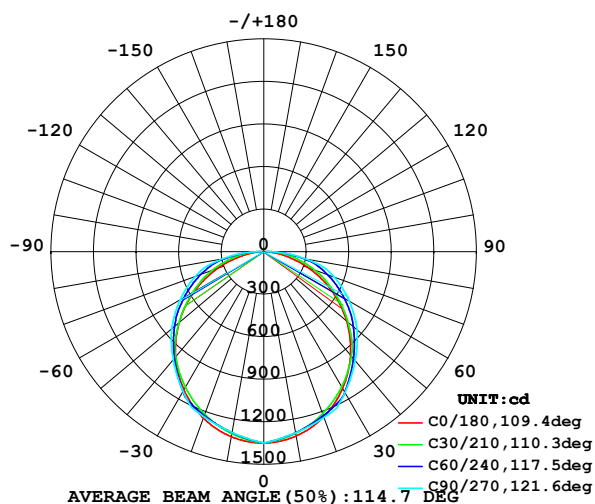


## LUMINAIRE PHOTOMETRIC TEST REPORT

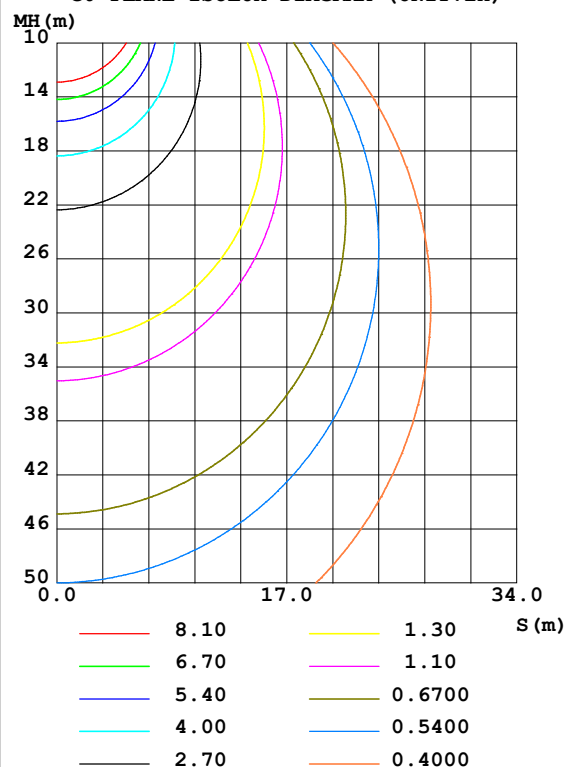
Test:U:120.0V I:0.2423A P:28.94W PF:0.9950 Lamp Flux:2002.9x2 lm		
NAME: LOC-22TROF-DMWMCCT	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:580*145	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 138.42 lm/W			
MODEL		Imax(cd)	1350	S/MH(C0/180)	1.24
NOMINAL POWER(W)	29	LOR(%)	100.0	S/MH(C90/270)	1.25
RATED VOLTAGE(V)	120-277	TOTAL FLUX(lm)	4005.8	$\eta$ UP,DN(C0-180)	0.0,50.2
NOMINAL FLUX(lm)	2002.9	CIE CLASS	DIRECT	$\eta$ UP,DN(C180-360)	0.0,49.8
LAMPS INSIDE	2	$\eta$ up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	120	$\eta$ down(%)	100.0	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25DEG  
 Operators:  
 Test Date:2020-04-21

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.290  
 Humidity:50%  
 Test Distance:8.600m [K=1.0000]  
 Remarks:

## ZONAL FLUX DIAGRAM

## ZONAL FLUX DIAGRAM:

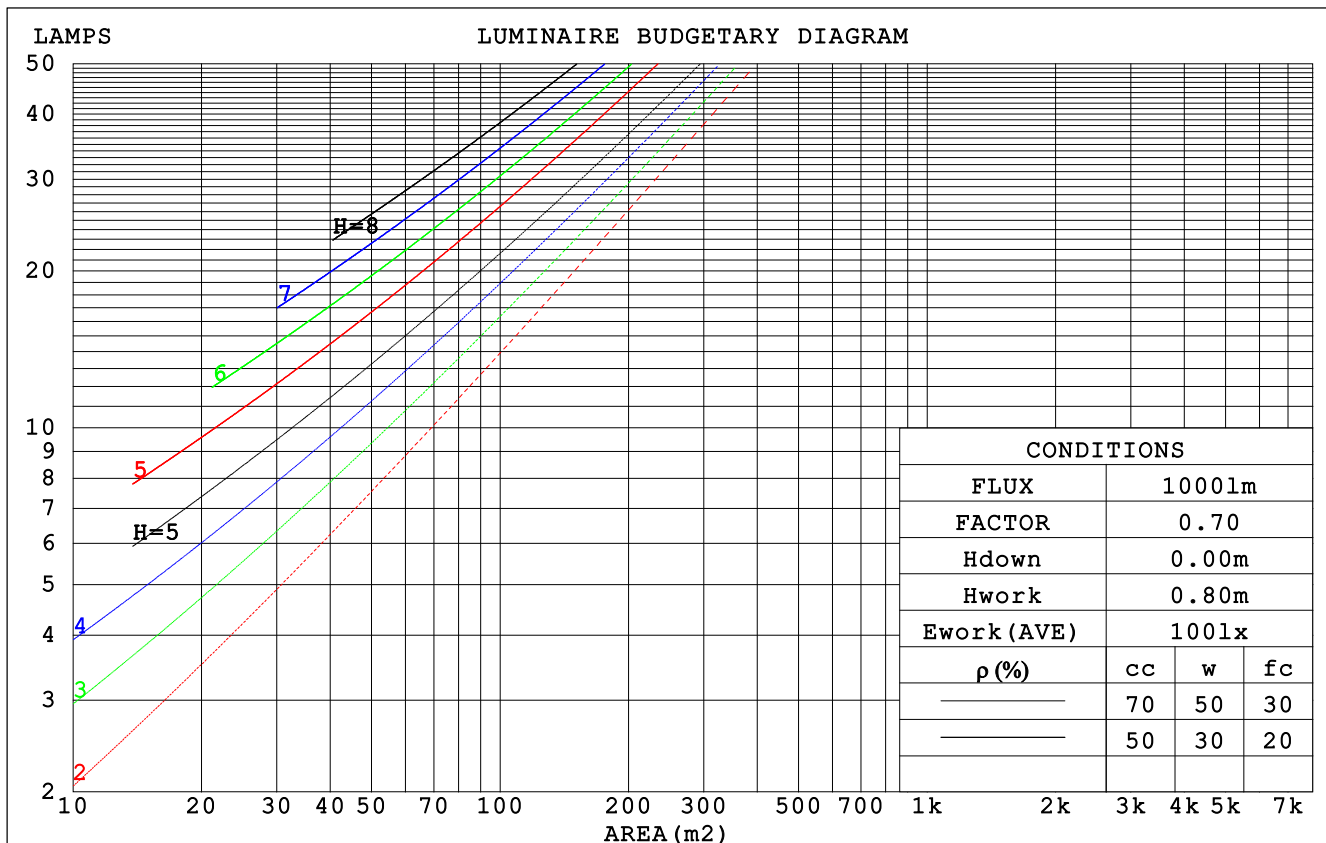
$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
5	1341	1327	1323	1328	1344	1327	1322	1326	0- 5	31.95	31.95	0.80,0.80
10	1320	1297	1297	1300	1325	1298	1294	1295	5- 10	94.03	126.0	3.14,3.14
15	1285	1262	1271	1266	1293	1263	1267	1258	10- 15	152.3	278.3	6.95,6.95
20	1239	1221	1244	1226	1248	1223	1239	1217	15- 20	205.7	484.0	12.1,12.1
25	1181	1175	1218	1181	1193	1177	1211	1170	20- 25	252.9	736.9	18.4,18.4
30	1113	1125	1146	1131	1126	1127	1139	1119	25- 30	292.0	1029	25.7,25.7
35	1037	1062	1075	1067	1051	1063	1066	1054	30- 35	319.9	1349	33.7,33.7
40	952.4	973.4	1003	978.9	967.6	974.4	993.5	964.6	35- 40	337.1	1686	42.1,42.1
45	860.9	883.8	931.8	889.2	876.3	885.0	920.9	874.6	40- 45	344.0	2030	50.7,50.7
50	763.8	794.8	860.2	799.4	779.4	796.0	848.4	785.0	45- 50	341.1	2371	59.2,59.2
55	661.3	707.2	777.7	711.0	676.7	708.0	765.0	696.3	50- 55	328.7	2700	67.4,67.4
60	555.0	619.6	695.1	622.2	569.4	620.1	681.6	608.0	55- 60	306.8	3007	75.1,75.1
65	445.3	525.0	612.6	525.1	458.6	523.6	598.2	512.2	60- 65	276.9	3283	82,82
70	335.0	433.3	530.1	430.6	346.5	429.6	514.8	419.2	65- 70	240.5	3524	88,88
75	227.4	344.9	447.5	339.1	236.3	338.6	431.4	329.5	70- 75	199.4	3723	92.9,92.9
80	129.6	254.1	304.1	246.1	136.0	246.0	293.2	238.6	75- 80	151.6	3875	96.7,96.7
85	52.67	134.2	160.6	130.2	58.17	129.9	154.9	126.1	80- 85	94.23	3969	99.1,99.1
90	10.92	16.76	17.14	16.88	17.53	16.23	16.70	16.00	85- 90	36.57	4006	100,100
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:25DEG  
 Operators:  
 Test Date:2020-04-21

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.290  
 Humidity:50%  
 Test Distance:8.600m [K=1.0000]  
 Remarks:

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

pcc	80%			70%			50%			30%			10%			0
p <sub>w</sub>	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
p <sub>fc</sub>	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio			Coefficients of Utilization(CU)												
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1.0	1.03	.98	.94	1.00	.96	.92	.96	.92	.89	.92	.89	.86	.88	.86	.84	.82
2.0	.89	.82	.75	.87	.80	.74	.83	.78	.73	.80	.75	.71	.77	.73	.69	.67
3.0	.78	.69	.62	.76	.68	.62	.73	.66	.60	.70	.64	.59	.68	.63	.58	.56
4.0	.69	.59	.52	.67	.59	.52	.65	.57	.51	.62	.56	.51	.60	.54	.50	.48
5.0	.61	.52	.45	.60	.51	.45	.58	.50	.44	.56	.49	.44	.54	.48	.43	.41
6.0	.55	.46	.39	.54	.45	.39	.52	.44	.39	.50	.43	.38	.49	.43	.38	.36
7.0	.50	.41	.34	.49	.40	.34	.47	.40	.34	.46	.39	.34	.44	.38	.34	.31
8.0	.45	.37	.31	.45	.36	.31	.43	.36	.30	.42	.35	.30	.41	.35	.30	.28
9.0	.42	.33	.28	.41	.33	.27	.40	.32	.27	.39	.32	.27	.38	.32	.27	.25
10.0	.38	.30	.25	.38	.30	.25	.37	.30	.25	.36	.29	.25	.35	.29	.25	.23



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature: 25DEG  
Operators:  
Test Date: 2020-04-21

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.290  
Humidity: 50%  
Test Distance: 8.600m [K=1.0000]  
Remarks:

## WEC AND CCEC

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	.335	.190	.060	.327	.187	.059	.314	.180	.058	.302	.174	.056	.290	.168	.054		
2.0	.308	.169	.052	.302	.166	.051	.290	.161	.050	.279	.156	.049	.269	.152	.048		
3.0	.281	.150	.045	.276	.148	.044	.265	.144	.044	.256	.140	.043	.247	.137	.042		
4.0	.258	.134	.039	.253	.132	.039	.243	.129	.039	.235	.126	.038	.227	.123	.038		
5.0	.237	.121	.035	.232	.119	.035	.224	.117	.034	.216	.114	.034	.209	.112	.034		
6.0	.219	.110	.031	.215	.108	.031	.207	.106	.031	.201	.104	.031	.194	.102	.030		
7.0	.203	.100	.028	.199	.099	.028	.193	.097	.028	.187	.096	.028	.181	.094	.028		
8.0	.189	.092	.026	.186	.092	.026	.180	.090	.026	.174	.088	.025	.169	.087	.025		
9.0	.177	.085	.024	.174	.085	.024	.169	.083	.024	.164	.082	.023	.159	.081	.023		
10.0	.166	.080	.022	.163	.079	.022	.159	.078	.022	.154	.077	.022	.150	.075	.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	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.182	.156	.132	.156	.134	.114	.107	.092	.079	.061	.053	.046	.020	.017	.015	
2.0	.174	.132	.096	.149	.113	.083	.102	.079	.058	.059	.046	.034	.019	.015	.011	
3.0	.167	.114	.073	.143	.099	.063	.098	.069	.044	.057	.040	.026	.018	.013	.009	
4.0	.159	.101	.057	.136	.087	.050	.094	.061	.035	.054	.036	.021	.017	.012	.007	
5.0	.151	.091	.046	.130	.079	.040	.090	.055	.028	.052	.032	.017	.017	.011	.006	
6.0	.144	.083	.038	.124	.071	.033	.085	.050	.024	.050	.029	.014	.016	.010	.005	
7.0	.137	.076	.033	.118	.066	.028	.081	.046	.020	.047	.027	.012	.015	.009	.004	
8.0	.130	.070	.028	.112	.061	.025	.078	.043	.017	.045	.025	.010	.015	.008	.003	
9.0	.124	.065	.025	.107	.056	.022	.074	.040	.015	.043	.023	.009	.014	.008	.003	
10.0	.118	.061	.022	.102	.053	.019	.071	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25DEG  
 Operators:  
 Test Date:2020-04-21

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.290  
 Humidity:50%  
 Test Distance:8.600m [K=1.0000]  
 Remarks:

UGR(Unified Glare Rating) Table

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	21.7	23.2	21.9	23.4	23.7	22.7	24.3	23.0	24.5	24.7
3H	23.1	24.6	23.4	24.8	25.0	24.9	26.3	25.2	26.5	26.8
4H	23.7	25.0	24.0	25.3	25.6	26.0	27.3	26.3	27.6	27.9
6H	24.0	25.3	24.3	25.6	25.9	26.9	28.2	27.2	28.5	28.7
8H	24.1	25.4	24.5	25.7	26.0	27.2	28.5	27.6	28.8	29.1
12H	24.2	25.4	24.5	25.7	26.0	27.5	28.7	27.9	29.0	29.3
4H 2H	22.5	23.9	22.8	24.1	24.4	23.3	24.7	23.6	24.9	25.2
3H	24.2	25.4	24.5	25.7	26.0	25.7	26.9	26.0	27.2	27.5
4H	24.8	26.0	25.2	26.3	26.6	26.9	28.1	27.3	28.4	28.7
6H	25.3	26.3	25.7	26.7	27.1	28.0	29.0	28.4	29.4	29.8
8H	25.5	26.4	25.9	26.8	27.2	28.5	29.4	28.9	29.8	30.2
12H	25.6	26.4	26.0	26.8	27.2	28.8	29.7	29.3	30.1	30.5
8H 4H	25.5	26.4	25.9	26.8	27.1	27.2	28.2	27.7	28.5	28.9
6H	26.2	27.0	26.6	27.4	27.8	28.6	29.3	29.0	29.7	30.2
8H	26.5	27.1	26.9	27.6	28.0	29.1	29.8	29.6	30.3	30.7
12H	26.6	27.2	27.1	27.7	28.2	29.6	30.2	30.1	30.7	31.1
12H 4H	25.6	26.4	26.0	26.8	27.2	27.3	28.1	27.7	28.5	28.9
6H	26.4	27.1	26.9	27.5	28.0	28.6	29.3	29.1	29.8	30.2
8H	26.8	27.4	27.3	27.8	28.3	29.3	29.9	29.7	30.3	30.8
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.2					+ 0.1 / - 0.1				
1.5H	+ 0.2 / - 0.2					+ 0.1 / - 0.2				
2.0H	+ 0.1 / - 0.2					+ 0.2 / - 0.3				

CIE Pub.117 Corrected 4006 lm Total Lamp Luminous Flux. (8log(F/F0) = 4.8)

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25DEG  
 Operators:  
 Test Date: 2020-04-21

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.290  
 Humidity: 50%  
 Test Distance: 8.600m [K=1.0000]  
 Remarks:

## UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	56	44	37	56	44	37	54	44	37	30
0.80	66	54	47	65	54	46	63	53	46	39
1.00	74	63	55	73	62	55	71	64	54	47
1.25	81	70	63	80	70	63	77	68	62	54
1.50	86	76	69	85	75	68	82	73	67	59
2.00	93	84	77	92	83	77	88	81	75	67
2.50	97	89	83	95	88	82	91	85	80	71
3.00	101	94	88	99	92	87	95	89	84	76
4.00	105	99	94	103	97	93	98	94	90	81
5.00	108	102	98	105	101	97	101	97	93	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: 25DEG  
 Operators:  
 Test Date: 2020-04-21

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.290  
 Humidity: 50%  
 Test Distance: 8.600m [K=1.0000]  
 Remarks:

## ISOCANDELA DIAGRAM

Conical surface Flux(90deg):

2030 lm

%lum = 50.7%

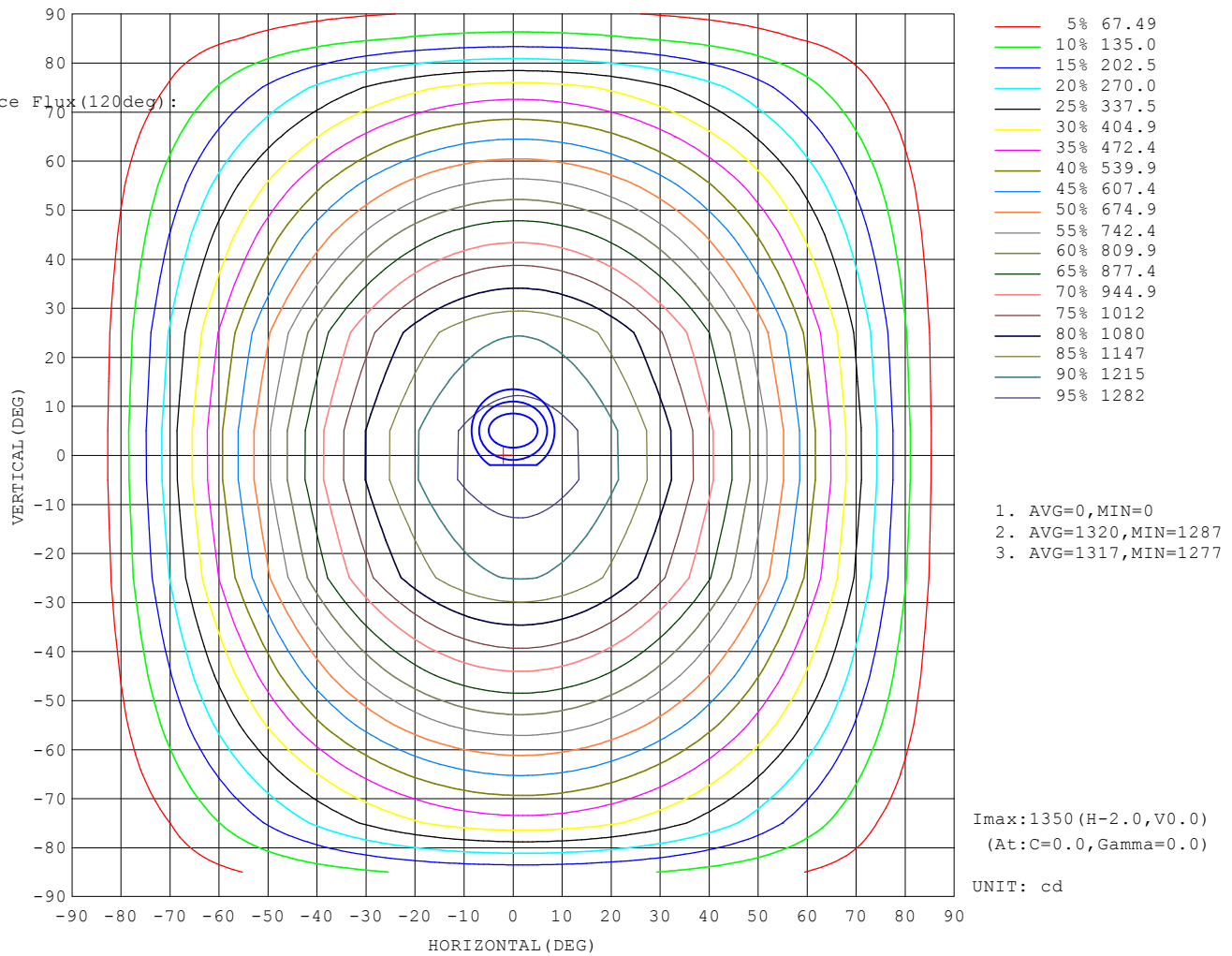
%lamp = 50.7%

Conical surface Flux(120deg):

3006.6 lm

%lum = 75.1%

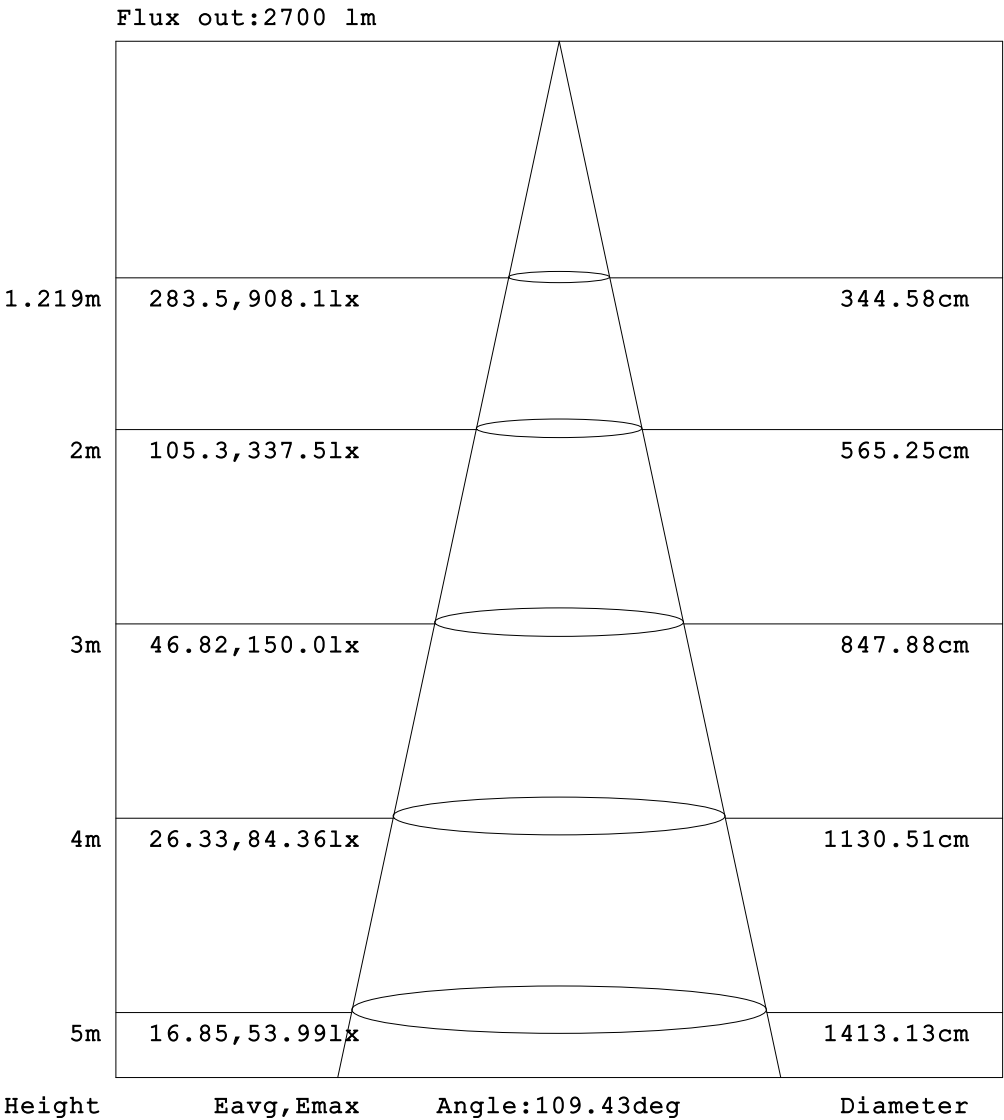
%lamp = 75.1%



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25DEG  
Operators:  
Test Date:2020-04-21

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.290  
Humidity:50%  
Test Distance:8.600m [K=1.0000]  
Remarks:

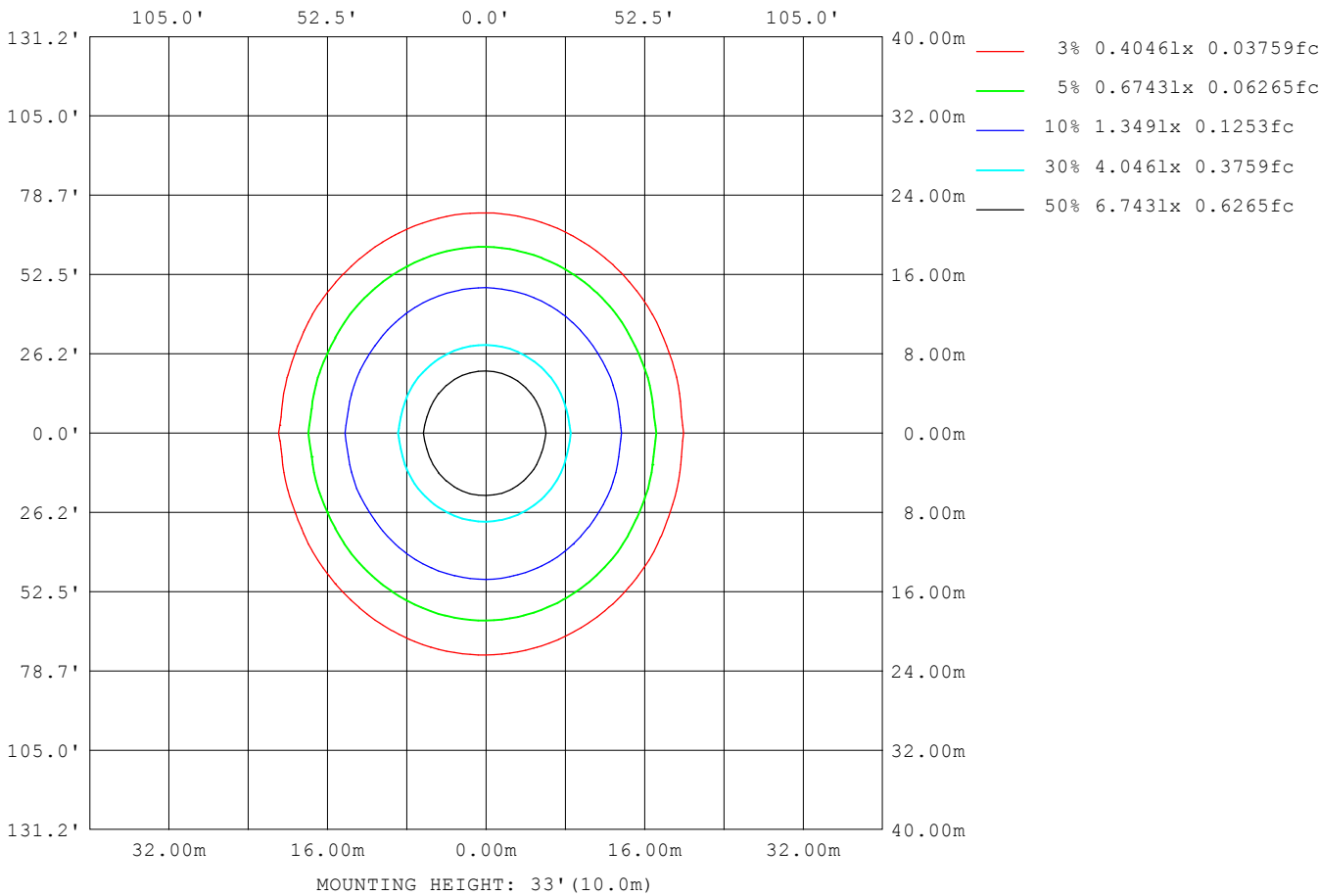
AAI Figure



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



ISOLUX DIAGRAM



C Range: 0 - 360DEG	γ Range: 0 - 90DEG
C Interval: 5.0DEG	γ Interval: 0.5DEG
Test Speed: HIGH	Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
Temperature:25DEG	Humidity:50%
Operators:	Test Distance:8.600m [K=1.0000]
Test Date:2020-04-21	Remarks:

## LED Avg.L Report

Test:U:120.0V I:0.2423A P:28.94W PF:0.9950 Lamp Flux:2002.9x2 lm		
NAME: LOC-22TROF-DMWMCCT	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:580*145	PROTECTION ANGLE:

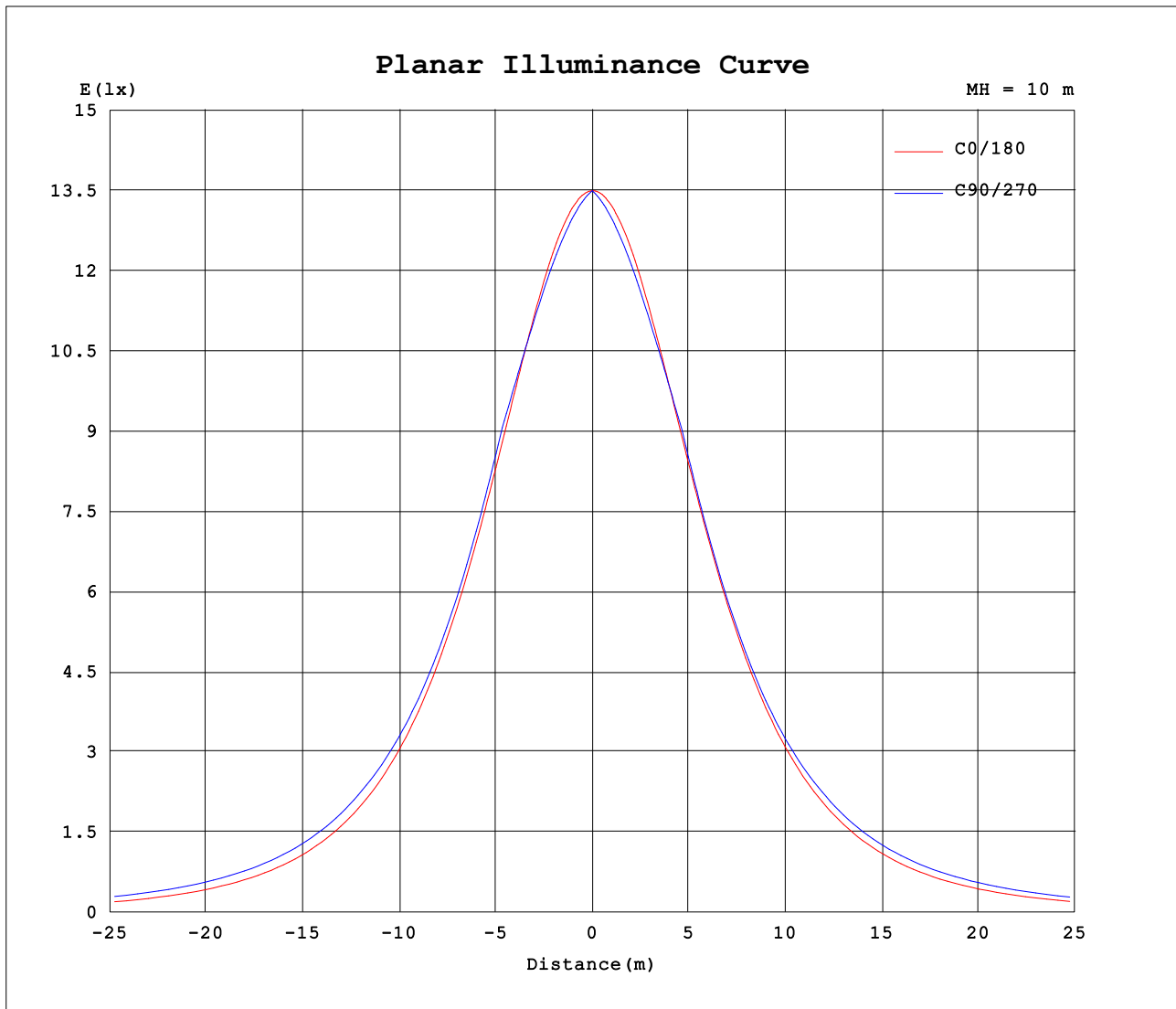
AvgL	cd/m2
L_0~180 (65) av	12717
L_0~180 (75) av	10650
L_0~180 (85) av	7561
L_90~270 (65) av	17033
L_90~270 (75) av	20190
L_90~270 (85) av	21524
L_45 (65) av	14672
L_45 (75) av	15529
L_45 (85) av	17749

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25DEG  
 Operators:  
 Test Date:2020-04-21

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.290  
 Humidity:50%  
 Test Distance:8.600m [K=1.0000]  
 Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature: 25DEG  
Operators:  
Test Date: 2020-04-21

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.290  
Humidity: 50%  
Test Distance: 8.600m [K=1.0000]  
Remarks:

## LUMINOUS DISTRIBUTION INTENSITY DATA

Table--1

UNIT: cd

[illegible]

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature: 25DEG  
Operators:  
Test Date: 2020-04-21

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
Humidity:50%
Test Distance:8.600m [K=1.0000]
Remarks:

```

## LUMINOUS DISTRIBUTION INTENSITY DATA

Table--2

UNIT: cd

[illegible]

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature: 25DEG  
Operators:  
Test Date: 2020-04-21

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
Humidity:50%
Test Distance:8.600m [K=1.0000]
Remarks:

```

## LUMINOUS DISTRIBUTION INTENSITY DATA

Table--3

UNIT: cd

[illegible]

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature: 25DEG  
Operators:  
Test Date: 2020-04-21

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
Humidity:50%
Test Distance:8.600m [K=1.0000]
Remarks:

```

## LUMINOUS DISTRIBUTION INTENSITY DATA

Table--4

UNIT: cd

[illegible]

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature: 25DEG  
Operators:  
Test Date: 2020-04-21

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
Humidity:50%
Test Distance:8.600m [K=1.0000]
Remarks:

```