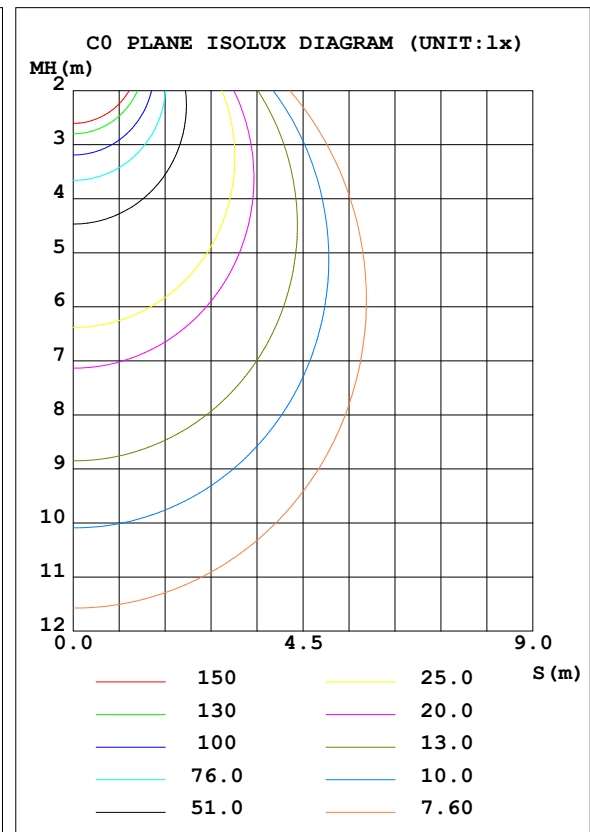
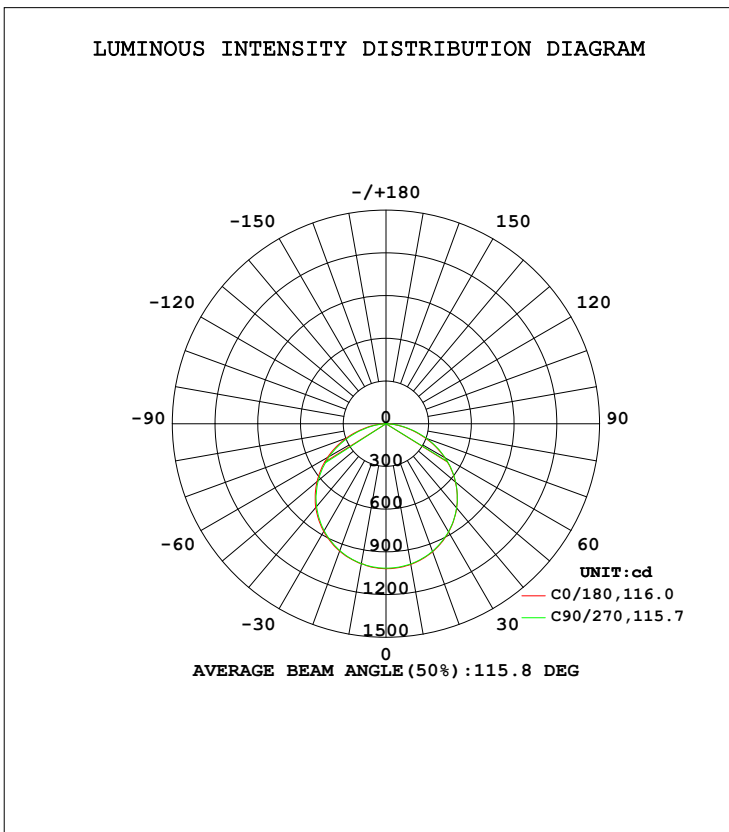


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:24.000V I:1.1916A P:28.598W PF:1.0000 Freq:0Hz Lamp Flux:3018.19x1 lm		
NAME: LST-30K	TYPE: LED Sheet	WEIGHT:
SPEC.: 29W	DIM.: 480*240 (MM)	Serial No.: 001
MFR.: Flexfire LEDs, Inc.	SUR.: 0.24*0.48	Shielding Angle: 120

DATA OF LAMP		PHOTOMETRIC DATA Eff: 105.54 lm/W			
MODEL		I _{max} (cd)	1018	S/MH (C0/180)	1.28
NOMINAL POWER (W)		LOR (%)	100.0	S/MH (C90/270)	1.27
RATED VOLTAGE (V)		TOTAL FLUX (lm)	3018.2	η UP, DN (C0-180)	0.3, 50.2
NOMINAL FLUX (lm)	3018.19	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.3, 49.2
LAMPS INSIDE	1	η up (%)	0.5	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)		η down (%)	99.5	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Test Date: 2023-09-22

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.00.444
 Humidity: 65.0%
 Test Distance: 8.700m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM
ZONAL FLUX DIAGRAM:

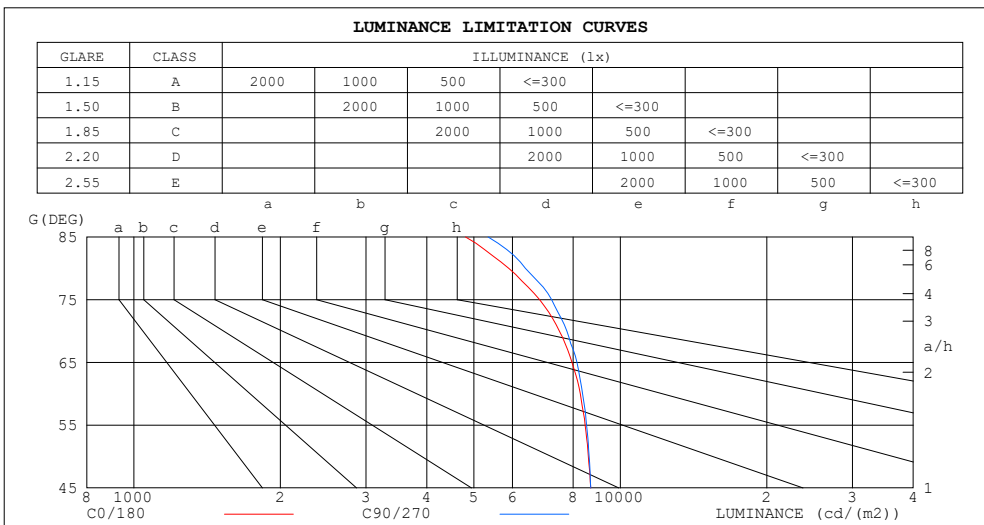
γ	C0	C90	C180	C270				γ	Φ zone	Φ total	%lum, lamp
10	1003	999.6	998.1	997.2				0- 10	96.20	96.20	3.19,3.19
20	956.8	953.3	952.1	948.1				10- 20	276.7	372.9	12.4,12.4
30	879.4	877.1	874.3	868.1				20- 30	422.9	795.8	26.4,26.4
40	771.7	771.7	767.7	758.7				30- 40	515.8	1312	43.5,43.5
50	636.4	638.8	633.1	620.8				40- 50	542.2	1854	61.4,61.4
60	476.5	481.8	473.9	459.8				50- 60	496.2	2350	77.9,77.9
70	295.2	305.9	296.6	277.9				60- 70	380.6	2731	90.5,90.5
80	117.9	127.6	122.1	100.8				70- 80	214.4	2945	97.6,97.6
90	9.689	8.651	9.046	1.342				80- 90	56.61	3002	99.5,99.5
100	1.252	1.158	1.508	1.158				90-100	2.371	3004	99.5,99.5
110	1.625	1.675	1.836	1.711				100-110	1.539	3006	99.6,99.6
120	2.229	2.279	2.476	2.315				110-120	2.001	3008	99.6,99.6
130	2.856	2.883	3.067	2.894				120-130	2.352	3010	99.7,99.7
140	3.350	3.424	3.597	3.374				130-140	2.460	3012	99.8,99.8
150	3.793	3.905	4.016	3.830				140-150	2.301	3015	99.9,99.9
160	4.150	4.311	4.336	4.163				150-160	1.878	3017	99.9,99.9
170	4.470	4.643	4.525	4.520				160-170	1.242	3018	100,100
180	4.569	4.705	4.557	4.692				170-180	0.4368	3018	100,100
DEG	LUMINOUS INTENSITY:cd								UNIT:lm		

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Test Date:2023-09-22

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:8.700m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:24.000V I:1.1916A P:28.598W PF:1.0000 Freq:0Hz Lamp Flux:3018.19x1 lm		
NAME: LST-30K	TYPE: LED Sheet	WEIGHT:
SPEC.: 29W	DIM.: 480*240 (MM)	Serial No.: 001
MFR.: Flexfire LEDs, Inc.	SUR.: 0.24*0.48	Shielding Angle: 120



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	4808	5350
80	5896	6379
75	6826	7228
70	7492	7763
65	7956	8146
60	8273	8364
55	8467	8520
50	8595	8626
45	8691	8692

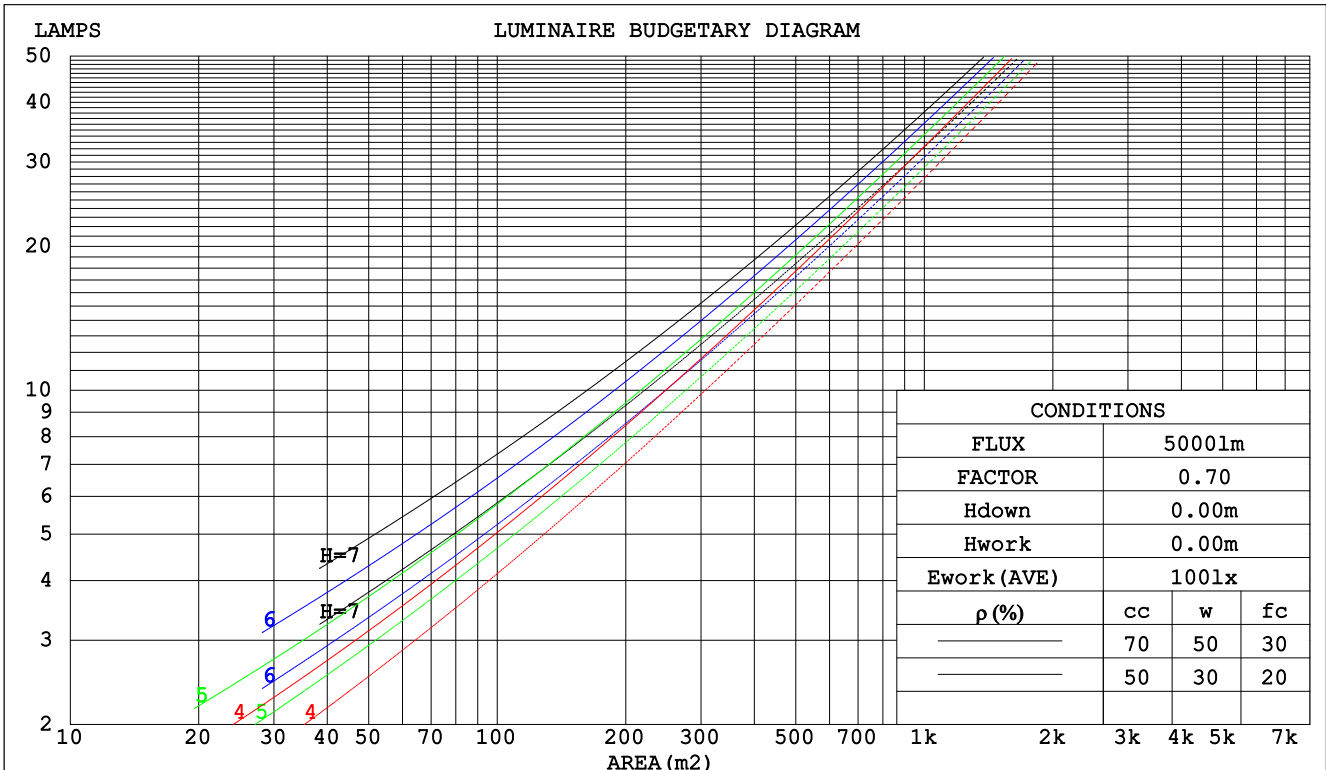
C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Test Date:2023-09-22

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:8.700m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:24.000V I:1.1916A P:28.598W PF:1.0000 Freq:0Hz Lamp Flux:3018.19x1 lm		
NAME: LST-30K	TYPE: LED Sheet	WEIGHT:
SPEC.: 29W	DIM.: 480*240 (MM)	Serial No.: 001
MFR.: Flexfire LEDs, Inc.	SUR.: 0.24*0.48	Shielding Angle: 120

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	.99
1.0	1.04	.99	.95	1.01	.97	.94	.97	.94	.91	.93	.90	.88	.89	.87	.85	.83
2.0	.90	.83	.77	.88	.82	.76	.84	.79	.75	.81	.77	.73	.78	.74	.71	.69
3.0	.79	.71	.64	.77	.70	.63	.74	.68	.62	.71	.66	.61	.69	.64	.60	.58
4.0	.70	.61	.54	.68	.60	.54	.66	.59	.53	.63	.57	.52	.61	.56	.51	.49
5.0	.62	.53	.46	.61	.53	.46	.59	.51	.46	.57	.50	.45	.55	.49	.44	.42
6.0	.56	.47	.40	.55	.46	.40	.53	.45	.40	.51	.45	.39	.50	.44	.39	.37
7.0	.51	.42	.36	.50	.41	.35	.48	.41	.35	.47	.40	.35	.45	.39	.35	.33
8.0	.46	.38	.32	.45	.37	.32	.44	.37	.31	.43	.36	.31	.42	.35	.31	.29
9.0	.42	.34	.28	.42	.34	.28	.41	.33	.28	.39	.33	.28	.38	.32	.28	.26
10.0	.39	.31	.26	.38	.31	.26	.37	.30	.26	.36	.30	.25	.36	.30	.25	.23



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Test Date:2023-09-22

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:8.700m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:24.000V I:1.1916A P:28.598W PF:1.0000 Freq:0Hz Lamp Flux:3018.19x1 lm									
NAME: LST-30K				TYPE: LED Sheet				WEIGHT:	
SPEC.: 29W				DIM.: 480*240 (MM)				Serial No.: 001	
MFR.: Flexfire LEDs, Inc.				SUR.: 0.24*0.48				Shielding Angle: 120	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.312	.177	.056	.305	.174	.055	.291	.167	.053	.279	.161	.052	.267	.155	.050	
2.0	.294	.161	.049	.287	.158	.049	.275	.153	.048	.264	.148	.046	.254	.144	.045	
3.0	.272	.145	.043	.266	.143	.043	.256	.138	.042	.246	.135	.041	.237	.131	.041	
4.0	.251	.130	.038	.246	.129	.038	.236	.125	.037	.228	.122	.037	.219	.119	.036	
5.0	.232	.118	.034	.227	.117	.034	.219	.114	.034	.211	.111	.033	.204	.109	.033	
6.0	.215	.108	.031	.211	.107	.031	.203	.104	.030	.196	.102	.030	.190	.100	.030	
7.0	.200	.099	.028	.196	.098	.028	.190	.096	.028	.183	.094	.027	.177	.092	.027	
8.0	.187	.091	.026	.183	.090	.026	.177	.089	.025	.172	.087	.025	.166	.085	.025	
9.0	.175	.085	.024	.172	.084	.024	.167	.082	.023	.161	.081	.023	.157	.080	.023	
10.0	.164	.079	.022	.162	.078	.022	.157	.077	.022	.152	.076	.021	.148	.074	.021	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.195	.195	.195	.166	.166	.166	.114	.114	.114	.065	.065	.065	.021	.021	.021	
1.0	.185	.160	.138	.158	.138	.119	.108	.095	.082	.062	.055	.048	.020	.018	.015	
2.0	.177	.136	.102	.151	.117	.088	.104	.081	.062	.060	.047	.036	.019	.015	.012	
3.0	.169	.119	.078	.145	.102	.068	.100	.071	.048	.057	.042	.028	.018	.013	.009	
4.0	.162	.105	.062	.139	.091	.054	.095	.063	.038	.055	.037	.023	.018	.012	.007	
5.0	.154	.095	.051	.132	.082	.045	.091	.057	.031	.053	.034	.019	.017	.011	.006	
6.0	.147	.087	.043	.126	.075	.038	.087	.053	.027	.051	.031	.016	.016	.010	.005	
7.0	.140	.080	.037	.121	.069	.033	.083	.048	.023	.048	.029	.014	.016	.009	.005	
8.0	.134	.074	.033	.115	.064	.029	.080	.045	.020	.046	.027	.012	.015	.009	.004	
9.0	.128	.069	.029	.110	.060	.026	.076	.042	.018	.044	.025	.011	.014	.008	.004	
10.0	.122	.065	.027	.105	.056	.023	.073	.040	.017	.043	.023	.010	.014	.008	.003	

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Test Date:2023-09-22

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:8.700m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:24.000V I:1.1916A P:28.598W PF:1.0000 Freq:0Hz Lamp Flux:3018.19x1 lm										
NAME: LST-30K			TYPE: LED Sheet			WEIGHT:				
SPEC.: 29W			DIM.: 480*240 (MM)			Serial No.: 001				
MFR.: Flexfire LEDs, Inc.			SUR.: 0.24*0.48			Shielding Angle: 120				
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	16.5	18.1	16.8	18.3	18.5	16.6	18.1	16.8	18.3	18.5
3H	18.1	19.5	18.4	19.7	20.0	18.1	19.6	18.4	19.8	20.0
4H	18.6	20.0	19.0	20.2	20.5	18.8	20.1	19.1	20.4	20.6
6H	19.0	20.3	19.4	20.6	20.9	19.2	20.5	19.5	20.8	21.0
8H	19.1	20.4	19.5	20.7	21.0	19.3	20.6	19.7	20.9	21.2
12H	19.2	20.4	19.6	20.7	21.0	19.4	20.6	19.8	20.9	21.2
4H 2H	17.2	18.5	17.5	18.8	19.0	17.2	18.5	17.5	18.8	19.1
3H	18.9	20.0	19.2	20.3	20.7	18.9	20.1	19.3	20.4	20.7
4H	19.6	20.6	20.0	21.0	21.3	19.7	20.8	20.1	21.1	21.4
6H	20.1	21.0	20.5	21.4	21.8	20.2	21.2	20.7	21.6	21.9
8H	20.2	21.1	20.7	21.5	21.9	20.4	21.3	20.9	21.7	22.1
12H	20.3	21.2	20.8	21.6	22.0	20.6	21.4	21.0	21.8	22.2
8H 4H	19.8	20.7	20.3	21.1	21.5	19.9	20.8	20.4	21.2	21.6
6H	20.5	21.2	20.9	21.7	22.1	20.6	21.4	21.1	21.8	22.2
8H	20.7	21.4	21.2	21.8	22.3	20.9	21.6	21.4	22.0	22.5
12H	20.9	21.5	21.4	21.9	22.4	21.1	21.7	21.6	22.1	22.6
12H 4H	19.9	20.7	20.3	21.1	21.5	20.0	20.8	20.4	21.2	21.6
6H	20.6	21.2	21.0	21.6	22.1	20.7	21.3	21.2	21.8	22.2
8H	20.8	21.4	21.3	21.9	22.3	21.0	21.6	21.5	22.0	22.5
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 0.2 / - 0.2					+ 0.1 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				

CIE Pub.117, 3018 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 3.8)
 Area: 0.1152 m2

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Test Date:2023-09-22

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:8.700m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:24.000V I:1.1916A P:28.598W PF:1.0000 Freq:0Hz Lamp Flux:3018.19x1 lm		
NAME: LST-30K	TYPE: LED Sheet	WEIGHT:
SPEC.: 29W	DIM.: 480*240 (MM)	Serial No.: 001
MFR.: Flexfire LEDs, Inc.	SUR.: 0.24*0.48	Shielding Angle: 120

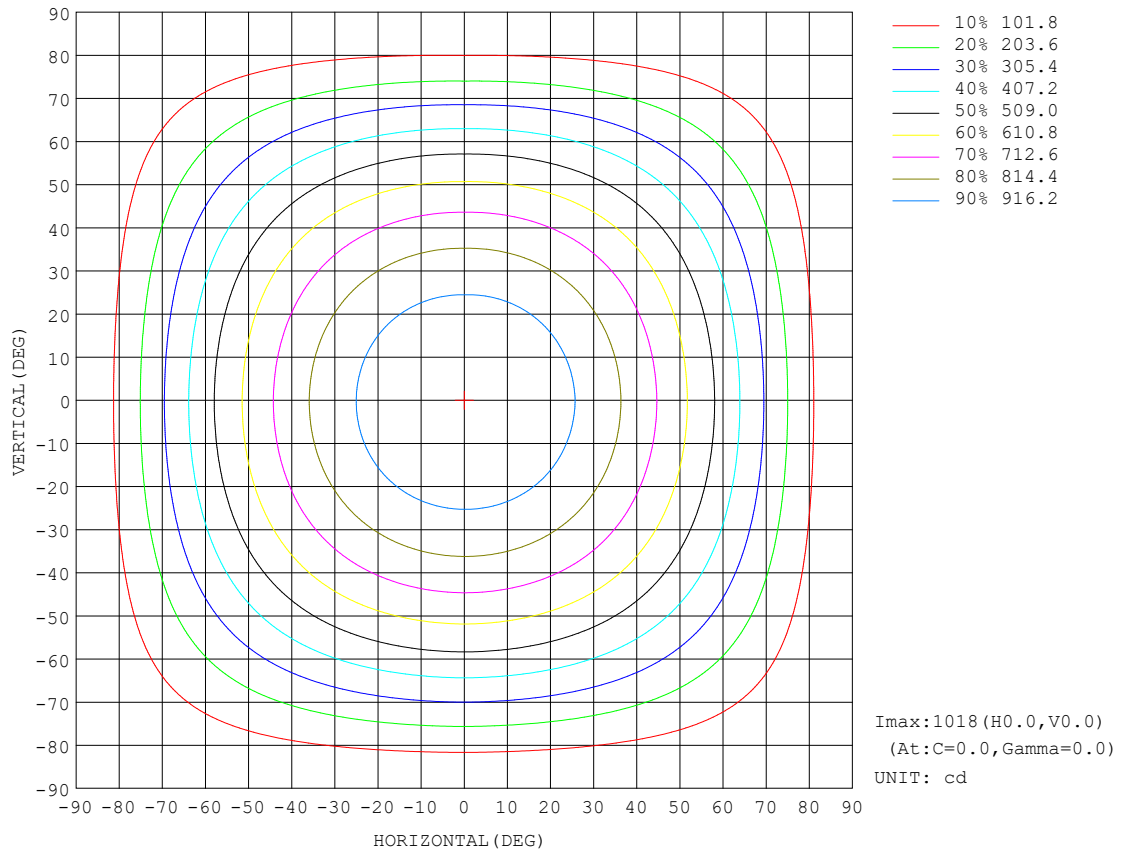
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	57	45	38	56	45	38	55	44	38	31
0.80	67	55	48	66	55	48	64	54	47	40
1.00	75	64	57	74	63	56	72	65	56	49
1.25	83	72	65	81	71	64	78	70	63	56
1.50	88	78	70	86	77	70	83	75	69	61
2.00	95	86	79	93	85	79	89	82	77	69
2.50	98	91	84	96	89	84	92	86	82	73
3.00	102	95	89	100	93	88	96	90	86	77
4.00	106	100	95	104	98	94	99	95	91	82
5.00	108	104	99	106	102	98	101	98	95	85
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:2023-09-22

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:8.700m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:24.000V I:1.1916A P:28.598W PF:1.0000 Freq:0Hz Lamp Flux:3018.19x1 lm		
NAME: LST-30K	TYPE: LED Sheet	WEIGHT:
SPEC.: 29W	DIM.: 480*240 (MM)	Serial No.: 001
MFR.: Flexfire LEDs, Inc.	SUR.: 0.24*0.48	Shielding Angle: 120

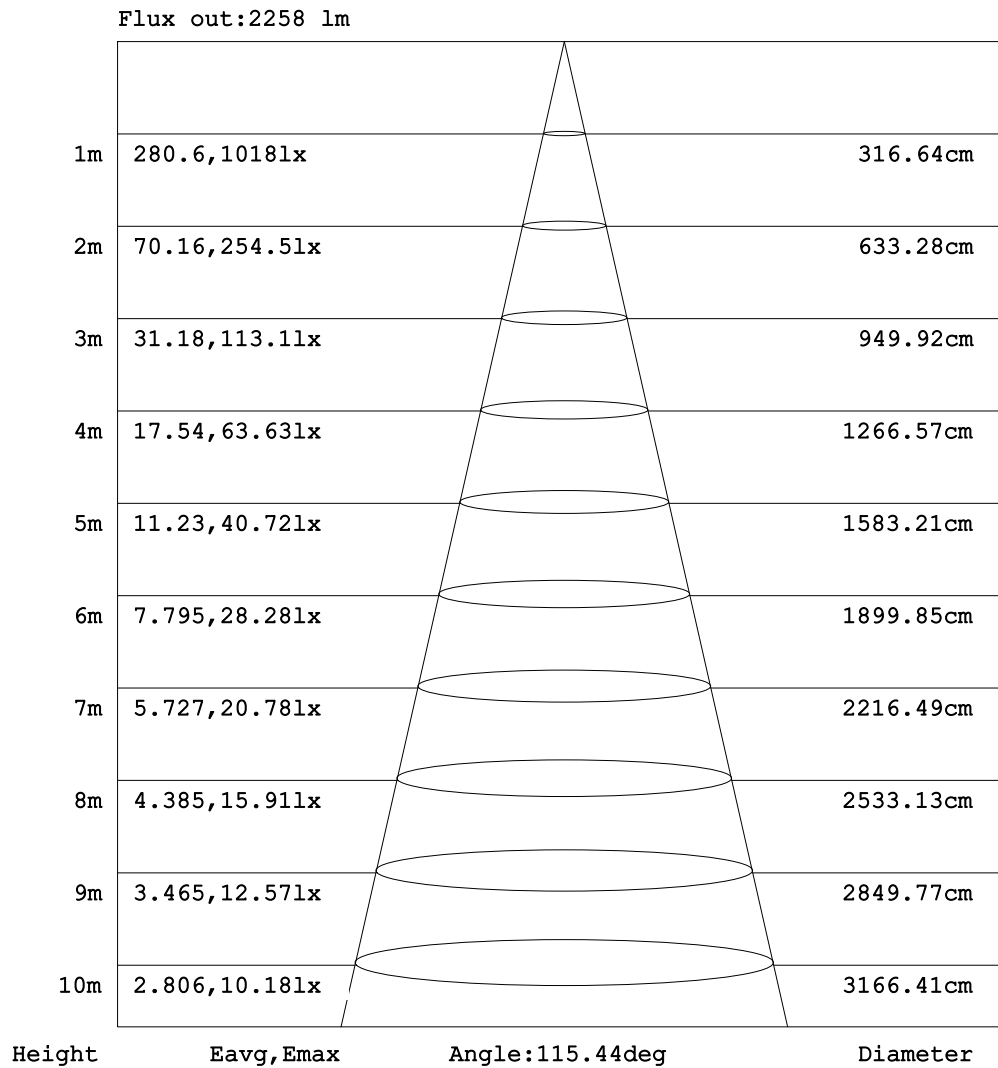


C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Test Date:2023-09-22

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:8.700m [K=1.0000]
 Remarks:

AAI Figure

Test:U:24.000V I:1.1916A P:28.598W PF:1.0000 Freq:0Hz Lamp Flux:3018.19x1 lm		
NAME: LST-30K	TYPE: LED Sheet	WEIGHT:
SPEC.: 29W	DIM.: 480*240 (MM)	Serial No.: 001
MFR.: Flexfire LEDs, Inc.	SUR.: 0.24*0.48	Shielding Angle: 120



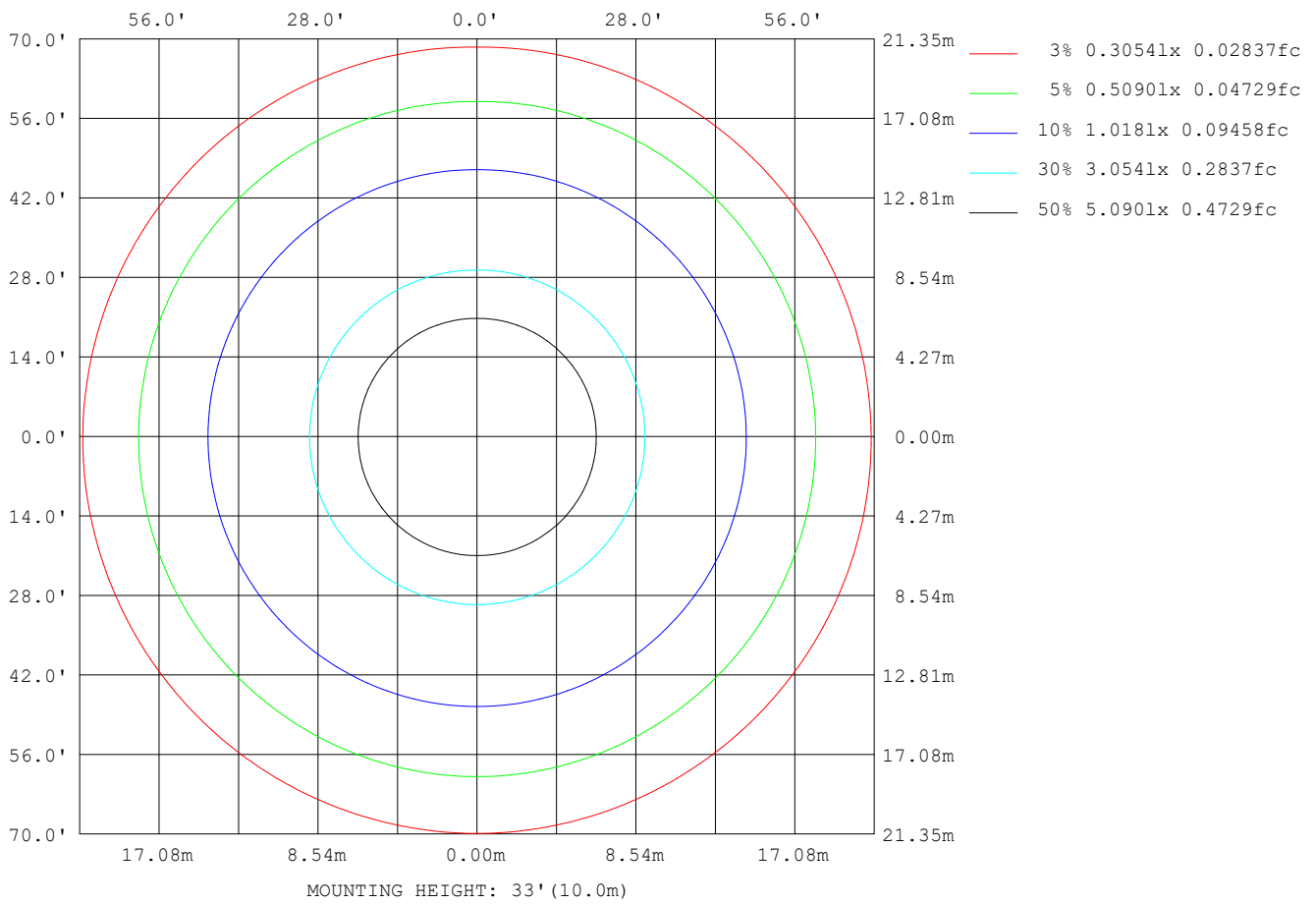
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Test Date:2023-09-22

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:8.700m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:24.000V I:1.1916A P:28.598W PF:1.0000 Freq:0Hz Lamp Flux:3018.19x1 lm		
NAME: LST-30K	TYPE: LED Sheet	WEIGHT:
SPEC.: 29W	DIM.: 480*240 (MM)	Serial No.: 001
MFR.: Flexfire LEDs, Inc.	SUR.: 0.24*0.48	Shielding Angle: 120



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Test Date:2023-09-22

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:8.700m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:24.000V I:1.1916A P:28.598W PF:1.0000 Freq:0Hz Lamp Flux:3018.19x1 lm		
NAME: LST-30K	TYPE: LED Sheet	WEIGHT:
SPEC.: 29W	DIM.: 480*240 (MM)	Serial No.: 001
MFR.: Flexfire LEDs, Inc.	SUR.: 0.24*0.48	Shielding Angle: 120

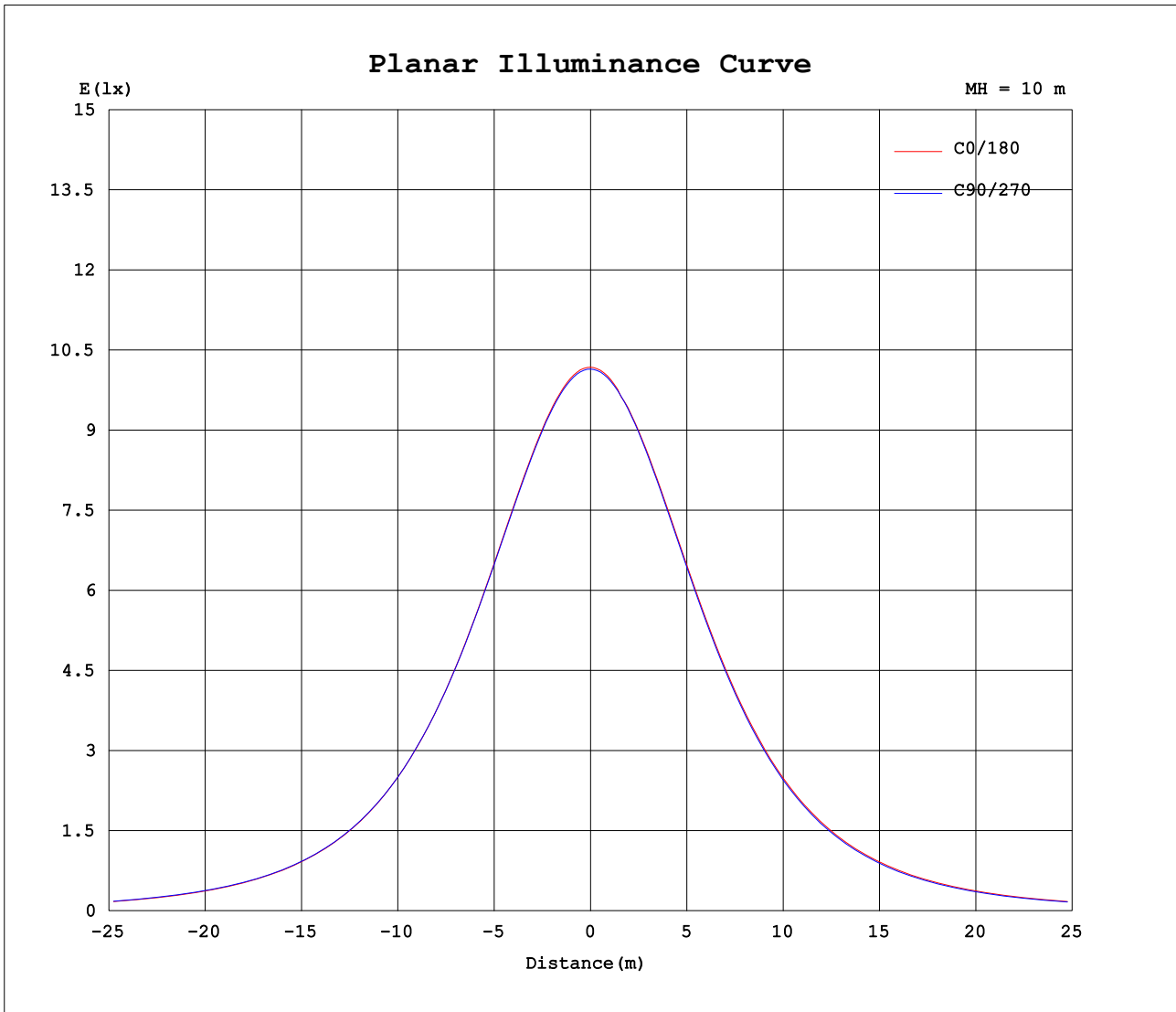
AvgL	cd/m2
L_0~180 (65) av	7953
L_0~180 (75) av	6862
L_0~180 (85) av	5021
L_90~270 (65) av	7871
L_90~270 (75) av	6721
L_90~270 (85) av	4288
L_45 (65) av	7901
L_45 (75) av	6776
L_45 (85) av	4576

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Test Date:2023-09-22

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:8.700m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Test Date:2023-09-22

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:8.700m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:24.000V I:1.1916A P:28.598W PF:1.0000 Freq:0Hz Lamp Flux:3018.19x1 lm		
NAME: LST-30K	TYPE: LED Sheet	WEIGHT:
SPEC.: 29W	DIM.: 480*240 (MM)	Serial No.: 001
MFR.: Flexfire LEDs, Inc.	SUR.: 0.24*0.48	Shielding Angle: 120

Table--1

UNIT: cd

C (DEG) \ γ (DEG)	0	90	180	270															
0	1018	1014	1018	1014															
5	1015	1011	1013	1010															
10	1003	1000	998	997															
15	984	980	979	977															
20	957	953	952	948															
25	922	919	917	912															
30	879	877	874	868															
35	829	828	824	817															
40	772	772	768	759															
45	708	708	703	693															
50	636	639	633	621															
55	559	563	557	544															
60	477	482	474	460															
65	387	397	387	370															
70	295	306	297	278															
75	204	216	206	185															
80	118	128	122	101															
85	48.3	53.7	52.6	32.4															
90	9.69	8.65	9.05	1.34															
95	1.73	1.01	2.09	1.02															
100	1.25	1.16	1.51	1.16															
105	1.35	1.42	1.55	1.42															
110	1.63	1.68	1.84	1.71															
115	1.93	1.97	2.16	1.99															
120	2.23	2.28	2.48	2.31															
125	2.55	2.60	2.77	2.60															
130	2.86	2.88	3.07	2.89															
135	3.10	3.17	3.34	3.14															
140	3.35	3.42	3.60	3.37															
145	3.58	3.67	3.82	3.61															
150	3.79	3.90	4.02	3.83															
155	3.99	4.14	4.15	4.00															
160	4.15	4.31	4.34	4.16															
165	4.32	4.47	4.43	4.36															
170	4.47	4.64	4.52	4.52															
175	4.51	4.69	4.55	4.64															
180	4.57	4.70	4.56	4.69															

C Range: 0 - 360DEG
 C Interval: 90.0DEG
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