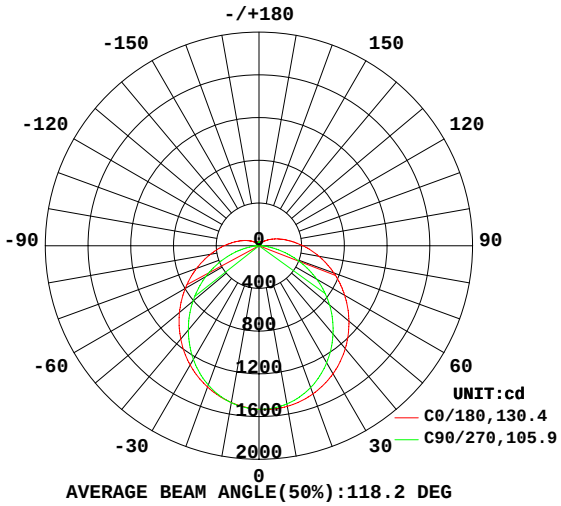
LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:120.12V I:0.3211A P:38.373W PF:0.9950 Freq:59.97Hz UTHDi:0% ITHDi:0%		Lamp Flux:5445.06x1 lm
NAME: TS-TPL1-4FT50W-X-347-TCP	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

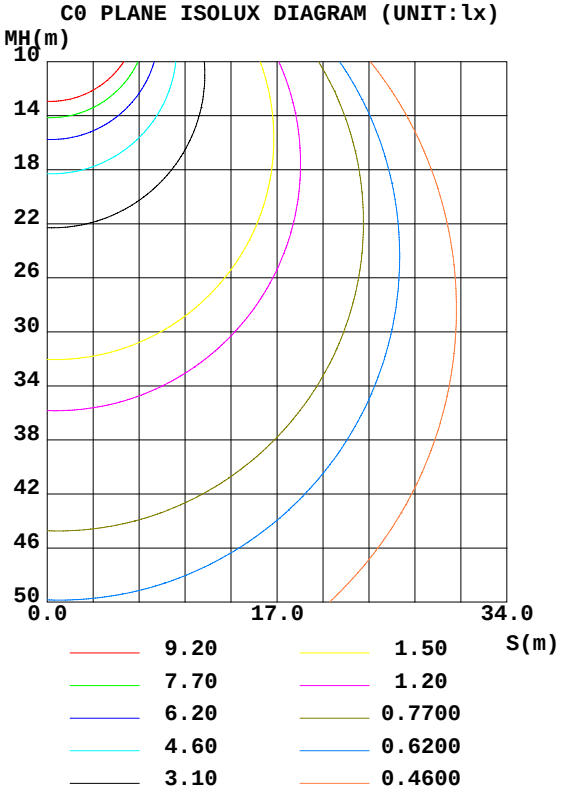
DATA OF LAMP		PHOTOMETRIC DATA		Eff: 141.90 lm/W	
MODEL	TS-TPL1-4FT50W-X-347-TCP	Imax(cd)	1538	S/MH(C0/180)	1.26
NOMINAL POWER(W)	40	LOR(%)	100.0	S/MH(C90/270)	1.20
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	5445.1	η UP,DN(C0-180)	4.9,45.6
NOMINAL FLUX(lm)	5445.06	CIE CLASS	DIRECT	η UP,DN(C180-360)	4.9,44.7
LAMPS INSIDE	1	η up(%)	9.7	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	120	η down(%)	90.3	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



AVERAGE BEAM ANGLE(50%):118.2 DEG

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

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:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	1527	1524	1504	1476	1491	1482	1492	1531	0- 10	144.9	144.9	2.66,2.66
20	1476	1462	1414	1371	1408	1381	1388	1474	10- 20	414.6	559.4	10.3,10.3
30	1385	1349	1267	1224	1290	1236	1229	1367	20- 30	628.2	1188	21.8,21.8
40	1257	1195	1079	1045	1140	1059	1029	1218	30- 40	760.0	1948	35.8,35.8
50	1100	1012	863.2	847.9	972.2	863.0	806.8	1042	40- 50	799.2	2747	50.4,50.4
60	926.4	812.8	623.2	649.9	796.1	665.0	573.0	850.1	50- 60	750.6	3498	64.2,64.2
70	746.5	615.2	373.9	464.2	621.9	478.0	337.4	658.2	60- 70	631.6	4129	75.8,75.8
80	570.4	433.8	144.7	307.8	461.8	317.5	124.6	478.9	70- 80	472.0	4601	84.5,84.5
90	411.9	285.2	27.15	191.9	327.0	198.2	20.89	326.0	80- 90	314.4	4916	90.3,90.3
100	284.4	173.1	26.19	115.2	222.3	119.5	20.35	210.2	90-100	200.5	5116	94,94
110	188.6	105.6	25.50	67.84	145.1	71.55	22.48	131.7	100-110	124.9	5241	96.3,96.3
120	119.3	58.51	24.55	43.87	90.99	43.67	23.57	74.64	110-120	75.59	5317	97.6,97.6
130	71.19	36.00	25.48	42.39	54.40	41.91	25.58	40.94	120-130	45.62	5362	98.5,98.5
140	44.95	34.47	27.35	39.27	48.27	40.40	27.69	34.97	130-140	30.37	5393	99,99
150	42.71	33.85	29.29	36.91	44.50	37.35	30.75	35.62	140-150	23.12	5416	99.5,99.5
160	37.55	34.16	31.18	35.13	37.43	36.08	33.09	35.71	150-160	16.45	5432	99.8,99.8
170	35.59	32.29	33.51	32.49	34.60	34.94	34.62	34.36	160-170	9.761	5442	99.9,99.9
180	30.50	32.47	35.14	34.09	30.40	32.38	35.06	34.27	170-180	3.199	5445	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

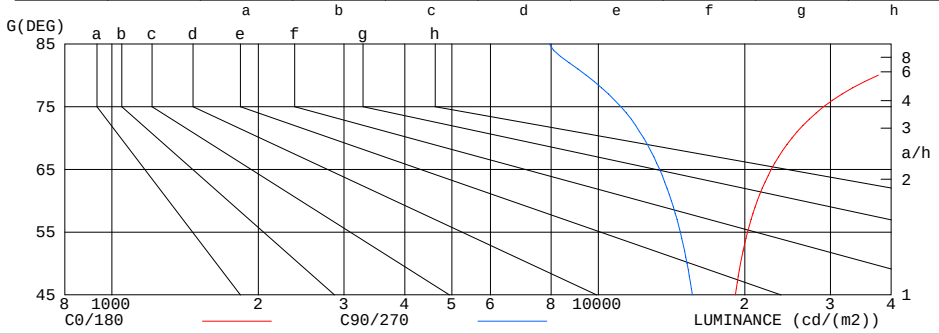
γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:12.550m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:120.12V I:0.3211A P:38.373W PF:0.9950 Freq:59.97Hz UTHDi:0% ITHDi:0%		Lamp Flux:5445.06x1 lm
NAME: TS-TPL1-4FT50W-X-347-TCP	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

LUMINANCE LIMITATION CURVES

GLARE	CLASS	ILLUMINANCE (lx)							
1.15	A	2000	1000	500	<=300				
1.50	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.20	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	64182	7932
80	37634	9445
75	29072	11121
70	25006	12390
65	22677	13367
60	21227	14127
55	20261	14740
50	19605	15220
45	19133	15610

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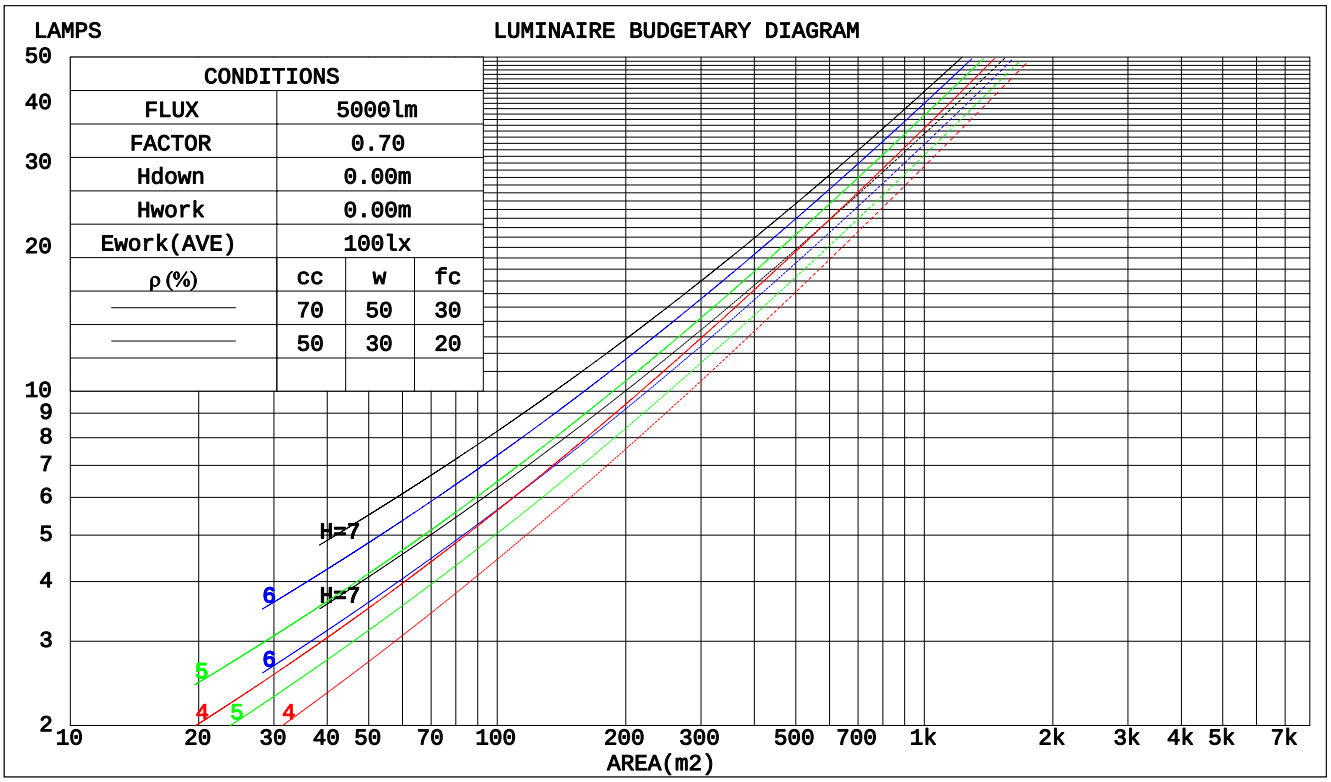
γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:12.550m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:120.12V I:0.3211A P:38.373W PF:0.9950 Freq:59.97Hz UTHDi:0% ITHDi:0%		Lamp Flux:5445.06x1 lm
NAME: TS-TPL1-4FT50W-X-347-TCP	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	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			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

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:

WEC AND CCEC

Test:U:120.12V I:0.3211A P:38.373W PF:0.9950 Freq:59.97Hz UTHDi:0% ITHDi:0%		Lamp Flux:5445.06x1 lm
NAME: TS-TPL1-4FT50W-X-347-TCP	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	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 Coeffcients(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	.156	.049	.263	.149	.047	
3.0	.287	.153	.046	.279	.149	.045	.264	.143	.043	.249	.137	.042	.236	.131	.040	
4.0	.260	.135	.040	.253	.132	.039	.239	.127	.038	.226	.122	.037	.215	.117	.036	
5.0	.238	.121	.035	.231	.119	.035	.219	.114	.034	.207	.109	.033	.197	.105	.032	
6.0	.219	.110	.031	.213	.108	.031	.202	.103	.030	.191	.099	.029	.181	.096	.028	
7.0	.203	.100	.028	.197	.098	.028	.187	.095	.027	.177	.091	.026	.168	.088	.026	
8.0	.188	.092	.026	.183	.090	.026	.174	.087	.025	.165	.084	.024	.157	.081	.024	
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	

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	.265	.265	.265	.226	.226	.226	.154	.154	.154	.089	.089	.089	.028	.028	.028	
1.0	.258	.230	.205	.221	.198	.177	.151	.136	.122	.087	.079	.071	.028	.025	.023	
2.0	.251	.207	.170	.215	.178	.147	.147	.123	.102	.085	.072	.060	.027	.023	.020	
3.0	.243	.190	.147	.209	.164	.128	.143	.114	.090	.083	.067	.053	.027	.022	.017	
4.0	.236	.177	.133	.202	.153	.115	.139	.107	.081	.080	.062	.048	.026	.020	.016	
5.0	.228	.167	.122	.196	.145	.106	.135	.101	.075	.078	.059	.045	.025	.019	.015	
6.0	.220	.159	.115	.190	.138	.100	.131	.096	.071	.076	.057	.042	.024	.019	.014	
7.0	.213	.152	.109	.184	.132	.095	.127	.093	.067	.074	.054	.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	.086	.063	.070	.051	.038	.023	.017	.012	
10.0	.195	.137	.099	.168	.119	.087	.116	.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:0.3211A P:38.373W PF:0.9950 Freq:59.97Hz UTHDi:0% ITHDi:0%		Lamp Flux:5445.06x1 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	22.5	24.0	23.0	24.5	25.0	19.9	21.3	20.4	21.9	22.4
	3H	25.1	26.5	25.6	27.0	27.6	21.6	22.9	22.1	23.5	24.0
	4H	26.4	27.7	27.0	28.3	28.9	22.2	23.5	22.7	24.0	24.6
	6H	27.9	29.1	28.4	29.6	30.2	22.6	23.8	23.2	24.4	25.0
	8H	28.6	29.7	29.2	30.3	30.9	22.8	23.9	23.3	24.5	25.1
	12H	29.4	30.5	30.0	31.1	31.8	22.8	23.9	23.4	24.5	25.2
4H	2H	23.1	24.4	23.6	24.9	25.5	20.6	21.9	21.2	22.5	23.1
	3H	26.0	27.1	26.6	27.7	28.3	22.6	23.7	23.2	24.3	24.9
	4H	27.5	28.6	28.1	29.1	29.8	23.4	24.4	24.0	25.0	25.7
	6H	29.2	30.1	29.8	30.7	31.3	24.0	24.9	24.6	25.5	26.2
	8H	30.1	30.9	30.7	31.5	32.2	24.2	25.0	24.8	25.6	26.3
	12H	31.0	31.8	31.7	32.4	33.1	24.3	25.1	25.0	25.7	26.4
8H	4H	27.9	28.8	28.5	29.4	30.1	24.1	25.0	24.7	25.6	26.3
	6H	29.8	30.6	30.5	31.2	31.9	25.0	25.7	25.6	26.4	27.0
	8H	30.9	31.6	31.6	32.2	32.9	25.3	26.0	26.0	26.6	27.3
	12H	32.2	32.7	32.8	33.4	34.1	25.6	26.2	26.3	26.8	27.6
12H	4H	28.0	28.8	28.6	29.4	30.1	24.4	25.1	25.0	25.8	26.4
	6H	30.0	30.6	30.6	31.2	32.0	25.4	26.0	26.0	26.6	27.4
	8H	31.2	31.7	31.8	32.4	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:0.3211A P:38.373W PF:0.9950 Freq:59.97Hz UTHDi:0% ITHDi:0%		Lamp Flux:5445.06x1 lm
NAME: TS-TPL1-4FT50W-X-347-TCP	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

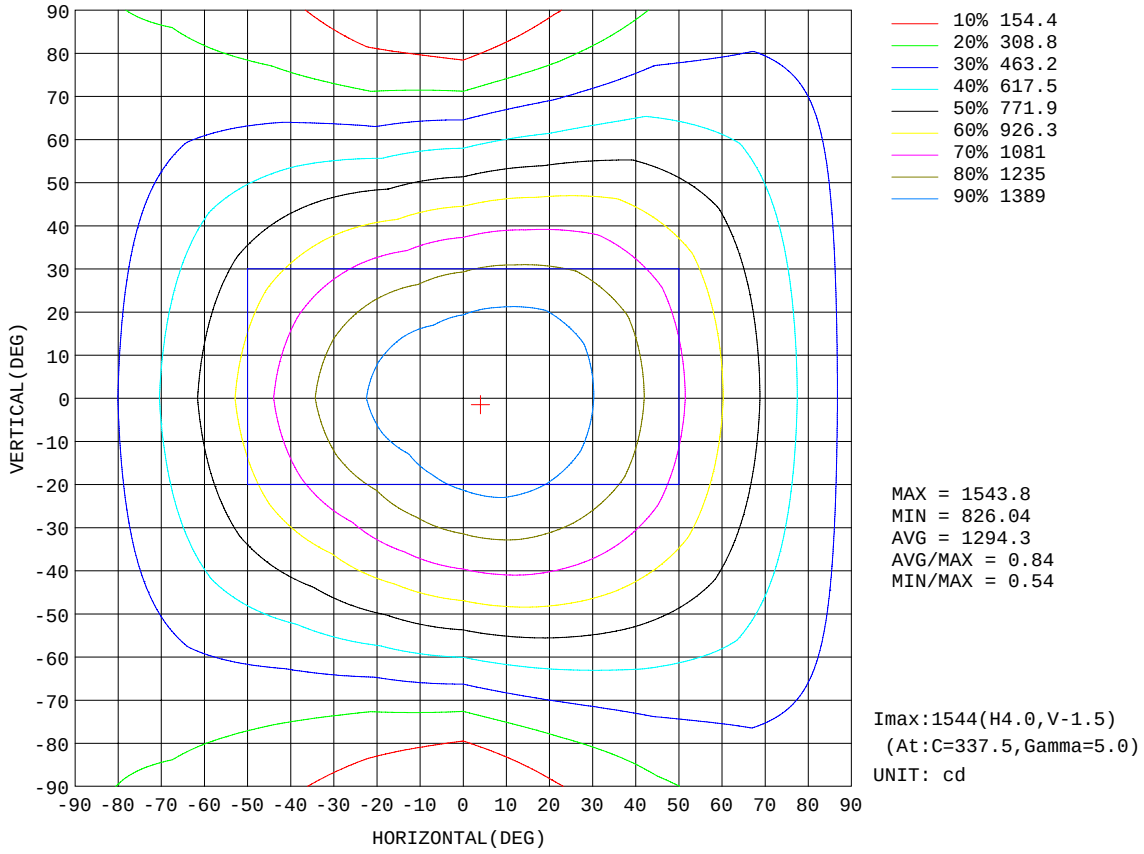
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	52	40	33	51	40	33	50	39	32	26
0.80	62	49	41	60	49	41	58	47	41	33
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	87	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

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:

ISOCANDELA DIAGRAM

Test:U:120.12V I:0.3211A P:38.373W PF:0.9950 Freq:59.97Hz UTHDi:0% ITHDi:0%		Lamp Flux:5445.06x1 lm
NAME: TS-TPL1-4FT50W-X-347-TCP	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



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Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.426
Humidity:65.0%
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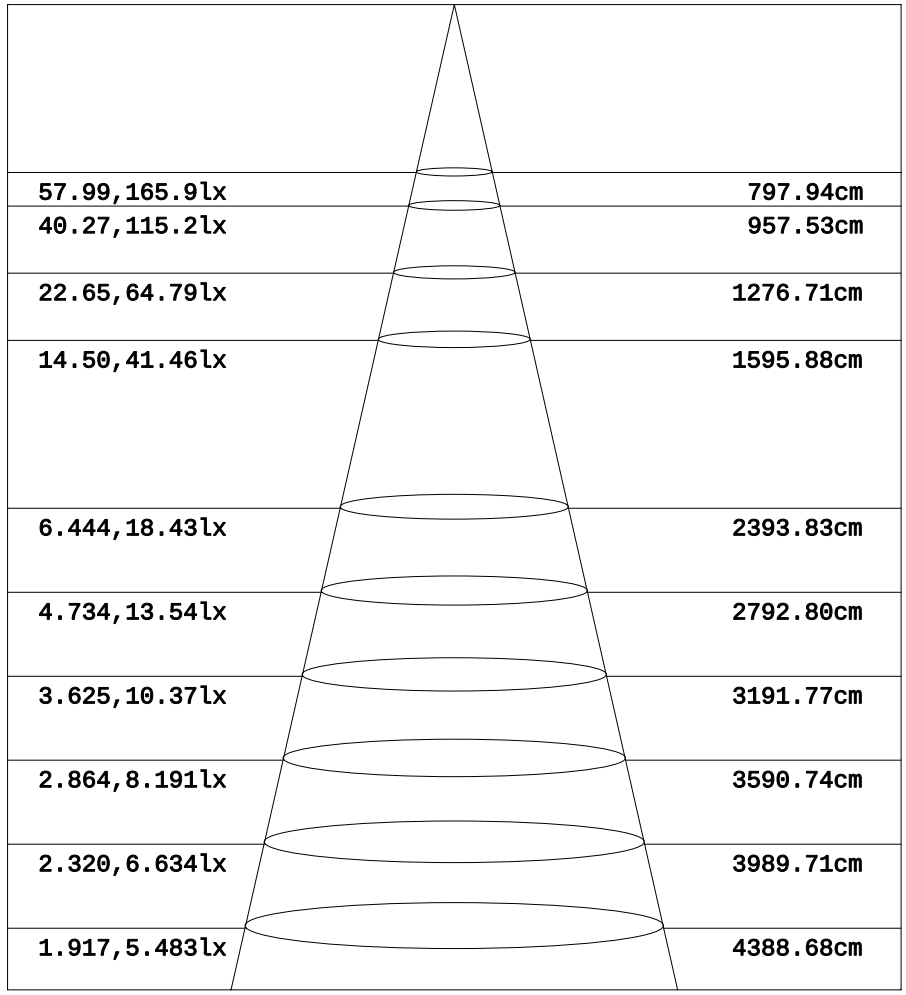
Remarks:

AAI Figure

Test:U:120.12V I:0.3211A P:38.373W PF:0.9950 Freq:59.97Hz UTHDi:0% ITHDi:0%		Lamp Flux:5445.06x1 lm
NAME: TS-TPL1-4FT50W-X-347-TCP	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

Flux out:2981 lm



Height	Eavg,Emax	Angle:105.24deg	Diameter
3.048m	57.99,165.9lx		797.94cm
3.658m	40.27,115.2lx		957.53cm
4.877m	22.65,64.79lx		1276.71cm
6.096m	14.50,41.46lx		1595.88cm
9.144m	6.444,18.43lx		2393.83cm
10.67m	4.734,13.54lx		2792.80cm
12.19m	3.625,10.37lx		3191.77cm
13.72m	2.864,8.191lx		3590.74cm
15.24m	2.320,6.634lx		3989.71cm
16.76m	1.917,5.483lx		4388.68cm

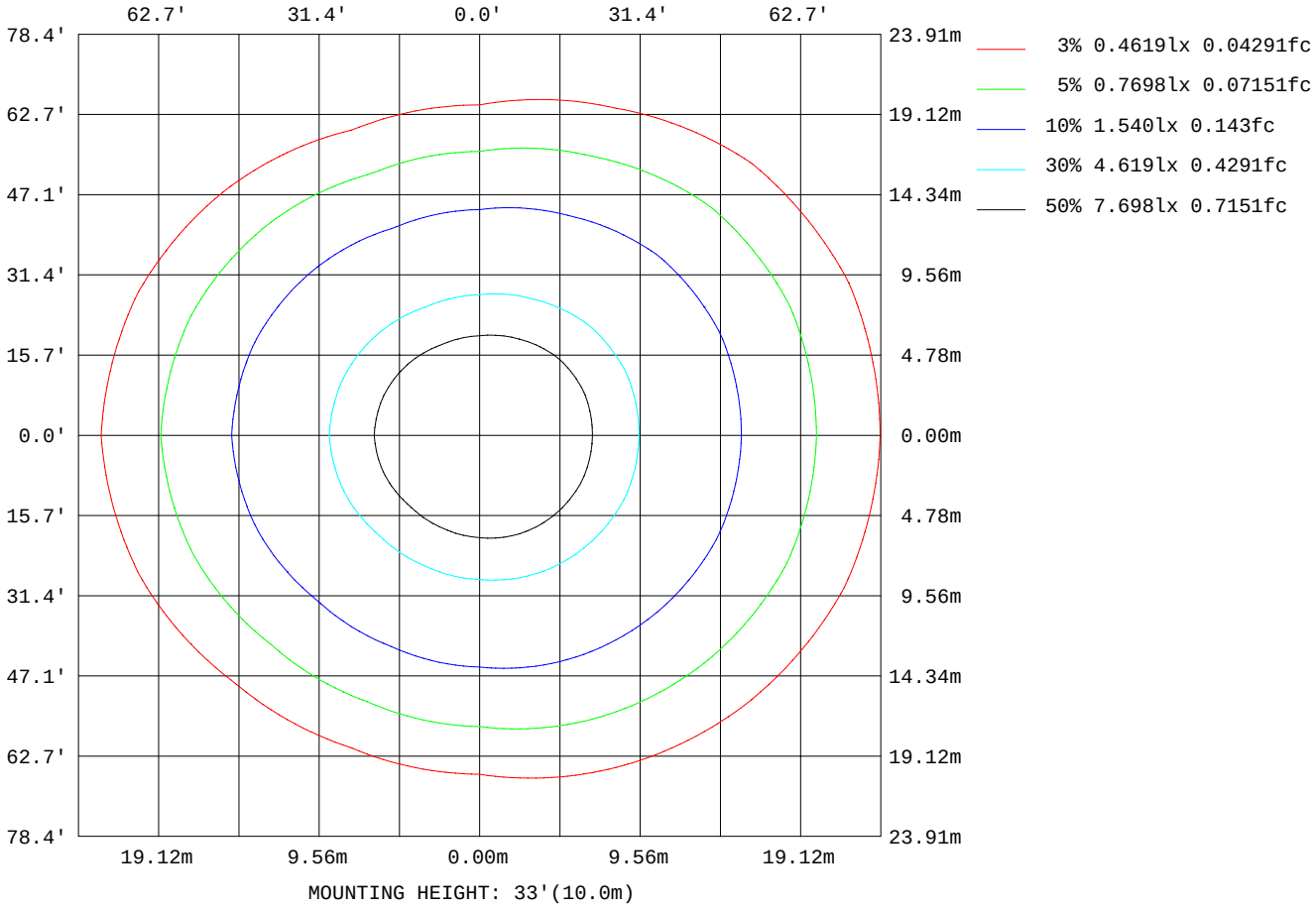
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:0.3211A P:38.373W PF:0.9950 Freq:59.97Hz UTHDi:0% ITHDi:0%		Lamp Flux:5445.06x1 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

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:

LED Avg.L Report

Test:U:120.12V I:0.3211A P:38.373W PF:0.9950 Freq:59.97Hz UTHDi:0% ITHDi:0%		Lamp Flux:5445.06x1 lm
NAME: TS-TPL1-4FT50W-X-347-TCP	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

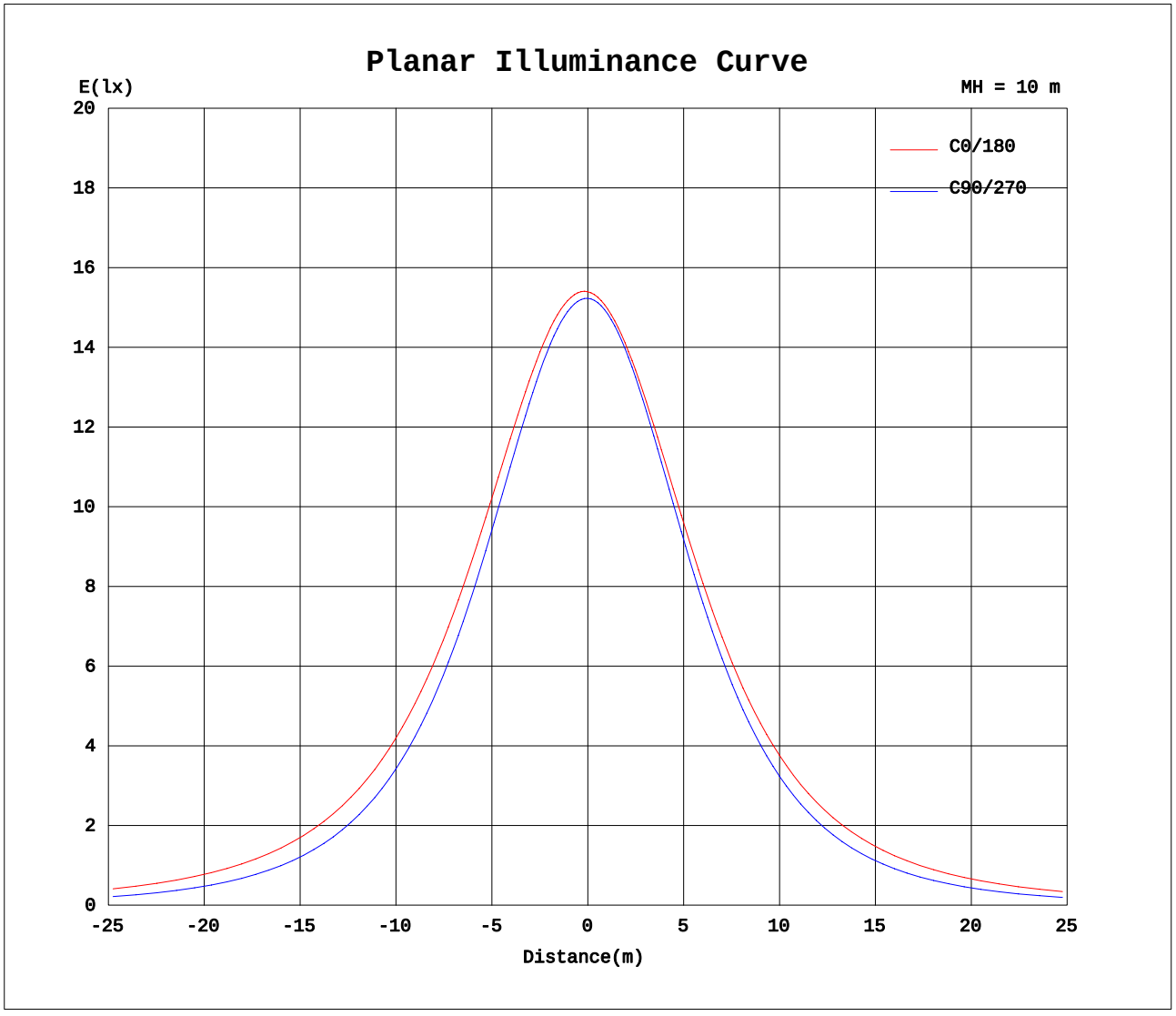
AvgL	cd/m2
L_0~180(65)av	20826
L_0~180(75)av	26333
L_0~180(85)av	57469
L_90~270(65)av	12847
L_90~270(75)av	10544
L_90~270(85)av	7223
L_45(65)av	17459
L_45(75)av	20494
L_45(85)av	40836

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

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: