	26270
55	27159	31404
50	36163	39794
45	48269	53280

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

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:121.1V I:2.658A P:321.0W PF:0.9974 Freq:59.98Hz Lamp Flux:45468.9x1 lm		
NAME: ASD-WHB5A-A320DAC-320W-3500K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:1.0*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 .147 .046	.251 .143 .045	.237 .136 .043	.225 .130 .042	.213 .124 .040	
2.0	.245 .134 .041	.239 .132 .041	.227 .126 .039	.217 .121 .038	.206 .117 .037	
3.0	.230 .123 .037	.225 .120 .036	.215 .116 .035	.205 .112 .034	.196 .109 .034	
4.0	.216 .112 .033	.211 .110 .033	.202 .107 .032	.193 .104 .031	.186 .101 .031	
5.0	.202 .103 .030	.198 .102 .030	.190 .099 .029	.182 .096 .029	.175 .094 .028	
6.0	.190 .095 .027	.186 .094 .027	.179 .092 .027	.172 .089 .026	.166 .087 .026	
7.0	.179 .088 .025	.175 .087 .025	.169 .085 .025	.163 .083 .024	.157 .082 .024	
8.0	.169 .082 .023	.166 .082 .023	.160 .080 .023	.154 .078 .023	.149 .077 .022	
9.0	.159 .077 .022	.157 .076 .021	.151 .075 .021	.146 .073 .021	.142 .072 .021	
10.0	.151 .072 .020	.148 .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	.197 .197 .197	.169 .169 .169	.115 .115 .115	.066 .066 .066	.021 .021 .021	
1.0	.184 .164 .145	.157 .140 .125	.107 .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 .104 .075	.096 .073 .053	.056 .042 .031	.018 .014 .010	
4.0	.156 .107 .070	.134 .093 .061	.092 .065 .043	.053 .038 .025	.017 .012 .008	
5.0	.148 .097 .058	.127 .084 .051	.088 .058 .036	.051 .034 .021	.016 .011 .007	
6.0	.141 .088 .050	.122 .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	.124 .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 .011	.013 .008 .004	

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

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:121.1V I:2.658A P:321.0W PF:0.9974 Freq:59.98Hz Lamp Flux:45468.9x1 lm										
NAME: ASD-WHB5A-A320DAC-320W-3500K					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.: ASD LIGHTING CORP					SUR.:1.0*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	23.6	25.0	23.9	25.2	25.4	24.1	25.4	24.4	25.6	25.9
3H	24.2	25.4	24.5	25.6	25.9	24.8	26.0	25.1	26.3	26.5
4H	24.5	25.7	24.8	25.9	26.2	25.2	26.4	25.5	26.6	26.9
6H	24.8	25.9	25.2	26.2	26.5	25.6	26.6	25.9	26.9	27.2
8H	25.0	26.0	25.3	26.3	26.6	25.7	26.7	26.0	27.0	27.3
12H	25.1	26.0	25.4	26.3	26.7	25.8	26.8	26.2	27.1	27.4
4H 2H	23.8	25.0	24.2	25.2	25.5	24.2	25.4	24.6	25.7	25.9
3H	24.6	25.6	25.0	25.9	26.2	25.2	26.2	25.5	26.5	26.8
4H	25.1	26.0	25.5	26.3	26.7	25.7	26.6	26.1	27.0	27.3
6H	25.6	26.4	26.0	26.7	27.1	26.2	27.0	26.6	27.4	27.8
8H	25.8	26.5	26.2	26.9	27.3	26.4	27.2	26.9	27.6	28.0
12H	25.9	26.6	26.4	27.0	27.4	26.6	27.3	27.1	27.7	28.1
8H 4H	25.3	26.0	25.7	26.4	26.8	25.9	26.6	26.3	27.0	27.4
6H	25.9	26.5	26.4	27.0	27.4	26.5	27.1	27.0	27.6	28.0
8H	26.2	26.8	26.7	27.2	27.7	26.8	27.4	27.3	27.8	28.3
12H	26.5	26.9	27.0	27.4	27.9	27.1	27.6	27.6	28.1	28.6
12H 4H	25.3	26.0	25.7	26.4	26.8	25.9	26.5	26.3	26.9	27.4
6H	26.0	26.5	26.5	27.0	27.4	26.6	27.1	27.0	27.5	28.0
8H	26.3	26.8	26.8	27.3	27.8	26.9	27.4	27.4	27.9	28.3
Variations with the observer position at spacings:										
S = 1.0H	+ 0.7 / - 0.8					+ 0.6 / - 0.6				
1.5H	+ 0.6 / - 0.5					+ 0.5 / - 0.5				
2.0H	+ 1.4 / - 0.9					+ 1.3 / - 0.7				

CIE Pub.117, 45469 lm Total Lamp Luminous Flux Corrected ( $8\log(F/F_0) = 13.3$ )

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

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:121.1V I:2.658A P:321.0W PF:0.9974 Freq:59.98Hz Lamp Flux:45468.9x1 lm		
NAME: ASD-WHB5A-A320DAC-320W-3500K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:1.0*0.3m	Shielding Angle:

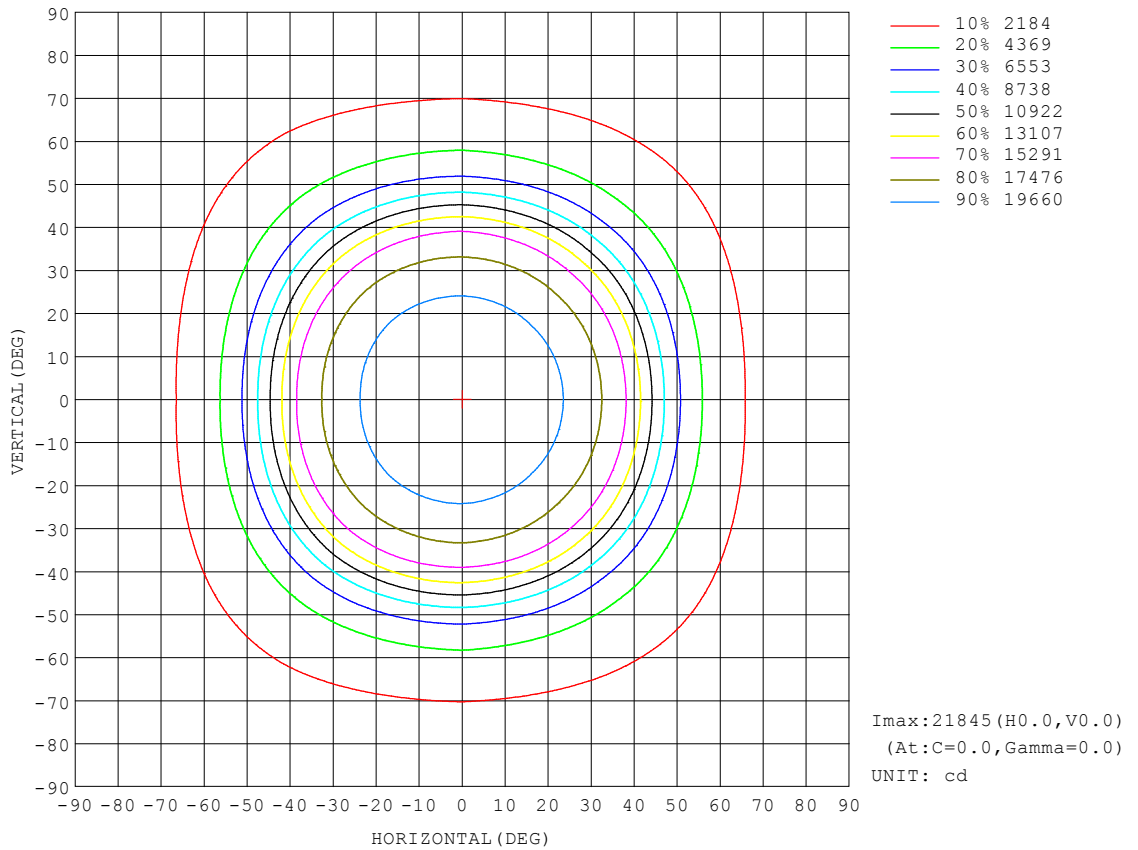
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	67	57	51	66	56	51	65	56	50	45
0.80	76	67	61	75	66	60	74	65	60	54
1.00	84	75	69	83	74	69	81	75	68	62
1.25	90	82	76	89	81	76	86	80	75	68
1.50	95	87	81	93	86	80	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:2023-05-05

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:121.1V I:2.658A P:321.0W PF:0.9974 Freq:59.98Hz Lamp Flux:45468.9x1 lm		
NAME: ASD-WHB5A-A320DAC-320W-3500K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:1.0*0.3m	Shielding Angle:

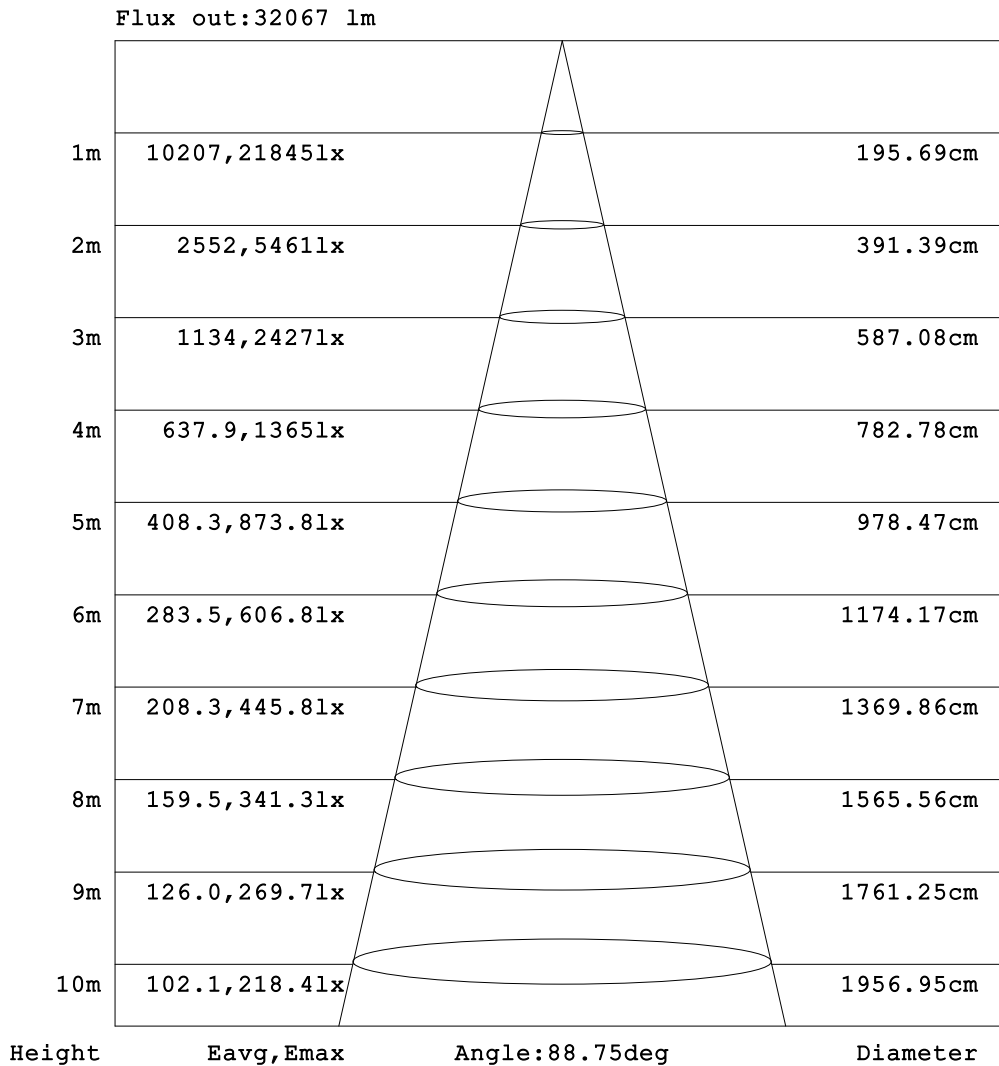


C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:27DEG  
 Operators:lianghaizhu  
 Test Date:2023-05-05

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:121.1V I:2.658A P:321.0W PF:0.9974 Freq:59.98Hz Lamp Flux:45468.9x1 lm		
NAME: ASD-WHB5A-A320DAC-320W-3500K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:1.0*0.3m	Shielding Angle:



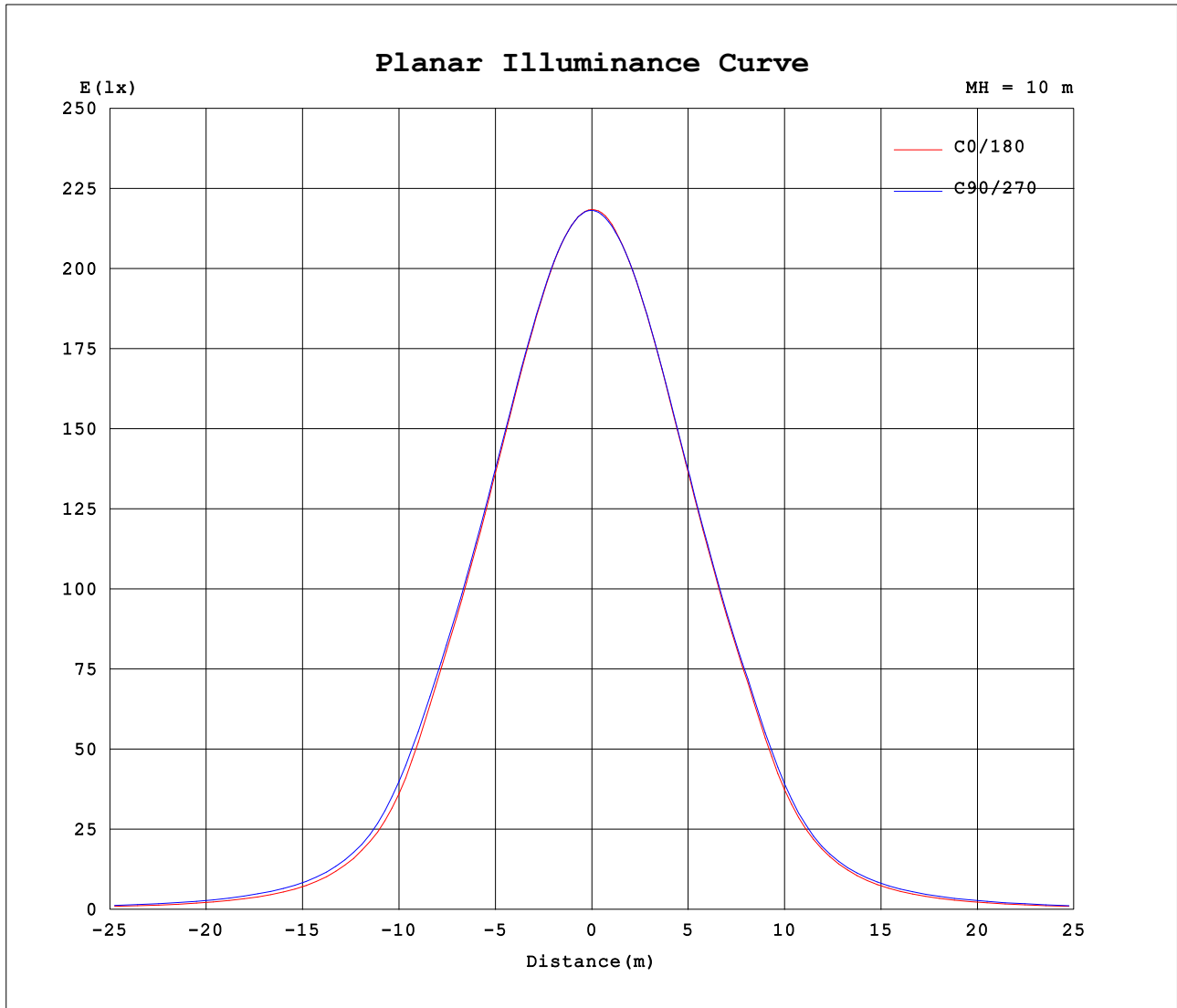
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

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: 2023-05-05

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:121.1V I:2.658A P:321.0W PF:0.9974 Freq:59.98Hz Lamp Flux:45468.9x1 lm		
NAME: ASD-WHB5A-A320DAC-320W-3500K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:1.0*0.3m	Shielding Angle:

Table--1

UNIT: x10cd

C (DEG) □ (DEG)	0	45	90	135	180	225	270	315											
0	2184	2183	2182	2181	2184	2183	2182	2181											
5	2174	2172	2174	2176	2178	2176	2171	2170											
10	2146	2141	2148	2145	2145	2150	2145	2141											
15	2096	2094	2102	2103	2098	2106	2101	2093											
20	2028	2027	2037	2038	2031	2040	2034	2025											
25	1937	1936	1952	1953	1940	1953	1947	1934											
30	1818	1818	1842	1840	1823	1840	1835	1816											
35	1664	1663	1696	1693	1668	1691	1684	1659											
40	1421	1436	1479	1493	1447	1468	1476	1414											
45	1024	1053	1130	1132	1060	1109	1110	1027											
50	697	708	767	768	718	757	747	696											
55	467	483	540	521	483	517	525	475											
60	318	342	394	366	329	364	384	335											
65	229	255	295	269	237	270	288	250											
70	175	199	222	209	182	210	217	195											
75	136	149	164	160	141	160	158	147											
80	94.4	99.0	110	111	99.5	110	105	96.6											
85	44.0	47.5	59.0	61.1	48.8	58.2	52.4	43.5											
90	1.51	1.57	1.85	1.87	1.48	1.70	1.52	1.50											
95	1.92	2.00	2.01	1.91	1.82	1.85	1.98	1.93											
100	2.47	2.56	2.58	2.45	2.35	2.37	2.52	2.48											
105	3.16	3.26	3.29	3.14	3.01	3.04	3.23	3.16											
110	3.97	4.07	4.10	3.95	3.80	3.82	4.04	3.96											
115	4.87	4.97	5.01	4.84	4.70	4.71	4.93	4.87											
120	5.85	5.95	5.99	5.82	5.67	5.67	5.91	5.84											
125	6.88	6.96	6.98	6.83	6.71	6.68	6.92	6.85											
130	7.88	7.95	7.98	7.83	7.74	7.69	7.93	7.86											
135	8.79	8.88	8.94	8.77	8.69	8.69	8.91	8.84											
140	9.65	9.83	9.84	9.69	9.62	9.67	9.91	9.83											
145	10.5	10.7	10.7	10.5	10.5	10.6	10.9	10.8											
150	11.4	11.6	11.6	11.4	11.4	11.4	11.8	11.7											
155	12.3	12.6	12.5	12.2	12.4	12.4	12.7	12.7											
160	13.3	13.5	13.5	13.1	13.4	13.3	13.7	13.6											
165	14.3	14.4	14.4	14.1	14.4	14.3	14.6	14.5											
170	15.2	15.1	15.2	14.9	15.2	15.0	15.4	15.2											
175	15.8	15.6	15.8	15.5	15.8	15.6	15.9	15.7											
180	16.0	15.8	16.1	15.8	16.0	15.8	16.1	15.8											

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

□ 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: