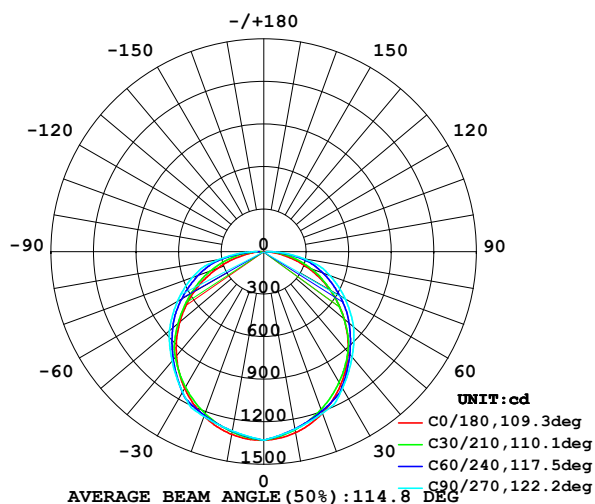


## LUMINAIRE PHOTOMETRIC TEST REPORT

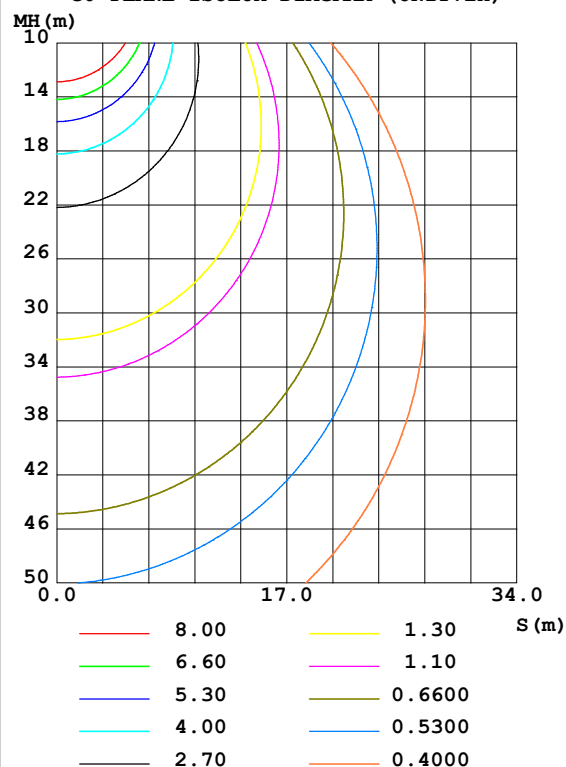
Test:U:120.2V I:0.2275A P:27.13W PF:0.9927 Lamp Flux:1987.57x2 lm		
NAME: LOC-24TROF-DMWMCCT	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:1186*145	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 146.52 lm/W			
MODEL	5000K	Imax(cd)	1329	S/MH(C0/180)	1.25
NOMINAL POWER(W)	29	LOR(%)	100.0	S/MH(C90/270)	1.28
RATED VOLTAGE(V)	120-277	TOTAL FLUX(lm)	3975.1	$\eta$ UP,DN(C0-180)	0.0,49.0
NOMINAL FLUX(lm)	1987.57	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:

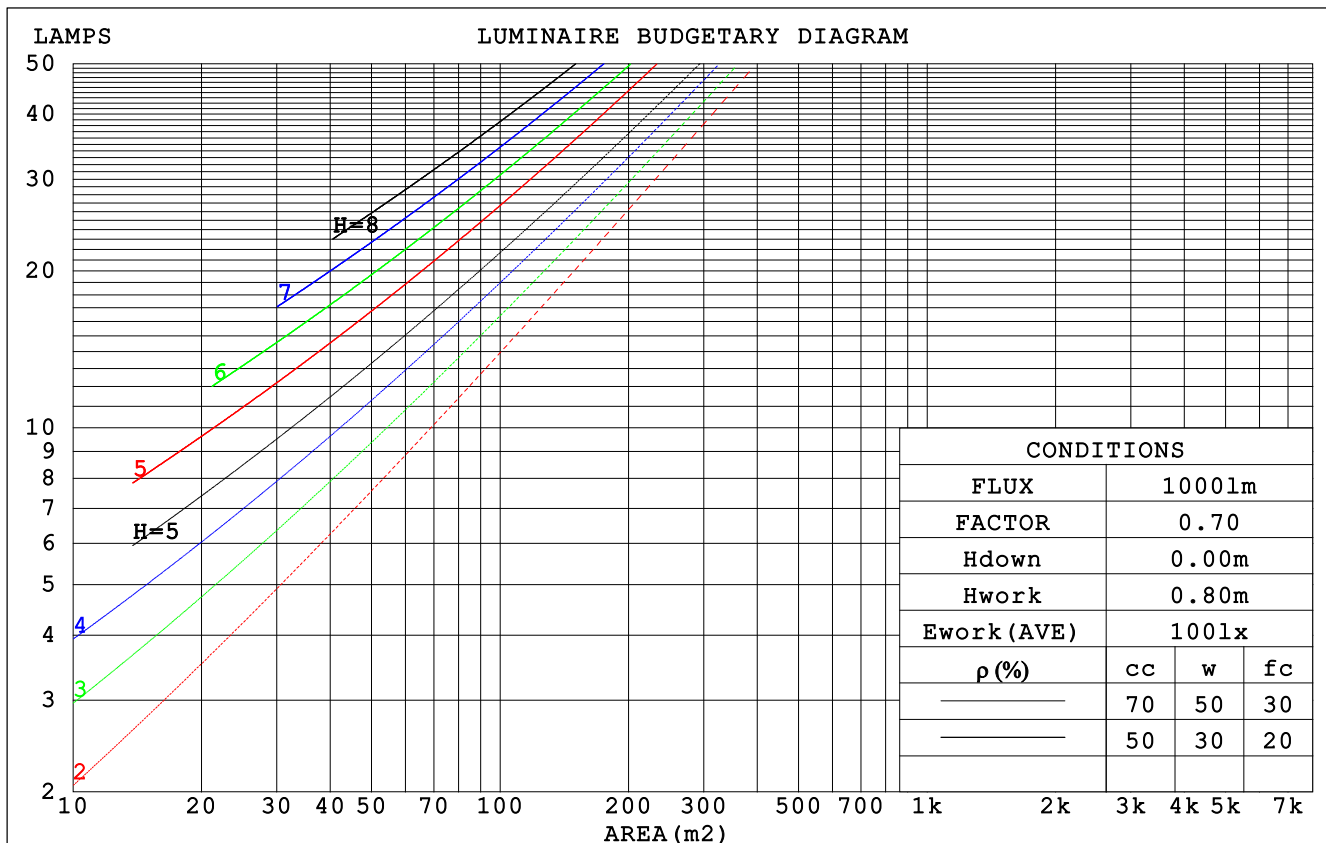
$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
5	1319	1303	1300	1307	1325	1312	1306	1307	0- 5	31.47	31.47	0.79,0.79
10	1296	1271	1271	1279	1308	1287	1283	1279	5- 10	92.65	124.1	3.12,3.12
15	1260	1232	1242	1244	1278	1256	1260	1245	10- 15	150.1	274.3	6.9,6.9
20	1212	1188	1213	1204	1235	1219	1237	1206	15- 20	202.7	477.0	12,12
25	1153	1139	1184	1158	1180	1177	1214	1162	20- 25	249.3	726.3	18.3,18.3
30	1086	1086	1113	1108	1115	1130	1145	1114	25- 30	287.9	1014	25.5,25.5
35	1009	1021	1041	1045	1041	1069	1076	1052	30- 35	315.4	1330	33.4,33.4
40	926.0	933.0	969.7	958.1	959.0	982.7	1007	966.0	35- 40	332.5	1662	41.8,41.8
45	836.0	844.2	898.2	870.1	869.4	895.7	938.0	879.2	40- 45	339.5	2002	50.4,50.4
50	741.2	755.7	826.7	782.1	774.3	808.6	869.1	792.9	45- 50	337.0	2339	58.8,58.8
55	642.2	668.7	744.5	695.1	673.8	722.7	786.3	708.0	50- 55	325.1	2664	67,67
60	539.0	582.3	662.2	608.5	568.6	636.7	703.5	623.8	55- 60	303.8	2968	74.7,74.7
65	433.5	490.2	580.0	516.2	460.3	540.7	620.7	532.6	60- 65	274.8	3242	81.6,81.6
70	327.2	401.1	497.7	426.9	350.3	447.6	537.9	444.9	65- 70	239.6	3482	87.6,87.6
75	223.6	315.3	415.4	340.8	241.8	357.6	455.1	360.8	70- 75	199.8	3682	92.6,92.6
80	129.0	228.6	282.7	252.0	141.3	265.1	319.3	274.6	75- 80	153.8	3836	96.5,96.5
85	53.07	121.3	149.9	133.2	61.60	142.7	183.6	158.2	80- 85	98.29	3934	99,99
90	11.04	16.59	17.15	16.55	17.39	22.68	47.83	43.98	85- 90	41.26	3975	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	1.00
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	.157	.049	.271	.153	.048		
3.0	.283	.150	.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	2H	18.9	20.5	19.2	20.7	20.9	19.9	21.5	20.2	21.7	21.9
	3H	20.3	21.8	20.6	22.0	22.3	22.0	23.4	22.3	23.7	23.9
	4H	20.9	22.3	21.2	22.5	22.8	23.0	24.4	23.4	24.7	25.0
	6H	21.2	22.6	21.6	22.8	23.1	23.9	25.3	24.3	25.5	25.8
	8H	21.3	22.6	21.7	22.9	23.2	24.3	25.6	24.6	25.8	26.1
	12H	21.4	22.6	21.8	22.9	23.2	24.5	25.8	24.9	26.1	26.4
	4H	2H	19.7	21.1	20.0	21.3	21.6	20.5	21.8	20.8	22.1
	3H	21.3	22.5	21.7	22.8	23.2	22.8	24.0	23.1	24.3	24.6
	4H	22.0	23.1	22.4	23.5	23.8	24.0	25.1	24.4	25.4	25.8
	6H	22.5	23.5	22.9	23.9	24.2	25.1	26.1	25.5	26.4	26.8
	8H	22.6	23.6	23.1	24.0	24.3	25.5	26.4	25.9	26.8	27.2
	12H	22.7	23.6	23.2	24.0	24.4	25.8	26.7	26.3	27.1	27.5
	8H	4H	22.6	23.5	23.0	23.9	24.3	24.3	25.2	24.7	25.6
	6H	23.3	24.1	23.7	24.5	24.9	25.6	26.3	26.0	26.8	27.2
	8H	23.5	24.2	24.0	24.7	25.1	26.1	26.8	26.6	27.2	27.7
	12H	23.7	24.3	24.2	24.8	25.2	26.6	27.2	27.1	27.7	28.1
	12H	4H	22.7	23.5	23.1	23.9	24.3	24.3	25.2	24.7	25.5
	6H	23.5	24.2	24.0	24.6	25.1	25.6	26.3	26.1	26.8	27.2
	8H	23.8	24.4	24.3	24.9	25.4	26.3	26.9	26.7	27.3	27.8
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					+ 0.1 / - 0.3				

CIE Pub.117 Corrected 3975 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: 2020-05-23

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	83	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):

2001.6 lm

%lum = 50.4%

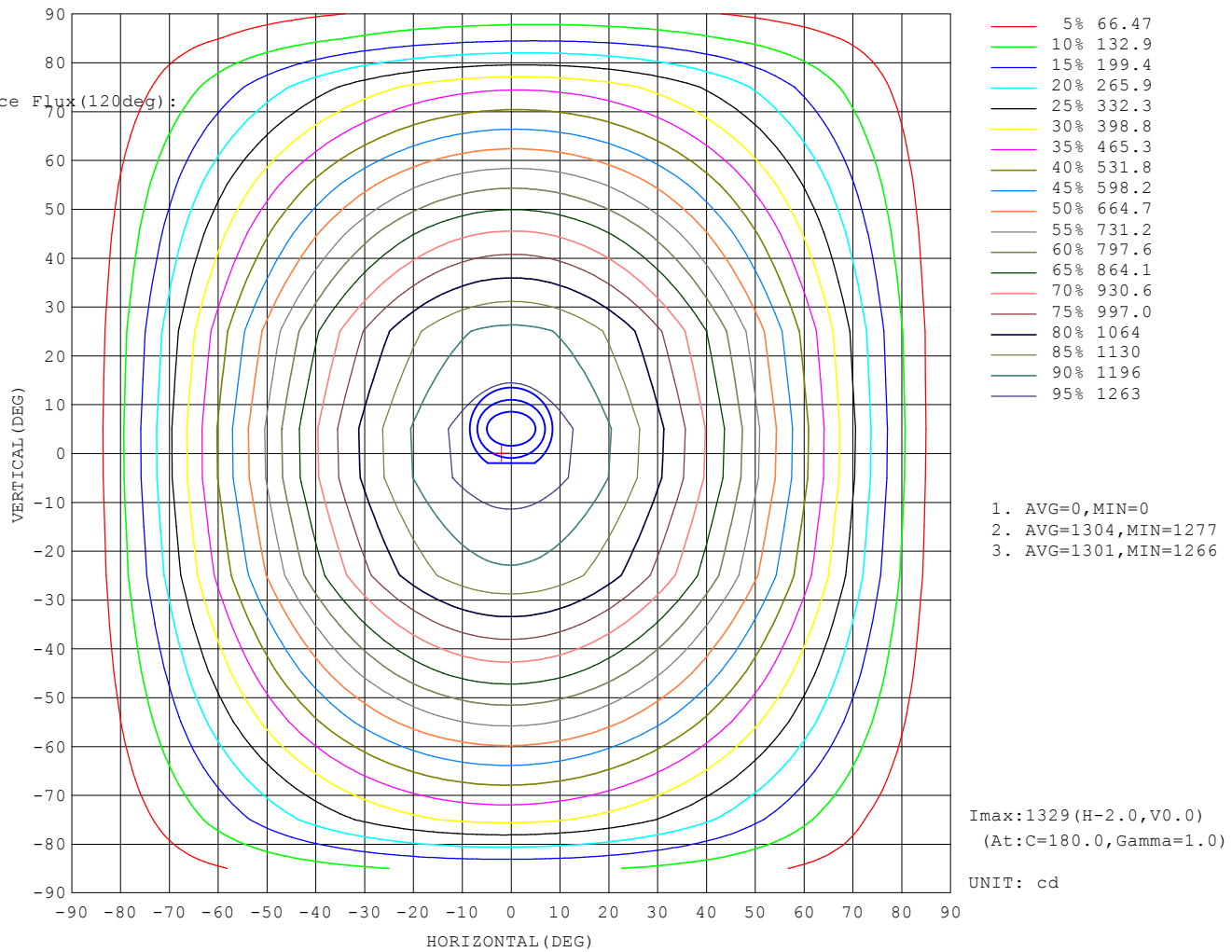
%lamp = 50.4%

Conical surface Flux(120deg):

2967.6 lm

%lum = 74.7%

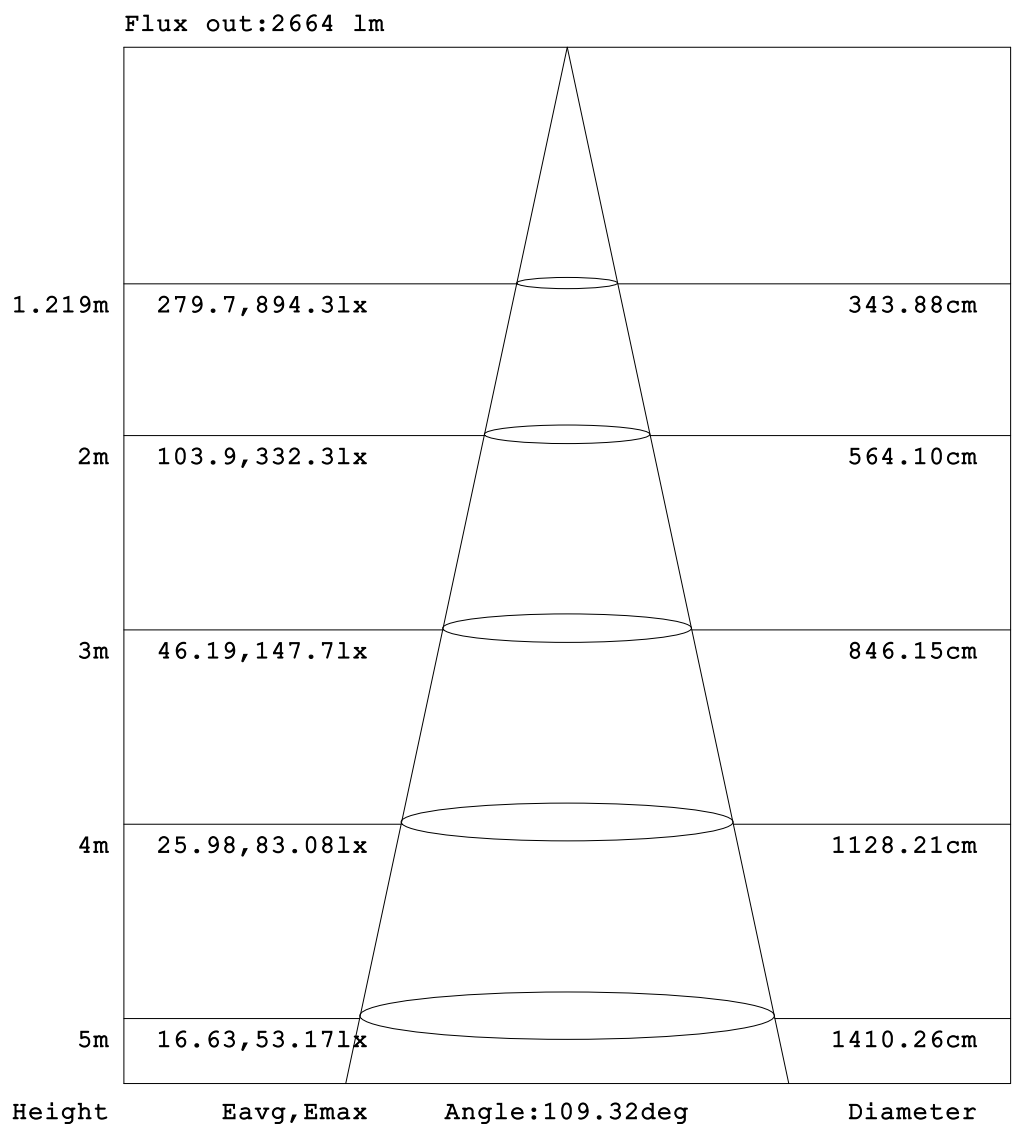
%lamp = 74.7%



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:

AAI Figure



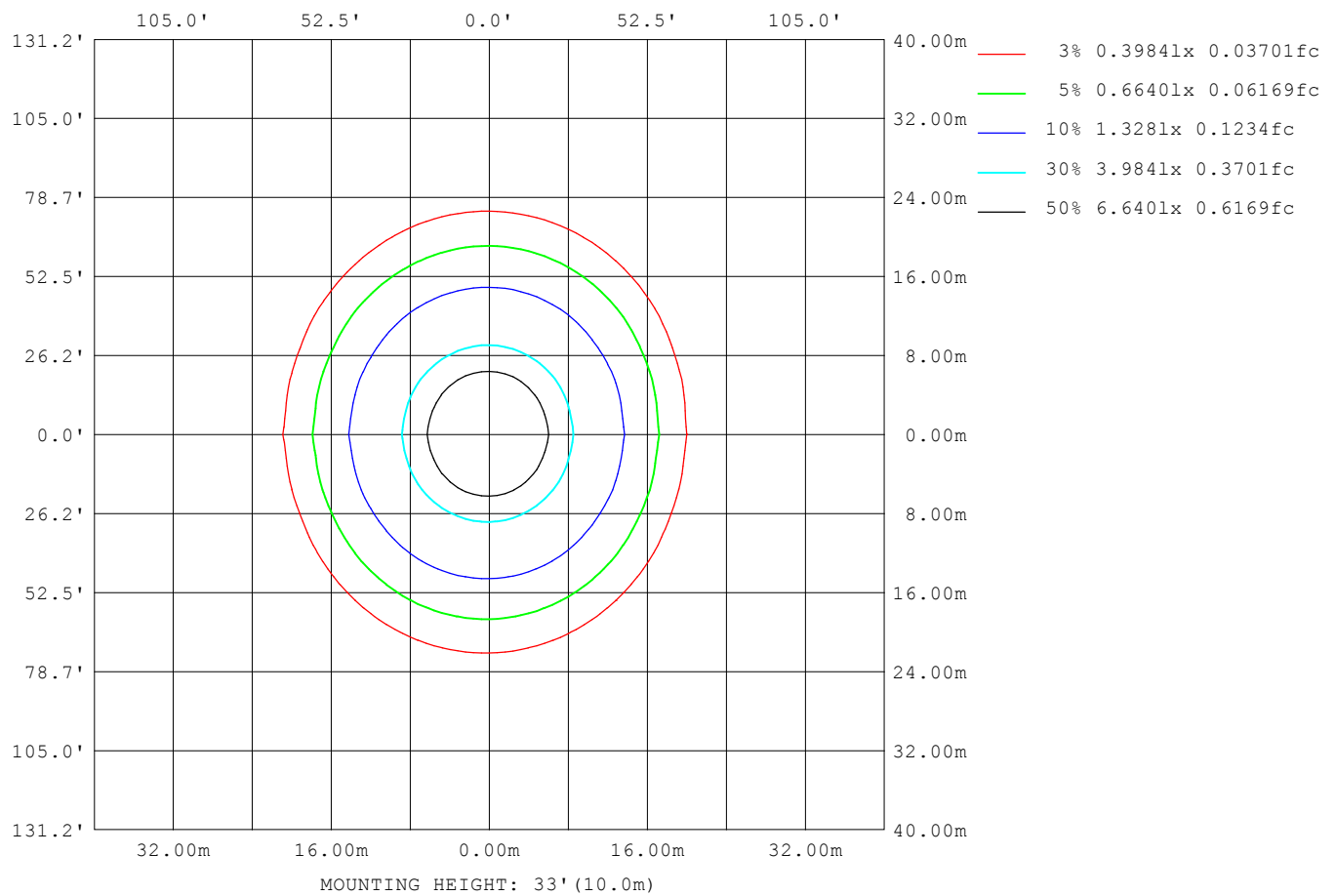
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

```

Range: 0 - 90DEG
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:0.2275A P:27.13W PF:0.9927 Lamp Flux:1987.57x2 lm		
NAME: LOC-24TROF-DMWMCCT	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:1186*145	PROTECTION ANGLE:

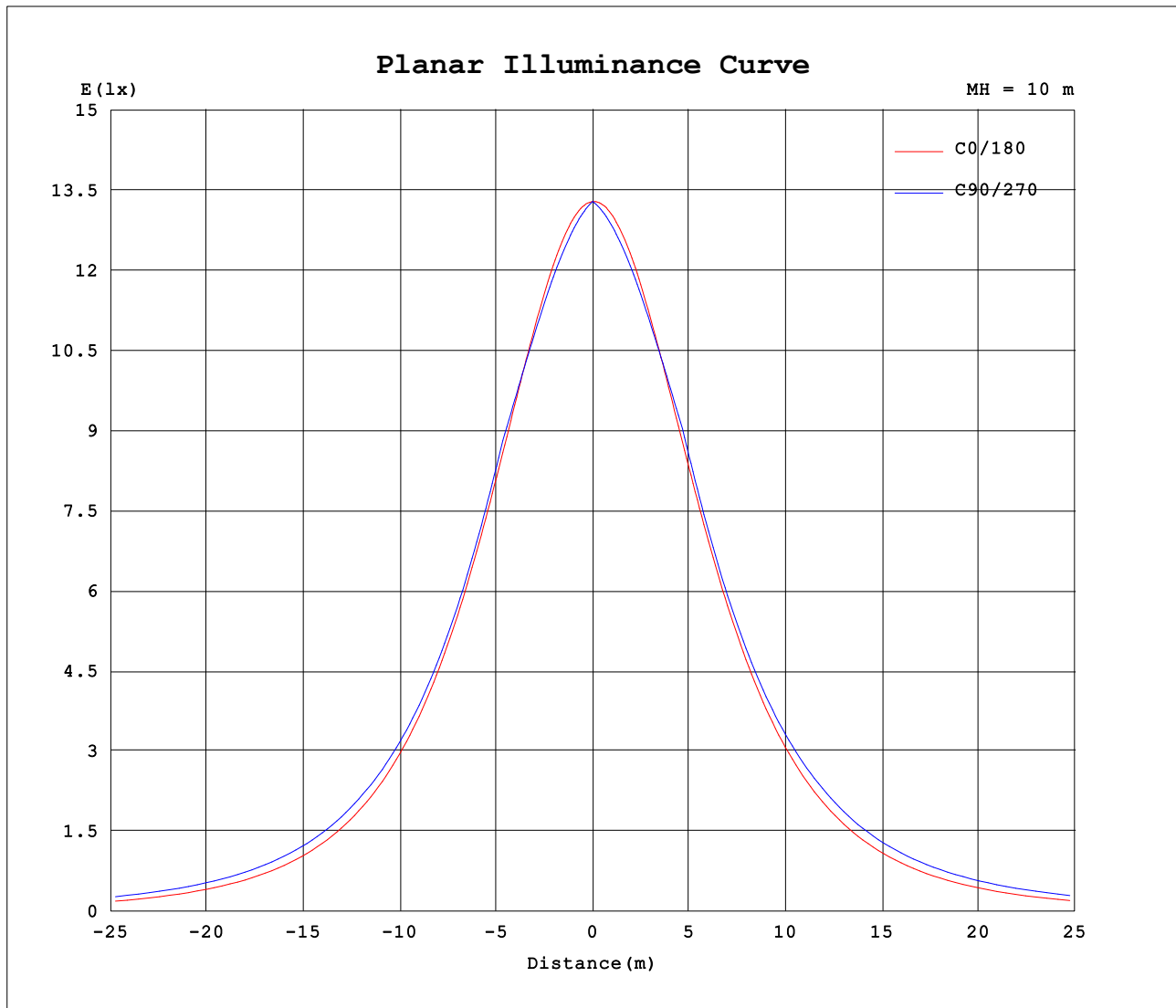
AvgL	cd/m2
L_0~180 (65) av	6148
L_0~180 (75) av	5227
L_0~180 (85) av	3825
L_90~270 (65) av	8259
L_90~270 (75) av	9777
L_90~270 (85) av	11123
L_45 (65) av	7152
L_45 (75) av	7719
L_45 (85) av	9263

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:

```