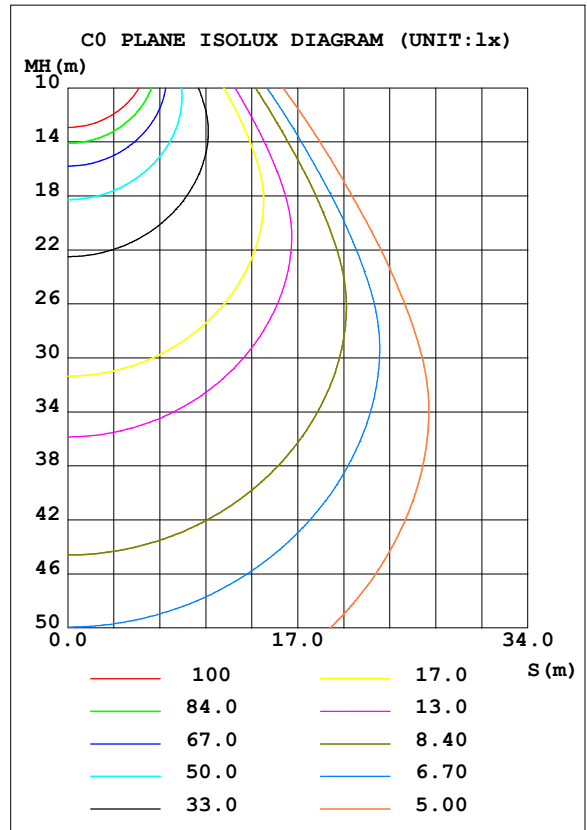
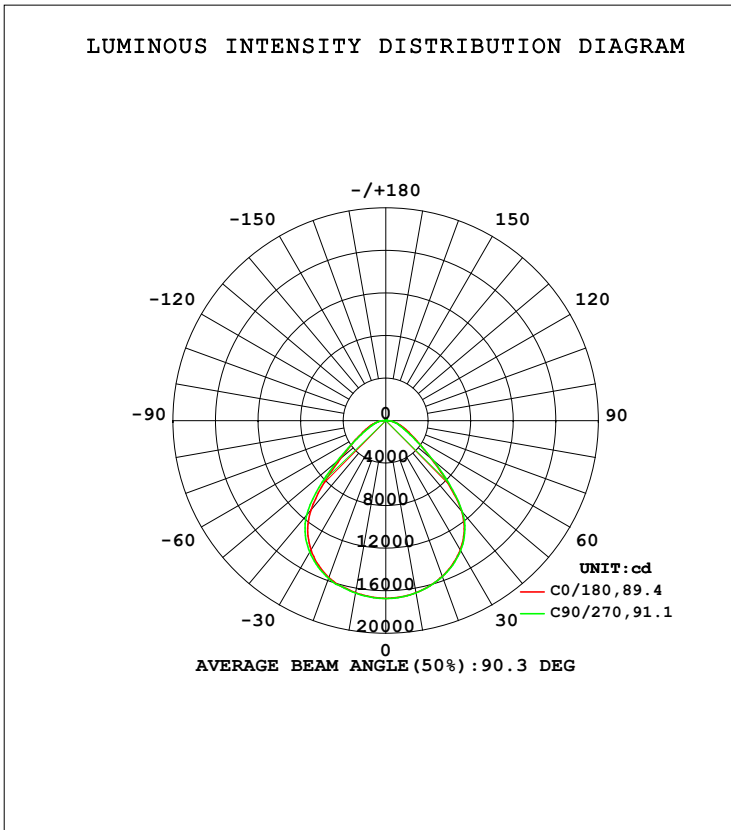


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:120.2V I:1.773A P:212.5W PF:0.9972 Freq:59.98Hz Lamp Flux:35215.4x1 lm		
NAME: ASD-WHB5A-PRO-220-220W-4000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD Lighting Corp.	SUR.:0.5*0.3	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 165.68 lm/W			
MODEL	ASD-WHB5A-PRO-220	I _{max} (cd)	16723	S/MH (C0/180)	1.24
NOMINAL POWER (W)	220	LOR (%)	100.0	S/MH (C90/270)	1.26
RATED VOLTAGE (V)	120-277	TOTAL FLUX (lm)	35215	<input type="checkbox"/> UP, DN (C0-180)	0.5, 49.4
NOMINAL FLUX (lm)	35215.4	CIE CLASS	DIRECT	<input type="checkbox"/> UP, DN (C180-360)	0.5, 49.7
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: 2023-08-10

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	1642	1643	1643	1644	1642	1644	1646	1645	0- 10	1582	1582	4.49,4.49
20	1557	1571	1560	1571	1569	1560	1577	1562	10- 20	4552	6134	17.4,17.4
30	1402	1418	1410	1413	1406	1407	1430	1412	20- 30	6903	13037	37,37
40	1110	1126	1120	1105	1094	1108	1157	1130	30- 40	8037	21074	59.8,59.8
50	562.8	576.2	581.2	565.9	558.1	574.3	605.1	579.4	40- 50	6482	27556	78.3,78.3
60	290.6	279.1	265.3	272.0	290.0	277.3	273.3	275.0	50- 60	3609	31166	88.5,88.5
70	162.4	157.3	142.8	155.7	163.3	159.0	142.4	154.8	60- 70	2057	33222	94.3,94.3
80	77.74	79.45	76.64	80.85	79.39	81.85	77.63	79.81	70- 80	1231	34454	97.8,97.8
90	1.239	1.242	1.326	1.277	1.236	1.328	2.111	1.247	80- 90	430.3	34884	99.1,99.1
100	1.965	2.001	2.074	2.012	1.873	1.919	1.943	1.915	90-100	16.92	34901	99.1,99.1
110	3.150	3.197	3.312	3.220	3.050	3.098	3.137	3.084	100-110	26.70	34927	99.2,99.2
120	4.639	4.701	4.834	4.733	4.571	4.629	4.676	4.609	110-120	38.54	34966	99.3,99.3
130	6.280	6.327	6.464	6.369	6.304	6.338	6.399	6.310	120-130	49.28	35015	99.4,99.4
140	7.788	7.870	7.974	7.913	7.882	7.943	7.997	7.911	130-140	55.12	35070	99.6,99.6
150	9.169	9.265	9.343	9.281	9.330	9.390	9.415	9.367	140-150	53.94	35124	99.7,99.7
160	10.69	10.75	10.87	10.72	10.92	10.92	10.97	10.94	150-160	46.41	35171	99.9,99.9
170	12.22	12.19	12.31	12.14	12.36	12.27	12.35	12.28	160-170	32.64	35203	100,100
180	12.98	12.87	12.97	12.87	12.97	12.87	12.97	12.87	170-180	12.00	35215	100,100
DEG	LUMINOUS INTENSITY:×10cd									UNIT:lm		

Conical surface Flux(90deg): 24718 lm

%lum = 70.2%

%lamp = 70.2%

Conical surface Flux(120deg): 31166 lm

%lum = 88.5%

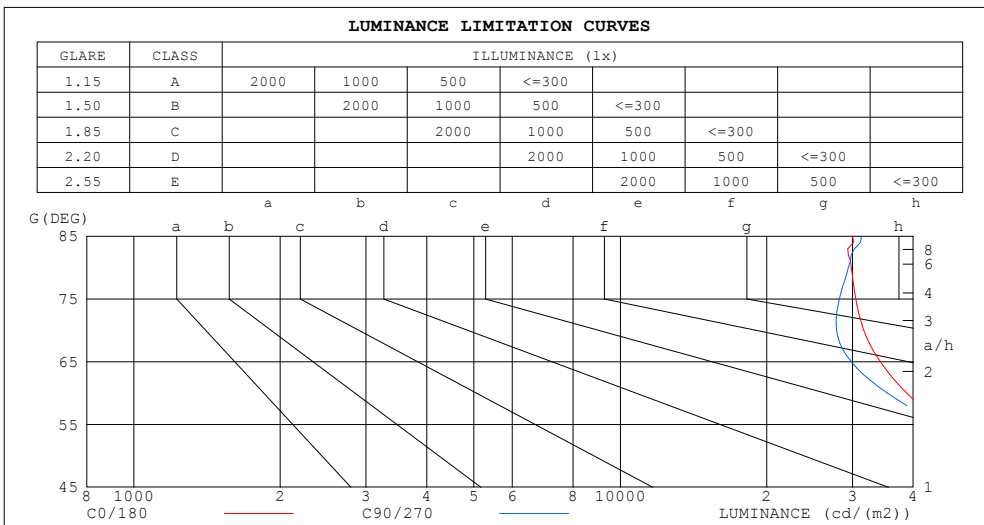
%lamp = 88.5%

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:27DEG
 Operators:lianghaizhu
 Test Date:2023-08-10

□ 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:120.2V I:1.773A P:212.5W PF:0.9972 Freq:59.98Hz Lamp Flux:35215.4x1 lm		
NAME: ASD-WHB5A-PRO-220-220W-4000K	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	30003	31312
80	29846	29425
75	30497	28213
70	31659	27832
65	34225	29814
60	38753	35375
55	46194	45353
50	58370	60278
45	77512	80138

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:27DEG
 Operators:lianghaizhu
 Test Date:2023-08-10

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:120.2V I:1.773A P:212.5W PF:0.9972 Freq:59.98Hz Lamp Flux:35215.4x1 lm		
NAME: ASD-WHB5A-PRO-220-220W-4000K	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	.259 .147 .047	.251 .143 .046	.238 .136 .044	.225 .130 .042	.214 .124 .040	
2.0	.246 .135 .041	.240 .132 .041	.228 .127 .039	.217 .122 .038	.207 .117 .037	
3.0	.231 .123 .037	.225 .121 .036	.215 .117 .035	.206 .113 .035	.197 .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	.187 .094 .027	.179 .092 .027	.173 .090 .026	.166 .088 .026	
7.0	.179 .089 .025	.176 .088 .025	.169 .086 .025	.163 .084 .024	.157 .082 .024	
8.0	.169 .083 .023	.166 .082 .023	.160 .080 .023	.155 .078 .023	.149 .077 .022	
9.0	.160 .077 .022	.157 .076 .021	.152 .075 .021	.147 .074 .021	.142 .072 .021	
10.0	.151 .073 .020	.149 .072 .020	.144 .071 .020	.139 .069 .020	.135 .068 .020	

<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	.157 .141 .125	.108 .097 .087	.062 .056 .050	.020 .018 .016	
2.0	.173 .139 .111	.149 .120 .096	.102 .083 .067	.059 .048 .039	.019 .016 .013	
3.0	.164 .121 .087	.141 .105 .076	.097 .073 .053	.056 .042 .031	.018 .014 .010	
4.0	.156 .108 .071	.134 .093 .061	.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 .076 .043	.084 .054 .031	.049 .031 .018	.016 .010 .006	
7.0	.135 .081 .043	.116 .070 .038	.080 .049 .027	.047 .029 .016	.015 .010 .005	
8.0	.129 .075 .038	.111 .065 .033	.077 .046 .024	.045 .027 .014	.015 .009 .005	
9.0	.124 .070 .034	.107 .061 .030	.074 .043 .021	.043 .025 .013	.014 .008 .004	
10.0	.119 .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:2023-08-10

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:120.2V I:1.773A P:212.5W PF:0.9972 Freq:59.98Hz Lamp Flux:35215.4x1 lm										
NAME: ASD-WHB5A-PRO-220-220W-4000K					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	25.6	26.9	25.8	27.1	27.3	25.5	26.8	25.8	27.0	27.2
3H	26.2	27.5	26.5	27.7	27.9	26.0	27.3	26.3	27.5	27.7
4H	26.6	27.7	26.9	28.0	28.3	26.4	27.5	26.7	27.8	28.0
6H	26.9	28.0	27.2	28.3	28.5	26.7	27.7	27.0	28.0	28.3
8H	27.0	28.1	27.4	28.3	28.6	26.8	27.8	27.1	28.1	28.4
12H	27.1	28.1	27.5	28.4	28.7	26.9	27.9	27.3	28.2	28.5
4H 2H	25.7	26.9	26.1	27.1	27.4	25.7	26.8	26.0	27.1	27.4
3H	26.6	27.6	27.0	27.9	28.2	26.4	27.4	26.8	27.7	28.1
4H	27.1	28.0	27.5	28.4	28.7	26.9	27.8	27.3	28.1	28.5
6H	27.6	28.4	28.0	28.8	29.1	27.4	28.2	27.8	28.5	28.9
8H	27.8	28.5	28.2	28.9	29.3	27.6	28.3	28.0	28.7	29.1
12H	27.9	28.6	28.4	29.0	29.4	27.8	28.5	28.2	28.8	29.3
8H 4H	27.3	28.0	27.7	28.4	28.8	27.1	27.8	27.5	28.2	28.6
6H	27.9	28.5	28.4	28.9	29.4	27.7	28.3	28.2	28.8	29.2
8H	28.2	28.7	28.7	29.2	29.6	28.0	28.6	28.5	29.0	29.5
12H	28.5	28.9	28.9	29.4	29.9	28.3	28.8	28.8	29.3	29.7
12H 4H	27.3	28.0	27.7	28.4	28.8	27.1	27.8	27.5	28.2	28.6
6H	28.0	28.5	28.4	29.0	29.4	27.8	28.3	28.3	28.8	29.2
8H	28.3	28.8	28.8	29.2	29.7	28.1	28.6	28.6	29.1	29.6
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 / - 0.7					+ 1.4 / - 0.9				

CIE Pub.117, 35215 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 12.4)

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:27DEG
 Operators:lianghaizhu
 Test Date:2023-08-10

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:120.2V I:1.773A P:212.5W PF:0.9972 Freq:59.98Hz Lamp Flux:35215.4x1 lm		
NAME: ASD-WHB5A-PRO-220-220W-4000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD Lighting Corp.	SUR.:0.5*0.3	Shielding Angle:

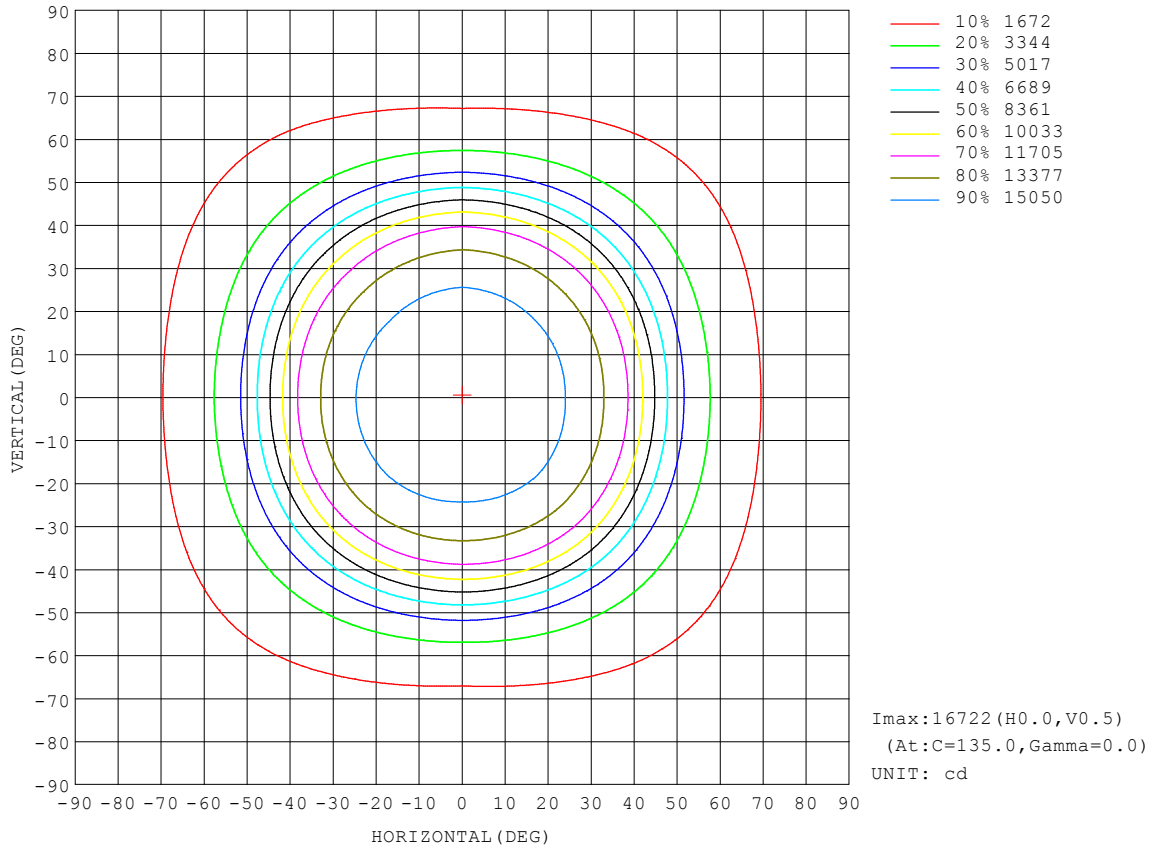
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	66	56	50	66	56	50	65	56	50	45
0.80	76	66	60	75	66	60	74	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	104	98	94	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	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:2023-08-10

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:120.2V I:1.773A P:212.5W PF:0.9972 Freq:59.98Hz Lamp Flux:35215.4x1 lm		
NAME: ASD-WHB5A-PRO-220-220W-4000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD Lighting Corp.	SUR.:0.5*0.3	Shielding Angle:

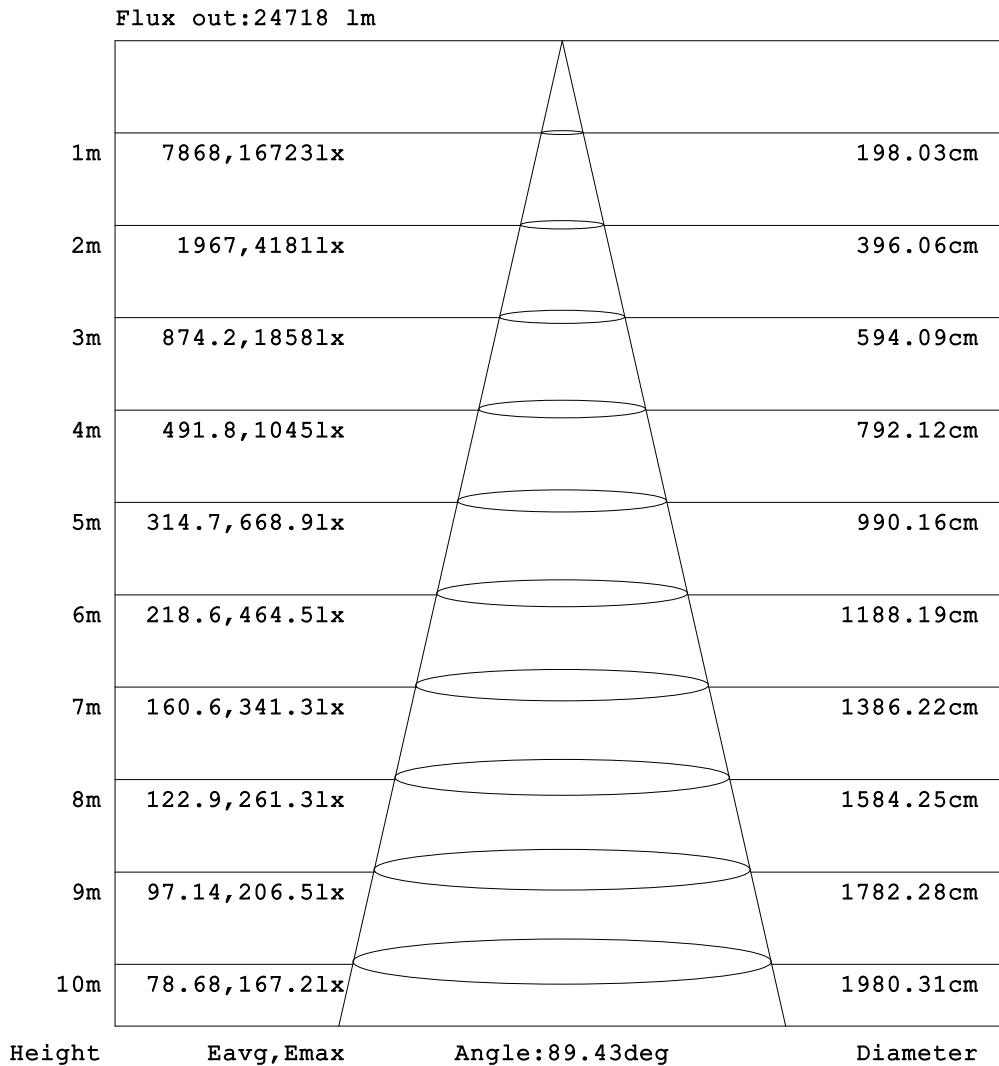


C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:27DEG
 Operators:lianghaizhu
 Test Date:2023-08-10

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:120.2V I:1.773A P:212.5W PF:0.9972 Freq:59.98Hz Lamp Flux:35215.4x1 lm		
NAME: ASD-WHB5A-PRO-220-220W-4000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD Lighting Corp.	SUR.:0.5*0.3	Shielding Angle:

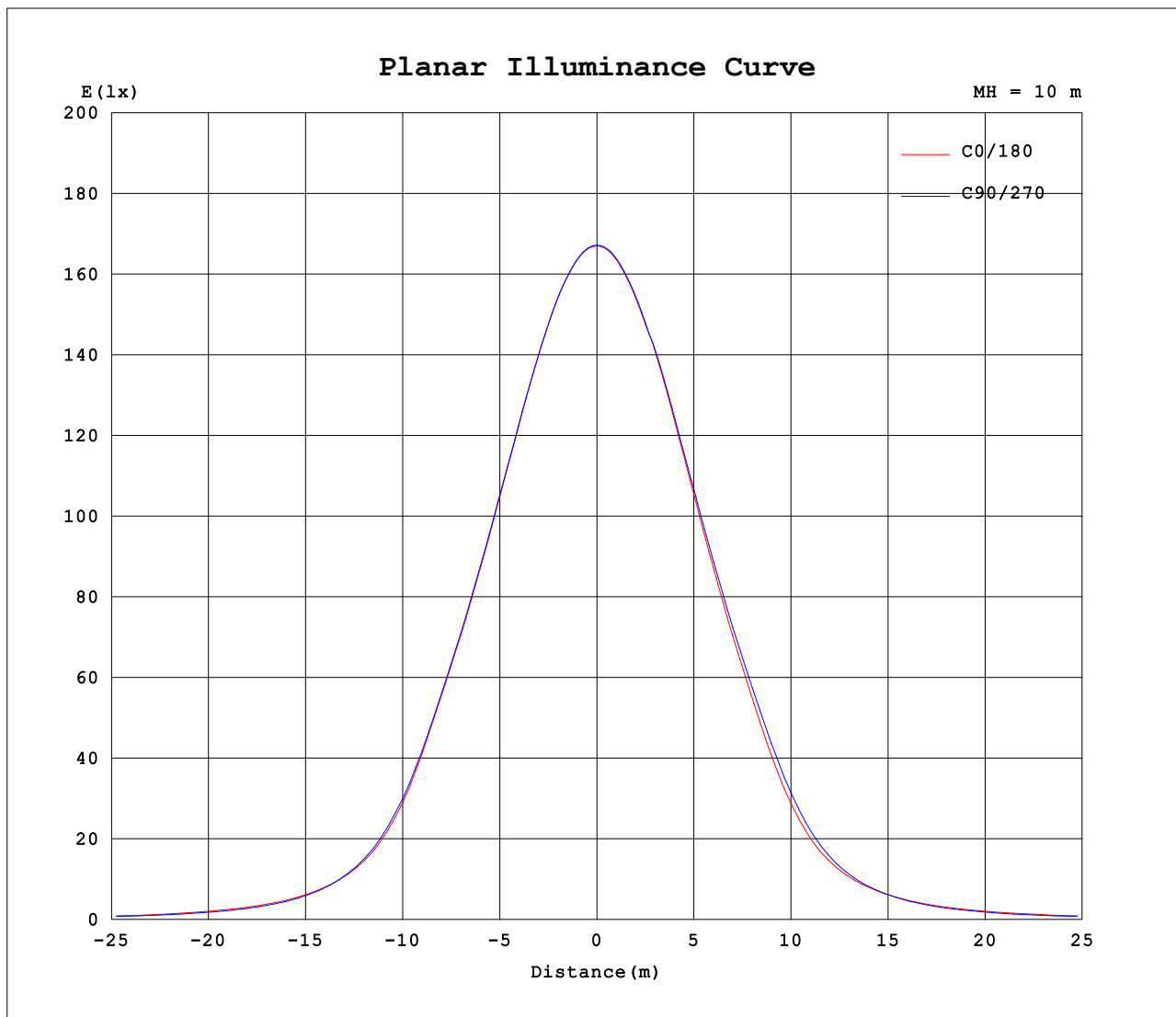


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:27DEG
 Operators:lianghaizhu
 Test Date:2023-08-10

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: 2023-08-10

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:120.2V I:1.773A P:212.5W PF:0.9972 Freq:59.98Hz Lamp Flux:35215.4x1 lm		
NAME: ASD-WHB5A-PRO-220-220W-4000K	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	1670	1672	1672	1672	1670	1672	1672	1672											
5	1663	1664	1665	1665	1663	1665	1666	1666											
10	1642	1643	1643	1644	1642	1644	1646	1645											
15	1607	1615	1609	1615	1614	1610	1614	1611											
20	1557	1571	1560	1571	1569	1560	1577	1562											
25	1490	1505	1495	1503	1500	1494	1513	1498											
30	1402	1418	1410	1413	1406	1407	1430	1412											
35	1285	1302	1295	1290	1280	1287	1320	1299											
40	1110	1126	1120	1105	1094	1108	1157	1130											
45	822	847	850	830	816	836	890	851											
50	563	576	581	566	558	574	605	579											
55	397	395	390	387	395	393	404	394											
60	291	279	265	272	290	277	273	275											
65	217	206	189	202	218	206	193	201											
70	162	157	143	156	163	159	142	155											
75	118	118	110	119	120	121	109	118											
80	77.7	79.5	76.6	80.9	79.4	81.8	77.6	79.8											
85	39.2	41.3	40.9	42.3	39.8	43.6	44.8	42.9											
90	1.24	1.24	1.33	1.28	1.24	1.33	2.11	1.25											
95	1.53	1.56	1.61	1.56	1.46	1.49	1.51	1.49											
100	1.96	2.00	2.07	2.01	1.87	1.92	1.94	1.91											
105	2.51	2.56	2.65	2.57	2.41	2.46	2.49	2.45											
110	3.15	3.20	3.31	3.22	3.05	3.10	3.14	3.08											
115	3.86	3.92	4.04	3.94	3.77	3.83	3.87	3.81											
120	4.64	4.70	4.83	4.73	4.57	4.63	4.68	4.61											
125	5.46	5.51	5.66	5.54	5.44	5.48	5.53	5.45											
130	6.28	6.33	6.46	6.37	6.30	6.34	6.40	6.31											
135	7.06	7.11	7.24	7.15	7.11	7.15	7.21	7.12											
140	7.79	7.87	7.97	7.91	7.88	7.94	8.00	7.91											
145	8.47	8.57	8.65	8.61	8.60	8.67	8.70	8.64											
150	9.17	9.27	9.34	9.28	9.33	9.39	9.42	9.37											
155	9.90	9.97	10.1	9.97	10.1	10.1	10.2	10.1											
160	10.7	10.7	10.9	10.7	10.9	10.9	11.0	10.9											
165	11.5	11.5	11.7	11.5	11.7	11.6	11.7	11.7											
170	12.2	12.2	12.3	12.1	12.4	12.3	12.4	12.3											
175	12.8	12.7	12.8	12.6	12.8	12.7	12.8	12.7											
180	13.0	12.9	13.0	12.9	13.0	12.9	13.0	12.9											

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:27DEG
 Operators:lianghaizhu
 Test Date:2023-08-10

□ 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: