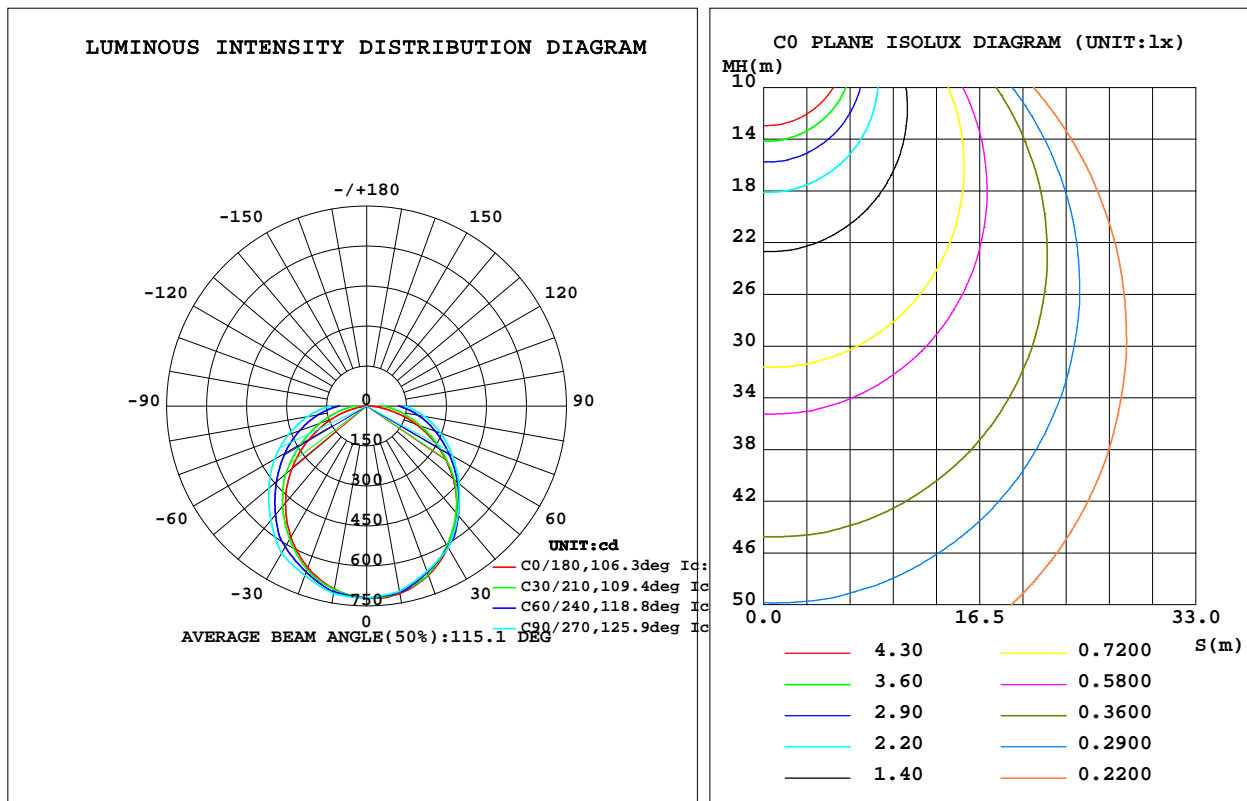


**LUMINAIRE PHOTOMETRIC TEST REPORT**

Test:U:219.3V I:0.0898A P:19.15W PF:0.9728 Lamp Flux:2172.47x1 lm		
NAME: LED	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 116.25 lm/W			
MODEL		I <sub>max</sub> (cd)	722.1	S/MH(C0/180)	1.18
NOMINAL POWER(W)	20	LOR(%)	102.5	S/MH(C90/270)	1.31
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	2226.6	η UP, DN(C0-180)	0.0,50.5
NOMINAL FLUX(lm)	2172.47	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0,52.0
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	220	η down(%)	102.5	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:26DEG  
 Operators:JASON  
 Test Date:2024-07-31

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.291  
 Humidity:65%  
 Test Distance:8.400m [K=1.0000]  
 Remarks: 4000K

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\phi$ zone	$\phi$ total	\$lum,lamp
5	722.0	717.0	713.1	710.3	712.9	713.4	717.8	719.5	0- 5	17.15	17.15	0.77,0.79
10	714.3	708.2	705.7	696.5	696.9	702.1	715.0	714.4	5- 10	50.85	68.00	3.05,3.13
15	697.8	693.1	682.7	678.2	674.2	685.5	696.0	703.1	10- 15	82.70	150.7	6.77,6.94
20	675.6	666.9	659.6	646.5	645.6	656.6	677.0	680.4	15- 20	111.3	262.0	11.8,12.1
25	646.4	637.8	636.6	613.3	609.1	624.6	658.0	653.2	20- 25	136.1	398.1	17.9,18.3
30	610.9	605.3	613.6	578.6	568.9	591.3	639.0	624.0	25- 30	156.7	554.9	24.9,25.5
35	570.4	571.1	573.1	543.0	523.1	556.9	599.2	592.5	30- 35	172.3	727.2	32.7,33.5
40	524.7	534.4	532.7	503.9	474.3	518.7	559.4	558.0	35- 40	181.6	908.9	40.8,41.8
45	475.7	484.8	492.2	453.4	422.8	466.1	519.5	508.1	40- 45	185.1	1094	49.1,50.4
50	424.5	434.7	451.8	403.4	367.5	416.2	479.7	458.8	45- 50	183.1	1277	57.4,58.8
55	368.6	385.6	411.3	354.7	310.6	365.7	439.8	410.6	50- 55	176.2	1453	65.3,66.9
60	312.1	337.2	370.9	307.4	250.7	318.1	400.0	363.4	55- 60	164.9	1618	72.7,74.5
65	253.8	290.3	332.8	262.4	191.3	272.3	355.9	316.9	60- 65	149.9	1768	79.4,81.4
70	195.1	246.1	294.7	221.0	134.4	228.1	311.8	270.7	65- 70	131.9	1900	85.3,87.5
75	136.8	204.0	256.6	183.7	81.29	186.4	267.7	222.9	70- 75	112.0	2012	90.4,92.6
80	81.92	164.5	218.4	148.9	36.64	147.3	223.5	177.0	75- 80	91.41	2103	94.5,96.8
85	37.50	127.3	180.3	116.2	7.970	110.1	179.4	132.9	80- 85	71.19	2175	97.7,100
90	4.754	91.49	142.2	84.96	0.9803	74.62	135.3	90.18	85- 90	52.12	2227	100,102
95									90- 95			
100									95-100			
105									100-105			
110									105-110			
115									110-115			
120									115-120			
125									120-125			
130									125-130			
135									130-135			
140									135-140			
145									140-145			
150									145-150			
155									150-155			
160									155-160			
165									160-165			
170									165-170			
175									170-175			
180									175-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

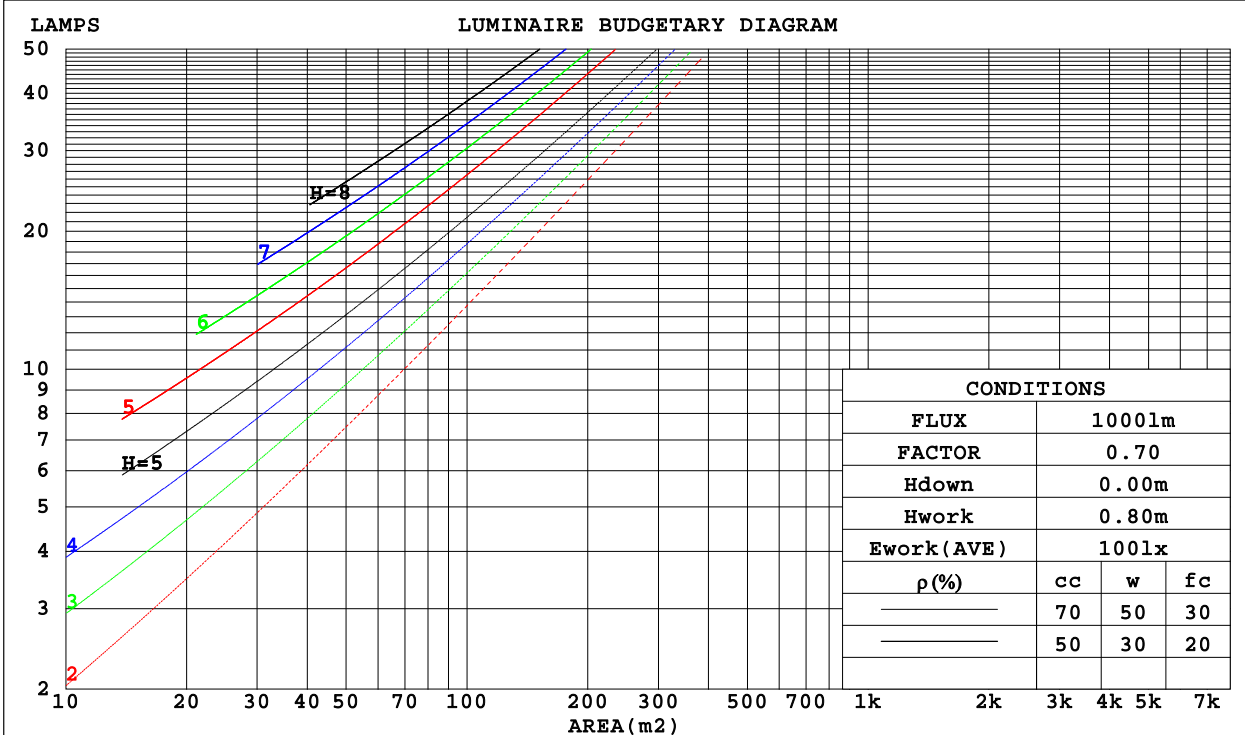
C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:26DEG  
 Operators:JASON  
 Test Date:2024-07-31

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.291  
 Humidity:65%  
 Test Distance:8.400m [K=1.0000]  
 Remarks: 4000K

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:219.3V I:0.0898A P:19.15W PF:0.9728 Lamp Flux:2172.47x1 lm		
NAME: LED	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	PROTECTION ANGLE:

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
0.0	1.22	1.22	1.22	1.19	1.19	1.19	1.14	1.14	1.14	1.09	1.09	1.09	1.05	1.05	1.05	1.02
1.0	1.04	.99	.94	1.01	.97	.93	.97	.93	.90	.93	.90	.87	.89	.87	.84	.82
2.0	.90	.82	.75	.88	.80	.74	.84	.78	.73	.80	.75	.71	.77	.73	.69	.67
3.0	.78	.69	.62	.77	.68	.61	.73	.66	.60	.71	.64	.59	.68	.63	.58	.56
4.0	.69	.60	.52	.68	.59	.52	.65	.57	.51	.63	.56	.50	.60	.54	.50	.47
5.0	.62	.52	.45	.60	.51	.45	.58	.50	.44	.56	.49	.43	.54	.48	.43	.41
6.0	.55	.46	.39	.54	.45	.39	.52	.44	.38	.51	.44	.38	.49	.43	.38	.35
7.0	.50	.41	.34	.49	.40	.34	.48	.40	.34	.46	.39	.34	.45	.38	.33	.31
8.0	.46	.37	.31	.45	.36	.30	.44	.36	.30	.42	.35	.30	.41	.35	.30	.28
9.0	.42	.33	.27	.41	.33	.27	.40	.33	.27	.39	.32	.27	.38	.32	.27	.25
10.0	.39	.30	.25	.38	.30	.25	.37	.30	.25	.36	.29	.25	.35	.29	.24	.23



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:26DEG  
 Operators:JASON  
 Test Date:2024-07-31

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.291  
 Humidity:65%  
 Test Distance:8.400m [K=1.0000]  
 Remarks: 4000K

WEC AND CCEC

Test:U:219.3V I:0.0898A P:19.15W PF:0.9728 Lamp Flux:2172.47x1 lm		
NAME: LED	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	PROTECTION 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	.368	.209	.066	.361	.206	.065	.347	.199	.064	.334	.193	.062	.322	.187	.060	
2.0	.329	.180	.055	.322	.177	.055	.310	.172	.054	.299	.167	.052	.288	.163	.051	
3.0	.297	.158	.047	.291	.156	.047	.280	.152	.046	.270	.148	.045	.261	.144	.045	
4.0	.269	.140	.041	.264	.138	.041	.255	.135	.040	.246	.132	.040	.238	.129	.039	
5.0	.247	.126	.036	.242	.124	.036	.234	.122	.036	.226	.119	.035	.218	.117	.035	
6.0	.227	.114	.033	.223	.113	.032	.215	.110	.032	.208	.108	.032	.202	.106	.032	
7.0	.210	.104	.029	.207	.103	.029	.200	.101	.029	.193	.099	.029	.188	.097	.029	
8.0	.195	.095	.027	.192	.095	.027	.186	.093	.027	.181	.091	.026	.175	.090	.026	
9.0	.183	.088	.025	.180	.088	.025	.174	.086	.024	.169	.085	.024	.164	.083	.024	
10.0	.171	.082	.023	.169	.081	.023	.164	.080	.023	.159	.079	.022	.155	.078	.022	

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	.195	.195	.195	.167	.167	.167	.114	.114	.114	.065	.065	.065	.021	.021	.021	
1.0	.188	.160	.134	.161	.137	.115	.110	.094	.080	.063	.055	.046	.020	.018	.015	
2.0	.180	.135	.097	.155	.116	.084	.106	.080	.058	.061	.047	.034	.020	.015	.011	
3.0	.172	.117	.073	.148	.101	.064	.101	.070	.045	.059	.041	.026	.019	.013	.009	
4.0	.164	.104	.058	.141	.090	.050	.097	.063	.035	.056	.037	.021	.018	.012	.007	
5.0	.156	.093	.047	.134	.081	.041	.092	.056	.029	.054	.033	.017	.017	.011	.006	
6.0	.149	.085	.039	.128	.073	.034	.088	.051	.024	.051	.030	.014	.016	.010	.005	
7.0	.141	.078	.033	.121	.067	.029	.084	.047	.020	.049	.028	.012	.016	.009	.004	
8.0	.134	.072	.029	.116	.062	.025	.080	.044	.018	.047	.026	.011	.015	.008	.004	
9.0	.128	.067	.025	.110	.058	.022	.076	.041	.016	.044	.024	.009	.014	.008	.003	
10.0	.122	.062	.023	.105	.054	.020	.073	.038	.014	.042	.022	.008	.014	.007	.003	

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:26DEG  
 Operators:JASON  
 Test Date:2024-07-31

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.291  
 Humidity:65%  
 Test Distance:8.400m [K=1.0000]  
 Remarks: 4000K

UGR(Unified Glare Rating) Table

Test:U:219.3V I:0.0898A P:19.15W PF:0.9728 Lamp Flux:2172.47x1 lm										
NAME: LED					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:1		
MFR.: EVERFINE					SUR.:			PROTECTION 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	19.0	20.6	19.3	20.8	21.0	19.9	21.4	20.1	21.7	21.9
3H	20.5	22.0	20.8	22.3	22.5	22.1	23.6	22.4	23.8	24.1
4H	21.1	22.5	21.5	22.8	23.1	23.3	24.7	23.6	25.0	25.2
6H	21.5	22.9	21.9	23.2	23.4	24.6	25.9	24.9	26.2	26.5
8H	21.7	23.0	22.0	23.3	23.6	25.3	26.6	25.6	26.8	27.1
12H	21.8	23.0	22.1	23.3	23.6	26.0	27.3	26.4	27.6	27.9
4H 2H	19.8	21.2	20.2	21.5	21.8	20.5	21.9	20.8	22.1	22.4
3H	21.5	22.8	21.9	23.1	23.4	23.0	24.2	23.3	24.5	24.8
4H	22.3	23.4	22.7	23.8	24.1	24.4	25.5	24.7	25.8	26.2
6H	22.9	23.9	23.3	24.2	24.6	25.9	26.9	26.3	27.2	27.6
8H	23.0	24.0	23.5	24.4	24.8	26.7	27.6	27.1	28.0	28.4
12H	23.2	24.1	23.6	24.5	24.9	27.6	28.5	28.0	28.8	29.2
8H 4H	23.0	23.9	23.4	24.3	24.7	24.7	25.7	25.1	26.0	26.4
6H	23.8	24.6	24.3	25.0	25.5	26.5	27.3	26.9	27.7	28.1
8H	24.2	24.9	24.6	25.3	25.8	27.5	28.2	27.9	28.6	29.1
12H	24.4	25.1	24.9	25.5	26.0	28.6	29.3	29.1	29.7	30.2
12H 4H	23.2	24.1	23.6	24.4	24.9	24.7	25.6	25.2	26.0	26.4
6H	24.2	24.9	24.6	25.3	25.8	26.6	27.3	27.1	27.8	28.2
8H	24.7	25.3	25.1	25.7	26.2	27.7	28.3	28.2	28.8	29.3
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.1				
1.5H	+ 0.2 / - 0.2					+ 0.2 / - 0.3				
2.0H	+ 0.1 / - 0.2					+ 0.2 / - 0.4				

CIE Pub.117 Corrected 2172 lm Total Lamp Luminous Flux.(8log(F/F0) = 2.7)

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:26DEG  
 Operators:JASON  
 Test Date:2024-07-31

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.291  
 Humidity:65%  
 Test Distance:8.400m [K=1.0000]  
 Remarks: 4000K

UTILIZATION FACTORS TABLE

Test:U:219.3V I:0.0898A P:19.15W PF:0.9728 Lamp Flux:2172.47x1 lm		
NAME: LED	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	PROTECTION 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	57	45	37	56	44	37	55	44	37	30
0.80	67	54	47	66	54	46	64	53	46	39
1.00	75	63	55	74	63	55	72	64	54	47
1.25	82	71	63	81	70	63	78	69	62	54
1.50	87	77	69	86	76	68	82	74	67	59
2.00	95	85	78	93	84	77	89	81	75	67
2.50	99	90	83	97	88	82	92	86	80	71
3.00	102	94	88	100	93	87	96	90	85	75
4.00	107	100	95	104	98	93	100	95	90	81
5.00	109	104	99	107	102	97	102	98	94	84
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:26DEG  
 Operators:JASON  
 Test Date:2024-07-31

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.291  
 Humidity:65%  
 Test Distance:8.400m [K=1.0000]  
 Remarks: 4000K

**ISOCANDELA DIAGRAM**

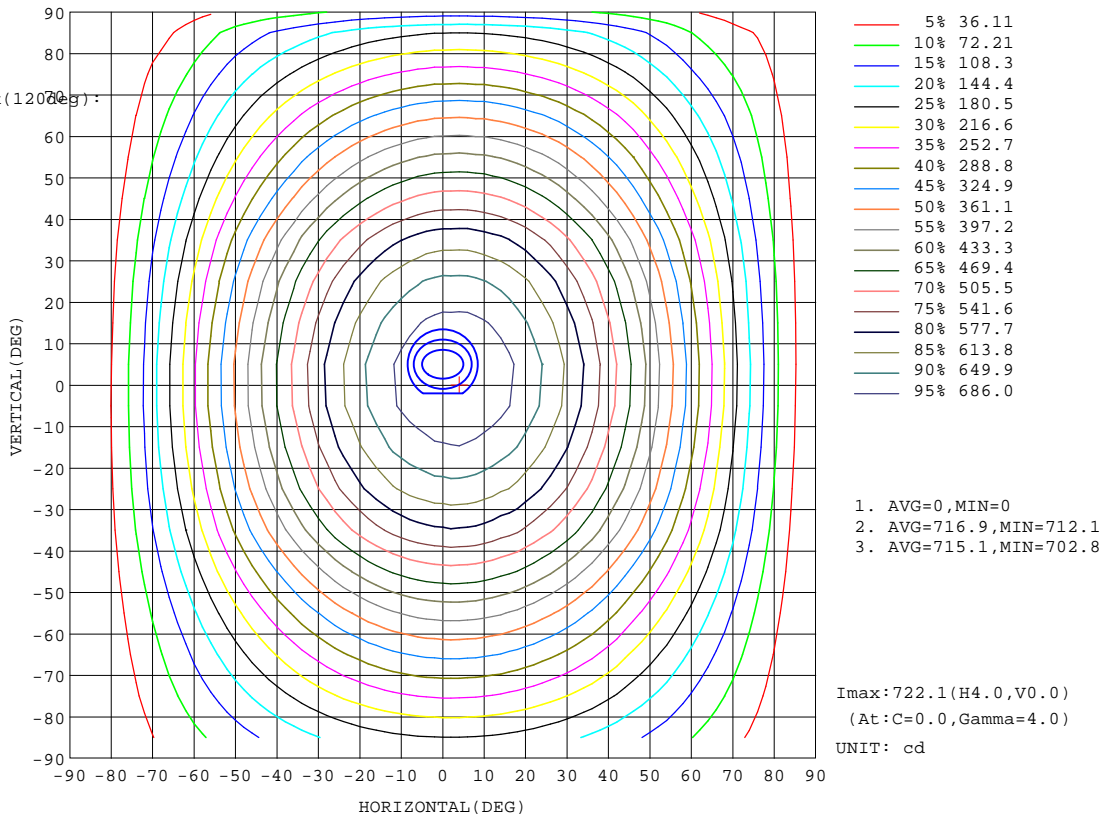
Test:U:219.3V I:0.0898A P:19.15W PF:0.9728 Lamp Flux:2172.47x1 lm		
NAME: LED	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	PROTECTION ANGLE:

Conical surface Flux(90deg):

1093.9 lm  
%lum = 49.1%  
%lamp = 50.4%

Conical surface Flux(120deg):

1618.2 lm  
%lum = 72.7%  
%lamp = 74.5%



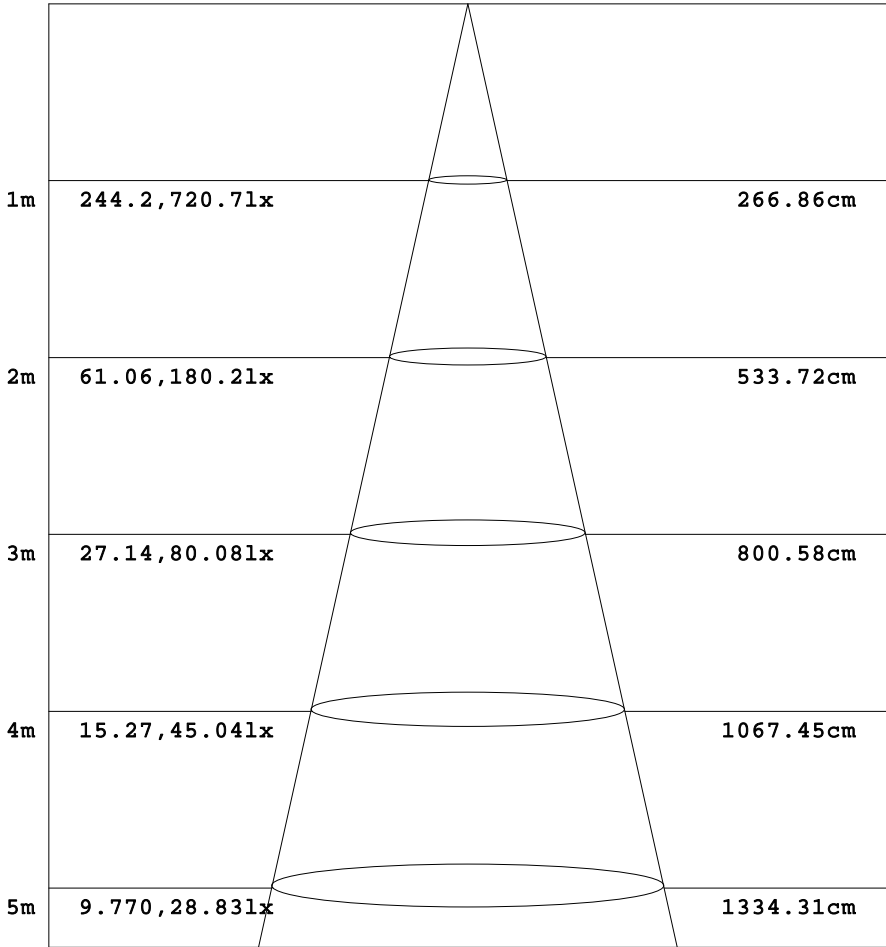
C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:26DEG  
Operators:JASON  
Test Date:2024-07-31

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.291  
Humidity:65%  
Test Distance:8.400m [K=1.0000]  
Remarks: 4000K

**AAI Figure**

Test:U:219.3V I:0.0898A P:19.15W PF:0.9728 Lamp Flux:2172.47x1 lm		
NAME: LED	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	PROTECTION ANGLE:

Flux out:1401 lm



Height                      Eavg, Emax                      Angle:106.30deg                      Diameter

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

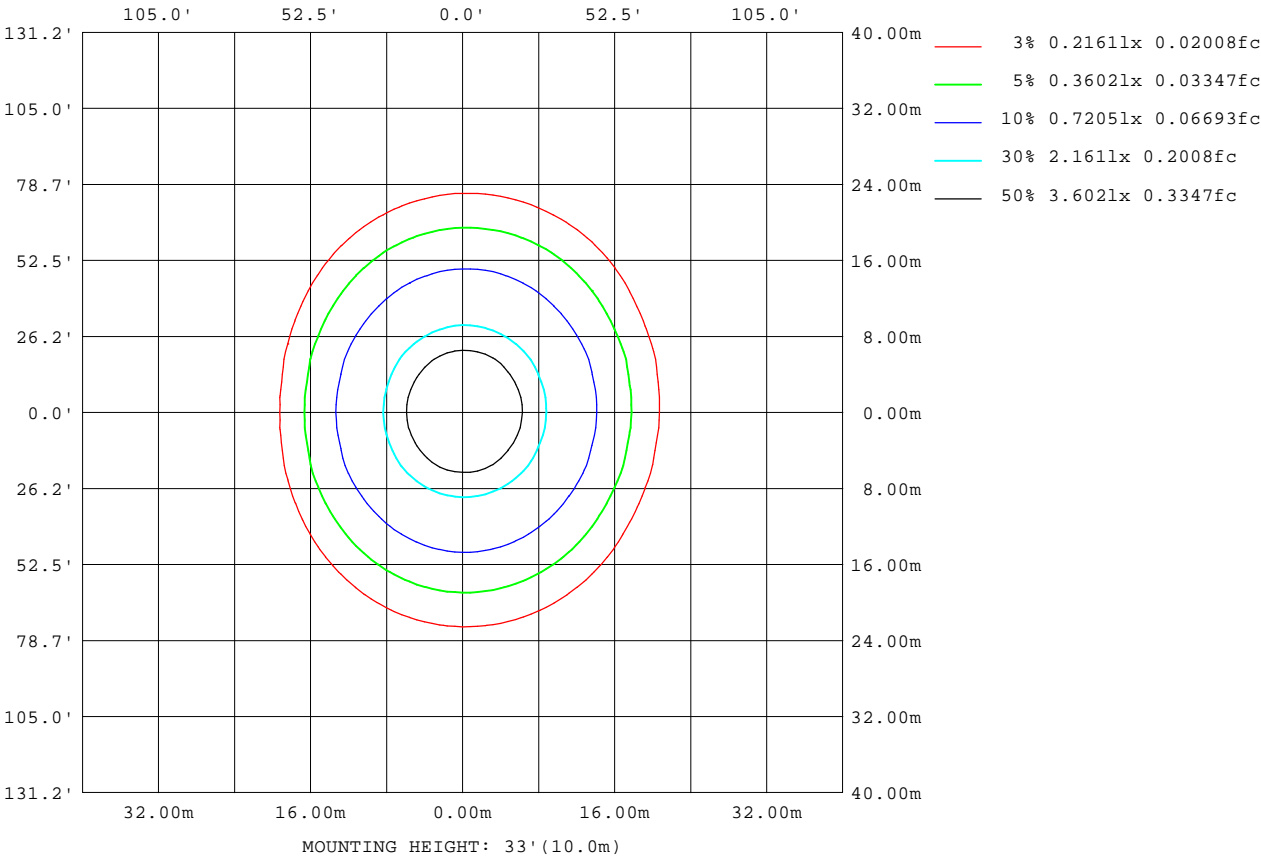
C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:26DEG  
 Operators:JASON  
 Test Date:2024-07-31

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.291  
 Humidity:65%  
 Test Distance:8.400m [K=1.0000]  
 Remarks: 4000K



**ISOLUX DIAGRAM**

Test:U:219.3V I:0.0898A P:19.15W PF:0.9728 Lamp Flux:2172.47x1 lm		
NAME: LED	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 26DEG  
 Operators: JASON  
 Test Date: 2024-07-31

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.291  
 Humidity: 65%  
 Test Distance: 8.400m [K=1.0000]  
 Remarks: 4000K

LED Avg.L Report

Test:U:219.3V I:0.0898A P:19.15W PF:0.9728 Lamp Flux:2172.47x1 lm		
NAME: LED	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	PROTECTION ANGLE:

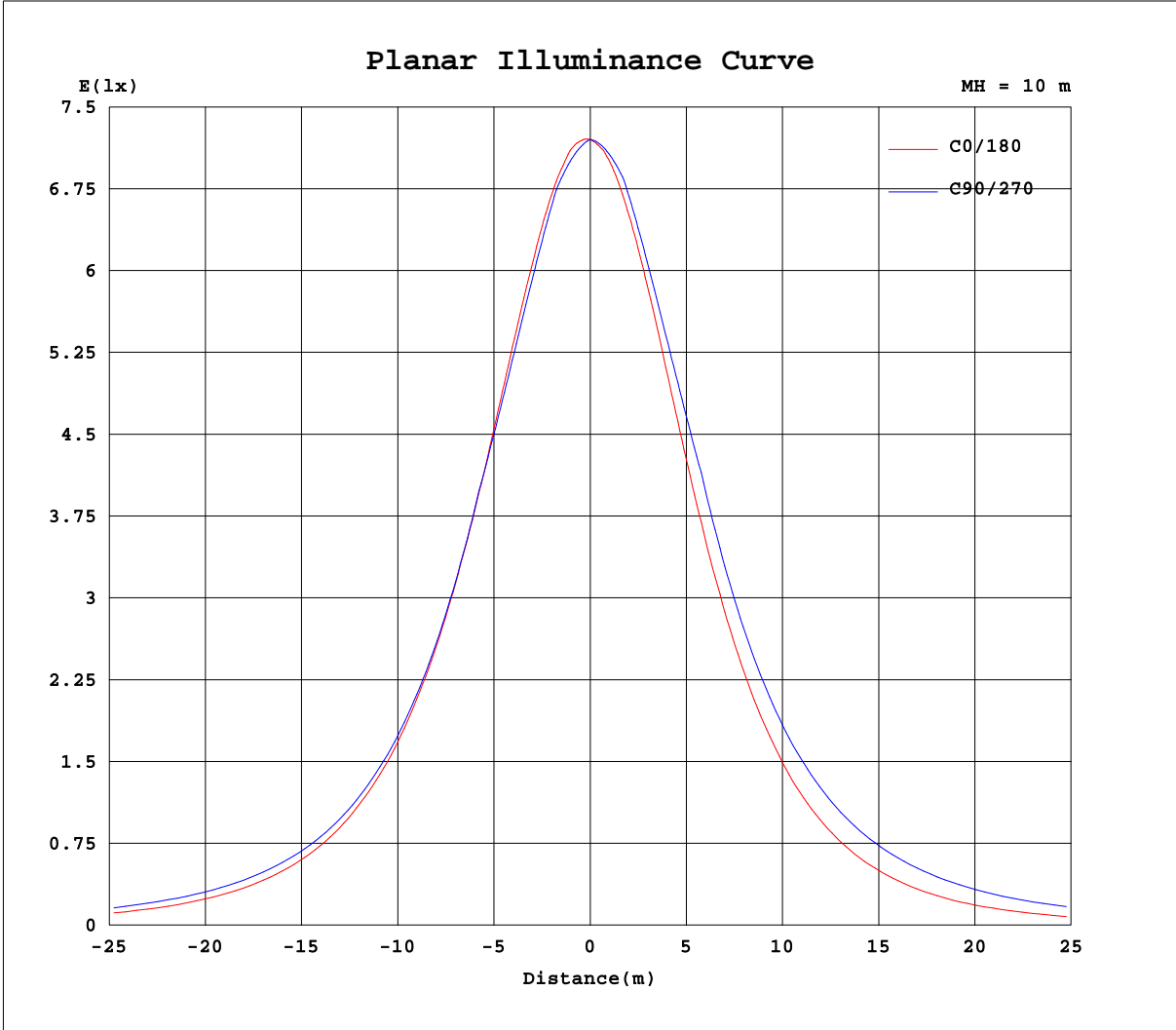
AvgL	cd/m2
L_0~180(65)av	5266
L_0~180(75)av	4214
L_0~180(85)av	2609
L_90~270(65)av	8148
L_90~270(75)av	10127
L_90~270(85)av	20638
L_45(65)av	6755
L_45(75)av	7699
L_45(85)av	13954

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:26DEG  
 Operators:JASON  
 Test Date:2024-07-31

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.291  
 Humidity:65%  
 Test Distance:8.400m [K=1.0000]  
 Remarks: 4000K

Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature: 26DEG  
Operators: JASON  
Test Date: 2024-07-31

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.291  
Humidity: 65%  
Test Distance: 8.400m [K=1.0000]  
Remarks: 4000K







