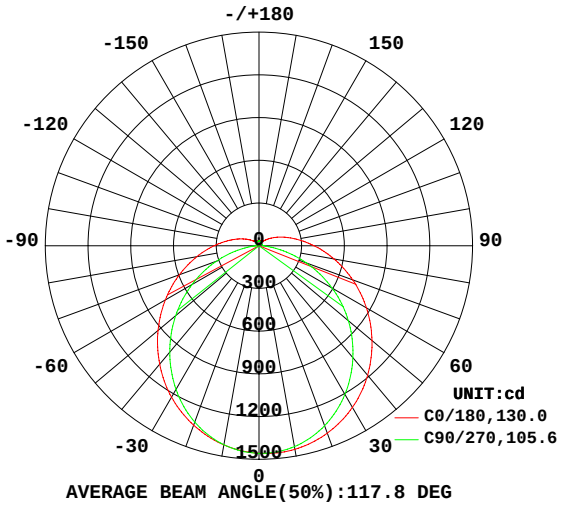
LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:120.13V I:0.3205A P:38.305W PF:0.9950 Freq:59.98Hz UTHDi:0% ITHDi:0%		Lamp Flux:5170.25x1 lm
NAME: TS-TPL1-4FT50W-X-347-TCP	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

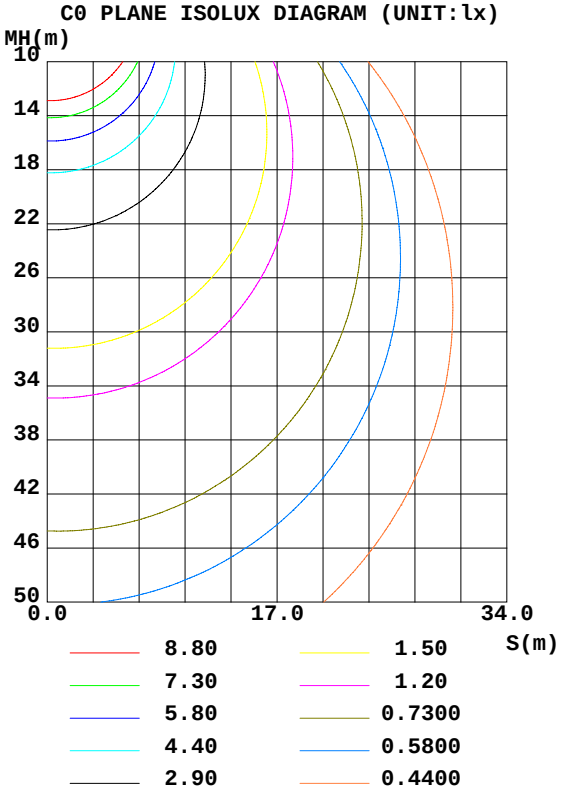
DATA OF LAMP		PHOTOMETRIC DATA		Eff: 134.97 lm/W	
MODEL	TS-TPL1-4FT50W-X-347-TCP	Imax(cd)	1464	S/MH(C0/180)	1.26
NOMINAL POWER(W)	40	LOR(%)	100.0	S/MH(C90/270)	1.20
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	5170.3	η UP,DN(C0-180)	4.9,45.4
NOMINAL FLUX(lm)	5170.25	CIE CLASS	DIRECT	η UP,DN(C180-360)	4.9,44.8
LAMPS INSIDE	1	η up(%)	9.8	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	120	η down(%)	90.2	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



AVERAGE BEAM ANGLE(50%):117.8 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	1451	1450	1432	1405	1420	1412	1419	1457	0- 10	137.9	137.9	2.67,2.67
20	1401	1388	1345	1303	1341	1315	1318	1404	10- 20	394.3	532.2	10.3,10.3
30	1311	1278	1206	1160	1229	1177	1165	1301	20- 30	597.0	1129	21.8,21.8
40	1187	1129	1026	988.1	1085	1008	975.2	1159	30- 40	721.5	1851	35.8,35.8
50	1036	953.4	819.9	800.1	926.0	821.6	763.8	991.3	40- 50	757.6	2608	50.4,50.4
60	870.9	763.4	591.5	612.3	759.2	634.0	541.6	808.3	50- 60	710.7	3319	64.2,64.2
70	700.6	576.5	354.5	437.5	594.6	457.4	318.8	626.2	60- 70	597.7	3917	75.8,75.8
80	534.9	406.5	137.5	291.5	443.1	306.3	117.9	457.6	70- 80	447.1	4364	84.4,84.4
90	387.0	268.0	25.97	182.9	315.7	193.4	20.09	313.8	80- 90	299.1	4663	90.2,90.2
100	268.4	162.4	25.13	110.0	216.1	117.6	19.45	204.6	90-100	191.8	4855	93.9,93.9
110	179.2	99.95	24.43	64.49	142.0	70.49	21.49	129.6	100-110	120.0	4975	96.2,96.2
120	113.7	54.97	23.53	41.55	89.11	42.57	22.54	73.91	110-120	72.76	5047	97.6,97.6
130	67.62	34.20	24.40	40.01	52.87	39.65	24.46	40.06	120-130	43.75	5091	98.5,98.5
140	42.94	32.71	26.13	37.06	45.80	38.63	26.42	33.33	130-140	28.91	5120	99,99
150	40.68	32.28	27.96	35.26	42.10	35.77	29.42	33.90	140-150	22.02	5142	99.5,99.5
160	35.68	32.53	29.91	33.39	35.76	34.67	31.69	34.21	150-160	15.70	5158	99.8,99.8
170	33.76	31.36	32.30	30.90	32.40	33.53	33.20	33.55	160-170	9.332	5167	99.9,99.9
180	29.00	30.74	33.78	32.54	28.90	30.58	33.66	32.75	170-180	3.059	5170	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

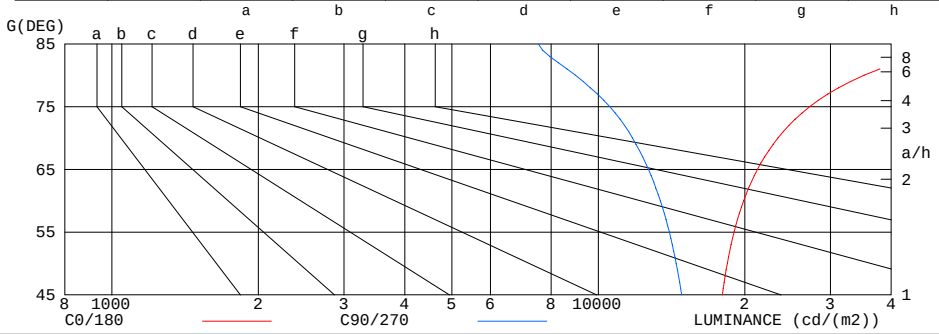
γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:12.550m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:120.13V I:0.3205A P:38.305W PF:0.9950 Freq:59.98Hz UTHDi:0% ITHDi:0%		Lamp Flux:5170.25x1 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	60046	7528
80	35188	8975
75	27205	10550
70	23400	11750
65	21235	12677
60	19897	13409
55	19014	13995
50	18412	14458
45	17991	14838

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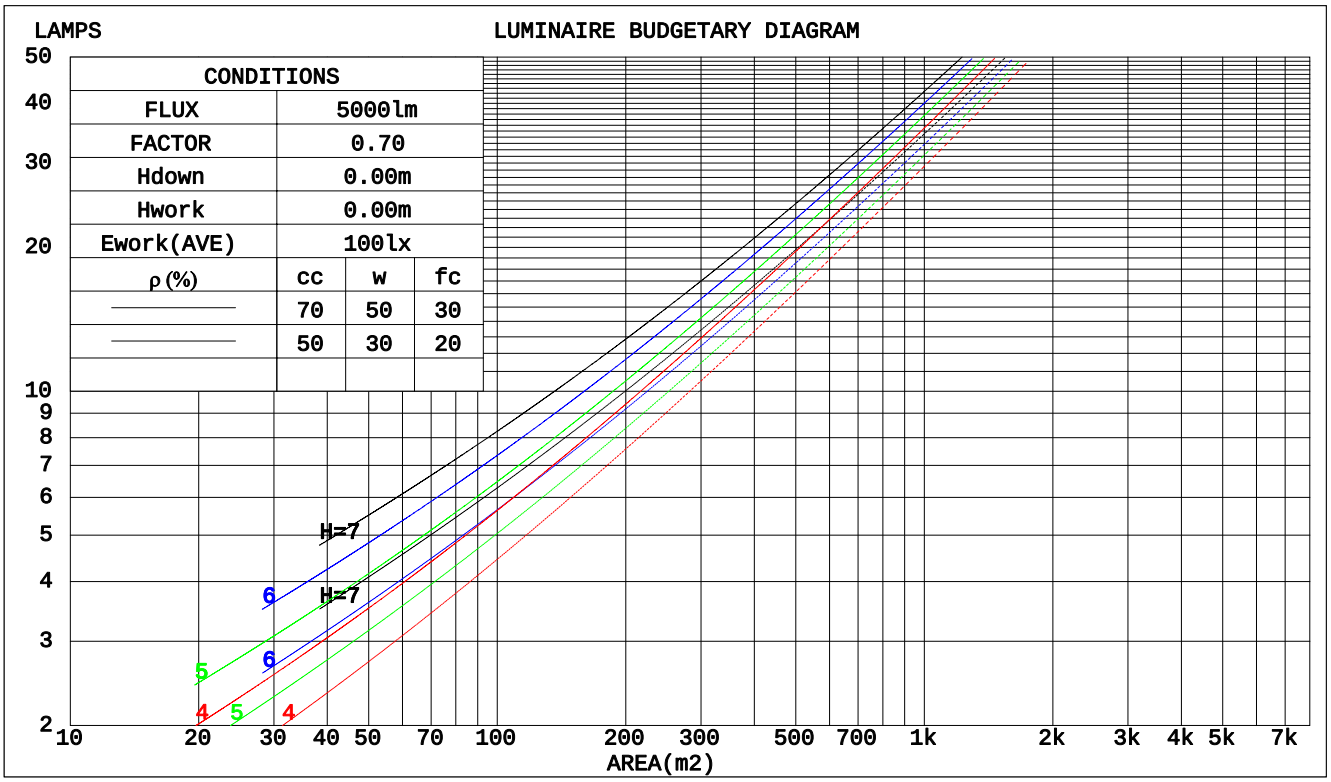
γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:12.550m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:120.13V I:0.3205A P:38.305W PF:0.9950 Freq:59.98Hz UTHDi:0% ITHDi:0%		Lamp Flux:5170.25x1 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:120.13V I:0.3205A P:38.305W PF:0.9950 Freq:59.98Hz UTHDi:0% ITHDi:0%	Lamp Flux:5170.25x1 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	.155	.049	.262	.148	.047	
3.0	.287	.153	.046	.279	.149	.045	.263	.143	.043	.249	.136	.042	.236	.131	.040	
4.0	.260	.135	.040	.253	.132	.039	.239	.127	.038	.226	.121	.037	.214	.116	.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	.202	.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	.083	.023	.163	.080	.023	.155	.078	.022	.147	.075	.022	
10.0	.165	.079	.022	.161	.078	.022	.153	.075	.021	.145	.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	.227	.227	.227	.155	.155	.155	.089	.089	.089	.028	.028	.028	
1.0	.259	.231	.206	.222	.198	.177	.152	.136	.122	.087	.079	.071	.028	.025	.023	
2.0	.252	.208	.171	.216	.179	.147	.148	.124	.103	.085	.072	.060	.027	.023	.020	
3.0	.244	.191	.148	.209	.165	.129	.144	.114	.090	.083	.067	.053	.027	.022	.017	
4.0	.236	.178	.133	.203	.154	.116	.139	.107	.082	.081	.063	.048	.026	.020	.016	
5.0	.229	.168	.123	.196	.145	.107	.135	.101	.076	.078	.060	.045	.025	.019	.015	
6.0	.221	.160	.116	.190	.138	.101	.131	.097	.071	.076	.057	.042	.025	.019	.014	
7.0	.214	.153	.110	.184	.133	.096	.127	.093	.068	.074	.055	.040	.024	.018	.013	
8.0	.207	.147	.106	.179	.128	.092	.124	.090	.065	.072	.053	.039	.023	.017	.013	
9.0	.201	.142	.103	.173	.124	.089	.120	.087	.064	.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:120.13V I:0.3205A P:38.305W PF:0.9950 Freq:59.98Hz UTHDi:0% ITHDi:0%		Lamp Flux:5170.25x1 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	22.2	23.7	22.7	24.2	24.8	19.6	21.1	20.1	21.6	22.2
	3H	24.9	26.2	25.4	26.7	27.3	21.4	22.7	21.9	23.2	23.8
	4H	26.2	27.5	26.7	28.0	28.6	22.0	23.3	22.5	23.8	24.4
	6H	27.6	28.8	28.1	29.3	29.9	22.4	23.6	23.0	24.2	24.8
	8H	28.3	29.5	28.9	30.0	30.7	22.5	23.7	23.1	24.3	24.9
	12H	29.2	30.3	29.7	30.8	31.5	22.6	23.7	23.2	24.3	24.9
4H	2H	22.8	24.1	23.4	24.6	25.2	20.4	21.7	21.0	22.2	22.8
	3H	25.7	26.8	26.3	27.4	28.0	22.4	23.5	23.0	24.1	24.7
	4H	27.3	28.3	27.8	28.9	29.5	23.2	24.2	23.8	24.8	25.4
	6H	28.9	29.8	29.5	30.4	31.1	23.8	24.7	24.4	25.3	26.0
	8H	29.8	30.6	30.4	31.2	31.9	24.0	24.8	24.6	25.4	26.1
	12H	30.8	31.5	31.4	32.2	32.9	24.1	24.9	24.7	25.5	26.2
8H	4H	27.7	28.5	28.3	29.1	29.8	23.9	24.8	24.5	25.4	26.0
	6H	29.6	30.3	30.2	30.9	31.6	24.8	25.5	25.4	26.1	26.8
	8H	30.6	31.3	31.3	31.9	32.6	25.1	25.8	25.8	26.4	27.1
	12H	31.9	32.5	32.5	33.1	33.9	25.4	26.0	26.1	26.6	27.4
12H	4H	27.7	28.5	28.3	29.1	29.8	24.2	24.9	24.8	25.6	26.2
	6H	29.7	30.3	30.4	31.0	31.7	25.2	25.8	25.8	26.4	27.2
	8H	30.9	31.5	31.5	32.1	32.9	25.6	26.2	26.3	26.9	27.6
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:120.13V I:0.3205A P:38.305W PF:0.9950 Freq:59.98Hz UTHDi:0% ITHDi:0%		Lamp Flux:5170.25x1 lm
NAME: TS-TPL1-4FT50W-X-347-TCP	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

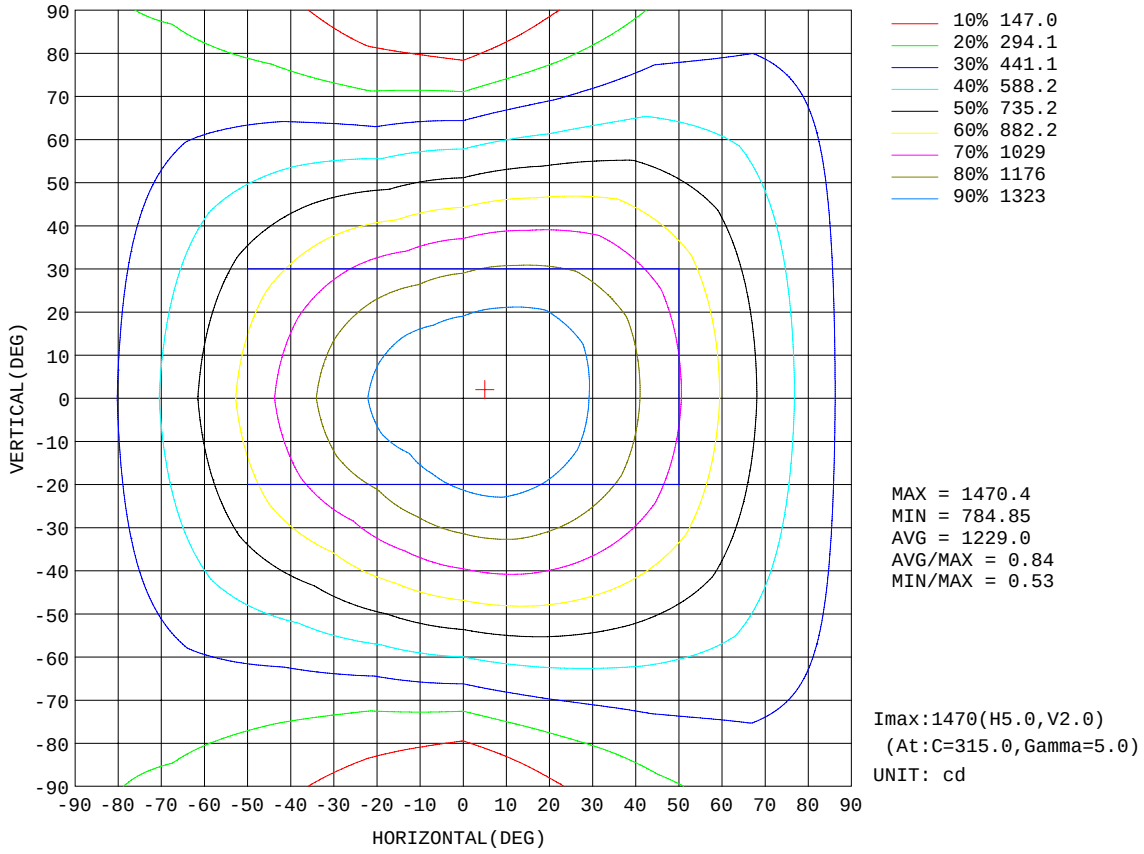
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	52	40	33	51	40	33	50	39	32	26
0.80	62	49	41	60	49	41	58	47	41	33
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	97	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

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:120.13V I:0.3205A P:38.305W PF:0.9950 Freq:59.98Hz UTHDi:0% ITHDi:0%		Lamp Flux:5170.25x1 lm
NAME: TS-TPL1-4FT50W-X-347-TCP	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



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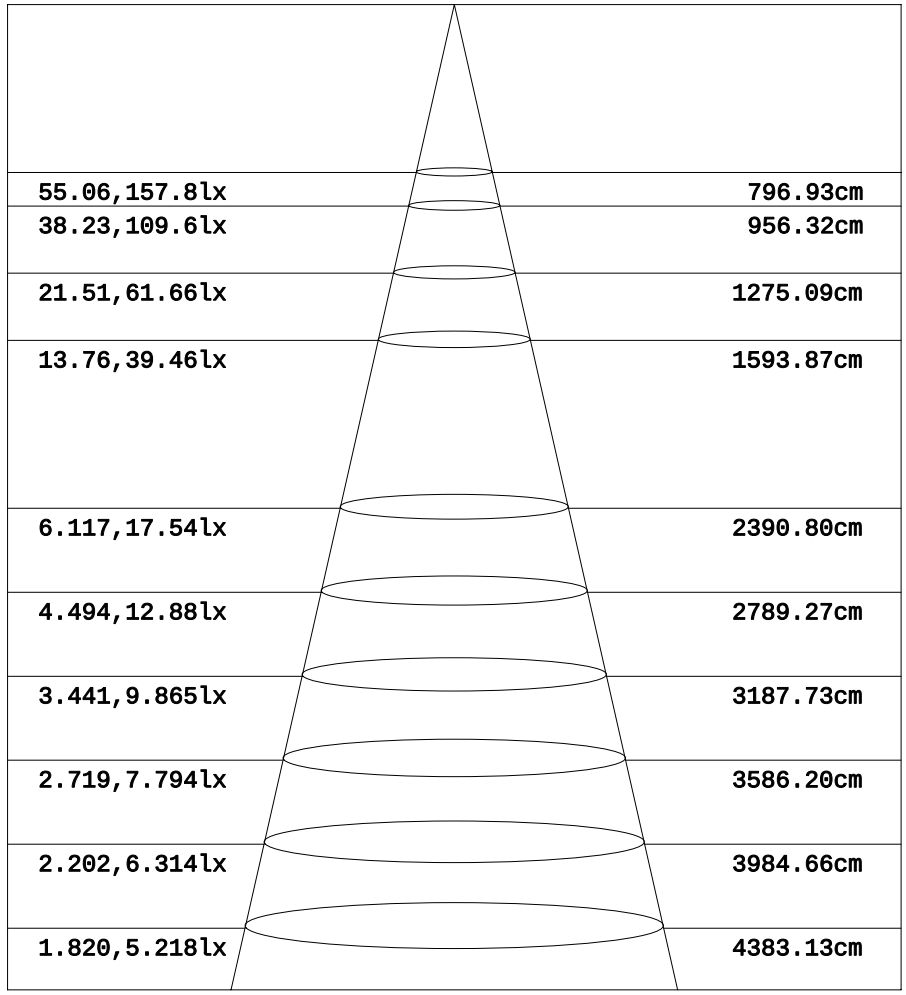
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:12.550m [K=1.0000]
Remarks:

AAI Figure

Test:U:120.13V I:0.3205A P:38.305W PF:0.9950 Freq:59.98Hz UTHDi:0% ITHDi:0%		Lamp Flux:5170.25x1 lm
NAME: TS-TPL1-4FT50W-X-347-TCP	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

Flux out:2830 lm



Height	Eavg,Emax	Diameter
3.048m	55.06,157.8lx	796.93cm
3.658m	38.23,109.6lx	956.32cm
4.877m	21.51,61.66lx	1275.09cm
6.096m	13.76,39.46lx	1593.87cm
9.144m	6.117,17.54lx	2390.80cm
10.67m	4.494,12.88lx	2789.27cm
12.19m	3.441,9.865lx	3187.73cm
13.72m	2.719,7.794lx	3586.20cm
15.24m	2.202,6.314lx	3984.66cm
16.76m	1.820,5.218lx	4383.13cm

Angle:105.17deg

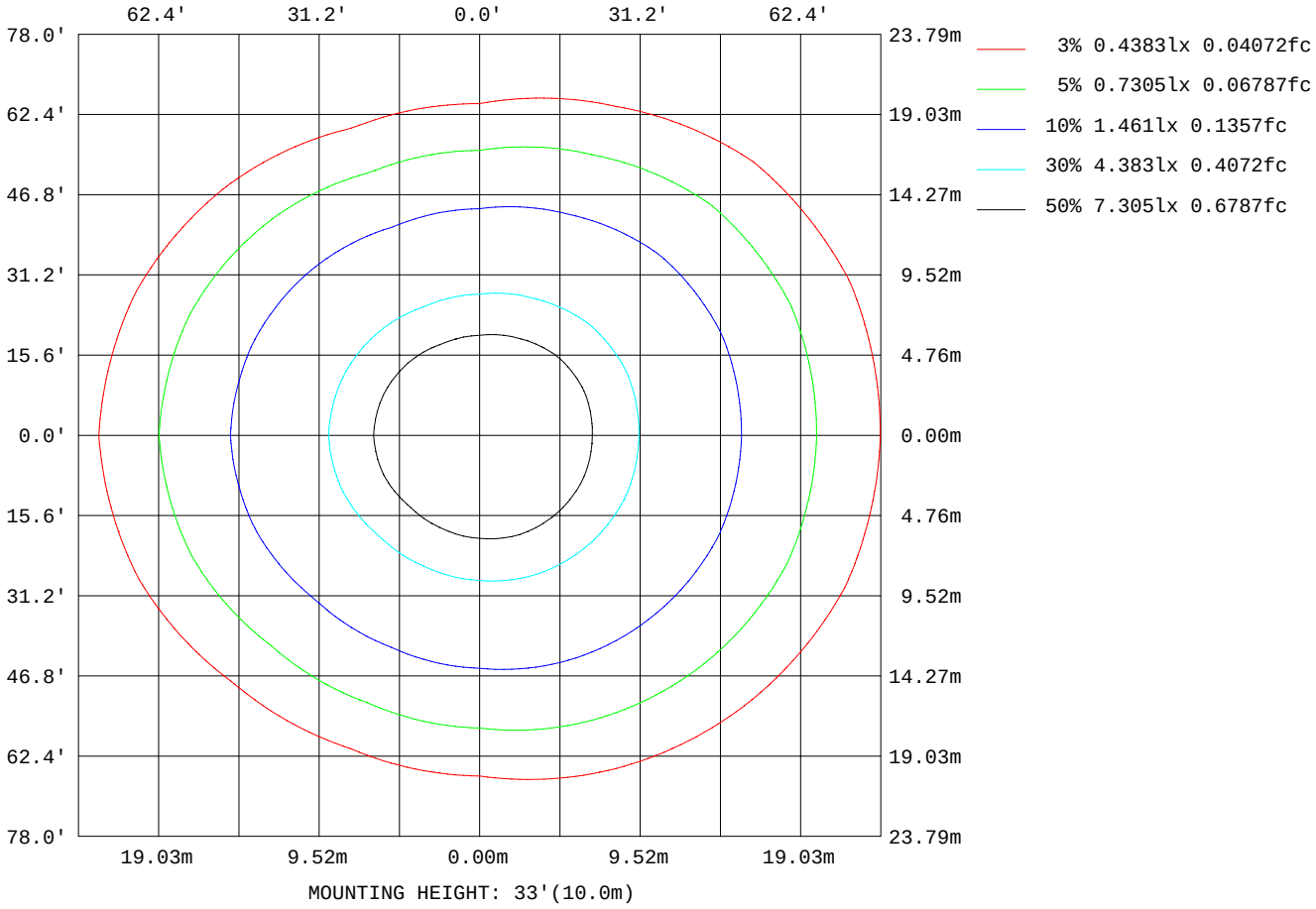
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:120.13V I:0.3205A P:38.305W PF:0.9950 Freq:59.98Hz UTHDi:0% ITHDi:0%		Lamp Flux:5170.25x1 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:120.13V I:0.3205A P:38.305W PF:0.9950 Freq:59.98Hz UTHDi:0% ITHDi:0%		Lamp Flux:5170.25x1 lm
NAME: TS-TPL1-4FT50W-X-347-TCP	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

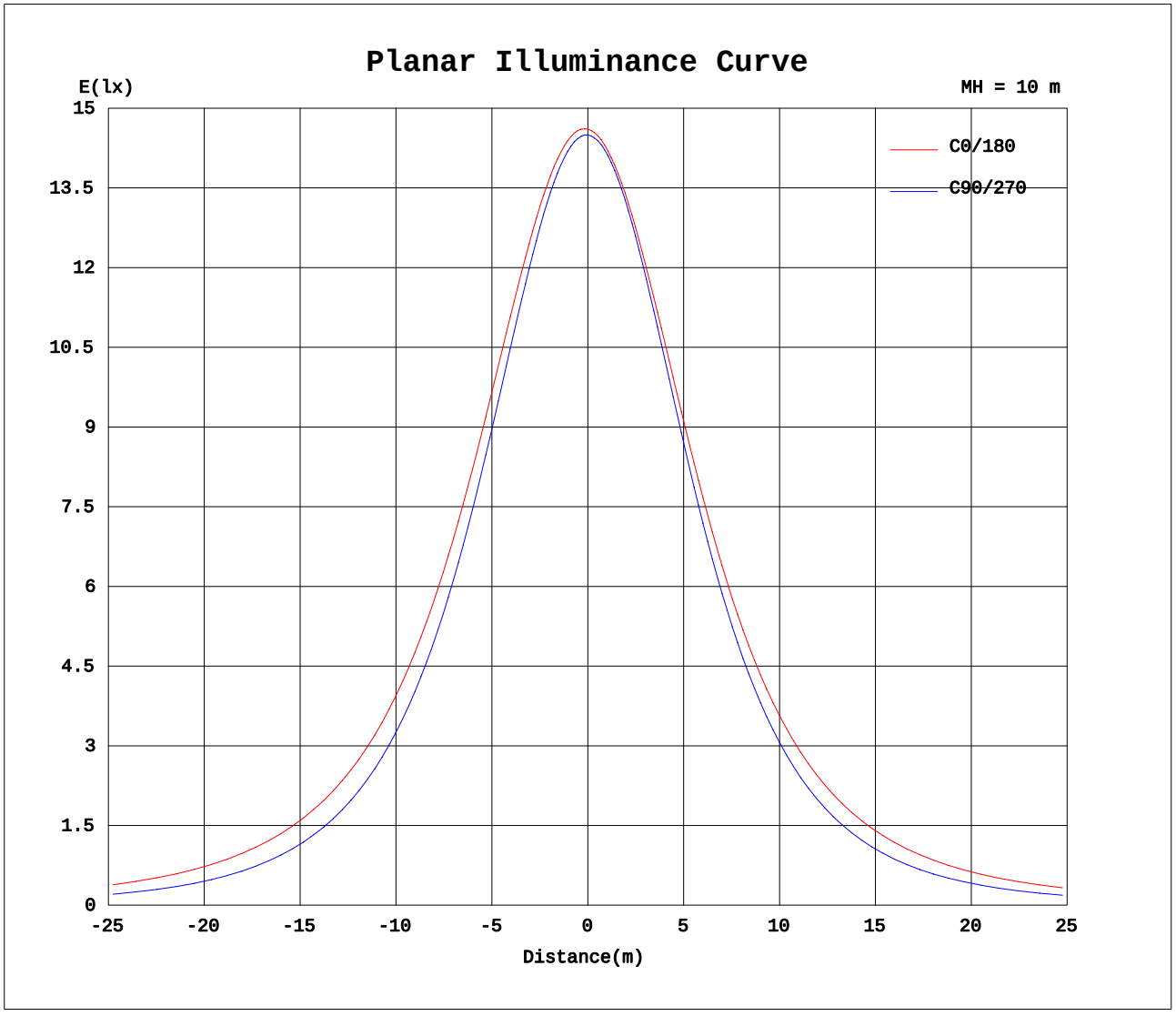
AvgL	cd/m2
L_0~180(65)av	19702
L_0~180(75)av	24935
L_0~180(85)av	54530
L_90~270(65)av	12162
L_90~270(75)av	9986
L_90~270(85)av	6878
L_45(65)av	16520
L_45(75)av	19427
L_45(85)av	38953

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: