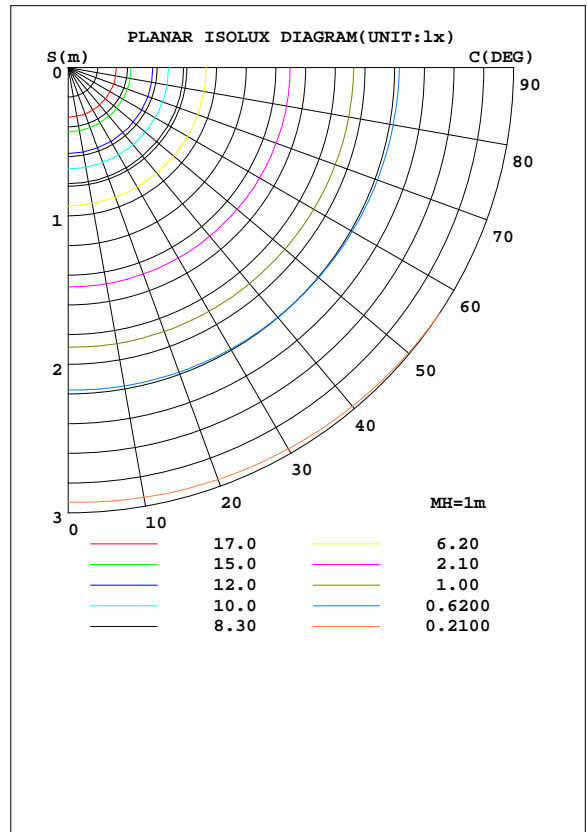
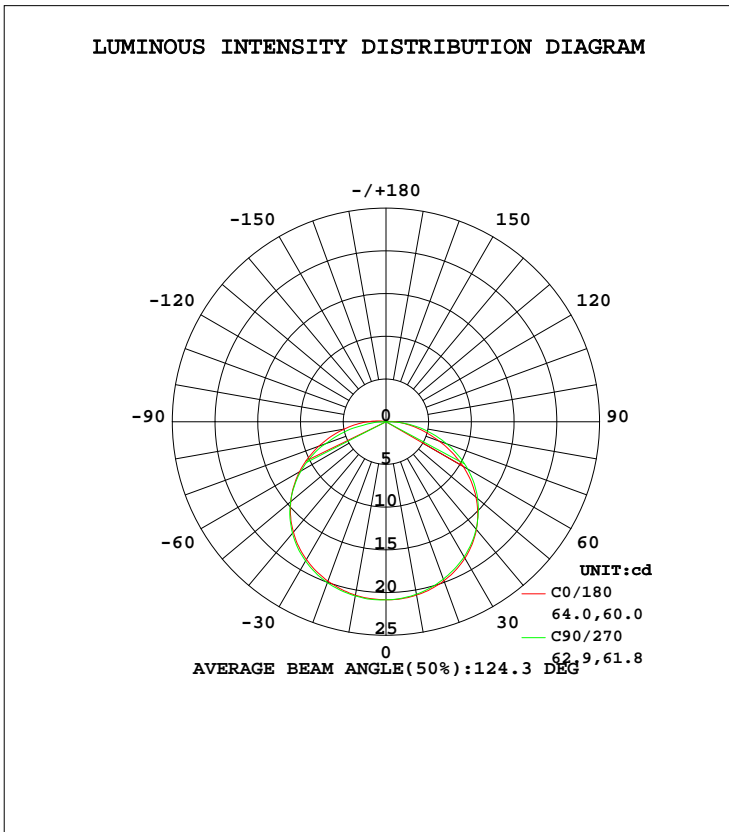


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:24.000V I:0.1000A P:2.4000W PF:1.0000 Freq:0Hz Lamp Flux:69.6086x1 lm		
NAME: CB-RGB150	TYPE: LED Strip	WEIGHT:
SPEC.: 7.2 W	DIM.: 1000*10*2(MM)	SERIAL No.: 001
MFR.: Flexfire LEDs, Inc.	SUR.: 0.02*1	Shielding Angle: 120

DATA OF LAMP		PHOTOMETRIC DATA Eff: 29.00 lm/W			
MODEL		I <sub>max</sub> (cd)	20.86	S/MH(C0/180)	1.33
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.34
RATED VOLTAGE(V)		TOTAL FLUX(lm)	69.609	η UP, DN(C0-180)	0.4,48.1
NOMINAL FLUX(lm)	69.6086	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.7,50.9
LAMPS INSIDE	1	η up(%)	1.0	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)		η down(%)	99.0	CIBSE SHR MAX	1.50



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Test Date:2021-11-17

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:

## ZONAL FLUX DIAGRAM

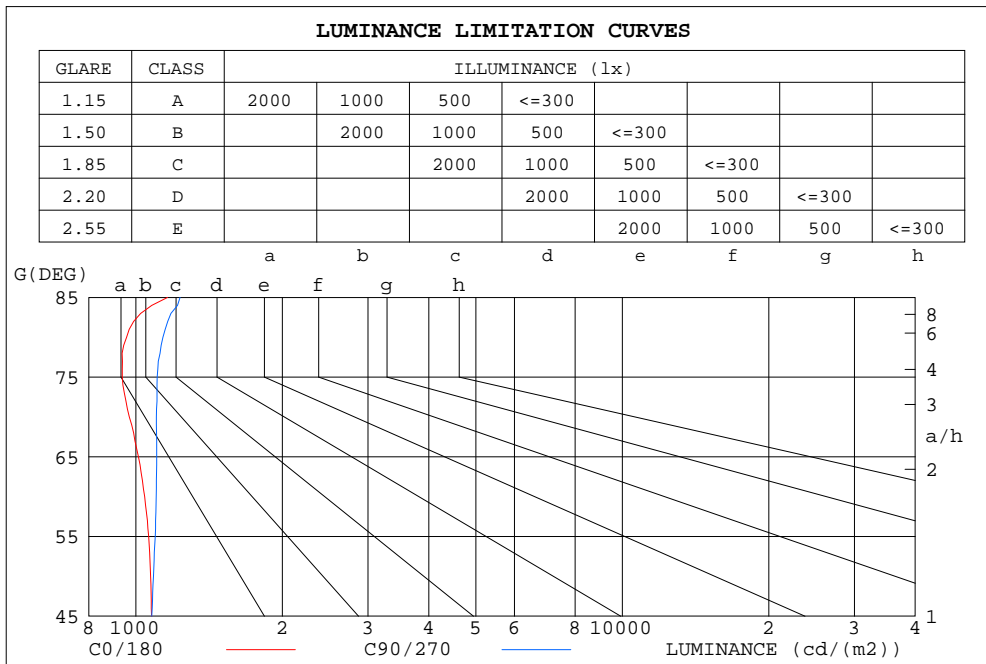
## ZONAL FLUX DIAGRAM:

$\gamma$	C0	C90	C180	C270				$\gamma$	$\Phi$ zone	$\Phi$ total	$\Phi$ lum,lamp
10	20.59	20.50	20.62	20.71				0- 10	1.979	1.979	2.84,2.84
20	19.81	19.61	19.86	20.05				10- 20	5.731	7.710	11.1,11.1
30	18.45	18.28	18.62	18.82				20- 30	8.883	16.59	23.8,23.8
40	16.47	16.41	16.86	17.03				30- 40	11.08	27.67	39.8,39.8
50	13.75	14.00	14.55	14.59				40- 50	11.98	39.66	57,57
60	10.41	11.03	11.69	11.47				50- 60	11.40	51.05	73.3,73.3
70	6.615	7.553	8.353	7.490				60- 70	9.291	60.35	86.7,86.7
80	3.317	3.957	4.997	3.231				70- 80	6.007	66.35	95.3,95.3
90	1.102	0.3896	2.162	0.3013				80- 90	2.546	68.90	99,99
100	0.1905	0	0.5467	0				90-100	0.5157	69.41	99.7,99.7
110	0	0.0055	0.0162	0				100-110	0.0605	69.47	99.8,99.8
120	0.0163	0.0218	0.0163	0.0108				110-120	0.0099	69.48	99.8,99.8
130	0.0217	0.0381	0.0380	0.0163				120-130	0.0205	69.50	99.9,99.9
140	0.0271	0.0490	0.0596	0.0272				130-140	0.0274	69.53	99.9,99.9
150	0.0325	0.0654	0.0542	0.0327				140-150	0.0270	69.56	99.9,99.9
160	0.0542	0.0708	0.0705	0.0435				150-160	0.0238	69.58	100,100
170	0.0650	0.0763	0.0814	0.0545				160-170	0.0181	69.60	100,100
180	0.0868	0.0817	0.0922	0.0872				170-180	0.0073	69.61	100,100
DEG	LUMINOUS INTENSITY:cd								UNIT:lm		

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Test Date:2021-11-17

$\gamma$  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



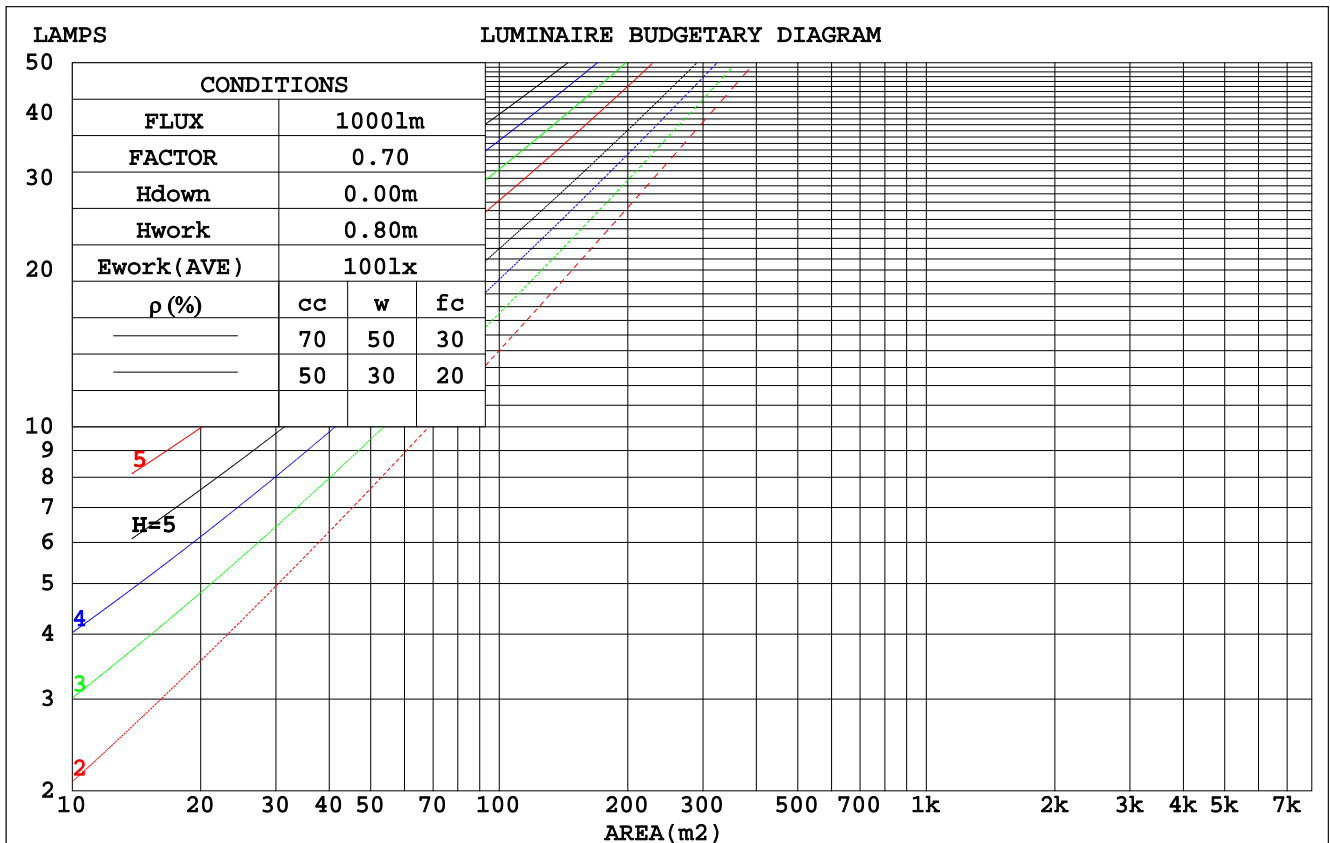
LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	1162	1233
80	957	1137
75	937	1106
70	969	1102
65	1012	1104
60	1043	1101
55	1063	1096
50	1072	1087
45	1077	1078

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Test Date: 2021-11-17

$\gamma$  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:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

$\rho_{cc}$	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						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	1.01	1.01	1.01	.99
1.0	1.02	.97	.93	.90	.95	.91	.95	.92	.88	.91	.88	.85	.87	.85	.83	.80
2.0	.88	.81	.74	.86	.79	.73	.82	.77	.72	.79	.74	.70	.75	.72	.68	.66
3.0	.77	.68	.61	.75	.67	.60	.72	.65	.59	.69	.63	.58	.66	.61	.57	.55
4.0	.68	.58	.51	.66	.57	.51	.63	.56	.50	.61	.54	.49	.59	.53	.48	.46
5.0	.60	.51	.44	.59	.50	.43	.57	.49	.43	.54	.48	.42	.52	.46	.42	.39
6.0	.54	.45	.38	.53	.44	.38	.51	.43	.37	.49	.42	.37	.47	.41	.36	.34
7.0	.49	.40	.33	.48	.39	.33	.46	.38	.33	.45	.38	.32	.43	.37	.32	.30
8.0	.44	.36	.30	.44	.35	.29	.42	.35	.29	.41	.34	.29	.40	.33	.29	.27
9.0	.41	.32	.26	.40	.32	.26	.39	.31	.26	.38	.31	.26	.36	.30	.26	.24
10.0	.37	.29	.24	.37	.29	.24	.36	.29	.24	.35	.28	.23	.34	.28	.23	.22



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Test Date: 2021-11-17

$\gamma$  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:

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	.341	.194	.061	.334	.190	.060	.320	.183	.059	.307	.177	.057	.295	.171	.055	
2.0	.313	.171	.053	.306	.169	.052	.294	.163	.051	.282	.158	.050	.272	.154	.048	
3.0	.285	.152	.045	.279	.150	.045	.268	.145	.044	.258	.141	.043	.249	.138	.043	
4.0	.261	.136	.040	.256	.134	.040	.246	.130	.039	.237	.127	.038	.228	.124	.038	
5.0	.240	.122	.035	.235	.121	.035	.226	.118	.035	.218	.115	.034	.211	.112	.034	
6.0	.221	.111	.032	.217	.110	.032	.209	.107	.031	.202	.105	.031	.195	.103	.030	
7.0	.205	.101	.029	.201	.100	.029	.194	.098	.028	.188	.096	.028	.182	.094	.028	
8.0	.191	.093	.026	.187	.092	.026	.181	.091	.026	.175	.089	.026	.170	.087	.025	
9.0	.178	.086	.024	.175	.085	.024	.170	.084	.024	.164	.082	.024	.159	.081	.023	
10.0	.167	.080	.022	.165	.079	.022	.159	.078	.022	.155	.077	.022	.150	.076	.022	

$\rho_{cc}$	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	.198	.198	.198	.169	.169	.169	.116	.116	.116	.066	.066	.066	.021	.021	.021	
1.0	.190	.164	.140	.163	.140	.120	.111	.097	.083	.064	.056	.048	.021	.018	.016	
2.0	.183	.140	.103	.157	.120	.089	.107	.083	.062	.062	.048	.037	.020	.016	.012	
3.0	.175	.122	.080	.150	.106	.069	.103	.073	.049	.060	.043	.029	.019	.014	.009	
4.0	.168	.109	.065	.144	.094	.056	.099	.066	.039	.057	.039	.023	.018	.013	.008	
5.0	.160	.099	.054	.138	.086	.047	.095	.060	.033	.055	.035	.020	.018	.011	.006	
6.0	.153	.091	.046	.131	.079	.040	.091	.055	.028	.053	.032	.017	.017	.011	.006	
7.0	.146	.084	.040	.125	.073	.035	.087	.051	.025	.050	.030	.015	.016	.010	.005	
8.0	.139	.078	.036	.120	.068	.031	.083	.048	.022	.048	.028	.013	.016	.009	.004	
9.0	.133	.073	.033	.114	.063	.029	.079	.045	.020	.046	.026	.012	.015	.009	.004	
10.0	.127	.069	.030	.109	.060	.026	.076	.042	.019	.044	.025	.011	.014	.008	.004	

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Test Date:2021-11-17

$\gamma$  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	12.2	13.9	12.6	14.2	14.6	12.6	14.2	13.0	14.6	14.9
3H	14.1	15.7	14.5	16.0	16.4	14.7	16.2	15.1	16.6	16.9
4H	14.9	16.3	15.3	16.7	17.1	15.6	17.0	16.0	17.4	17.8
6H	15.5	16.9	15.9	17.2	17.7	16.3	17.7	16.7	18.0	18.5
8H	15.8	17.1	16.2	17.5	17.9	16.6	17.9	17.1	18.3	18.7
12H	16.0	17.3	16.5	17.7	18.1	16.9	18.1	17.3	18.5	19.0
4H 2H	12.9	14.4	13.4	14.8	15.2	13.3	14.8	13.8	15.2	15.6
3H	15.1	16.3	15.5	16.7	17.1	15.7	16.9	16.1	17.4	17.8
4H	16.0	17.1	16.4	17.5	18.0	16.7	17.9	17.2	18.3	18.8
6H	16.8	17.8	17.2	18.2	18.7	17.7	18.7	18.1	19.1	19.6
8H	17.1	18.0	17.6	18.5	19.0	18.1	19.0	18.5	19.4	19.9
12H	17.4	18.3	17.9	18.8	19.2	18.4	19.2	18.9	19.7	20.2
8H 4H	16.4	17.3	16.9	17.8	18.3	17.2	18.2	17.7	18.6	19.1
6H	17.4	18.1	17.9	18.6	19.1	18.4	19.1	18.9	19.6	20.1
8H	17.8	18.5	18.3	19.0	19.5	18.9	19.6	19.4	20.1	20.6
12H	18.2	18.9	18.8	19.4	19.9	19.3	20.0	19.9	20.5	21.1
12H 4H	16.5	17.3	17.0	17.8	18.3	17.3	18.2	17.8	18.7	19.2
6H	17.5	18.2	18.0	18.7	19.2	18.5	19.2	19.1	19.7	20.3
8H	18.0	18.6	18.5	19.1	19.7	19.1	19.8	19.7	20.3	20.8
CIE190: 2010										

CIE190: 2010  
Area: 0.02 m2

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Test Date: 2021-11-17

$\gamma$  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:

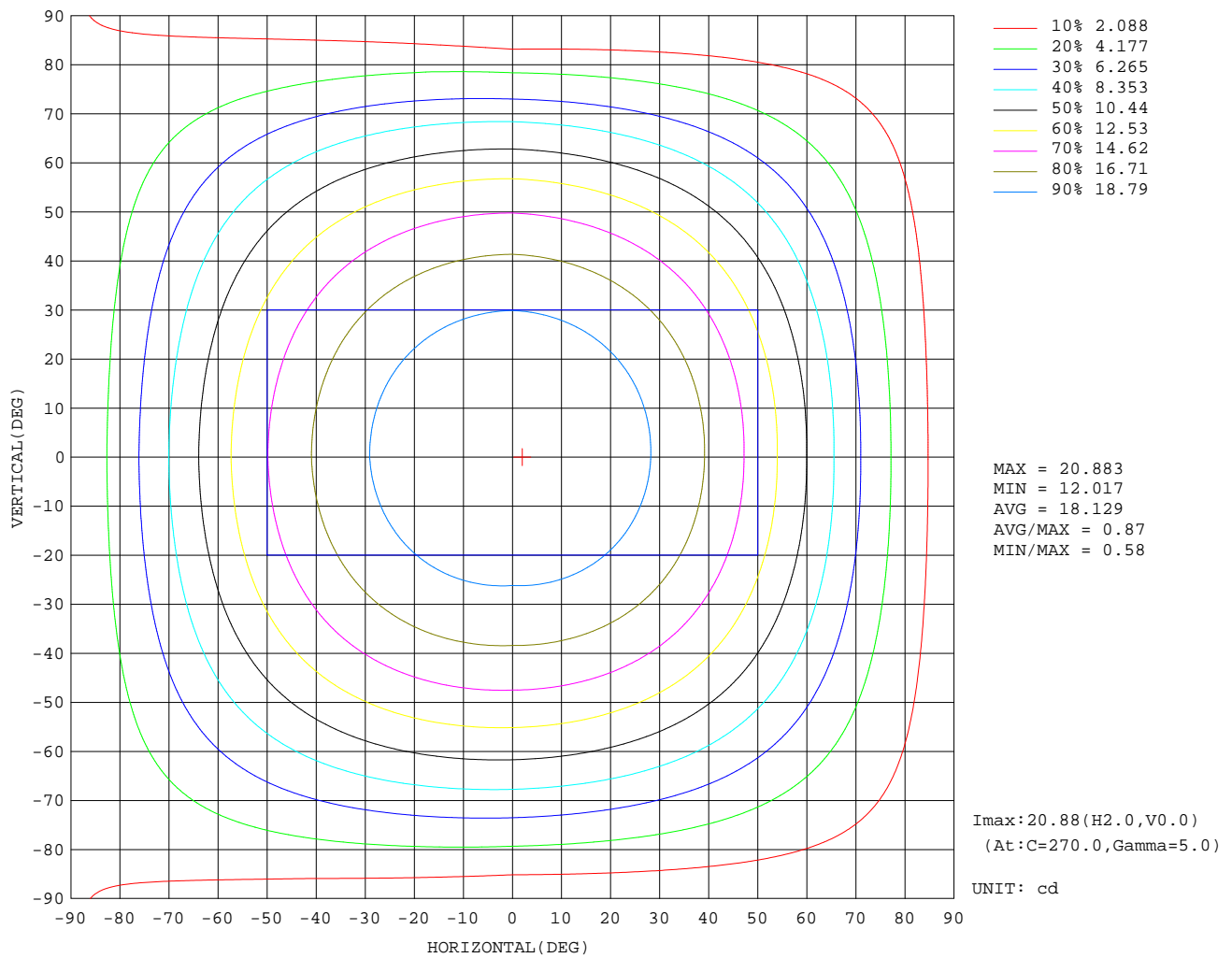
## UTILIZATION FACTORS TABLE

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	55	43	35	54	42	35	53	42	35	29
0.80	65	52	45	64	52	45	62	51	44	37
1.00	73	61	53	72	61	53	69	62	53	45
1.25	80	69	61	79	68	61	76	67	60	52
1.50	85	75	67	84	74	67	80	72	65	57
2.00	92	83	76	90	82	75	87	79	74	65
2.50	97	88	81	94	87	80	90	84	79	70
3.00	100	93	86	98	91	85	94	88	83	74
4.00	104	98	93	102	96	91	97	93	89	79
5.00	107	102	97	104	100	95	100	96	92	83
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: 2021-11-17

$\gamma$  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

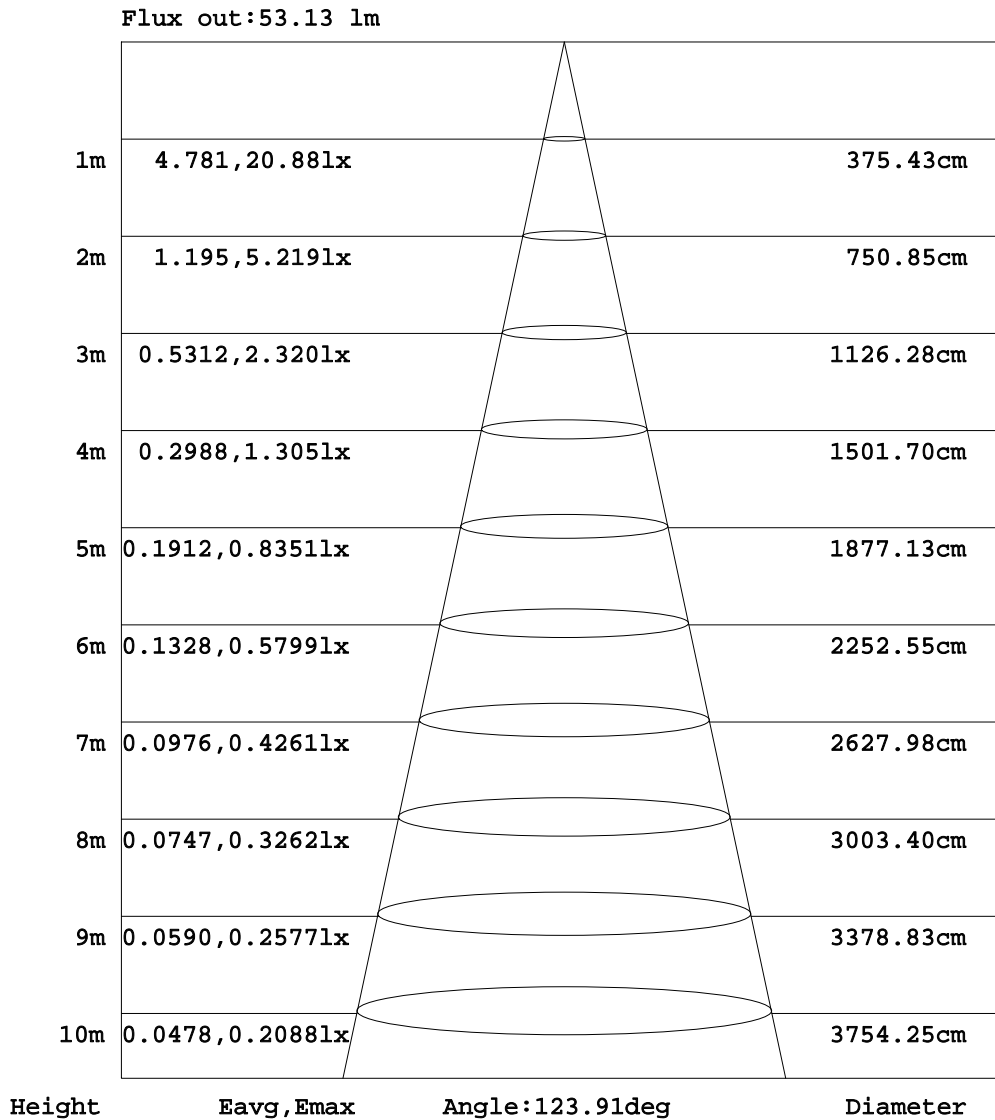


C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Test Date: 2021-11-17

$\gamma$  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:



AAI Figure

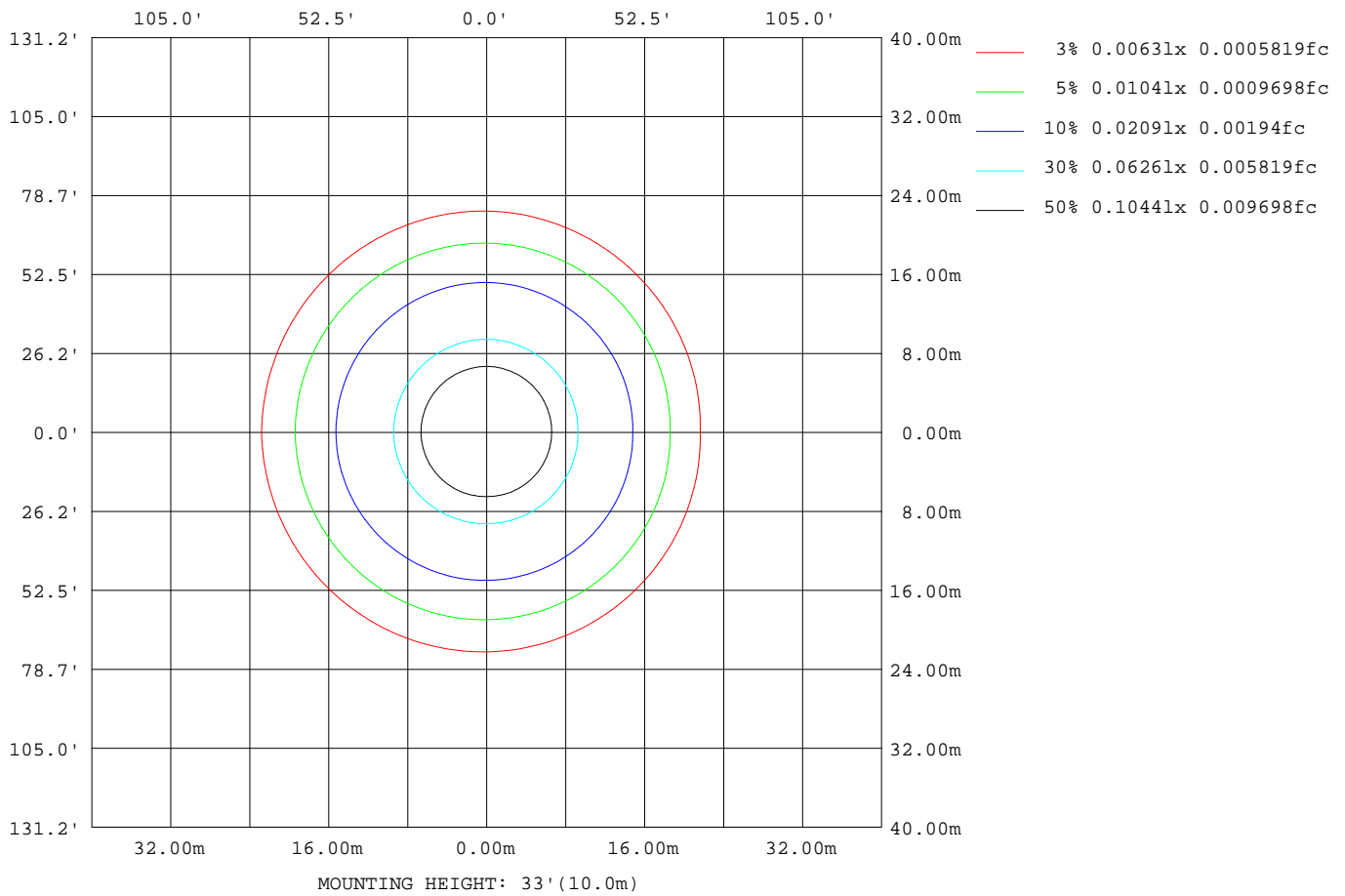


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Test Date: 2021-11-17

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: 2021-11-17

$\gamma$  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:0.1000A P:2.4000W PF:1.0000 Freq:0Hz Lamp Flux:69.6086x1 lm		
NAME: CB-RGB150	TYPE: LED Strip	WEIGHT:
SPEC.: 7.2W	DIM.: 1000*10*2 (MM)	SERIAL No.: 001
MFR.: Flexfire LEDs, Inc.	SUR.: 0.02*1	Shielding Angle: 120

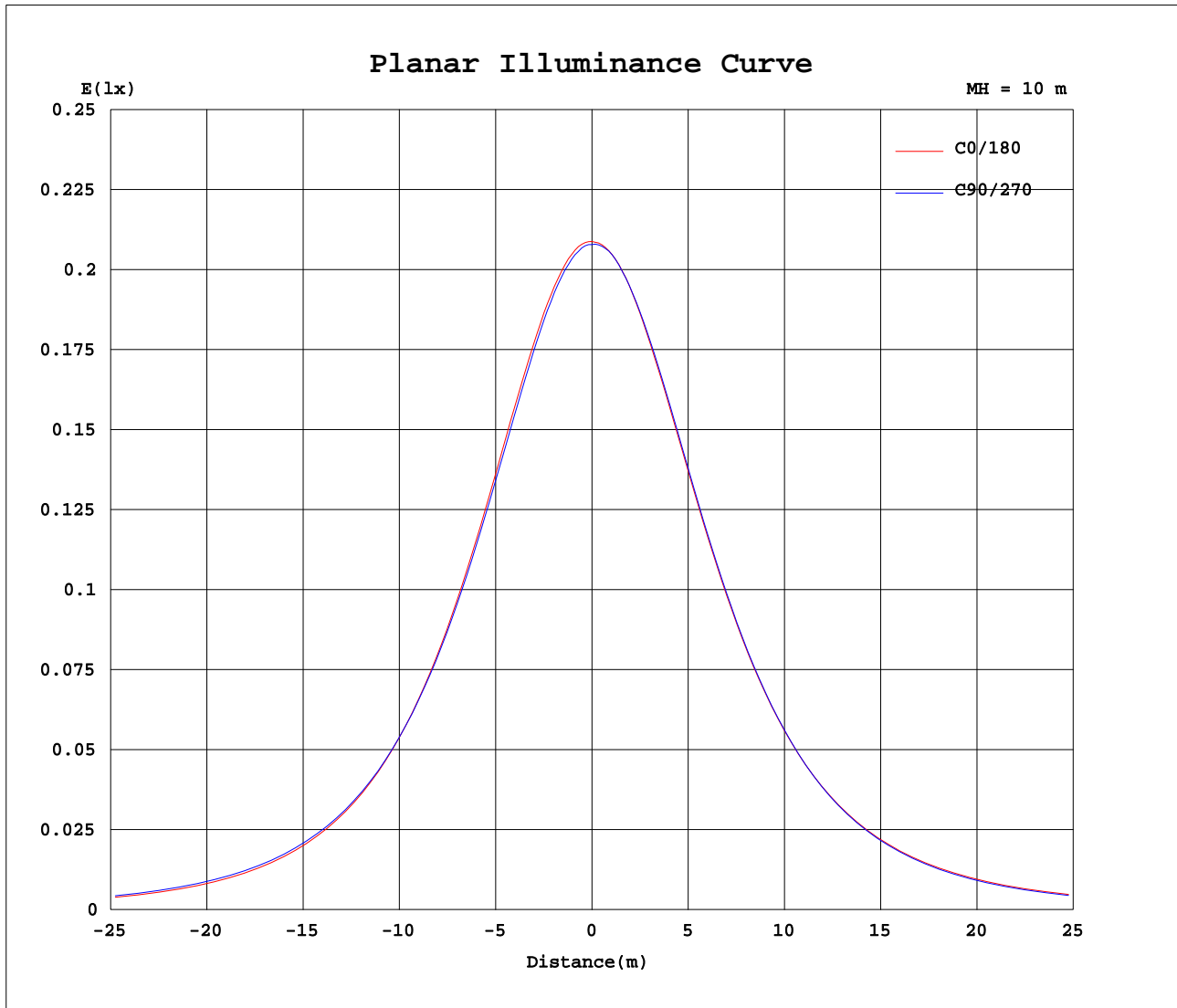
AvgL	cd/m2
L_0~180(65)av	1101
L_0~180(75)av	1109
L_0~180(85)av	1574
L_90~270(65)av	1124
L_90~270(75)av	1085
L_90~270(85)av	1065
L_45(65)av	1121
L_45(75)av	1105
L_45(85)av	1283

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Test Date:2021-11-17

$\gamma$  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: 2021-11-17

$\gamma$  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	20.8	20.8	20.8	20.8																
5	20.8	20.7	20.8	20.9																
10	20.6	20.5	20.6	20.7																
15	20.3	20.1	20.3	20.4																
20	19.8	19.6	19.9	20.1																
25	19.2	19.0	19.3	19.5																
30	18.5	18.3	18.6	18.8																
35	17.6	17.4	17.8	18.0																
40	16.5	16.4	16.9	17.0																
45	15.2	15.3	15.8	15.9																
50	13.8	14.0	14.5	14.6																
55	12.2	12.6	13.2	13.1																
60	10.4	11.0	11.7	11.5																
65	8.54	9.35	10.1	9.66																
70	6.62	7.55	8.35	7.49																
75	4.84	5.74	6.63	5.49																
80	3.32	3.96	5.00	3.23																
85	2.02	2.15	3.47	1.56																
90	1.10	0.39	2.16	0.30																
95	0.56	0.00	1.18	0.00																
100	0.19	0.00	0.55	0.00																
105	0.00	0.00	0.16	0.00																
110	0.00	0.01	0.02	0.00																
115	0.01	0.02	0.02	0.00																
120	0.02	0.02	0.02	0.01																
125	0.02	0.04	0.03	0.01																
130	0.02	0.04	0.04	0.02																
135	0.03	0.05	0.04	0.03																
140	0.03	0.05	0.06	0.03																
145	0.03	0.06	0.05	0.03																
150	0.03	0.07	0.05	0.03																
155	0.04	0.07	0.07	0.03																
160	0.05	0.07	0.07	0.04																
165	0.05	0.08	0.08	0.06																
170	0.07	0.08	0.08	0.05																
175	0.09	0.08	0.09	0.07																
180	0.09	0.08	0.09	0.09																

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Test Date:2021-11-17

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: