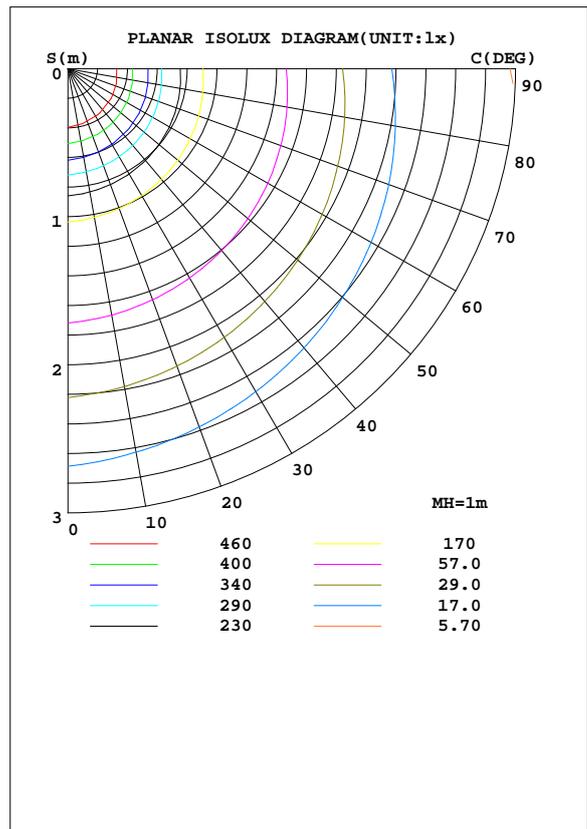
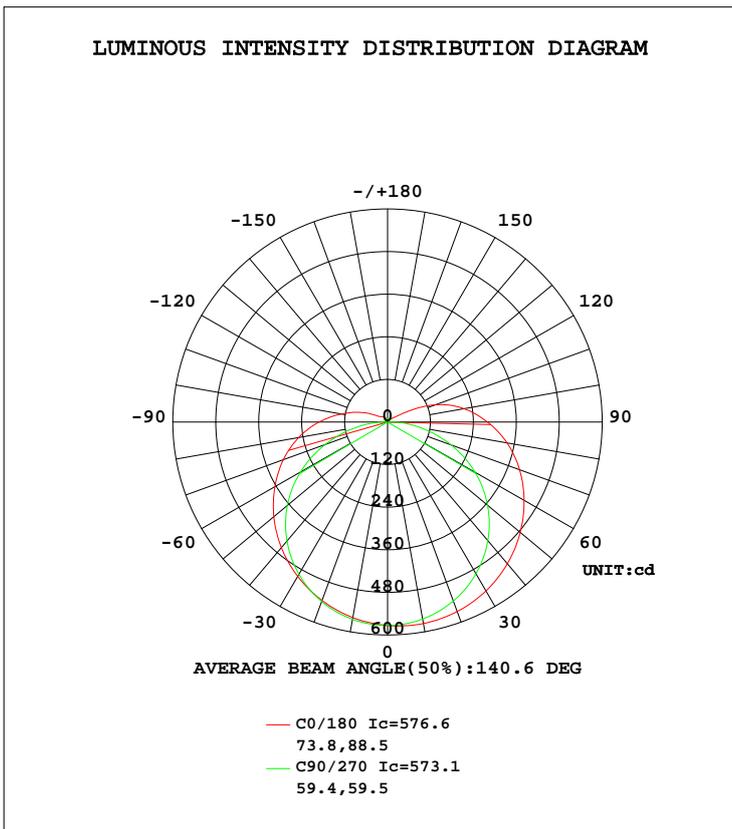


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:24.000V I:0.9800A P:23.520W PF:1.0000 Freq:0Hz Lamp Flux:2434.43x1 lm		
NAME: IP67-UB-VA-30K	TYPE: LED Strip	WEIGHT:
SPEC.: 24W	DIM.: 1000*12*2 (mm)	SERIAL No.: 001
MFR.: Flexfire LEDs, Inc.	SUR.: 0.02*1	Shielding Angle: 120

DATA OF LAMP		PHOTOMETRIC DATA Eff: 103.50 lm/W			
MODEL		I <sub>max</sub> (cd)	576.6	S/MH(C0/180)	1.31
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.29
RATED VOLTAGE(V)		TOTAL FLUX(lm)	2434.4	η UP, DN(C0-180)	6.6,46.7
NOMINAL FLUX(lm)	2434.43	CIE CLASS	SEMI-D.	η UP, DN(C180-360)	4.6,42.0
LAMPS INSIDE	1	η up(%)	11.2	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)		η down(%)	88.8	CIBSE SHR MAX	1.50



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Test Date:2022-02-17

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.00.429  
 Humidity:65.0%  
 Test Distance:9.66m [K=1.0000]  
 Remarks:

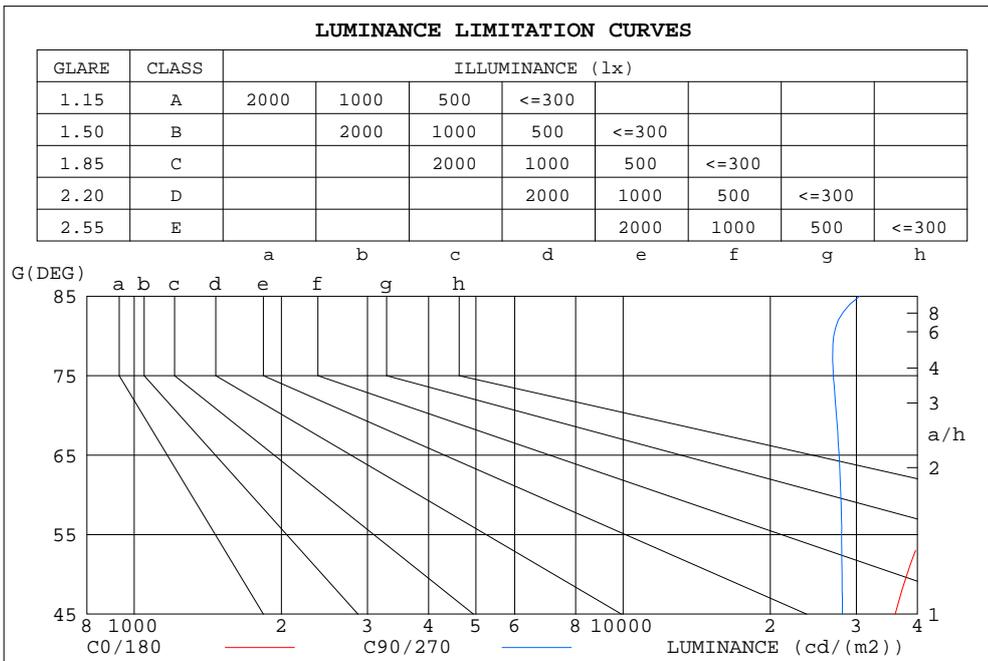
**ZONAL FLUX DIAGRAM**
**ZONAL FLUX DIAGRAM:**

$\gamma$	C0	C90	C180	C270				$\gamma$	$\Phi$ zone	$\Phi$ total	$\Phi$ lum,lamp
10	576.4	563.7	559.4	564.4				0- 10	54.37	54.37	2.23,2.23
20	568.2	536.7	535.2	538.0				10- 20	157.4	211.8	8.7,8.7
30	549.6	493.8	502.2	495.3				20- 30	244.2	455.9	18.7,18.7
40	521.0	436.0	461.8	437.6				30- 40	306.2	762.1	31.3,31.3
50	483.8	364.9	415.1	365.7				40- 50	337.7	1100	45.2,45.2
60	440.6	282.2	363.5	280.9				50- 60	336.6	1436	59,59
70	392.5	189.1	309.9	185.8				60- 70	304.1	1740	71.5,71.5
80	338.8	94.76	252.2	90.76				70- 80	246.0	1986	81.6,81.6
90	279.3	20.22	191.4	10.99				80- 90	174.4	2161	88.8,88.8
100	217.4	3.301	131.2	3.085				90-100	115.9	2277	93.5,93.5
110	142.5	3.642	79.83	3.938				100-110	78.66	2355	96.8,96.8
120	47.96	4.109	36.66	5.197				110-120	40.39	2396	98.4,98.4
130	16.74	4.560	24.08	7.061				120-130	15.01	2411	99,99
140	11.95	4.967	20.09	8.475				130-140	9.421	2420	99.4,99.4
150	9.951	5.342	14.52	9.752				140-150	6.740	2427	99.7,99.7
160	6.697	7.088	9.240	10.85				150-160	4.316	2431	99.9,99.9
170	5.742	9.969	5.866	11.67				160-170	2.264	2434	100,100
180	6.022	11.75	6.006	11.94				170-180	0.8160	2434	100,100
DEG	LUMINOUS INTENSITY:cd								UNIT:lm		

**C Range: 0 - 360DEG**  
**C Interval: 90.0DEG**  
**Test Speed: HIGH**  
**Temperature:25.3DEG**  
**Test Date:2022-02-17**

**$\gamma$  Range: 0 - 180DEG**  
 **$\gamma$  Interval: 1.0DEG**  
**Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.00.429**  
**Humidity:65.0%**  
**Test Distance:8.270m [K=1.0000]**  
**Remarks:**

LUMINANCE LIMITATION CURVES



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	179865	30452
80	98721	26961
75	71640	26901
70	58059	27313
65	49933	27663
60	44582	27884
55	40829	27992
50	38080	28044
45	36021	28083

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Test Date: 2022-02-17

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.00.429  
 Humidity: 65.0%  
 Test Distance: 8.270m [K=1.0000]  
 Remarks:



**WEC AND CCEC**

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.386	.220	.070	.375	.214	.068	.355	.204	.065	.337	.194	.062	.320	.186	.060	
2.0	.337	.184	.057	.327	.180	.055	.309	.172	.053	.292	.164	.051	.277	.157	.049	
3.0	.300	.160	.048	.291	.156	.047	.275	.149	.045	.260	.142	.044	.246	.136	.042	
4.0	.270	.140	.041	.262	.137	.041	.248	.131	.039	.234	.126	.038	.222	.120	.037	
5.0	.246	.125	.036	.239	.123	.036	.225	.117	.035	.213	.112	.033	.202	.108	.032	
6.0	.225	.113	.032	.219	.110	.032	.207	.106	.031	.196	.102	.030	.185	.097	.029	
7.0	.208	.103	.029	.202	.101	.029	.191	.097	.028	.181	.093	.027	.171	.089	.026	
8.0	.192	.094	.026	.187	.092	.026	.177	.089	.025	.168	.085	.025	.159	.082	.024	
9.0	.179	.087	.024	.175	.085	.024	.165	.082	.023	.157	.079	.023	.149	.076	.022	
10.0	.168	.080	.022	.163	.079	.022	.155	.076	.021	.147	.073	.021	.140	.070	.020	

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.276	.276	.276	.236	.236	.236	.161	.161	.161	.093	.093	.093	.030	.030	.030	
1.0	.272	.242	.215	.233	.208	.185	.159	.143	.128	.092	.083	.074	.029	.027	.024	
2.0	.265	.219	.179	.227	.188	.155	.156	.130	.108	.090	.076	.063	.029	.024	.021	
3.0	.258	.202	.157	.221	.174	.137	.152	.121	.096	.088	.071	.056	.028	.023	.018	
4.0	.250	.189	.143	.214	.163	.124	.147	.114	.087	.085	.067	.052	.027	.022	.017	
5.0	.242	.179	.133	.208	.155	.116	.143	.108	.082	.083	.064	.048	.027	.021	.016	
6.0	.234	.171	.126	.202	.148	.110	.139	.104	.078	.081	.061	.046	.026	.020	.015	
7.0	.227	.165	.121	.195	.143	.105	.135	.100	.074	.078	.059	.044	.025	.019	.015	
8.0	.220	.159	.117	.190	.138	.102	.131	.097	.072	.076	.057	.043	.025	.019	.014	
9.0	.214	.154	.113	.184	.134	.099	.128	.094	.070	.074	.055	.042	.024	.018	.014	
10.0	.208	.150	.111	.179	.130	.097	.124	.092	.069	.073	.054	.041	.024	.018	.014	

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Test Date: 2022-02-17

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.00.429  
 Humidity: 65.0%  
 Test Distance: 8.270m [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	24.3	25.8	24.8	26.4	26.9	22.5	24.0	23.0	24.5	25.1
3H	27.4	28.8	27.9	29.3	29.9	24.5	25.9	25.0	26.4	27.0
4H	29.0	30.3	29.6	30.9	31.5	25.3	26.6	25.9	27.2	27.8
6H	30.8	32.0	31.4	32.6	33.2	26.0	27.3	26.6	27.8	28.5
8H	31.8	33.0	32.4	33.5	34.2	26.3	27.5	26.9	28.1	28.7
12H	32.9	34.0	33.5	34.6	35.3	26.5	27.7	27.1	28.3	28.9
4H 2H	24.9	26.2	25.4	26.7	27.4	23.4	24.7	24.0	25.3	25.9
3H	28.1	29.3	28.7	29.9	30.5	25.7	26.8	26.3	27.4	28.1
4H	29.9	30.9	30.5	31.6	32.2	26.7	27.8	27.3	28.4	29.0
6H	31.9	32.8	32.5	33.4	34.1	27.6	28.5	28.2	29.1	29.8
8H	33.0	33.9	33.6	34.5	35.2	27.9	28.8	28.5	29.4	30.1
12H	34.3	35.1	34.9	35.7	36.5	28.2	29.0	28.9	29.7	30.4
8H 4H	30.2	31.1	30.8	31.7	32.4	27.5	28.4	28.1	29.0	29.7
6H	32.4	33.1	33.0	33.8	34.5	28.6	29.4	29.3	30.0	30.7
8H	33.7	34.3	34.3	35.0	35.7	29.1	29.8	29.8	30.5	31.2
12H	35.2	35.8	35.8	36.5	37.2	29.6	30.2	30.3	30.9	31.6
12H 4H	30.2	31.0	30.9	31.7	32.4	27.7	28.5	28.4	29.2	29.9
6H	32.5	33.1	33.1	33.8	34.5	29.0	29.7	29.7	30.3	31.1
8H	33.8	34.4	34.5	35.1	35.9	29.6	30.2	30.3	30.9	31.7
CIE190: 2010										

CIE190: 2010  
Area: 0.02 m2

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Test Date: 2022-02-17

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.00.429  
Humidity: 65.0%  
Test Distance: 8.270m [K=1.0000]  
Remarks:

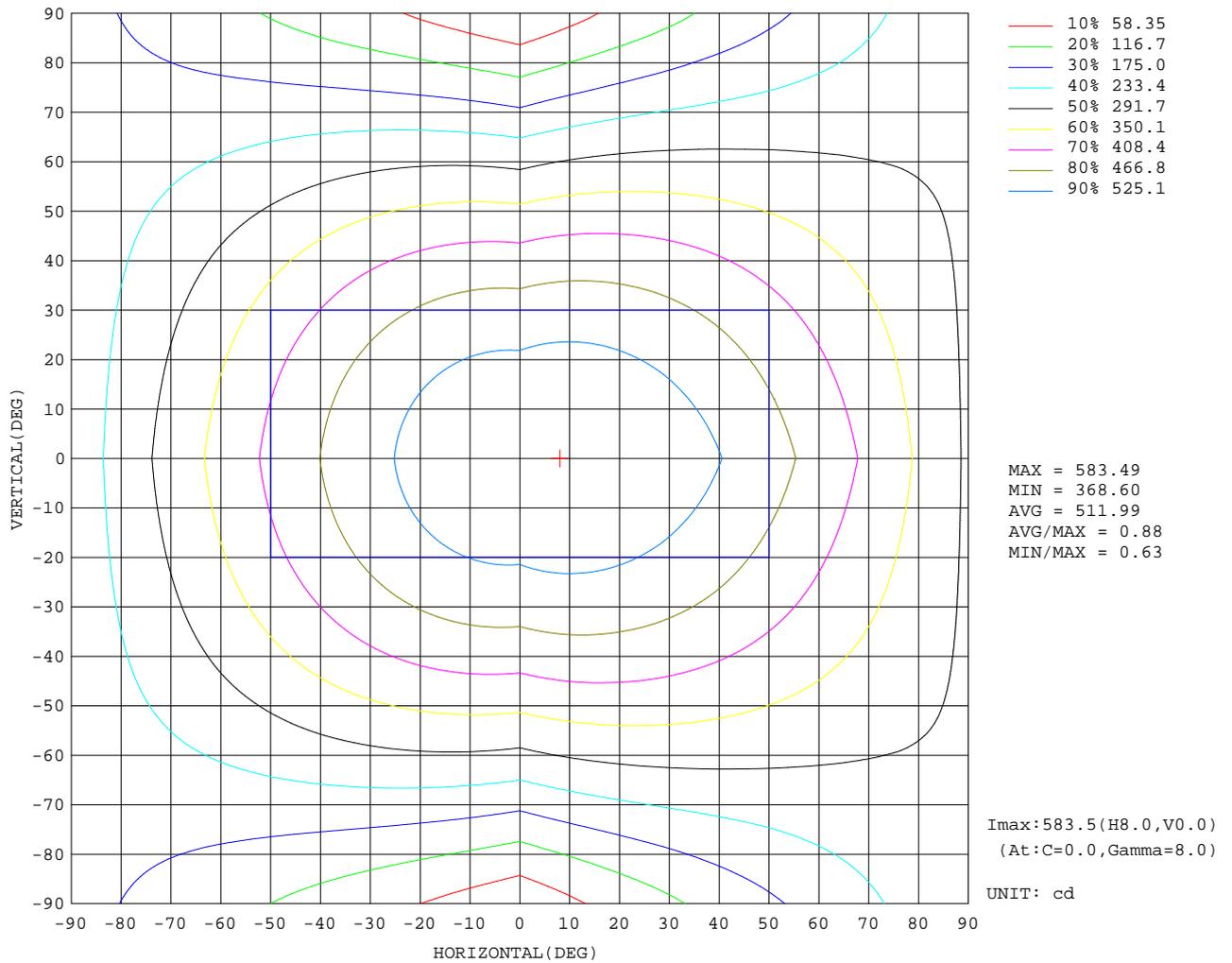
**UTILIZATION FACTORS TABLE**

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	50	37	30	49	37	30	47	36	29	23
0.80	59	46	38	57	45	37	55	44	37	29
1.00	67	54	45	65	53	45	62	54	44	36
1.25	74	61	53	72	60	52	68	58	51	42
1.50	79	67	58	76	65	57	72	63	56	46
2.00	86	75	67	83	73	66	79	70	64	53
2.50	91	81	73	88	79	71	82	75	69	58
3.00	94	85	78	91	83	76	86	79	73	61
4.00	99	91	85	96	89	83	90	84	79	67
5.00	102	95	89	98	92	87	92	87	83	70
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Test Date: 2022-02-17

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.00.429  
 Humidity: 65.0%  
 Test Distance: 8.270m [K=1.0000]  
 Remarks:

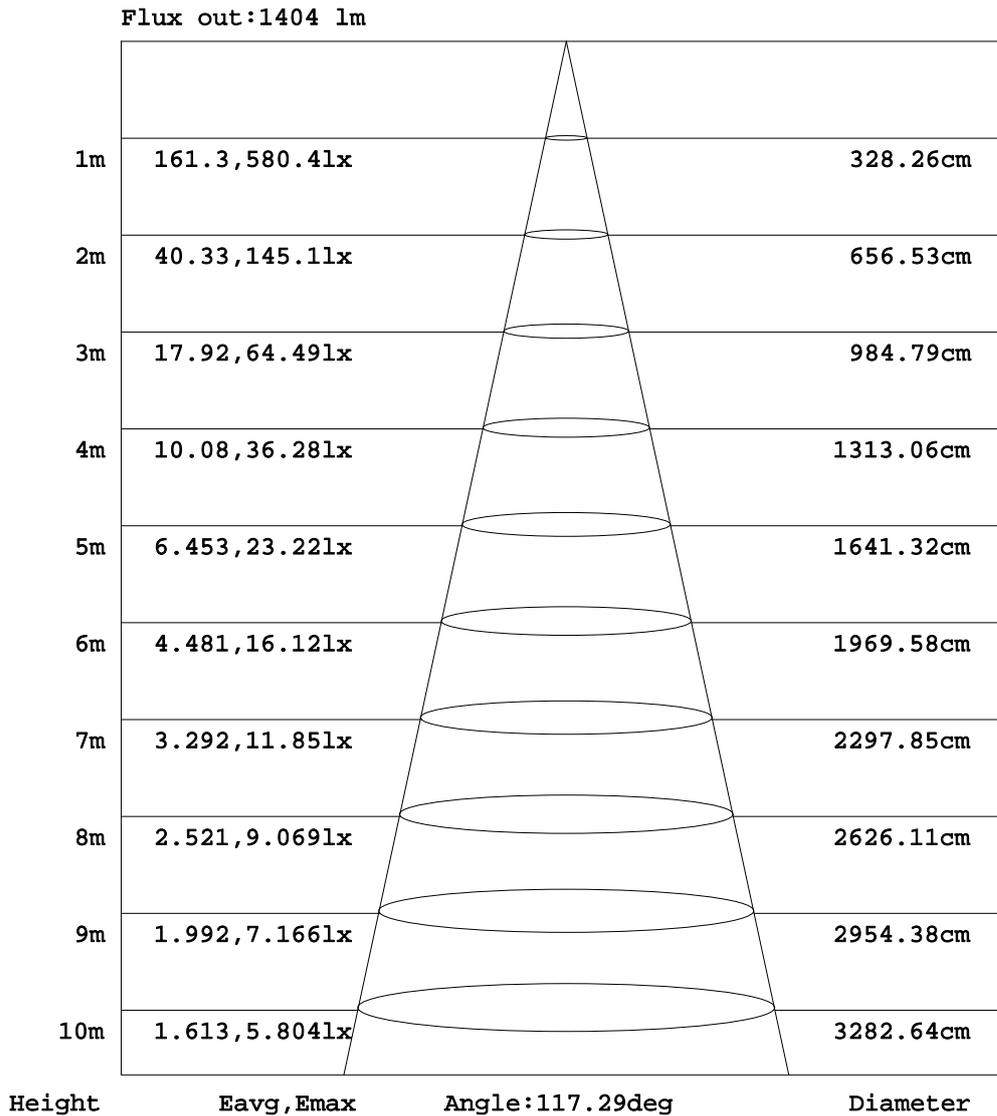
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Test Date: 2022-02-17

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.00.429  
 Humidity: 65.0%  
 Test Distance: 8.270m [K=1.0000]  
 Remarks:

AAI Figure

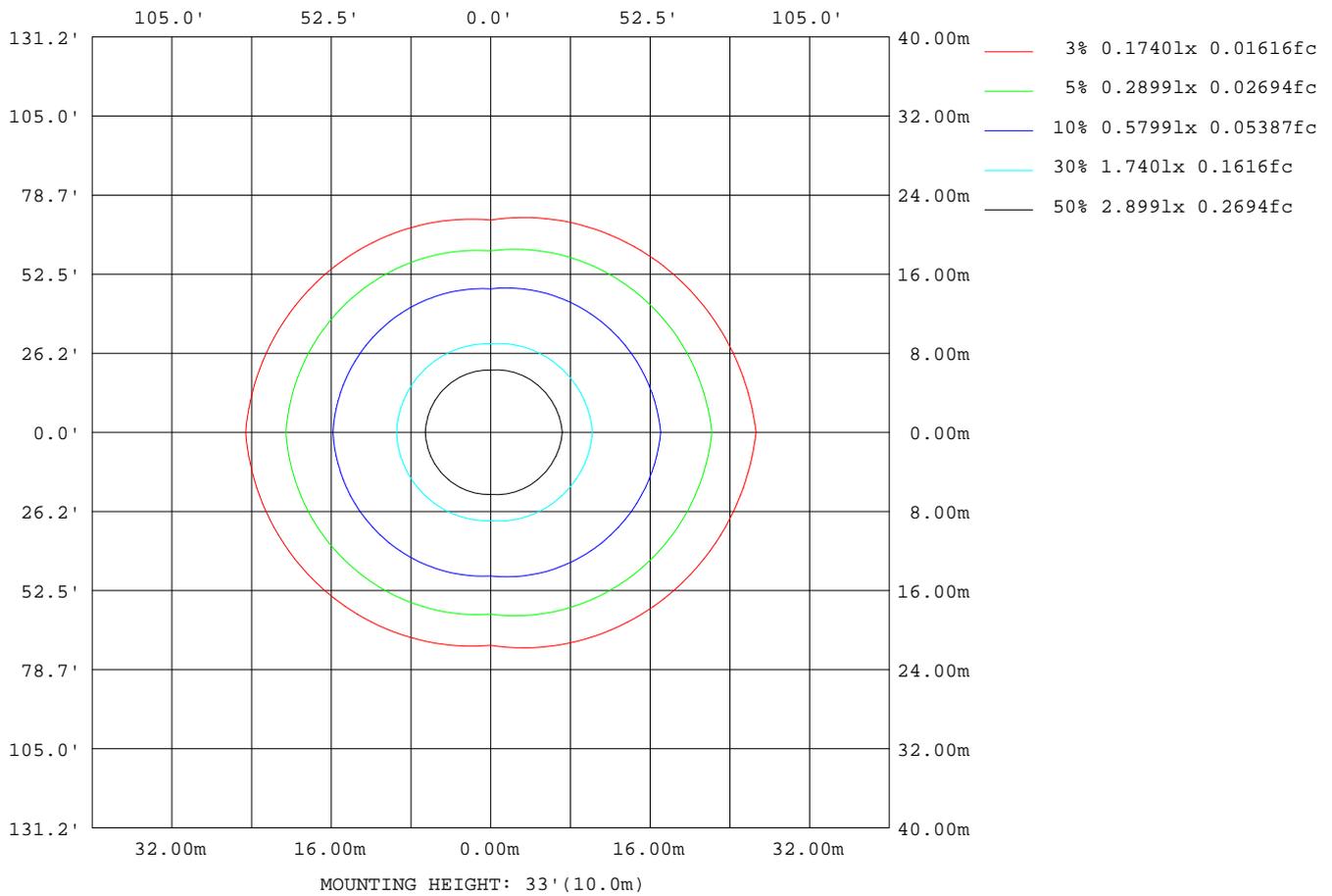


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Test Date:2022-02-17

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.00.429  
 Humidity:65.0%  
 Test Distance:8.270m [K=1.0000]  
 Remarks:

ISOLUX DIAGRAM



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Test Date: 2022-02-17

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.00.429  
 Humidity: 65.0%  
 Test Distance: 8.270m [K=1.0000]  
 Remarks:

**LED Avg.L Report**

Test:U:24.000V I:0.9800A P:23.520W PF:1.0000 Freq:0Hz Lamp Flux:2434.43x1 lm		
NAME: IP67-UB-VA-30K	TYPE: LED Strip	WEIGHT:
SPEC.: 24W	DIM.: 1000*12*2 (mm)	SERIAL No.: 001
MFR.: Flexfire LEDs, Inc.	SUR.: 0.02*1	Shielding Angle: 120

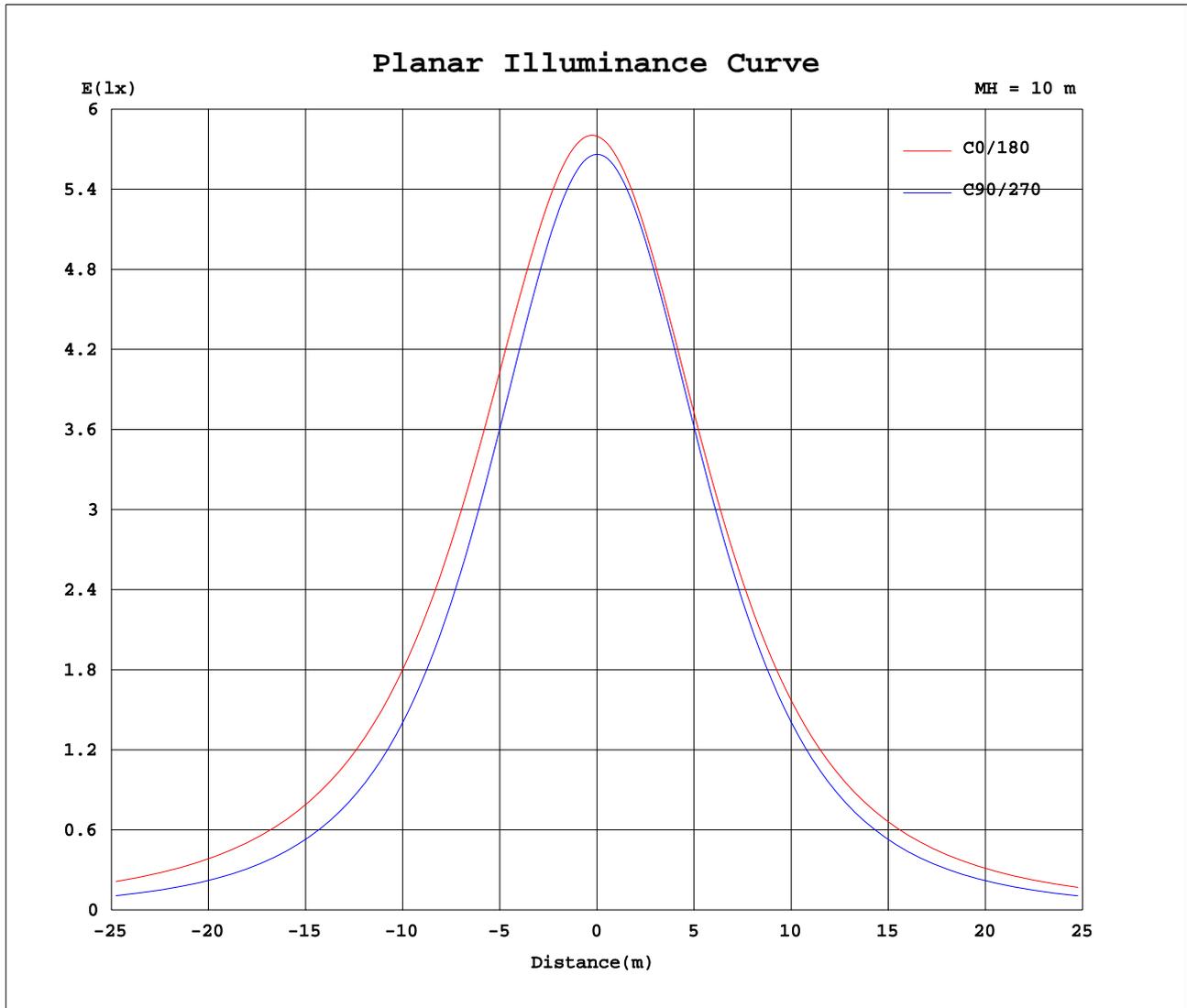
AvgL	cd/m2
L_0~180(65)av	44604
L_0~180(75)av	62584
L_0~180(85)av	152550
L_90~270(65)av	27852
L_90~270(75)av	26906
L_90~270(85)av	28893
L_45(65)av	33928
L_45(75)av	39964
L_45(85)av	74352

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Test Date:2022-02-17

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.00.429  
 Humidity:65.0%  
 Test Distance:8.270m [K=1.0000]  
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Test Date: 2022-02-17

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.00.429  
 Humidity: 65.0%  
 Test Distance: 8.270m [K=1.0000]  
 Remarks:

**LUMINOUS DISTRIBUTION INTENSITY DATA**
**Table--1**
**UNIT: cd**

C(DEG) γ (DEG)	0	90	180	270																
0	573	573	573	573																
5	576	571	568	571																
10	576	564	559	564																
15	574	552	548	553																
20	568	537	535	538																
25	560	517	520	519																
30	550	494	502	495																
35	536	467	483	468																
40	521	436	462	438																
45	503	402	439	403																
50	484	365	415	366																
55	463	325	390	325																
60	441	282	363	281																
65	417	237	337	234																
70	392	189	310	186																
75	366	141	281	138																
80	339	94.8	252	90.8																
85	310	53.7	222	47.0																
90	279	20.2	191	11.0																
95	249	3.39	161	2.80																
100	217	3.30	131	3.09																
105	183	3.45	105	3.52																
110	143	3.64	79.8	3.94																
115	94.7	3.87	56.5	4.44																
120	48.0	4.11	36.7	5.20																
125	24.8	4.35	27.3	6.14																
130	16.7	4.56	24.1	7.06																
135	13.4	4.76	22.1	7.78																
140	12.0	4.97	20.1	8.48																
145	10.9	5.16	17.5	9.14																
150	9.95	5.34	14.5	9.75																
155	8.63	5.71	12.4	10.3																
160	6.70	7.09	9.24	10.8																
165	5.59	8.61	6.19	11.3																
170	5.74	9.97	5.87	11.7																
175	5.90	11.1	5.96	11.9																
180	6.02	11.8	6.01	11.9																

**C Range: 0 - 360DEG**  
**C Interval: 90.0DEG**  
**Test Speed: HIGH**  
**Temperature:25.3DEG**  
**Test Date:2022-02-17**

**γ Range: 0 - 180DEG**  
**γ Interval: 1.0DEG**  
**Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.00.429**  
**Humidity:65.0%**  
**Test Distance:8.270m [K=1.0000]**  
**Remarks:**