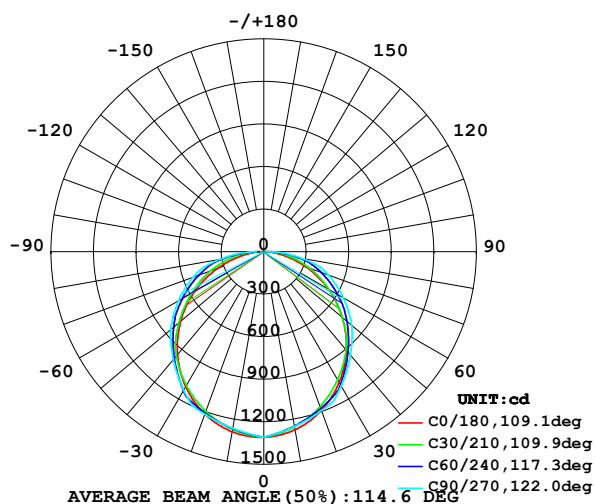


## LUMINAIRE PHOTOMETRIC TEST REPORT

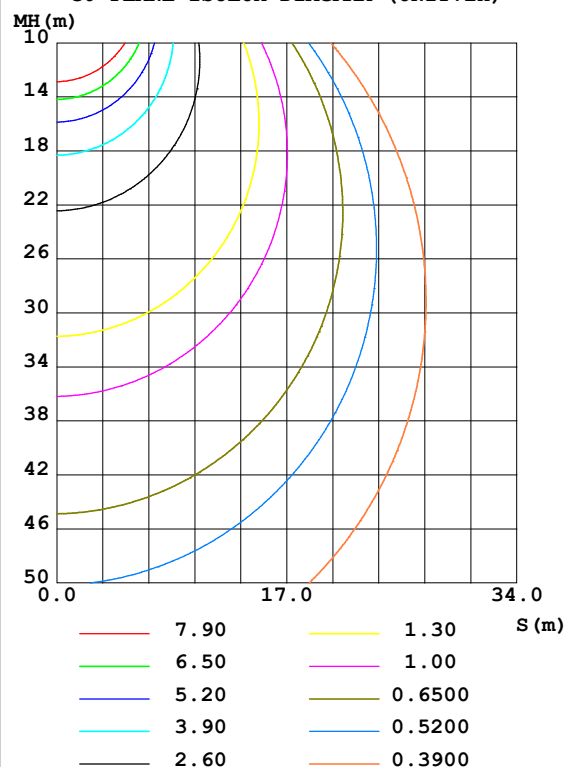
Test:U:120.2V I:0.2273A P:27.11W PF:0.9927 Lamp Flux:1954.61x2 lm		
NAME: LOC-24TRKT-DMWMCCT	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Fintronx LLC	SUR.:1188*63*14mm	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 144.18 lm/W			
MODEL	3500K	I <sub>max</sub> (cd)	1310	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)	3909.2	η UP,DN(C0-180)	0.0,48.8
NOMINAL FLUX(lm)	1954.61	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,51.2
LAMPS INSIDE	2	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	120	η 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

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:

## ZONAL FLUX DIAGRAM

## ZONAL FLUX DIAGRAM:

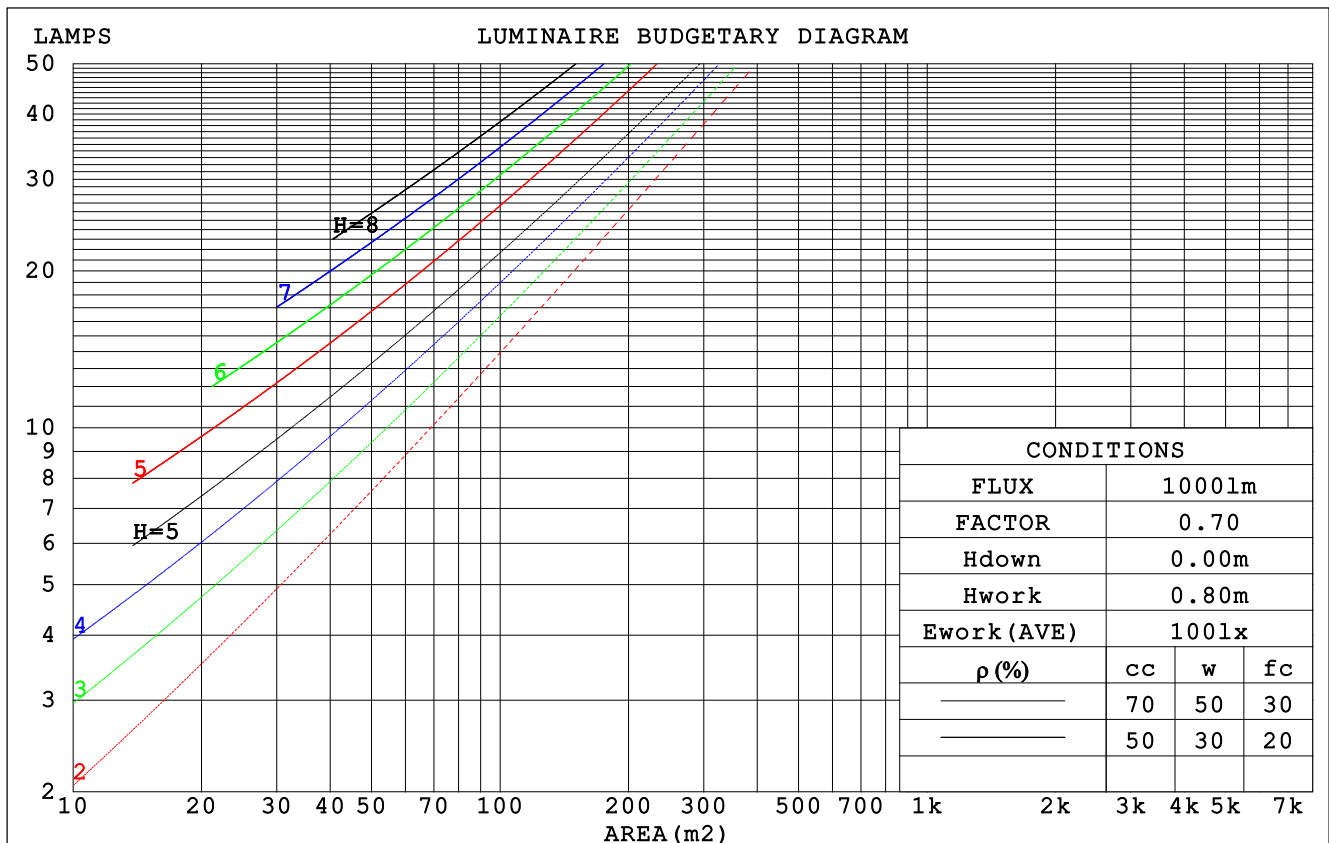
$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
5	1299	1283	1280	1288	1306	1292	1287	1287	0- 5	31.00	31.00	0.79,0.79
10	1275	1250	1251	1260	1290	1269	1264	1259	5- 10	91.24	122.2	3.13,3.13
15	1239	1211	1222	1226	1260	1239	1242	1226	10- 15	147.8	270.1	6.91,6.91
20	1191	1167	1193	1186	1218	1203	1220	1187	15- 20	199.6	469.7	12,12
25	1132	1118	1164	1141	1165	1162	1197	1143	20- 25	245.4	715.1	18.3,18.3
30	1065	1065	1093	1092	1101	1117	1129	1096	25- 30	283.4	998.4	25.5,25.5
35	988.7	1000	1022	1029	1028	1057	1062	1035	30- 35	310.4	1309	33.5,33.5
40	906.0	912.5	951.0	943.1	947.4	972.1	993.9	949.4	35- 40	327.1	1636	41.8,41.8
45	817.6	824.5	880.0	856.4	859.6	886.3	926.1	863.5	40- 45	333.9	1970	50.4,50.4
50	724.0	737.2	809.1	769.8	765.8	800.7	858.4	778.5	45- 50	331.3	2301	58.9,58.9
55	626.4	651.0	728.1	683.9	666.7	716.2	776.6	694.9	50- 55	319.6	2621	67,67
60	525.4	566.0	647.1	598.8	563.3	631.3	694.8	611.9	55- 60	298.6	2919	74.7,74.7
65	421.9	475.5	566.2	507.9	456.6	536.8	613.1	522.2	60- 65	270.0	3189	81.6,81.6
70	318.0	388.2	485.2	420.0	347.9	445.0	531.3	435.9	65- 70	235.3	3425	87.6,87.6
75	216.6	304.4	404.2	335.4	240.4	356.0	449.5	353.2	70- 75	196.2	3621	92.6,92.6
80	124.4	219.4	275.1	248.1	141.2	264.6	316.3	268.6	75- 80	151.0	3772	96.5,96.5
85	50.65	116.6	145.9	131.2	62.03	142.9	183.1	155.5	80- 85	96.59	3868	99,99
90	10.87	16.36	16.83	16.29	17.14	23.53	49.84	44.58	85- 90	40.77	3909	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	.82
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	.36
7.0	.50	.41	.34	.49	.40	.34	.47	.39	.34	.46	.39	.34	.44	.38	.33	.31
8.0	.45	.37	.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	.303	.167	.051	.292	.162	.050	.281	.157	.049	.271	.153	.048		
3.0	.283	.150	.045	.277	.148	.045	.267	.144	.044	.257	.141	.043	.248	.137	.042		
4.0	.258	.134	.039	.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	.073	.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	.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:2020-05-23

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	13.7	15.2	13.9	15.4	15.7	14.7	16.2	14.9	16.4	16.7
3H	15.1	16.6	15.4	16.8	17.0	16.8	18.2	17.1	18.4	18.7
4H	15.6	17.0	16.0	17.3	17.5	17.8	19.2	18.1	19.5	19.7
6H	16.0	17.3	16.3	17.6	17.9	18.7	20.0	19.0	20.3	20.6
8H	16.1	17.4	16.4	17.6	17.9	19.0	20.3	19.4	20.6	20.9
12H	16.1	17.4	16.5	17.7	18.0	19.3	20.5	19.7	20.8	21.1
4H 2H	14.4	15.8	14.8	16.1	16.4	15.2	16.6	15.5	16.9	17.1
3H	16.1	17.3	16.4	17.6	17.9	17.5	18.7	17.9	19.0	19.4
4H	16.7	17.9	17.1	18.2	18.5	18.8	19.9	19.1	20.2	20.5
6H	17.2	18.2	17.6	18.6	19.0	19.8	20.8	20.2	21.2	21.5
8H	17.4	18.3	17.8	18.7	19.1	20.2	21.2	20.7	21.6	21.9
12H	17.5	18.3	17.9	18.7	19.1	20.6	21.5	21.0	21.8	22.3
8H 4H	17.3	18.2	17.7	18.6	19.0	19.0	20.0	19.4	20.3	20.7
6H	18.0	18.8	18.4	19.2	19.6	20.3	21.1	20.7	21.5	21.9
8H	18.3	19.0	18.7	19.4	19.8	20.9	21.6	21.3	22.0	22.4
12H	18.4	19.0	18.9	19.5	20.0	21.4	22.0	21.8	22.4	22.9
12H 4H	17.4	18.3	17.8	18.7	19.1	19.0	19.9	19.5	20.3	20.7
6H	18.2	18.9	18.7	19.3	19.8	20.4	21.1	20.8	21.5	22.0
8H	18.5	19.2	19.0	19.6	20.1	21.0	21.6	21.5	22.1	22.5
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 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 3909 lm Total Lamp Luminous Flux. (8log(F/F0) = 4.7)

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:

## 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	69	62	77	68	62	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):

1969.9 lm

%lum = 50.4%

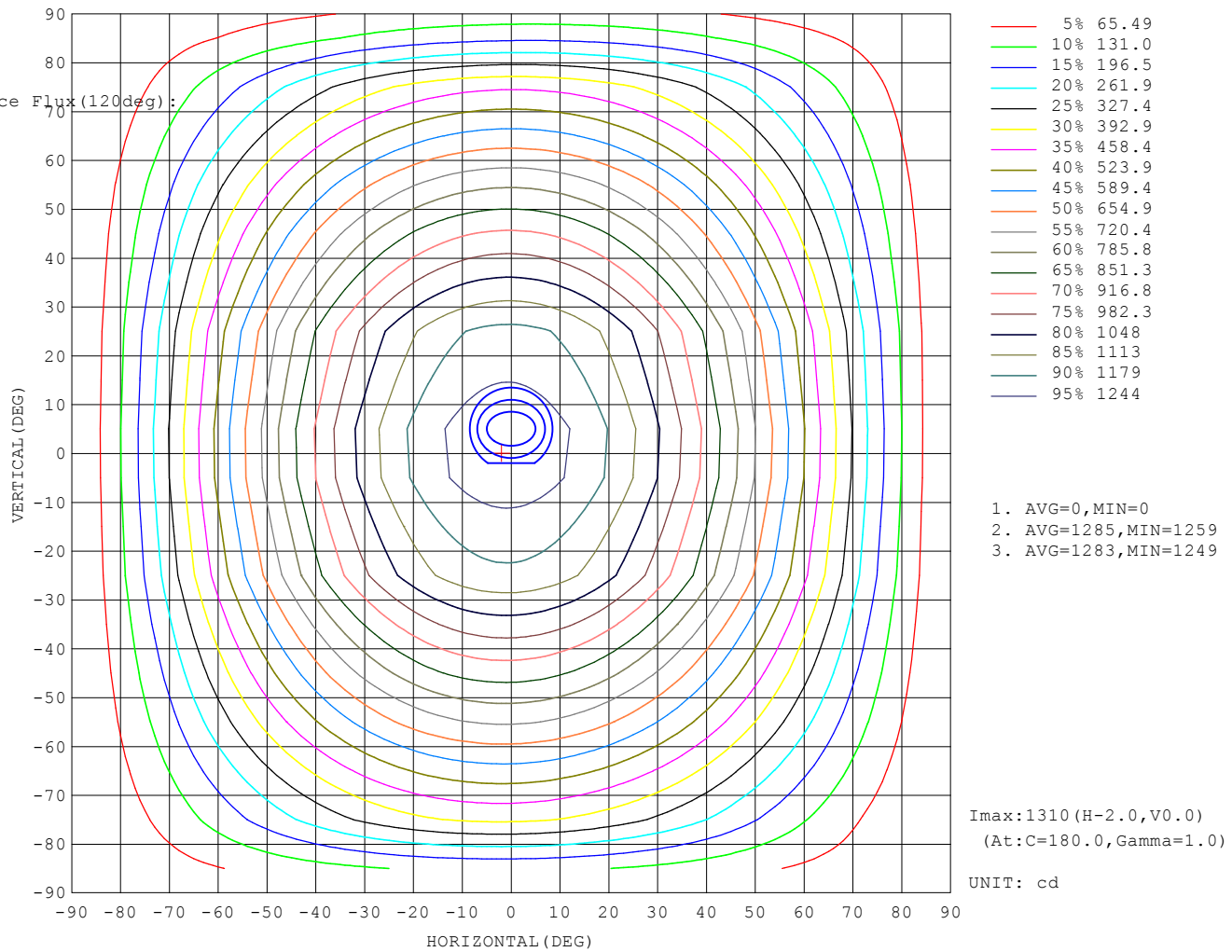
%lamp = 50.4%

Conical surface Flux(120deg):

2919.4 lm

%lum = 74.7%

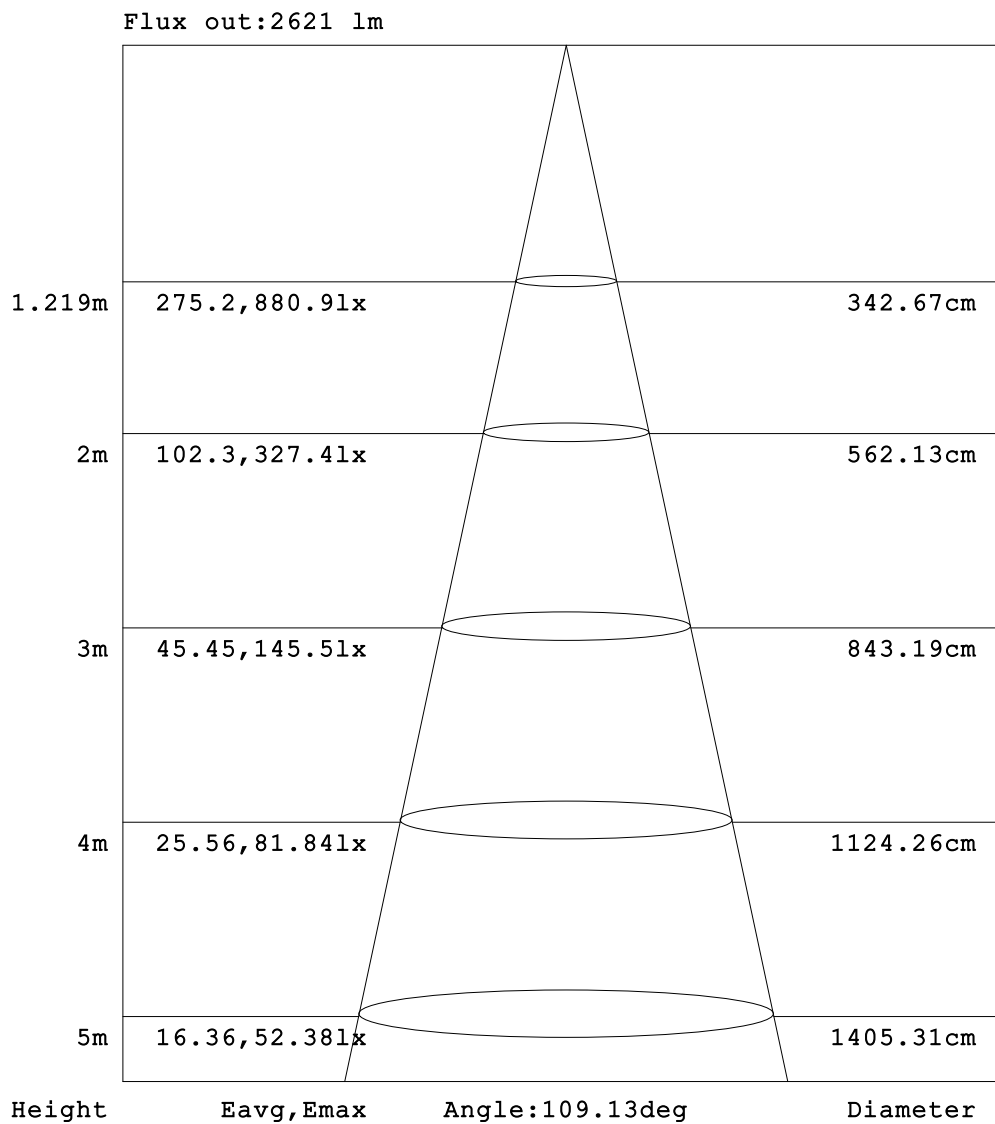
%lamp = 74.7%



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



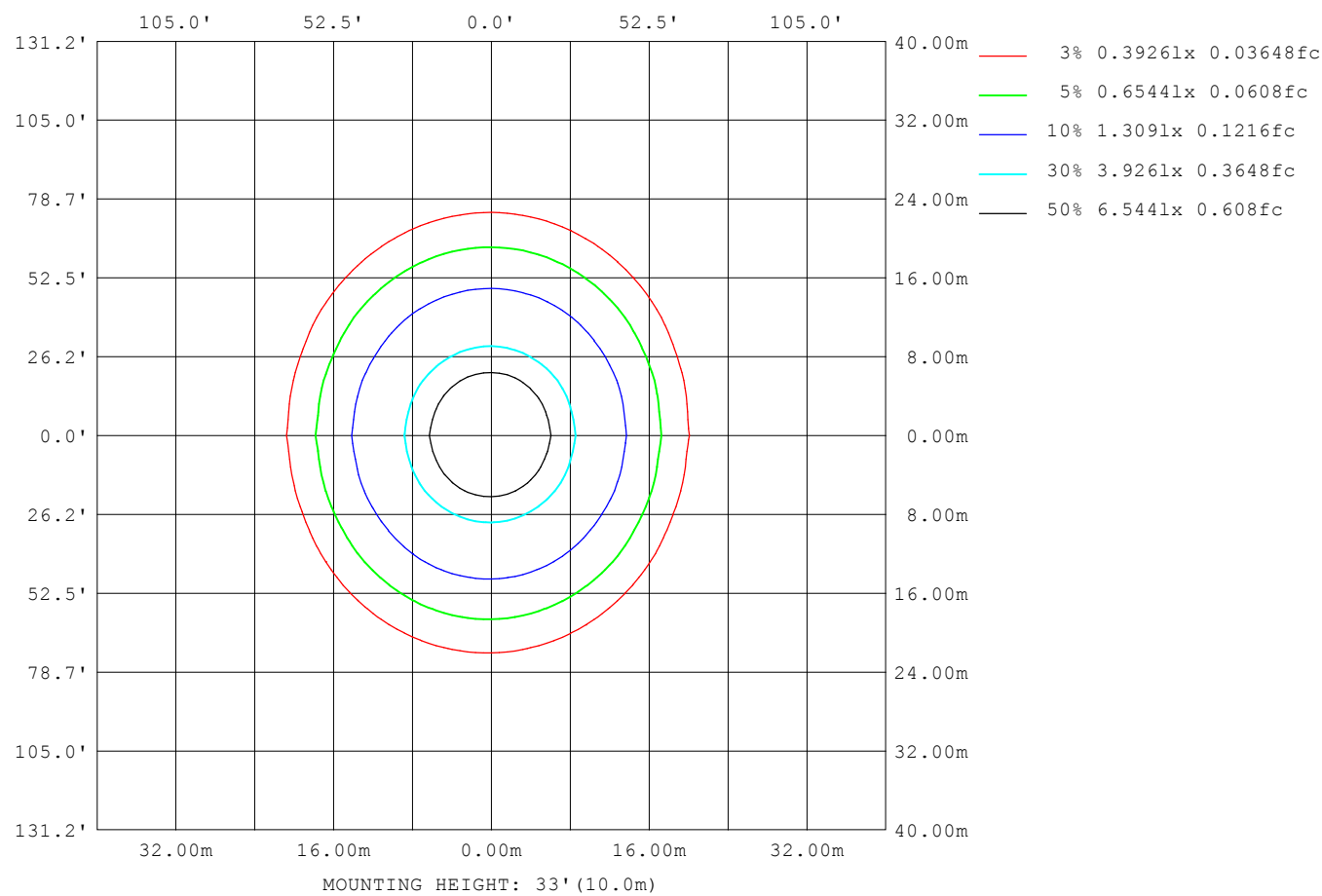
**Note:**The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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	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:2020-05-23	Remarks:

## LED Avg.L Report

Test:U:120.2V I:0.2273A P:27.11W PF:0.9927 Lamp Flux:1954.61x2 lm		
NAME: LOC-24TRKT-DMWMCCT	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Fintronx LLC	SUR.:1188*63*14mm	PROTECTION ANGLE:

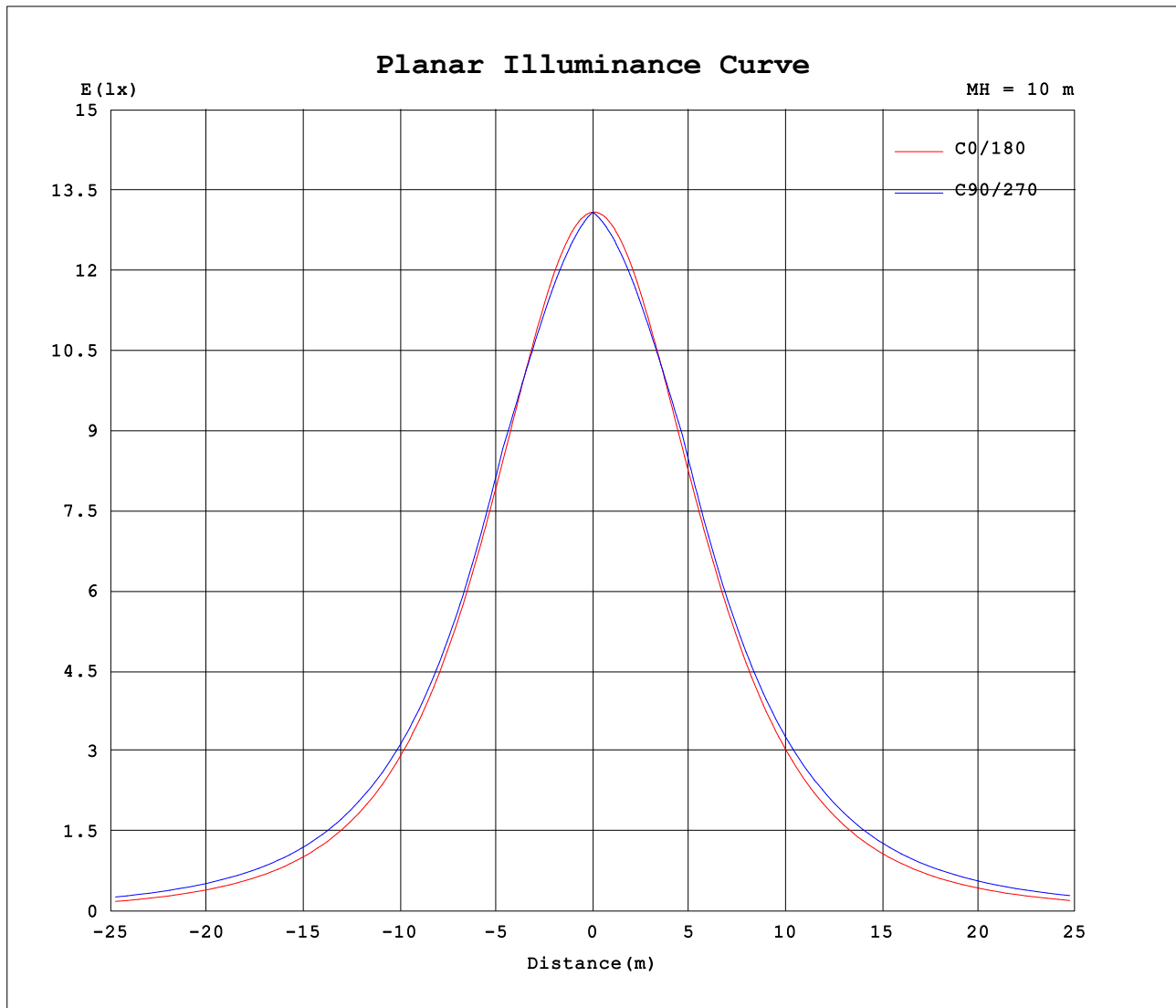
AvgL	cd/m2
L_0~180 (65) av	1389
L_0~180 (75) av	1180
L_0~180 (85) av	864
L_90~270 (65) av	1864
L_90~270 (75) av	2204
L_90~270 (85) av	2522
L_45 (65) av	1614
L_45 (75) av	1741
L_45 (85) av	2093

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:

```