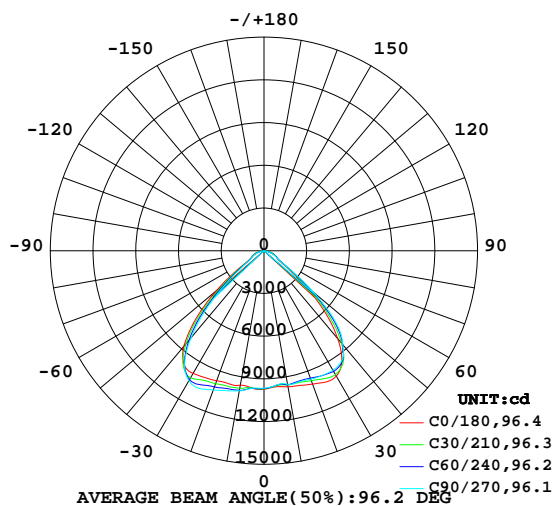


LUMINAIRE PHOTOMETRIC TEST REPORT

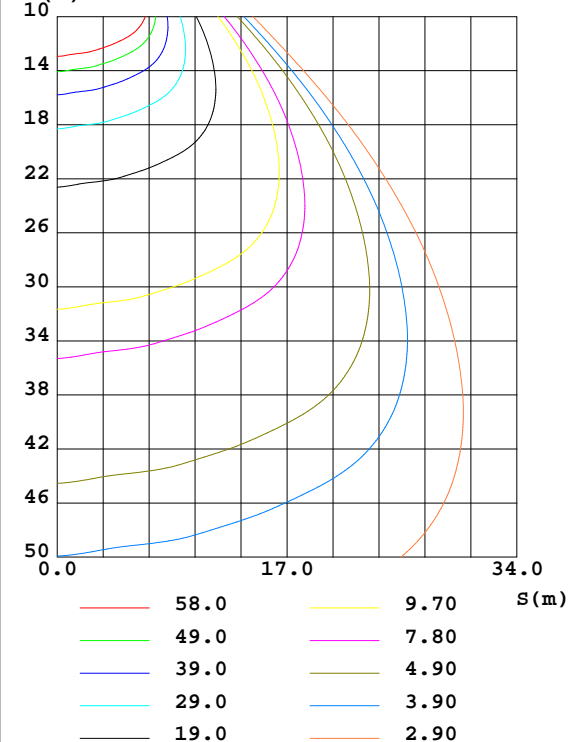
NAME: LED light	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:21cm*16cm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 140.04 lm/W
MODEL	160W 110DU	Imax(cd)	10731	S/MH(C0/180)	1.41	
NOMINAL POWER(W)	160	LOR(%)	100.0	S/MH(C90/270)	1.35	
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	22407	η UP,DN(C0-180)	0.0,50.5	
NOMINAL FLUX(lm)	22400	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,49.5	
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25	
TEST VOLTAGE(V)	220.1	η down(%)	100.0	CIBSE SHR MAX	1.35	

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2017.4.26

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:10.480m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	970.1	955.3	951.8	946.8	959.2	988.7	999.0	985.5	0- 10	918.7	918.7	4.1,4.1
20	996.3	961.2	959.1	948.3	971.3	1004	1040	1024	10- 20	2770	3689	16.5,16.5
30	1017	989.7	968.5	964.9	994.2	1044	1055	1043	20- 30	4645	8334	37.2,37.2
40	806.7	846.2	860.8	884.3	876.3	839.5	797.1	789.3	30- 40	5940	14273	63.7,63.7
50	360.8	412.4	456.1	473.5	438.2	369.0	313.9	329.4	40- 50	4841	19114	85.3,85.3
60	109.2	115.0	108.1	111.0	109.2	105.7	102.2	109.3	50- 60	1840	20954	93.5,93.5
70	74.31	72.06	60.12	71.27	74.04	70.74	59.44	74.02	60- 70	887.0	21841	97.5,97.5
80	29.43	19.70	9.613	19.92	28.98	19.36	9.286	21.22	70- 80	488.8	22330	99.7,99.7
90	0.2924	0.4842	2.656	0.5226	0.3546	0.6750	2.878	0.5381	80- 90	77.31	22407	100,100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:×10cd									UNIT:lm		

Conical surface Flux(90deg): 17026 lm

%lum = 76.0%

%lamp = 76.0%

Conical surface Flux(120deg): 20954 lm

%lum = 93.5%

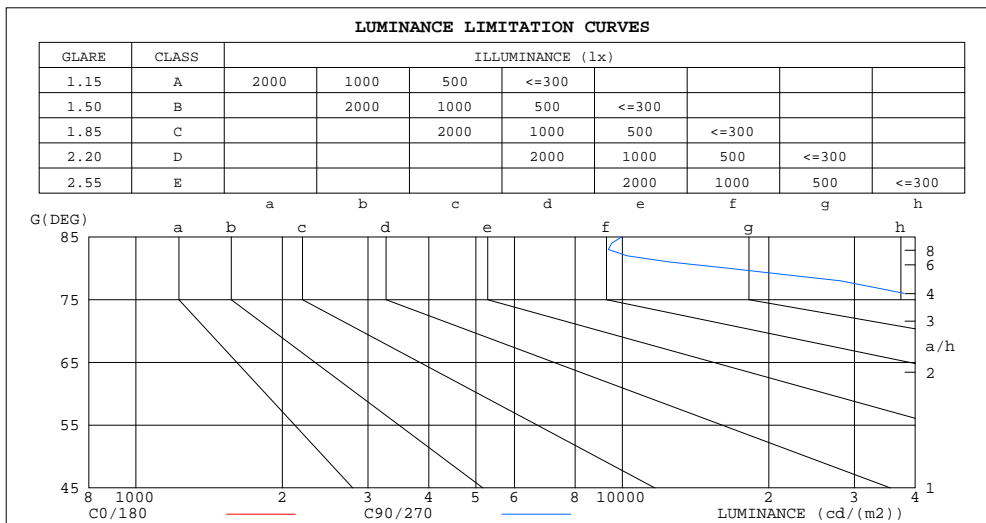
%lamp = 93.5%

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2017.4.26

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:10.480m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

NAME: LED light	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:21cm*16cm	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	46683	9978
80	50435	16475
75	60974	41402
70	64664	52317
65	64400	61155
60	64970	64317
55	86794	105003
50	167049	211187
45	252253	301133

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017.4.26

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.480m [K=1.0000]
Remarks:

WEC AND CCEC

NAME: LED light	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:21cm*16cm	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0	
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
pfc	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.238	.135	.043	.231	.132	.042	.218	.125	.040	.206	.119	.038	.195	.113	.037		
2.0	.231	.127	.039	.225	.124	.038	.214	.119	.037	.204	.114	.036	.194	.110	.035		
3.0	.220	.117	.035	.215	.115	.035	.205	.111	.034	.196	.107	.033	.188	.104	.032		
4.0	.208	.108	.032	.204	.107	.031	.195	.103	.031	.187	.100	.030	.180	.098	.030		
5.0	.197	.100	.029	.193	.099	.029	.185	.096	.028	.178	.094	.028	.171	.092	.028		
6.0	.186	.093	.027	.182	.092	.026	.175	.090	.026	.169	.088	.026	.163	.086	.026		
7.0	.176	.087	.025	.173	.086	.025	.167	.084	.024	.161	.082	.024	.156	.081	.024		
8.0	.167	.081	.023	.164	.081	.023	.158	.079	.023	.153	.078	.022	.148	.076	.022		
9.0	.158	.076	.021	.155	.076	.021	.150	.074	.021	.146	.073	.021	.141	.072	.021		
10.0	.150	.072	.020	.148	.071	.020	.143	.070	.020	.139	.069	.020	.135	.068	.020		

ρcc	80%			70%			50%			30%			10%			0	
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
ρfc	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)										
0.0	.191	.191	.191	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020		
1.0	.175	.157	.140	.150	.135	.121	.103	.093	.083	.059	.054	.048	.019	.017	.016		
2.0	.164	.132	.105	.141	.114	.091	.096	.079	.064	.056	.046	.037	.018	.015	.012		
3.0	.155	.114	.081	.133	.098	.071	.091	.068	.050	.053	.040	.029	.017	.013	.010		
4.0	.147	.100	.064	.126	.086	.056	.087	.060	.039	.050	.035	.023	.016	.011	.008		
5.0	.139	.089	.052	.120	.077	.045	.083	.054	.032	.048	.032	.019	.015	.010	.006		
6.0	.133	.081	.043	.114	.070	.038	.079	.049	.027	.046	.029	.016	.015	.009	.005		
7.0	.127	.074	.036	.109	.064	.032	.075	.045	.022	.044	.026	.013	.014	.009	.004		
8.0	.121	.068	.031	.104	.059	.027	.072	.041	.019	.042	.024	.011	.014	.008	.004		
9.0	.116	.063	.027	.100	.055	.024	.069	.038	.017	.040	.023	.010	.013	.007	.003		
10.0	.111	.059	.024	.096	.051	.021	.066	.036	.015	.039	.021	.009	.013	.007	.003		

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017.4.26

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.480m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

NAME: LED light					TYPE:					WEIGHT:				
SPEC.:					DIM.:					SERIAL No.:				
MFR.:					SUR.:21cm*16cm					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					18.3	19.6	18.5	19.8	20.0	18.7	20.0	18.9	20.2	20.4
3H					18.6	19.8	18.9	20.0	20.2	18.8	20.0	19.1	20.2	20.4
4H					18.8	19.9	19.1	20.1	20.4	18.8	20.0	19.1	20.2	20.4
6H					18.9	19.9	19.2	20.2	20.5	18.8	19.8	19.1	20.1	20.4
8H					18.9	19.9	19.2	20.2	20.5	18.8	19.8	19.1	20.0	20.3
12H					18.9	19.9	19.3	20.2	20.5	18.7	19.7	19.0	20.0	20.2
4H 2H					18.3	19.4	18.6	19.6	19.9	18.6	19.7	18.9	20.0	20.2
3H					18.7	19.7	19.1	20.0	20.3	18.9	19.8	19.2	20.1	20.4
4H					19.1	19.9	19.4	20.2	20.6	19.0	19.9	19.3	20.2	20.5
6H					19.3	20.1	19.7	20.4	20.8	19.0	19.7	19.4	20.1	20.4
8H					19.4	20.1	19.8	20.5	20.8	18.9	19.6	19.3	20.0	20.4
12H					19.4	20.1	19.8	20.5	20.8	18.9	19.5	19.3	19.9	20.3
8H 4H					19.1	19.8	19.5	20.2	20.5	19.0	19.7	19.4	20.1	20.4
6H					19.4	20.0	19.9	20.4	20.8	19.0	19.6	19.4	20.0	20.4
8H					19.5	20.1	20.0	20.5	20.9	19.0	19.5	19.4	19.9	20.4
12H					19.6	20.1	20.1	20.5	21.0	18.9	19.4	19.4	19.8	20.3
12H 4H					19.0	19.7	19.5	20.1	20.5	19.0	19.6	19.4	20.0	20.4
6H					19.4	19.9	19.9	20.3	20.8	19.0	19.5	19.4	19.9	20.4
8H					19.5	20.0	20.0	20.4	20.9	19.0	19.4	19.4	19.8	20.3
Variations with the observer position at spacings:														
S = 1.0H					+ 1.4 / - 1.9					+ 1.9 / - 2.6				
1.5H					+ 1.1 / - 2.1					+ 1.2 / - 3.0				
2.0H					+ 3.2 / - 2.0					+ 4.0 / - 3.3				

CIE Pub.117, 22400 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 10.8)

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017.4.26

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.480m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

NAME: LED light	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:21cm*16cm	Shielding Angle:

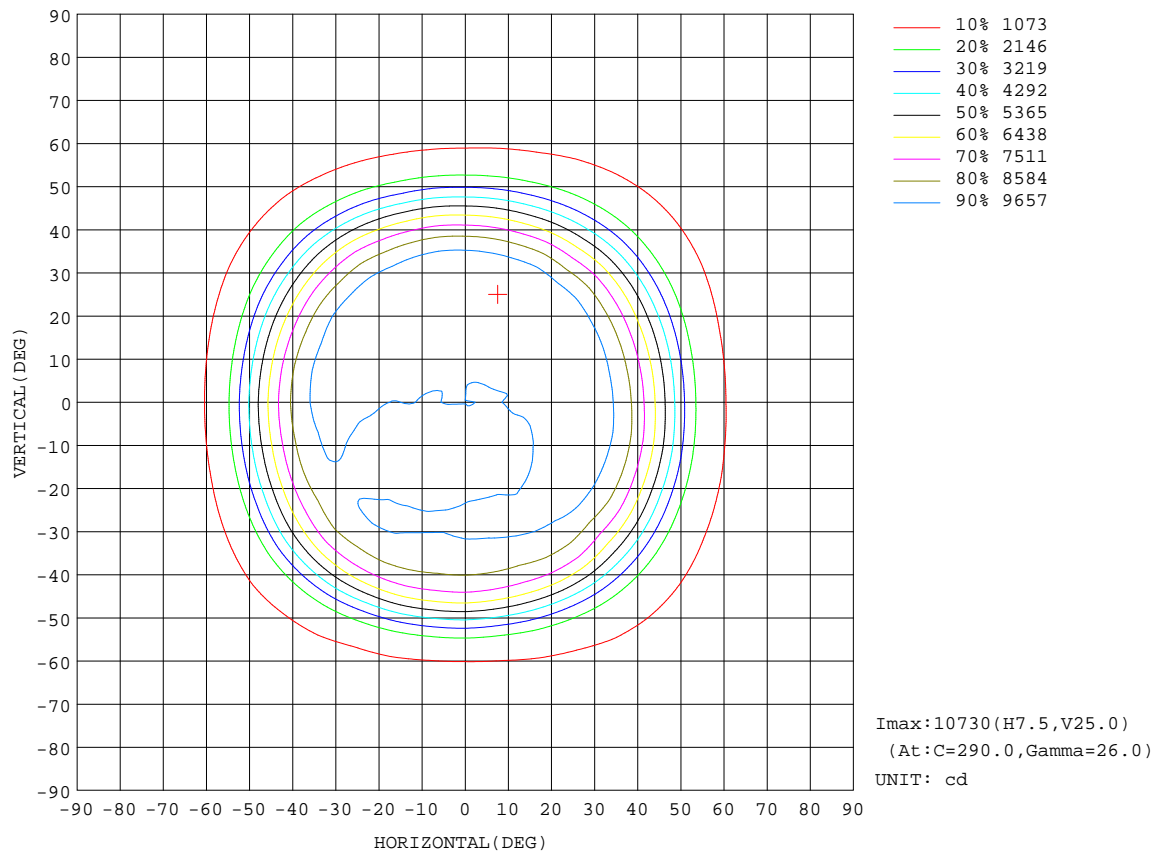
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	69	59	53	68	59	53	67	58	53	48
0.80	79	69	63	78	69	63	76	68	63	57
1.00	86	78	72	85	77	72	83	78	71	66
1.25	93	85	79	91	84	79	89	83	78	72
1.50	97	89	84	95	89	84	93	87	83	77
2.00	102	96	91	100	95	90	97	93	89	82
2.50	105	99	95	103	98	94	99	95	92	85
3.00	107	102	98	105	101	97	102	98	95	87
4.00	110	106	102	108	104	101	104	101	98	90
5.00	112	108	105	109	106	104	105	103	100	92
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004										
Suspended										
SHRNM = 1.25										

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017.4.26

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.480m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

NAME: LED light	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:21cm*16cm	Shielding Angle:



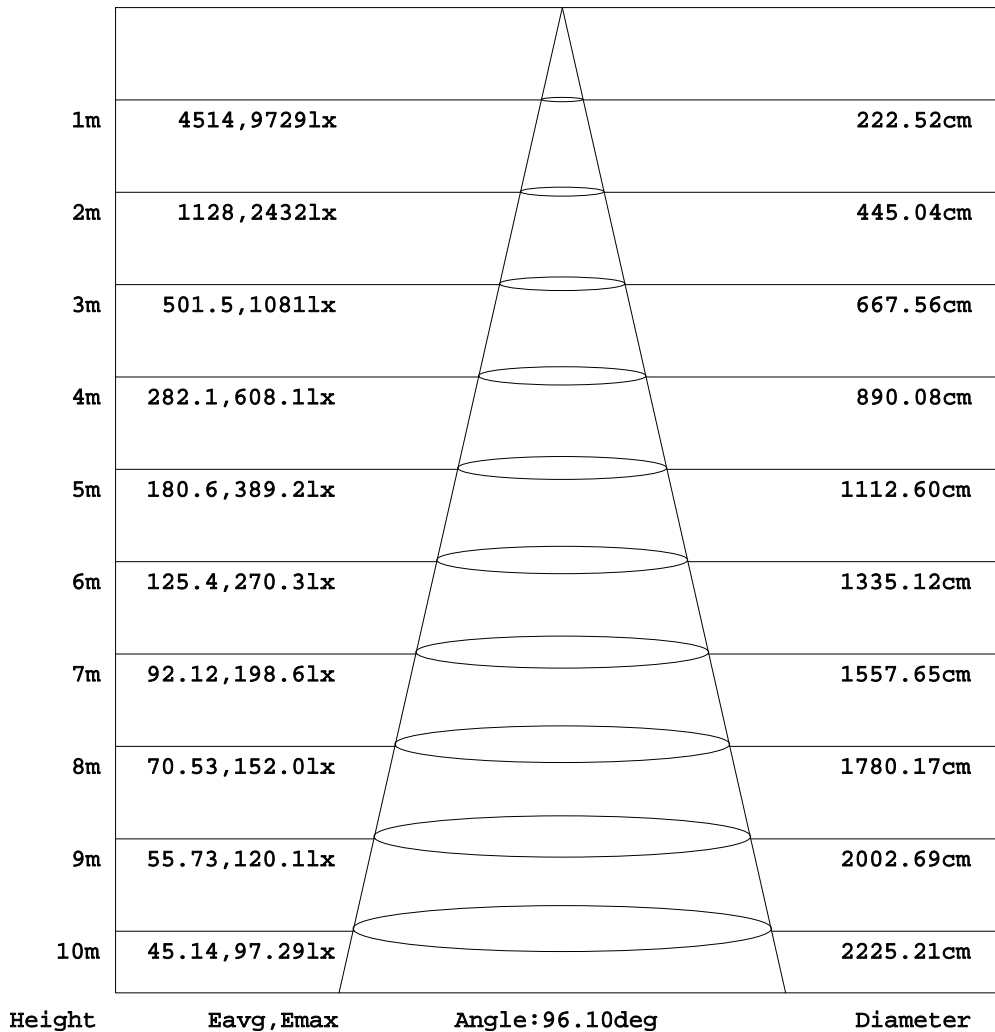
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017.4.26

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.480m [K=1.0000]
Remarks:

AAI Figure

NAME: LED light	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:21cm*16cm	Shielding Angle:

Flux out:18766 lm

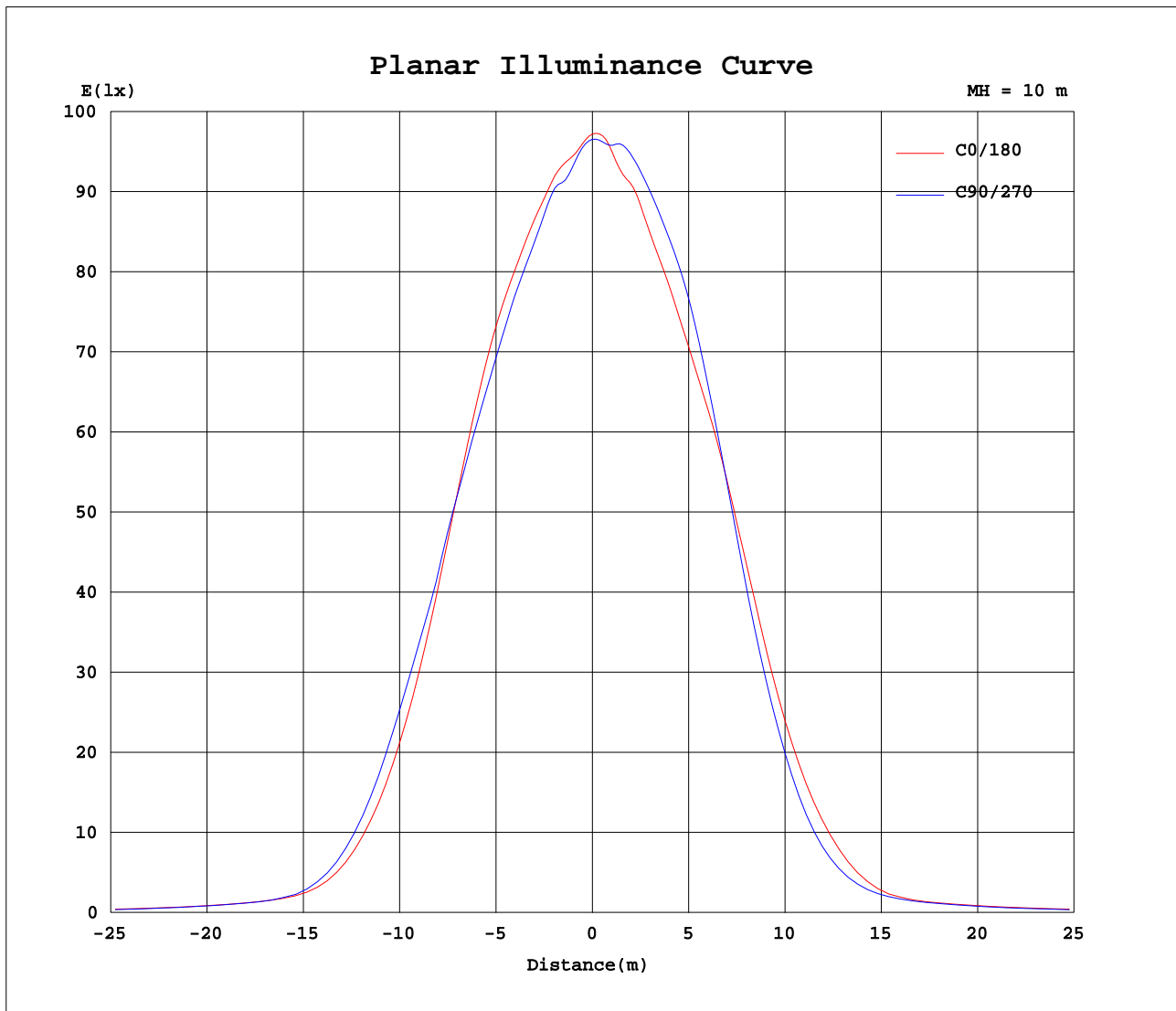


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017.4.26

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.480m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2017.4.26

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity: 65.0%
Test Distance: 10.480m [K=1.0000]
Remarks:

