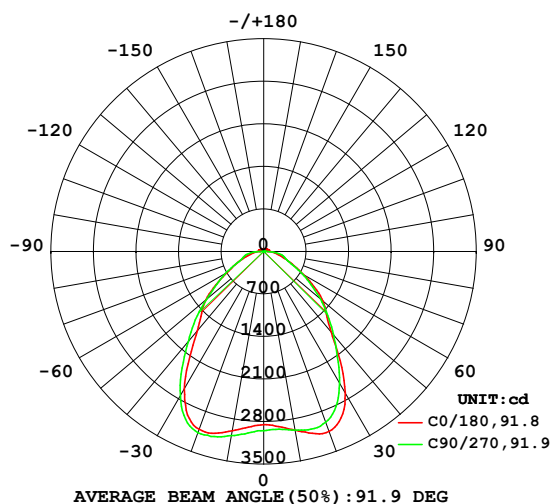


LUMINAIRE PHOTOMETRIC TEST REPORT

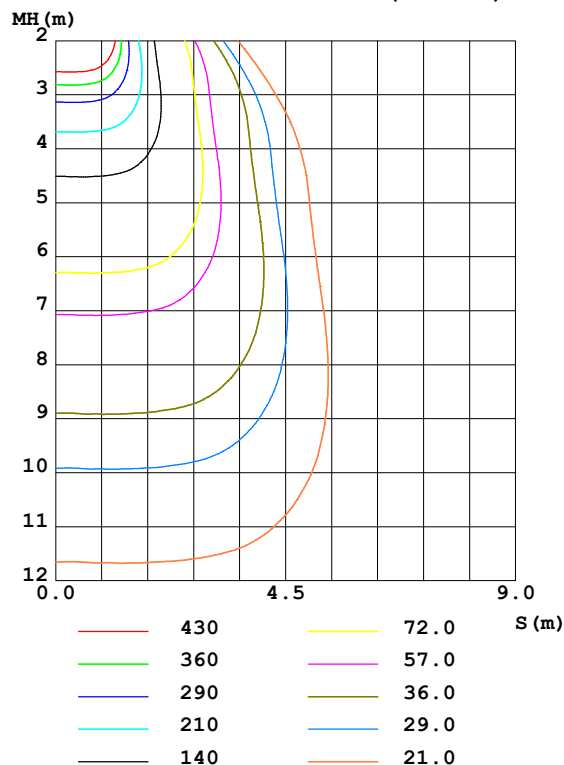
Test:U:226.25V I:0.2034A P:44.374W PF:0.9644 Freq:49.98Hz Lamp Flux:7297.64x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:2kg
SPEC.:	DIM.: 1500*60*45mm	SERIAL No.:
MFR.: CoreShine	SUR.:1500*60mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 164.46 lm/W			
MODEL	CTLS-1545-40WD-04WH	I _{max} (cd)	3293	S/MH (C0/180)	1.23
NOMINAL POWER (W)	45	LOR (%)	100.0	S/MH (C90/270)	1.27
RATED VOLTAGE (V)	230.0	TOTAL FLUX (lm)	7297.6	η UP, DN (C0-180)	1.9, 47.6
NOMINAL FLUX (lm)	7297.64	CIE CLASS	DIRECT	η UP, DN (C180-360)	1.8, 48.7
LAMPS INSIDE	1	η up (%)	3.7	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	230.0	η down (%)	96.3	CIBSE SHR MAX	1.25

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:

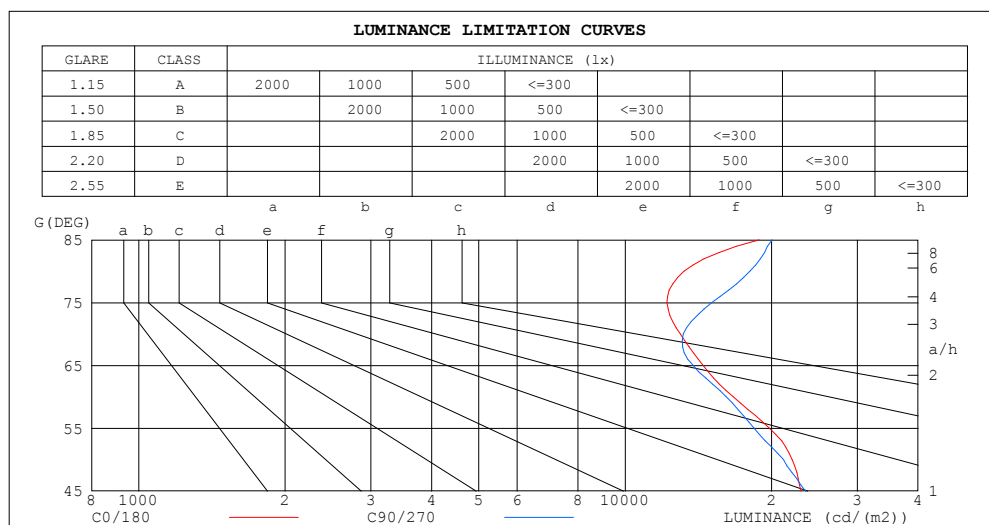
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	2983	2960	2986	3074	2995	3068	3077	2996	0- 10	282.3	282.3	3.87,3.87
20	3153	3003	2990	3203	3113	3290	3170	3117	10- 20	879.6	1162	15.9,15.9
30	2686	2485	2500	2696	2614	2825	2747	2674	20- 30	1360	2522	34.6,34.6
40	1729	1676	1785	1830	1701	1929	1932	1755	30- 40	1382	3904	53.5,53.5
50	1275	1252	1223	1355	1245	1396	1227	1275	40- 50	1175	5078	69.6,69.6
60	750.6	745.8	725.9	796.5	697.3	808.9	724.8	773.1	50- 60	912.1	5990	82.1,82.1
70	399.5	426.9	405.5	439.5	386.0	437.0	397.2	441.2	60- 70	562.6	6553	89.8,89.8
80	206.5	211.5	281.9	211.2	195.8	208.1	280.0	214.3	70- 80	322.9	6876	94.2,94.2
90	94.83	82.83	28.50	80.18	87.51	80.96	34.60	84.24	80- 90	154.5	7030	96.3,96.3
100	54.70	51.95	14.55	53.20	69.00	48.33	12.22	48.55	90-100	54.47	7085	97.1,97.1
110	80.28	66.63	16.18	64.87	80.84	65.42	13.38	64.90	100-110	60.74	7145	97.9,97.9
120	66.02	46.74	15.17	52.30	66.30	51.83	13.92	42.89	110-120	49.38	7195	98.6,98.6
130	60.03	40.22	14.75	46.36	59.60	46.55	14.18	37.74	120-130	38.46	7233	99.1,99.1
140	51.42	32.36	14.71	37.55	50.75	37.69	14.58	30.65	130-140	28.68	7262	99.5,99.5
150	38.69	24.31	15.07	27.61	38.81	27.55	15.13	23.31	140-150	18.45	7280	99.8,99.8
160	26.59	19.15	15.81	19.52	26.10	19.34	15.74	18.42	150-160	10.48	7291	99.9,99.9
170	18.26	16.74	16.55	16.28	18.13	16.11	16.34	16.48	160-170	5.117	7296	100,100
180	18.06	17.14	17.08	17.15	18.07	17.14	17.10	17.16	170-180	1.614	7298	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

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:

LUMINANCE LIMITATION CURVES

Test:U:226.25V I:0.2034A P:44.374W PF:0.9644 Freq:49.98Hz Lamp Flux:7297.64x1 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	18853	20061
80	13213	18040
75	12189	15070
70	12978	13174
65	14466	13802
60	16679	16130
55	19788	18389
50	22044	21140
45	23004	23499

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:226.25V I:0.2034A P:44.374W PF:0.9644 Freq:49.98Hz Lamp Flux:7297.64x1 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	.281	.160	.051	.273	.156	.049	.258	.148	.047	.244	.141	.045	.231	.134	.043		
2.0	.263	.144	.044	.256	.141	.043	.242	.135	.042	.230	.129	.040	.219	.124	.039		
3.0	.244	.130	.039	.238	.127	.038	.226	.123	.037	.215	.118	.036	.205	.114	.035		
4.0	.227	.118	.035	.221	.116	.034	.211	.112	.033	.201	.108	.033	.192	.104	.032		
5.0	.211	.108	.031	.206	.106	.031	.197	.102	.030	.188	.099	.030	.180	.096	.029		
6.0	.197	.099	.028	.193	.097	.028	.184	.094	.027	.176	.092	.027	.169	.089	.026		
7.0	.185	.091	.026	.181	.090	.026	.173	.087	.025	.166	.085	.025	.159	.083	.024		
8.0	.173	.085	.024	.170	.084	.024	.163	.081	.023	.156	.079	.023	.150	.077	.022		
9.0	.163	.079	.022	.160	.078	.022	.154	.076	.022	.148	.074	.021	.142	.072	.021		
10.0	.154	.074	.021	.151	.073	.020	.146	.071	.020	.140	.070	.020	.135	.068	.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	.218	.218	.218	.187	.187	.187	.127	.127	.127	.073	.073	.073	.023	.023	.023	
1.0	.206	.185	.165	.177	.158	.142	.121	.109	.098	.070	.063	.057	.022	.020	.018	
2.0	.197	.160	.130	.168	.138	.112	.115	.096	.078	.067	.056	.046	.021	.018	.015	
3.0	.188	.143	.106	.161	.123	.092	.111	.085	.065	.064	.050	.038	.021	.016	.012	
4.0	.180	.129	.090	.154	.112	.078	.106	.078	.055	.061	.046	.033	.020	.015	.011	
5.0	.172	.119	.079	.148	.103	.068	.102	.072	.048	.059	.042	.029	.019	.014	.009	
6.0	.165	.110	.070	.142	.095	.061	.098	.067	.043	.057	.039	.026	.018	.013	.009	
7.0	.159	.103	.064	.137	.089	.056	.094	.063	.040	.055	.037	.024	.018	.012	.008	
8.0	.153	.097	.059	.132	.084	.052	.091	.059	.037	.053	.035	.022	.017	.011	.007	
9.0	.147	.092	.055	.127	.080	.048	.088	.056	.034	.051	.033	.020	.017	.011	.007	
10.0	.142	.088	.052	.122	.077	.046	.085	.054	.033	.049	.032	.019	.016	.010	.006	

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:226.25V I:0.2034A P:44.374W PF:0.9644 Freq:49.98Hz Lamp Flux:7297.64x1 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	15.3	16.6	15.6	16.9	17.1	15.2	16.5	15.5	16.8	17.1
3H	16.2	17.4	16.5	17.7	18.0	16.1	17.4	16.5	17.7	18.0
4H	16.6	17.7	16.9	18.1	18.4	16.7	17.9	17.0	18.2	18.5
6H	17.0	18.1	17.3	18.4	18.7	17.3	18.4	17.7	18.8	19.1
8H	17.2	18.2	17.6	18.6	18.9	17.6	18.7	18.0	19.0	19.4
12H	17.4	18.4	17.8	18.8	19.2	17.9	18.9	18.3	19.3	19.7
4H 2H	15.6	16.8	16.0	17.1	17.5	15.6	16.8	15.9	17.1	17.4
3H	16.8	17.8	17.2	18.1	18.5	16.8	17.8	17.2	18.1	18.5
4H	17.3	18.2	17.7	18.6	19.0	17.4	18.4	17.8	18.7	19.1
6H	17.8	18.6	18.3	19.0	19.5	18.2	19.0	18.6	19.4	19.9
8H	18.1	18.9	18.6	19.3	19.8	18.6	19.3	19.0	19.8	20.2
12H	18.4	19.1	18.9	19.6	20.1	18.9	19.6	19.4	20.1	20.6
8H 4H	17.5	18.3	18.0	18.7	19.1	17.6	18.4	18.1	18.8	19.3
6H	18.2	18.8	18.7	19.3	19.8	18.5	19.2	19.0	19.6	20.1
8H	18.6	19.2	19.1	19.7	20.2	19.0	19.6	19.5	20.1	20.6
12H	19.1	19.6	19.7	20.1	20.7	19.5	20.0	20.0	20.5	21.0
12H 4H	17.5	18.2	18.0	18.7	19.1	17.6	18.3	18.1	18.8	19.3
6H	18.3	18.9	18.8	19.3	19.9	18.6	19.2	19.1	19.7	20.2
8H	18.8	19.3	19.3	19.8	20.3	19.1	19.6	19.7	20.1	20.7
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
1.5H	+ 0.2 / - 0.2					+ 0.2 / - 0.2				
2.0H	+ 0.5 / - 0.4					+ 0.4 / - 0.3				

CIE Pub.117, 7298 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:226.25V I:0.2034A P:44.374W PF:0.9644 Freq:49.98Hz Lamp Flux:7297.64x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:2kg
SPEC.:	DIM.: 1500*60*45mm	SERIAL No.:
MFR.: CoreShine	SUR.:1500*60mm	Shielding Angle:

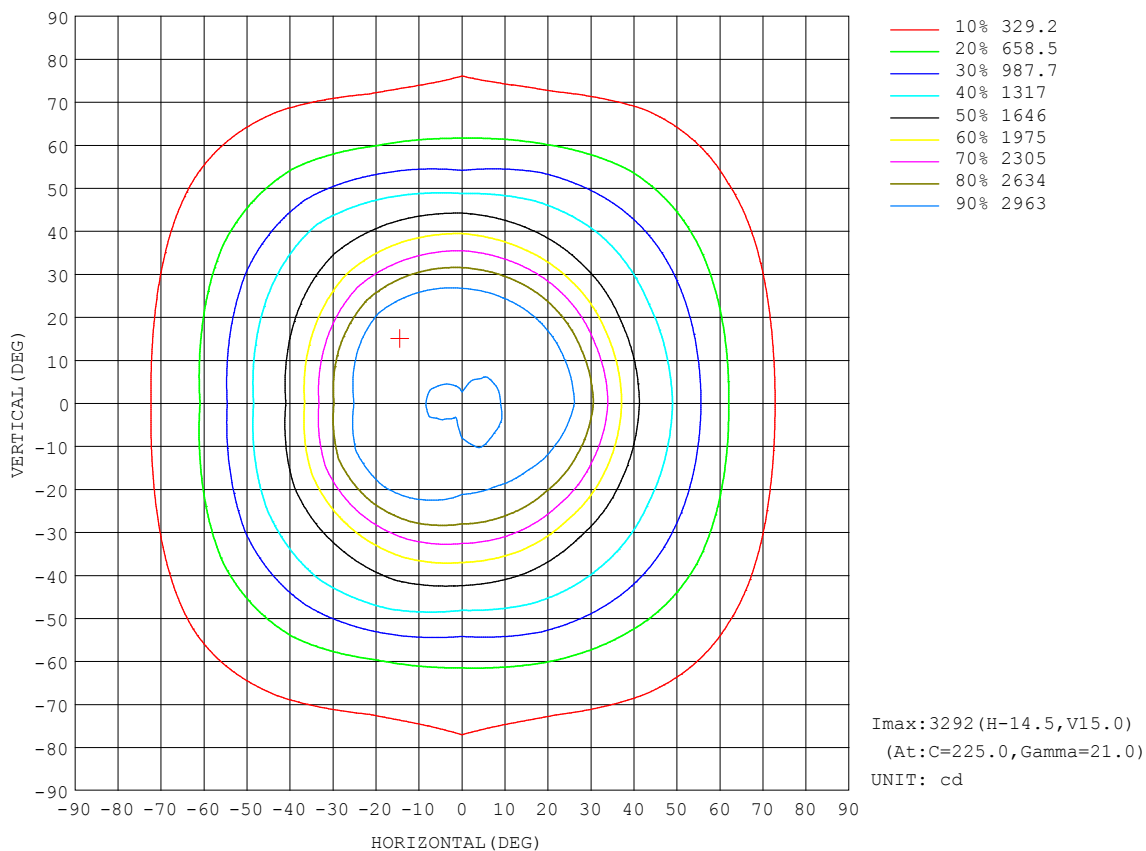
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	63	52	46	62	52	46	61	51	45	40
0.80	72	62	55	71	61	55	69	60	55	48
1.00	80	70	64	79	69	63	76	70	63	56
1.25	87	77	71	85	76	70	82	75	69	62
1.50	91	82	76	89	81	75	86	79	74	67
2.00	97	89	84	95	88	83	91	85	81	73
2.50	100	93	88	98	92	87	94	89	85	76
3.00	103	97	92	101	95	91	96	92	88	79
4.00	107	101	97	104	99	96	99	96	92	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:2020-06-18

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:226.25V I:0.2034A P:44.374W PF:0.9644 Freq:49.98Hz Lamp Flux:7297.64x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:2kg
SPEC.:	DIM.: 1500*60*45mm	SERIAL No.:
MFR.: CoreShine	SUR.:1500*60mm	Shielding Angle:

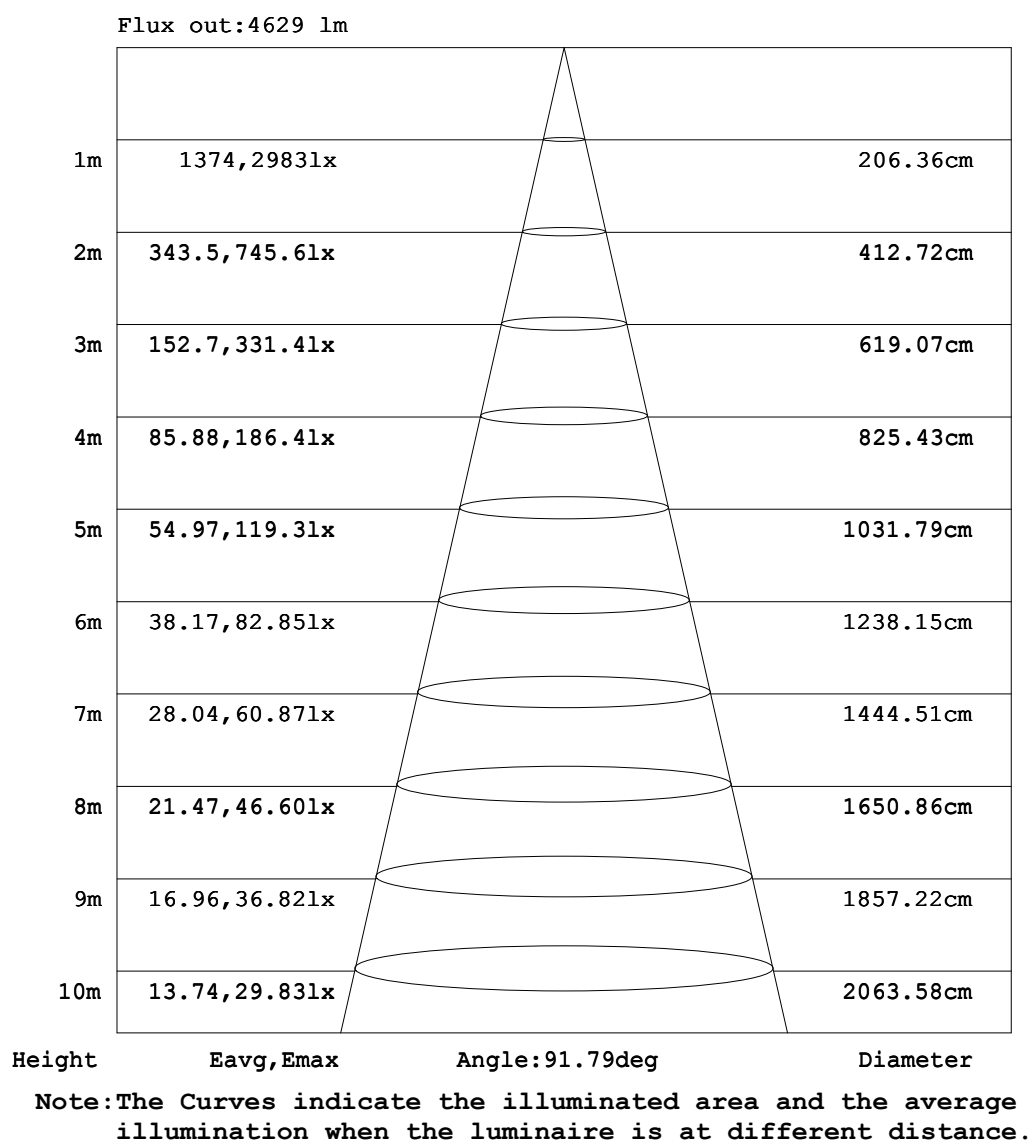


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:zcx
Test Date:2020-06-18

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

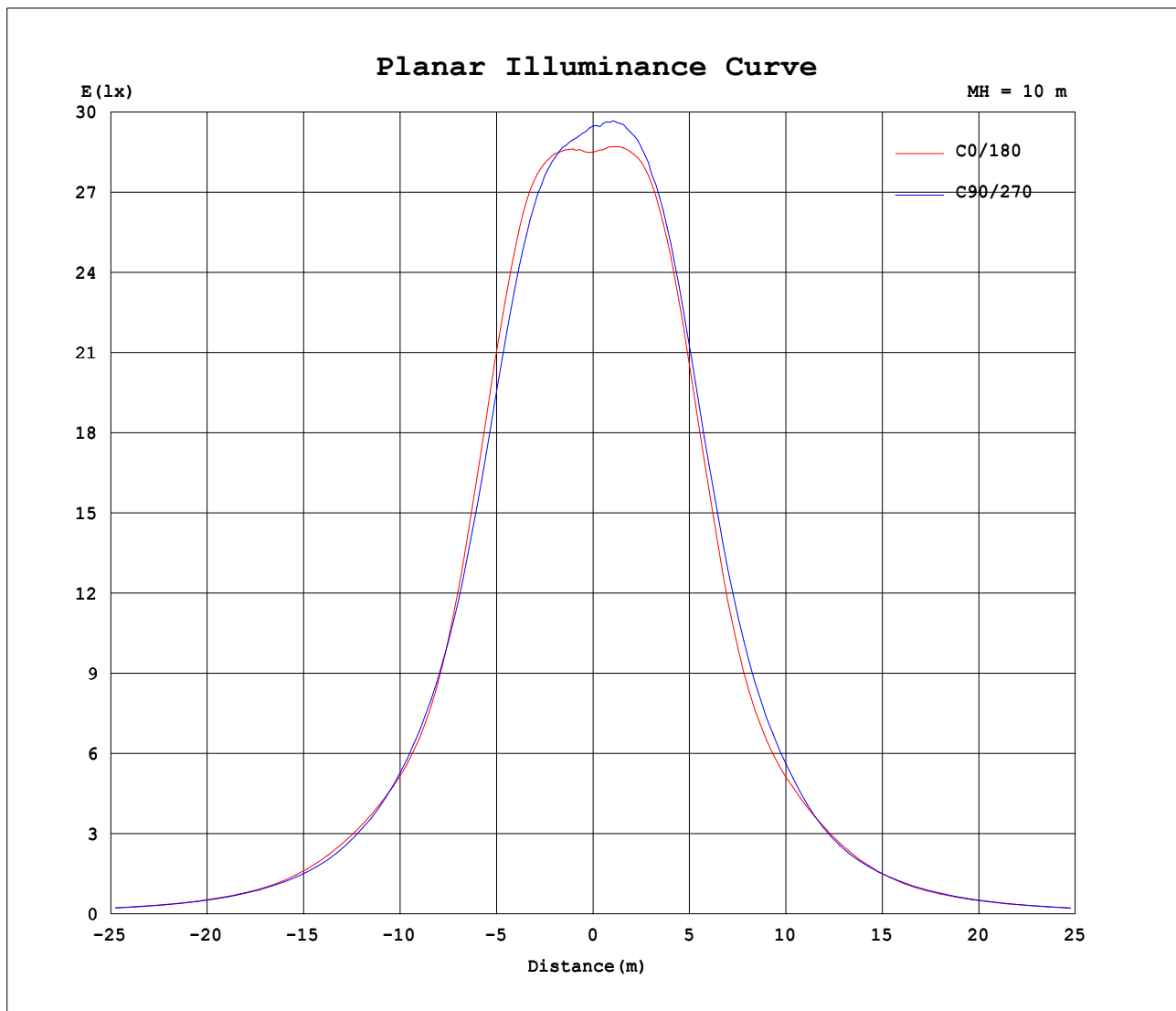
Test:U:226.25V I:0.2034A P:44.374W PF:0.9644 Freq:49.98Hz Lamp Flux:7297.64x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:2kg
SPEC.:	DIM.: 1500*60*45mm	SERIAL No.:
MFR.: CoreShine	SUR.:1500*60mm	Shielding Angle:



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:

Planar Illuminance Curve



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:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:226.25V I:0.2034A P:44.374W PF:0.9644 Freq:49.98Hz Lamp Flux:7297.64x1 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	2850	2847	2859	2884	2948	2945	2891	2855	2850	2847	2859	2884	2948	2945	2891	2855			
5	2890	2877	2885	2892	2937	2987	2962	2905	2903	2908	2932	2978	2996	2956	2913	2890			
10	2983	2963	2960	2950	2986	3059	3074	3002	2995	3009	3068	3117	3077	3033	2996	2982			
15	3098	3042	3024	3005	3026	3104	3181	3124	3098	3133	3213	3234	3153	3120	3088	3092			
20	3153	3060	3003	2979	2990	3085	3203	3168	3113	3174	3290	3246	3170	3149	3117	3135			
25	3018	2907	2827	2799	2816	2923	3045	3063	2970	3055	3167	3093	3048	3015	3010	3007			
30	2686	2565	2485	2490	2500	2613	2696	2739	2614	2724	2825	2790	2747	2708	2674	2656			
35	2195	2107	2054	2099	2119	2204	2244	2274	2125	2248	2366	2355	2343	2269	2206	2165			
40	1729	1689	1676	1746	1785	1845	1830	1826	1701	1813	1929	1945	1932	1844	1755	1714			
45	1464	1424	1429	1488	1495	1570	1556	1545	1450	1543	1617	1614	1594	1533	1467	1443			
50	1275	1247	1252	1260	1223	1319	1355	1333	1245	1329	1396	1322	1227	1282	1275	1231			
55	1021	1005	1004	1008	949	1022	1089	1067	964	1071	1108	1024	943	1028	1028	1016			
60	751	772	746	750	726	733	796	808	697	803	809	739	725	748	773	781			
65	550	558	568	561	525	545	595	583	522	579	595	548	523	558	589	556			
70	399	399	427	425	406	417	439	422	386	418	437	410	397	421	441	397			
75	284	285	300	302	351	298	308	300	272	292	303	289	339	300	309	283			
80	206	202	211	206	282	202	211	207	196	203	208	200	280	207	214	201			
85	148	141	147	128	157	123	140	145	140	141	142	123	165	128	147	140			
90	94.8	89.7	82.8	58.4	28.5	54.1	80.2	93.7	87.5	89.7	81.0	56.1	34.6	58.0	84.2	88.3			
95	66.0	64.7	57.3	37.0	13.4	38.0	57.1	67.1	62.8	65.2	55.2	36.4	11.2	34.9	54.8	65.3			
100	54.7	53.8	51.9	36.0	14.6	35.5	53.2	63.2	69.0	65.7	48.3	34.8	12.2	34.2	48.5	58.5			
105	79.4	80.5	68.3	36.1	15.7	37.1	72.4	87.4	85.5	86.8	67.3	34.6	12.9	31.8	65.1	82.0			
110	80.3	79.8	66.6	38.2	16.2	38.9	64.9	79.4	80.8	78.7	65.4	38.2	13.4	34.0	64.9	79.0			
115	70.7	68.3	55.0	31.3	15.9	33.3	55.4	66.6	69.6	66.3	55.1	31.7	13.6	27.8	50.7	67.4			
120	66.0	64.0	46.7	28.4	15.2	30.9	52.3	63.0	66.3	62.5	51.8	29.8	13.9	25.8	42.9	63.5			
125	62.7	61.0	44.0	26.1	15.0	28.8	49.5	59.4	61.8	58.7	49.3	28.1	14.1	24.1	41.8	60.5			
130	60.0	57.6	40.2	23.7	14.8	26.3	46.4	56.7	59.6	56.4	46.5	26.1	14.2	22.2	37.7	57.6			
135	56.6	53.4	35.8	21.3	14.7	23.2	41.9	52.8	55.9	52.4	42.1	23.4	14.3	20.1	34.0	52.2			
140	51.4	43.3	32.4	19.5	14.7	20.7	37.5	48.0	50.7	47.4	37.7	20.9	14.6	18.6	30.6	39.9			
145	45.9	36.3	27.9	18.1	14.8	18.6	32.6	42.5	45.5	41.9	32.7	18.8	14.9	17.6	26.3	32.8			
150	38.7	30.4	24.3	17.0	15.1	16.9	27.6	36.2	38.8	35.4	27.6	17.1	15.1	16.6	23.3	27.3			
155	32.1	26.3	21.5	16.3	15.4	16.0	23.2	30.1	32.2	29.2	23.0	16.2	15.4	16.0	20.7	25.1			
160	26.6	22.7	19.1	16.0	15.8	15.5	19.5	24.4	26.1	23.5	19.3	15.5	15.7	15.4	18.4	21.7			
165	21.3	19.3	17.4	16.1	16.2	15.9	17.2	19.7	21.0	19.0	16.9	15.8	15.9	15.8	16.9	18.6			
170	18.3	17.5	16.7	16.6	16.6	16.4	16.3	17.0	18.1	16.8	16.1	16.2	16.3	16.4	16.5	17.1			
175	17.8	17.3	17.0	16.9	16.9	16.9	16.8	16.9	17.8	16.9	16.7	16.7	16.8	16.8	16.9	17.1			
180	18.1	17.4	17.1	17.1	17.1	17.1	17.2	17.3	18.1	17.4	17.1	17.1	17.1	17.1	17.2	17.3			

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: