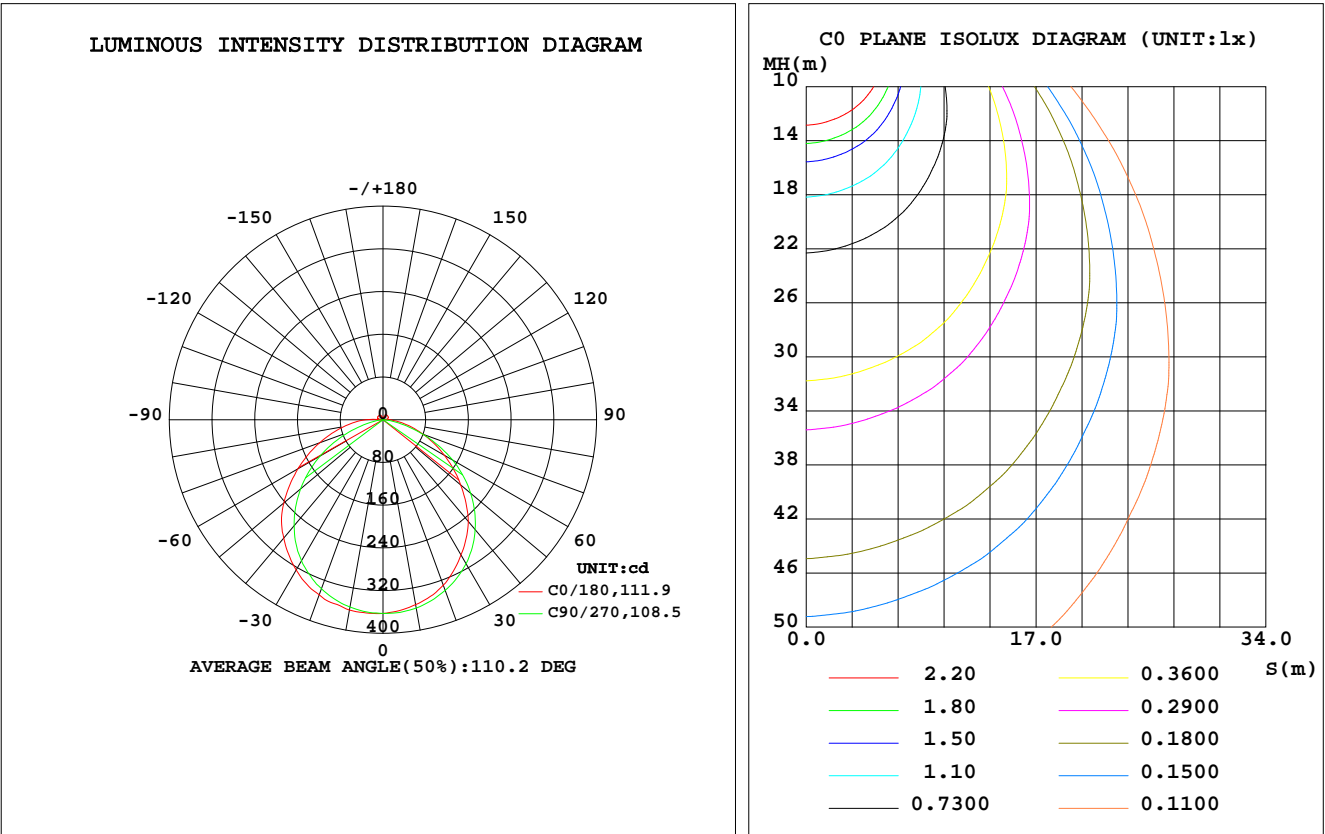


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:24.004V I:0.3785A P:9.0857W PF:1.0000 Freq:0Hz Lamp Flux:1068.06x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

DATA OF LAMP		PHOTOMETRIC DATA      Eff: 117.55 lm/W			
CR 840 8.5W C0/180	W000000 F1 1M IP67 21015133	Imax(cd)	363.9	S/MH(C0/180)	1.33
NOMINAL POWER(W)	8.5	LOR(%)	100.0	S/MH(C90/270)	1.25
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	1068.1	η UP,DN(C0-180)	1.6,48.4
NOMINAL FLUX(lm)	1068.06	CIE CLASS	DIRECT	η UP,DN(C180-360)	1.7,48.3
LAMPS INSIDE	1	η up(%)	3.3	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	24	η down(%)	96.7	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:24.9DEG  
Operators:Zero huang  
Test Date:2023-12-18

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
Humidity:60%  
Test Distance:26.000m [K=1.5110]  
Remarks:

## ZONAL FLUX DIAGRAM

## ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	351.6	356.4	358.2	361.1	361.8	358.0	356.0	352.5	0- 10	34.36	34.36	3.22,3.22
20	330.0	338.1	340.1	347.7	349.0	343.1	336.9	332.1	10- 20	98.83	133.2	12.5,12.5
30	292.1	306.3	311.1	321.1	324.9	317.1	305.1	298.2	20- 30	150.6	283.8	26.6,26.6
40	248.8	259.5	268.4	283.1	289.1	277.5	258.8	250.7	30- 40	181.7	465.5	43.6,43.6
50	190.0	204.0	214.2	233.1	242.4	227.2	201.6	191.5	40- 50	186.9	652.4	61.1,61.1
60	132.4	139.4	150.3	172.7	184.1	166.4	136.1	129.3	50- 60	164.1	816.5	76.4,76.4
70	80.02	81.60	79.14	108.0	125.9	104.0	68.16	73.85	60- 70	120.1	936.6	87.7,87.7
80	37.75	35.90	21.43	54.14	74.67	51.77	15.86	31.14	70- 80	68.33	1005	94.1,94.1
90	13.20	12.27	1.055	17.82	32.60	17.90	0	9.566	80- 90	27.69	1033	96.7,96.7
100	2.372	4.509	0	4.696	3.064	4.102	0.1747	6.756	90-100	4.672	1037	97.1,97.1
110	10.44	7.132	0	6.923	10.71	8.262	0.6990	8.290	100-110	6.167	1043	97.7,97.7
120	11.38	7.481	0	8.208	11.38	8.262	0.8737	8.208	110-120	6.830	1050	98.3,98.3
130	11.47	8.523	0.0874	8.293	11.38	8.088	0.8737	8.208	120-130	6.377	1057	98.9,98.9
140	11.47	8.523	0.1747	8.293	10.96	7.564	0.8737	7.865	130-140	5.119	1062	99.4,99.4
150	11.47	1.597	0.1747	0.6840	9.851	6.833	0.8737	0.4300	140-150	4.009	1066	99.8,99.8
160	0.5947	4.526	0.1747	3.849	0.5963	4.867	0.8737	1.280	150-160	1.559	1067	99.9,99.9
170	1.531	0.9569	1.311	0.8550	1.522	0.7804	0.8737	0.6840	160-170	0.6300	1068	100,100
180	0.7646	0.8697	1.485	0.6825	0.4248	0.6958	0.8737	0.6840	170-180	0.0847	1068	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 560.09 lm

%lum = 52.4%

%lamp = 52.4%

Conical surface Flux(120deg): 816.48 lm

%lum = 76.4%

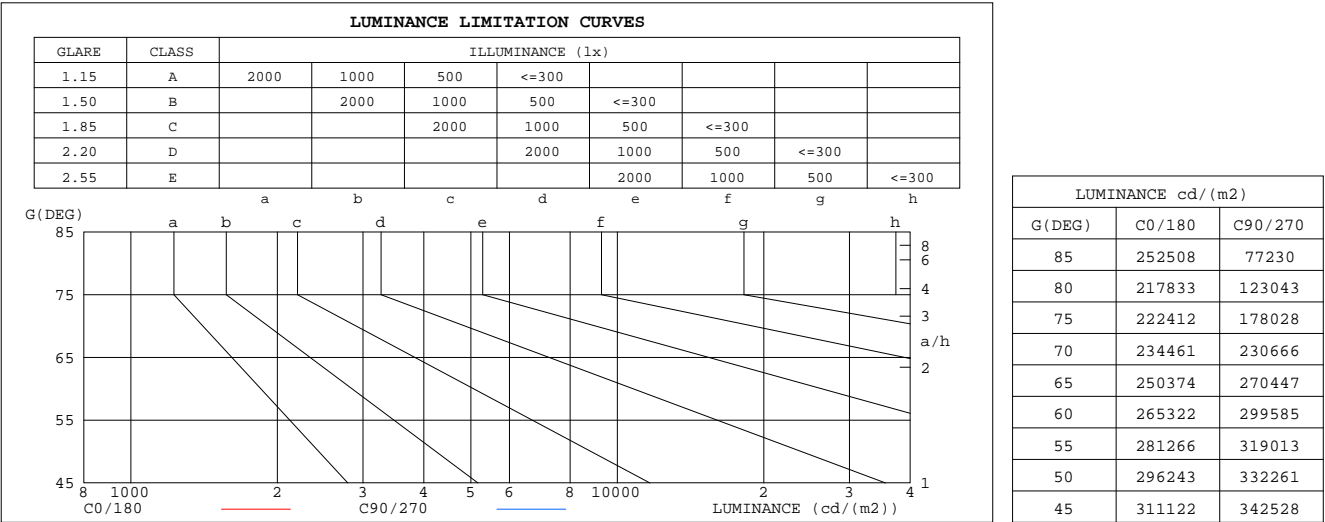
%lamp = 76.4%

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:24.9DEG  
 Operators:Zero huang  
 Test Date:2023-12-18

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity:60%  
 Test Distance:26.000m [K=1.5110]  
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:24.004V I:0.3785A P:9.0857W PF:1.0000 Freq:0Hz Lamp Flux:1068.06x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:24.9DEG  
Operators:Zero huang  
Test Date:2023-12-18

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
Humidity:60%  
Test Distance:26.000m [K=1.5110]  
Remarks:

## WEC AND CCEC

Test:U:24.004V I:0.3785A P:9.0857W PF:1.0000 Freq:0Hz Lamp Flux:1068.06x1 lm									
NAME:				TYPE:LED				WEIGHT:N/A	
SPEC.:N/A				DIM.:				SERIAL No.:N/A	
MFR.:				SUR.:				Shielding Angle:N/A	

pcc	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						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.312	.178	.056	.304	.174	.055	.289	.166	.053	.275	.159	.051	.262	.152	.049	
2.0	.291	.159	.049	.283	.156	.048	.270	.150	.047	.258	.145	.045	.246	.139	.044	
3.0	.268	.143	.043	.262	.140	.042	.250	.135	.041	.239	.131	.040	.228	.126	.039	
4.0	.247	.128	.038	.241	.126	.037	.231	.122	.037	.221	.119	.036	.212	.115	.035	
5.0	.228	.116	.034	.223	.115	.033	.214	.111	.033	.205	.108	.032	.197	.105	.032	
6.0	.212	.106	.030	.207	.105	.030	.199	.102	.030	.191	.099	.029	.183	.097	.029	
7.0	.197	.098	.028	.193	.096	.027	.185	.094	.027	.178	.091	.027	.171	.089	.026	
8.0	.184	.090	.025	.181	.089	.025	.174	.087	.025	.167	.085	.024	.161	.083	.024	
9.0	.173	.084	.023	.169	.083	.023	.163	.081	.023	.157	.079	.023	.152	.077	.022	
10.0	.162	.078	.022	.159	.077	.021	.154	.075	.021	.148	.074	.021	.143	.072	.021	

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						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.216	.216	.216	.184	.184	.184	.126	.126	.126	.072	.072	.072	.023	.023	.023	
1.0	.206	.182	.160	.176	.156	.137	.121	.107	.095	.069	.062	.055	.022	.020	.018	
2.0	.198	.158	.124	.169	.136	.107	.116	.094	.075	.067	.055	.044	.021	.018	.014	
3.0	.190	.140	.100	.163	.121	.087	.112	.084	.061	.065	.049	.036	.021	.016	.012	
4.0	.182	.127	.085	.156	.110	.073	.108	.076	.052	.062	.045	.031	.020	.015	.010	
5.0	.175	.117	.073	.150	.101	.064	.103	.070	.045	.060	.041	.027	.019	.013	.009	
6.0	.168	.108	.065	.144	.094	.057	.099	.066	.040	.058	.039	.024	.019	.013	.008	
7.0	.161	.101	.060	.138	.088	.052	.096	.062	.037	.056	.036	.022	.018	.012	.007	
8.0	.155	.096	.055	.133	.083	.048	.092	.058	.034	.054	.034	.020	.017	.011	.007	
9.0	.149	.091	.052	.128	.079	.045	.089	.055	.032	.052	.033	.019	.017	.011	.006	
10.0	.143	.086	.049	.123	.075	.043	.085	.053	.030	.050	.031	.018	.016	.010	.006	

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:24.9DEG  
 Operators:Zero huang  
 Test Date:2023-12-18

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity:60%  
 Test Distance:26.000m [K=1.5110]  
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:24.004V I:0.3785A P:9.0857W PF:1.0000 Freq:0Hz Lamp Flux:1068.06x1 lm										
NAME:					TYPE:LED			WEIGHT:N/A		
SPEC.:N/A					DIM.:			SERIAL No.:N/A		
MFR.:					SUR.:			Shielding Angle:N/A		
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	32.0	33.4	32.3	33.7	33.9	32.5	33.9	32.8	34.2	34.5
3H	33.3	34.6	33.6	34.9	35.2	33.6	35.0	34.0	35.3	35.6
4H	33.8	35.1	34.2	35.4	35.8	34.0	35.3	34.4	35.6	35.9
6H	34.3	35.5	34.7	35.8	36.2	34.2	35.4	34.5	35.7	36.0
8H	34.5	35.6	34.9	36.0	36.3	34.2	35.3	34.6	35.7	36.0
12H	34.6	35.8	35.0	36.1	36.5	34.2	35.3	34.6	35.6	36.0
4H 2H	32.5	33.8	32.9	34.1	34.4	32.9	34.2	33.3	34.5	34.8
3H	34.0	35.1	34.4	35.5	35.9	34.3	35.4	34.7	35.8	36.1
4H	34.7	35.7	35.1	36.1	36.5	34.8	35.8	35.2	36.2	36.6
6H	35.3	36.2	35.8	36.6	37.1	35.0	36.0	35.5	36.4	36.8
8H	35.6	36.4	36.0	36.8	37.3	35.1	35.9	35.6	36.4	36.8
12H	35.8	36.6	36.3	37.0	37.5	35.1	35.9	35.6	36.3	36.8
8H 4H	34.9	35.8	35.4	36.2	36.7	35.0	35.8	35.4	36.2	36.7
6H	35.7	36.4	36.2	36.9	37.4	35.4	36.1	35.9	36.6	37.1
8H	36.1	36.7	36.6	37.2	37.7	35.6	36.2	36.1	36.7	37.2
12H	36.4	37.0	37.0	37.5	38.0	35.6	36.2	36.2	36.7	37.2
12H 4H	34.9	35.7	35.4	36.2	36.6	35.0	35.8	35.5	36.2	36.7
6H	35.8	36.4	36.3	36.9	37.4	35.5	36.1	36.0	36.6	37.1
8H	36.2	36.7	36.7	37.2	37.8	35.7	36.2	36.2	36.7	37.3
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.3				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.4				
2.0H	+ 0.2 / - 0.3					+ 0.3 / - 0.4				

CIE Pub.117, 1068 lm Total Lamp Luminous Flux Corrected ( $8\log(F/F_0) = 0.2$ )

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:24.9DEG  
 Operators:Zero huang  
 Test Date:2023-12-18

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity:60%  
 Test Distance:26.000m [K=1.5110]  
 Remarks:

## UTILIZATION FACTORS TABLE

Test:U:24.004V I:0.3785A P:9.0857W PF:1.0000 Freq:0Hz Lamp Flux:1068.06x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

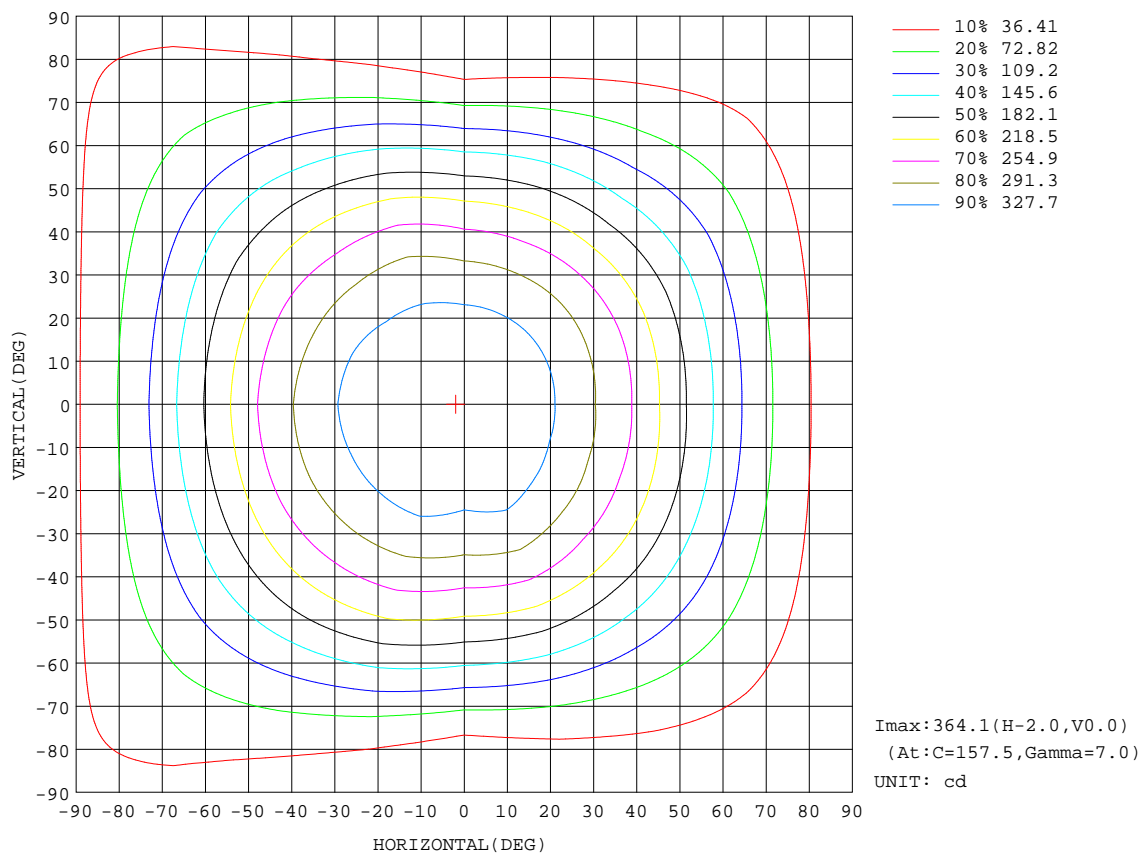
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	57	45	38	56	45	38	55	44	38	31
0.80	67	55	48	66	55	48	64	54	47	40
1.00	75	64	57	74	63	56	71	64	56	48
1.25	82	72	64	81	71	64	78	69	63	55
1.50	87	77	70	85	76	69	82	74	68	60
2.00	94	85	79	92	84	78	88	81	76	68
2.50	98	90	84	96	88	83	91	85	80	71
3.00	101	94	89	99	92	87	94	89	85	75
4.00	105	99	94	102	97	93	98	93	90	80
5.00	108	103	98	105	100	97	100	96	93	83
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:24.9DEG  
 Operators:Zero huang  
 Test Date:2023-12-18

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity:60%  
 Test Distance:26.000m [K=1.5110]  
 Remarks:

## ISOCANDELA DIAGRAM

Test:U:24.004V I:0.3785A P:9.0857W PF:1.0000 Freq:0Hz Lamp Flux:1068.06x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

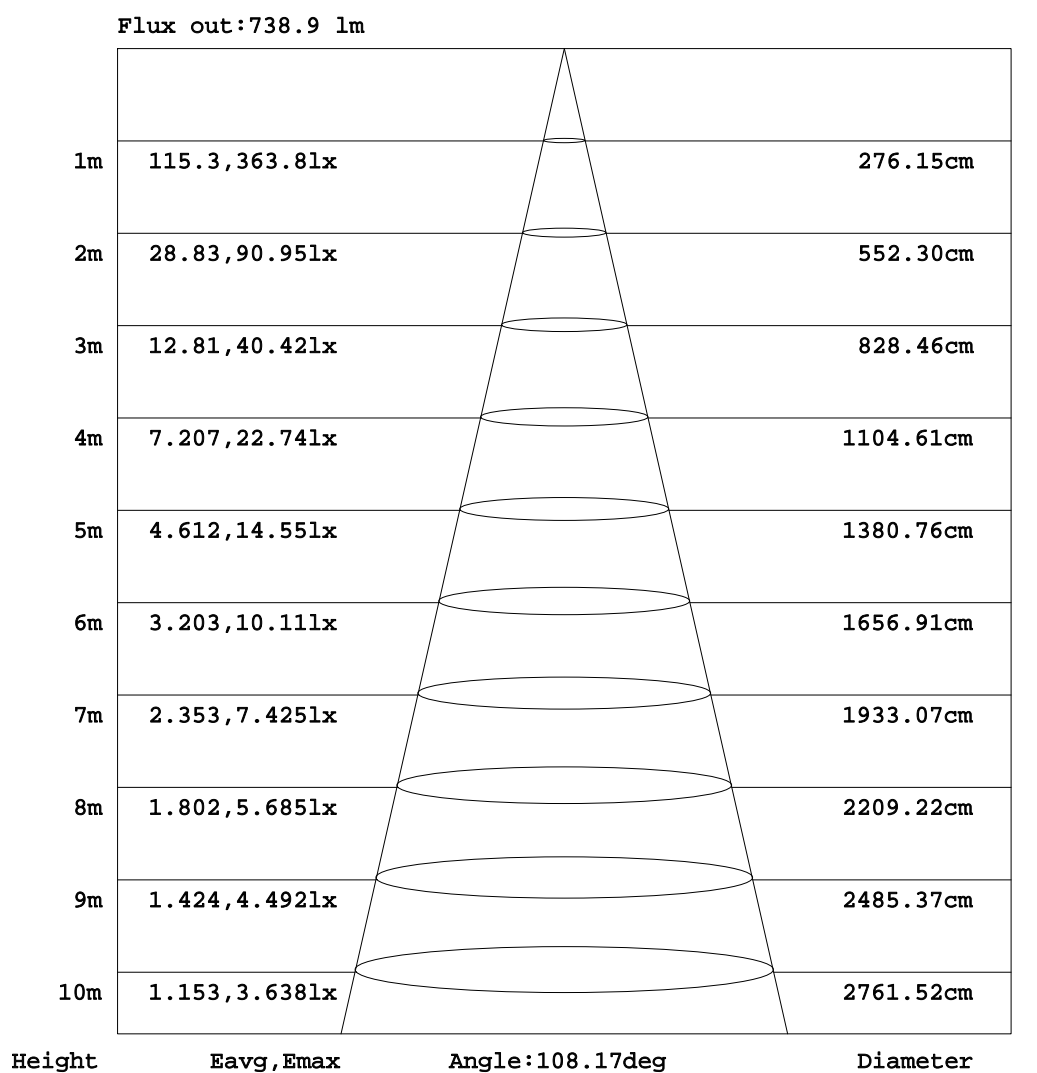


C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:24.9DEG  
Operators:Zero huang  
Test Date:2023-12-18

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
Humidity:60%  
Test Distance:26.000m [K=1.5110]  
Remarks:

### AAI Figure

Test:U:24.004V I:0.3785A P:9.0857W PF:1.0000 Freq:0Hz Lamp Flux:1068.06x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A



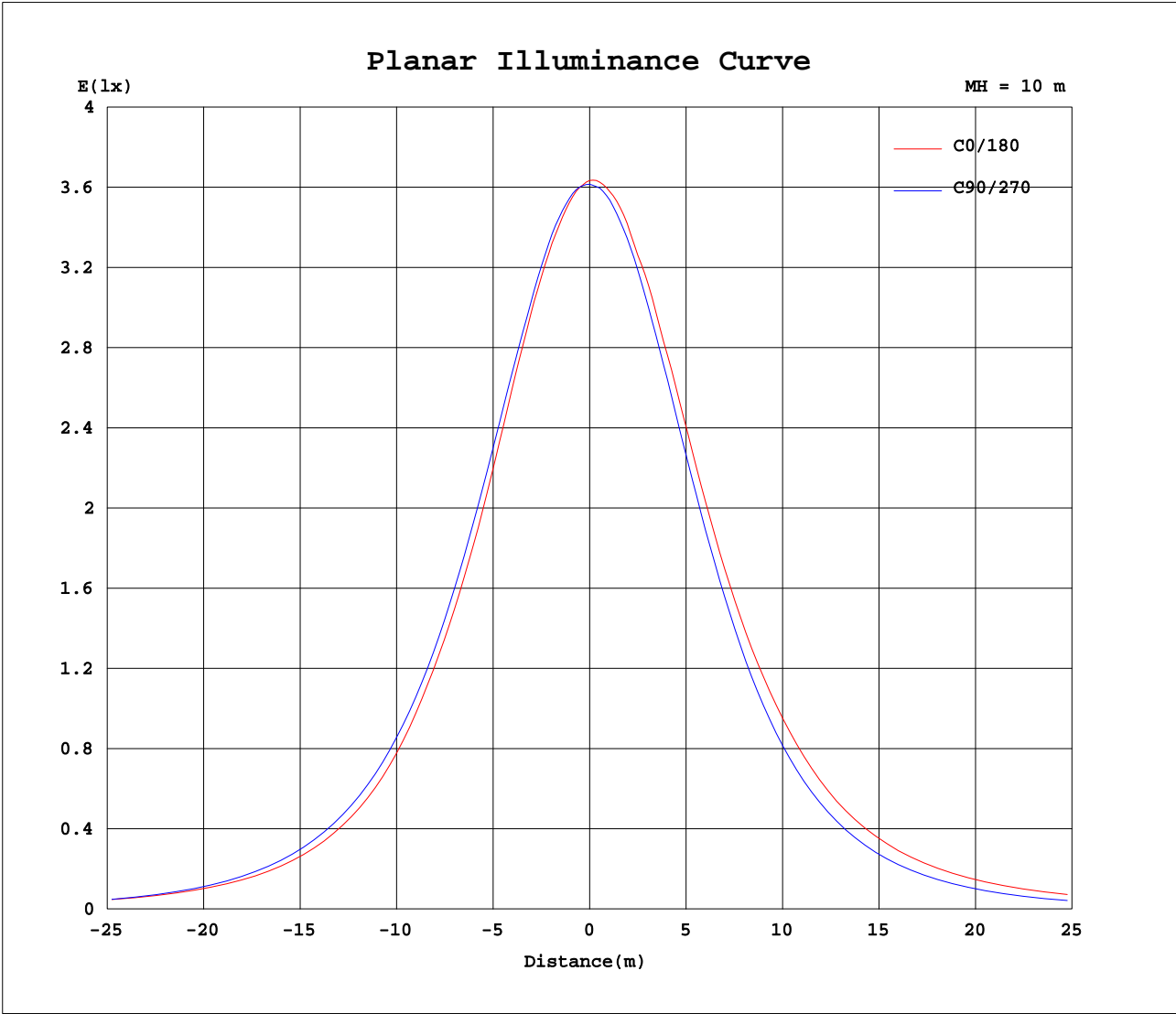
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:24.9DEG  
 Operators:Zero huang  
 Test Date:2023-12-18

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity:60%  
 Test Distance:26.000m [K=1.5110]  
 Remarks:



Planar Illuminance Curve



C Range: 0 - 360DEG	γ Range: 0 - 180DEG
C Interval: 22.5DEG	γ Interval: 1.0DEG
Test Speed: HIGH	Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
Temperature:24.9DEG	Humidity:60%
Operators:Zero huang	Test Distance:26.000m [K=1.5110]
Test Date:2023-12-18	Remarks:

## LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:24.004V I:0.3785A P:9.0857W PF:1.0000 Freq:0Hz Lamp Flux:1068.06x1 lm																	
NAME:									TYPE:LED						WEIGHT:N/A		
SPEC.:N/A									DIM.:						SERIAL No.:N/A		
MFR.:									SUR.:						Shielding Angle:N/A		

Table--1

UNIT: cd

C(DEG) γ (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
0	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363			
5	359	360	362	362	362	363	363	364	363	362	362	361	361	359	359	360			
10	352	354	356	359	358	361	361	362	362	359	358	357	356	354	353	353			
15	343	342	349	352	351	357	356	357	356	354	352	349	348	345	344	344			
20	330	331	338	344	340	348	348	349	349	347	343	340	337	334	332	332			
25	313	315	324	332	327	335	336	338	339	336	332	328	322	319	318	316			
30	292	296	306	315	311	320	321	323	325	320	317	314	305	301	298	296			
35	272	274	284	295	292	302	302	306	308	303	299	297	284	279	277	275			
40	249	251	259	271	268	281	283	288	289	283	277	275	259	253	251	252			
45	220	226	234	243	243	257	260	266	269	261	253	248	232	226	221	223			
50	190	197	204	213	214	230	233	238	242	236	227	218	202	197	192	195			
55	161	165	171	181	184	200	204	209	213	207	198	187	169	166	160	165			
60	132	135	139	147	150	167	173	179	184	179	166	153	136	133	129	135			
65	106	108	109	113	115	131	139	149	155	149	135	120	102	102	101	108			
70	80.0	81.9	81.6	81.4	79.1	96.4	108	120	126	118	104	88.0	68.2	71.3	73.9	81.1			
75	57.4	58.6	56.5	53.1	46.2	65.5	79.5	92.2	99.6	90.5	76.1	58.8	38.1	44.5	50.2	57.5			
80	37.7	38.6	35.9	30.8	21.4	39.5	54.1	67.3	74.7	66.2	51.8	34.8	15.9	24.6	31.1	38.1			
85	22.0	23.0	20.6	15.8	6.75	21.0	33.7	45.8	52.7	45.2	31.7	17.7	3.91	11.2	16.1	21.1			
90	13.2	13.7	12.3	8.44	1.06	9.68	17.8	27.0	32.6	27.3	17.9	8.24	0.00	6.09	9.57	12.0			
95	2.24	1.49	0.02	0.01	0.00	0.18	0.01	0.19	1.10	0.09	0.10	0.62	0.00	0.89	0.09	0.00			
100	2.37	2.60	4.51	1.32	0.00	1.13	4.70	5.24	3.06	4.55	4.10	2.99	0.17	3.14	6.76	4.88			
105	9.85	8.70	6.51	2.81	0.00	2.78	6.24	8.58	10.3	9.47	7.83	3.43	0.35	3.39	7.95	9.88			
110	10.4	9.55	7.13	2.99	0.00	3.04	6.92	9.53	10.7	10.2	8.26	3.43	0.70	3.39	8.29	10.7			
115	11.0	10.5	7.48	3.25	0.00	3.22	7.77	10.0	11.4	11.0	8.26	3.43	0.87	3.39	8.21	11.0			
120	11.4	10.9	7.48	3.34	0.00	3.22	8.21	10.8	11.4	11.1	8.26	3.43	0.87	3.40	8.21	11.0			
125	11.5	11.0	8.00	3.43	0.00	3.31	8.21	11.0	11.4	11.0	8.09	3.43	0.87	3.31	8.21	10.9			
130	11.5	11.0	8.52	3.43	0.09	3.31	8.29	11.0	11.4	10.6	8.09	3.15	0.87	3.31	8.21	10.9			
135	11.5	11.1	8.52	0.99	0.09	0.96	8.29	11.0	10.9	10.2	7.83	0.62	0.87	0.70	8.12	10.8			
140	11.5	11.2	8.52	1.39	0.17	2.78	8.29	11.0	11.0	10.1	7.56	2.81	0.87	2.61	7.86	10.6			
145	11.5	11.2	8.52	2.72	0.17	2.78	7.95	10.7	10.7	9.72	7.48	2.81	0.87	1.91	7.09	10.0			
150	11.5	10.5	1.60	2.72	0.17	2.18	0.68	10.0	9.85	9.47	6.83	2.37	0.87	0.87	0.43	9.26			
155	10.5	6.60	1.47	1.94	0.17	1.22	3.77	6.78	8.92	8.60	0.52	2.37	0.87	0.78	3.32	0.52			
160	0.59	2.10	4.53	0.88	0.17	0.79	3.85	0.85	0.60	0.60	4.87	1.41	0.87	1.30	1.28	4.54			
165	5.11	4.45	2.45	0.88	0.44	0.70	1.72	4.47	4.84	5.02	3.21	0.79	0.87	1.57	0.68	1.54			
170	1.53	1.30	0.96	0.88	1.31	0.70	0.85	1.29	1.52	1.62	0.78	0.79	0.87	1.57	0.68	0.69			
175	0.76	0.85	0.87	0.88	1.31	0.70	0.85	0.86	0.42	0.68	0.70	0.79	0.87	1.57	0.68	0.77			
180	0.76	0.85	0.87	0.88	1.49	0.70	0.68	0.60	0.42	0.85	0.70	0.79	0.87	1.48	0.68	0.77			

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:24.9DEG  
Operators:Zero huang  
Test Date:2023-12-18

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
Humidity:60%  
Test Distance:26.000m [K=1.5110]  
Remarks: