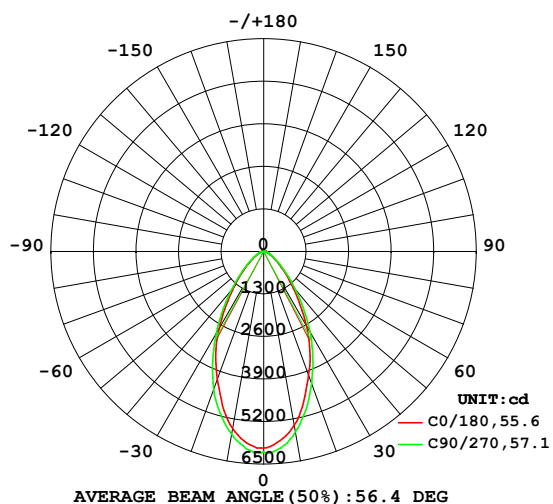


## LUMINAIRE PHOTOMETRIC TEST REPORT

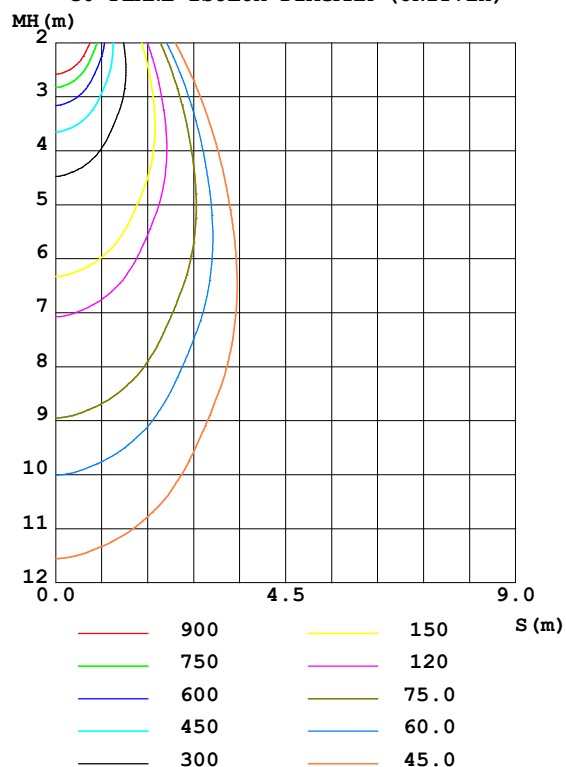
Test:U:220.44V I:0.1866A P:39.559W PF:0.9616 Freq:50.02Hz Lamp Flux:6623.74x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:2kg
SPEC.:	DIM.: 1500*60*45mm	SERIAL No.:
MFR.: CoreShine	SUR.:1500*60mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 167.44 lm/W			
MODEL	CTLS-1540-40NR-04WH	I <sub>max</sub> (cd)	6200	S/MH (C0/180)	0.83
NOMINAL POWER (W)	40	LOR (%)	100.0	S/MH (C90/270)	0.87
RATED VOLTAGE (V)	230.0	TOTAL FLUX (lm)	6623.7	η UP, DN (C0-180)	1.2, 48.6
NOMINAL FLUX (lm)	6623.74	CIE CLASS	DIRECT	η UP, DN (C180-360)	1.2, 49.1
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:

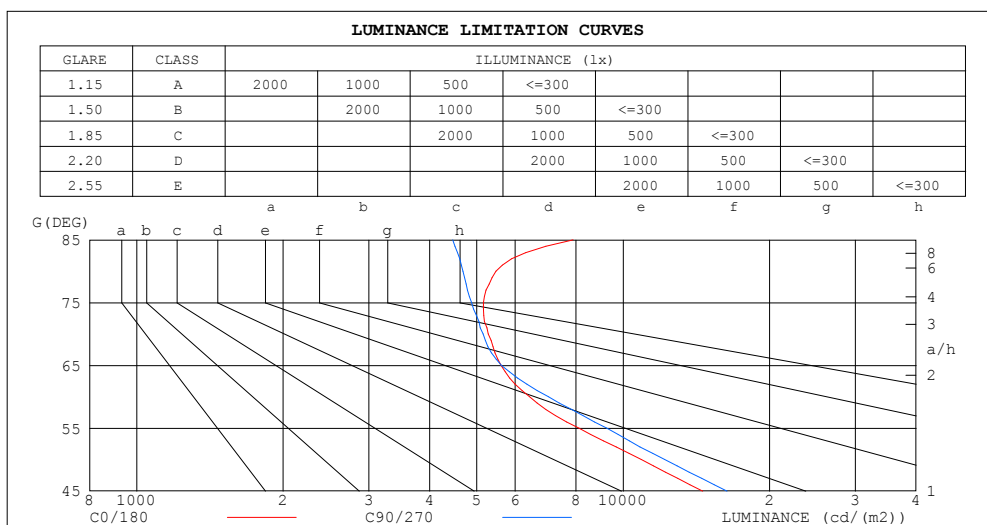
$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	5393	5376	5594	5703	5493	5614	5669	5467	0- 10	554.5	554.5	8.37,8.37
20	4020	4060	4289	4401	4152	4366	4478	4149	10- 20	1376	1931	29.2,29.2
30	2604	2612	2836	2874	2726	2882	2901	2661	20- 30	1603	3534	53.3,53.3
40	1342	1404	1503	1552	1416	1577	1538	1423	30- 40	1294	4828	72.9,72.9
50	629.8	664.7	704.3	724.1	664.5	733.2	712.1	677.5	40- 50	793.9	5621	84.9,84.9
60	289.0	311.8	316.1	331.1	302.5	332.5	323.9	316.5	50- 60	423.8	6045	91.3,91.3
70	162.6	171.6	158.7	177.5	166.0	179.9	167.5	174.9	60- 70	230.1	6275	94.7,94.7
80	85.61	88.49	73.21	92.19	87.83	94.25	81.20	91.32	70- 80	133.6	6409	96.8,96.8
90	50.15	32.51	4.771	33.25	45.74	32.25	4.905	33.42	80- 90	59.23	6468	97.7,97.7
100	49.73	32.92	7.925	32.68	46.07	31.60	5.950	33.06	90-100	32.36	6501	98.1,98.1
110	41.18	29.86	9.146	29.75	39.31	29.13	8.004	30.64	100-110	31.61	6532	98.6,98.6
120	31.93	21.90	10.80	24.11	29.68	23.41	10.35	20.73	110-120	23.87	6556	99,99
130	30.31	19.96	12.57	23.13	28.02	22.66	12.64	19.25	120-130	19.24	6575	99.3,99.3
140	28.53	19.77	15.45	22.47	26.75	22.04	15.41	19.06	130-140	16.35	6592	99.5,99.5
150	25.38	20.51	18.66	21.74	24.25	21.22	18.49	19.71	140-150	13.14	6605	99.7,99.7
160	24.82	22.16	21.74	22.34	23.71	21.80	21.41	21.72	150-160	9.975	6615	99.9,99.9
170	25.54	24.35	24.52	24.23	24.87	23.80	24.37	24.19	160-170	6.583	6621	100,100
180	26.90	25.77	25.97	25.95	26.91	25.77	25.98	25.90	170-180	2.396	6624	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:220.44V I:0.1866A P:39.559W PF:0.9616 Freq:50.02Hz Lamp Flux:6623.74x1 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:

## WEC AND CCEC

Test:U:220.44V I:0.1866A P:39.559W PF:0.9616 Freq:50.02Hz Lamp Flux:6623.74x1 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	.188	.097	.029	.183	.096	.028	.173	.092	.027	.165	.088	.027	.156	.085	.026		
5.0	.177	.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	.075	.021	.141	.072	.021	.135	.070	.021		
8.0	.149	.073	.020	.146	.072	.020	.140	.070	.020	.135	.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	.130	.109	.106	.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:220.44V I:0.1866A P:39.559W PF:0.9616 Freq:50.02Hz Lamp Flux:6623.74x1 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	11.6	12.8	11.9	13.0	13.2	12.2	13.3	12.5	13.5	13.7
3H	12.1	13.1	12.4	13.4	13.7	12.6	13.6	12.9	13.9	14.1
4H	12.4	13.4	12.7	13.6	13.9	12.8	13.8	13.1	14.0	14.3
6H	12.7	13.6	13.0	13.9	14.2	13.0	13.9	13.3	14.2	14.5
8H	12.8	13.7	13.2	14.0	14.3	13.0	13.9	13.4	14.2	14.5
12H	13.0	13.8	13.3	14.1	14.5	13.1	13.9	13.4	14.2	14.6
4H 2H	11.8	12.8	12.1	13.0	13.3	12.3	13.2	12.6	13.5	13.8
3H	12.5	13.3	12.8	13.6	14.0	12.9	13.7	13.2	14.0	14.4
4H	12.9	13.6	13.3	14.0	14.3	13.2	14.0	13.6	14.3	14.7
6H	13.3	14.0	13.7	14.3	14.7	13.5	14.2	13.9	14.6	15.0
8H	13.5	14.1	13.9	14.5	15.0	13.6	14.2	14.1	14.6	15.1
12H	13.8	14.3	14.2	14.8	15.2	13.7	14.3	14.2	14.7	15.1
8H 4H	13.0	13.6	13.4	14.0	14.5	13.3	13.9	13.7	14.3	14.8
6H	13.6	14.1	14.1	14.5	15.0	13.7	14.3	14.2	14.7	15.2
8H	13.9	14.4	14.4	14.8	15.3	14.0	14.4	14.4	14.9	15.4
12H	14.3	14.7	14.8	15.2	15.7	14.1	14.5	14.6	15.0	15.5
12H 4H	13.0	13.6	13.5	14.0	14.4	13.3	13.9	13.8	14.3	14.7
6H	13.6	14.1	14.1	14.6	15.1	13.8	14.3	14.3	14.7	15.2
8H	14.0	14.4	14.5	14.9	15.4	14.0	14.4	14.6	14.9	15.4
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 / - 0.8					+ 1.7 / - 1.0				

CIE Pub.117, 6624 lm Total Lamp Luminous Flux Correct ( $8\log(F/F_0) = 6.6$ )

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:220.44V I:0.1866A P:39.559W PF:0.9616 Freq:50.02Hz Lamp Flux:6623.74x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:2kg
SPEC.:	DIM.: 1500*60*45mm	SERIAL No.:
MFR.: CoreShine	SUR.:1500*60mm	Shielding Angle:

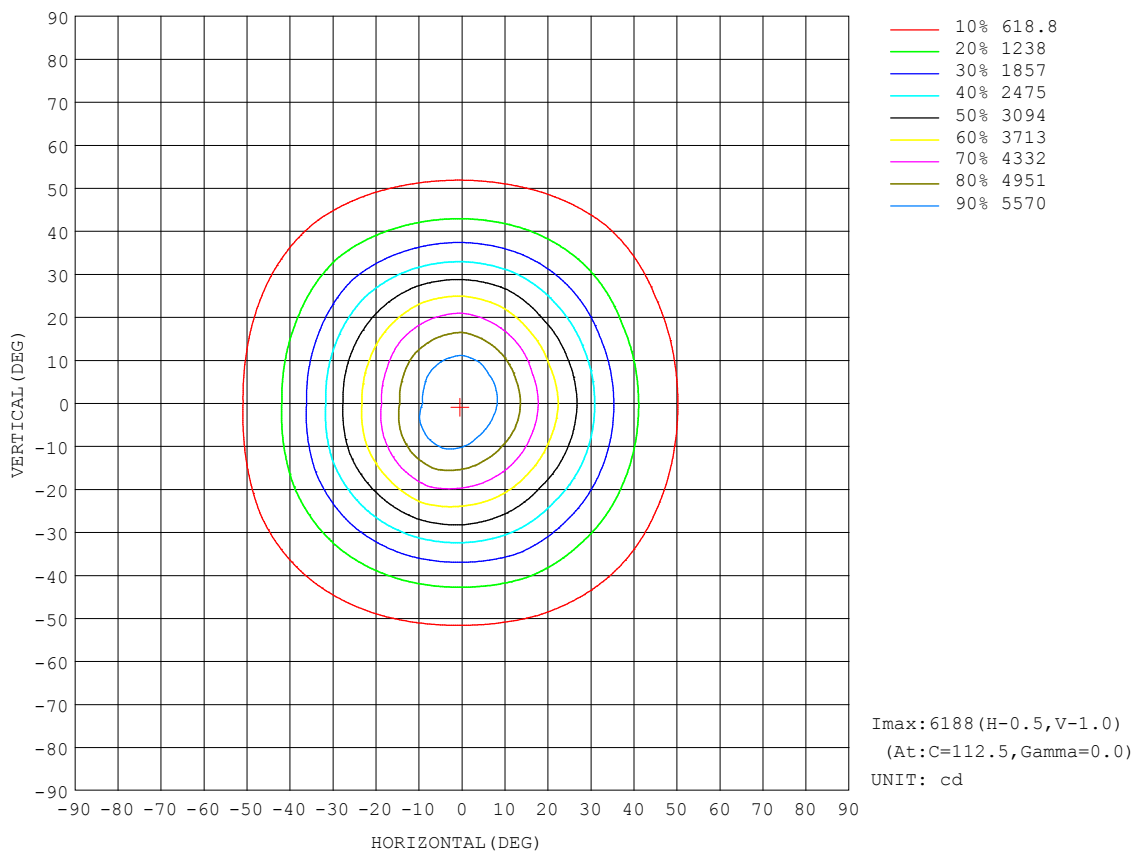
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	75	66	61	74	66	61	73	65	61	56
0.80	83	75	70	82	75	70	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	86	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:220.44V I:0.1866A P:39.559W PF:0.9616 Freq:50.02Hz Lamp Flux:6623.74x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:2kg
SPEC.:	DIM.: 1500*60*45mm	SERIAL No.:
MFR.: CoreShine	SUR.:1500*60mm	Shielding Angle:

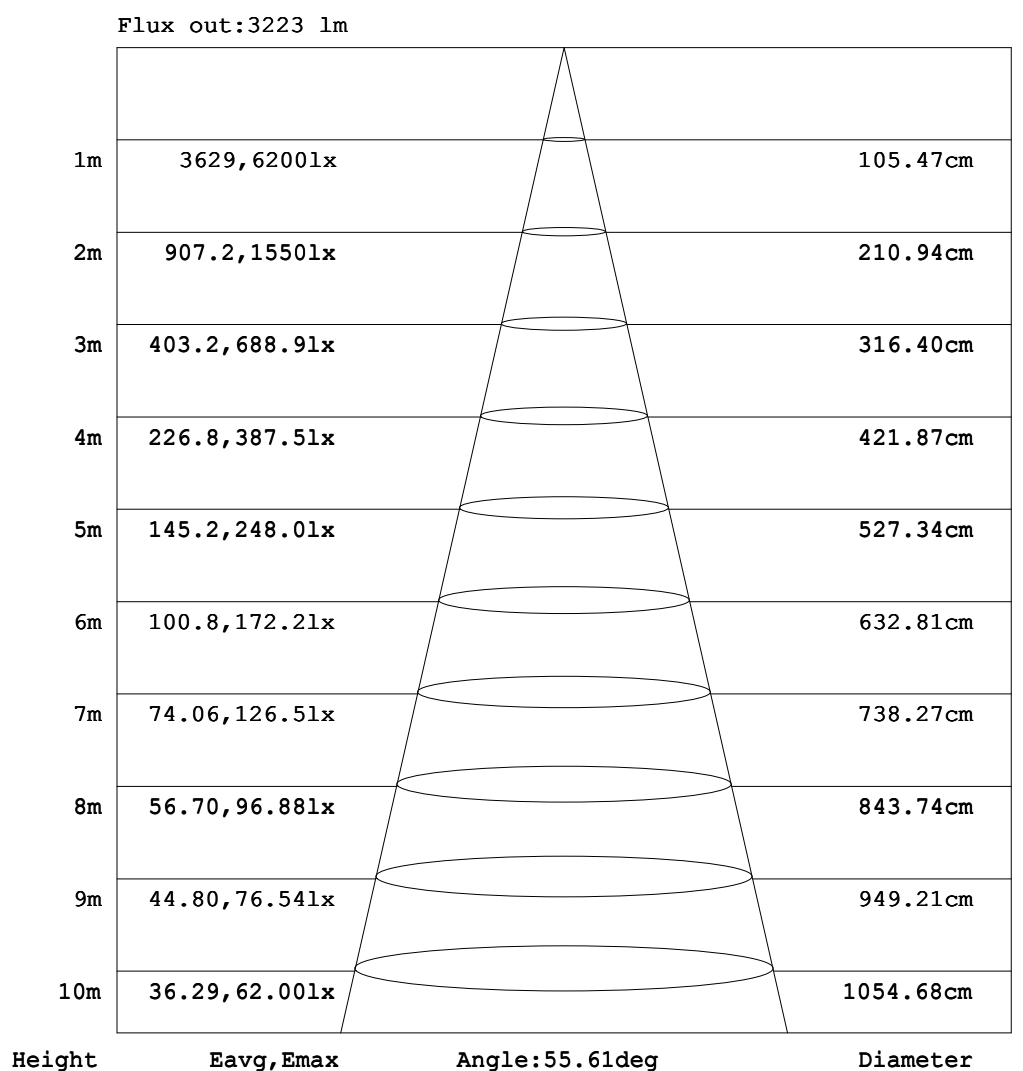


C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:zcx  
Test Date:2020-06-18

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:220.44V I:0.1866A P:39.559W PF:0.9616 Freq:50.02Hz Lamp Flux:6623.74x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:2kg
SPEC.:	DIM.: 1500*60*45mm	SERIAL No.:
MFR.: CoreShine	SUR.:1500*60mm	Shielding Angle:



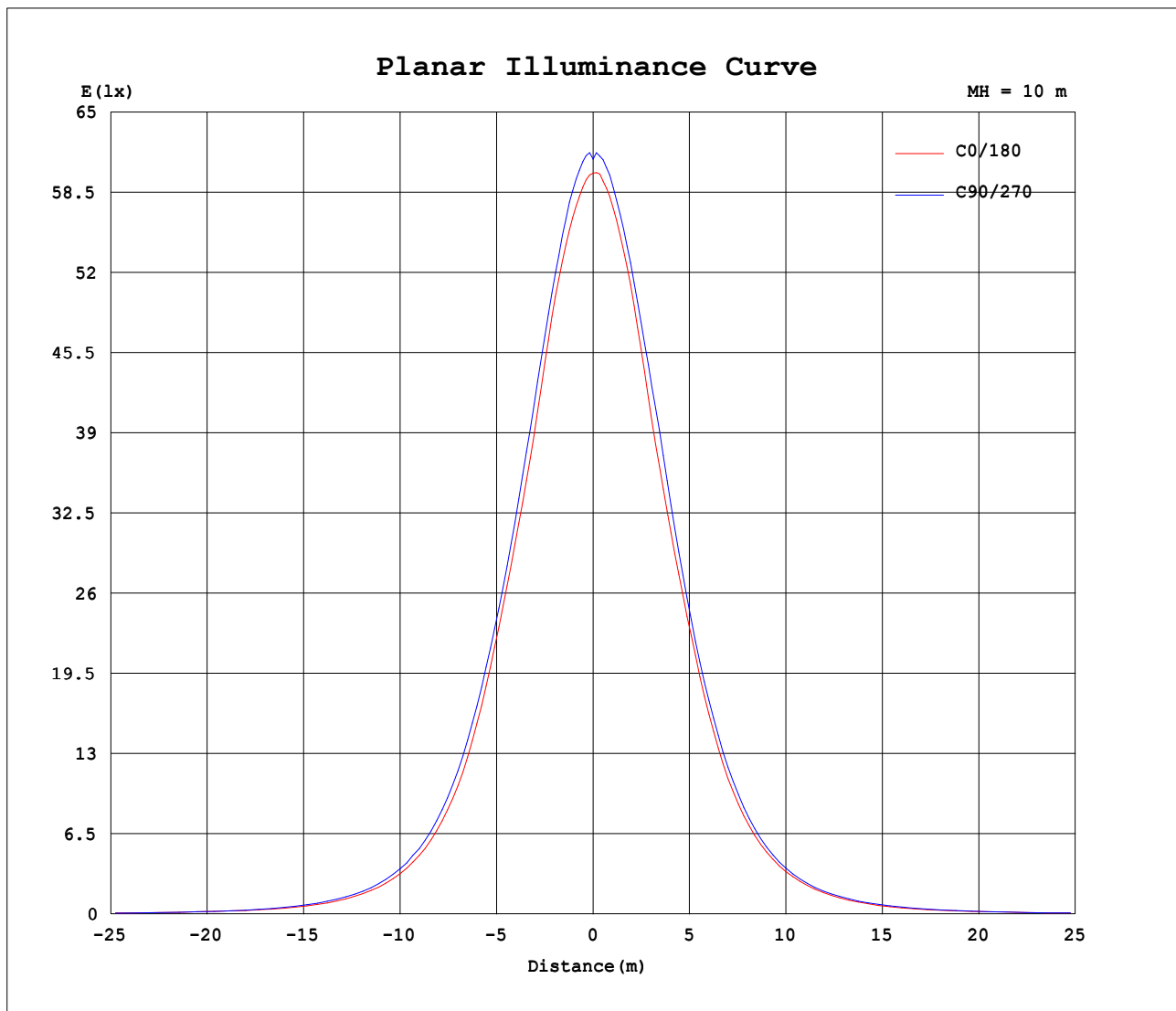
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:220.44V I:0.1866A P:39.559W PF:0.9616 Freq:50.02Hz Lamp Flux:6623.74x1 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	6005	6005	6041	6111	6120	6200	6171	6100	6005	6005	6041	6111	6120	6200	6171	6100			
5	5807	5796	5821	5884	6025	6076	6079	6004	5883	5898	5967	6016	6059	6023	5935	5868			
10	5393	5376	5376	5447	5594	5714	5703	5633	5493	5526	5614	5658	5669	5607	5467	5409			
15	4743	4745	4777	4856	5003	5148	5130	5037	4877	4939	5064	5097	5131	4999	4876	4750			
20	4020	3989	4060	4164	4289	4443	4401	4291	4152	4200	4366	4441	4478	4309	4149	3997			
25	3353	3308	3305	3455	3557	3688	3616	3593	3475	3533	3606	3713	3692	3576	3375	3302			
30	2604	2615	2612	2745	2836	2888	2874	2863	2726	2803	2882	2933	2901	2838	2661	2592			
35	1895	1923	1966	2090	2115	2159	2174	2142	2000	2068	2195	2177	2167	2114	1996	1884			
40	1342	1354	1404	1522	1503	1539	1552	1525	1416	1463	1577	1547	1538	1496	1423	1328			
45	928	931	975	1044	1040	1062	1076	1057	978	1014	1081	1068	1053	1031	984	912			
50	630	630	665	704	704	719	724	718	665	688	733	724	712	702	677	618			
55	418	433	450	468	477	477	482	492	441	472	488	480	485	465	458	427			
60	289	293	312	314	316	323	331	330	302	320	332	325	324	318	317	291			
65	213	211	232	229	214	233	242	235	220	228	245	238	222	235	235	211			
70	163	162	172	169	159	170	178	180	166	175	180	177	168	174	175	163			
75	120	123	127	121	114	121	132	136	123	132	135	127	123	125	131	123			
80	85.6	86.7	88.5	78.6	73.2	79.8	92.2	96.1	87.8	92.8	94.3	83.6	81.2	82.1	91.3	86.6			
85	61.9	58.4	53.1	42.9	35.0	44.4	55.8	63.4	61.5	61.3	57.0	46.2	40.7	45.5	55.1	58.7			
90	50.1	44.4	32.5	14.1	4.77	14.4	33.3	44.5	45.7	43.2	32.3	14.4	4.90	14.9	33.4	45.6			
95	51.4	41.4	36.4	19.6	6.60	18.6	34.3	40.2	46.1	40.2	33.0	17.2	5.07	18.7	35.1	42.1			
100	49.7	43.2	32.9	18.2	7.92	17.8	32.7	42.3	46.1	42.4	31.6	16.5	5.95	17.7	33.1	44.2			
105	48.1	44.5	35.2	16.7	8.39	16.8	32.1	42.1	43.8	42.1	31.0	15.3	6.97	15.3	32.6	44.6			
110	41.2	38.7	29.9	17.4	9.15	17.9	29.7	39.4	39.3	38.4	29.1	16.4	8.00	16.3	30.6	38.9			
115	35.0	32.2	25.0	15.5	10.0	16.3	25.6	32.2	32.7	31.4	24.9	15.4	9.23	14.9	24.5	32.2			
120	31.9	30.0	21.9	15.0	10.8	15.9	24.1	29.4	29.7	28.7	23.4	15.4	10.4	14.7	20.7	29.9			
125	30.8	28.7	21.1	14.7	11.5	15.7	23.3	27.8	28.4	27.0	22.8	15.3	11.5	14.7	19.8	28.2			
130	30.3	27.9	20.0	14.9	12.6	15.9	23.1	27.1	28.0	26.4	22.7	15.7	12.6	14.9	19.2	27.8			
135	29.6	26.4	20.0	15.5	14.0	16.4	22.9	26.7	27.4	25.8	22.5	16.2	14.0	15.4	19.2	26.3			
140	28.5	24.0	19.8	16.4	15.5	16.9	22.5	26.1	26.8	25.2	22.0	16.8	15.4	16.3	19.1	22.9			
145	27.6	23.3	19.9	17.5	17.0	17.8	21.8	26.0	25.9	24.9	21.4	17.6	16.9	16.7	19.1	22.0			
150	25.4	22.5	20.5	18.4	18.7	18.9	21.7	24.1	24.3	23.2	21.2	18.7	18.5	18.0	19.7	20.9			
155	24.8	23.0	21.3	19.9	20.2	20.2	21.9	23.8	23.8	22.9	21.4	20.0	19.7	19.6	20.6	22.0			
160	24.8	23.5	22.2	21.5	21.7	21.5	22.3	23.6	23.7	22.7	21.8	21.4	21.4	21.2	21.7	22.7			
165	24.9	24.0	23.2	23.1	23.2	23.1	23.2	23.6	24.0	22.9	22.7	22.8	23.0	22.9	22.9	23.5			
170	25.5	24.7	24.4	24.4	24.5	24.4	24.2	24.2	24.9	23.8	23.8	24.2	24.4	24.3	24.2	24.5			
175	26.5	25.5	25.3	25.4	25.5	25.4	25.3	25.3	26.2	25.0	25.1	25.3	25.4	25.4	25.4	25.5			
180	26.9	25.9	25.8	25.9	26.0	26.0	25.9	25.9	26.9	25.9	25.8	25.9	26.0	26.0	25.9	25.9			

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: