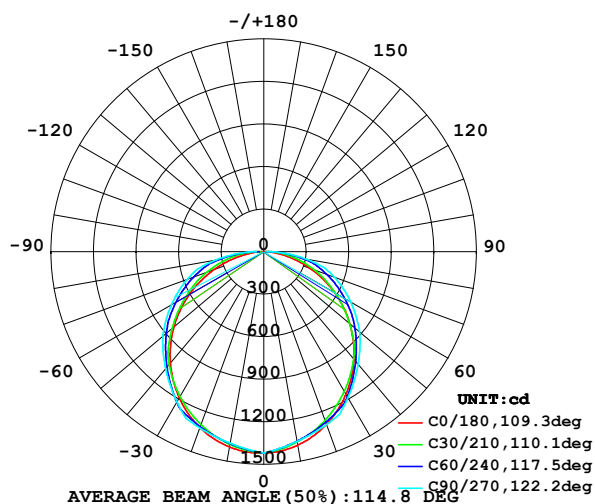


# LUMINAIRE PHOTOMETRIC TEST REPORT

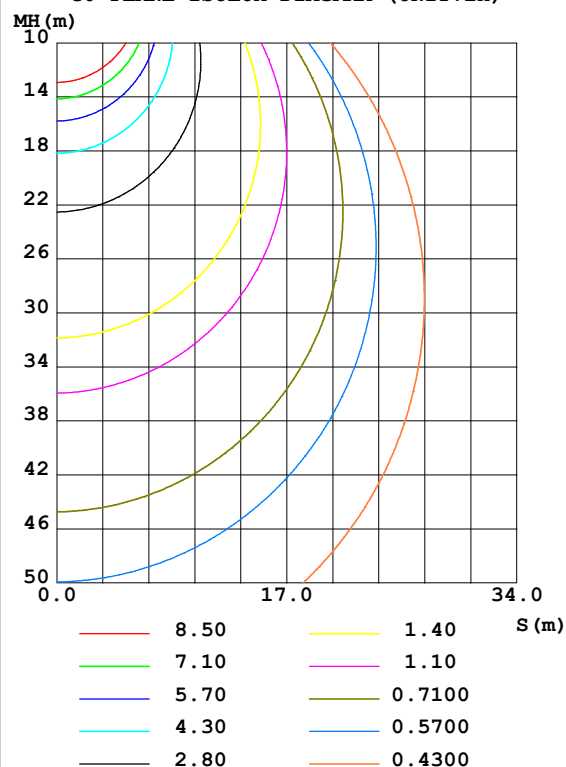
Test:U:120.2V I:0.2451A P:29.24W PF:0.9930 Lamp Flux:2124.85x2 lm		
NAME: LOC-24TROF-DMWMCCT	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:1186*145	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 145.33 lm/W			
MODEL		Imax(cd)	1421	S/MH(C0/180)	1.25
NOMINAL POWER(W)	32	LOR(%)	100.0	S/MH(C90/270)	1.28
RATED VOLTAGE(V)	120-277	TOTAL FLUX(lm)	4249.7	$\eta$ UP,DN(C0-180)	0.0,49.0
NOMINAL FLUX(lm)	2124.85	CIE CLASS	DIRECT	$\eta$ UP,DN(C180-360)	0.0,51.0
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:2020-05-23

$\gamma$  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:

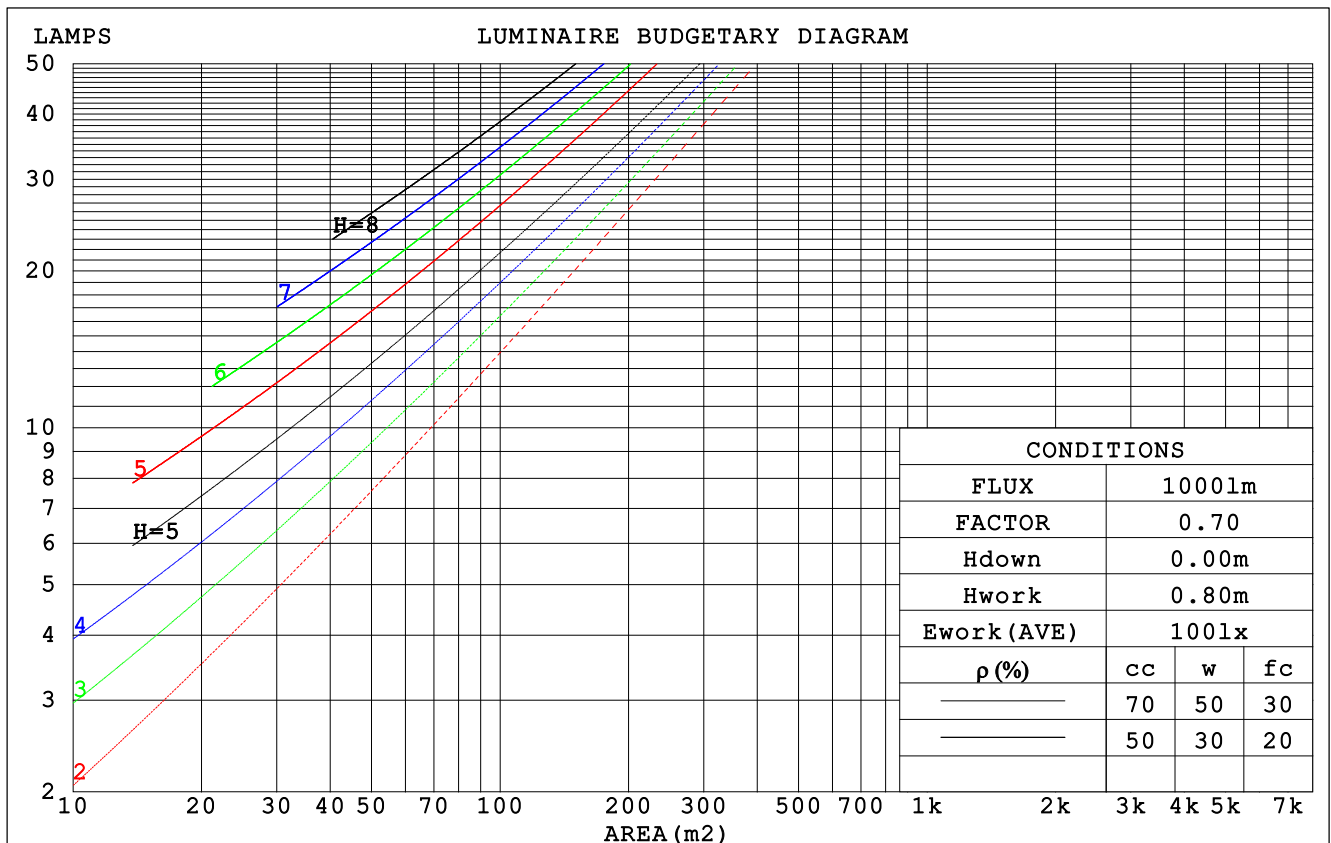
$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
5	1410	1393	1390	1398	1417	1402	1396	1397	0- 5	33.65	33.65	0.79,0.79
10	1385	1358	1359	1367	1398	1376	1372	1368	5- 10	99.04	132.7	3.12,3.12
15	1347	1317	1328	1330	1366	1343	1347	1331	10- 15	160.5	293.2	6.9,6.9
20	1296	1269	1297	1287	1320	1304	1323	1289	15- 20	216.7	509.9	12,12
25	1233	1217	1265	1238	1261	1258	1298	1242	20- 25	266.5	776.4	18.3,18.3
30	1160	1161	1189	1185	1192	1208	1225	1191	25- 30	307.8	1084	25.5,25.5
35	1079	1091	1112	1117	1113	1143	1151	1125	30- 35	337.2	1421	33.4,33.4
40	989.5	996.8	1036	1024	1025	1051	1077	1033	35- 40	355.5	1777	41.8,41.8
45	893.7	902.0	959.5	929.5	929.4	958.0	1004	940.0	40- 45	362.9	2140	50.4,50.4
50	792.3	807.4	883.1	835.6	827.9	864.8	929.9	847.7	45- 50	360.2	2500	58.8,58.8
55	686.3	714.4	795.1	742.4	720.3	773.1	841.3	757.3	50- 55	347.5	2848	67,67
60	576.1	622.1	707.2	650.0	608.1	681.1	752.7	667.2	55- 60	324.8	3172	74.6,74.6
65	463.5	523.5	619.3	551.4	492.4	578.6	664.1	569.9	60- 65	293.8	3466	81.6,81.6
70	349.9	428.3	531.4	455.7	374.7	479.0	575.5	476.2	65- 70	256.1	3722	87.6,87.6
75	238.7	336.5	443.4	363.8	259.3	382.8	486.9	386.3	70- 75	213.6	3936	92.6,92.6
80	137.7	244.0	301.7	269.0	151.0	283.9	342.0	293.9	75- 80	164.5	4100	96.5,96.5
85	56.76	129.6	160.0	142.2	65.82	153.0	197.2	169.7	80- 85	105.1	4205	99,99
90	11.79	17.73	18.30	17.68	18.58	24.63	52.32	48.05	85- 90	44.24	4250	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:2020-05-23

$\gamma$  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	1.02	.98	.93	1.00	.96	.92	.96	.92	.89	.92	.89	.86	.88	.86	.84	.81
2.0	.89	.81	.75	.87	.80	.74	.83	.77	.72	.80	.75	.71	.77	.73	.69	.67
3.0	.77	.69	.62	.76	.68	.61	.73	.66	.60	.70	.64	.59	.67	.62	.58	.56
4.0	.68	.59	.52	.67	.58	.52	.64	.57	.51	.62	.56	.50	.60	.54	.50	.47
5.0	.61	.52	.45	.60	.51	.44	.58	.50	.44	.56	.49	.43	.54	.48	.43	.41
6.0	.55	.46	.39	.54	.45	.39	.52	.44	.38	.50	.43	.38	.49	.42	.38	.35
7.0	.50	.41	.34	.49	.40	.34	.47	.39	.34	.46	.39	.34	.44	.38	.33	.31
8.0	.45	.36	.31	.45	.36	.30	.43	.36	.30	.42	.35	.30	.41	.34	.30	.28
9.0	.41	.33	.27	.41	.33	.27	.40	.32	.27	.39	.32	.27	.38	.31	.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: 2020-05-23

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	.338	.192	.061	.331	.189	.060	.317	.182	.058	.305	.176	.056	.294	.170	.055	
2.0	.310	.170	.052	.304	.167	.052	.292	.162	.050	.281	.158	.049	.271	.153	.048	
3.0	.283	.151	.045	.277	.148	.045	.267	.145	.044	.257	.141	.043	.248	.137	.042	
4.0	.259	.134	.040	.254	.133	.039	.244	.130	.039	.236	.127	.038	.228	.124	.038	
5.0	.237	.121	.035	.233	.120	.035	.225	.117	.034	.217	.115	.034	.210	.112	.034	
6.0	.219	.110	.031	.215	.109	.031	.208	.107	.031	.201	.104	.031	.195	.102	.030	
7.0	.203	.100	.028	.200	.100	.028	.193	.098	.028	.187	.096	.028	.181	.094	.028	
8.0	.189	.092	.026	.186	.092	.026	.180	.090	.026	.175	.089	.026	.170	.087	.025	
9.0	.177	.086	.024	.174	.085	.024	.169	.084	.024	.164	.082	.024	.159	.081	.023	
10.0	.166	.080	.022	.164	.079	.022	.159	.078	.022	.154	.077	.022	.150	.076	.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	.175	.132	.096	.150	.113	.083	.103	.079	.058	.059	.046	.034	.019	.015	.011	
3.0	.167	.114	.072	.143	.099	.063	.098	.069	.044	.057	.040	.026	.018	.013	.009	
4.0	.159	.101	.057	.137	.087	.049	.094	.061	.035	.054	.036	.021	.017	.012	.007	
5.0	.152	.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:2020-05-23

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	19.1	20.7	19.4	20.9	21.1	20.1	21.7	20.4	21.9	22.1
3H	20.6	22.0	20.9	22.3	22.5	22.2	23.7	22.5	23.9	24.1
4H	21.1	22.5	21.4	22.8	23.0	23.3	24.7	23.6	24.9	25.2
6H	21.5	22.8	21.8	23.1	23.3	24.2	25.5	24.5	25.7	26.0
8H	21.6	22.8	21.9	23.1	23.4	24.5	25.8	24.9	26.1	26.4
12H	21.6	22.9	22.0	23.2	23.5	24.8	26.0	25.1	26.3	26.6
4H 2H	19.9	21.3	20.2	21.6	21.8	20.7	22.1	21.0	22.3	22.6
3H	21.6	22.8	21.9	23.1	23.4	23.0	24.2	23.3	24.5	24.8
4H	22.2	23.4	22.6	23.7	24.0	24.2	25.3	24.6	25.7	26.0
6H	22.7	23.7	23.1	24.1	24.5	25.3	26.3	25.7	26.6	27.0
8H	22.9	23.8	23.3	24.2	24.6	25.7	26.7	26.1	27.0	27.4
12H	23.0	23.8	23.4	24.2	24.6	26.1	26.9	26.5	27.3	27.7
8H 4H	22.8	23.7	23.2	24.1	24.5	24.5	25.4	24.9	25.8	26.2
6H	23.5	24.3	23.9	24.7	25.1	25.8	26.6	26.2	27.0	27.4
8H	23.8	24.5	24.2	24.9	25.3	26.3	27.0	26.8	27.5	27.9
12H	23.9	24.5	24.4	25.0	25.5	26.8	27.4	27.3	27.9	28.4
12H 4H	22.9	23.8	23.3	24.2	24.6	24.5	25.4	24.9	25.8	26.2
6H	23.7	24.4	24.2	24.8	25.3	25.9	26.6	26.3	27.0	27.4
8H	24.1	24.7	24.5	25.1	25.6	26.5	27.1	27.0	27.5	28.0
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.2					+ 0.1 / - 0.1				
1.5H	+ 0.1 / - 0.2					+ 0.1 / - 0.2				
2.0H	+ 0.1 / - 0.2					+ 0.1 / - 0.3				

CIE Pub.117 Corrected 4250 lm Total Lamp Luminous Flux. (8log(F/F0) = 5.0)

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25DEG  
 Operators:  
 Test Date: 2020-05-23

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	43	37	30
0.80	66	54	46	65	53	46	63	53	46	39
1.00	74	63	55	73	62	55	71	64	54	47
1.25	81	70	63	80	69	62	77	68	61	54
1.50	86	76	68	85	75	68	81	73	67	59
2.00	93	84	77	91	83	76	88	81	75	67
2.50	97	89	82	95	88	82	91	85	80	71
3.00	101	93	87	99	92	86	94	89	84	75
4.00	105	99	94	103	97	92	98	94	90	81
5.00	108	102	98	105	100	96	100	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: 2020-05-23

$\gamma$  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):

2139.8 lm

%lum = 50.4%

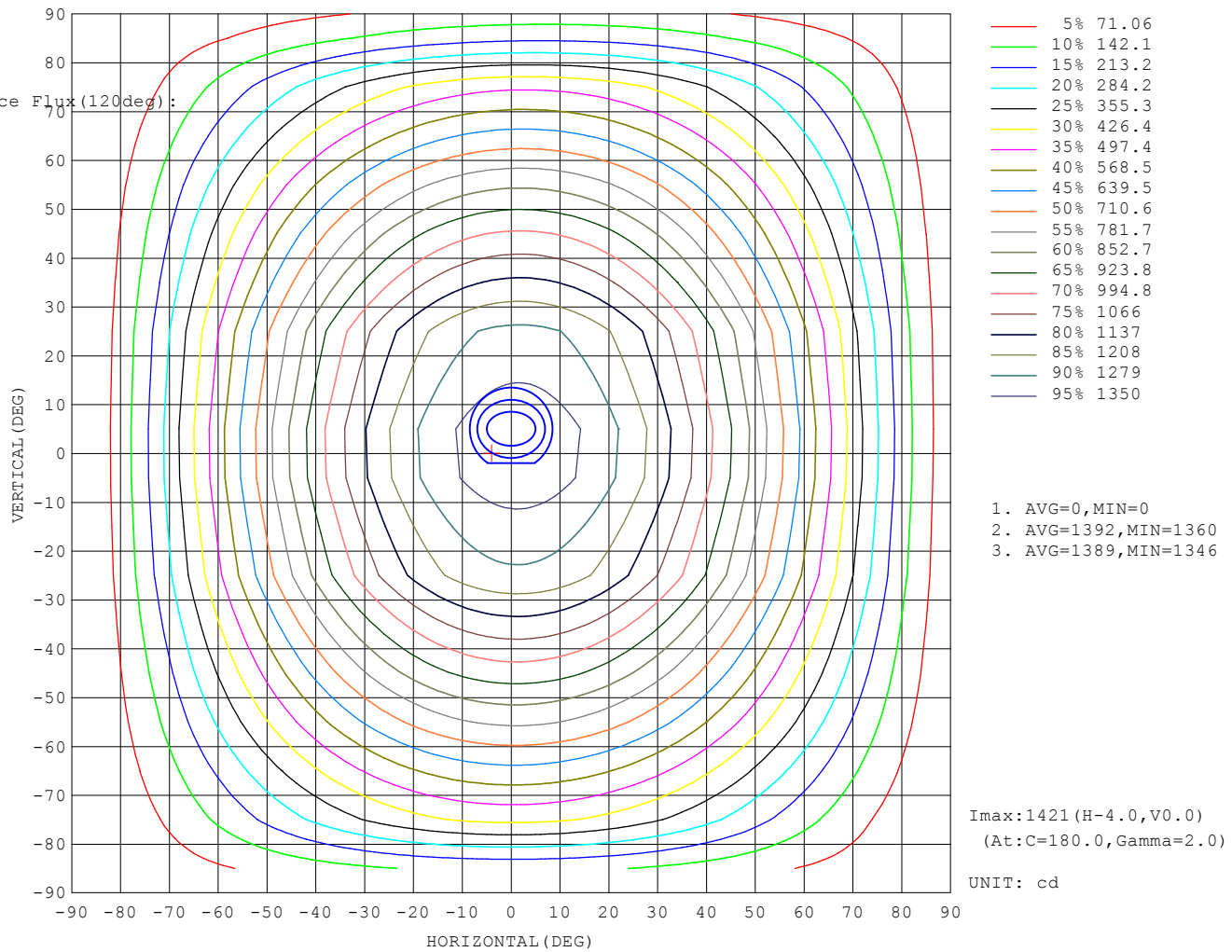
%lamp = 50.4%

Conical surface Flux(120deg):

3172.4 lm

%lum = 74.6%

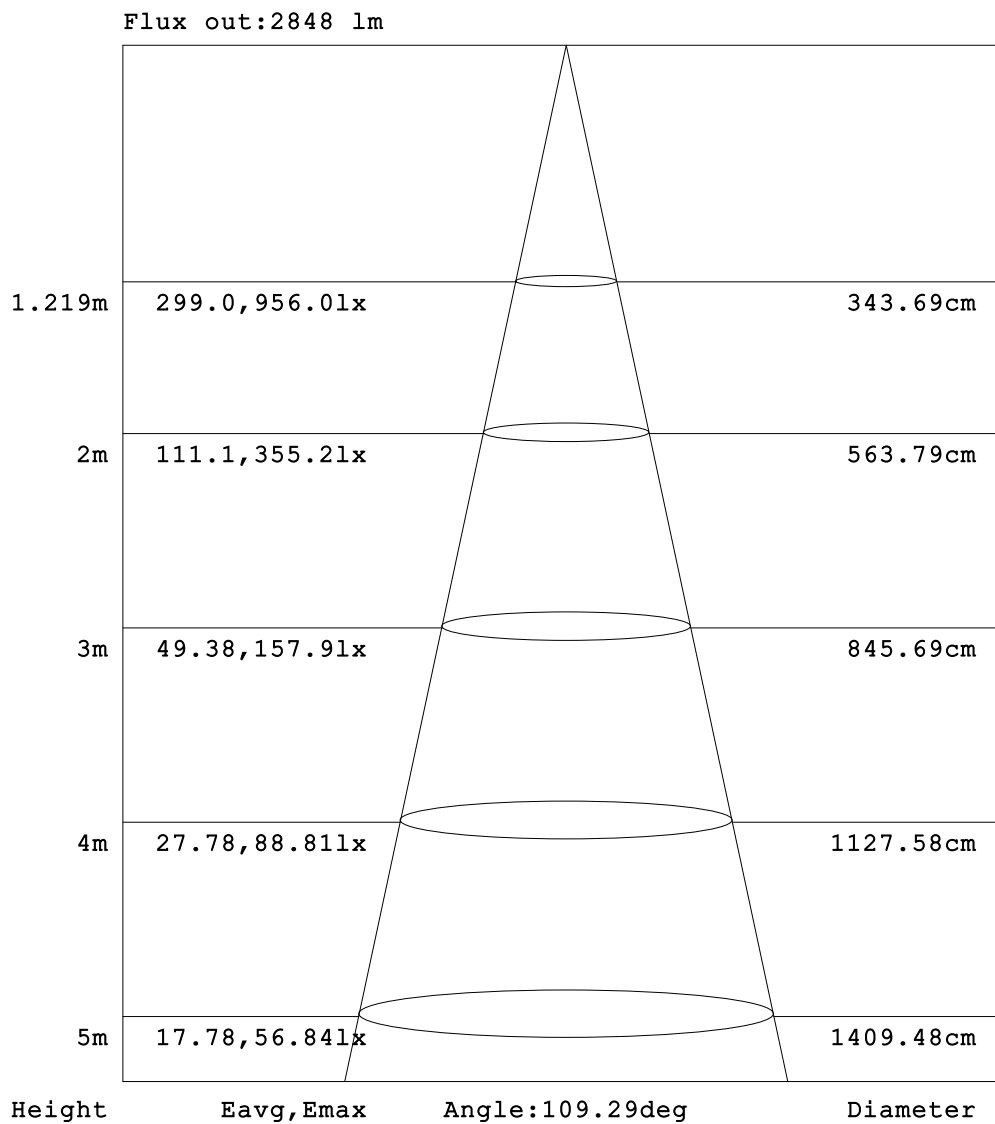
%lamp = 74.6%



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25DEG  
Operators:  
Test Date:2020-05-23

$\gamma$  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



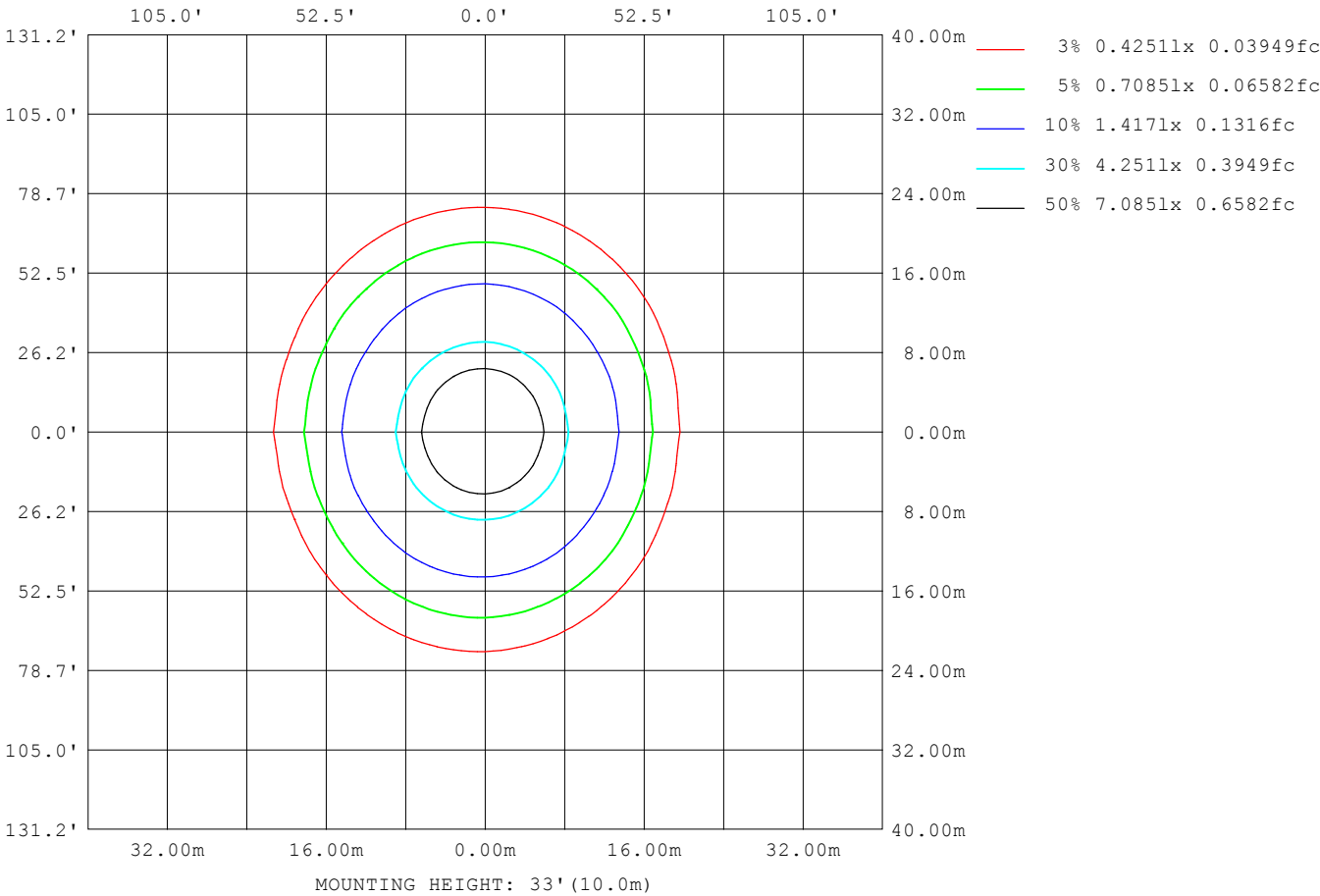
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25DEG  
Operators:  
Test Date:2020-05-23

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  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25DEG  
Operators:  
Test Date:2020-05-23

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:

## LED Avg.L Report

Test:U:120.2V I:0.2451A P:29.24W PF:0.9930 Lamp Flux:2124.85x2 lm		
NAME: LOC-24TROF-DMWMCCT	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:1186*145	PROTECTION ANGLE:

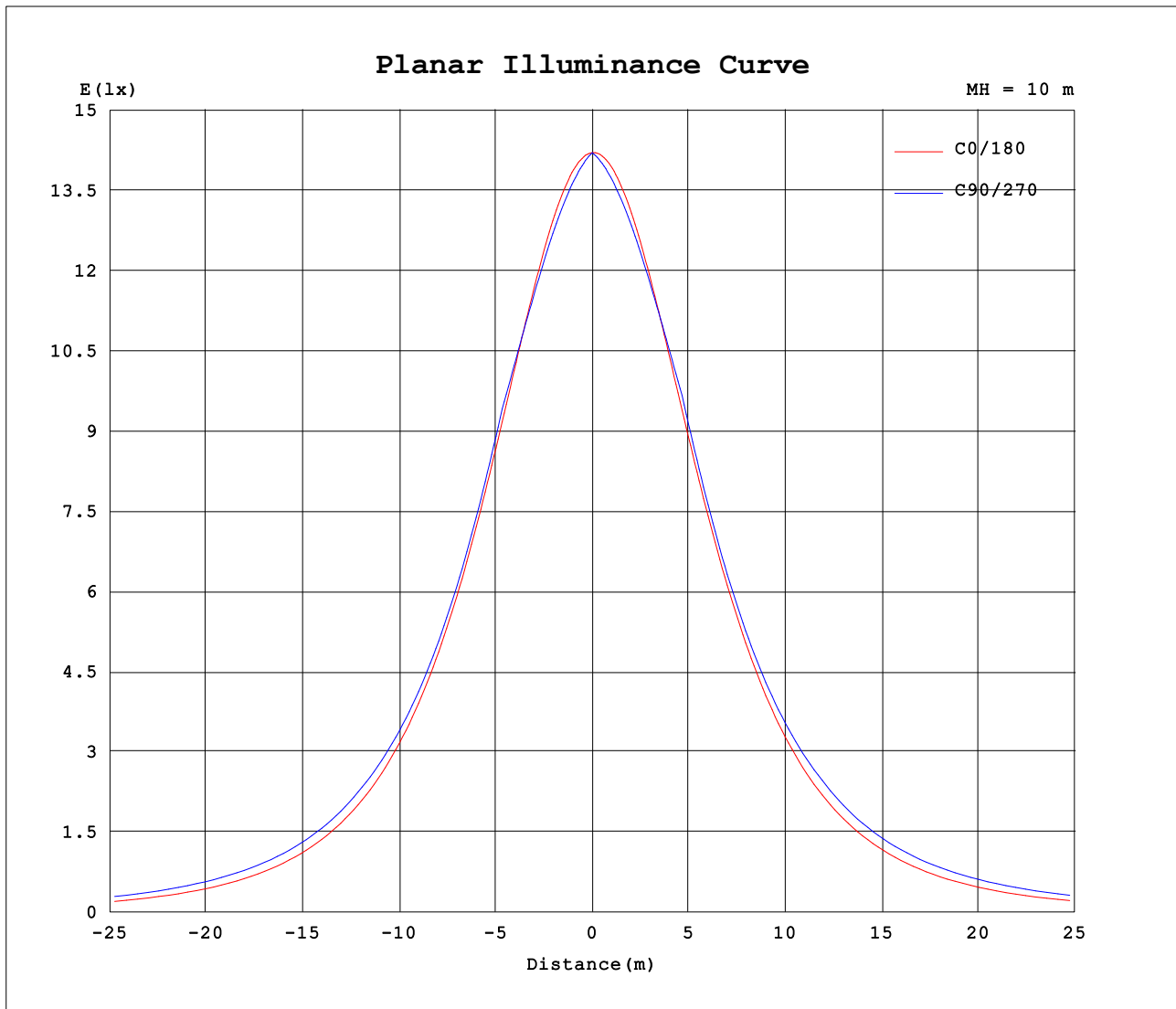
AvgL	cd/m2
L_0~180 (65) av	6575
L_0~180 (75) av	5594
L_0~180 (85) av	4089
L_90~270 (65) av	8828
L_90~270 (75) av	10449
L_90~270 (85) av	11914
L_45 (65) av	7647
L_45 (75) av	8252
L_45 (85) av	9916

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25DEG  
 Operators:  
 Test Date:2020-05-23

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: 2020-05-23

$\gamma$  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: 2020-05-23

```

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: 2020-05-23

```

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: 2020-05-23

```

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: 2020-05-23

```

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:

```