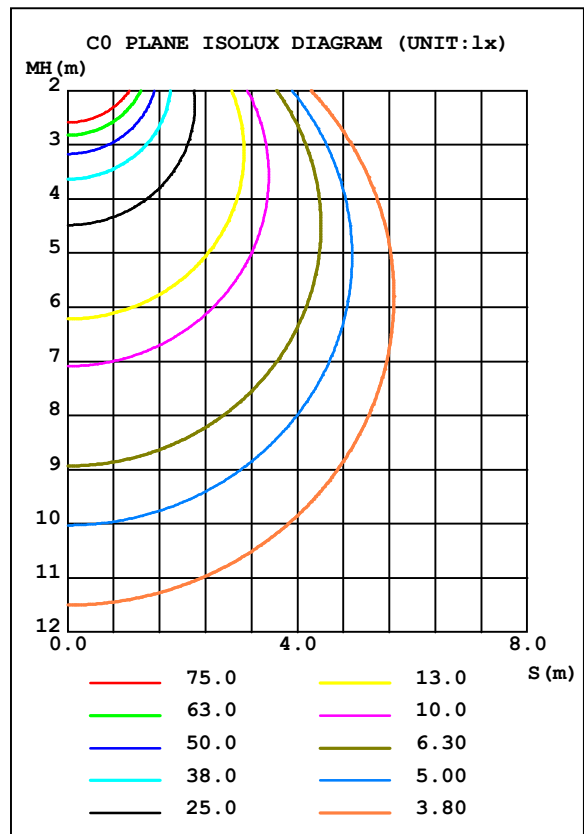
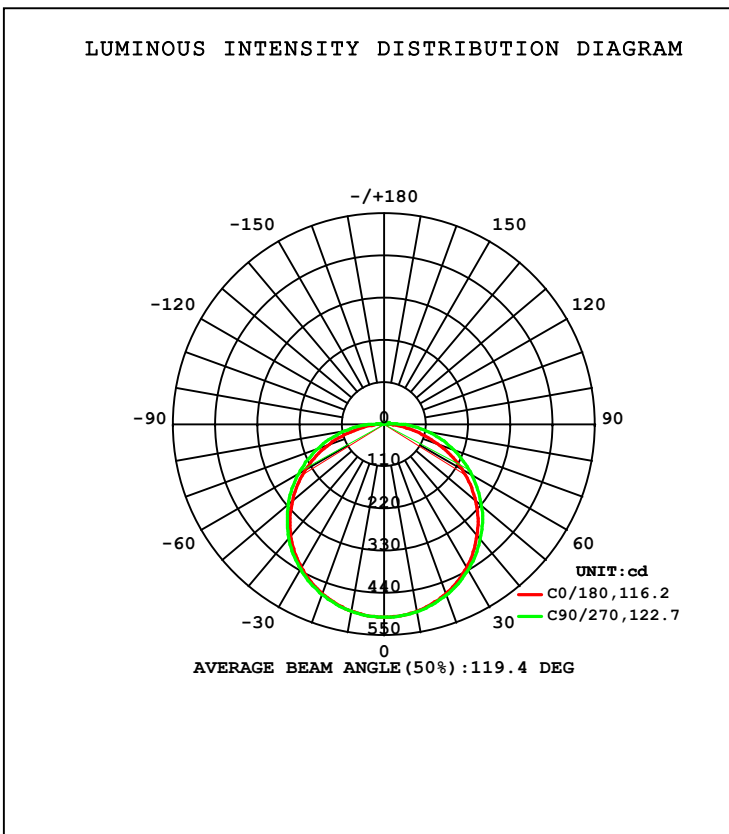


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:23.997V I:0.5438A P:13.050W PF:1.0000 Freq:49.99Hz Lamp Flux:1613.7lx1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:0.01	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 123.66 lm/W			
MODEL	TFXBSC-MP-IP66	I <sub>max</sub> (cd)	503.1	S/MH (C0/180)	1.28
NOMINAL POWER (W)	12	LOR (%)	100.0	S/MH (C90/270)	1.29
RATED VOLTAGE (V)	24	TOTAL FLUX (lm)	1613.7	η UP, DN (C0-180)	1.3, 49.2
NOMINAL FLUX (lm)	1613.71	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.9, 48.6
LAMPS INSIDE	1	η up (%)	2.2	CIBSE SHR NOM	1.50
TEST VOLTAGE (V)	24	η down (%)	97.8	CIBSE SHR MAX	1.50



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: LCG  
 Test Date: 2020-05-29

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
 Humidity: 65.0%  
 Test Distance: 9.150m [K=1.0000]  
 Remarks: 2200-2400K

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

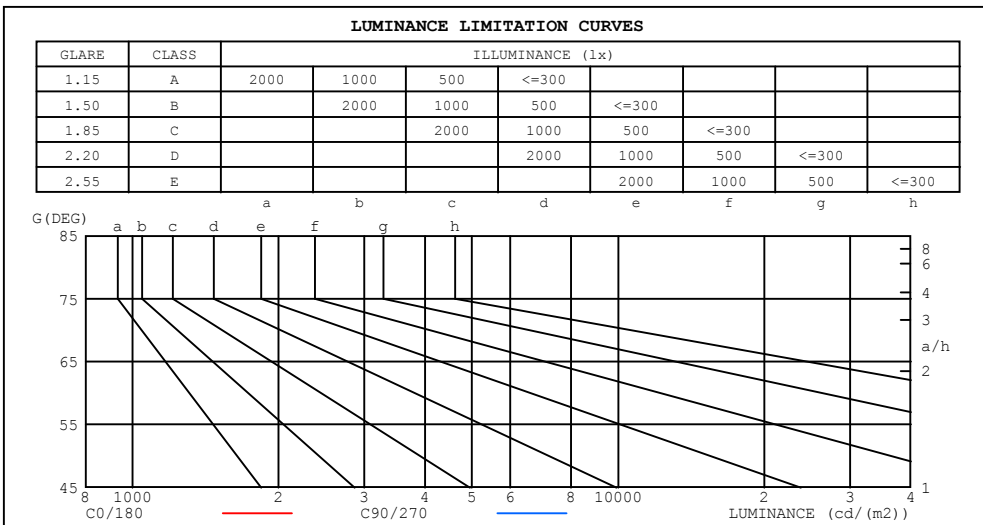
γ	C0	C90	C180	C270					γ	Φ zone	Φ total	%lum, lamp
10	494.6	496.0	494.4	495.3					0- 10	47.63	47.63	2.95,2.95
20	470.6	474.3	470.4	472.8					10- 20	137.1	184.7	11.4,11.4
30	431.2	438.9	431.6	436.4					20- 30	209.8	394.5	24.4,24.4
40	378.0	391.1	379.1	387.2					30- 40	257.0	651.5	40.4,40.4
50	312.2	331.8	312.6	326.8					40- 50	273.0	924.5	57.3,57.3
60	234.9	264.7	236.8	257.6					50- 60	255.3	1180	73.1,73.1
70	148.1	193.0	151.7	182.6					60- 70	207.1	1387	85.9,85.9
80	60.32	118.8	63.80	104.4					70- 80	134.6	1522	94.3,94.3
90	1.183	51.21	1.917	38.12					80- 90	56.58	1578	97.8,97.8
100	1.327	12.63	1.117	9.921					90-100	14.13	1592	98.7,98.7
110	1.805	14.00	1.617	3.492					100-110	6.141	1598	99.1,99.1
120	2.215	8.102	2.165	2.309					110-120	4.408	1603	99.3,99.3
130	2.646	4.992	2.676	2.764					120-130	3.079	1606	99.5,99.5
140	3.067	3.678	3.118	3.168					130-140	2.516	1608	99.7,99.7
150	3.431	3.427	3.477	3.527					140-150	2.094	1611	99.8,99.8
160	3.750	3.740	3.769	3.807					150-160	1.673	1612	99.9,99.9
170	3.992	3.992	4.009	4.020					160-170	1.099	1613	100,100
180	4.121	4.088	4.104	4.099					170-180	0.3860	1614	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:LCG  
 Test Date:2020-05-29

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:9.150m [K=1.0000]  
 Remarks: 2200-2400K

LUMINANCE LIMITATION CURVES

Test:U:23.997V I:0.5438A P:13.050W PF:1.0000 Freq:49.99Hz Lamp Flux:1613.71x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:0.01	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	85139	286289
80	105256	207289
75	120966	182443
70	131204	170966
65	138119	164490
60	142352	160452
55	145232	157860
50	147167	156430
45	148532	155659

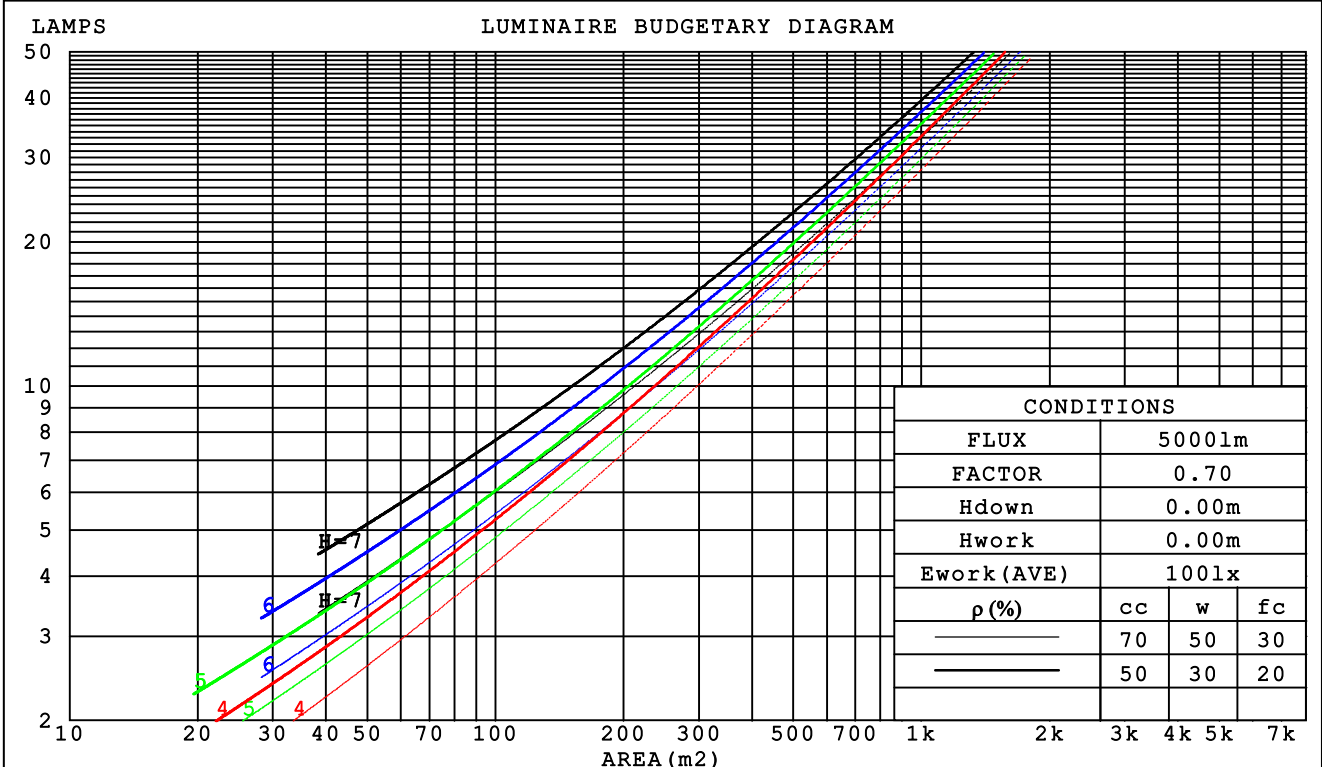
C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:LCG  
 Test Date:2020-05-29

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:9.150m [K=1.0000]  
 Remarks: 2200-2400K

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:23.997V I:0.5438A P:13.050W PF:1.0000 Freq:49.99Hz Lamp Flux:1613.71x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:0.01	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						Coefficients of Utilization(CU)									
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.10	1.10	1.10	1.05	1.05	1.05	1.00	1.00	1.00	.98
1.0	1.02	.97	.93	.99	.95	.91	.95	.91	.88	.90	.88	.85	.86	.84	.82	.80
2.0	.88	.81	.75	.86	.79	.74	.82	.76	.72	.78	.74	.70	.75	.71	.68	.65
3.0	.77	.68	.62	.75	.67	.61	.72	.65	.59	.69	.63	.58	.66	.61	.57	.54
4.0	.68	.59	.52	.66	.58	.51	.64	.56	.50	.61	.55	.49	.59	.53	.48	.46
5.0	.60	.51	.44	.59	.50	.44	.57	.49	.43	.55	.48	.43	.52	.47	.42	.40
6.0	.54	.45	.38	.53	.45	.38	.51	.43	.38	.49	.42	.37	.47	.41	.37	.34
7.0	.49	.40	.34	.48	.40	.34	.46	.39	.33	.45	.38	.33	.43	.37	.32	.30
8.0	.45	.36	.30	.44	.36	.30	.42	.35	.30	.41	.34	.29	.40	.34	.29	.27
9.0	.41	.33	.27	.40	.32	.27	.39	.32	.27	.38	.31	.26	.37	.31	.26	.24
10.0	.38	.30	.24	.37	.29	.24	.36	.29	.24	.35	.28	.24	.34	.28	.24	.22



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:LCG  
 Test Date:2020-05-29

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:9.150m [K=1.0000]  
 Remarks: 2200-2400K

WEC AND CCEC

Test:U:23.997V I:0.5438A P:13.050W PF:1.0000 Freq:49.99Hz Lamp Flux:1613.71x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:0.01	Shielding Angle:

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients (WEC)									
0.0																
1.0	.336	.191	.061	.329	.187	.060	.314	.180	.058	.300	.173	.056	.288	.167	.054	
2.0	.309	.169	.052	.302	.166	.051	.289	.160	.050	.277	.155	.049	.265	.150	.047	
3.0	.282	.150	.045	.276	.148	.044	.264	.143	.043	.253	.139	.043	.243	.135	.042	
4.0	.258	.134	.039	.252	.132	.039	.242	.128	.038	.233	.125	.038	.224	.122	.037	
5.0	.237	.121	.035	.232	.119	.035	.223	.116	.034	.214	.113	.034	.206	.110	.033	
6.0	.219	.110	.031	.214	.108	.031	.206	.106	.031	.199	.103	.030	.191	.101	.030	
7.0	.203	.100	.028	.199	.099	.028	.192	.097	.028	.185	.095	.028	.178	.093	.027	
8.0	.189	.092	.026	.186	.091	.026	.179	.089	.026	.173	.087	.025	.167	.086	.025	
9.0	.177	.086	.024	.174	.085	.024	.168	.083	.023	.162	.081	.023	.157	.080	.023	
10.0	.166	.080	.022	.163	.079	.022	.158	.077	.022	.152	.076	.022	.148	.074	.021	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients (CCEC)									
0.0	.207	.207	.207	.177	.177	.177	.121	.121	.121	.069	.069	.069	.022	.022	.022	
1.0	.199	.173	.149	.170	.148	.128	.116	.102	.089	.067	.059	.052	.021	.019	.017	
2.0	.192	.149	.113	.164	.128	.098	.112	.089	.068	.065	.052	.040	.021	.017	.013	
3.0	.184	.131	.090	.158	.113	.078	.108	.079	.055	.063	.046	.032	.020	.015	.011	
4.0	.176	.118	.074	.151	.102	.064	.104	.071	.045	.060	.042	.027	.019	.014	.009	
5.0	.169	.108	.063	.145	.094	.055	.100	.065	.039	.058	.038	.023	.019	.013	.008	
6.0	.161	.100	.056	.139	.086	.049	.096	.061	.034	.055	.036	.020	.018	.012	.007	
7.0	.154	.093	.050	.133	.081	.044	.092	.057	.031	.053	.033	.018	.017	.011	.006	
8.0	.148	.087	.046	.127	.076	.040	.088	.053	.028	.051	.031	.017	.017	.010	.006	
9.0	.142	.082	.042	.122	.071	.037	.084	.050	.026	.049	.030	.016	.016	.010	.005	
10.0	.136	.078	.040	.117	.068	.035	.081	.048	.025	.047	.028	.015	.015	.009	.005	

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:LCG  
 Test Date:2020-05-29

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:9.150m [K=1.0000]  
 Remarks: 2200-2400K

UGR(Unified Glare Rating) Table

Test:U:23.997V I:0.5438A P:13.050W PF:1.0000 Freq:49.99Hz Lamp Flux:1613.71x1 lm										
NAME:				TYPE:				WEIGHT:		
SPEC.:				DIM.:				SERIAL No.:		
MFR.:				SUR.:0.01				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	28.4	29.9	28.7	30.2	30.4	28.8	30.3	29.1	30.6	30.8
3H	30.0	31.4	30.3	31.7	32.0	30.7	32.2	31.1	32.4	32.7
4H	30.6	32.0	31.0	32.3	32.6	31.7	33.0	32.0	33.3	33.6
6H	31.0	32.3	31.4	32.6	33.0	32.6	33.9	33.0	34.2	34.5
8H	31.2	32.4	31.5	32.7	33.1	33.0	34.3	33.4	34.6	34.9
12H	31.2	32.4	31.6	32.8	33.1	33.5	34.7	33.9	35.0	35.4
4H 2H	29.1	30.5	29.5	30.8	31.1	29.4	30.8	29.8	31.1	31.4
3H	30.9	32.1	31.3	32.4	32.8	31.6	32.7	31.9	33.1	33.4
4H	31.7	32.8	32.1	33.1	33.5	32.6	33.7	33.1	34.1	34.5
6H	32.3	33.2	32.7	33.6	34.0	33.7	34.7	34.1	35.1	35.5
8H	32.4	33.4	32.9	33.8	34.2	34.2	35.1	34.7	35.6	36.0
12H	32.6	33.4	33.0	33.8	34.3	34.8	35.6	35.2	36.0	36.5
8H 4H	32.1	33.0	32.6	33.4	33.9	32.9	33.9	33.4	34.3	34.7
6H	32.9	33.7	33.4	34.1	34.6	34.2	35.0	34.7	35.4	35.9
8H	33.2	33.9	33.7	34.3	34.8	34.9	35.5	35.4	36.0	36.5
12H	33.4	34.0	33.9	34.5	35.0	35.6	36.2	36.1	36.7	37.2
12H 4H	32.2	33.0	32.6	33.4	33.9	33.0	33.8	33.4	34.2	34.7
6H	33.0	33.7	33.5	34.2	34.7	34.3	35.0	34.8	35.4	35.9
8H	33.4	34.0	33.9	34.5	35.0	35.0	35.6	35.5	36.1	36.6
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.2					+ 0.1 / - 0.1				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.4					+ 0.1 / - 0.3				

CIE Pub.117, 1614 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 1.7)

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:LCG  
 Test Date:2020-05-29

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:9.150m [K=1.0000]  
 Remarks: 2200-2400K

UTILIZATION FACTORS TABLE

Test:U:23.997V I:0.5438A P:13.050W PF:1.0000 Freq:49.99Hz Lamp Flux:1613.71x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:0.01	Shielding Angle:

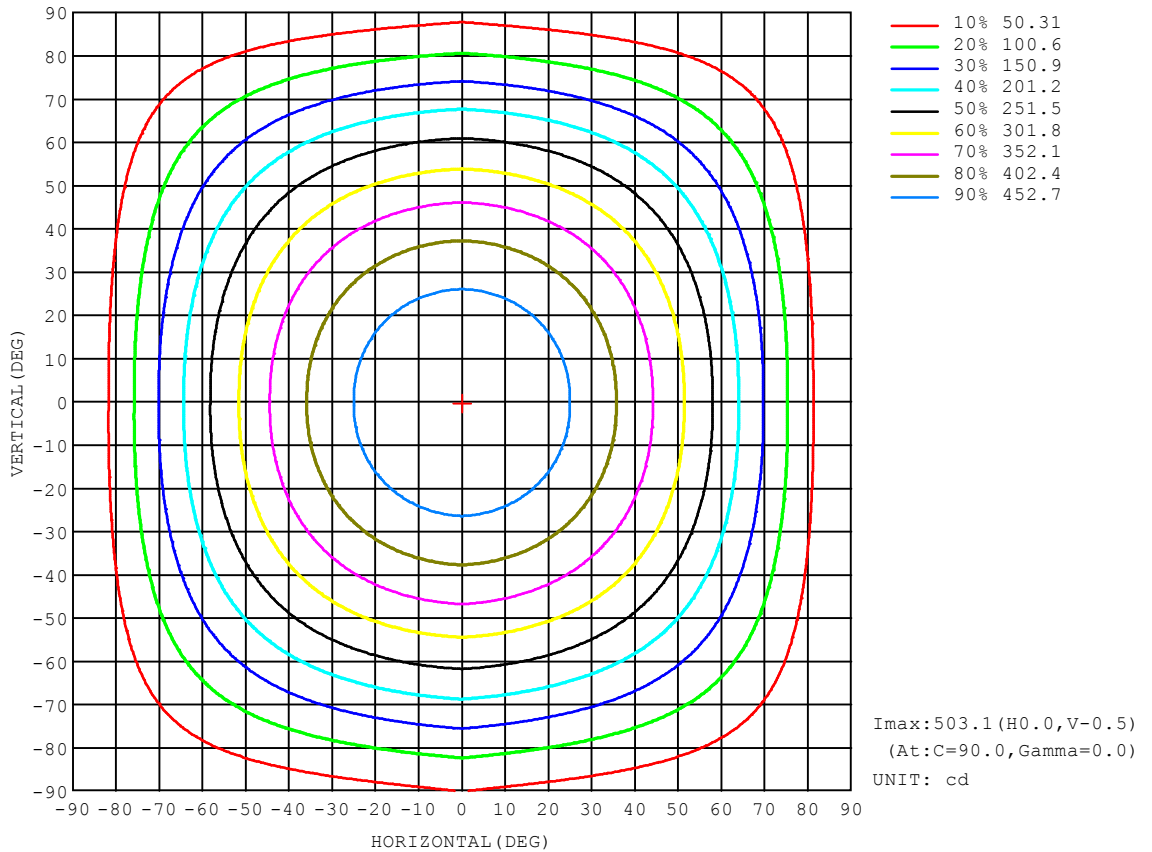
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	55	43	36	54	43	36	53	42	36	29
0.80	65	53	45	64	52	45	62	51	45	37
1.00	73	62	54	72	61	54	69	62	53	45
1.25	80	69	62	79	68	61	76	67	60	52
1.50	85	75	67	84	74	67	80	72	66	57
2.00	92	83	76	90	82	75	87	79	74	65
2.50	97	88	82	94	87	81	90	84	78	69
3.00	100	93	86	98	91	85	93	88	83	74
4.00	104	98	93	102	96	91	97	92	88	79
5.00	107	102	97	104	99	95	99	95	92	82
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:LCG  
 Test Date:2020-05-29

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:9.150m [K=1.0000]  
 Remarks: 2200-2400K

ISOCANDELA DIAGRAM

Test:U:23.997V I:0.5438A P:13.050W PF:1.0000 Freq:49.99Hz Lamp Flux:1613.71x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:0.01	Shielding Angle:



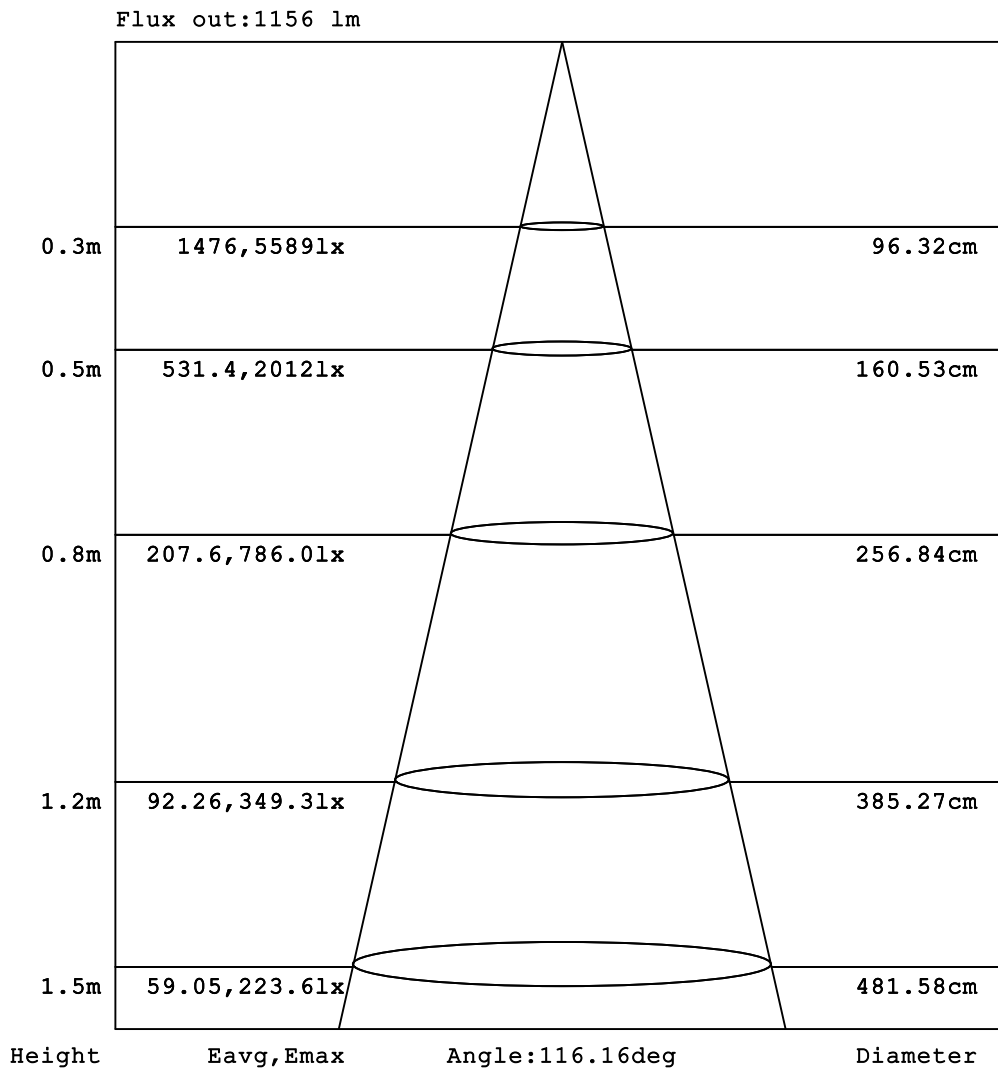
C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:LCG  
 Test Date:2020-05-29

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:9.150m [K=1.0000]  
 Remarks: 2200-2400K



AAI Figure

Test:U:23.997V I:0.5438A P:13.050W PF:1.0000 Freq:49.99Hz Lamp Flux:1613.71x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:0.01	Shielding Angle:



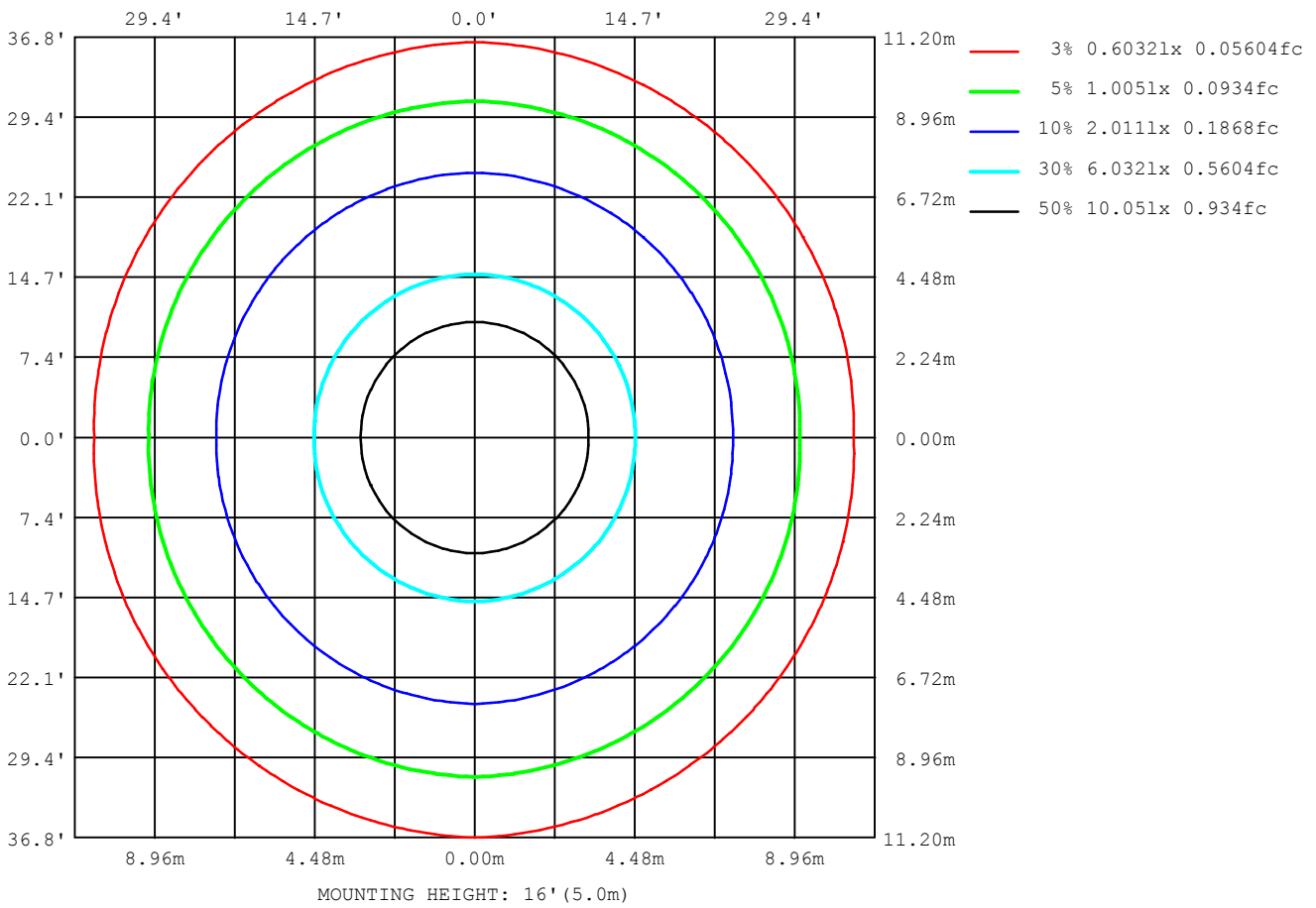
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:LCG  
 Test Date:2020-05-29

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:9.150m [K=1.0000]  
 Remarks: 2200-2400K

ISOLUX DIAGRAM

Test:U:23.997V I:0.5438A P:13.050W PF:1.0000 Freq:49.99Hz Lamp Flux:1613.71x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:0.01	Shielding Angle:



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:LCG  
 Test Date:2020-05-29

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:9.150m [K=1.0000]  
 Remarks: 2200-2400K

LED Avg.L Report

Test:U:23.997V I:0.5438A P:13.050W PF:1.0000 Freq:49.99Hz Lamp Flux:1613.71x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:0.01	Shielding Angle:

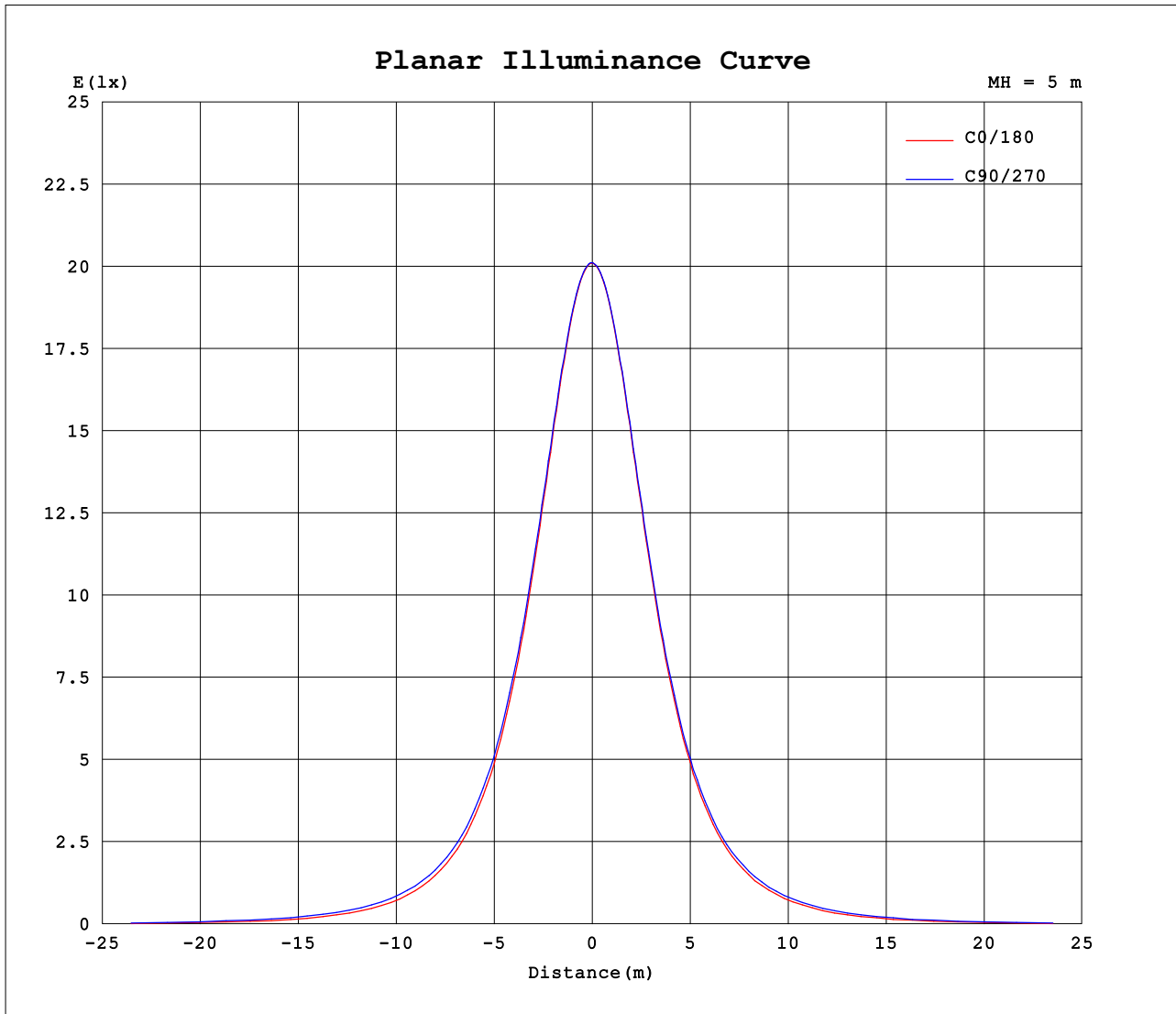
AvgL	cd/m2
L_0~180 (65) av	139055
L_0~180 (75) av	123275
L_0~180 (85) av	89294
L_90~270 (65) av	161344
L_90~270 (75) av	175159
L_90~270 (85) av	260237
L_45 (65) av	153044
L_45 (75) av	155847
L_45 (85) av	196393

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:LCG  
 Test Date:2020-05-29

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:9.150m [K=1.0000]  
 Remarks: 2200-2400K

Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: LCG  
 Test Date: 2020-05-29

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
 Humidity: 65.0%  
 Test Distance: 9.150m [K=1.0000]  
 Remarks: 2200-2400K

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:23.997V I:0.5438A P:13.050W PF:1.0000 Freq:49.99Hz Lamp Flux:1613.71x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:0.01	Shielding Angle:

Table--1

UNIT: cd

C (DEG) \ γ (DEG)	0	90	180	270															
0	503	503	503	503															
5	501	501	501	501															
10	495	496	494	495															
15	484	487	484	486															
20	471	474	470	473															
25	453	458	453	456															
30	431	439	432	436															
35	406	416	407	413															
40	378	391	379	387															
45	347	363	348	358															
50	312	332	313	327															
55	275	299	276	293															
60	235	265	237	258															
65	193	229	195	221															
70	148	193	152	183															
75	103	156	107	143															
80	60.3	119	63.8	104															
85	24.5	82.3	26.9	67.4															
90	1.18	51.2	1.92	38.1															
95	1.09	27.5	0.93	20.7															
100	1.33	12.6	1.12	9.92															
105	1.56	13.3	1.36	7.31															
110	1.81	14.0	1.62	3.49															
115	2.03	11.6	1.90	2.15															
120	2.21	8.10	2.17	2.31															
125	2.42	6.22	2.42	2.53															
130	2.65	4.99	2.68	2.76															
135	2.86	4.22	2.91	2.98															
140	3.07	3.68	3.12	3.17															
145	3.27	3.37	3.32	3.36															
150	3.43	3.43	3.48	3.53															
155	3.60	3.60	3.63	3.68															
160	3.75	3.74	3.77	3.81															
165	3.90	3.87	3.89	3.92															
170	3.99	3.99	4.01	4.02															
175	4.08	4.04	4.07	4.08															
180	4.12	4.09	4.10	4.10															

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:LCG  
 Test Date:2020-05-29

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:9.150m [K=1.0000]  
 Remarks: 2200-2400K