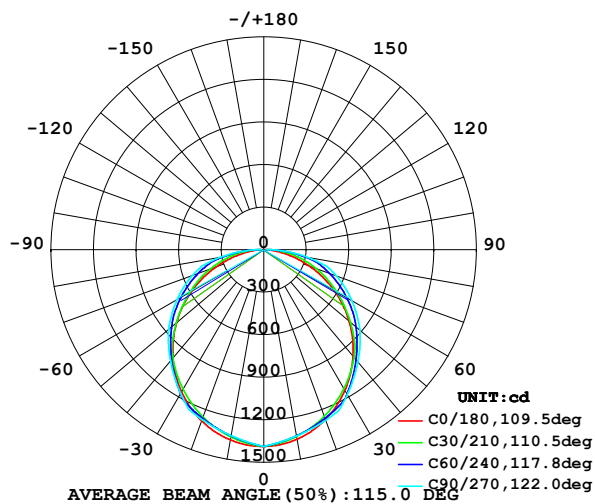


# LUMINAIRE PHOTOMETRIC TEST REPORT

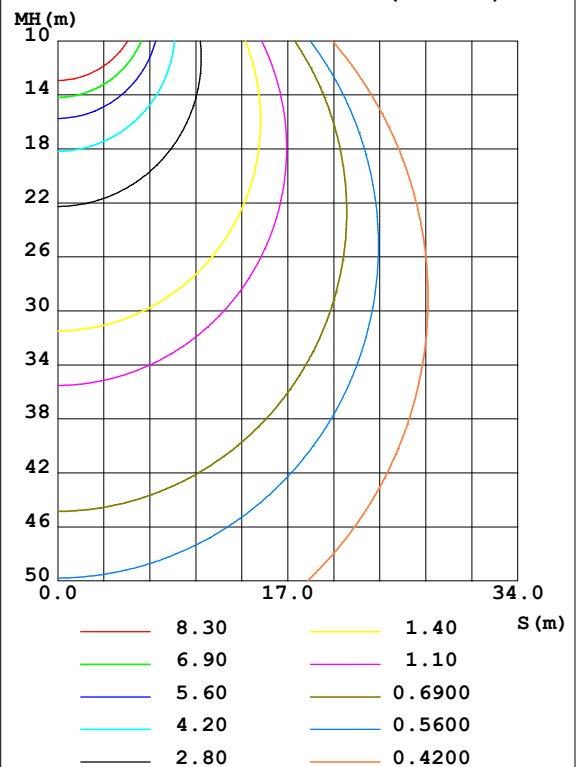
Test:U:120.0V I:0.2429A P:29.01W PF:0.9950 Lamp Flux:2065.64x2 lm		
NAME: LOC-22TROF-DMWMCCT	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:580*145	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 142.40 lm/W			
MODEL		Imax(cd)	1388	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)	4131.3	$\eta$ UP,DN(C0-180)	0.0,50.1
NOMINAL FLUX(lm)	2065.64	CIE CLASS	DIRECT	$\eta$ UP,DN(C180-360)	0.0,49.9
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:

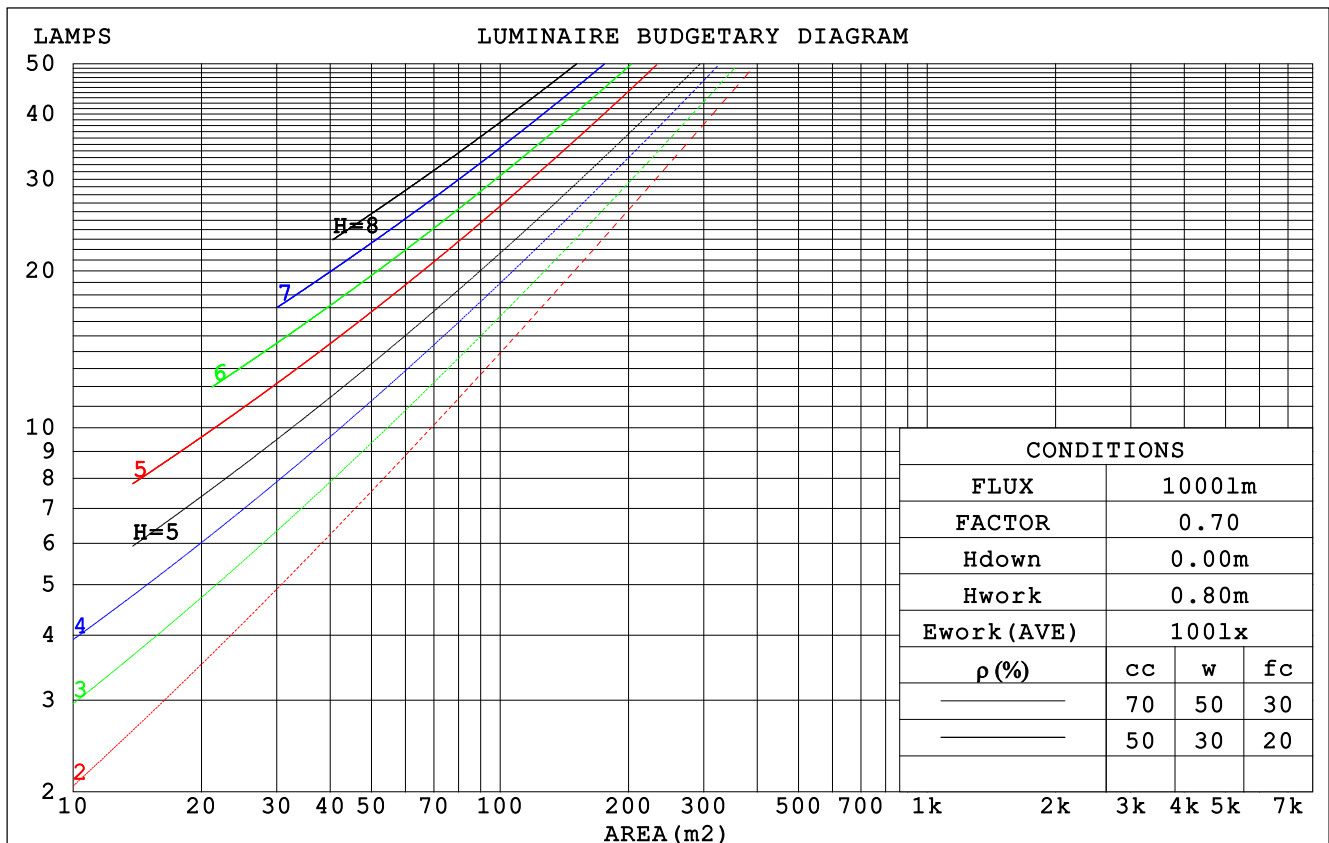
$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum,lamp
5	1379	1364	1361	1366	1382	1365	1360	1363	0- 5	32.86	32.86	0.80,0.80
10	1357	1334	1334	1337	1362	1335	1331	1332	5- 10	96.71	129.6	3.14,3.14
15	1322	1298	1307	1302	1329	1300	1303	1294	10- 15	156.7	286.3	6.93,6.93
20	1274	1256	1280	1261	1284	1258	1275	1251	15- 20	211.6	497.9	12.1,12.1
25	1215	1209	1253	1215	1227	1212	1246	1203	20- 25	260.3	758.1	18.4,18.4
30	1146	1158	1180	1164	1159	1160	1172	1152	25- 30	300.6	1059	25.6,25.6
35	1067	1093	1106	1099	1082	1095	1098	1086	30- 35	329.3	1388	33.6,33.6
40	980.0	1002	1033	1007	996.6	1005	1024	993.9	35- 40	347.2	1735	42,42
45	886.0	909.9	959.7	915.4	903.1	913.5	950.4	901.7	40- 45	354.4	2090	50.6,50.6
50	786.1	818.4	886.4	823.4	803.6	822.4	876.4	809.5	45- 50	351.6	2441	59.1,59.1
55	680.7	728.2	801.4	732.3	697.8	732.4	791.4	718.5	50- 55	339.0	2780	67.3,67.3
60	570.9	638.2	716.5	641.2	587.3	642.7	706.5	627.9	55- 60	316.6	3097	75,75
65	458.3	540.6	631.6	541.3	473.6	544.3	621.5	529.8	60- 65	286.0	3383	81.9,81.9
70	344.3	445.9	546.7	443.9	357.9	448.3	536.6	434.9	65- 70	248.7	3631	87.9,87.9
75	233.6	354.6	461.7	349.8	244.9	355.6	451.6	343.0	70- 75	206.6	3838	92.9,92.9
80	132.8	261.0	313.7	254.1	141.0	260.4	306.8	249.6	75- 80	157.4	3995	96.7,96.7
85	53.68	137.8	165.6	134.4	60.55	137.3	162.0	131.8	80- 85	97.93	4093	99.1,99.1
90	11.22	17.22	17.61	17.34	18.02	16.69	17.17	16.44	85- 90	37.97	4131	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
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			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	.00
1.0	1.03	.98	.94	1.00	.96	.92	.96	.92	.89	.92	.89	.86	.88	.86	.84	.82
2.0	.89	.81	.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	.67	.63	.58	.56
4.0	.68	.59	.52	.67	.59	.52	.65	.57	.51	.62	.56	.50	.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	.38	.50	.43	.38	.49	.43	.38	.36
7.0	.50	.41	.34	.49	.40	.34	.47	.40	.34	.46	.39	.34	.44	.38	.33	.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	.24	.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	.191	.060	.328	.187	.059	.315	.181	.058	.302	.174	.056	.291	.169	.054		
2.0	.308	.169	.052	.302	.166	.051	.290	.161	.050	.279	.157	.049	.269	.152	.048		
3.0	.282	.150	.045	.276	.148	.045	.266	.144	.044	.256	.140	.043	.247	.137	.042		
4.0	.258	.134	.039	.253	.132	.039	.244	.129	.039	.235	.126	.038	.227	.123	.038		
5.0	.237	.121	.035	.233	.119	.035	.224	.117	.034	.217	.114	.034	.209	.112	.034		
6.0	.219	.110	.031	.215	.109	.031	.208	.106	.031	.201	.104	.031	.194	.102	.030		
7.0	.203	.100	.028	.199	.099	.028	.193	.098	.028	.187	.096	.028	.181	.094	.028		
8.0	.189	.092	.026	.186	.092	.026	.180	.090	.026	.175	.088	.026	.169	.087	.025		
9.0	.177	.086	.024	.174	.085	.024	.169	.083	.024	.164	.082	.024	.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	21.8	23.3	22.0	23.5	23.8	22.8	24.4	23.1	24.6	24.8
3H	23.2	24.7	23.5	24.9	25.1	25.0	26.4	25.3	26.7	26.9
4H	23.7	25.1	24.1	25.4	25.6	26.1	27.5	26.4	27.7	28.0
6H	24.1	25.4	24.4	25.7	26.0	27.0	28.3	27.3	28.6	28.8
8H	24.2	25.5	24.5	25.7	26.0	27.3	28.6	27.7	28.9	29.2
12H	24.2	25.5	24.6	25.8	26.1	27.6	28.8	28.0	29.1	29.4
4H 2H	22.6	24.0	22.9	24.2	24.5	23.4	24.8	23.7	25.0	25.3
3H	24.2	25.5	24.6	25.8	26.1	25.8	27.0	26.1	27.3	27.6
4H	24.9	26.0	25.3	26.4	26.7	27.0	28.2	27.4	28.5	28.8
6H	25.4	26.4	25.8	26.8	27.1	28.1	29.1	28.5	29.5	29.9
8H	25.6	26.5	26.0	26.9	27.3	28.6	29.5	29.0	29.9	30.3
12H	25.7	26.5	26.1	26.9	27.3	28.9	29.8	29.4	30.2	30.6
8H 4H	25.5	26.5	26.0	26.8	27.2	27.3	28.3	27.8	28.6	29.0
6H	26.3	27.0	26.7	27.5	27.9	28.7	29.4	29.1	29.9	30.3
8H	26.5	27.2	27.0	27.7	28.1	29.2	29.9	29.7	30.4	30.8
12H	26.7	27.3	27.2	27.8	28.2	29.7	30.3	30.2	30.8	31.3
12H 4H	25.7	26.5	26.1	26.9	27.3	27.4	28.2	27.8	28.6	29.0
6H	26.5	27.2	27.0	27.6	28.1	28.7	29.4	29.2	29.9	30.3
8H	26.9	27.5	27.3	27.9	28.4	29.4	30.0	29.8	30.4	30.9
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.2					+ 0.1 / - 0.1				
1.5H	+ 0.2 / - 0.2					+ 0.1 / - 0.2				
2.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.3				

CIE Pub.117 Corrected 4131 lm Total Lamp Luminous Flux. (8log(F/F0) = 4.9)

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	55	44	37	54	44	37	30
0.80	66	54	46	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	62	77	68	62	54
1.50	86	76	69	85	75	68	82	73	67	59
2.00	93	84	77	91	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	100	96	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):

2089.6 lm

%lum = 50.6%

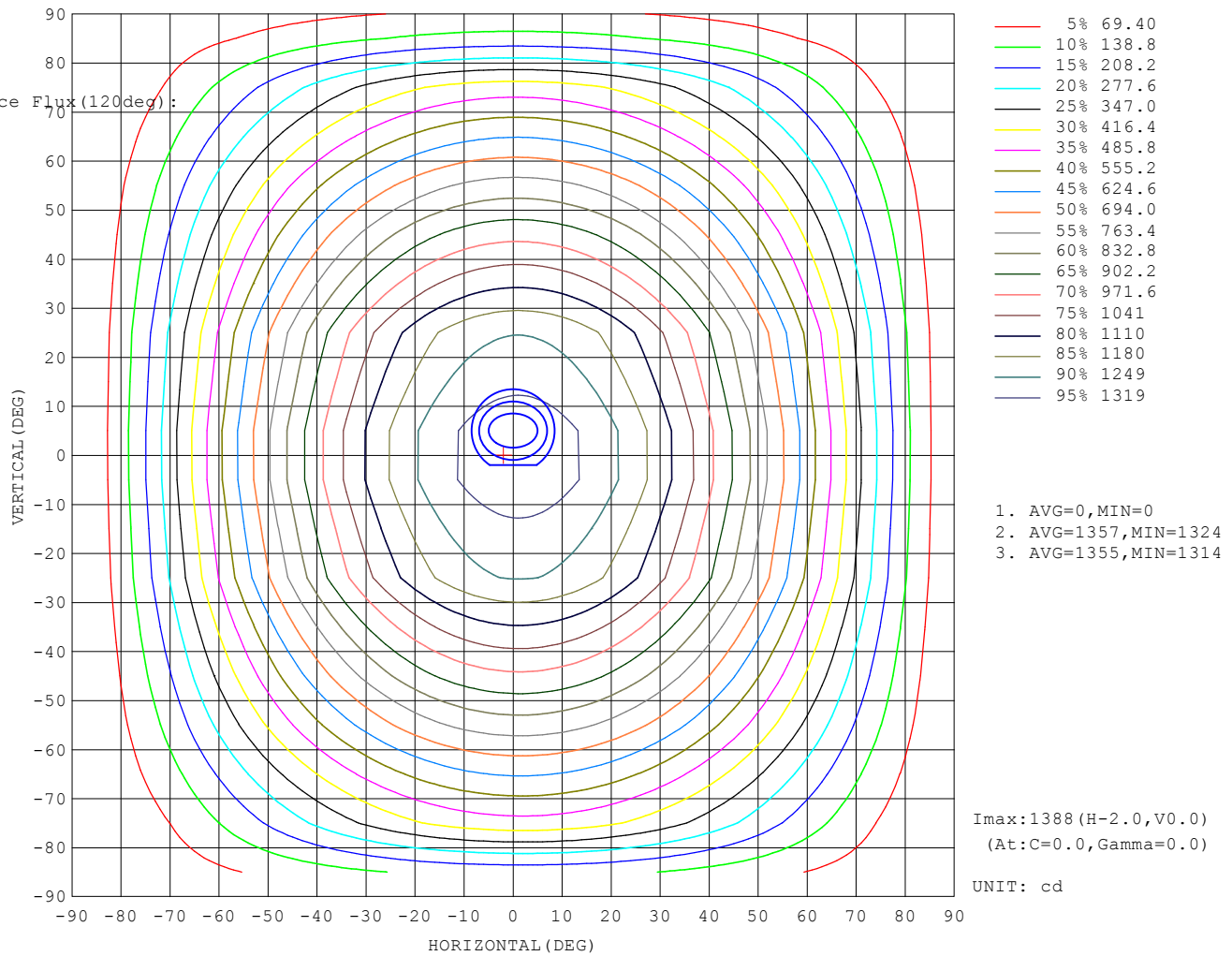
%lamp = 50.6%

Conical surface Flux(120deg):

3096.8 lm

%lum = 75.0%

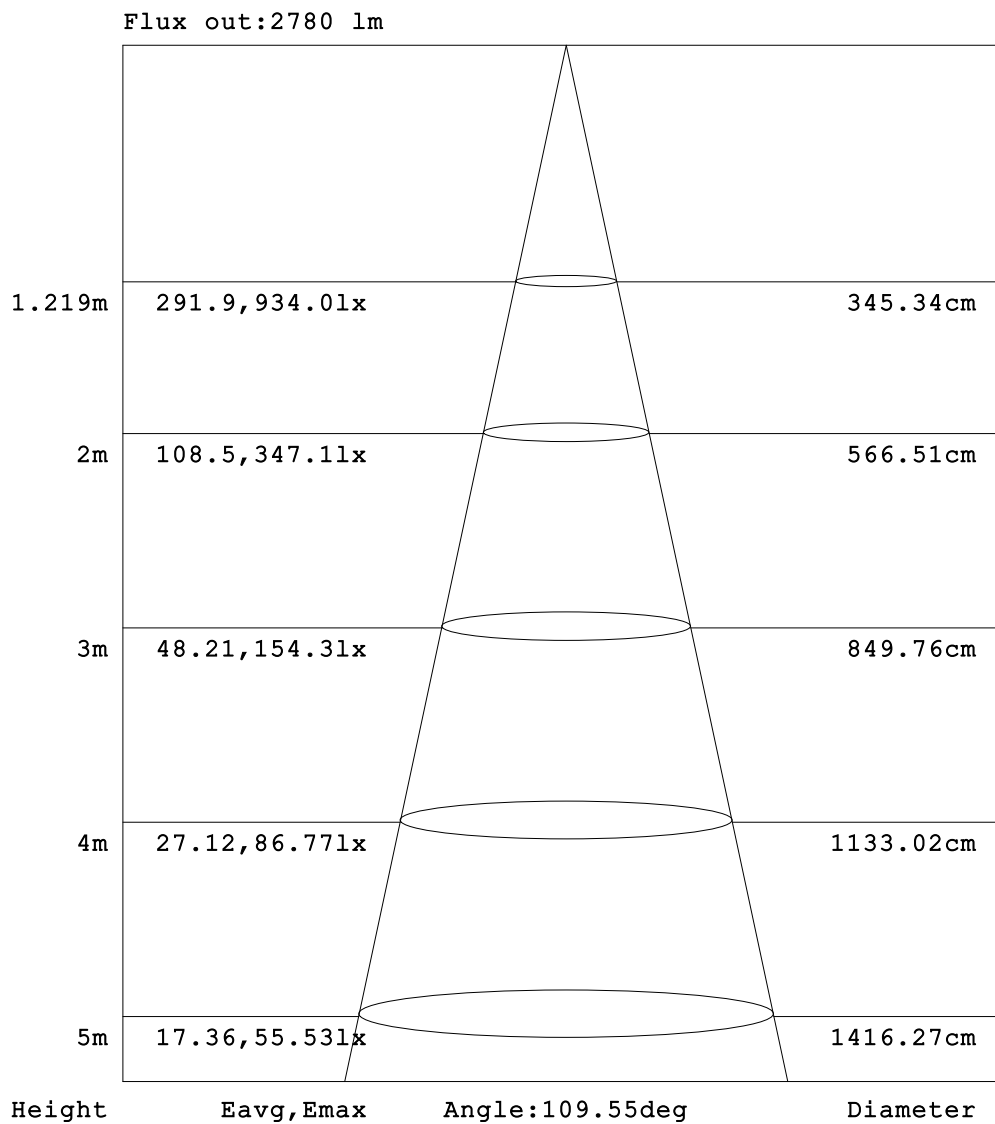
%lamp = 75.0%



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



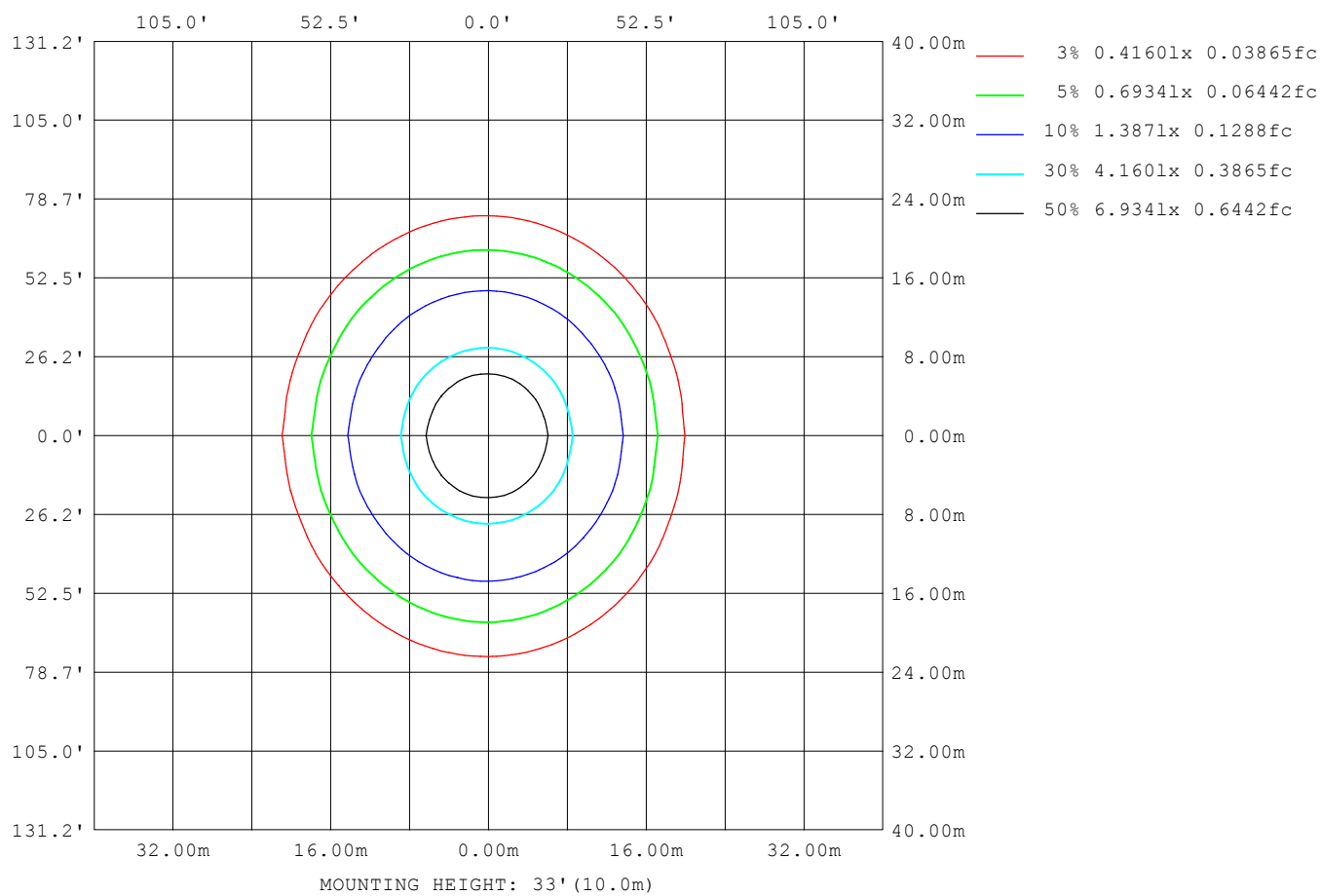
**Note:**The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:



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:0.2429A P:29.01W PF:0.9950 Lamp Flux:2065.64x2 lm		
NAME: LOC-22TROF-DMWMCCT	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:580*145	PROTECTION ANGLE:

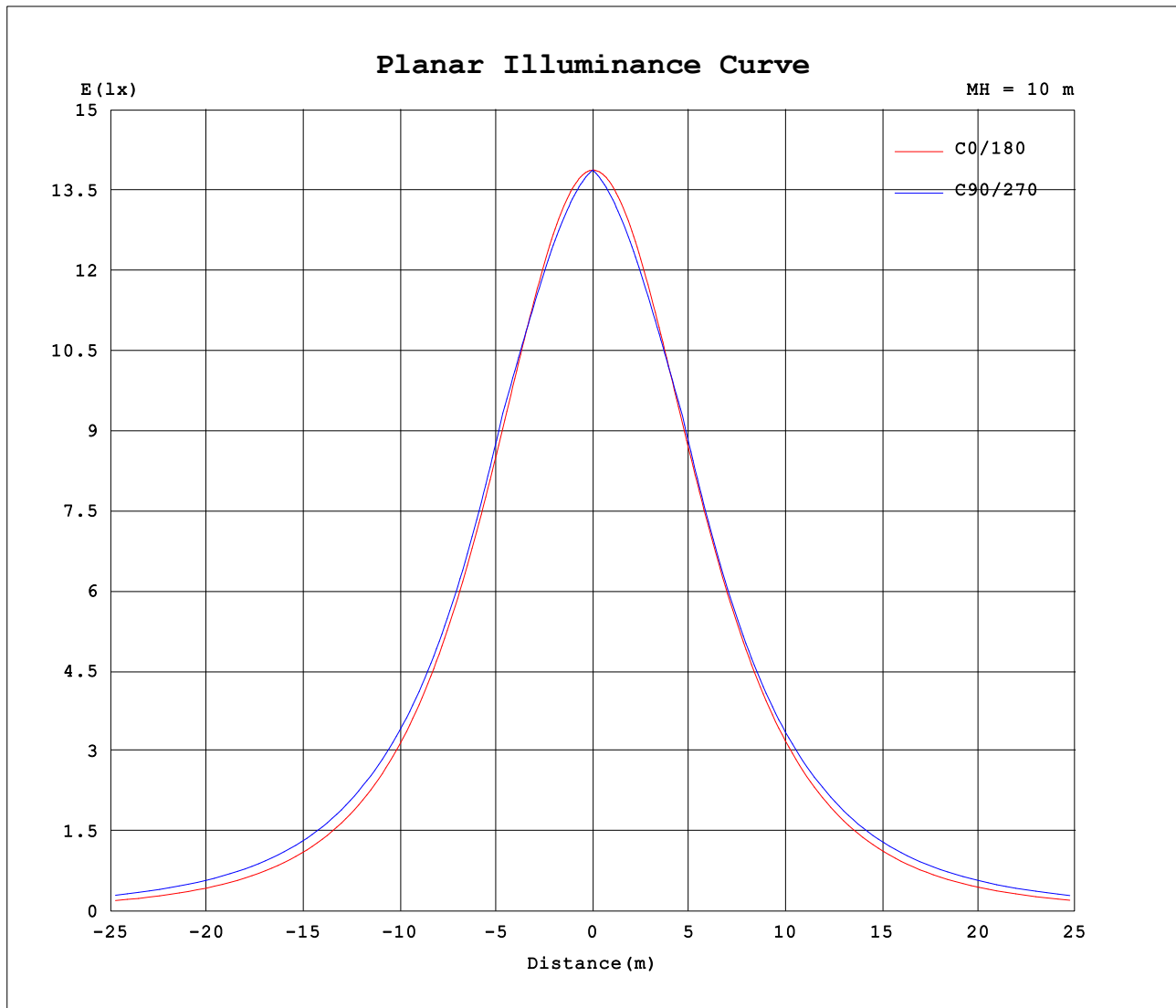
AvgL	cd/m2
L_0~180 (65) av	13109
L_0~180 (75) av	10991
L_0~180 (85) av	7792
L_90~270 (65) av	17629
L_90~270 (75) av	20980
L_90~270 (85) av	22349
L_45 (65) av	15165
L_45 (75) av	16113
L_45 (85) av	18462

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:

```