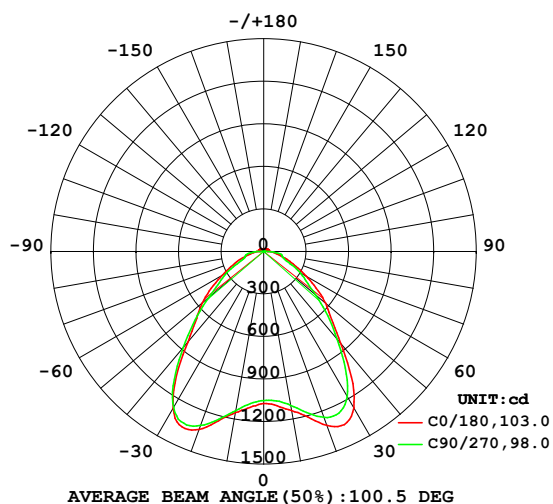


## LUMINAIRE PHOTOMETRIC TEST REPORT

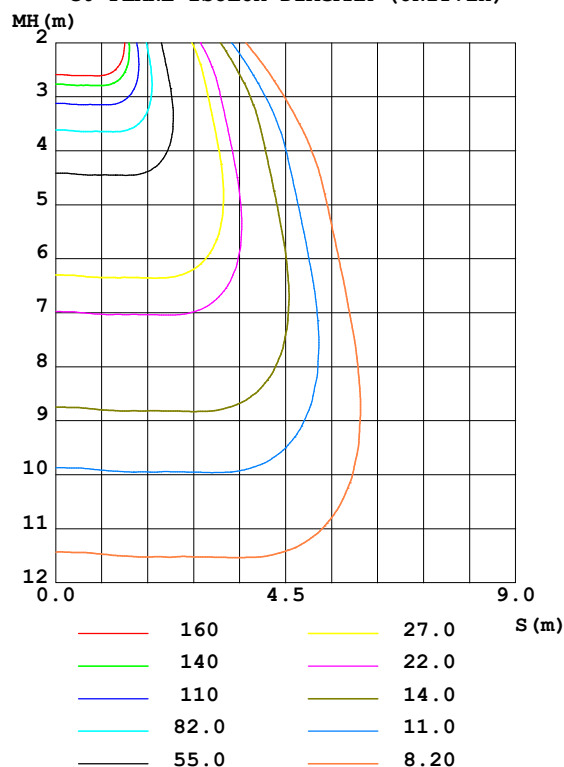
Test:U:224.31V I:0.0930A P:19.833W PF:0.9509 Freq:49.96Hz Lamp Flux:3198.42x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:2kg
SPEC.:	DIM.: 600*60*45mm	SERIAL No.:
MFR.: CoreShine	SUR.:600*60mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 161.27 lm/W			
MODEL	CTLS-0620-40WD-04WH	I <sub>max</sub> (cd)	1370	S/MH (C0/180)	1.35
NOMINAL POWER (W)	20	LOR (%)	100.0	S/MH (C90/270)	1.38
RATED VOLTAGE (V)	230.0	TOTAL FLUX (lm)	3198.4	η UP, DN (C0-180)	1.7, 47.5
NOMINAL FLUX (lm)	3198.42	CIE CLASS	DIRECT	η UP, DN (C180-360)	1.8, 49.0
LAMPS INSIDE	1	η up (%)	3.5	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	230.0	η down (%)	96.5	CIBSE SHR MAX	1.35

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: 2020-06-20

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:

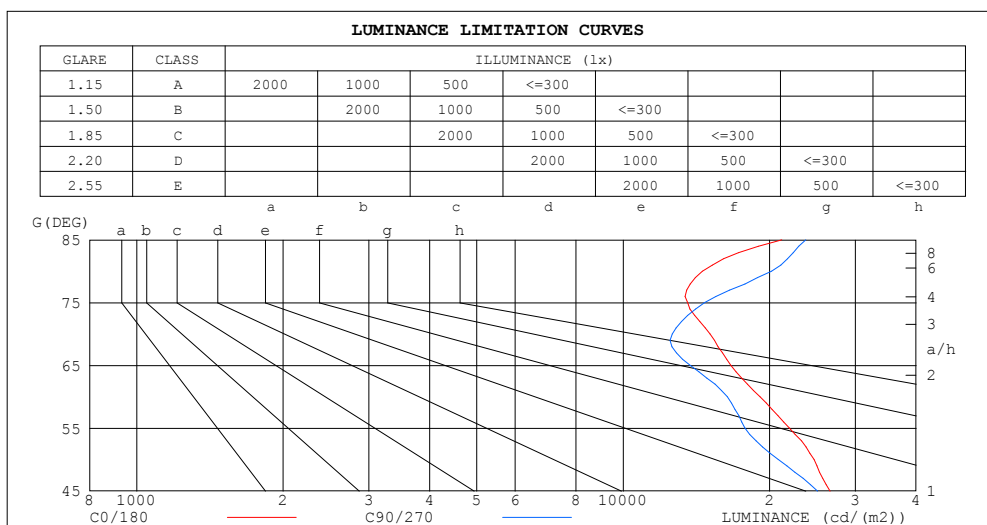
$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	1139	1142	1102	1119	1153	1150	1139	1150	0- 10	105.0	105.0	3.28,3.28
20	1306	1279	1245	1274	1337	1320	1306	1317	10- 20	347.3	452.3	14.1,14.1
30	1274	1229	1178	1223	1277	1287	1270	1300	20- 30	607.2	1059	33.1,33.1
40	844.9	827.9	806.4	808.1	830.5	858.0	881.8	876.7	30- 40	661.8	1721	53.8,53.8
50	571.5	561.3	482.0	547.5	568.0	571.4	509.1	563.8	40- 50	522.9	2244	70.2,70.2
60	344.0	328.7	294.6	332.8	338.9	338.2	300.9	334.7	50- 60	389.5	2634	82.3,82.3
70	185.8	190.6	155.4	192.7	190.2	190.9	150.6	192.2	60- 70	244.5	2878	90,90
80	90.94	90.50	126.1	90.48	90.20	90.74	121.0	90.14	70- 80	140.2	3018	94.4,94.4
90	43.68	33.29	15.70	35.11	46.07	37.35	23.10	35.49	80- 90	68.28	3087	96.5,96.5
100	21.67	19.19	1.807	18.96	20.92	20.12	1.750	19.38	90-100	22.95	3110	97.2,97.2
110	34.96	25.85	2.705	26.23	35.47	26.27	2.503	25.63	100-110	23.37	3133	98,98
120	30.05	20.84	3.748	21.51	31.08	21.90	3.434	20.12	110-120	20.47	3153	98.6,98.6
130	27.42	19.54	4.725	20.18	28.14	20.17	4.336	18.47	120-130	16.59	3170	99.1,99.1
140	23.41	15.59	5.461	16.75	23.74	16.64	5.034	14.39	130-140	12.82	3183	99.5,99.5
150	17.54	10.73	5.906	12.46	17.73	12.16	5.533	9.968	140-150	8.354	3191	99.8,99.8
160	11.15	7.530	6.214	8.396	11.46	8.052	5.936	7.118	150-160	4.505	3196	99.9,99.9
170	7.210	6.638	6.513	6.481	7.226	6.385	6.377	6.472	160-170	2.063	3198	100,100
180	7.091	6.771	6.709	6.729	7.120	6.784	6.705	6.734	170-180	0.6359	3198	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:2020-06-20

$\gamma$  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:224.31V I:0.0930A P:19.833W PF:0.9509 Freq:49.96Hz Lamp Flux:3198.42x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:2kg
SPEC.:	DIM.: 600*60*45mm	SERIAL No.:
MFR.: CoreShine	SUR.:600*60mm	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	21194	23728
80	14547	20176
75	13567	14705
70	15088	12623
65	16661	13726
60	19113	16367
55	21959	17797
50	24699	20831
45	26642	25090

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:zcx  
Test Date:2020-06-20

$\gamma$  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:

## WEC AND CCEC

Test:U:224.31V I:0.0930A P:19.833W PF:0.9509 Freq:49.96Hz Lamp Flux:3198.42x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:2kg
SPEC.:	DIM.: 600*60*45mm	SERIAL No.:
MFR.: CoreShine	SUR.:600*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	.282	.161	.051	.274	.156	.050	.259	.149	.047	.245	.141	.045	.232	.135	.043		
2.0	.264	.145	.044	.257	.142	.044	.244	.135	.042	.231	.130	.041	.220	.124	.039		
3.0	.245	.131	.039	.239	.128	.039	.227	.123	.037	.217	.119	.036	.206	.114	.035		
4.0	.228	.119	.035	.223	.117	.034	.212	.113	.034	.202	.109	.033	.193	.105	.032		
5.0	.213	.108	.031	.208	.107	.031	.198	.103	.030	.190	.100	.030	.181	.097	.029		
6.0	.199	.100	.028	.194	.098	.028	.186	.095	.028	.178	.092	.027	.171	.090	.027		
7.0	.186	.092	.026	.182	.091	.026	.174	.088	.025	.167	.086	.025	.161	.084	.025		
8.0	.175	.085	.024	.171	.084	.024	.164	.082	.023	.158	.080	.023	.152	.078	.023		
9.0	.165	.080	.022	.161	.079	.022	.155	.077	.022	.149	.075	.021	.144	.073	.021		
10.0	.156	.075	.021	.153	.074	.021	.147	.072	.020	.142	.070	.020	.137	.069	.020		

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	.217	.217	.217	.186	.186	.186	.127	.127	.127	.073	.073	.073	.023	.023	.023		
1.0	.205	.183	.163	.176	.157	.141	.120	.108	.097	.069	.063	.057	.022	.020	.018		
2.0	.196	.159	.128	.167	.137	.111	.115	.095	.077	.066	.055	.045	.021	.018	.015		
3.0	.187	.141	.105	.160	.122	.091	.110	.085	.064	.064	.049	.038	.020	.016	.012		
4.0	.179	.128	.089	.154	.110	.077	.106	.077	.054	.061	.045	.032	.020	.015	.011		
5.0	.172	.117	.077	.147	.101	.067	.101	.071	.047	.059	.042	.028	.019	.014	.009		
6.0	.165	.109	.069	.141	.094	.060	.098	.066	.042	.057	.039	.025	.018	.013	.008		
7.0	.158	.102	.062	.136	.088	.054	.094	.062	.039	.055	.036	.023	.018	.012	.008		
8.0	.152	.096	.058	.131	.083	.050	.091	.059	.036	.053	.035	.021	.017	.011	.007		
9.0	.146	.091	.054	.126	.079	.047	.087	.056	.033	.051	.033	.020	.016	.011	.007		
10.0	.141	.087	.051	.122	.076	.044	.084	.053	.032	.049	.031	.019	.016	.010	.006		

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:zcx  
 Test Date:2020-06-20

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:224.31V I:0.0930A P:19.833W PF:0.9509 Freq:49.96Hz Lamp Flux:3198.42x1 lm											
NAME: LED Linear Lighting System					TYPE:			WEIGHT:2kg			
SPEC.:					DIM.: 600*60*45mm			SERIAL No.:			
MFR.: CoreShine					SUR.:600*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		18.8	20.2	19.2	20.5	20.7	18.2	19.5	18.5	19.8	20.0
	3H	19.8	21.0	20.1	21.3	21.6	19.0	20.2	19.3	20.5	20.8
	4H	20.1	21.3	20.5	21.6	22.0	19.5	20.7	19.8	21.0	21.3
	6H	20.5	21.6	20.9	21.9	22.3	20.1	21.2	20.5	21.6	21.9
	8H	20.7	21.7	21.1	22.1	22.4	20.5	21.6	20.9	21.9	22.3
	12H	20.9	21.9	21.3	22.3	22.7	20.8	21.9	21.2	22.2	22.6
4H	2H	19.2	20.3	19.5	20.6	21.0	18.6	19.8	18.9	20.1	20.4
	3H	20.3	21.3	20.7	21.7	22.0	19.7	20.7	20.1	21.0	21.4
	4H	20.8	21.7	21.2	22.1	22.5	20.3	21.2	20.7	21.6	22.0
	6H	21.3	22.1	21.8	22.5	23.0	21.0	21.9	21.5	22.3	22.7
	8H	21.6	22.3	22.0	22.8	23.2	21.5	22.2	21.9	22.7	23.1
	12H	21.9	22.6	22.4	23.1	23.5	21.9	22.6	22.4	23.0	23.5
8H	4H	21.0	21.8	21.4	22.2	22.6	20.5	21.3	20.9	21.7	22.1
	6H	21.7	22.3	22.2	22.8	23.3	21.4	22.0	21.9	22.5	23.0
	8H	22.1	22.6	22.6	23.1	23.6	21.9	22.5	22.4	23.0	23.5
	12H	22.5	23.0	23.1	23.5	24.1	22.5	22.9	23.0	23.5	24.0
12H	4H	21.0	21.7	21.5	22.1	22.6	20.5	21.2	21.0	21.7	22.1
	6H	21.7	22.3	22.2	22.8	23.3	21.5	22.0	22.0	22.5	23.0
	8H	22.2	22.7	22.7	23.2	23.7	22.1	22.5	22.6	23.0	23.6
Variations with the observer position at spacings:											
S = 1.0H	+ 0.3 / - 0.4					+ 0.3 / - 0.4					
1.5H	+ 0.1 / - 0.2					+ 0.1 / - 0.3					
2.0H	+ 0.4 / - 0.4					+ 0.4 / - 0.4					

CIE Pub.117, 3198 lm Total Lamp Luminous Flux Correct ( $8\log(F/F_0) = 4.0$ )

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:zcx  
 Test Date:2020-06-20

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:224.31V I:0.0930A P:19.833W PF:0.9509 Freq:49.96Hz Lamp Flux:3198.42x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:2kg
SPEC.:	DIM.: 600*60*45mm	SERIAL No.:
MFR.: CoreShine	SUR.:600*60mm	Shielding Angle:

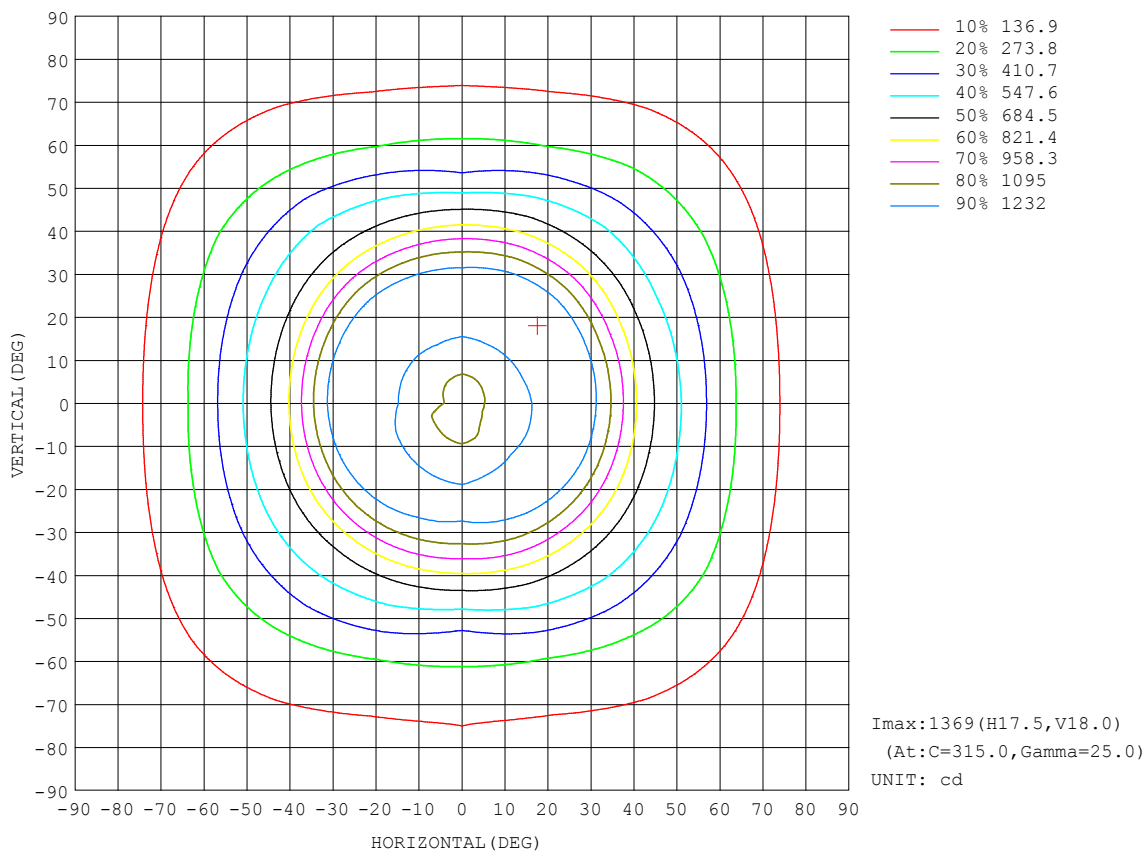
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	63	52	46	62	52	46	61	51	46	40
0.80	72	62	56	71	62	55	70	61	55	48
1.00	80	70	64	79	70	63	77	70	63	56
1.25	87	77	71	85	77	71	82	75	70	63
1.50	91	82	76	89	81	76	86	79	74	67
2.00	97	89	84	95	88	83	91	86	81	73
2.50	100	93	88	98	92	87	94	89	85	76
3.00	103	97	92	101	95	91	97	92	88	79
4.00	107	102	97	104	100	96	100	96	93	83
5.00	109	104	101	106	102	99	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: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:zcx  
 Test Date:2020-06-20

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:224.31V I:0.0930A P:19.833W PF:0.9509 Freq:49.96Hz Lamp Flux:3198.42x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:2kg
SPEC.:	DIM.: 600*60*45mm	SERIAL No.:
MFR.: CoreShine	SUR.:600*60mm	Shielding Angle:

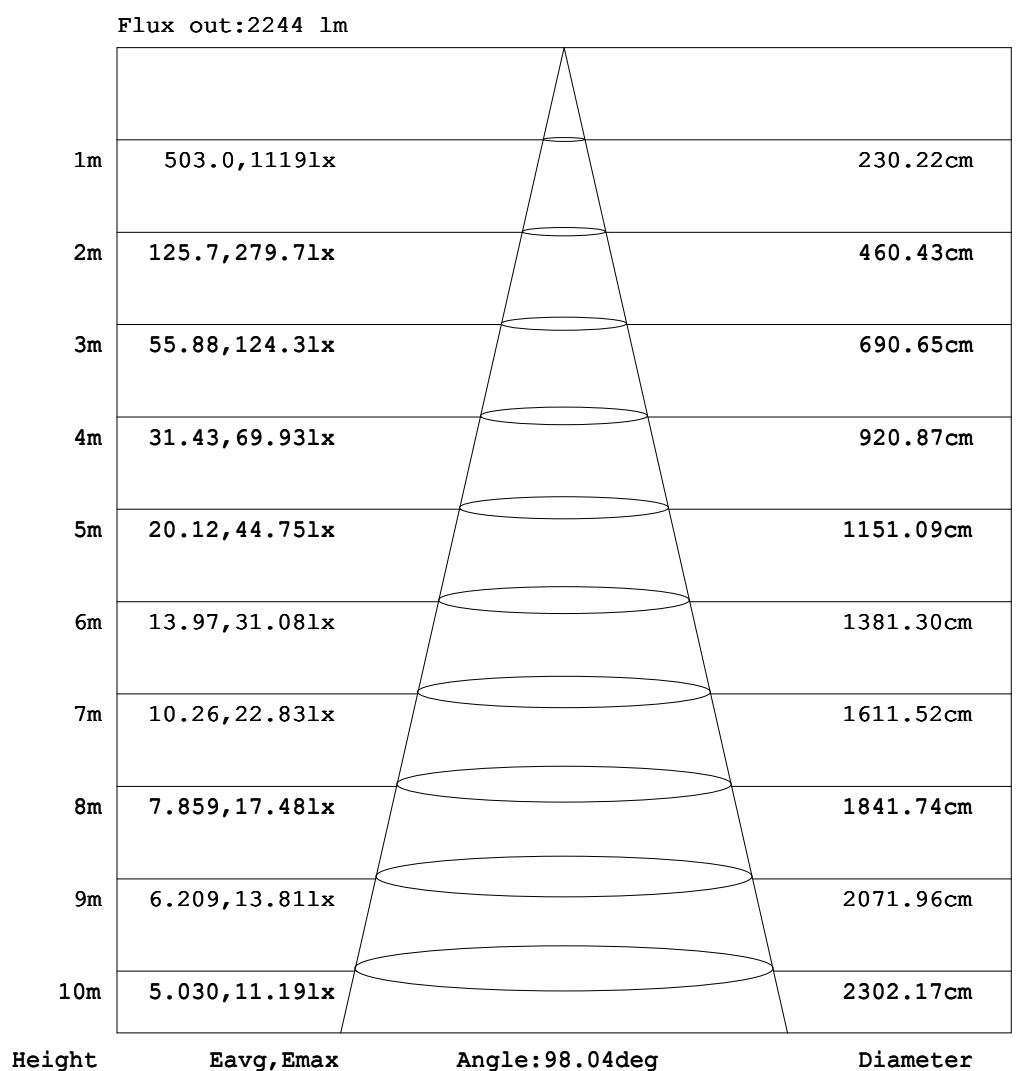


C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:zcx  
Test Date:2020-06-20

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:224.31V I:0.0930A P:19.833W PF:0.9509 Freq:49.96Hz Lamp Flux:3198.42x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:2kg
SPEC.:	DIM.: 600*60*45mm	SERIAL No.:
MFR.: CoreShine	SUR.:600*60mm	Shielding Angle:



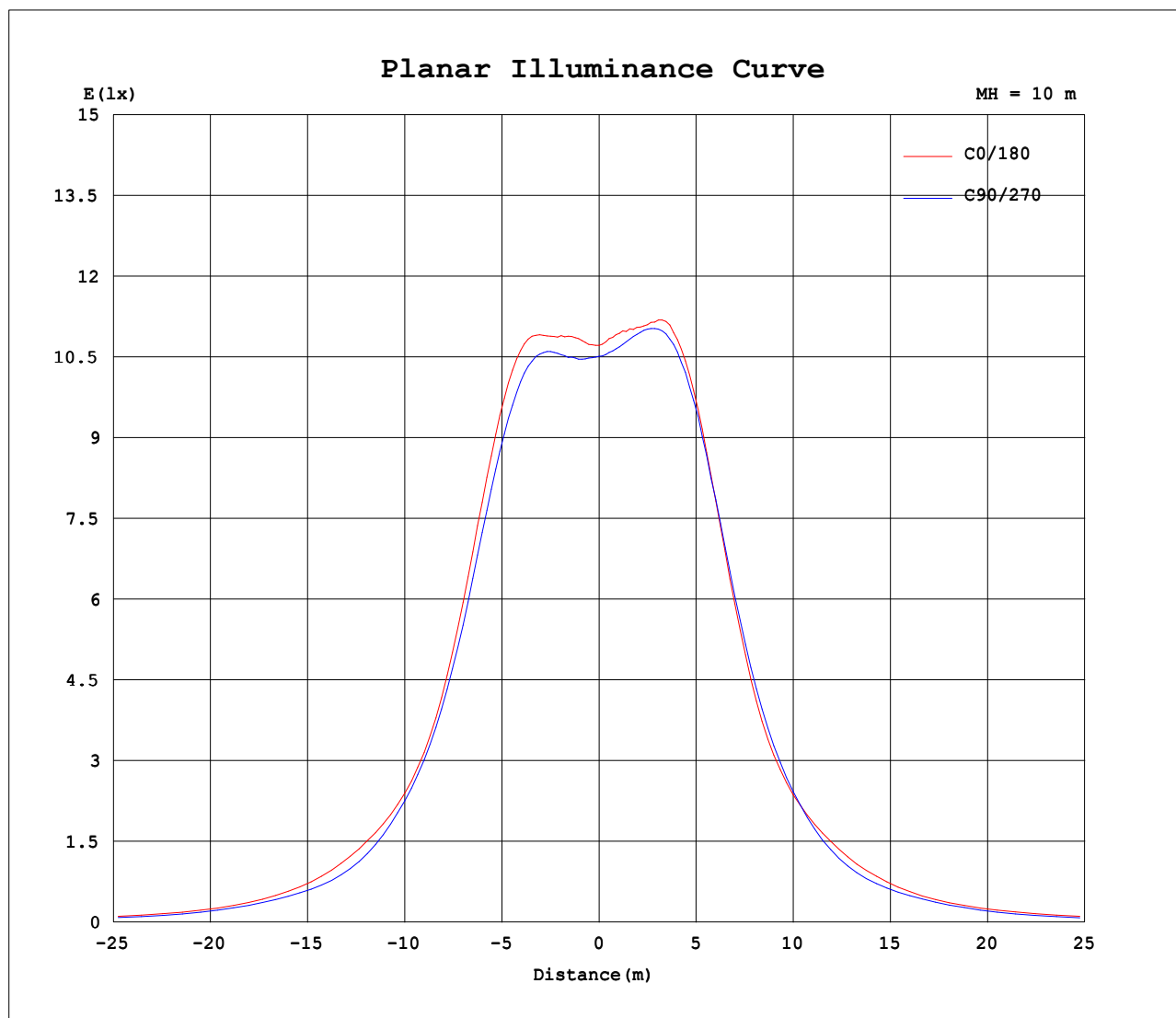
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:zcx  
 Test Date:2020-06-20

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: 2020-06-20

$\gamma$  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:224.31V I:0.0930A P:19.833W PF:0.9509 Freq:49.96Hz Lamp Flux:3198.42x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:2kg
SPEC.:	DIM.: 600*60*45mm	SERIAL No.:
MFR.: CoreShine	SUR.: 600*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	1072	1072	1065	1057	1051	1049	1054	1054	1072	1072	1065	1057	1051	1049	1054	1054			
5	1093	1095	1084	1065	1058	1058	1065	1074	1104	1097	1090	1083	1077	1080	1080	1087			
10	1139	1143	1142	1113	1102	1109	1119	1120	1153	1153	1150	1149	1139	1145	1150	1150			
15	1209	1205	1211	1193	1176	1185	1192	1199	1236	1233	1231	1237	1224	1235	1234	1229			
20	1306	1294	1279	1266	1245	1257	1274	1299	1337	1334	1320	1318	1306	1325	1317	1325			
25	1347	1330	1310	1286	1258	1274	1308	1329	1366	1362	1363	1348	1336	1361	1370	1364			
30	1274	1256	1229	1207	1178	1195	1223	1253	1277	1283	1287	1277	1270	1294	1300	1284			
35	1080	1067	1046	1031	1004	1022	1034	1054	1075	1079	1099	1100	1101	1124	1116	1083			
40	845	842	828	822	806	807	808	824	831	841	858	867	882	891	877	847			
45	678	675	665	664	639	651	648	659	669	673	681	685	687	700	687	676			
50	572	567	561	538	482	529	547	560	568	564	571	549	509	550	564	553			
55	453	453	448	417	367	417	452	452	452	455	465	423	382	422	451	449			
60	344	360	329	297	295	302	333	357	339	361	338	303	301	303	335	357			
65	253	268	247	225	209	226	249	268	254	269	250	227	208	226	254	261			
70	186	187	191	174	155	177	193	191	190	190	191	173	151	172	192	185			
75	126	131	132	123	137	125	136	135	129	133	133	124	135	124	131	129			
80	90.9	91.0	90.5	82.7	126	83.1	90.5	91.4	90.2	90.4	90.7	88.1	121	88.0	90.1	88.6			
85	66.5	63.4	60.3	51.9	74.4	51.7	59.0	62.8	65.5	62.5	62.3	56.4	80.0	56.4	61.9	61.6			
90	43.7	40.5	33.3	24.3	15.7	23.6	35.1	42.0	46.1	41.3	37.4	27.6	23.1	27.5	35.5	39.4			
95	27.5	26.5	21.1	14.2	1.58	14.1	21.2	26.9	28.0	27.3	22.4	16.3	1.62	16.2	21.8	27.0			
100	21.7	21.0	19.2	13.2	1.81	13.4	19.0	20.6	20.9	21.2	20.1	15.4	1.75	14.3	19.4	22.1			
105	34.2	34.6	24.9	12.2	2.23	11.9	25.7	35.3	35.0	34.6	25.8	13.0	2.08	12.2	25.0	33.8			
110	35.0	34.4	25.9	13.0	2.70	13.6	26.2	34.6	35.5	34.7	26.3	13.8	2.50	12.7	25.6	34.2			
115	31.7	29.3	22.1	11.1	3.22	11.5	22.4	29.9	32.4	30.4	22.8	11.4	2.96	10.1	21.9	28.9			
120	30.1	27.6	20.8	10.8	3.75	11.3	21.5	28.5	31.1	28.6	21.9	10.9	3.43	10.2	20.1	27.3			
125	28.6	26.4	20.3	10.5	4.26	10.8	20.8	26.7	28.9	26.8	20.9	10.4	3.90	10.1	18.2	26.2			
130	27.4	25.5	19.5	9.89	4.72	10.4	20.2	26.0	28.1	26.2	20.2	9.98	4.34	9.51	18.5	25.1			
135	25.8	23.8	17.6	8.86	5.14	9.60	18.5	24.4	26.4	24.5	18.5	9.09	4.71	8.35	16.6	23.4			
140	23.4	21.7	15.6	8.00	5.46	8.79	16.7	22.0	23.7	22.0	16.6	8.26	5.03	7.47	14.4	20.7			
145	20.8	19.1	13.0	7.24	5.70	7.91	14.7	19.5	21.1	19.4	14.5	7.45	5.30	6.74	11.9	17.7			
150	17.5	16.1	10.7	6.68	5.91	7.17	12.5	16.5	17.7	16.2	12.2	6.75	5.53	6.27	9.97	13.8			
155	14.2	12.6	8.87	6.38	6.07	6.60	10.3	13.5	14.5	13.2	9.92	6.26	5.74	6.03	8.26	10.7			
160	11.1	9.67	7.53	6.34	6.21	6.23	8.40	10.7	11.5	10.3	8.05	5.99	5.94	5.99	7.12	8.74			
165	8.73	7.74	6.80	6.42	6.37	6.31	7.08	8.31	8.87	8.02	6.82	6.06	6.16	6.13	6.52	7.37			
170	7.21	6.87	6.64	6.57	6.51	6.51	6.48	6.80	7.23	6.69	6.38	6.33	6.38	6.37	6.47	6.71			
175	6.96	6.84	6.72	6.71	6.64	6.67	6.62	6.66	7.00	6.65	6.62	6.56	6.60	6.58	6.66	6.71			
180	7.09	6.86	6.77	6.74	6.71	6.71	6.73	6.78	7.12	6.84	6.78	6.71	6.70	6.71	6.73	6.78			

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:zcx  
Test Date:2020-06-20

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: