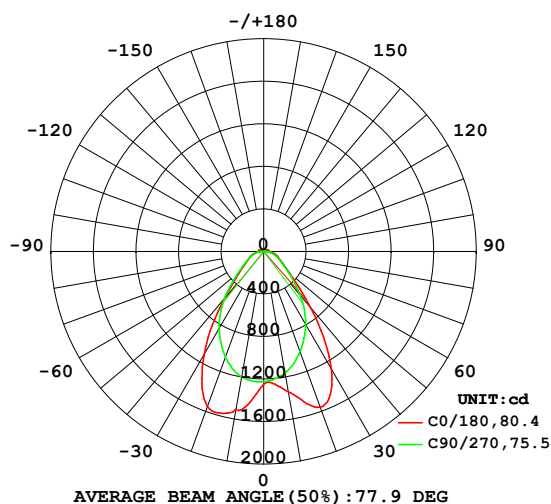


LUMINAIRE PHOTOMETRIC TEST REPORT

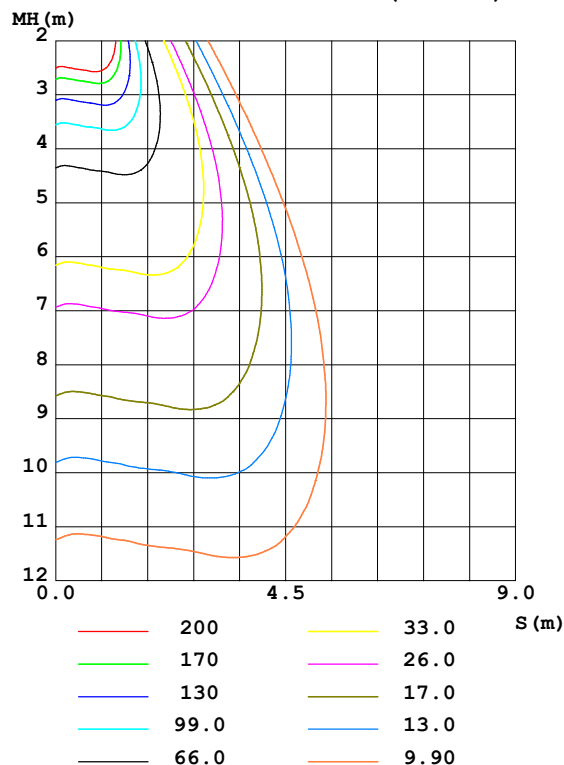
Test:U:224.94V I:0.0770A P:16.256W PF:0.9385 Freq:49.99Hz Lamp Flux:2622.86x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:2kg
SPEC.:	DIM.: 600*60*45mm	SERIAL No.:
MFR.: CoreShine	SUR.:600*60mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 161.35 lm/W			
MODEL	CTLS-0616-40DS-04WH	I _{max} (cd)	1580	S/MH (C0/180)	1.12
NOMINAL POWER (W)	16	LOR (%)	100.0	S/MH (C90/270)	1.06
RATED VOLTAGE (V)	230.0	TOTAL FLUX (lm)	2622.9	η UP, DN (C0-180)	1.9, 47.5
NOMINAL FLUX (lm)	2622.86	CIE CLASS	DIRECT	η UP, DN (C180-360)	1.9, 48.7
LAMPS INSIDE	1	η up (%)	3.8	CIBSE SHR NOM	1.00
TEST VOLTAGE (V)	230.0	η down (%)	96.2	CIBSE SHR MAX	1.05

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: 2020-07-03

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:

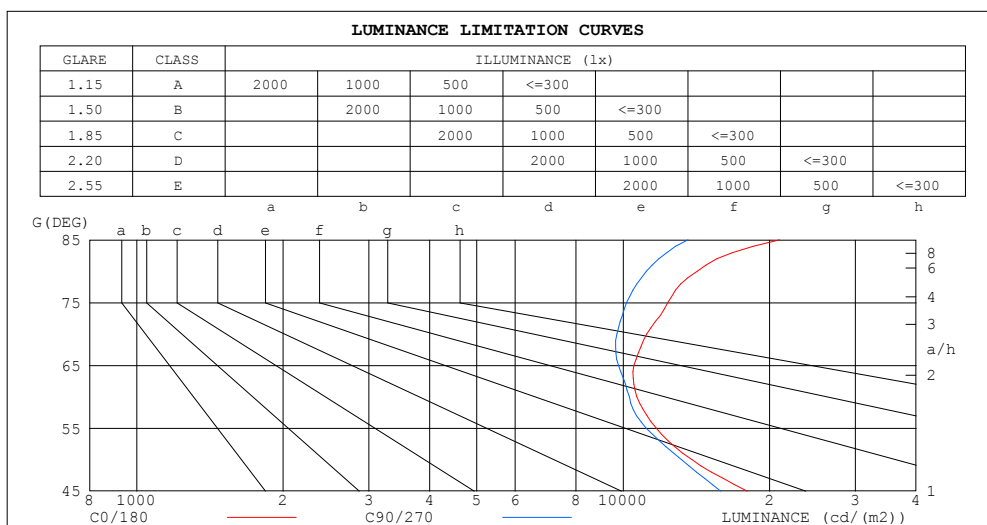
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	1340	1265	1162	1397	1507	1448	1197	1263	0- 10	123.5	123.5	4.71,4.71
20	1558	1304	1001	1415	1549	1485	1056	1332	10- 20	381.6	505.2	19.3,19.3
30	1272	1166	790.2	1188	1122	1246	837.6	1270	20- 30	576.9	1082	41.3,41.3
40	683.0	691.0	531.5	667.7	573.7	712.1	571.1	785.3	30- 40	551.5	1634	62.3,62.3
50	320.1	331.7	304.8	315.6	287.8	337.8	314.3	358.2	40- 50	365.0	1999	76.2,76.2
60	192.0	181.7	185.4	172.6	180.3	181.6	185.1	191.4	50- 60	221.2	2220	84.6,84.6
70	137.7	113.9	119.5	108.1	129.9	111.8	119.7	117.6	60- 70	149.0	2369	90.3,90.3
80	88.75	67.47	69.74	62.08	75.29	63.72	68.26	68.47	70- 80	100.5	2469	94.1,94.1
90	45.08	33.23	15.23	29.28	41.20	29.33	13.30	33.20	80- 90	54.27	2524	96.2,96.2
100	32.87	28.13	1.230	23.12	36.37	22.93	1.160	26.04	90-100	25.70	2549	97.2,97.2
110	34.43	20.17	1.882	18.55	31.42	18.26	1.701	20.47	100-110	22.90	2572	98.1,98.1
120	24.43	16.32	2.746	14.75	22.13	14.72	2.462	15.83	110-120	16.41	2589	98.7,98.7
130	21.04	14.31	3.731	12.72	18.75	12.27	3.356	12.79	120-130	12.13	2601	99.2,99.2
140	17.75	12.53	4.717	11.63	15.78	11.23	4.299	12.02	130-140	9.299	2610	99.5,99.5
150	14.25	9.792	5.552	9.434	12.18	8.937	5.163	9.190	140-150	6.402	2616	99.8,99.8
160	10.69	7.292	6.168	7.122	8.907	6.728	5.870	6.965	150-160	3.883	2620	99.9,99.9
170	7.346	6.787	6.625	6.571	7.020	6.468	6.447	6.535	160-170	1.967	2622	100,100
180	7.303	6.983	6.858	6.962	7.307	6.991	6.871	6.975	170-180	0.6482	2623	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:2020-07-03

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:224.94V I:0.0770A P:16.256W PF:0.9385 Freq:49.99Hz Lamp Flux:2622.86x1 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	20947	13581
80	14197	11157
75	12350	10160
70	11184	9708
65	10528	9779
60	10669	10299
55	11696	11143
50	13831	13171
45	17974	15856

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:zcx
Test Date:2020-07-03

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:224.94V I:0.0770A P:16.256W PF:0.9385 Freq:49.99Hz Lamp Flux:2622.86x1 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	.264	.150	.048	.256	.146	.046	.241	.138	.044	.227	.131	.042	.214	.124	.040		
2.0	.245	.134	.041	.238	.131	.040	.225	.125	.039	.213	.119	.037	.201	.114	.036		
3.0	.228	.121	.036	.222	.119	.036	.210	.114	.035	.199	.109	.033	.189	.105	.032		
4.0	.212	.110	.032	.207	.108	.032	.196	.104	.031	.187	.100	.030	.178	.097	.029		
5.0	.198	.101	.029	.193	.099	.029	.184	.096	.028	.175	.093	.028	.167	.089	.027		
6.0	.186	.093	.027	.181	.092	.026	.173	.089	.026	.165	.086	.025	.158	.083	.025		
7.0	.174	.086	.024	.171	.085	.024	.163	.082	.024	.156	.080	.023	.150	.078	.023		
8.0	.164	.080	.023	.161	.079	.022	.154	.077	.022	.148	.075	.022	.142	.073	.021		
9.0	.155	.075	.021	.152	.074	.021	.146	.072	.020	.140	.070	.020	.135	.068	.020		
10.0	.147	.071	.020	.144	.070	.019	.139	.068	.019	.133	.066	.019	.128	.065	.019		

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	.219	.219	.219	.187	.187	.187	.128	.128	.128	.073	.073	.073	.023	.023	.023		
1.0	.206	.186	.167	.176	.159	.144	.121	.110	.099	.069	.063	.058	.022	.020	.019		
2.0	.195	.161	.133	.167	.139	.115	.115	.096	.080	.066	.056	.047	.021	.018	.015		
3.0	.186	.143	.110	.159	.124	.095	.109	.086	.067	.063	.050	.039	.020	.016	.013		
4.0	.177	.130	.093	.152	.112	.081	.105	.078	.057	.061	.046	.034	.019	.015	.011		
5.0	.170	.119	.082	.146	.103	.071	.100	.072	.050	.058	.042	.030	.019	.014	.010		
6.0	.163	.110	.073	.140	.096	.064	.096	.067	.045	.056	.039	.027	.018	.013	.009		
7.0	.156	.103	.066	.134	.090	.058	.093	.063	.041	.054	.037	.024	.017	.012	.008		
8.0	.150	.097	.061	.129	.085	.053	.089	.059	.038	.052	.035	.023	.017	.011	.007		
9.0	.145	.093	.057	.125	.080	.050	.086	.056	.036	.050	.033	.021	.016	.011	.007		
10.0	.139	.088	.054	.120	.077	.047	.083	.054	.034	.049	.032	.020	.016	.010	.007		

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:zcx
 Test Date:2020-07-03

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:224.94V I:0.0770A P:16.256W PF:0.9385 Freq:49.99Hz Lamp Flux:2622.86x1 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		16.9	18.2	17.2	18.4	18.7	16.6	17.9	16.9	18.1	18.4
	3H	18.0	19.1	18.3	19.4	19.7	17.6	18.8	18.0	19.1	19.4
	4H	18.7	19.8	19.0	20.1	20.4	18.2	19.3	18.6	19.6	19.9
	6H	19.4	20.4	19.8	20.8	21.1	18.8	19.8	19.2	20.1	20.5
	8H	19.8	20.8	20.2	21.1	21.5	19.1	20.0	19.4	20.4	20.7
	12H	20.2	21.2	20.6	21.5	21.9	19.3	20.3	19.7	20.6	21.0
4H	2H	17.2	18.3	17.5	18.6	18.9	16.9	18.0	17.3	18.3	18.6
	3H	18.5	19.4	18.9	19.8	20.1	18.2	19.1	18.6	19.5	19.8
	4H	19.3	20.2	19.7	20.6	21.0	18.9	19.8	19.3	20.2	20.6
	6H	20.3	21.0	20.7	21.4	21.9	19.7	20.5	20.1	20.9	21.3
	8H	20.8	21.5	21.2	21.9	22.4	20.1	20.8	20.5	21.2	21.7
	12H	21.3	22.0	21.8	22.4	22.9	20.4	21.1	20.9	21.5	22.0
8H	4H	19.5	20.3	20.0	20.7	21.1	19.2	19.9	19.6	20.3	20.8
	6H	20.7	21.3	21.2	21.7	22.3	20.2	20.8	20.7	21.2	21.7
	8H	21.4	21.9	21.9	22.4	22.9	20.7	21.2	21.2	21.7	22.2
	12H	22.1	22.6	22.7	23.1	23.6	21.2	21.7	21.7	22.2	22.7
12H	4H	19.6	20.2	20.0	20.7	21.1	19.2	19.9	19.7	20.3	20.8
	6H	20.8	21.3	21.3	21.8	22.3	20.3	20.8	20.8	21.3	21.8
	8H	21.5	22.0	22.0	22.5	23.0	20.9	21.3	21.4	21.8	22.4
Variations with the observer position at spacings:											
S = 1.0H	+ 0.4 / - 0.4					+ 0.4 / - 0.4					
1.5H	+ 0.5 / - 0.3					+ 0.2 / - 0.3					
2.0H	+ 0.5 / - 0.3					+ 0.5 / - 0.4					

CIE Pub.117, 2623 lm Total Lamp Luminous Flux Correct ($8\log(F/F_0) = 3.4$)

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:zcx
 Test Date:2020-07-03

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:224.94V I:0.0770A P:16.256W PF:0.9385 Freq:49.99Hz Lamp Flux:2622.86x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:2kg
SPEC.:	DIM.: 600*60*45mm	SERIAL No.:
MFR.: CoreShine	SUR.:600*60mm	Shielding Angle:

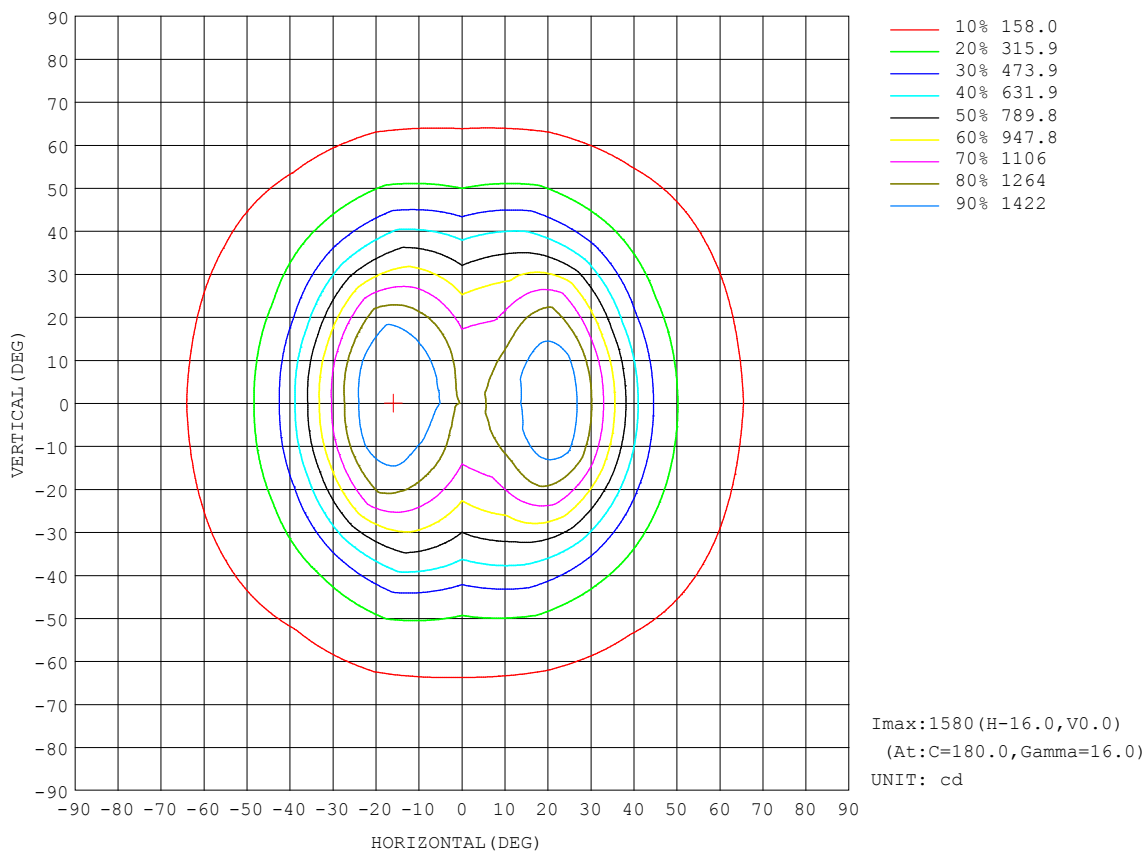
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	68	59	53	67	58	53	66	58	53	47
0.80	77	68	62	76	67	62	74	67	61	55
1.00	84	75	69	83	74	69	81	75	68	62
1.25	90	81	76	88	81	75	86	79	74	68
1.50	94	86	80	92	85	80	89	83	78	72
2.00	99	92	87	97	91	86	94	88	84	77
2.50	102	96	91	100	94	90	96	91	87	79
3.00	105	99	94	102	97	93	98	94	90	82
4.00	108	103	99	105	101	98	101	97	94	85
5.00	110	106	102	107	103	100	102	99	97	87
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:2020-07-03

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:224.94V I:0.0770A P:16.256W PF:0.9385 Freq:49.99Hz Lamp Flux:2622.86x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:2kg
SPEC.:	DIM.: 600*60*45mm	SERIAL No.:
MFR.: CoreShine	SUR.:600*60mm	Shielding Angle:

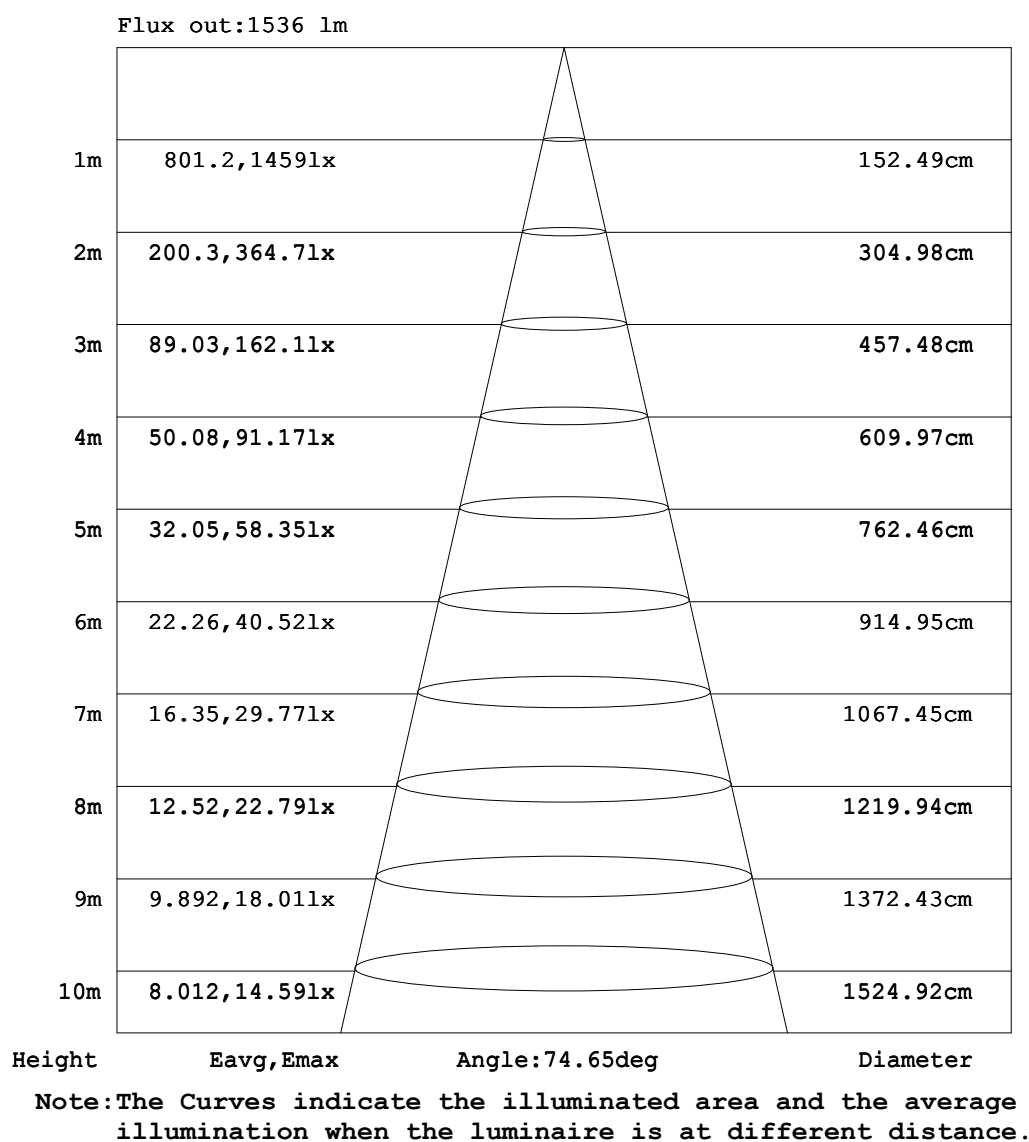


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:zcx
Test Date:2020-07-03

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

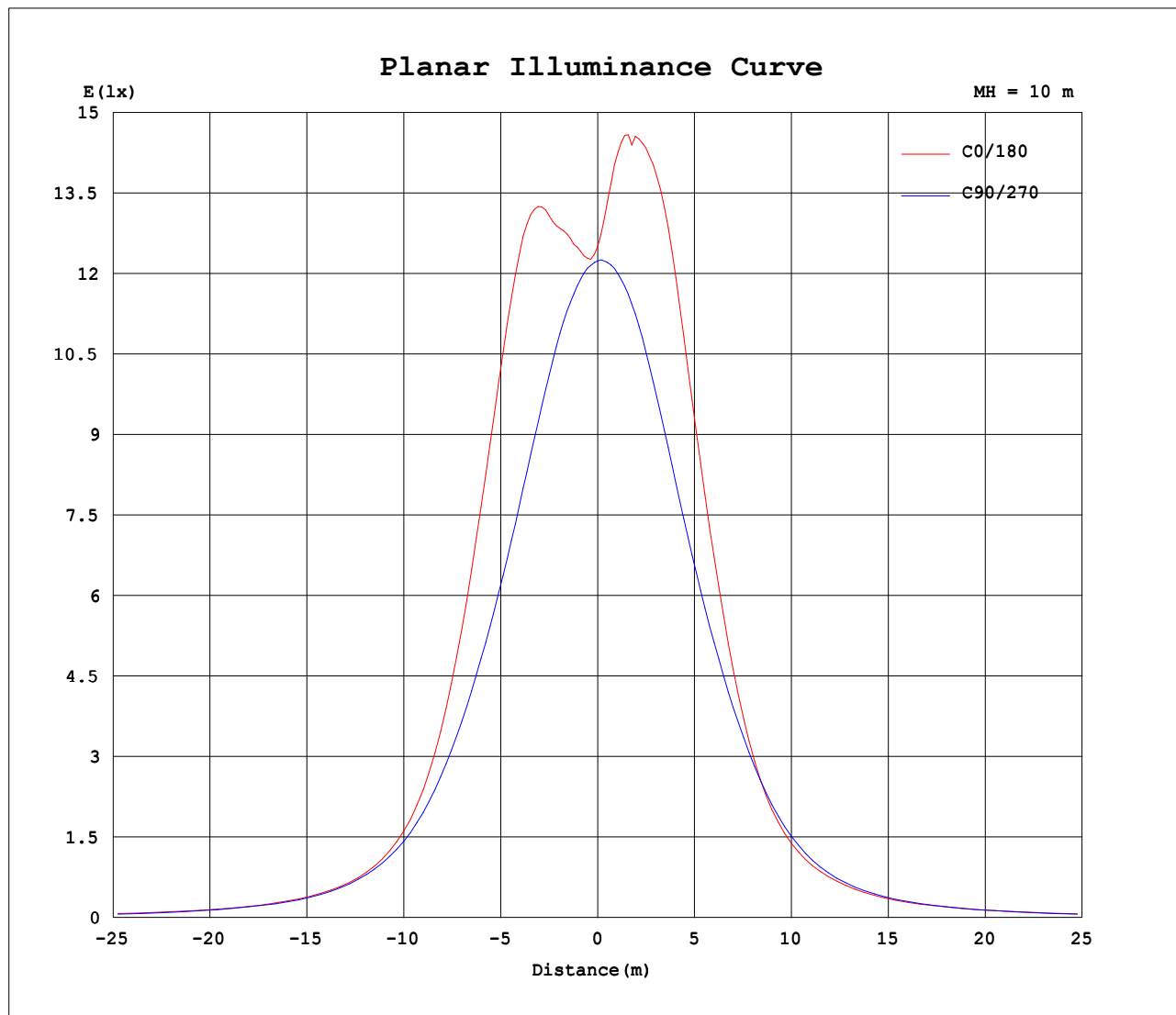
Test:U:224.94V I:0.0770A P:16.256W PF:0.9385 Freq:49.99Hz Lamp Flux:2622.86x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:2kg
SPEC.:	DIM.: 600*60*45mm	SERIAL No.:
MFR.: CoreShine	SUR.:600*60mm	Shielding Angle:



C Range: 0 - 360DEG
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 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: 2020-07-03

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:224.94V I:0.0770A P:16.256W PF:0.9385 Freq:49.99Hz Lamp Flux:2622.86x1 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	1251	1253	1243	1232	1224	1225	1230	1234	1251	1253	1243	1232	1224	1225	1230	1234			
5	1256	1253	1228	1199	1204	1249	1318	1367	1419	1401	1347	1279	1223	1210	1229	1254			
10	1340	1325	1265	1178	1162	1274	1397	1472	1507	1510	1448	1325	1197	1199	1263	1332			
15	1463	1414	1289	1145	1093	1262	1418	1516	1574	1555	1487	1336	1140	1170	1293	1429			
20	1558	1519	1304	1086	1001	1210	1415	1524	1549	1556	1485	1289	1056	1115	1332	1530			
25	1487	1486	1285	1008	899	1119	1354	1399	1374	1423	1425	1200	953	1043	1353	1485			
30	1272	1290	1166	899	790	998	1188	1147	1122	1175	1246	1066	838	956	1270	1287			
35	981	992	941	770	667	854	926	861	841	886	981	910	712	846	1065	996			
40	683	692	691	626	532	684	668	595	574	611	712	731	571	703	785	694			
45	458	465	482	478	404	513	460	404	393	410	493	544	429	538	536	462			
50	320	321	332	348	305	369	316	289	288	290	338	385	314	384	358	316			
55	242	236	239	256	230	267	228	221	222	222	242	277	235	276	255	235			
60	192	185	182	193	185	197	173	175	180	176	182	205	185	205	191	187			
65	160	149	142	150	149	153	136	145	153	145	141	156	150	156	148	152			
70	138	121	114	118	120	119	108	119	130	119	112	122	120	120	118	126			
75	115	98.6	89.9	93.9	94.7	92.6	83.6	94.2	101	93.5	86.1	93.8	93.6	92.9	91.9	103			
80	88.8	77.7	67.5	70.3	69.7	67.8	62.1	71.2	75.3	70.6	63.7	68.1	68.3	69.0	68.5	80.5			
85	65.7	57.9	48.8	45.6	42.6	43.0	43.3	54.1	58.0	53.2	44.2	42.3	41.0	44.0	49.2	59.1			
90	45.1	40.7	33.2	23.4	15.2	20.9	29.3	36.0	41.2	34.8	29.3	19.6	13.3	22.6	33.2	40.6			
95	33.5	28.3	29.1	18.8	1.11	17.0	29.0	30.1	38.1	29.7	27.7	14.6	1.20	16.3	27.5	27.6			
100	32.9	28.6	28.1	13.0	1.23	12.6	23.1	30.0	36.4	29.1	22.9	10.8	1.16	11.8	26.0	26.8			
105	39.5	35.3	22.2	8.80	1.52	8.66	24.8	39.6	47.0	37.8	22.9	8.00	1.41	8.34	21.9	34.0			
110	34.4	30.0	20.2	10.3	1.88	8.90	18.6	28.1	31.4	27.7	18.3	8.81	1.70	10.3	20.5	29.9			
115	29.6	26.4	18.1	9.26	2.30	8.08	16.1	24.3	26.7	23.4	15.7	7.70	2.07	8.65	18.2	26.3			
120	24.4	22.4	16.3	9.01	2.75	7.95	14.7	20.7	22.1	20.3	14.7	7.66	2.46	8.59	15.8	22.2			
125	21.9	20.4	15.3	8.72	3.24	7.78	13.6	18.8	20.1	18.6	13.4	7.34	2.90	8.65	14.5	20.3			
130	21.0	19.5	14.3	8.44	3.73	7.52	12.7	17.5	18.8	17.3	12.3	6.98	3.36	8.33	12.8	19.4			
135	19.7	18.2	13.7	7.76	4.24	7.19	12.5	16.1	17.5	15.7	12.0	6.58	3.83	7.68	13.2	18.0			
140	17.8	16.6	12.5	6.95	4.72	6.67	11.6	14.4	15.8	14.0	11.2	6.07	4.30	6.82	12.0	15.8			
145	15.9	15.4	11.5	6.41	5.15	6.29	10.9	12.7	14.3	12.1	10.4	5.78	4.74	6.17	10.8	14.2			
150	14.3	13.9	9.79	6.22	5.55	6.11	9.43	12.0	12.2	11.6	8.94	5.67	5.16	5.89	9.19	12.6			
155	13.1	11.5	8.22	6.21	5.88	6.09	8.04	10.3	10.8	9.87	7.58	5.69	5.54	5.86	7.73	10.5			
160	10.7	9.16	7.29	6.30	6.17	6.18	7.12	8.52	8.91	8.09	6.73	5.84	5.87	5.96	6.97	8.61			
165	8.51	7.61	6.87	6.41	6.41	6.35	6.66	7.22	7.49	6.96	6.35	6.04	6.16	6.13	6.63	7.38			
170	7.35	7.01	6.79	6.65	6.63	6.59	6.57	6.72	7.02	6.63	6.47	6.38	6.45	6.46	6.54	6.86			
175	7.02	6.98	6.89	6.83	6.78	6.80	6.78	6.85	7.16	6.85	6.77	6.69	6.70	6.73	6.83	6.90			
180	7.30	7.12	6.98	6.91	6.86	6.89	6.96	7.06	7.31	7.11	6.99	6.90	6.87	6.89	6.97	7.06			

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:zcx
 Test Date:2020-07-03

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: