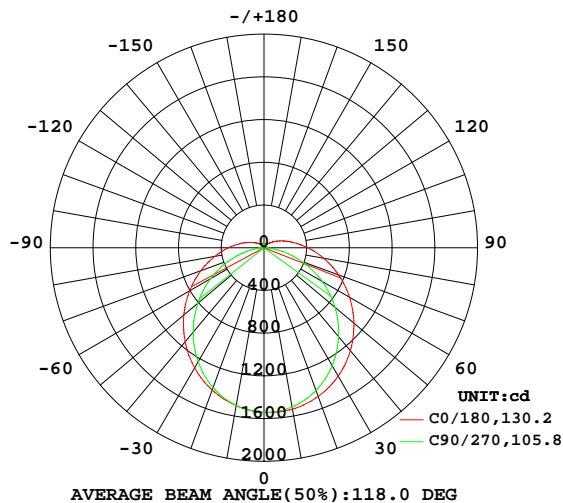


## LUMINAIRE PHOTOMETRIC TEST REPORT

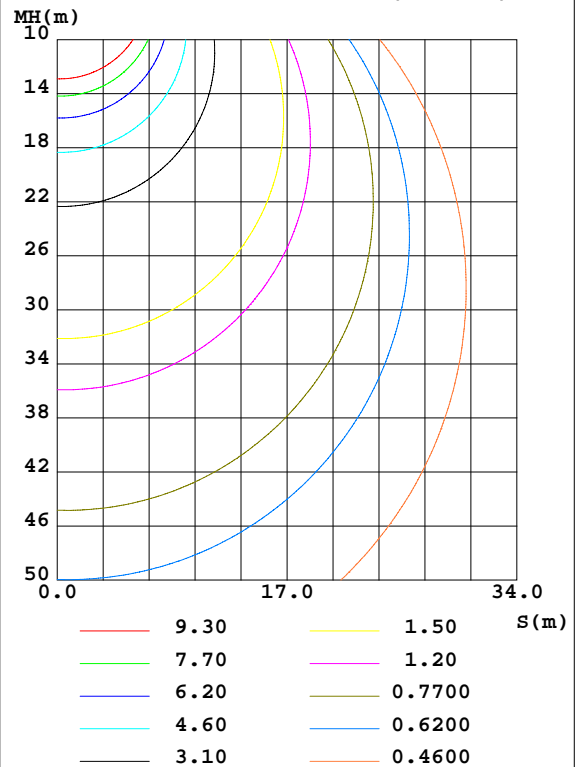
Test:U:120.12V I:0.3108A P:37.141W PF:0.9947 Freq:59.98Hz UTHDi:0% ITHDi:0% Lamp Flux:5472.17x1 lm		
NAME: TS-TPL1-4FT50W-X-347-TCP	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 147.34 lm/W			
MODEL-TPL1-4FT50W-X-347-TCP		Imax(cd)	1547	S/MH(C0/180)	1.26
NOMINAL POWER(W)	40	LOR(%)	100.0	S/MH(C90/270)	1.20
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	5472.2	$\eta$ UP,DN(C0-180)	4.9,45.5
NOMINAL FLUX(lm)	5472.17	CIE CLASS	DIRECT	$\eta$ UP,DN(C180-360)	4.9,44.7
LAMPS INSIDE	1	$\eta$ up(%)	9.8	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	120	$\eta$ down(%)	90.2	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:DAMIN  
Test Date:2022-12-20

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.00.426  
Humidity:65.0%  
Test Distance:12.550m [K=1.0000]  
Remarks:

## ZONAL FLUX DIAGRAM

## ZONAL FLUX DIAGRAM:

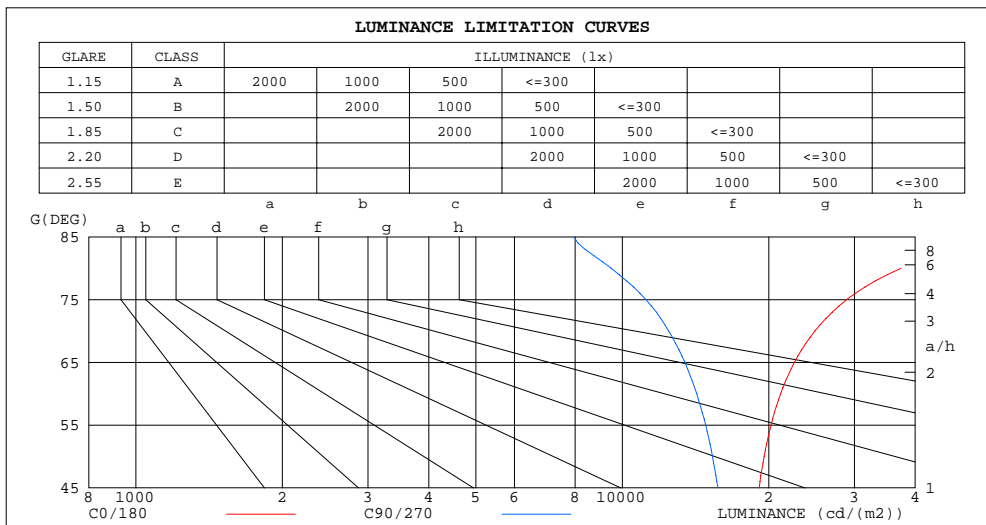
$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	$\%lum, lamp$
10	1534	1534	1514	1485	1500	1491	1500	1541	0- 10	145.7	145.7	2.66,2.66
20	1482	1470	1423	1378	1418	1389	1394	1484	10- 20	417.0	562.7	10.3,10.3
30	1389	1355	1276	1230	1299	1243	1233	1375	20- 30	631.6	1194	21.8,21.8
40	1258	1198	1086	1048	1148	1065	1032	1226	30- 40	763.7	1958	35.8,35.8
50	1099	1013	869.0	850.0	979.9	868.0	808.7	1048	40- 50	802.6	2761	50.4,50.4
60	924.7	812.9	627.3	650.6	803.1	669.2	573.9	854.8	50- 60	753.4	3514	64.2,64.2
70	743.9	614.6	375.7	464.8	628.9	482.2	338.3	661.8	60- 70	633.8	4148	75.8,75.8
80	567.9	433.1	145.2	308.8	467.8	321.7	125.2	482.6	70- 80	473.8	4622	84.5,84.5
90	410.0	285.1	27.52	193.0	332.3	202.1	21.02	329.6	80- 90	316.2	4938	90.2,90.2
100	283.7	173.5	26.61	116.0	226.9	122.4	20.46	213.7	90-100	202.2	5140	93.9,93.9
110	188.6	105.8	25.83	68.13	148.5	73.40	22.64	134.6	100-110	126.2	5266	96.2,96.2
120	119.4	58.57	24.86	44.13	93.32	44.61	23.79	76.37	110-120	76.46	5343	97.6,97.6
130	71.01	36.23	25.74	42.48	55.59	42.12	25.76	41.62	120-130	46.05	5389	98.5,98.5
140	45.22	34.72	27.62	39.33	48.55	40.87	27.87	35.05	130-140	30.54	5419	99.99
150	42.85	34.22	29.56	37.17	44.96	37.71	31.00	35.68	140-150	23.28	5443	99.5,99.5
160	37.58	34.40	31.58	35.28	37.90	36.42	33.40	35.97	150-160	16.56	5459	99.8,99.8
170	35.80	32.36	34.05	32.69	34.71	35.25	35.01	34.78	160-170	9.849	5469	99.9,99.9
180	30.64	32.54	35.61	34.39	30.54	32.41	35.53	34.60	170-180	3.228	5472	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2022-12-20

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 $\gamma$  Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.00.426  
 Humidity:65.0%  
 Test Distance:12.550m [K=1.0000]  
 Remarks:

## LUMINANCE LIMITATION CURVES

Test:U:120.12V I:0.3108A P:37.141W PF:0.9947 Freq:59.98Hz UTHDi:0% ITHDi:0% Lamp Flux:5472.17x1 lm		
NAME: TS-TPL1-4FT50W-X-347-TCP	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



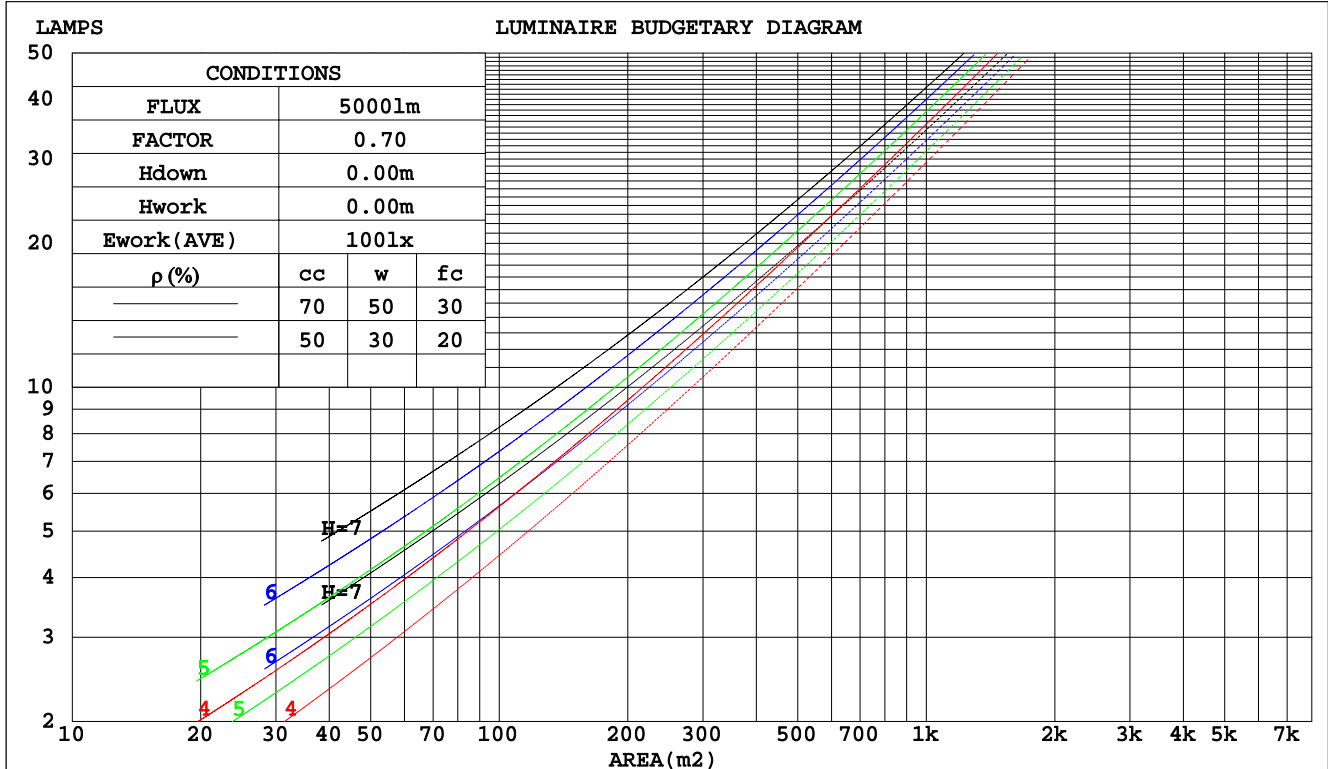
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: DAMIN  
Test Date: 2022-12-20

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.00.426  
Humidity: 65.0%  
Test Distance: 12.550m [K=1.0000]  
Remarks:

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:120.12V I:0.3108A P:37.141W PF:0.9947 Freq:59.98Hz UTHDi:0% ITHDi:0% Lamp Flux:5472.17x1 lm		
NAME: TS-TPL1-4FT50W-X-347-TCP	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	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	1.17	1.17	1.17	1.13	1.13	1.13	1.06	1.06	1.06	.99	.99	.99	.93	.93	.93	.90
1.0	.99	.94	.89	.96	.91	.87	.90	.86	.82	.84	.81	.78	.79	.76	.74	.71
2.0	.85	.78	.71	.82	.76	.70	.77	.72	.67	.72	.68	.64	.68	.64	.61	.58
3.0	.74	.66	.59	.72	.64	.57	.68	.61	.55	.63	.58	.53	.60	.55	.51	.48
4.0	.66	.56	.49	.64	.55	.48	.60	.52	.47	.56	.50	.45	.53	.48	.43	.41
5.0	.58	.49	.42	.57	.48	.41	.53	.46	.40	.50	.44	.39	.48	.42	.37	.35
6.0	.52	.43	.37	.51	.42	.36	.48	.41	.35	.45	.39	.34	.43	.37	.33	.30
7.0	.47	.38	.32	.46	.38	.32	.44	.36	.31	.41	.35	.30	.39	.33	.29	.27
8.0	.43	.35	.29	.42	.34	.28	.40	.33	.27	.38	.31	.27	.36	.30	.26	.24
9.0	.40	.31	.26	.39	.31	.25	.37	.30	.25	.35	.29	.24	.33	.28	.23	.21
10.0	.36	.28	.23	.36	.28	.23	.34	.27	.22	.32	.26	.22	.31	.25	.21	.19



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DAMIN  
 Test Date: 2022-12-20

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.00.426  
 Humidity: 65.0%  
 Test Distance: 12.550m [K=1.0000]  
 Remarks:

## WEC AND CCEC

Test:U:120.12V I:0.3108A P:37.141W PF:0.9947 Freq:59.98Hz UTHDi:0% ITHDi:0% Lamp Flux:5472.17x1 lm		
NAME: TS-TPL1-4FT50W-X-347-TCP	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	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	.360	.205	.065	.350	.200	.063	.331	.190	.061	.313	.181	.058	.297	.172	.056		
2.0	.319	.175	.054	.310	.171	.053	.293	.163	.051	.277	.155	.049	.263	.148	.047		
3.0	.287	.153	.046	.279	.149	.045	.263	.143	.043	.249	.137	.042	.236	.131	.040		
4.0	.260	.135	.040	.253	.132	.039	.239	.127	.038	.226	.122	.037	.214	.117	.035		
5.0	.238	.121	.035	.231	.119	.035	.219	.114	.034	.207	.109	.033	.196	.105	.032		
6.0	.219	.110	.031	.213	.108	.031	.202	.103	.030	.191	.099	.029	.181	.095	.028		
7.0	.203	.100	.028	.197	.098	.028	.187	.094	.027	.177	.091	.026	.168	.087	.026		
8.0	.188	.092	.026	.183	.090	.026	.174	.087	.025	.165	.084	.024	.157	.081	.023		
9.0	.176	.085	.024	.171	.084	.023	.163	.081	.023	.155	.078	.022	.147	.075	.022		
10.0	.165	.079	.022	.161	.078	.022	.153	.075	.021	.146	.072	.021	.139	.070	.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	.265	.265	.265	.226	.226	.226	.155	.155	.155	.089	.089	.089	.028	.028	.028	
1.0	.259	.231	.205	.221	.198	.177	.151	.136	.122	.087	.079	.071	.028	.025	.023	
2.0	.251	.207	.170	.215	.178	.147	.148	.123	.103	.085	.072	.060	.027	.023	.020	
3.0	.244	.190	.148	.209	.164	.128	.143	.114	.090	.083	.067	.053	.027	.022	.017	
4.0	.236	.177	.133	.202	.153	.115	.139	.107	.081	.081	.063	.048	.026	.020	.016	
5.0	.228	.167	.123	.196	.145	.107	.135	.101	.075	.078	.059	.045	.025	.019	.015	
6.0	.221	.159	.115	.190	.138	.100	.131	.097	.071	.076	.057	.042	.025	.019	.014	
7.0	.214	.153	.110	.184	.132	.096	.127	.093	.068	.074	.055	.040	.024	.018	.013	
8.0	.207	.147	.105	.178	.127	.092	.123	.089	.065	.072	.053	.039	.023	.017	.013	
9.0	.201	.142	.102	.173	.123	.089	.120	.087	.063	.070	.051	.038	.023	.017	.013	
10.0	.195	.138	.100	.168	.120	.087	.117	.084	.062	.068	.050	.037	.022	.016	.012	

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2022-12-20

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.00.426  
 Humidity:65.0%  
 Test Distance:12.550m [K=1.0000]  
 Remarks:

## UGR(Unified Glare Rating) Table

Test:U:120.12V I:0.3108A P:37.141W PF:0.9947 Freq:59.98Hz UTHDi:0% ITHDi:0% Lamp Flux:5472.17x1 lm											
NAME: TS-TPL1-4FT50W-X-347-TCP					TYPE:			WEIGHT:			
SPEC.:					DIM.:			SERIAL No.:			
MFR.:					SUR.:			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		22.4	23.9	22.9	24.4	25.0	19.9	21.4	20.4	21.9	22.4
3H		25.1	26.4	25.6	27.0	27.6	21.6	22.9	22.1	23.5	24.0
4H		26.4	27.7	27.0	28.2	28.8	22.2	23.5	22.7	24.0	24.6
6H		27.8	29.0	28.4	29.6	30.2	22.6	23.8	23.2	24.4	25.0
8H		28.6	29.7	29.1	30.3	30.9	22.8	23.9	23.3	24.5	25.1
12H		29.4	30.5	30.0	31.1	31.7	22.8	24.0	23.4	24.5	25.2
4H 2H		23.0	24.3	23.6	24.9	25.5	20.6	21.9	21.2	22.5	23.1
3H		26.0	27.1	26.5	27.7	28.3	22.6	23.7	23.2	24.3	24.9
4H		27.5	28.5	28.1	29.1	29.8	23.4	24.4	24.0	25.0	25.7
6H		29.1	30.0	29.7	30.6	31.3	24.0	24.9	24.6	25.5	26.2
8H		30.0	30.9	30.6	31.5	32.1	24.2	25.0	24.8	25.6	26.3
12H		31.0	31.8	31.6	32.4	33.1	24.3	25.1	25.0	25.7	26.4
8H 4H		27.9	28.7	28.5	29.4	30.0	24.1	25.0	24.7	25.6	26.3
6H		29.8	30.5	30.4	31.2	31.8	25.0	25.7	25.6	26.4	27.0
8H		30.9	31.5	31.5	32.2	32.9	25.3	26.0	26.0	26.6	27.3
12H		32.1	32.7	32.8	33.3	34.1	25.6	26.2	26.3	26.8	27.6
12H 4H		28.0	28.7	28.6	29.4	30.0	24.4	25.1	25.0	25.8	26.5
6H		29.9	30.6	30.6	31.2	31.9	25.4	26.0	26.0	26.6	27.4
8H		31.1	31.7	31.8	32.3	33.1	25.9	26.4	26.5	27.1	27.8
CIE190: 2010											

CIE190: 2010  
Area: 0.08775 m2

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2022-12-20

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.00.426  
Humidity:65.0%  
Test Distance:12.550m [K=1.0000]  
Remarks:

## UTILIZATION FACTORS TABLE

Test:U:120.12V I:0.3108A P:37.141W PF:0.9947 Freq:59.98Hz UTHDi:0% ITHDi:0% Lamp Flux:5472.17x1 lm		
NAME: TS-TPL1-4FT50W-X-347-TCP	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

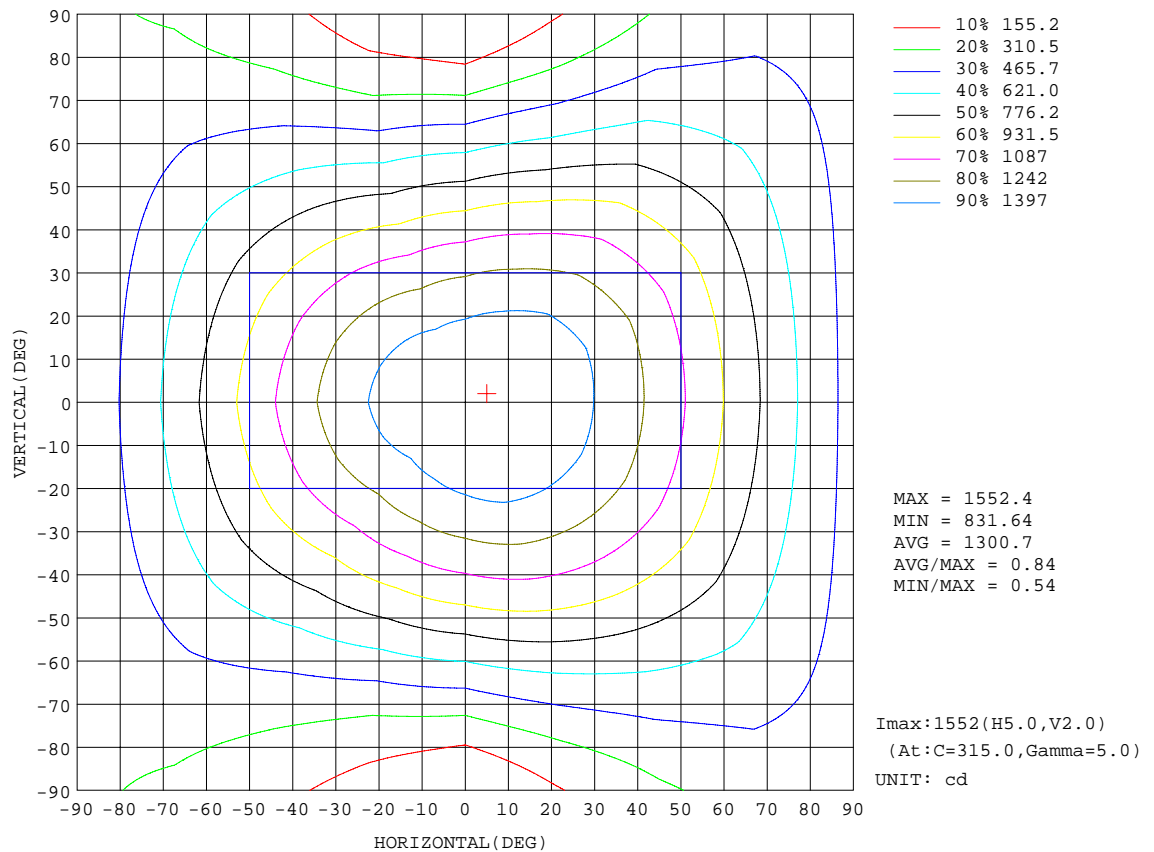
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	52	40	33	51	40	33	50	39	32	26
0.80	62	49	41	60	49	41	58	47	41	33
1.00	70	57	49	68	57	49	65	57	48	40
1.25	76	65	57	75	64	56	71	62	55	46
1.50	81	70	62	79	69	61	75	66	60	51
2.00	89	78	71	86	77	70	81	74	68	58
2.50	93	83	76	90	82	75	85	78	72	62
3.00	96	88	81	93	86	80	88	82	77	65
4.00	101	94	88	98	91	86	92	86	82	70
5.00	103	97	92	100	95	90	94	90	86	73
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:DAMIN  
 Test Date:2022-12-20

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.00.426  
 Humidity:65.0%  
 Test Distance:12.550m [K=1.0000]  
 Remarks:

## ISOCANDELA DIAGRAM

Test:U:120.12V I:0.3108A P:37.141W PF:0.9947 Freq:59.98Hz UTHDi:0% ITHDi:0% Lamp Flux:5472.17x1 lm		
NAME: TS-TPL1-4FT50W-X-347-TCP	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



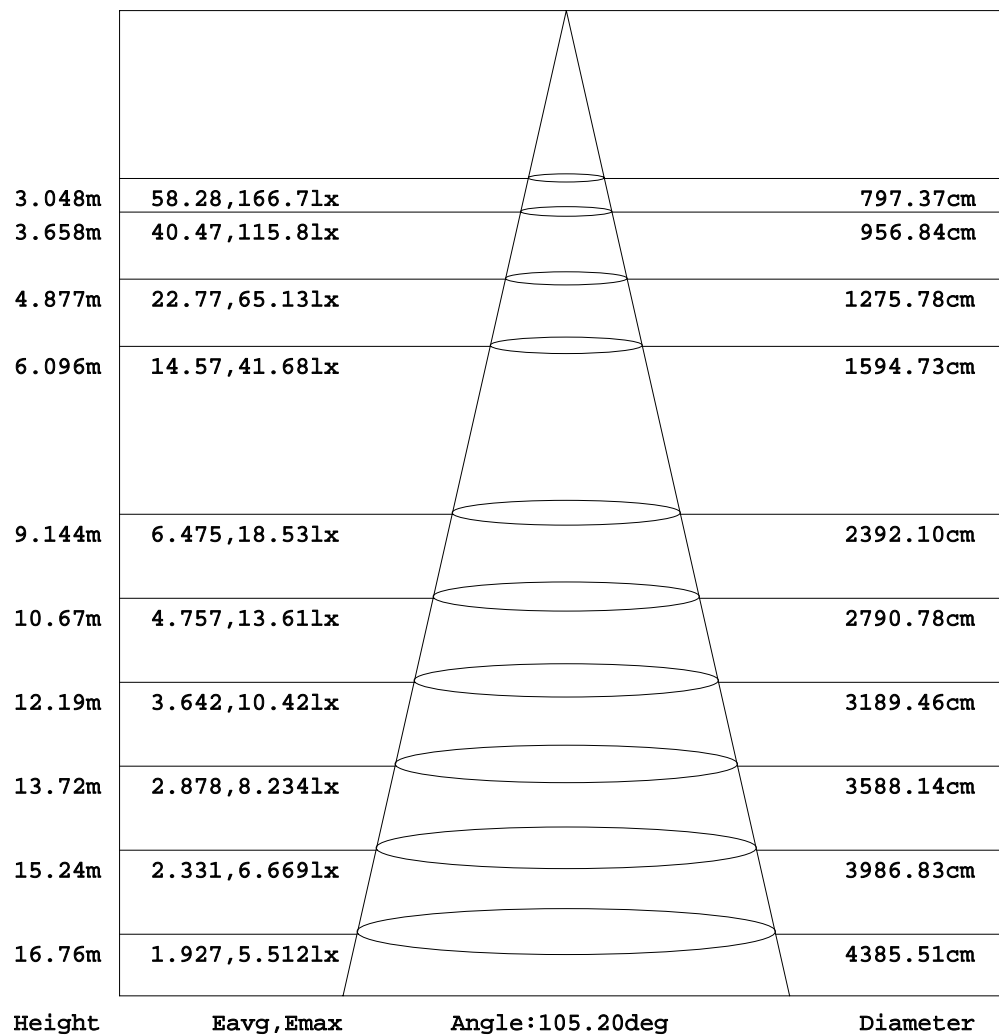
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2022-12-20

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.00.426  
Humidity:65.0%  
Test Distance:12.550m [K=1.0000]  
Remarks:

## AAI Figure

Test:U:120.12V I:0.3108A P:37.141W PF:0.9947 Freq:59.98Hz UTHDi:0% ITHDi:0% Lamp Flux:5472.17x1 lm		
NAME: TS-TPL1-4FT50W-X-347-TCP	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

Flux out:2995 lm



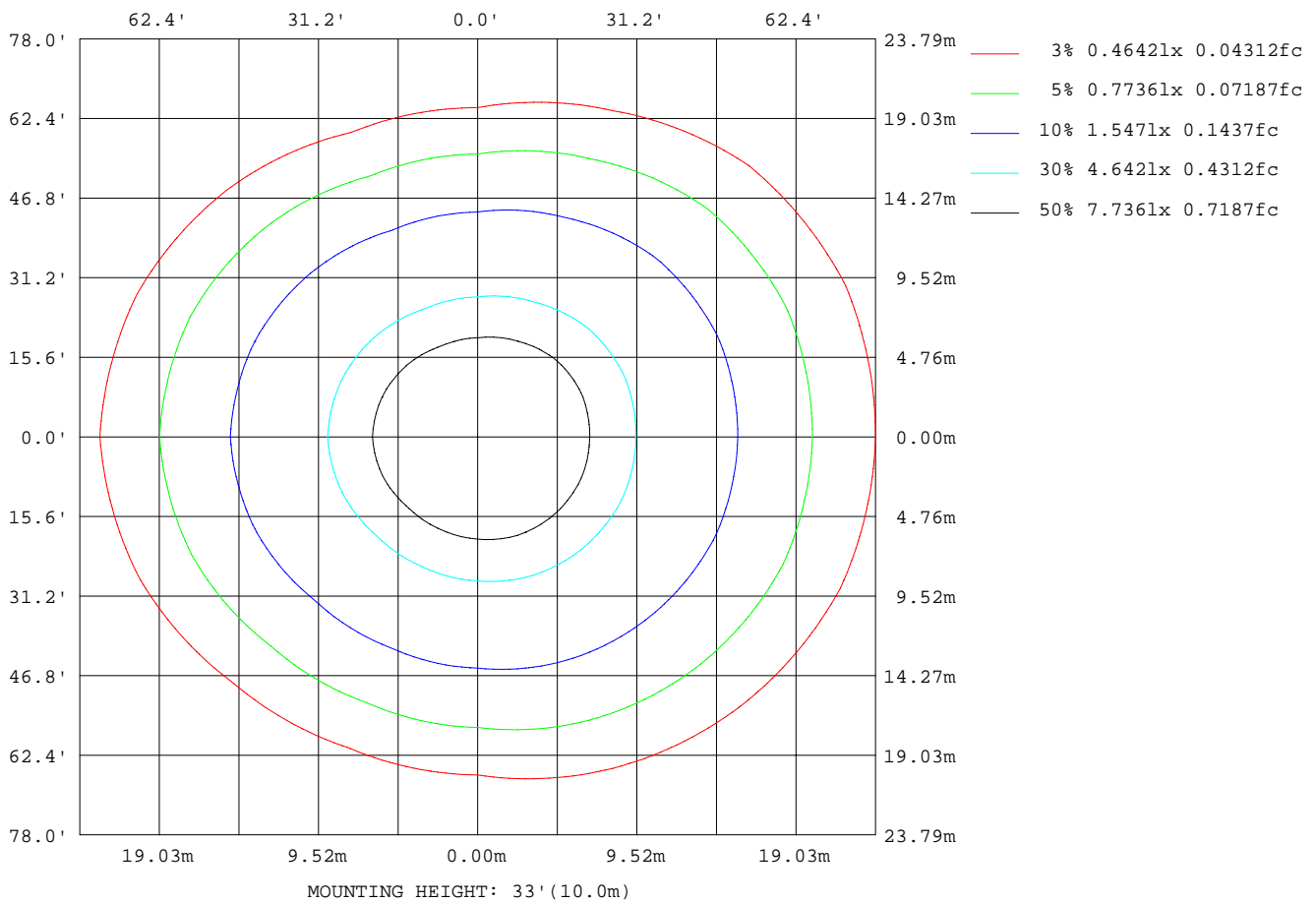
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DAMIN  
 Test Date: 2022-12-20

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.00.426  
 Humidity: 65.0%  
 Test Distance: 12.550m [K=1.0000]  
 Remarks:

## ISOLUX DIAGRAM

Test:U:120.12V I:0.3108A P:37.141W PF:0.9947 Freq:59.98Hz UTHDi:0% ITHDi:0% Lamp Flux:5472.17x1 lm		
NAME: TS-TPL1-4FT50W-X-347-TCP	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: DAMIN  
Test Date: 2022-12-20

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.00.426  
Humidity: 65.0%  
Test Distance: 12.550m [K=1.0000]  
Remarks:

## LED Avg.L Report

Test:U:120.12V I:0.3108A P:37.141W PF:0.9947 Freq:59.98Hz UTHDi:0% ITHDi:0% Lamp Flux:5472.17x1 lm		
NAME: TS-TPL1-4FT50W-X-347-TCP	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

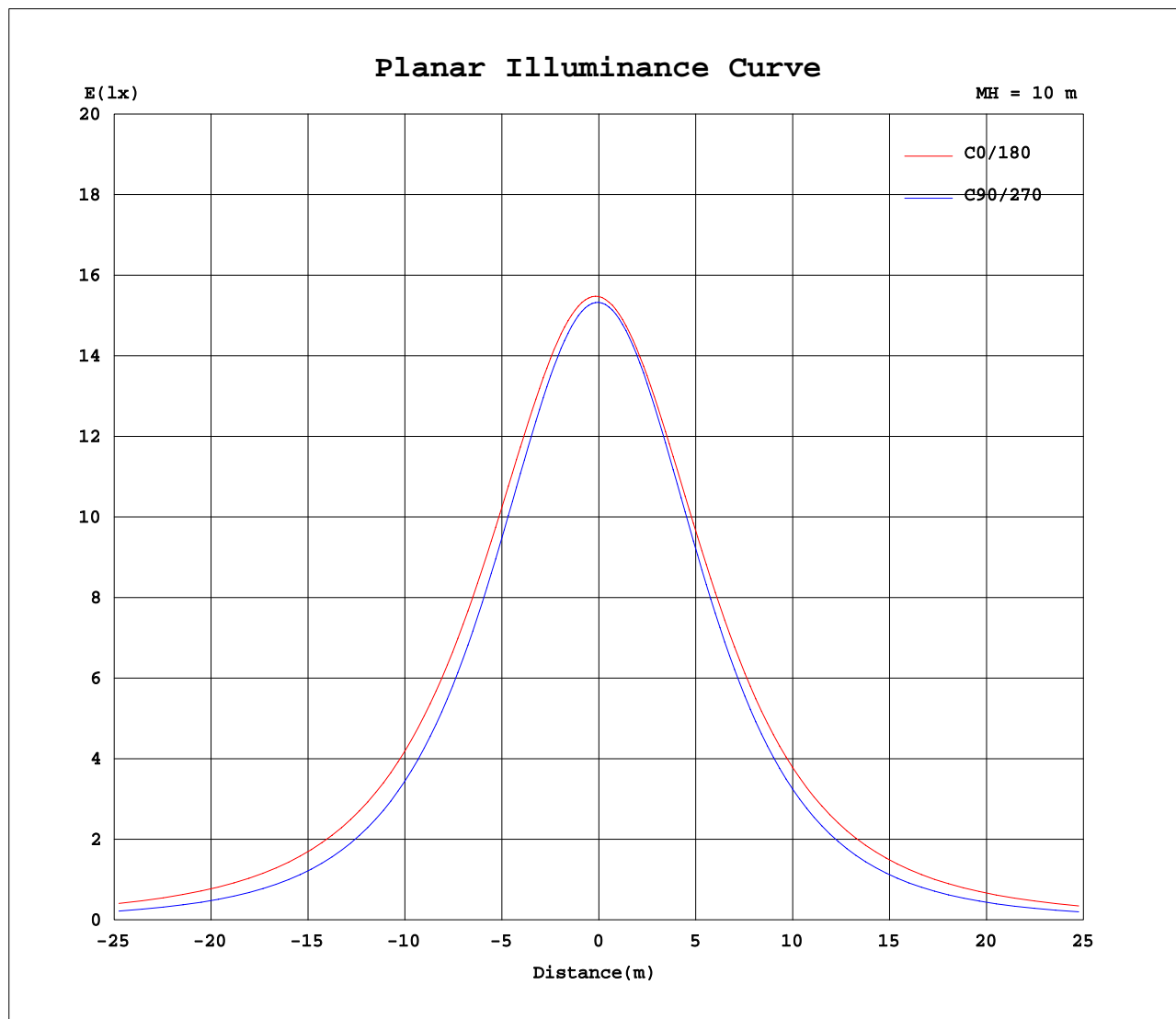
AvgL	cd/m2
L_0~180(65)av	20885
L_0~180(75)av	26411
L_0~180(85)av	57691
L_90~270(65)av	12897
L_90~270(75)av	10587
L_90~270(85)av	7266
L_45(65)av	17517
L_45(75)av	20584
L_45(85)av	41112

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2022-12-20

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.00.426  
Humidity:65.0%  
Test Distance:12.550m [K=1.0000]  
Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: DAMIN  
Test Date: 2022-12-20

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.00.426  
Humidity: 65.0%  
Test Distance: 12.550m [K=1.0000]  
Remarks: