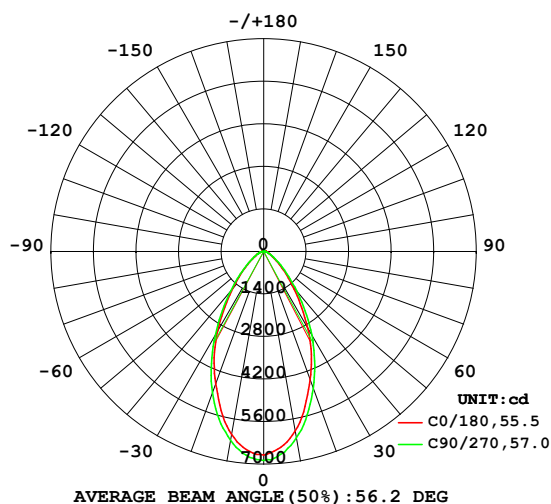


## LUMINAIRE PHOTOMETRIC TEST REPORT

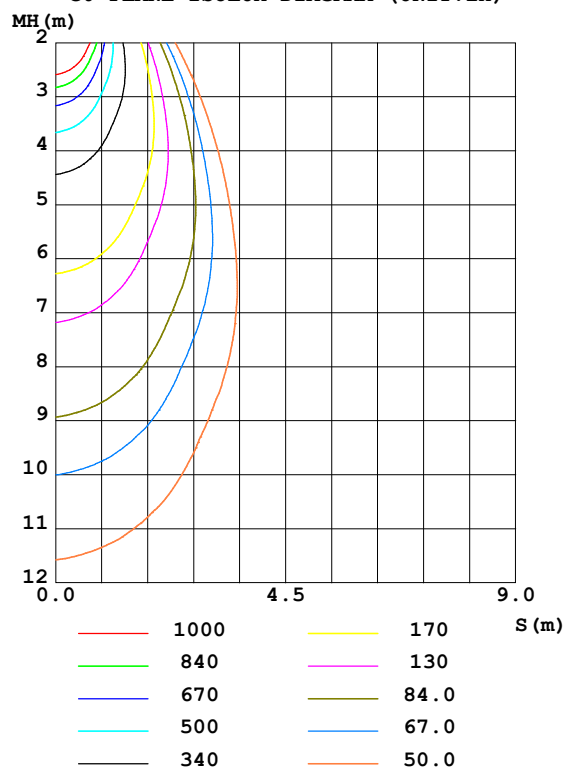
Test:U:231.85V I:0.1995A P:44.486W PF:0.9616 Freq:50.04Hz Lamp Flux:7367.3x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:2kg
SPEC.:	DIM.: 1500*60*45mm	SERIAL No.:
MFR.: CoreShine	SUR.:1500*60mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 165.61 lm/W			
MODEL	CTLS-1545-40NR-04WH	I <sub>max</sub> (cd)	6912	S/MH (C0/180)	0.83
NOMINAL POWER (W)	45	LOR (%)	100.0	S/MH (C90/270)	0.85
RATED VOLTAGE (V)	230.0	TOTAL FLUX (lm)	7367.3	η UP, DN (C0-180)	1.2, 48.9
NOMINAL FLUX (lm)	7367.3	CIE CLASS	DIRECT	η UP, DN (C180-360)	1.2, 48.8
LAMPS INSIDE	1	η up (%)	2.3	CIBSE SHR NOM	0.75
TEST VOLTAGE (V)	230.0	η down (%)	97.7	CIBSE SHR MAX	0.90

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: zcx  
 Test Date: 2020-06-18

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.366  
 Humidity: 65.0%  
 Test Distance: 8.330m [K=1.0000]  
 Remarks:

## ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

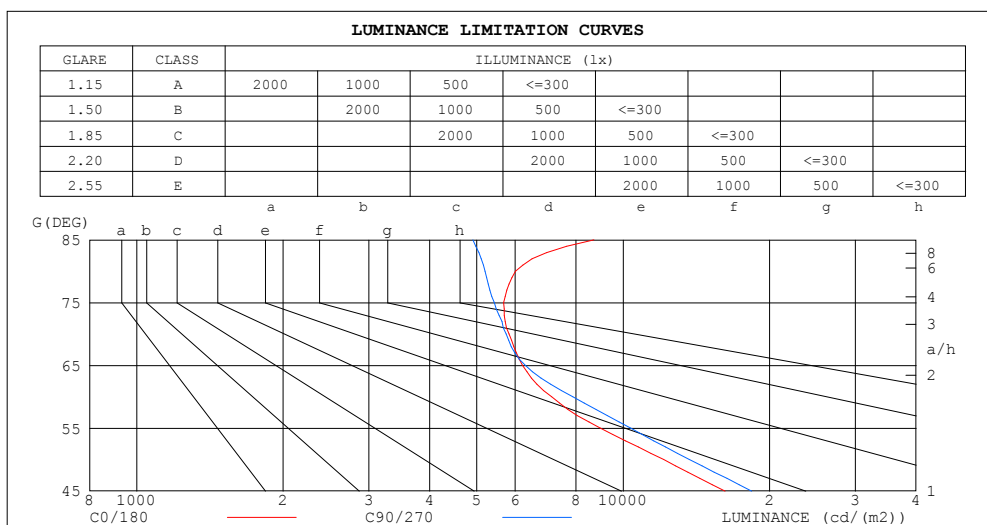
$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	5997	5973	6226	6397	6115	6191	6306	6122	0- 10	617.1	617.1	8.38,8.38
20	4474	4525	4785	4940	4617	4826	4950	4614	10- 20	1532	2149	29.2,29.2
30	2896	2919	3190	3229	3036	3178	3190	2944	20- 30	1784	3932	53.4,53.4
40	1490	1576	1691	1742	1580	1736	1685	1568	30- 40	1439	5371	72.9,72.9
50	700.2	744.0	791.5	810.4	742.4	814.1	781.5	746.7	40- 50	882.7	6254	84.9,84.9
60	320.5	350.4	354.2	368.5	338.5	371.2	356.9	345.4	50- 60	471.1	6725	91.3,91.3
70	179.4	191.4	177.0	197.0	185.5	200.7	185.4	192.4	60- 70	255.9	6981	94.8,94.8
80	93.89	98.60	81.23	102.4	98.01	105.0	89.21	99.83	70- 80	148.2	7129	96.8,96.8
90	55.21	36.50	5.078	36.01	50.74	36.56	5.124	36.24	80- 90	65.42	7194	97.7,97.7
100	56.96	36.81	8.735	35.98	50.97	35.25	6.715	35.80	90-100	35.96	7230	98.1,98.1
110	45.73	33.99	10.04	32.63	43.65	32.48	8.973	33.03	100-110	35.08	7266	98.6,98.6
120	35.45	24.38	11.81	26.39	32.92	26.33	11.72	23.20	110-120	26.44	7292	99,99
130	33.57	22.21	13.73	25.30	31.09	25.58	14.37	21.40	120-130	21.34	7313	99.3,99.3
140	31.63	21.99	16.94	24.61	29.71	24.89	17.50	21.06	130-140	18.17	7331	99.5,99.5
150	28.61	22.80	20.57	23.97	27.14	24.02	20.95	22.07	140-150	14.63	7346	99.7,99.7
160	27.73	24.73	24.11	24.76	26.71	24.70	24.13	24.39	150-160	11.16	7357	99.9,99.9
170	28.67	27.21	27.33	26.91	28.04	26.85	27.36	27.12	160-170	7.373	7365	100,100
180	30.26	28.91	29.08	29.00	30.32	28.95	29.10	29.01	170-180	2.685	7367	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:zcx  
 Test Date:2020-06-18

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:8.330m [K=1.0000]  
 Remarks:

## LUMINANCE LIMITATION CURVES

Test:U:231.85V I:0.1995A P:44.486W PF:0.9616 Freq:50.04Hz Lamp Flux:7367.3x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:2kg
SPEC.:	DIM.: 1500*60*45mm	SERIAL No.:
MFR.: CoreShine	SUR.:1500*60mm	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	8702	4912
80	6008	5198
75	5681	5432
70	5829	5750
65	6212	6299
60	7123	7872
55	8977	10367
50	12104	13682
45	16206	18367

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:zcx  
Test Date:2020-06-18

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:8.330m [K=1.0000]  
Remarks:

## WEC AND CCEC

Test:U:231.85V I:0.1995A P:44.486W PF:0.9616 Freq:50.04Hz Lamp Flux:7367.3x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:2kg
SPEC.:	DIM.: 1500*60*45mm	SERIAL No.:
MFR.: CoreShine	SUR.:1500*60mm	Shielding Angle:

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	.224	.127	.040	.216	.123	.039	.202	.116	.037	.189	.109	.035	.177	.103	.033		
2.0	.212	.116	.036	.205	.113	.035	.193	.107	.033	.182	.102	.032	.172	.097	.031		
3.0	.199	.106	.032	.194	.104	.031	.183	.099	.030	.173	.095	.029	.164	.091	.028		
4.0	.187	.097	.029	.182	.096	.028	.173	.092	.027	.164	.088	.027	.156	.085	.026		
5.0	.176	.090	.026	.172	.088	.026	.164	.085	.025	.156	.082	.025	.149	.080	.024		
6.0	.167	.083	.024	.163	.082	.024	.155	.080	.023	.148	.077	.023	.142	.075	.022		
7.0	.157	.078	.022	.154	.077	.022	.147	.074	.021	.141	.072	.021	.135	.070	.021		
8.0	.149	.073	.020	.146	.072	.020	.140	.070	.020	.134	.068	.020	.129	.066	.019		
9.0	.142	.069	.019	.139	.068	.019	.133	.066	.019	.128	.064	.018	.124	.063	.018		
10.0	.135	.065	.018	.132	.064	.018	.127	.062	.018	.123	.061	.017	.118	.060	.017		

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	.208	.208	.208	.178	.178	.178	.122	.122	.122	.070	.070	.070	.022	.022	.022	
1.0	.192	.175	.159	.165	.150	.137	.113	.103	.095	.065	.060	.055	.021	.019	.018	
2.0	.180	.150	.126	.154	.129	.109	.105	.090	.076	.061	.052	.044	.020	.017	.014	
3.0	.169	.132	.103	.145	.114	.089	.100	.079	.062	.057	.046	.037	.018	.015	.012	
4.0	.160	.118	.086	.137	.102	.075	.094	.071	.053	.055	.042	.031	.018	.014	.010	
5.0	.152	.107	.074	.130	.092	.064	.090	.065	.045	.052	.038	.027	.017	.012	.009	
6.0	.145	.098	.064	.124	.085	.056	.086	.059	.040	.050	.035	.024	.016	.011	.008	
7.0	.138	.091	.057	.119	.079	.050	.082	.055	.035	.048	.032	.021	.015	.011	.007	
8.0	.132	.085	.052	.114	.073	.045	.079	.052	.032	.046	.030	.019	.015	.010	.006	
9.0	.127	.080	.048	.109	.069	.042	.076	.049	.029	.044	.029	.018	.014	.009	.006	
10.0	.122	.075	.044	.105	.065	.039	.073	.046	.027	.043	.027	.016	.014	.009	.005	

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:zcx  
 Test Date:2020-06-18

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:8.330m [K=1.0000]  
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:231.85V I:0.1995A P:44.486W PF:0.9616 Freq:50.04Hz Lamp Flux:7367.3x1 lm										
NAME: LED Linear Lighting System					TYPE:			WEIGHT:2kg		
SPEC.:					DIM.: 1500*60*45mm			SERIAL No.:		
MFR.: CoreShine					SUR.:1500*60mm			Shielding Angle:		
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	11.7	12.8	11.9	13.0	13.2	12.3	13.4	12.5	13.6	13.8
3H	12.1	13.2	12.4	13.4	13.7	12.7	13.7	13.0	14.0	14.2
4H	12.4	13.4	12.7	13.6	13.9	12.9	13.8	13.2	14.1	14.4
6H	12.7	13.6	13.0	13.9	14.2	13.0	14.0	13.4	14.2	14.6
8H	12.8	13.7	13.2	14.0	14.3	13.1	14.0	13.5	14.3	14.6
12H	13.0	13.8	13.3	14.1	14.5	13.1	14.0	13.5	14.3	14.6
4H 2H	11.8	12.8	12.1	13.1	13.3	12.3	13.3	12.7	13.6	13.9
3H	12.5	13.3	12.8	13.6	14.0	12.9	13.8	13.3	14.1	14.4
4H	12.9	13.6	13.3	14.0	14.3	13.3	14.0	13.6	14.4	14.7
6H	13.3	14.0	13.7	14.3	14.7	13.5	14.2	14.0	14.6	15.0
8H	13.5	14.1	13.9	14.5	14.9	13.7	14.3	14.1	14.7	15.1
12H	13.8	14.3	14.2	14.8	15.2	13.8	14.3	14.2	14.7	15.2
8H 4H	13.0	13.6	13.4	14.0	14.5	13.4	14.0	13.8	14.4	14.8
6H	13.6	14.1	14.1	14.5	15.0	13.8	14.3	14.3	14.8	15.2
8H	13.9	14.4	14.4	14.8	15.3	14.0	14.5	14.5	14.9	15.4
12H	14.3	14.7	14.8	15.2	15.7	14.2	14.6	14.7	15.0	15.6
12H 4H	13.0	13.6	13.5	14.0	14.4	13.4	13.9	13.8	14.4	14.8
6H	13.6	14.1	14.1	14.6	15.0	13.8	14.3	14.3	14.8	15.3
8H	14.0	14.4	14.5	14.9	15.4	14.1	14.5	14.6	15.0	15.5
Variations with the observer position at spacings:										
S = 1.0H	+ 0.7 / - 0.9					+ 0.8 / - 1.0				
1.5H	+ 0.9 / - 0.6					+ 1.1 / - 0.8				
2.0H	+ 1.4 / - 0.9					+ 1.7 / - 1.0				

CIE Pub.117, 7367 lm Total Lamp Luminous Flux Correct ( $8\log(F/F_0) = 6.9$ )

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:zcx  
 Test Date:2020-06-18

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:8.330m [K=1.0000]  
 Remarks:

## UTILIZATION FACTORS TABLE

Test:U:231.85V I:0.1995A P:44.486W PF:0.9616 Freq:50.04Hz Lamp Flux:7367.3x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:2kg
SPEC.:	DIM.: 1500*60*45mm	SERIAL No.:
MFR.: CoreShine	SUR.:1500*60mm	Shielding Angle:

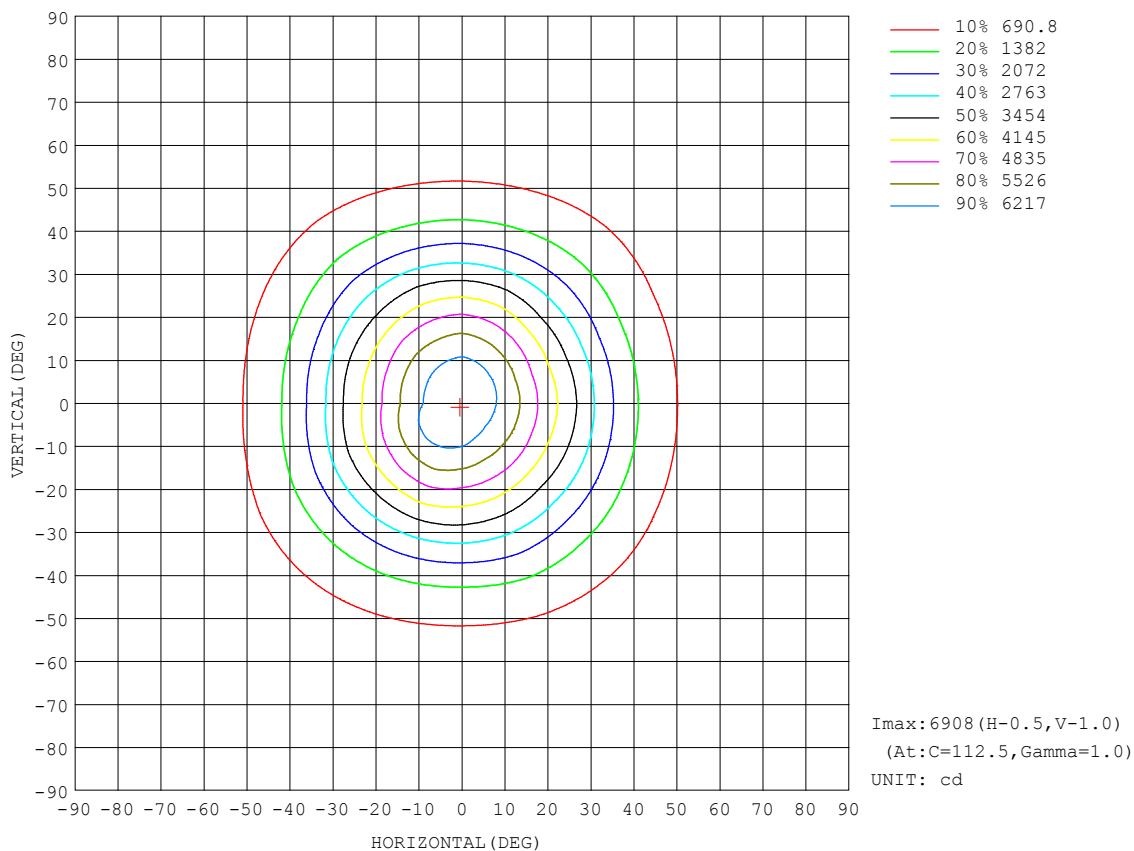
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	75	66	61	74	66	61	73	65	61	56
0.80	83	75	70	82	75	70	81	74	69	64
1.00	90	82	77	89	81	76	87	82	76	71
1.25	95	88	83	94	87	82	91	86	81	76
1.50	99	92	87	97	91	87	94	89	85	79
2.00	103	97	93	101	96	92	98	93	90	83
2.50	105	100	96	103	99	95	100	96	93	85
3.00	108	103	99	105	101	98	101	98	95	88
4.00	110	106	103	108	104	102	104	101	99	90
5.00	112	109	106	109	106	104	105	103	101	92
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:zcx  
 Test Date:2020-06-18

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:8.330m [K=1.0000]  
 Remarks:

## ISOCANDELA DIAGRAM

Test:U:231.85V I:0.1995A P:44.486W PF:0.9616 Freq:50.04Hz Lamp Flux:7367.3x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:2kg
SPEC.:	DIM.: 1500*60*45mm	SERIAL No.:
MFR.: CoreShine	SUR.:1500*60mm	Shielding Angle:

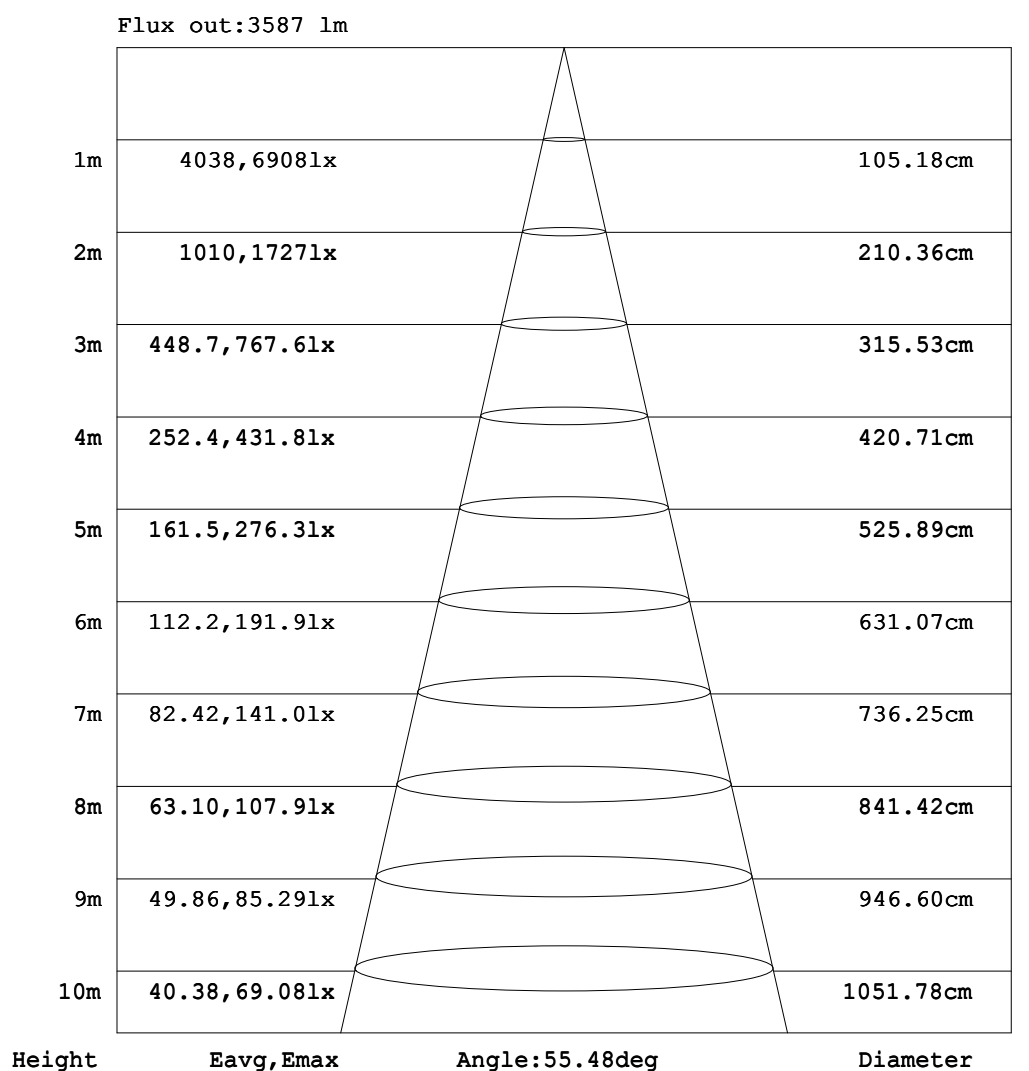


C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:zcx  
Test Date:2020-06-18

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:8.330m [K=1.0000]  
Remarks:

## AAI Figure

Test:U:231.85V I:0.1995A P:44.486W PF:0.9616 Freq:50.04Hz Lamp Flux:7367.3x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:2kg
SPEC.:	DIM.: 1500*60*45mm	SERIAL No.:
MFR.: CoreShine	SUR.:1500*60mm	Shielding Angle:



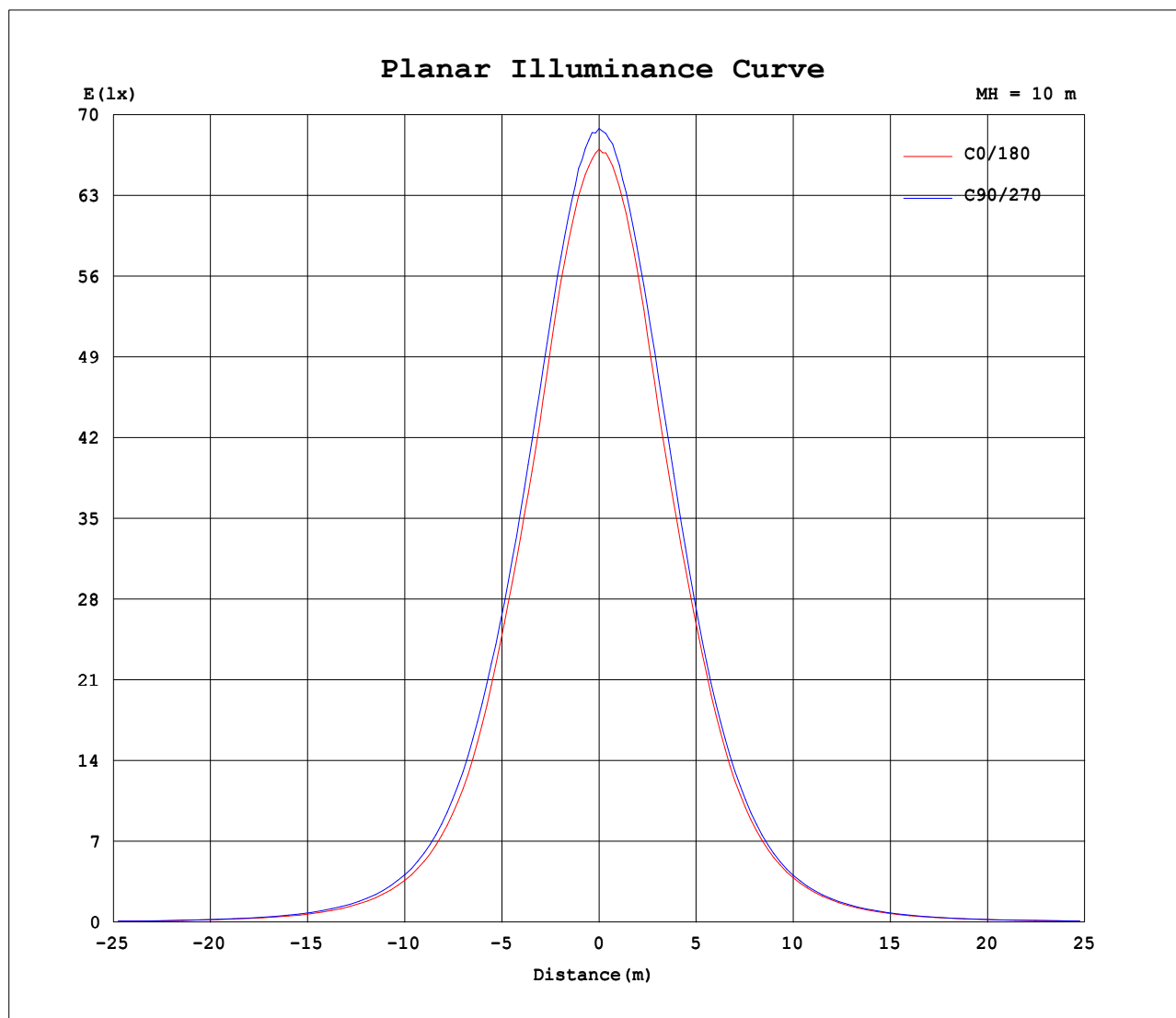
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:zcx  
 Test Date:2020-06-18

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:8.330m [K=1.0000]  
 Remarks:



## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: zcx  
Test Date: 2020-06-18

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.366  
Humidity: 65.0%  
Test Distance: 8.330m [K=1.0000]  
Remarks:

## LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:231.85V I:0.1995A P:44.486W PF:0.9616 Freq:50.04Hz Lamp Flux:7367.3x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:2kg
SPEC.:	DIM.: 1500*60*45mm	SERIAL No.:
MFR.: CoreShine	SUR.:1500*60mm	Shielding Angle:

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
0	6702	6664	6694	6756	6882	6889	6900	6799	6702	6664	6694	6756	6882	6889	6900	6799			
5	6467	6431	6453	6537	6686	6783	6794	6728	6544	6554	6603	6644	6731	6696	6647	6552			
10	5997	5972	5973	6052	6226	6366	6397	6334	6115	6145	6191	6247	6306	6215	6122	6036			
15	5277	5267	5311	5391	5567	5758	5763	5666	5418	5477	5590	5641	5699	5586	5420	5282			
20	4474	4437	4525	4639	4785	4980	4940	4813	4617	4659	4826	4892	4950	4807	4614	4423			
25	3729	3695	3684	3853	3978	4136	4068	4034	3865	3913	3986	4083	4076	3984	3744	3672			
30	2896	2910	2919	3073	3190	3238	3229	3224	3036	3116	3178	3251	3190	3125	2944	2856			
35	2106	2147	2203	2347	2379	2426	2438	2408	2228	2289	2418	2414	2380	2310	2201	2073			
40	1490	1513	1576	1716	1691	1728	1742	1713	1580	1623	1736	1710	1685	1630	1568	1460			
45	1031	1038	1096	1178	1169	1194	1202	1188	1093	1122	1201	1179	1153	1125	1082	999			
50	700	705	744	795	792	808	810	805	742	765	814	800	782	764	747	679			
55	463	484	504	527	535	534	538	550	493	524	543	531	534	507	502	469			
60	321	326	350	354	354	360	368	369	338	354	371	361	357	348	345	321			
65	236	235	260	258	240	261	271	263	247	253	273	265	246	258	259	233			
70	179	180	191	189	177	190	197	200	186	194	201	196	185	191	192	181			
75	132	136	142	134	127	135	147	151	137	147	150	141	135	137	144	136			
80	93.9	95.3	98.6	87.4	81.2	88.4	102	107	98.0	103	105	92.5	89.2	89.6	99.8	95.5			
85	68.3	64.5	59.1	47.9	38.5	48.9	61.6	70.6	68.6	67.9	63.4	51.1	44.4	49.1	59.9	64.8			
90	55.2	49.4	36.5	15.9	5.08	15.6	36.0	49.2	50.7	47.7	36.6	16.1	5.12	15.9	36.2	49.8			
95	57.6	46.5	41.0	22.2	7.24	20.4	38.1	45.0	51.2	44.4	36.8	19.3	5.62	20.6	38.6	46.7			
100	57.0	48.5	36.8	20.6	8.73	19.5	36.0	47.7	51.0	46.4	35.2	18.5	6.72	19.1	35.8	50.5			
105	54.2	50.0	39.9	18.5	9.21	18.4	35.7	46.7	48.2	46.4	34.3	17.3	7.86	16.4	36.1	49.6			
110	45.7	42.9	34.0	19.6	10.0	19.5	32.6	43.7	43.6	42.5	32.5	18.5	8.97	17.7	33.0	42.9			
115	38.9	35.8	28.6	17.1	11.0	17.8	28.1	35.7	36.4	34.9	27.8	17.4	10.4	16.2	26.8	35.6			
120	35.4	33.4	24.4	16.7	11.8	17.3	26.4	32.6	32.9	31.9	26.3	17.4	11.7	16.2	23.2	32.9			
125	34.2	31.8	22.5	16.4	12.6	17.0	25.5	30.8	31.5	30.1	25.7	17.5	13.0	16.3	21.4	31.1			
130	33.6	31.0	22.2	16.6	13.7	17.3	25.3	30.0	31.1	29.4	25.6	17.9	14.4	16.7	21.4	30.7			
135	32.8	29.8	22.2	17.2	15.3	17.8	25.1	29.5	30.4	28.9	25.5	18.5	15.9	17.3	21.3	28.7			
140	31.6	26.9	22.0	18.2	16.9	18.5	24.6	28.8	29.7	28.1	24.9	19.2	17.5	18.3	21.1	24.9			
145	30.8	25.9	22.1	19.3	18.7	19.5	24.0	28.7	28.8	27.9	24.3	20.1	19.2	19.0	21.2	24.3			
150	28.6	25.0	22.8	20.4	20.6	20.8	24.0	26.7	27.1	26.0	24.0	21.2	20.9	20.2	22.1	23.5			
155	27.9	25.7	23.7	22.1	22.3	22.3	24.2	26.4	26.7	25.7	24.2	22.6	22.5	22.0	23.1	24.5			
160	27.7	26.3	24.7	23.9	24.1	23.9	24.8	26.2	26.7	25.7	24.7	24.1	24.1	23.8	24.4	25.4			
165	28.0	26.9	25.9	25.7	25.9	25.6	25.8	26.3	27.0	25.8	25.6	25.7	25.9	25.7	25.7	26.3			
170	28.7	27.7	27.2	27.2	27.3	27.2	26.9	27.0	28.0	26.7	26.8	27.2	27.4	27.3	27.1	27.4			
175	29.7	28.7	28.4	28.4	28.5	28.4	28.3	28.2	29.5	28.1	28.2	28.4	28.5	28.5	28.4	28.5			
180	30.3	29.1	28.9	29.0	29.1	29.1	29.0	29.0	30.3	29.1	28.9	29.0	29.1	29.1	29.0	29.0			

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:zcx  
 Test Date:2020-06-18

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:8.330m [K=1.0000]  
 Remarks: